HANSA FLEX

Sealing Technology

Hose Replacement Service – 24h hour rapid response

Our 280 service vans from the hydraulic emergency service are always just a call away. Whether on the construction site, during the harvest or in industrial applications: in case of a machine failure the job is carried out on site – and around the clock.

Tel. 24/7: 0800 77 12345 (Int. +49 421 9897 7690)

Industrial Service – maintain and optimise

Your machines must be running, around the clock. Preventative maintenance of the HANSA-FLEX Industrial Services helps you to save money and guarantees maximum machine uptime. We will advise you from the selection of the right hydraulic components to the optimisation of your plant and machinery.

www.hansa-flex.com/en/industrial_service

Power Unit Construction – engineering from the specialist

Units are the heart of any hydraulic system. In order to produce a state of the art power unit a high degree of engineering skill is required. The HANSA-FLEX power unit construction offers all services as a single source: from planning, design to installation and commissioning at the customer site.

www.hansa-flex.com/en/unit_manufacture

Online Shop – 24/7 convenient shopping

In our online shop you will find the same variety and quality of products that our customers have been used to for over 50 years: from hydraulic hoses and hose fittings to couplings, ball valves and cylinders – “everything from a single source.”

www.hansa-flex.com/en/shop

X-CODE – hose management

Our customer portal My.HANSA-FLEX offers the perfect solution for preventative maintenance. Users can see the technical data of a hose line at a glance: Manufacturing date, period of use, proposed replacement date, as well as machine and location. Thus, inspection and maintenance intervals can be planned well ahead.

www.hansa-flex.com/en/hose_line_management

HANSA-FLEX – always close to our customers

Through our tight-knit network of branches we are always close to our customers. At each of our 400 locations we offer the complete range of hydraulics: from the standard replacement of a hose line to powerful hydraulic cylinders – personal, fast and reliable.

www.hansa-flex.com/en/subsidiaries

Sealing technology

1. Hydraulic seals

Rod seals

Piston seals

1. Hydraulic seals

Wipers

Guide rings

Bushes

2. Pneumatic seals

Rod seals Pneumatic

Piston seals Pneumatic

3. Seal kits and measuring equipment

Seal kits

measuring equipment

4. Static seals

O-rings

Quad rings

Support rings

Usit rings

Flange seals

5. Flat seals

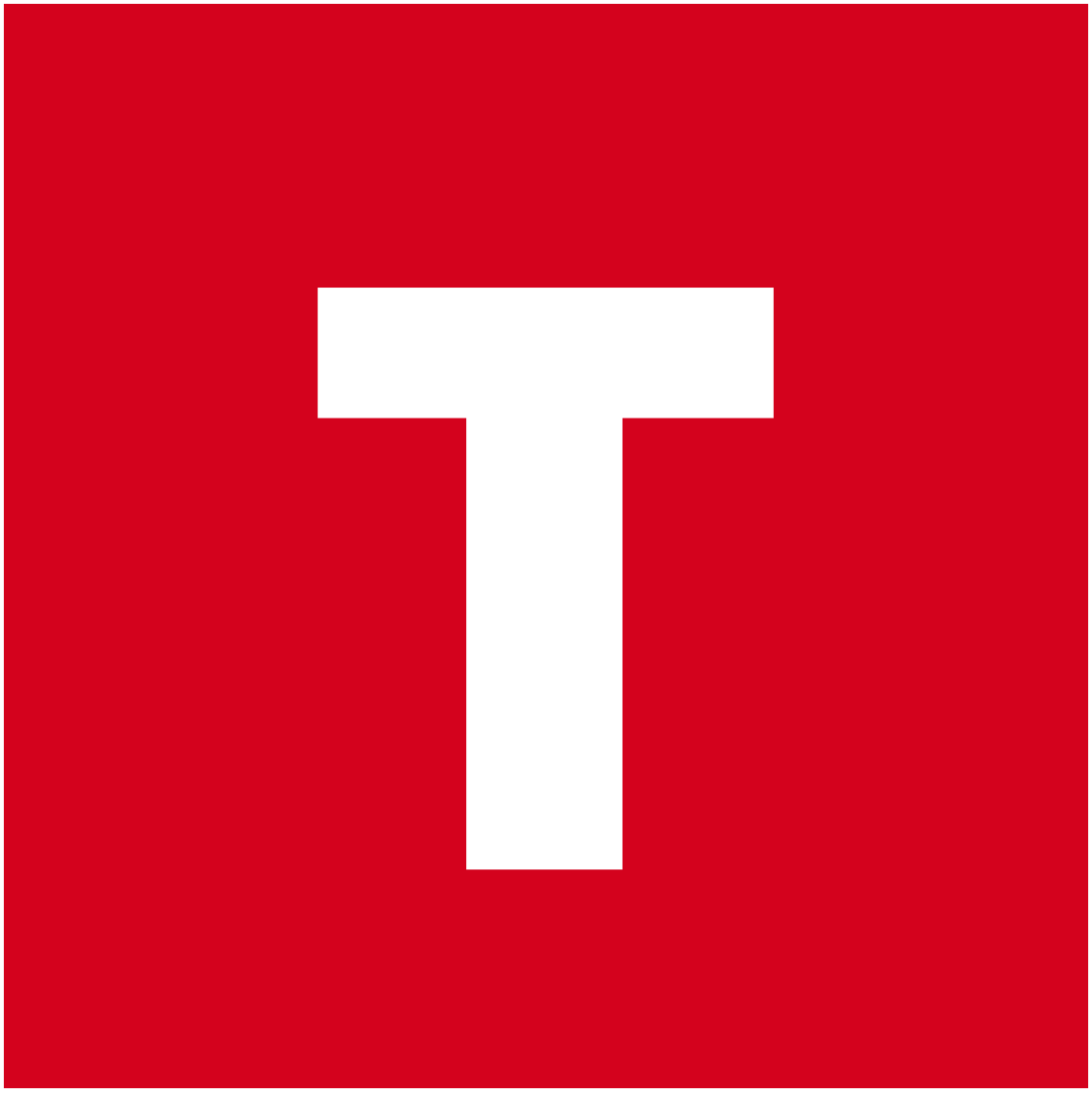
Flat seals asbestos-free

6. Sealing rings

7. Moulded parts

Form sealing rings

T



Technical information

TECHNICAL INFORMATION SEALS AND SEALING EQUIPMENT

TABLE OF CONTENTS

1. INSTALLATION INSTRUCTIONS

1.1 ROD SEALS AND WIPERS

Surface quality
The roughness values stated in table 1.1 must be observed in both the R_a and R_t areas.

Open or closed grooves
Table 1.2 can be used to establish whether a seal can be fitted in closed grooves (1). In the case of a specific cross-section B, we recommend fitting in open grooves (2) if the diameter of the rod is less than the minimum diameter (d_{min}).

Chamfers
Table 1.3 lists the chamfer lengths K to be observed.

Roundings
Sharp edges must be avoided. Table 1.4 lists the radii to be observed.

(1) closed grooves

(2) open grooves

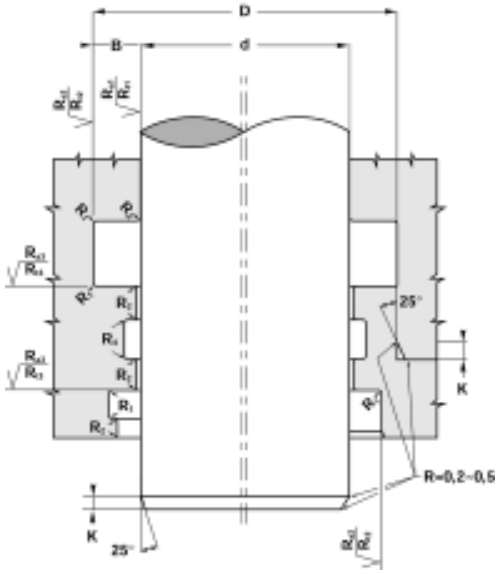


Table 1.1

R_{a1}	R_{t1}	R_{a2}	R_{t2}	R_{a3}	R_{t3}
≤ 0.3 µm	≤ 3 µm	≤ 1.8 µm	≤ 10 µm	≤ 3 µm	≤ 16 µm

Table 1.2

B (mm)	4	5	6	7.5	10	12.5	15
d_{min} (mm)	30	40	50	65	80	150	200

Table 1.3

K (mm) = 0.6 B

Table 1.4

B (mm)	R_t (mm)	R_2 (mm)	R_4 (mm)
≤ 7.5	≤ 0.3	0.2	≤ 0.2
> 7.5	≤ 0.6	0.4	

1.2 PISTON SEALS AND GUIDE RINGS

Surface quality
The roughness values stated in table 1.1 must be observed in both the R_a and R_t areas.

Single or multipart pistons
Please refer to the "Installation" instructions in this catalogue for each seal profile and each individual seal.

Chamfers
Table 1.3 lists the chamfer lengths K to be observed.

Roundings
Sharp edges must be avoided. Table 1.5 lists the radii to be observed.

(1) one-piece

(2) split

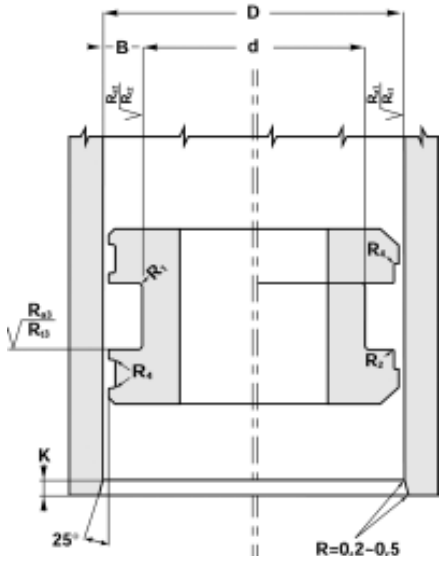
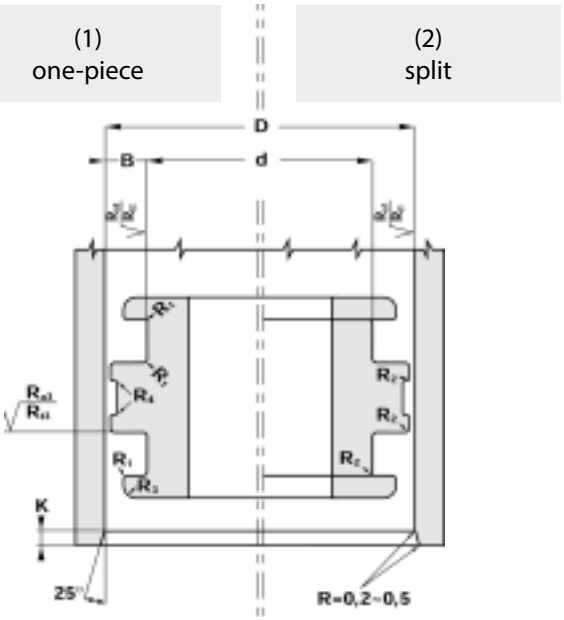
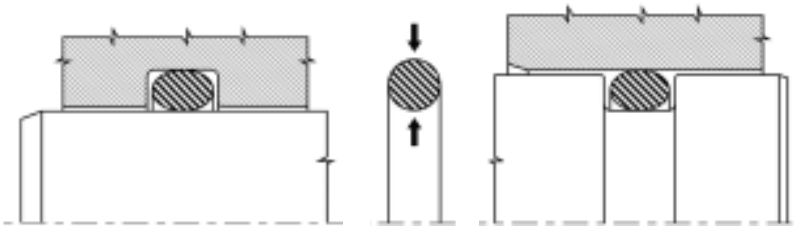


Table 1.5				
B (mm)	R_1 (mm)	R_2 (mm)	R_3 (mm)	R_4 (mm)
≤ 7.5	≤ 0.3	0.2	≤ 2	≤ 0.2
> 7.5	≤ 0.6	0.4	≤ 4	



1.3 STATIC SEALS – RADIAL INSTALLATION

The static seal is squeezed between its external and internal diameters.

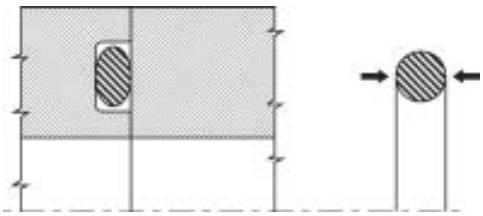


Installation in internal groove

Installation in external groove

1.4 STATIC SEALS – AXIAL INSTALLATION

The static seal is squeezed between its two side faces.



2. CORRECT INSTALLATION

Hydraulic seals can be damaged if they are not correctly installed. This can result in many problems, which can be avoided by observing the following guidelines:

- Check that the groove diameters, tolerances, surface qualities and chamfers are based on the values given in this catalogue.
- Ensure that the seal does not come in contact with sharp edges, bored holes or threads during assembly.
- All metal parts must be absolutely clean and free of swarf, weld splatter and defects.
- All seals must be lubricated before assembly with the same liquid or a liquid compatible with that which will be used in the hydraulic system.
- Do not use sharp-edged tools for installation. Do not allow seals to be deformed for a prolonged period during installation.
- Ensure the seal is correctly oriented with respect to the direction of fluid pressure. The same applies to all the other parts.

3. TABLE OF INTERNATIONAL STEEL GRADES AND THEIR EQUIVALENTS

---- Germany ----			Steel microstructure	Tensile strength	Breaking elongation	USA	France	England	Italy	Sweden	Japan
Wk.No.	DIN	Type									
1.4113	X 6 CrMo 17-1	F1	ferritic	450/630	18	434	-	434 S 17	X 8 CrMo 17	-	SUS 434
1.4016	X 8 Cr 17	F1	ferritic	450/630	20	430	Z 8 C 17	430 S 17	X 8 Cr 17	2320	SUS 430
1.4006	X 10 Cr 13	C1	martensitic	730	20	410	Z 10 C 13	410 C 21	X 10 Cr 13	2302	SUS 410
1.4021	X 20 Cr 13	C1	martensitic	800/950	12	420	Z 20 C 13	420 S 37	X 20 Cr 13	2303	SUS 420 J1
1.4028	X 30 Cr 13	C1	martensitic	850/1000	10	420 F	Z 30 C 13	420 S 45	X 30 Cr 13	2304	SUS 420 J2
1.4057	X17 CrNi 16-2	C3	martensitic	800/950	12	431	Z 15 CN 10-02	431 S 31	X 16 CrNi 16	-	SUS 431
1.4125	X 105 CrMo 17	C3	martensitic	-	-	440 C	Z 100 CD 17	-	-	-	SUS 440 C
1.4305	X 8 CrNi 18-9	A1	austenitic	500/700	35	303	Z 8 CNF 18-09	303 S 22	X 10 CrNiS 18 09	2346	SUS 303
1.4301	X 5 CrNi 18-10	A2	austenitic	540/750	45	304	Z 6 CN 18-09	304 S 17	X 5 CrNi 18 10	2332	SUS 304
1.4303	X 4 CrNi 18-12	A2	austenitic	500/650	45	305	Z 5 CN 18-11	305 S 19	X 7 CrNi 18 10	-	SUS 305
1.4306	X 2 CrNi 19-11	A2	austenitic	520/670	45	304 L	Z 2 CN 18-10	304 S 11	X 2 CrNi 18 11	2352	SUS 304 L
1.4541	X CrNiTi 18-10	A2	austenitic	520/720	40	321	Z 6 CNT 18-10	321 S 31	X 6 CrNiTi 18 11	2337	SUS 321
1.4550	X 6 CrNiNb 18-10	A2	austenitic	520/720	40	347	Z 6 CNNb 18-10	347 S 20	X 6 CrNiNb 18 11	2338	SUS 347
1.4401	X 5 CrNiMo 17-12-2	A4	austenitic	530/680	40	316	Z 7 CND 17-11-02	316 S 17	X 5 CrNi Mo 17 12	2347	SUS 316
1.4404	X 2 CrNiMo 17-12-2	A4	austenitic	530/680	40	316 L	Z 3 CND 17-11-02	316 S 11	X 2 CrNi Mo 17 12	2348	SUS 316 L
1.4435	X 2 CrNiMo 18-14-3	A4	austenitic	500/700	40	316 L	Z 3 CND 17-11-03	316 S 14	X 2 CrNi Mo 17 13	2353	SUS 316 L
1.4436	X 3 CrNi Mo 17-13-3	A4	austenitic	550/700	40	316	Z 6 CND 18-12-03	316 S 19	X 5 CrNi Mo 17 13	2343	SUS 316
1.4438	X 2 CrNiMo 18-15-4	A4	austenitic	550/700	40	317 L	Z 2 CND 19-15-04	317 S 12	X 5 CrNi Mo 17 13	2343	SUS 316
1.4539	X 1 NiCrMoCuN 25-20-5	A4	austenitic	530/730	35	904 L	Z 2 NCDU 25-20	-	-	2562	-
1.4571	X 6 Cr NiMoTi 17-12-22	A4	austenitic	450/690	40	316 Ti	Z 6 CNDT 17-12	320 S 18	X 6 CrNi MoTi 17 12	2350	SUS 316 Ti
1.4580	X 6 CrNiMoNb 17-12-2	A4	austenitic	450/690	40	316 Cb	Z 6 CNDNb 17-12	318 S 17	X 6 CrNi MoNb 17 12	-	-

4. STORAGE CONDITIONS FOR ELASTOMERS

- Max. 25 °C
- Keep away from direct sources of heat
- Keep out of direct sunlight
- Install low-UV lighting
- Max. air humidity 60 % prevent condensation occurring
- Keep away from ionizing radiation and the effects of ozone, for example produced by welding work
- Store in a PE bag or the original packaging
- Do not store hung up on a hook or similar

Shelf lives of elastomers

Material	Initial storage	Extension storage
Polyurethane, SBR	5 years	2 years
NBR, HNBR	7 years	3 years
FPM, FFKM, EPDM, VMQ	10 years	5 years

INSPECT AFTER THE INITIAL PERIOD OF STORAGE

Visual inspection:

- Deformation, cuts, surface cracks (use a 10 x magnifying glass)
- Hardening, softening, discolouration, contamination
- Permanent deformations, creases, flat areas

5. TOLERANCES AND FITS

Table of ISO tolerances basic hole / basic shaft in accordance with **ISO 286**.
The allowances for shafts are given in accordance with **DIN 7160**; for holes the standard is **DIN 7161**.

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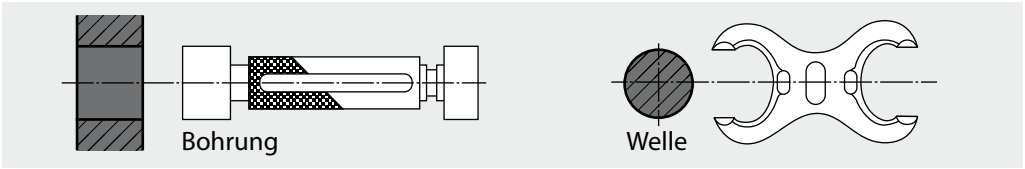
ALLOWANCES FOR HOLES AND SHAFTS



The ISO system for tolerances and fits relate to all linear parameters such as external dimensions, internal dimensions, diameters, lengths, widths, heights and thicknesses.

A reference temperature 20 °C applies to all the dimensions defined in this system. Tables 5.1, 5.2 and 5.3 contain a selection of tolerances that are used successfully in the field of tool and mould making, and are the preferred values in HASCO standards. These tolerances are used in our technical documents to precisely describe our products. These tolerances can also be used to advantage in other areas.

TOLERANCES FOR INTERNAL DIMENSIONS (HOLES)

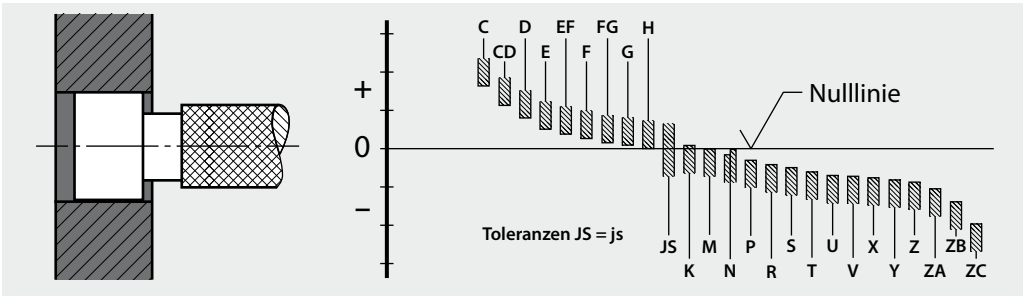


Table 5.1 – Extract from DIN 7161, allowances in µm (0.001 mm)

Nominal size range (mm)	Symbol	F6	F7	F8	G6	G7	H5	H6	H7	H8	H9	H10	H11	H12	H13	K6	K7	K8	JS
	From / to																		
	3	+12 +6	+16 +6	+20 +6	+8 +2	+12 +2	+4 0	+6 0	+10 0	+14 0	+25 0	+40 0	+60 0	+100 0	+104 0	0 -6	0 -10	0 -14	Dimensions for "JS" and "js" are identical – for values see Tables 2 and 2.1
	3 – 6	+18 +10	+22 +10	+28 +10	+12 +4	+16 +14	+5 0	+8 0	+12 0	18 0	+30 0	+48 0	+75 0	+120 0	+180 0	+2 -6	+3 -9	+5 -13	
	6 – 10	+22 +13	+28 +13	+35 +13	+14 +5	+20 +5	+6 0	+9 0	+15 0	+22 0	+36 0	+58 0	+90 0	+150 0	+220 0	+2 -7	+5 -10	+6 -16	
	10 – 18	+27 +16	+34 +16	+43 +16	+17 +6	+24 +6	+8 0	+11 0	+18 0	+27 0	+43 0	+70 0	+110 0	+180 0	+270 0	+2 -9	+6 -12	+8 -19	
	18 – 30	+33 +20	+41 +20	+53 +20	+20 +7	+28 +7	+9 0	+13 0	+21 0	+33 0	+52 0	+84 0	+130 0	+210 0	+330 0	+2 -11	+6 -15	+10 -23	
	30 – 50	+41 +25	+50 +25	+64 +25	+25 +9	+34 +9	+11 0	+16 0	+25 0	+39 0	+62 0	+100 0	+160 0	+250 0	+390 0	+3 -13	+7 -18	+12 -27	
	50 – 80	+49 +30	+60 +30	+76 +30	+29 +10	+40 +10	+13 10	+19 0	+30 0	+46 0	+74 0	+120 0	+190 0	+300 0	+460 0	+4 -15	+9 -21	+14 -32	
	80 – 120	+58 +36	+71 +36	+90 +36	+34 +12	+47 +12	+15 0	+22 0	+35 0	+54 0	+87 0	+140 0	+220 0	+350 0	+540 0	+4 -18	+10 -25	+16 -38	
	120 – 180	+68 +43	+83 +43	+106 +43	+39 +14	+54 +14	+18 0	+25 0	+40 0	+63 0	+100 0	+160 0	+250 0	+400 0	+630 0	+4 -21	+12 -28	+20 -43	
	180 – 250	+79 +50	+96 +50	+122 +50	+44 +15	+61 +15	+20 0	+29 0	+46 0	+72 0	+115 0	+185 0	+290 0	+460 0	+720 0	+5 -24	+13 -33	+22 -50	
	250 – 315	+88 +56	+108 +56	+137 +56	+49 +17	+69 +17	+23 0	+32 0	+52 0	+81 0	+130 0	+210 0	+320 0	+520 0	+810 0	+5 -27	+16 -36	+25 -56	
	315 – 400	+98 +62	+119 +62	+151 +62	+54 +18	+75 +18	+25 0	+36 0	+57 0	+89 0	+140 0	+230 0	+360 0	+570 0	+890 0	+7 -29	+17 -40	+28 -61	
	400 – 500	+108 +68	+131 +68	+165 +68	+60 +20	+83 +20	+27 0	+40 0	+63 0	+97 0	+155 0	+250 0	+400 0	+630 0	+970 0	+8 -32	+18 -45	+29 -68	

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TOLERANCES FOR EXTERNAL DIMENSIONS (SHAFTS)

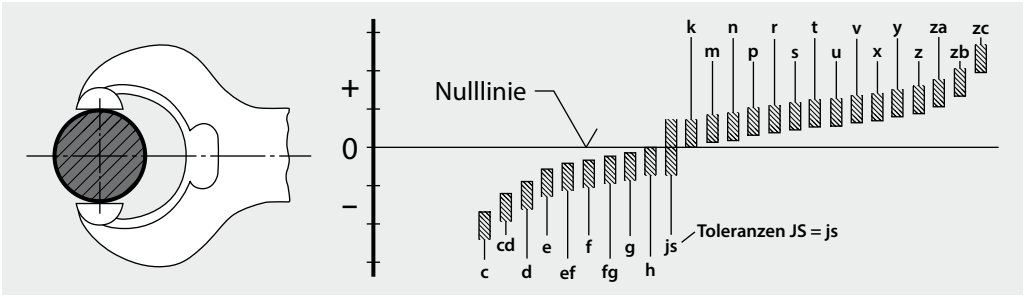

Table 5.2 – Extract from DIN 7160, allowances in µm (0.001 mm)

Nominal size range (mm)	Symbol	e6	e7	e8	f6	f7	f8	g5	g6	g7	h4	h5	h6	h7	h8	h9	h10	h11	js6
	From / to																		
3		-14	-14	-14	-6	-6	-6	-2	-2	-2	0	0	0	0	0	0	0	0	+3
		-20	-24	-28	-12	-16	-20	-6	-8	-12	-3	-4	-6	-10	-14	-25	-40	-60	-3
3 – 6		-20	-20	-20	-10	-10	-10	-4	-4	-4	0	0	0	0	0	0	0	0	+4
		-28	-32	-38	-18	-22	-28	-9	-12	-16	-4	-5	-8	-12	-18	-30	-48	-78	-4
6 – 10		-25	-25	-25	-13	-13	-13	-5	-5	-5	0	0	0	0	0	0	0	0	+4.5
		-34	-40	-47	-27	-28	-35	-11	-14	-20	-4	-6	-9	-15	-22	-36	-58	-90	-4.5
10 – 18		-32	-32	-32	-16	-16	-16	-6	-6	-6	0	0	0	0	0	0	0	0	+5.5
		-43	-50	-59	-27	-34	-43	-14	-17	-24	-5	-8	-11	-18	-27	-43	-70	-110	-5.5
18 – 30		-40	-40	-40	-20	-20	-20	-7	-7	-7	0	0	0	0	0	0	0	0	+6.5
		-53	-61	-73	-33	-41	-53	-16	-20	-28	-6	-9	-13	-21	-33	-52	-84	-130	-6.5
30 – 50		-50	-50	-50	-25	-25	-25	-9	-9	-9	0	0	0	0	0	0	0	0	+8
		-66	-75	-89	-41	-50	-64	-20	-25	-34	-7	-11	-16	-25	-39	-62	-100	-160	-8
50 – 80		-60	-60	-60	-30	-30	-30	-10	-10	-10	0	0	0	0	0	0	0	0	+9.5
		-79	-90	-106	-49	-60	-76	-23	-29	-40	-8	-13	-19	-30	-46	-74	-120	-190	-9.5
80 – 120		-72	-72	-72	-36	-36	-36	-12	-12	-12	0	0	0	0	0	0	0	0	+11
		-94	-107	-126	-58	-71	-90	-27	-34	-47	-10	-15	-22	-35	-54	-87	-140	-220	-11
120 – 180		-85	-85	-85	-43	-43	-43	-14	-14	-14	0	0	0	0	0	0	0	0	+12.5
		-110	-125	-148	-68	-83	-106	-32	-39	-54	-12	-18	-25	-40	-63	-100	-160	-250	-12.5
180 – 250		-100	-100	-100	-50	-50	-50	-15	-15	-15	0	0	0	0	0	0	0	0	+14.5
		-129	-146	-172	-79	-96	-122	-35	-44	-61	-14	-20	-29	-46	-72	-115	-185	-290	-14.5
250 – 315		-110	-110	-110	-56	-56	-56	-17	-17	-17	0	0	0	0	0	0	0	0	+16
		-142	-162	-191	-88	-108	-137	-40	-49	-69	-16	-23	-32	-52	-81	-130	-210	-320	-16
315 – 400		-125	-125	-125	-62	-62	-62	-18	-18	-18	0	0	0	0	0	0	0	0	+18
		-161	-182	-214	-98	-119	-151	-43	-54	-75	-18	-25	-36	-57	-89	-140	-230	-360	-18
400 – 500		-135	-135	-135	-68	-68	-68	-20	-20	-20	0	0	0	0	0	0	0	0	+20
		-175	-198	-232	-108	-131	-165	-47	-60	-83	-20	-27	-40	-63	-97	-155	-250	-400	-20

Table 5.3

Nominal size range (mm)	Symbol	js7	js8	js9	js10	js11	js12	js13	js14	js15	js16	js17	js18	k6	k7	k8	m5	m6	m7
	From / to																		
3		+5	+7	+12.5	+20	+30	+50	+70	+125	+200	+300	–	–	+6	+10	+14	+6	+8	–
		-5	-7	-12.5	-20	-30	-50	-70	-125	-200	-300			0	0	0	+2	+2	
3 – 6		+6	+9	+15	+24	+37.5	+60	+90	+150	+240	+375	–	–	+9	+13	+18	+9	+12	+16
		-6	-9	-15	-24	-37.5	-60	-90	-150	-240	-375			-1	-1	-1	+4	+4	+4
6 – 10		+7.5	+11	+18	+29	+45	+75	+110	+180	+290	+450	+750	–	+10	+16	+22	+12	+15	+21
		-7.5	-11	-18	-29	-45	-75	-110	-180	-290	-450	-750		+1	+1	0	+6	+16	+6
10 – 18		+9	+13.5	+21.5	+35	+55	+90	+135	+215	+350	+550	+900	+1350	+12	+19	+27	+12	+18	+25
		-9	-13.5	-21.5	-35	-55	-90	-135	-215	-350	-550	-900	-1350	+1	+1	0	+7	+7	+7
18 – 30		+10.5	+16.5	+26	+42	+65	+105	+165	+260	+420	+650	+1050	+1650	+15	+23	+33	+17	+21	+29
		-10.5	-16.5	-26	-42	-65	-105	-165	-260	-420	-650	-1050	-1650	+2	+2	0	+8	+8	+8
30 – 50		+12.5	+19.5	+31	+50	+80	+125	+195	+310	+500	+800	+1250	+1950	+18	+27	+39	+20	+25	+34
		-12.5	-19.5	-31	-50	-80	-125	-195	-310	-500	-800	-1250	-1950	+2	+2	0	+9	+9	+9
50 – 80		+15	+23	+37	+60	+95	+150	+230	+370	+600	+950	+1500	+2300	+21	+32	+46	+24	+30	+41
		-15	-23	-37	-60	-95	-150	-230	-370	-600	-950	-1500	-2300	+2	+2	0	+11	-11	+11
80 – 120		+17.5	+27	+43.5	+70	+110	+175	+270	+435	+700	+1100	+1750	+2700	+25	+38	+54	+28	+35	+48
		-17.5	-27	-43.5	-70	-110	-175	-270	-435	-700	-1100	-1750	-2700	+3	+3	0	+13	+13	+13
120 – 180		+20	+31.5	+50	+80	+125	+200	+315	+500	+800	+1250	+2000	+3150	+28	+43	+63	+33	+40	+55
		-20	-31.5	-50	-80	-125	-200	-315	-500	-800	-1250	-2000	-3150	+3	+3	0	+15	+15	+15
180 – 250		+23	+36	+57.5	+92.5	+145	+230	+360	+575	+925	+1450	+2300	+3600	+33	+50	+72	+37	+46	+63
		-23	-36	-57.5	-92.5	-145	-230	-360	-575	-925	-1450	-2300	-3600	+4	+4	0	+17	+17	+17
250 – 315		+26	+40.5	+65	+105	+160	+260	+405	+650	+1050	+1600	+2600	+4500	+36	+56	+81	+43	+52	+72
		-26	-40.5	-65	-105	-160	-260	-405	-650	-1050	-1600	-2600	-4500	+4	+4	0	+20	+20	+20
315 – 400		+28.5	+44.5	+70	+115	+180	+285	+445	+700	+1150	+1800	+2850	+4450	+40	+61	+89	+46	+57	+78
		-28.8	-44.8	-70	-115	-180	-285	-445	-700	-1150	-1800	-2850	-4450	+4	+4	0	+21	+21	+21
400 – 500		+31.5	+48.5	+77.5	+125	+200	+315	+485	+775	+1250	+2000	+3150	+4850	+45	+68	+97	+50	+63	+86
		-31.5	-48.5	-77.5	-125	-200	-315	-485	-775	-1250	-2000	-3150	-4850	+5	+5	0	+23	+23	+23

6. SURFACE QUALITY PARAMETERS FOR SEAL HOUSINGS

General requirements for seal housings.

Surface	Roughness Rt	Roughness Ra	Material ratio Mr
Counter surface	≤ 3 µm	0.05 ≥ **optimum value 0.2** ≤ 0.3 µm	50 % < **optimum value 80 %** ≤ 90 %
Groove bottom	≤ 10 µm	≤ 1.8 µm	
Groove sides	≤ 16 µm	≤ 3 µm	

7. ABBREVIATIONS USED FOR MATERIALS IN HF SEALS

Material	Abbreviations	Tolerance
NBR Shore A 65	N65	± 5 Shore
NBR Shore A 70	N70	± 5 Shore
NBR Shore A 80	N80	± 5 Shore
NBR Shore A 90	N90	± 5 Shore
FPM Shore A 75	V75	± 5 Shore
FPM Shore A 80	V80	± 5 Shore
FPM Shore A 90	V90	± 5 Shore
EPDM Shore A70 sulphur crosslinked	E70S	± 5 Shore
EPDM Shore A70 peroxide crosslinked	E70P	± 5 Shore
MVQ Shore 40	S40	± 5 Shore
MVQ Shore 70	S70	± 5 Shore
FEP/MVQ	F-S	
FFKM Shore A 80	K80	± 5 Shore
NBR cotton fabric	NBR-C	
FPM cotton fabric	FPM-C	
FPM aramid fabric	FPM-K	
Phenol resin/fabric	PH/GEW	
Graphite/serrated perforated plate	GRSP	
Graphite/smooth plate	GRGL	
Klinger graphite Topgraph	TGR	
Klinger C4400	C4400	
PTFE/pure	PT	
PTFE/glass	PT/GL	
PTFE/bronze	PTBR	
PTFE/glass/MOS2	PT/GM	
PTFE/carbon	PT/K	
Soft iron	WE	
Stainless steel 1.4571	INOX	
Polyurethane	PUR	
Polyurethane, hydrolysis-resistant	H-PU	
Polyamide	PA	
Polyoxymethylene	POM	
Ultra high density polyethylene	UHMW-PE	

8. BUSHES

8.1 GENERAL

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Technical data

To make things clearer, we would like to define in advance some important technical data used repeatedly in this document. For this purpose, we shall consider a bush with an internal diameter "d" and a width "L".

Specific bearing load = p (N/mm²)

For a vertically applied load "F" (N):

$$p = \frac{F}{d \cdot L}$$

Sliding speed = v (m/s)

In the case of rotation: for a rotation speed "n" (min^{-1}):

$$v = \frac{d \cdot \pi \cdot n}{60 \cdot 10^3}$$

In the case of oscillatory motion: where "n" is the frequency of the oscillatory motion (min^{-1}) and "μ" is the amplitude of the motion expressed in degrees:

$$v = \frac{d \cdot \pi}{60 \cdot 10^3} \cdot \frac{2\mu \cdot n}{360}$$

pv value = p x v (N/mm² x m/s)

Calculation of the service life

The service life of a bush depends on the specific bearing load, sliding speed, operating temperature and the shaft material (surface quality and hardness). On request, we can calculate a service life for you, but this can be no more than a guide.

Installing the bushes

Use the basic arrangement shown in Figure 8.1 to install bushes with an external diameter of up to 50 mm. By machining the bearing surface at a specific height h, the bush can be pressed an exact depth h into the hole.

Use an auxiliary ring as shown in Figure 8.2 to fit bushes with an external diameter greater than 50 mm. On request, we can calculate the press-in force FE for you.

Installation principle

We recommend protecting the bushes against dirt by using type SWP seal ends or shaft seal rings (Fig. 8.3). Finally, chamfers should preferably be machined in order to prevent stress concentrations at the edges of the bushes (Fig. 8.4), or the bushes should project above the surrounding material (Fig. 8.5).

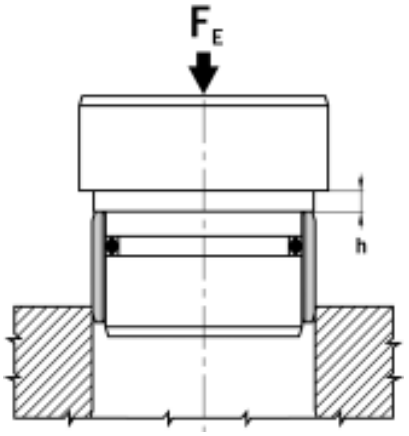

Figure 8.1:

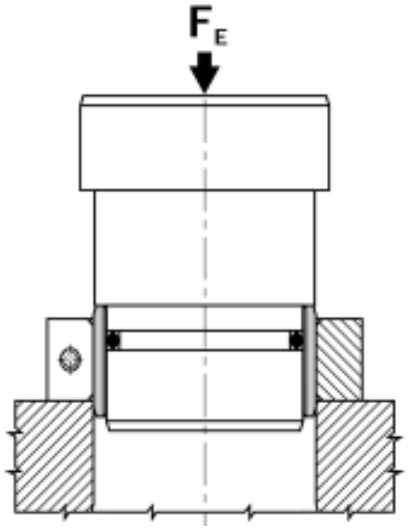

Figure 8.2:

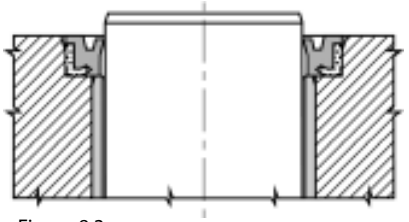
Figure 8.3:

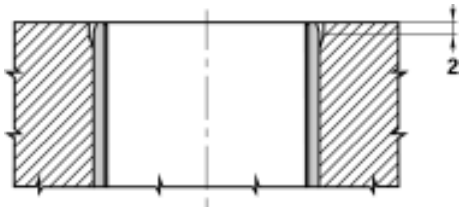

Figure 8.4:

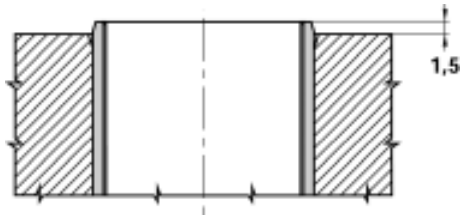

Figure 8.5:

8.2 MAINTENANCE-FREE BUSHES TYPE BK-1

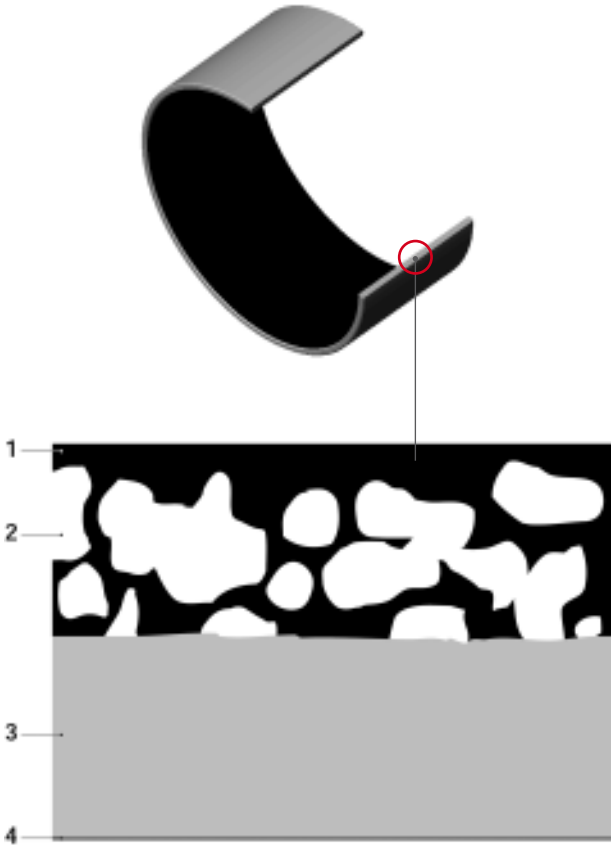

Table 8.6

Coefficient of friction	p N/mm²	v m/s
0.025	250-140	<0.001
0.04-0.07	140-60	0.001-0.005
0.07-0.1	60-10	0.005-0.05
0.1-0.15	10-1	0.05-0.5
0.15-0.2	<1	0.5-2

1 = PTFE-lead mixture: 0.01 - 0.05 mm

2 = Bronze coating: 0.20 - 0.35 mm

3 = Steel backing

4 = Surface protection: ~0.002 mm

Construction

The BK-1 bush consists of a porous bronze coating (2) sinter-fused onto a steel backing (3). A PTFE-lead mixture (1) is then rolled into the bronze coating. The steel backing is protected against corrosion by external tin- or copper-plating (4).

Properties

The BK-1 bush has many advantages:

- Suitable for dry running and maintenance-free
- Noise and frequency absorption
- Hydrodynamic operation possible
- High permissible load
- Good chemical resistance
- Good friction characteristics
- No stick-slip
- Wide temperature range
- High slide speed
- No water absorption
- Low play during operation
- Extremely space-saving

Areas of application

BK-1 bushes are suitable for translatory, rotary and oscillatory motions.

Application examples:

- Rod guide for pneumatic and hydraulic cylinders
- Attachment eyes for pneumatic and hydraulic cylinders
- Conveyor-belt systems, textile machinery, automobiles ...

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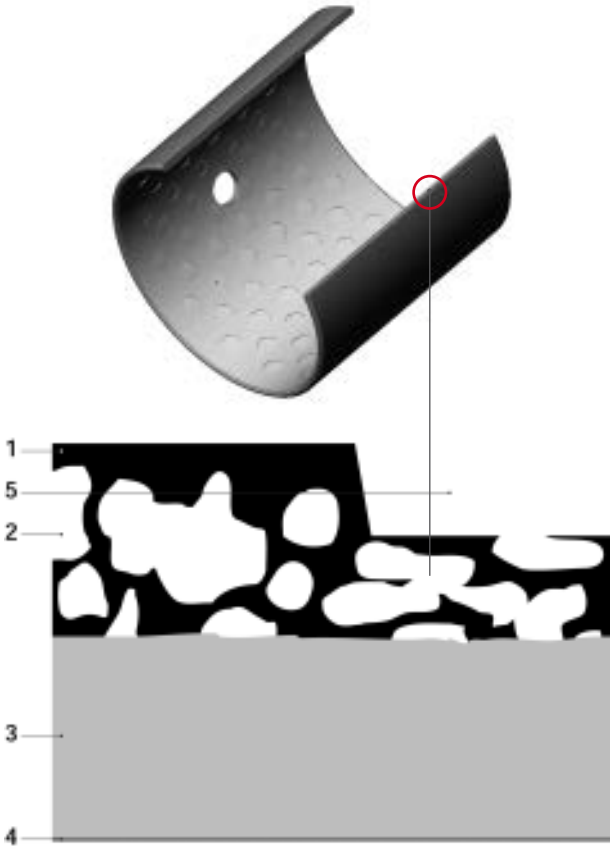
8.3 MAINTENANCE-FREE BUSHES TYPE BK-2



1 = Acetal resin: 0.30 - 0.50 mm
2 = Bronze coating: 0.20 - 0.35 mm
3 = Steel backing
4 = Surface protection: ~0.002 mm
5 = Lubrication pockets

Construction
The BK-2 bush consists of a porous bronze coating (2) sinter-fused onto a steel backing (3). An acetal resin POM (1) is then rolled into the bronze coating. The steel backing is protected against corrosion by external tin- or copper-plating (4). Finally the lubrication pockets (5) are stamped into the slide coating.

Properties
The BK-2 bush has many advantages:

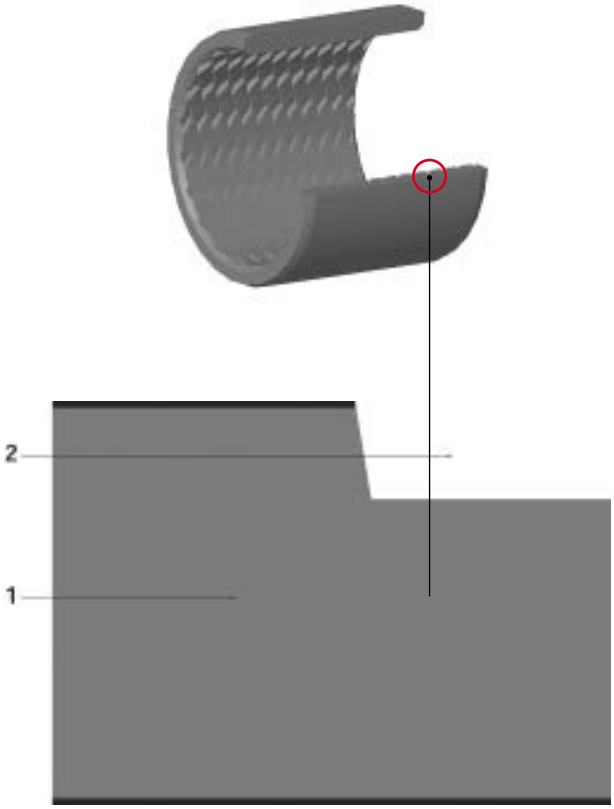
- Maintenance-free operation
- Noise and frequency absorption
- Relubricatable
- Hydrodynamic operation possible
- High permissible load
- Good friction characteristics
- High slide speed
- No water absorption
- Can be used where oil film formation is difficult
- Low play during operation
- Extremely space-saving

Areas of application
BK-2 bushes are suitable for rotary and oscillatory motions. Initial lubrication with grease is advisable, and continual lubrication substantially lengthens the service life of the slide bearing.

Application examples:

- Attachment eyes for pneumatic and hydraulic cylinders
- Agricultural equipment
- Material handling equipment
- Construction machinery, ...

8.4 BRONZE BUSHES TYPE BK090



1 = Bronze

2 = Lubrication pockets

Construction

The BK090 bush is made entirely out of CuSn8 bronze and manufactured from calibrated rolled strips. The entire sliding surface is covered with diamond-shaped lubrication pockets. Lubricant is introduced into these pockets, which then function as reservoirs, releasing the lubricant progressively during operation. Drill holes to allow relubrication.

Properties

The BK090 bush has many advantages:

- Maintenance-free operation
- Relubricatable
- Suitable for dirty conditions
- Shock and vibration resistant
- High permissible load
- Good friction characteristics
- No water absorption
- Low play during operation
- Extremely space-saving

Areas of application

BK090 bushes are suitable for rotary and oscillatory motions. Initial lubrication with grease is advisable, and continual lubrication substantially lengthens the service life of the slide bearing.

Application examples:

- Attachment eyes for hydraulic cylinders
- Forestry machinery
- Agricultural equipment
- Conveyors and elevators
- Construction machinery, ...

9. O-RINGS

9.1 DESCRIPTION OF O-RINGS

O-rings are ring-shaped seals with a round cross-section (a torus) defined by the inside diameter (D) and the cross-sectional diameter (d). It is the most common seal type for hydraulic and pneumatic applications.

O-rings have the following advantages:

- The groove is simple and easy to machine
- Large choice of compounds: NBR, FPM, EPDM, silicone, PTFE, PUR, ...
- Easy to install due to its symmetry
- Attractive price thanks to new production techniques
- Extremely wide variety of applications: static, dynamic (both linear and rotary), ...
- Compact design

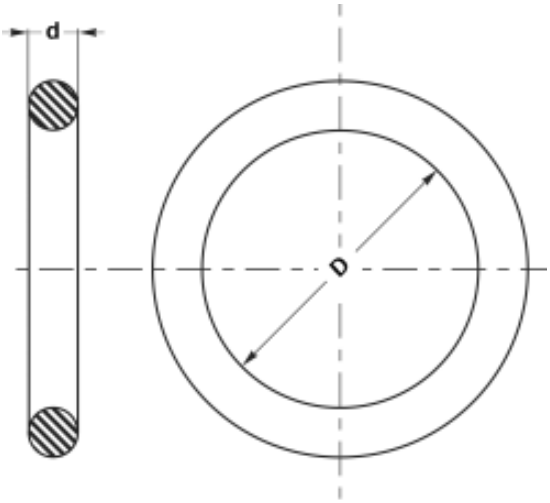


Figure 9.1:

9.2 PRINCIPLE OF O-RINGS

The functional principle is summarised in Figure 9.2:

- The O-ring is installed in a groove with a depth g smaller than the diameter d of the cross-section (Fig. 9.2).
- After installation, the O-ring seal is squeezed andthis creates a pressing action (Fig. 9.3).
- The media exerts pressure on the O-ring and intensifies the initial pressing action (Fig. 9.4).

The initial precompression (Fig. 9.3) is very important! Depending on the application and material, the compression of the elastomer will change as follows:

- From 3 to 20 % dynamic seal (pneumatic and hydraulic). In this catalogue, the initial pressure fluctuates between 12 and 14 % for a dynamic seal
- From 15 to 30 % static seal. In this catalogue, the initial pressure used for a static seal fluctuates between 17 and 27 %.

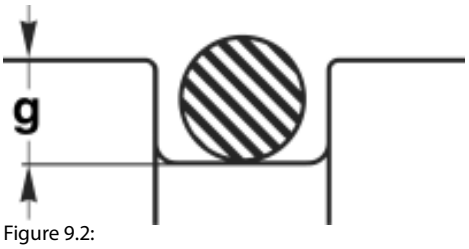


Figure 9.2:

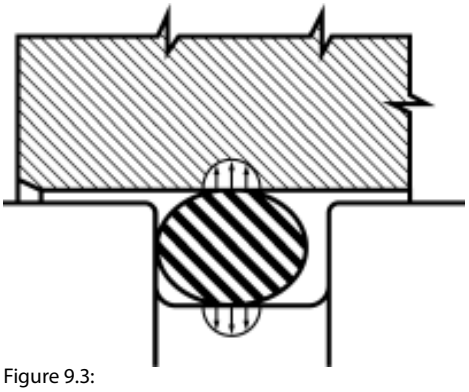


Figure 9.3:

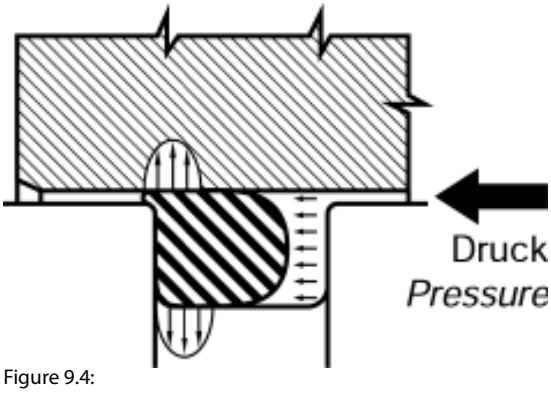


Figure 9.4:

9.3 TECHNICAL FEATURES OF O-RINGS

Static working pressure
- up to 150 bar for NBR 70 shore A without back-up ring
- up to 500 bar for NBR 70 shore A with back-up ring

Linear speed
Up to 0.5 m/s

Speed with rotational movements
Up to 2 m/s

C.S.: compression set
Compression set is a very important property because it expresses the time-related elasticity of the elastomer used.

Figures 9.5, 9.6 and 9.7 show an O-ring with cross-sectional diameter (d) compressed with a force (F) resulting in a value (C) for a specified time and temperature.

The value R is measured after the specified time has elapsed:

$$\text{C. S. (\%)} = \frac{d - R}{d - C} \cdot 100$$

A completely elastic material has a C.S. of 0 %, while a completely inelastic material has a C.S. of 100 %.

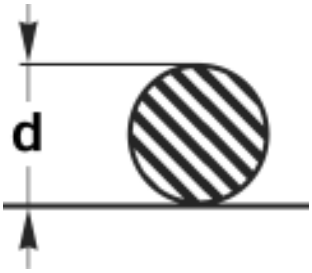


Figure 9.5:

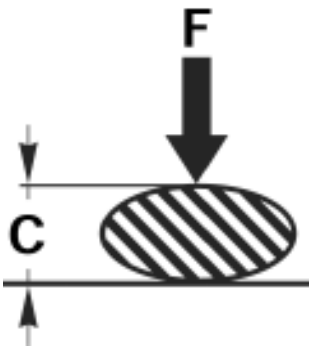


Figure 9.6:

Figure 9.7:

9.4 PERMISSIBLE CLEARANCE GAP OF O-RINGS

The highest permissible clearance gap **e** can be determined from the chart in Figure 9.8. The clearance gap must be less than the value shown left of the relevant curve and depends on the pressure used.

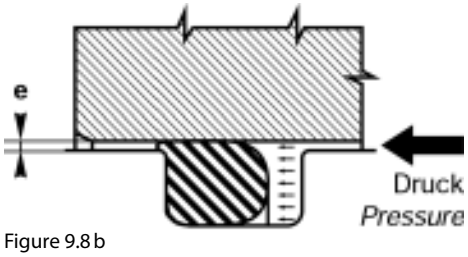


Figure 9.8 b

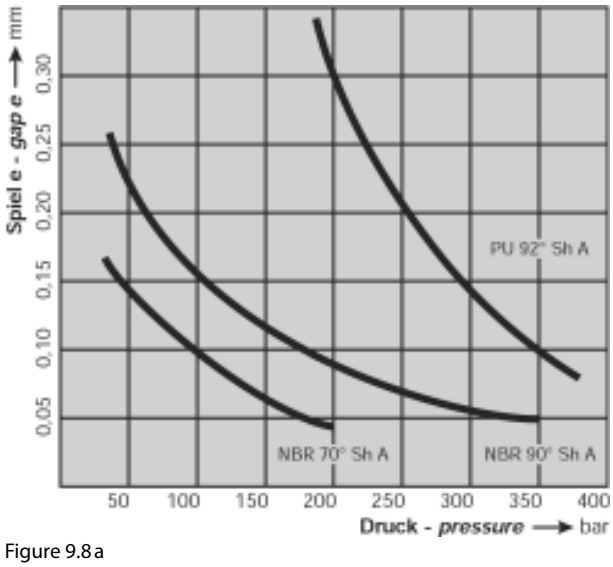


Figure 9.8 a

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9.5 DIMENSIONAL TOLERANCES FOR O-RINGS IN ACCORDANCE WITH ISO 3601-1:2008 CLASS B

The tolerances for the cord diameters d_2 are shown in Table 9.9.
The tolerances for the internal diameter d_1 are calculated **in accordance with ISO 3601-1:2008, Class B** using the following formula:

$$d_1 = (d_1^{0.95} \cdot 0.009) + 0.11 \text{ [mm]}$$

This formula is for use only with metric dimensions. The tolerances for internal diameters d_1 up to 600 mm are listed in Table 9.10.

Table 9.9

Cord diameter d_2 (mm)	Tolerances ±
$d_2 \leq 0.80$	on request
$0.80 < d_2 \leq 2.25$	0.08
$2.25 < d_2 \leq 3.15$	0.09
$3.15 < d_2 \leq 4.50$	0.10
$4.50 < d_2 \leq 6.30$	0.13
$6.30 < d_2 \leq 8.40$	0.15
$8.40 < d_2 \leq 10.00$	0.21
$10.00 < d_2 \leq 12.00$	0.25
$d_2 \leq 12.00$	on request

Table 9.10

Internal diameter d_1 (mm)	Tolerances ±
$d_1 \leq 1.71$	0.12
$1.71 < d_1 \leq 2.93$	0.13
$2.93 < d_1 \leq 4.17$	0.14
$4.17 < d_1 \leq 5.44$	0.15
$5.44 < d_1 \leq 6.72$	0.16
$6.72 < d_1 \leq 8.01$	0.17
$8.01 < d_1 \leq 9.31$	0.18
$9.31 < d_1 \leq 10.62$	0.19
$10.62 < d_1 \leq 11.94$	0.20
$11.94 < d_1 \leq 13.27$	0.21
$13.27 < d_1 \leq 14.61$	0.22
$14.61 < d_1 \leq 15.95$	0.23
$15.95 < d_1 \leq 17.29$	0.24
$17.29 < d_1 \leq 18.64$	0.25
$18.64 < d_1 \leq 20.00$	0.26
$20.00 < d_1 \leq 21.36$	0.27
$21.36 < d_1 \leq 22.73$	0.28
$22.73 < d_1 \leq 24.10$	0.29
$24.10 < d_1 \leq 25.47$	0.30
$25.47 < d_1 \leq 26.85$	0.31
$26.85 < d_1 \leq 28.23$	0.32
$28.23 < d_1 \leq 29.61$	0.33
$29.61 < d_1 \leq 31.00$	0.34
$31.00 < d_1 \leq 32.39$	0.35
$32.39 < d_1 \leq 33.78$	0.36
$33.78 < d_1 \leq 35.18$	0.37
$35.18 < d_1 \leq 36.58$	0.38
$36.58 < d_1 \leq 37.98$	0.39
$37.98 < d_1 \leq 39.38$	0.40
$39.38 < d_1 \leq 40.79$	0.41
$40.79 < d_1 \leq 42.20$	0.42
$42.20 < d_1 \leq 43.61$	0.43
$43.61 < d_1 \leq 45.02$	0.44
$45.02 < d_1 \leq 46.44$	0.45
$46.44 < d_1 \leq 47.86$	0.46
$47.86 < d_1 \leq 49.28$	0.47
$49.28 < d_1 \leq 50.70$	0.48
$50.70 < d_1 \leq 52.12$	0.49
$52.12 < d_1 \leq 53.55$	0.50
$53.55 < d_1 \leq 54.98$	0.51
$54.98 < d_1 \leq 56.41$	0.52
$56.41 < d_1 \leq 57.84$	0.53
$57.84 < d_1 \leq 59.27$	0.54
$59.27 < d_1 \leq 60.71$	0.55
$60.71 < d_1 \leq 62.14$	0.56
$62.14 < d_1 \leq 63.58$	0.57

Table 9.10

Internal diameter d_1 (mm)	Tolerances ±
$63.58 < d_1 \leq 65.02$	0.58
$65.02 < d_1 \leq 66.47$	0.59
$66.47 < d_1 \leq 67.91$	0.60
$67.91 < d_1 \leq 69.35$	0.61
$69.35 < d_1 \leq 70.80$	0.62
$70.80 < d_1 \leq 72.25$	0.63
$72.25 < d_1 \leq 73.70$	0.64
$73.70 < d_1 \leq 75.15$	0.65
$75.15 < d_1 \leq 76.60$	0.66
$76.60 < d_1 \leq 78.05$	0.67
$78.05 < d_1 \leq 79.51$	0.68
$79.51 < d_1 \leq 80.97$	0.69
$80.97 < d_1 \leq 82.42$	0.70
$82.42 < d_1 \leq 83.88$	0.71
$83.88 < d_1 \leq 85.34$	0.72
$85.34 < d_1 \leq 86.80$	0.73
$86.80 < d_1 \leq 88.27$	0.74
$88.27 < d_1 \leq 89.73$	0.75
$89.73 < d_1 \leq 91.20$	0.76
$91.20 < d_1 \leq 92.66$	0.77
$92.66 < d_1 \leq 94.13$	0.78
$94.13 < d_1 \leq 95.60$	0.79
$95.60 < d_1 \leq 97.07$	0.80
$97.07 < d_1 \leq 98.54$	0.81
$98.54 < d_1 \leq 100.01$	0.82
$100.01 < d_1 \leq 101.48$	0.83
$101.48 < d_1 \leq 102.96$	0.84
$102.96 < d_1 \leq 104.43$	0.85
$104.43 < d_1 \leq 105.91$	0.86
$105.91 < d_1 \leq 107.39$	0.87
$107.39 < d_1 \leq 108.86$	0.88
$108.86 < d_1 \leq 110.34$	0.89
$110.34 < d_1 \leq 111.82$	0.90
$111.82 < d_1 \leq 113.30$	0.91
$113.30 < d_1 \leq 114.79$	0.92
$114.79 < d_1 \leq 116.27$	0.93
$116.27 < d_1 \leq 117.75$	0.94
$117.75 < d_1 \leq 119.24$	0.95
$119.24 < d_1 \leq 120.72$	0.96
$120.72 < d_1 \leq 122.21$	0.97
$122.21 < d_1 \leq 123.70$	0.98
$123.70 < d_1 \leq 125.19$	0.99
$125.19 < d_1 \leq 126.68$	1.00
$126.68 < d_1 \leq 128.17$	1.01
$128.17 < d_1 \leq 129.66$	1.02
$129.66 < d_1 \leq 131.15$	1.03

Table 9.10	
Internal diameter d_1 (mm)	Tolerances ±
131.15 < d_1 ≤ 132.64	1.04
132.64 < d_1 ≤ 134.14	1.05
134.14 < d_1 ≤ 135.63	1.06
135.63 < d_1 ≤ 137.13	1.07
137.13 < d_1 ≤ 138.62	1.08
138.62 < d_1 ≤ 140.12	1.09
140.12 < d_1 ≤ 141.62	1.10
141.62 < d_1 ≤ 143.12	1.11
143.12 < d_1 ≤ 144.62	1.12
144.62 < d_1 ≤ 146.12	1.13
146.12 < d_1 ≤ 147.62	1.14
147.62 < d_1 ≤ 149.12	1.15
149.12 < d_1 ≤ 150.62	1.16
150.62 < d_1 ≤ 152.13	1.17
152.13 < d_1 ≤ 153.63	1.18
153.63 < d_1 ≤ 155.13	1.19
155.13 < d_1 ≤ 156.64	1.20
156.64 < d_1 ≤ 158.15	1.21
158.15 < d_1 ≤ 159.65	1.22
159.65 < d_1 ≤ 161.16	1.23
161.16 < d_1 ≤ 162.67	1.24
162.67 < d_1 ≤ 164.18	1.25
164.18 < d_1 ≤ 165.69	1.26
165.69 < d_1 ≤ 167.20	1.27
167.20 < d_1 ≤ 168.71	1.28
168.71 < d_1 ≤ 170.22	1.29
170.22 < d_1 ≤ 171.73	1.30
171.73 < d_1 ≤ 173.25	1.31
173.25 < d_1 ≤ 174.76	1.32
174.76 < d_1 ≤ 176.28	1.33
176.28 < d_1 ≤ 177.79	1.34
177.79 < d_1 ≤ 179.31	1.35
179.31 < d_1 ≤ 180.82	1.36
180.82 < d_1 ≤ 182.34	1.37
182.34 < d_1 ≤ 183.86	1.38
183.86 < d_1 ≤ 185.38	1.39
185.38 < d_1 ≤ 186.89	1.40
186.89 < d_1 ≤ 188.41	1.41
188.41 < d_1 ≤ 189.93	1.42
189.93 < d_1 ≤ 191.45	1.43
191.45 < d_1 ≤ 192.98	1.44
192.98 < d_1 ≤ 194.50	1.45
194.50 < d_1 ≤ 196.02	1.46
196.02 < d_1 ≤ 197.54	1.47
197.54 < d_1 ≤ 199.07	1.48
199.07 < d_1 ≤ 200.59	1.49
200.59 < d_1 ≤ 202.12	1.50
202.12 < d_1 ≤ 203.64	1.51
203.64 < d_1 ≤ 205.17	1.52
205.17 < d_1 ≤ 206.69	1.53
206.69 < d_1 ≤ 208.22	1.54
208.22 < d_1 ≤ 209.75	1.55
209.75 < d_1 ≤ 211.28	1.56
211.28 < d_1 ≤ 212.81	1.57
212.81 < d_1 ≤ 214.34	1.58
214.34 < d_1 ≤ 215.87	1.59
215.87 < d_1 ≤ 217.40	1.60
217.40 < d_1 ≤ 218.93	1.61
218.93 < d_1 ≤ 220.46	1.62
220.46 < d_1 ≤ 221.99	1.63
221.99 < d_1 ≤ 223.52	1.64
223.52 < d_1 ≤ 225.06	1.65

Table 9.10	
Internal diameter d_1 (mm)	Tolerances ±
225.06 < d_1 ≤ 226.59	1.66
226.59 < d_1 ≤ 228.12	1.67
228.12 < d_1 ≤ 229.66	1.68
229.66 < d_1 ≤ 231.19	1.69
231.19 < d_1 ≤ 232.73	1.70
232.73 < d_1 ≤ 234.27	1.71
234.27 < d_1 ≤ 235.80	1.72
235.80 < d_1 ≤ 237.34	1.73
237.34 < d_1 ≤ 238.88	1.74
238.88 < d_1 ≤ 240.42	1.75
240.42 < d_1 ≤ 241.95	1.76
241.95 < d_1 ≤ 243.49	1.77
243.49 < d_1 ≤ 245.03	1.78
245.03 < d_1 ≤ 246.57	1.79
246.57 < d_1 ≤ 248.11	1.80
248.11 < d_1 ≤ 249.66	1.81
249.66 < d_1 ≤ 251.20	1.82
251.20 < d_1 ≤ 252.74	1.83
252.74 < d_1 ≤ 254.28	1.84
254.28 < d_1 ≤ 255.82	1.85
255.82 < d_1 ≤ 257.37	1.86
257.37 < d_1 ≤ 258.91	1.87
258.91 < d_1 ≤ 260.46	1.88
260.46 < d_1 ≤ 262.00	1.89
262.00 < d_1 ≤ 263.55	1.90
263.55 < d_1 ≤ 265.09	1.91
265.09 < d_1 ≤ 266.64	1.92
266.64 < d_1 ≤ 268.18	1.93
268.18 < d_1 ≤ 269.73	1.94
269.73 < d_1 ≤ 271.28	1.95
271.28 < d_1 ≤ 272.83	1.96
272.83 < d_1 ≤ 274.38	1.97
274.38 < d_1 ≤ 275.92	1.98
275.92 < d_1 ≤ 277.47	1.99
277.47 < d_1 ≤ 279.02	2.00
279.02 < d_1 ≤ 280.57	2.01
280.57 < d_1 ≤ 282.12	2.02
282.12 < d_1 ≤ 283.68	2.03
283.68 < d_1 ≤ 285.23	2.04
285.23 < d_1 ≤ 286.78	2.05
286.78 < d_1 ≤ 288.33	2.06
288.33 < d_1 ≤ 289.88	2.07
289.88 < d_1 ≤ 291.44	2.08
291.44 < d_1 ≤ 292.99	2.09
292.99 < d_1 ≤ 294.54	2.10
294.54 < d_1 ≤ 296.10	2.11
296.10 < d_1 ≤ 297.65	2.12
297.65 < d_1 ≤ 299.21	2.13
299.21 < d_1 ≤ 300.76	2.14
300.76 < d_1 ≤ 302.32	2.15
302.32 < d_1 ≤ 303.88	2.16
303.88 < d_1 ≤ 305.43	2.17
305.43 < d_1 ≤ 306.99	2.18
306.99 < d_1 ≤ 308.55	2.19
308.55 < d_1 ≤ 310.11	2.20
310.11 < d_1 ≤ 311.66	2.21
311.66 < d_1 ≤ 313.22	2.22
313.22 < d_1 ≤ 314.78	2.23
314.78 < d_1 ≤ 316.34	2.24
316.34 < d_1 ≤ 317.90	2.25
317.90 < d_1 ≤ 319.46	2.26
319.46 < d_1 ≤ 321.02	2.27

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Table 9.10	
Internal diameter d_1 (mm)	Tolerances ±
321.02 < d_1 ≤ 322.58	2.28
322.58 < d_1 ≤ 324.15	2.29
324.15 < d_1 ≤ 325.71	2.30
325.71 < d_1 ≤ 327.27	2.31
327.27 < d_1 ≤ 328.83	2.32
328.83 < d_1 ≤ 330.39	2.33
330.39 < d_1 ≤ 331.96	2.34
331.96 < d_1 ≤ 333.52	2.35
333.52 < d_1 ≤ 335.09	2.36
335.09 < d_1 ≤ 336.65	2.37
336.65 < d_1 ≤ 338.21	2.38
338.21 < d_1 ≤ 339.78	2.39
339.78 < d_1 ≤ 341.35	2.40
341.35 < d_1 ≤ 342.91	2.41
342.91 < d_1 ≤ 344.48	2.42
344.48 < d_1 ≤ 346.04	2.43
346.04 < d_1 ≤ 347.61	2.44
347.61 < d_1 ≤ 349.18	2.45
349.18 < d_1 ≤ 350.75	2.46
350.75 < d_1 ≤ 352.31	2.47
352.31 < d_1 ≤ 353.88	2.48
353.88 < d_1 ≤ 355.45	2.49
355.45 < d_1 ≤ 357.02	2.50
357.02 < d_1 ≤ 358.59	2.51
358.59 < d_1 ≤ 360.16	2.52
360.16 < d_1 ≤ 361.73	2.53
361.73 < d_1 ≤ 363.30	2.54
363.30 < d_1 ≤ 364.87	2.55
364.87 < d_1 ≤ 366.44	2.56
366.44 < d_1 ≤ 368.01	2.57
368.01 < d_1 ≤ 369.58	2.58
369.58 < d_1 ≤ 371.16	2.59
371.16 < d_1 ≤ 372.73	2.60
372.73 < d_1 ≤ 374.30	2.61
374.30 < d_1 ≤ 375.87	2.62
375.87 < d_1 ≤ 377.45	2.63
377.45 < d_1 ≤ 379.02	2.64
379.02 < d_1 ≤ 380.59	2.65
380.59 < d_1 ≤ 382.17	2.66
382.17 < d_1 ≤ 383.74	2.67
383.74 < d_1 ≤ 385.32	2.68
385.32 < d_1 ≤ 386.89	2.69
386.89 < d_1 ≤ 388.47	2.70
388.47 < d_1 ≤ 390.05	2.71
390.05 < d_1 ≤ 391.62	2.72
391.62 < d_1 ≤ 393.20	2.73
393.20 < d_1 ≤ 394.78	2.74
394.78 < d_1 ≤ 396.35	2.75
396.35 < d_1 ≤ 397.93	2.76
397.93 < d_1 ≤ 399.51	2.77
399.51 < d_1 ≤ 401.09	2.78
401.09 < d_1 ≤ 402.66	2.79
402.66 < d_1 ≤ 404.24	2.80
404.24 < d_1 ≤ 405.82	2.81
405.82 < d_1 ≤ 407.40	2.82
407.40 < d_1 ≤ 408.98	2.83
408.98 < d_1 ≤ 410.56	2.84
410.56 < d_1 ≤ 412.14	2.85
412.14 < d_1 ≤ 413.72	2.86
413.72 < d_1 ≤ 415.30	2.87
415.30 < d_1 ≤ 416.89	2.88
416.89 < d_1 ≤ 418.47	2.89

Table 9.10	
Internal diameter d_1 (mm)	Tolerances ±
418.47 < d_1 ≤ 420.05	2.90
420.05 < d_1 ≤ 421.63	2.91
421.63 < d_1 ≤ 423.21	2.92
423.21 < d_1 ≤ 424.80	2.93
424.80 < d_1 ≤ 426.38	2.94
426.38 < d_1 ≤ 427.96	2.95
427.96 < d_1 ≤ 429.55	2.96
429.55 < d_1 ≤ 431.13	2.97
431.13 < d_1 ≤ 432.71	2.98
432.71 < d_1 ≤ 434.30	2.99
434.30 < d_1 ≤ 435.88	3.00
435.88 < d_1 ≤ 437.47	3.01
437.47 < d_1 ≤ 439.05	3.02
439.05 < d_1 ≤ 440.64	3.03
440.64 < d_1 ≤ 442.22	3.04
442.22 < d_1 ≤ 443.81	3.05
443.81 < d_1 ≤ 445.40	3.06
445.40 < d_1 ≤ 446.98	3.07
446.98 < d_1 ≤ 448.57	3.08
448.57 < d_1 ≤ 450.16	3.09
450.16 < d_1 ≤ 451.75	3.10
451.75 < d_1 ≤ 453.33	3.11
453.33 < d_1 ≤ 454.92	3.12
454.92 < d_1 ≤ 456.51	3.13
456.51 < d_1 ≤ 458.10	3.14
458.10 < d_1 ≤ 459.69	3.15
459.69 < d_1 ≤ 461.28	3.16
461.28 < d_1 ≤ 462.87	3.17
462.87 < d_1 ≤ 464.46	3.18
464.46 < d_1 ≤ 466.05	3.19
466.05 < d_1 ≤ 467.64	3.20
467.64 < d_1 ≤ 469.23	3.21
469.23 < d_1 ≤ 470.82	3.22
470.82 < d_1 ≤ 472.41	3.23
472.41 < d_1 ≤ 474.00	3.24
474.00 < d_1 ≤ 475.59	3.25
475.59 < d_1 ≤ 477.19	3.26
477.19 < d_1 ≤ 478.78	3.27
478.78 < d_1 ≤ 480.37	3.28
480.37 < d_1 ≤ 481.96	3.29
481.96 < d_1 ≤ 483.56	3.30
483.56 < d_1 ≤ 485.15	3.31
485.15 < d_1 ≤ 486.74	3.32
486.74 < d_1 ≤ 488.34	3.33
488.34 < d_1 ≤ 489.93	3.34
489.93 < d_1 ≤ 491.52	3.35
491.52 < d_1 ≤ 493.12	3.36
493.12 < d_1 ≤ 494.71	3.37
494.71 < d_1 ≤ 496.31	3.38
496.31 < d_1 ≤ 497.90	3.39
497.90 < d_1 ≤ 499.50	3.40
499.50 < d_1 ≤ 501.10	3.41
501.10 < d_1 ≤ 502.69	3.42
502.69 < d_1 ≤ 504.29	3.43
504.29 < d_1 ≤ 505.89	3.44
505.89 < d_1 ≤ 507.48	3.45
507.48 < d_1 ≤ 509.08	3.46
509.08 < d_1 ≤ 510.68	3.47
510.68 < d_1 ≤ 512.27	3.48
512.27 < d_1 ≤ 513.87	3.49
513.87 < d_1 ≤ 515.47	3.50
515.47 < d_1 ≤ 517.07	3.51

Table 9.10	
Internal diameter d_1 (mm)	Tolerances ±
517.07 < d_1 ≤ 518.67	3.52
518.67 < d_1 ≤ 520.27	3.53
520.27 < d_1 ≤ 521.87	3.54
521.87 < d_1 ≤ 523.46	3.55
523.46 < d_1 ≤ 525.06	3.56
525.06 < d_1 ≤ 526.66	3.57
526.66 < d_1 ≤ 528.26	3.58
528.26 < d_1 ≤ 529.86	3.59
529.86 < d_1 ≤ 531.46	3.60
531.46 < d_1 ≤ 533.07	3.61
533.07 < d_1 ≤ 534.67	3.62
534.67 < d_1 ≤ 536.27	3.63
536.27 < d_1 ≤ 537.87	3.64
537.87 < d_1 ≤ 539.47	3.65
539.47 < d_1 ≤ 541.07	3.66
541.07 < d_1 ≤ 542.68	3.67
542.68 < d_1 ≤ 544.28	3.68
544.28 < d_1 ≤ 545.88	3.69
545.88 < d_1 ≤ 547.48	3.70
547.48 < d_1 ≤ 549.09	3.71
549.09 < d_1 ≤ 550.69	3.72
550.69 < d_1 ≤ 552.29	3.73
552.29 < d_1 ≤ 553.90	3.74
553.90 < d_1 ≤ 555.50	3.75
555.50 < d_1 ≤ 557.11	3.76
557.11 < d_1 ≤ 558.71	3.77
558.71 < d_1 ≤ 560.32	3.78
560.32 < d_1 ≤ 561.92	3.79
561.92 < d_1 ≤ 563.53	3.80
563.53 < d_1 ≤ 565.13	3.81
565.13 < d_1 ≤ 566.74	3.82
566.74 < d_1 ≤ 568.34	3.83
568.34 < d_1 ≤ 569.95	3.84
569.95 < d_1 ≤ 571.56	3.85
571.56 < d_1 ≤ 573.16	3.86
573.16 < d_1 ≤ 574.77	3.87
574.77 < d_1 ≤ 576.38	3.88
576.38 < d_1 ≤ 577.98	3.89
577.98 < d_1 ≤ 579.59	3.90
579.59 < d_1 ≤ 581.20	3.91
581.20 < d_1 ≤ 582.81	3.92
582.81 < d_1 ≤ 584.42	3.93
584.42 < d_1 ≤ 586.02	3.94
586.02 < d_1 ≤ 587.63	3.95
587.63 < d_1 ≤ 589.24	3.96
589.24 < d_1 ≤ 590.85	3.97
590.85 < d_1 ≤ 592.46	3.98
592.46 < d_1 ≤ 594.07	3.99
594.07 < d_1 ≤ 595.68	4.00
595.68 < d_1 ≤ 597.29	4.01
597.29 < d_1 ≤ 598.90	4.02
598.90 < d_1 ≤ 600.00	4.03
d_1 > 600	using a formula

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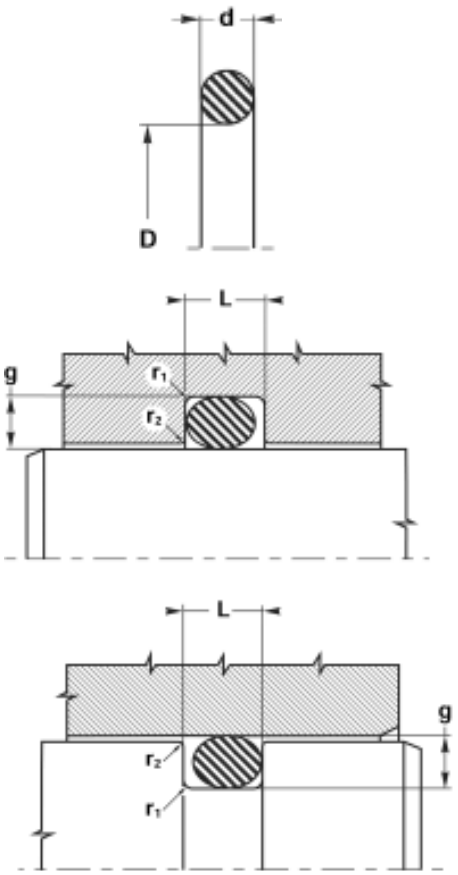
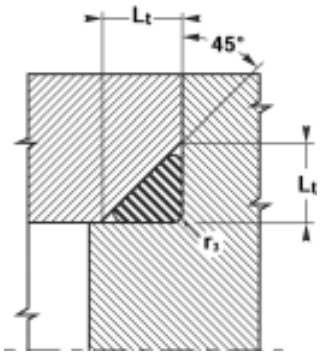
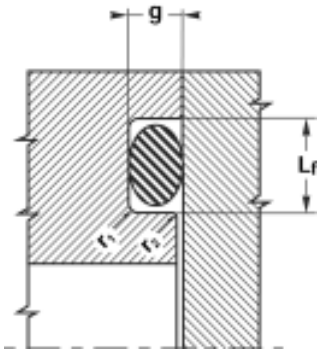
9.6 STATIC SEAL OF O-RINGS



Radial pressing action



Three-sided pressing action



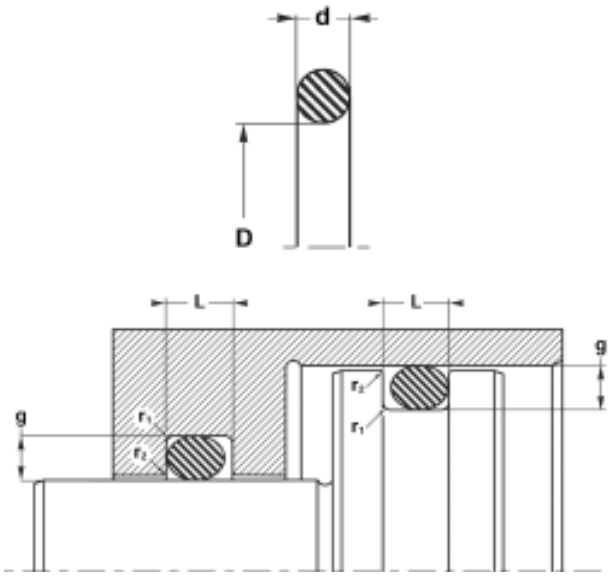
Axial pressing action

Table 9.11

Calculation of grooves and static seal in accordance with DIN 3771/Part 5 (ISO standard in bold)

d O-ring		g 0 / +0.0	L 0 / +0.20	Lf 0 / +0.20	Lt	tol. Lt	r1	r2	r3
1.00	1.02	0.70	1.40	1.40	1.35	0 / +0.10	0.20	0.10	0.20
1.50	1.52	1.10	2.00	2.10	2.00	0 / +0.10	0.20	0.10	0.20
1.60	1.63	1.20	2.10	2.20	2.15	0 / +0.10	0.30	0.10	0.30
1.78	**1.80**	**1.30**	**2.40**	**2.60**	**2.40**	**0 / +0.10**	**0.40**	**0.10**	**0.30**
1.90		1.40	2.60	2.70	2.55	0 / +0.10	0.40	0.10	0.40
2.00	1.98	1.50	2.70	2.80	2.70	0 / +0.10	0.40	0.10	0.40
2.40		1.80	3.20	3.30	3.20	0 / +0.15	0.50	0.10	0.40
2.50		1.85	3.30	3.40	3.40	0 / +0.15	0.50	0.10	0.60
2.62	**2.65**	**2.00**	**3.60**	**3.80**	**3.50**	**0 / +0.15**	**0.60**	**0.10**	**0.60**
2.70		2.05	3.60	3.80	3.65	0 / +0.15	0.60	0.10	0.60
3.00		2.30	4.00	4.00	4.00	0 / +0.20	0.60	0.15	0.60
3.10		2.40	4.10	4.10	4.10	0 / +0.20	0.60	0.15	0.60
3.50		2.65	4.60	4.70	4.70	0 / +0.20	0.60	0.15	0.90
3.53	**3.55**	**2.70**	**4.80**	**5.00**	**4.80**	**0 / +0.20**	**0.80**	**0.15**	**0.90**
3.60		2.80	4.80	5.10	4.90	0 / +0.20	0.80	0.15	0.90
4.00		3.10	5.20	5.30	5.40	0 / +0.20	0.80	0.15	1.20
4.50		3.50	5.80	5.90	6.10	0 / +0.20	0.80	0.15	1.20
5.00		4.00	6.60	6.70	6.70	0 / +0.25	0.80	0.15	1.20
5.34	**5.30**	**4.30**	**7.10**	**7.30**	**7.10**	**0 / +0.25**	**1.20**	**0.20**	**1.50**
5.50		4.50	7.10	7.30	7.40	0 / +0.25	1.20	0.20	1.50
5.70		4.60	7.20	7.40	7.60	0 / +0.25	1.20	0.20	1.50
6.00		4.90	7.40	7.60	8.00	0 / +0.30	1.20	0.20	1.50
7.00	**6.99**	**5.80**	**9.50**	**9.70**	**9.40**	**0 / +0.30**	**1.50**	**0.20**	**2.00**
8.00		6.70	9.80	10.00	10.80	0 / +0.30	1.50	0.20	2.00
8.40		7.10	10.00	10.30	11.30	0 / +0.30	1.50	0.20	2.00

9.7 DYNAMIC SEAL FOR PNEUMATIC CYLINDERS

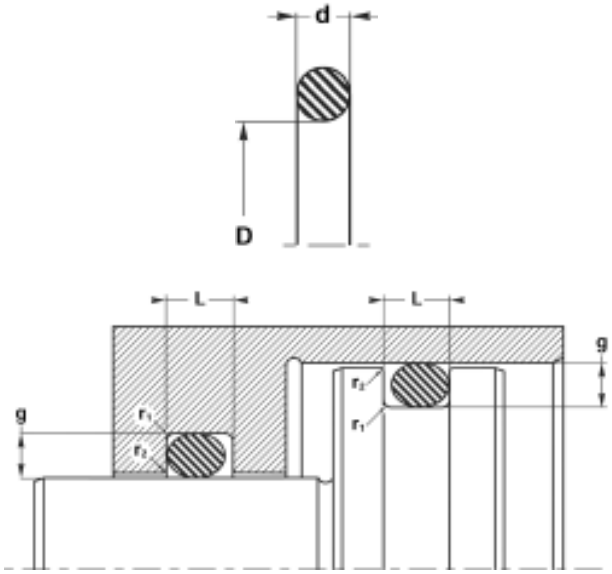


We recommend that the surface finishes, chamfers and radii shown are observed (see 9.9 Installation instructions for O-rings).

Table 9.12 (ISO standard in bold)

d		g	L	r1	r2
1.00	1.02	0.95	1.30	0.20	0.10
1.50	1.52	1.35	1.90	0.20	0.10
1.60	1.63	1.45	2.00	0.30	0.10
1.78	**1.80**	**1.55**	**2.30**	**0.30**	**0.10**
1.90		1.75	2.40	0.40	0.10
2.00	1.98	1.80	2.50	0.40	0.10
2.40		2.15	2.90	0.50	0.10
2.50		2.25	3.00	0.50	0.10
2.62	**2.65**	**2.35**	**3.10**	**0.60**	**0.10**
2.70		2.45	3.30	0.60	0.10
3.00		2.75	3.60	0.60	0.15
3.10		2.85	3.70	0.60	0.15
3.50		3.25	4.20	0.60	0.15
3.53	**3.55**	**3.25**	**4.20**	**0.80**	**0.15**
3.60		3.35	4.30	0.80	0.15
4.00		3.70	4.80	0.80	0.15
4.50		4.20	5.40	0.80	0.15
5.00		4.65	6.00	0.80	0.15
5.34	**5.30**	**4.95**	**6.40**	**1.20**	**0.20**
5.50		5.15	6.60	1.20	0.20
5.70		5.35	6.90	1.20	0.20
6.00		5.65	7.20	1.20	0.20
7.00	**6.99**	**6.60**	**8.40**	**1.50**	**0.20**
8.00		7.60	9.60	1.50	0.20
8.40		7.90	10.10	1.50	0.20

9.8 DYNAMIC SEAL FOR HYDRAULIC CYLINDERS



We recommend that the surface finishes, chamfers and radii shown are observed (see 9.9 Installation instructions for O-rings).

Table 9.13 (ISO standard in bold)

d		g	L	r1	r2
1.00	1.02	0.90	1.40	0.20	0.10
1.50	1.52	1.25	2.00	0.20	0.10
1.60	1.63	1.30	2.10	0.30	0.10
1.78	**1.80**	**1.55**	**2.40**	**0.40**	**0.10**
1.90		1.55	2.60	0.40	0.10
2.00	1.98	1.65	2.70	0.40	0.10
2.40		2.05	3.20	0.50	0.10
2.50		2.15	3.30	0.50	0.10
2.62	**2.65**	**2.25**	**3.60**	**0.60**	**0.10**
2.70		2.30	3.60	0.60	0.10
3.00		2.60	4.00	0.60	0.15
3.10		2.70	4.10	0.60	0.15
3.50		3.05	4.60	0.60	0.15
3.53	**3.55**	**3.10**	**4.80**	**0.80**	**0.15**
3.60		3.15	4.80	0.80	0.15
4.00		3.50	5.20	0.80	0.15
4.50		4.00	5.80	0.80	0.15
5.00		4.40	6.60	0.80	0.15
5.34	**5.30**	**4.70**	**7.10**	**1.20**	**0.20**
5.50		4.80	7.10	1.20	0.20
5.70		5.00	7.20	1.20	0.20
6.00		5.30	7.40	1.20	0.20
7.00	**6.99**	**6.10**	**9.50**	**1.50**	**0.20**
8.00		7.10	9.80	1.50	0.20
8.40		7.50	10.00	1.50	0.20

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9.9 INSTALLATION INSTRUCTIONS FOR O-RINGS

Installation and clearance gap

We give advice on the tolerances H7 / f6 for installation. The highest permissible clearance gap **e** can be determined from the chart in Figure 9.8 and 9.4 "Permissible clearance gap of O-rings". The clearance gap **e** must be less than the value read from axis to the left of the relevant curve and depends on the pressure used.

Surface quality

The roughness values stated in table 9.15 must be observed in both the R_a and R_t areas.

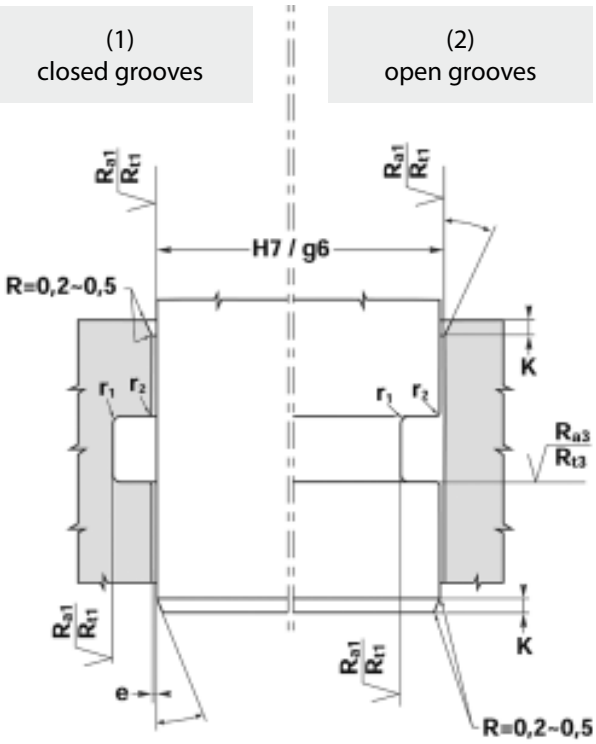
Chamfers

Table 9.14 lists the chamfer lengths K to be observed.

Roundings

Sharp edges must be avoided. The radii to be observed are shown on the following pages.

Radial installation



Axial installation

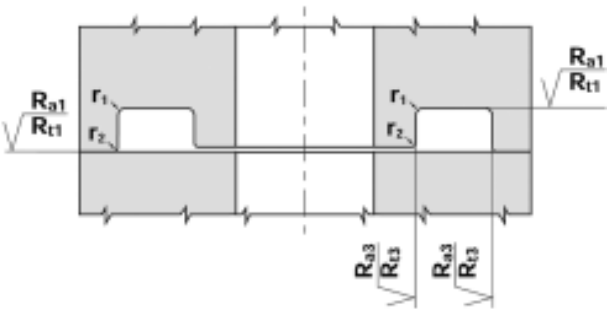


Table 9.14

d O-ring	K (mm) α = 20°	K (mm) α =30°
≤ 1.78	2.0	1.5
≤ 2.65	2.5	2.0
≤ 3.55	3.0	2.5
≤ 5.34	4.0	3.5
≤ 7.00	5.0	4.0
≤ 8.40	5.5	4.5

Table 9.15

R_{a1}	R_{t1}	R_{a3}	R_{t3}
≤ 0.8 µm	≤ 4 µm	≤ 3 µm	≤ 16 µm

10. BACK-UP RINGS

10.1 EXTRUSION

Extrusion problems occur when **the clearance gap e** between the parts in relation to the pressure deforming the O-ring is too large. The O-ring becomes gradually worn at the edges and wears out completely over time (Fig. 10.1).

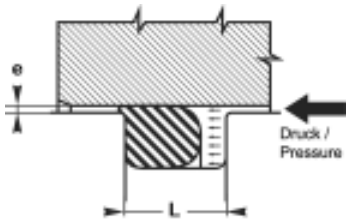


Figure 10.1:

The groove is widened by the value **E (thickness of the back-up ring)**. This back-up ring is installed on the side facing the direction of pressure. This supports the O-ring and solves extrusion problems (Fig. 10.2).
Back-up rings are used similarly for double-acting sealing systems. In this case, two back-up rings are required (Fig. 10.3).

10.2 PROFILES AND MATERIALS

We recommend solid back-up rings for internal and external grooves. PTFE must be used in applications with high temperatures and special fluids. For external grooves, the back-up rings have to be cut through to allow installation.

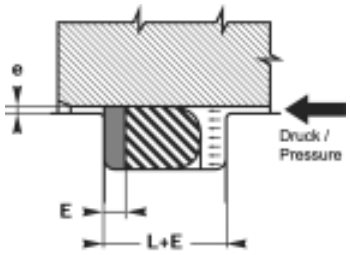


Figure 10.2:

10.3 FURTHER INFORMATION

Although a back-up ring is a very simple product, its choice and dimensions can be very complex, as we will demonstrate below.

A The problem of **replacing existing parts**: there is an enormous difference in the depth of the grooves used. The initial compression can vary between 10 and 30 % (see page 228).

Example: our standard rings BU and PBK. For an O-ring d = 2.62 mm, the section of the ring will be 2.25 mm for the PBK and 2.18 mm for the BU. Therefore the determination of the dimensions of the existing pieces must be done very carefully, because any dimension is possible; **every manufacturer uses different standards**.

Incorrectly determined dimensions can have disastrous consequences. If the ring is a poor fit for the groove, it can cause the following problems:

- If the cross-section of the ring is too large, installation will be difficult, if not impossible and the ring will inevitably wear out (see Fig. 10.4).
- On the other hand, if the cross-section is too small, there is no point in installing it: the extrusion problem is as bad as ever, as can be seen in Figure 10.5.

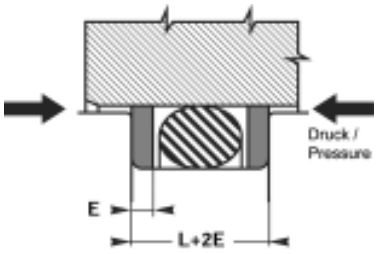


Figure 10.3:

B With respect to the **new versions**, the seal manufacturers' standard ranges are very often limited. The same ring is used for static and dynamic sealing.

Example: our PBK rings are often used for static sealing. However, they are more suitable for dynamic applications (see Table 9.13 in "9.8 Dynamic seal for hydraulic cylinders"). PBK rings are used in static applications mainly on the grounds of economy. However this conflicts with the groove depth we recommend in "9.9 Installation instructions for O-rings". For dimensions corresponding to those in Table 9.14, we recommend a DST 108 in H-PU.

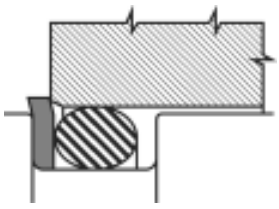


Figure 10.4:

Selecting a back-up ring for a new design is completely different to selecting one as a replacement.

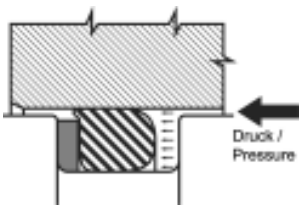


Figure 10.5:

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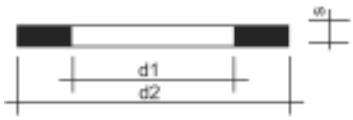
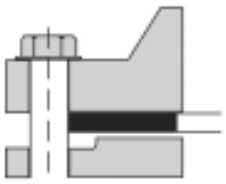
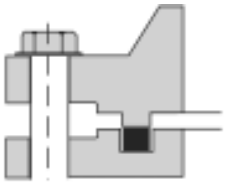
11. FLAT SEALS

11.1 FLAT SEALS IN ACCORDANCE WITH EN1514-1 (DIN 2690, 2691, 2692)

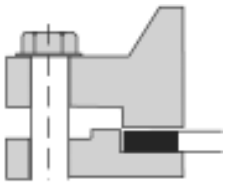




EN1514-1 IBC (DIN 2690)



EN1514-1 TG (DIN 2691)



EN1514-1 SR (DIN 2692)

Standard:		DIN 2690						DIN 2691		DIN 2692	
Flange shape:		A-B smooth seal surface without/with sealing lip						C-D tongue/groove		E-F projection/recess	
Nominal pressure:		PN 2.5	PN 6	PN 10	PN 16	PN 25	PN 40	PN 10-160		PN 10-100	
DN	d1	d2	d2	d2	d2	d2	d2	d1	d2	d1	d2
mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm
4	6	–	–	–	–	30	–	20	30	–	–
6	10	28	28	38	38	38	38	20	30	–	–
8	14	33	33	43	43	43	43	22	32	–	–
10	18	38	38	45	45	45	45	24	34	18	34
15	22	43	43	50	50	50	50	29	39	22	39
20	28	53	53	60	60	60	60	36	50	28	50
25	35	63	63	70	70	70	70	43	57	35	57
32	43	75	75	82	82	82	82	51	65	43	65
40	49	85	85	92	92	92	92	61	75	49	75
50	61	95	95	107	107	107	107	73	87	61	87
60	–	–	–	–	–	–	–	–	–	–	–
65	77	115	115	127	127	127	127	95	109	77	109
80	90	132	132	142	142	142	142	106	120	90	120
100	115	152	152	162	162	168	168	129	149	115	149
125	141	182	182	192	192	195	195	155	175	141	175
150	169	207	207	218	218	225	225	183	203	169	203
(175)	195	237	237	248	248	255	267	213	233	195	233
200	220	262	262	273	273	285	292	239	259	220	259
250	274	318	318	328	330	342	353	292	312	274	312
300	325	373	373	378	385	402	418	343	363	325	363
350	368	423	423	438	445	458	475	395	421	368	421
400	420	473	473	490	497	515	547	447	473	420	473
(450)	470	528	528	540	557	565	572	–	–	–	–
500	520	578	578	595	618	625	628	549	575	520	575
600	620	680	680	695	735	730	745	649	675	620	675
700	720	785	785	810	805	830	850	751	777	720	777
800	820	890	890	915	910	940	970	856	882	820	882
900	920	990	990	1015	1010	1040	1080	961	987	920	987
1000	1020	1090	1090	1120	1125	1150	1190	1062	1092	1020	1091
1100	–	–	–	–	–	–	–				
1200	1220	1290	1305	1340	1340	1360	1395				
1400	1420	1490	1520	1545	1540	1575	1615				
1500	–	–	–	–	–	–	–				
1600	1620	1700	1720	1770	1760	1795	1830				
1800	1820	1900	1930	1970	1960	2000					
2000	2020	2100	2138	2182	2168	2230					
2200	2220	2307	2384	2384							
2400	2420	2507	2558	2594							
2600	2620	2707	2762	2794							
2800	2820	2924	2972	3014							
3000	3020	3124	3172	3228							
3200	3220	3324	3382								
3400	3420	3524	3592								
3600	3620	3734	3804								
3800	3820	3931									
4000	4020	4131									
Flange standard:		DIN 2630	DIN 2631	DIN 2632	DIN 2633	DIN 2634	DIN 2635	DIN 2512	DIN 2512	DIN 2513	DIN 2513

11.2 DIMENSIONS AND TOLERANCES FOR SEALING PLATES, CUT PLATES AND PUNCHED ARTICLES

Tolerances for plates, cut plates and punched articles in accordance with DIN 7715 Part 5			
Nominal size	Class P1 Tolerances in mm	Class P2 Tolerances in mm	Class P3 Tolerances in mm
0.0 – 1.6	± 0.20	± 0.20	± 0.40
> 1.6 – 4.0	± 0.20	± 0.30	± 0.40
> 4.0 – 6.3	± 0.20	± 0.40	± 0.50
> 6.3 – 10.0	± 0.30	± 0.50	± 0.60
> 10.0 – 25.0	± 0.30	± 0.60	± 0.80
25.0 – 40.0	± 0.40	± 0.80	± 1.00
40.0 – 63.0	± 0.50	± 1.00	± 1.50
> 63.0 – 100.0	± 0.60	± 1.20	± 2.00
> 100.0 – 160.0	± 0.80	± 1.40	± 2.50
> 160.0 – 250.0	± 1.00	± 1.60	± 3.00
> 250.0 – 400.0	± 1.60	± 2.50	± 5.00
	Tolerances in %	Tolerances in %	Tolerances in %
> 400.0	± 0.50	± 0.80	± 1.50

Abbreviations used for materials in HANSA-FLEX articles	
Material	Abbreviations
Graphite/serrated perforated plate	GRSP
Graphite/smooth plate	GRGL
Klinger graphite Topgraph	TGR
Klinger C4400	C4400
PTFE/pure	PT
PTFE/glass	PT / GL
PTFE/glass/MOS2	PT / GM
PTFE/carbon	PT / K
Soft iron	WE
Stainless steel 1.4571	INOX

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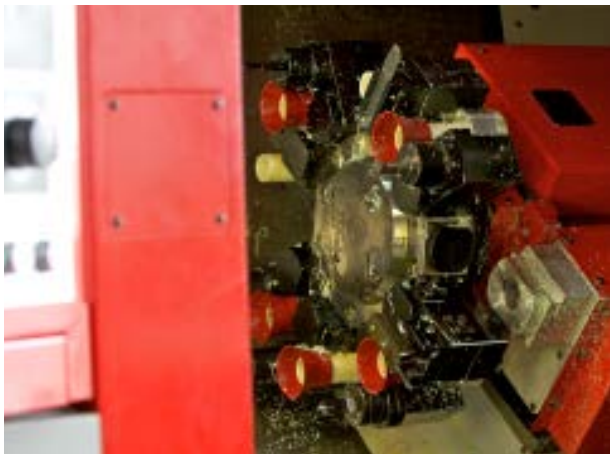
12 ON-DEMAND SEAL PRODUCTION



The HANSA-FLEX seal production centre
With two SEAL-MASTER CNC manufacturing facilities we are able to produce precision seals and special turned parts immediately in plastic or aluminium from 5 – 520 mm using computer-assisted manufacturing techniques. We store thousands of seals as datasets in the production centre's computer ready for just-in-time manufacture of seals from 5 – 520 mm directly to order. We offer same-day supply of almost any seal, whether standard or special profile.

The advantages of seal production
All seals and special turned parts can be produced as custom parts or standard parts in a mass series or individually with the highest level of precision. Our production software has over one hundred pre-programmed standard profiles. Hence, we are capable of adapting to the specific needs of our customers.

Furthermore, we maintain a standard seal stock with over 11,000 different seal types and dimensions ready and waiting for our customers.

13. SEAL PROFILES

SUPPORT RINGS


Profile DST 108


Profile DST 109


Profile DST 110


Profile DST 111


Profile DST 112


Profile DST 113

PISTON SEALS


Profile DK 101


Profile DK 102


Profile DK 102 R


Profile DK 103


Profile DK 104


Profile DK 104 R


Profile DK 105


Profile DK 106


Profile DK 107


Profile DK 108

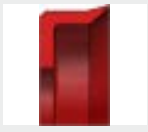

Profile DK 109


Profile DK 109 D


Profile DK 109 H


Profile DK 109 N


Profile DK 110-112


Profile DK 116


Profile DK 117


Profile DK 118


Profile DK 119


Profile DK 120

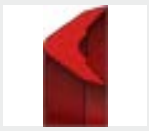

Profile DK 122


Profile DK 123

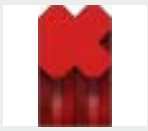

Profile DK 123 D

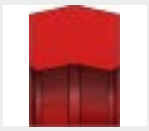

Profile DK 123 H


Profile DK 123 N


Profile DK 124


Profile DK 125


Profile DK 126


Profile DK 127


Profile DK 138


Profile DK 139


Profile DK 140


Profile DK 141


Profile DK 142

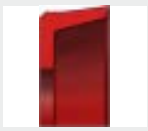

Profile DK 143

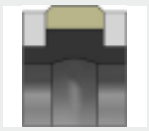

Profile DK 144


Profile DK 145


Profile DK 199


Profile DK 205


Profile DK 216


Profile DK 222


Profile DK 238

Important information: Profiles DK 105 – Pneumatic

FLAT SEALS


Profile DFL 101


Profile DFL 102


Profile DFL 103


Profile DFL 104


Profile DFL 105


Profile DFL 106


Profile DFL 107


Profile DFL 108


Profile DFL 109


Profile DFL 110


Profile DFL 111

T

WIPERS


Profile DA 101


Profile DA 103


Profile DA 105


Profile DA 107


Profile DA 108


Profile DA 111


Profile DA 112


Profile DA 113


Profile DA 114


Profile DA 115


Profile DA 116


Profile DA 117


Profile DA 118


Profile DA 211


Profile DA 212


Profile DA 213


Profile DA 102


Profile DA 104


Profile DA 106


Profile DA 119

Important information:
Profiles DA 103, DA 106, DA 114 – not snap in wiper
Profiles DA 104, DA 105, DA 106 – Pneumatic

ROTARY SEALS


Profile DR 101


Profile DR 102


Profile DR 103


Profile DR 104


Profile DR 105


Profile DR 106


Profile DR 107


Profile DR 108


Profile DR 109


Profile DR 110


Profile DR 111


Profile DR 112


Profile DR 115


Profile DR 116


Profile DR 117


Profile DR 118


Profile DR 119


Profile DR 201


Profile DR 202


Profile DR 203


Profile DR 204


Profile DR 205


Profile DR 206


Profile DR 207

ROD SEALS


Profile DS 101


Profile DS 102


Profile DS 102 R


Profile DS 103


Profile DS 104


Profile DS 104 R


Profile DS 105


Profile DS 106


Profile DS 107


Profile DS 108


Profile DS 109


Profile DS 110-112

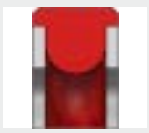

Profile DS 116


Profile DS 117


Profile DS 117 R

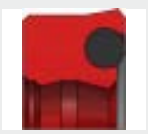

Profile DS 118


Profile DS 119


Profile DS 120

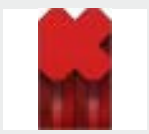

Profile DS 121


Profile DS 124


Profile DS 125

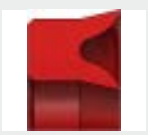

Profile DS 126-128


Profile DS 129


Profile DS 130


Profile DS 131


Profile DS 138


Profile DS 139


Profile DS 141


Profile DS 142


Profile DS 199


Profile DS 205


Profile DS 216


Profile DS 238

Important information:
Profiles DS 105 – Pneumatic

GUIDE RINGS


Profile DF 101


Profile DF 102


Profile DF 103

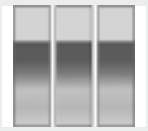

Profile DF104


Profile DF 105


Profile DF 106


Profile DF 107


Profile DF 108


Profile DFB 102

Should you have special requirements e.g. pressure, temperature, velocity, medium, please contact our sealing technology department. We would be pleased to optimise design and materials to suit your particular application.

14. MATERIAL DATASHEET

Material:			CH-PU	H-PU	H-PU D55	NBR	H-NBR
Colour:			Red	Red	Red	Black	Green
Properties							
Hardness	DIN 53505	Shore A	95	95	97	85	85
Hardness	DIN 53505	Shore D	48	48	55		
Tensile strength	DIN 53504 DIN 53455	N/mm²	50	55	55	17	20
Breaking elongation	DIN 53504 DIN 53455	%	450	350	330	150	200
Modulus 100 %	DIN 53504	N/mm²	14	16	18	11	10
Modulus 300 %	DIN 53504	N/mm²	28	35	39		
Rebound resilience	DIN 53512	%	35	35		20	26
Tear strength	DIN 53507 DIN 53515	N/mm	140	100	100	9	6
Spec. gravity	DIN 53479	g/cm³	1.2	1.2	1.22	1.32	1.32
Abrasion	DIN 53516	mm³	24	18		130	130
Compression set	DIN 53517	%	27	24	27	6	12
70° / 24 h 20 % Defo.							
Compression set	DIN 53517	%	35	33	35	5	14
100° / 24 h 20 % Defo.							
Compression set	DIN 53517	%					22
150° / 24 h 20 % Defo.							
Compression set	DIN 53517	%					
175° / 24 h 20 % Defo.							
Min. temperature		°C	-35	-25	-20	-35	-20
Max. temperature		°C	110	110	110	120	150
Temp. max water/steam		°C		80	80		120
Temp. max. hot air		°C					180 short
Modulus of elasticity	DIN 53457	N/mm²					
Approval for food use							
Special manufacture with approval for food use			x	x			

ALL MATERIALS AVAILABLE FOR SEAL MANUFACTURE:

DMH HPU 55D
DMH C-HPU 96A
DMH C-HPU 57D
DMH C-HPU 72D
DMH LT-PU 95A
DMH LT-PU plus 96A
DMH SL-PU 96A
DMH PU 93A
DMH NBR
DMH NBR white
DMH T-NBR 85
DMH H-NBR
DMH H-NBR 90 black
DMH H-NBR ED
DMH EPDM
DMH EPDM white FDA
DMH EPDM KTW / FDA
DMH FPM
DMH FPM FDA
DMH FPM black
DMH FPM ED
DMH Aflas 85
DMH MVQ 85 blue
DMH MVQ nature FDA

	T-NBR Black	EPDM Black	VMQ Blue	FPM Brown	PTFE Virgin White	PTFE Glass/MoS2 Grey	PTFE Bronze Brown	POM White	PA Natural
	80	85	85	85					
					55	63	69	85	85
	14	12	7.5	10	27	15	14	70	80
	160	80	130	200	350	280	170	40	40
	9		6.5	8					
	50	37	35	7					
	5	9	12	6					
	1.28	1.23	1.6	2.51	2.16	2.3	3.2	1.41	1.13
		140		200					
	6	5	8	7					
	9	7	9	8					
			35	9					
	-46	-45	-60	-20	-200	-200	-200	-45	-40
	100	150	220	200	260	260	260	100	110
		150	120	150					
		180 short	300 short	300 short					
					540	1320	1375	3000	3000
					x			x	
		x	x	x					

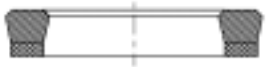
DMH MVQ white FDA
DMH POM
DMH PA
DMH UHMW-PE
DMH ALU
PTFE virgin
PTFE D05
PTFE TFM
PTFE I
PTFE D05 glass
PTFE D08
PTFE 25% glass
PTFE II
PTFE D46
PTFE PEEK
PTFE Ekonol
PTFE Cond
PTFE Carbon
PTFE E-Carbon
PTFE Graphite)

The test results are average results measured from test specimens and cannot be transferred to seal applications. The Seal Technology Department is not liable for products manufactured from our raw material

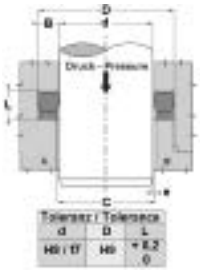
Hydraulic seals

B Dichtung

Rod seal B



Spaltmaß / Clearance	
Druck / Pressure (bar)	e (mm)
160	< 0,2
250	< 0,1



Low-friction seal. Extremely good sealing effect at low pressure. Simple solution.

Design: rod seal
Operating pressure: up to 250 bar
Sliding speed max.: 0,5 m/s
Temp. min.: -30 °C
Temp. max.: 110 °C
Media: Mineral oils, Water emulsions
Installation: in closed grooves A, in open grooves B
Material: fabric-reinforced NBR
Application: Hydraulics

Ordering information: For special operating conditions (fluid, temperature, pressure ...) please contact us. Alternative material possible: FPM.

Identification	D	d	L	Standard grooves
	mm	mm	mm	
B 055 024	14,00	6,00	6,40	
B 075 047	19,00	12,00	6,40	
B 075 050	19,05	12,70	5,25	
B 086 055	22,00	14,00	6,40	ISO 5597
B 087 050	22,22	12,70	7,65	
B 087 062	22,22	15,87	5,25	
B 090 059	23,00	15,00	6,40	
B 093 056	23,81	14,28	7,65	
B 094 063-1	24,00	16,00	6,40	ISO 5597
B 094 070	24,00	18,00	5,20	
B 098 070	25,00	18,00	8,00	
B 100 062	25,40	15,87	7,65	
B 102 070-1	26,00	18,00	6,40	ISO 5597
B 102 070	26,00	18,00	7,00	
B 106 078	27,00	20,00	6,40	
B 110 078-1	28,00	20,00	6,40	ISO 5597
B 110 078	28,00	20,00	7,00	
B 118 078	30,00	20,00	8,50	
B 118 086-1	30,00	22,00	6,40	ISO 5597
B 118 086	30,00	22,00	7,00	
B 118 068	30,16	17,46	10,00	
B 125 075-1	31,75	19,05	8,50	
B 125 094	32,00	24,00	7,50	
B 129 098-1	33,00	25,00	6,40	ISO 5597
B 134 094	34,00	24,00	6,50	
B 137 100	34,92	25,40	6,85	
B 137 086	35,00	22,00	10,00	
B 137 098	35,00	25,00	9,00	
B 137 106	35,00	27,00	6,50	
B 141 110	36,00	28,00	6,40	ISO 5597
B 147 118	37,50	30,00	6,50	
B 150 100	38,10	25,40	10,00	
B 150 125	38,10	31,75	6,75	
B 157 118	40,00	30,00	7,50	
B 157 125-1	40,00	32,00	6,40	
B 157 125	40,00	32,00	9,00	
B 169 137	43,00	35,00	6,40	
B 169 141	43,00	36,00	6,50	
B 173 141	44,00	36,00	6,40	ISO 5597
B 175 112	44,45	28,57	11,60	
B 175 125	44,45	31,75	9,52	
B 177 118-1	45,00	30,00	9,00	
B 177 137-5	45,00	35,00	8,00	
B 188 157	48,00	40,00	6,50	
B 196 118	50,00	30,00	14,50	
B 196 137	50,00	35,00	11,50	
B 196 149	50,00	38,00	9,50	
B 196 157-3	50,00	40,00	8,00	ISO 5597
B 196 157	50,00	40,00	11,00	
B 196 165	50,00	42,00	6,40	
B 200 137-1	50,80	34,92	10,00	
B 200 150-1	50,80	38,10	12,40	
B 208 177	53,00	45,00	6,50	
B 212 150-1	53,97	38,10	11,50	
B 212 181	54,00	46,00	8,00	
B 216 177	55,00	45,00	8,00	ISO 5597
B 225 162	57,15	41,27	11,60	
B 236 157	60,00	40,00	14,50	
B 236 188	60,00	48,00	7,00	
B 236 196	60,00	50,00	8,00	ISO 5597
B 236 196-1	60,00	50,00	10,00	
B 243 175	61,91	44,45	11,60	
B 244 196-1	62,00	50,00	9,50	
B 250 187	63,50	47,62	11,50	
B 250 200-1	63,50	50,80	10,00	
B 255 216-1	65,00	55,00	8,00	
B 262 200	66,67	50,80	11,50	
B 262 225	66,67	57,15	4,30	
B 271 240	69,00	61,00	8,50	
B 275 225	69,85	57,15	10,00	
B 275 196	70,00	50,00	14,50	
B 275 216	70,00	55,00	10,50	
B 275 236	70,00	60,00	8,00	
B 287 212	73,02	53,97	14,80	
B 295 216	75,00	55,00	14,50	
B 295 248-1	75,00	63,00	9,60	
B 295 255-1	75,00	65,00	8,50	
B 300 225-1	76,20	57,15	13,50	
B 314 236	80,00	60,00	14,50	
B 314 255	80,00	65,00	11,50	
B 314 259	80,00	66,00	11,00	
B 314 275-1	80,00	70,00	8,00	
B 322 275-1	82,00	70,00	9,60	
B 330 275	84,00	70,00	12,50	
B 334 255	85,00	65,00	14,50	
B 334 275-1	85,00	70,00	12,00	
B 334 295-1	85,00	75,00	8,00	
B 350 287	88,90	73,02	12,50	
B 354 275	90,00	70,00	14,50	
B 354 314	90,00	80,00	8,00	
B 362 314	92,00	80,00	9,60	
B 362 300	92,07	76,20	10,00	
B 374 334	95,00	85,00	8,00	
B 375 300	95,25	76,20	14,80	
B 377 314	96,00	80,00	10,50	
B 393 314	100,00	80,00	14,50	
B 400 325-1	101,60	82,55	14,80	
B 401 354	102,00	90,00	9,60	
B 425 350	107,95	88,90	12,70	
B 425 377	108,00	96,00	12,50	
B 444 393	113,00	100,00	13,50	
B 452 413	115,00	105,00	11,00	
B 460 413	117,00	105,00	12,50	
B 472 413	120,00	105,00	12,00	
B 492 413	125,00	105,00	12,50	
B 492 433	125,00	110,00	12,00	
B 492 452	125,00	115,00	8,00	
B 531 492	135,00	125,00	8,50	
B 550 500	139,70	127,00	10,00	
B 551 472	140,00	120,00	12,50	
B 551 511	140,00	130,00	8,00	
B 620 570	157,70	145,00	10,00	
B 767 708	195,00	180,00	12,50	

Web: http://cat.hansa-flex.com/en/BDICHTUNG

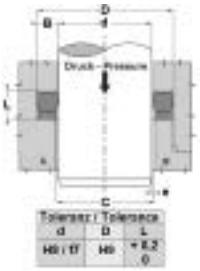
Product versions:
B NEI - Rod seal B-NEI, (1) Seal: fabric-reinforced NBR
B M - Rod seal B-M, fabric-reinforced NBR
B FPM-C - Rod seal B-FPM/C, FPM-C

B NEI FPM

Rod seal B-NEI-FPM

Low-friction seal. Extremely good sealing effect at low pressure. Simple solution.

Design: rod seal
Operating pressure: up to 400 bar
Sliding speed max.: 0,5 m/s
Temp. min.: -30 °C
Temp. max.: 110 °C
Media: Mineral oils, Water emulsions
Installation: in closed grooves A, in open grooves B
Material: (1) Seal: FPM, (2) Support ring: acetal resin / PTBR
Application: Hydraulics



Spaltmaß / Clearance	
Druck / Pressure (bar)	e (mm)
160	< 0,40
250	< 0,20
400	< 0,12

Ordering information: For special operating conditions (fluid, temperature, pressure ...) please contact us.

Identification	D	d	L
	mm	mm	mm
B 216 157-NEI FPM	55	40	8,0
B 255 196-NEI FPM	65	50	11,0
B 295 236-NEI FPM	75	60	13,0
B 314 236-NEI FPM	80	60	14,5
B 334 275-NEI FPM	85	70	12,5
B 452 393-NEI FPM	115	100	12,5

Web: http://cat.hansa-flex.com/en/BNEIFPM

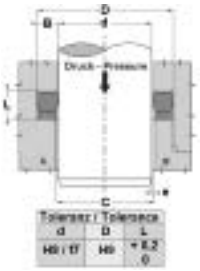
Product versions:
B NEI - Rod seal B-NEI, (1) Seal: fabric-reinforced NBR

B NEI

Rod seal B-NEI

Low-friction seal. Extremely good sealing effect at low pressure. Simple solution.

Design: rod seal
Operating pressure: up to 400 bar
Sliding speed max.: 0,5 m/s
Temp. min.: -30 °C
Temp. max.: 110 °C
Media: Mineral oils, Water emulsions
Installation: in closed grooves A, in open grooves B
Material: (1) Seal: fabric-reinforced NBR, (2) Support ring: acetal resin / PTBR
Application: Hydraulics



Spaltmaß / Clearance	
Druck / Pressure (bar)	e (mm)
160	< 0,40
250	< 0,20
400	< 0,12

Ordering information: For special operating conditions (fluid, temperature, pressure ...) please contact us. Alternative material possible: FPM.

Identification	D	d	L	Standard grooves
	mm	mm	mm	
B 094 063-NEI	24,00	16,00	7,00	
B 106 059-NEI	27,00	15,00	7,00	
B 110 070-NEI	28,00	18,00	6,30	
B 110 078-1-NEI	28,00	20,00	6,40	
B 110 078-NEI	28,00	20,00	7,00	
B 118 070-NEI	30,00	18,00	7,50	
B 118 078-NEI	30,00	20,00	8,50	
B 118 086-NEI	30,00	22,00	7,00	
B 125 086-NEI	32,00	22,00	10,00	
B 129 098-1-NEI	33,00	25,00	6,40	
B 133 086-NEI	34,00	22,00	9,50	
B 137 086-NEI	35,00	22,00	10,00	
B 137 098-NEI	35,00	25,00	9,00	
B 141 110-NEI	36,00	28,00	6,40	
B 149 110-1-NEI	38,00	28,00	8,00	
B 149 118-NEI	38,00	30,00	6,40	
B 150 100-NEI	38,10	25,40	10,00	
B 156 112-NEI	39,68	28,57	9,25	
B 157 110-NEI	40,00	28,00	9,50	
B 157 118-NEI	40,00	30,00	7,50	
B 157 118-1-NEI	40,00	30,00	10,50	
B 157 125-1-NEI	40,00	32,00	6,00	
B 157 125-NEI	40,00	32,00	9,00	
B 169 137-NEI	43,00	35,00	6,40	
B 169 141-NEI	43,00	36,00	6,50	
B 173 141-NEI	44,00	36,00	6,40	ISO 5597
B 177 118-1-NEI	45,00	30,00	9,00	
B 177 125-NEI	45,00	32,00	10,00	
B 177 137-3-NEI	45,00	35,00	10,50	
B 181 141-NEI	46,00	36,00	8,50	

Identification	D	d	L	Standard grooves
	mm	mm	mm	
B 187 125-NEI	47,62	31,75	11,60	
B 188 141-NEI	48,00	36,00	9,50	
B 188 141-1-NEI	48,00	36,00	12,00	
B 188 157-NEI	48,00	40,00	6,50	
B 196 137-NEI	50,00	35,00	11,50	
B 196 157-3-NEI	50,00	40,00	8,00	ISO 5597
B 196 157-1-NEI	50,00	40,00	10,00	
B 196 157-NEI	50,00	40,00	11,00	
B 200 150-NEI	50,80	38,10	10,00	
B 212 150-5-NEI	53,97	38,10	10,50	
B 212 175-1-NEI	53,97	44,45	7,62	
B 216 157-NEI	55,00	40,00	8,00	
B 216 157-1-NEI	55,00	40,00	11,00	
B 216 177-NEI	55,00	45,00	8,00	ISO 5597
B 216 177-1-NEI	55,00	45,00	11,00	
B 224 177-NEI	57,00	45,00	10,00	
B 236 157-NEI	60,00	40,00	14,50	
B 236 177-NEI	60,00	45,00	10,50	
B 236 196-NEI	60,00	50,00	8,00	ISO 5597
B 236 196-1-NEI	60,00	50,00	10,00	
B 244 196-1-NEI	62,00	50,00	9,50	
B 255 177-NEI	65,00	45,00	14,50	
B 255 196-NEI	65,00	50,00	11,00	
B 255 216-1-NEI	65,00	55,00	8,00	
B 255 216-NEI	65,00	55,00	11,00	
B 273 236-NEI	69,50	60,00	7,00	
B 275 225-NEI	69,85	57,15	10,00	
B 275 196-NEI	70,00	50,00	14,50	
B 275 216-NEI	70,00	55,00	10,50	
B 275 236-NEI	70,00	60,00	8,00	

B NEI (Continued)

Rod seal B-NEI

Identification	D	d	L	Standard grooves
	mm	mm	mm	
B 275 236-1-NEI	70,00	60,00	11,00	
B 275 236-2-NEI	70,00	60,00	13,00	
B 279 220-NEI	71,00	56,00	10,50	
B 283 236-NEI	72,00	60,00	10,00	
B 295 216-NEI	75,00	55,00	14,50	
B 295 236-NEI	75,00	60,00	13,00	
B 295 248-NEI	75,00	63,00	11,00	
B 295 255-NEI	75,00	65,00	13,50	
B 299 220-NEI	76,00	56,00	14,50	
B 303 255-NEI	77,00	65,00	9,60	
B 307 248-NEI	78,00	63,00	12,50	ISO 5597
B 314 236-NEI	80,00	60,00	14,50	
B 314 255-NEI	80,00	65,00	11,50	
B 314 255-2-NEI	80,00	65,00	12,50	
B 314 275-1-NEI	80,00	70,00	8,00	
B 314 275-NEI	80,00	70,00	13,00	
B 322 275-NEI	82,00	70,00	10,50	
B 326 248-NEI	83,00	63,00	14,50	
B 330 275-NEI	84,00	70,00	12,50	
B 334 275-1-NEI	85,00	70,00	12,00	
B 334 275-NEI	85,00	70,00	12,50	
B 334 295-2-NEI	85,00	75,00	11,00	
B 354 295-NEI	90,00	75,00	11,50	
B 354 295-1-NEI	90,00	75,00	12,80	
B 366 314-NEI	93,00	80,00	14,50	
B 374 295-NEI	95,00	75,00	14,50	
B 374 314-NEI	95,00	80,00	12,00	
B 374 334-NEI	95,00	85,00	8,00	
B 377 314-NEI	96,00	80,00	10,50	
B 393 314-1-NEI	100,00	80,00	12,00	
B 393 314-NEI	100,00	80,00	14,50	
B 393 334-1-NEI	100,00	85,00	12,00	
B 393 354-NEI	100,00	90,00	11,00	
B 413 334-NEI	105,00	85,00	14,50	

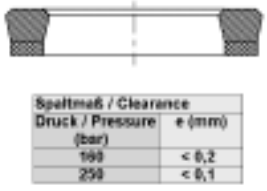
Identification	D	d	L	Standard grooves
	mm	mm	mm	
B 413 354-NEI	105,00	90,00	9,50	
B 413 354-1-NEI	105,00	90,00	12,50	ISO 5597
B 418 354-NEI	106,20	90,00	10,80	
B 433 354-NEI	110,00	90,00	12,50	
B 433 374-NEI	110,00	95,00	12,50	
B 441 374-NEI	112,00	95,00	12,00	
B 444 393-NEI	113,00	100,00	13,50	
B 452 374-NEI	115,00	95,00	14,50	
B 452 393-1-NEI	115,00	100,00	11,50	
B 452 393-NEI	115,00	100,00	12,50	
B 472 393-1-NEI	120,00	100,00	12,00	
B 472 393-NEI	120,00	100,00	14,50	
B 492 413-NEI	125,00	105,00	12,50	
B 492 433-NEI	125,00	110,00	12,00	
B 511 433-NEI	130,00	110,00	12,50	
B 522 472-NEI	132,70	120,00	10,00	
B 531 433-NEI	135,00	110,00	15,50	
B 531 472-NEI	135,00	120,00	12,50	
B 551 472-NEI	140,00	120,00	12,50	
B 570 511-1-NEI	145,00	130,00	13,00	
B 590 492-NEI	150,00	125,00	14,50	
B 620 570-NEI	157,70	145,00	10,00	
B 629 531-NEI	160,00	135,00	14,00	
B 629 551-NEI	160,00	140,00	12,50	
B 629 551-1-NEI	160,00	140,00	14,50	
B 669 590-1-NEI	170,00	150,00	14,50	
B 688 629-NEI	175,00	160,00	16,00	
B 708 629-NEI	180,00	160,00	14,50	
B 787 708-NEI	200,00	180,00	14,50	
B 826 708-1-NEI	210,00	180,00	20,50	
B 826 748-NEI	210,00	190,00	14,50	
B 866 787-NEI	220,00	200,00	14,50	
B 944 826-NEI	240,00	210,00	22,50	
B 984 866-NEI	250,00	220,00	20,50	

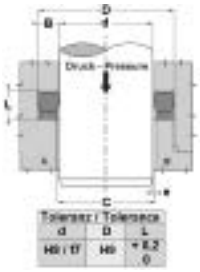
Web: http://cat.hansa-flex.com/en/BNEI

Product versions:
B Dichtung - Rod seal B, fabric-reinforced NBR
B M - Rod seal B-M, fabric-reinforced NBR
B NEI FPM - Rod seal B-NEI-FPM, (1) Seal: FPM

B FPM-K

Rod seal B-FPM/K





Low-friction seal. Extremely good sealing effect at low pressure. Simple solution.

Design: rod seal
Operating pressure: up to 250 bar
Sliding speed max.: 0,5 m/s
Temp. min.: -30 °C
Temp. max.: 150 °C
Media: Mineral oils, Water emulsions
Installation: in closed grooves in open grooves
Material: FPM-K
Application: Hydraulics

Identification	D	d	L
	mm	mm	mm
B 137 098 FPM-K	35,0	35,00	9,0
B 196 137 FPM-K	50,0	35,00	11,5
B 330 275 FPM-K	84,0	70,00	12,5
B 492 413 FPM-K	125,0	105,00	12,5

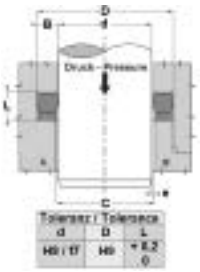
Web: http://cat.hansa-flex.com/en/BFPMK

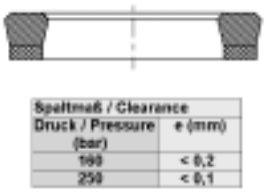
B FPM-C

Rod seal B-FPM/C

Low-friction seal. Extremely good sealing effect at low pressure. Simple solution.

Design: rod seal
Operating pressure: up to 250 bar
Sliding speed max.: 0,5 m/s
Temp. min.: -10 °C
Temp. max.: 150 °C
Media: Mineral oils, Water emulsions
Installation: in closed grooves in open grooves
Material: FPM-C
Application: Hydraulics





Spaltmaß / Clearance	
Druck / Pressure (bar)	e (mm)
160	< 0,2
250	< 0,1

Identification	D	d	L
	mm	mm	mm
B 094 063-1 FPM-C	24	16	6,4
B 102 070-1 FPM-C	26	18	6,4
B 110 078-1 FPM-C	28	20	6,4
B 118 086-1 FPM-C	30	22	6,4
B 129 098-1 FPM-C	33	25	6,4
B 141 110 FPM-C	36	28	6,4
B 149 118 FPM-C	38	30	6,4
B 157 118 FPM-C	40	30	7,5
B 157 125-1 FPM-C	40	32	6,4
B 169 137 FPM-C	43	35	6,4
B 173 141 FPM-C	44	36	6,4

Identification	D	d	L
	mm	mm	mm
B 188 157 FPM-C	48	40	6,4
B 196 157 FPM-C	50	40	11,0
B 216 177 FPM-C	55	45	8,0
B 236 196 FPM-C	60	50	8,0
B 236 196-1 FPM-C	60	50	10,0
B 255 216-1 FPM-C	65	55	8,0
B 275 236 FPM-C	70	60	8,0
B 283 236 FPM-C	72	60	9,6
B 322 275-1 FPM-C	82	70	9,6
B 362 314 FPM-C	92	80	9,6

Web: http://cat.hansa-flex.com/en/BFPMC

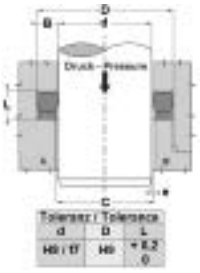
Product versions:
B Dichtung - Rod seal B, fabric-reinforced NBR
B M - Rod seal B-M, fabric-reinforced NBR
B NEI - Rod seal B-NEI, (1) Seal: fabric-reinforced NBR

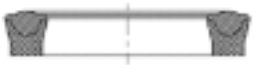
B M

Rod seal B-M

Low-friction seal. Extremely good sealing effect at low pressure. Simple solution.

Design: rod seal
Operating pressure: up to 250 bar
Sliding speed max.: 0,5 m/s
Temp. min.: -30 °C
Temp. max.: 110 °C
Media: Mineral oils, Water emulsions
Installation: in closed grooves A, in open grooves B
Material: fabric-reinforced NBR
Application: Hydraulics





Spaltmaß / Clearance	
Druck / Pressure (bar)	e (mm)
160	< 0,2
250	< 0,1

Ordering information: For special operating conditions (fluid, temperature, pressure ...) please contact us. Alternative material possible: FPM.

Identification	D	d	L	Standard grooves
	mm	mm	mm	
B 047 019-M	12,00	5,00	6,40	
B 051 024-M	13,00	6,00	6,40	
B 059 031-M	15,00	8,00	6,40	
B 066 039-M	17,00	10,00	6,40	
B 075 047-M	19,00	12,00	6,40	
B 086 055-M	22,00	14,00	6,40	
B 090 059-M	23,00	15,00	6,40	
B 094 063-1-M	24,00	16,00	6,40	ISO 5597
B 102 070-1-M	26,00	18,00	6,40	ISO 5597
B 110 078-1-M	28,00	20,00	6,40	ISO 5597
B 118 086-1-M	30,00	22,00	6,40	ISO 5597
B 129 098-1-M	33,00	25,00	6,40	ISO 5597
B 141 110-M	36,00	28,00	6,40	
B 149 118-M	38,00	30,00	6,40	
B 157 125-1-M	40,00	32,00	6,40	
B 169 137-M	43,00	35,00	6,40	
B 1731 41-M	44,00	36,00	6,40	
B 188 157-M	48,00	40,00	6,40	
B 196 165-M	50,00	42,00	6,40	
B 216 177-M	55,00	45,00	8,00	

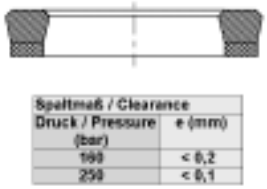
Identification	D	d	L	Standard grooves
	mm	mm	mm	
B 236 196-M	60,00	50,00	8,00	ISO 5597
B 255 216-1-M	65,00	55,00	8,00	
B 259 220-M	66,00	56,00	8,00	
B 275 236-M	70,00	60,00	8,00	
B 295 248-1-M	75,00	63,00	9,60	
B 303 255-M	77,00	65,00	9,60	
B 322 275-1-M	82,00	70,00	9,60	
B 342 295-M	87,00	75,00	9,60	
B 362 314-M	92,00	80,00	9,60	
B 381 334-M	97,00	85,00	9,60	
B 401 354-M	102,00	90,00	9,60	
B 452 393-2-M	115,00	100,00	12,00	
B 492 433-M	125,00	110,00	12,00	
B 511 452-M	130,00	115,00	12,00	
B 551 492-M	140,00	125,00	12,00	
B 629 551-2-M	160,00	140,00	16,00	
B 669 590-M	170,00	150,00	16,00	
B 708 629-1-M	180,00	160,00	16,00	
B 787 708-1-M	200,00	180,00	16,00	
B 866 787-1-M	220,00	200,00	16,00	

Web: http://cat.hansa-flex.com/en/BM

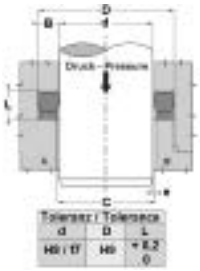
Product versions:
B Dichtung - Rod seal B, fabric-reinforced NBR
B NEI - Rod seal B-NEI, (1) Seal: fabric-reinforced NBR

B GS

Rod seal B GS



Spaltmaß / Clearance	
Druck / Pressure (bar)	e (mm)
160	< 0,2
250	< 0,1



Simple solution. Low-friction seal. Extremely good sealing effect at low pressure.

Operating pressure: up to 250 bar
Sliding speed max.: 0,5 m/s
Temp. min.: -30 °C
Temp. max.: 110 °C
Media: Mineral oils, Water emulsions
Installation: in closed or open grooves
Material: (1) Seal: fabric-reinforced NBR, (2) Support ring: acetal resin / PTBR

Identification	D	d	L
	mm	mm	mm
B 208 165-GS	53,00	42,00	10,00
B 267 236-P	68,00	60,00	11,00
B 275 216-GS	70,00	55,00	10,50
B 314 255-GS	80,00	65,00	11,50
B 334 255-GS	85,00	65,00	14,50
B 334 275-GS	85,00	70,00	12,00
B 366 307-GS	93,00	78,00	11,50
B 374 314-GS	95,00	80,00	12,00
B 748 669-GS	190,00	170,00	14,50

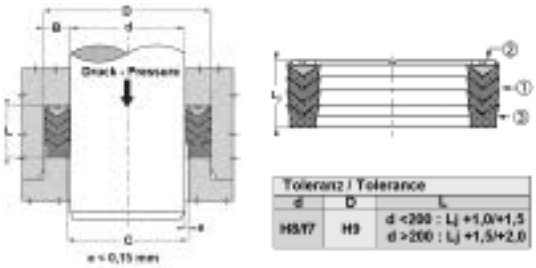
Web: http://cat.hansa-flex.com/en/BGS

CH

Chevron ring CH

High temperature resistance. for difficult working conditions such as hydraulic shocks, Strong vibrations or poor surfaces.

Design: Chevron ring
Operating pressure: up to 400 bar
Sliding speed max.: 0,5 m/s
Temp. min.: -30 °C
Temp. max.: 110 °C
Media: Mineral oils, Water emulsions
Installation: in open grooves
Material: (1) Chevron ring: 1 x NBR, + 2 x fabric-reinforced NBR, (2) Support ring: acetal resin / PTBR, (3) Thrust ring: laminated fabric-reinforced NBR
Application: Hydraulics



Ordering information: For special operating conditions (fluid, temperature, pressure ...) please contact us. Alternative material possible: FPM.

Identification	d	D	L
	mm	mm	mm
CH-098 047-B	12,00	25,00	14,32
CH-100 050	12,70	25,40	19,05
CH-106 055-B	14,00	27,00	14,32
CH-112 071	18,25	28,57	16,05
CH-118 078	20,00	30,00	21,50
CH-125 078	20,00	32,00	18,20
CH-125 086	22,00	32,00	18,13
CH-137 098	25,00	35,00	17,30
CH-141 078	20,00	36,00	24,00
CH-157 098	25,00	40,00	19,84
CH-157 110	28,00	40,00	17,00
CH-157 118	30,00	40,00	21,80
CH-162 112	28,57	41,27	19,84
CH-165 118	30,00	42,00	20,00
CH-165 125	32,00	42,00	17,30
CH-175 125	31,75	44,45	19,05
CH-177 137	35,00	45,00	21,78
CH-187 137	34,92	47,62	20,64
CH-188 125-B	32,00	48,00	17,63
CH-196 118	30,00	50,00	29,37
CH-196 137	35,00	50,00	22,50
CH-196 157	40,00	50,00	17,30
CH-200 137	34,92	50,80	24,21
CH-200 150	38,10	50,80	19,45
CH-204 141-B	36,00	52,00	17,60
CH-212 150	38,10	53,97	25,27
CH-216 153	39,00	55,00	25,40
CH-216 157	40,00	55,00	22,62
CH-216 157-1	40,00	55,00	26,19
CH-220 157-B	40,00	56,00	17,63
CH-225 150	38,10	57,15	28,70
CH-225 175	44,45	57,15	21,83
CH-236 157	40,00	60,00	30,00
CH-236 177	45,00	60,00	22,22
CH-236 188	48,00	60,00	25,00
CH-237 175	44,45	60,32	27,80
CH-250 200	50,80	63,50	19,84
CH-255 177	45,00	65,00	28,00
CH-262 200	50,80	66,67	23,00
CH-262 200-1	50,80	66,67	25,27
CH-263 216	55,00	67,00	25,00
CH-275 196	50,00	70,00	30,00
CH-275 196-B	50,00	70,00	21,94
CH-275 200	50,80	69,85	33,50
CH-275 216	55,00	70,00	26,50
CH-275 225	57,15	69,85	19,05
CH-279 220	56,00	71,00	17,20
CH-295 216	55,00	75,00	30,00
CH-295 216-1	55,00	75,00	38,50
CH-299 220-B	56,00	76,00	21,95
CH-299 236	60,00	76,00	29,00
CH-300 225	57,15	76,20	32,54
CH-314 236	60,00	80,00	32,15
CH-314 250	63,50	80,00	28,00
CH-326 248-B	63,00	83,00	21,94
CH-334 255	65,00	85,00	29,00

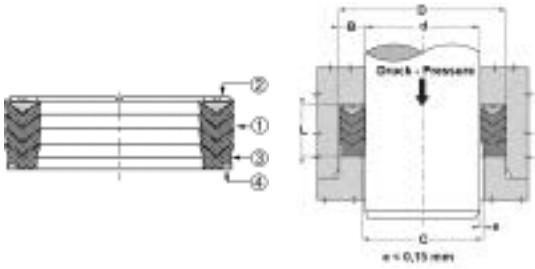
Identification	d	D	L
	mm	mm	mm
CH-334 261	66,30	85,00	24,13
CH-334 275	70,00	85,00	28,00
CH-350 275	69,85	88,90	25,40
CH-350 300	76,20	88,90	16,27
CH-354 255	65,00	90,00	30,00
CH-354 275	70,00	90,00	30,00
CH-354 295	75,00	90,00	22,50
CH-374 295	75,00	95,00	30,00
CH-374 314	80,00	95,00	17,50
CH-393 295	75,00	100,00	30,00
CH-393 314	80,00	100,00	30,00
CH-400 325	82,55	101,60	28,97
CH-400 350	88,90	101,60	17,00
CH-413 354	90,00	105,00	31,75
CH-425 350-1	88,90	107,95	33,33
CH-433 354	90,00	110,00	26,88
CH-433 354-1	90,00	110,00	25,00
CH-433 374	95,00	110,00	24,00
CH-450 393	100,00	114,30	20,64
CH-452 354-B	90,00	115,00	27,41
CH-452 393	100,00	115,00	25,30
CH-472 393	100,00	120,00	28,00
CH-492 393	100,00	125,00	36,90
CH-492 393-B	100,00	125,00	27,40
CH-492 413	105,00	125,00	29,76
CH-500 450	114,30	127,00	18,41
CH-511 409	104,00	130,00	37,00
CH-519 433	110,00	132,00	36,50
CH-551 433	110,00	140,00	41,20
CH-551 452	115,00	140,00	37,12
CH-551 472	120,00	140,00	30,00
CH-570 492	125,00	145,00	29,62
CH-590 492-B	125,00	150,00	27,40
CH-590 511	130,00	150,00	29,76
CH-610 492	125,00	155,00	34,50
CH-610 511	130,00	155,00	40,00
CH-610 531	135,00	155,00	30,55
CH-629 551	140,00	160,00	28,50
CH-649 551	140,00	165,00	41,95
CH-669 551-B	140,00	170,00	32,97
CH-669 570	145,00	170,00	38,10
CH-669 590	150,00	170,00	30,56
CH-700 600	152,40	177,80	33,34
CH-708 590	150,00	180,00	40,00
CH-708 629	160,00	180,00	30,00
CH-767 669	170,00	195,00	37,50
CH-787 669	170,00	200,00	50,00
CH-787 669-1	170,00	200,00	43,00
CH-866 787	200,00	220,00	30,00
CH-944 826	210,00	240,00	34,50
CH-944 826-1	210,00	240,00	42,10
CH-984 866	220,00	250,00	52,00
CH-125 91141	290,00	320,00	50,80
CH-125 91181	300,00	320,00	32,00
CH-153 51377	350,00	390,00	61,60
CH-196 81811	460,00	500,00	53,40

Web: http://cat.hansa-flex.com/en/CH

Product versions:
CH NEI - Chevron ring CH-NEI, (1) Chevron ring: 1 x NBR, + 2 x fabric-reinforced NBR

CH NEO

Chevron ring CH-NEO



Design: Chevron ring
Operating pressure: up to 500 bar
Sliding speed max.: 0,5 m/s
Temp. min.: -30 °C
Temp. max.: 110 °C
Media: Mineral oils, Water emulsions
Installation: on multi-part pistons
Application: Hydraulics

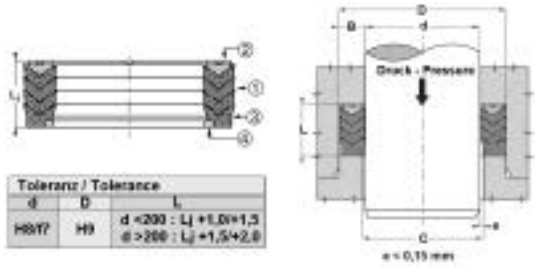
Identification	d	D	L
	mm	mm	mm
CH-375 325-NEO	82,55	95,25	21,72
CH-400 337-NEO	85,72	101,60	26,75
CH-425 350-NEO	88,90	107,95	31,00
CH-450 350-NEO	88,90	114,30	35,32
CH-450 375-NEO	95,25	114,30	25,40
CH-450 387-NEO	98,42	114,42	26,59
CH-500 425-NEO	107,95	127,00	30,00
CH-550 450-1-NEO	114,30	139,70	33,50
BD = Working pressure			

Identification	d	D	L
	mm	mm	mm
CH-551 452-NEO	115,00	140,00	37,12
CH-590 472-NEO	120,00	150,00	44,00
CH-600 500-NEO	127,00	152,40	38,63
CH-629 511-1-NEO	130,00	160,00	43,50
CH-826 708-B-NEO	180,00	210,00	32,97
CH-875 750-NEO	190,50	222,25	50,00
CH-110 2984B-NEO	250,00	280,00	32,97
BD = Working pressure			

Web: http://cat.hansa-flex.com/en/CHNEO

CH NEI

Chevron ring CH-NEI



High temperature resistance. for difficult working conditions such as hydraulic shocks, Strong vibrations or poor surfaces.

Design: Chevron ring
Operating pressure: up to 400 bar
Sliding speed max.: 0,5 m/s
Temp. min.: -30 °C
Temp. max.: 110 °C
Media: Mineral oils, Water emulsions
Installation: in open grooves
Material: (1) Chevron ring: 1 x NBR, + 2 x fabric-reinforced NBR, (2) Support ring: acetal resin / PTBR, (3) Thrust ring: laminated fabric-reinforced NBR, (4) Support ring: acetal resin / PTBR
Application: Hydraulics

Ordering information: For special operating conditions (fluid, temperature, pressure ...) please contact us. Alternative material possible: FPM.

Identification	d	D	L
	mm	mm	mm
CH-177 118-NEI	30,00	45,00	22,20
CH-196 137-NEI	35,00	50,00	22,50
CH-200 141-NEI	36,00	51,00	24,00
CH-216 157-NEI	40,00	55,00	22,62
CH-236 177-NEI	45,00	60,00	22,22
CH-255 196-NEI	50,00	65,00	24,60
CH-255 196-1-NEI	50,00	65,00	26,00
CH-284 204-NEI	52,00	72,00	32,50
CH-295 236-NEI	60,00	75,00	19,00

Identification	d	D	L
	mm	mm	mm
CH-299 236-NEI	60,00	76,00	29,00
CH-314 236-NEI	60,00	80,00	32,15
CH-326 275-NEI	70,00	83,00	25,00
CH-334 248-NEI	63,00	85,00	32,00
CH-334 255-NEI	65,00	85,00	29,00
CH-354 275-NEI	70,00	90,00	30,00
CH-393 314-NEI	80,00	100,00	30,00
CH-413 334-1-NEI	85,00	105,00	30,00
CH-511 433-NEI	110,00	130,00	30,00

Web: http://cat.hansa-flex.com/en/CHNEI

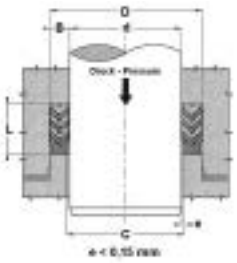
Product versions:
CH - Chevron ring CH, (1) Chevron ring: 1 x NBR, + 2 x fabric-reinforced NBR

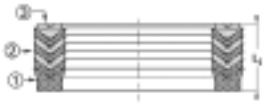
CH1

Chevron ring CH1

High temperature resistance. for difficult working conditions such as hydraulic shocks, Strong vibrations or poor surfaces.

Design: Chevron rod ring
Operating pressure: up to 400 bar
Sliding speed max.: 0,5 m/s
Temp. min.: -30 °C
Temp. max.: 110 °C
Media: Mineral oils, Water emulsions
Installation: in open grooves B
Material: Thrust ring: laminated fabric-reinforced NBR, (2) Chevron ring: 2 x NBR + 3 x fabric-reinforced NBR, (3) Thrust ring: laminated fabric-reinforced NBR
Application: Hydraulics





Toleranz / Tolerance		
d	D	L
H8 / F7	H9	d < 200 : Lj +1,0 / 1,5 d > 200 : Lj +1,5 / 2,0

Ordering information: Other sizes on request For special operating conditions (fluid, temperature, pressure ...) please contact us. Alternative material possible: FPM.

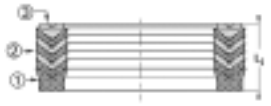
Identification	d	D	L
	mm	mm	mm
CH1-008	8,00	18,0	18,5
CH1-010	10,00	20,0	18,5
CH1-012	12,00	22,0	18,5
CH1-014	14,00	24,0	18,5
CH1-015	15,00	25,0	18,5
CH1-016	16,00	26,0	18,5
CH1-018	18,00	28,0	18,5
CH1-020	20,00	30,0	18,5
CH1-022	22,00	32,0	18,5
CH1-025	25,00	37,0	22,5
CH1-028	28,00	40,0	22,5
CH1-030	30,00	42,0	22,5
CH1-032	32,00	44,0	22,5
CH1-035	35,00	47,0	22,5
CH1-036	36,00	48,0	22,5
CH1-040	40,00	52,0	22,5
CH1-042	42,00	54,0	22,5
CH1-045	45,00	60,0	22,5
CH1-048	48,00	63,0	22,5
CH1-050	50,00	65,0	22,5

Identification	d	D	L
	mm	mm	mm
CH1-055	55,00	70,0	22,5
CH1-056	56,00	71,0	22,5
CH1-060	60,00	75,0	22,5
CH1-063	63,00	78,0	22,5
CH1-065	65,00	80,0	22,5
CH1-070	70,00	85,0	22,5
CH1-075	75,00	90,0	22,5
CH1-080	80,00	95,0	22,5
CH1-085	85,00	100,0	22,5
CH1-090	90,00	105,0	22,5
CH1-100	100,00	115,0	30,0
CH1-110	110,00	125,0	30,0
CH1-115	115,00	130,0	30,0
CH1-125	125,00	140,0	34,0
CH1-140	140,00	155,0	34,0
CH1-150	150,00	170,0	40,0
CH1-160	160,00	180,0	40,0
CH1-180	180,00	200,0	40,0
CH1-200	200,00	220,0	40,0

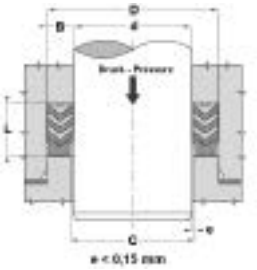
Web: http://cat.hansa-flex.com/en/CH1

CH2

Chevron ring CH2



Toleranz / Tolerance		
d	D	L
H8 / F7	H9	d < 200 : Lj +1,0 / 1,5 d > 200 : Lj +1,5 / 2,0



High temperature resistance. for difficult working conditions such as hydraulic shocks, Strong vibrations or poor surfaces.

Design: Chevron rod ring
Operating pressure: up to 500 bar
Sliding speed max.: 0,5 m/s
Temp. min.: -30 °C
Temp. max.: 110 °C
Media: Mineral oils, Water emulsions
Installation: in open grooves
Material: (1) Thrust ring: laminated fabric-reinforced NBR, (2) Chevron ring: 2 x NBR + 3 x fabric-reinforced NBR, (3) Support ring: acetal resin / PTBR
Application: Hydraulics

Ordering information: Other sizes on request For special operating conditions (fluid, temperature, pressure ...) please contact us. Alternative material possible: FPM.

Identification	d	D	L
	mm	mm	mm
CH2-020	20,00	32,0	22,5
CH2-022	22,00	34,0	22,5
CH2-025	25,00	40,0	22,5
CH2-028	28,00	43,0	22,5
CH2-030	30,00	45,0	22,5
CH2-032	32,00	47,0	22,5
CH2-035	35,00	50,0	22,5
CH2-036	36,00	51,0	22,5
CH2-040	40,00	55,0	22,5
CH2-042	42,00	57,0	22,5
CH2-045	45,00	65,0	27,5
CH2-050	50,00	70,0	30,0
CH2-055	55,00	75,0	30,0
CH2-056	56,00	76,0	37,0
CH2-060	60,00	80,0	37,0

Identification	d	D	L
	mm	mm	mm
CH2-063	63,00	83,0	37,0
CH2-065	65,00	85,0	40,0
CH2-070	70,00	90,0	40,0
CH2-075	75,00	95,0	40,0
CH2-080	80,00	100,0	40,0
CH2-090	90,00	110,0	40,0
CH2-100	100,00	120,0	40,0
CH2-110	110,00	130,0	40,0
CH2-120	120,00	145,0	50,0
CH2-125	125,00	150,0	46,0
CH2-140	140,00	165,0	46,0
CH2-160	160,00	190,0	60,0
CH2-180	180,00	210,0	60,0
CH2-200	200,00	230,0	60,0

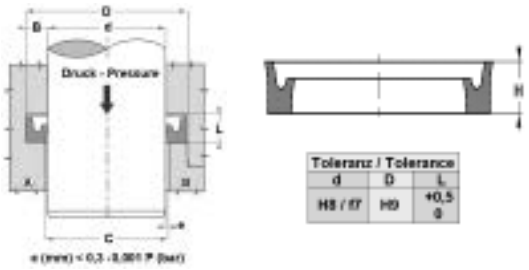
Web: http://cat.hansa-flex.com/en/CH2

DDI

Rod seal DDI

Low-friction seal. Simple solution.

Design: Rod U-ring
Operating pressure: up to 120 bar
Sliding speed max.: 0,5 m/s
Design: Inches
Temp. min.: -30 °C
Temp. max.: 100 °C
Media: Mineral oils, Water-air
Installation: in closed grooves A, in open grooves B
Material: NBR 90° Shore A
Application: Hydraulics + pneumatics



Ordering information: Other sizes on request We are able to produce seals with diameters of 20 to 510 mm with short lead times.

Identification	d	D	L	H
	mm	mm	mm	mm
DDI 18	4,76	11,11	5,5	3,96
DDI 31	7,93	14,28	5,5	3,96
DDI 37	9,52	16,50	5,5	3,96
DDI 50	12,70	21,00	7,0	5,10
DDI 62	15,87	22,22	6,0	4,76
DDI 68	17,46	23,81	6,0	4,60
DDI 75	19,05	25,40	6,0	4,76
DDI 81	20,63	28,58	6,0	4,76
DDI 87	22,22	31,75	6,0	4,76
DDI 100	25,40	38,10	8,0	6,35
DDI 106	26,99	36,51	8,0	6,35

Identification	d	D	L	H
	mm	mm	mm	mm
DDI 125	31,75	44,45	8,0	6,35
DDI 137	34,93	50,80	9,5	7,93
DDI 150	38,10	50,80	11,0	9,52
DDI 156	39,69	55,96	11,0	9,52
DDI 162	41,28	50,80	7,0	5,50
DDI 175	44,45	57,15	9,5	7,93
DDI 187	47,63	63,50	11,0	9,52
DDI 212	53,98	69,85	11,0	9,52
DDI 237	60,33	76,20	9,5	7,93
DDI 325	82,55	95,25	9,5	7,93
DDI 350	88,90	101,60	11,0	9,52

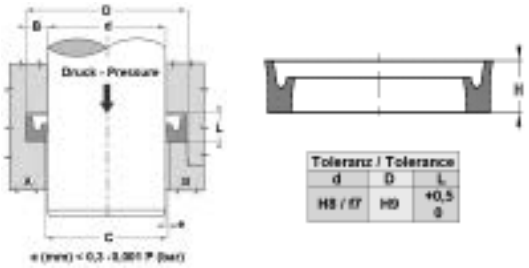
Web: http://cat.hansa-flex.com/en/DDI

DDIM

Rod seal DDIM

Low-friction seal. Simple solution.

Design: Rod U-ring
Operating pressure: up to 120 bar
Sliding speed max.: 0,5 m/s
Design: Metric
Temp. min.: -30 °C
Temp. max.: 100 °C
Media: Mineral oils, Water-air
Installation: in closed grooves A, in open grooves B
Material: NBR 90° Shore A
Application: Hydraulics + pneumatics



Ordering information: Other sizes on request

Identification	D	d	L	H
	mm	mm	mm	mm
DDIM 6 12	12	6	4,5	4,0
DDIM 8 14	14	8	4,5	4,0
DDIM 8 16	16	8	6,0	5,5
DDIM 10 18	18	10	6,0	5,5
DDIM 12 20	20	12	6,0	5,5
DDIM 14 22	22	14	6,0	5,5
DDIM 16 24	24	16	6,0	5,5
DDIM 18 25	25	18	5,0	4,5
DDIM 18 26	26	18	6,0	5,5
DDIM 20 28	28	20	6,0	5,5
DDIM 22 30	30	22	6,0	5,5
DDIM 25 35	35	25	7,5	7,0
DDIM 28 36	36	28	6,0	5,5
DDIM 28 38	38	28	7,5	7,0
DDIM 32 42	42	32	7,5	7,0
DDIM 36 46	46	36	7,5	7,0
DDIM 40 50	50	40	7,5	7,0

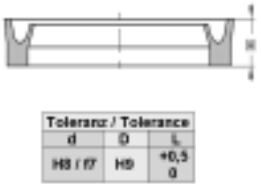
Identification	D	d	L	H
	mm	mm	mm	mm
DDIM 45 55	55	45	7,5	7,0
DDIM 50 60	60	50	7,5	7,0
DDIM 56 68	68	56	7,5	7,0
DDIM 56 68-1	68	56	9,5	8,5
DDIM 60 72	72	60	9,5	8,5
DDIM 63 75	75	63	9,5	8,5
DDIM 65 77	77	65	9,5	8,5
DDIM 70 82	82	70	9,5	8,5
DDIM 80 92	92	80	9,5	8,5
DDIM 90 102	102	90	9,5	8,5
DDIM 100 112	112	100	9,5	8,5
DDIM 100 115	115	100	11,0	10,0
DDIM 110 130	130	110	15,0	14,0
DDIM 125 145	145	125	15,0	14,0
DDIM 140 160	160	140	15,0	14,0
DDIM 160 180	180	160	15,0	14,0
DDIM 180 200	200	180	15,0	14,0

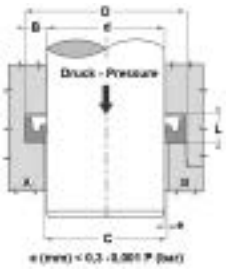
Web: http://cat.hansa-flex.com/en/DDIM

Product versions:
DDIM P - Rod seal DDIM-P, PUR 90° Shore A

DDIM P

Rod seal DDIM-P





Low-friction seal. Simple solution.

Design: Rod lip seal
Operating pressure: up to 16 bar
Sliding speed max.: 1,0 m/s
Temp. min.: -30 °C
Temp. max.: 80 °C
Media: Air
Installation: in closed grooves A, in open grooves B
Material: PUR 90° Shore A
Application: Hydraulics + pneumatics

Ordering information: Other sizes on request

Identification	D	d	L	H
	mm	mm	mm	mm
DDIM 05 09-P	9	5	3,0	2,5
DDIM 06 12-P	12	6	4,5	4,0
DDIM 08 14-P	14	8	4,5	4,0
DDIM 10 16-P	16	10	5,0	4,5
DDIM 30 38-P	38	30	6,0	5,5
DDIM 50 60-P	60	50	7,5	7,0

Web: http://cat.hansa-flex.com/en/DDIMP

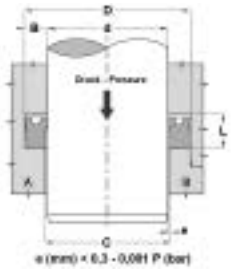
Product versions:
DDIM - Rod seal DDIM, NBR 90° Shore A

DUM

U-ring DUM

Low-friction seal. Simple solution. For rods and pistons.

Design: U-ring
Operating pressure: up to 120 bar
Sliding speed max.: 0,5 m/s
Design: Metric
Temp. min.: -30 °C
Temp. max.: 100 °C
Media: Mineral oils, Water-air
Installation: on one-piece pistons A, on multi-part pistons B
Material: Seal: NBR 90° Shore A
Application: Hydraulics + pneumatics



Ordering information: We are able to produce seals with diameters of 20 to 510 mm with short lead times.

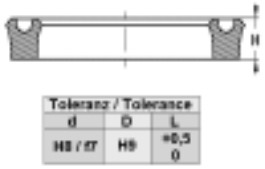
Identification	D	d	L	H
	mm	mm	mm	mm
DUM 12 05	12	5	6,5	5,0
DUM 15 08	15	8	7,5	6,0
DUM 16 08	16	8	7,5	6,0
DUM 17 06	17	6	7,5	6,0
DUM 18 06	18	6	9,5	8,0
DUM 20 06	20	6	9,5	8,0
DUM 20 10	20	10	9,5	8,0
DUM 22 10	22	10	7,5	6,0
DUM 24 12	24	12	7,5	6,0
DUM 25 08	25	8	7,5	6,0
DUM 25 10	25	10	11,5	10,0
DUM 26 10	26	10	9,5	8,0
DUM 28 12	28	12	11,5	10,0
DUM 28 14	28	14	11,5	10,0
DUM 30 10	30	10	11,5	10,0
DUM 30 13	30	13	11,5	10,0
DUM 30 15	30	15	9,5	8,0
DUM 30 15-1	30	15	11,5	10,0
DUM 30 18	30	18	11,5	10,0
DUM 32 14	32	14	11,5	10,0
DUM 32 16	32	16	9,5	8,0
DUM 34 18	34	18	9,5	8,0
DUM 34 22	34	22	11,5	10,0
DUM 35 12	35	12	13,5	12,0
DUM 35 15	35	15	11,5	10,0
DUM 35 20	35	20	11,5	10,0
DUM 36 16	36	16	11,5	10,0
DUM 36 20	36	20	9,5	8,0
DUM 38 17	38	38	11,5	10,0
DUM 38 18	38	18	11,5	10,0
DUM 38 22	38	22	11,5	10,0
DUM 40 18	40	18	11,5	10,0
DUM 40 20	40	20	11,5	10,0
DUM 40 25	40	25	11,5	10,0
DUM 42 22	42	22	11,5	10,0
DUM 42 25	42	25	9,5	8,0
DUM 43 20	43	20	13,5	12,0
DUM 45 25	45	25	11,5	10,0
DUM 45 30	45	30	11,5	10,0
DUM 45 32	45	32	11,5	10,0
DUM 46 26	46	26	11,5	10,0
DUM 48 28	48	28	11,5	10,0
DUM 50 25	50	25	13,5	12,0
DUM 50 30	50	30	11,5	10,0
DUM 50 35	50	35	11,5	10,0
DUM 52 32	52	32	11,5	10,0
DUM 55 35	55	35	11,5	10,0
DUM 56 40	56	40	11,5	10,0
DUM 58 38	58	38	11,5	10,0

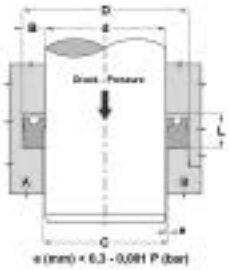
Identification	D	d	L	H
	mm	mm	mm	mm
DUM 60 30	60	30	16,5	15,0
DUM 60 35	60	35	13,5	12,0
DUM 60 40	60	40	11,5	10,0
DUM 65 40	65	40	13,5	12,0
DUM 65 45	65	45	11,5	10,0
DUM 68 48	68	48	11,5	10,0
DUM 70 46	70	46	13,5	12,0
DUM 70 50	70	50	11,5	10,0
DUM 75 55	75	55	11,5	10,0
DUM 80 55	80	55	13,5	12,0
DUM 80 60	80	60	11,5	10,0
DUM 85 55	85	55	16,5	15,0
DUM 85 65	85	65	11,5	10,0
DUM 90 60	90	60	16,5	15,0
DUM 90 65	90	65	13,5	12,0
DUM 90 70	90	70	11,5	10,0
DUM 95 75	95	75	11,5	10,0
DUM 100 075	100	75	16,5	15,0
DUM 100 080	100	80	11,5	10,0
DUM 105 080	105	80	13,5	12,0
DUM 110 080	110	80	16,5	15,0
DUM 110 085	110	85	13,5	12,0
DUM 110 090	110	90	11,5	10,0
DUM 115 085	115	85	16,5	15,0
DUM 115 095	115	95	11,5	10,0
DUM 120 090	120	90	16,5	15,0
DUM 120 100	120	100	11,5	10,0
DUM 125 095	125	95	16,5	15,0
DUM 130 100	130	100	16,5	15,0
DUM 140 110	140	110	16,5	15,0
DUM 140 120	140	120	11,5	10,0
DUM 145 115	145	115	13,5	12,0
DUM 150 120	150	120	16,5	15,0
DUM 155 125	155	125	16,5	15,0
DUM 160 130	160	130	16,5	15,0
DUM 160 135	160	135	19,5	18,0
DUM 170 140	170	140	16,5	15,0
DUM 175 145	175	145	16,5	15,0
DUM 180 150	180	150	16,5	15,0
DUM 190 160	190	160	16,5	15,0
DUM 200 170	200	170	16,5	15,0
DUM 210 180	210	180	23,5	22,0
DUM 220 180	220	180	21,5	20,0
DUM 220 190	220	190	16,5	15,0
DUM 230 200	230	200	16,5	15,0
DUM 240 200	240	200	21,5	20,0
DUM 250 210	250	210	21,5	20,0
DUM 280 240	280	240	21,5	20,0
DUM 320 280	320	280	21,5	20,0

Web: http://cat.hansa-flex.com/en/DUM

DUM N

U- ring DUM-N





Low-friction seal. Simple solution. For rods and pistons.

Design: U-ring
Operating pressure: up to 120 bar
Sliding speed max.: 0,5 m/s
Temp. min.: -30 °C
Temp. max.: 100 °C
Media: Mineral oils, Water-air
Installation: on one-piece pistons A, on multi-part pistons B
Material: Seal: NBR 90° Shore A
Application: Hydraulics + pneumatics

Ordering information: We are able to produce seals with diameters of 20 to 510 mm with short lead times.

Identification	D	d	L	H
	mm	mm	mm	mm
DUM 12 04-N	12	4	4,5	4,0
DUM 13 05-N	13	5	4,5	4,0
DUM 14 06-N	14	6	4,5	4,0
DUM 15 05-N	15	5	5,5	5,0
DUM 15 07-N	15	7	4,5	4,0
DUM 16 06-N	16	6	5,5	5,0
DUM 16 08-N	16	8	4,5	4,0
DUM 18 08-N	18	8	5,5	5,0
DUM 18 10-N	18	10	4,5	4,0
DUM 20 08-N	20	8	6,6	6,0
DUM 20 10-N	20	10	5,5	5,0
DUM 20 12-N	20	12	4,5	4,0
DUM 22 10-N	22	10	6,6	6,0
DUM 22 12-N	22	12	5,5	5,0
DUM 22 14-N	22	14	4,5	4,0
DUM 24 12-N	24	12	6,6	6,0
DUM 24 14-N	24	14	5,5	5,0
DUM 24 16-N	24	16	4,5	4,0
DUM 25 15-N	25	15	5,5	5,0
DUM 25 17-N	25	17	4,5	4,0
DUM 26 16-N	26	16	5,5	5,0
DUM 26 18-N	26	18	4,5	4,0
DUM 27 15-N	27	15	6,6	6,0
DUM 28 16-N	28	16	6,6	6,0
DUM 28 18-N	28	18	5,5	5,0
DUM 28 20-N	28	20	4,5	4,0
DUM 30 15-N	30	15	8,3	7,5
DUM 30 18-N	30	18	6,6	6,0
DUM 30 20-N	30	20	5,5	5,0
DUM 30 22-N	30	22	4,5	4,0
DUM 32 20-N	32	20	6,6	6,0
DUM 32 22-N	32	22	5,5	5,0
DUM 32 24-N	32	24	4,5	4,0
DUM 33 21-N	33	21	6,6	6,0
DUM 33 25-N	33	25	4,5	4,0
DUM 34 22-N	34	22	6,6	6,0
DUM 34 24-N	34	24	5,5	5,0
DUM 34 26-N	34	26	4,5	4,0
DUM 35 20-N	35	20	8,3	7,5
DUM 35 23-N	35	23	6,6	6,0
DUM 35 25-N	35	25	5,5	5,0
DUM 35 27-N	35	27	4,5	4,0
DUM 36 24-N	36	24	6,6	6,0
DUM 36 26-N	36	26	5,5	5,0
DUM 36 28-N	36	28	4,5	4,0
DUM 37 25-N	37	25	6,6	6,0
DUM 37 29-N	37	29	4,5	4,0
DUM 38 26-N	38	26	6,6	6,0
DUM 38 28-N	38	28	5,5	5,0
DUM 38 30-N	38	30	4,5	4,0
DUM 40 25-N	40	25	8,3	7,5
DUM 40 28-N	40	28	6,6	6,0

Identification	D	d	L	H
	mm	mm	mm	mm
DUM 40 30-N	40	30	5,5	5,0
DUM 40 32-N	40	32	4,5	4,0
DUM 42 32-N	42	32	5,5	5,0
DUM 43 33-N	43	33	5,5	5,0
DUM 44 32-N	44	32	6,6	6,0
DUM 45 30-N	45	30	8,3	7,5
DUM 45 33-N	45	33	6,6	6,0
DUM 45 35-N	45	35	5,5	5,0
DUM 46 36-N	46	36	5,5	5,0
DUM 48 38-N	48	38	5,5	5,0
DUM 50 35-N	50	35	8,3	7,5
DUM 50 38-N	50	38	6,6	6,0
DUM 50 40-N	50	40	5,5	5,0
DUM 52 40-N	52	40	6,6	6,0
DUM 52 42-N	52	42	5,5	5,0
DUM 55 40-N	55	40	8,3	7,5
DUM 55 43-N	55	43	6,6	6,0
DUM 55 45-N	55	45	5,5	5,0
DUM 56 46-N	56	46	5,5	5,0
DUM 58 46-N	58	46	6,6	6,0
DUM 60 45-N	60	45	8,3	7,5
DUM 60 48-N	60	48	6,6	6,0
DUM 60 50-N	60	50	5,5	5,0
DUM 62 50-N	62	50	6,6	6,0
DUM 63 51-N	63	51	6,6	6,0
DUM 63 53-N	63	53	5,5	5,0
DUM 65 50-N	65	50	8,3	7,5
DUM 65 53-N	65	53	6,6	6,0
DUM 65 55-N	65	55	5,5	5,0
DUM 66 54-N	66	54	6,6	6,0
DUM 70 55-N	70	55	8,3	7,5
DUM 70 60-N	70	60	5,5	5,0
DUM 73 63-N	73	63	5,5	5,0
DUM 75 60-N	75	60	8,3	7,5
DUM 75 65-N	75	65	5,5	5,0
DUM 80 65-N	80	65	8,3	7,5
DUM 80 70-N	80	70	5,5	5,0
DUM 85 70-N	85	70	8,3	7,5
DUM 90 75-N	90	75	8,3	7,5
DUM 90 80-N	90	80	5,5	5,0
DUM 95 80-N	95	80	8,3	7,5
DUM 95 85-N	95	85	5,5	5,0
DUM 100 085-N	100	85	8,3	7,5
DUM 100 090-N	100	90	5,5	5,0
DUM 105 090-N	105	90	8,3	7,5
DUM 105 095-N	105	95	5,5	5,0
DUM 110 095-N	110	95	8,3	7,5
DUM 110 100-N	110	100	5,5	5,0
DUM 115 100-N	115	100	8,3	7,5
DUM 120 105-N	120	105	8,3	7,5
DUM 125 110-N	125	110	8,3	7,5
DUM 140 125-N	140	125	8,3	7,5

Web: http://cat.hansa-flex.com/en/DUMN

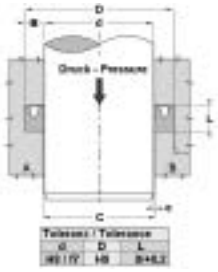
Product versions:
DUM N - U- ring DUM-N, Seal: NBR 90° Shore A

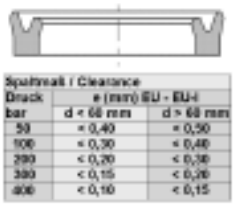
EU

Rod seal EU

Low-friction seal. High abrasion resistance. Simple solution.

Design: Rod U-ring
Operating pressure: up to 400 bar
Sliding speed max.: 0,5 m/s
Design: Metric
Temp. min.: -30 °C
Temp. max.: 80 °C
Media: Mineral oils
Installation: in closed grooves A, in open grooves B
Material: PUR
Application: Hydraulics





Spaltmaß / Clearance		
Druck	e (mm) EU - EU-I	
bar	d < 68 mm	d > 68 mm
50	< 0,40	< 0,50
100	< 0,30	< 0,40
200	< 0,20	< 0,30
300	< 0,15	< 0,20
400	< 0,10	< 0,15

1

Ordering information: We are able to produce EU seals with diameters of 20 to 510 mm with short lead times.

Identification	D	d	L	Standard grooves
	mm	mm	mm	
EU 06 12-1	12,0	6	5,8	
EU 06 14	14,0	6	6,3	ISO 5597
EU 08 14-1	14,4	8	10,5	
EU 08 16	16,0	8	6,3	ISO 5597
EU 08 18-1	18,0	8	9,0	
EU 10 18	18,0	10	6,3	ISO 5597
EU 10 20	20,0	10	8,0	ISO 5597
EU 12 17	17,0	12	4,0	
EU 12 20-1	20,0	12	5,5	
EU 12 20	20,0	12	6,3	ISO 5597
EU 12 22	22,0	12	8,0	ISO 5597
EU 12 22-1	22,0	12	9,0	
EU 14 22	22,0	14	6,3	ISO 5597
EU 14 24	24,0	14	8,0	
EU 15 23-1	23,0	15	6,3	
EU 15 25-1	25,0	15	9,0	
EU 16 21	20,6	16	3,6	
EU 16 22	22,0	16	6,0	
EU 16 24	24,0	16	6,3	
EU 16 24-1	24,0	16	7,0	
EU 16 26	26,0	16	8,0	ISO 5597
EU 16 26-2	26,0	16	10,0	
EU 18 24	24,0	18	5,2	
EU 18 24-1	24,0	18	6,0	
EU 18 26-1	26,0	18	6,3	ISO 5597
EU 18 26	26,0	18	9,0	
EU 18 28	28,0	18	8,0	ISO 5597
EU 18 28-1	28,0	18	9,0	
EU 20 26-1	26,0	20	5,5	
EU 20 28	28,0	20	6,3	ISO 5597
EU 20 28-1	28,0	20	7,0	
EU 20 28-2	28,0	20	8,0	
EU 20 30	30,0	20	8,0	ISO 5597
EU 20 30-2	30,0	20	9,0	
EU 20 35	35,0	20	11,0	
EU 22 30-1	30,0	22	6,3	ISO 5597
EU 22 30	30,0	22	9,0	
EU 22 32-1	32,0	22	8,0	ISO 5597
EU 22 32	32,0	22	10,0	
EU 24 34	34,0	24	8,0	
EU 24 34-1	34,0	24	9,5	
EU 25 32	32,0	25	7,0	
EU 25 33	33,0	25	6,3	
EU 25 33-3	33,0	25	7,0	
EU 25 33-1	33,0	25	8,0	
EU 25 33-2	33,0	25	11,0	
EU 25 35	35,0	25	8,0	ISO 5597
EU 25 38-1	38,0	25	10,0	
EU 25 40	40,0	25	11,0	
EU 28 36	36,0	28	6,3	
EU 28 38	38,0	28	8,0	ISO 5597
EU 28 38-1	38,0	28	9,0	
EU 28 38-2	38,0	28	11,0	
EU 28 40	40,0	28	9,5	
EU 28 43	43,0	28	12,5	ISO 5597
EU 30 38	38,0	30	6,3	
EU 30 38-1	38,0	30	9,0	
EU 30 40-3	40,0	30	6,3	
EU 30 40	40,0	30	8,0	
EU 30 40-1	40,0	30	11,0	
EU 30 43	43,0	30	10,0	
EU 30 45-1	45,0	30	9,0	
EU 32 40-1	40,0	32	6,3	
EU 32 40	40,0	32	9,0	
EU 32 42	42,0	32	8,0	ISO 5597
EU 32 42-1	42,0	32	11,0	
EU 32 43	42,5	32	9,0	
EU 32 45	45,0	32	11,0	
EU 33 43-1	43,0	33	11,0	
EU 32 47-1	47,0	32	11,0	
EU 35 43	43,0	35	6,3	
EU 35 43-1	43,0	35	9,0	
EU 35 45	45,0	35	8,0	
EU 35 45-1	45,0	35	11,0	
EU 35 45-2	45,0	35	13,5	
EU 35 46	46,0	35	9,0	
EU 35 46-1	46,0	35	10,0	
EU 35 47	47,0	35	9,0	
EU 35 50	50,0	35	11,0	
EU 36 44	44,0	36	9,0	
EU 36 46	46,0	36	8,0	ISO 5597
EU 36 46-1	46,0	36	11,0	
EU 36 48-1	48,0	36	8,0	
EU 36 48	48,0	36	9,0	
EU 36 51	51,0	36	11,0	
EU 36 51-1	51,0	36	12,5	ISO 5597
EU 37 45	45,0	37	6,3	
EU 38 44	44,0	38	5,3	
EU 38 45	45,0	38	5,5	
EU 38 45-1	45,0	38	7,0	
EU 39 50	50,0	39	11,0	
EU 40 48	48,0	40	6,3	
EU 40 48-1	48,0	40	9,0	
EU 40 50-2	50,0	40	8,0	ISO 5597
EU 40 50	50,0	40	10,0	
EU 40 50-1	50,0	40	11,0	
EU 40 50-3	50,0	40	13,5	
EU 40 52	52,0	40	9,0	
EU 40 55	55,0	40	11,0	
EU 40 55-1	55,0	40	12,5	ISO 5597
EU 40 60	60,0	40	13,0	
EU 42 62-1	62,0	42	11,0	
EU 45 53	53,0	45	6,3	
EU 45 53-2	53,0	45	11,0	
EU 45 53-1	53,0	45	13,0	
EU 45 55-1	55,0	45	8,0	ISO 5597
EU 45 55	55,0	45	11,0	
EU 45 58-1	58,0	45	10,0	
EU 45 60	60,0	45	11,0	
EU 45 60-1	60,0	45	12,5	ISO 5597
EU 45 65-2	65,0	45	11,0	
EU 45 65	65,0	45	13,0	
EU 45 65-1	65,0	45	14,5	
EU 46 56	56,0	46	8,0	
EU 50 60-1	60,0	50	8,0	
EU 50 60	60,0	50	11,0	
EU 50 60-2	60,0	50	13,0	
EU 50 65-1	65,0	50	11,0	
EU 50 65	65,0	50	12,5	ISO 5597
EU 50 68-1	68,0	50	10,0	
EU 50 70	70,0	50	13,0	
EU 52 62	62,0	52	11,0	
EU 55 63-1	63,0	55	13,0	
EU 55 65	65,0	55	8,0	
EU 55 65-1	65,0	55	11,0	
EU 55 65-2	65,0	55	13,0	
EU 55 65-3	65,0	55	14,5	
EU 55 67-1	67,0	55	11,0	
EU 55 68	68,0	55	11,0	
EU 55 70	70,0	55	11,0	
EU 55 70-1	70,0	55	13,0	
EU 55 75	75,0	55	13,0	
EU 55 75-1	75,0	55	14,5	
EU 56 66	66,0	56	11,0	
EU 56 71	71,0	56	11,0	
EU 56 71-1	71,0	56	12,5	
EU 56 76	76,0	56	13,0	
EU 56 76-1	76,0	56	14,5	
EU 56 76-2	76,0	56	16,0	ISO 5597
EU 60 70-1	70,0	60	8,0	
EU 60 70	70,0	60	11,0	
EU 60 70-S	70,0	60	15,0	
EU 60 72	72,0	60	9,0	
EU 60 72-1	72,0	60	10,0	
EU 60 75	75,0	60	11,0	
EU 60 75-1	75,0	60	13,0	
EU 60 77	77,0	60	12,0	
EU 60 80	80,0	60	13,0	

EU (Continued)

Rod seal EU

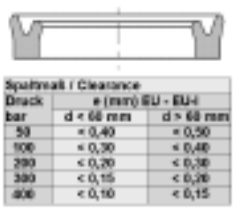
Identification	D	d	L	Standard grooves
	mm	mm	mm	
EU 61 69-1	69,0	61	8,5	
EU 62 74-1	74,0	62	14,0	
EU 63 73	73,0	63	13,0	
EU 63 75	75,0	63	9,6	
EU 63 78-1	78,0	63	11,0	
EU 63 78	78,0	63	12,5	ISO 5597
EU 63 83-1	83,0	63	14,5	
EU 63 83-2	83,0	63	16,0	
EU 65 75-3	75,0	65	11,0	
EU 65 77-1	77,0	65	10,0	
EU 65 80	80,0	65	11,0	
EU 65 80-1	80,0	65	13,0	
EU 65 85	85,0	65	13,0	
EU 65 85-1	85,0	65	14,5	
EU 70 80-3	80,0	70	6,5	
EU 70 80-2	80,0	70	8,0	
EU 70 80-1	80,0	70	11,0	
EU 70 80	80,0	70	13,0	
EU 70 85-1	85,0	70	11,0	
EU 70 85	85,0	70	12,5	ISO 5597
EU 70 90-2	90,0	70	16,0	ISO 5597
EU 73 82	82,5	73	8,0	
EU 75 85	85,0	75	8,0	
EU 75 85-1	85,0	75	13,0	
EU 75 90-1	90,0	75	11,0	
EU 75 90	90,0	75	13,0	
EU 75 95	95,0	75	13,0	
EU 76 84-1	84,0	76	8,5	
EU 78 88-S	88,0	78	15,0	
EU 80 100	100,0	80	13,0	
EU 80 100-2	100,0	80	16,0	ISO 5597
EU 80 90	90,0	80	8,0	
EU 80 90-2	90,0	80	13,0	
EU 80 92	92,0	80	9,6	
EU 80 95-3	95,0	80	10,0	
EU 80 95-2	95,0	80	11,0	
EU 80 95-1	95,0	80	12,5	
EU 80 95	95,0	80	13,0	
EU 85 95	95,0	85	8,0	
EU 85 100-1	100,0	85	12,0	
EU 85 100	100,0	85	13,0	
EU 85 105	105,0	85	13,0	
EU 85 105-1	105,0	85	14,5	
EU 90 100-1	100,0	90	12,5	
EU 90 105-2	105,0	90	9,5	
EU 90 105-3	105,0	90	12,5	ISO 5597
EU 90 105	105,0	90	13,0	
EU 90 110	110,0	90	13,0	
EU 90 110-1	110,0	90	16,0	ISO 5597
EU 91 99-1	99,0	91	8,5	
EU 93 104-1	104,0	93	11,0	
EU 95 105-1	105,0	95	11,0	
EU 95 115	115,0	95	13,0	
EU 99 109-S	109,0	99	15,0	
EU 100 110-1	110,0	100	15,0	
EU 100 113-1	113,0	100	13,5	
EU 100 115-2	115,0	100	11,5	
EU 100 115	115,0	100	13,0	
EU 100 120	120,0	100	13,0	
EU 100 120-2	120,0	100	16,0	ISO 5597

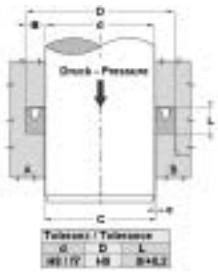
Identification	D	d	L	Standard grooves
	mm	mm	mm	
EU 100 125	125,0	100	20,0	ISO 5597
EU 105 115-1	115,0	105	11,0	
EU 105 115-2	115,0	105	12,5	
EU 105 115-3	115,0	105	14,5	
EU 105 125	125,0	105	13,0	
EU 110 125-1	125,0	110	12,0	
EU 110 125	125,0	110	16,0	
EU 110 130	130,0	110	13,0	
EU 110 130-1	130,0	110	16,0	ISO 5597
EU 110 135	135,0	110	20,0	ISO 5597
EU 115 135	135,0	115	13,0	
EU 120 130-2	130,0	120	12,5	
EU 120 130-S	130,0	120	15,0	
EU 120 132-1	132,0	120	11,0	
EU 120 135-1	135,0	120	12,5	
EU 120 140	140,0	120	13,0	
EU 120 140-1	140,0	120	16,0	
EU 125 145	145,0	125	13,0	
EU 125 145-1	145,0	125	16,0	ISO 5597
EU 125 150	150,0	125	15,0	
EU 130 140	140,0	130	8,0	
EU 130 145-2	145,0	130	15,0	
EU 130 150	150,0	130	13,0	
EU 130 150-1	150,0	130	16,0	
EU 140 150-1	150,0	140	12,5	
EU 140 160-2	160,0	140	16,0	ISO 5597
EU 140 165	165,0	140	20,0	ISO 5597
EU 141 151-S	151,0	141	15,0	
EU 150 170-1	170,0	150	14,5	
EU 150 170-2	170,0	150	16,0	
EU 160 180	180,0	160	13,0	
EU 160 180-1	180,0	160	16,0	
EU 160 185	185,0	160	20,0	
EU 162 172-S	172,0	162	15,0	
EU 165 195	195,0	165	21,0	
EU 170 190-1	190,0	170	16,0	
EU 180 200-1	200,0	180	16,0	
EU 180 200-2	200,0	180	20,0	
EU 183 193-S	193,0	183	15,0	
EU 190 210-1	210,0	190	16,0	
EU 200 212-1	212,0	200	16,0	
EU 200 220	220,0	200	13,0	
EU 200 220-1	220,0	200	16,0	
EU 207 217-S	217,0	207	15,0	
EU 210 230	230,0	210	13,0	
EU 210 230-2	230,0	210	16,0	
EU 210 235-1	235,0	210	26,0	
EU 220 240	240,0	220	13,0	
EU 220 240-1	240,0	220	16,0	
EU 230 250	250,0	230	13,0	
EU 230 260	260,0	230	25,0	
EU 231 241-S	241,0	231	15,0	
EU 240 260	260,0	240	13,0	
EU 240 260-1	260,0	240	16,0	
EU 240 270	270,0	240	19,0	
EU 250 270	270,0	250	13,0	
EU 250 270-1	270,0	250	16,0	
EU 280 305-1	305,0	280	16,0	
EU 280 310	310,0	280	25,0	

Web: http://cat.hansa-flex.com/en/EU

EU-I

Rod seal EU-I





Low-friction seal. High abrasion resistance. Simple solution.

Design: Rod lip seal
Operating pressure: up to 400 bar
Sliding speed max.: 0,5 m/s
Design: Inches
Temp. min.: -30 °C
Temp. max.: 80 °C
Media: Mineral oils
Installation: in closed grooves in open grooves
Material: PUR
Application: Hydraulics

Ordering information: We are able to produce EU seals with diameters of 20 to 510 mm with short lead times.

Identification	D	d	L
	mm	mm	mm
EU-I 100 125	31,75	25,40	7,0
EU-I 125 162	41,22	31,75	8,7
EU-I 150 187	47,62	38,10	8,7

Identification	D	d	L
	mm	mm	mm
EU-I 200 250	63,50	50,80	10,5
EU-I 225 262	66,67	57,15	10,5
EU-I 225 275	69,85	57,15	10,5

(Continued) EU-I

Rod seal EU-I

Identification	D	d	L
	mm	mm	mm
EU-I 237 287	73,03	60,33	10,3
EU-I 250 300	76,20	63,50	10,5
EU-I 275 325	82,55	69,85	10,5
EU-I 300 350	88,90	76,20	10,5
EU-I 325 375	95,25	82,55	10,5
EU-I 350 400	101,60	88,90	10,5
EU-I 400 462	117,47	101,60	10,5

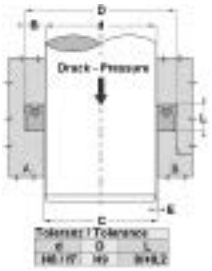
Web: http://cat.hansa-flex.com/en/EUI

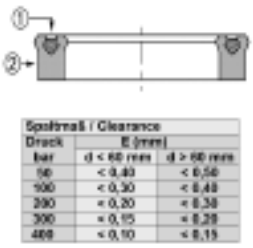
EUS-I

Rod seal EUS-I

Extremely good sealing effect at low pressure. High abrasion resistance. Simple solution.

Design: rod seal
Operating pressure: up to 400 bar
Sliding speed max.: 0,5 m/s
Temp. min.: -30 °C
Temp. max.: 80 °C
Media: Mineral oils
Installation: in closed grooves A, in open grooves B
Material: (1) Pre-load ring: NBR, (2) Seal: PUR
Application: Hydraulics





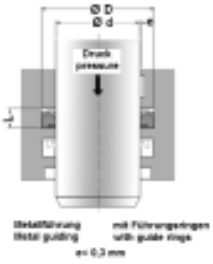
Ordering information: We are able to produce EUS-I seals with diameters of 20 to 510 mm with short lead times.

Identification	d	D	L
	mm	mm	mm
EUS-I 025 050	6,35	12,70	3,5
EUS-I 050 075	12,70	19,05	3,5
EUS-I 050 100	12,70	25,40	10,5
EUS-I 075 100-2	19,05	25,40	3,5
EUS-I 075 100	19,05	25,40	5,3
EUS-I 075 100-1	19,05	25,40	7,0
EUS-I 087 112	22,22	28,57	7,0
EUS-I 100 125	25,40	31,75	5,3
EUS-I 100 137	25,40	34,93	8,7
EUS-I 112 137	28,57	34,93	3,5
EUS-I 112 150	28,57	38,10	8,7
EUS-I 125 150	31,75	38,10	5,3
EUS-I 125 150-1	31,75	38,10	7,0
EUS-I 125 162	31,75	41,27	7,0
EUS-I 125 162-1	31,75	41,27	8,7
EUS-I 125 175	31,75	44,45	5,3
EUS-I 125 187	31,75	47,62	8,7
EUS-I 125 187-1	31,75	47,62	10,5
EUS-I 125 200	31,75	50,80	10,5
EUS-I 137 162	34,92	41,27	5,3
EUS-I 137 175	34,92	44,45	8,7
EUS-I 150 187	38,10	47,62	7,0
EUS-I 162 200	41,27	50,80	10,5
EUS-I 175 212	44,45	53,97	7,0
EUS-I 175 212-2	44,45	53,97	8,7
EUS-I 175 212-1	44,45	53,97	10,5
EUS-I 175 225	44,45	57,15	10,5
EUS-I 175 237	44,45	60,32	14,0
EUS-I 187 225	47,62	57,15	5,3
EUS-I 187 225-1	47,62	57,15	10,5
EUS-I 187 237	47,62	60,32	10,5
EUS-I 187 250	47,62	63,50	10,5
EUS-I 200 237	50,80	60,32	8,7
EUS-I 200 237-1	50,80	60,32	10,5
EUS-I 200 250	50,80	63,50	10,5
EUS-I 212 250	53,97	63,50	7,0
EUS-I 212 250-1	53,97	63,50	10,5
EUS-I 225 262-2	57,15	66,67	5,3
EUS-I 225 262	57,15	66,67	8,7
EUS-I 225 262-1	57,15	66,67	10,5
EUS-I 225 275	57,15	69,85	10,5
EUS-I 250 287	63,50	73,02	8,7
EUS-I 250 287-1	63,50	73,02	10,5
EUS-I 250 300	63,50	76,20	7,0
EUS-I 250 300-1	63,50	76,20	10,5
EUS-I 250 312	63,50	79,37	14,0
EUS-I 262 300	66,67	76,20	5,3
EUS-I 262 300-1	66,67	76,20	10,5
EUS-I 275 325	69,85	82,55	10,5
EUS-I 275 350	69,85	88,90	10,5
EUS-I 275 350-1	69,85	88,90	17,5
EUS-I 287 337	73,02	85,72	10,5
EUS-I 287 350	73,02	88,90	14,0
EUS-I 300 337-1	76,20	85,72	10,5
EUS-I 300 350	76,20	88,90	10,5
EUS-I 300 362	76,20	92,07	10,5
EUS-I 300 362-1	76,20	92,07	14,0
EUS-I 300 375	76,20	95,25	17,5
EUS-I 312 350	79,37	88,90	10,5
EUS-I 312 362	79,37	92,07	10,5
EUS-I 325 375	82,55	95,25	10,5
EUS-I 325 375-1	82,55	95,25	14,0
EUS-I 325 400	82,55	101,60	14,0
EUS-I 350 400	88,90	101,60	10,5
EUS-I 350 450	88,90	114,30	21,0
EUS-I 375 425	95,25	107,95	10,5
EUS-I 375 425-1	95,25	107,95	15,7
EUS-I 375 450	95,25	114,30	14,0
EUS-I 400 450	101,60	114,30	10,5
EUS-I 400 450-1	101,60	114,30	15,7
EUS-I 500 550	127,00	139,70	10,5
EUS-I 550 625	139,70	158,75	17,5

Web: http://cat.hansa-flex.com/en/EUSI

IBU

Rod seal, IBU



As buffer seal. Easy assembly. Easy installation space at the same time small dimensions. High abrasion resistance. Good extrusion resistance. High temperature resistance.

Design: rod seal
Operating pressure: up to 500 bar
Sliding speed max.: 0,5 m/s
Temp. min.: -40 °C
Temp. max.: 100 °C
Colour: blue / brown
Material: (1) seal: PU10, (2) Support ring: POM

Note: Gap e up to max 0,3 mm

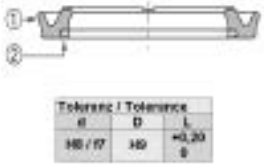
Identification	D	d	L
	mm	mm	mm
IBU 60	75	60	9,5
IBU 65	80	65	9,5
IBU 70	85	70	9,5

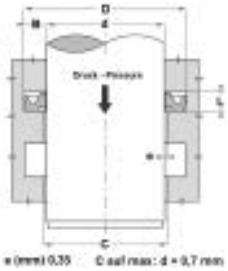
Identification	D	d	L
	mm	mm	mm
IBU 75	90	75	9,5
IBU 80	95	80	9,5
IBU 90	105	90	9,5

Web: http://cat.hansa-flex.com/en/IBU

IBF

Rod seal IBF





Low spatial requirement. High abrasion resistance. As buffer seal.

Design: Rod U-ring
Operating pressure: up to 400 bar
Sliding speed max.: 0,5 m/s
Temp. min.: -30 °C
Temp. max.: 80 °C
Media: Mineral oils
Installation: in closed grooves
Application: Hydraulics
Material: (2) Seal: PUR, Support ring: POM

Identification	D	d	L
	mm	mm	mm
IBF 40	55,5	40	6,3
IBF 50	65,5	50	6,3
IBF 55	70,5	55	6,3
IBF 60	75,5	60	6,3
IBF 65	80,5	65	6,3
IBF 70	85,5	70	6,3

Identification	D	d	L
	mm	mm	mm
IBF 75	90,5	75	6,3
IBF 80	95,5	80	6,3
IBF 85	100,5	85	6,3
IBF 95	110,5	95	6,3
IBF 100	115,5	100	6,3

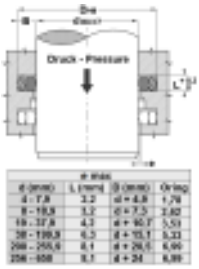
Web: http://cat.hansa-flex.com/en/IBF

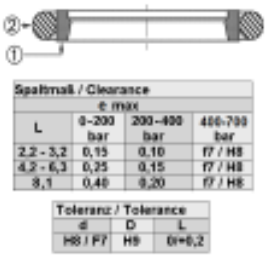
IGR B

Rod seal IGR-B

Low spatial requirement. High extrusion resistance. low break-loose torque and dynamic friction Long service life.

Design: Rod packing set
Operating pressure: up to 700 bar
Sliding speed max.: 15,0 m/s
Temp. min.: -30 °C
Temp. max.: 110 °C
Media: Mineral oils, Water emulsions
Installation: first bend the O-ring and then the PTFE ring into a kidney shape, and press into the locating groove (from 30 mm).
Material: (1) Dynamic seal: PTBR, (2) Static seal: NBR
Application: Hydraulics





Ordering information: We are able to produce GR/IGRL seals with diameters 20 to 510 mm with short lead times. Dimensions can be calculated from table 44.1.

Identification	d	D	L
	mm	mm	mm
IGR 0050 B 554470	5	9,9	2,2
IGR 0080 B 554470	8	15,3	3,2
IGR 0100 B 554470	10	17,3	3,2
IGR 0120 B 554470	12	19,3	3,2
IGR 0140 B 554470	14	21,3	3,2
IGR 0150 B 554470	15	22,3	3,2
IGR 0160 B 554470	16	23,3	3,2
IGR 0180 B 554470	18	25,3	3,2
IGR 0200 B 554470	20	30,7	4,2
IGR 0220 B 554470	22	32,7	4,2
IGR 0240 B 554470	24	34,7	4,2
IGR 0250 B 554470	25	35,7	4,2
IGR 0280 B 554470	28	38,7	4,2
IGR 0300 B 554470	30	40,7	4,2
IGR 0320 B 554470	32	42,7	4,2
IGR 0350 B 554470	35	45,7	4,2
IGR 0360 B 554470	36	46,7	4,2
IGR 0370 B 554470	37	47,7	4,2
IGR 0380 B 554470	38	53,1	6,3
IGR 0400 B 554470	40	55,1	6,3
IGR 0420 B 554470	42	57,1	6,3
IGR 0450 B 554470	45	60,1	6,3
IGR 0480 B 554470	48	63,1	6,3
IGR 0500 B 554470	50	65,1	6,3
IGR 0550 B 554470	55	70,1	6,3
IGR 0560 B 554470	56	71,1	6,3
IGR 0600 B 554470	60	75,1	6,3

Identification	d	D	L
	mm	mm	mm
IGR 0630 B 554470	63	78,1	6,3
IGR 0650 B 554470	65	80,1	6,3
IGR 0700 B 554470	70	85,1	6,3
IGR 0750 B 554470	75	90,1	6,3
IGR 0800 B 554470	80	95,1	6,3
IGR 0850 B 554470	85	100,1	6,3
IGR 0900 B 554470	90	105,1	6,3
IGR 0950 B 554470	95	110,1	6,3
IGR 1000 B 554470	100	115,1	6,3
IGR 1050 B 554470	105	120,1	6,3
IGR 1100 B 554470	110	125,1	6,3
IGR 1150 B 554470	115	130,1	6,3
IGR 1200 B 554470	120	135,1	6,3
IGR 1250 B 554470	125	140,1	6,3
IGR 1300 B 554470	130	145,1	6,3
IGR 1400 B 554470	140	155,1	6,3
IGR 1500 B 554470	150	165,1	6,3
IGR 1600 B 554470	160	175,1	6,3
IGR 1700 B 554470	170	185,1	6,3
IGR 1800 B 554470	180	195,1	6,3
IGR 1900 B 554470	190	205,1	6,3
IGR 2000 B 554470	200	220,5	8,1
IGR 2200 B 554470	220	240,5	8,1
IGR 2500 B 554470	250	270,5	8,1
IGR 2800 B 554470	280	304,0	8,1
IGR 3600 B 554470	360	384,0	8,1

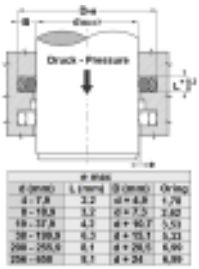
Web: http://cat.hansa-flex.com/en/IGRB

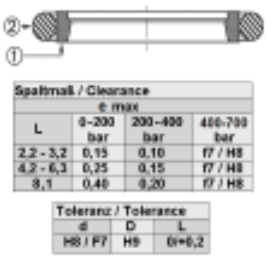
IGR BPU

Rod seal, IGR-BPU

Low spatial requirement. High abrasion resistance. High extrusion resistance. Very good sealing effect at low or high pressure. Long service life.

Operating pressure: up to 280 bar (PU30)
Sliding speed max.: 2,0 m/s
Temp. min.: -30 °C
Temp. max.: 110 °C
Media: Mineral oils
Installation: first bend the O-ring and then the PTFE ring into a kidney shape, and press into the locating groove (from 30 mm).
Material: (1) Dynamic seal: H-PU D55, (2) Static seal: NBR
Application: Hydraulics





Ordering information: We are able to produce IGR...PUR / IGRL...PUR seals with diameters 20 to 510 mm with short lead times. Dimensions can be calculated from table 46.1. Alternative materials possible: PUR.

Identification	d	D	L
	mm	mm	mm
K-DIGR 0200 BPU 30 447	20	30,7	4,2
K-DIGR 0220 BPU 30 447	22	32,7	4,2
K-DIGR 0250 BPU 30 447	25	35,7	4,2
K-DIGR 0280 BPU 30 447	28	38,7	4,2
K-DIGR 0300 BPU 30 447	30	40,7	4,2
K-DIGR 0320 BPU 30 447	32	24,7	4,2
K-DIGR 0350 BPU 30 447	35	45,7	4,2
K-DIGR 0360 BPU 30 447	36	46,7	4,2
K-DIGR 0400 BPU 30 447	40	55,1	6,3
K-DIGR 0420 BPU 30 447	42	57,1	6,3
K-DIGR 0450 BPU 30 447	45	60,1	6,3
K-DIGR 0500 BPU 30 447	50	65,1	6,3

IGR BPU (Continued)

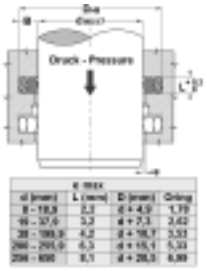
Rod seal, IGR-BPU

Identification	d	D	L
	mm	mm	mm
K-DIGR 0550 BPU 30 447	55	70,1	6,3
K-DIGR 0560 BPU 30 447	56	71,1	6,3
K-DIGR 0600 BPU 30 447	60	75,1	6,3
K-DIGR 0650 BPU 30 447	65	80,1	6,3
K-DIGR 0700 BPU 30 447	70	85,1	6,3
K-DIGR 0750 BPU 30 447	75	90,1	6,3
K-DIGR 0800 BPU 30 447	80	95,1	6,3
K-DIGR 0850 BPU 30 447	85	100,1	6,3
K-DIGR 0900 BPU 30 447	90	105,1	6,3
K-DIGR 0950 BPU 30 447	95	110,1	6,3
K-DIGR 1050 BPU 30 447	105	120,1	6,3
K-DIGR 1100 BPU 30 447	110	125,1	6,3
K-DIGR 1400 BPU 30 447	140	155,1	6,3
K-DIGR 1500 BPU 30 447	150	165,1	6,3
K-DIGR 2000 BPU 30 447	200	220,5	8,1

Web: http://cat.hansa-flex.com/en/IGRBPU

IGRL B

Rod seal IGRL-B



Low spatial requirement. High extrusion resistance. low break-loose torque and dynamic friction Long service life.

Design: Rod packing set
Operating pressure: up to 700 bar
Sliding speed max.: 15,0 m/s
Temp. min.: -30 °C
Temp. max.: 110 °C
Media: Mineral oils, Water emulsions
Installation: first bend the O-ring and then the PTFE ring into a kidney shape, and press into the locating groove (from 30 mm).
Material: (1) Dynamic seal: PTBR, (2) Static seal: NBR
Application: Hydraulics

Ordering information: We are able to produce GR/IGRL seals with diameters 20 to 510 mm with short lead times. Dimensions can be calculated from table 44.1.

Identification	d	D	L
	mm	mm	mm
IGRL 0200 B 554470	20	27,3	3,2
IGRL 0220 B 554470	22	29,3	3,2
IGRL 0250 B 554470	25	32,3	3,2
IGRL 0280 B 554470	28	35,3	3,2
IGRL 0300 B 554470	30	37,3	3,2
IGRL 0350 B 554470	35	42,3	3,2
IGRL 0360 B 554470	36	43,3	3,2
IGRL 0400 B 554470	40	50,7	4,2
IGRL 0450 B 554470	45	55,7	4,2
IGRL 0500 B 554470	50	60,7	4,2

Identification	d	D	L
	mm	mm	mm
IGRL 0550 B 554470	55	65,7	4,2
IGRL 0560 B 554470	56	66,7	4,2
IGRL 0600 B 554470	60	70,7	4,2
IGRL 0650 B 554470	65	75,7	4,2
IGRL 0700 B 554470	70	80,7	4,2
IGRL 0800 B 554470	80	90,7	4,2
IGRL 0900 B 554470	90	100,7	4,2
IGRL 1000 B 554470	100	110,7	4,2
IGRL 1300 B 554470	130	140,7	4,2

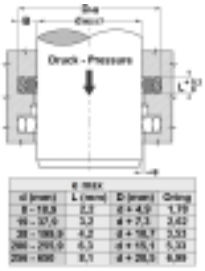
Web: http://cat.hansa-flex.com/en/IGRLB

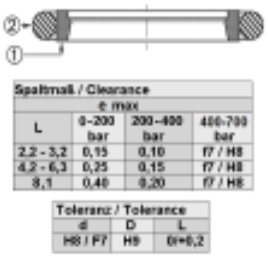
IGRL BPU

Rod seal, IGRL-BPU

Low spatial requirement. High abrasion resistance. High extrusion resistance. Very good sealing effect at low or high pressure. Long service life.

Design: rod seal
Operating pressure: up to 280 bar (PU30)
Sliding speed max.: 2,0 m/s
Design: light
Temp. min.: -30 °C
Temp. max.: 110 °C
Media: Mineral oils
Installation: first bend the O-ring and then the PTFE ring into a kidney shape, and press into the locating groove (from 30 mm).
Material: Dynamic seal: PTFE, (2) Static seal: NBR
Application: Hydraulics





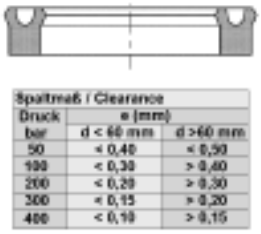
Ordering information: We are able to produce IGR...PUR / IGRL...PUR seals with diameters 20 to 510 mm with short lead times. Dimensions can be calculated from table 46.1. Alternative materials possible: PUR.

Identification	d	D	L
	mm	mm	mm
K-DIGRL 0200 BPU 3044	20,0	27,3	3,2
K-DIGRL 0220 BPU 3044	22,0	29,3	3,2
K-DIGRL 0250 BPU 3044	25,0	32,3	3,2
K-DIGRL 0280 BPU 3044	28,0	35,3	3,2
K-DIGRL 0300 BPU 3044	30,0	37,3	3,2
K-DIGRL 0350 BPU 3044	35,0	42,3	3,2
K-DIGRL 0360 BPU 3044	36,0	43,3	3,2
K-DIGRL 0400 BPU 3044	40,0	50,7	4,2
K-DIGRL 0450 BPU 3044	45,0	55,7	4,2
K-DIGRL 0500 BPU 3044	50,0	60,7	4,2
K-DIGRL 0550 BPU 3044	55,0	65,7	4,2
K-DIGRL 0560 BPU 3044	56,0	66,7	4,2
K-DIGRL 0600 BPU 3044	60,0	70,7	4,2
BD = Working pressure			

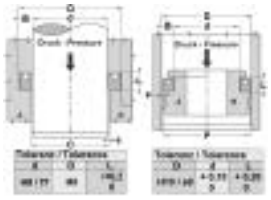
Web: http://cat.hansa-flex.com/en/IGRLBPU

MU

U-ring MU



Spaltmaß / Clearance		
Druck	e [mm]	
bar	d < 60 mm	d >60 mm
50	< 0,40	< 0,50
100	< 0,30	> 0,40
200	< 0,20	> 0,30
300	< 0,15	> 0,20
400	< 0,10	> 0,15



For rods and pistons. High abrasion resistance. Use for new designs TS, TS-L, RS-L and EU profiles (rod seals).

Design: U-ring
Operating pressure: up to 400 bar
Sliding speed max.: 0,5 m/s
Temp. min.: -30 °C
Temp. max.: 80 °C
Media: Mineral oils
Installation: in closed grooves A, in open grooves B, on a B or multi-part A piston
Material: PUR
Application: Hydraulics

Ordering information: We are able to produce seals with diameters of 20 to 510 mm with short lead times.

Identification	d	D	L
	mm	mm	mm
MU 09 03	3,00	9,0	5,0
MU 10 04	4,00	10,0	4,5
MU 10 04-1	4,00	10,0	5,0
MU 11 04	4,50	11,0	5,5
MU 12 04	4,00	12,0	4,5
MU 12 05-1	5,00	12,0	5,5
MU 12 05-2	5,00	12,0	6,5
MU 12 05	5,00	12,0	7,0
MU 12 06	6,00	12,0	4,5
MU 12 06-4	6,00	12,0	6,0
MU 12 06-5	6,00	12,0	6,5
MU 12 06-2	6,00	12,0	9,0
MU 12 08	8,00	12,0	3,5
MU 13 06	6,00	12,7	6,5
MU 13 05	5,00	13,0	4,5
MU 14 07	7,00	14,0	4,2
MU 14 08	8,00	14,0	7,0
MU 15 06	6,00	15,0	9,0
MU 15 07-1	7,00	15,0	8,0
MU 15 08	8,00	15,0	6,3
MU 15 08-2	8,00	15,0	9,0
MU 15 09	9,00	15,0	9,0
MU 16 06	6,00	16,0	5,5
MU 16 08	8,00	16,0	4,5
MU 16 08-2	8,00	16,0	6,3
MU 16 10	10,00	16,0	6,5
MU 18 08	8,00	18,0	5,5
MU 18 08-1	8,00	18,0	8,0
MU 18 08-2	8,00	18,0	11,0
MU 18 10-3	10,00	18,0	4,5
MU 18 10-1	10,00	18,0	6,0
MU 18 10	10,00	18,0	7,0
MU 18 10-4	10,00	18,0	9,0
MU 18 12	12,00	18,0	5,5
MU 18 12-1	12,00	18,0	7,0
MU 19 09-1	9,00	19,0	7,0
MU 20 10	10,00	20,0	5,5
MU 20 10-1	10,00	20,0	9,0
MU 20 12-1	12,00	20,0	4,5
MU 20 12-2	12,00	20,0	8,0
MU 20 12	12,00	20,0	9,0
MU 20 14	14,00	20,0	5,3
MU 21 11	11,00	20,5	7,0
MU 22 08	8,00	22,0	9,0
MU 22 10	10,00	22,0	7,0
MU 22 10-1	10,00	22,0	9,0
MU 22 12	12,00	22,0	5,5
MU 22 12-4	12,00	22,0	8,0
MU 22 12-1	12,00	22,0	9,0
MU 22 14-1	14,00	22,0	7,0
MU 22 14-2	14,00	22,0	9,0
MU 22 16	16,00	22,0	4,5
MU 22 16-2	16,00	22,0	5,5
MU 24 12-1	12,00	24,0	9,0
MU 24 14	14,00	24,0	9,0
MU 24 16-1	16,00	24,0	4,5
MU 24 16-2	16,00	24,0	6,0
MU 24 16-3	16,00	24,0	9,0
MU 24 16	16,00	24,0	10,0
MU 25 10	10,00	25,0	8,0
MU 25 12-1	12,00	25,0	9,0
MU 25 15-1	15,00	25,0	5,5
MU 25 15-2	15,00	25,0	9,0
MU 25 15	15,00	25,0	11,0
MU 25 16-1	16,00	25,0	9,0
MU 25 17-2	17,00	25,0	11,0
MU 25 18	18,00	25,0	5,5
MU 25 19-1	19,00	25,0	3,5
MU 25 19	19,00	25,0	7,0
MU 25 16	15,90	25,4	7,0
MU 26 16	16,00	26,0	6,0
MU 26 16-1	16,00	26,0	9,0
MU 26 16-2	16,00	26,0	11,0

Identification	d	D	L
	mm	mm	mm
MU 26 18-1	18,00	26,0	4,5
MU 26 18	18,00	26,0	7,5
MU 26 18-4	18,00	26,0	9,0
MU 27 15	15,00	27,0	7,0
MU 28 15	15,00	28,0	11,0
MU 28 16	16,00	28,0	7,0
MU 28 18	18,00	28,0	5,5
MU 28 18-1	18,00	28,0	9,0
MU 28 20	20,00	28,0	5,0
MU 28 20-1	20,00	28,0	5,5
MU 28 20-3	20,00	28,0	9,0
MU 28 22	22,00	28,0	9,0
MU 30 18-1	18,00	30,0	9,0
MU 30 20-1	20,00	30,0	5,5
MU 30 20-3	20,00	30,0	8,0
MU 30 20-2	20,00	30,0	9,0
MU 30 20	20,00	30,0	11,0
MU 30 22-1	22,00	30,0	4,5
MU 30 22-2	22,00	30,0	7,0
MU 30 22	22,00	30,0	7,5
MU 30 22-3	22,00	30,0	11,0
MU 30 23	23,00	30,0	7,5
MU 32 16	16,00	32,0	9,0
MU 32 20-2	20,00	32,0	8,5
MU 32 20-1	20,00	32,0	10,0
MU 32 22-1	22,00	32,0	5,5
MU 32 22	22,00	32,0	9,0
MU 32 22-2	22,00	32,0	11,0
MU 32 24-3	24,00	32,0	6,5
MU 32 24-1	24,00	32,0	7,5
MU 32 24-4	24,00	32,0	8,0
MU 33 25-1	25,00	33,0	4,5
MU 33 25-2	25,00	33,0	5,5
MU 33 25	25,00	33,0	7,5
MU 34 22	22,00	34,0	6,5
MU 34 26	26,00	34,0	4,5
MU 35 20	20,00	35,0	13,0
MU 35 22-1	22,00	35,0	6,0
MU 35 22	22,00	35,0	11,0
MU 35 25-1	25,00	35,0	5,5
MU 35 25-2	25,00	35,0	9,0
MU 35 25	25,00	35,0	11,0
MU 35 27	27,00	35,0	6,5
MU 35 28	28,00	35,0	5,5
MU 36 22	22,00	36,0	11,0
MU 36 24	24,00	36,0	6,5
MU 36 26-1	26,00	36,0	8,0
MU 36 28	28,00	36,0	7,5
MU 37 30	30,00	37,0	7,0
MU 38 25	25,00	38,0	9,0
MU 38 25-2	25,00	38,0	11,0
MU 38 28-1	28,00	38,0	9,0
MU 38 30	30,00	38,0	8,0
MU 38 30-2	30,00	38,0	6,5
MU 38 25-1	25,00	38,1	7,0
MU 39 20	20,00	39,0	11,0
MU 40 20-1	20,00	40,0	11,0
MU 40 20	20,00	40,0	12,0
MU 40 20-2	20,00	40,0	13,0
MU 40 22	22,00	40,0	11,0
MU 40 24	24,00	40,0	9,0
MU 40 25	25,00	40,0	8,0
MU 40 25-1	25,00	40,0	11,0
MU 40 28	28,00	40,0	6,5
MU 40 28-1	28,00	40,0	11,0
MU 40 30-1	30,00	40,0	5,5
MU 40 30	30,00	40,0	11,0
MU 40 32-1	32,00	40,0	4,5
MU 40 32	32,00	40,0	6,0
MU 40 32-3	32,00	40,0	9,0
MU 42 30-1	30,00	42,0	6,5
MU 42 30	30,00	42,0	10,0
MU 42 30-2	30,00	42,0	11,0

(Continued) **MU**

U-ring MU

Identification	d	D	L
	mm	mm	mm
MU 42 32-1	32,00	42,0	5,5
MU 42 32-2	32,00	42,0	8,0
MU 42 32	32,00	42,0	11,0
MU 42 34	34,00	42,0	6,5
MU 45 25	25,00	45,0	11,0
MU 45 30	30,00	45,0	10,0
MU 45 30-1	30,00	45,0	11,0
MU 45 32	32,00	45,0	11,0
MU 45 34-1	34,00	45,0	8,0
MU 45 34	34,00	45,0	10,0
MU 45 35	35,00	45,0	5,5
MU 45 35-2	35,00	45,0	9,0
MU 45 35-3	35,00	45,0	11,0
MU 45 38	38,00	45,0	5,5
MU 46 36	36,00	46,0	8,0
MU 46 38	38,00	46,0	7,5
MU 48 35	35,00	48,0	11,0
MU 48 36	36,00	48,0	9,0
MU 48 40-1	40,00	48,0	12,0
MU 50 30	30,00	50,0	11,0
MU 50 30-1	30,00	50,0	13,0
MU 50 32-1	32,00	50,0	13,0
MU 50 34-1	34,00	50,0	15,0
MU 50 35	35,00	50,0	8,0
MU 50 35-1	35,00	50,0	11,0
MU 50 38	38,00	50,0	6,5
MU 50 38-1	38,00	50,0	10,0
MU 50 40-2	40,00	50,0	5,5
MU 50 40	40,00	50,0	7,5
MU 50 40-3	40,00	50,0	9,0
MU 50 40-1	40,00	50,0	11,0
MU 50 44	44,00	50,0	9,5
MU 51 41	40,80	50,8	7,7
MU 52 32	32,00	52,0	11,0
MU 52 40	40,00	52,0	9,0
MU 52 40-2	40,00	52,0	11,0
MU 52 42-1	42,00	52,0	10,0
MU 53 45	45,00	53,0	7,5
MU 54 42	42,00	54,0	6,5
MU 55 35	35,00	55,0	11,0
MU 55 35-1	35,00	55,0	13,0
MU 55 38	38,00	55,0	11,0
MU 55 40	40,00	55,0	11,0
MU 55 45	45,00	55,0	7,5
MU 55 45-3	45,00	55,0	9,0
MU 55 45-1	45,00	55,0	11,0
MU 56 40	40,00	56,0	11,0
MU 58 38	38,00	58,0	11,0
MU 58 48	48,00	58,0	11,0
MU 60 35	35,00	60,0	13,0
MU 60 40-1	40,00	60,0	11,0
MU 60 40-2	40,00	60,0	14,0
MU 60 40-3	40,00	60,0	19,0
MU 60 45	45,00	60,0	11,0
MU 60 48	48,00	60,0	6,5
MU 60 50-2	50,00	60,0	5,5
MU 60 50	50,00	60,0	11,0
MU 60 50-1	50,00	60,0	12,0
MU 62 42	42,00	62,0	13,0
MU 62 50	50,00	62,0	10,0
MU 62 52	52,00	62,0	13,0
MU 63 45	45,00	63,0	11,0
MU 63 48	48,00	63,0	11,0
MU 63 50	50,00	63,0	7,0
MU 63 53-1	53,00	63,0	5,5
MU 63 53	53,00	63,0	7,5
MU 63 53-2	53,00	63,0	8,0
MU 65 40	40,00	65,0	13,0
MU 65 45	45,00	65,0	11,0
MU 65 45-1	45,00	65,0	13,0
MU 65 50-1	50,00	65,0	11,0
MU 65 55-1	55,00	65,0	11,0
MU 65 55	55,00	65,0	13,0
MU 70 36	26,00	70,0	11,0
MU 70 40	40,00	70,0	16,0
MU 70 50-1	50,00	70,0	11,0
MU 70 50	50,00	70,0	13,0
MU 70 50-2	50,00	70,0	16,0
MU 70 55-1	55,00	70,0	8,0
MU 70 55	55,00	70,0	11,0
MU 70 55-3	55,00	70,0	12,0
MU 70 55-2	55,00	70,0	13,0
MU 70 60-2	60,00	70,0	5,5
MU 70 60	60,00	70,0	9,0
MU 70 60-3	60,00	70,0	11,0
MU 70 60-1	60,00	70,0	13,0
MU 72 50	50,00	72,0	13,0
MU 75 50	50,00	75,0	13,0
MU 75 55	55,00	75,0	11,0
MU 75 55-1	55,00	75,0	13,0
MU 75 60-1	60,00	75,0	8,0
MU 75 60-2	60,00	75,0	11,0
MU 75 60	60,00	75,0	13,0
MU 75 63	63,00	75,0	11,0
MU 75 65	85,00	75,0	13,0
MU 76 56	56,00	76,0	13,0
MU 76 66	66,00	76,0	9,0
MU 78 63	63,00	78,0	11,0
MU 80 50	50,00	80,0	11,0
MU 80 55-3	55,00	80,0	11,0
MU 80 55	55,00	80,0	13,0
MU 80 55-1	55,00	80,0	20,0
MU 80 60	60,00	80,0	11,0
MU 80 60-1	60,00	80,0	13,0
MU 80 60-2	60,00	80,0	16,0
MU 80 60-3	60,00	80,0	19,0
MU 80 65-1	65,00	80,0	8,0
MU 80 65-3	65,00	80,0	11,0
MU 80 65-2	65,00	80,0	12,0
MU 80 65	65,00	80,0	13,0
MU 80 66	66,00	80,0	11,0
MU 80 70-2	70,00	80,0	5,5
MU 80 70	70,00	80,0	9,0
MU 80 70-3	70,00	80,0	11,0
MU 80 70-1	70,00	80,0	13,0
MU 83 63	63,00	83,0	16,0
MU 85 55	55,00	85,0	16,0
MU 85 60-2	60,00	85,0	11,0
MU 85 65-1	65,00	85,0	11,0
MU 85 65	65,00	85,0	13,0
MU 85 70	70,00	85,0	11,0
MU 85 70-1	70,00	85,0	12,0
MU 85 70-2	70,00	85,0	13,0
MU 85 75	75,00	85,0	13,0
MU 90 60	60,00	90,0	16,0
MU 90 70-1	70,00	90,0	11,0
MU 90 70	70,00	90,0	13,0
MU 90 70-2	70,00	90,0	16,0
MU 90 70-3	70,00	90,0	19,0
MU 90 75-1	75,00	90,0	8,5
MU 90 75	75,00	90,0	11,0
MU 90 75-2	75,00	90,0	13,0
MU 90 80	80,00	90,0	5,5
MU 90 80-2	80,00	90,0	11,0
MU 90 80-3	80,00	90,0	13,0
MU 93 78	78,00	93,0	11,5
MU 95 70-2	70,00	95,0	11,0
MU 95 70	70,00	95,0	13,0
MU 95 75-3	75,00	95,0	11,0
MU 95 75-1	75,00	95,0	13,0
MU 95 75	75,00	95,0	14,5
MU 95 80	80,00	95,0	8,0
MU 95 80-2	80,00	95,0	11,0
MU 95 80-1	80,00	95,0	13,0
MU 95 85-1	85,00	95,0	5,5
MU 95 85	85,00	95,0	9,5
MU 95 85-3	85,00	95,0	13,0
MU 96 76	76,50	96,5	13,0
MU 100 70	70,00	100,0	16,0
MU 100 75	75,00	100,0	13,0
MU 100 75-1	75,00	100,0	20,0
MU 100 80-1	80,00	100,0	11,0
MU 100 80	80,00	100,0	13,0
MU 100 85-3	85,00	100,0	10,0
MU 100 85-2	85,00	100,0	12,0
MU 100 85	85,00	100,0	13,0
MU 100 90-2	90,00	100,0	5,5
MU 100 90-4	90,00	100,0	8,0
MU 100 90	90,00	100,0	9,0
MU 100 90-3	90,00	100,0	13,0
MU 105 80-3	80,00	105,0	23,0
MU 105 85-1	85,00	105,0	13,0
MU 105 85-2	85,00	105,0	19,0
MU 105 90-1	90,00	105,0	8,0
MU 105 90	90,00	105,0	13,0
MU 110 80	80,00	110,0	16,0
MU 110 85	85,00	110,0	13,0
MU 110 90-1	90,00	110,0	11,0
MU 110 90	90,00	110,0	13,0
MU 110 90-3	90,00	110,0	19,0
MU 110 95-1	95,00	110,0	13,0
MU 110 95-2	95,00	110,0	16,0
MU 110 100	100,00	110,0	5,5
MU 112 095-1	95,00	112,0	12,0
MU 115 085	85,00	115,0	16,0
MU 115 090-2	90,00	115,0	16,0
MU 115 095	95,00	115,0	13,0
MU 115 095-3	95,00	115,0	19,0

Web: http://cat.hansa-flex.com/en/MU

MU (Continued)

U-ring MU

Identification	d	D	L
	mm	mm	mm
MU 115 100	100,00	115,0	13,0
MU 120 090	90,00	120,0	16,0
MU 120 100-1	100,00	120,0	11,0
MU 120 100	100,00	120,0	13,0
MU 120 100-3	100,00	120,0	19,0
MU 120 105-3	105,00	120,0	9,0
MU 120 105-1	105,00	120,0	12,0
MU 120 105-2	105,00	120,0	16,0
MU 125 100	100,00	125,0	13,0
MU 125 100-1	100,00	125,0	16,0
MU 125 105	105,00	125,0	13,0
MU 125 105-2	105,00	125,0	16,0
MU 125 110-1	110,00	125,0	13,0
MU 125 110-2	110,00	125,0	16,0
MU 126 115	115,00	126,0	16,0
MU 130 100	100,00	130,0	13,0
MU 130 110-2	110,00	130,0	11,0
MU 130 110-1	110,00	130,0	13,0
MU 130 110	110,00	130,0	16,0
MU 130 110-3	110,00	130,0	19,0
MU 130 120	120,00	130,0	15,0
MU 135 115	115,00	135,0	16,0
MU 135 120	120,00	135,0	16,0
MU 140 115-1	115,00	140,0	16,0
MU 140 120-1	120,00	140,0	11,0
MU 140 120	120,00	140,0	13,0
MU 140 120-2	120,00	140,0	16,0
MU 140 125	125,00	140,0	12,0
MU 140 125-2	125,00	140,0	16,0
MU 145 125	125,00	145,0	16,0
MU 145 125-1	125,00	145,0	19,0
MU 150 130-1	1301,00	150,0	16,0
MU 150 135-1	135,00	150,0	16,0
MU 155 125	125,00	155,0	16,0
MU 155 135	135,00	155,0	16,0
MU 160 135-1	135,00	160,0	16,0
MU 160 140	140,00	160,0	11,0
MU 160 140-2	140,00	160,0	13,0
MU 160 140-1	140,00	160,0	16,0
MU 165 145	145,00	165,0	16,0
MU 170 150-2	150,00	170,0	16,0
MU 170 150-3	150,00	170,0	19,0
MU 175 160	160,00	175,0	12,0
MU 180 160	160,00	180,0	16,0
MU 190 170	170,00	190,0	16,0
MU 200 170-1	170,00	200,0	19,0
MU 200 175-1	175,00	200,0	16,0
MU 200 180	180,00	200,0	16,0
MU 220 180-1	180,00	220,0	21,0
MU 220 190	190,00	220,0	23,0
MU 225 200-2	200,00	225,0	19,0
MU 240 210	210,00	240,0	18,0
MU 250 220	220,00	250,0	19,0
MU 250 220-1	220,00	250,0	22,0
MU 320 305	305,00	320,0	18,0
MU 390 360	360,00	390,0	23,0

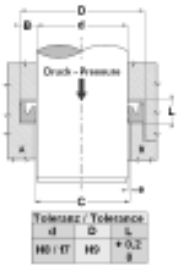
Web: http://cat.hansa-flex.com/en/MU

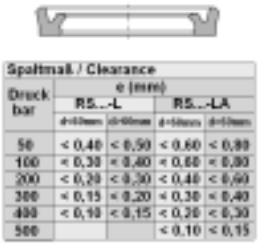
RS L

Rod seal RS-L

Low-friction seal. High abrasion resistance. Simple solution. Suitable for telescopic cylinders.

Design: Rod U-ring
Operating pressure: up to 400 bar
Sliding speed max.: 0,5 m/s
Temp. min.: -30 °C
Temp. max.: 80 °C
Media: Mineral oils
Installation: in closed grooves in open installation spaces
Material: (2) Seal: PUR
Application: Hydraulics





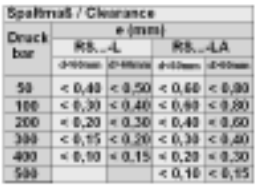
Ordering information: We are able to produce seals with diameters of 20 to 510 mm with short lead times.

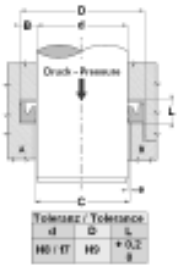
Identification	D	d	L	Standard grooves
	mm	mm	mm	
RS 15 26-L	26,0	15,0	8,0	
RS 18 26-L1	26,0	18,0	7,0	
RS 25 33-L1	33,0	25,0	7,5	
RS 25 33-L3	33,0	25,0	6,3	
RS 25 35-L	25,0	25,0	8,0	ISO 5597
RS 28 38-L	38,0	28,0	8,5	
RS 30 38-L	38,0	30,0	12,5	
RS 30 40-L	40,0	30,0	8,0	
RS 32 40-L1	40,0	32,0	7,0	
RS 32 40-L	40,0	32,0	7,7	
RS 32 41-L	41,0	32,0	8,9	
RS 35 43-L	43,0	35,0	8,0	
RS 36 43-L	43,0	36,0	12,5	
RS 36 44-L	44,0	36,0	7,0	
RS 38 46-L	46,0	38,0	12,5	
RS 38 48-L	48,0	38,0	9,0	
RS 40 48-L1	48,0	40,0	6,3	
RS 40 48-L	48,0	40,0	12,5	
RS 40 50-L	50,0	40,0	8,0	ISO 5597
RS 40 55-L	55,0	40,0	11,0	
RS 42 50-L	50,0	42,0	12,5	
RS 42 53-L	53,0	42,0	10,0	
RS 45 53-L	53,0	45,0	12,5	
RS 45 55-L	55,0	45,0	12,5	
RS 48 56-L1	56,0	48,0	12,5	
RS 50 57-L	57,0	50,0	11,0	
RS 50 58-L	58,0	50,0	12,5	
RS 50 60-L	60,0	50,0	8,0	ISO 5597
RS 50 60-L1	60,0	50,0	11,0	
RS 50 65-L1	65,0	50,0	11,0	
RS 50 65-L	65,0	50,0	16,5	
RS 55 62-L	62,5	55,0	10,0	
RS 55 63-L	63,0	55,0	12,5	
RS 55 65-L1	65,0	55,0	9,5	
RS 55 65-L	65,0	55,0	11,0	
RS 58 68-L	68,0	58,0	12,5	
RS 60 68-L	68,0	60,0	12,5	
RS 60 70-L	70,0	60,0	12,5	
RS 60 75-L1	75,0	60,0	11,0	
RS 60 75-L2	75,0	60,0	12,5	
RS 60 75-L	75,0	60,0	16,5	
RS 63 71-L	71,0	63,0	12,5	
RS 65 73-L	73,0	65,0	12,5	
RS 67 75-L	75,0	67,0	12,5	
RS 70 78-L	78,0	70,0	12,5	
RS 70 80-L	80,0	70,0	12,5	
RS 70 85-L	85,0	70,0	12,5	ISO 5597
RS 70 90-L	90,0	70,0	13,0	
RS 73 82-L	82,4	73,0	7,8	
RS 75 83-L	83,0	75,0	12,5	
RS 75 85-L1	85,0	75,0	9,5	
RS 75 85-L	85,0	75,0	12,5	
RS 78 86-L1	86,0	78,0	12,5	
RS 78 90-L	90,0	78,0	13,0	
RS 80 88-L	88,0	80,0	12,5	
RS 80 90-L1	90,0	80,0	11,0	
RS 80 90-L2	90,0	80,0	12,5	
RS 80 95-L	95,0	80,0	12,5	ISO 5597
RS 82 97-L	97,5	82,5	13,0	
RS 85 93-L	83,0	85,0	12,5	
RS 87 95-L	95,0	87,0	12,5	
RS 89 97-L	97,0	89,0	12,5	
RS 90 98-L	98,0	90,0	12,5	
RS 90 100-L1	100,0	90,0	10,0	
RS 90 100-L	100,0	90,0	12,5	
RS 90 105-L	105,0	90,0	12,5	ISO 5597
RS 90 110-L	110,0	90,0	13,0	
RS 93 101-L	101,0	93,0	12,5	
RS 95 103-L	103,0	95,0	12,5	
RS 95 105-L1	105,0	95,0	9,5	
RS 95 105-L	105,0	95,0	13,0	ISO 5597
RS 97 105-L1	105,0	97,0	12,5	
RS 100 108-L	108,0	100,0	12,5	
RS 100 110-L1	110,0	100,0	11,0	
RS 100 110-L	110,0	100,0	12,5	
RS 1001 15-L	115,0	100,0	11,0	
RS 100 115-L1	115,0	100,0	13,0	
RS 100 120-L1	120,0	100,0	13,0	
RS 105 113-L1	113,0	105,0	12,5	
RS 105 113-L	113,0	105,0	14,5	
RS 105 115-L	115,0	105,0	12,5	
RS 108 116-L	116,0	108,0	12,5	
RS 110 118-L	118,0	110,0	12,5	
RS 113 123-L1	123,0	113,0	9,5	
RS 115 123-L	123,0	115,0	12,5	
RS 115 125-L1	125,0	115,0	13,0	
RS 115 125-L	125,0	115,0	15,0	
RS 120 128-L	128,0	120,0	12,5	
RS 125 133-L	133,0	125,0	12,5	
RS 125 135-L	135,0	125,0	11,0	
RS 125 145-L1	145,0	125,0	16,0	ISO 5597
RS 128 136-L	136,0	128,0	12,5	
RS 130 138-L	138,0	130,0	12,5	
RS 132 142-L1	142,0	132,0	9,5	
RS 135 143-L	143,0	135,0	12,5	
RS 140 148-L	148,0	140,0	12,5	
RS 143 151-L1	151,0	143,0	12,5	
RS 145 153-L	153,0	145,0	12,5	
RS 145 155-L	155,0	145,0	13,0	
RS 150 170-L	170,0	150,0	16,0	
RS 152 160-L	160,0	152,0	12,5	
RS 155 163-L	163,0	155,0	12,5	
RS 160 168-L	168,0	160,0	12,5	
RS 160 170-L	170,0	160,0	12,5	
RS 170 178-L	178,0	170,0	12,5	
RS 170 180-L	180,0	170,0	13,0	
RS 180 188-L	188,0	180,0	14,5	
RS 180 190-L	190,0	180,0	11,0	
RS 180 195-L	195,0	180,0	13,5	
RS 185 193-L	193,0	185,0	12,5	
RS 202 212-L	212,0	202,0	14,5	
RS 212 220-L	212,0	212,0	14,5	

Web: http://cat.hansa-flex.com/en/RSL

RS LA

Rod seal RS-LA





Low-friction seal. High abrasion resistance. Simple solution. Suitable for telescopic cylinders.

Design: Rod U-ring
Operating pressure: up to 500 bar
Sliding speed max.: 0,5 m/s
Temp. min.: -30 °C
Temp. max.: 80 °C
Media: Mineral oils
Installation: in closed grooves A, in open grooves B
Material: (1) Seal: PUR, (2) Support ring: acetal resin / PTBR
Application: Hydraulics

Identification	D	d	L	Standard grooves
	mm	mm	mm	
RS 45 52-LA	52,0	45	14,0	
RS 50 60-LA	60,0	50	8,0	
RS 50 70-LA	70,0	50	13,0	
RS 60 68-LA	68,0	60	14,0	
RS 60 69-LA	69,0	60	11,0	
RS 60 80-LA	80,0	60	13,0	
RS 63 83-LA	83,0	63	13,0	
RS 70 85-LA	85,0	70	12,5	

Identification	D	d	L	Standard grooves
	mm	mm	mm	
RS 78 86-LA	86,0	78	14,0	
RS 80 95-LA	95,0	80	12,5	ISO 5597
RS 97 105-LA	105,0	97	14,0	
RS 100 120-LA	120,0	100	14,5	
RS 118 126-LA	126,0	118	14,0	
RS 125 145-LA	145,0	125	13,0	
RS 143 151-LA	151,0	143	14,0	

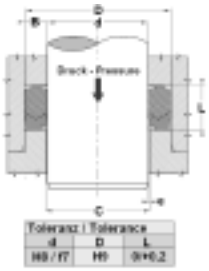
Web: http://cat.hansa-flex.com/en/RSLA

SM

Rod seal SM

High resistance to extrusion. Adjustable groove height not necessary. Simple solution.

Design: Rod packing set
Operating pressure: up to 700 bar
Sliding speed max.: 0,5 m/s
Temp. min.: -30 °C
Temp. max.: 110 °C
Media: Mineral oils, Water emulsions
Installation: in open installation spaces
Material: (1) Thrust ring: laminated fabric-reinforced NBR, (2) Seal: NBR, (3) Support ring: acetal resin / PTBR
Application: Hydraulics



Spaltmaß / Clearance	
d (mm)	e (mm)
d < 110	< 0,4
d > 110	< 0,7

Ordering information: For special operating conditions (fluid, temperature, pressure ...) please contact us. Alternative material possible: FPM, EPDM.

Identification	D	d	L
	mm	mm	mm
SM 169 118-1AX	43,00	30,00	20,00
SM 177 137-1AX	45,00	35,00	25,59
SM 185 137-1AX	47,00	35,00	22,50
SM 196 137-1AX	50,00	35,00	22,50
SM 200 141-1AX	51,00	36,00	22,50
SM 204 157-1AX	52,00	40,00	22,50
SM 216 157-1AX	55,00	40,00	22,62
SM 236 157-1AX	60,00	40,00	30,00
SM 236 177-1AX	60,00	45,00	22,50
SM 248 196-1AX	63,00	50,00	20,00
SM 255 177-1AX	65,00	45,00	28,00
SM 255 196-1CX	65,00	50,00	22,50
SM 255 196-1AX	65,00	50,00	24,50
SM 262 200-1AX	66,67	50,80	24,90
SM 275 196-1BX	70,00	50,00	30,00
SM 275 216-2AX	70,00	55,00	22,50
SM 275 216-1AX	70,00	55,00	25,00
SM 279 220-1AX	71,00	56,00	25,00
SM 295 216-2AX	75,00	55,00	30,00
SM 295 236-2AX	75,00	60,00	22,50
SM 295 236-1AX	75,00	60,00	25,00
SM 303 236-1AX	77,00	60,00	27,00

Identification	D	d	L
	mm	mm	mm
SM 314 236-1BX	80,00	60,00	32,00
SM 334 255-1AX	85,00	65,00	29,00
SM 334 275-1AX	85,00	70,00	22,50
SM 334 275-1BX	85,00	70,00	25,00
SM 354 275-1AX	90,00	70,00	30,00
SM 354 275-2AX	90,00	70,00	31,90
SM 374 295-2AX	95,00	75,00	28,00
SM 374 295-2CX	95,00	75,00	30,00
SM 379 301-1AX	96,50	76,50	32,50
SM 393 314-1AX	100,00	80,00	30,00
SM 413 334-1AX	105,00	85,00	30,00
SM 413 354-1AX	105,00	90,00	25,00
SM 433 354-1AX	110,00	90,00	30,00
SM 433 354-2BX	110,00	90,00	32,50
SM 452 374-1AX	115,00	95,00	28,00
SM 472 393-1AX	120,00	100,00	30,00
SM 511 433-1AX	130,00	110,00	32,50
SM 519 433-1AX	132,00	110,00	36,51
SM 570 492-1AX	145,00	125,00	29,62
SM 590 511-1AX	150,00	130,00	28,00
SM 669 590-1AX	170,00	150,00	28,00
SM 127 91181-1AX	325,00	300,00	35,00

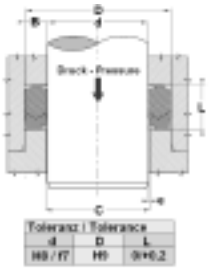
Web: http://cat.hansa-flex.com/en/SM

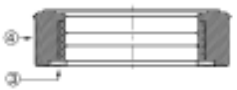
SM M

Rod seal SM M

High resistance to extrusion. Adjustable groove height not necessary. Simple solution.

Design: Rod packing set
Operating pressure: up to 250 bar
Sliding speed max.: 0,5 m/s
Temp. min.: -30 °C
Temp. max.: 110 °C
Media: Mineral oils, Water emulsions
Installation: in open installation spaces
Material: (3) Support ring: acetal resin / PTBR, (4) Seal: fabric-reinforced NBR
Application: Hydraulics





Spaltmaß / Clearance	
d (mm)	e (mm)
d < 110	< 0,4
d > 110	< 0,7

Ordering information: For special operating conditions (fluid, temperature, pressure ...) please contact us. Alternative material possible: FPM, EPDM.

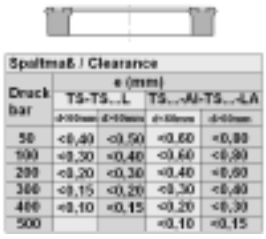
Identification	D	d	L
	mm	mm	mm
SM 255 196-M	65,00	50,00	22,50
SM 295 236-M	75,00	60,00	22,50
SM 334 275-M	85,00	70,00	22,50

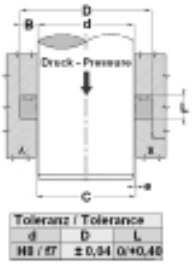
Identification	D	d	L
	mm	mm	mm
SM 374 314-M	95,00	80,00	22,50
SM 413 354-M	105,00	90,00	22,50
SM 452 393-M	115,00	100,00	30,00

Web: http://cat.hansa-flex.com/en/SMM

TS

Rod seal TS





High abrasion resistance. Extremely good sealing effect at low pressure. Fast alternation of loads.

Design: Rod U-ring
Operating pressure: up to 400 bar
Sliding speed max.: 0,5 m/s
Temp. min.: -30 °C
Temp. max.: 80 °C
Media: Mineral oils
Installation: in open grooves B, in closed grooves in open installation spaces
Material: PUR
Application: Hydraulics

Ordering information: We are able to produce seals with diameters of 20 to 510 mm with short lead times.

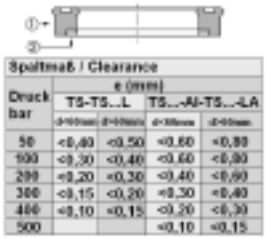
Identification	d	D	L
	mm	mm	mm
TS 12 18	12	18,0	5,0
TS 16 22	16	22,0	4,5
TS 16 24-1	16	24,0	7,0
TS 18 25	18	25,0	5,7
TS 20 25	20	25,0	3,5
TS 20 25-1	20	25,0	4,5
TS 20 26	20	26,0	6,0
TS 20 27	20	27,0	6,5
TS 20 30	20	30,0	8,0
TS 20 30-1	20	30,0	9,0
TS 20 30-2	20	30,0	11,0
TS 21 27	24	27,0	5,0
TS 22 28	22	28,0	5,0
TS 22 30	22	30,0	8,0
TS 22 32-1	22	32,0	9,0
TS 24 30	24	30,0	5,0
TS 25 32	25	32,0	5,0
TS 25 35	25	35,0	6,0
TS 25 35-2	25	35,0	10,0
TS 25 35-5	25	35,0	11,0
TS 25 36	25	36,0	6,0
TS 30 38	30	38,0	9,0
TS 30 40-1	30	40,0	8,0
TS 32 40	32	40,0	9,0
TS 32 42-1	32	42,0	9,0
TS 32 42-2	32	42,0	11,0
TS 35 43-1	35	43,0	9,0
TS 35 45	35	45,0	8,0
TS 36 44	36	44,0	9,0

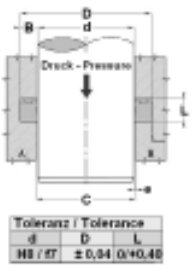
Identification	d	D	L
	mm	mm	mm
TS 38 45	38	45,0	7,0
TS 40 50	40	50,0	7,0
TS 42 53	42	53,0	10,0
TS 45 53-1	45	53,0	7,0
TS 45 53	45	53,0	9,0
TS 46 54	46	54,0	9,0
TS 50 62	50	62,0	11,0
TS 56 66-1	56	66,0	7,5
TS 56 66	56	66,0	11,0
TS 60 70-3	60	70,0	13,0
TS 61 69	61	69,0	9,0
TS 63 71	63	70,0	9,0
TS 66 80	66	80,0	11,0
TS 68 76	68	76,0	9,0
TS 70 80	70	80,0	8,0
TS 70 80-2	70	80,0	13,0
TS 72 78	72	78,0	7,0
TS 76 84	76	84,0	9,0
TS 85 97	85	97,0	9,5
TS 88 96	88	96,0	9,0
TS 90 96	90	96,0	5,5
TS 90 100	90	100,0	7,5
TS 91 99	91	99,0	9,0
TS 107 115	107	115,0	9,0
TS 126 134	126	134,0	9,0
TS 145 153	145	153,0	9,0
TS 147 155	147	155,0	11,0
TS 175 183	175	183,5	9,0
TS 221 229	221	229,5	13,0

Web: http://cat.hansa-flex.com/en/TS

TS AI

Rod seal TS-AI





High abrasion resistance. Extremely good sealing effect at low pressure. Fast alternation of loads.

Design: Rod U-ring
Operating pressure: up to 500 bar
Sliding speed max.: 0,5 m/s
Temp. min.: -30 °C
Temp. max.: 80 °C
Media: Mineral oils
Installation: in closed grooves A, in open grooves B
Material: (1) Seal: PUR, (2) Support ring: acetal resin / PTBR
Application: Hydraulics

Ordering information: We are able to produce seals with diameters of 20 to 510 mm with short lead times.

Identification	d	D	L
	mm	mm	mm
TS 25 36-AI	25	36	6,0
TS 70 80-2-AI	70	80	13,0

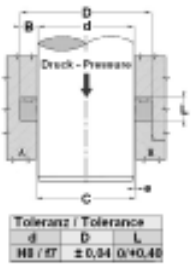
Web: http://cat.hansa-flex.com/en/TSAI

TS L

Rod seal TS-L

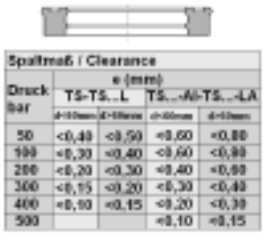
High abrasion resistance. Extremely good sealing effect at low pressure. Fast alternation of loads.

Design: Rod U-ring
Operating pressure: up to 400 bar
Sliding speed max.: 0,5 m/s
Temp. min.: -30 °C
Temp. max.: 80 °C
Media: Mineral oils
Installation: in open grooves B, in closed grooves in open installation spaces
Material: PUR
Application: Hydraulics



Toleranz / Tolerance

d	D	L
H8 / f7	± 0,04	0/+0,48



Spaltmaß / Clearance

Druck bar	e (mm) TS-TS..L	TS..-AI-TS..-LA
50	<0,40	<0,60	<0,80
100	<0,30	<0,40	<0,60
200	<0,20	<0,30	<0,40	<0,60
300	<0,15	<0,20	<0,30	<0,40
400	<0,10	<0,15	<0,20	<0,30
500			<0,10	<0,15

Ordering information: We are able to produce seals with diameters of 20 to 510 mm with short lead times.

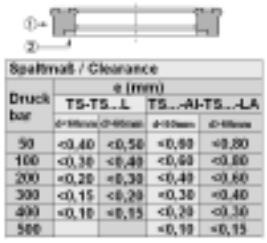
Identification	d	D	L
	mm	mm	mm
TS 06 14-L	6,0	14,0	6,3
TS 08 16-L	8,0	16,0	6,3
TS 10 16-L	10,0	16,0	5,4
TS 10 18-L	10,0	18,0	6,3
TS 12 19-L	12,0	19,0	6,3
TS 12 20-L	12,0	20,0	6,3
TS 12 23-L	12,0	23,0	7,5
TS 14 20-L	14,0	20,0	5,3
TS 14 22-L	14,0	22,0	6,3
TS 16 24-L	16,0	24,0	6,3
TS 18 24-L	18,0	24,0	5,2
TS 18 25-L	18,0	25,0	5,7
TS 18 26-L	18,0	26,0	6,3
TS 18 26-L1	18,0	26,0	9,0
TS 18 28-L	18,0	28,0	6,3
TS 18 28-L1	18,0	28,0	8,0
TS 20 26-L	20,0	26,0	6,0
TS 20 28-L	20,0	28,0	6,3
TS 20 28-L1	20,0	28,0	8,0
TS 20 30-L3	20,0	30,0	5,0
TS 20 30-L	20,0	30,0	8,0
TS 22 30-L1	22,0	30,0	6,3
TS 22 32-L	22,0	32,0	8,0
TS 22 32-L1	22,0	32,0	9,0
TS 24 34-L	24,0	34,0	6,5
TS 25 33-L	25,0	33,0	6,3
TS 25 33-L2	25,0	33,0	7,5
TS 25 33-L3	25,0	33,0	8,0
TS 25 33-L1	25,0	33,0	9,0
TS 25 35-L3	25,0	35,0	6,3
TS 25 35-L1	25,0	35,0	8,0
TS 25 35-L4	25,0	35,0	9,0
TS 28 34-L	28,0	34,2	6,0
TS 28 36-L1	28,0	28,0	6,3
TS 28 36-L	28,0	36,0	9,0
TS 28 38-L	28,0	38,0	6,3
TS 28 38-L1	28,0	38,0	8,0
TS 30 38-L1	30,0	38,0	6,3
TS 30 38-L2	30,0	38,0	8,0
TS 30 40-L	30,0	40,0	7,5
TS 30 40-L2	30,0	40,0	11,0
TS 32 40-L1	32,0	40,0	6,3
TS 32 40-L	32,0	40,0	9,0
TS 32 42-L	32,0	42,0	8,0
TS 32 42-L2	32,0	42,0	11,0
TS 35 43-L2	35,0	43,0	6,3
TS 35 43-L	35,0	43,0	7,0
TS 35 43-L1	35,0	43,0	9,0
TS 35 45-L	35,0	45,0	8,0
TS 35 45-L1	35,0	45,0	11,0
TS 35 50-L	35,0	50,0	11,0
TS 36 44-L1	36,0	44,0	6,3
TS 36 46-L	36,0	46,0	8,0
TS 40 48-L1	40,0	48,0	6,3
TS 40 48-L2	40,0	48,0	7,0
TS 40 48-L	40,0	48,0	9,0
TS 40 50-L2	40,0	50,0	8,0
TS 40 55-L1	40,0	55,0	11,0
TS 40 60-L	40,0	60,0	11,0
TS 42 52-L	42,0	52,0	9,0
TS 45 53-L3	45,0	53,0	6,3
TS 45 53-L	45,0	53,0	9,0
TS 45 55-L2	45,0	55,0	6,3
TS 45 55-L	45,0	55,0	8,0
TS 45 55-L1	45,0	55,0	11,0
TS 45 57-L	45,0	57,0	10,5
TS 49 65-L	49,5	65,3	11,0
TS 50 58-L	50,0	58,0	9,0
TS 50 60-L	50,0	60,0	8,0

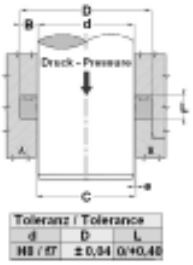
Identification	d	D	L
	mm	mm	mm
TS 50 60-L2	50,0	60,0	10,0
TS 50 60-L1	50,0	60,0	11,0
TS 50 62-L1	50,0	62,0	9,0
TS 50 65-L	50,0	65,0	11,0
TS 50 65-L1	50,0	65,0	12,5
TS 55 63-L	55,0	63,0	9,0
TS 55 65-L	55,0	65,0	8,0
TS 55 65-L1	55,0	65,0	11,0
TS 55 65-L2	55,0	65,0	13,0
TS 56 66-L1	56,0	66,0	7,5
TS 56 71-L	56,0	71,0	12,5
TS 60 68-L	60,0	68,0	9,0
TS 60 70-L	60,0	70,0	8,0
TS 60 70-L1	60,0	70,0	11,0
TS 60 70-L2	60,0	70,0	12,5
TS 60 70-L3	60,0	70,0	13,0
TS 60 71-L	60,0	71,0	9,0
TS 60 72-L	60,0	72,0	10,0
TS 60 75-L1	60,0	75,0	11,0
TS 61 69-L1	61,0	69,7	9,0
TS 63 73-L	63,0	73,0	11,0
TS 63 75-L2	63,0	75,0	9,5
TS 63 75-L1	63,0	75,0	11,0
TS 65 73-L	65,0	73,0	9,0
TS 65 75-L	65,0	75,0	13,0
TS 70 78-L	70,0	78,0	9,0
TS 70 80-L	70,0	80,0	8,0
TS 70 80-L1	70,0	80,0	11,0
TS 70 80-L2	70,0	80,0	13,0
TS 70 82-L	70,0	82,0	10,0
TS 70 85-L	70,0	85,0	12,5
TS 75 83-L1	75,0	83,0	9,0
TS 75 85-L	75,0	85,0	8,0
TS 75 85-L1	75,0	85,0	13,0
TS 78 86-L1	78,0	86,0	9,0
TS 79 87-L	79,0	87,7	9,0
TS 80 88-L2	80,0	88,0	9,0
TS 80 88-L1	80,0	88,0	12,5
TS 80 90-L	80,0	90,0	8,0
TS 80 90-L1	80,0	90,0	13,0
TS 80 92-L	80,0	92,0	9,6
TS 80 95-L	80,0	95,0	12,5
TS 80 96-L	80,0	96,0	10,5
TS 85 93-L	85,0	93,0	9,0
TS 85 95-L	85,0	95,0	8,0
TS 85 95-L1	85,0	95,0	13,0
TS 88 101-L	88,9	101,6	10,5
TS 90 102-L	90,0	102,0	10,0
TS 90 105-L	90,0	105,0	12,5
TS 95 103-L	95,0	103,0	9,0
TS 98 106-L	98,0	106,7	9,0
TS 100 108-L	100,0	108,0	12,5
TS 100 115-L	100,0	115,0	13,0
TS 105 113-L	105,0	113,0	9,0
TS 108 116-L	108,0	116,0	9,0
TS 110 125-L	110,0	125,0	12,0
TS 115 123-L	115,0	123,0	9,0
TS 116 124-L	116,0	124,7	9,0
TS 120 128-L1	120,0	128,0	12,5
TS 125 133-L1	125,0	133,0	7,5
TS 130 145-L	130,0	145,0	16,0
TS 135 143-L1	135,0	143,0	9,0
TS 135 143-L	135,0	143,7	9,0
TS 135 150-L	135,0	150,0	12,5
TS 140 150-L	140,0	150,0	12,5
TS 154 162-L	154,0	162,7	9,0
TS 170 180-L	170,0	180,0	11,0
TS 190 210-L	190,0	210,0	14,5

Web: http://cat.hansa-flex.com/en/TSL

TS LA

Rod seal TS-LA





High abrasion resistance. Extremely good sealing effect at low pressure. Fast alternation of loads.

Design: Rod U-ring
Operating pressure: up to 500 bar
Sliding speed max.: 0,5 m/s
Temp. min.: -30 °C
Temp. max.: 80 °C
Media: Mineral oils
Installation: in closed grooves A, in open grooves B
Material: (1) Seal: PUR, (2) Support ring: acetal resin / PTBR
Application: Hydraulics

Ordering information: We are able to produce seals with diameters of 20 to 510 mm with short lead times.

Identification	d	D	L
	mm	mm	mm
TS 40 48-LA	40	48	9,0
TS 40 50-LA1	40	50	11,0
TS 40 52-LA	40	52	11,0
TS 40 55-LA	40	55	8,5
TS 40 55-LA1	40	55	11,0
TS 45 55-LA1	45	55	11,0
TS 45 60-LA	45	60	11,0
TS 50 60-LA1	50	60	11,0
TS 50 65-LA	50	65	11,0
TS 55 65-LA1	55	65	11,0
TS 56 71-LA	56	71	12,5
TS 60 70-LA4	60	70	13,5
TS 60 75-LA	60	75	13,0
TS 60 80-LA	60	80	13,0
TS 63 75-LA	63	75	13,0
TS 63 78-LA1	63	78	12,5
TS 63 78-LA	63	78	13,5
TS 63 83-LA	63	83	13,0
TS 65 75-LA	65	75	13,0
TS 65 80-LA	65	80	12,5

Identification	d	D	L
	mm	mm	mm
TS 70 85-LA1	70	85	13,0
TS 75 90-LA	75	90	13,0
TS 75 95-LA	75	95	14,5
TS 80 88-LA	80	88	10,0
TS 80 95-LA	80	95	12,5
TS 80 96-LA	80	96	10,5
TS 80 100-LA	80	100	12,5
TS80 100-LA1	80	100	14,5
TS 90 105-LA2	90	105	9,5
TS 90 105-LA1	90	105	13,0
TS 90 110-LA	90	110	13,0
TS 95 115-LA	95	115	14,5
TS 100 110-LA	100	110	13,5
TS 100 113-LA	100	113	13,5
TS 100 120-LA	100	120	14,5
TS 110 120-LA	110	120	14,5
TS 110 125-LA1	110	125	13,0
TS 120 140-LA	120	140	12,5
TS 140 165-LA	140	165	19,0

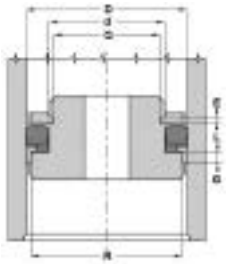
Web: http://cat.hansa-flex.com/en/TSLA

B NEO

Piston seal B-NEO

Low spatial requirement. High resistance to extrusion.

Design: piston seal
Operating pressure: up to 500 bar
Sliding speed max.: 0,5 m/s
Temp. min.: -30 °C
Temp. max.: 110 °C
Media: Mineral oils, Water emulsions
Installation: on one-piece pistons
Material: (2) Seal: fabric-reinforced NBR, (3) Back ring: acetal resin
Application: Hydraulics



Ordering information: For special operating conditions (fluid, temperature, pressure ...) please contact us. Alternative material possible: FPM.

Identification	D	d	L
	mm	mm	mm
B 157 102-NEO	40,00	26,0	9,4
B 216 157-1-NEO	55,00	40,0	11,0
B 314 236-NEO	80,00	60,0	14,5

Identification	D	d	L
	mm	mm	mm
B 354 275-NEO	90,00	70,0	14,5
B 393 314-NEO	100,00	80,0	14,5

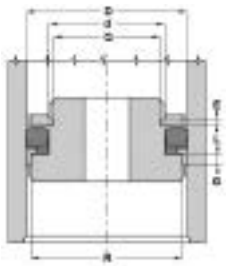
Web: http://cat.hansa-flex.com/en/BNEO

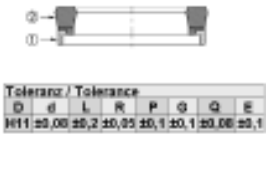
B NWO

Piston seal B-NWO

Low spatial requirement. High resistance to extrusion.

Design: piston seal
Operating pressure: up to 500 bar
Sliding speed max.: 0,5 m/s
Temp. min.: -30 °C
Temp. max.: 110 °C
Media: Mineral oils, Water emulsions
Installation: on one-piece pistons
Material: (1) Guide ring: acetal resin, (2) Seal: fabric-reinforced NBR
Application: Hydraulics





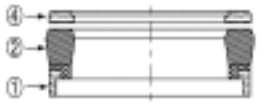
Ordering information: For special operating conditions (fluid, temperature, pressure ...) please contact us. Alternative material possible: FPM.

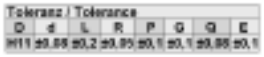
Identification	D	d	L	G	R
	mm	mm	mm	mm	mm
B 354 275-NWO	90,0	70,00	14,5	6,35	84,15
B 393 314-NWO	100,0	80,00	14,5	6,35	94,15
B 411 334-NWO	104,5	85,00	13,0	6,35	98,90
B 472 393-NWO	120,0	100,00	14,5	6,35	114,10

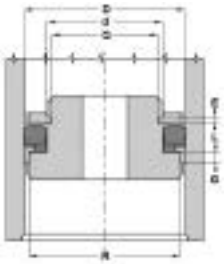
Web: http://cat.hansa-flex.com/en/BNWO

B NWO-KR

Piston seal B-NWO-KR







Low spatial requirement. High resistance to extrusion.

Design: piston seal
Operating pressure: up to 500 bar
Sliding speed max.: 0,5 m/s
Temp. min.: -30 °C
Temp. max.: 110 °C
Media: Mineral oils, Water emulsions
Installation: on one-piece pistons
Material: (1) Guide ring: acetal resin, (2) Seal: fabric-reinforced NBR, (4) Seeger ring: acetal resin
Application: Hydraulics

Ordering information: For special operating conditions (fluid, temperature, pressure ...) please contact us. Alternative material possible: FPM.

Identification	D	d	L	G	E	R	Q
	mm	mm	mm	mm	mm	mm	mm
B 177 118-NWO-KR	45,0	30	9,5	6,35	3,10	40,40	25,80
B 196 118-NWO-KR	50,0	30	14,5	6,35	3,35	44,30	25,80
B 216 157-1-NWO-K	55,0	40	11,0	6,35	3,10	50,40	35,80
B 236 157-NWO-KR	60,0	40	14,5	6,35	3,35	54,16	36,10
B 248 177-NWO-KR	63,0	45	11,0	6,35	3,10	58,40	40,84
B 275 196-NWO-KR	70,0	50	14,5	6,35	3,35	64,20	45,84
B 314 236-NWO-KR	80,0	60	14,5	6,35	3,35	74,30	55,80
B 354 275-NWO-KR	90,0	70	14,5	6,35	3,35	84,15	66,10
B 393 314-NWO-KR	100,0	80	14,5	6,35	3,35	94,15	75,84
B 411 334-NWO-KR	104,5	85	13,0	6,35	3,35	98,90	81,10
B 433 354-1-NWO-K	110,0	90	13,0	6,35	3,10	104,15	85,90
B 452 374-NWO-KR	115,0	95	14,5	6,35	3,35	109,90	90,50
B 492 413-NWO-KR	125,0	105	12,5	6,35	3,35	119,15	101,00
B 629 551-1-NWO-K	160,0	140	14,0	6,35	3,20	154,30	136,00

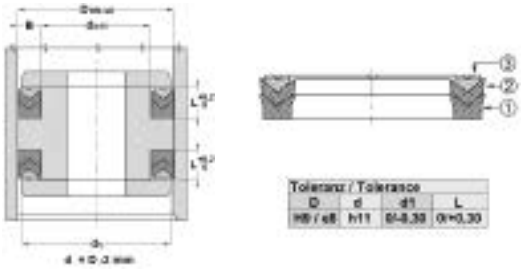
Web: http://cat.hansa-flex.com/en/BNWOKR

CH3

Chevron piston ring CH3

High temperature resistance. for difficult working conditions such as hydraulic shocks, Strong vibrations or poor surfaces.

Design: Chevron piston ring
Operating pressure: up to 400 bar
Sliding speed max.: 0,5 m/s
Temp. min.: -30 °C
Temp. max.: 110 °C
Media: Mineral oils, Water emulsions
Installation: on multi-part pistons
Material: (1) Thrust ring: laminated fabric-reinforced NBR, (2) Chevron ring: fabric-reinforced NBR, (3) Support ring: acetal resin / PTBR
Application: Hydraulics



Ordering information: For special operating conditions (fluid, temperature, pressure ...) please contact us. Alternative material possible: FPM.

Identification	D	d	L
	mm	mm	mm
CH3-030	30	20	9,3
CH3-032	32	20	10,9
CH3-040	40	25	11,5
CH3-045	45	30	11,5
CH3-050	50	35	11,5
CH3-055	55	40	11,5
CH3-060	60	45	11,5
CH3-063	63	48	13,0
CH3-065	65	50	13,0
CH3-070	70	50	15,2
CH3-080	80	60	15,2
CH3-090	90	70	21,2

Identification	D	d	L
	mm	mm	mm
CH3-100	100	80	21,2
CH3-110	110	90	21,2
CH3-115	115	95	21,2
CH3-125	125	100	25,8
CH3-140	140	115	25,8
CH3-150	150	120	29,0
CH3-160	160	130	29,0
CH3-180	180	150	31,5
CH3-200	200	170	33,5
CH3-225	225	195	33,5
CH3-250	250	220	33,5
CH3-300	300	270	33,5

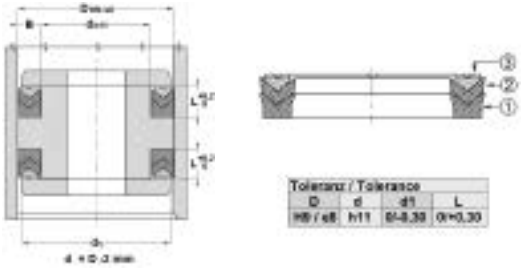
Web: http://cat.hansa-flex.com/en/CH3

CH3 FPM-C

Chevron piston ring CH3

High temperature resistance. for difficult working conditions such as hydraulic shocks, Strong vibrations or poor surfaces.

Design: Chevron piston ring
Operating pressure: up to 400 bar
Sliding speed max.: 0,5 m/s
Temp. min.: -30 °C
Temp. max.: 150 °C
Media: Mineral oils, Water emulsions
Installation: on multi-part pistons



Ordering information: For special operating conditions (fluid, temperature, pressure ...) please contact us.

Identification	D	d	L
	mm	mm	mm
CH3-100 FPM-C	100	80	21,2
CH3-140 FPM-C	140	115	25,8

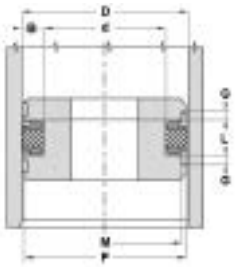
Web: http://cat.hansa-flex.com/en/CH3FPMC

D11W

Piston packing set for split pistons D11W

Tolerance / Tolerance

D	d	L	G	M	P
H11	+0,10 0	+0,25 0	+0,10 0	±0,05	±0,10



Extremely good sealing effect at low pressure. Low spatial requirement. Simple solution.

Operating pressure: up to 500 bar
Sliding speed max.: 0,5 m/s
Temp. min.: -30 °C
Temp. max.: 110 °C
Media: Mineral oils, Water emulsions
Installation: on multi-part pistons
Material: (1) Seal: NBR with fabric reinforcement on both sides, (2) Guide ring: acetal resin, (3) Support ring: acetal resin / PTBR
Application: Hydraulics

Ordering information: For special operating conditions (fluid, temperature, pressure ...) please contact us. Alternative material possible: FPM.

Identification	D	d	L	G	M	P
	mm	mm	mm	mm	mm	mm
D11W 980 47	25,00	12,00	12,40	6,35	21,45	23,73
D11W 150 100	38,10	25,40	16,27	6,35	34,54	37,05
D11W 200 137	50,80	34,92	19,45	6,35	46,22	49,50
D11W 248 185	63,00	47,00	19,40	6,35	58,40	61,65
D11W 250 187	63,50	47,62	19,45	6,35	58,90	62,13
D11W 295 220	75,00	56,00	24,40	6,35	69,20	73,30
D11W 300 225	76,20	57,15	24,21	6,35	70,40	74,55
D11W 325 250	82,55	63,50	24,21	6,35	76,73	80,90
D11W 354 275-1	90,00	70,00	25,40	6,35	84,15	88,30
D11W 400 325	101,60	82,55	24,21	6,35	95,76	99,90
D11W 413 314	105,00	80,00	22,40	6,35	98,10	103,00
D11W 425 350	107,95	88,90	24,21	6,35	102,08	106,23
D11W 433 334	110,00	85,00	25,40	6,35	103,10	108,00
D11W 433 354	110,00	90,00	25,40	6,35	104,15	108,30
D11W 452 354	115,00	90,00	22,40	6,35	108,10	113,00
D11W 492 393	125,00	100,00	25,40	6,35	118,10	123,00
D11W 492 413	125,00	105,00	25,40	6,35	119,15	123,30
D11W 500 400	127,00	101,60	32,15	6,35	120,09	124,98
D11W 550 450	139,70	114,30	32,15	6,35	132,77	137,65
D11W 551 472	140,00	120,00	25,40	6,35	134,10	138,30
D11W 590 472	150,00	120,00	38,40	6,35	143,00	148,00
D11W 629 511	160,00	130,00	25,40	6,35	153,00	157,90
D11W 650 550	165,10	139,70	32,15	6,35	158,12	163,01
D11W 708 590	180,00	150,00	35,40	6,35	172,95	177,87
D11W 748 629	190,00	160,00	35,40	6,35	182,93	187,87
D11W 787 669	200,00	170,00	35,40	6,35	192,96	197,84

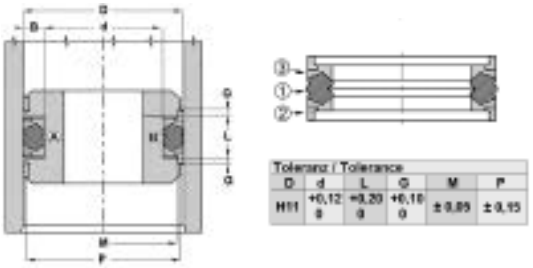
Web: http://cat.hansa-flex.com/en/D11W

DAS

Piston packing set for one-piece pistons DAS

Extremely good sealing effect at low pressure. Easy assembly. Simple solution.

Design: Piston packing set
Operating pressure: up to 300 bar
Sliding speed max.: 0,5 m/s
Temp. min.: -30 °C
Temp. max.: 110 °C
Media: Mineral oils, Water emulsions
Installation: on one-piece pistons A, on multi-part pistons B
Material: (1) Seal: NBR, (2) Guide ring: acetal resin, (3) Support ring: Polyester
Application: Hydraulics



Ordering information: Alternative material possible: FPM.

Identification	D	d	L	G	M	P
	mm	mm	mm	mm	mm	mm
DAS 30 17	30	17	15,4	6,35	26,50	28,50
DAS 40 24	40	24	18,4	6,35	35,40	38,50
DAS 40 30	40	30	16,4	6,35	35,40	38,50
DAS 50 34	50	34	18,4	6,35	45,41	48,66
DAS 60 44	60	44	18,4	6,35	55,39	58,65
DAS 63 47	63	47	18,4	6,35	58,39	61,63
DAS 70 50	70	50	22,4	6,35	64,18	68,34
DAS 80 60	80	60	22,4	6,35	74,16	78,34
DAS 90 70	90	70	22,4	6,35	84,15	88,31
DAS 100 75	100	75	22,4	6,35	93,14	98,05
DAS 110 85	110	85	22,4	6,35	103,10	108,00
DAS 125 100	125	100	25,4	6,35	118,08	122,96
DAS 130 105	130	105	25,4	9,50	122,60	127,50
DAS 140 115	140	115	25,4	9,50	132,60	137,50
DAS 150 125	150	125	25,4	9,50	142,60	147,50
DAS 160 135	160	135	25,4	9,50	152,60	157,50
DAS 180 155	180	155	25,4	12,70	171,72	177,10
DAS 200 175	200	175	25,4	12,70	191,62	197,00
DAS 220 195	220	195	25,4	12,70	211,62	217,00

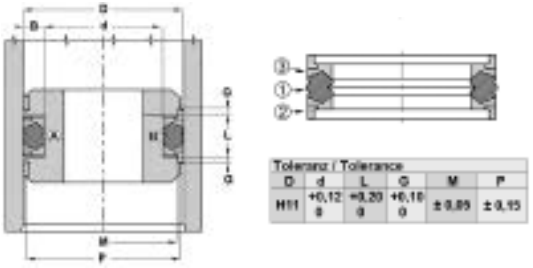
Web: http://cat.hansa-flex.com/en/DAS

DBM

Piston packing set for one-piece pistons DBM

Extremely good sealing effect at low pressure. Easy assembly. Simple solution.

Design: Piston packing set
Operating pressure: up to 300 bar
Sliding speed max.: 0,5 m/s
Temp. min.: -30 °C
Temp. max.: 110 °C
Media: Mineral oils, Water emulsions
Installation: on one-piece pistons A, on multi-part pistons B
Material: (1) Seal: NBR, (2) Guide ring: acetal resin, (3) Support ring: Polyester
Application: Hydraulics



Ordering information: Alternative material possible: FPM.

Identification	D	d	L	G	M	P	Standard grooves
	mm	mm	mm	mm	mm	mm	
DBM 078 043-M	20,00	11,00	13,50	2,10	17,00	19,00	
DBM 086 051-M	22,00	13,00	13,50	2,10	19,00	21,00	
DBM 098 059-1	25,00	15,00	12,50	4,00	21,00	23,00	
DBM 098 059-2	25,00	15,00	12,50	4,00	22,00	24,00	ISO 5597
DBM 098 059	25,00	15,00	16,40	6,35	21,45	23,50	
DBM 098 063-M	25,00	16,00	13,50	2,10	22,00	24,00	
DBM 098 066-SI	25,00	17,00	13,50	3,20	21,00	24,40	
DBM 110 074-M	28,00	19,00	13,50	2,10	25,00	27,00	
DBM 118 083-M	30,00	21,00	13,50	2,10	27,00	29,00	
DBM 125 086-ISO	32,00	22,00	12,50	4,00	29,00	31,00	ISO 5597
DBM 125 086-M	32,00	22,00	15,50	2,60	28,00	31,00	
DBM 125 086	32,00	22,00	16,40	6,35	28,50	30,50	
DBM 125 094-ISO	32,00	24,00	10,00	4,00	29,00	31,00	ISO 5597
DBM 125 094-SI	32,00	24,00	15,50	3,20	28,00	31,40	
DBM 137 098-M	35,00	25,00	15,50	2,60	31,00	34,00	
DBM 137 098	35,00	25,00	16,40	6,35	31,40	33,50	
DBM 137 106-SI	35,00	27,00	15,50	3,20	31,00	34,40	
DBM 157 102-M	40,00	26,00	15,50	2,60	36,00	39,00	
DBM 157 118-1	40,00	30,00	12,50	4,00	36,00	38,00	
DBM 157 118-2	40,00	30,00	12,50	4,00	37,00	39,00	ISO 5597

DBM (Continued)

Piston packing set for one-piece pistons DBM

Identification	D	d	L	G	M	P	Standard grooves
	mm	mm	mm	mm	mm	mm	
DBM 157 125-ISO	40,00	32,00	10,00	4,00	37,00	39,00	ISO 5597
DBM 157 125-SI	40,00	32,00	15,50	3,20	36,00	39,40	
DBM 165 110-M	42,00	28,00	15,50	2,60	38,00	41,00	
DBM 175 112	44,45	28,57	19,05	6,35	39,87	43,12	
DBM 177 114	45,00	29,00	18,40	6,35	40,40	43,50	
DBM 177 122-M	45,00	31,00	15,50	2,60	41,00	44,00	
DBM 177 137	45,00	35,00	16,40	6,35	40,40	43,50	
DBM 196 133-M	50,00	34,00	20,50	3,10	46,00	49,00	
DBM 196 137-ISO	50,00	35,00	20,00	5,00	46,00	48,50	ISO 5597
DBM 196 149-SI	50,00	38,00	20,50	4,20	46,00	49,40	
DBM 196 157-ISO	50,00	40,00	12,50	4,00	47,00	49,00	ISO 5597
DBM 200 137	50,80	34,92	19,05	6,35	46,23	49,48	
DBM 200 162	50,80	41,27	11,10	3,81	46,27	49,19	
DBM 212 150	53,97	38,10	19,05	6,35	49,40	52,70	
DBM 216 153	55,00	39,00	18,40	6,35	50,37	53,65	
DBM 216 153-M	55,00	39,00	20,50	3,10	51,00	54,00	
DBM 216 177-ISO	55,00	45,00	12,50	4,00	52,00	54,00	ISO 5597
DBM 220 157-M	56,00	40,00	20,50	3,10	52,00	55,00	
DBM 236 173-M	60,00	44,00	20,50	3,10	56,00	59,00	
DBM 236 188-SI	60,00	48,00	20,50	4,20	56,00	59,40	
DBM 237 175	60,32	44,45	19,05	6,35	55,73	59,98	
DBM 248 185-2	63,00	47,00	19,40	6,35	58,40	61,50	
DBM 248 185-M	63,00	47,00	20,50	3,10	59,00	62,00	
DBM 248 188ISO	63,00	48,00	20,00	5,00	59,00	61,50	ISO 5597
DBM 248 188-ISO	63,00	48,00	20,00	5,00	59,00	61,50	ISO 5597
DBM 248 201-SI	63,00	51,00	20,50	4,20	59,00	62,40	
DBM 248 208-ISO	63,00	53,00	12,50	4,00	60,00	62,00	ISO 5597
DBM 250 187	63,50	47,62	19,05	6,35	58,90	62,12	
DBM 250 212	63,50	53,97	11,10	3,80	59,00	62,12	
DBM 255 192-M	65,00	49,00	20,50	4,10	61,00	64,00	
DBM 255 196	65,00	50,00	18,40	6,35	60,41	63,64	
DBM 262 200	66,67	50,80	19,05	6,35	62,10	65,27	
DBM 275 212-M	70,00	54,00	20,50	3,10	66,00	69,00	
DBM 275 216-ISO	70,00	55,00	20,00	5,00	66,00	68,50	ISO 5597
DBM 275 228-SI	70,00	58,00	20,50	4,20	66,00	69,40	
DBM 295 216	75,00	55,00	22,40	6,35	69,18	73,32	
DBM 295 232-M	75,00	59,00	20,50	3,10	71,00	74,00	
DBM 300 225	76,20	57,15	23,80	6,35	70,40	74,50	
DBM 314 236-ISO	80,00	60,00	25,00	6,30	75,00	78,00	ISO 5597
DBM 314 244-M	80,00	62,00	22,50	3,60	76,00	79,00	
DBM 314 255-ISO	80,00	65,00	20,00	5,00	76,00	78,50	ISO 5597
DBM 314 259-SI	80,00	66,00	22,50	5,20	76,00	79,40	
DBM 334 255	85,00	65,00	22,40	6,35	79,16	83,34	
DBM 350 275	88,90	69,85	23,80	6,35	83,08	87,22	
DBM 354 283-M	90,00	72,00	22,50	3,60	86,00	89,00	
DBM 354 295-ISO	90,00	75,00	20,00	5,00	86,00	88,50	ISO 5597
DBM 354 299-SI	90,00	76,00	22,50	5,20	86,00	89,40	
DBM 374 295	95,00	75,00	22,40	6,35	89,15	93,31	
DBM 393 314-ISO	100,00	80,00	25,00	6,30	95,00	98,00	ISO 5597
DBM 393 314	100,00	80,00	25,40	6,35	94,15	98,31	
DBM 393 332-M	100,00	82,00	22,50	3,60	96,00	99,00	
DBM 393 334-ISO	100,00	85,00	20,00	5,00	96,00	98,50	ISO 5597
DBM 393 339-SI	100,00	86,00	22,50	5,20	96,00	99,40	
DBM 400 325	101,60	82,55	24,21	6,35	95,76	99,90	
DBM 413 314	105,00	80,00	22,40	6,35	98,09	103,03	
DBM 433 334-1	110,00	85,00	25,40	6,35	103,10	108,00	
DBM 433 362-M	110,00	92,00	22,50	3,60	106,00	109,00	
DBM 433 374-ISO	110,00	95,00	20,00	5,00	105,00	108,00	ISO 5597
DBM 433 378-SI	110,00	96,00	22,50	5,20	106,00	109,40	
DBM 452 354	115,00	90,00	22,40	6,35	108,10	113,02	
DBM 452 381-M	115,00	97,00	22,50	3,60	111,00	114,00	
DBM 472 417-SI	120,00	106,00	22,50	5,20	116,00	119,40	
DBM 492 393-ISO	125,00	100,00	32,00	10,00	119,00	123,00	ISO 5597
DBM 492 405-M	125,00	103,00	26,50	5,10	121,00	124,00	
DBM 492 413-ISO	125,00	105,00	25,00	6,30	120,00	123,00	ISO 5597
DBM 492 413	125,00	105,00	25,00	6,35	119,10	123,30	
DBM 492 425-SI	125,00	108,00	26,50	7,20	121,00	124,40	
DBM 511 413-1	130,00	105,00	25,40	6,35	123,10	128,00	
DBM 523 452	133,00	115,00	22,40	9,52	125,60	130,50	
DBM 531 433	135,00	110,00	25,40	9,52	127,60	132,50	
DBM 531 433-1	135,00	110,00	25,40	6,35	128,10	133,00	
DBM 551 452-1	140,00	115,00	25,40	6,35	133,00	138,00	
DBM 551 464-M	140,00	118,00	26,50	5,10	136,00	139,00	
DBM 551 472-ISO	140,00	120,00	25,00	6,30	135,00	138,00	ISO 5597
DBM 551 484-SI	140,00	123,00	26,50	7,20	136,00	139,40	
DBM 570 472	145,00	120,00	25,40	9,52	137,60	142,50	
DBM 570 472-1	145,00	120,00	25,40	6,35	138,30	142,95	
DBM 590 492-1	150,00	125,00	25,40	6,35	143,00	148,00	
DBM 590 503-M	150,00	128,00	26,50	5,10	146,00	149,00	
DBM 590 523-SI	150,00	133,00	26,50	7,20	146,00	149,40	
DBM 600 500	152,40	127,00	31,75	9,52	145,00	149,91	
DBM 610 511	155,00	130,00	25,40	9,52	147,60	152,50	
DBM 610 511-1	155,00	130,00	25,40	6,35	148,00	153,00	
DBM 629 511	160,00	130,00	25,40	9,52	152,60	157,50	
DBM 629 511-1	160,00	130,00	25,40	6,35	153,00	157,50	
DBM 629 531-ISO	160,00	135,00	32,00	10,00	154,00	158,00	ISO 5597
DBM 629 543-M	160,00	138,00	26,50	5,10	156,00	159,00	
DBM 629 551-ISO	160,00	140,00	25,00	6,30	155,00	158,00	ISO 5597
DBM 629 563-SI	160,00	143,00	26,50	7,20	156,00	159,40	
DBM 649 551	165,00	140,00	25,40	9,52	157,60	162,50	
DBM 669 570	170,00	145,00	25,40	12,70	161,72	167,10	
DBM 669 582-M	170,00	148,00	26,50	5,10	166,00	169,00	

(Continued) DBM

Piston packing set for one-piece pistons DBM

Identification	D	d	L	G	M	P	Standard grooves
	mm	mm	mm	mm	mm	mm	
DBM 688 590	175,00	150,00	25,40	12,70	166,72	172,10	
DBM 708 590-1	180,00	150,00	35,40	6,35	172,95	177,87	
DBM 708 621-M	180,00	158,00	26,50	5,10	176,00	179,00	
DBM 728 629	185,00	160,00	25,40	12,70	176,72	182,10	
DBM 748 649	190,00	165,00	25,40	12,70	181,72	187,05	
DBM 767 669	195,00	170,00	25,40	12,70	186,72	192,05	
DBM 787 669-1	200,00	170,00	35,40	6,35	192,96	197,84	
DBM 787 669-ISO	200,00	170,00	36,00	12,50	192,00	197,00	ISO 5597
DBM 787 688-M	200,00	175,00	31,50	6,60	196,00	199,00	
DBM 787 708-SI	200,00	180,00	31,50	9,20	196,00	199,40	
DBM 826 728	210,00	185,00	25,40	12,70	201,62	207,00	
DBM 866 748	220,00	190,00	35,40	6,35	212,70	217,90	
DBM 905 807	230,00	205,00	25,40	12,70	221,62	227,00	
DBM 944 846	240,00	215,00	25,40	12,70	231,62	237,00	
DBM 984 866	250,00	220,00	35,40	6,35	242,90	247,85	
DBM 984 886	250,00	225,00	25,40	12,70	241,62	247,00	

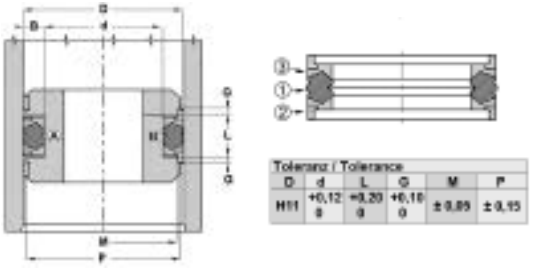
Web: http://cat.hansa-flex.com/en/DBM

DBM FPM

Piston packing set for one-piece pistons DBM-FPM

Extremely good sealing effect at low pressure. Easy assembly. Simple solution.

Design: Piston packing set
Operating pressure: up to 300 bar
Sliding speed max.: 0,5 m/s
Temp. min.: -30 °C
Temp. max.: 110 °C
Media: Mineral oils, Water emulsions
Installation: on one-piece or multi-part pistons
Material: (1) Seal: FPM, (2) Guide ring: acetal resin, (3) Support ring: Polyester
Application: Hydraulics



Ordering information: Alternative material possible

Identification	D	d	L	G	M	P
	mm	mm	mm	mm	mm	mm
DBM 157 118 FPM	40	30	16,4	6,35	35,40	38,50
DBM 196 133 FPM	50	34	18,4	6,35	45,41	44,66
DBM 236 173 FPM	60	44	18,4	6,35	55,39	58,65
DBM 248 185 FPM	63	47	18,4	6,35	58,39	61,63
DBM 275 196 FPM	70	50	22,4	6,35	64,18	68,34
DBM 314 236 FPM	80	60	22,4	6,35	74,16	78,34
DBM 393 295 FPM	100	75	22,4	6,35	93,14	98,05

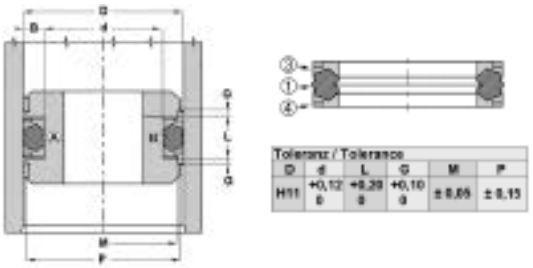
Web: http://cat.hansa-flex.com/en/DBMFPM

DBM NEO

Piston packing set for one-piece pistons DBM-NEO

Extremely good sealing effect at low pressure. Easy assembly. Simple solution.

Operating pressure: up to 300 bar
Sliding speed max.: 0,5 m/s
Temp. min.: -30 °C
Temp. max.: 110 °C
Media: Mineral oils, Water emulsions
Installation: on one-piece or multi-part pistons
Material: (1) Seal: NBR, (3) Support ring: Polyester, (4) Back ring: acetal resin
Application: Hydraulics



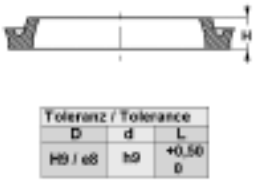
Ordering information: Alternative material possible

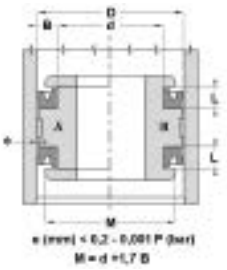
Identification	D	d	L
	mm	mm	mm
DBM 157 118-NEO	40	30	16,4
DBM 236 173-NEO	60	44	18,4
DBM 314 236-NEO	80	60	22,4

Web: http://cat.hansa-flex.com/en/DBMNEO

DDE

Piston seal, DDE





Low-friction seal. Simple solution.

Design:	Piston U-ring
Operating pressure:	up to 80 bar
Sliding speed max.:	0,5 m/s
Design:	Inches
Temp. min.:	-30 °C
Temp. max.:	100 °C
Media:	Mineral oils, Water-air
Installation:	on one-piece pistons A, on multi-part pistons B
Material:	NBR 75° Shore A
Application:	Hydraulics + pneumatics

Ordering information: We are able to produce seals with diameters of 20 to 510 mm with short lead times.

Identification	D	d	L	H
	mm	mm	mm	mm
DDE 50	13,00	6,70	6,30	4,76
DDE 62	16,00	8,10	7,00	5,55
DDE 75	19,05	12,70	5,00	3,17
DDE 100	25,40	16,50	8,00	6,35
DDE 106	27,00	17,50	8,00	6,35
DDE 112	29,00	19,05	8,00	6,35
DDE 125	32,00	19,30	8,00	6,35
DDE 137	35,00	22,30	8,00	6,35
DDE 143	37,00	26,00	8,00	6,35
DDE 150	38,00	30,00	8,00	6,35
DDE 150100	38,10	25,40	9,52	7,92
DDE 156	40,00	27,30	8,00	6,35
DDE 162	42,00	30,90	8,00	6,35
DDE 175112	44,45	28,57	11,10	9,52
DDE 175	45,00	35,50	8,50	7,00
DDE 200	51,00	41,50	9,00	7,14
DDE 212150	53,97	38,10	11,10	9,52
DDE 250	64,00	46,30	10,50	8,85
DDE 300	76,00	57,90	10,50	8,73
DDE 300225	76,20	57,15	14,30	12,70
DDE 312	80,00	67,30	8,00	6,35
DDE 387	99,00	86,30	11,00	9,52
DDE 400	102,00	89,30	11,00	9,52
DDE 437	111,00	94,70	9,50	7,93

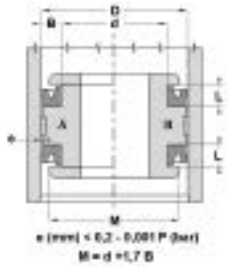
Web: http://cat.hansa-flex.com/en/DDE

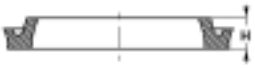
DDEM

Piston seal DDEM

Low-friction seal. Simple solution.

Design: Piston U-ring
Operating pressure: up to 80 bar
Sliding speed max.: 0,5 m/s
Design: Metric
Temp. min.: -30 °C
Temp. max.: 100 °C
Media: Mineral oils, Water-air
Installation: on one-piece pistons A, on multi-part pistons B
Material: NBR 75° Shore A
Application: Hydraulics + pneumatics





Toleranz / Tolerance		
D	d	L
H9 / e8	h9	+0,50 0

Ordering information: We are able to produce seals with diameters of 20 to 510 mm with short lead times.

Identification	D	d	L	H
	mm	mm	mm	mm
DDEM 12 06	12,0	6,00	4,5	4,00
DDEM 16 10	16,0	10,00	4,5	4,00
DDEM 20 12	20,0	12,00	6,0	5,50
DDEM 25 17	25,0	17,00	6,0	5,50
DDEM 32 24	32,0	24,00	6,0	5,50
DDEM 40 30	40,0	30,00	7,5	7,00
DDEM 50 40	50,0	40,00	7,5	7,00
DDEM 55 45	55,0	45,00	7,5	7,00
DDEM 60 50	60,0	50,00	7,5	7,00
DDEM 63 53	63,0	53,00	7,5	7,00
DDEM 65 55	65,0	55,00	7,5	7,00
DDEM 70 58	70,0	58,00	9,5	8,50
DDEM 75 63	75,0	63,00	9,5	8,50
DDEM 80 68	80,0	68,00	9,5	8,50
DDEM 85 73	85,0	73,00	9,5	8,50
DDEM 90 78	90,0	78,00	9,5	8,50
DDEM 100 088	100,0	88,00	9,5	8,50
DDEM 105 093	105,0	93,00	9,5	8,50
DDEM 110 098	110,0	98,00	9,5	8,50
DDEM 120 105	120,0	105,00	11,0	10,00
DDEM 125 110	125,0	110,00	11,0	10,00
DDEM 140 125	140,0	125,00	11,0	10,00
DDEM 150 135	150,0	135,00	11,0	10,00
DDEM 160 145	160,0	145,00	11,0	10,00
DDEM 180 160	180,0	160,00	15,0	14,00
DDEM 200 180	200,0	180,00	15,0	14,00

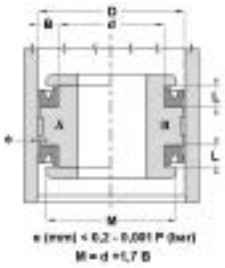
Web: http://cat.hansa-flex.com/en/DDEM

DDEM P

Piston seal, DDEM-P

Low-friction seal. Simple solution.

Design: Piston U-ring
Operating pressure: up to 16 bar
Sliding speed max.: 1,0 m/s
Design: Metric
Temp. min.: -30 °C
Temp. max.: 80 °C
Media: Air
Installation: on one-piece pistons A, on multi-part pistons B
Material: PUR 90° Shore A
Application: Hydraulics + pneumatics



Toleranz / Tolerance		
D	d	L
H9 / e8	h9	+0,50 0

Ordering information: We are able to produce seals with diameters of 20 to 510 mm with short lead times.

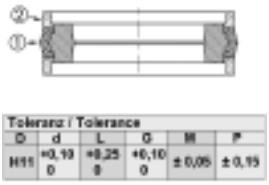
Identification	D	d	L
	mm	mm	mm
DDEM 20 14-P	20	14	4,5
DDEM 25 17-P	25	17	5,5
DDEM 32 24-P	32	24	6,0
DDEM 40 30-P	40	30	7,5
DDEM 50 40-P	50	40	7,5
DDEM 55 45-P	55	45	7,5
DDEM 60 50-P	60	50	7,5
DDEM 63 53-P	63	53	7,5
DDEM 65 55-P	65	55	7,5
DDEM 70 58-P	70	58	9,5
DDEM 75 63-P	75	63	9,5

Identification	D	d	L
	mm	mm	mm
DDEM 80 68-P	80	68	9,5
DDEM 85 73-P	85	73	9,5
DDEM 90 78-P	90	78	9,5
DDEM 000 88-P	100	88	9,5
DDEM 100 95-P	110	95	11,0
DDEM 201 05-P	120	105	11,0
DDEM 25 110-P	125	110	11,0
DDEM 60 145-P	160	145	11,0
DDEM 80 160-P	180	160	15,0
DDEM 00 180-P	200	180	15,0

Web: http://cat.hansa-flex.com/en/DDEMP

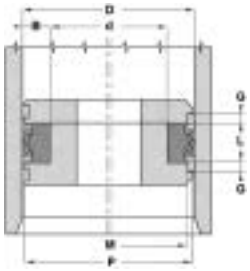
DPC

Piston packing set for split pistons DPC



Toleranz / Tolerance

D	d	L	G	M	P
H11	+0,19 0	+0,25 0	+0,10 0	± 0,05	± 0,15



Extremely good sealing effect at low pressure. Low friction. High pressure. Simple solution.

Design: Piston packing set
Operating pressure: up to 700 bar
Sliding speed max.: 0,5 m/s
Temp. min.: -30 °C
Temp. max.: 110 °C
Media: Mineral oils, Water emulsions
Installation: on multi-part pistons
Material: (1) Seal: fabric-reinforced NBR, (2) Guide ring: acetal resin, (3) Back ring: acetal resin
Application: Hydraulics

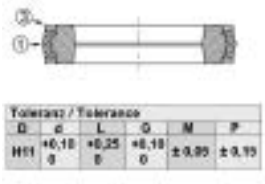
Ordering information: For special operating conditions (fluid, temperature, pressure ...) please contact us. Alternative material possible: FPM.

Identification	D	d	L	G	M	P
	mm	mm	mm	mm	mm	mm
DPC 40 24	40	24	18,4	6,35	35,40	38,70
DPC 45 29	45	29	18,4	6,35	40,40	43,70
DPC 50 34	50	34	18,4	6,35	45,40	48,70
DPC 55 39	55	39	18,4	6,35	50,40	53,70
DPC 60 44	60	44	18,4	6,35	55,40	58,70
DPC 65 50	65	50	18,4	6,35	60,40	63,70
DPC 70 50	70	50	22,4	6,35	64,20	68,30
DPC 75 55	75	55	22,4	6,35	69,20	73,30
DPC 80 60	80	60	22,4	6,35	74,20	78,30
DPC 85 65	85	65	22,4	6,35	79,20	83,30
DPC 90 70	90	70	22,4	6,35	84,15	88,30
DPC 95 75	95	75	22,4	6,35	89,15	93,30
DPC 100 75	100	75	22,4	6,35	93,15	98,05
DPC 100 80	100	80	25,4	6,35	94,15	98,30
DPC 105 85	105	85	22,4	6,35	98,10	103,00
DPC 110 85	110	85	22,4	6,35	103,10	108,00
DPC 120 100	120	100	25,4	6,35	114,10	118,30
DPC 140 115	140	115	25,4	6,35	133,00	138,00
DPC 150 125	150	125	25,4	6,35	143,00	148,00

Web: http://cat.hansa-flex.com/en/DPC

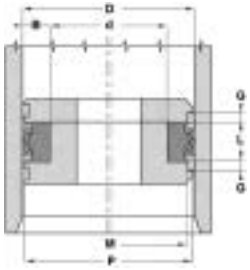
DPC NEO

Piston packing set for split pistons DPC-NEO



Toleranz / Tolerance

D	d	L	G	M	P
H11	+0,19 0	+0,25 0	+0,10 0	± 0,05	± 0,15



Extremely good sealing effect at low pressure. Low friction. High pressure. Simple solution.

Operating pressure: up to 700 bar
Sliding speed max.: 0,5 m/s
Temp. min.: -30 °C
Temp. max.: 110 °C
Media: Mineral oils, Water emulsions
Installation: on multi-part pistons
Material: (1) Seal: fabric-reinforced NBR, (3) Back ring: acetal resin
Application: Hydraulics

Identification	D	d	L	P
	mm	mm	mm	mm
DPC 85 65-NEO	85	65	22,4	83,3
DPC 90 70-NEO	90	70	22,4	88,3
DPC 100 80-NEO	100	80	25,4	98,3
DPC 120 100-NEO	120	100	25,4	118,3

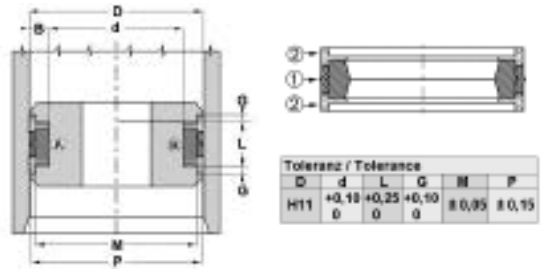
Web: http://cat.hansa-flex.com/en/DPCNEO

DPS

Piston packing set for one-piece pistons DPS

Low-friction seal. Simple solution.

Design: Piston packing set
Operating pressure: up to 300 bar
Sliding speed max.: 0,5 m/s
Temp. min.: -30 °C
Temp. max.: 110 °C
Media: Mineral oils, Water emulsions
Installation: on one-piece or multi-part pistons
Material: Seal: NBR with fabric reinforcement, Guide ring: acetal resin
Application: Hydraulics



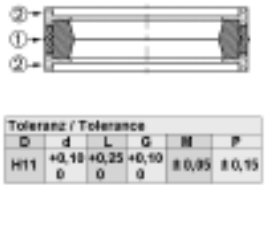
Ordering information: For special operating conditions (fluid, temperature, pressure ...) please contact us. Alternative material possible: FPM.

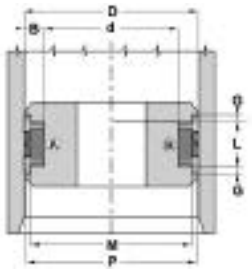
Identification	D	d	L	G	M	P	Standard grooves
	mm	mm	mm	mm	mm	mm	
DPS 25 17-1	25	17	10,0	4,00	22	24,0	ISO 5597
DPS 32 24-1	32	24	10,0	4,00	29	31,0	ISO 5597
DPS 32 24	32	24	15,5	3,20	28	31,4	
DPS 35 27	35	27	15,5	3,20	31	34,4	
DPS 40 32-1	40	32	10,0	4,00	37	39,0	ISO 5597
DPS 40 32	40	32	15,5	3,20	36	39,4	
DPS 45 37	45	37	15,5	3,20	41	44,4	
DPS 50 38	50	38	20,5	4,20	46	49,4	
DPS 50 40-1	50	40	12,5	4,00	47	49,0	ISO 5597
DPS 60 48	60	48	20,5	4,20	56	59,4	
DPS 63 51	63	51	20,5	4,20	59	62,4	
DPS 63 53-1	63	53	12,5	4,00	60	62,0	ISO 5597
DPS 65 53	65	53	20,5	4,20	61	64,4	
DPS 70 58	70	58	20,5	4,20	66	69,4	
DPS 75 63	75	63	20,5	4,20	71	74,4	
DPS 80 65-1	80	65	20,0	5,00	76	78,5	ISO 5597
DPS 80 66	80	66	22,5	5,20	76	79,4	
DPS 85 71	85	71	22,5	5,20	81	84,4	
DPS 90 76	90	76	22,5	5,20	86	89,4	
DPS 100 85-1	100	85	20,0	5,00	96	98,5	ISO 5597
DPS 100 86	100	86	22,5	5,20	96	99,4	
DPS 110 96	110	96	22,5	5,20	106	109,4	
DPS 120 106	120	106	22,5	5,20	116	119,4	
DPS 125 105-1	125	105	25,0	6,30	120	123,0	ISO 5597
DPS 125 108	125	108	26,5	7,20	121	124,4	
DPS 140 120-1	140	120	25,0	6,30	135	138,0	ISO 5597
DPS 140 123	140	123	26,5	7,20	136	139,4	
DPS 160 140-1	160	140	25,0	6,30	155	158,0	ISO 5597
DPS 160 143	160	143	26,5	7,20	156	159,4	
DPS 180 163	180	163	26,5	7,20	176	179,4	
DPS 200 170-1	200	170	36,0	12,50	192	197,0	ISO 5597
DPS 200 180	200	180	31,5	9,20	196	199,4	
DPS 220 200	220	200	31,5	9,20	216	219,4	
DPS 250 230	250	230	31,5	9,20	246	249,4	

Web: http://cat.hansa-flex.com/en/DPS

DPS FPM

Piston packing set for one-piece pistons DPS-FPM





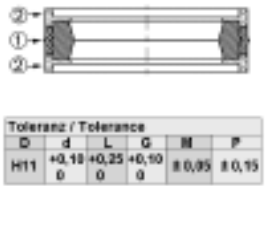
Media: Mineral oils, Water emulsions
Material: (1) Seal: FPM, (2) Guide ring: acetal resin
Application: Hydraulics

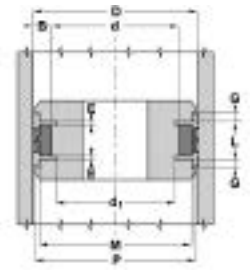
Identification	D	d	L	G	M	P
	mm	mm	mm	mm	mm	mm
DPS 32 24-1 FPM	32	24	10,0	4,00	29,0	31,0
DPS 32 24 FPM	32	24	10,0	4,00	29,0	31,0
DPS 50 38 FPM	50	38	20,5	4,20	46,0	49,4
DPS 50 40-1 FPM	50	40	12,5	4,00	47,0	49,0
DPS 60 48 FPM	60	48	20,5	4,20	56,0	59,4
DPS 63 51 FPM	63	51	20,5	4,20	59,0	62,4
DPS 80 66 FPM	80	66	22,5	5,20	76,0	79,4
DPS 100 86 FPM	100	86	22,5	5,20	96,0	99,4
DPS 125 108 FPM	125	108	26,5	7,20	121,0	124,4
DPS 140 123 FPM	140	123	26,5	7,20	136,0	139,4

Web: http://cat.hansa-flex.com/en/DPSFPM

DPS SI

Piston packing set for one-piece pistons DPS SI





Low-friction seal. Simple solution.

Design: Piston packing set
Operating pressure: up to 300 bar
Sliding speed max.: 0,5 m/s
Temp. min.: -30 °C
Temp. max.: 110 °C
Media: Mineral oils, Water emulsions
Material: (1) Seal: fabric-reinforced NBR, (2) Guide ring: acetal resin
Application: Hydraulics

Ordering information: For special operating conditions (fluid, temperature, pressure ...) please contact us. Alternative material possible: FPM.

Identification	D	d	L	G	M	P	d1	E
	mm	mm	mm	mm	mm	mm	mm	mm
DPS 30 22-SI	30	22	13,5	3,20	26	29,4	19,00	2,1
DPS 32 24-SI	32	24	15,5	3,20	28	31,4	21,00	3,1
DPS 35 27-SI	35	27	15,5	3,20	31	34,4	24,00	3,1
DPS 45 37-SI	45	37	15,5	3,20	41	44,4	34,10	3,1

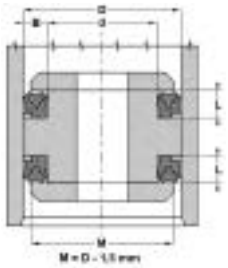
Web: http://cat.hansa-flex.com/en/DPSSI

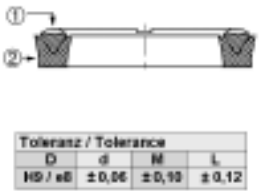
DS

Piston seal DS

Low spatial requirement. High resistance to extrusion.

Design: U-ring packing set
Operating pressure: up to 250 bar
Sliding speed max.: 0,5 m/s
Temp. min.: -40 °C
Temp. max.: 110 °C
Media: Mineral oils, Water emulsions
Installation: on multi-part pistons
Material: (1) Support ring: NBR, (2) Seal: fabric-reinforced NBR
Application: Hydraulics





Toleranz / Tolerance			
D	d	M	L
H9 / e8	±0,06	±0,10	±0,12

Ordering information: For special operating conditions (fluid, temperature, pressure ...) please contact us. Alternative material possible: FPM.

Identification	D	d	L
	mm	mm	mm
DS 940 47	24	12	7,5
DS 980 51	25	13	8,0
DS 157 098	40	25	10,0
DS 196 137	50	35	10,0
DS 216 1571	55	40	9,5
DS 216 157	55	40	12,0
DS 255 177	65	45	13,5
DS 275 196	70	50	13,5

Identification	D	d	L
	mm	mm	mm
DS 314 236	80	60	13,5
DS 354 275	90	70	13,5
DS 374 295	95	75	13,5
DS 590 492	150	125	14,0
DS 787 669	200	170	19,8
DS 886 767	225	195	19,8
DS 984 866	250	220	19,8
DS 118 11062	300	270	19,8

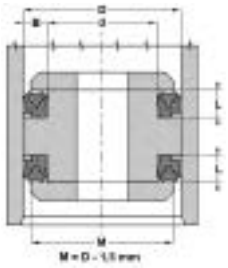
Web: http://cat.hansa-flex.com/en/DS

DS M

Piston seal DS-M

Low spatial requirement. High resistance to extrusion.

Design: U-ring packing set
Operating pressure: up to 400 bar
Sliding speed max.: 0,5 m/s
Temp. min.: -40 °C
Temp. max.: 110 °C
Media: Mineral oils, Water emulsions
Installation: on multi-part pistons
Material: (2) Seal: fabric-reinforced NBR, (4) Back ring: NBR fabric laminate
Application: Hydraulics



Toleranz / Tolerance			
D	d	M	L
H9 / e8	±0,06	±0,10	±0,12

Ordering information: For special operating conditions (fluid, temperature, pressure ...) please contact us. Alternative material possible: FPM.

Identification	D	d	L
	mm	mm	mm
DS 157 098-M	40	25	10,0
DS 196 137-M	50	35	10,0
DS 236 177-M	60	45	10,0
DS 248 188-M	63	48	10,0
DS 314 236M	80	60	13,0
DS 393 314-M	100	80	13,0
DS 433 354-M	110	90	13,0

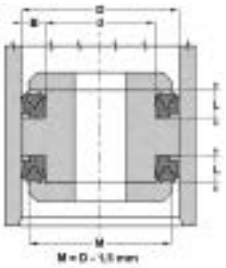
Identification	D	d	L
	mm	mm	mm
DS 452 354-M	115	90	16,0
DS 452 374-M	115	95	13,0
DS 492 393-M	125	100	16,2
DS 551 452-M	140	115	16,2
DS 590 472-M	150	120	19,8
DS 629 511-M	160	130	19,8
DS 708 590-M	180	150	19,8

Web: http://cat.hansa-flex.com/en/DSM

DS NEO

Piston seal DS-NEO

Toleranz / Tolerance			
D	d	M	L
H9 / e8	±0,06	±0,10	±0,12



Low spatial requirement. High resistance to extrusion.

Design: U-ring packing set
Operating pressure: up to 700 bar
Sliding speed max.: 0,5 m/s
Temp. min.: -40 °C
Temp. max.: 110 °C
Media: Mineral oils, Water emulsions
Installation: on multi-part pistons
Material: (1) Support ring: NBR, (2) Seal: fabric-reinforced NBR, (3) Back ring: acetal resin
Application: Hydraulics

Ordering information: For special operating conditions (fluid, temperature, pressure ...) please contact us. Alternative material possible: FPM.

Identification	D	d	L
	mm	mm	mm
DS 220 157-NEO	56	40	13,5
DS 248 188-NEO	63	48	10,0
DS 255 177-NEO	65	45	13,5
DS 275 196-NEO	70	50	13,5
DS 314 236-NEO	80	60	13,5
DS 334 255-NEO	85	65	13,5
DS 334 275-NEO	85	70	11,6
DS 354 275-NEO	90	70	13,5
DS 374 295-NEO	95	75	13,5
DS 393 3141-NEO	100	80	13,0
DS 393 314-NEO	100	80	13,5

Identification	D	d	L
	mm	mm	mm
DS 413 334-NEO	105	85	13,5
DS 433 354-NEO	110	90	13,5
DS 452 374-NEO	115	95	13,5
DS 472 393-NEO	120	100	13,5
DS 480 401-NEO	122	102	14,6
DS 492 393-NEO	125	100	16,2
DS 511 413-NEO	130	105	16,2
DS 531 433-NEO	135	110	16,2
DS 551 452-NEO	140	115	16,2
DS 590 472-NEO	150	120	18,8
DS 629 511-NEO	160	130	18,0

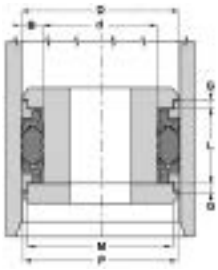
Web: http://cat.hansa-flex.com/en/DSNEO

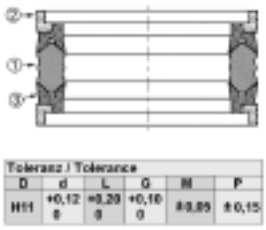
DSM

Piston packing set for split pistons DSM

Extremely good sealing effect at low pressure. for difficult working conditions such as hydraulic shocks, Strong vibrations or poor surfaces.

Design: piston seal
Operating pressure: up to 700 bar
Sliding speed max.: 0,5 m/s
Temp. min.: -30 °C
Temp. max.: 110 °C
Media: Mineral oils, Water emulsions
Installation: on multi-part pistons
Material: (1) Seal: NBR, (2) Guide ring: acetal resin, (3) Support ring: fabric-reinforced NBR
Application: Hydraulics





Ordering information: For special operating conditions (fluid, temperature, pressure ...) please contact us. Alternative material possible: FPM.

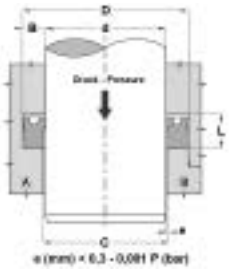
Identification	D	d	L	G	M	P
	mm	mm	mm	mm	mm	mm
DSM 216 157-1A	55,00	40,00	32,00	6,35	48,77	52,85
DSM 236 173-1A	60,00	44,00	32,00	6,35	53,80	57,80
DSM 255 192-1A	65,00	49,00	32,00	6,35	58,70	62,80
DSM 275 196-1A	70,00	50,00	35,00	9,52	62,62	67,54
DSM 295 216-1A	75,00	55,00	35,00	9,52	67,70	72,54
DSM 314 236-1A	80,00	60,00	35,00	9,52	72,62	77,52
DSM 314 251-1A	80,00	64,00	32,00	9,52	72,62	77,52
DSM 334 255-1A	85,00	65,00	35,00	9,52	77,62	82,54
DSM 354 275-1A	90,00	70,00	35,00	9,52	82,58	87,79
DSM 374 295-1A	95,00	75,00	35,00	9,52	87,60	92,50
DSM 393 314-1A	100,00	80,00	35,00	9,52	92,60	97,50
DSM 413 334-1A	105,00	85,00	35,00	9,52	97,60	102,50
DSM 433 354-1A	110,00	90,00	35,00	9,52	102,70	107,51
DSM 472 393-1A	120,00	100,00	35,00	9,52	112,80	117,51
DSM 492 393-1A	125,00	100,00	45,00	12,70	116,82	122,33
DSM 500 400-1A	127,00	101,60	44,45	12,70	118,80	124,36
DSM 511 413-1A	130,00	105,00	45,00	12,70	121,82	127,33
DSM 551 452-1A	140,00	115,00	45,00	12,70	131,72	137,30
DSM 551 472-1A	140,00	120,00	35,00	9,52	132,70	137,30
DSM 590 492-1A	150,00	125,00	45,00	12,70	141,72	147,30
DSM 629 531-1A	160,00	135,00	45,00	12,70	151,72	157,10
DSM 669 551-1A	170,00	140,00	45,00	12,70	163,00	167,87
DSM 708 610-1A	180,00	155,00	45,00	12,70	171,60	177,10
DSM 787 688-1A	200,00	175,00	45,00	12,70	191,72	197,10
DSM 826 728-1A	210,00	185,00	45,00	12,70	201,60	207,10
DSM 866 767-1A	220,00	195,00	45,00	12,70	211,60	217,10
DSM 102 4925-1A	260,00	235,00	45,00	12,70	251,72	257,10
DSM 110 21004-1A	280,00	255,00	45,00	12,70	271,72	277,10

Web: http://cat.hansa-flex.com/en/DSM

DUM

U-ring DUM

Tolerance / Tolerance		
d	D	L
H8 / f7	H9	+0,5 0



Low-friction seal. Simple solution. For rods and pistons.

Design:	U-ring
Operating pressure:	up to 120 bar
Sliding speed max.:	0,5 m/s
Design:	Metric
Temp. min.:	-30 °C
Temp. max.:	100 °C
Media:	Mineral oils, Water-air
Installation:	on one-piece pistons A, on multi-part pistons B
Material:	Seal: NBR 90° Shore A
Application:	Hydraulics + pneumatics

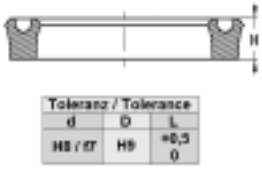
Note: Dimensions see page Rod seals ...

Ordering information: We are able to produce seals with diameters of 20 to 510 mm with short lead times.

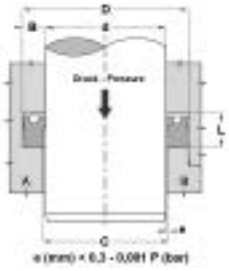
Web: http://cat.hansa-flex.com/en/DUMDITKOLBEN

DUM N

U- ring DUM-N



Tolerance / Tolerance		
d	D	L
H8 / f7	H9	+0,5 0



Low-friction seal. Simple solution. For rods and pistons.

Design:	U-ring
Operating pressure:	up to 120 bar
Sliding speed max.:	0,5 m/s
Temp. min.:	-30 °C
Temp. max.:	100 °C
Media:	Mineral oils, Water-air
Installation:	on one-piece pistons A, on multi-part pistons B
Material:	Seal: NBR 90° Shore A
Application:	Hydraulics + pneumatics

Note: Dimensions see page Rod seals ...

Ordering information: We are able to produce seals with diameters of 20 to 510 mm with short lead times.

Web: http://cat.hansa-flex.com/en/DUMNDITKOLBEN

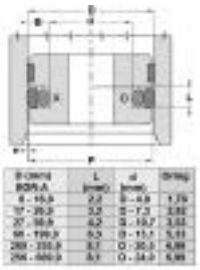
Product versions:
DUM N - U- ring DUM-N, Seal: NBR 90° Shore A

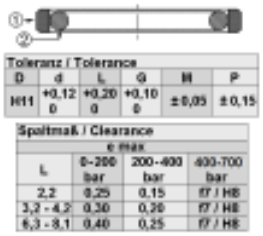
EGR A

Piston packing set, EGR-A

Low spatial requirement. High extrusion resistance. low break-loose torque and dynamic friction Long service life.

Design: Piston packing set
Operating pressure: up to 700 bar
Sliding speed max.: 15,0 m/s
Temp. min.: -30 °C
Temp. max.: 110 °C
Media: Mineral oils, Water emulsions
Installation: on one-piece pistons A, on multi-part pistons B
Material: (1) Dynamic seal: PTBR, (2) Static seal: NBR
Application: Hydraulics





Ordering information: We are able to produce seals with diameters of 20 to 510 mm with short lead times.

Identification	D	d	L
	mm	mm	mm
EGR 0080 A554470	8	3,1	2,2
EGR 0100 A554470	10	5,1	2,2
EGR 0120 A554470	12	7,1	2,2
EGR 0150 A554470	15	7,5	3,2
EGR 0160 A554470	16	8,5	3,2
EGR 0200 A554470	20	12,5	3,2
EGR 0220 A554470	22	14,5	3,2
EGR 0240 A554470	24	16,5	3,2
EGR 0250 A554470	25	17,5	3,2
EGR 0280 A554470	28	20,5	3,2
EGR 0300 A554470	30	22,5	3,2
EGR 0320 A554470	32	24,5	3,2
EGR 0350 A554470	35	27,5	3,2
EGR 0360 A554470	36	28,5	3,2
EGR 0380 A554470	38	30,5	3,2
EGR 0400 A554470	40	29,0	4,2
EGR 0420 A554470	42	31,0	4,2
EGR 0440 A554470	44	33,0	4,2
EGR 0450 A554470	45	34,0	4,2
EGR 0480 A554470	48	37,0	4,2
EGR 0500 A554470	50	39,0	4,2
EGR 0520 A554470	52	41,0	4,2
EGR 0550 A554470	55	44,0	4,2
EGR 0560 A554470	56	45,0	4,2
EGR 0600 A554470	60	49,0	4,2
EGR 0600 B554470	60	44,9	6,3
EGR 0630 A554470	63	52,0	4,2
EGR 0650 A554470	65	54,0	4,2
EGR 0700 A554470	70	59,0	4,2
EGR 0750 A554470	75	64,0	4,2
EGR 0800 A554470	80	64,5	6,3
EGR 0850 A554470	85	69,5	6,3
EGR 0900 A554470	90	74,5	6,3
EGR 0950 A554470	95	79,5	6,3
EGR 1000 A554470	100	84,5	6,3
EGR 1050 A554470	105	89,5	6,3
EGR 1100 A554470	110	94,5	6,3

Identification	D	d	L
	mm	mm	mm
EGR 1150 A554470	115	99,5	6,3
EGR 1200 A554470	120	104,5	6,3
EGR 1250 A554470	125	109,5	6,3
EGR 1300 A554470	130	114,5	6,3
EGR 1350 A554470	135	114,0	8,1
EGR 1400 A554470	140	119,0	8,1
EGR 1450 A554470	145	124,0	8,1
EGR 1500 A554470	150	129,0	8,1
EGR 1550 A554470	155	134,0	8,1
EGR 1600 A554470	160	139,0	8,1
EGR 1650 A554470	185	144,0	8,1
EGR 1700 A554470	170	149,0	8,1
EGR 1800 A554470	180	159,0	8,1
EGR 1900 A554470	190	169,0	8,1
EGR 2000 A554470	200	179,0	8,1
EGR 2100 A554470	210	189,0	8,1
EGR 2200 A554470	220	199,0	8,1
EGR 2250 A554470	225	204,0	8,1
EGR 2300 A554470	230	209,0	8,1
EGR 2400 A554470	240	219,0	8,1
EGR 2500 A554470	250	229,0	8,1
EGR 2600 A554470	260	239,0	8,1
EGR 2700 A554470	270	249,0	8,1
EGR 2800 A554470	280	259,0	8,1
EGR 2900 A554470	290	269,0	8,1
EGR 3000 A554470	300	279,0	8,1
EGR 3200 A554470	320	299,0	8,1
EGR 3300 A554470	330	305,5	8,1
EGR 3500 A554470	350	325,5	8,1
EGR 3600 A554470	360	335,5	8,1
EGR 3700 A554470	370	345,5	8,1
EGR 3800 A554470	380	355,5	8,1
EGR 4000 A554470	400	375,5	8,1
EGR 4500 A554470	450	425,5	8,1
EGR 4800 A554470	480	455,5	8,1
EGR 5000 A554470	500	475,5	8,1

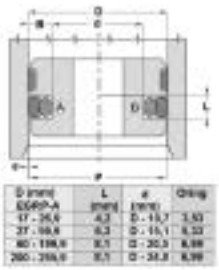
Web: http://cat.hansa-flex.com/en/EGRA

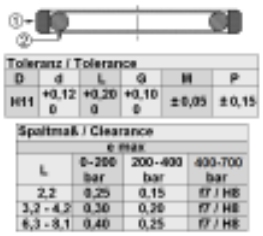
EGRP A

Piston packing set, EGRP

Low spatial requirement. High extrusion resistance. Long service life. low break-loose torque and dynamic friction

Operating pressure: up to 700 bar
Sliding speed max.: 0,5 m/s
Temp. min.: -40 °C
Temp. max.: 120 °C
Media: Mineral oils, Water emulsions
Installation: on one-piece or multi-part pistons
Material: Dynamic seal: PTFE, (2) Static seal: NBR





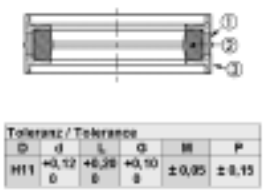
Identification	D	d	L
	mm	mm	mm
EGRP 0400 A554470	40	24,5	6,3
EGRP 0500 A554470	50	34,5	6,3
EGRP 0600 A554470	60	44,5	6,3
EGRP 0630 A554470	63	47,5	6,3
EGRP 0650 A554470	65	49,5	6,3
EGRP 0700 A554470	70	54,5	6,3
EGRP 0800 A554470	80	59,0	8,1

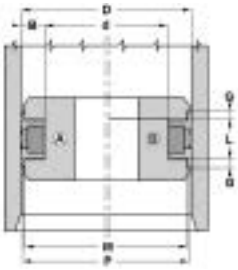
Identification	D	d	L
	mm	mm	mm
EGRP 0900 A554470	90	69,0	8,1
EGRP 1000 A554470	100	79,0	8,1
EGRP 1100 A554470	110	89,0	8,1
EGRP 1200 A554470	120	99,0	8,1
EGRP 1250 A554470	125	104,0	8,1
EGRP 1300 A554470	130	109,0	8,1

Web: http://cat.hansa-flex.com/en/EGRPA

EUD

Piston packing set for one-piece pistons EUD





Extremely good sealing effect at low pressure. Low spatial requirement. Easy assembly. Simple solution. High abrasion resistance.

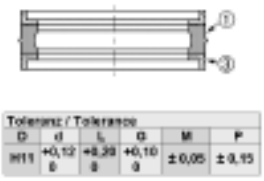
Design: Piston packing set
Operating pressure: up to 400 bar
Sliding speed max.: 0,5 m/s
Temp. min.: -30 °C
Temp. max.: 80 °C
Media: Mineral oils
Installation: on one-piece pistons A, on multi-part pistons B
Material: (1) Dynamic seal: PUR, (2) Static seal: NBR, (3) Guide ring: acetal resin
Application: Hydraulics

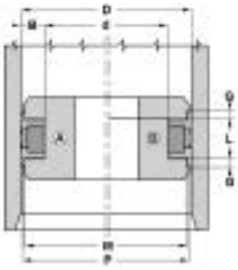
Identification	D	d	L	G	M	P
	mm	mm	mm	mm	mm	mm
EUD 60 48	60	48	20,5	4,20	56	59,4
EUD 63 51	63	51	20,5	4,20	59	62,4
EUD 70 58	70	58	20,5	4,20	66	69,4
EUD 80 66	80	66	22,5	5,20	76	79,4
EUD 100 86	100	86	22,5	5,20	96	99,4
EUD 110 96	110	96	22,5	5,20	106	109,4
EUD 125 108	125	108	26,5	7,20	121	124,4

Web: http://cat.hansa-flex.com/en/EUD

EUD P

Piston packing set for one-piece pistons EUD.P





Extremely good sealing effect at low pressure. Low spatial requirement. Easy assembly. Simple solution. High abrasion resistance.

Design: Piston packing set
Operating pressure: up to 400 bar
Sliding speed max.: 0,5 m/s
Temp. min.: -30 °C
Temp. max.: 80 °C
Media: Mineral oils
Installation: on one-piece pistons A, on multi-part pistons B
Material: (1) Dynamic seal: PUR, (3) Guide ring: acetal resin
Application: Hydraulics

Identification	D	d	L	G	M	P
	mm	mm	mm	mm	mm	mm
EUD 32 24-P	32	24	10,0	4,00	29	31,0
EUD 40 32-P	40	32	10,0	4,00	37	39,0
EUD 50 40-P	50	40	12,5	4,00	47	49,0
EUD 63 53-P	63	53	12,5	4,00	60	62,0
EUD 80 70-P	80	70	12,5	4,00	77	79,0

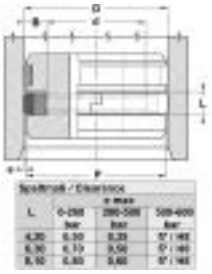
Web: http://cat.hansa-flex.com/en/EUDP

GPK

Piston packing set, GPK

Low spatial requirement. High extrusion resistance. Easy fitting without special tools High abrasion resistance. low break-loose torque and dynamic friction Long service life.

Design: Rod packing set
Operating pressure: up to 600 bar
Sliding speed max.: 1,0 m/s
Temp. min.: -30 °C
Temp. max.: 110 °C
Media: Mineral oils, Water emulsions
Installation: on one-piece pistons
Material: (1) Dynamic seal: PA + glass fibre, (2) Static seal: NBR
Application: Hydraulics



Tolerance / Tolerance		
D	d	L
H9	h9	+0,20 0

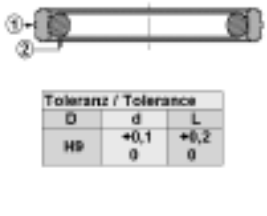
Identification	D	d	L
	mm	mm	mm
GPK 90-1	90	69,0	8,1
GPK 100-1	100	79,0	8,1
GPK 110-1	110	89,0	8,1
GPK 120-1	120	99,0	8,1
GPK 125-1	125	104,0	8,1
GPK 130-1	130	109,0	8,1

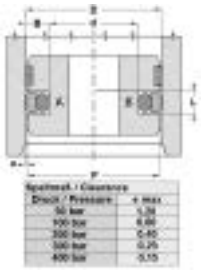
Identification	D	d	L
	mm	mm	mm
GPK 140	140	119,0	8,1
GPK 150	150	129,0	8,1
GPK 160	160	139,0	8,1
GPK 180	180	159,0	8,1
GPK 190	190	169,0	8,1
GPK 200	200	179,0	8,1

Web: http://cat.hansa-flex.com/en/GPK

GPS

Piston packing set, GPS





Easy assembly. Low spatial requirement. Extremely good sealing effect. High abrasion resistance.

Design: Piston packing set
Operating pressure: up to 400 bar
Sliding speed max.: 0,5 m/s
Temp. min.: -30 °C
Temp. max.: 80 °C
Media: Mineral oils
Installation: on one-piece pistons A, on multi-part pistons B
Material: (1) Dynamic seal: PUR, (2) Static seal: NBR
Application: Hydraulics

Ordering information: We are able to produce seals with diameters of 20 to 510 mm with short lead times.

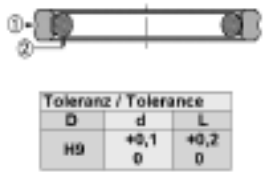
Identification	D	d	L	Standard grooves
	mm	mm	mm	
GPS 25	25	14,0	4,2	ISO 5597
GPS 25-1	25	17,5	3,2	ISO 5597
GPS 30	30	22,5	3,2	ISO 5597
GPS 32	32	21,0	4,2	ISO 5597
GPS 32-1	32	24,5	3,2	ISO 5597
GPS 35	35	27,5	3,2	
GPS 40	40	24,5	6,3	
GPS 40-1	40	29,0	4,2	ISO 5597
GPS 40-2	40	32,5	3,2	
GPS 45	45	29,5	6,3	
GPS 45-1	45	34,0	4,2	
GPS 49	49	38,0	4,2	
GPS 50	50	34,5	6,3	ISO 5597
GPS 50-1	50	39,0	4,2	ISO 5597
GPS 55	55	39,5	6,3	
GPS 55-1	55	44,0	4,2	
GPS 60	60	44,5	6,3	
GPS 60-1	60	49,0	4,2	
GPS 63	63	47,5	6,3	ISO 5597
GPS 63-1	63	52,0	4,2	ISO 5597
GPS 65	65	49,5	6,3	

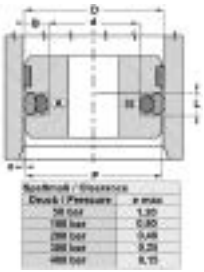
Identification	D	d	L	Standard grooves
	mm	mm	mm	
GPS 65-1	65	54,0	4,2	
GPS 70	70	54,5	6,3	
GPS 70-1	70	59,0	4,2	
GPS 75	75	59,5	6,3	
GPS 75-1	75	64,0	4,2	
GPS 80	80	64,5	6,3	
GPS 80-1	80	69,0	4,2	
GPS 85	85	69,5	6,3	
GPS 90	90	74,5	6,3	
GPS 100	100	84,5	6,3	ISO 5597
GPS 105	105	89,5	6,3	
GPS 110	110	94,5	6,3	
GPS 120	120	104,5	6,3	
GPS 125	125	109,5	6,3	ISO 5597
GPS 130	130	114,5	6,3	
GPS 140	140	119,0	8,1	
GPS 150	150	129,0	8,1	
GPS 160	160	139,0	8,1	ISO 5597
GPS 170	170	149,0	8,1	
GPS 180	180	159,0	8,1	
GPS 200	200	179,0	8,1	ISO 5597

Web: http://cat.hansa-flex.com/en/GPS

GPS LP

Piston packing set, GPS-LP





Easy assembly. Low spatial requirement. High abrasion resistance. Extremely good sealing effect.

Operating pressure: up to 400 bar
Sliding speed max.: 0,5 m/s
Temp. min.: -30 °C
Temp. max.: 80 °C
Media: Mineral oils
Installation: on one-piece pistons A, on multi-part pistons B
Material: (1) Dynamic seal: PUR, (2) Static seal: NBR

Ordering information: We are able to produce seals with diameters of 20 to 510 mm with short lead times.

Identification	D	d	L
	mm	mm	mm
GPS 35-1-LP	35,00	24,00	4,2
GPS 38-LP	38,00	30,50	3,2
GPS 130-1-LP	130,00	109,00	8,1

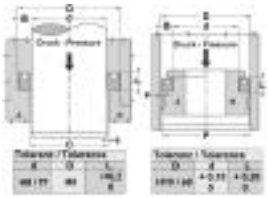
Web: http://cat.hansa-flex.com/en/GPSLP

MU

U-ring MU

For rods and pistons. High abrasion resistance. Use for new designs TS, TS-L, RS-L and EU profiles (rod seals).

Design: U-ring
Operating pressure: up to 400 bar
Sliding speed max.: 0,5 m/s
Temp. min.: -30 °C
Temp. max.: 80 °C
Media: Mineral oils
Installation: in closed grooves A, in open grooves B, on a B or multi-part A piston
Material: PUR
Application: Hydraulics



Spaltmaß / Clearance		
Druck	e [mm]	
bar	d < 60 mm	d >60 mm
50	< 0,40	< 0,50
100	< 0,30	> 0,40
200	< 0,20	> 0,30
300	< 0,15	> 0,20
400	< 0,10	> 0,15

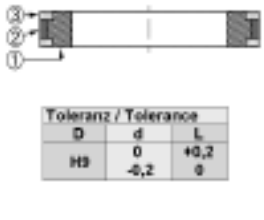
Note: Dimensions see page Rod seals ...

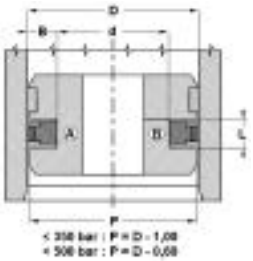
Ordering information: We are able to produce seals with diameters of 20 to 510 mm with short lead times.

Web: http://cat.hansa-flex.com/en/MUDITKOLBEN

PHD

Piston packing set for one-piece pistons PHD





Low spatial requirement. High resistance to extrusion. High abrasion resistance. Low-friction seal.

Design: Piston packing set
Operating pressure: up to 400 bar
Sliding speed max.: 1,5 m/s
Temp. min.: 30 °C
Temp. max.: 110 °C
Media: Mineral oils, Water emulsions
Installation: on one-piece pistons A, on multi-part pistons B
Material: (1) Static seal: NBR, (2) Dynamic seal: PTBR, (3) Back ring: acetal resin
Application: Hydraulics

Ordering information: We are able to produce seals with diameters of 20 to 510 mm with short lead times.

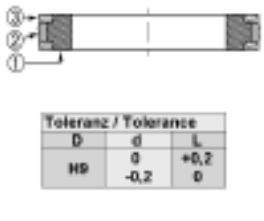
Identification	D	d	L
	mm	mm	mm
PHD 50 36	50	36	9,0
PHD 55 41	55	41	9,0
PHD 60 46	60	46	9,0
PHD 60 50	60	50	8,0
PHD 63 48	63	48	11,0
PHD 65 50	65	50	11,0
PHD 70 55	70	55	11,0
PHD 75 60	75	60	11,0
PHD 80 65	80	65	11,0
PHD 85 70	85	70	11,0
PHD 90 75	90	75	11,0
PHD 95 80	95	80	11,0
PHD 100 85	100	85	12,5

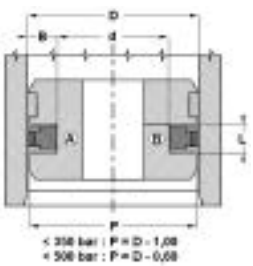
Identification	D	d	L
	mm	mm	mm
PHD 105 90	105	90	12,5
PHD 110 95	110	95	12,5
PHD 115 100	115	100	12,5
PHD 120 105	120	105	12,5
PHD 125 102	125	102	16,0
PHD 130 107	130	107	16,0
PHD 135 112	135	112	16,0
PHD 140 117	140	117	16,0
PHD 145 122	145	122	16,0
PHD 150 127	150	127	16,0
PHD 160 137	160	137	16,0
PHD 165 142	165	142	16,0
PHD 180 157	180	157	16,0

Web: http://cat.hansa-flex.com/en/PHD

PHD PU

Piston packing set for one-piece pistons PHD-PU





Low spatial requirement. High abrasion resistance. Low-friction seal. High resistance to extrusion.

Design: Piston packing set
Operating pressure: up to 400 bar
Sliding speed max.: 0,5 m/s
Temp. min.: 30 °C
Temp. max.: 80 °C
Media: Mineral oils, Water emulsions
Installation: on one-piece pistons A, on multi-part pistons B
Material: (1) Static seal: NBR, (2) Dynamic seal: PU, (3) Back ring: acetal resin
Application: Hydraulics

Ordering information: We are able to produce seals with diameters of 20 to 510 mm with short lead times.

Identification	D	d	L
	mm	mm	mm
PHD 100 85-PU	100	85	12,5
PHD 110 95-PU	110	95	12,5

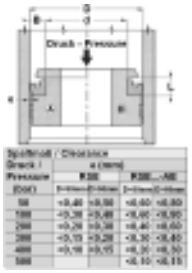
Web: http://cat.hansa-flex.com/en/PHDPU

RSE

Piston seal RSE

High abrasion resistance. Good tightness. Simple solution.

Design: Piston U-ring
Operating pressure: up to 400 bar
Sliding speed max.: 0,5 m/s
Temp. min.: -30 °C
Temp. max.: 80 °C
Media: Mineral oils
Installation: on one-piece pistons A, on multi-part pistons B
Material: (2) Seal: PUR
Application: Hydraulics



Toleranz / Tolerance		
D	d	L
H10 / e8	+0,10 0	+0,20 0

Note: The piston seals are not suitable for double-acting pistons. Please contact us.

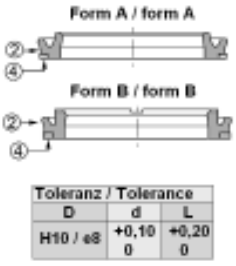
Identification	D	d	L	M
	mm	mm	mm	mm
RSE 12 05	12,0	5,0	6,0	8
RSE 14 08	14,0	8,0	6,8	11
RSE 16 10-1	16,0	10,0	6,5	13
RSE 16 10	16,0	10,0	9,0	13
RSE 20 12	20,0	12,0	7,5	15
RSE 20 14	20,0	14,0	6,0	17
RSE 22 12	22,0	12,0	9,0	16
RSE 25 15	25,0	15,0	9,0	19
RSE 30 15	30,0	15,0	11,0	19
RSE 30 20	30,0	20,0	9,0	24
RSE 30 22	30,0	22,0	7,0	25
RSE 32 22	32,0	22,0	11,0	26
RSE 32 26	32,0	26,0	6,0	28
RSE 35 20	35,0	20,0	11,0	25
RSE 35 25	35,0	25,0	9,0	29
RSE 37 21	37,0	21,0	13,0	25
RSE 40 25-1	40,0	25,0	10,0	30
RSE 40 25	40,0	25,0	11,0	30
RSE 40 30-1	40,0	30,0	7,5	34
RSE 40 30	40,0	30,0	11,0	34
RSE 40 32-2	40,0	32,0	6,5	36
RSE 40 32	40,0	32,0	9,0	36
RSE 40 33	40,0	33,0	9,0	36
RSE 42 32	42,0	32,0	11,0	36
RSE 42 35	42,0	34,5	4,7	37
RSE 45 29	45,0	38,5	13,0	33
RSE 45 30	45,0	30,0	11,0	35
RSE 50 30	50,0	30,0	13,0	35
RSE 50 32	50,0	32,0	11,0	35
RSE 50 35-1	50,0	35,0	9,5	40
RSE 50 35	50,0	35,0	11,0	40
RSE 50 40-1	50,0	40,0	5,5	44
RSE 50 40	50,0	40,0	11,0	44
RSE 50 42-2	50,0	42,0	6,0	45
RSE 50 42-1	50,0	42,0	9,0	45
RSE 50 42	50,0	42,0	11,0	45
RSE 51 41	50,8	40,8	8,0	45
RSE 55 40	55,0	40,0	11,0	45
RSE 60 40	60,0	40,0	13,0	45
RSE 60 40-1	60,0	40,0	14,5	45
RSE 60 45	60,0	45,0	11,0	50
RSE 60 50	60,0	50,0	8,0	54
RSE 60 50-2	60,0	50,0	11,0	54
RSE 60 52	60,0	52,0	9,0	55
RSE 63 43	63,0	43,0	13,0	47
RSE 63 45	63,0	45,0	11,0	50
RSE 63 45-2	63,0	45,0	13,0	50
RSE 63 48-1	63,0	48,0	11,0	53
RSE 63 48	63,0	48,0	13,0	53
RSE 63 53	63,0	53,0	8,0	57
RSE 63 53-1	63,0	53,0	13,0	57
RSE 65 45-1	65,0	45,0	13,0	50
RSE 65 45	65,0	45,0	14,5	50
RSE 65 50	65,0	50,0	11,0	55

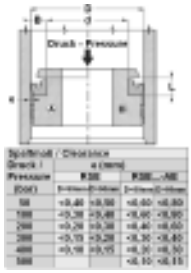
Identification	D	d	L	M
	mm	mm	mm	mm
RSE 65 55-1	65,0	55,0	11,0	59
RSE 65 55	65,0	55,0	14,5	59
RSE 70 50	70,0	53,0	13,0	55
RSE 70 50-1	70,0	53,0	14,5	55
RSE 70 55-1	70,0	55,0	10,5	60
RSE 70 55	70,0	55,0	13,0	60
RSE 70 60	70,0	60,0	8,0	64
RSE 70 60-1	70,0	60,0	13,0	64
RSE 70 60-2	70,0	60,0	14,5	64
RSE 70 62	70,0	62,0	8,5	65
RSE 72 58	72,0	58,0	13,0	62
RSE 75 50	75,0	50,0	15,0	55
RSE 75 55	75,0	55,0	14,5	60
RSE 75 65-4	75,0	65,0	8,0	69
RSE 75 65-2	75,0	65,0	11,0	69
RSE 75 65	75,0	65,0	14,5	69
RSE 80 60	80,0	60,0	13,0	65
RSE 80 60-1	80,0	60,0	14,5	65
RSE 80 65	80,0	65,0	13,0	70
RSE 80 70	80,0	70,0	8,0	74
RSE 80 70-1	80,0	70,0	13,0	74
RSE 80 72	80,0	72,0	13,0	75
RSE 85 65-2	85,0	65,0	13,0	70
RSE 90 70	90,0	70,0	13,0	75
RSE 90 70-1	90,0	70,0	14,5	75
RSE 90 75	90,0	75,0	13,0	80
RSE 90 80-2	90,0	80,0	5,5	84
RSE 90 80-1	90,0	80,0	11,0	84
RSE 90 80	90,0	80,0	14,0	84
RSE 100 80-2	100,0	80,0	11,0	85
RSE 100 80	100,0	80,0	13,0	85
RSE 100 80-1	100,0	80,0	14,5	85
RSE 100 85	100,0	85,0	13,0	90
RSE 100 86	100,0	86,0	13,0	90
RSE 100 90	100,0	90,0	8,0	94
RSE 100 90-1	100,0	90,0	11,5	94
RSE 110 90	110,0	90,0	13,0	95
RSE 110 95	110,0	95,0	13,0	100
RSE 110 100	110,0	100,0	8,0	104
RSE 110 100-1	110,0	100,0	14,5	104
RSE 115 100	115,0	100,0	11,5	105
RSE 115 105	115,0	105,0	14,5	109
RSE 120 100	120,0	100,0	13,0	105
RSE 120 100-1	120,0	100,0	14,5	105
RSE 125 105	125,0	100,0	13,0	110
RSE 125 105-1	125,0	100,0	16,0	110
RSE 125 115	125,0	115,0	8,0	119
RSE 125 115-1	125,0	115,0	16,0	119
RSE 140 120	140,0	120,0	13,0	125
RSE 150 125	150,0	125,0	14,5	130
RSE 150 130	150,0	130,0	16,0	135
RSE 160 140	160,0	140,0	14,5	145
RSE 180 160	180,0	160,0	14,5	165
RSE 280 250	280,0	250,0	19,0	256

Web: http://cat.hansa-flex.com/en/RSE

RSE AE

Piston seal RSE-AE





High abrasion resistance. Good tightness. Simple solution.

Design: Piston U-ring
Operating pressure: up to 500 bar
Sliding speed max.: 0,5 m/s
Temp. min.: -30 °C
Temp. max.: 80 °C
Media: Mineral oils
Installation: on one-piece pistons A, on multi-part pistons B
Material: (2) Seal: PUR, (2) Support ring: acetal resin / PTBR
Application: Hydraulics

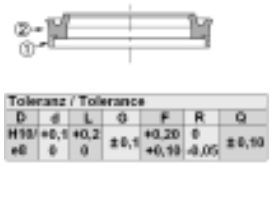
Note: The piston seals are not suitable for double-acting pistons. Please contact us.

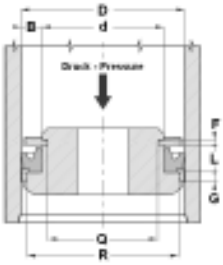
Identification	D	d	L	Profile	Standard grooves
	mm	mm	mm		
RSE 40 25-AE	40	25	9,5	B	ISO 5597
RSE 50 35-AE	50	35	9,5	B	ISO 5597
RSE 60 45-AE	60	45	9,5	A	ISO 5597
RSE 63 48-AE	63	48	9,5	B	ISO 5597
RSE 70 50-AE	70	50	12,5	A	
RSE 80 60-AE	80	60	12,5	B	ISO 5597
RSE 90 70-AE	90	70	12,5	B	ISO 5597
RSE 100 80-AE	100	80	12,5	B	ISO 5597
RSE 110 90-AE	110	90	12,5	B	ISO 5597
RSE 125 100-AE	125	100	15,5	B	ISO 5597
RSE 140 115-AE	140	115	15,5	A	ISO 5597
RSE 140 120-AE	140	120	12,5	B	
RSE 160 140-AE	160	140	12,5	B	
RSE 200 170-AE	200	170	19,0	A	ISO 5597
RSE 200 175-AE	200	175	16,0	A	

Web: http://cat.hansa-flex.com/en/RSEAE

RSE W

Piston seal RSE-W





High abrasion resistance. Good tightness. Simple solution.

Design: Piston U-ring
Operating pressure: up to 400 bar
Sliding speed max.: 0,5 m/s
Temp. min.: -30 °C
Temp. max.: 80 °C
Media: Mineral oils
Installation: on one-piece pistons
Material: (1) Guide ring: acetal resin, (2) Seal: PUR
Application: Hydraulics

Ordering information: We are able to produce seals with diameters of 20 to 510 mm with short lead times.

Identification	D	d	L	G	R
	mm	mm	mm	mm	mm
RSE 32 20-W	32	20	9,0	6,35	28,50
RSE 40 25-W	40	25	9,5	6,35	35,40
RSE 45 35-W	45	35	9,5	6,35	40,40
RSE 60 40-W	60	40	14,5	6,35	55,40
RSE 65 50-W	65	50	11,0	6,35	60,40
RSE 70 50-W	70	50	14,5	6,35	64,20
RSE 80 60-W1	80	60	14,5	6,35	74,15
RSE 90 70-W1	90	70	14,5	6,35	84,15
RSE 100 80-W	100	80	14,5	6,35	93,15

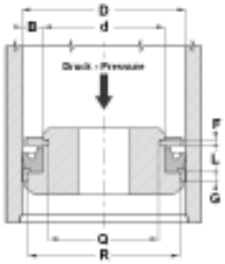
Web: http://cat.hansa-flex.com/en/RSEW

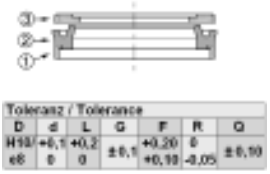
RSE W-AR

Piston seal RSE-W-AR

High abrasion resistance. Good tightness. Simple solution.

Design: Piston U-ring
Operating pressure: up to 400 bar
Sliding speed max.: 0,5 m/s
Temp. min.: -30 °C
Temp. max.: 80 °C
Media: Mineral oils
Installation: on one-piece pistons
Material: (1) Guide ring: acetal resin, (2) Seal: PUR, (3) Seeger ring: acetal resin
Application: Hydraulics





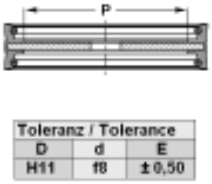
Ordering information: We are able to produce seals with diameters of 20 to 510 mm with short lead times.

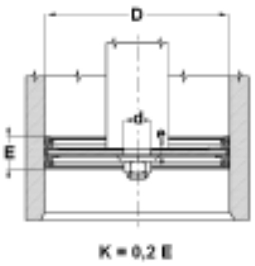
Identification	D mm	d mm	L mm	G mm	F mm	R mm	Q mm
RSE 40 26-W-AR	40	26	9,4	6,35	3,1	35,40	21,60
RSE 63 45-W-AR	63	45	10,5	6,35	3,1	58,40	40,84

Web: http://cat.hansa-flex.com/en/RSEWAR

TDO

Complete piston TDO





Complete pistons.

Design: Complete pistons
Operating pressure: up to 40 bar
Sliding speed max.: 0,5 m/s
Temp. min.: -30 °C
Temp. max.: 110 °C
Media: Mineral oils, Water-air
Installation: push onto piston recess with the rubber side and affix with washer and nut.
Material: NBR 85° Shore A, with steel core
Application: Hydraulics

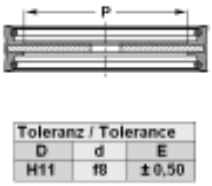
Ordering information: For special operating conditions (fluid, temperature, pressure ...) please contact us. Alternative material possible: FPM.

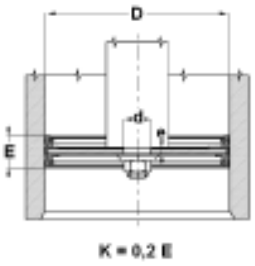
Identification	D	d	P	E	e
	mm	mm	mm	mm	mm
TDO 26	26	8,2	15,0	22	3,0
TDO 30	30	8,2	16,0	22	3,0
TDO 35	35	8,2	20,0	26	3,0
TDO 40	10	10,2	20,0	22	3,0
TDO 45	45	10,2	22,0	25	4,0
TDO 50	50	10,2	27,0	25	4,0
TDO 55	55	10,2	32,0	25	4,0
TDO 60	60	12,2	37,0	26	4,0
TDO 63	63	12,2	40,0	25	4,0
TDO 70	70	12,2	44,0	30	5,0
TDO 80	80	12,2	54,0	30	5,0
TDO 100	100	12,2	72,0	35	6,0
TDO 110	110	12,2	78,0	40	6,0
TDO 115	115	20,2	83,0	30	8,0
TDO 125	125	20,2	85,0	40	8,0
TDO 140	140	20,2	100,0	40	10,0
TDO 150	150	20,2	105,0	40	10,0
TDO 200	200	20,2	146,0	40	10,0
TDO 250	250	30,2	200,0	40	12,0
TDO 300	300	35,2	250,0	40	12,0

Web: http://cat.hansa-flex.com/en/TDO

TDO FPM

Complete piston TDOP FPM





Design: Complete pistons
Application: Hydraulics

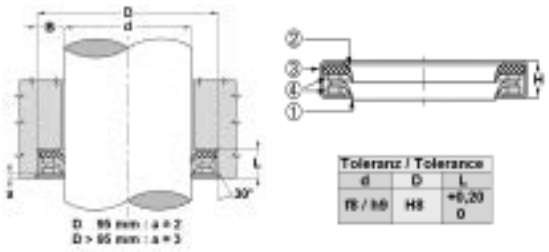
Identification	D	d	P	E	e
	mm	mm	mm	mm	mm
TDO 080 FPM	80	12,2	54	30	5,0
TDO 100 FPM	100	12,2	72	35	6,0

Web: http://cat.hansa-flex.com/en/TDOFPM

DR

Ice scraper DR

Low spatial requirement. Effective wiping under extreme conditions. Suitable for ice, sludge and especially sticky particles. The floating metallic wiper lip allows the rods to be offset.



Design: Wipers
Sliding speed max.: 1,0 m/s
Temp. min.: -40 °C
Temp. max.: 120 °C
Media: Mineral oils, Water-air
Installation: is pressed into an open groove
Material:

(1) Metallic wiper lip: brass (INOX optional), (2) Elastomer wiper lip: NBR (FPM optional), (3) Sleeve: steel (INOX optional), (4) Distance pieces: steel (INOX optional)

Application: Hydraulics

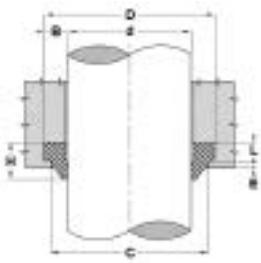
Identification	d	D	L	H
	mm	mm	mm	mm
DR 14	14	27	7,0	6,5
DR 16	16	29	7,0	6,5
DR 20	20	33	7,0	6,5
DR 22	22	35	7,0	6,5
DR 25	25	38	7,0	6,5
DR 28	28	41	7,0	6,5
DR 30	30	43	7,5	7,0
DR 35	35	48	7,5	7,0
DR 36	36	49	7,5	7,0
DR 38	38	51	7,5	7,0
DR 40	40	53	7,5	7,0

Identification	d	D	L	H
	mm	mm	mm	mm
DR 45	45	58	7,5	7,0
DR 50	50	64	8,0	7,5
DR 50-R-9975-R	50	64	8,0	7,5
DR 55	55	69	8,0	7,5
DR 60	60	74	8,0	7,5
DR 70	70	84	8,0	7,5
DR 75	75	89	8,0	7,5
DR 80	80	96	8,5	8,0
DR 90	90	106	8,5	8,0
DR 150	150	170	9,0	8,5

Web: http://cat.hansa-flex.com/en/DR

DSR

Wiper DSR



Easy assembly.

Design: Wipers
Sliding speed max.: 0,5 m/s
Temp. min.: -30 °C
Temp. max.: 110 °C
Media: Mineral oils, Water emulsions
Installation: bend the wiper into a kidney shape and press into the locating groove
Material: NBR
Application: Hydraulics

Ordering information: Alternative material possible: FPM.

Identification	d	D	L	C	E
	mm	mm	mm	mm	mm
DSR 4	4	12	4,0	10	1,0
DSR 8	8	16	4,0	14	1,0
DSR 10	10	18	4,0	16	1,0
DSR 12	12	20	4,0	18	1,0
DSR 14	14	22	4,0	20	1,0
DSR 15	15	23	4,0	21	1,0
DSR 16	16	24	4,0	22	1,0
DSR 18	18	26	4,0	24	1,0
DSR 20	20	28	4,0	26	1,0
DSR 22	22	30	4,0	28	1,0
DSR 24	24	32	4,0	30	1,0
DSR 25	25	33	4,0	31	1,0
DSR 28	28	36	4,0	34	1,0
DSR 30	30	38	4,0	36	1,0
DSR 32	32	40	4,0	38	1,0
DSR 35	35	43	4,0	41	1,0
DSR 36	36	44	4,0	42	1,0
DSR 38	38	46	4,0	44	1,0
DSR 40	40	48	4,0	46	1,0
DSR 42	42	50	4,0	48	1,0
DSR 45	45	53	4,0	51	1,0
DSR 48	48	56	4,0	54	1,0
DSR 50	50	58	4,0	56	1,0
DSR 52	52	60	4,0	58	1,0
DSR 55	55	63	4,0	61	1,0
DSR 56	56	64	4,0	62	1,0
DSR 60	60	68	4,0	66	1,0
DSR 62	62	70	4,0	68	1,0
DSR 63	63	71	4,0	69	1,0
DSR 65	65	73	4,0	71	1,0
DSR 70	70	78	4,0	76	1,0
DSR 75	75	83	4,0	81	1,0
DSR 80	80	88	4,0	86	1,0
DSR 85	85	93	4,0	91	1,0
DSR 90	90	98	4,0	96	1,0
DSR 95	95	103	4,0	101	1,0
DSR 100	100	108	4,0	106	1,0
DSR 105	105	117	5,5	114	1,5
DSR 110	110	122	5,5	119	1,5
DSR 120	120	132	5,5	129	1,5
DSR 125	125	137	5,5	134	1,5
DSR 130	130	142	5,5	139	1,5
DSR 140	140	152	5,5	149	1,5
DSR 150	150	162	5,5	159	1,5
DSR 160	160	172	5,5	169	1,5
DSR 170	170	182	5,5	179	1,5
DSR 180	180	192	5,5	189	1,5
DSR 190	190	202	5,5	199	1,5
DSR 200	200	212	5,5	209	1,5
DSR 220	220	235	6,5	231	2,0
DSR 250	250	265	6,5	261	2,0

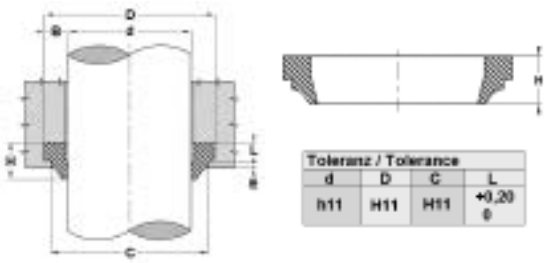
Web: http://cat.hansa-flex.com/en/DSR

DSR FPM

Wiper DSR-FPM

Easy assembly.

Design: Wipers
Sliding speed max.: 0,5 m/s
Temp. min.: -30 °C
Temp. max.: 110 °C
Media: Mineral oils, Water emulsions
Installation: bend the wiper into a kidney shape and press into the locating groove
Material: FPM
Application: Hydraulics



Identification	d	D	L	C	E
	mm	mm	mm	mm	mm
DSR 100 FPM	100	108	4,0	106	1,0
DSR 18 FPM	18	26	4,0	24	1,0

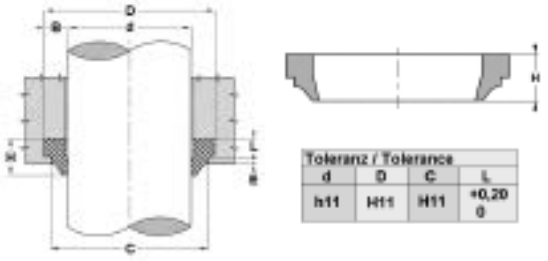
Web: http://cat.hansa-flex.com/en/DSRFPM

DSR-P

Wiper DSR-P

Easy assembly. High abrasion resistance.

Design: Wipers
Sliding speed max.: 0,5 m/s
Temp. min.: -30 °C
Temp. max.: 80 °C
Media: Mineral oils
Installation: bend the wiper into a kidney shape and press into the locating groove
Material: PUR
Application: Hydraulics

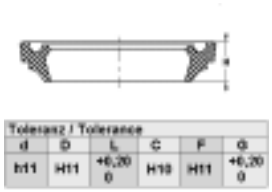


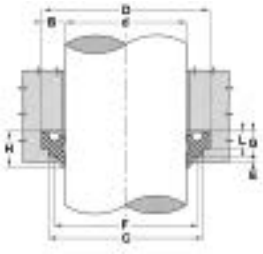
Identification	d	D	L	C	E
	mm	mm	mm	mm	mm
DSR-P 12	12	20	4,0	18	1,0
DSR-P 16	16	24	4,0	22	1,0
DSR-P 18	18	26	4,0	24	1,0
DSR-P 20	20	28	4,0	26	1,0
DSR-P 22	22	30	4,0	28	1,0
DSR-P 25	25	33	4,0	31	1,0
DSR-P 28	28	36	4,0	34	1,0
DSR-P 30	30	38	4,0	36	1,0
DSR-P 32	32	40	4,0	38	1,0
DSR-P 35	35	43	4,0	41	1,0
DSR-P 36	36	44	4,0	42	1,0
DSR-P 40	40	48	4,0	46	1,0
DSR-P 42	42	50	4,0	48	1,0
DSR-P 45	45	53	4,0	51	1,0
DSR-P 50	50	58	4,0	56	1,0
DSR-P 55	55	63	4,0	61	1,0
DSR-P 56	56	65	4,0	62	1,0
DSR-P 60	60	68	4,0	66	1,0
DSR-P 63	63	71	4,0	69	1,0
DSR-P 65	65	73	4,0	71	1,0
DSR-P 70	70	78	4,0	76	1,0
DSR-P 75	75	83	4,0	81	1,0
DSR-P 80	80	88	4,0	86	1,0
DSR-P 85	85	93	4,0	91	1,0
DSR-P 90	90	98	4,0	96	1,0
DSR-P 95	95	103	4,0	101	1,0
DSR-P 100	100	108	4,0	106	1,0
DSR-P 110	110	122	5,5	119	1,5
DSR-P 120	120	132	5,5	129	1,5
DSR-P 125	125	137	5,5	134	1,5
DSR-P 130	130	142	5,5	139	1,5
DSR-P 135	135	147	5,5	144	1,5
DSR-P 140	140	152	5,5	149	1,5

Web: http://cat.hansa-flex.com/en/DSRP

DSR U

Double wiper DSR-U





Easy assembly.

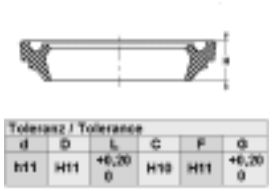
Design: Wipers
Sliding speed max.: 0,5 m/s
Temp. min.: -30 °C
Temp. max.: 110 °C
Media: Mineral oils, Water emulsions
Installation: bend the wiper into a kidney shape and press into the locating groove
Application: Hydraulics
Material: NBR

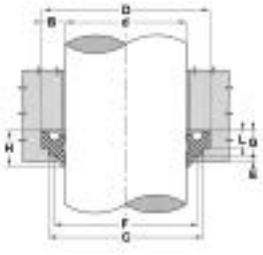
Identification	D	d	L	C	F	G	E	H
	mm	mm	mm	mm	mm	mm	mm	mm
DSR 10-U	18	10	4,0	16	13,5	6,0	2	8
DSR 12-U	20	12	4,0	18	15,5	6,0	2	8
DSR 14-U	22	14	4,0	20	17,5	6,0	2	8
DSR 15-U	23	15	4,0	21	18,5	6,0	2	8
DSR 16-U	24	16	4,0	22	19,5	6,0	2	8
DSR 18-U	26	18	4,0	24	21,5	6,0	2	8
DSR 20-U	28	20	4,0	26	23,5	6,0	2	8
DSR 22-U	30	22	4,0	28	25,5	6,0	2	8
DSR 24-U	32	24	4,0	30	27,5	6,0	2	8
DSR 25-U	33	25	4,0	31	28,5	6,0	2	8
DSR 28-U	36	28	4,0	34	31,5	6,0	2	8
DSR 30-U	38	30	4,0	36	33,5	6,0	2	8
DSR 32-U	40	32	4,0	38	35,5	6,0	2	8
DSR 35-U	43	35	4,0	41	38,5	6,0	2	8
DSR 36-U	44	36	4,0	42	39,5	6,0	2	8
DSR 37-U	45	37	4,0	43	40,5	6,0	2	8
DSR 38-U	46	38	4,0	44	41,5	6,0	2	8
DSR 40-U	48	40	4,0	46	43,5	6,0	2	8
DSR 42-U	50	42	4,0	48	45,5	6,0	2	8
DSR 45-U	53	45	4,0	51	48,5	6,0	2	8
DSR 46-U	54	46	4,0	52	49,5	6,0	2	8
DSR 48-U	56	48	4,0	54	51,5	6,0	2	8
DSR 50-U	58	50	4,0	56	53,5	6,0	2	8
DSR 55-U	63	55	4,0	61	58,5	6,0	2	8
DSR 56-U	64	56	4,0	62	59,5	6,0	2	8
DSR 60-U	68	60	4,0	66	63,5	6,0	2	8
DSR 63-U	71	63	4,0	69	66,5	6,0	2	8
DSR 65-U	73	65	4,0	71	68,5	6,0	2	8
DSR 70-U	78	70	4,0	76	73,5	6,0	2	8
DSR 75-U	83	75	4,0	81	78,5	6,0	2	8
DSR 80-U	88	80	4,0	86	83,5	6,0	2	8
DSR 85-U	93	85	4,0	91	88,5	6,0	2	8
DSR 90-U	98	90	4,0	96	93,5	6,0	2	8
DSR 100-U	108	100	4,0	106	103,5	6,0	2	8
DSR 110-U	122	110	5,5	119	115,0	8,2	3	11
DSR 125-U	137	125	5,5	134	130,0	8,2	3	11
DSR 130-U	142	130	5,5	139	135,0	8,2	3	11
DSR 140-U	152	140	5,5	149	145,0	8,2	3	11
DSR 145-U	157	145	5,5	154	150,0	8,2	3	11
DSR 150-U	162	150	5,5	159	155,0	8,2	3	11
DSR 160-U	172	160	5,5	169	165,0	8,2	3	11
DSR 200-U	212	200	5,5	209	205,0	8,2	3	11
DSR 220-U	235	220	6,5	231	227,0	9,5	3	13
DSR 360-U	375	360	6,5	371	367,0	9,5	3	13

Web: http://cat.hansa-flex.com/en/DSRU

DSR U FPM

Double wiper DSR-U-FPM





Easy assembly.

Design: Wipers
Sliding speed max.: 0,5 m/s
Temp. min.: -30 °C
Temp. max.: 110 °C
Media: Mineral oils, Water emulsions
Installation: bend the wiper into a kidney shape and press into the locating groove
Application: Hydraulics
Material: FPM

Identification	D	d	E	L	C
	mm	mm	mm	mm	mm
DSR 56-U FPM	64	56	1,0	4,0	62

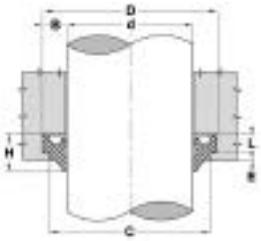
Web: http://cat.hansa-flex.com/en/DSRUFPM

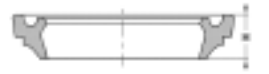
DSR UP

Double wiper DSR-UP

Also wipes off leak oil from seal chamber. Easy assembly.

Design: Wipers
Sliding speed max.: 0,5 m/s
Temp. min.: -30 °C
Temp. max.: 80 °C
Media: Mineral oils
Installation: bend the wiper into a kidney shape and press into the locating groove
Application: Hydraulics
Material: PUR





Toleranz / Tolerance

d	D	L	C	F	G
h11	H11	+0,20 0	H10	H11	+0,20 0

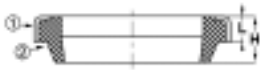
1

Identification	D	d	L	C	F	G	E	H
	mm	mm	mm	mm	mm	mm	mm	mm
DSR 18-UP	26	18	4,0	24	21,5	6,0	2	8
DSR 22-UP	22	22	4,0	28	25,5	6,0	2	8
DSR 32-UP	40	32	4,0	38	35,5	6,0	2	8
DSR 35-UP	43	35	4,0	41	38,5	6,0	2	8
DSR 36-UP	44	36	4,0	42	39,5	6,0	2	8
DSR 40-UP	48	40	4,0	46	43,5	6,0	2	8
DSR 45-UP	53	45	4,0	51	48,5	6,0	2	8
DSR 50-UP	58	50	4,0	56	53,5	6,0	2	8
DSR 55-UP	63	55	4,0	61	58,5	6,0	2	8
DSR 56-UP	64	56	4,0	62	59,5	6,0	2	8
DSR 60-UP	68	60	4,0	66	63,5	6,0	2	8
DSR 63-UP	71	63	4,0	69	66,5	6,0	2	8
DSR 80-UP	88	80	4,0	86	83,5	6,0	2	8
DSR 90-UP	98	90	4,0	96	93,5	6,0	2	8
DSR 100-UP	108	100	4,0	106	103,5	6,0	2	8

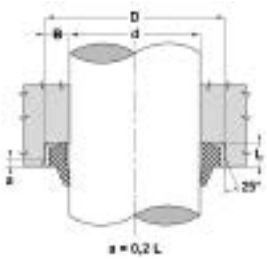
Web: http://cat.hansa-flex.com/en/DSRUP

GA

Wiper GA



Toleranz / Tolerance		
d	D	L
h11	H8	+0,20 0



Low spatial requirement. No penetration of dirt via the outer metal ring. Simple solution.

Design: Wipers
Sliding speed max.: 0,5 m/s
Temp. min.: -30 °C
Temp. max.: 100 °C
Media: Mineral oils, Water emulsions
Installation: is pressed into an open groove
Material: (1) Sleeve: Steel, (2) Wiper: NBR 90° Shore A
Application: Hydraulics

Ordering information: For special operating conditions (fluid, temperature, pressure ...) please contact us. Alternative material possible: FPM.

Identification	d mm	D mm	L mm	H mm	Standard grooves
GA 10 16-3	10	16,0	3,0	4,5	
GA 10 19-3	10	18,9	2,9	5,0	
GA 10 20-5	10	20,0	5,0	8,0	
GA 12 18-3	12	18,0	3,5	5,0	
GA 12 20-4	12	20,0	4,0	6,0	
GA 12 22-5	12	22,0	5,0	8,0	
GA 14 20-3	14	20,0	3,0	4,5	
GA 14 22-3	14	22,0	3,0	4,0	
GA 16 22-3	16	22,0	3,0	4,0	
GA 16 26-5	16	26,0	5,0	8,0	
GA 18 28-5	18	28,0	5,0	7,0	
GA 18 28-7	18	28,0	7,0	10,0	ISO 5597
GA 20 26-3	20	26,0	3,5	5,0	
GA 20 28-3	20	28,0	3,5	5,0	
GA 20 28-5	20	28,0	5,0	7,0	
GA 20 30-4	20	30,0	4,0	6,0	
GA 20 30-5	20	30,0	5,0	8,0	
GA 20 30-7	20	30,0	7,0	10,0	ISO 5597
GA 20 35-7	20	35,0	7,0	10,0	
GA 22 28-5	22	28,0	5,0	9,0	
GA 22 30-4	22	30,0	4,0	7,0	
GA 22 32-5	22	32,0	5,0	7,0	
GA 22 32-7	22	32,0	7,0	10,0	ISO 5597
GA 22 35-5	22	35,0	5,0	8,0	
GA 25 35-5	25	35,0	5,0	8,0	
GA 25 35-7	25	35,0	7,0	10,0	ISO 5597
GA 28 38-5	28	38,0	5,0	8,0	
GA 28 38-7	28	38,0	7,0	10,0	
GA 28 40-7	28	40,0	7,0	10,0	
GA 30 40-5	30	40,0	5,0	8,0	
GA 30 40-7	30	40,0	7,0	10,0	
GA 30 45-5	30	45,0	5,0	8,0	
GA 32 40-4	32	40,0	4,0	7,0	
GA 32 42-5	32	42,0	5,0	7,0	
GA 32 42-7	32	42,0	7,0	10,0	
GA 32 45-4	32	45,0	4,0	8,0	
GA 32 45-7	32	45,0	7,0	10,0	
GA 33 43-5	33	43,0	5,0	8,0	
GA 35 45-5	35	45,0	5,0	8,0	
GA 35 45-7	35	45,0	7,0	10,0	ISO 5597
GA 35 47-7	35	47,0	7,0	10,0	
GA 36 45-7	36	45,0	7,0	10,0	
GA 36 46-5	36	46,0	5,0	8,0	
GA 38 48-7	38	48,0	7,0	10,0	
GA 40 50-5	40	50,0	5,0	8,0	
GA 40 50-7	40	50,0	7,0	10,0	ISO 5597
GA 40 52-5	40	52,0	5,0	8,0	
GA 42 52-7	42	52,0	7,0	10,0	
GA 45 55-7	45	55,0	7,0	10,0	ISO 5597
GA 45 60-7	45	60,0	7,0	10,0	
GA 48 60-7	48	60,0	7,0	10,0	
GA 50 56-5	50	56,0	5,0	8,0	
GA 50 60-5	50	60,0	5,0	8,0	
GA 50 60-7	50	60,0	7,0	10,0	ISO 5597
GA 50 65-5	50	65,0	5,0	8,0	
GA 50 65-7	50	65,0	7,0	10,0	
GA 52 62-7	52	62,0	7,0	10,0	
GA 55 63-7	55	63,0	7,0	10,0	
GA 55 65-7	55	65,0	7,0	10,0	
GA 55 70-7	55	70,0	7,0	10,0	
GA 55 80-5	55	80,0	5,0	8,0	
GA 56 65-7	56	65,0	7,0	10,0	
GA 56 66-5	56	66,0	5,0	8,0	
GA 56 66-7	56	66,0	7,0	10,0	ISO 5597
GA 60 70-5	60	70,0	5,0	7,0	
GA 60 70-7	60	70,0	7,0	10,0	
GA 60 74-5	60	74,0	5,0	8,0	
GA 60 75-7	60	75,0	7,0	10,0	
GA 63 75-7	63	75,0	7,0	10,0	
GA 63 83-5	63	83,0	5,0	8,0	
GA 65 75-7	65	75,0	7,0	10,0	
GA 70 80-5	70	80,0	5,0	7,0	
GA 70 80-7	70	80,0	7,0	10,0	ISO 5597
GA 75 85-7	75	85,0	7,0	10,0	

(Continued) GA

Wiper GA

Identification	d	D	L	H	Standard grooves
	mm	mm	mm	mm	
GA 75 87-5	75	87,0	5,0	7,0	
GA 80 90-7	80	90,0	7,0	10,0	ISO 5597
GA 85 95-7	85	95,0	7,0	10,0	
GA 90 100-5	90	100,0	5,0	7,0	
GA 90 100-7	90	100,0	7,0	10,0	ISO 5597
GA 95 105-7	95	105,0	7,0	10,0	
GA 100 110-5	100	110,0	5,0	7,0	
GA 100 110-7	100	110,0	7,0	10,0	
GA 105 115-7	105	115,0	7,0	10,0	
GA 110 120-7	110	120,0	7,0	10,0	
GA 115 125-7	115	125,0	7,0	10,0	
GA 120 130-7	120	130,0	7,0	10,0	
GA 125 140-7	125	140,0	7,0	10,0	
GA 125 140-9	125	140,0	9,0	12,0	ISO 5597
GA 130 145-9	130	145,0	9,0	12,0	
GA 135 145-7	135	145,0	7,0	10,0	
GA 135 150-9	135	150,0	9,0	12,0	
GA 140 150-7	140	150,0	7,0	10,0	
GA 140 155-9	140	155,0	9,0	12,0	ISO 5597
GA 150 165-9	150	165,0	9,0	12,0	
GA 160 175-9	160	175,0	9,0	12,0	ISO 5597
GA 170 185-10	170	185,0	10,0	14,0	
GA 180 195-10	180	195,0	10,0	14,0	
GA 200 220-12	200	220,0	12,0	16,0	

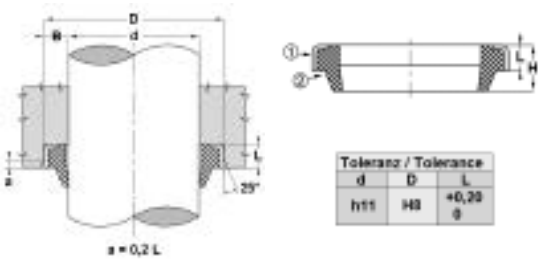
Web: http://cat.hansa-flex.com/en/GA

GA FPM

Wiper GA-FPM

Low spatial requirement. No penetration of dirt via the outer metal ring. Simple solution.

Design: Wipers
Sliding speed max.: 0,5 m/s
Temp. min.: -20 °C
Temp. max.: 200 °C
Media: Mineral oils, Water emulsions
Installation: is pressed into an open groove
Material: (1) Sleeve: Steel, Wiper: FPM
Application: Hydraulics



Ordering information: For special operating conditions (fluid, temperature, pressure ...) please contact us.

Identification	d	D	L	H
	mm	mm	mm	mm
GA 16 22-3 FPM	16	22	3,0	4
GA 25 35-7 FPM	25	35	7,0	10
GA 30 40-7 FPM	30	40	7,0	10
GA 32 45-4 FPM	32	45	4,0	8
GA 45 55-7 FPM	45	55	7,0	10

Identification	d	D	L	H
	mm	mm	mm	mm
GA 45 60-7 FPM	45	60	7,0	10
GA 50 56-5 FPM	50	56	5,0	8
GA 60 70-7 FPM	60	70	7,0	10
GA 63 75-7 FPM	63	75	7,0	10
GA 70 80-7 FPM	70	80	7,0	10

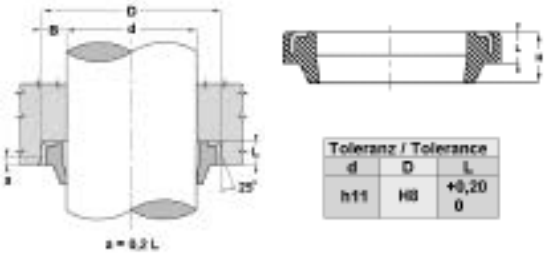
Web: http://cat.hansa-flex.com/en/GAFPM

GAR ABS

Wiper GA-R

Low spatial requirement. No penetration of dirt via the outer metal ring. Simple solution.

Design: Wipers
Sliding speed max.: 0,5 m/s
Temp. min.: -30 °C
Temp. max.: 100 °C
Media: Mineral oils, Water emulsions
Installation: is pressed into an open groove
Material: (1) Sleeve: Steel, (2) Wiper: NBR 90° Shore A
Application: Hydraulics



Ordering information: For special operating conditions (fluid, temperature, pressure ...) please contact us. Alternative material possible: FPM.

Identification	d	D	L	H
	mm	mm	mm	mm
GA 12 18-3-R	12	18,0	3,5	5,0
GA 14 20-3-R	14	20,0	3,5	5,0
GA 15 21-3-R	15	21,0	3,5	5,0

Identification	d	D	L	H
	mm	mm	mm	mm
GA 16 22-3-R	16	22,0	3,5	5,0
GA 18 28-5-R	18	28,0	5,0	7,0
GA 20 30-5-R	20	30,0	5,0	7,0

GAR ABS (Continued)

Wiper GA-R

Identification	d	D	L	H
	mm	mm	mm	mm
GA 22 32-5-R	22	32,0	5,0	7,0
GA 25 35-5-R	25	35,0	5,0	7,0
GA 28 38-5-R	28	38,0	5,0	7,0
GA 30 40-5-R	30	40,0	5,0	7,0
GA 30 40-7-R	30	40,0	7,0	10,0
GA 32 42-5-R	32	42,0	5,0	7,0
GA 36 46-5-R	36	46,0	5,0	7,0
GA 40 50-5-R	40	50,0	5,0	8,0
GA 42 52-5-R	42	52,0	5,0	7,0
GA 45 55-5-R	45	55,0	5,0	7,0

Identification	d	D	L	H
	mm	mm	mm	mm
GA 50 60-5-R	50	60,0	5,0	7,0
GA 55 65-5-R	55	65,0	5,0	7,0
GA 56 66-5-R	56	66,0	5,0	7,0
GA 60 70-5-R	60	70,0	5,0	7,0
GA 63 73-5-R	63	73,0	5,0	7,0
GA 65 75-5-R	65	75,0	5,0	7,0
GA 70 80-5-R	70	80,0	5,0	7,0
GA 75 83-7-R	75	83,0	7,0	10,0
GA 80 88-7-R	80	88,0	7,0	10,0
GA 80 90-7-R	80	90,0	7,0	10,0

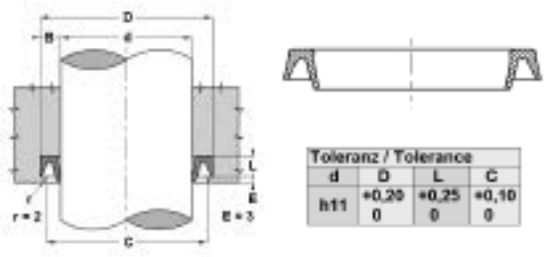
Web: http://cat.hansa-flex.com/en/GARABS

NW

Wiper NW

Easy assembly. Simple solution. High abrasion resistance.

Design: Wipers
Sliding speed max.: 4,0 m/s
Temp. min.: -30 °C
Temp. max.: 110 °C
Media: Mineral oils
Installation: press wiper into the locating groove
Material: Wiper: PA + MoS2
Application: Hydraulics



Identification	d	D	L	C
	mm	mm	mm	mm
NW 500	12,70	22,22	4,4	20,62
NW 16	16,00	26,00	4,5	24,50
NW 750	19,05	31,75	6,0	30,15
NW 20	20,00	33,00	6,0	31,50
NW 875	22,22	34,92	6,0	33,32
NW 25	25,00	38,00	6,0	36,50
NW 1000	25,40	38,10	6,0	36,50
NW 1125	28,57	41,27	6,0	99,70
NW 1250	31,80	44,45	6,0	72,29

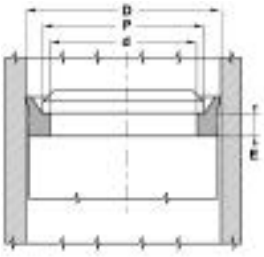
Identification	d	D	L	C
	mm	mm	mm	mm
NW 1500	38,10	50,80	6,0	49,20
NW 1750	44,45	57,15	6,0	52,37
NW 50	50,00	63,00	6,0	61,50
NW 2000	50,80	63,50	6,0	61,90
NW 2500	63,50	76,20	6,0	74,60
NW 2750	69,85	82,55	6,0	80,65
NW 70	70,00	83,00	6,0	81,50
NW 3000	76,20	88,90	6,0	87,30

Web: http://cat.hansa-flex.com/en/NW

PPW

Piston wiper PPW

Toleranz / Tolerance			
D	d	E	P
H11	+0,10 0	+0,25 0	± 0,10



Easy assembly. Simple solution. High abrasion resistance.

Design: Piston wiper
Sliding speed max.: 0,5 m/s
Temp. min.: -30 °C
Temp. max.: 80 °C
Media: Mineral oils
Installation: on one-piece pistons
Material: PUR

Ordering information: We are able to produce wipers with diameters of 20 to 510 mm with short lead times.

Identification	d	D	E	P
	mm	mm	mm	mm
PPW 040	31,4	40	5,3	37
PPW 050	41,4	50	5,3	47
PPW 060	51,4	60	5,3	57
PPW 063	54,4	63	5,3	60
PPW 075	66,4	75	5,3	72
PPW 080	71,4	80	5,3	77
PPW 090	81,4	90	5,3	87
PPW 095	86,4	95	5,3	92
PPW 100	91,4	100	5,3	97
PPW 110	101,4	110	5,3	107
PPW 115	106,4	115	5,3	112
PPW 125	116,4	125	5,3	122
PPW 140	131,4	140	5,3	137

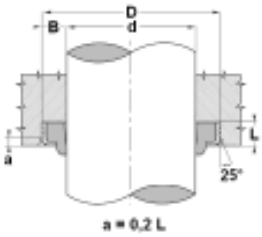
Web: http://cat.hansa-flex.com/en/PPW

PW G

Wiper PW-G

Low spatial requirement. High abrasion resistance. Simple solution.

Sliding speed max.: 0,8 m/s
Temp. min.: -30 °C
Temp. max.: 80 °C
Media: Mineral oils
Installation: is pressed into an open groove
Material: (1) Sleeve: Steel, (2) Wiper: PUR
Application: Hydraulics



Toleranz / Tolerance		
d	D	L
h11	H8	+0,20 0

Identification	d	D	L
	mm	mm	mm
PW 8-1G	8	14	3,5
PW 10-2G	10	16	3,5
PW 10-1G	10	20	5,0
PW 12-3G	12	18	3,5
PW 12-2G	12	20	4,0
PW 12-1G	12	22	5,0
PW 14-2G	14	20	3,5
PW 14-G	14	22	4,5
PW 14-1G	14	25	3,5
PW 15-2G	15	21	3,5
PW 16-2G	16	22	3,0
PW 16-1G	16	26	5,0
PW 18-G	18	26	4,5
PW 18-2G	18	28	5,0
PW 20-2G	20	30	4,0
PW 20-3G	20	30	5,0
PW 20-1G	20	30	7,0
PW 22-2G	22	28	5,0
PW 22-3G	22	32	5,0
PW 22-1G	22	32	7,0
PW 25-2G	25	32	5,0
PW 25-3G	25	35	5,0
PW 28-3G	28	38	5,0
PW 28-2G	28	38	7,0
PW 28-1G	28	40	7,0
PW 30-3G	30	40	5,0
PW 30-1G	30	40	7,0
PW 30-2G	30	45	5,0
PW 32-4G	32	42	5,0
PW 32-3G	32	42	7,0
PW 32-2G	32	45	4,0
PW 33-1G	33	43	7,0
PW 35-1G	35	45	7,0
PW 36-1G	36	45	7,0
PW 38-1G	38	48	7,0

Identification	d	D	L
	mm	mm	mm
PW 40-2G	40	50	5,0
PW 42-2G	42	52	5,0
PW 42-1G	42	52	7,0
PW 45-3G	45	55	5,0
PW 45-2G	45	55	7,0
PW 45-G	45	57	7,0
PW 45-1G	45	60	7,0
PW 50-2G	50	60	5,0
PW 50-1G	50	60	7,0
PW 55-2G	55	65	5,0
PW 55-1G	55	65	7,0
PW 56-2G	56	66	5,0
PW 56-1G	56	66	7,0
PW 60-4G	60	70	5,0
PW 60-1G	60	70	7,0
PW 60-3G	60	74	5,0
PW 63-2G	63	73	5,0
PW 63-1G	63	75	7,0
PW 65-2G	65	75	5,0
PW 65-1G	65	75	7,0
PW 70-2G	70	80	5,0
PW 70-1G	70	80	7,0
PW 75-2G	75	83	7,0
PW 75-1G	75	85	7,0
PW 80-2G	80	88	7,0
PW 80-1G	80	90	7,0
PW 90-1G	90	100	7,0
PW 95-1G	95	105	7,0
PW 100-1G	100	110	7,0
PW 100-G	100	114	8,0
PW 105-1G	105	115	7,0
PW 110-1G	110	120	7,0
PW 110-G	110	124	8,0
PW 120-1G	120	130	7,0

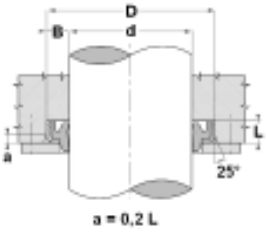
Web: http://cat.hansa-flex.com/en/PWG

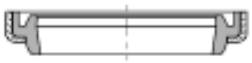
PW U

Wiper PW-U

Low spatial requirement. High abrasion resistance. Simple solution.

Sliding speed max.: 0,5 m/s
Temp. min.: -30 °C
Temp. max.: 80 °C
Media: Mineral oils
Installation: is pressed into an open groove
Material: (1) Sleeve: Steel, (2) Wiper: PUR
Application: Hydraulics





Toleranz / Tolerance		
d	D	L
h11	H8	+0,20 0

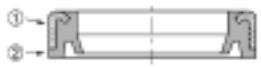
Identification	d	D	L
	mm	mm	mm
PW 20-U	20	32	6,0
PW 22-U	22	34	6,0
PW 25-U	25	37	6,0
PW 30-U	30	42	6,0
PW 35-U	35	47	7,0
PW 40-U	40	52	7,0
PW 45-U	45	57	7,0
PW 50-U	50	62	7,0
PW 55-U	55	69	8,0
PW 60-U	60	74	8,0
PW 65-U	65	79	8,0

Identification	d	D	L
	mm	mm	mm
PW 70-U	70	84	8,0
PW 75-U	75	89	8,0
PW 80-U	80	94	8,0
PW 85-U	85	99	8,0
PW 90-U	90	104	8,0
PW 95-U	95	109	8,0
PW 100-U	100	114	8,0
PW 105-U	105	121	9,0
PW 110-U	110	126	9,0
PW 120-U	120	136	9,0

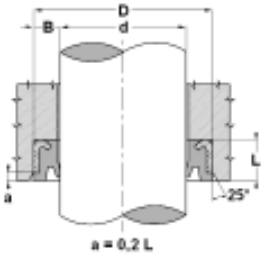
Web: http://cat.hansa-flex.com/en/PWU

SWP

Wiper SWP



Toleranz / Tolerance		
d	D	L
h11	H8	+0,20 0



Low spatial requirement. High abrasion resistance. For earth-moving equipment and difficult working conditions.

Design: Wipers
Sliding speed max.: 0,5 m/s
Temp. min.: -30 °C
Temp. max.: 80 °C
Media: Mineral oils
Installation: is pressed into an open groove
Design: Metric
Material: (1) Sleeve: Steel, (2) Wiper: PUR
Application: Hydraulics

Identification	d	D	L
	mm	mm	mm
SWP 25 38	25,0	38,0	7,5
SWP 30 40	30,0	40,0	4,0
SWP 30 43	30,0	43,0	7,5
SWP 35 45	35,0	45,0	4,0
SWP 35 50	35,0	50,0	7,5
SWP 36 48	36,0	48,0	6,0
SWP 38 50	38,0	50,0	7,5
SWP 40 50	40,0	50,0	4,0
SWP 40 52	40,0	52,0	6,0
SWP 45 55	45,0	55,0	4,0
SWP 45 60	45,0	60,0	7,5
SWP 50 60	50,0	60,0	4,0
SWP 50 65	50,0	65,0	7,5
SWP 55 65	55,0	65,0	3,2
SWP 55 68	55,0	68,0	4,0
SWP 55 70	55,0	70,0	7,5
SWP 56 70	56,0	70,0	7,5
SWP 60 70	60,0	70,0	7,0
SWP 60 75-1	60,0	75,0	4,0
SWP 60 75	60,0	75,0	7,5
SWP 63 78	63,0	78,0	7,5
SWP 65 80-1	65,0	80,0	5,0
SWP 65 80	65,0	80,0	7,5
SWP 70 80	70,0	80,0	5,0
SWP 70 84	70,0	84,0	7,5
SWP 70 85-1	70,0	85,0	4,0

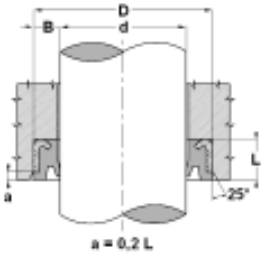
Identification	d	D	L
	mm	mm	mm
SWP 70 85	70,0	85,0	7,5
SWP 71 86	71,0	86,0	5,0
SWP 75 90	75,0	90,0	7,5
SWP 75 95	75,0	95,0	10,0
SWP 76 96	76,5	96,5	10,0
SWP 80 94	80,0	94,0	8,0
SWP 80 95-1	80,0	95,0	5,0
SWP 80 95	80,0	95,0	7,5
SWP 80 100	80,0	100,0	10,0
SWP 85 100	85,0	100,0	10,0
SWP 85 105	85,0	105,0	10,0
SWP 90 104	90,0	104,0	8,0
SWP 90 105	90,0	105,0	6,0
SWP 90 110	90,0	110,0	10,0
SWP 95 115	95,0	115,0	10,0
SWP 100 115-2	100,0	115,0	4,0
SWP 100 115-1	100,0	115,0	6,5
SWP 100 115	100,0	115,0	7,5
SWP 100 120	100,0	120,0	10,0
SWP 105 120	105,0	120,0	7,5
SWP 110 125	110,0	125,0	9,0
SWP 110 130	110,0	130,0	10,0
SWP 115 130	115,0	130,0	7,5
SWP 120 140	120,0	140,0	10,0
SWP 130 145	130,0	145,0	7,5
SWP 160 175	160,0	175,0	10,0

Web: http://cat.hansa-flex.com/en/SWP

SWP-I

Wiper SWP-I

Toleranz / Tolerance		
d	D	L
h11	H8	+0,20 0



Low spatial requirement. High abrasion resistance. For earth-moving equipment and difficult working conditions.

Design: Wipers
Sliding speed max.: 0,5 m/s
Temp. min.: -30 °C
Temp. max.: 80 °C
Media: Mineral oils
Installation: is pressed into an open groove
Design: Inches
Material: (1) Sleeve: Steel, (2) Wiper: PUR
Application: Hydraulics

Identification	d	D	L
	mm	mm	mm
SWP-I 075 125	19,05	31,75	6,30
SWP-I 100 150	25,40	38,10	8,00
SWP-I 112 162	28,57	41,27	8,00
SWP-I 125 175	31,75	44,45	6,30
SWP-I 137 187	34,92	47,62	8,00
SWP-I 150 187	38,10	47,62	6,30
SWP-I 150 200	38,10	50,80	6,30
SWP-I 150 225	38,10	57,15	9,50
SWP-I 162 212	41,27	53,97	6,30
SWP-I 175 225	44,45	57,15	6,30
SWP-I 175 212	44,45	53,90	4,80
SWP-I 200 250	50,80	63,50	7,93
SWP-I 200 262	50,80	66,67	6,30

Identification	d	D	L
	mm	mm	mm
SWP-I 200 275	50,80	69,85	9,50
SWP-I 225 275	57,15	69,85	6,30
SWP-I 225 287	57,15	73,02	6,30
SWP-I 250 300	63,50	76,20	7,92
SWP-I 250 325	63,50	82,55	9,50
SWP-I 275 325	69,82	82,55	8,00
SWP-I 275 375	69,85	95,25	12,70
SWP-I 300 350	76,20	88,90	7,92
SWP-I 325 375-1	82,55	95,25	7,92
SWP-I 325 375	82,55	95,25	9,50
SWP-I 325 425	82,55	107,95	12,70
SWP-I 350 450	88,90	114,30	12,70

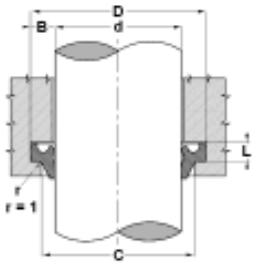
Web: http://cat.hansa-flex.com/en/SWPI

UWR

Rod seal UWR

Easy assembly. Also wipes off leak oil from seal chamber.

Design: Double wiper seal
Sliding speed max.: 0,5 m/s
Temp. min.: -30 °C
Temp. max.: 110 °C
Media: Mineral oils, Water
Installation: bend the wiper into a kidney shape and press into the locating groove
Material: NBR
Application: Hydraulics



Toleranz / Tolerance			
d	D	L	C
H11	+0,20 0	+0,10 0	+0,20 0

Ordering information: For special operating conditions (fluid, temperature, pressure ...) please contact us. We are able to produce wipers with diameters of 20 to 510 mm with short lead times. Alternative material possible: FPM.

Identification	D	d	L	C
	mm	mm	mm	mm
UWR 470 80	20,6	12,0	5,3	15,0
UWR 620 87	22,6	16,0	3,8	19,0
UWR 781 10	28,6	20,0	5,3	23,0
UWR 118 149	38,6	30,0	5,3	33,0
UWR 137 169	43,6	35,0	5,3	38,0
UWR 157 188	48,6	40,0	5,3	43,0

Identification	D	d	L	C
	mm	mm	mm	mm
UWR 165 196	50,0	42,0	5,3	45,0
UWR 177 208	53,6	45,0	5,3	48,0
UWR 255 287	73,6	65,0	5,3	68,0
UWR 260 292	74,6	66,0	5,3	69,0
UWR 301 348	88,7	76,5	7,1	82,5
UWR 307 362	92,2	78,0	7,1	85,0

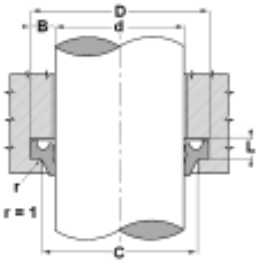
Web: http://cat.hansa-flex.com/en/UWR

UWR-P

Rod seal UWR-P

Easy assembly. Also wipes off leak oil from seal chamber.

Design: Double wiper seal
Sliding speed max.: 0,5 m/s
Temp. min.: -30 °C
Temp. max.: 80 °C
Media: Mineral oils
Installation: bend the wiper into a kidney shape and press into the locating groove
Material: PUR
Application: Hydraulics



Toleranz / Tolerance			
d	D	L	C
h11	+0,20 0	+0,10 0	+0,20 0

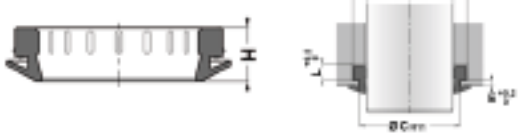
Identification	d	D	L	C
	mm	mm	mm	mm
UWR-P 12	12	18,6	3,8	15,0
UWR-P 18	18	24,6	3,8	21,0
UWR-P 20	20	28,6	5,3	23,0
UWR-P 22	22	30,6	5,3	25,0
UWR-P 24	24	32,6	5,3	27,0
UWR-P 25-1	25	25,0	4,0	27,5
UWR-P 25	25	33,6	5,3	28,0
UWR-P 28-1	28	28,0	5,0	31,0
UWR-P 28	28	36,6	5,3	31,0
UWR-P 30	30	38,6	5,3	33,0
UWR-P 32	32	40,6	5,3	35,0
UWR-P 35-1	35	35,0	5,0	38,0
UWR-P 35	35	43,6	5,3	38,0
UWR-P 36	36	44,6	5,3	39,0
UWR-P 40	40	48,6	5,3	43,0
UWR-P 45	45	53,6	5,3	48,0

Identification	d	D	L	C
	mm	mm	mm	mm
UWR-P 50-1	50	50,0	5,0	53,0
UWR-P 50	50	58,6	5,3	53,0
UWR-P 55	55	63,6	5,3	58,0
UWR-P 56	56	64,6	5,3	59,0
UWR-P 60	60	68,6	5,3	63,0
UWR-P 63	63	71,6	5,3	66,0
UWR-P 65	65	73,6	5,3	68,0
UWR-P 70	70	78,6	5,3	73,0
UWR-P 75	75	83,6	5,3	78,0
UWR-P 80	80	88,6	5,3	83,0
UWR-P 85	85	97,2	7,1	91,0
UWR-P 90-1	90	90,0	6,0	93,0
UWR-P 90	90	102,2	7,1	96,0
UWR-P 100	100	112,2	7,1	106,0
UWR-P 110	110	122,2	7,1	116,6

Web: http://cat.hansa-flex.com/en/UWRP

WAH

Wiper, WAH



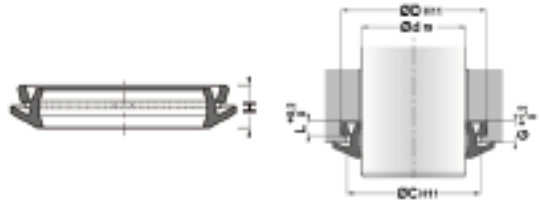
Design: Wipers
Sliding speed max.: 4,0 m/s
Temp. min.: -40 °C
Temp. max.: 110 °C
Media: Mineral oil
Installation: bend the wiper into a kidney shape and press into the locating groove
Application: For the usage at higher pollution, for e.g.:, Mining, foundries
Material: PU 93° Shore A

Identification	C	D	d	E	H	L
	mm	mm	mm	mm	mm	mm
WAH-35	42,0	45,0	35	1,5	10,0	6,3
WAH-36	41,5	44,0	36	1,5	8,0	5,0
WAH-40	45,5	48,0	40	1,5	8,0	5,0
WAH-45	50,5	53,0	45	1,5	8,0	5,0
WAH-50	55,5	58,0	50	1,5	8,0	5,0
WAH-56	63,0	66,0	56	1,5	10,0	6,3
WAH-60	67,0	70,0	60	1,5	10,0	6,3
WAH-63	70,0	73,0	63	1,5	10,0	6,3
WAH-70	78,4	82,6	70	2,0	12,0	8,0
WAH-80	87,0	90,0	80	1,5	10,0	6,3
WAH-90	96,0	102,2	90	2,8	12,4	7,1

Web: http://cat.hansa-flex.com/en/WAH

WUH

Wiper, WUH



Design: Wipers
Sliding speed max.: 4,0 m/s
Temp. min.: -40 °C
Temp. max.: 110 °C
Media: Mineral oil
Installation: bend the wiper into a kidney shape and press into the locating groove
Application: For the usage at higher pollution, for e.g.:, Mining, foundries
Material: PU 93° Shore A

Identification	C	D	d	G	H	L
	mm	mm	mm	mm	mm	mm
WUH-26	32,0	34,0	26	5,00	8,7	4,0
WUH-30	36,0	38,0	30	5,00	8,7	4,0
WUH-32	38,0	40,0	32	5,00	8,7	4,0
WUH-36	42,0	44,0	36	5,00	8,7	4,0
WUH-40	46,0	48,0	40	5,00	8,7	4,0
WUH-45	51,0	53,0	45	5,00	8,7	4,0
WUH-50	56,0	58,0	50	5,00	8,7	4,0
WUH-52	58,0	60,0	52	5,00	8,7	4,0
WUH-56	62,0	64,0	56	5,00	8,7	4,0
WUH-60	66,0	68,0	60	5,00	8,7	4,0
WUH-68	74,0	76,0	68	5,00	8,7	4,0
WUH-70	76,0	78,0	70	5,00	8,7	4,0
WUH-75	81,0	83,0	75	5,00	8,7	4,0
WUH-80	86,0	88,0	80	5,00	8,7	4,0
WUH-100	107,0	110,0	100	8,10	11,7	6,3

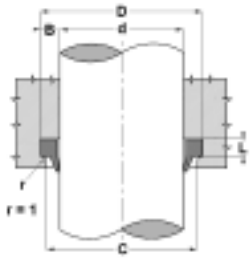
Web: http://cat.hansa-flex.com/en/WUH

WRM

Wiper WRM

Easy assembly. Simple solution. Low spatial requirement.

Design: Wipers
Sliding speed max.: 0,5 m/s
Temp. min.: -30 °C
Temp. max.: 110 °C
Media: Mineral oils, Water emulsions
Installation: bend the wiper into a kidney shape and press into the locating groove
Material: NBR 90° Shore A
Application: Hydraulics



Toleranz / Tolerance			
d	D	L	C
h11	+0,20 0	+0,10 0	+0,20 0

Ordering information: Alternative material possible: FPM.

Identification	d	D	L	C
	mm	mm	mm	mm
WRM 470 70	12,0	18,6	3,8	15,0
WRM 510 74	13,0	19,6	3,8	16,0
WRM 590 82	15,0	21,6	3,8	18,0
WRM 620 87	16,0	22,6	3,8	19,0
WRM 700 94	18,0	24,6	3,8	21,0
WRM 781 10	20,0	28,6	5,3	23,0
WRM 861 18	22,0	30,6	5,3	25,0
WRM 981 29	25,0	33,6	5,3	28,0
WRM 102 133	26,0	34,6	5,3	29,0
WRM 106 137	27,0	35,6	5,3	30,0
WRM 110 141	28,0	36,6	5,3	31,0
WRM 118 149	30,0	38,6	5,3	33,0
WRM 125 157	32,0	40,6	5,3	35,0
WRM 137 169	35,0	43,6	5,3	38,0
WRM 141 173	36,0	44,6	5,3	39,0
WRM 157 188	40,0	48,6	5,3	43,0
WRM 165 196	42,0	50,6	5,3	45,0
WRM 177 208	45,0	53,6	5,3	48,0
WRM 177 216	45,0	55,6	5,3	49,0
WRM 196 228	50,0	58,6	5,3	53,0
WRM 196 236	50,0	60,6	5,3	54,0
WRM 216 248	55,0	63,6	5,3	58,0
WRM 220 251	56,0	64,6	5,3	59,0
WRM 220 259	56,0	66,6	5,3	60,0
WRM 236 267	60,0	68,6	5,3	63,0
WRM 255 287	65,0	73,6	5,3	68,0
WRM 255 295	65,0	75,6	5,3	69,0
WRM 275 307	70,0	78,6	5,3	73,0
WRM 275 314	70,0	80,6	5,3	74,0
WRM 275 322	70,0	82,2	7,1	76,0
WRM 283 317	72,0	80,6	5,3	75,0

Identification	d	D	L	C
	mm	mm	mm	mm
WRM 295 345	75,0	87,2	7,1	81,0
WRM 301 348	76,5	88,7	7,1	82,5
WRM 307 362	78,0	92,2	7,1	85,0
WRM 314 346	80,0	88,6	5,3	83,0
WRM 314 362	80,0	92,2	7,1	86,0
WRM 334 366	85,0	93,6	5,3	88,0
WRM 346 393	88,0	100,2	7,1	94,0
WRM 354 401	90,0	102,2	7,1	96,0
WRM 374 421	95,0	107,2	7,1	101,0
WRM 393 440	100,0	112,2	7,1	106,0
WRM 413 460	105,0	117,2	7,1	111,0
WRM 433 480	110,0	122,2	7,1	116,0
WRM 452 500	115,0	127,2	7,1	121,0
WRM 472 504	120,0	128,0	7,0	123,0
WRM 472 519	120,0	132,2	7,1	126,0
WRM 492 539	125,0	137,2	7,1	131,0
WRM 492 551	125,0	140,2	10,1	132,0
WRM 531 578	135,0	147,2	7,1	141,0
WRM 551 598	140,0	152,2	7,1	146,0
WRM 551 610	140,0	155,2	10,1	147,0
WRM 570 618	145,0	157,2	7,1	151,0
WRM 590 637	150,0	162,2	7,1	156,0
WRM 629 661	160,0	168,6	5,3	163,0
WRM 629 688	160,0	175,2	10,1	168,0
WRM 673 720	171,0	183,0	6,3	176,0
WRM 688 744	175,0	189,2	7,1	182,0
WRM 708 767	180,0	195,0	10,1	188,0
WRM 708 787	180,0	200,0	10,1	190,0
WRM 787 847	200,0	215,0	10,1	207,0
WRM 787 866	200,0	220,0	10,1	210,0
WRM 102 411 02	260,0	280,0	10,2	270,0

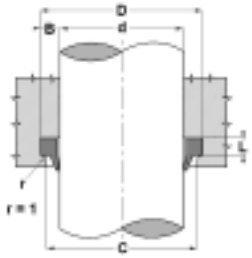
Web: http://cat.hansa-flex.com/en/WRM

WRM FPM

Wiper WRM-FPM

Easy assembly. Simple solution. Low spatial requirement.

Design: Wipers
Sliding speed max.: 0,5 m/s
Temp. min.: -30 °C
Temp. max.: 200 °C
Media: Mineral oils, Water emulsions
Installation: bend the wiper into a kidney shape and press into the locating groove
Material: FPM
Application: Hydraulics



Toleranz / Tolerance			
d	D	L	C
h11	+0,20 0	+0,10 0	+0,20 0

Ordering information: Alternative material possible: FPM.

Identification	d	D	L	C
	mm	mm	mm	mm
WRM 078 110 FPM	20	28,6	5,3	23
WRM 086 118 FPM	22	30,6	5,3	25
WRM 098 129 FPM	25	33,6	5,3	28
WRM 110 141 FPM	28	36,6	5,3	31
WRM 118 149 FPM	30	38,6	5,3	33
WRM 137 169 FPM	35	43,6	5,3	38
WRM 157 188 FPM	40	48,6	5,3	43

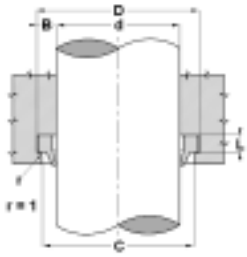
Identification	d	D	L	C
	mm	mm	mm	mm
WRM 220 259 FPM	56	66,6	5,3	60
WRM 236 267 FPM	60	68,6	5,3	63
WRM 275 307 FPM	70	78,6	5,3	73
WRM 275 314 FPM	70	80,6	5,3	74
WRM 433 480 FPM	110	122,2	7,1	116
WRM 708 787 FPM	180	200,0	10,2	190

Web: http://cat.hansa-flex.com/en/WRMFPM

WRM-H

Wiper WRM-H

Toleranz / Tolerance			
d	D	L	C
h11	+0,20 0	+0,10 0	+0,20 0



Simple solution. Easy assembly. High abrasion resistance.

Design: Wipers
Sliding speed max.: 0,8 m/s
Temp. min.: -30 °C
Temp. max.: 110 °C
Media: Mineral oils, Water emulsions
Installation: bend the wiper into a kidney shape and press into the locating groove
Material: Polyester
Application: Hydraulics

Identification	d	D	L	C
	mm	mm	mm	mm
WRM-H 20	20	28	5,0	25,5
WRM-H 25	25	33	5,0	30,5
WRM-H 28	28	36	5,0	33,5
WRM-H 30	30	38	5,0	35,5
WRM-H 32	32	40	5,0	37,5
WRM-H 36	36	44	5,0	41,5
WRM-H 40	40	48	5,0	45,5
WRM-H 45	45	53	5,0	50,5

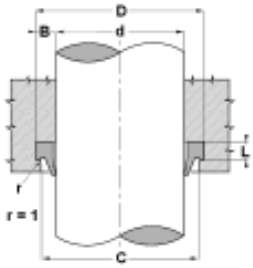
Identification	d	D	L	C
	mm	mm	mm	mm
WRM-H 50	50	58	5,0	55,5
WRM-H 60	60	70	6,3	67,0
WRM-H 70	70	80	6,3	77,0
WRM-H 80	80	90	6,3	87,0
WRM-H 90	90	100	6,3	97,0
WRM-H 100	100	115	9,5	110,0
WRM-H 110	110	125	9,5	120,0
WRM-H 125	125	140	9,5	135,0

Web: http://cat.hansa-flex.com/en/WRMH

WRM-P

Wiper WRM-P

Toleranz / Tolerance			
d	D	L	C
h11	+0,20 0	+0,10 0	+0,20 0



Easy assembly. Simple solution. High abrasion resistance.

Design: Wipers
Sliding speed max.: 0,8 m/s
Temp. min.: -30 °C
Temp. max.: 80 °C
Media: Mineral oils
Installation: bend the wiper into a kidney shape and press into the locating groove
Design: Metric
Material: PUR
Application: Hydraulics

Ordering information: We are able to produce wipers with diameters of 20 to 510 mm with short lead times.

Identification	d	D	L	C
	mm	mm	mm	mm
WRM-P 04	4	12,0	3,0	9,0
WRM-P 05-S	5	12,0	2,8	9,0
WRM-P 06-S	6	12,0	3,0	9,0
WRM-P 08	8	14,6	3,8	11,0
WRM-P 10	10	16,6	3,8	13,0
WRM-P 12	12	18,6	3,8	15,0
WRM-P 14	14	20,6	3,8	17,0
WRM-P 15	15	21,6	3,8	18,0
WRM-P 16-1	16	22,5	3,0	19,0
WRM-P 16	16	22,6	3,8	19,0
WRM-P 18	18	24,6	3,8	21,0
WRM-P 20-1	20	26,0	3,4	23,0
WRM-P 20	20	28,6	5,3	23,0
WRM-P 22	22	30,6	5,3	25,0
WRM-P 25	25	25,0	5,3	28,0
WRM-P 28	28	36,6	5,3	31,0
WRM-P 30	30	38,6	5,3	33,0
WRM-P 30-1	30	40,0	3,0	34,5
WRM-P 32-1	32	40,0	3,7	35,0
WRM-P 32	32	40,6	5,3	35,0
WRM-P 35	35	43,6	5,3	38,0
WRM-P 35-1B	35	45,0	4,0	39,0
WRM-P 36	36	44,6	5,3	39,0
WRM-P 38	38	46,6	5,3	41,0
WRM-P 38-1	38	48,5	4,8	41,0
WRM-P 40	40	48,6	5,3	43,0
WRM-P 42	42	50,6	5,3	45,0
WRM-P 45	45	53,6	5,3	48,0
WRM-P 45-1	45	55,6	5,3	48,0
WRM-P 45-1B	45	60,0	4,2	53,0
WRM-P 50	50	58,6	5,3	53,0
WRM-P 50-1	50	60,6	5,3	53,0
WRM-P 50-1B	50	65,5	4,2	58,0
WRM-P 55	55	63,6	5,3	58,0
WRM-P 55-1	55	65,6	5,3	58,0
WRM-P 56	56	64,6	5,3	59,0
WRM-P 56-1	56	66,6	5,3	59,0

Identification	d	D	L	C
	mm	mm	mm	mm
WRM-P 60	60	68,6	5,3	63,0
WRM-P 60-S	60	70,6	5,5	66,5
WRM-P 63	63	71,6	5,3	66,0
WRM-P 63-1	63	73,6	5,3	67,0
WRM-P 65	65	73,6	5,3	68,0
WRM-P 65-2	65	75,6	5,3	69,0
WRM-P 65-1	65	76,6	6,0	71,5
WRM-P 70	70	78,6	5,3	73,0
WRM-P 70-2	70	80,0	5,0	74,0
WRM-P 70-1	70	82,6	7,1	76,0
WRM-P 73-1	73	83,6	7,3	76,0
WRM-P 75	75	83,6	5,3	78,0
WRM-P 75-1	75	87,2	7,1	81,0
WRM-P 78-2	78	86,0	5,0	81,0
WRM-P 78-S	78	88,6	5,5	84,5
WRM-P 80	80	88,6	5,3	83,0
WRM-P 80-1	80	92,6	7,1	86,0
WRM-P 85-1	85	93,6	5,3	88,0
WRM-P 85	85	97,2	7,1	91,0
WRM-P 90	90	102,2	7,1	96,0
WRM-P 92-S	92	103,6	5,5	97,0
WRM-P 95	95	107,2	7,1	101,0
WRM-P 97-2	97	105,0	5,0	100,0
WRM-P 99	99	109,6	5,5	103,0
WRM-P 100	100	112,2	7,1	106,0
WRM-P 105	105	117,2	7,1	111,0
WRM-P 110	110	122,2	7,1	116,0
WRM-P 115-1	115	123,6	5,3	118,0
WRM-P 115	115	127,2	7,1	121,0
WRM-P 120-S	120	130,6	5,5	126,5
WRM-P 120	120	132,2	7,1	126,0
WRM-P 125	125	137,2	7,1	131,0
WRM-P125-1	125	140,2	10,1	132,0
WRM-P 130-1	130	138,6	5,3	133,0
WRM-P 130	130	142,2	7,1	136,0
WRM-P 135	135	147,2	7,1	141,0
WRM-P 140-2	140	148,6	6,0	143,0

→

(Continued) WRM-P

Wiper WRM-P

Identification	d	D	L	C
	mm	mm	mm	mm
WRM-P 140	140	152,2	7,1	146,0
WRM-P 140-1	140	155,0	9,0	147,0
WRM-P 141-S	141	151,6	5,5	147,5
WRM-P 145	145	157,2	7,1	151,0
WRM-P 150-2	150	158,6	5,3	153,0
WRM-P 150	150	162,2	7,1	156,0
WRM-P 150-1	150	165,0	7,5	156,0
WRM-P 150-3	150	165,2	10,1	158,0
WRM-P 160-1	160	172,2	7,1	166,0
WRM-P 160	160	175,2	10,1	167,6
WRM-P 162-S	162	172,6	5,5	168,0
WRM-P 170	170	185,2	10,1	178,0
WRM-P 180	180	195,2	10,1	188,0

Identification	d	D	L	C
	mm	mm	mm	mm
WRM-P 180-2	180	200,0	7,0	188,0
WRM-P 180-3	180	200,0	10,2	190,0
WRM-P 183-S	183	193,6	5,5	189,0
WRM-P 190-2	190	198,6	5,3	193,0
WRM-P 190	190	205,2	10,1	198,0
WRM-P 190-1	190	210,0	10,1	200,0
WRM-P 200	200	215,2	10,1	208,0
WRM-P 200-3	200	220,0	10,2	210,0
WRM-P 220	220	235,2	10,1	228,0
WRM-P 220-1	220	240,0	10,1	230,0
WRM-P 230	230	245,2	10,1	238,0
WRM-P 240	240	255,2	10,1	248,0
WRM-P 300-5	300	315,2	10,1	308,0

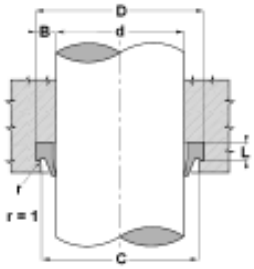
Web: http://cat.hansa-flex.com/en/WRMP

WRM-PI

Wiper WRM-PI

Easy assembly. Simple solution. High abrasion resistance.

Design: Wipers
Sliding speed max.: 0,8 m/s
Temp. min.: -30 °C
Temp. max.: 80 °C
Media: Mineral oils
Installation: bend the wiper into a kidney shape and press into the locating groove
Design: Inches
Material: PUR
Application: Hydraulics



Toleranz / Tolerance			
d	D	L	C
h11	+0,20 0	+0,10 0	+0,20 0

Ordering information: We are able to produce wipers with diameters of 20 to 510 mm with short lead times.

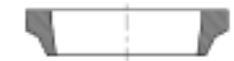
Identification	d	D	L	C
	mm	mm	mm	mm
WRM-PI 050 075	12,70	19,06	3,2	16,76
WRM-PI 075 112	28,57	28,57	4,8	24,88
WRM-PI 087 125	22,22	31,75	4,8	28,45
WRM-PI 100 137	25,40	34,92	4,8	31,62
WRM-PI 112 150	28,57	38,10	4,8	34,80
WRM-PI 125 162	31,75	41,27	4,8	37,97
WRM-PI 137 175	34,92	44,45	4,8	41,14
WRM-PI 150 187	38,10	47,62	4,8	44,32
WRM-PI 162 200	41,27	50,80	4,8	47,50

Identification	d	D	L	C
	mm	mm	mm	mm
WRM-PI 175 212	44,45	53,97	4,8	50,67
WRM-PI 200 250	50,80	63,50	6,4	59,18
WRM-PI 225 275	57,15	69,85	6,4	65,46
WRM-PI 250 300	63,50	76,20	6,4	71,81
WRM-PI 262 312	66,67	79,37	6,4	74,98
WRM-PI 300 350	76,20	88,90	6,4	84,51
WRM-PI 350 400	88,90	101,60	6,4	97,20
WRM-PI 450 500	114,30	127,00	6,4	122,61

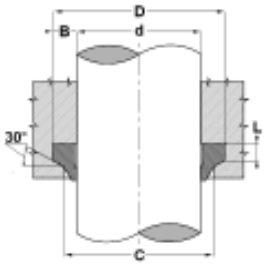
Web: http://cat.hansa-flex.com/en/WRMPI

WRS

Wiper WRS



Toleranz / Tolerance			
d	D	L	C
h11	+0,20 0	+0,10 0	+0,20 0



Simple solution. Easy assembly.

Design: Wipers
Sliding speed max.: 0,5 m/s
Temp. min.: -40 °C
Temp. max.: 130 °C
Media: Mineral oils, Water emulsions
Installation: bend the wiper into a kidney shape and press into the locating groove
Material: NBR 90° Shore A
Application: Hydraulics

Ordering information: For special operating conditions (fluid, temperature, pressure ...) please contact us. Alternative material possible: FPM.

Identification	d	D	L	C
	mm	mm	mm	mm
WRS 751 25	19,05	31,75	5,3	25,45
WRS 100 150	25,40	38,10	5,3	31,80
WRS 129 179	33,00	45,70	5,3	39,40
WRS 157 207	40,00	52,70	5,3	46,40
WRS 187 237	47,62	60,32	5,3	54,02
WRS 196 246	50,00	62,70	5,3	56,40
WRS 200 250	50,80	63,50	5,3	57,20
WRS 220 270	56,00	68,70	5,3	62,40
WRS 225 275	57,15	69,85	5,3	63,55
WRS 236 286	60,00	72,70	5,3	66,40

Identification	d	D	L	C
	mm	mm	mm	mm
WRS 248 298	63,00	75,70	5,3	69,40
WRS 275 325	70,00	82,70	5,3	76,40
WRS 300 350	76,20	88,90	5,3	82,40
WRS 315 365	80,00	92,70	5,3	86,40
WRS 325 375	82,55	95,25	5,3	88,95
WRS 346 396	88,00	100,70	5,3	94,40
WRS 354 404	90,00	102,70	5,3	96,40
WRS 374 424	95,00	107,70	5,3	101,40
WRS 600 650	152,40	165,10	5,3	158,40

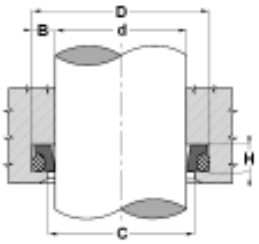
Web: http://cat.hansa-flex.com/en/WRS

WTF A

Wiper WTF-A

Low dynamic friction. No stick-slip. Long service life. Low spatial requirement. Extreme temperatures -45°C to 200°C with Viton O-ring Extremely good wiper effect from inside against the residual oil film on the surface of the rod.

Design: Wipers
Sliding speed max.: 15,0 m/s
Temp. min.: -30 °C
Temp. max.: 110 °C
Media: Mineral oils
Installation: first bend the O-ring and then the PTFE ring into a kidney shape, and press into the locating groove (from 30 mm).
Material: (1) Dynamic seal: PTBR, (2) Static seal: NBR
Application: Hydraulics



Toleranz / Tolerance			
d	D	C	L
h8	H9	H11	0 +0,20

Identification	d mm	D mm	H mm	C mm
K-DWTF 0100 A124470	10	14,8	3,7	12,7
K-DWTF 0120 A124470	12	18,8	5,0	15,5
K-DWTF 0160 A124470	16	22,8	5,0	19,5
K-DWTF 0180 A124470	18	24,8	5,0	21,5
K-DWTF 0200 A124470	20	26,8	5,0	23,5
K-DWTF 0280 A124470	28	34,8	5,0	31,5
K-DWTF 0400 A124470	40	46,8	5,0	43,5
K-DWTF 0450 A124470	45	51,8	5,0	48,5
K-DWTF 0500 A124470	50	56,8	5,0	53,5
K-DWTF 0650 A124470	65	73,8	6,0	69,0
K-DWTF 1000 A124470	100	108,8	6,0	104,0
K-DWTF 1100 A124470	110	118,8	6,0	114,0
K-DWTF 1400 A124470	140	148,8	6,0	144,0

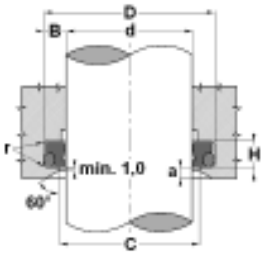
Web: http://cat.hansa-flex.com/en/WTFA

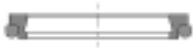
WTF B

Wiper WTF-B

Low dynamic friction. No stick-slip. Low spatial requirement. Long service life. Extreme temperatures -45°C to 200°C with Viton O-ring Extremely good wiper effect from inside against the residual oil film on the surface of the rod.

Design: Wipers
Sliding speed max.: 15,0 m/s
Temp. min.: -30 °C
Temp. max.: 110 °C
Media: Mineral oils
Installation: first bend the O-ring and then the PTFE ring into a kidney shape, and press into the locating groove (from 30 mm).
Material: (1) Dynamic seal: PTBR, (2) Static seal: NBR
Application: Hydraulics





Toleranz / Tolerance			
d	D	C	L
f8 / h9	H9	H11	0 +0,20

Identification	d mm	D mm	H mm	C mm
WTF 0080 B554470	8	12,8	3,7	10,7
WTF 0100 B554470	10	14,8	3,7	12,7
WTF 0120 B554470	12	18,8	5,0	15,5
WTF 0140 B554470	14	20,8	5,0	17,5
WTF 0150 B554470	15	21,8	5,0	18,5
WTF 0160 B554470	16	22,8	5,0	19,5
WTF 0180 B554470	18	24,8	5,0	21,5
WTF 0200 B554470	20	26,8	5,0	23,5
WTF 0220 B554470	22	28,8	5,0	23,5
WTF 0250 B554470	25	31,8	5,0	28,5
WTF 0280 B554470	28	34,8	5,0	31,5
WTF 0300 B554470	30	36,8	5,0	33,5
WTF 0320 B554470	32	38,8	5,0	35,5
WTF 0350 B554470	35	41,8	5,0	38,5
WTF 0400 B554470	40	46,8	5,0	43,5
WTF 0420 B554470	42	48,8	5,0	45,5
WTF 0450 B554470	45	51,8	5,0	48,5
WTF 0500 B554470	50	56,8	5,0	53,5
WTF 0550 B554470	55	61,8	5,0	58,5

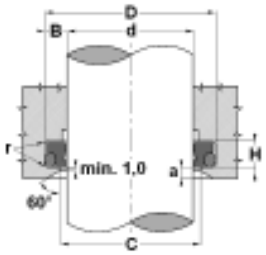
Identification	d mm	D mm	H mm	C mm
WTF 0600 B554470	60	66,8	5,0	63,5
WTF 0650 B554470	65	73,8	6,0	69,0
WTF 0700 B554470	70	78,8	6,0	74,0
WTF 0750 B554470	75	83,8	6,0	79,0
WTF 0800 B554470	80	88,8	6,0	84,0
WTF 0850 B554470	85	93,8	6,0	89,0
WTF 0900 B554470	90	98,8	6,0	94,0
WTF 0950 B554470	95	103,8	6,0	99,0
WTF 1000 B554470	100	108,8	6,0	104,0
WTF 1050 B554470	105	113,8	6,0	109,0
WTF 1100 B554470	110	118,8	6,0	114,0
WTF 1200 B554470	120	128,8	6,0	124,0
WTF 1500 B554470	150	158,8	6,0	154,0
WTF 1530 B554470	153	161,8	6,0	157,0
WTF 1700 B554470	170	178,8	6,0	174,0
WTF 1730 B554470	173	181,8	6,0	177,0
WTF 2100 B554470	210	218,8	6,0	214,0
WTF 2400 B554470	240	248,8	6,0	244,0

Web: http://cat.hansa-flex.com/en/WTFB

WTFP B

Wiper WTFP-B

Toleranz / Tolerance			
d	D	C	L
f8 / h9	H9	H11	0 +0,20



Low dynamic friction. No stick-slip. Low spatial requirement. Long service life. Extreme temperatures -45°C to 200°C with Viton O-ring Extremely good wiper effect from inside against the residual oil film on the surface of the rod.

Design: Wipers
Sliding speed max.: 15,0 m/s
Temp. min.: -30 °C
Temp. max.: 110 °C
Media: Mineral oils
Installation: first bend the O-ring and then the PTFE ring into a kidney shape, and press into the locating groove (from 30 mm).
Material: (1) Dynamic seal: PTBR, (2) Static seal: NBR
Application: Hydraulics

Identification	d	D	H	C
	mm	mm	mm	mm
WTFP 0200 B554470	20	27,6	4,2	21,5
WTFP 0220 B554470	22	29,6	4,2	23,5
WTFP 0250 B554470	25	32,6	4,2	26,5
WTFP 0280 B554470	28	35,6	4,2	29,5
WTFP 0300 B554470	30	37,6	4,2	31,5
WTFP 0320 B554470	32	39,6	4,2	33,5
WTFP 0350 B554470	35	42,6	4,2	36,5
WTFP 0360 B554470	36	43,6	4,2	37,5
WTFP 0400 B554470	40	48,8	6,3	41,5
WTFP 0420 B554470	42	50,8	6,3	43,5
WTFP 0450 B554470	45	53,8	6,3	46,5
WTFP 0500 B554470	50	58,8	6,3	51,5
WTFP 0550 B554470	55	63,8	6,3	56,5
WTFP 0560 B554470	56	64,8	6,3	57,5
WTFP 0600 B554470	60	68,8	6,3	61,5
WTFP 0630 B554470	63	71,8	6,3	64,5
WTFP 0650 B554470	65	73,8	6,3	66,5
WTFP 0700 B554470	70	82,2	8,1	72,0
WTFP 0750 B554470	75	87,2	8,1	77,0
WTFP 0800 B554470	80	92,2	8,1	82,0
WTFP 0850 B554470	85	97,2	8,1	87,0
WTFP 0900 B554470	90	102,2	8,1	92,0
WTFP 0950 B554470	95	107,2	8,1	97,0

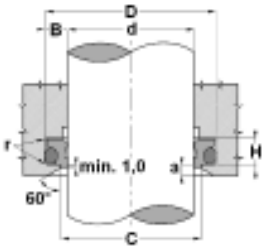
Identification	d	D	H	C
	mm	mm	mm	mm
WTFP 1000 B554470	100	112,2	8,1	102,0
WTFP 1100 B554470	110	122,2	8,1	112,0
WTFP 1200 B554470	120	132,2	8,1	122,0
WTFP 1250 B554470	125	137,2	8,1	127,0
WTFP 1300 B554470	130	142,2	8,1	132,0
WTFP 1350 B554470	135	147,2	8,1	137,0
WTFP 1400 B554470	140	156,0	9,5	142,5
WTFP 1500 B554470	150	166,0	9,5	152,5
WTFP 1600 B554470	160	176,0	9,5	162,5
WTFP 1700 B554470	170	186,0	9,5	172,5
WTFP 1800 B554470	180	196,0	9,5	182,5
WTFP 1900 B554470	190	206,0	9,5	192,5
WTFP 2000 B554470	200	216,0	9,5	202,5
WTFP 2100 B554470	210	226,0	9,5	2212,5
WTFP 2200 B554470	220	236,0	9,5	222,5
WTFP 2300 B554470	230	246,0	9,5	232,5
WTFP 2400 B554470	240	256,0	9,5	242,5
WTFP 2500 B554470	250	266,0	9,5	252,5
WTFP 2600 B554470	260	276,0	9,5	262,5
WTFP 2700 B554470	270	286,0	9,5	272,5
WTFP 2800 B554470	280	296,0	9,5	282,5
WTFP 3000 B554470	300	316,0	9,5	302,5

Web: http://cat.hansa-flex.com/en/WTFPB

WTFP BPU

Wiper WTFP-BPU

Toleranz / Tolerance			
d	D	C	L
f8 / h9	H9	H11	0 +0,20



Low dynamic friction. High abrasion resistance. Low spatial requirement. Long service life. Extremely good wiper effect from inside against the residual oil film on the surface of the rod.

Design: Wipers
Sliding speed max.: 2,0 m/s
Temp. min.: -30 °C
Temp. max.: 110 °C
Media: Mineral oils
Installation: first bend the O-ring and then the PTFE ring into a kidney shape, and press into the locating groove (from 30 mm).
Material: (1) Dynamic seal: H-PU D55, (2) Static seal: NBR
Application: Hydraulics

Identification	d	D	H	C
	mm	mm	mm	mm
WTFP 0250 BPU40447	25	32,6	4,2	26,5
WTFP 0350 BPU40447	35	42,6	4,2	36,5
WTFP 0500 BPU40447	50	58,8	6,3	51,5
WTFP 0550 BPU40447	55	63,8	6,3	56,5
WTFP 0560 BPU40447	56	64,8	6,3	57,5
WTFP 0600 BPU40447	60	68,8	6,3	61,5
WTFP 0700 BPU40447	70	82,2	8,1	72,0

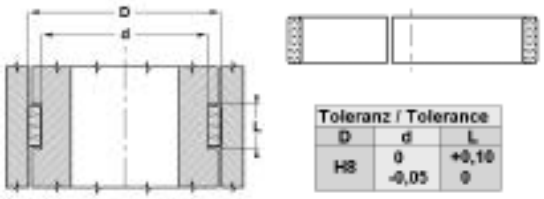
Identification	d	D	H	C
	mm	mm	mm	mm
WTFP 0750 BPU40447	75	87,2	8,1	77,0
WTFP 0800 BPU40447	80	92,2	8,1	82,0
WTFP 0900 BPU40447	90	102,2	8,1	92,0
WTFP 0950 BPU40447	95	107,2	8,1	97,0
WTFP 1000 BPU40447	100	112,2	8,1	102,0
WTFP 1100 BPU40447	110	122,2	8,1	112,0
WTFP 1400 BPU40447	140	156,0	9,5	142,5

Web: http://cat.hansa-flex.com/en/WTFPBPU

E-DWR

Piston guide E-DWR

Easy working of the fitting groove and assembly. High load-bearing capacity. Low coefficient of wear and low coefficient of friction (between 0.05 and 0.1) available in many sizes.



Design: Guide ring
Sliding speed max.: 0,8 m/s
Surface pressure: at 20°C 15 N/mm²; at 100°C 10 N/mm³
Temp. min.: -30 °C
Temp. max.: 110 °C
Media: Mineral oils, Water emulsions
Installation: insert into the groove
Material: acetal resin + glass fibre
Application: Hydraulics

Note: Calculation of shear force; F= p x D x L x n F= maximum shear force (N) p = maximum surface pressure (N/mm²) D x L= projected area (mm²) n= quantity of rings

Ordering information: We are able to produce guide rings with diameters of 20 to 510 mm with short lead times.

Identification	D	d	L
	mm	mm	mm
E-DWR 20-2-9.6	20	16	9,6
E-DWR 22-2-9.6	22	18	9,6
E-DWR 25-2-9.6	25	21	9,6
E-DWR 28-2-9.6	28	24	9,6
E-DWR 30-2-9.6	30	26	9,6
E-DWR 32-2-9.6	32	28	9,6
E-DWR 34-2-9.6	34	30	9,6
E-DWR 34-2-16	34	30	16,0
E-DWR 35-2-9.6	35	31	9,6
E-DWR 36-2-9.6	36	32	9,6
E-DWR 40-3-9.6	40	34	9,6
E-DWR 40-2-9.6	40	36	9,6
E-DWR 45-3-9.6	45	39	9,6
E-DWR 45-2-9.6	45	41	9,6
E-DWR 50-3-9.6	50	44	9,6
E-DWR 50-3-12.8	50	44	12,8
E-DWR 55-3-12.8	55	49	12,8
E-DWR 56-3-12.8	56	50	12,8
E-DWR 60-3-12.8	60	54	12,8
E-DWR 63-3-12.8	63	57	12,8
E-DWR 65-3-12.8	65	59	12,8

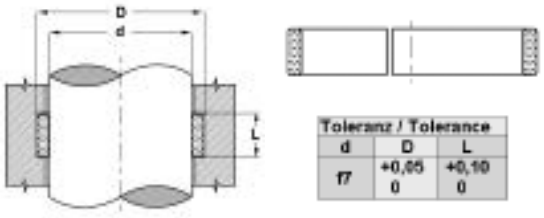
Identification	D	d	L
	mm	mm	mm
E-DWR 70-3-12.8	70	64	12,8
E-DWR 74-3-12.8	74	68	12,8
E-DWR 75-3-12.8	75	69	12,8
E-DWR 80-3-12.8	80	74	12,8
E-DWR 85-3-12.8	85	79	12,8
E-DWR 90-3-10	90	84	10,0
E-DWR 100-3-12.8	100	94	12,8
E-DWR 105-3-12.8	105	99	12,8
E-DWR 110-3-12.8	110	104	12,8
E-DWR 115-3-12.8	115	109	12,8
E-DWR 120-3-12.8	120	114	12,8
E-DWR 125-3-12.8	125	119	12,8
E-DWR 135-3-12.8	135	129	12,8
E-DWR 135-3-19.2	135	129	19,2
E-DWR 140-3-12.8	140	134	12,8
E-DWR 150-3-12.8	150	144	12,8
E-DWR 155-3-19.2	155	149	19,2
E-DWR 160-3-19.2	160	154	19,2
E-DWR 165-3-19.2	165	159	19,2
E-DWR 180-3-20	180	174	20,0
E-DWR 250-3-19.2	250	244	19,2

Web: http://cat.hansa-flex.com/en/EDWR

I-DWR

Rod guide I-DWR

Easy working of the fitting groove and assembly. High load-bearing capacity. Low coefficient of wear and low coefficient of friction (between 0.05 and 0.1) available in many sizes.



Sliding speed max.: 0,8 m/s
Surface pressure: at 20°C 15 N/mm²; at 100°C 10 N/mm³
Temp. min.: -30 °C
Temp. max.: 110 °C
Media: Mineral oils, Water emulsions
Installation: insert into the groove
Material: acetal resin + glass fibre

Note: Calculation of shear force; F= p x D x L x n F= maximum shear force (N) p = maximum surface pressure (N/mm²) D x L= projected area (mm²) n= quantity of rings

Ordering information: We are able to produce guide rings with diameters of 20 to 510 mm with short lead times.

Identification	D	d	L
	mm	mm	mm
I-DWR 18-2-9.6	22	18	9,60
I-DWR 20-2-9.6	24	20	9,60
I-DWR 25-2-9.6	29	25	9,60
I-DWR 26-2-7.5	30	26	7,50
I-DWR 28-2-9.6	32	28	9,60
I-DWR 30-2-9.6	34	30	9,60
I-DWR 30-3-9.6	36	30	9,60
I-DWR 32-2-9.6	36	32	9,60
I-DWR 32-3-10	38	32	10,00
I-DWR 34-2-9.6	38	34	9,60
I-DWR 35-2-9.6	39	35	9,60
I-DWR 35-2-12.8	39	35	12,80
I-DWR 35-3-9.6	41	35	9,60
I-DWR 36-2-9.6	40	36	9,60
I-DWR 36-3-9.6	42	36	9,60
I-DWR 38-2-9.6	42	38	9,60
I-DWR 38-2-18	42	38	18,00

Identification	D	d	L
	mm	mm	mm
I-DWR 40-2-9.6	44	40	9,60
I-DWR 40-3-9.6	46	40	9,60
I-DWR 40-3-12.8	46	40	12,80
I-DWR 42-3-9.6	48	42	9,60
I-DWR 44-3-9.6	50	44	9,60
I-DWR 45-3-9.6	51	45	9,60
I-DWR 45-3-12.8	51	45	12,80
I-DWR 48-3-9.6	54	48	9,60
I-DWR 50-3-9.6	56	50	9,60
I-DWR 50-3-12.8	56	50	12,80
I-DWR 53-3-9.6	59	53	9,60
I-DWR 55-3-9.6	61	55	9,60
I-DWR 55-3-12.8	61	55	12,80
I-DWR 56-3-12.8	62	56	12,80
I-DWR 60-3-12	66	60	12,00
I-DWR 60-3-12.8	66	60	12,80
I-DWR 63-3-12.8	69	63	12,80

I-DWR (Continued)

Rod guide I-DWR

Identification	D	d	L
	mm	mm	mm
I-DWR 65-3-12.8	71	65	12,80
I-DWR 70-3-12.8	76	70	12,80
I-DWR 75-3-12.8	81	75	12,80
I-DWR 75-3-19.2	81	75	19,20
I-DWR 76-3-12.8	82	76	12,80
I-DWR 78-3-25	84	78	25,00
I-DWR 80-3-12.8	96	80	12,80
I-DWR 90-3-12.8	96	90	12,80
I-DWR 100-3-12.8	106	100	12,80
I-DWR 105-3-12.8	111	105	12,80
I-DWR 105-3-19.2	111	105	19,20
I-DWR 110-3-12.8	116	110	12,80
I-DWR 110-3-25.75	116	110	25,75
I-DWR 115-3-12.8	121	115	12,80
I-DWR 125-3-12.8	131	125	12,80
I-DWR 130-3-12.8	136	130	12,80
I-DWR 145-3-12.8	151	145	12,80
I-DWR 160-3-19.2	166	160	19,20
I-DWR 200-3-19.2	206	200	19,20

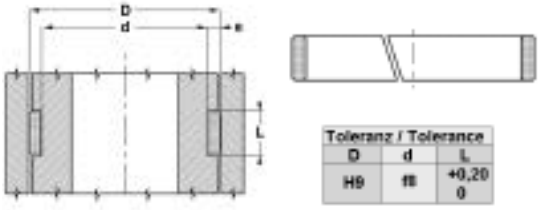
Web: http://cat.hansa-flex.com/en/IDWR

E-GTP

Piston guide E-GTP

Easy working of the fitting groove and assembly. Low coefficient of friction. High load-bearing capacity.

Sliding speed max.: 1,0 m/s
Pressure resistance as DIN 53454 (N/mm²): 270 N/mm²
Surface pressure: 35 N/mm²
Temp. min.: -40 °C
Temp. max.: 120 °C
Media: Mineral oils
Installation: insert into the groove
Material: phenol resin-cotton fabric



Note: Calculation of shear force; F= p x D x L x n F= maximum shear force (N) p = maximum surface pressure (N/mm²) D x L= projected area (mm²) n= quantity of rings

Identification	D	d	L
	mm	mm	mm
EGTP 250 970 600 A	60	55	9,7
EGTP 250 970 700 A	70	65	9,7
EGTP 251 500 550 A	55	50	15,0
EGTP 251 500 750 A	75	70	15,0
EGTP 251 500 850 A	85	80	15,0
EGTP 251 500 900 A	90	85	15,0
EGTP 251 500 950 A	95	90	15,0
EGTP 251 501 200 A	120	115	15,0
EGTP 302 500 900 A	90	85	15,0
EGTP 302 501 000 A	100	94	25,0
EGTP 303 001 200 A	120	114	30,0
EGTP 303 001 500 A	150	144	30,0
EGTP 353 001 300 A	130	123	30,0
EGTP 353 501 400 A	140	133	35,0

Identification	D	d	L
	mm	mm	mm
EGTP 353 501 500 A	150	143	35,0
EGTP 501 501 000 A	100	90	15,0
EGTP 501 501 100 A	110	100	15,0
EGTP 501 501 200 A	120	110	15,0
EGTP 501 501 300 A	130	120	15,0
EGTP 501 501 500 A	150	140	15,0
EGTP 501 621 000 A	100	90	16,2
EGTP 501 621 100 A	110	100	16,2
EGTP 501 621 200 A	120	110	16,2
EGTP 501 621 300 A	130	120	16,2
EGTP 501 621 400 A	140	130	16,2
EGTP 501 621 500 A	150	140	16,2
EGTP 502 321 600 A	160	150	23,2
EGTP 502 321 800 A	180	170	23,2

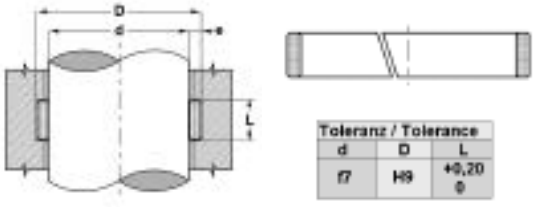
Web: http://cat.hansa-flex.com/en/EGTP

I-GTP A

Rod guide I-GTP

Easy working of the fitting groove and assembly. Low coefficient of friction. High load-bearing capacity.

Design: Guide ring
Sliding speed max.: 1,0 m/s
Pressure resistance as DIN 53454 (N/mm²): 270 N/mm²
Surface pressure: 35 N/mm²
Temp. min.: -40 °C
Temp. max.: 120 °C
Media: Mineral oils
Installation: insert into the groove
Material: phenol resin-cotton fabric



Note: Calculation of shear force; F= p x D x L x n F= maximum shear force (N) p = maximum surface pressure (N/mm²) D x L= projected area (mm²) n= quantity of rings

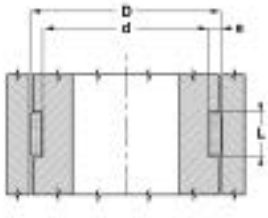
Identification	D	d	L
	mm	mm	mm
IGTP 250 560 280 A	33	28	5,6
IGTP 250 970 550 A	60	55	9,7
IGTP 251 300 600 A	65	60	13,0
IGTP 251 500 500 A	55	50	15,0
IGTP 251 500 700 A	75	70	15,0
IGTP 251 500 800 A	85	80	15,0
IGTP 251 500 850 A	90	85	15,0
IGTP 251 500 900 A	95	90	15,0
IGTP 251 501 150 A	120	115	15,0
IGTP 251 520 700 A	75	70	15,2
IGTP 251 520 800 A	85	80	15,2
IGTP 251 520 900 A	95	90	15,2

Identification	D	d	L
	mm	mm	mm
IGTP 251 521 000 A	105	100	15,2
IGTP 251 521 200 A	125	120	15,2
IGTP 251 600 650 A	70	65	16,0
IGTP 251 600 700 A	75	70	16,0
IGTP 251 600 800 A	85	80	16,0
IGTP 255 020 700 A	75	70	50,2
IGTP 255 020 800 A	85	80	50,2
IGTP 255 020 900 A	95	90	50,2
IGTP 256 021 000 A	105	100	60,2
IGTP 256 521 100 A	115	110	65,2
IGTP 257 021 200 A	125	120	70,2

Web: http://cat.hansa-flex.com/en/IGTPA

E-GTP1

Piston guide E-GTP1



Toleranz / Tolerance		
D	d	L
H9	f8	+0,20 0

Easy working of the fitting groove and assembly. High load-bearing capacity. Low coefficient of friction (PTFE). No water absorption. Long service life.

Design:	Guide ring
Sliding speed max.:	1,0 m/s
Pressure resistance as DIN 53454 (N/mm²):	340 N/mm²
Surface pressure:	50 N/mm²
Temp. min.:	-40 °C
Temp. max.:	130 °C
Media:	Mineral oils, Water emulsions
Installation:	insert into the groove
Material:	phenol resin-synthetic fibre fabric laminate with PTFE
Application:	Hydraulics

Note: Calculation of shear force; F= p x D x L x n F= maximum shear force (N) p = maximum surface pressure (N/mm²) D x L= projected area (mm²) n= quantity of rings

Identification	D mm	d mm	L mm	Standard grooves
EGTP1 250 560 250 A	25	20	5,6	ISO 10766
EGTP1 250 630 250 A	25	20	6,3	
EGTP1 250 560 300 A	30	25	5,6	
EGTP1 250 630 300 A	30	25	6,3	
EGTP1 250 970 300 A	30	25	9,7	
EGTP1 250 630 320 A	32	27	6,3	
EGTP1 250 970 320 A	32	27	9,7	
EGTP1 250 560 350 A	35	30	5,6	
EGTP1 250 970 350 A	35	30	9,7	
EGTP1 251 500 350 A	35	30	15,0	
EGTP1 250 560 400 A	40	35	5,6	ISO 10766
EGTP1 250 630 400 A	40	35	6,3	
EGTP1 250 970 400 A	40	35	9,7	
EGTP1 251 500 400 A	40	35	15,0	
EGTP1 250 560 450 A	45	40	5,6	
EGTP1 250 630 450 A	45	40	6,3	
EGTP1 250 970 450 A	45	40	9,7	
EGTP1 251 500 450 A	45	40	15,0	
EGTP1 250 560 500 A	50	45	5,6	ISO 10766
EGTP1 250 970 500 A	50	45	9,7	
EGTP1 251 500 500 A	50	45	15,0	
EGTP1 252 000 450 A	45	40	20,0	
EGTP1 252 000 500 A	50	45	20,0	
EGTP1 252 500 500 A	50	45	25,0	
EGTP1 250 560 550 A	55	50	5,6	
EGTP1 250 970 550 A	55	50	9,7	
EGTP1 251 500 550 A	55	50	15,0	
EGTP1 252 000 550 A	55	50	20,0	
EGTP1 250 560 600 A	60	55	5,6	
EGTP1 250 970 600 A	60	55	9,7	
EGTP1 251 500 600 A	60	55	15,0	
EGTP1 252 000 600 A	60	55	20,0	
EGTP1 250 560 630 A	63	58	5,6	
EGTP1 250 970 630 A	63	58	9,7	ISO 10766
EGTP1 251 500 630 A	63	58	15,0	
EGTP1 252 000 630 A	63	58	20,0	
EGTP1 250 560 650 A	65	60	5,6	
EGTP1 250 970 650 A	65	60	9,7	
EGTP1 251 500 650 A	65	60	15,0	
EGTP1 252 000 650 A	65	60	20,0	
EGTP1 250 560 700 A	70	65	5,6	
EGTP1 250 970 700 A	70	65	9,7	
EGTP1 251 500 700 A	70	65	15,0	
EGTP1 252 000 700 A	70	65	20,0	
EGTP1 250 560 750 A	75	70	5,6	
EGTP1 250 970 750 A	75	70	9,7	
EGTP1 251 500 750 A	75	70	15,0	
EGTP1 252 000 750 A	75	70	20,0	
EGTP1 252 500 750 A	75	70	25,0	
EGTP1 250 560 800 A	80	75	5,6	ISO 10766
EGTP1 250 630 800 A	80	75	6,3	
EGTP1 250 970 800 A	80	75	9,7	ISO 10766
EGTP1 251 500 800 A	80	75	15,0	
EGTP1 252 000 800 A	80	75	20,0	
EGTP1 252 500 800 A	80	75	25,0	
EGTP1 250 560 850 A	85	80	5,6	
EGTP1 250 970 850 A	85	80	9,7	
EGTP1 251 500 850 A	85	80	15,0	
EGTP1 252 000 850 A	85	80	20,0	
EGTP1 252 500 850 A	85	80	25,0	
EGTP1 250 560 900 A	90	85	5,6	
EGTP1 250 970 900 A	90	85	9,7	
EGTP1 251 500 900 A	90	85	15,0	
EGTP1 252 000 900 A	90	85	20,0	
EGTP1 252 500 900 A	90	85	25,0	
EGTP1 250 970 950 A	95	90	9,7	
EGTP1 251 500 950 A	95	90	15,0	
EGTP1 252 000 950 A	95	90	20,0	
EGTP1 252 500 950 A	95	90	25,0	

Identification	D mm	d mm	L mm	Standard grooves
EGTP1 250 561 000 A	100	95	5,6	ISO 10766
EGTP1 250 971 000 A	100	95	9,7	ISO 10766
EGTP1 251 501 000 A	100	95	15,0	
EGTP1 252 001 000 A	100	95	20,0	
EGTP1 252 501 000 A	100	95	25,0	
EGTP1 250 971 050 A	105	100	9,7	
EGTP1 251 501 050 A	105	100	15,0	
EGTP1 252 001 050 A	105	100	20,0	
EGTP1 252 501 050 A	105	100	25,0	
EGTP1 250 971 100 A	110	105	9,7	
EGTP1 251 501 100 A	110	105	15,0	
EGTP1 252 001 100 A	110	105	20,0	
EGTP1 252 501 100 A	110	105	25,0	
EGTP1 250 971 150 A	115	110	9,7	
EGTP1 251 501 150 A	115	110	15,0	
EGTP1 252 001 150 A	115	110	20,0	
EGTP1 252 501 150 A	115	110	25,0	
EGTP1 250 971 200 A	120	115	9,7	
EGTP1 251 501 200 A	120	115	15,0	
EGTP1 252 501 200 A	120	115	25,0	
EGTP1 250 971 250 A	125	120	9,7	ISO 10766
EGTP1 251 501 250 A	125	120	15,0	
EGTP1 252 001 250 A	125	120	20,0	
EGTP1 252 501 250 A	125	120	25,0	
EGTP1 250 971 300 A	130	125	9,7	
EGTP1 251 501 300 A	130	125	15,0	
EGTP1 252 001 300 A	130	125	20,0	
EGTP1 252 501 300 A	130	125	25,0	
EGTP1 250 971 350 A	135	130	9,7	
EGTP1 251 501 350 A	135	130	15,0	
EGTP1 250 971 400 A	140	135	9,7	ISO 10766
EGTP1 251 501 400 A	140	135	15,0	ISO 10766
EGTP1 252 001 400 A	140	135	20,0	
EGTP1 252 501 400 A	140	135	25,0	
EGTP1 251 501 450 A	145	140	15,0	
EGTP1 252 001 450 A	145	140	20,0	
EGTP1 252 501 450 A	145	140	25,0	
EGTP1 250 971 500 A	150	145	9,7	
EGTP1 251 501 500 A	150	145	15,0	
EGTP1 252 001 500 A	150	145	20,0	
EGTP1 252 501 500 A	150	145	25,0	
EGTP1 250 971 600 A	160	155	9,7	ISO 10766
EGTP1 251 501 600 A	160	155	15,0	ISO 10766
EGTP1 252 001 600 A	160	155	20,0	
EGTP1 252 501 600 A	160	155	25,0	
EGTP1 252 501 650 A	165	160	25,0	
EGTP1 250 971 700 A	170	165	9,7	
EGTP1 251 501 700 A	170	165	15,0	
EGTP1 252 501 700 A	170	165	25,0	
EGTP1 250 971 800 A	180	175	9,7	ISO 10766
EGTP1 251 501 800 A	180	175	15,0	ISO 10766
EGTP1 252 501 800 A	180	175	25,0	
EGTP1 251 501 850 A	185	180	15,0	
EGTP1 250 971 900 A	190	185	9,7	
EGTP1 250 972 000 A	200	195	9,7	ISO 10766
EGTP1 251 502 000 A	200	195	15,0	
EGTP1 252 002 000 A	200	195	20,0	
EGTP1 252 502 000 A	200	195	25,0	
EGTP1 252 502 050 A	205	200	25,0	
EGTP1 251 502 200 A	220	215	15,0	ISO 10766
EGTP1 252 502 250 A	225	220	25,0	
EGTP1 252 502 300 A	230	225	25,0	
EGTP1 252 502 400 A	240	235	25,0	
EGTP1 251 502 450 A	245	240	15,0	
EGTP1 251 502 500 A	250	245	15,0	ISO 10766
EGTP1 252 502 500 A	250	245	25,0	
EGTP1 252 503 000 A	300	294	25,0	
EGTP1 252 503 600 A	360	355	25,0	

(Continued) E-GTP1

Piston guide E-GTP1

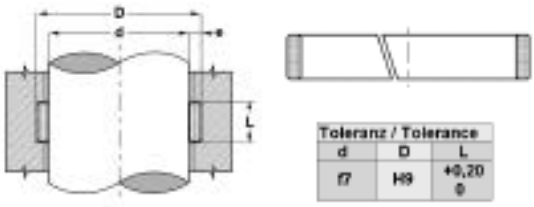
Web: http://cat.hansa-flex.com/en/EGTP1

I-GTP1 A

Rod guide I-GTP1

Easy working of the fitting groove and assembly. High load-bearing capacity. Low coefficient of friction (PTFE). No water absorption. Long service life.

Design: Guide ring
Sliding speed max.: 1,0 m/s
Pressure resistance as DIN 53454 (N/mm²): 340 N/mm²
Surface pressure: 50 N/mm²
Temp. min.: -40 °C
Temp. max.: 130 °C
Media: Mineral oils, Water emulsions
Installation: insert into the groove



Note: Calculation of shear force; F= p x D x L x n F= maximum shear force (N) p = maximum surface pressure (N/mm²) D x L= projected area (mm²) n= quantity of rings

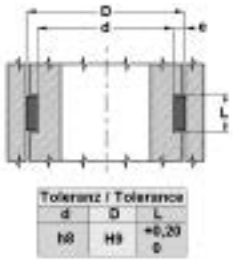
Identification	D	d	L	Standard grooves
	mm	mm	mm	
IGTP1 200 630 200 A	24	20	6,3	
IGTP1 250 630 220 A	27	22	6,3	
IGTP1 250 560 250 A	30	25	5,6	ISO 10766
IGTP1 250 630 250 A	30	25	6,3	
IGTP1 250 970 250 A	30	25	9,7	
IGTP1 250 560 280 A	33	28	5,6	ISO 10766
IGTP1 250 630 280 A	33	28	6,3	
IGTP1 250 560 300 A	35	30	5,6	
IGTP1 250 970 300 A	35	30	9,7	
IGTP1 250 560 320 A	37	32	5,6	ISO 10766
IGTP1 250 630 320 A	37	32	6,3	
IGTP1 250 970 320 A	37	32	9,7	ISO 10766
IGTP1 250 560 350 A	40	35	5,6	
IGTP1 251 500 350 A	40	35	15,0	
IGTP1 250 560 360 A	41	36	5,6	ISO 10766
IGTP1 250 630 360 A	41	36	6,3	
IGTP1 250 970 360 A	41	36	9,7	ISO 10766
IGTP1 251 500 360 A	41	36	15,0	
IGTP1 250 560 400 A	45	40	5,6	ISO 10766
IGTP1 250 970 400 A	45	40	9,7	ISO 10766
IGTP1 250 560 450 A	50	45	5,6	ISO 10766
IGTP1 250 970 450 A	50	45	9,7	ISO 10766
IGTP1 252 000 450 A	50	45	20,0	
IGTP1 252 500 450 A	50	45	25,0	
IGTP1 250 560 500 A	55	50	5,6	ISO 10766
IGTP1 250 970 500 A	55	50	9,7	ISO 10766
IGTP1 251 500 500 A	55	50	15,0	
IGTP1 252 000 500 A	55	50	20,0	
IGTP1 250 560 550 A	60	55	5,6	ISO 10766
IGTP1 250 970 550 A	60	55	9,7	
IGTP1 251 500 550 A	60	55	15,0	
IGTP1 250 560 560 A	61	56	5,6	ISO 10766
IGTP1 250 970 560 A	61	56	9,7	ISO 10766
IGTP1 251 500 560 A	61	56	15,0	
IGTP1 250 560 600 A	65	60	5,6	
IGTP1 250 970 600 A	65	60	9,7	
IGTP1 251 500 600 A	65	60	15,0	
IGTP1 250 970 630 A	68	63	9,7	ISO 10766
IGTP1 250 560 650 A	70	65	5,6	
IGTP1 250 970 650 A	70	65	9,7	
IGTP1 251 500 650 A	70	65	15,0	
IGTP1 252 000 650 A	70	65	20,0	

Identification	D	d	L	Standard grooves
	mm	mm	mm	
IGTP1 252 500 650 A	70	65	25,0	
IGTP1 250 560 700 A	75	70	5,6	ISO 10766
IGTP1 250 970 700 A	75	70	9,7	ISO 10766
IGTP1 251 500 700 A	75	70	15,0	
IGTP1 252 000 700 A	75	70	20,0	
IGTP1 252 500 700 A	75	70	25,0	
IGTP1 200 810 750 A	80	75	8,1	
IGTP1 250 560 750 A	80	75	5,6	
IGTP1 250 630 750 A	80	75	6,3	
IGTP1 250 970 750 A	80	75	9,7	
IGTP1 251 500 750 A	80	75	15,0	
IGTP1 252 000 750 A	80	75	20,0	
IGTP1 250 560 800 A	85	80	5,6	
IGTP1 250 970 800 A	85	80	9,7	ISO 10766
IGTP1 251 500 800 A	85	80	15,0	ISO 10766
IGTP1 252 500 800 A	85	80	25,0	
IGTP1 250 560 850 A	90	85	5,6	
IGTP1 250 970 850 A	90	85	9,7	
IGTP1 251 500 850 A	90	85	15,0	
IGTP1 250 970 900 A	95	90	9,7	ISO 10766
IGTP1 251 500 900 A	95	90	15,0	ISO 10766
IGTP1 252 000 900 A	95	90	20,0	
IGTP1 252 500 900 A	95	90	25,0	
IGTP1 250 970 950 A	100	95	9,7	
IGTP1 251 500 950 A	100	95	15,0	
IGTP1 252 000 950 A	100	95	20,0	
IGTP1 252 500 950 A	100	95	25,0	
IGTP1 250 971 000 A	105	100	9,7	ISO 10766
IGTP1 251 501 000 A	105	100	15,0	ISO 10766
IGTP1 252 001 000 A	105	100	20,0	
IGTP1 252 501 000 A	105	100	25,0	
IGTP1 250 971 050 A	110	105	9,7	
IGTP1 250 971 100 A	115	110	9,7	ISO 10766
IGTP1 251 501 100 A	115	110	15,0	ISO 10766
IGTP1 252 001 100 A	115	110	20,0	
IGTP1 252 501 100 A	115	110	25,0	
IGTP1 252 001 250 A	130	125	20,0	
IGTP1 251 501 600 A	165	160	15,0	ISO 10766
IGTP1 252 501 600 A	165	160	25,0	
IGTP1 251 501 800 A	185	180	15,0	ISO 10766
IGTP1 252 502 000 A	205	200	25,0	ISO 10766
IGTP1 252 502 200 A	225	220	25,0	ISO 10766

Web: http://cat.hansa-flex.com/en/IGTP1A

GT

Guide band, GT



Available by the metre. Low coefficient of friction. No stick-slip. Easy working of the fitting groove and assembly.

Design: Guide band
Sliding speed max.: 15,0 m/s
Surface pressure: 2.5 N/mm²
Temp. min.: -100 °C
Temp. max.: 200 °C
Media: Mineral oils
Installation: insert into the groove
Material: PTBR

Note: Calculation of shear force; F= p x D x L x n F= maximum shear force (N) p = maximum surface pressure (N/mm²) D x L= projected area (mm²) n= quantity of rings

Ordering information: For special operating conditions (fluid, temperature, pressure ...) please contact us.

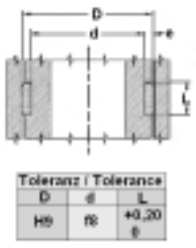
Identification	e	L
	mm	mm
GT 15 032-55	1,50	3,2
GT 15 040-55	1,55	4,0
GT 15 042-30	1,50	4,2
GT 15 042-55	2,00	4,2
GT 15 063-55	1,50	6,3
GT 15 097-55	1,50	9,7
GT 20 042-55	2,00	4,2
GT 20 063-55	2,00	6,3
GT 20 081-55	2,00	8,1
GT 20 097-55	2,00	9,7
GT 20 150-55	2,00	15,0
GT 20 200-55	2,00	20,0
GT 20 250-55	2,00	25,0
GT 20 300-55	2,00	30,0
GT 25 042-55	2,50	4,2
GT 25 056-55	2,50	5,6
GT 25 063-55	2,50	6,3

Identification	e	L
	mm	mm
GT 25 081-55	2,50	8,1
GT 25 097-55	2,50	9,7
GT 25 128-55	2,50	12,8
GT 25 150-55	2,50	15,0
GT 25 200-55	2,50	20,0
GT 25 250-55	2,50	25,0
GT 25 300-55	2,50	30,0
GT 30 096-55	3,00	9,6
GT 30 128-55	3,00	12,8
GT 30 150-55	3,00	15,0
GT 30 200-55	3,00	20,0
GT 30 250-55	3,00	25,0
GT 30 300-55	3,00	30,0
GT 30 400-55	3,00	40,0
GT 40 097-55	4,00	9,7
GT 40 250-55	4,00	25,0

Web: http://cat.hansa-flex.com/en/GT

GTH

Guide band GTH



Available by the metre. Easy working of the fitting groove and assembly. Low coefficient of friction. High load-bearing capacity.

Sliding speed max.: 1,0 m/s
Pressure resistance as DIN 53454 (N/mm²): 350 N/mm²
Surface pressure: 50 N/mm²
Temp. min.: -40 °C
Temp. max.: 130 °C
Media: Mineral oils, Water emulsions
Installation: insert into the groove
Material: Guide ring: Polyester resin - synthetic fibre fabric laminate with graphite

Note: Calculation of shear force; F= p x D x L x n F= maximum shear force (N) p = maximum surface pressure (N/mm²) D x L= projected area (mm²) n= quantity of rings

Ordering information: For special operating conditions (fluid, temperature, pressure ...) please contact us.

Identification	e	L
	mm	mm
GTH 25 056	2,5	5,6
GTH 25 097	2,5	9,7
GTH 25 150	2,5	15,0
GTH 25 200	2,5	20,0
GTH 25 250	2,5	25,0
GTH 30 097	3,0	9,7
GTH 30 128	3,0	12,8
GTH 30 150	3,0	15,0
GTH 30 192	3,0	19,2

Identification	e	L
	mm	mm
GTH 30 200	3,0	20,0
GTH 30 250	3,0	25,0
GTH 30 300	3,0	30,0
GTH 35 300	3,5	30,0
GTH 40 097	4,0	9,7
GTH 40 128	4,0	12,8
GTH 40 150	4,0	15,0
GTH 40 200	4,0	20,0
GTH 40 250	4,0	25,0

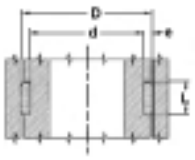
Web: http://cat.hansa-flex.com/en/GTH

GTH ZOLL

Guide band GTH

Available by the metre. Easy working of the fitting groove and assembly.
Low coefficient of friction. High load-bearing capacity.

Sliding speed max.: 1,0 m/s
Pressure resistance as DIN 53454 (N/mm²): 350 N/mm²
Surface pressure: 50 N/mm²
Temp. min.: -40 °C
Temp. max.: 130 °C
Media: Mineral oils, Water emulsions
Installation: insert into the groove
Material: Guide ring: Polyester resin - synthetic fibre fabric laminate with graphite



Note: Calculation of shear force; F= p x D x L x n F= maximum shear force (N) p = maximum surface pressure (N/mm²) D x L= projected area (mm²) n= quantity of rings

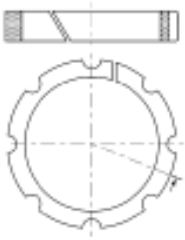
Ordering information: For special operating conditions (fluid, temperature, pressure ...) please contact us.

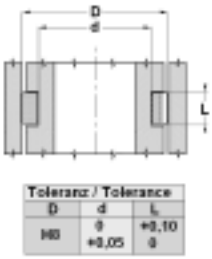
Identification	e	e	L	L
	mm		mm	
GTH 31 095	3,18	1/8"	9,53	3/8"
GTH 31 127	3,18	1/8"	12,70	1/2"
GTH 31 159	3,18	1/8"	15,87	5/8"
GTH 31 191	3,18	1/8"	19,05	3/4"
GTH 31 254	3,18	1/8"	25,40	1"

Web: http://cat.hansa-flex.com/en/GTHZOLL

WP

Piston guide WP





Easy working of the fitting groove and assembly. High load-bearing capacity for plunger cylinders. Note! Cannot be used as stop.

Sliding speed max.: 5,0 m/s
Surface pressure: at 20°C 15 N/mm²; at 100°C 10 N/mm³
Temp. min.: -30 °C
Temp. max.: 110 °C
Media: Mineral oils, Water emulsions
Installation: insert into the groove
Material: acetal resin + glass fibre

Note: Calculation of shear force; F= p x D x L x n F= maximum shear force (N) p = maximum surface pressure (N/mm²) D x L= projected area (mm²) n= quantity of rings

Identification	D	d	L
	mm	mm	mm
WP 25	25	15	10,0
WP 30	30	20	13,0
WP 35	35	25	13,0
WP 40	40	30	13,0
WP 45	45	35	13,0

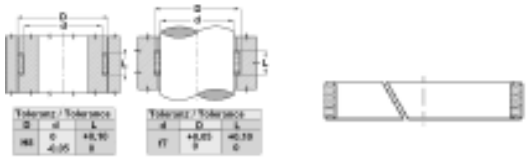
Identification	D	d	L
	mm	mm	mm
WP 55	55	45	16,0
WP 60	60	45	16,0
WP 65	65	55	16,0
WP 75	75	65	16,0
WP 85	85	75	16,0

Web: http://cat.hansa-flex.com/en/WP

WR FUEHRUNG

Guide WR

Easy working of the fitting groove and assembly. High load-bearing capacity. Low coefficient of wear and low coefficient of friction (between 0.05 and 0.1) available in many sizes.



Design: Double guide ring
Sliding speed max.: 5,0 m/s
Surface pressure: at 20°C 15 N/mm²; at 100°C 10 N/mm³
Temp. min.: -30 °C
Temp. max.: 110 °C
Media: Mineral oils
Installation: insert into the groove
Material: acetal resin + glass fibre

Note: Calculation of shear force; F= p x D x L x n F= maximum shear force (N) p = maximum surface pressure (N/mm²) D x L= projected area (mm²) n= quantity of rings

Ordering information: We are able to produce guide rings with diameters of 20 to 510 mm with short lead times.

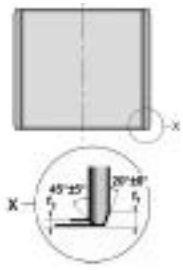
Identification	d	D	D	L
	mm	mm	mm	mm
WR 16-0	16		19,1	4,0
WR 20	20	25		5,6
WR 20-1	20	25		9,7
WR 22	22		27,0	5,6
WR 22-1	22		27,0	9,7
WR 25-1	25	30		9,7
WR 27	27	32		5,6
WR 30	30	35		5,6
WR 30-1	30	35		9,7
WR 25	25		30,0	5,6
WR 32	32	37		5,6
WR 27-1	27		32,0	9,7
WR 28	28		33,0	5,6
WR 35	35	40		5,6
WR 35-1	35	40		9,7
WR 36-1	36	41		9,7
WR 28-1	28		33,0	9,7
WR 40	40	45		5,6
WR 32-1	32		37,0	9,7
WR 40-1	40	45		9,7
WR 36	36		41,0	5,6
WR 45	45	50		5,6
WR 40-2	40		45,0	15,0
WR 45-1	45	50		9,7
WR 50	50	55		5,6
WR 43	43		48,0	5,6
WR 50-1	50	55		9,7
WR 55-1	55	60		9,7
WR 45-2	45		50,0	15,0
WR 56-1	56	61		9,7
WR 47	47		52,0	5,6
WR 58	58	63		5,6
WR 47-1	47		52,0	9,7
WR 50-2	50		55,0	15,0
WR 63	63	68		5,6
WR 55	55		60,0	5,6
WR 56	56		61,0	5,6
WR 58-1	58	63		9,7
WR 63-1	63	68		9,7
WR 60	60	65		5,6
WR 60-1	60	65		9,7

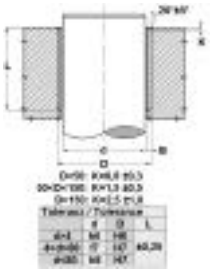
Identification	d	D	D	L
	mm	mm	mm	mm
WR 65	65	70		5,6
WR 60-2	60		65,0	15,0
WR 65-1	65	70		9,7
WR 67	67	75		5,6
WR 67-1	67		72,0	9,7
WR 70	70	75		5,6
WR 70-1	70	75		9,7
WR 70-2	70		75,0	15,0
WR 75	75	80		5,6
WR 70-3	70		75,0	20,0
WR 75-1	75	80		9,7
WR 72-1	72		77,0	9,7
WR 80-1	80	85		9,7
WR 75-2	75		80,0	15,0
WR 85	85	90		5,6
WR 80-2	80		85,0	15,0
WR 85-1	85	90		9,7
WR 80	80		85,0	5,6
WR 83-2	83		88,0	15,0
WR 95	95	100		5,6
WR 85-2	85		90,0	15,0
WR 90-1	90	95		9,7
WR 95-1	95	100		9,7
WR 90	90		95,0	5,6
WR 92-4	92		97,0	25,0
WR 95-2	95		100,0	15,0
WR 100-2	100		105,0	15,0
WR 100	100		105,0	5,6
WR 100-1	100		105,0	9,7
WR 105-2	105		110,0	15,0
WR 105-1	105		110,0	9,7
WR 110-2	110		115,0	15,0
WR 110-1	110		115,0	9,7
WR 115-1	115		120,0	9,7
WR 120-2	120		125,0	15,0
WR 120	120		125,0	5,6
WR 120-1	120	125		9,7
WR 125-2	125		130,0	15,0
WR 135-2	135		140,0	15,0
WR 155-2	155		160,0	15,0
WR 195-2	195		200,0	15,0

Web: http://cat.hansa-flex.com/en/WRFUEHRUNG

BK-1

Sliding bush BK-1





Suitable for dry running and maintenance-free. Noise and frequency absorption. hydrodynamic operation possible High permitted load. Good chemical resistance. Good friction characteristics. No stick-slip. Broad temperature range. High slide speed. No water absorption. low play during operation. Extremely space-saving.

Design: Maintenance-free PTFE coated friction bearing

pv: Continuous operation: 1.8 N/mm² x m/s, Short-term operation: 3.6 N/mm² x m/s

Permissible load: static: 250 N/mm², low slide speed: 140 N/mm², Rotation, oscillation: 55 N/mm²

Sliding rate: Dry running = 2 m/s, hydrodynamic operation: >2 m/s

Thermal expansion coefficient: parallel to ring surface: 11 x 10-6 K-1, perpendicular to ring surface: 30 x 10-6 K-1

Coefficient of thermal conductivity: > 40 W (m x K)-1

Temp. min.: -200 °C

Temp. max.: 270 °C

Surface pressure: 250 (≤ N/mm²)

Material: Steel back onto which a porous bronze layer is sintered, subsequently a PTFE lead mixture is rolled into the bronze layer

Surface: zinc or copper plated

Application: BK-1 bushes are suitable for transmission, rotational and oscillating movements, Rod guide for pneumatic and hydraulic cylinders, Attachment lugs of pneumatic and hydraulic cylinders, Conveyor-belt systems, textile machinery, automobiles ...

Standard: ISO 3547, DIN 1494

Note: Peak to valley height of shaft to be observed Ra < 0.4 µm. Hardness of shaft to be observed 350 < HB < 600.

Identification	d	D	L	f1	f2
	mm	mm	mm	mm	mm
BK-1- 06 05	6	8,0	5	0,5	0,3
BK-1- 06 10	6	8,0	10	0,5	0,3
BK-1- 08 06	8	10,0	6	0,5	0,3
BK-1- 08 10	8	10,0	10	0,5	0,3
BK-1- 08 12	8	10,0	12	0,5	0,3
BK-1- 10 07	10	12,0	7	0,5	0,3
BK-1- 10 08	10	12,0	8	0,5	0,3
BK-1- 10 10	10	12,0	10	0,5	0,3
BK-1- 10 12	10	12,0	12	0,5	0,3
BK-1- 10 15	10	12,0	15	0,5	0,3
BK-1- 10 20	10	12,0	20	0,5	0,3
BK-1- 12 08	12	14,0	8	0,5	0,3
BK-1- 12 12	12	14,0	12	0,5	0,3
BK-1- 12 15	12	14,0	15	0,5	0,3
BK-1- 12 20	12	14,0	20	0,5	0,3
BK-1- 12 25	12	14,0	25	0,5	0,3
BK-1- 13 10	13	15,0	10	0,5	0,3
BK-1- 14 25	14	16,0	25	0,5	0,3
BK-1- 15 10	15	17,0	10	0,5	0,3
BK-1- 15 12	15	17,0	12	0,5	0,3
BK-1- 15 15	15	17,0	15	0,5	0,3
BK-1- 15 20	15	17,0	20	0,5	0,3
BK-1- 15 25	15	17,0	25	0,5	0,3
BK-1- 16 15	16	18,0	15	0,5	0,3
BK-1- 16 20	16	18,0	20	0,5	0,3
BK-1- 16 25	16	18,0	25	0,5	0,3
BK-1- 17 12	17	19,0	12	0,5	0,3
BK-1- 18 15	18	20,0	15	0,5	0,3
BK-1- 18 20	18	20,0	20	0,5	0,3
BK-1- 18 25	18	20,0	25	0,5	0,3
BK-1- 20 10	20	23,0	10	0,8	0,4
BK-1- 20 20	20	23,0	20	0,8	0,4
BK-1- 20 25	20	23,0	25	0,8	0,4
BK-1- 20 30	20	23,0	30	0,8	0,4
BK-1- 22 20	22	25,0	20	0,8	0,4
BK-1- 22 25	22	25,0	25	0,8	0,4
BK-1- 22 30	22	25,0	30	0,8	0,4
BK-1- 24 15	24	27,0	15	0,8	0,4
BK-1- 24 25	24	27,0	25	0,8	0,4
BK-1- 24 30	24	27,0	30	0,8	0,4
BK-1- 25 12	25	28,0	12	0,8	0,4
BK-1- 25 15	25	28,0	15	0,8	0,4
BK-1- 25 20	25	28,0	20	0,8	0,4
BK-1- 25 25	25	28,0	25	0,8	0,4
BK-1- 25 30	25	28,0	30	0,8	0,4
BK-1- 25 35	25	28,0	35	0,8	0,4
BK-1- 25 40	25	28,0	40	0,8	0,4
BK-1- 25 50	25	28,0	50	0,8	0,4
BK-1- 26 20	26	29,0	20	1,0	0,5

→

(Continued) **BK-1**

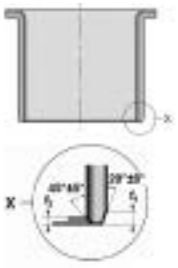
Sliding bush BK-1

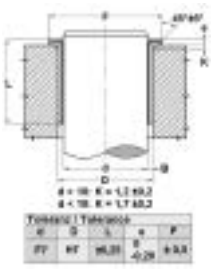
Identification	d	D	L	f1	f2
	mm	mm	mm	mm	mm
BK-1- 26 30	26	29,0	30	1,0	0,5
BK-1- 28 20	28	32,0	20	1,0	0,5
BK-1- 28 25	28	32,0	25	1,0	0,5
BK-1- 28 30	28	32,0	30	1,0	0,5
BK-1- 28 35	28	32,0	35	1,0	0,5
BK-1- 30 12	30	34,0	12	1,0	0,5
BK-1- 30 15	30	34,0	15	1,0	0,5
BK-1- 30 20	30	34,0	20	1,0	0,5
BK-1- 30 25	30	34,0	25	1,0	0,5
BK-1- 30 30	30	34,0	30	1,0	0,5
BK-1- 30 35	30	34,0	35	1,0	0,5
BK-1- 30 40	30	34,0	40	1,0	0,5
BK-1- 32 20	32	36,0	20	1,0	0,5
BK-1- 32 25	32	36,0	25	1,0	0,5
BK-1- 32 30	32	36,0	30	1,0	0,5
BK-1- 32 40	32	36,0	40	1,0	0,5
BK-1- 35 20	35	39,0	20	1,0	0,5
BK-1- 35 25	35	39,0	25	1,0	0,5
BK-1- 35 30	35	39,0	30	1,0	0,5
BK-1- 35 35	35	39,0	35	1,0	0,5
BK-1- 35 40	35	39,0	40	1,0	0,5
BK-1- 35 50	35	39,0	50	1,0	0,5
BK-1- 38 20	38	42,0	20	1,0	0,5
BK-1- 38 40	38	42,0	40	1,0	0,5
BK-1- 40 12	40	44,0	12	1,0	0,5
BK-1- 40 20	40	44,0	20	1,0	0,5
BK-1- 40 25	40	44,0	25	1,0	0,5
BK-1- 40 30	40	44,0	30	1,0	0,5
BK-1- 40 35	40	44,0	35	1,0	0,5
BK-1- 40 40	40	44,0	40	1,0	0,5
BK-1- 40 50	40	44,0	50	1,0	0,5
BK-1- 45 20	45	50,0	20	1,2	0,6
BK-1- 45 25	45	50,0	25	1,2	0,6
BK-1- 45 30	45	50,0	30	1,2	0,6
BK-1- 45 35	45	50,0	35	1,2	0,6
BK-1- 45 40	45	50,0	40	1,2	0,6
BK-1- 45 45	45	50,0	45	1,2	0,6
BK-1- 45 50	45	50,0	50	1,2	0,6
BK-1- 50 15	50	55,0	15	1,2	0,6
BK-1- 50 20	50	55,0	20	1,2	0,6
BK-1- 50 25	50	55,0	25	1,2	0,6
BK-1- 50 30	50	55,0	30	1,2	0,6
BK-1- 50 35	50	55,0	35	1,2	0,6
BK-1- 50 40	50	55,0	40	1,2	0,6
BK-1- 50 50	50	55,0	50	1,2	0,6
BK-1- 50 60	50	55,0	60	1,2	0,6
BK-1- 55 30	55	60,0	30	1,2	0,6
BK-1- 55 35	55	60,0	35	1,2	0,6
BK-1- 55 40	55	60,0	40	1,2	0,6
BK-1- 55 50	55	60,0	50	1,2	0,6
BK-1- 55 60	55	60,0	60	1,2	0,6
BK-1- 60 30	60	65,0	30	1,2	0,6
BK-1- 60 40	60	65,0	40	1,2	0,6
BK-1- 60 50	60	65,0	50	1,2	0,6
BK-1- 60 60	60	65,0	60	1,2	0,6
BK-1- 60 70	60	65,0	70	1,2	0,6
BK-1- 65 40	65	70,0	40	1,2	0,6
BK-1- 65 50	65	70,0	50	1,2	0,6
BK-1- 65 60	65	70,0	60	1,2	0,6
BK-1- 65 70	65	70,0	70	1,2	0,6
BK-1- 70 30	70	75,0	30	1,2	0,6
BK-1- 70 40	70	75,0	40	1,2	0,6
BK-1- 70 60	70	75,0	60	1,2	0,6
BK-1- 70 70	70	75,0	70	1,2	0,6
BK-1- 75 30	75	80,0	30	1,2	0,6
BK-1- 75 50	75	80,0	50	1,2	0,6
BK-1- 75 60	75	80,0	60	1,2	0,6
BK-1- 80 40	80	85,0	40	1,2	0,6
BK-1- 80 60	80	85,0	60	1,2	0,6
BK-1- 80 80	80	85,0	80	1,2	0,6
BK-1- 80 100	80	85,0	100	1,2	0,6
BK-1- 85 40	85	90,0	40	1,2	0,6
BK-1- 90 40	90	95,0	40	1,2	0,6
BK-1- 90 60	90	95,0	60	1,2	0,6
BK-1- 90 100	90	95,0	100	1,2	0,6
BK-1- 100 50	100	105,0	50	1,2	0,6
BK-1- 100 60	100	105,0	60	1,2	0,6
BK-1- 100 95	100	105,0	95	1,2	0,6
BK-1- 110 50	110	115,0	50	1,2	0,6
BK-1- 110 60	110	115,0	60	1,2	0,6
BK-1- 120 60	120	125,0	60	1,2	0,6
BK-1- 120 100	120	125,0	100	1,2	0,6
BK-1- 125 100	125	130,0	100	1,2	0,6
BK-1- 140 80	140	145,0	80	1,2	0,6
BK-1- 160 80	160	165,0	80	1,2	0,6
BK-1- 160 100	160	165,0	100	1,2	0,6

Web: http://cat.hansa-flex.com/en/BK1

BK-1 F

Sliding bush BK-1-F





Suitable for dry running and maintenance-free. Noise and frequency absorption. hydrodynamic operation possible High permitted load. Good chemical resistance. Good friction characteristics. No stick-slip. Broad temperature range. High slide speed. No water absorption. low play during operation. Extremely space-saving.

Design:	Maintenance-free PTFE coated friction bearing
pv:	Continuous operation: 1.8 N/mm² x m/s, Short-term operation: 3.6 N/mm² x m/s
Permissible load:	static: 250 N/mm², low slide speed: 140 N/mm², Rotation, oscillation: 55 N/mm²
Sliding rate:	Dry running = 2 m/s, hydrodynamic operation: >2 m/s
Thermal expansion coefficient:	parallel to ring surface: 11 x 10-6 K-1, perpendicular to ring surface: 30 x 10-6 K-1
Coefficient of thermal conductivity:	> 40 W (m x K)-1
Temp. min.:	-200 °C
Temp. max.:	270 °C
Surface pressure:	250 (≤ N/mm²)
Material:	Steel back onto which a porous bronze layer is sintered, subsequently a PTFE lead mixture is rolled into the bronze layer
Surface:	zinc or copper plated
Application:	BK-1 bushes are suitable for transmission, rotational and oscillating movements, Rod guide for pneumatic and hydraulic cylinders, Attachment lugs of pneumatic and hydraulic cylinders, Conveyor-belt systems, textile machinery, automobiles ...
Standard:	ISO 3547, DIN 1494

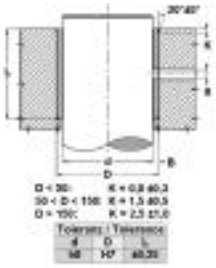
Note: Peak to valley height of shaft to be observed Ra < 0.4 µm. Hardness of shaft to be observed 350 < HB < 600.

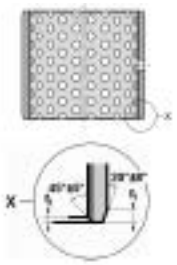
Identification	d	D	L	e	F	f1	f2
	mm	mm	mm	mm	mm	mm	mm
BK-1- 06 070 F	6	8	7,0	1,0	12	0,5	0,3
BK-1- 10 120 F	10	12	12,0	1,0	18	0,5	0,3
BK-1- 12 120 F	12	14	12,0	1,0	20	0,5	0,3
BK-1- 14 120 F	14	16	12,0	1,0	22	0,5	0,3
BK-1- 15 120 F	15	17	12,0	1,0	23	0,5	0,3
BK-1- 15 170 F	15	17	17,0	1,0	23	0,5	0,3
BK-1- 18 120 F	18	20	12,0	1,0	26	0,5	0,3
BK-1- 18 170 F	18	20	17,0	1,0	26	0,5	0,3
BK-1- 20 115 F	20	23	11,5	1,5	31	0,8	0,4
BK-1- 20 165 F	20	23	16,5	1,5	31	0,8	0,4
BK-1- 20 215 F	20	23	21,5	1,5	31	0,8	0,4
BK-1- 25 165 F	25	28	16,5	1,5	36	0,8	0,4
BK-1- 25 215 F	25	28	21,5	1,5	36	0,8	0,4
BK-1- 30 160 F	30	34	16,0	2,0	42	1,0	0,5
BK-1- 30 260 F	30	34	26,0	2,0	42	1,0	0,5
BK-1- 35 160 F	35	39	16,0	2,0	49	1,0	0,5
BK-1- 35 260 F	35	39	26,0	2,0	49	1,0	0,5

Web: http://cat.hansa-flex.com/en/BK1F

BK-2

Sliding bush BK-2





Maintenance-free operation. Noise and frequency absorption. Multi-lubricationable. hydrodynamic operation possible High permitted load. Good friction characteristics. High slide speed. No water absorption. To be used when oil film formation difficult. low play during operation. Extremely space-saving.

Design: Multi-lubrication, POM coated friction bearing
Construction type: with lubrication pockets
pv: Operation with lubrication: 5 N/mm² x m/s
Permissible load: static: 140 N/mm², Rotation, oscillation: 70 N/mm²
Sliding rate: Dry running = 2 m/s, hydrodynamic operation: 5 m/s
Friction coefficient: dry: 0.15 to 0.25, lubricated: 0.05 to 0.15
Thermal expansion coefficient: parallel to ring surface: 11 x 10-6 K-1, perpendicular to ring surface: 48 x 10-6 K-1
Coefficient of thermal conductivity: > 32 W (m x K)-1
Temp. min.: -20 °C
Temp. max.: 100 °C
Surface pressure: 140 (≤ N/mm²)
Material: Steel back onto which a porous bronze layer is sintered, subsequently the acetal resin POM is rolled into the bronze layer
Surface: zinc or copper plated
Application: BK-2 bushes are suitable for rotational and oscillating movements, Attachment lugs of pneumatic and hydraulic cylinders, Conveyor-belt systems, textile machinery, automobiles ...
Standard: ISO 3547, DIN 1494

Note: An initial lubrication with grease is recommended and continual lubrication significantly increases the service life of the friction bearing. Peak to valley height of shaft to be observed Ra < 0.8 µm. Hardness of shaft to be observed 200 < HB < 600.

Identification	d mm	D mm	L mm	f1 mm	f2 mm	g mm
BK-2- 10 20	10	12	20	0,5	0,3	4,0
BK-2- 15 25	15	17	25	0,5	0,3	4,0
BK-2- 20 15	20	23	15	0,8	0,4	4,0
BK-2- 20 20	20	23	20	0,8	0,4	4,0
BK-2- 20 25	20	23	25	0,8	0,4	4,0
BK-2- 20 30	20	23	30	0,8	0,4	4,0
BK-2- 22 25	22	25	25	0,8	0,4	6,0
BK-2- 22 30	22	25	30	0,8	0,4	6,0
BK-2- 24 15	24	27	15	0,8	0,4	6,0
BK-2- 24 25	24	27	25	0,8	0,4	6,0
BK-2- 25 15	25	28	15	0,8	0,4	6,0
BK-2- 25 20	25	28	20	0,8	0,4	6,0
BK-2- 25 25	25	28	258	0,8	0,4	6,0
BK-2- 25 30	25	28	30	0,8	0,4	6,0
BK-2- 28 25	28	32	25	1,0	0,5	6,0
BK-2- 28 30	28	32	30	1,0	0,5	6,0
BK-2- 30 20	30	34	20	1,0	0,5	6,0
BK-2- 30 30	30	34	30	1,0	0,5	6,0
BK-2- 30 40	30	34	40	1,0	0,5	6,0
BK-2- 32 25	32	36	25	1,0	0,5	6,0
BK-2- 32 30	32	36	30	1,0	0,5	6,0
BK-2- 32 40	32	36	40	1,0	0,5	6,0
BK-2- 35 20	35	39	20	1,0	0,5	6,0
BK-2- 35 30	35	39	30	1,0	0,5	6,0
BK-2- 35 35	35	39	35	1,0	0,5	6,0
BK-2- 35 40	35	39	40	1,0	0,5	6,0
BK-2- 35 50	35	39	50	1,0	0,5	6,0
BK-2- 40 20	40	44	20	1,0	0,5	8,0
BK-2- 40 30	40	44	30	1,0	0,5	8,0
BK-2- 40 40	40	44	40	1,0	0,5	8,0
BK-2- 40 50	40	44	50	1,0	0,5	8,0
BK-2- 45 30	45	50	30	1,2	0,6	8,0
BK-2- 45 40	45	50	40	1,2	0,6	8,0
BK-2- 45 45	45	50	45	1,2	0,6	8,0
BK-2- 45 50	45	50	50	1,2	0,6	8,0
BK-2- 50 30	50	55	30	1,2	0,6	8,0
BK-2- 50 35	50	55	35	1,2	0,6	8,0
BK-2- 50 40	50	55	40	1,2	0,6	8,0
BK-2- 50 50	50	55	50	1,2	0,6	8,0
BK-2- 50 60	50	55	60	1,2	0,6	8,0
BK-2- 55 40	55	60	40	1,2	0,6	8,0
BK-2- 55 60	55	60	60	1,2	0,6	8,0
BK-2- 60 30	60	65	30	1,2	0,6	8,0
BK-2- 60 40	60	65	40	1,2	0,6	8,0
BK-2- 60 50	60	65	50	1,2	0,6	8,0
BK-2- 60 60	60	65	60	1,2	0,6	8,0
BK-2- 60 70	60	65	70	1,2	0,6	8,0

→

BK-2 (Continued)

Sliding bush BK-2

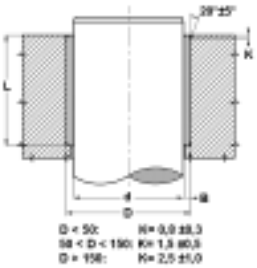
Identification	d	D	L	f1	f2	g
	mm	mm	mm	mm	mm	mm
BK-2- 65 60	65	70	60	1,2	0,6	8,0
BK-2- 70 30	70	75	30	1,2	0,6	8,0
BK-2- 70 40	70	75	40	1,2	0,6	8,0
BK-2- 70 50	70	75	50	1,2	0,6	8,0
BK-2- 70 70	70	75	70	1,2	0,6	8,0
BK-2- 70 80	70	75	80	1,2	0,6	8,0
BK-2- 75 40	75	80	40	1,2	0,6	9,5
BK-2- 80 40	80	85	40	1,2	0,6	9,5
BK-2- 80 50	80	85	50	1,2	0,6	9,5
BK-2- 80 60	80	85	60	1,2	0,6	9,5
BK-2- 80 80	80	85	80	1,2	0,6	9,5
BK-2- 85 60	85	90	60	1,2	0,6	9,5
BK-2- 90 40	90	95	40	1,2	0,6	9,5
BK-2- 90 60	90	95	60	1,2	0,6	9,5
BK-2- 90 80	90	95	80	1,2	0,6	9,5
BK-2- 90 90	90	95	90	1,2	0,6	9,5
BK-2- 95 60	95	100	60	1,2	0,6	9,5
BK-2- 100 60	100	105	60	1,2	0,6	9,5
BK-2- 110 60	110	115	60	1,2	0,6	9,5
BK-2- 120 60	120	125	60	1,2	0,6	9,5
BK-2- 125 60	125	130	60	1,2	0,6	9,5
BK-2- 130 60	130	135	60	1,2	0,6	9,5
BK-2- 130 80	130	135	80	1,2	0,6	9,5

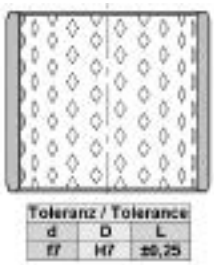
Web: http://cat.hansa-flex.com/en/BK2

BK 090

Sliding bush BK090

Maintenance-free operation. Multi-lubricationable. Not suitable for dirty conditions. Shock and vibration resistant. High permitted load. Good friction characteristics. No water absorption. low play during operation. Extremely space-saving.





Tolerance / Tolerance		
d	D	L
f7	H7	±0,25

Design: Multi-lubrication friction bearing in rolled bronze

Construction type: The bushes are suitable for rotational and oscillating movements

pv: for grease lubrication: 2.8 N/mm² x m/s, for oil lubrication: 10 N/mm² x m/s

Permissible load: static: 140 N/mm², Rotation, oscillation: 70 N/mm²

Sliding speed max.: 1,0 m/s

Friction coefficient: lubricated: 0.05 to 0.15

Thermal expansion coefficient: 11 x 10-6 K-1

Coefficient of thermal conductivity: > 60 W (m x K)-1

Temp. min.: -50 °C

Temp. max.: 150 °C

Surface pressure: 140 (≤ N/mm²)

Material: CuSn8 bronze

Application: Hydraulics

Standard: ISO 3547, DIN 1494

Note: An initial lubrication with grease is recommended and continual lubrication significantly increases the service life of the friction bearing. Peak to valley height of shaft to be observed Ra < 0.8 µm. Hardness of shaft to be observed 150 < HB < 600.

Identification	d mm	D mm	L mm
BK 090-10 10	10	12	10
BK 090-14 15	14	16	15
BK 090-15 15	15	17	15
BK 090-16 20	16	18	20
BK 090-16 25	16	18	25
BK 090-18 15	18	21	15
BK 090-20 15	20	23	15
BK 090-20 20	20	23	20
BK 090-20 25	20	23	25
BK 090-20 30	20	23	30
BK 090-22 20	22	25	20
BK 090-22 25	22	25	25
BK 090-22 30	22	25	30
BK 090-25 15	25	28	15
BK 090-25 20	25	28	20
BK 090-25 25	25	28	25
BK 090-25 30	25	28	30
BK 090-28 20	28	31	20
BK 090-28 25	28	31	25
BK 090-28 30	28	31	30
BK 090-30 20	30	34	20
BK 090-30 25	30	34	25
BK 090-30 30	30	34	30
BK 090-30 40	30	34	40
BK 090-32 20	32	36	20
BK 090-32 30	32	36	30
BK 090-32 40	32	36	40
BK 090-35 15	35	39	15
BK 090-35 20	35	39	20
BK 090-35 30	35	39	30
BK 090-35 35	35	39	35
BK 090-35 40	35	39	40
BK 090-35 50	35	39	50
BK 090-40 20	40	44	20
BK 090-40 25	40	44	25
BK 090-40 30	40	44	30
BK 090-40 40	40	44	40
BK 090-40 50	40	44	50
BK 090-45 20	45	50	20
BK 090-45 25	45	50	25
BK 090-45 30	45	50	30
BK 090-45 40	45	50	40
BK 090-45 50	45	50	50
BK 090-45 60	45	50	60
BK 090-50 30	50	55	30
BK 090-50 40	50	55	40
BK 090-50 50	50	55	50
BK 090-50 60	50	55	60
BK 090-55 20	55	60	20
BK 090-55 40	55	60	40
BK 090-55 50	55	60	50
BK 090-55 60	55	60	60
BK 090-60 30	60	65	30
BK 090-60 35	60	65	35
BK 090-60 40	60	65	40
BK 090-60 50	60	65	50
BK 090-60 60	60	65	60

BK 090 (Continued)

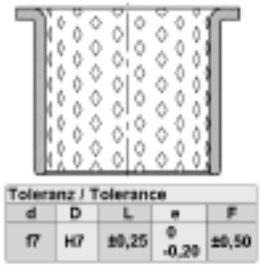
Sliding bush BK090

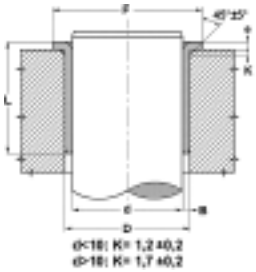
Identification	d	D	L
	mm	mm	mm
BK 090-65 40	65	70	40
BK 090-65 50	65	70	50
BK 090-65 60	65	70	60
BK 090-70 40	70	75	40
BK 090-70 50	70	75	50
BK 090-70 60	70	75	60
BK 090-70 70	70	75	70
BK 090-70 80	70	75	80
BK 090-75 40	75	80	40
BK 090-75 60	75	80	60
BK 090-75 80	75	80	80
BK 090-80 40	80	85	40
BK 090-80 50	80	85	50
BK 090-80 60	80	85	60
BK 090-80 80	80	85	80
BK 090-85 40	85	90	40
BK 090-85 80	85	90	80
BK 090-90 50	90	95	50
BK 090-90 60	90	95	60
BK 090-90 90	90	95	90
BK 090-100 50	100	105	50
BK 090-100 60	100	105	60
BK 090-110 60	110	115	60
BK 090-120 50	120	125	50
BK 090-130 60	130	135	60
BK 090-130 100	130	135	100
BK 090-140 100	140	145	100
BK 090-150 60	150	155	60
BK 090-180 60	180	185	60

Web: http://cat.hansa-flex.com/en/BK090

BK 090 F

Sliding bush BK090-F





Maintenance-free operation. Multi-lubricationable. Not suitable for dirty conditions. Shock and vibration resistant. High permitted load. Good friction characteristics. No water absorption. low play during operation. Extremely space-saving.

Design:	Multi-lubrication friction bearing in rolled bronze
Construction type:	The bushes are suitable for rotational and oscillating movements
pv:	for grease lubrication: 2.8 N/mm² x m/s, for oil lubrication: 10 N/mm² x m/s
Permissible load:	static: 140 N/mm², Rotation, oscillation: 70 N/mm²
Sliding speed max.:	1,0 m/s
Friction coefficient:	lubricated: 0.05 to 0.15
Thermal expansion coefficient:	11 x 10-6 K-1
Coefficient of thermal conductivity:	> 60 W (m x K)-1
Temp. min.:	-50 °C
Temp. max.:	150 °C
Surface pressure:	140 (≤ N/mm²)
Material:	CuSn8 bronze
Application:	Hydraulics
Standard:	ISO 3547, DIN 1494

Note: An initial lubrication with grease is recommended and continual lubrication significantly increases the service life of the friction bearing. Peak to valley height of shaft to be observed Ra < 0.8 µm. Hardness of shaft to be observed 150 < HB < 600.

Identification	d	D	L	e	F
	mm	mm	mm	mm	mm
BK 090-25 25 F	25	28	25	1,5	35
BK 090-30 30 F	30	34	30	2,0	45
BK 090-35 35 F	35	39	35	2,0	50
BK 090-40 40 F	40	44	40	2,0	55
BK 090-45 30 F	45	50	30	2,5	60
BK 090-50 50 F	50	55	50	2,5	65
BK 090-60 30 F	60	65	30	2,5	75
BK 090-60 60 F	60	65	60	2,5	75
BK 090-60 65 F	60	65	65	2,5	75
BK 090-65 30 F	65	70	30	2,5	80
BK 090-70 40 F	70	75	40	2,5	85
BK 090-70 70 F	70	75	70	2,5	85
BK 090-80 40 F	80	85	40	2,5	100
BK 090-80 80 F	80	85	80	2,5	100

(Continued) **BK 090 F**

Sliding bush BK090-F

Identification	d mm	D mm	L mm	e mm	F mm
BK 090-90 90 F	90	95	90	2,5	110
BK 090-120 90 F	120	125	90	2,5	140

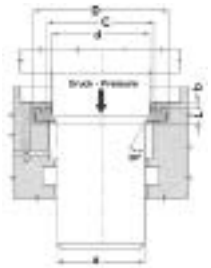
Web: http://cat.hansa-flex.com/en/BK090F

Pneumatic seals

CIM

Damping seal

Toleranz / Tolerance				
d	D	C	L	b
h10	H11	H11	+/-0,1	+0,2 0



Low spatial requirement. Easy fitting without special tools High abrasion resistance. Low dynamic friction. Long service life.

Operating pressure: up to 16 bar
Sliding speed max.: 1,0 m/s
Temp. min.: -30 °C
Temp. max.: 80 °C
Media: Air, Mineral oils
Material:

2

Identification	d	D	C	L	a	b
	mm	mm	mm	mm	mm	mm
K-D CIM 6	6,0	10,0	8,0	3,7	4,5	2,0
K-D CIM 8	8,0	11,6	10,0	3,3	7,0	2,0
K-D CIM 9	9,5	15,0	12,0	4,5	8,0	2,0
K-D CIM 10	10,0	18,0	15,0	7,0	8,0	2,0
K-D CIM 12	12,0	18,0	15,5	4,8	10,0	2,0
K-D CIM 12/1	12,0	20,0	17,0	7,0	10,0	2,0
K-D CIM 14	14,0	22,0	19,0	7,0	12,0	2,0
K-D CIM 16	16,0	22,0	21,0	7,0	14,0	2,0
K-D CIM 16/1	16,0	24,0	21,0	7,0	14,0	2,0
K-D CIM 18	18,0	26,0	23,0	7,0	16,0	2,0
K-D CIM 20	20,0	28,0	24,0	7,0	17,5	2,0
K-D CIM 22	22,0	30,0	26,0	7,0	19,5	2,0
K-D CIM 25	25,0	33,0	29,0	7,0	22,5	2,0
K-D CIM 28	28,0	36,0	32,0	7,0	22,5	2,0
K-D CIM 30	30,0	40,0	35,0	7,0	27,5	2,0
K-D CIM 32	32,0	42,0	37,0	7,0	29,0	2,0
K-D CIM 36	36,0	46,0	41,0	7,0	33,0	2,0
K-D CIM 40	40,0	50,0	45,0	7,0	37,0	2,0
K-D CIM 50	50,0	60,0	55,0	7,0	47,0	2,0

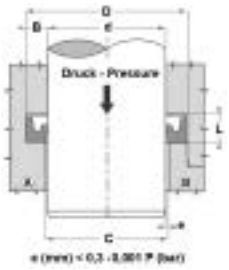
Web: http://cat.hansa-flex.com/en/CIM

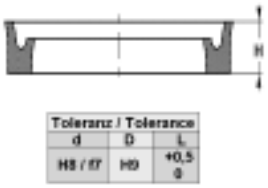
DDI

Rod seal DDI

Low-friction seal. Simple solution.

Design: Rod U-ring
Operating pressure: up to 120 bar
Sliding speed max.: 0,5 m/s
Design: Inches
Temp. min.: -30 °C
Temp. max.: 100 °C
Media: Mineral oils, Water-air
Installation: in closed grooves A, in open grooves B
Material: NBR 90° Shore A
Application: Hydraulics + pneumatics





Toleranz / Tolerance		
d	D	L
H8 / f7	H9	+0,5 0

Note: Dimensions see page Rod seals ...

Ordering information: Other sizes on request We are able to produce seals with diameters of 20 to 510 mm with short lead times.

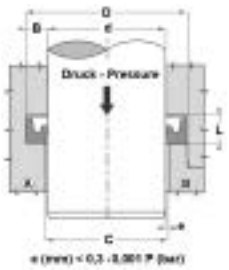
Web: http://cat.hansa-flex.com/en/DDIDITSTANGENPNEU

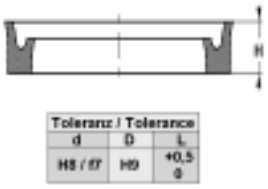
DDIM

Rod seal DDIM

Low-friction seal. Simple solution.

Design: Rod U-ring
Operating pressure: up to 120 bar
Sliding speed max.: 0,5 m/s
Design: Metric
Temp. min.: -30 °C
Temp. max.: 100 °C
Media: Mineral oils, Water-air
Installation: in closed grooves A, in open grooves B
Material: NBR 90° Shore A
Application: Hydraulics + pneumatics





Toleranz / Tolerance		
d	D	L
H8 / f7	H9	+0,5 0

Note: Dimensions see page Rod seals ...

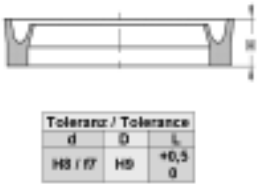
Ordering information: Other sizes on request

Web: http://cat.hansa-flex.com/en/DDIMDITSTANGENPNEU

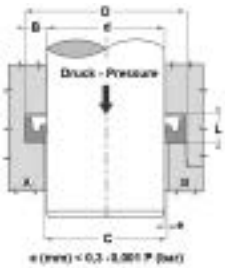
Product versions:
DDIM P - Rod seal DDIM-P, PUR 90° Shore A

DDIM P

Rod seal DDIM-P



Toleranz / Tolerance		
d	D	L
H8 / f7	H9	+0,5 0



Low-friction seal. Simple solution.

Design:	Rod lip seal
Operating pressure:	up to 16 bar
Sliding speed max.:	1,0 m/s
Temp. min.:	-30 °C
Temp. max.:	80 °C
Media:	Air
Installation:	in closed grooves A, in open grooves B
Material:	PUR 90° Shore A
Application:	Hydraulics + pneumatics

Note: Dimensions see page Rod seals ...

Ordering information: Other sizes on request

Web: http://cat.hansa-flex.com/en/DDIMPDITSTANGENPNEU

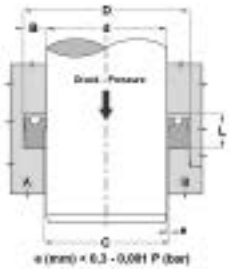
Product versions:
DDIM - Rod seal DDIM, NBR 90° Shore A

DUM

U-ring DUM

Low-friction seal. Simple solution. For rods and pistons.

Design: U-ring
Operating pressure: up to 120 bar
Sliding speed max.: 0,5 m/s
Design: Metric
Temp. min.: -30 °C
Temp. max.: 100 °C
Media: Mineral oils, Water-air
Installation: on one-piece pistons A, on multi-part pistons B
Material: Seal: NBR 90° Shore A
Application: Hydraulics + pneumatics



Toleranz / Tolerance		
d	D	L
H8 / f7	H9	+0,5 0

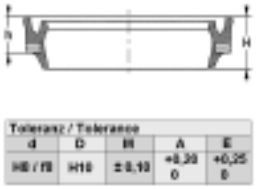
Note: Dimensions see page Rod seals ...

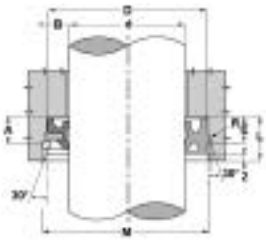
Ordering information: We are able to produce seals with diameters of 20 to 510 mm with short lead times.

Web: http://cat.hansa-flex.com/en/DUMDITSTANGENPNEU

NPSL

Combination element NPSL





Low-friction seal. Combination element, seal/wiper.

Design: Rod wiper seal
Operating pressure: up to 10 bar
Sliding speed max.: 1,0 m/s
Temp. min.: -30 °C
Temp. max.: 90 °C
Media: Mineral oils, Water-air
Installation: in open grooves B
Material: NBR 75° Shore A
Application: Pneumatics

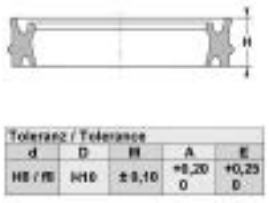
2

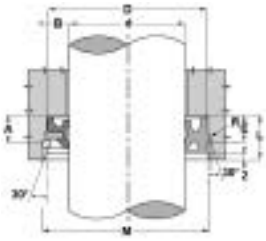
Identification	d	D	h	H	M	A	R
	mm	mm	mm	mm	mm	mm	mm
NPSL 16 26-7	16	26	7,0	9,5	28,00	8,50	1,10
NPSL 18 26-6	18	26	6,0	8,5	28,00	7,50	1,10
NPSL 20 30-7	20	30	7,0	9,5	32,00	8,80	1,40
NPSL 22 32-7	22	32	7,0	9,5	34,50	8,80	1,40
NPSL 25 35-7	25	35	7,0	9,5	37,50	8,80	1,40
NPSL 30 40-7	30	40	7,0	9,5	42,50	8,80	1,40
NPSL 32 42-7	32	42	7,0	9,5	44,50	8,80	1,40
NPSL 40 50-7	40	50	7,0	9,5	52,50	8,80	1,40

Web: http://cat.hansa-flex.com/en/NPSL

NPSL-P

Combination element NPSL-P





Low-friction seal. Combination element, seal/wiper.

Design: Rod wiper seal
Operating pressure: up to 10 bar
Sliding speed max.: 1,0 m/s
Temp. min.: -30 °C
Temp. max.: 90 °C
Media: Mineral oils, Water-air
Installation: in open grooves B
Material: Polyurethane 93° Shore A
Application: Pneumatics

Identification	d	D	h	H	L	M	E	R
	mm	mm	mm	mm	mm	mm	mm	mm
NPSL-P 12	12	22	7,0	10,4	13	24,20	8,80	1,10
NPSL-P 16	16	26	7,0	10,4	13	28,20	8,80	1,10
NPSL-P 18	18	28	7,0	10,4	13	30,20	8,80	1,10
NPSL-P 20	20	30	7,0	10,4	13	32,20	8,80	1,40
NPSL-P 22	22	32	7,3	10,4	14	34,80	9,40	1,40
NPSL-P 25	25	35	7,3	10,4	14	37,80	9,40	1,40
NPSL-P 30	30	40	7,3	10,4	14	42,80	9,40	1,40
NPSL-P 32	32	42	7,3	10,4	14	44,80	9,40	1,40
NPSL-P 40	40	50	7,3	10,4	14	52,80	9,40	1,40
NPSL-P 45	45	55	7,7	10,4	15	58,60	10,40	1,80

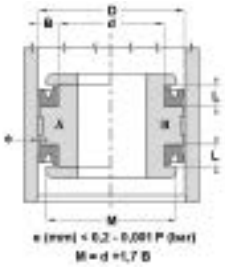
Web: http://cat.hansa-flex.com/en/NPSLP

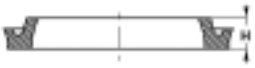
DDE

Piston seal, DDE

Low-friction seal. Simple solution.

Design: Piston U-ring
Operating pressure: up to 80 bar
Sliding speed max.: 0,5 m/s
Design: Inches
Temp. min.: -30 °C
Temp. max.: 100 °C
Media: Mineral oils, Water-air
Installation: on one-piece pistons A, on multi-part pistons B
Material: NBR 75° Shore A
Application: Hydraulics + pneumatics





Toleranz / Tolerance		
D	d	L
H9 / e8	h9	+0,50 0

Note: Dimensions, see under chapter Hydraulics / Piston seals

Ordering information: We are able to produce seals with diameters of 20 to 510 mm with short lead times.

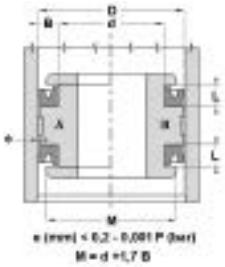
Web: http://cat.hansa-flex.com/en/DDEDITKOLBENPNEU

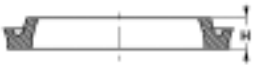
DDEM

Piston seal DDEM

Low-friction seal. Simple solution.

Design: Piston U-ring
Operating pressure: up to 80 bar
Sliding speed max.: 0,5 m/s
Design: Metric
Temp. min.: -30 °C
Temp. max.: 100 °C
Media: Mineral oils, Water-air
Installation: on one-piece pistons A, on multi-part pistons B
Material: NBR 75° Shore A
Application: Hydraulics + pneumatics





Toleranz / Tolerance		
D	d	L
H9 / e8	h9	+0,50 0

Note: Dimensions, see under chapter Hydraulics / Piston seals

Ordering information: We are able to produce seals with diameters of 20 to 510 mm with short lead times.

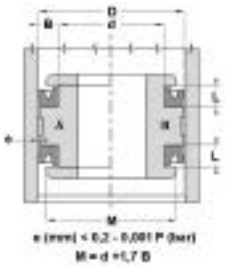
Web: http://cat.hansa-flex.com/en/DDEMDITKOLBENPNEU

DDEM P

Piston seal, DDEM-P

Low-friction seal. Simple solution.

Design: Piston U-ring
Operating pressure: up to 16 bar
Sliding speed max.: 1,0 m/s
Design: Metric
Temp. min.: -30 °C
Temp. max.: 80 °C
Media: Air
Installation: on one-piece pistons A, on multi-part pistons B
Material: PUR 90° Shore A
Application: Hydraulics + pneumatics



Toleranz / Tolerance		
D	d	L
H9 / e8	h9	+0,50 0

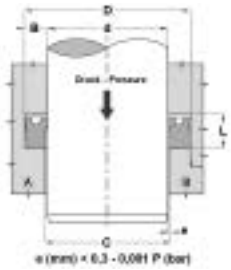
Note: Dimensions, see under chapter Hydraulics / Piston seals

Ordering information: We are able to produce seals with diameters of 20 to 510 mm with short lead times.

Web: http://cat.hansa-flex.com/en/DDEMPDITKOLBENPNEU

DUM

U-ring DUM



Low-friction seal. Simple solution. For rods and pistons.

Design: U-ring
Operating pressure: up to 120 bar
Sliding speed max.: 0,5 m/s
Design: Metric
Temp. min.: -30 °C
Temp. max.: 100 °C
Media: Mineral oils, Water-air
Installation: on one-piece pistons A, on multi-part pistons B
Material: Seal: NBR 90° Shore A
Application: Hydraulics + pneumatics

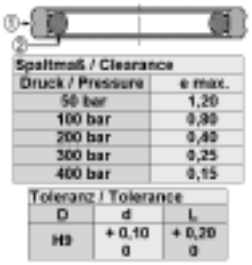
Note: Dimensions see page Rod seals ...

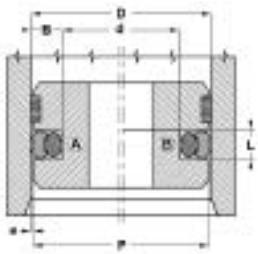
Ordering information: We are able to produce seals with diameters of 20 to 510 mm with short lead times.

Web: http://cat.hansa-flex.com/en/DUMDITKOLBENPNEU

GPP

GPP





Easy assembly. Low spatial requirement. Extremely good sealing effect. High abrasion resistance.

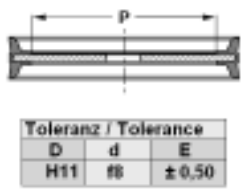
Operating pressure: up to 16 bar
Sliding speed max.: 1,0 m/s
Temp. min.: -30 °C
Temp. max.: 80 °C
Media: Mineral oils
Installation: on one-piece pistons A, on multi-part pistons B
Material: (1) Dynamic seal: PUR, (2) Static seal: NBR
Application: Pneumatics

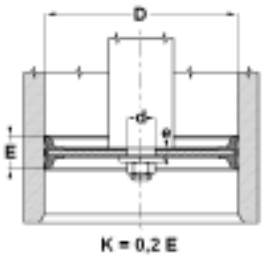
Identification	D mm	d mm	L mm
GPP 16	16	9	2,5
GPP 25	25	18	2,5
GPP 63	63	51	4,0

Web: http://cat.hansa-flex.com/en/GPP

TDOP

Complete piston TDOP





Complete pistons.

Design: Complete pistons
Operating pressure: up to 10 bar
Sliding speed max.: 1,0 m/s
Temp. min.: -30 °C
Temp. max.: 110 °C
Media: Mineral oils, Water-air
Installation: push onto piston recess with the rubber side and affix with washer and nut.
Material: NBR 85° Shore A, with steel core
Application: Pneumatics

Note: Tolerance: D= H11; d= f8; E= +/-0.5

Ordering information: For special operating conditions (fluid, temperature, pressure ...) please contact us. Alternative material possible: FPM, EPDM.

Identification	D mm	d mm	P mm	E mm	e mm
TDOP 25	25	8	15,6	12	3,8
TDOP 32	32	8	20,0	15	3,8
TDOP 40	40	10	27,0	18	4,8
TDOP 50	50	10	37,0	18	4,8

(Continued) **TDOP**

Complete piston TDOP

Identification	D	d	P	E	e
	mm	mm	mm	mm	mm
TDOP 60	60	12	43,0	22	6,0
TDOP 63	63	12	43,0	22	6,0
TDOP 063-1	63	16	43,0	22	6,0
TDOP 65	65	12	43,0	25	6,0
TDOP 70	70	12	50,0	25	6,0
TDOP 80	80	16	55,0	24	6,0
TDOP 100	100	20	75,0	26	7,0
TDOP 125	125	20	95,0	26	9,6
TDOP 160	160	27	129,0	30	10,8
TDOP 200	200	27	169,0	35	11,4

Web: http://cat.hansa-flex.com/en/TDOP

Seal kits and measuring equipment

HK GKG T

Packing set HKGKGT

Design: complete packing set for HANSA-FLEX standard cylinders
Design: for single-acting cylinders
Construction type: for plunger rods

Identification	Ø S mm	Weight kg
HK GKG T 020 030	20	0,29
HK GKG T 025 035	25	0,33
HK GKG T 030 040	30	0,20
HK GKG T 035 045	35	0,44
HK GKG T 040 050	40	0,20
HK GKG T 045 055	45	0,59
Ø S = piston rod diameter		

Identification	Ø S mm	Weight kg
HK GKG T 050 060	50	0,20
HK GKG T 060 070	60	0,75
HK GKG T 070 000	70	0,75
HK GKG T 080 000	80	1,98
HK GKG T 100 000	100	2,10
Ø S = piston rod diameter		

Web: http://cat.hansa-flex.com/en/HKGKGT

HK KIT

Packing set HKKIT

Design: Packing set for cylinder HKHFRT

Identification	Ø S mm	Weight kg
HK KIT HFRT 125	25	0,2
HK KIT HFRT 230	30	0,2
HK KIT HFRT 340	40	0,2
Ø S = piston rod diameter		

Web: http://cat.hansa-flex.com/en/HKKIT

HK GKG

Packing set HKGKG

Design: complete packing set for HANSA-FLEX standard cylinders
Design: for double-acting cylinders

Identification	Ø A mm	Ø S mm	Weight kg
HK GKG 0030 016	30	16	0,20
HK GKG 0032 020	32	20	0,20
HK GKG 0035 020	35	20	0,20
HK GKG 0035 022	35	22	0,20
HK GKG 0040 020	40	20	0,20
HK GKG 0040 022	40	22	0,20
HK GKG 0040 025	40	25	0,20
HK GKG 0045 022	45	22	0,20
HK GKG 0045 025	45	25	0,20
HK GKG 0050 020	50	20	0,20
HK GKG 0050 025	50	25	0,25
HK GKG 0050 030	50	30	0,25
HK GKG 0050 035	50	35	0,20
HK GKG 0055 025	55	25	0,20
HK GKG 0055 030	55	30	0,20
HK GKG 0055 035	55	35	0,20
HK GKG 0060 025	60	25	0,20
HK GKG 0060 030	60	30	0,25
HK GKG 0060 035	60	35	0,25
HK GKG 0060 040	60	40	0,30
HK GKG 0063 030	63	30	0,20
HK GKG 0063 035	63	35	0,20
HK GKG 0063 040	63	40	0,20
HK GKG 0065 030	65	30	0,20
HK GKG 0065 035	65	35	0,20
HK GKG 0065 040	65	40	0,20
HK GKG 0065 045	65	45	0,20
HK GKG 0070 025	70	25	0,20
HK GKG 0070 030	70	30	0,20
HK GKG 0070 035	70	35	0,30
HK GKG 0070 040	70	40	0,30
HK GKG 0070 045	70	45	0,20
HK GKG 0070 050	70	50	0,20
HK GKG 0075 030	75	30	0,20
HK GKG 0075 035	75	35	0,20
HK GKG 0075 040	75	40	0,20
Ø A = piston diameter	Ø S = piston rod diameter		

Identification	Ø A mm	Ø S mm	Weight kg
HK GKG 0075 045	75	45	0,20
HK GKG 0080 030	80	30	0,20
HK GKG 0080 035	80	35	0,20
HK GKG 0080 040	80	40	0,30
HK GKG 0080 045	80	45	0,20
HK GKG 0080 050	80	50	0,40
HK GKG 0080 055	80	55	0,20
HK GKG 0080 060	80	60	0,20
HK GKG 0085 035	85	35	0,20
HK GKG 0085 040	85	40	0,20
HK GKG 0085 050	85	50	0,20
HK GKG 0090 040	90	40	0,20
HK GKG 0090 045	90	45	0,20
HK GKG 0090 050	90	50	0,20
HK GKG 0090 060	90	60	0,20
HK GKG 0100 040	100	40	0,20
HK GKG 0100 045	100	45	0,20
HK GKG 0100 050	100	50	0,40
HK GKG 0100 055	100	55	0,20
HK GKG 0100 060	100	60	0,40
HK GKG 0100 070	100	70	0,20
HK GKG 0110 045	110	45	0,20
HK GKG 0110 050	110	50	0,20
HK GKG 0110 060	110	60	0,20
HK GKG 0110 070	110	70	0,20
HK GKG 0120 050	120	50	0,20
HK GKG 0120 060	120	60	0,20
HK GKG 0120 070	120	70	0,20
HK GKG 0125 060	125	60	0,20
HK GKG 0125 070	125	70	0,20
HK GKG 0140 070	140	70	0,20
HK GKG 0140 080	140	80	0,20
HK GKG 0150 070	150	70	0,20
HK GKG 0150 080	150	80	0,20
HK GKG 0160 080	160	80	0,20
HK GKG 0160 090	160	90	0,20
Ø A = piston diameter	Ø S = piston rod diameter		

Web: http://cat.hansa-flex.com/en/HKGKG

HK GKG 2S

Packing set HKGKG2S

Identification	Ø A mm	Ø S mm
HK GKG 2S 0040 025	40	25
HK GKG 2S 0050 030	50	30
HK GKG 2S 0060 030	60	30
HK GKG 2S 0060 035	60	35
Ø A = piston diameter	Ø S = piston rod diameter	

Identification	Ø A mm	Ø S mm
HK GKG 2S 0070 040	70	40
HK GKG 2S 0080 040	80	40
HK GKG 2S 0100 050	100	50
Ø A = piston diameter	Ø S = piston rod diameter	

Web: http://cat.hansa-flex.com/en/HKGKG2S

HK DSF

Packing set for hydraulic cylinder DSF

Design: Packing set for guide head

Identification	for guide yoke	Weight kg
HK DSF 32 16		0,2
HK DSF 40 28		0,2
HK DSF 40 30		0,2
HK DSF 45 20		0,2
HK DSF 45 30		0,2
HK DSF 50 28		0,2

Identification	for guide yoke	Weight kg
HK DSF 63 25		0,2
HK DSF 6336		0,3
HK DSF 63 45		0,2
HK DSF 125 80		0,3
HK DSF 140 100		0,3
HK DSF 150 100		0,3

Web: http://cat.hansa-flex.com/en/HKDSF

MK

Measuring cone for O-rings

With the measuring cone set MKS5-284, all popular O rings within the diameter range of 5 - 285 mm can be measured. In order to comply with the demands made on a measuring device an especially tough high-quality material was used for its manufacture. The measuring cone set is comprised of seven individual segments which can be inserted into each other for storing or transportation. When set up, a measuring tower of maximum 1.64 m is formed.

Design: Measuring cone for O-rings

Identification	Measuring range
MKS 5-284	5 - 284 mm
MK 5-44	5 - 44 mm
MK 45-84	45 - 84 mm
K-DMK 85-124	
K-DMK 125-164	

Web: http://cat.hansa-flex.com/en/MK

MT

Measuring equipment for seal identification

The internal measuring probe is used for determining the exact diameter of grooves in the inside of seal housings, pipes and guides etc.

Design: Internal measuring probe

Identification	Measuring range
MT 150	150 mm
MT 200	200 mm
MT 300	300 mm

Web: http://cat.hansa-flex.com/en/MT

UNI-MESSSCHIEBER

Universal Vernier callipers

For an exact description of seals, information is generally required on the metallic installation space. The required measuring instruments are normally only suitable for one application. This vernier caliper gauge, on the other hand, can be universally used for measurements on seal housings, pistons and rods. It can determine the exact depth and width of inside and outside grooves. It is thus an ideal measuring tool for repair and maintenance workshops.

Design: Monitor with three display possibilities
Measurable dimensions: Inside and outside diameter, groove depth, groove width

Identification	Measuring range	Inside measurement	Groove width inside	Groove depth inside
UNI-MESSSCHIEBER	0 - 200 mm / 0 - 8"	above 20 mm	above 3 mm	up to 20 mm / 3/4"

Web: http://cat.hansa-flex.com/en/UNIMESSSCHIEBER

DEMONTAGE-SET

Disassembly SET

Set of disassembly tools for O-rings and U-rings, 8 pcs., in plastic box.

Application: The disassembly tool set can be used for almost every range of O-rings and U-rings.

Identification
DEMONTAGE SET

Web: http://cat.hansa-flex.com/en/DEMONTAGESET

DICHTUNGS PICK SET

Seal pick Set

Design: Seal fitting set
Included in scope of supply: 5 tools
Material: Stainless steel

Identification
DICHTUNGS PICK SET

Web: http://cat.hansa-flex.com/en/DICHTUNGSPICKSET

DICHTUNGS ZANGE

Seal pliers

For fitting rod seals in the seal housing.

Design: Assembly pliers for seals
Material: Steel

Identification
DICHTUNGSZANGE

Web: http://cat.hansa-flex.com/en/DICHTUNGSZANGE

O-RING PICK SET

O-ring pick set

Design: Fitting set for O-ring
Included in scope of supply: 5 tools
Material: Stainless steel

Identification
O-RINGPICKSET

Web: http://cat.hansa-flex.com/en/ORINGPICKSET

Static seals

OR 70° Shore NBR

O-ring, 70SH NBR

Design: O-ring
Temp. min.: -30 °C
Temp. max.: 100 °C
Material: NBR 70 Shore A

Identification	d1	d2	s	Packaging unit
	mm	mm	mm	
OR 1.15-1	1,15	3,15	1,00	-*
OR 1.24-2.62	1,24	6,48	2,62	-*
OR 1.5-1	1,50	3,50	1,00	-*
OR 1.5-1.5	1,50	4,50	1,50	100 piece
OR 1.78-1.02	1,78	3,82	1,02	100 piece
OR 1.78-1.78	1,78	5,34	1,78	-*
OR 1.8-1	1,80	3,80	1,00	-*
OR 1.8-1.2	1,80	4,20	1,20	100 piece
OR 1.85-1.5	1,85	4,85	1,50	-*
OR 2-0.5	2,00	3,00	0,50	100 piece
OR 2-1	2,00	4,00	1,00	-*
OR 2-1.5	2,00	5,00	1,50	100 piece
OR 2-2	2,00	6,00	2,00	100 piece
OR 2.06-2.62	2,06	7,30	2,62	-*
OR 2.2-1	2,20	4,20	1,00	-*
OR 2.4-1.9	2,40	6,20	1,90	100 piece
OR 2.5-1	2,50	4,50	1,00	-*
OR 2.5-1.5	2,50	5,50	1,50	-*
OR 2.5-2	2,50	6,50	2,00	-*
OR 2.57-1.78	2,57	6,13	1,78	-*
OR 2.6-1.2	2,60	5,00	1,20	100 piece
OR 2.6-1.8	2,60	6,20	1,80	100 piece
OR 2.6-1.9	2,60	6,40	1,90	100 piece
OR 2.8-1.5	2,80	5,80	1,50	-*
OR 2.84-2.62	2,84	8,08	2,62	-*
OR 2.9-1.78	2,90	6,46	1,78	100 piece
OR 3-1	3,00	5,00	1,00	100 piece
OR 3-1.5	3,00	6,00	1,50	100 piece
OR 3-1.8	3,00	6,60	1,80	-*
OR 3-2	3,00	7,00	2,00	100 piece
OR 3-2.4	3,00	7,80	2,40	100 piece
OR 3-2.5	3,00	8,00	2,50	-*
OR 3-2.7	3,00	8,40	2,70	-*
OR 3.17-1.78	3,17	6,73	1,78	-*
OR 3.2-2.5	3,20	8,20	2,50	100 piece
OR 3.3-2.4	3,30	8,10	2,40	100 piece
OR 3.4-1.9	3,40	7,20	1,90	100 piece
OR 3.5-1	3,50	5,50	1,00	-*
OR 3.5-1.5	3,50	6,50	1,50	100 piece
OR 3.5-2	3,50	7,50	2,00	-*
OR 3.6-2.4	3,60	8,40	2,40	100 piece
OR 3.63-2.62	3,63	8,87	2,62	-*
OR 3.68-1.78	3,68	7,24	1,78	-*
OR 3.7-1	3,70	5,70	1,00	100 piece
OR 3.8-1.5	3,80	6,80	1,50	100 piece
OR 4-1	4,00	6,00	1,00	100 piece
OR 4-1.5	4,00	7,00	1,50	100 piece
OR 4-1.75	4,00	7,50	1,75	100 piece
OR 4-1.85	4,00	7,70	1,85	100 piece
OR 4-2	4,00	8,00	2,00	100 piece
OR 4-2.2	4,00	8,40	2,20	100 piece
OR 4-2.5	4,00	9,00	2,50	100 piece
OR 4-3	4,00	10,00	3,00	100 piece
OR 4.2-1.9	4,20	8,00	1,90	100 piece
OR 4.3-2.4	4,30	9,10	2,40	100 piece
OR 4.34-3.53	4,34	11,40	3,53	-*
OR 4.42-2.62	4,42	9,66	2,62	-*
OR 4.47-1.78	4,47	8,03	1,78	-*
OR 4.48-1.78	4,48	8,04	1,78	100 piece
OR 4.5-1	4,50	6,50	1,00	100 piece
OR 4.5-1.5	4,50	7,50	1,50	100 piece
OR 4.5-1.7	4,50	7,90	1,70	-*
OR 4.5-2	4,50	8,50	2,00	100 piece
OR 4.5-2.5	4,50	9,50	2,50	100 piece
OR 4.76-1.78	4,76	8,32	1,78	-*
OR 4.8-1.8	4,80	8,40	1,80	100 piece
OR 4.9-1.9	4,90	8,70	1,90	100 piece
OR 5-1	5,00	7,00	1,00	100 piece
OR 5-1.2	5,00	7,40	1,20	100 piece
OR 5-1.5	5,00	8,00	1,50	100 piece
OR 5-2	5,00	9,00	2,00	100 piece
OR 5-2.5	5,00	10,00	2,50	100 piece
OR 5-3	5,00	11,00	3,00	100 piece
OR 5.1-1.6	5,10	8,30	1,60	-*
OR 5.23-2.62	5,23	10,47	2,62	-*

Packaging unit: -* upon request

Identification	d1	d2	s	Packaging unit
	mm	mm	mm	
OR 5.28-1.78	5,28	8,84	1,78	100 piece
OR 5.3-2.4	5,30	10,10	2,40	100 piece
OR 5.3-2.5	5,30	10,30	2,50	100 piece
OR 5.5-1	5,50	7,50	1,00	100 piece
OR 5.5-1.5	5,50	8,50	1,50	100 piece
OR 5.5-2	5,50	9,50	2,00	100 piece
OR 5.5-2.5	5,50	10,50	2,50	-*
OR 5.5-3	5,50	11,50	3,00	-*
OR 5.6-2.4	5,60	10,40	2,40	100 piece
OR 5.7-1.9	5,70	9,50	1,90	100 piece
OR 5.8-1.5	5,80	8,80	1,50	-*
OR 5.94-3.53	5,94	13,00	3,53	100 piece
OR 6-1	6,00	8,00	1,00	100 piece
OR 6-1.5	6,00	9,00	1,50	100 piece
OR 6-1.6	6,00	9,20	1,60	100 piece
OR 6-1.8	6,00	9,60	1,80	100 piece
OR 6-2	6,00	10,00	2,00	100 piece
OR 6-2.5	6,00	11,00	2,50	100 piece
OR 6-3	6,00	12,00	3,00	100 piece
OR 6-3.5	6,00	13,00	3,50	100 piece
OR 6-6	6,00	18,00	6,00	-*
OR 6.02-2.62	6,02	11,26	2,62	-*
OR 6.07-1.63	6,07	9,33	1,63	100 piece
OR 6.07-1.78	6,07	9,63	1,78	100 piece
OR 6.1-1.6	6,10	9,30	1,60	-*
OR 6.3-2.4	6,30	11,10	2,40	-*
OR 6.35-1.78	6,35	9,91	1,78	-*
OR 6.4-1.9	6,40	10,20	1,90	-*
OR 6.5-1	6,50	8,50	1,00	-*
OR 6.5-1.5	6,50	9,50	1,50	100 piece
OR 6.5-2	6,50	10,50	2,00	-*
OR 6.5-2.5	6,50	11,50	2,50	-*
OR 6.5-3	6,50	12,50	3,00	-*
OR 6.75-1.78	6,75	10,31	1,78	100 piece
OR 7-1	7,00	9,00	1,00	-*
OR 7-1.5	7,00	10,00	1,50	100 piece
OR 7-1.8	7,00	10,60	1,80	-*
OR 7-2	7,00	11,00	2,00	100 piece
OR 7-2.5	7,00	12,00	2,50	100 piece
OR 7-3	7,00	13,00	3,00	100 piece
OR 7-4	7,00	15,00	4,00	100 piece
OR 7-6	7,00	19,00	6,00	-*
OR 7.1-1.6	7,10	10,30	1,60	100 piece
OR 7.2-1.9	7,20	11,00	1,90	100 piece
OR 7.3-2.4	7,30	12,10	2,40	100 piece
OR 7.5-1	7,50	9,50	1,00	-*
OR 7.5-1.5	7,50	10,50	1,50	100 piece
OR 7.5-2	7,50	11,50	2,00	100 piece
OR 7.5-2.4	7,50	12,30	2,40	-*
OR 7.5-2.5	7,50	12,50	2,50	-*
OR 7.5-3	7,50	13,50	3,00	-*
OR 7.52-3.53	7,52	14,58	3,53	100 piece
OR 7.59-2.62	7,59	12,83	2,62	-*
OR 7.66-1.78	7,66	11,22	1,78	-*
OR 7.94-1.78	7,94	11,50	1,78	-*
OR 8-1	8,00	10,00	1,00	-*
OR 8-1.5	8,00	11,00	1,50	100 piece
OR 8-1.6	8,00	11,20	1,60	100 piece
OR 8-1.7	8,00	11,40	1,70	100 piece
OR 8-2	8,00	12,00	2,00	100 piece
OR 8-2.2	8,00	12,40	2,20	100 piece
OR 8-2.4	8,00	12,80	2,40	-*
OR 8-2.5	8,00	13,00	2,50	100 piece
OR 8-3	8,00	14,00	3,00	100 piece
OR 8-3.5	8,00	15,00	3,50	100 piece
OR 8-4	8,00	16,00	4,00	100 piece
OR 8.1-1.6	8,10	11,30	1,60	100 piece
OR 8.3-2.4	8,30	13,10	2,40	100 piece
OR 8.5-1	8,50	10,50	1,00	-*
OR 8.5-1.5	8,50	11,50	1,50	-*
OR 8.5-2	8,50	12,50	2,00	100 piece
OR 8.5-2.5	8,50	13,50	2,50	-*
OR 8.5-3	8,50	14,50	3,00	100 piece
OR 8.73-1.78	8,73	12,29	1,78	100 piece
OR 8.9-1.9	8,90	12,70	1,90	100 piece

Packaging unit: -* upon request

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(Continued)

OR 70° Shore NBR

O-ring, 70SH NBR

Identification	d1 mm	d2 mm	s mm	Packaging unit
OR 8.9-2.7	8,90	14,30	2,70	-*
OR 8.92-1.83	8,92	12,58	1,83	100 piece
OR 9-1	9,00	11,00	1,00	100 piece
OR 9-1.5	9,00	12,00	1,50	100 piece
OR 9-2	9,00	13,00	2,00	100 piece
OR 9-2.5	9,00	14,00	2,50	100 piece
OR 9-2.62	9,00	14,24	2,62	100 piece
OR 9-3	9,00	15,00	3,00	100 piece
OR 9-3.5	9,00	16,00	3,50	100 piece
OR 9-6	9,00	21,00	6,00	-*
OR 9.1-1.6	9,10	12,30	1,60	-*
OR 9.12-3.53	9,12	16,18	3,53	100 piece
OR 9.13-2.62	9,13	14,37	2,62	-*
OR 9.19-2.62	9,19	14,43	2,62	100 piece
OR 9.25-1.78	9,25	12,81	1,78	100 piece
OR 9.3-2.4	9,30	14,10	2,40	100 piece
OR 9.5-1	9,50	11,50	1,00	100 piece
OR 9.5-1.5	9,50	12,50	1,50	100 piece
OR 9.5-2	9,50	13,50	2,00	100 piece
OR 9.5-2.5	9,50	14,50	2,50	-*
OR 9.5-3	9,50	15,50	3,00	-*
OR 9.52-1.78	9,52	13,08	1,78	-*
OR 9.6-2.4	9,60	14,40	2,40	-*
OR 9.9-2.62	9,90	15,14	2,62	-*
OR 10-1	10,00	12,00	1,00	100 piece
OR 10-1.5	10,00	13,00	1,50	100 piece
OR 10-1.8	10,00	13,60	1,80	100 piece
OR 10-2	10,00	14,00	2,00	100 piece
OR 10-2.2	10,00	14,40	2,20	100 piece
OR 10-2.4	10,00	14,80	2,40	100 piece
OR 10-2.5	10,00	15,00	2,50	100 piece
OR 10-3	10,00	16,00	3,00	100 piece
OR 10-3.5	10,00	17,00	3,50	100 piece
OR 10-4	10,00	18,00	4,00	-*
OR 10-5	10,00	20,00	5,00	100 piece
OR 10-6	10,00	22,00	6,00	-*
OR 10.1-1.6	10,10	13,30	1,60	-*
OR 10.3-2.4	10,30	15,10	2,40	100 piece
OR 10.5-1	10,50	12,50	1,00	-*
OR 10.5-1.5	10,50	13,50	1,50	100 piece
OR 10.5-2	10,50	14,50	2,00	-*
OR 10.5-2.5	10,50	15,50	2,50	-*
OR 10.5-3	10,50	16,50	3,00	-*
OR 10.69-3.53	10,69	17,75	3,53	100 piece
OR 10.78-2.62	10,78	16,02	2,62	-*
OR 10.8-1.8	10,80	14,40	1,80	100 piece
OR 10.82-1.78	10,82	14,38	1,78	100 piece
OR 11-1	11,00	13,00	1,00	100 piece
OR 11-1.2	11,00	13,40	1,20	100 piece
OR 11-1.5	11,00	14,00	1,50	100 piece
OR 11-1.8	11,00	14,60	1,80	100 piece
OR 11-2	11,00	15,00	2,00	100 piece
OR 11-2.5	11,00	16,00	2,50	100 piece
OR 11-2.75	11,00	16,50	2,75	100 piece
OR 11-3	11,00	17,00	3,00	100 piece
OR 11-3.5	11,00	18,00	3,50	100 piece
OR 11-4	11,00	19,00	4,00	-*
OR 11-6	11,00	23,00	6,00	-*
OR 11.1-1.6	11,10	14,30	1,60	-*
OR 11.11-1.78	11,11	14,67	1,78	-*
OR 11.3-2.4	11,30	16,10	2,40	100 piece
OR 11.5-1	11,50	13,50	1,00	-*
OR 11.5-1.5	11,50	14,50	1,50	-*
OR 11.5-2	11,50	15,50	2,00	100 piece
OR 11.5-2.5	11,50	16,50	2,50	-*
OR 11.5-3	11,50	17,50	3,00	-*
OR 11.89-1.98	11,89	15,85	1,98	100 piece
OR 11.91-2.62	11,91	17,15	2,62	-*
OR 12-1	12,00	14,00	1,00	100 piece
OR 12-1.5	12,00	15,00	1,50	100 piece
OR 12-1.7	12,00	15,40	1,70	100 piece
OR 12-1.9	12,00	15,80	1,90	100 piece
OR 12-2	12,00	16,00	2,00	100 piece
OR 12-2.5	12,00	17,00	2,50	100 piece
OR 12-3	12,00	18,00	3,00	100 piece
OR 12-3.2	12,00	18,40	3,20	-*
OR 12-3.5	12,00	19,00	3,50	100 piece
OR 12-4	12,00	20,00	4,00	100 piece
OR 12-4.5	12,00	21,00	4,50	100 piece
OR 12-5	12,00	22,00	5,00	100 piece
OR 12-6	12,00	24,00	6,00	-*
OR 12-7	12,00	26,00	7,00	-*
OR 12.07-5.34	12,07	22,75	5,34	-*
OR 12.1-1.6	12,10	15,30	1,60	100 piece
OR 12.1-2.7	12,10	17,50	2,70	100 piece
OR 12.29-3.53	12,29	19,35	3,53	100 piece
OR 12.3-2.4	12,30	17,10	2,40	100 piece
OR 12.37-2.62	12,37	17,61	2,62	100 piece
OR 12.42-1.78	12,42	15,98	1,78	100 piece
OR 12.5-1	12,50	14,50	1,00	100 piece
OR 12.5-1.5	12,50	15,50	1,50	-*
OR 12.5-2	12,50	16,50	2,00	-*
OR 12.5-2.5	12,50	17,50	2,50	100 piece
OR 12.5-3	12,50	18,50	3,00	-*
OR 12.6-2.4	12,60	17,40	2,40	-*
OR 12.7-2.62	12,70	17,94	2,62	-*
OR 12.8-2.4	12,80	17,60	2,40	100 piece
OR 13-1	13,00	15,00	1,00	100 piece
OR 13-1.5	13,00	16,00	1,50	100 piece
OR 13-1.7	13,00	16,40	1,70	100 piece
OR 13-2	13,00	17,00	2,00	100 piece
OR 13-2.5	13,00	18,00	2,50	100 piece
OR 13-3	13,00	19,00	3,00	100 piece
OR 13-3.5	13,00	20,00	3,50	100 piece
OR 13-4	13,00	21,00	4,00	100 piece
OR 13-5	13,00	23,00	5,00	100 piece
OR 13-6	13,00	25,00	6,00	-*
OR 13.1-1.6	13,10	16,30	1,60	-*
OR 13.1-2.62	13,10	18,34	2,62	-*
OR 13.3-2.4	13,30	18,10	2,40	100 piece
OR 13.5-1	13,50	15,50	1,00	-*
OR 13.5-1.5	13,50	16,50	1,50	-*
OR 13.5-2	13,50	17,50	2,00	-*
OR 13.5-2.5	13,50	18,50	2,50	-*
OR 13.5-3	13,50	19,50	3,00	-*
OR 13.64-5.34	13,64	24,32	5,34	-*
OR 13.87-3.53	13,87	20,93	3,53	-*
OR 13.94-2.62	13,94	19,18	2,62	-*
OR 13.95-2.62	13,95	19,19	2,62	100 piece
OR 14-1	14,00	16,00	1,00	100 piece
OR 14-1.5	14,00	17,00	1,50	100 piece
OR 14-1.6	14,00	17,20	1,60	-*
OR 14-1.78	14,00	17,56	1,78	100 piece
OR 14-2	14,00	18,00	2,00	100 piece
OR 14-2.3	14,00	18,60	2,30	-*
OR 14-2.5	14,00	19,00	2,50	100 piece
OR 14-3	14,00	20,00	3,00	100 piece
OR 14-3.5	14,00	21,00	3,50	-*
OR 14-4	14,00	22,00	4,00	100 piece
OR 14-5	14,00	24,00	5,00	-*
OR 14-6	14,00	26,00	6,00	-*
OR 14.1-1.6	14,10	17,30	1,60	-*
OR 14.3-2.4	14,30	19,10	2,40	100 piece
OR 14.4-2	14,40	18,40	2,00	100 piece
OR 14.5-1	14,50	16,50	1,00	-*
OR 14.5-1.5	14,50	17,50	1,50	-*
OR 14.5-2	14,50	18,50	2,00	-*
OR 14.5-2.5	14,50	19,50	2,50	-*
OR 14.5-3	14,50	20,50	3,00	-*
OR 15-1	15,00	17,00	1,00	100 piece
OR 15-1.5	15,00	18,00	1,50	100 piece
OR 15-2	15,00	19,00	2,00	100 piece
OR 15-2.5	15,00	20,00	2,50	100 piece
OR 15-2.6	15,00	20,20	2,60	100 piece
OR 15-3	15,00	21,00	3,00	100 piece
OR 15-3.2	15,00	21,40	3,20	100 piece
OR 15-3.5	15,00	22,00	3,50	100 piece
OR 15-4	15,00	23,00	4,00	100 piece
OR 15-4.5	15,00	24,00	4,50	-*
OR 15-5	15,00	25,00	5,00	100 piece
OR 15-5.6	15,00	26,20	5,60	-*
OR 15-6	15,00	27,00	6,00	-*
OR 15.08-2.62	15,08	20,32	2,62	100 piece
OR 15.1-1.6	15,10	18,30	1,60	-*
OR 15.1-2.7	15,10	20,50	2,70	100 piece
OR 15.24-5.34	15,24	25,92	5,34	-*
OR 15.3-1.78	15,30	18,86	1,78	100 piece
OR 15.3-2.4	15,30	20,10	2,40	100 piece
OR 15.47-3.53	15,47	22,53	3,53	100 piece
OR 15.5-1	15,50	17,50	1,00	-*
OR 15.5-1.5	15,50	18,50	1,50	-*
OR 15.5-2	15,50	19,50	2,00	-*
OR 15.5-2.5	15,50	20,50	2,50	-*
OR 15.5-3	15,50	21,50	3,00	-*
OR 15.54-2.62	15,54	20,78	2,62	100 piece
OR 15.6-1.78	15,60	19,16	1,78	100 piece
OR 15.88-2.62	15,88	21,12	2,62	100 piece
OR 16-1	16,00	18,00	1,00	100 piece
OR 16-1.5	16,00	19,00	1,50	100 piece
OR 16-2	16,00	20,00	2,00	100 piece
OR 16-2.5	16,00	21,00	2,50	100 piece
OR 16-3	16,00	22,00	3,00	100 piece
OR 16-3.5	16,00	23,00	3,50	100 piece
OR 16-4	16,00	24,00	4,00	-*
OR 16-4.5	16,00	25,00	4,50	100 piece
OR 16-5	16,00	26,00	5,00	-*

Packaging unit: -* upon request

Packaging unit: -* upon request

Web: http://cat.hansa-flex.com/en/OR70SHORENBR

OR 70° Shore NBR (Continued)

O-ring, 70SH NBR

Identification	d1 mm	d2 mm	s mm	Packaging unit
OR 16-6	16,00	28,00	6,00	-*
OR 16.1-1.6	16,10	19,30	1,60	-*
OR 16.3-2.4	16,30	21,10	2,40	100 piece
OR 16.36-2.21	16,36	20,78	2,21	100 piece
OR 16.5-1	16,50	18,50	1,00	-*
OR 16.5-1.5	16,50	19,50	1,50	-*
OR 16.5-2	16,50	20,50	2,00	100 piece
OR 16.5-2.5	16,50	21,50	2,50	-*
OR 16.5-3	16,50	22,50	3,00	100 piece
OR 16.81-5.34	16,81	27,49	5,34	-*
OR 16.9-2.7	16,90	22,30	2,70	100 piece
OR 17-1	17,00	19,00	1,00	100 piece
OR 17-1.5	17,00	20,00	1,50	100 piece
OR 17-1.78	17,00	20,56	1,78	-*
OR 17-2	17,00	21,00	2,00	100 piece
OR 17-2.5	17,00	22,00	2,50	100 piece
OR 17-2.7	17,00	22,40	2,70	100 piece
OR 17-3	17,00	23,00	3,00	100 piece
OR 17-3.5	17,00	24,00	3,50	100 piece
OR 17-4	17,00	25,00	4,00	100 piece
OR 17-4.5	17,00	26,00	4,50	-*
OR 17-5	17,00	27,00	5,00	-*
OR 17.04-3.53	17,04	24,10	3,53	-*
OR 17.1-1.6	17,10	20,30	1,60	-*
OR 17.13-2.62	17,13	22,37	2,62	100 piece
OR 17.16-1.78	17,16	20,72	1,78	100 piece
OR 17.3-2.4	17,30	22,10	2,40	100 piece
OR 17.46-2.62	17,46	22,70	2,62	-*
OR 17.5-1	17,50	19,50	1,00	-*
OR 17.5-1.5	17,50	20,50	1,50	-*
OR 17.5-2	17,50	21,50	2,00	100 piece
OR 17.5-2.5	17,50	22,50	2,50	100 piece
OR 17.5-3	17,50	23,50	3,00	-*
OR 17.5-3.5	17,50	24,50	3,50	100 piece
OR 17.74-1.78	17,74	21,30	1,78	100 piece
OR 17.86-2.62	17,86	23,10	2,62	100 piece
OR 18-1	18,00	20,00	1,00	100 piece
OR 18-1.5	18,00	21,00	1,50	-*
OR 18-2	18,00	22,00	2,00	100 piece
OR 18-2.5	18,00	23,00	2,50	100 piece
OR 18-3	18,00	24,00	3,00	100 piece
OR 18-3.5	18,00	25,00	3,50	100 piece
OR 18-4	18,00	26,00	4,00	100 piece
OR 18-5	18,00	28,00	5,00	100 piece
OR 18-6	18,00	30,00	6,00	-*
OR 18.1-1.6	18,10	21,30	1,60	-*
OR 18.2-3	18,20	24,20	3,00	-*
OR 18.2-3.8	18,20	25,80	3,80	-*
OR 18.3-3.6	18,30	25,50	3,60	-*
OR 18.4-2.7	18,40	23,80	2,70	100 piece
OR 18.42-5.33	18,42	29,08	5,33	100 piece
OR 18.42-5.34	18,42	29,10	5,34	-*
OR 18.5-1	18,50	20,50	1,00	-*
OR 18.5-1.5	18,50	21,50	1,50	-*
OR 18.5-2	18,50	22,50	2,00	-*
OR 18.5-2.5	18,50	23,50	2,50	-*
OR 18.5-3	18,50	24,50	3,00	-*
OR 18.5-3.5	18,50	25,50	3,50	100 piece
OR 18.6-2.4	18,60	23,40	2,40	-*
OR 18.64-3.53	18,64	25,70	3,53	100 piece
OR 18.72-2.62	18,72	23,96	2,62	100 piece
OR 18.77-1.78	18,77	22,33	1,78	100 piece
OR 19-1	19,00	21,00	1,00	100 piece
OR 19-1.5	19,00	22,00	1,50	100 piece
OR 19-2	19,00	23,00	2,00	100 piece
OR 19-2.5	19,00	24,00	2,50	100 piece
OR 19-2.6	19,00	24,20	2,60	-*
OR 19-3	19,00	25,00	3,00	100 piece
OR 19-3.5	19,00	26,00	3,50	100 piece
OR 19-4	19,00	27,00	4,00	100 piece
OR 19-5	19,00	29,00	5,00	100 piece
OR 19-6	19,00	31,00	6,00	-*
OR 19.05-2.62	19,05	24,29	2,62	100 piece
OR 19.1-1.6	19,10	22,30	1,60	-*
OR 19.18-2.46	19,18	24,10	2,46	100 piece
OR 19.19-2.62	19,19	24,43	2,62	-*
OR 19.2-2.5	19,20	24,20	2,50	100 piece
OR 19.2-3	19,20	25,20	3,00	100 piece
OR 19.3-2.4	19,30	24,10	2,40	100 piece
OR 19.4-2.4	19,40	24,20	2,40	100 piece
OR 19.5-1	19,50	21,50	1,00	-*
OR 19.5-1.5	19,50	22,50	1,50	-*
OR 19.5-2	19,50	23,50	2,00	-*
OR 19.5-2.5	19,50	24,50	2,50	-*
OR 19.5-3	19,50	25,50	3,00	-*
OR 19.5-6	19,50	31,50	6,00	-*
OR 19.6-2.4	19,60	24,40	2,40	100 piece
OR 19.99-5.34	19,99	30,67	5,34	-*
Packaging unit: -* upon request				

Identification	d1 mm	d2 mm	s mm	Packaging unit
OR 20-1	20,00	22,00	1,00	100 piece
OR 20-1.5	20,00	23,00	1,50	100 piece
OR 20-2	20,00	24,00	2,00	100 piece
OR 20-2.4	20,00	24,80	2,40	-*
OR 20-2.5	20,00	25,00	2,50	100 piece
OR 20-2.65	20,00	25,30	2,65	100 piece
OR 20-3	20,00	26,00	3,00	100 piece
OR 20-3.5	20,00	27,00	3,50	100 piece
OR 20-4	20,00	28,00	4,00	100 piece
OR 20-4.5	20,00	29,00	4,50	100 piece
OR 20-5	20,00	30,00	5,00	100 piece
OR 20-6	20,00	32,00	6,00	-*
OR 20.2-3	20,20	26,20	3,00	100 piece
OR 20.22-3.53	20,22	27,28	3,53	100 piece
OR 20.22-4.04	20,22	28,30	4,04	-*
OR 20.29-2.62	20,29	25,53	2,62	100 piece
OR 20.3-2.4	20,30	25,10	2,40	100 piece
OR 20.35-1.78	20,35	23,91	1,78	100 piece
OR 20.5-1	20,50	22,50	1,00	-*
OR 20.5-1.5	20,50	23,50	1,50	-*
OR 20.5-2	20,50	24,50	2,00	-*
OR 20.5-2.5	20,50	25,50	2,50	100 piece
OR 20.5-3	20,50	26,50	3,00	-*
OR 21-1	21,00	23,00	1,00	-*
OR 21-1.5	21,00	24,00	1,50	100 piece
OR 21-2	21,00	25,00	2,00	100 piece
OR 21-2.5	21,00	26,00	2,50	100 piece
OR 21-3	21,00	27,00	3,00	100 piece
OR 21-3.5	21,00	28,00	3,50	100 piece
OR 21-4	21,00	29,00	4,00	100 piece
OR 21-6	21,00	33,00	6,00	-*
OR 21.1-1.6	21,10	24,30	1,60	100 piece
OR 21.2-3	21,20	27,20	3,00	-*
OR 21.3-3.6	21,30	28,50	3,60	100 piece
OR 21.5-1	21,50	23,50	1,00	-*
OR 21.5-1.5	21,50	24,50	1,50	-*
OR 21.5-2	21,50	25,50	2,00	-*
OR 21.5-2.4	21,50	26,30	2,40	-*
OR 21.5-2.5	21,50	26,50	2,50	-*
OR 21.5-3	21,50	27,50	3,00	-*
OR 21.59-5.33	21,59	32,25	5,33	-*
OR 21.6-2.4	21,60	26,40	2,40	-*
OR 21.82-3.53	21,82	28,88	3,53	100 piece
OR 21.89-2.62	21,89	27,13	2,62	100 piece
OR 21.95-1.78	21,95	25,51	1,78	100 piece
OR 22-1	22,00	24,00	1,00	100 piece
OR 22-1.5	22,00	25,00	1,50	100 piece
OR 22-1.6	22,00	25,20	1,60	-*
OR 22-1.8	22,00	25,60	1,80	100 piece
OR 22-2	22,00	26,00	2,00	100 piece
OR 22-2.5	22,00	27,00	2,50	100 piece
OR 22-2.62	22,00	27,24	2,62	100 piece
OR 22-3	22,00	28,00	3,00	100 piece
OR 22-3.5	22,00	29,00	3,50	100 piece
OR 22-4	22,00	30,00	4,00	100 piece
OR 22-4.5	22,00	31,00	4,50	100 piece
OR 22-5	22,00	32,00	5,00	100 piece
OR 22-5.5	22,00	33,00	5,50	25 piece
OR 22-6	22,00	34,00	6,00	-*
OR 22.1-1.6	22,10	25,30	1,60	100 piece
OR 22.2-3	22,20	28,20	3,00	-*
OR 22.22-2.62	22,22	27,46	2,62	100 piece
OR 22.22-3.5	22,22	29,22	3,50	100 piece
OR 22.3-2.4	22,30	27,10	2,40	-*
OR 22.5-1	22,50	24,50	1,00	-*
OR 22.5-1.5	22,50	25,50	1,50	-*
OR 22.5-2	22,50	26,50	2,00	-*
OR 22.5-2.5	22,50	27,50	2,50	-*
OR 22.5-3	22,50	28,50	3,00	-*
OR 23-1	23,00	25,00	1,00	100 piece
OR 23-1.5	23,00	26,00	1,50	100 piece
OR 23-1.75	23,00	26,50	1,75	100 piece
OR 23-2	23,00	27,00	2,00	100 piece
OR 23-2.5	23,00	28,00	2,50	100 piece
OR 23-3	23,00	29,00	3,00	100 piece
OR 23-3.5	23,00	30,00	3,50	100 piece
OR 23-3.6	23,00	30,20	3,60	-*
OR 23-4	23,00	31,00	4,00	100 piece
OR 23-5	23,00	33,00	5,00	25 piece
OR 23-6	23,00	35,00	6,00	-*
OR 23.16-5.34	23,16	33,84	5,34	-*
OR 23.3-2.4	23,30	28,10	2,40	-*
OR 23.4-3.53	23,40	30,46	3,53	100 piece
OR 23.47-2.62	23,47	28,71	2,62	100 piece
OR 23.47-2.95	23,47	29,37	2,95	100 piece
OR 23.5-1	23,50	25,50	1,00	-*
OR 23.5-1.5	23,50	26,50	1,50	-*
OR 23.5-1.78	23,50	27,06	1,78	100 piece
Packaging unit: -* upon request				

Web: http://cat.hansa-flex.com/en/OR70SHORENBR

(Continued)

OR 70° Shore NBR

O-ring, 70SH NBR

Identification	d1 mm	d2 mm	s mm	Packaging unit
OR 23.5-2	23,50	27,50	2,00	-*
OR 23.5-2.5	23,50	28,50	2,50	100 piece
OR 23.5-3	23,50	29,50	3,00	-*
OR 23.5-6	23,50	35,50	6,00	-*
OR 23.53-1.78	23,53	27,09	1,78	100 piece
OR 24-1	24,00	26,00	1,00	100 piece
OR 24-1.5	24,00	27,00	1,50	100 piece
OR 24-2	24,00	28,00	2,00	100 piece
OR 24-2.3	24,00	28,60	2,30	-*
OR 24-2.5	24,00	29,00	2,50	100 piece
OR 24-3	24,00	30,00	3,00	100 piece
OR 24-3.5	24,00	31,00	3,50	100 piece
OR 24-4	24,00	32,00	4,00	100 piece
OR 24-6	24,00	36,00	6,00	-*
OR 24.2-3	24,20	30,20	3,00	100 piece
OR 24.2-3.5	24,20	31,20	3,50	100 piece
OR 24.3-2.4	24,30	29,10	2,40	100 piece
OR 24.5-1	24,50	26,50	1,00	-*
OR 24.5-1.5	24,50	27,50	1,50	-*
OR 24.5-2	24,50	28,50	2,00	-*
OR 24.5-2.5	24,50	29,50	2,50	-*
OR 24.5-3	24,50	30,50	3,00	100 piece
OR 24.6-2.4	24,60	29,40	2,40	-*
OR 24.6-3.6	24,60	31,80	3,60	100 piece
OR 24.77-5.34	24,77	35,45	5,34	-*
OR 24.99-3.53	24,99	32,05	3,53	100 piece
OR 25-1	25,00	27,00	1,00	100 piece
OR 25-1.5	25,00	28,00	1,50	100 piece
OR 25-2	25,00	29,00	2,00	100 piece
OR 25-2.4	25,00	29,80	2,40	-*
OR 25-2.5	25,00	30,00	2,50	100 piece
OR 25-3	25,00	31,00	3,00	100 piece
OR 25-3.5	25,00	32,00	3,50	-*
OR 25-3.55	25,00	32,10	3,55	-*
OR 25-4	25,00	33,00	4,00	100 piece
OR 25-4.5	25,00	34,00	4,50	100 piece
OR 25-5	25,00	35,00	5,00	100 piece
OR 25-6	25,00	37,00	6,00	25 piece
OR 25.07-2.62	25,07	30,31	2,62	100 piece
OR 25.1-1.6	25,10	28,30	1,60	100 piece
OR 25.12-1.78	25,12	28,68	1,78	100 piece
OR 25.2-3	25,20	31,20	3,00	-*
OR 25.3-2.4	25,30	30,10	2,40	100 piece
OR 25.5-1.5	25,50	28,50	1,50	-*
OR 25.5-2	25,50	29,50	2,00	-*
OR 25.5-2.5	25,50	30,50	2,50	100 piece
OR 25.5-3	25,50	31,50	3,00	-*
OR 25.8-3.53	25,80	32,86	3,53	100 piece
OR 26-1	26,00	28,00	1,00	100 piece
OR 26-1.5	26,00	29,00	1,50	100 piece
OR 26-2	26,00	30,00	2,00	100 piece
OR 26-2.5	26,00	31,00	2,50	100 piece
OR 26-3	26,00	32,00	3,00	100 piece
OR 26-3.5	26,00	33,00	3,50	100 piece
OR 26-4	26,00	34,00	4,00	100 piece
OR 26-5	26,00	36,00	5,00	-*
OR 26-6	26,00	38,00	6,00	-*
OR 26.2-3	26,20	32,20	3,00	100 piece
OR 26.34-5.34	26,34	37,02	5,34	-*
OR 26.5-1.5	26,50	29,50	1,50	-*
OR 26.5-2	26,50	30,50	2,00	-*
OR 26.5-2.5	26,50	31,50	2,50	-*
OR 26.5-3	26,50	32,50	3,00	-*
OR 26.58-3.53	26,58	33,64	3,53	100 piece
OR 26.64-2.62	26,64	31,88	2,62	100 piece
OR 26.7-1.78	26,70	30,26	1,78	100 piece
OR 27-1.5	27,00	30,00	1,50	100 piece
OR 27-2	27,00	31,00	2,00	100 piece
OR 27-2.5	27,00	32,00	2,50	100 piece
OR 27-3	27,00	33,00	3,00	100 piece
OR 27-3.5	27,00	34,00	3,50	100 piece
OR 27-4	27,00	35,00	4,00	100 piece
OR 27-5	27,00	37,00	5,00	25 piece
OR 27-6	27,00	39,00	6,00	-*
OR 27.1-1.6	27,10	30,30	1,60	-*
OR 27.2-3	27,20	33,20	3,00	-*
OR 27.3-2.4	27,30	32,10	2,40	100 piece
OR 27.4-3.53	27,40	34,46	3,53	100 piece
OR 27.5-1.5	27,50	30,50	1,50	-*
OR 27.5-2	27,50	31,50	2,00	-*
OR 27.5-2.5	27,50	32,50	2,50	-*
OR 27.5-3	27,50	33,50	3,00	-*
OR 27.5-3.2	27,50	33,90	3,20	100 piece
OR 27.7-3.5	27,70	34,70	3,50	100 piece
OR 27.8-3.6	27,80	35,00	3,60	-*
OR 27.94-5.34	27,94	38,62	5,34	-*
OR 28-1	28,00	30,00	1,00	100 piece
OR 28-1.5	28,00	31,00	1,50	100 piece
OR 28-2	28,00	32,00	2,00	100 piece
OR 28-2.5	28,00	33,00	2,50	-*
OR 28-3	28,00	34,00	3,00	100 piece
OR 28-3.5	28,00	35,00	3,50	100 piece
OR 28-4	28,00	36,00	4,00	-*
OR 28-4.5	28,00	37,00	4,50	100 piece
OR 28-5	28,00	38,00	5,00	25 piece
OR 28-6	28,00	40,00	6,00	-*
OR 28.17-3.53	28,17	35,23	3,53	100 piece
OR 28.25-2.62	28,25	33,49	2,62	100 piece
OR 28.3-1.78	28,30	31,86	1,78	100 piece
OR 28.39-3.53	28,39	35,45	3,53	-*
OR 28.5-2	28,50	32,50	2,00	-*
OR 28.5-2.5	28,50	33,50	2,50	-*
OR 29-1.5	29,00	32,00	1,50	100 piece
OR 29-2	29,00	33,00	2,00	100 piece
OR 29-2.5	29,00	34,00	2,50	100 piece
OR 29-3	29,00	35,00	3,00	100 piece
OR 29-3.5	29,00	36,00	3,50	-*
OR 29-4	29,00	37,00	4,00	100 piece
OR 29-5	29,00	39,00	5,00	-*
OR 29-6	29,00	41,00	6,00	-*
OR 29.1-1.6	29,10	32,30	1,60	-*
OR 29.1-2.55	29,10	34,20	2,55	100 piece
OR 29.2-3	29,20	35,20	3,00	100 piece
OR 29.3-3.6	29,30	36,50	3,60	-*
OR 29.5-1.5	29,50	32,50	1,50	100 piece
OR 29.5-2	29,50	33,50	2,00	-*
OR 29.5-2.5	29,50	34,50	2,50	-*
OR 29.5-3	29,50	35,50	3,00	-*
OR 29.51-5.34	29,51	40,19	5,34	-*
OR 29.75-3.53	29,75	36,81	3,53	100 piece
OR 29.82-2.62	29,82	35,06	2,62	100 piece
OR 29.87-1.78	29,87	33,43	1,78	100 piece
OR 30-1	30,00	32,00	1,00	100 piece
OR 30-1.2	30,00	32,40	1,20	-*
OR 30-1.5	30,00	33,00	1,50	100 piece
OR 30-1.8	30,00	33,60	1,80	100 piece
OR 30-2	30,00	34,00	2,00	100 piece
OR 30-2.5	30,00	35,00	2,50	100 piece
OR 30-2.65	30,00	35,30	2,65	100 piece
OR 30-3	30,00	36,00	3,00	100 piece
OR 30-3.5	30,00	37,00	3,50	100 piece
OR 30-4	30,00	38,00	4,00	100 piece
OR 30-4.5	30,00	39,00	4,50	100 piece
OR 30-5	30,00	40,00	5,00	25 piece
OR 30-6	30,00	42,00	6,00	25 piece
OR 30.2-3	30,20	36,20	3,00	100 piece
OR 30.5-2	30,50	34,50	2,00	-*
OR 30.5-2.5	30,50	35,50	2,50	-*
OR 30.5-3	30,50	36,50	3,00	-*
OR 31-1.5	31,00	34,00	1,50	100 piece
OR 31-2	31,00	35,00	2,00	100 piece
OR 31-2.5	31,00	36,00	2,50	100 piece
OR 31-3	31,00	37,00	3,00	100 piece
OR 31-3.5	31,00	38,00	3,50	-*
OR 31-4	31,00	39,00	4,00	100 piece
OR 31-4.5	31,00	40,00	4,50	25 piece
OR 31-5	31,00	41,00	5,00	25 piece
OR 31-6	31,00	43,00	6,00	-*
OR 31.12-5.34	31,12	41,80	5,34	-*
OR 31.2-3	31,20	37,20	3,00	-*
OR 31.34-3.53	31,34	38,40	3,53	100 piece
OR 31.42-2.62	31,42	36,66	2,62	100 piece
OR 31.47-1.78	31,47	35,03	1,78	100 piece
OR 31.5-2	31,50	35,50	2,00	-*
OR 31.5-2.5	31,50	36,50	2,50	-*
OR 31.5-3	31,50	37,50	3,00	-*
OR 32-1	32,00	34,00	1,00	100 piece
OR 32-1.5	32,00	35,00	1,50	100 piece
OR 32-2	32,00	36,00	2,00	100 piece
OR 32-2.5	32,00	37,00	2,50	-*
OR 32-3	32,00	38,00	3,00	100 piece
OR 32-3.5	32,00	39,00	3,50	25 piece
OR 32-4	32,00	40,00	4,00	100 piece
OR 32-5	32,00	42,00	5,00	25 piece
OR 32-6	32,00	44,00	6,00	-*
OR 32.1-1.6	32,10	35,30	1,60	-*
OR 32.2-3	32,20	38,20	3,00	100 piece
OR 32.42-1.98	32,42	36,38	1,98	-*
OR 32.5-1.5	32,50	35,50	1,50	-*
OR 32.5-2	32,50	36,50	2,00	-*
OR 32.5-2.5	32,50	37,50	2,50	-*
OR 32.5-3	32,50	38,50	3,00	-*
OR 32.5-3.6	32,50	39,70	3,60	25 piece
OR 32.69-5.34	32,69	43,37	5,34	-*
OR 32.7-1.3	32,70	35,30	1,30	-*
OR 32.92-1.98	32,92	36,88	1,98	-*

Packaging unit: -* upon request

Web: http://cat.hansa-flex.com/en/OR70SHORENBR

OR 70° Shore NBR (Continued)

O-ring, 70SH NBR

Identification	d1 mm	d2 mm	s mm	Packaging unit
OR 32.92-3.53	32,92	39,98	3,53	100 piece
OR 33-2	33,00	37,00	2,00	100 piece
OR 33-2.5	33,00	38,00	2,50	100 piece
OR 33-2.62	33,00	38,24	2,62	-*
OR 33-3	33,00	39,00	3,00	100 piece
OR 33-3.5	33,00	40,00	3,50	25 piece
OR 33-4	33,00	41,00	4,00	25 piece
OR 33-5	33,00	43,00	5,00	-*
OR 33-6	33,00	45,00	6,00	-*
OR 33.05-1.78	33,05	36,61	1,78	-*
OR 33.3-2.4	33,30	38,10	2,40	100 piece
OR 33.5-2	33,50	37,50	2,00	-*
OR 33.5-2.5	33,50	38,50	2,50	-*
OR 33.5-3	33,50	39,50	3,00	-*
OR 33.92-3.53	33,92	40,98	3,53	25 piece
OR 33.93-3.53	33,93	40,99	3,53	-*
OR 34-1	34,00	36,00	1,00	100 piece
OR 34-1.5	34,00	37,00	1,50	100 piece
OR 34-2	34,00	38,00	2,00	100 piece
OR 34-2.5	34,00	39,00	2,50	100 piece
OR 34-3	34,00	40,00	3,00	100 piece
OR 34-3.5	34,00	41,00	3,50	25 piece
OR 34-4	34,00	42,00	4,00	100 piece
OR 34-6	34,00	46,00	6,00	-*
OR 34.1-3.6	34,10	41,30	3,60	-*
OR 34.2-3	34,20	40,20	3,00	100 piece
OR 34.29-5.34	34,29	44,97	5,34	-*
OR 34.5-2	34,50	38,50	2,00	-*
OR 34.5-2.5	34,50	39,50	2,50	-*
OR 34.5-3	34,50	40,50	3,00	-*
OR 34.52-3.53	34,52	41,58	3,53	100 piece
OR 34.59-2.62	34,59	39,83	2,62	100 piece
OR 34.6-2.4	34,60	39,40	2,40	-*
OR 34.65-1.78	34,65	38,21	1,78	100 piece
OR 35-1.2	35,00	37,40	1,20	100 piece
OR 35-1.5	35,00	38,00	1,50	100 piece
OR 35-2	35,00	39,00	2,00	100 piece
OR 35-2.5	35,00	40,00	2,50	100 piece
OR 35-3	35,00	41,00	3,00	100 piece
OR 35-3.5	35,00	42,00	3,50	25 piece
OR 35-4	35,00	43,00	4,00	100 piece
OR 35-4.5	35,00	44,00	4,50	25 piece
OR 35-5	35,00	45,00	5,00	25 piece
OR 35-6	35,00	47,00	6,00	-*
OR 35.2-5.7	35,20	46,60	5,70	-*
OR 35.5-2	35,50	39,50	2,00	-*
OR 35.5-2.5	35,50	40,50	2,50	-*
OR 35.5-3	35,50	41,50	3,00	-*
OR 35.5-4	35,50	43,50	4,00	-*
OR 35.6-3.6	35,60	42,80	3,60	25 piece
OR 36-1.2	36,00	38,40	1,20	100 piece
OR 36-1.5	36,00	39,00	1,50	100 piece
OR 36-2	36,00	40,00	2,00	100 piece
OR 36-2.5	36,00	41,00	2,50	100 piece
OR 36-3	36,00	42,00	3,00	100 piece
OR 36-3.5	36,00	43,00	3,50	25 piece
OR 36-4	36,00	44,00	4,00	-*
OR 36-5	36,00	46,00	5,00	-*
OR 36-6	36,00	48,00	6,00	25 piece
OR 36.09-3.53	36,09	43,15	3,53	-*
OR 36.17-2.62	36,17	41,41	2,62	-*
OR 36.2-2.65	36,20	41,50	2,65	-*
OR 36.2-3	36,20	42,20	3,00	-*
OR 36.2-5.7	36,20	47,60	5,70	-*
OR 36.27-1.78	36,27	39,83	1,78	-*
OR 36.5-2	36,50	40,50	2,00	-*
OR 36.5-2.5	36,50	41,50	2,50	-*
OR 36.5-3	36,50	42,50	3,00	-*
OR 36.5-3.5	36,50	43,50	3,50	100 piece
OR 37-1.5	37,00	40,00	1,50	-*
OR 37-2	37,00	41,00	2,00	100 piece
OR 37-2.5	37,00	42,00	2,50	100 piece
OR 37-3	37,00	43,00	3,00	100 piece
OR 37-3.5	37,00	44,00	3,50	25 piece
OR 37-4	37,00	45,00	4,00	100 piece
OR 37-5	37,00	47,00	5,00	25 piece
OR 37-6	37,00	49,00	6,00	-*
OR 37.1-1.6	37,10	40,30	1,60	100 piece
OR 37.2-5.7	37,20	48,60	5,70	-*
OR 37.3-3.6	37,30	44,50	3,60	25 piece
OR 37.47-3	37,47	43,47	3,00	100 piece
OR 37.47-5.33	37,47	48,13	5,33	25 piece
OR 37.47-5.34	37,47	48,15	5,34	-*
OR 37.5-1.5	37,50	40,50	1,50	-*
OR 37.5-2	37,50	41,50	2,00	-*
OR 37.5-2.5	37,50	42,50	2,50	-*
OR 37.5-3	37,50	43,50	3,00	-*
OR 37.69-3.53	37,69	44,75	3,53	100 piece
OR 37.77-2.62	37,77	43,01	2,62	-*
OR 37.82-1.78	37,82	41,38	1,78	100 piece
OR 38-1	38,00	40,00	1,00	100 piece
OR 38-1.5	38,00	41,00	1,50	100 piece
OR 38-2	38,00	42,00	2,00	-*
OR 38-2.5	38,00	43,00	2,50	100 piece
OR 38-3	38,00	44,00	3,00	100 piece
OR 38-3.5	38,00	45,00	3,50	100 piece
OR 38-4	38,00	46,00	4,00	100 piece
OR 38-4.5	38,00	47,00	4,50	100 piece
OR 38-5	38,00	48,00	5,00	25 piece
OR 38-6	38,00	50,00	6,00	25 piece
OR 38-10	38,00	58,00	10,00	-*
OR 38.5-2	38,50	42,50	2,00	-*
OR 38.5-2.5	38,50	43,50	2,50	-*
OR 38.5-3	38,50	44,50	3,00	-*
OR 39-1.5	39,00	42,00	1,50	100 piece
OR 39-2	39,00	43,00	2,00	100 piece
OR 39-2.5	39,00	44,00	2,50	100 piece
OR 39-3	39,00	45,00	3,00	100 piece
OR 39-3.5	39,00	46,00	3,50	100 piece
OR 39-4	39,00	47,00	4,00	-*
OR 39-6	39,00	51,00	6,00	-*
OR 39-6.5	39,00	52,00	6,50	-*
OR 39.1-1.3	39,10	41,70	1,30	-*
OR 39.2-3	39,20	45,20	3,00	100 piece
OR 39.2-5.7	39,20	50,60	5,70	25 piece
OR 39.34-2.62	39,34	44,58	2,62	-*
OR 39.45-1.78	39,45	43,01	1,78	-*
OR 39.5-2	39,50	43,50	2,00	-*
OR 39.5-2.5	39,50	44,50	2,50	-*
OR 39.5-3	39,50	45,50	3,00	-*
OR 39.5-6	39,50	51,50	6,00	-*
OR 39.69-3.53	39,69	46,75	3,53	100 piece
OR 39.7-3.53	39,70	46,76	3,53	-*
OR 39.92-3.53	39,92	46,98	3,53	25 piece
OR 40-1	40,00	42,00	1,00	-*
OR 40-1.5	40,00	43,00	1,50	100 piece
OR 40-1.8	40,00	43,60	1,80	100 piece
OR 40-2	40,00	44,00	2,00	100 piece
OR 40-2.5	40,00	45,00	2,50	100 piece
OR 40-3	40,00	46,00	3,00	100 piece
OR 40-3.5	40,00	47,00	3,50	100 piece
OR 40-4	40,00	48,00	4,00	100 piece
OR 40-4.5	40,00	49,00	4,50	100 piece
OR 40-5	40,00	50,00	5,00	25 piece
OR 40-6	40,00	52,00	6,00	25 piece
OR 40-7	40,00	54,00	7,00	25 piece
OR 40.2-3	40,20	46,20	3,00	-*
OR 40.64-5.34	40,64	51,32	5,34	-*
OR 40.65-5.33	40,65	51,31	5,33	-*
OR 40.87-3.53	40,87	47,93	3,53	100 piece
OR 40.95-2.62	40,95	46,19	2,62	100 piece
OR 41-1.78	41,00	44,56	1,78	100 piece
OR 41-2	41,00	45,00	2,00	-*
OR 41-2.5	41,00	46,00	2,50	100 piece
OR 41-3	41,00	47,00	3,00	100 piece
OR 41-3.5	41,00	48,00	3,50	-*
OR 41-4	41,00	49,00	4,00	100 piece
OR 41-5	41,00	51,00	5,00	-*
OR 41-6	41,00	53,00	6,00	-*
OR 41.2-5.7	41,20	52,60	5,70	-*
OR 41.28-3.53	41,28	48,34	3,53	-*
OR 41.5-3	41,50	47,50	3,00	-*
OR 41.5-6	41,50	53,50	6,00	-*
OR 42-1.5	42,00	45,00	1,50	100 piece
OR 42-2	42,00	46,00	2,00	100 piece
OR 42-2.5	42,00	47,00	2,50	100 piece
OR 42-3	42,00	48,00	3,00	100 piece
OR 42-3.5	42,00	49,00	3,50	100 piece
OR 42-4	42,00	50,00	4,00	100 piece
OR 42-4.5	42,00	51,00	4,50	25 piece
OR 42-5	42,00	52,00	5,00	25 piece
OR 42-5.5	42,00	53,00	5,50	25 piece
OR 42-6	42,00	54,00	6,00	-*
OR 42.5-3	42,50	48,50	3,00	-*
OR 42.5-3.55	42,50	49,60	3,55	100 piece
OR 42.5-5.3	42,50	53,10	5,30	-*
OR 42.52-2.62	42,52	47,76	2,62	-*
OR 42.57-3.53	42,57	49,63	3,53	100 piece
OR 42.86-3.53	42,86	49,92	3,53	-*
OR 43-2	43,00	47,00	2,00	100 piece
OR 43-2.5	43,00	48,00	2,50	100 piece
OR 43-3	43,00	49,00	3,00	100 piece
OR 43-3.5	43,00	50,00	3,50	100 piece
OR 43-4	43,00	51,00	4,00	100 piece
OR 43-5.2	43,00	53,40	5,20	-*
OR 43-6	43,00	55,00	6,00	-*

Packaging unit: -* upon request

Packaging unit: -* upon request

Web: http://cat.hansa-flex.com/en/OR70SHORENBR

(Continued)

OR 70° Shore NBR

O-ring, 70SH NBR

Identification	d1 mm	d2 mm	s mm	Packaging unit
OR 43.69-3	43,69	49,69	3,00	-*
OR 43.82-5.33	43,82	54,48	5,33	25 piece
OR 43.82-5.34	43,82	54,50	5,34	-*
OR 44-1.3	44,00	46,60	1,30	-*
OR 44-2	44,00	48,00	2,00	100 piece
OR 44-2.5	44,00	49,00	2,50	100 piece
OR 44-3	44,00	50,00	3,00	100 piece
OR 44-3.5	44,00	51,00	3,50	-*
OR 44-4	44,00	52,00	4,00	100 piece
OR 44-5	44,00	54,00	5,00	-*
OR 44-6	44,00	56,00	6,00	-*
OR 44.04-3.53	44,04	51,10	3,53	100 piece
OR 44.12-2.62	44,12	49,36	2,62	100 piece
OR 44.17-1.78	44,17	47,73	1,78	100 piece
OR 44.2-5.7	44,20	55,60	5,70	25 piece
OR 44.3-5.7	44,30	55,70	5,70	-*
OR 44.45-3.53	44,45	51,51	3,53	100 piece
OR 44.5-2.5	44,50	49,50	2,50	-*
OR 44.5-3	44,50	50,50	3,00	-*
OR 44.5-6	44,50	56,50	6,00	-*
OR 45-1.5	45,00	48,00	1,50	100 piece
OR 45-2	45,00	49,00	2,00	100 piece
OR 45-2.5	45,00	50,00	2,50	100 piece
OR 45-3	45,00	51,00	3,00	100 piece
OR 45-3.5	45,00	52,00	3,50	100 piece
OR 45-4	45,00	53,00	4,00	100 piece
OR 45-4.5	45,00	54,00	4,50	-*
OR 45-5	45,00	55,00	5,00	25 piece
OR 45-5.5	45,00	56,00	5,50	25 piece
OR 45-6	45,00	57,00	6,00	25 piece
OR 45.3-5.7	45,30	56,70	5,70	-*
OR 45.69-2.62	45,69	50,93	2,62	100 piece
OR 46-2	46,00	50,00	2,00	100 piece
OR 46-2.5	46,00	51,00	2,50	100 piece
OR 46-3	46,00	52,00	3,00	-*
OR 46-3.5	46,00	53,00	3,50	100 piece
OR 46-4	46,00	54,00	4,00	100 piece
OR 46-4.5	46,00	55,00	4,50	25 piece
OR 46-5	46,00	56,00	5,00	25 piece
OR 46-6	46,00	58,00	6,00	-*
OR 46.04-3.53	46,04	53,10	3,53	-*
OR 46.5-2.5	46,50	51,50	2,50	-*
OR 46.99-5.34	46,99	57,67	5,34	-*
OR 47-1.2	47,00	49,40	1,20	100 piece
OR 47-2	47,00	51,00	2,00	-*
OR 47-2.5	47,00	52,00	2,50	100 piece
OR 47-3	47,00	53,00	3,00	100 piece
OR 47-3.5	47,00	54,00	3,50	100 piece
OR 47-4	47,00	55,00	4,00	100 piece
OR 47-5	47,00	57,00	5,00	-*
OR 47-5.33	47,00	57,66	5,33	25 piece
OR 47-5.5	47,00	58,00	5,50	25 piece
OR 47-6	47,00	59,00	6,00	-*
OR 47.2-5.7	47,20	58,60	5,70	-*
OR 47.22-3.53	47,22	54,28	3,53	100 piece
OR 47.29-2.62	47,29	52,53	2,62	-*
OR 47.35-1.78	47,35	50,91	1,78	-*
OR 47.6-3.5	47,60	54,60	3,50	-*
OR 47.63-3.53	47,63	54,69	3,53	-*
OR 48-1.8	48,00	51,60	1,80	100 piece
OR 48-2	48,00	52,00	2,00	-*
OR 48-2.5	48,00	53,00	2,50	100 piece
OR 48-3	48,00	54,00	3,00	100 piece
OR 48-3.5	48,00	55,00	3,50	100 piece
OR 48-4	48,00	56,00	4,00	100 piece
OR 48-4.5	48,00	57,00	4,50	25 piece
OR 48-5	48,00	58,00	5,00	25 piece
OR 48-5.5	48,00	59,00	5,50	25 piece
OR 48-6	48,00	60,00	6,00	-*
OR 48.9-2.62	48,90	54,14	2,62	100 piece
OR 49-2	49,00	53,00	2,00	-*
OR 49-2.5	49,00	54,00	2,50	100 piece
OR 49-3	49,00	55,00	3,00	100 piece
OR 49-3.5	49,00	56,00	3,50	100 piece
OR 49-4	49,00	57,00	4,00	-*
OR 49-6	49,00	61,00	6,00	-*
OR 49.2-3.53	49,20	56,26	3,53	-*
OR 49.2-5.7	49,20	60,60	5,70	-*
OR 49.21-3.53	49,21	56,27	3,53	-*
OR 49.3-5.7	49,30	60,70	5,70	-*
OR 49.5-3	49,50	55,50	3,00	-*
OR 50-1.5	50,00	53,00	1,50	100 piece
OR 50-2	50,00	54,00	2,00	100 piece
OR 50-2.5	50,00	55,00	2,50	-*
OR 50-3	50,00	56,00	3,00	100 piece
OR 50-3.5	50,00	57,00	3,50	100 piece
OR 50-4	50,00	58,00	4,00	100 piece
OR 50-4.5	50,00	59,00	4,50	25 piece
Packaging unit: -* upon request				

Identification	d1 mm	d2 mm	s mm	Packaging unit
OR 50-5	50,00	60,00	5,00	25 piece
OR 50-5.5	50,00	61,00	5,50	25 piece
OR 50-6	50,00	62,00	6,00	25 piece
OR 50-7	50,00	64,00	7,00	-*
OR 50.16-5.33	50,16	60,82	5,33	-*
OR 50.17-5.34	50,17	60,85	5,34	-*
OR 50.39-3.53	50,39	57,45	3,53	-*
OR 50.4-3.53	50,40	57,46	3,53	100 piece
OR 50.47-2.62	50,47	55,71	2,62	100 piece
OR 50.5-3	50,50	56,50	3,00	-*
OR 50.52-1.78	50,52	54,08	1,78	-*
OR 50.8-1.78	50,80	54,36	1,78	100 piece
OR 50.8-3.53	50,80	57,86	3,53	-*
OR 51-2	51,00	55,00	2,00	-*
OR 51-2.5	51,00	56,00	2,50	100 piece
OR 51-3	51,00	57,00	3,00	-*
OR 51-4	51,00	59,00	4,00	25 piece
OR 51-4.5	51,00	60,00	4,50	25 piece
OR 51-5	51,00	61,00	5,00	25 piece
OR 51-6	51,00	63,00	6,00	-*
OR 52-1.5	52,00	55,00	1,50	100 piece
OR 52-2	52,00	56,00	2,00	100 piece
OR 52-2.5	52,00	57,00	2,50	100 piece
OR 52-2.8	52,00	57,60	2,80	-*
OR 52-3	52,00	58,00	3,00	100 piece
OR 52-3.5	52,00	59,00	3,50	25 piece
OR 52-4	52,00	60,00	4,00	100 piece
OR 52-5	52,00	62,00	5,00	-*
OR 52-6	52,00	64,00	6,00	25 piece
OR 52.07-2.62	52,07	57,31	2,62	-*
OR 52.3-5.7	52,30	63,70	5,70	-*
OR 52.4-3.53	52,40	59,46	3,53	-*
OR 52.9-5.33	52,90	63,56	5,33	-*
OR 53-2	53,00	57,00	2,00	100 piece
OR 53-2.5	53,00	58,00	2,50	100 piece
OR 53-3	53,00	59,00	3,00	100 piece
OR 53-3.5	53,00	60,00	3,50	25 piece
OR 53-4	53,00	61,00	4,00	-*
OR 53-5	53,00	63,00	5,00	-*
OR 53-5.3	53,00	63,60	5,30	25 piece
OR 53-6	53,00	65,00	6,00	-*
OR 53-7	53,00	67,00	7,00	-*
OR 53.34-5.33	53,34	64,00	5,33	25 piece
OR 53.34-5.34	53,34	64,02	5,34	-*
OR 53.57-3.53	53,57	60,63	3,53	100 piece
OR 53.64-2.62	53,64	58,88	2,62	-*
OR 53.7-1.78	53,70	57,26	1,78	-*
OR 53.97-3.53	53,97	61,03	3,53	-*
OR 54-1.5	54,00	57,00	1,50	100 piece
OR 54-2	54,00	58,00	2,00	100 piece
OR 54-2.5	54,00	59,00	2,50	100 piece
OR 54-3	54,00	60,00	3,00	100 piece
OR 54-3.5	54,00	61,00	3,50	-*
OR 54-4	54,00	62,00	4,00	100 piece
OR 54-5	54,00	64,00	5,00	25 piece
OR 54-6	54,00	66,00	6,00	-*
OR 54.2-5.7	54,20	65,60	5,70	25 piece
OR 54.5-3	54,50	60,50	3,00	-*
OR 55-1.5	55,00	58,00	1,50	-*
OR 55-2	55,00	59,00	2,00	100 piece
OR 55-2.5	55,00	60,00	2,50	100 piece
OR 55-3	55,00	61,00	3,00	100 piece
OR 55-3.5	55,00	62,00	3,50	25 piece
OR 55-4	55,00	63,00	4,00	-*
OR 55-5	55,00	65,00	5,00	25 piece
OR 55-6	55,00	67,00	6,00	25 piece
OR 55-7.5	55,00	70,00	7,50	100 piece
OR 55.2-5.7	55,20	66,60	5,70	25 piece
OR 55.25-2.62	55,25	60,49	2,62	-*
OR 55.3-5.7	55,30	66,70	5,70	-*
OR 55.56-3.53	55,56	62,62	3,53	25 piece
OR 56-1.5	56,00	59,00	1,50	100 piece
OR 56-2	56,00	60,00	2,00	100 piece
OR 56-2.5	56,00	61,00	2,50	100 piece
OR 56-3	56,00	62,00	3,00	100 piece
OR 56-3.5	56,00	63,00	3,50	25 piece
OR 56-3.55	56,00	63,10	3,55	25 piece
OR 56-4	56,00	64,00	4,00	100 piece
OR 56-5	56,00	66,00	5,00	25 piece
OR 56-6	56,00	68,00	6,00	-*
OR 56.2-3	56,20	62,20	3,00	100 piece
OR 56.52-5.33	56,52	67,18	5,33	25 piece
OR 56.52-5.34	56,52	67,20	5,34	-*
OR 56.74-3.53	56,74	63,80	3,53	100 piece
OR 56.82-2.62	56,82	62,06	2,62	-*
OR 56.87-1.78	56,87	60,43	1,78	-*
OR 57-2	57,00	61,00	2,00	100 piece
OR 57-2.5	57,00	62,00	2,50	100 piece
Packaging unit: -* upon request				

Web: http://cat.hansa-flex.com/en/OR70SHORENBR

OR 70° Shore NBR (Continued)

O-ring, 70SH NBR

Identification	d1 mm	d2 mm	s mm	Packaging unit
OR 57-3	57,00	63,00	3,00	-*
OR 57-3.5	57,00	64,00	3,50	-*
OR 57-4	57,00	65,00	4,00	100 piece
OR 57-5	57,00	67,00	5,00	25 piece
OR 57-6	57,00	69,00	6,00	-*
OR 57-7	57,00	71,00	7,00	-*
OR 57.15-3.53	57,15	64,21	3,53	25 piece
OR 57.2-5.7	57,20	68,60	5,70	-*
OR 58-1.5	58,00	61,00	1,50	100 piece
OR 58-2	58,00	62,00	2,00	100 piece
OR 58-2.5	58,00	63,00	2,50	100 piece
OR 58-3	58,00	64,00	3,00	100 piece
OR 58-3.5	58,00	65,00	3,50	25 piece
OR 58-4	58,00	66,00	4,00	25 piece
OR 58-5	58,00	68,00	5,00	25 piece
OR 58-6	58,00	70,00	6,00	25 piece
OR 58-7	58,00	72,00	7,00	-*
OR 58-8	58,00	74,00	8,00	-*
OR 58.42-2.62	58,42	63,66	2,62	100 piece
OR 58.74-3.53	58,74	65,80	3,53	-*
OR 59-2	59,00	63,00	2,00	-*
OR 59-2.5	59,00	64,00	2,50	100 piece
OR 59-3	59,00	65,00	3,00	-*
OR 59-4	59,00	67,00	4,00	-*
OR 59-7	59,00	73,00	7,00	-*
OR 59.2-5.7	59,20	70,60	5,70	25 piece
OR 59.3-5.7	59,30	70,70	5,70	-*
OR 59.5-3	59,50	65,50	3,00	-*
OR 59.5-6	59,50	71,50	6,00	-*
OR 59.69-5.34	59,69	70,37	5,34	-*
OR 59.92-3.53	59,92	66,98	3,53	100 piece
OR 60-1.5	60,00	63,00	1,50	-*
OR 60-2	60,00	64,00	2,00	100 piece
OR 60-2.5	60,00	65,00	2,50	-*
OR 60-2.62	60,00	65,24	2,62	100 piece
OR 60-3	60,00	66,00	3,00	-*
OR 60-3.5	60,00	67,00	3,50	25 piece
OR 60-4	60,00	68,00	4,00	100 piece
OR 60-4.5	60,00	69,00	4,50	25 piece
OR 60-5	60,00	70,00	5,00	25 piece
OR 60-5.3	60,00	70,60	5,30	25 piece
OR 60-5.4	60,00	70,80	5,40	-*
OR 60-6	60,00	72,00	6,00	-*
OR 60-7	60,00	74,00	7,00	25 piece
OR 60.04-1.78	60,04	63,60	1,78	100 piece
OR 60.05-1.78	60,05	63,61	1,78	-*
OR 60.32-3.53	60,32	67,38	3,53	-*
OR 61-2	61,00	65,00	2,00	100 piece
OR 61-2.5	61,00	66,00	2,50	-*
OR 61-3	61,00	67,00	3,00	25 piece
OR 61-3.5	61,00	68,00	3,50	-*
OR 61-4	61,00	69,00	4,00	-*
OR 61-5	61,00	71,00	5,00	25 piece
OR 61-5.33	61,00	71,66	5,33	-*
OR 61-6	61,00	73,00	6,00	-*
OR 61.2-5.7	61,20	72,60	5,70	-*
OR 61.6-2.62	61,60	66,84	2,62	-*
OR 61.9-3.53	61,90	68,96	3,53	-*
OR 62-2	62,00	66,00	2,00	100 piece
OR 62-2.5	62,00	67,00	2,50	100 piece
OR 62-3	62,00	68,00	3,00	100 piece
OR 62-3.5	62,00	69,00	3,50	25 piece
OR 62-4	62,00	70,00	4,00	25 piece
OR 62-5	62,00	72,00	5,00	25 piece
OR 62-5.7	62,00	73,40	5,70	-*
OR 62-6	62,00	74,00	6,00	-*
OR 62-7	62,00	76,00	7,00	-*
OR 62.3-5.7	62,30	73,70	5,70	-*
OR 62.87-5.33	62,87	73,53	5,33	25 piece
OR 62.87-5.34	62,87	73,55	5,34	-*
OR 63-1.5	63,00	66,00	1,50	100 piece
OR 63-2	63,00	67,00	2,00	100 piece
OR 63-2.5	63,00	68,00	2,50	100 piece
OR 63-3	63,00	69,00	3,00	25 piece
OR 63-3.5	63,00	70,00	3,50	25 piece
OR 63-4	63,00	71,00	4,00	25 piece
OR 63-4.5	63,00	72,00	4,50	25 piece
OR 63-5	63,00	73,00	5,00	-*
OR 63-6	63,00	75,00	6,00	-*
OR 63-9	63,00	81,00	9,00	-*
OR 63.09-3.53	63,09	70,15	3,53	100 piece
OR 63.17-2.62	63,17	68,41	2,62	100 piece
OR 63.22-1.78	63,22	66,78	1,78	-*
OR 63.5-3.53	63,50	70,56	3,53	-*
OR 64-2	64,00	68,00	2,00	-*
OR 64-2.5	64,00	69,00	2,50	100 piece
OR 64-3	64,00	70,00	3,00	100 piece
OR 64-3.5	64,00	71,00	3,50	25 piece
OR 64-4	64,00	72,00	4,00	25 piece
OR 64-4.5	64,00	73,00	4,50	25 piece
OR 64-5	64,00	74,00	5,00	25 piece
OR 64-6	64,00	76,00	6,00	25 piece
OR 64.3-5.7	64,30	75,70	5,70	-*
OR 64.5-3	64,50	70,50	3,00	-*
OR 64.77-2.62	64,77	70,01	2,62	-*
OR 65-1.5	65,00	68,00	1,50	100 piece
OR 65-2	65,00	69,00	2,00	100 piece
OR 65-2.5	65,00	70,00	2,50	100 piece
OR 65-3	65,00	71,00	3,00	100 piece
OR 65-3.5	65,00	72,00	3,50	25 piece
OR 65-4	65,00	73,00	4,00	100 piece
OR 65-5	65,00	75,00	5,00	25 piece
OR 65-5.5	65,00	76,00	5,50	25 piece
OR 65-6	65,00	77,00	6,00	-*
OR 65.1-3.53	65,10	72,16	3,53	-*
OR 66-2	66,00	70,00	2,00	100 piece
OR 66-2.5	66,00	71,00	2,50	-*
OR 66-3	66,00	72,00	3,00	-*
OR 66-4	66,00	74,00	4,00	-*
OR 66-5	66,00	76,00	5,00	25 piece
OR 66-6	66,00	78,00	6,00	-*
OR 66.04-5.33	66,04	76,70	5,33	25 piece
OR 66.04-5.34	66,04	76,72	5,34	-*
OR 66.27-3.53	66,27	73,33	3,53	-*
OR 66.34-2.62	66,34	71,58	2,62	-*
OR 66.4-1.78	66,40	69,96	1,78	-*
OR 67-2	67,00	71,00	2,00	100 piece
OR 67-2.5	67,00	72,00	2,50	100 piece
OR 67-3	67,00	73,00	3,00	-*
OR 67-4	67,00	75,00	4,00	-*
OR 67-6	67,00	79,00	6,00	-*
OR 67.2-5.7	67,20	78,60	5,70	-*
OR 67.95-2.62	67,95	73,19	2,62	-*
OR 68-2	68,00	72,00	2,00	100 piece
OR 68-2.5	68,00	73,00	2,50	-*
OR 68-3	68,00	74,00	3,00	100 piece
OR 68-3.5	68,00	75,00	3,50	25 piece
OR 68-4	68,00	76,00	4,00	-*
OR 68-5	68,00	78,00	5,00	25 piece
OR 68-5.5	68,00	79,00	5,50	-*
OR 68-6	68,00	80,00	6,00	25 piece
OR 68-7	68,00	82,00	7,00	25 piece
OR 68-10	68,00	88,00	10,00	-*
OR 68.26-3.53	68,26	75,32	3,53	-*
OR 69-2.5	69,00	74,00	2,50	-*
OR 69-3	69,00	75,00	3,00	25 piece
OR 69-4	69,00	77,00	4,00	-*
OR 69-5	69,00	79,00	5,00	-*
OR 69-6	69,00	81,00	6,00	-*
OR 69.22-5.34	69,22	79,90	5,34	-*
OR 69.3-5.7	69,30	80,70	5,70	-*
OR 69.44-3.53	69,44	76,50	3,53	100 piece
OR 69.5-3	69,50	75,50	3,00	-*
OR 69.52-2.62	69,52	74,76	2,62	100 piece
OR 69.57-1.78	69,57	73,13	1,78	-*
OR 69.85-3.53	69,85	76,91	3,53	-*
OR 70-1.78	70,00	73,56	1,78	100 piece
OR 70-2	70,00	74,00	2,00	100 piece
OR 70-2.5	70,00	75,00	2,50	100 piece
OR 70-3	70,00	76,00	3,00	100 piece
OR 70-3.5	70,00	77,00	3,50	25 piece
OR 70-4	70,00	78,00	4,00	25 piece
OR 70-4.5	70,00	79,00	4,50	-*
OR 70-5	70,00	80,00	5,00	25 piece
OR 70-5.5	70,00	81,00	5,50	25 piece
OR 70-6	70,00	82,00	6,00	25 piece
OR 70-7	70,00	84,00	7,00	25 piece
OR 71-2	71,00	75,00	2,00	25 piece
OR 71-3	71,00	77,00	3,00	25 piece
OR 71-4	71,00	79,00	4,00	-*
OR 71.12-2.62	71,12	76,36	2,62	-*
OR 71.2-5.7	71,20	82,60	5,70	-*
OR 71.44-3.53	71,44	78,50	3,53	-*
OR 72-2	72,00	76,00	2,00	100 piece
OR 72-2.5	72,00	77,00	2,50	100 piece
OR 72-3	72,00	78,00	3,00	-*
OR 72-3.5	72,00	79,00	3,50	25 piece
OR 72-4	72,00	80,00	4,00	25 piece
OR 72-5	72,00	82,00	5,00	25 piece
OR 72-6	72,00	84,00	6,00	25 piece
OR 72.2-5.7	72,20	83,60	5,70	-*
OR 72.39-5.34	72,39	83,07	5,34	-*
OR 72.62-3.53	72,62	79,68	3,53	25 piece
OR 72.69-2.62	72,69	77,93	2,62	-*
OR 72.75-1.78	72,75	76,31	1,78	-*
OR 73-2	73,00	77,00	2,00	25 piece

Packaging unit: -* upon request

Packaging unit: -* upon request

Web: http://cat.hansa-flex.com/en/OR70SHORENBR

(Continued)

OR 70° Shore NBR

O-ring, 70SH NBR

Identification	d1 mm	d2 mm	s mm	Packaging unit
OR 73-2.5	73,00	78,00	2,50	25 piece
OR 73-3	73,00	79,00	3,00	25 piece
OR 73-3.5	73,00	80,00	3,50	25 piece
OR 73-4	73,00	81,00	4,00	-*
OR 73-5	73,00	83,00	5,00	25 piece
OR 73-6	73,00	85,00	6,00	-*
OR 73-7	73,00	87,00	7,00	100 piece
OR 73.02-3.53	73,02	80,08	3,53	-*
OR 74-1.5	74,00	77,00	1,50	25 piece
OR 74-2	74,00	78,00	2,00	100 piece
OR 74-2.5	74,00	79,00	2,50	25 piece
OR 74-3	74,00	80,00	3,00	25 piece
OR 74-3.5	74,00	81,00	3,50	25 piece
OR 74-4	74,00	82,00	4,00	-*
OR 74-6	74,00	86,00	6,00	25 piece
OR 74-7	74,00	88,00	7,00	25 piece
OR 74.2-5.7	74,20	85,60	5,70	-*
OR 74.3-2.62	74,30	79,54	2,62	-*
OR 74.3-5.7	74,30	85,70	5,70	-*
OR 74.5-3	74,50	80,50	3,00	-*
OR 74.6-3.53	74,60	81,66	3,53	-*
OR 74.63-5.34	74,63	85,31	5,34	-*
OR 75-2	75,00	79,00	2,00	100 piece
OR 75-2.5	75,00	80,00	2,50	100 piece
OR 75-3	75,00	81,00	3,00	25 piece
OR 75-3.5	75,00	82,00	3,50	25 piece
OR 75-4	75,00	83,00	4,00	25 piece
OR 75-4.5	75,00	84,00	4,50	-*
OR 75-5	75,00	85,00	5,00	25 piece
OR 75-6	75,00	87,00	6,00	25 piece
OR 75-7	75,00	89,00	7,00	-*
OR 75.57-5.34	75,57	86,25	5,34	-*
OR 75.79-3.53	75,79	82,85	3,53	-*
OR 75.87-2.62	75,87	81,11	2,62	-*
OR 75.92-1.78	75,92	79,48	1,78	-*
OR 76-2	76,00	80,00	2,00	-*
OR 76-2.5	76,00	81,00	2,50	25 piece
OR 76-3	76,00	82,00	3,00	25 piece
OR 76-3.5	76,00	83,00	3,50	25 piece
OR 76-4	76,00	84,00	4,00	-*
OR 76-6	76,00	88,00	6,00	-*
OR 77-3	77,00	83,00	3,00	-*
OR 77-4	77,00	85,00	4,00	-*
OR 77.2-5.7	77,20	88,60	5,70	-*
OR 77.5-2.62	77,50	82,74	2,62	-*
OR 77.5-3.55	77,50	84,60	3,55	-*
OR 78-1.5	78,00	81,00	1,50	-*
OR 78-2	78,00	82,00	2,00	-*
OR 78-3	78,00	84,00	3,00	-*
OR 78-3.5	78,00	85,00	3,50	25 piece
OR 78-4	78,00	86,00	4,00	25 piece
OR 78-4.3	78,00	86,60	4,30	25 piece
OR 78-5	78,00	88,00	5,00	-*
OR 78-5.5	78,00	89,00	5,50	25 piece
OR 78-6	78,00	90,00	6,00	-*
OR 78.5-5.33	78,50	89,16	5,33	-*
OR 78.5-6	78,50	90,50	6,00	-*
OR 78.74-5.33	78,74	89,40	5,33	25 piece
OR 78.74-5.34	78,74	89,42	5,34	-*
OR 78.97-3.53	78,97	86,03	3,53	25 piece
OR 79-1.78	79,00	82,56	1,78	-*
OR 79-2	79,00	83,00	2,00	25 piece
OR 79-3	79,00	85,00	3,00	-*
OR 79-4	79,00	87,00	4,00	-*
OR 79-6	79,00	91,00	6,00	-*
OR 79-7	79,00	93,00	7,00	-*
OR 79.2-5.7	79,20	90,60	5,70	25 piece
OR 79.3-5.7	79,30	90,70	5,70	-*
OR 79.5-3	79,50	85,50	3,00	-*
OR 79.73-5.34	79,73	90,41	5,34	-*
OR 80-1.5	80,00	83,00	1,50	25 piece
OR 80-2	80,00	84,00	2,00	100 piece
OR 80-2.5	80,00	85,00	2,50	25 piece
OR 80-3	80,00	86,00	3,00	25 piece
OR 80-3.5	80,00	87,00	3,50	25 piece
OR 80-4	80,00	88,00	4,00	25 piece
OR 80-5	80,00	90,00	5,00	25 piece
OR 80-5.5	80,00	91,00	5,50	25 piece
OR 80-6	80,00	92,00	6,00	25 piece
OR 80.6-2.62	80,60	85,84	2,62	-*
OR 81-2	81,00	85,00	2,00	-*
OR 81-3	81,00	87,00	3,00	25 piece
OR 81-4	81,00	89,00	4,00	-*
OR 81-6	81,00	93,00	6,00	-*
OR 81.2-5.7	81,20	92,60	5,70	-*
OR 81.5-6	81,50	93,50	6,00	-*
OR 81.92-5.34	81,92	92,60	5,34	-*
OR 82-1.5	82,00	85,00	1,50	-*
OR 82-2	82,00	86,00	2,00	25 piece
OR 82-2.5	82,00	87,00	2,50	25 piece
OR 82-3	82,00	88,00	3,00	25 piece
OR 82-3.5	82,00	89,00	3,50	25 piece
OR 82-4	82,00	90,00	4,00	25 piece
OR 82-5	82,00	92,00	5,00	25 piece
OR 82-7	82,00	96,00	7,00	-*
OR 82.14-3.53	82,14	89,20	3,53	25 piece
OR 82.2-5.7	82,20	93,60	5,70	-*
OR 82.22-2.62	82,22	87,46	2,62	-*
OR 82.27-1.78	82,27	85,83	1,78	-*
OR 83-2	83,00	87,00	2,00	25 piece
OR 83-2.5	83,00	88,00	2,50	25 piece
OR 83-3	83,00	89,00	3,00	100 piece
OR 83-4	83,00	91,00	4,00	-*
OR 83-5	83,00	93,00	5,00	-*
OR 83.8-2.62	83,80	89,04	2,62	-*
OR 84-3	84,00	90,00	3,00	25 piece
OR 84-4	84,00	92,00	4,00	25 piece
OR 84-5	84,00	94,00	5,00	-*
OR 84-6	84,00	96,00	6,00	-*
OR 84.2-5.7	84,20	95,60	5,70	-*
OR 84.3-5.7	84,30	95,70	5,70	-*
OR 84.5-3	84,50	90,50	3,00	-*
OR 85-2	85,00	89,00	2,00	25 piece
OR 85-2.5	85,00	90,00	2,50	25 piece
OR 85-3	85,00	91,00	3,00	25 piece
OR 85-3.5	85,00	92,00	3,50	-*
OR 85-4	85,00	93,00	4,00	25 piece
OR 85-4.5	85,00	94,00	4,50	25 piece
OR 85-5	85,00	95,00	5,00	25 piece
OR 85-6	85,00	97,00	6,00	-*
OR 85-7	85,00	99,00	7,00	25 piece
OR 85.09-5.33	85,09	95,75	5,33	25 piece
OR 85.09-5.34	85,09	95,77	5,34	-*
OR 85.32-3.53	85,32	92,38	3,53	25 piece
OR 85.34-1.78	85,34	88,90	1,78	-*
OR 86-2	86,00	90,00	2,00	25 piece
OR 86-2.5	86,00	91,00	2,50	25 piece
OR 86-3	86,00	92,00	3,00	25 piece
OR 86-4	86,00	94,00	4,00	25 piece
OR 86-5	86,00	96,00	5,00	25 piece
OR 86-6	86,00	98,00	6,00	-*
OR 86-7.5	86,00	101,00	7,50	-*
OR 86.5-3	86,50	92,50	3,00	-*
OR 87-2.5	87,00	92,00	2,50	-*
OR 87-3	87,00	93,00	3,00	25 piece
OR 87-4	87,00	95,00	4,00	25 piece
OR 87-5	87,00	97,00	5,00	25 piece
OR 87.2-5.7	87,20	98,60	5,70	-*
OR 88-2	88,00	92,00	2,00	-*
OR 88-3	88,00	94,00	3,00	25 piece
OR 88-3.5	88,00	95,00	3,50	25 piece
OR 88-4	88,00	96,00	4,00	25 piece
OR 88-5	88,00	98,00	5,00	25 piece
OR 88-6	88,00	100,00	6,00	25 piece
OR 88.27-5.33	88,27	98,93	5,33	-*
OR 88.27-5.34	88,27	98,95	5,34	-*
OR 88.49-3.53	88,49	95,55	3,53	-*
OR 88.57-2.62	88,57	93,81	2,62	-*
OR 88.62-1.78	88,62	92,18	1,78	-*
OR 89-3	89,00	95,00	3,00	-*
OR 89-3.5	89,00	96,00	3,50	-*
OR 89-4	89,00	97,00	4,00	-*
OR 89-7	89,00	103,00	7,00	-*
OR 89.2-5.7	89,20	100,60	5,70	25 piece
OR 89.5-3	89,50	95,50	3,00	-*
OR 89.69-5.33	89,69	100,35	5,33	25 piece
OR 89.69-5.34	89,69	100,37	5,34	-*
OR 90-2	90,00	94,00	2,00	25 piece
OR 90-2.5	90,00	95,00	2,50	25 piece
OR 90-3	90,00	96,00	3,00	25 piece
OR 90-3.5	90,00	97,00	3,50	25 piece
OR 90-4	90,00	98,00	4,00	25 piece
OR 90-5	90,00	100,00	5,00	25 piece
OR 90-5.5	90,00	101,00	5,50	25 piece
OR 90-6	90,00	102,00	6,00	25 piece
OR 90-7	90,00	104,00	7,00	-*
OR 91-3	91,00	97,00	3,00	-*
OR 91-4	91,00	99,00	4,00	-*
OR 91.44-5.34	91,44	102,12	5,34	-*
OR 91.67-3.53	91,67	98,73	3,53	-*
OR 91.7-1.78	91,70	95,26	1,78	25 piece
OR 92-2	92,00	96,00	2,00	25 piece
OR 92-2.5	92,00	97,00	2,50	25 piece
OR 92-3	92,00	98,00	3,00	25 piece
OR 92-3.5	92,00	99,00	3,50	25 piece
OR 92-4	92,00	100,00	4,00	-*

Packaging unit: -* upon request

Packaging unit: -* upon request

Web: http://cat.hansa-flex.com/en/OR70SHORENBR

OR 70° Shore NBR (Continued)

O-ring, 70SH NBR

Identification	d1 mm	d2 mm	s mm	Packaging unit
OR 92-5	92,00	102,00	5,00	25 piece
OR 92-6	92,00	104,00	6,00	-*
OR 92.2-5.7	92,20	103,60	5,70	-*
OR 92.5-3.53	92,50	99,56	3,53	-*
OR 93-3	93,00	99,00	3,00	25 piece
OR 93-3.5	93,00	100,00	3,50	25 piece
OR 93-4	93,00	101,00	4,00	-*
OR 93-5	93,00	103,00	5,00	25 piece
OR 93-6	93,00	105,00	6,00	-*
OR 94-2.5	94,00	99,00	2,50	25 piece
OR 94-3	94,00	100,00	3,00	25 piece
OR 94-3.5	94,00	101,00	3,50	25 piece
OR 94-4	94,00	102,00	4,00	25 piece
OR 94-5	94,00	104,00	5,00	-*
OR 94.3-5.7	94,30	105,70	5,70	-*
OR 94.5-3	94,50	100,50	3,00	-*
OR 94.62-5.34	94,62	105,30	5,34	-*
OR 94.84-3.53	94,84	101,90	3,53	100 piece
OR 94.92-2.62	94,92	100,16	2,62	-*
OR 94.93-2.62	94,93	100,17	2,62	-*
OR 94.97-1.78	94,97	98,53	1,78	-*
OR 95-1.5	95,00	98,00	1,50	25 piece
OR 95-2	95,00	99,00	2,00	25 piece
OR 95-2.5	95,00	100,00	2,50	25 piece
OR 95-3	95,00	101,00	3,00	25 piece
OR 95-3.5	95,00	102,00	3,50	25 piece
OR 95-4	95,00	103,00	4,00	25 piece
OR 95-4.5	95,00	104,00	4,50	25 piece
OR 95-5	95,00	105,00	5,00	-*
OR 95-6	95,00	107,00	6,00	25 piece
OR 95-7	95,00	109,00	7,00	-*
OR 95-8	95,00	111,00	8,00	-*
OR 96-2.5	96,00	101,00	2,50	25 piece
OR 96-3	96,00	102,00	3,00	25 piece
OR 96-4	96,00	104,00	4,00	25 piece
OR 96-6	96,00	108,00	6,00	-*
OR 97-3	97,00	103,00	3,00	-*
OR 97-4	97,00	105,00	4,00	-*
OR 97-5	97,00	107,00	5,00	25 piece
OR 97.2-5.7	97,20	108,60	5,70	-*
OR 97.79-5.34	97,79	108,47	5,34	-*
OR 97.8-5.33	97,80	108,46	5,33	25 piece
OR 98-2	98,00	102,00	2,00	-*
OR 98-3	98,00	104,00	3,00	25 piece
OR 98-4	98,00	106,00	4,00	-*
OR 98-4.5	98,00	107,00	4,50	25 piece
OR 98-5	98,00	108,00	5,00	25 piece
OR 98-6	98,00	110,00	6,00	-*
OR 98.02-3.53	98,02	105,08	3,53	25 piece
OR 98.05-1.78	98,05	101,61	1,78	-*
OR 99-3	99,00	105,00	3,00	-*
OR 99-4	99,00	107,00	4,00	-*
OR 99-5	99,00	109,00	5,00	25 piece
OR 99-6	99,00	111,00	6,00	-*
OR 99-7	99,00	113,00	7,00	-*
OR 99.3-5.7	99,30	110,70	5,70	-*
OR 99.5-3	99,50	105,50	3,00	-*
OR 100-1	100,00	102,00	1,00	25 piece
OR 100-1.5	100,00	103,00	1,50	25 piece
OR 100-2	100,00	104,00	2,00	25 piece
OR 100-2.5	100,00	105,00	2,50	25 piece
OR 100-3	100,00	106,00	3,00	25 piece
OR 100-3.5	100,00	107,00	3,50	25 piece
OR 100-4	100,00	108,00	4,00	25 piece
OR 100-5	100,00	110,00	5,00	25 piece
OR 100-5.3	100,00	110,60	5,30	25 piece
OR 100-5.34	100,00	110,68	5,34	-*
OR 100-5.5	100,00	111,00	5,50	-*
OR 100-6	100,00	112,00	6,00	25 piece
OR 100-7	100,00	114,00	7,00	25 piece
OR 100-10	100,00	120,00	10,00	-*
OR 100.97-5.33	100,97	111,63	5,33	-*
OR 100.97-5.34	100,97	111,65	5,34	-*
OR 101-3	101,00	107,00	3,00	-*
OR 101-3.5	101,00	108,00	3,50	-*
OR 101-4	101,00	109,00	4,00	-*
OR 101-6	101,00	113,00	6,00	-*
OR 101.2-3.53	101,20	108,26	3,53	-*
OR 101.27-2.62	101,27	106,51	2,62	100 piece
OR 101.32-1.78	101,32	104,88	1,78	-*
OR 102-3	102,00	108,00	3,00	-*
OR 102-3.5	102,00	109,00	3,50	-*
OR 102-4	102,00	110,00	4,00	-*
OR 102-5	102,00	112,00	5,00	-*
OR 103-3	103,00	109,00	3,00	-*
OR 103-3.5	103,00	110,00	3,50	-*
OR 103-4	103,00	111,00	4,00	-*
OR 103-6	103,00	115,00	6,00	-*
Packaging unit: -* upon request				

Identification	d1 mm	d2 mm	s mm	Packaging unit
OR 104-2.5	104,00	109,00	2,50	-*
OR 104-3	104,00	110,00	3,00	-*
OR 104-4	104,00	112,00	4,00	-*
OR 104-6	104,00	116,00	6,00	-*
OR 104-7	104,00	118,00	7,00	-*
OR 104.14-5.33	104,14	114,80	5,33	-*
OR 104.14-5.34	104,14	114,82	5,34	-*
OR 104.2-5.7	104,20	115,60	5,70	-*
OR 104.3-5.7	104,30	115,70	5,70	-*
OR 104.37-3.53	104,37	111,43	3,53	-*
OR 104.4-1.78	104,40	107,96	1,78	-*
OR 104.5-3	104,50	110,50	3,00	-*
OR 104.5-6	104,50	116,50	6,00	-*
OR 105-1.5	105,00	108,00	1,50	-*
OR 105-2	105,00	109,00	2,00	-*
OR 105-3	105,00	111,00	3,00	-*
OR 105-3.5	105,00	112,00	3,50	-*
OR 105-4	105,00	113,00	4,00	-*
OR 105-4.5	105,00	114,00	4,50	-*
OR 105-5	105,00	115,00	5,00	-*
OR 105-5.5	105,00	116,00	5,50	-*
OR 105-6	105,00	117,00	6,00	-*
OR 105-7	105,00	119,00	7,00	-*
OR 105-7.5	105,00	120,00	7,50	-*
OR 106-3	106,00	112,00	3,00	-*
OR 106-4	106,00	114,00	4,00	-*
OR 106-5	106,00	116,00	5,00	-*
OR 106-6	106,00	118,00	6,00	-*
OR 106-7	106,00	120,00	7,00	-*
OR 107-3	107,00	113,00	3,00	-*
OR 107-3.5	107,00	114,00	3,50	-*
OR 107-4	107,00	115,00	4,00	-*
OR 107-5	107,00	117,00	5,00	-*
OR 107-6	107,00	119,00	6,00	-*
OR 107.32-5.34	107,32	118,00	5,34	-*
OR 107.54-3.53	107,54	114,60	3,53	-*
OR 107.6-3.6	107,60	114,80	3,60	-*
OR 107.62-2.62	107,62	112,86	2,62	-*
OR 107.63-2.62	107,63	112,87	2,62	-*
OR 107.67-1.78	107,67	111,23	1,78	-*
OR 107.7-1.78	107,70	111,26	1,78	-*
OR 108-2.5	108,00	113,00	2,50	-*
OR 108-3	108,00	114,00	3,00	-*
OR 108-4	108,00	116,00	4,00	-*
OR 108-5	108,00	118,00	5,00	-*
OR 108-6	108,00	120,00	6,00	-*
OR 108-7	108,00	122,00	7,00	-*
OR 109-3	109,00	115,00	3,00	-*
OR 109-4	109,00	117,00	4,00	-*
OR 109.3-5.7	109,30	120,70	5,70	-*
OR 109.5-3	109,50	115,50	3,00	-*
OR 109.54-5.34	109,54	120,22	5,34	-*
OR 110-2	110,00	114,00	2,00	-*
OR 110-2.5	110,00	115,00	2,50	-*
OR 110-3	110,00	116,00	3,00	-*
OR 110-3.5	110,00	117,00	3,50	-*
OR 110-4	110,00	118,00	4,00	-*
OR 110-4.5	110,00	119,00	4,50	-*
OR 110-5	110,00	120,00	5,00	-*
OR 110-5.5	110,00	121,00	5,50	-*
OR 110-6	110,00	122,00	6,00	-*
OR 110-7	110,00	124,00	7,00	-*
OR 110.49-5.34	110,49	121,17	5,34	-*
OR 110.55-3.53	110,55	117,61	3,53	-*
OR 110.72-3.53	110,72	117,78	3,53	-*
OR 110.74-1.78	110,74	114,30	1,78	-*
OR 111-3	111,00	117,00	3,00	-*
OR 111-4	111,00	119,00	4,00	-*
OR 111-6	111,00	123,00	6,00	-*
OR 112-2.5	112,00	117,00	2,50	-*
OR 112-3	112,00	118,00	3,00	-*
OR 112-4	112,00	120,00	4,00	-*
OR 112-5	112,00	122,00	5,00	-*
OR 112-6	112,00	124,00	6,00	-*
OR 113-2.5	113,00	118,00	2,50	-*
OR 113-3	113,00	119,00	3,00	-*
OR 113-3.5	113,00	120,00	3,50	-*
OR 113-4	113,00	121,00	4,00	-*
OR 113.67-5.34	113,67	124,35	5,34	-*
OR 113.67-7	113,67	127,67	7,00	-*
OR 113.89-3.53	113,89	120,95	3,53	-*
OR 113.9-3.53	113,90	120,96	3,53	-*
OR 113.97-2.62	113,97	119,21	2,62	-*
OR 114-3	114,00	120,00	3,00	-*
OR 114-3.5	114,00	121,00	3,50	-*
OR 114-4	114,00	122,00	4,00	-*
OR 114-5	114,00	124,00	5,00	-*
OR 114-6	114,00	126,00	6,00	-*
Packaging unit: -* upon request				

Web: http://cat.hansa-flex.com/en/OR70SHORENBR

(Continued)

OR 70° Shore NBR

O-ring, 70SH NBR

Identification	d1 mm	d2 mm	s mm	Packaging unit
OR 114.02-1.78	114,02	117,58	1,78	-*
OR 114.3-5.7	114,30	125,70	5,70	-*
OR 114.5-3	114,50	120,50	3,00	-*
OR 114.6-5.7	114,60	126,00	5,70	-*
OR 114.7-7	114,70	128,70	7,00	-*
OR 115-2	115,00	119,00	2,00	-*
OR 115-3	115,00	121,00	3,00	-*
OR 115-3.5	115,00	122,00	3,50	-*
OR 115-4	115,00	123,00	4,00	-*
OR 115-4.5	115,00	124,00	4,50	-*
OR 115-5	115,00	125,00	5,00	-*
OR 115-6	115,00	127,00	6,00	-*
OR 115-7	115,00	129,00	7,00	-*
OR 115-9	115,00	133,00	9,00	-*
OR 116-3	116,00	122,00	3,00	-*
OR 116-4	116,00	124,00	4,00	-*
OR 116-5	116,00	126,00	5,00	-*
OR 116.84-5.34	116,84	127,52	5,34	-*
OR 116.84-6.99	116,84	130,82	6,99	-*
OR 116.84-7	116,84	130,84	7,00	-*
OR 117-3	117,00	123,00	3,00	-*
OR 117-4	117,00	125,00	4,00	-*
OR 117.07-3.53	117,07	124,13	3,53	-*
OR 117.1-1.78	117,10	120,66	1,78	-*
OR 117.48-5.34	117,48	128,16	5,34	-*
OR 118-2.5	118,00	123,00	2,50	-*
OR 118-3	118,00	124,00	3,00	-*
OR 118-4	118,00	126,00	4,00	-*
OR 118-4.5	118,00	127,00	4,50	-*
OR 118-5	118,00	128,00	5,00	-*
OR 118-6	118,00	130,00	6,00	-*
OR 119-3	119,00	125,00	3,00	-*
OR 119-4	119,00	127,00	4,00	-*
OR 119.2-5.7	119,20	130,60	5,70	-*
OR 119.3-5.7	119,30	130,70	5,70	-*
OR 119.5-3	119,50	125,50	3,00	-*
OR 120-2	120,00	124,00	2,00	-*
OR 120-3	120,00	126,00	3,00	-*
OR 120-3.5	120,00	127,00	3,50	-*
OR 120-4	120,00	128,00	4,00	-*
OR 120-5	120,00	130,00	5,00	-*
OR 120-6	120,00	132,00	6,00	-*
OR 120-7	120,00	134,00	7,00	-*
OR 120-10	120,00	140,00	10,00	-*
OR 120.02-5.34	120,02	130,70	5,34	-*
OR 120.02-6.99	120,02	134,00	6,99	-*
OR 120.02-7	120,02	134,02	7,00	-*
OR 120.2-5.33	120,20	130,86	5,33	-*
OR 120.25-3.53	120,25	127,31	3,53	-*
OR 120.32-2.62	120,32	125,56	2,62	-*
OR 120.37-1.78	120,37	123,93	1,78	-*
OR 120.65-5.34	120,65	131,33	5,34	-*
OR 121-2.5	121,00	126,00	2,50	-*
OR 121-3	121,00	127,00	3,00	-*
OR 121-4	121,00	129,00	4,00	-*
OR 122-2.5	122,00	127,00	2,50	-*
OR 122-3	122,00	128,00	3,00	-*
OR 122-4	122,00	130,00	4,00	-*
OR 122-5	122,00	132,00	5,00	-*
OR 122-6	122,00	134,00	6,00	-*
OR 123-2	123,00	127,00	2,00	-*
OR 123-2.5	123,00	128,00	2,50	-*
OR 123-3	123,00	129,00	3,00	-*
OR 123-4	123,00	131,00	4,00	-*
OR 123-6	123,00	135,00	6,00	-*
OR 123-6.5	123,00	136,00	6,50	-*
OR 123.19-5.34	123,19	133,87	5,34	-*
OR 123.19-7	123,19	137,19	7,00	-*
OR 123.42-3.53	123,42	130,48	3,53	-*
OR 123.44-1.78	123,44	127,00	1,78	-*
OR 123.83-5.34	123,83	134,51	5,34	-*
OR 124-3	124,00	130,00	3,00	-*
OR 124-4	124,00	132,00	4,00	-*
OR 124-5.4	124,00	134,80	5,40	-*
OR 124-6	124,00	136,00	6,00	-*
OR 124.3-5.7	124,30	135,70	5,70	-*
OR 124.5-3	124,50	130,50	3,00	-*
OR 124.6-7	124,60	138,60	7,00	-*
OR 125-2	125,00	129,00	2,00	-*
OR 125-2.5	125,00	130,00	2,50	-*
OR 125-3	125,00	131,00	3,00	-*
OR 125-3.5	125,00	132,00	3,50	-*
OR 125-4	125,00	133,00	4,00	-*
OR 125-5	125,00	135,00	5,00	-*
OR 125-6	125,00	137,00	6,00	-*
OR 126-3	126,00	132,00	3,00	-*
OR 126-3.5	126,00	133,00	3,50	-*
OR 126-4	126,00	134,00	4,00	-*
Packaging unit: -* upon request				

Identification	d1 mm	d2 mm	s mm	Packaging unit
OR 126-4.5	126,00	135,00	4,50	-*
OR 126.37-5.34	126,37	137,05	5,34	-*
OR 126.37-7	126,37	140,37	7,00	-*
OR 126.59-3.53	126,59	133,65	3,53	-*
OR 126.67-2.62	126,67	131,91	2,62	-*
OR 126.72-1.78	126,72	130,28	1,78	-*
OR 127-3	127,00	133,00	3,00	-*
OR 127-4	127,00	135,00	4,00	-*
OR 127-5.34	127,00	137,68	5,34	-*
OR 128-2.5	128,00	133,00	2,50	-*
OR 128-3	128,00	134,00	3,00	-*
OR 128-3.5	128,00	135,00	3,50	-*
OR 128-4	128,00	136,00	4,00	-*
OR 128-6	128,00	140,00	6,00	-*
OR 129-3	129,00	135,00	3,00	-*
OR 129-4	129,00	137,00	4,00	-*
OR 129-5.5	129,00	140,00	5,50	-*
OR 129.2-5.7	129,20	140,60	5,70	-*
OR 129.3-5.7	129,30	140,70	5,70	-*
OR 129.4-1.78	129,40	132,96	1,78	-*
OR 129.5-3	129,50	135,50	3,00	-*
OR 129.54-5.34	129,54	140,22	5,34	-*
OR 129.54-6.99	129,54	143,52	6,99	-*
OR 129.54-7	129,54	143,54	7,00	-*
OR 129.77-3.53	129,77	136,83	3,53	-*
OR 130-2	130,00	134,00	2,00	-*
OR 130-2.5	130,00	135,00	2,50	-*
OR 130-3	130,00	136,00	3,00	-*
OR 130-3.5	130,00	137,00	3,50	-*
OR 130-4	130,00	138,00	4,00	-*
OR 130-5	130,00	140,00	5,00	-*
OR 130-6	130,00	142,00	6,00	-*
OR 130.18-5.34	130,18	140,86	5,34	-*
OR 131-3	131,00	137,00	3,00	-*
OR 131-4	131,00	139,00	4,00	-*
OR 132-2	132,00	136,00	2,00	-*
OR 132-2.5	132,00	137,00	2,50	-*
OR 132-3	132,00	138,00	3,00	-*
OR 132-4	132,00	140,00	4,00	-*
OR 132-6	132,00	144,00	6,00	-*
OR 132.72-5.34	132,72	143,40	5,34	-*
OR 132.72-7	132,72	146,72	7,00	-*
OR 132.94-3.53	132,94	140,00	3,53	-*
OR 133-3	133,00	139,00	3,00	-*
OR 133-4	133,00	141,00	4,00	-*
OR 133-4.4	133,00	141,80	4,40	-*
OR 133.02-2.62	133,02	138,26	2,62	-*
OR 133.07-1.78	133,07	136,63	1,78	-*
OR 133.35-5.34	133,35	144,03	5,34	-*
OR 134-3	134,00	140,00	3,00	-*
OR 134-4	134,00	142,00	4,00	-*
OR 134-6	134,00	146,00	6,00	-*
OR 134.3-5.7	134,30	145,70	5,70	-*
OR 134.5-3	134,50	140,50	3,00	-*
OR 134.5-7	134,50	148,50	7,00	-*
OR 135-2	135,00	139,00	2,00	-*
OR 135-2.5	135,00	140,00	2,50	-*
OR 135-3	135,00	141,00	3,00	-*
OR 135-3.5	135,00	142,00	3,50	-*
OR 135-4	135,00	143,00	4,00	-*
OR 135-5	135,00	145,00	5,00	-*
OR 135-6	135,00	147,00	6,00	-*
OR 135.7-3.53	135,70	142,76	3,53	-*
OR 135.89-5.34	135,89	146,57	5,34	-*
OR 135.89-7	135,89	149,89	7,00	-*
OR 135.9-6.99	135,90	149,88	6,99	-*
OR 136-3	136,00	142,00	3,00	-*
OR 136-3.5	136,00	143,00	3,50	-*
OR 136-4	136,00	144,00	4,00	-*
OR 136-6	136,00	148,00	6,00	-*
OR 136.12-3.53	136,12	143,18	3,53	-*
OR 136.53-5.34	136,53	147,21	5,34	-*
OR 137-3	137,00	143,00	3,00	-*
OR 137-4	137,00	145,00	4,00	-*
OR 138-3	138,00	144,00	3,00	-*
OR 138-4	138,00	146,00	4,00	-*
OR 138-5	138,00	148,00	5,00	-*
OR 138-6	138,00	150,00	6,00	-*
OR 139-3	139,00	145,00	3,00	-*
OR 139-4	139,00	147,00	4,00	-*
OR 139.07-5.33	139,07	149,73	5,33	-*
OR 139.07-5.34	139,07	149,75	5,34	-*
OR 139.07-7	139,07	153,07	7,00	-*
OR 139.2-6	139,20	151,20	6,00	-*
OR 139.29-3.53	139,29	146,35	3,53	-*
OR 139.3-5.7	139,30	150,70	5,70	-*
OR 139.37-2.62	139,37	144,61	2,62	-*
OR 139.5-3	139,50	145,50	3,00	-*
Packaging unit: -* upon request				

Web: http://cat.hansa-flex.com/en/OR70SHORENBR

OR 70° Shore NBR (Continued)

O-ring, 70SH NBR

Identification	d1 mm	d2 mm	s mm	Packaging unit
OR 139.6-5.7	139,60	151,00	5,70	-*
OR 140-2	140,00	144,00	2,00	-*
OR 140-2.5	140,00	145,00	2,50	-*
OR 140-3	140,00	146,00	3,00	-*
OR 140-4	140,00	148,00	4,00	-*
OR 140-5	140,00	150,00	5,00	-*
OR 140-6	140,00	152,00	6,00	-*
OR 140-8	140,00	156,00	8,00	-*
OR 141-3	141,00	147,00	3,00	-*
OR 141-4	141,00	149,00	4,00	-*
OR 142-3	142,00	148,00	3,00	-*
OR 142-4	142,00	150,00	4,00	-*
OR 142-5	142,00	152,00	5,00	-*
OR 142-6	142,00	154,00	6,00	-*
OR 142.24-5.34	142,24	152,92	5,34	-*
OR 142.24-7	142,24	156,24	7,00	-*
OR 142.47-3.53	142,47	149,53	3,53	-*
OR 142.88-5.34	142,88	153,56	5,34	-*
OR 143-2.5	143,00	148,00	2,50	-*
OR 143-3	143,00	149,00	3,00	-*
OR 143-4	143,00	151,00	4,00	-*
OR 144-3	144,00	150,00	3,00	-*
OR 144-4	144,00	152,00	4,00	-*
OR 144.1-8.4	144,10	160,90	8,40	-*
OR 144.2-5.7	144,20	155,60	5,70	-*
OR 144.3-5.7	144,30	155,70	5,70	-*
OR 144.5-3	144,50	150,50	3,00	-*
OR 145-2.5	145,00	150,00	2,50	-*
OR 145-3	145,00	151,00	3,00	-*
OR 145-3.5	145,00	152,00	3,50	-*
OR 145-4	145,00	153,00	4,00	-*
OR 145-5	145,00	155,00	5,00	-*
OR 145-6	145,00	157,00	6,00	-*
OR 145.42-5.33	145,42	156,08	5,33	-*
OR 145.42-5.34	145,42	156,10	5,34	-*
OR 145.42-6.99	145,42	159,40	6,99	-*
OR 145.42-7	145,42	159,42	7,00	-*
OR 145.64-3.53	145,64	152,70	3,53	-*
OR 145.72-2.62	145,72	150,96	2,62	-*
OR 146-2.5	146,00	151,00	2,50	-*
OR 146-3	146,00	152,00	3,00	-*
OR 146-4	146,00	154,00	4,00	-*
OR 146-5	146,00	156,00	5,00	-*
OR 146-6	146,00	158,00	6,00	-*
OR 146.05-5.34	146,05	156,73	5,34	-*
OR 147-3	147,00	153,00	3,00	-*
OR 147-4	147,00	155,00	4,00	-*
OR 148-3	148,00	154,00	3,00	-*
OR 148-4	148,00	156,00	4,00	-*
OR 148-5	148,00	158,00	5,00	-*
OR 148-6	148,00	160,00	6,00	-*
OR 148.59-5.34	148,59	159,27	5,34	-*
OR 148.59-7	148,59	162,59	7,00	-*
OR 148.82-3.53	148,82	155,88	3,53	-*
OR 149-3	149,00	155,00	3,00	-*
OR 149-4	149,00	157,00	4,00	-*
OR 149.1-8.4	149,10	165,90	8,40	-*
OR 149.2-5.7	149,20	160,60	5,70	-*
OR 149.23-5.34	149,23	159,91	5,34	-*
OR 149.3-5.7	149,30	160,70	5,70	-*
OR 149.5-3	149,50	155,50	3,00	-*
OR 150-3	150,00	156,00	3,00	-*
OR 150-4	150,00	158,00	4,00	-*
OR 150-5	150,00	160,00	5,00	-*
OR 150-6	150,00	162,00	6,00	-*
OR 151-3	151,00	157,00	3,00	-*
OR 151-4	151,00	159,00	4,00	-*
OR 151.77-5.33	151,77	162,43	5,33	-*
OR 151.77-5.34	151,77	162,45	5,34	-*
OR 151.77-7	151,77	165,77	7,00	-*
OR 151.99-3.53	151,99	159,05	3,53	-*
OR 152-3	152,00	158,00	3,00	-*
OR 152-4	152,00	160,00	4,00	-*
OR 152.07-2.62	152,07	157,31	2,62	-*
OR 153-3	153,00	159,00	3,00	-*
OR 153-4	153,00	161,00	4,00	-*
OR 153-5	153,00	163,00	5,00	-*
OR 153-6	153,00	165,00	6,00	-*
OR 154-3	154,00	160,00	3,00	-*
OR 154-4	154,00	162,00	4,00	-*
OR 154-5	154,00	164,00	5,00	-*
OR 154-6	154,00	166,00	6,00	-*
OR 154.1-8.4	154,10	170,90	8,40	-*
OR 154.3-5.7	154,30	165,70	5,70	-*
OR 154.5-3	154,50	160,50	3,00	-*
OR 155-3	155,00	161,00	3,00	-*
OR 155-4	155,00	163,00	4,00	-*
OR 155-5	155,00	165,00	5,00	-*
Packaging unit: -* upon request				

Identification	d1 mm	d2 mm	s mm	Packaging unit
OR 155-5.34	155,00	165,68	5,34	-*
OR 155-6	155,00	167,00	6,00	-*
OR 155.5-6	155,50	167,50	6,00	-*
OR 155.6-7	155,60	169,60	7,00	-*
OR 156-3	156,00	162,00	3,00	-*
OR 156-4	156,00	164,00	4,00	-*
OR 156-6	156,00	168,00	6,00	-*
OR 157-3	157,00	163,00	3,00	-*
OR 157-4	157,00	165,00	4,00	-*
OR 157-6	157,00	169,00	6,00	-*
OR 158-3	158,00	164,00	3,00	-*
OR 158-3.5	158,00	165,00	3,50	-*
OR 158-4	158,00	166,00	4,00	-*
OR 158-5	158,00	168,00	5,00	-*
OR 158-6	158,00	170,00	6,00	-*
OR 158.12-5.34	158,12	168,80	5,34	-*
OR 158.12-7	158,12	172,12	7,00	-*
OR 158.34-3.53	158,34	165,40	3,53	-*
OR 158.35-3.53	158,35	165,41	3,53	-*
OR 158.42-2.62	158,42	163,66	2,62	-*
OR 159-3	159,00	165,00	3,00	-*
OR 159-4	159,00	167,00	4,00	-*
OR 159-6	159,00	171,00	6,00	-*
OR 159.1-8.4	159,10	175,90	8,40	-*
OR 159.3-5.7	159,30	170,70	5,70	-*
OR 159.5-3	159,50	165,50	3,00	-*
OR 159.5-7	159,50	173,50	7,00	-*
OR 160-2	160,00	164,00	2,00	-*
OR 160-2.3	160,00	164,60	2,30	-*
OR 160-3	160,00	166,00	3,00	-*
OR 160-4	160,00	168,00	4,00	-*
OR 160-5	160,00	170,00	5,00	-*
OR 160-5.7	160,00	171,40	5,70	-*
OR 160-6	160,00	172,00	6,00	-*
OR 161-3	161,00	167,00	3,00	-*
OR 161.3-5.34	161,30	171,98	5,34	-*
OR 161.9-7	161,90	175,90	7,00	-*
OR 162-3	162,00	168,00	3,00	-*
OR 162-4	162,00	170,00	4,00	-*
OR 162-5	162,00	172,00	5,00	-*
OR 162-6	162,00	174,00	6,00	-*
OR 164-2.5	164,00	169,00	2,50	-*
OR 164-4	164,00	172,00	4,00	-*
OR 164.1-8.4	164,10	180,90	8,40	-*
OR 164.3-5.7	164,30	175,70	5,70	-*
OR 164.47-5.34	164,47	175,15	5,34	-*
OR 164.47-7	164,47	178,47	7,00	-*
OR 164.5-3	164,50	170,50	3,00	-*
OR 164.69-3.53	164,69	171,75	3,53	-*
OR 164.77-2.62	164,77	170,01	2,62	-*
OR 165-3	165,00	171,00	3,00	-*
OR 165-3.5	165,00	172,00	3,50	-*
OR 165-4	165,00	173,00	4,00	-*
OR 165-5	165,00	175,00	5,00	-*
OR 165-6	165,00	177,00	6,00	-*
OR 165-7	165,00	179,00	7,00	-*
OR 166-6	166,00	178,00	6,00	-*
OR 166.7-7	166,70	180,70	7,00	-*
OR 167-4	167,00	175,00	4,00	-*
OR 167.7-5.34	167,70	178,38	5,34	-*
OR 168-3	168,00	174,00	3,00	-*
OR 168-5	168,00	178,00	5,00	-*
OR 168.3-7	168,30	182,30	7,00	-*
OR 169-6	169,00	181,00	6,00	-*
OR 169.1-8.4	169,10	185,90	8,40	-*
OR 169.2-5.7	169,20	180,60	5,70	-*
OR 169.3-5.7	169,30	180,70	5,70	-*
OR 169.5-3	169,50	175,50	3,00	-*
OR 170-3	170,00	176,00	3,00	-*
OR 170-3.5	170,00	177,00	3,50	-*
OR 170-4	170,00	178,00	4,00	-*
OR 170-5	170,00	180,00	5,00	-*
OR 170-6	170,00	182,00	6,00	-*
OR 170.82-5.34	170,82	181,50	5,34	-*
OR 170.82-7	170,82	184,82	7,00	-*
OR 171.04-3.53	171,04	178,10	3,53	-*
OR 171.05-3.53	171,05	178,11	3,53	-*
OR 171.12-2.62	171,12	176,36	2,62	-*
OR 171.4-3.2	171,40	177,80	3,20	-*
OR 172-4	172,00	180,00	4,00	-*
OR 172-6	172,00	184,00	6,00	-*
OR 173-3	173,00	179,00	3,00	-*
OR 173-7	173,00	187,00	7,00	-*
OR 174-3	174,00	180,00	3,00	-*
OR 174-4	174,00	182,00	4,00	-*
OR 174-5	174,00	184,00	5,00	-*
OR 174-5.34	174,00	184,68	5,34	-*
OR 174.1-8.4	174,10	190,90	8,40	-*
Packaging unit: -* upon request				

Web: http://cat.hansa-flex.com/en/OR70SHORENBR

(Continued)

OR 70° Shore NBR

O-ring, 70SH NBR

Identification	d1 mm	d2 mm	s mm	Packaging unit
OR 174.3-5.7	174,30	185,70	5,70	-*
OR 174.6-7	174,60	188,60	7,00	-*
OR 175-3	175,00	181,00	3,00	-*
OR 175-4	175,00	183,00	4,00	-*
OR 175-5	175,00	185,00	5,00	-*
OR 175-6	175,00	187,00	6,00	-*
OR 175-7	175,00	189,00	7,00	-*
OR 176-6	176,00	188,00	6,00	-*
OR 177.17-5.34	177,17	187,85	5,34	-*
OR 177.17-6.99	177,17	191,15	6,99	-*
OR 177.17-7	177,17	191,17	7,00	-*
OR 177.4-3.53	177,40	184,46	3,53	-*
OR 177.47-2.62	177,47	182,71	2,62	-*
OR 179.1-8.4	179,10	195,90	8,40	-*
OR 179.3-5.7	179,30	190,70	5,70	-*
OR 179.5-3	179,50	185,50	3,00	-*
OR 180-3	180,00	186,00	3,00	-*
OR 180-3.5	180,00	187,00	3,50	-*
OR 180-4	180,00	188,00	4,00	-*
OR 180-5	180,00	190,00	5,00	-*
OR 180-6	180,00	192,00	6,00	-*
OR 181-7	181,00	195,00	7,00	-*
OR 182-3	182,00	188,00	3,00	-*
OR 182-6	182,00	194,00	6,00	-*
OR 183-3	183,00	189,00	3,00	-*
OR 183.52-5.34	183,52	194,20	5,34	-*
OR 183.52-7	183,52	197,52	7,00	-*
OR 183.74-3.53	183,74	190,80	3,53	-*
OR 183.82-2.62	183,82	189,06	2,62	-*
OR 184-3	184,00	190,00	3,00	-*
OR 184-6	184,00	196,00	6,00	-*
OR 184.1-8.4	184,10	200,90	8,40	-*
OR 184.3-5.7	184,30	195,70	5,70	-*
OR 185-3	185,00	191,00	3,00	-*
OR 185-3.5	185,00	192,00	3,50	-*
OR 185-4	185,00	193,00	4,00	-*
OR 185-5	185,00	195,00	5,00	-*
OR 185-6	185,00	197,00	6,00	-*
OR 186-4	186,00	194,00	4,00	-*
OR 186-7	186,00	200,00	7,00	-*
OR 187.3-7	187,30	201,30	7,00	-*
OR 188-4	188,00	196,00	4,00	-*
OR 188-6	188,00	200,00	6,00	-*
OR 189.1-8.4	189,10	205,90	8,40	-*
OR 189.3-5.7	189,30	200,70	5,70	-*
OR 189.87-5.34	189,87	200,55	5,34	-*
OR 189.87-6.99	189,87	203,85	6,99	-*
OR 189.87-7	189,87	203,87	7,00	-*
OR 190-3	190,00	196,00	3,00	-*
OR 190-4	190,00	198,00	4,00	-*
OR 190-4.5	190,00	199,00	4,50	-*
OR 190-5	190,00	200,00	5,00	-*
OR 190-6	190,00	202,00	6,00	-*
OR 190.09-3.53	190,09	197,15	3,53	-*
OR 190.17-2.62	190,17	195,41	2,62	-*
OR 192-4	192,00	200,00	4,00	-*
OR 192-5	192,00	202,00	5,00	-*
OR 193-6	193,00	205,00	6,00	-*
OR 193.7-6.99	193,70	207,68	6,99	-*
OR 193.7-7	193,70	207,70	7,00	-*
OR 194-2	194,00	198,00	2,00	-*
OR 194.1-8.4	194,10	210,90	8,40	-*
OR 194.3-5.7	194,30	205,70	5,70	-*
OR 195-2.5	195,00	200,00	2,50	-*
OR 195-3	195,00	201,00	3,00	-*
OR 195-3.5	195,00	202,00	3,50	-*
OR 195-4	195,00	203,00	4,00	-*
OR 195-5	195,00	205,00	5,00	-*
OR 195-6	195,00	207,00	6,00	-*
OR 195-7	195,00	209,00	7,00	-*
OR 195-7.5	195,00	210,00	7,50	-*
OR 196-6	196,00	208,00	6,00	-*
OR 196.22-5.34	196,22	206,90	5,34	-*
OR 196.22-7	196,22	210,22	7,00	-*
OR 196.44-3.53	196,44	203,50	3,53	-*
OR 196.52-2.62	196,52	201,76	2,62	-*
OR 197-3	197,00	203,00	3,00	-*
OR 198-6	198,00	210,00	6,00	-*
OR 199-3	199,00	205,00	3,00	-*
OR 199.1-8.4	199,10	215,90	8,40	-*
OR 199.3-3	199,30	205,30	3,00	-*
OR 199.3-5.7	199,30	210,70	5,70	-*
OR 200-3	200,00	206,00	3,00	-*
OR 200-4	200,00	208,00	4,00	-*
OR 200-5	200,00	210,00	5,00	-*
OR 200-6	200,00	212,00	6,00	-*
OR 200-7	200,00	214,00	7,00	-*
OR 200-8	200,00	216,00	8,00	-*
OR 200-10	200,00	220,00	10,00	-*
OR 202.57-5.34	202,57	213,25	5,34	-*
OR 202.57-7	202,57	216,57	7,00	-*
OR 202.79-3.53	202,79	209,85	3,53	-*
OR 202.87-2.62	202,87	208,11	2,62	-*
OR 204.1-8.4	204,10	220,90	8,40	-*
OR 204.2-5.7	204,20	215,60	5,70	-*
OR 205-3	205,00	211,00	3,00	-*
OR 205-4	205,00	213,00	4,00	-*
OR 205-5	205,00	215,00	5,00	-*
OR 205-6	205,00	217,00	6,00	-*
OR 206-4	206,00	214,00	4,00	-*
OR 206-7	206,00	220,00	7,00	-*
OR 208-6	208,00	220,00	6,00	-*
OR 208.92-5.34	208,92	219,60	5,34	-*
OR 208.92-7	208,92	222,92	7,00	-*
OR 209.1-8.4	209,10	225,90	8,40	-*
OR 209.14-3.53	209,14	216,20	3,53	-*
OR 209.22-2.62	209,22	214,46	2,62	-*
OR 209.3-5.7	209,30	220,70	5,70	-*
OR 210-3	210,00	216,00	3,00	-*
OR 210-4	210,00	218,00	4,00	-*
OR 210-5	210,00	220,00	5,00	-*
OR 210-6	210,00	222,00	6,00	-*
OR 210-7	210,00	224,00	7,00	-*
OR 210-8	210,00	226,00	8,00	-*
OR 212-6	212,00	224,00	6,00	-*
OR 212-7	212,00	226,00	7,00	-*
OR 215-3	215,00	221,00	3,00	-*
OR 215-4	215,00	223,00	4,00	-*
OR 215-5	215,00	225,00	5,00	-*
OR 215-6	215,00	227,00	6,00	-*
OR 215.27-5.34	215,27	225,95	5,34	-*
OR 215.27-7	215,27	229,27	7,00	-*
OR 215.49-3.53	215,49	222,55	3,53	-*
OR 215.57-2.62	215,57	220,81	2,62	-*
OR 217-5	217,00	227,00	5,00	-*
OR 218-7	218,00	232,00	7,00	-*
OR 219.1-8.4	219,10	235,90	8,40	-*
OR 219.3-5.7	219,30	230,70	5,70	-*
OR 220-3	220,00	226,00	3,00	-*
OR 220-4	220,00	228,00	4,00	-*
OR 220-5	220,00	230,00	5,00	-*
OR 220-6	220,00	232,00	6,00	-*
OR 221.62-5.34	221,62	232,30	5,34	-*
OR 221.62-7	221,62	235,62	7,00	-*
OR 221.84-3.53	221,84	228,90	3,53	-*
OR 221.92-2.62	221,92	227,16	2,62	-*
OR 222-4	222,00	230,00	4,00	-*
OR 224-3.5	224,00	231,00	3,50	-*
OR 224-7	224,00	238,00	7,00	-*
OR 225-3	225,00	231,00	3,00	-*
OR 225-4	225,00	233,00	4,00	-*
OR 225-5	225,00	235,00	5,00	-*
OR 225-6	225,00	237,00	6,00	-*
OR 226-5	226,00	236,00	5,00	-*
OR 227.97-5.34	227,97	238,65	5,34	-*
OR 227.97-6.99	227,97	241,95	6,99	-*
OR 227.97-7	227,97	241,97	7,00	-*
OR 228.19-3.53	228,19	235,25	3,53	-*
OR 228.27-2.62	228,27	233,51	2,62	-*
OR 229.1-8.4	229,10	245,90	8,40	-*
OR 229.3-5.7	229,30	240,70	5,70	-*
OR 230-3	230,00	236,00	3,00	-*
OR 230-4	230,00	238,00	4,00	-*
OR 230-5	230,00	240,00	5,00	-*
OR 230-6	230,00	242,00	6,00	-*
OR 230-7	230,00	244,00	7,00	-*
OR 234.1-8.4	234,10	250,90	8,40	-*
OR 234.32-5.33	234,32	244,98	5,33	-*
OR 234.32-5.34	234,32	245,00	5,34	-*
OR 234.32-7	234,32	248,32	7,00	-*
OR 234.54-3.53	234,54	241,60	3,53	-*
OR 234.62-2.62	234,62	239,86	2,62	-*
OR 235-3	235,00	241,00	3,00	-*
OR 235-4	235,00	243,00	4,00	-*
OR 235-5	235,00	245,00	5,00	-*
OR 235-6	235,00	247,00	6,00	-*
OR 236-7	236,00	250,00	7,00	-*
OR 238-4	238,00	246,00	4,00	-*
OR 238-6	238,00	250,00	6,00	-*
OR 239.1-8.4	239,10	255,90	8,40	-*
OR 239.3-5.7	239,30	250,70	5,70	-*
OR 240-3	240,00	246,00	3,00	-*
OR 240-4	240,00	248,00	4,00	-*
OR 240-5	240,00	250,00	5,00	-*
OR 240-6	240,00	252,00	6,00	-*
OR 240.67-5.34	240,67	251,35	5,34	-*

Packaging unit: -* upon request

Packaging unit: -* upon request

Web: http://cat.hansa-flex.com/en/OR70SHORENBR

OR 70° Shore NBR (Continued)

O-ring, 70SH NBR

Identification	d1 mm	d2 mm	s mm	Packaging unit
OR 240.67-7	240,67	254,67	7,00	-*
OR 240.89-3.53	240,89	247,95	3,53	-*
OR 240.97-2.62	240,97	246,21	2,62	-*
OR 242-5	242,00	252,00	5,00	-*
OR 243-7	243,00	257,00	7,00	-*
OR 245-3	245,00	251,00	3,00	-*
OR 245-4	245,00	253,00	4,00	-*
OR 245-5	245,00	255,00	5,00	-*
OR 247-6	247,00	259,00	6,00	-*
OR 247-7	247,00	261,00	7,00	-*
OR 247.02-5.34	247,02	257,70	5,34	-*
OR 247.26-3.53	247,26	254,32	3,53	-*
OR 247.32-2.62	247,32	252,56	2,62	-*
OR 249.1-8.4	249,10	265,90	8,40	-*
OR 249.3-5.7	249,30	260,70	5,70	-*
OR 250-3	250,00	256,00	3,00	-*
OR 250-4	250,00	258,00	4,00	-*
OR 250-5	250,00	260,00	5,00	-*
OR 250-6	250,00	262,00	6,00	-*
OR 250-7	250,00	264,00	7,00	-*
OR 250-8	250,00	266,00	8,00	-*
OR 253.37-5.34	253,37	264,05	5,34	-*
OR 253.37-7	253,37	267,37	7,00	-*
OR 253.59-3.53	253,59	260,65	3,53	-*
OR 255-4	255,00	263,00	4,00	-*
OR 255-5	255,00	265,00	5,00	-*
OR 258-7	258,00	272,00	7,00	-*
OR 258-8	258,00	274,00	8,00	-*
OR 259.3-5.7	259,30	270,70	5,70	-*
OR 259.7-7	259,70	273,70	7,00	-*
OR 260-4	260,00	268,00	4,00	-*
OR 260-5	260,00	270,00	5,00	-*
OR 260-6	260,00	272,00	6,00	-*
OR 263-5	263,00	273,00	5,00	-*
OR 264-4	264,00	272,00	4,00	-*
OR 265-4	265,00	273,00	4,00	-*
OR 265-6	265,00	277,00	6,00	-*
OR 265-7	265,00	279,00	7,00	-*
OR 266.07-5.34	266,07	276,75	5,34	-*
OR 266.07-7	266,07	280,07	7,00	-*
OR 266.29-3.53	266,29	273,35	3,53	-*
OR 269.3-5.7	269,30	280,70	5,70	-*
OR 270-3	270,00	276,00	3,00	-*
OR 270-4	270,00	278,00	4,00	-*
OR 270-5	270,00	280,00	5,00	-*
OR 270-6	270,00	282,00	6,00	-*
OR 272.4-7	272,40	286,40	7,00	-*
OR 275-4	275,00	283,00	4,00	-*
OR 278.77-5.34	278,77	289,45	5,34	-*
OR 278.77-7	278,77	292,77	7,00	-*
OR 278.99-3.53	278,99	286,05	3,53	-*
OR 279.3-5.7	279,30	290,70	5,70	-*
OR 280-4	280,00	288,00	4,00	-*
OR 280-5	280,00	290,00	5,00	-*
OR 280-6	280,00	292,00	6,00	-*
OR 280-7	280,00	294,00	7,00	-*
OR 280-10	280,00	300,00	10,00	-*
OR 285-4	285,00	293,00	4,00	-*
OR 285-6	285,00	297,00	6,00	-*
OR 285.1-7	285,10	299,10	7,00	-*
OR 289.3-5.7	289,30	300,70	5,70	-*
OR 290-3	290,00	296,00	3,00	-*
OR 290-4	290,00	298,00	4,00	-*
OR 290-5	290,00	300,00	5,00	-*
OR 290-6	290,00	302,00	6,00	-*
OR 290-7	290,00	304,00	7,00	-*
OR 291.47-5.34	291,47	302,15	5,34	-*
OR 291.47-7	291,47	305,47	7,00	-*
OR 291.69-3.53	291,69	298,75	3,53	-*
OR 295-4	295,00	303,00	4,00	-*
OR 295-6	295,00	307,00	6,00	-*
OR 297.8-7	297,80	311,80	7,00	-*
OR 299.3-5.7	299,30	310,70	5,70	-*
OR 300-3	300,00	306,00	3,00	-*
OR 300-4	300,00	308,00	4,00	-*
OR 300-5	300,00	310,00	5,00	-*
OR 300-6	300,00	312,00	6,00	-*
OR 300-7	300,00	314,00	7,00	-*
OR 304.17-5.34	304,17	314,85	5,34	-*
OR 304.17-7	304,17	318,17	7,00	-*
OR 304.39-3.53	304,39	311,45	3,53	-*
OR 305-4	305,00	313,00	4,00	-*
OR 305-6	305,00	317,00	6,00	-*
OR 307-7	307,00	321,00	7,00	-*
OR 310-3	310,00	316,00	3,00	-*
OR 310-4	310,00	318,00	4,00	-*
OR 310-6	310,00	322,00	6,00	-*
OR 310.5-7	310,50	324,50	7,00	-*
Packaging unit: -* upon request				

Identification	d1 mm	d2 mm	s mm	Packaging unit
OR 315-4	315,00	323,00	4,00	-*
OR 315-6	315,00	327,00	6,00	-*
OR 315-7	315,00	329,00	7,00	-*
OR 316.87-7	316,87	330,87	7,00	-*
OR 319.3-5.7	319,30	330,70	5,70	-*
OR 320-4	320,00	328,00	4,00	-*
OR 320-5	320,00	330,00	5,00	-*
OR 320-6	320,00	332,00	6,00	-*
OR 320-8	320,00	336,00	8,00	-*
OR 323.2-7	323,20	337,20	7,00	-*
OR 325-4	325,00	333,00	4,00	-*
OR 325-6	325,00	337,00	6,00	-*
OR 325-7	325,00	339,00	7,00	-*
OR 329.3-5.7	329,30	340,70	5,70	-*
OR 329.57-5.34	329,57	340,25	5,34	-*
OR 329.57-6.99	329,57	343,55	6,99	-*
OR 329.57-7	329,57	343,57	7,00	-*
OR 329.79-3.53	329,79	336,85	3,53	-*
OR 330-4	330,00	338,00	4,00	-*
OR 330-5	330,00	340,00	5,00	-*
OR 330-6	330,00	342,00	6,00	-*
OR 335-4	335,00	343,00	4,00	-*
OR 335-6	335,00	347,00	6,00	-*
OR 335.9-7	335,90	349,90	7,00	-*
OR 339.3-5.7	339,30	350,70	5,70	-*
OR 340-4	340,00	348,00	4,00	-*
OR 340-6	340,00	352,00	6,00	-*
OR 342.27-7	342,27	356,27	7,00	-*
OR 345-4	345,00	353,00	4,00	-*
OR 345-6	345,00	357,00	6,00	-*
OR 345-7	345,00	359,00	7,00	-*
OR 345-10	345,00	365,00	10,00	-*
OR 350-4	350,00	358,00	4,00	-*
OR 350-5	350,00	360,00	5,00	-*
OR 350-6	350,00	362,00	6,00	-*
OR 354.97-5.34	354,97	365,65	5,34	-*
OR 354.97-7	354,97	368,97	7,00	-*
OR 355-4	355,00	363,00	4,00	-*
OR 355-5	355,00	365,00	5,00	-*
OR 355-6	355,00	367,00	6,00	-*
OR 355.19-3.53	355,19	362,25	3,53	-*
OR 359.3-5.7	359,30	370,70	5,70	-*
OR 360-4	360,00	368,00	4,00	-*
OR 360-6	360,00	372,00	6,00	-*
OR 365-4	365,00	373,00	4,00	-*
OR 365-6	365,00	377,00	6,00	-*
OR 365-7	365,00	379,00	7,00	-*
OR 366.54-3.53	366,54	373,60	3,53	-*
OR 367-3.5	367,00	374,00	3,50	-*
OR 367.67-7	367,67	381,67	7,00	-*
OR 368-5	368,00	378,00	5,00	-*
OR 370-4	370,00	378,00	4,00	-*
OR 370-5	370,00	380,00	5,00	-*
OR 370-6	370,00	382,00	6,00	-*
OR 375-4	375,00	383,00	4,00	-*
OR 375-6	375,00	387,00	6,00	-*
OR 375-7	375,00	389,00	7,00	-*
OR 379.3-5.7	379,30	390,70	5,70	-*
OR 380-4	380,00	388,00	4,00	-*
OR 380-5	380,00	390,00	5,00	-*
OR 380-6	380,00	392,00	6,00	-*
OR 380-8	380,00	396,00	8,00	-*
OR 380.37-5.34	380,37	391,05	5,34	-*
OR 380.37-7	380,37	394,37	7,00	-*
OR 380.59-3.53	380,59	387,65	3,53	-*
OR 385-4	385,00	393,00	4,00	-*
OR 385-6	385,00	397,00	6,00	-*
OR 386-6	386,00	398,00	6,00	-*
OR 387-7	387,00	401,00	7,00	-*
OR 390-4	390,00	398,00	4,00	-*
OR 390-5	390,00	400,00	5,00	-*
OR 390-6	390,00	402,00	6,00	-*
OR 393.07-7	393,07	407,07	7,00	-*
OR 395-4	395,00	403,00	4,00	-*
OR 395-6	395,00	407,00	6,00	-*
OR 395-7	395,00	409,00	7,00	-*
OR 399.3-5.7	399,30	410,70	5,70	-*
OR 400-4	400,00	408,00	4,00	-*
OR 400-6	400,00	412,00	6,00	-*
OR 400-7	400,00	414,00	7,00	-*
OR 405-4	405,00	413,00	4,00	-*
OR 405.26-3.53	405,26	412,32	3,53	-*
OR 405.26-5.34	405,26	415,94	5,34	-*
OR 405.26-7	405,26	419,26	7,00	-*
OR 410-4	410,00	418,00	4,00	-*
OR 410-5	410,00	420,00	5,00	-*
OR 412-7	412,00	426,00	7,00	-*
OR 415-4	415,00	423,00	4,00	-*
Packaging unit: -* upon request				

Web: http://cat.hansa-flex.com/en/OR70SHORENBR

(Continued) **OR 70° Shore NBR**

O-ring, 70SH NBR

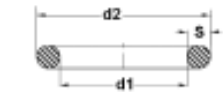
Identification	d1 mm	d2 mm	s mm	Packaging unit
OR 415-5	415,00	425,00	5,00	-*
OR 415-6	415,00	427,00	6,00	-*
OR 417.96-7	417,96	431,96	7,00	-*
OR 419.3-5.7	419,30	430,70	5,70	-*
OR 420-4	420,00	428,00	4,00	-*
OR 420-10	420,00	440,00	10,00	-*
OR 425-4	425,00	433,00	4,00	-*
OR 425-7	425,00	439,00	7,00	-*
OR 429-6	429,00	441,00	6,00	-*
OR 430-4	430,00	438,00	4,00	-*
OR 430.66-3.53	430,66	437,72	3,53	-*
OR 430.66-5.34	430,66	441,34	5,34	-*
OR 430.66-7	430,66	444,66	7,00	-*
OR 435-4	435,00	443,00	4,00	-*
OR 437-7	437,00	451,00	7,00	-*
OR 439.3-5.7	439,30	450,70	5,70	-*
OR 440-4	440,00	448,00	4,00	-*
OR 443.36-7	443,36	457,36	7,00	-*
OR 445-4	445,00	453,00	4,00	-*
OR 450-4	450,00	458,00	4,00	-*
OR 450-6	450,00	462,00	6,00	-*
OR 450-7	450,00	464,00	7,00	-*
OR 455-4	455,00	463,00	4,00	-*
OR 456.06-3.53	456,06	463,12	3,53	-*
OR 456.06-5.34	456,06	466,74	5,34	-*
OR 456.06-7	456,06	470,06	7,00	-*
OR 457.2-7	457,20	471,20	7,00	-*
OR 459.3-5.7	459,30	470,70	5,70	-*
OR 460-4	460,00	468,00	4,00	-*
OR 460-6	460,00	472,00	6,00	-*
OR 462-7	462,00	476,00	7,00	-*
OR 465-4	465,00	473,00	4,00	-*
OR 468.76-7	468,76	482,76	7,00	-*
OR 470-4	470,00	478,00	4,00	-*
OR 470-6	470,00	482,00	6,00	-*
OR 475-4	475,00	483,00	4,00	-*
OR 475-7	475,00	489,00	7,00	-*
OR 479.3-5.7	479,30	490,70	5,70	-*
OR 480-4	480,00	488,00	4,00	-*
OR 480-6	480,00	492,00	6,00	-*
OR 481.41-5.34	481,41	492,09	5,34	-*
OR 481.46-7	481,46	495,46	7,00	-*
OR 485-4	485,00	493,00	4,00	-*
OR 486-6	486,00	498,00	6,00	-*
OR 487-7	487,00	501,00	7,00	-*
Packaging unit: -* upon request				

Identification	d1 mm	d2 mm	s mm	Packaging unit
OR 489-6	489,00	501,00	6,00	-*
OR 490-4	490,00	498,00	4,00	-*
OR 494.67-7	494,67	508,67	7,00	-*
OR 495-4	495,00	503,00	4,00	-*
OR 499.3-5.7	499,30	510,70	5,70	-*
OR 500-6	500,00	512,00	6,00	-*
OR 500-7	500,00	514,00	7,00	-*
OR 505-6	505,00	517,00	6,00	-*
OR 506.81-5.34	506,81	517,49	5,34	-*
OR 506.86-7	506,86	520,86	7,00	-*
OR 510-6	510,00	522,00	6,00	-*
OR 515-7	515,00	529,00	7,00	-*
OR 516-6	516,00	528,00	6,00	-*
OR 530-6	530,00	542,00	6,00	-*
OR 530-7	530,00	544,00	7,00	-*
OR 532.21-5.34	532,21	542,89	5,34	-*
OR 532.26-7	532,26	546,26	7,00	-*
OR 540-6	540,00	552,00	6,00	-*
OR 540-8	540,00	556,00	8,00	-*
OR 545.47-7	545,47	559,47	7,00	-*
OR 555-6	555,00	567,00	6,00	-*
OR 557.61-5.34	557,61	568,29	5,34	-*
OR 557.66-7	557,66	571,66	7,00	-*
OR 560-5.33	560,00	570,66	5,33	-*
OR 560-6	560,00	572,00	6,00	-*
OR 560-7	560,00	574,00	7,00	-*
OR 579-6	579,00	591,00	6,00	-*
OR 580-7	580,00	594,00	7,00	-*
OR 580-9	580,00	598,00	9,00	-*
OR 582.68-5.34	582,68	593,36	5,34	-*
OR 582.68-7	582,68	596,68	7,00	-*
OR 596.27-7	596,27	610,27	7,00	-*
OR 600-7	600,00	614,00	7,00	-*
OR 608.08-5.34	608,08	618,76	5,34	-*
OR 608.08-7	608,08	622,08	7,00	-*
OR 615-7	615,00	629,00	7,00	-*
OR 630-7	630,00	644,00	7,00	-*
OR 633.48-5.34	633,48	644,16	5,34	-*
OR 633.48-7	633,48	647,48	7,00	-*
OR 647.07-7	647,07	661,07	7,00	-*
OR 649-8.4	649,00	665,80	8,40	-*
OR 650-7	650,00	664,00	7,00	-*
OR 658.88-5.34	658,88	669,56	5,34	-*
OR 658.88-7	658,88	672,88	7,00	-*
OR 670-7	670,00	684,00	7,00	-*
Packaging unit: -* upon request				

Web: http://cat.hansa-flex.com/en/OR70SHORENBR

OR 80° Shore NBR

O-ring 80SH NBR



Design: O-ring
Temp. min.: -30 °C
Temp. max.: 110 °C
Material: NBR 80 Shore

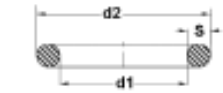
Identification	d1	d2	s
	mm	mm	mm
OR 5-1.5 N80	5,00	8,00	1,50
OR 8-1.9 N80	8,00	11,80	1,90
OR 8.73-1.78 N80	8,73	12,29	1,78
OR 12-2 N80	12,00	16,00	2,00
OR 12.42-1.78 N80	12,42	15,98	1,78
OR 13.94-2.62 N80	13,94	19,18	2,62
OR 14-2.5 N80	14,00	19,00	2,50
OR 16-3 N80	16,00	22,00	3,00
OR 18.3-3.6 N80	18,30	25,50	3,60
OR 19.8-3.6 N80	19,80	27,00	3,60
OR 21.3-3.6 N80	21,30	28,50	3,60
OR 21.89-2.62 N80	21,89	27,13	2,62
OR 23-2 N80	23,00	27,00	2,00
OR 23-3.6 N80	23,00	30,20	3,60
OR 24.6-3.6 N80	24,60	31,80	3,60
OR 25.12-1.78 N80	25,12	28,68	1,78
OR 26.2-3.6 N80	26,20	33,40	3,60
OR 27.8-3.6 N80	27,80	35,00	3,60
OR 28.17-3.53 N80	28,17	35,23	3,53
OR 29-3 N80	29,00	35,00	3,00
OR 29-3.5 N80	29,00	36,00	3,50
OR 29.3-3.6 N80	29,30	36,50	3,60
OR 31.42-2.62 N80	31,42	36,66	2,62
OR 32-3.5 N80	32,00	39,00	3,50
OR 32.5-3.6 N80	32,50	39,70	3,60
OR 34.1-3.6 N80	34,10	41,30	3,60
OR 34.59-2.62 N80	34,59	39,83	2,62
OR 35.6-3.6 N80	35,60	42,80	3,60
OR 37.3-3.6 N80	37,30	44,50	3,60
OR 39.5-2.5 N80	39,50	44,50	2,50
OR 40-3 N80	40,00	46,00	3,00
OR 40.64-5.34 N80	40,64	51,32	5,34
OR 42.86-3.53 N80	42,86	49,92	3,53
OR 46-3 N80	46,00	52,00	3,00
OR 49.2-3.53 N80	49,20	56,26	3,53
OR 50-3 N80	50,00	56,00	3,00
OR 50.17-5.34 N80	50,17	60,85	5,34
OR 53.57-3.53 N80	53,57	60,63	3,53
OR 55-3 N80	55,00	61,00	3,00
OR 55.25-2.62 N80	55,25	60,49	2,62

Identification	d1	d2	s
	mm	mm	mm
OR 58.74-3.53 N80	58,74	65,80	3,53
OR 60-3 N80	60,00	66,00	3,00
OR 63-3 N80	63,00	69,00	3,00
OR 65.1-3.53 N80	65,10	72,16	3,53
OR 67-3 N80	67,00	73,00	3,00
OR 68-6 N80	68,00	80,00	6,00
OR 69.44-3.53 N80	69,44	76,50	3,53
OR 72.62-3.53 N80	72,62	79,68	3,53
OR 75.79-3.53 N80	75,79	82,85	3,53
OR 81.92-5.34 N80	81,92	92,60	5,34
OR 88-6 N80	88,00	100,00	6,00
OR 89.69-5.34 N80	89,69	100,37	5,34
OR 97.79-5.34 N80	97,79	108,47	5,34
OR 107.54-3.53 N80	107,54	114,60	3,53
OR 113.89-3.53 N80	113,89	120,95	3,53
OR 116.84-5.34 N80	116,84	127,52	5,34
OR 117.07-3.53 N80	117,07	124,13	3,53
OR 126.37-5.34 N80	126,37	137,05	5,34
OR 126.37-7 N80	126,37	140,37	7,00
OR 132.72-7 N80	132,72	146,72	7,00
OR 133.35-5.34 N80	133,35	144,03	5,34
OR 139.07-7 N80	139,07	153,07	7,00
OR 139.29-3.53 N80	139,29	146,35	3,53
OR 142.24-5.34 N80	142,24	152,92	5,34
OR 142.24-7 N80	142,24	156,24	7,00
OR 145.42-5.34 N80	145,42	156,10	5,34
OR 148.82-3.53 N80	148,82	155,88	3,53
OR 151.77-5.34 N80	151,77	162,45	5,34
OR 151.77-7 N80	151,77	165,77	7,00
OR 158.12-7 N80	158,12	172,12	7,00
OR 164.47-5.34 N80	164,47	175,15	5,34
OR 170.82-5.34 N80	170,82	181,50	5,34
OR 177.17-7 N80	177,17	191,17	7,00
OR 183.52-5.34 N80	183,52	194,20	5,34
OR 189.87-5.34 N80	189,87	200,55	5,34
OR 190.09-3.53 N80	190,09	197,15	3,53
OR 202.57-7 N80	202,57	216,57	7,00
OR 240.67-7 N80	240,67	254,67	7,00
OR 291.47-7 N80	291,47	305,47	7,00

Web: http://cat.hansa-flex.com/en/OR80SHORENBR

OR 90° Shore NBR NO

O-ring 90 SH NBR NO



Hardness: DIN ISO 48 Ozone resistance: DIN 53509-1
Design: O-ring
Colour: black
Temp. min.: -20 °C
Temp. max.: 100 °C
Material: NBR 85 Shore A ozone resistant

Identification	d1	d2	s
	mm	mm	mm
OR 4-1.5 NO	4,00	7,00	1,50
OR 6-1.5 NO	6,00	9,00	1,50
OR 7.5-1.5 NO	7,50	10,50	1,50
OR 9-1.5 NO	9,00	12,00	1,50
OR 10-1.5 NO	10,00	13,00	1,50
OR 10-2 NO	10,00	14,00	2,00
OR 12-2 NO	12,00	16,00	2,00
OR 13-2 NO	13,00	17,00	2,00
OR 15-2 NO	15,00	19,00	2,00

Identification	d1	d2	s
	mm	mm	mm
OR 16-2.5 NO	16,00	21,00	2,50
OR 17.5-2.5 NO	17,50	23,50	2,50
OR 19-1.5 NO	19,00	22,00	1,50
OR 20-2 NO	20,00	24,00	2,00
OR 20-2.5 NO	20,00	25,00	2,50
OR 22-2.5 NO	22,00	27,00	2,50
OR 25-1.5 NO	25,00	28,00	1,50
OR 25-2.5 NO	25,00	30,00	2,50
OR 26-2 NO	26,00	30,00	2,00

(Continued) **OR 90° Shore NBR NO**

O-ring 90 SH NBR NO

Identification	d1	d2	s
	mm	mm	mm
OR 27-2.5 NO	27,00	33,00	2,50
OR 32-2.5 NO	32,00	37,00	2,50

Identification	d1	d2	s
	mm	mm	mm
OR 33-2.5 NO	33,00	38,00	2,50
OR 38-2.5 NO	38,00	43,00	2,50

Web: http://cat.hansa-flex.com/en/OR90SHORENBRNO

OR 90° Shore NBR

O-ring 90SH NBR

Design: O-ring
Temp. min.: -30 °C
Temp. max.: 110 °C
Material: NBR 90 Shore

Identification	d1	d2	s
	mm	mm	mm
OR 1.78-1.78 N90	1,78	5,34	1,78
OR 2.4-1.9 N90	2,40	6,20	1,90
OR 2.57-1.78 N90	2,57	6,13	1,78
OR 2.6-1.9 N90	2,60	6,40	1,90
OR 2.8-1.5 N90	2,80	5,80	1,50
OR 2.9-1.78 N90	2,90	6,46	1,78
OR 3.17-1.78 N90	3,17	6,73	1,78
OR 3.68-1.78 N90	3,68	7,24	1,78
OR 4-2 N90	4,00	8,00	2,00
OR 4.47-1.78 N90	4,47	8,03	1,78
OR 4.76-1.78 N90	4,76	8,32	1,78
OR 4.9-1.9 N90	4,90	8,70	1,90
OR 5-1.5 N90	5,00	8,00	1,50
OR 5-2 N90	5,00	9,00	2,00
OR 5.28-1.78 N90	5,28	8,84	1,78
OR 5.7-1.9 N90	5,70	9,50	1,90
OR 6-2 N90	6,00	10,00	2,00
OR 6.07-1.78 N90	6,07	9,63	1,78
OR 6.35-1.78 N90	6,35	9,91	1,78
OR 6.4-1.9 N90	6,40	10,20	1,90
OR 6.75-1.78 N90	6,75	10,31	1,78
OR 7-1.5 N90	7,00	10,00	1,50
OR 7.2-1.9 N90	7,20	11,00	1,90
OR 7.59-2.62 N90	7,59	12,83	2,62
OR 7.65-1.78 N90	7,65	11,21	1,78
OR 7.94-1.78 N90	7,94	11,50	1,78
OR 8-1.9 N90	8,00	11,80	1,90
OR 8-2 N90	8,00	12,00	2,00
OR 8.3-2.4 N90	8,30	13,10	2,40
OR 8.73-1.78 N90	8,73	12,29	1,78
OR 8.9-1.9 N90	8,90	12,70	1,90
OR 8.9-2.7 N90	8,90	14,30	2,70
OR 9-2 N90	9,00	13,00	2,00
OR 9-2.5 N90	9,00	14,00	2,50
OR 9.19-2.62 N90	9,19	14,43	2,62
OR 9.25-1.78 N90	9,25	12,81	1,78
OR 9.3-2.4 N90	9,30	14,10	2,40
OR 9.52-1.78 N90	9,52	13,08	1,78
OR 9.9-2.62 N90	9,90	15,14	2,62
OR 10-2.5 N90	10,00	15,00	2,50
OR 10-3 N90	10,00	16,00	3,00
OR 10.3-2.4 N90	10,30	15,10	2,40
OR 10.5-1 N90	10,50	12,50	1,00
OR 10.5-1.5 N90	10,50	13,50	1,50
OR 10.5-2 N90	10,50	14,50	2,00
OR 10.5-2.7 N90	10,50	15,90	2,70
OR 10.77-2.62 N90	10,77	16,01	2,62
OR 10.82-1.78 N90	10,82	14,38	1,78
OR 11-1.5 N90	11,00	14,00	1,50
OR 11-2 N90	11,00	15,00	2,00
OR 11-2.5 N90	11,00	16,00	2,50
OR 11.11-1.78 N90	11,11	14,67	1,78
OR 11.3-2.4 N90	11,30	16,10	2,40
OR 11.5-2 N90	11,50	15,50	2,00
OR 11.91-2.62 N90	11,91	17,15	2,62
OR 12-2.5 N90	12,00	17,00	2,50
OR 12-3 N90	12,00	18,00	3,00
OR 12.1-2.7 N90	12,10	17,50	2,70
OR 12.3-2.4 N90	12,30	17,10	2,40
OR 12.37-2.62 N90	12,37	17,61	2,62
OR 12.42-1.78 N90	12,42	15,98	1,78
OR 13-1 N90	13,00	15,00	1,00
OR 13-2.5 N90	13,00	18,00	2,50
OR 13-3 N90	13,00	19,00	3,00
OR 13.3-2.4 N90	13,30	18,10	2,40
OR 13.6-2.7 N90	13,60	19,00	2,70
OR 13.94-2.62 N90	13,94	19,18	2,62
OR 14-1.5 N90	14,00	17,00	1,50
OR 14-1.78 N90	14,00	17,56	1,78
OR 14-2 N90	14,00	18,00	2,00
OR 14-2.5 N90	14,00	19,00	2,50
OR 14-3 N90	14,00	20,00	3,00
OR 14.1-1.6 N90	14,10	17,30	1,60
OR 14.3-2.4 N90	14,30	19,10	2,40
OR 15-2.5 N90	15,00	20,00	2,50
OR 15-3 N90	15,00	21,00	3,00
OR 15.08-2.62 N90	15,08	20,32	2,62

Identification	d1	d2	s
	mm	mm	mm
OR 15.1-2.7 N90	15,10	20,50	2,70
OR 15.47-3.53 N90	15,47	22,53	3,53
OR 15.54-2.62 N90	15,54	20,78	2,62
OR 15.6-1.78 N90	15,60	19,16	1,78
OR 15.88-2.62 N90	15,88	21,12	2,62
OR 16-2 N90	16,00	20,00	2,00
OR 16-3 N90	16,00	22,00	3,00
OR 16.3-2.4 N90	16,30	21,10	2,40
OR 16.9-2.7 N90	16,90	22,30	2,70
OR 17-1.5 N90	17,00	20,00	1,50
OR 17-2 N90	17,00	21,00	2,00
OR 17-2.5 N90	17,00	22,00	2,50
OR 17-3 N90	17,00	23,00	3,00
OR 17.04-3.53 N90	17,04	24,10	3,53
OR 17.12-2.62 N90	17,12	22,36	2,62
OR 17.17-1.78 N90	17,17	20,73	1,78
OR 17.3-2.4 N90	17,30	22,10	2,40
OR 17.86-2.62 N90	17,86	23,10	2,62
OR 18-2 N90	18,00	22,00	2,00
OR 18-2.5 N90	18,00	23,00	2,50
OR 18-3 N90	18,00	24,00	3,00
OR 18.3-2.4 N90	18,30	23,10	2,40
OR 18.3-3.6 N90	18,30	25,50	3,60
OR 18.4-2.7 N90	18,40	23,80	2,70
OR 18.5-2 N90	18,50	22,50	2,00
OR 18.64-3.53 N90	18,64	25,70	3,53
OR 18.72-2.62 N90	18,72	23,96	2,62
OR 18.77-1.78 N90	18,77	22,33	1,78
OR 19-3 N90	19,00	25,00	3,00
OR 19.2-3 N90	19,20	25,20	3,00
OR 19.3-2.4 N90	19,30	24,10	2,40
OR 19.5-2.5 N90	19,50	24,50	2,50
OR 19.8-3.6 N90	19,80	27,00	3,60
OR 20-3 N90	20,00	26,00	3,00
OR 20-3.5 N90	20,00	27,00	3,50
OR 20-4 N90	20,00	28,00	4,00
OR 20.22-3.53 N90	20,22	27,28	3,53
OR 20.3-2.4 N90	20,30	25,10	2,40
OR 20.3-2.62 N90	20,30	25,54	2,62
OR 20.35-1.78 N90	20,35	23,91	1,78
OR 20.5-2.4 N90	20,50	25,30	2,40
OR 21-2 N90	21,00	25,00	2,00
OR 21-2.5 N90	21,00	26,00	2,50
OR 21-3 N90	21,00	27,00	3,00
OR 21-4 N90	21,00	29,00	4,00
OR 21.3-2.4 N90	21,30	26,10	2,40
OR 21.3-3.6 N90	21,30	28,50	3,60
OR 21.82-3.53 N90	21,82	28,88	3,53
OR 21.89-2.62 N90	21,89	27,13	2,62
OR 21.95-1.78 N90	21,95	25,51	1,78
OR 22-2 N90	22,00	26,00	2,00
OR 22-3 N90	22,00	28,00	3,00
OR 22-4 N90	22,00	30,00	4,00
OR 22.23-2.62 N90	22,23	27,47	2,62
OR 22.3-2.4 N90	22,30	27,10	2,40
OR 23-2 N90	23,00	27,00	2,00
OR 23-2.5 N90	23,00	28,00	2,50
OR 23-3 N90	23,00	29,00	3,00
OR 23-3.6 N90	23,00	30,20	3,60
OR 23.3-2.4 N90	23,30	28,10	2,40
OR 23.39-3.53 N90	23,39	30,45	3,53
OR 23.47-2.62 N90	23,47	28,71	2,62
OR 23.5-3 N90	23,50	29,50	3,00
OR 23.52-1.78 N90	23,52	27,08	1,78
OR 24-2 N90	24,00	28,00	2,00
OR 24-2.5 N90	24,00	29,00	2,50
OR 24-3 N90	24,00	30,00	3,00
OR 24-4 N90	24,00	32,00	4,00
OR 24.6-3.6 N90	24,60	31,80	3,60
OR 24.99-3.53 N90	24,99	32,05	3,53
OR 25-2 N90	25,00	29,00	2,00
OR 25-2.4 N90	25,00	29,80	2,40
OR 25-3 N90	25,00	31,00	3,00
OR 25-4 N90	25,00	33,00	4,00
OR 25-5 N90	25,00	35,00	5,00
OR 25.07-2.62 N90	25,07	30,31	2,62
OR 25.12-1.78 N90	25,12	28,68	1,78

→

(Continued)

OR 90° Shore NBR

O-ring 90SH NBR

Identification	d1	d2	s
	mm	mm	mm
OR 25.3-2.4 N90	25,30	30,10	2,40
OR 25.8-3.53 N90	25,80	32,86	3,53
OR 26-2.5 N90	26,00	31,00	2,50
OR 26-3 N90	26,00	32,00	3,00
OR 26-4 N90	26,00	34,00	4,00
OR 26-5 N90	26,00	36,00	5,00
OR 26.2-3.6 N90	26,20	33,40	3,60
OR 26.57-3.53 N90	26,57	33,63	3,53
OR 26.64-2.62 N90	26,64	31,88	2,62
OR 26.7-1.78 N90	26,70	30,26	1,78
OR 27-2 N90	27,00	31,00	2,00
OR 27-3 N90	27,00	33,00	3,00
OR 27.3-2.4 N90	27,30	32,10	2,40
OR 27.8-3.6 N90	27,80	35,00	3,60
OR 28-2 N90	28,00	32,00	2,00
OR 28-2.5 N90	28,00	33,00	2,50
OR 28-3 N90	28,00	34,00	3,00
OR 28-4 N90	28,00	36,00	4,00
OR 28-5 N90	28,00	38,00	5,00
OR 28.17-3.53 N90	28,17	35,23	3,53
OR 28.24-2.62 N90	28,24	33,48	2,62
OR 28.3-1.78 N90	28,30	31,86	1,78
OR 29-2 N90	29,00	33,00	2,00
OR 29-2.5 N90	29,00	34,00	2,50
OR 29-3 N90	29,00	35,00	3,00
OR 29.3-3.6 N90	29,30	36,50	3,60
OR 29.6-2.4 N90	29,60	34,40	2,40
OR 29.74-3.53 N90	29,74	36,80	3,53
OR 29.82-2.62 N90	29,82	35,06	2,62
OR 29.87-1.78 N90	29,87	33,43	1,78
OR 30-2 N90	30,00	34,00	2,00
OR 30-2.5 N90	30,00	35,00	2,50
OR 30-3 N90	30,00	36,00	3,00
OR 30-4 N90	30,00	38,00	4,00
OR 30-5 N90	30,00	40,00	5,00
OR 30.3-2.4 N90	30,30	35,10	2,40
OR 30.8-3.6 N90	30,80	38,00	3,60
OR 31-2 N90	31,00	35,00	2,00
OR 31-2.5 N90	31,00	36,00	2,50
OR 31-3 N90	31,00	37,00	3,00
OR 31-4 N90	31,00	39,00	4,00
OR 31.12-5.34 N90	31,12	41,80	5,34
OR 31.34-3.53 N90	31,34	38,40	3,53
OR 31.42-2.62 N90	31,42	36,66	2,62
OR 31.47-1.78 N90	31,47	35,03	1,78
OR 32-2 N90	32,00	36,00	2,00
OR 32-3 N90	32,00	38,00	3,00
OR 32-3.5 N90	32,00	39,00	3,50
OR 32-4 N90	32,00	40,00	4,00
OR 32-5 N90	32,00	42,00	5,00
OR 32.5-3.6 N90	32,50	39,70	3,60
OR 32.69-5.34 N90	32,69	43,37	5,34
OR 32.92-3.53 N90	32,92	39,98	3,53
OR 32.99-2.62 N90	32,99	38,23	2,62
OR 33-2 N90	33,00	37,00	2,00
OR 33-3 N90	33,00	39,00	3,00
OR 33.05-1.78 N90	33,05	36,61	1,78
OR 33.3-2.4 N90	33,30	38,10	2,40
OR 34-2 N90	34,00	38,00	2,00
OR 34-2.5 N90	34,00	39,00	2,50
OR 34-3 N90	34,00	40,00	3,00
OR 34-4 N90	34,00	42,00	4,00
OR 34.1-3.6 N90	34,10	41,30	3,60
OR 34.29-5.34 N90	34,29	44,97	5,34
OR 34.52-3.53 N90	34,52	41,58	3,53
OR 34.59-2.62 N90	34,59	39,83	2,62
OR 34.65-1.78 N90	34,65	38,21	1,78
OR 35-2 N90	35,00	39,00	2,00
OR 35-2.5 N90	35,00	40,00	2,50
OR 35-3 N90	35,00	41,00	3,00
OR 35-4 N90	35,00	43,00	4,00
OR 35-5 N90	35,00	45,00	5,00
OR 35.6-3.6 N90	35,60	42,80	3,60
OR 36-2 N90	36,00	40,00	2,00
OR 36-2.5 N90	36,00	41,00	2,50
OR 36-3 N90	36,00	42,00	3,00
OR 36-4 N90	36,00	44,00	4,00
OR 36-5 N90	36,00	46,00	5,00
OR 36.09-3.53 N90	36,09	43,15	3,53
OR 36.17-2.62 N90	36,17	41,41	2,62
OR 36.27-1.78 N90	36,27	39,83	1,78
OR 37-2 N90	37,00	41,00	2,00
OR 37-2.5 N90	37,00	42,00	2,50
OR 37-3 N90	37,00	43,00	3,00
OR 37-4 N90	37,00	45,00	4,00
OR 37.3-3.6 N90	37,30	44,50	3,60
OR 37.47-5.34 N90	37,47	48,15	5,34
OR 37.69-3.53 N90	37,69	44,75	3,53
OR 37.77-2.62 N90	37,77	43,01	2,62
OR 37.82-1.78 N90	37,82	41,38	1,78
OR 38-2 N90	38,00	42,00	2,00
OR 38-3 N90	38,00	44,00	3,00
OR 38-4 N90	38,00	46,00	4,00
OR 38-5 N90	38,00	48,00	5,00
OR 39-2.5 N90	39,00	44,00	2,50
OR 39-3 N90	39,00	45,00	3,00
OR 39-4 N90	39,00	47,00	4,00
OR 39.2-5.7 N90	39,20	50,60	5,70
OR 39.34-2.62 N90	39,34	44,58	2,62
OR 39.45-1.78 N90	39,45	43,01	1,78
OR 39.7-3.53 N90	39,70	46,76	3,53
OR 40-2 N90	40,00	44,00	2,00
OR 40-2.5 N90	40,00	45,00	2,50
OR 40-3 N90	40,00	46,00	3,00
OR 40-4 N90	40,00	48,00	4,00
OR 40-5 N90	40,00	50,00	5,00
OR 40.64-5.34 N90	40,64	51,32	5,34
OR 40.87-3.53 N90	40,87	47,93	3,53
OR 40.94-2.62 N90	40,94	46,18	2,62
OR 41-1.78 N90	41,00	44,56	1,78
OR 41-2.5 N90	41,00	46,00	2,50
OR 41-3 N90	41,00	47,00	3,00
OR 41-3.5 N90	41,00	48,00	3,50
OR 41-4 N90	41,00	49,00	4,00
OR 41.28-3.53 N90	41,28	48,34	3,53
OR 42-2 N90	42,00	46,00	2,00
OR 42-2.5 N90	42,00	47,00	2,50
OR 42-3 N90	42,00	48,00	3,00
OR 42-3.5 N90	42,00	49,00	3,50
OR 42-4 N90	42,00	50,00	4,00
OR 42-5 N90	42,00	52,00	5,00
OR 42.52-2.62 N90	42,52	47,76	2,62
OR 42.86-3.53 N90	42,86	49,92	3,53
OR 43-2 N90	43,00	47,00	2,00
OR 43-3 N90	43,00	49,00	3,00
OR 43-3.5 N90	43,00	50,00	3,50
OR 43-4 N90	43,00	51,00	4,00
OR 43.82-5.34 N90	43,82	54,50	5,34
OR 44-2 N90	44,00	48,00	2,00
OR 44-2.5 N90	44,00	49,00	2,50
OR 44-3 N90	44,00	50,00	3,00
OR 44-3.5 N90	44,00	51,00	3,50
OR 44-4 N90	44,00	52,00	4,00
OR 44-6 N90	44,00	56,00	6,00
OR 44.04-3.53 N90	44,04	51,10	3,53
OR 44.12-2.62 N90	44,12	49,36	2,62
OR 44.17-1.78 N90	44,17	47,73	1,78
OR 44.45-3.53 N90	44,45	51,51	3,53
OR 45-2 N90	45,00	49,00	2,00
OR 45-2.5 N90	45,00	50,00	2,50
OR 45-3 N90	45,00	51,00	3,00
OR 45-4 N90	45,00	53,00	4,00
OR 45-5 N90	45,00	55,00	5,00
OR 45.69-2.62 N90	45,69	50,93	2,62
OR 46-2 N90	46,00	50,00	2,00
OR 46-2.5 N90	46,00	51,00	2,50
OR 46-3 N90	46,00	52,00	3,00
OR 46-4 N90	46,00	54,00	4,00
OR 46-5 N90	46,00	56,00	5,00
OR 46.04-3.53 N90	46,04	53,10	3,53
OR 46.99-5.34 N90	46,99	57,67	5,34
OR 47-2 N90	47,00	51,00	2,00
OR 47-2.5 N90	47,00	52,00	2,50
OR 47-3 N90	47,00	53,00	3,00
OR 47-4 N90	47,00	55,00	4,00
OR 47.22-3.53 N90	47,22	54,28	3,53
OR 47.29-2.62 N90	47,29	52,53	2,62
OR 47.35-1.78 N90	47,35	50,91	1,78
OR 47.62-3.53 N90	47,62	54,68	3,53
OR 48-2 N90	48,00	52,00	2,00
OR 48-2.5 N90	48,00	53,00	2,50
OR 48-3 N90	48,00	54,00	3,00
OR 48-4 N90	48,00	56,00	4,00
OR 48-5 N90	48,00	58,00	5,00
OR 48.9-2.62 N90	48,90	54,14	2,62
OR 49-2.5 N90	49,00	54,00	2,50
OR 49-3 N90	49,00	55,00	3,00
OR 49-4 N90	49,00	57,00	4,00
OR 49.2-3.53 N90	49,20	56,26	3,53
OR 49.2-5.7 N90	49,20	60,60	5,70
OR 50-2 N90	50,00	54,00	2,00
OR 50-2.5 N90	50,00	55,00	2,50
OR 50-3 N90	50,00	56,00	3,00
OR 50-5 N90	50,00	60,00	5,00
OR 50.17-5.34 N90	50,17	60,85	5,34
OR 50.39-3.53 N90	50,39	57,45	3,53
OR 50.47-2.62 N90	50,47	55,71	2,62
OR 50.52-1.78 N90	50,52	54,08	1,78

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OR 90° Shore NBR (Continued)

O-ring 90SH NBR

Identification	d1	d2	s
	mm	mm	mm
OR 52-3 N90	52,00	58,00	3,00
OR 52-4 N90	52,00	60,00	4,00
OR 52-5 N90	52,00	62,00	5,00
OR 52.07-2.62 N90	52,07	57,31	2,62
OR 52.3-5.7 N90	52,30	63,70	5,70
OR 52.4-3.53 N90	52,40	59,46	3,53
OR 53-2 N90	53,00	57,00	2,00
OR 53-2.5 N90	53,00	58,00	2,50
OR 53-3 N90	53,00	59,00	3,00
OR 53-5 N90	53,00	63,00	5,00
OR 53.34-5.34 N90	53,34	64,02	5,34
OR 53.57-3.53 N90	53,57	60,63	3,53
OR 53.64-2.62 N90	53,64	58,88	2,62
OR 53.7-1.78 N90	53,70	57,26	1,78
OR 54-2 N90	54,00	58,00	2,00
OR 54-2.5 N90	54,00	59,00	2,50
OR 54-3 N90	54,00	60,00	3,00
OR 54-4 N90	54,00	62,00	4,00
OR 54.2-5.7 N90	54,20	65,60	5,70
OR 55-2 N90	55,00	59,00	2,00
OR 55-2.5 N90	55,00	60,00	2,50
OR 55-3 N90	55,00	61,00	3,00
OR 55-3.5 N90	55,00	62,00	3,50
OR 55-4 N90	55,00	63,00	4,00
OR 55-5 N90	55,00	65,00	5,00
OR 55.25-2.62 N90	55,25	60,49	2,62
OR 55.56-3.53 N90	55,56	62,62	3,53
OR 56-2.5 N90	56,00	61,00	2,50
OR 56-3 N90	56,00	62,00	3,00
OR 56-4 N90	56,00	64,00	4,00
OR 56.52-5.34 N90	56,52	67,20	5,34
OR 56.74-3.53 N90	56,74	63,80	3,53
OR 56.82-2.62 N90	56,82	62,06	2,62
OR 56.87-1.78 N90	56,87	60,43	1,78
OR 57-2.5 N90	57,00	62,00	2,50
OR 57-3 N90	57,00	63,00	3,00
OR 57.15-3.53 N90	57,15	64,21	3,53
OR 58-2 N90	58,00	62,00	2,00
OR 58-3 N90	58,00	64,00	3,00
OR 58-4 N90	58,00	66,00	4,00
OR 58.42-2.62 N90	58,42	63,66	2,62
OR 58.74-3.53 N90	58,74	65,80	3,53
OR 59-2.5 N90	59,00	64,00	2,50
OR 59-3 N90	59,00	65,00	3,00
OR 59.2-5.7 N90	59,20	70,60	5,70
OR 59.5-3 N90	59,50	65,50	3,00
OR 59.69-5.34 N90	59,69	70,37	5,34
OR 59.92-3.53 N90	59,92	66,98	3,53
OR 59.99-2.62 N90	59,99	65,23	2,62
OR 60-2 N90	60,00	64,00	2,00
OR 60-2.5 N90	60,00	65,00	2,50
OR 60-3 N90	60,00	66,00	3,00
OR 60-4 N90	60,00	68,00	4,00
OR 60-5 N90	60,00	70,00	5,00
OR 60.05-1.78 N90	60,05	63,61	1,78
OR 60.32-3.53 N90	60,32	67,38	3,53
OR 61.2-5.7 N90	61,20	72,60	5,70
OR 61.9-3.53 N90	61,90	68,96	3,53
OR 62-2 N90	62,00	66,00	2,00
OR 62-2.5 N90	62,00	67,00	2,50
OR 62-3 N90	62,00	68,00	3,00
OR 62-3.5 N90	62,00	69,00	3,50
OR 62-4 N90	62,00	70,00	4,00
OR 62-5 N90	62,00	72,00	5,00
OR 62.3-5.7 N90	62,30	73,70	5,70
OR 62.6-2.62 N90	62,60	67,84	2,62
OR 62.87-5.34 N90	62,87	73,55	5,34
OR 63-2 N90	63,00	67,00	2,00
OR 63-2.5 N90	63,00	68,00	2,50
OR 63-3 N90	63,00	69,00	3,00
OR 63-4 N90	63,00	71,00	4,00
OR 63.09-3.53 N90	63,09	70,15	3,53
OR 63.17-2.62 N90	63,17	68,41	2,62
OR 63.22-1.78 N90	63,22	66,78	1,78
OR 64-3 N90	64,00	70,00	3,00
OR 64-4 N90	64,00	72,00	4,00
OR 64-5 N90	64,00	74,00	5,00
OR 64.3-5.7 N90	64,30	75,70	5,70
OR 64.77-2.62 N90	64,77	70,01	2,62
OR 65-2 N90	65,00	69,00	2,00
OR 65-3 N90	65,00	71,00	3,00
OR 65-3.5 N90	65,00	72,00	3,50
OR 65-4 N90	65,00	73,00	4,00
OR 65-5 N90	65,00	75,00	5,00
OR 65.1-3.53 N90	65,10	72,16	3,53
OR 66-2 N90	66,00	70,00	2,00
OR 66-3 N90	66,00	72,00	3,00
OR 66.04-5.34 N90	66,04	76,72	5,34
OR 66.27-3.53 N90	66,27	73,33	3,53
OR 66.34-2.62 N90	66,34	71,58	2,62
OR 67-2.5 N90	67,00	72,00	2,50
OR 67-3 N90	67,00	73,00	3,00
OR 67-4 N90	67,00	75,00	4,00
OR 67-5 N90	67,00	77,00	5,00
OR 67.95-2.62 N90	67,95	73,19	2,62
OR 68-2.5 N90	68,00	73,00	2,50
OR 68-3 N90	68,00	74,00	3,00
OR 68.26-3.53 N90	68,26	75,32	3,53
OR 69.2-5.7 N90	69,20	80,60	5,70
OR 69.22-5.34 N90	69,22	79,90	5,34
OR 69.3-5.7 N90	69,30	80,70	5,70
OR 69.44-3.53 N90	69,44	76,50	3,53
OR 69.52-2.62 N90	69,52	74,76	2,62
OR 69.85-3.53 N90	69,85	76,91	3,53
OR 70-2 N90	70,00	74,00	2,00
OR 70-2.5 N90	70,00	75,00	2,50
OR 70-3 N90	70,00	76,00	3,00
OR 70-3.5 N90	70,00	77,00	3,50
OR 70-4 N90	70,00	78,00	4,00
OR 70-5 N90	70,00	80,00	5,00
OR 71-3 N90	71,00	77,00	3,00
OR 71.12-2.62 N90	71,12	76,36	2,62
OR 72-2 N90	72,00	76,00	2,00
OR 72-3 N90	72,00	78,00	3,00
OR 72-4 N90	72,00	80,00	4,00
OR 72-5 N90	72,00	82,00	5,00
OR 72.2-5.7 N90	72,20	83,60	5,70
OR 72.39-5.34 N90	72,39	83,07	5,34
OR 72.62-3.53 N90	72,62	79,68	3,53
OR 73-3 N90	73,00	79,00	3,00
OR 73-4 N90	73,00	81,00	4,00
OR 73-5 N90	73,00	83,00	5,00
OR 73.02-3.53 N90	73,02	80,08	3,53
OR 74-3 N90	74,00	80,00	3,00
OR 74-4 N90	74,00	82,00	4,00
OR 74.2-5.7 N90	74,20	85,60	5,70
OR 74.6-3.53 N90	74,60	81,66	3,53
OR 75-2 N90	75,00	79,00	2,00
OR 75-2.5 N90	75,00	80,00	2,50
OR 75-3 N90	75,00	81,00	3,00
OR 75-3.5 N90	75,00	82,00	3,50
OR 75-4 N90	75,00	83,00	4,00
OR 75-5 N90	75,00	85,00	5,00
OR 75.57-5.34 N90	75,57	86,25	5,34
OR 75.79-3.53 N90	75,79	82,85	3,53
OR 75.87-2.62 N90	75,87	81,11	2,62
OR 76-2.5 N90	76,00	81,00	2,50
OR 76-3 N90	76,00	82,00	3,00
OR 76-4 N90	76,00	84,00	4,00
OR 77-3 N90	77,00	83,00	3,00
OR 77-5 N90	77,00	87,00	5,00
OR 78-2 N90	78,00	82,00	2,00
OR 78-4 N90	78,00	86,00	4,00
OR 78.74-5.34 N90	78,74	89,42	5,34
OR 78.97-3.53 N90	78,97	86,03	3,53
OR 79-1.78 N90	79,00	82,56	1,78
OR 79-3 N90	79,00	85,00	3,00
OR 79.3-5.7 N90	79,30	90,70	5,70
OR 79.73-5.34 N90	79,73	90,41	5,34
OR 80-2 N90	80,00	84,00	2,00
OR 80-2.5 N90	80,00	85,00	2,50
OR 80-3 N90	80,00	86,00	3,00
OR 80-4 N90	80,00	88,00	4,00
OR 80-5 N90	80,00	90,00	5,00
OR 81.92-5.34 N90	81,92	92,60	5,34
OR 82-2 N90	82,00	86,00	2,00
OR 82-3 N90	82,00	88,00	3,00
OR 82-3.5 N90	82,00	89,00	3,50
OR 82-4 N90	82,00	90,00	4,00
OR 82-5 N90	82,00	92,00	5,00
OR 82.14-3.53 N90	82,14	89,20	3,53
OR 82.2-5.7 N90	82,20	93,60	5,70
OR 82.22-2.62 N90	82,22	87,46	2,62
OR 82.27-1.78 N90	82,27	85,83	1,78
OR 83-3 N90	83,00	89,00	3,00
OR 84-3 N90	84,00	90,00	3,00
OR 84.3-5.7 N90	84,30	95,70	5,70
OR 85-2 N90	85,00	89,00	2,00
OR 85-2.5 N90	85,00	90,00	2,50
OR 85-3 N90	85,00	91,00	3,00
OR 85-3.5 N90	85,00	92,00	3,50
OR 85-4 N90	85,00	93,00	4,00
OR 85-5 N90	85,00	95,00	5,00
OR 85.09-5.34 N90	85,09	95,77	5,34
OR 85.32-3.53 N90	85,32	92,38	3,53
OR 86-2 N90	86,00	90,00	2,00
OR 86-2.5 N90	86,00	91,00	2,50
OR 86-3 N90	86,00	92,00	3,00

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(Continued)

OR 90° Shore NBR

O-ring 90SH NBR

Identification	d1	d2	s
	mm	mm	mm
OR 86-4 N90	86,00	94,00	4,00
OR 88-3 N90	88,00	94,00	3,00
OR 88-6 N90	88,00	100,00	6,00
OR 88.27-2.62 N90	88,27	93,51	2,62
OR 88.27-5.34 N90	88,27	98,95	5,34
OR 88.49-3.53 N90	88,49	95,55	3,53
OR 89.2-5.7 N90	89,20	100,60	5,70
OR 89.5-3 N90	89,50	95,50	3,00
OR 89.69-5.34 N90	89,69	100,37	5,34
OR 90-2 N90	90,00	94,00	2,00
OR 90-2.5 N90	90,00	95,00	2,50
OR 90-3 N90	90,00	96,00	3,00
OR 90-4 N90	90,00	98,00	4,00
OR 90-5 N90	90,00	100,00	5,00
OR 91.44-5.34 N90	91,44	102,12	5,34
OR 91.67-3.53 N90	91,67	98,73	3,53
OR 92-2 N90	92,00	96,00	2,00
OR 92-3 N90	92,00	98,00	3,00
OR 92-4 N90	92,00	100,00	4,00
OR 92-5 N90	92,00	102,00	5,00
OR 93-3 N90	93,00	99,00	3,00
OR 94-2 N90	94,00	98,00	2,00
OR 94-2.5 N90	94,00	99,00	2,50
OR 94-3 N90	94,00	100,00	3,00
OR 94.3-5.7 N90	94,30	105,70	5,70
OR 94.62-5.34 N90	94,62	105,30	5,34
OR 94.84-3.53 N90	94,84	101,90	3,53
OR 94.92-2.62 N90	94,92	100,16	2,62
OR 95-3 N90	95,00	101,00	3,00
OR 95-4 N90	95,00	103,00	4,00
OR 95-5 N90	95,00	105,00	5,00
OR 96-2 N90	96,00	100,00	2,00
OR 96-3 N90	96,00	102,00	3,00
OR 96-4 N90	96,00	104,00	4,00
OR 97.79-5.34 N90	97,79	108,47	5,34
OR 98-3 N90	98,00	104,00	3,00
OR 98.02-3.53 N90	98,02	105,08	3,53
OR 99-5.7 N90	99,00	110,40	5,70
OR 99.2-5.7 N90	99,20	110,60	5,70
OR 100-2 N90	100,00	104,00	2,00
OR 100-3 N90	100,00	106,00	3,00
OR 100-4 N90	100,00	108,00	4,00
OR 100-5 N90	100,00	110,00	5,00
OR 100.97-5.34 N90	100,97	111,65	5,34
OR 101.19-3.53 N90	101,19	108,25	3,53
OR 101.27-2.62 N90	101,27	106,51	2,62
OR 102-3 N90	102,00	108,00	3,00
OR 102-4 N90	102,00	110,00	4,00
OR 104-4 N90	104,00	112,00	4,00
OR 104.14-5.34 N90	104,14	114,82	5,34
OR 104.3-5.7 N90	104,30	115,70	5,70
OR 104.37-3.53 N90	104,37	111,43	3,53
OR 105-3 N90	105,00	111,00	3,00
OR 105-4 N90	105,00	113,00	4,00
OR 105-5 N90	105,00	115,00	5,00
OR 107-5 N90	107,00	117,00	5,00
OR 107.32-5.34 N90	107,32	118,00	5,34
OR 107.54-3.53 N90	107,54	114,60	3,53
OR 107.62-2.62 N90	107,62	112,86	2,62
OR 108-3 N90	108,00	114,00	3,00
OR 109-5.7 N90	109,00	120,40	5,70
OR 109.2-5.7 N90	109,20	120,60	5,70
OR 109.54-5.34 N90	109,54	120,22	5,34
OR 110-4 N90	110,00	118,00	4,00
OR 110-5 N90	110,00	120,00	5,00
OR 110.49-5.34 N90	110,49	121,17	5,34
OR 110.72-3.53 N90	110,72	117,78	3,53
OR 112-3 N90	112,00	118,00	3,00
OR 113.67-5.34 N90	113,67	124,35	5,34
OR 113.67-7 N90	113,67	127,67	7,00
OR 113.89-3.53 N90	113,89	120,95	3,53
OR 114-3 N90	114,00	120,00	3,00
OR 114.3-5.7 N90	114,30	125,70	5,70
OR 115-3 N90	115,00	121,00	3,00
OR 115-4 N90	115,00	123,00	4,00
OR 115-5 N90	115,00	125,00	5,00
OR 116-3 N90	116,00	122,00	3,00
OR 116.84-5.34 N90	116,84	127,52	5,34
OR 116.84-7 N90	116,84	130,84	7,00
OR 117-4 N90	117,00	125,00	4,00
OR 117.07-3.53 N90	117,07	124,13	3,53
OR 117.48-5.34 N90	117,48	128,16	5,34
OR 118-4 N90	118,00	126,00	4,00
OR 119-3 N90	119,00	125,00	3,00
OR 119.3-5.7 N90	119,30	130,70	5,70
OR 120-3 N90	120,00	126,00	3,00
OR 120-4 N90	120,00	128,00	4,00
OR 120-5 N90	120,00	130,00	5,00
OR 120.02-5.34 N90	120,02	130,70	5,34
OR 120.02-7 N90	120,02	134,02	7,00
OR 120.24-3.53 N90	120,24	127,30	3,53
OR 122-5 N90	122,00	132,00	5,00
OR 123.19-5.34 N90	123,19	133,87	5,34
OR 123.19-7 N90	123,19	137,19	7,00
OR 123.42-3.53 N90	123,42	130,48	3,53
OR 123.83-5.34 N90	123,83	134,51	5,34
OR 124-3 N90	124,00	130,00	3,00
OR 124.3-5.7 N90	124,30	135,70	5,70
OR 125-3 N90	125,00	131,00	3,00
OR 125-4 N90	125,00	133,00	4,00
OR 125-5 N90	125,00	135,00	5,00
OR 126-3.5 N90	126,00	133,00	3,50
OR 126.37-7 N90	126,37	140,37	7,00
OR 126.59-3.53 N90	126,59	133,65	3,53
OR 127-5.34 N90	127,00	137,68	5,34
OR 128-3 N90	128,00	134,00	3,00
OR 129.3-5.7 N90	129,30	140,70	5,70
OR 129.54-5.34 N90	129,54	140,22	5,34
OR 129.54-7 N90	129,54	143,54	7,00
OR 129.77-3.53 N90	129,77	136,83	3,53
OR 130-3 N90	130,00	136,00	3,00
OR 130-4 N90	130,00	138,00	4,00
OR 130-5 N90	130,00	140,00	5,00
OR 132-3 N90	132,00	138,00	3,00
OR 132.72-5.34 N90	132,72	143,40	5,34
OR 132.72-7 N90	132,72	146,72	7,00
OR 132.94-3.53 N90	132,94	140,00	3,53
OR 133.35-5.34 N90	133,35	144,03	5,34
OR 134-3 N90	134,00	140,00	3,00
OR 134-4 N90	134,00	142,00	4,00
OR 134.3-5.7 N90	134,30	145,70	5,70
OR 135-5 N90	135,00	145,00	5,00
OR 135.89-5.34 N90	135,89	146,57	5,34
OR 135.89-7 N90	135,89	149,89	7,00
OR 136-3 N90	136,00	142,00	3,00
OR 136-4 N90	136,00	144,00	4,00
OR 136.12-3.53 N90	136,12	143,18	3,53
OR 139.07-5.34 N90	139,07	149,75	5,34
OR 139.07-7 N90	139,07	153,07	7,00
OR 139.29-3.53 N90	139,29	146,35	3,53
OR 139.3-5.7 N90	139,30	150,70	5,70
OR 140-3 N90	140,00	146,00	3,00
OR 140-4 N90	140,00	148,00	4,00
OR 140-5 N90	140,00	150,00	5,00
OR 142-6 N90	142,00	154,00	6,00
OR 142.24-7 N90	142,24	156,24	7,00
OR 143-3 N90	143,00	149,00	3,00
OR 144.3-5.7 N90	144,30	155,70	5,70
OR 144.5-3 N90	144,50	150,50	3,00
OR 145-3 N90	145,00	151,00	3,00
OR 145-4 N90	145,00	153,00	4,00
OR 145-5 N90	145,00	155,00	5,00
OR 145.42-5.34 N90	145,42	156,10	5,34
OR 145.42-7 N90	145,42	159,42	7,00
OR 145.64-3.53 N90	145,64	152,70	3,53
OR 145.72-2.62 N90	145,72	150,96	2,62
OR 146-6 N90	146,00	158,00	6,00
OR 146.05-5.34 N90	146,05	156,73	5,34
OR 148-3 N90	148,00	154,00	3,00
OR 148-6 N90	148,00	160,00	6,00
OR 148.59-5.34 N90	148,59	159,27	5,34
OR 148.59-7 N90	148,59	162,59	7,00
OR 148.82-3.53 N90	148,82	155,88	3,53
OR 149.2-5.7 N90	149,20	160,60	5,70
OR 149.23-5.34 N90	149,23	159,91	5,34
OR 150-4 N90	150,00	158,00	4,00
OR 150-5 N90	150,00	160,00	5,00
OR 150-6 N90	150,00	162,00	6,00
OR 151.77-5.34 N90	151,77	162,45	5,34
OR 151.77-7 N90	151,77	165,77	7,00
OR 151.99-3.53 N90	151,99	159,05	3,53
OR 154-3 N90	154,00	160,00	3,00
OR 154.3-5.7 N90	154,30	165,70	5,70
OR 155-4 N90	155,00	163,00	4,00
OR 155-5 N90	155,00	165,00	5,00
OR 158.12-5.34 N90	158,12	168,80	5,34
OR 158.12-7 N90	158,12	172,12	7,00
OR 158.34-3.53 N90	158,34	165,40	3,53
OR 159.3-5.7 N90	159,30	170,70	5,70
OR 160-3 N90	160,00	166,00	3,00
OR 160-4 N90	160,00	168,00	4,00
OR 160-5 N90	160,00	170,00	5,00
OR 162-3 N90	162,00	168,00	3,00
OR 164.3-5.7 N90	164,30	175,70	5,70
OR 164.47-5.34 N90	164,47	175,15	5,34
OR 164.47-7 N90	164,47	178,47	7,00
OR 164.69-3.53 N90	164,69	171,75	3,53
OR 165-3 N90	165,00	171,00	3,00

Web: http://cat.hansa-flex.com/en/OR90SHORENBR

OR 90° Shore NBR (Continued)

O-ring 90SH NBR

Identification	d1	d2	s
	mm	mm	mm
OR 165-4 N90	165,00	173,00	4,00
OR 165-5 N90	165,00	175,00	5,00
OR 166.7-7 N90	166,70	180,70	7,00
OR 168-3 N90	168,00	174,00	3,00
OR 169.3-5.7 N90	169,30	180,70	5,70
OR 170-3 N90	170,00	176,00	3,00
OR 170-5 N90	170,00	180,00	5,00
OR 170.82-5.34 N90	170,82	181,50	5,34
OR 170.82-7 N90	170,82	184,82	7,00
OR 171.04-3.53 N90	171,04	178,10	3,53
OR 173-5 N90	173,00	183,00	5,00
OR 175-5 N90	175,00	185,00	5,00
OR 175-6 N90	175,00	187,00	6,00
OR 177.17-7 N90	177,17	191,17	7,00
OR 177.39-3.53 N90	177,39	184,45	3,53
OR 180-3 N90	180,00	186,00	3,00
OR 180-4 N90	180,00	188,00	4,00
OR 180-5 N90	180,00	190,00	5,00
OR 183.52-5.34 N90	183,52	194,20	5,34
OR 183.52-7 N90	183,52	197,52	7,00
OR 183.74-3.53 N90	183,74	190,80	3,53
OR 184.3-5.7 N90	184,30	195,70	5,70
OR 184.5-3 N90	184,50	190,50	3,00
OR 185-5 N90	185,00	195,00	5,00
OR 189.3-5.7 N90	189,30	200,70	5,70
OR 189.87-5.34 N90	189,87	200,55	5,34
OR 189.87-7 N90	189,87	203,87	7,00
OR 190-3 N90	190,00	196,00	3,00
OR 190-4 N90	190,00	198,00	4,00
OR 190-5 N90	190,00	200,00	5,00
OR 190.09-3.53 N90	190,09	197,15	3,53
OR 194.3-5.7 N90	194,30	205,70	5,70
OR 195-4 N90	195,00	203,00	4,00
OR 195-5 N90	195,00	205,00	5,00
OR 196.22-5.34 N90	196,22	206,90	5,34
OR 196.22-7 N90	196,22	210,22	7,00
OR 199.3-5.7 N90	199,30	210,70	5,70
OR 200-3 N90	200,00	206,00	3,00
OR 200-5 N90	200,00	210,00	5,00
OR 202.57-5.34 N90	202,57	213,25	5,34
OR 202.57-7 N90	202,57	216,57	7,00
OR 202.79-3.53 N90	202,79	209,85	3,53
OR 205-5 N90	205,00	215,00	5,00
OR 208.92-7 N90	208,92	222,92	7,00
OR 209.3-5.7 N90	209,30	220,70	5,70
OR 210-5 N90	210,00	220,00	5,00
OR 215-5 N90	215,00	225,00	5,00
OR 215.27-5.34 N90	215,27	225,95	5,34

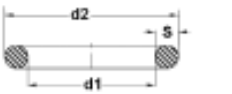
Identification	d1	d2	s
	mm	mm	mm
OR 215.27-7 N90	215,27	229,27	7,00
OR 219.3-5.7 N90	219,30	230,70	5,70
OR 220-5 N90	220,00	230,00	5,00
OR 221.62-5.34 N90	221,62	232,30	5,34
OR 225-3 N90	225,00	231,00	3,00
OR 225-5 N90	225,00	235,00	5,00
OR 227.97-5.34 N90	227,97	238,65	5,34
OR 227.97-7 N90	227,97	241,97	7,00
OR 229.3-5.7 N90	229,30	240,70	5,70
OR 230-5 N90	230,00	240,00	5,00
OR 234.32-5.34 N90	234,32	245,00	5,34
OR 234.32-7 N90	234,32	248,32	7,00
OR 235-5 N90	235,00	245,00	5,00
OR 239.3-5.7 N90	239,30	250,70	5,70
OR 240-5 N90	240,00	250,00	5,00
OR 240.67-5.34 N90	240,67	251,35	5,34
OR 240.67-7 N90	240,67	254,67	7,00
OR 240.89-3.53 N90	240,89	247,95	3,53
OR 247.02-5.34 N90	247,02	257,70	5,34
OR 249.3-5.7 N90	249,30	260,70	5,70
OR 250-5 N90	250,00	260,00	5,00
OR 253.37-7 N90	253,37	267,37	7,00
OR 253.59-3.53 N90	253,59	260,65	3,53
OR 260-5 N90	260,00	270,00	5,00
OR 266.07-5.34 N90	266,07	276,75	5,34
OR 266.07-7 N90	266,07	280,07	7,00
OR 270-5 N90	270,00	280,00	5,00
OR 278.77-5.34 N90	278,77	289,45	5,34
OR 278.77-7 N90	278,77	292,77	7,00
OR 280-5 N90	280,00	290,00	5,00
OR 285.1-7 N90	285,10	299,10	7,00
OR 290-5 N90	290,00	300,00	5,00
OR 291.47-7 N90	291,47	305,47	7,00
OR 304.17-7 N90	304,17	318,17	7,00
OR 304.39-3.53 N90	304,39	311,45	3,53
OR 316.87-7 N90	316,87	330,87	7,00
OR 329.57-7 N90	329,57	343,57	7,00
OR 329.79-3.53 N90	329,79	336,85	3,53
OR 342.27-7 N90	342,27	356,27	7,00
OR 354.97-7 N90	354,97	368,97	7,00
OR 359.3-5.7 N90	359,30	370,70	5,70
OR 367.67-7 N90	367,67	381,67	7,00
OR 380.37-7 N90	380,37	394,37	7,00
OR 393.07-7 N90	393,07	407,07	7,00
OR 405.26-7 N90	405,26	419,26	7,00
OR 417.96-7 N90	417,96	431,96	7,00
OR 439.3-5.7 N90	439,30	450,70	5,70

Web: http://cat.hansa-flex.com/en/OR90SHORENBR

OR 80° Shore FPM

O-ring 80SH FKM (FPM)

Design: O-ring
Temp. min.: -20 °C
Temp. max.: 200 °C
Material: FPM 80 Shore



Identification	d1 mm	d2 mm	s mm
OR 2-1.5 V	2,00	5,00	1,50
OR 2.57-1.78 V	2,57	6,13	1,78
OR 2.9-1.78 V	2,90	6,46	1,78
OR 3-1 V	3,00	5,00	1,00
OR 3-1.5 V	3,00	6,00	1,50
OR 3-2 V	3,00	7,00	2,00
OR 3.3-2.4 V	3,30	8,10	2,40
OR 3.5-1.5 V	3,50	6,50	1,50
OR 3.5-2 V	3,50	7,50	2,00
OR 3.68-1.78 V	3,68	7,24	1,78
OR 4-1 V	4,00	6,00	1,00
OR 4-1.5 V	4,00	7,00	1,50
OR 4-2 V	4,00	8,00	2,00
OR 4-2.5 V	4,00	9,00	2,50
OR 4.2-1.9 V	4,20	8,00	1,90
OR 4.3-2.4 V	4,30	9,10	2,40
OR 4.47-1.78 V	4,47	8,03	1,78
OR 4.5-1.5 V	4,50	7,50	1,50
OR 4.76-1.78 V	4,76	8,32	1,78
OR 5-1 V	5,00	7,00	1,00
OR 5-1.5 V	5,00	8,00	1,50
OR 5-1.6 V	5,00	8,20	1,60
OR 5-2 V	5,00	9,00	2,00
OR 5-2.5 V	5,00	10,00	2,50
OR 5-3 V	5,00	11,00	3,00
OR 5.23-2.62 V	5,23	10,47	2,62
OR 5.28-1.78 V	5,28	8,84	1,78
OR 5.3-2.4 V	5,30	10,10	2,40
OR 5.5-1.5 V	5,50	8,50	1,50
OR 6-1 V	6,00	8,00	1,00
OR 6-1.5 V	6,00	9,00	1,50
OR 6-2 V	6,00	10,00	2,00
OR 6-2.5 V	6,00	11,00	2,50
OR 6-3 V	6,00	12,00	3,00
OR 6.02-2.62 V	6,02	11,26	2,62
OR 6.07-1.78 V	6,07	9,63	1,78
OR 6.2-1 V	6,20	8,20	1,00
OR 6.3-2.4 V	6,30	11,10	2,40
OR 6.4-1.9 V	6,40	10,20	1,90
OR 6.5-1.5 V	6,50	9,50	1,50
OR 6.5-2 V	6,50	10,50	2,00
OR 6.75-1.78 V	6,75	10,31	1,78
OR 7-1.5 V	7,00	10,00	1,50
OR 7-2 V	7,00	11,00	2,00
OR 7-2.5 V	7,00	12,00	2,50
OR 7-3 V	7,00	13,00	3,00
OR 7.1-1.6 V	7,10	10,30	1,60
OR 7.2-1.9 V	7,20	11,00	1,90
OR 7.3-2.4 V	7,30	12,10	2,40
OR 7.5-1.5 V	7,50	10,50	1,50
OR 7.5-2 V	7,50	11,50	2,00
OR 7.59-2.62 V	7,59	12,83	2,62
OR 7.65-1.78 V	7,65	11,21	1,78
OR 7.94-1.78 V	7,94	11,50	1,78
OR 8-1 V	8,00	10,00	1,00
OR 8-1.5 V	8,00	11,00	1,50
OR 8-1.8 V	8,00	11,60	1,80
OR 8-1.9 V	8,00	11,80	1,90
OR 8-2 V	8,00	12,00	2,00
OR 8-2.5 V	8,00	13,00	2,50
OR 8-3 V	8,00	14,00	3,00
OR 8-4 V	8,00	16,00	4,00
OR 8.3-2.4 V	8,30	13,10	2,40
OR 8.5-1.5 V	8,50	11,50	1,50
OR 8.73-1.78 V	8,73	12,29	1,78
OR 9-1 V	9,00	11,00	1,00
OR 9-1.5 V	9,00	12,00	1,50
OR 9-1.8 V	9,00	12,60	1,80
OR 9-2 V	9,00	13,00	2,00
OR 9-2.5 V	9,00	14,00	2,50
OR 9-3 V	9,00	15,00	3,00
OR 9-6 V	9,00	21,00	6,00
OR 9.12-3.53 V	9,12	16,18	3,53
OR 9.19-2.62 V	9,19	14,43	2,62
OR 9.25-1.78 V	9,25	12,81	1,78
OR 9.3-2.4 V	9,30	14,10	2,40
OR 9.5-1.5 V	9,50	12,50	1,50

Identification	d1 mm	d2 mm	s mm
OR 9.5-2 V	9,50	13,50	2,00
OR 9.52-1.78 V	9,52	13,08	1,78
OR 10-1 V	10,00	12,00	1,00
OR 10-1.5 V	10,00	13,00	1,50
OR 10-2 V	10,00	14,00	2,00
OR 10-2.5 V	10,00	15,00	2,50
OR 10-3 V	10,00	16,00	3,00
OR 10-4 V	10,00	18,00	4,00
OR 10.3-2.4 V	10,30	15,10	2,40
OR 10.5-1.5 V	10,50	13,50	1,50
OR 10.5-2.7 V	10,50	15,90	2,70
OR 10.69-3.53 V	10,69	17,75	3,53
OR 10.77-2.62 V	10,77	16,01	2,62
OR 10.82-1.78 V	10,82	14,38	1,78
OR 11-1.5 V	11,00	14,00	1,50
OR 11-2 V	11,00	15,00	2,00
OR 11-2.5 V	11,00	16,00	2,50
OR 11-3 V	11,00	17,00	3,00
OR 11.2-1.8 V	11,20	14,80	1,80
OR 11.3-2.4 V	11,30	16,10	2,40
OR 12-1 V	12,00	14,00	1,00
OR 12-1.5 V	12,00	15,00	1,50
OR 12-1.7 V	12,00	15,40	1,70
OR 12-2 V	12,00	16,00	2,00
OR 12-2.5 V	12,00	17,00	2,50
OR 12-3 V	12,00	18,00	3,00
OR 12-4 V	12,00	20,00	4,00
OR 12-5 V	12,00	22,00	5,00
OR 12.1-1.6 V	12,10	15,30	1,60
OR 12.1-2.7 V	12,10	17,50	2,70
OR 12.29-3.53 V	12,29	19,35	3,53
OR 12.3-2.4 V	12,30	17,10	2,40
OR 12.37-2.62 V	12,37	17,61	2,62
OR 12.42-1.78 V	12,42	15,98	1,78
OR 13-1 V	13,00	15,00	1,00
OR 13-1.5 V	13,00	16,00	1,50
OR 13-2 V	13,00	17,00	2,00
OR 13-2.5 V	13,00	18,00	2,50
OR 13-3 V	13,00	19,00	3,00
OR 13.1-1.6 V	13,10	16,30	1,60
OR 13.1-2.62 V	13,10	18,34	2,62
OR 13.3-2.4 V	13,30	18,10	2,40
OR 13.46-2.08 V	13,46	17,62	2,08
OR 13.5-1.5 V	13,50	16,50	1,50
OR 13.5-2.5 V	13,50	18,50	2,50
OR 13.94-2.62 V	13,94	19,18	2,62
OR 14-1 V	14,00	16,00	1,00
OR 14-1.5 V	14,00	17,00	1,50
OR 14-1.78 V	14,00	17,56	1,78
OR 14-2 V	14,00	18,00	2,00
OR 14-2.5 V	14,00	19,00	2,50
OR 14-3 V	14,00	20,00	3,00
OR 14-5 V	14,00	24,00	5,00
OR 14.1-1.6 V	14,10	17,30	1,60
OR 14.3-2.4 V	14,30	19,10	2,40
OR 14.5-3 V	14,50	20,50	3,00
OR 15-1.5 V	15,00	18,00	1,50
OR 15-2 V	15,00	19,00	2,00
OR 15-2.5 V	15,00	20,00	2,50
OR 15-3 V	15,00	21,00	3,00
OR 15-4 V	15,00	23,00	4,00
OR 15-5 V	15,00	25,00	5,00
OR 15-6 V	15,00	27,00	6,00
OR 15.08-2.62 V	15,08	20,32	2,62
OR 15.1-1.6 V	15,10	18,30	1,60
OR 15.1-2.7 V	15,10	20,50	2,70
OR 15.3-2.4 V	15,30	20,10	2,40
OR 15.47-3.53 V	15,47	22,53	3,53
OR 15.54-2.62 V	15,54	20,78	2,62
OR 15.6-1.78 V	15,60	19,16	1,78
OR 15.88-2.62 V	15,88	21,12	2,62
OR 16-1.5 V	16,00	19,00	1,50
OR 16-2 V	16,00	20,00	2,00
OR 16-2.5 V	16,00	21,00	2,50
OR 16-3 V	16,00	22,00	3,00
OR 16-4 V	16,00	24,00	4,00
OR 16.3-2.4 V	16,30	21,10	2,40

→

OR 80° Shore FPM (Continued)

O-ring 80SH FKM (FPM)

Identification	d1	d2	s
	mm	mm	mm
OR 16.9-2.7 V	16,90	22,30	2,70
OR 17-1.5 V	17,00	20,00	1,50
OR 17-2 V	17,00	21,00	2,00
OR 17-2.5 V	17,00	22,00	2,50
OR 17-3 V	17,00	23,00	3,00
OR 17.12-2.62 V	17,12	22,36	2,62
OR 17.13-2.62 V	17,13	22,37	2,62
OR 17.16-1.78 V	17,16	20,72	1,78
OR 17.17-1.78 V	17,17	20,73	1,78
OR 17.3-2.4 V	17,30	22,10	2,40
OR 18-2 V	18,00	22,00	2,00
OR 18-2.2 V	18,00	22,40	2,20
OR 18-2.5 V	18,00	23,00	2,50
OR 18-3 V	18,00	24,00	3,00
OR 18-3.5 V	18,00	25,00	3,50
OR 18-4 V	18,00	26,00	4,00
OR 18-5 V	18,00	28,00	5,00
OR 18.2-3 V	18,20	24,20	3,00
OR 18.3-3.6 V	18,30	25,50	3,60
OR 18.4-2.7 V	18,40	23,80	2,70
OR 18.64-3.53 V	18,64	25,70	3,53
OR 18.72-2.62 V	18,72	23,96	2,62
OR 18.77-1.78 V	18,77	22,33	1,78
OR 19-1.5 V	19,00	22,00	1,50
OR 19-2 V	19,00	23,00	2,00
OR 19-2.5 V	19,00	24,00	2,50
OR 19-3 V	19,00	25,00	3,00
OR 19-4 V	19,00	27,00	4,00
OR 19.2-3 V	19,20	25,20	3,00
OR 19.3-2.4 V	19,30	24,10	2,40
OR 19.5-3 V	19,50	25,50	3,00
OR 19.6-2.4 V	19,60	24,40	2,40
OR 19.8-3.6 V	19,80	27,00	3,60
OR 20-1.5 V	20,00	23,00	1,50
OR 20-2 V	20,00	24,00	2,00
OR 20-2.5 V	20,00	25,00	2,50
OR 20-3 V	20,00	26,00	3,00
OR 20-3.5 V	20,00	27,00	3,50
OR 20-4 V	20,00	28,00	4,00
OR 20-5 V	20,00	30,00	5,00
OR 20.22-3.53 V	20,22	27,28	3,53
OR 20.29-2.62 V	20,29	25,53	2,62
OR 20.3-2.4 V	20,30	25,10	2,40
OR 20.3-2.62 V	20,30	25,54	2,62
OR 20.35-1.78 V	20,35	23,91	1,78
OR 20.39-1.78 V	20,39	23,95	1,78
OR 20.5-2 V	20,50	24,50	2,00
OR 20.5-2.4 V	20,50	25,30	2,40
OR 21-2 V	21,00	25,00	2,00
OR 21-3 V	21,00	27,00	3,00
OR 21.1-1.6 V	21,10	24,30	1,60
OR 21.5-2.4 V	21,50	26,30	2,40
OR 21.82-3.53 V	21,82	28,88	3,53
OR 21.89-2.62 V	21,89	27,13	2,62
OR 21.95-1.78 V	21,95	25,51	1,78
OR 22-1.5 V	22,00	25,00	1,50
OR 22-2 V	22,00	26,00	2,00
OR 22-2.5 V	22,00	27,00	2,50
OR 22-2.62 V	22,00	27,24	2,62
OR 22-3 V	22,00	28,00	3,00
OR 22-3.5 V	22,00	29,00	3,50
OR 22-4 V	22,00	30,00	4,00
OR 22-5 V	22,00	32,00	5,00
OR 22.2-3 V	22,20	28,20	3,00
OR 22.3-2.4 V	22,30	27,10	2,40
OR 23-2 V	23,00	27,00	2,00
OR 23-2.5 V	23,00	28,00	2,50
OR 23-3 V	23,00	29,00	3,00
OR 23-4 V	23,00	31,00	4,00
OR 23.3-2.4 V	23,30	28,10	2,40
OR 23.39-3.53 V	23,39	30,45	3,53
OR 23.4-3.53 V	23,40	30,46	3,53
OR 23.47-2.62 V	23,47	28,71	2,62
OR 23.47-2.95 V	23,47	29,37	2,95
OR 23.5-3 V	23,50	29,50	3,00
OR 23.52-1.78 V	23,52	27,08	1,78
OR 23.53-1.78 V	23,53	27,09	1,78
OR 24-1.5 V	24,00	27,00	1,50
OR 24-2 V	24,00	28,00	2,00
OR 24-2.5 V	24,00	29,00	2,50
OR 24-3 V	24,00	30,00	3,00
OR 24-4 V	24,00	32,00	4,00
OR 24-5 V	24,00	34,00	5,00
OR 24.2-3 V	24,20	30,20	3,00
OR 24.5-1.5 V	24,50	27,50	1,50
OR 24.6-3.6 V	24,60	31,80	3,60
OR 24.99-3.53 V	24,99	32,05	3,53
OR 25-2 V	25,00	29,00	2,00
OR 25-2.4 V	25,00	29,80	2,40
OR 25-2.5 V	25,00	30,00	2,50
OR 25-3 V	25,00	31,00	3,00
OR 25-3.5 V	25,00	32,00	3,50
OR 25-4 V	25,00	33,00	4,00
OR 25-5 V	25,00	35,00	5,00
OR 25.04-2.95 V	25,04	30,94	2,95
OR 25.07-2.62 V	25,07	30,31	2,62
OR 25.12-1.78 V	25,12	28,68	1,78
OR 25.3-2.4 V	25,30	30,10	2,40
OR 25.8-3.53 V	25,80	32,86	3,53
OR 26-2 V	26,00	30,00	2,00
OR 26-2.5 V	26,00	31,00	2,50
OR 26-3 V	26,00	32,00	3,00
OR 26-5 V	26,00	36,00	5,00
OR 26.5-3.55 V	26,50	33,60	3,55
OR 26.57-3.53 V	26,57	33,63	3,53
OR 26.59-2.95 V	26,59	32,49	2,95
OR 26.64-2.62 V	26,64	31,88	2,62
OR 26.7-1.78 V	26,70	30,26	1,78
OR 27-1.5 V	27,00	30,00	1,50
OR 27-2 V	27,00	31,00	2,00
OR 27-2.5 V	27,00	32,00	2,50
OR 27-3 V	27,00	33,00	3,00
OR 27-3.2 V	27,00	33,40	3,20
OR 27-3.5 V	27,00	34,00	3,50
OR 27-4 V	27,00	35,00	4,00
OR 27-5 V	27,00	37,00	5,00
OR 27.3-2.4 V	27,30	32,10	2,40
OR 27.8-3.6 V	27,80	35,00	3,60
OR 28-1.5 V	28,00	31,00	1,50
OR 28-2 V	28,00	32,00	2,00
OR 28-2.5 V	28,00	33,00	2,50
OR 28-3 V	28,00	34,00	3,00
OR 28-3.5 V	28,00	35,00	3,50
OR 28-4 V	28,00	36,00	4,00
OR 28-5 V	28,00	38,00	5,00
OR 28.17-3.53 V	28,17	35,23	3,53
OR 28.25-2.62 V	28,25	33,49	2,62
OR 28.3-1.78 V	28,30	31,86	1,78
OR 29-2 V	29,00	33,00	2,00
OR 29-3 V	29,00	35,00	3,00
OR 29-3.5 V	29,00	36,00	3,50
OR 29.1-2.55 V	29,10	34,20	2,55
OR 29.51-5.34 V	29,51	40,19	5,34
OR 29.75-3.53 V	29,75	36,81	3,53
OR 29.82-2.62 V	29,82	35,06	2,62
OR 29.87-1.78 V	29,87	33,43	1,78
OR 30-1 V	30,00	32,00	1,00
OR 30-1.5 V	30,00	33,00	1,50
OR 30-2 V	30,00	34,00	2,00
OR 30-2.5 V	30,00	35,00	2,50
OR 30-3 V	30,00	36,00	3,00
OR 30-3.5 V	30,00	37,00	3,50
OR 30-4 V	30,00	38,00	4,00
OR 30-5 V	30,00	40,00	5,00
OR 30-6 V	30,00	42,00	6,00
OR 30.2-3 V	30,20	36,20	3,00
OR 31-2 V	31,00	35,00	2,00
OR 31-3 V	31,00	37,00	3,00
OR 31.12-5.34 V	31,12	41,80	5,34
OR 31.34-3.53 V	31,34	38,40	3,53
OR 31.42-2.62 V	31,42	36,66	2,62
OR 31.47-1.78 V	31,47	35,03	1,78
OR 31.5-3 V	31,50	37,50	3,00
OR 32-2 V	32,00	36,00	2,00
OR 32-2.5 V	32,00	37,00	2,50
OR 32-3 V	32,00	38,00	3,00
OR 32-3.5 V	32,00	39,00	3,50
OR 32-4 V	32,00	40,00	4,00
OR 32.2-3 V	32,20	38,20	3,00
OR 32.92-3.53 V	32,92	39,98	3,53
OR 32.99-2.62 V	32,99	38,23	2,62
OR 33-2 V	33,00	37,00	2,00
OR 33-2.62 V	33,00	38,24	2,62
OR 33-3.5 V	33,00	40,00	3,50
OR 33.05-1.78 V	33,05	36,61	1,78
OR 33.3-2.4 V	33,30	38,10	2,40
OR 34-1.5 V	34,00	37,00	1,50
OR 34-2 V	34,00	38,00	2,00
OR 34-2.5 V	34,00	39,00	2,50
OR 34-3 V	34,00	40,00	3,00
OR 34-4 V	34,00	42,00	4,00
OR 34-5 V	34,00	44,00	5,00
OR 34.2-3 V	34,20	40,20	3,00
OR 34.29-5.34 V	34,29	44,97	5,34
OR 34.52-3.53 V	34,52	41,58	3,53
OR 34.59-2.62 V	34,59	39,83	2,62
OR 34.65-1.78 V	34,65	38,21	1,78
OR 35-1 V	35,00	37,00	1,00

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(Continued)

OR 80° Shore FPM

O-ring 80SH FKM (FPM)

Identification	d1	d2	s
	mm	mm	mm
OR 35-2 V	35,00	39,00	2,00
OR 35-2.5 V	35,00	40,00	2,50
OR 35-3 V	35,00	41,00	3,00
OR 35-4 V	35,00	43,00	4,00
OR 35-5 V	35,00	45,00	5,00
OR 35-6 V	35,00	47,00	6,00
OR 35.2-3 V	35,20	41,20	3,00
OR 35.6-3.6 V	35,60	42,80	3,60
OR 36-2 V	36,00	40,00	2,00
OR 36-2.5 V	36,00	41,00	2,50
OR 36-3 V	36,00	42,00	3,00
OR 36-3.5 V	36,00	43,00	3,50
OR 36-5 V	36,00	46,00	5,00
OR 36.09-3.53 V	36,09	43,15	3,53
OR 36.17-2.62 V	36,17	41,41	2,62
OR 36.2-3 V	36,20	42,20	3,00
OR 36.27-1.78 V	36,27	39,83	1,78
OR 37-2 V	37,00	41,00	2,00
OR 37-2.5 V	37,00	42,00	2,50
OR 37-3 V	37,00	43,00	3,00
OR 37-4 V	37,00	45,00	4,00
OR 37.47-5.33 V	37,47	48,13	5,33
OR 37.47-5.34 V	37,47	48,15	5,34
OR 37.69-3.53 V	37,69	44,75	3,53
OR 37.77-2.62 V	37,77	43,01	2,62
OR 37.82-1.78 V	37,82	41,38	1,78
OR 38-2 V	38,00	42,00	2,00
OR 38-2.5 V	38,00	43,00	2,50
OR 38-3 V	38,00	44,00	3,00
OR 38-4 V	38,00	46,00	4,00
OR 39-2 V	39,00	43,00	2,00
OR 39-3.5 V	39,00	46,00	3,50
OR 39-4 V	39,00	47,00	4,00
OR 39.2-3 V	39,20	45,20	3,00
OR 39.2-5.7 V	39,20	50,60	5,70
OR 39.34-2.62 V	39,34	44,58	2,62
OR 39.7-3.53 V	39,70	46,76	3,53
OR 40-2 V	40,00	44,00	2,00
OR 40-2.5 V	40,00	45,00	2,50
OR 40-3 V	40,00	46,00	3,00
OR 40-3.5 V	40,00	47,00	3,50
OR 40-4 V	40,00	48,00	4,00
OR 40-5 V	40,00	50,00	5,00
OR 40.64-5.34 V	40,64	51,32	5,34
OR 40.65-5.33 V	40,65	51,31	5,33
OR 40.87-3.53 V	40,87	47,93	3,53
OR 40.94-2.62 V	40,94	46,18	2,62
OR 40.95-2.62 V	40,95	46,19	2,62
OR 41-1.78 V	41,00	44,56	1,78
OR 41.28-3.53 V	41,28	48,34	3,53
OR 42-2 V	42,00	46,00	2,00
OR 42-2.5 V	42,00	47,00	2,50
OR 42-3 V	42,00	48,00	3,00
OR 42-4 V	42,00	50,00	4,00
OR 42-5 V	42,00	52,00	5,00
OR 42.52-2.62 V	42,52	47,76	2,62
OR 42.86-3.53 V	42,86	49,92	3,53
OR 43-2 V	43,00	47,00	2,00
OR 43-3 V	43,00	49,00	3,00
OR 43.5-3 V	43,50	49,50	3,00
OR 43.82-5.33 V	43,82	54,48	5,33
OR 43.82-5.34 V	43,82	54,50	5,34
OR 44-2 V	44,00	48,00	2,00
OR 44-3 V	44,00	50,00	3,00
OR 44-4 V	44,00	52,00	4,00
OR 44.04-3.53 V	44,04	51,10	3,53
OR 44.12-2.62 V	44,12	49,36	2,62
OR 44.17-1.78 V	44,17	47,73	1,78
OR 44.3-5.7 V	44,30	55,70	5,70
OR 44.45-3.53 V	44,45	51,51	3,53
OR 45-1.5 V	45,00	48,00	1,50
OR 45-2 V	45,00	49,00	2,00
OR 45-2.5 V	45,00	50,00	2,50
OR 45-3 V	45,00	51,00	3,00
OR 45-4 V	45,00	53,00	4,00
OR 45-5 V	45,00	55,00	5,00
OR 45.69-2.62 V	45,69	50,93	2,62
OR 46-2 V	46,00	50,00	2,00
OR 46-3 V	46,00	52,00	3,00
OR 46.04-3.53 V	46,04	53,10	3,53
OR 46.99-5.34 V	46,99	57,67	5,34
OR 47-2 V	47,00	51,00	2,00
OR 47-2.5 V	47,00	52,00	2,50
OR 47-3 V	47,00	53,00	3,00
OR 47-4 V	47,00	55,00	4,00
OR 47-5 V	47,00	57,00	5,00
OR 47.22-3.53 V	47,22	54,28	3,53
OR 47.29-2.62 V	47,29	52,53	2,62
OR 47.35-1.78 V	47,35	50,91	1,78
OR 47.62-3.53 V	47,62	54,68	3,53
OR 47.63-3.53 V	47,63	54,69	3,53
OR 48-2 V	48,00	52,00	2,00
OR 48-3 V	48,00	54,00	3,00
OR 48-3.5 V	48,00	55,00	3,50
OR 48-4 V	48,00	56,00	4,00
OR 48-5 V	48,00	58,00	5,00
OR 48.9-2.62 V	48,90	54,14	2,62
OR 49-3 V	49,00	55,00	3,00
OR 49.2-3.53 V	49,20	56,26	3,53
OR 49.2-5.7 V	49,20	60,60	5,70
OR 49.21-3.53 V	49,21	56,27	3,53
OR 49.3-5.7 V	49,30	60,70	5,70
OR 49.5-3 V	49,50	55,50	3,00
OR 50-2 V	50,00	54,00	2,00
OR 50-2.5 V	50,00	55,00	2,50
OR 50-3 V	50,00	56,00	3,00
OR 50-4 V	50,00	58,00	4,00
OR 50-5 V	50,00	60,00	5,00
OR 50-6 V	50,00	62,00	6,00
OR 50.16-5.33 V	50,16	60,82	5,33
OR 50.17-5.34 V	50,17	60,85	5,34
OR 50.39-3.53 V	50,39	57,45	3,53
OR 50.4-3.53 V	50,40	57,46	3,53
OR 50.47-2.62 V	50,47	55,71	2,62
OR 50.52-1.78 V	50,52	54,08	1,78
OR 50.8-3.53 V	50,80	57,86	3,53
OR 51-2 V	51,00	55,00	2,00
OR 52-1.5 V	52,00	55,00	1,50
OR 52-2.5 V	52,00	57,00	2,50
OR 52-3 V	52,00	58,00	3,00
OR 52-3.5 V	52,00	59,00	3,50
OR 52-4 V	52,00	60,00	4,00
OR 52-5 V	52,00	62,00	5,00
OR 52-6 V	52,00	64,00	6,00
OR 52.07-2.62 V	52,07	57,31	2,62
OR 52.4-3.53 V	52,40	59,46	3,53
OR 53-2 V	53,00	57,00	2,00
OR 53-3 V	53,00	59,00	3,00
OR 53-4 V	53,00	61,00	4,00
OR 53-5 V	53,00	63,00	5,00
OR 53.09-3 V	53,09	59,09	3,00
OR 53.34-5.34 V	53,34	64,02	5,34
OR 53.57-3.53 V	53,57	60,63	3,53
OR 53.64-2.62 V	53,64	58,88	2,62
OR 53.7-1.78 V	53,70	57,26	1,78
OR 53.97-3.53 V	53,97	61,03	3,53
OR 54-2 V	54,00	58,00	2,00
OR 54-2.5 V	54,00	59,00	2,50
OR 54-3 V	54,00	60,00	3,00
OR 54-4 V	54,00	62,00	4,00
OR 54.2-5.7 V	54,20	65,60	5,70
OR 54.3-5.7 V	54,30	65,70	5,70
OR 55-2 V	55,00	59,00	2,00
OR 55-2.5 V	55,00	60,00	2,50
OR 55-3 V	55,00	61,00	3,00
OR 55-3.5 V	55,00	62,00	3,50
OR 55-4 V	55,00	63,00	4,00
OR 55-5 V	55,00	65,00	5,00
OR 55-6 V	55,00	67,00	6,00
OR 55.25-2.62 V	55,25	60,49	2,62
OR 55.56-3.53 V	55,56	62,62	3,53
OR 56-2 V	56,00	60,00	2,00
OR 56-2.5 V	56,00	61,00	2,50
OR 56-3 V	56,00	62,00	3,00
OR 56-4 V	56,00	64,00	4,00
OR 56.52-5.33 V	56,52	67,18	5,33
OR 56.52-5.34 V	56,52	67,20	5,34
OR 56.74-3.53 V	56,74	63,80	3,53
OR 56.82-2.62 V	56,82	62,06	2,62
OR 56.87-1.78 V	56,87	60,43	1,78
OR 57-3 V	57,00	63,00	3,00
OR 57-4 V	57,00	65,00	4,00
OR 57.15-3.53 V	57,15	64,21	3,53
OR 58-2 V	58,00	62,00	2,00
OR 58-2.5 V	58,00	63,00	2,50
OR 58-3 V	58,00	64,00	3,00
OR 58-3.5 V	58,00	65,00	3,50
OR 58.42-2.62 V	58,42	63,66	2,62
OR 58.74-3.53 V	58,74	65,80	3,53
OR 59.2-5.7 V	59,20	70,60	5,70
OR 59.3-5.7 V	59,30	70,70	5,70
OR 59.5-3 V	59,50	65,50	3,00
OR 59.69-5.34 V	59,69	70,37	5,34
OR 59.92-3.53 V	59,92	66,98	3,53
OR 59.99-2.62 V	59,99	65,23	2,62
OR 60-2 V	60,00	64,00	2,00
OR 60-2.5 V	60,00	65,00	2,50
OR 60-3 V	60,00	66,00	3,00

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OR 80° Shore FPM (Continued)

O-ring 80SH FKM (FPM)

Identification	d1	d2	s
	mm	mm	mm
OR 60-4 V	60,00	68,00	4,00
OR 60-5 V	60,00	70,00	5,00
OR 60.05-1.78 V	60,05	63,61	1,78
OR 60.32-3.53 V	60,32	67,38	3,53
OR 61-3 V	61,00	67,00	3,00
OR 61.6-2.62 V	61,60	66,84	2,62
OR 61.9-3.53 V	61,90	68,96	3,53
OR 62-2 V	62,00	66,00	2,00
OR 62-3 V	62,00	68,00	3,00
OR 62-4 V	62,00	70,00	4,00
OR 62-5 V	62,00	72,00	5,00
OR 62.2-5.7 V	62,20	73,60	5,70
OR 62.87-5.34 V	62,87	73,55	5,34
OR 63-3 V	63,00	69,00	3,00
OR 63-4 V	63,00	71,00	4,00
OR 63-5 V	63,00	73,00	5,00
OR 63-6 V	63,00	75,00	6,00
OR 63.09-3.53 V	63,09	70,15	3,53
OR 63.17-2.62 V	63,17	68,41	2,62
OR 63.22-1.78 V	63,22	66,78	1,78
OR 63.5-3.53 V	63,50	70,56	3,53
OR 64-3 V	64,00	70,00	3,00
OR 64.3-5.7 V	64,30	75,70	5,70
OR 64.5-3 V	64,50	70,50	3,00
OR 64.77-2.62 V	64,77	70,01	2,62
OR 65-1.5 V	65,00	68,00	1,50
OR 65-2 V	65,00	69,00	2,00
OR 65-2.5 V	65,00	70,00	2,50
OR 65-3 V	65,00	71,00	3,00
OR 65-3.5 V	65,00	72,00	3,50
OR 65-4 V	65,00	73,00	4,00
OR 65-5 V	65,00	75,00	5,00
OR 65-6 V	65,00	77,00	6,00
OR 65.1-3.53 V	65,10	72,16	3,53
OR 66-3 V	66,00	72,00	3,00
OR 66-6 V	66,00	78,00	6,00
OR 66.04-5.34 V	66,04	76,72	5,34
OR 66.27-3.53 V	66,27	73,33	3,53
OR 66.34-2.62 V	66,34	71,58	2,62
OR 66.4-1.78 V	66,40	69,96	1,78
OR 66.67-3.53 V	66,67	73,73	3,53
OR 67.95-2.62 V	67,95	73,19	2,62
OR 68-2 V	68,00	72,00	2,00
OR 68-3 V	68,00	74,00	3,00
OR 68-4 V	68,00	76,00	4,00
OR 68-5 V	68,00	78,00	5,00
OR 68.26-3.53 V	68,26	75,32	3,53
OR 69.22-5.34 V	69,22	79,90	5,34
OR 69.3-5.7 V	69,30	80,70	5,70
OR 69.44-3.53 V	69,44	76,50	3,53
OR 69.52-2.62 V	69,52	74,76	2,62
OR 69.57-1.78 V	69,57	73,13	1,78
OR 69.85-3.53 V	69,85	76,91	3,53
OR 70-2 V	70,00	74,00	2,00
OR 70-2.5 V	70,00	75,00	2,50
OR 70-3 V	70,00	76,00	3,00
OR 70-3.5 V	70,00	77,00	3,50
OR 70-4 V	70,00	78,00	4,00
OR 70-5 V	70,00	80,00	5,00
OR 70-6 V	70,00	82,00	6,00
OR 71.12-2.62 V	71,12	76,36	2,62
OR 71.44-3.53 V	71,44	78,50	3,53
OR 72-2 V	72,00	76,00	2,00
OR 72-2.5 V	72,00	77,00	2,50
OR 72-3 V	72,00	78,00	3,00
OR 72-4 V	72,00	80,00	4,00
OR 72-5 V	72,00	82,00	5,00
OR 72.39-5.34 V	72,39	83,07	5,34
OR 72.62-3.53 V	72,62	79,68	3,53
OR 72.69-2.62 V	72,69	77,93	2,62
OR 72.75-1.78 V	72,75	76,31	1,78
OR 73-3.5 V	73,00	80,00	3,50
OR 73-5 V	73,00	83,00	5,00
OR 73-7 V	73,00	87,00	7,00
OR 73.02-3.53 V	73,02	80,08	3,53
OR 74-1.5 V	74,00	77,00	1,50
OR 74-2 V	74,00	78,00	2,00
OR 74-3 V	74,00	80,00	3,00
OR 74-4 V	74,00	82,00	4,00
OR 74-5 V	74,00	84,00	5,00
OR 74.3-5.7 V	74,30	85,70	5,70
OR 74.6-3.53 V	74,60	81,66	3,53
OR 74.63-5.34 V	74,63	85,31	5,34
OR 75-2 V	75,00	79,00	2,00
OR 75-2.5 V	75,00	80,00	2,50
OR 75-3 V	75,00	81,00	3,00
OR 75-4 V	75,00	83,00	4,00
OR 75-5 V	75,00	85,00	5,00
OR 75-6 V	75,00	87,00	6,00
OR 75.57-5.34 V	75,57	86,25	5,34
OR 75.79-3.53 V	75,79	82,85	3,53
OR 75.87-2.62 V	75,87	81,11	2,62
OR 75.92-1.78 V	75,92	79,48	1,78
OR 76-2 V	76,00	80,00	2,00
OR 76-2.5 V	76,00	81,00	2,50
OR 76-3 V	76,00	82,00	3,00
OR 78-2 V	78,00	82,00	2,00
OR 78-3 V	78,00	84,00	3,00
OR 78-4 V	78,00	86,00	4,00
OR 78.74-5.33 V	78,74	89,40	5,33
OR 78.74-5.34 V	78,74	89,42	5,34
OR 78.97-3.53 V	78,97	86,03	3,53
OR 79-3 V	79,00	85,00	3,00
OR 79-7 V	79,00	93,00	7,00
OR 79.2-5.7 V	79,20	90,60	5,70
OR 79.3-5.7 V	79,30	90,70	5,70
OR 79.5-3 V	79,50	85,50	3,00
OR 79.73-5.34 V	79,73	90,41	5,34
OR 80-3 V	80,00	86,00	3,00
OR 80-3.5 V	80,00	87,00	3,50
OR 80-4 V	80,00	88,00	4,00
OR 80-5 V	80,00	90,00	5,00
OR 81-4 V	81,00	89,00	4,00
OR 81.92-5.34 V	81,92	92,60	5,34
OR 82-2.5 V	82,00	87,00	2,50
OR 82-3 V	82,00	88,00	3,00
OR 82-4 V	82,00	90,00	4,00
OR 82.14-3.53 V	82,14	89,20	3,53
OR 82.22-2.62 V	82,22	87,46	2,62
OR 84-3 V	84,00	90,00	3,00
OR 84-4 V	84,00	92,00	4,00
OR 84-5 V	84,00	94,00	5,00
OR 84.3-5.7 V	84,30	95,70	5,70
OR 84.5-3 V	84,50	90,50	3,00
OR 85-2 V	85,00	89,00	2,00
OR 85-2.5 V	85,00	90,00	2,50
OR 85-3 V	85,00	91,00	3,00
OR 85-3.5 V	85,00	92,00	3,50
OR 85-4 V	85,00	93,00	4,00
OR 85-5 V	85,00	95,00	5,00
OR 85-6 V	85,00	97,00	6,00
OR 85.09-5.33 V	85,09	95,75	5,33
OR 85.09-5.34 V	85,09	95,77	5,34
OR 85.32-3.53 V	85,32	92,38	3,53
OR 86-4 V	86,00	94,00	4,00
OR 87-4 V	87,00	95,00	4,00
OR 87-5 V	87,00	97,00	5,00
OR 88-4 V	88,00	96,00	4,00
OR 88-5 V	88,00	98,00	5,00
OR 88-6 V	88,00	100,00	6,00
OR 88.27-5.34 V	88,27	98,95	5,34
OR 88.49-3.53 V	88,49	95,55	3,53
OR 88.57-2.62 V	88,57	93,81	2,62
OR 88.62-1.78 V	88,62	92,18	1,78
OR 89-4 V	89,00	97,00	4,00
OR 89.2-5.7 V	89,20	100,60	5,70
OR 89.3-5.7 V	89,30	100,70	5,70
OR 89.5-3 V	89,50	95,50	3,00
OR 89.69-5.34 V	89,69	100,37	5,34
OR 90-2 V	90,00	94,00	2,00
OR 90-2.5 V	90,00	95,00	2,50
OR 90-3 V	90,00	96,00	3,00
OR 90-4 V	90,00	98,00	4,00
OR 90-5 V	90,00	100,00	5,00
OR 90-7 V	90,00	104,00	7,00
OR 91.44-5.34 V	91,44	102,12	5,34
OR 91.67-3.53 V	91,67	98,73	3,53
OR 92-3 V	92,00	98,00	3,00
OR 92-4 V	92,00	100,00	4,00
OR 93-5 V	93,00	103,00	5,00
OR 94-2.5 V	94,00	99,00	2,50
OR 94.3-5.7 V	94,30	105,70	5,70
OR 94.5-3 V	94,50	100,50	3,00
OR 94.62-5.34 V	94,62	105,30	5,34
OR 94.84-3.53 V	94,84	101,90	3,53
OR 94.92-2.62 V	94,92	100,16	2,62
OR 94.97-1.78 V	94,97	98,53	1,78
OR 95-3 V	95,00	101,00	3,00
OR 97-3 V	97,00	103,00	3,00
OR 97.79-5.34 V	97,79	108,47	5,34
OR 98-3 V	98,00	104,00	3,00
OR 98.02-3.53 V	98,02	105,08	3,53
OR 99.3-5.7 V	99,30	110,70	5,70
OR 100-3 V	100,00	106,00	3,00
OR 100-3.5 V	100,00	107,00	3,50
OR 100-4 V	100,00	108,00	4,00
OR 100-5 V	100,00	110,00	5,00
OR 100-5.34 V	100,00	110,68	5,34

Web: http://cat.hansa-flex.com/en/OR80SHOREFPM

(Continued)

OR 80° Shore FPM

O-ring 80SH FKM (FPM)

Identification	d1	d2	s
	mm	mm	mm
OR 100-7 V	100,00	114,00	7,00
OR 100.97-5.34 V	100,97	111,65	5,34
OR 101.19-3.53 V	101,19	108,25	3,53
OR 102-4 V	102,00	110,00	4,00
OR 103-4 V	103,00	111,00	4,00
OR 104-3 V	104,00	110,00	3,00
OR 104.14-5.34 V	104,14	114,82	5,34
OR 104.3-5.7 V	104,30	115,70	5,70
OR 104.37-3.53 V	104,37	111,43	3,53
OR 105-3.5 V	105,00	112,00	3,50
OR 105-5 V	105,00	115,00	5,00
OR 106-3.5 V	106,00	113,00	3,50
OR 106-5 V	106,00	116,00	5,00
OR 107-2.5 V	107,00	112,00	2,50
OR 107.32-5.34 V	107,32	118,00	5,34
OR 107.54-3.53 V	107,54	114,60	3,53
OR 107.62-2.62 V	107,62	112,86	2,62
OR 109.3-5.7 V	109,30	120,70	5,70
OR 109.54-5.34 V	109,54	120,22	5,34
OR 110-5 V	110,00	120,00	5,00
OR 110.49-5.34 V	110,49	121,17	5,34
OR 110.72-3.53 V	110,72	117,78	3,53
OR 112-3 V	112,00	118,00	3,00
OR 113-3 V	113,00	119,00	3,00
OR 113.67-5.34 V	113,67	124,35	5,34
OR 113.67-7 V	113,67	127,67	7,00
OR 113.89-3.53 V	113,89	120,95	3,53
OR 113.97-2.62 V	113,97	119,21	2,62
OR 114-1.78 V	114,00	117,56	1,78
OR 114-3 V	114,00	120,00	3,00
OR 114.3-5.7 V	114,30	125,70	5,70
OR 114.5-3 V	114,50	120,50	3,00
OR 115-2 V	115,00	119,00	2,00
OR 115-3 V	115,00	121,00	3,00
OR 115-5 V	115,00	125,00	5,00
OR 116-5 V	116,00	126,00	5,00
OR 116.84-5.34 V	116,84	127,52	5,34
OR 116.84-7 V	116,84	130,84	7,00
OR 117.07-3.53 V	117,07	124,13	3,53
OR 117.48-5.34 V	117,48	128,16	5,34
OR 119-3 V	119,00	125,00	3,00
OR 119-3.5 V	119,00	126,00	3,50
OR 119.3-5.7 V	119,30	130,70	5,70
OR 119.5-3 V	119,50	125,50	3,00
OR 120-3 V	120,00	126,00	3,00
OR 120-3.5 V	120,00	127,00	3,50
OR 120-4 V	120,00	128,00	4,00
OR 120-5 V	120,00	130,00	5,00
OR 120.02-5.34 V	120,02	130,70	5,34
OR 120.02-7 V	120,02	134,02	7,00
OR 120.24-3.53 V	120,24	127,30	3,53
OR 120.32-2.62 V	120,32	125,56	2,62
OR 120.65-5.34 V	120,65	131,33	5,34
OR 123.19-5.34 V	123,19	133,87	5,34
OR 123.19-7 V	123,19	137,19	7,00
OR 123.42-3.53 V	123,42	130,48	3,53
OR 123.44-1.78 V	123,44	127,00	1,78
OR 123.83-5.34 V	123,83	134,51	5,34
OR 124.3-5.7 V	124,30	135,70	5,70
OR 125-2.5 V	125,00	130,00	2,50
OR 125-3 V	125,00	131,00	3,00
OR 125-5 V	125,00	135,00	5,00
OR 126.37-5.34 V	126,37	137,05	5,34
OR 126.37-7 V	126,37	140,37	7,00
OR 126.59-3.53 V	126,59	133,65	3,53
OR 126.67-2.62 V	126,67	131,91	2,62
OR 127-5.34 V	127,00	137,68	5,34
OR 128-2.5 V	128,00	133,00	2,50
OR 128-3 V	128,00	134,00	3,00
OR 129.3-5.7 V	129,30	140,70	5,70
OR 129.54-5.34 V	129,54	140,22	5,34
OR 129.54-7 V	129,54	143,54	7,00
OR 129.77-3.53 V	129,77	136,83	3,53
OR 130.18-5.34 V	130,18	140,86	5,34
OR 132-3 V	132,00	138,00	3,00
OR 132-4 V	132,00	140,00	4,00
OR 132.72-7 V	132,72	146,72	7,00
OR 132.79-5.34 V	132,79	143,47	5,34
OR 132.94-3.53 V	132,94	140,00	3,53
OR 133.35-5.34 V	133,35	144,03	5,34
OR 134.3-5.7 V	134,30	145,70	5,70
OR 134.5-3 V	134,50	140,50	3,00
OR 135-3 V	135,00	141,00	3,00
OR 135-4 V	135,00	143,00	4,00
OR 135.89-5.34 V	135,89	146,57	5,34
OR 135.89-7 V	135,89	149,89	7,00
OR 136.12-3.53 V	136,12	143,18	3,53
OR 136.53-5.34 V	136,53	147,21	5,34
OR 137-3 V	137,00	143,00	3,00

Identification	d1	d2	s
	mm	mm	mm
OR 139.07-5.34 V	139,07	149,75	5,34
OR 139.07-7 V	139,07	153,07	7,00
OR 139.29-3.53 V	139,29	146,35	3,53
OR 139.3-5.7 V	139,30	150,70	5,70
OR 139.5-3 V	139,50	145,50	3,00
OR 140-3 V	140,00	146,00	3,00
OR 140-4 V	140,00	148,00	4,00
OR 142.24-5.34 V	142,24	152,92	5,34
OR 142.24-7 V	142,24	156,24	7,00
OR 142.47-3.53 V	142,47	149,53	3,53
OR 142.88-5.34 V	142,88	153,56	5,34
OR 144.3-5.7 V	144,30	155,70	5,70
OR 145.42-5.34 V	145,42	156,10	5,34
OR 145.42-7 V	145,42	159,42	7,00
OR 145.64-3.53 V	145,64	152,70	3,53
OR 146.05-5.34 V	146,05	156,73	5,34
OR 148-5 V	148,00	158,00	5,00
OR 148.59-5.34 V	148,59	159,27	5,34
OR 148.59-7 V	148,59	162,59	7,00
OR 148.82-3.53 V	148,82	155,88	3,53
OR 149.23-5.34 V	149,23	159,91	5,34
OR 149.3-5.7 V	149,30	160,70	5,70
OR 150-3 V	150,00	156,00	3,00
OR 150-4 V	150,00	158,00	4,00
OR 150-5 V	150,00	160,00	5,00
OR 150-6 V	150,00	162,00	6,00
OR 151.77-5.34 V	151,77	162,45	5,34
OR 151.77-7 V	151,77	165,77	7,00
OR 151.99-3.53 V	151,99	159,05	3,53
OR 154.3-5.7 V	154,30	165,70	5,70
OR 155-3 V	155,00	161,00	3,00
OR 155-5 V	155,00	165,00	5,00
OR 155-5.34 V	155,00	165,68	5,34
OR 156-4 V	156,00	164,00	4,00
OR 158.12-5.34 V	158,12	168,80	5,34
OR 158.12-7 V	158,12	172,12	7,00
OR 158.34-3.53 V	158,34	165,40	3,53
OR 159.3-5.7 V	159,30	170,70	5,70
OR 160-3 V	160,00	166,00	3,00
OR 160-4 V	160,00	168,00	4,00
OR 160-5 V	160,00	170,00	5,00
OR 160-7 V	160,00	174,00	7,00
OR 161.3-5.34 V	161,30	171,98	5,34
OR 161.9-7 V	161,90	175,90	7,00
OR 162-5 V	162,00	172,00	5,00
OR 164-3 V	164,00	170,00	3,00
OR 164-4 V	164,00	172,00	4,00
OR 164.3-5.7 V	164,30	175,70	5,70
OR 164.47-5.34 V	164,47	175,15	5,34
OR 164.47-7 V	164,47	178,47	7,00
OR 164.69-3.53 V	164,69	171,75	3,53
OR 165-4 V	165,00	173,00	4,00
OR 165-6 V	165,00	177,00	6,00
OR 167.7-5.34 V	167,70	178,38	5,34
OR 168-5 V	168,00	178,00	5,00
OR 169.3-5.7 V	169,30	180,70	5,70
OR 170-3.55 V	170,00	177,10	3,55
OR 170-5 V	170,00	180,00	5,00
OR 170.82-5.34 V	170,82	181,50	5,34
OR 170.82-7 V	170,82	184,82	7,00
OR 171.04-3.53 V	171,04	178,10	3,53
OR 172-4 V	172,00	180,00	4,00
OR 174-5.34 V	174,00	184,68	5,34
OR 174.3-5.7 V	174,30	185,70	5,70
OR 177.17-5.34 V	177,17	187,85	5,34
OR 177.17-7 V	177,17	191,17	7,00
OR 177.39-3.53 V	177,39	184,45	3,53
OR 179.3-5.7 V	179,30	190,70	5,70
OR 180-3 V	180,00	186,00	3,00
OR 180-4 V	180,00	188,00	4,00
OR 183.52-5.34 V	183,52	194,20	5,34
OR 183.52-7 V	183,52	197,52	7,00
OR 183.74-3.53 V	183,74	190,80	3,53
OR 183.82-2.62 V	183,82	189,06	2,62
OR 184.3-5.7 V	184,30	195,70	5,70
OR 185-3 V	185,00	191,00	3,00
OR 189.3-5.7 V	189,30	200,70	5,70
OR 189.87-5.34 V	189,87	200,55	5,34
OR 189.87-7 V	189,87	203,87	7,00
OR 190.09-3.53 V	190,09	197,15	3,53
OR 194.3-5.7 V	194,30	205,70	5,70
OR 195-4 V	195,00	203,00	4,00
OR 196-4 V	196,00	204,00	4,00
OR 196.22-5.34 V	196,22	206,90	5,34
OR 196.22-7 V	196,22	210,22	7,00
OR 196.44-3.53 V	196,44	203,50	3,53
OR 199.3-5.7 V	199,30	210,70	5,70
OR 200-3 V	200,00	206,00	3,00
OR 202.57-5.34 V	202,57	213,25	5,34

Web: http://cat.hansa-flex.com/en/OR80SHOREFPM

OR 80° Shore FPM (Continued)

O-ring 80SH FKM (FPM)

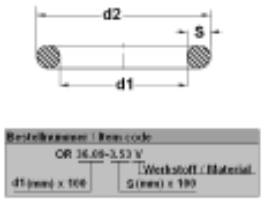
Identification	d1	d2	s
	mm	mm	mm
OR 202.57-7 V	202,57	216,57	7,00
OR 202.79-3.53 V	202,79	209,85	3,53
OR 205-4 V	205,00	213,00	4,00
OR 208.92-5.34 V	208,92	219,60	5,34
OR 208.92-7 V	208,92	222,92	7,00
OR 209.14-3.53 V	209,14	216,20	3,53
OR 209.3-5.7 V	209,30	220,70	5,70
OR 210-5 V	210,00	220,00	5,00
OR 210-6 V	210,00	222,00	6,00
OR 215-3 V	215,00	221,00	3,00
OR 215.27-5.34 V	215,27	225,95	5,34
OR 215.27-7 V	215,27	229,27	7,00
OR 215.49-3.53 V	215,49	222,55	3,53
OR 219.3-5.7 V	219,30	230,70	5,70
OR 221.62-5.34 V	221,62	232,30	5,34
OR 221.84-3.53 V	221,84	228,90	3,53
OR 227.97-5.34 V	227,97	238,65	5,34
OR 227.97-7 V	227,97	241,97	7,00
OR 228.19-3.53 V	228,19	235,25	3,53
OR 230-3 V	230,00	236,00	3,00
OR 234.32-5.34 V	234,32	245,00	5,34
OR 234.54-3.53 V	234,54	241,60	3,53
OR 238-3 V	238,00	244,00	3,00
OR 240-3 V	240,00	246,00	3,00
OR 240-4 V	240,00	248,00	4,00
OR 240-5 V	240,00	250,00	5,00
OR 240.67-5.34 V	240,67	251,35	5,34
OR 240.67-7 V	240,67	254,67	7,00
OR 240.89-3.53 V	240,89	247,95	3,53
OR 243-4 V	243,00	251,00	4,00
OR 243-5 V	243,00	253,00	5,00
OR 245-5 V	245,00	255,00	5,00
OR 247-3.5 V	247,00	254,00	3,50
OR 247-7 V	247,00	261,00	7,00
OR 247.02-5.34 V	247,02	257,70	5,34
OR 247.26-3.53 V	247,26	254,32	3,53
OR 250-4 V	250,00	258,00	4,00
OR 253.37-5.34 V	253,37	264,05	5,34
OR 253.37-7 V	253,37	267,37	7,00
OR 253.59-3.53 V	253,59	260,65	3,53
OR 255-4 V	255,00	263,00	4,00
OR 255-5 V	255,00	265,00	5,00
OR 260-3 V	260,00	266,00	3,00
OR 266.07-5.34 V	266,07	276,75	5,34
OR 266.07-7 V	266,07	280,07	7,00
OR 266.29-3.53 V	266,29	273,35	3,53
OR 278.77-5.34 V	278,77	289,45	5,34
OR 278.77-7 V	278,77	292,77	7,00
OR 278.99-3.53 V	278,99	286,05	3,53
OR 280-5 V	280,00	290,00	5,00
OR 290-5 V	290,00	300,00	5,00
OR 291.47-7 V	291,47	305,47	7,00
OR 291.69-3.53 V	291,69	298,75	3,53
OR 304.16-5.34 V	304,16	314,84	5,34
OR 304.17-7 V	304,17	318,17	7,00
OR 310.5-7 V	310,50	324,50	7,00
OR 329.57-5.34 V	329,57	340,25	5,34
OR 330-4 V	330,00	338,00	4,00
OR 345-3 V	345,00	351,00	3,00
OR 345-5 V	345,00	355,00	5,00
OR 347-5 V	347,00	357,00	5,00
OR 360-5 V	360,00	370,00	5,00
OR 375-6 V	375,00	387,00	6,00
OR 379.3-5.7 V	379,30	390,70	5,70
OR 740-6 V	740,00	752,00	6,00

Web: http://cat.hansa-flex.com/en/OR80SHOREFPM

OR 70° Shore EPDM

O-ring 70SH EPDM sulphur cured

Design: O-ring
Temp. min.: -30 °C
Temp. max.: 120 °C
Media: HFC, HFD, steam, Air
Material: EPDM sulphur cured 70 Shore



Identification	d1 mm	d2 mm	s mm
OR 7-3 E 70S	7,00	13,00	3,00
OR 12-2 E 70S	12,00	16,00	2,00

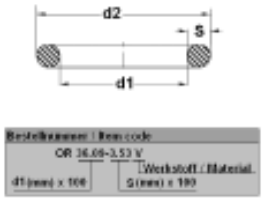
Identification	d1 mm	d2 mm	s mm
OR 15-2 E 70S	15,00	19,00	2,00
OR 20-2 E 70S	20,00	24,00	2,00

Web: http://cat.hansa-flex.com/en/OR70SHOREEPDM

OR 70° Shore Silicon

O-ring70SH silicone

Design: O-ring
Material: Silicone 70 Shore



Identification	d1 mm	d2 mm	s mm
OR 36.09-3.53 S70	36,09	43,15	3,53
OR 266.29-3.53 S70	266,29	273,35	3,53

Identification	d1 mm	d2 mm	s mm
OR 304.39-3.53 S70	304,39	311,45	3,53
OR 329.57-7 S70	329,57	343,57	7,00

Web: http://cat.hansa-flex.com/en/OR70SHORESILICON

OR F-S

O-ring FEP/silicone

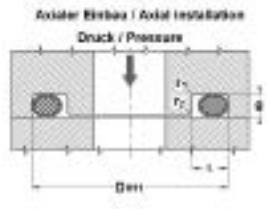
Design: O-ring
Material: FEP / silicone

Identification	d1 mm	d2 mm	s mm
OR 24.99-3.53 F-S	24,99	32,05	3,53
OR 47.22-3.53 F-S	47,22	54,28	3,53

Identification	d1 mm	d2 mm	s mm
OR 55.56-3.53 F-S	55,56	62,62	3,53

OR F-S (Continued)

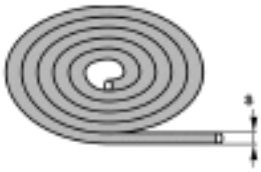
O-ring FEP/silicone



Web: http://cat.hansa-flex.com/en/ORFS

O-Ringschnur 70° Shore NBR

O-ring cord, 70SH NBR



Design: O-ring cord
Colour: black
Temp. min.: -35 °C
Temp. max.: 100 °C
Media: resistant to mineral oils and greases, Ozone, Oxygen
Material: NBR 70 Shore A

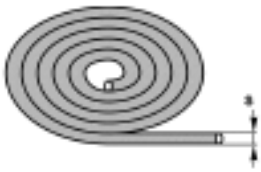
Identification	S mm	Tolerance
OR SCHNUR 1.5	1,50	+/- 0.20 mm
OR SCHNUR 1.6	1,60	+/- 0.20 mm
OR SCHNUR 1.78	1,78	+/- 0.20 mm
OR SCHNUR 2	2,00	+/- 0.20 mm
OR SCHNUR 2.4	2,40	+/- 0.25 mm
OR SCHNUR 2.5	2,50	+/- 0.25 mm
OR SCHNUR 2.62	2,62	+/- 0.25 mm
OR SCHNUR 3	3,00	+/- 0.25 mm
OR SCHNUR 3.2	3,20	+/- 0.35 mm
OR SCHNUR 3.5	3,50	+/- 0.35 mm
OR SCHNUR 3.53	3,53	+/- 0.35 mm
OR SCHNUR 4	4,00	+/- 0.35 mm
OR SCHNUR 4.5	4,50	+/- 0.40 mm
OR SCHNUR 5	5,00	+/- 0.40 mm

Identification	S mm	Tolerance
OR SCHNUR 5.33	5,33	+/- 0.40 mm
OR SCHNUR 5.5	5,50	+/- 0.40 mm
OR SCHNUR 5.7	5,70	+/- 0.40 mm
OR SCHNUR 6	6,00	+/- 0.40 mm
OR SCHNUR 6.35	6,35	+/- 0.55 mm
OR SCHNUR 6.5	6,50	+/- 0.55 mm
OR SCHNUR 7	7,00	+/- 0.55 mm
OR SCHNUR 7.5	7,50	+/- 0.55 mm
OR SCHNUR 8	8,00	+/- 0.55 mm
OR SCHNUR 8.4	8,40	+/- 0.55 mm
OR SCHNUR 8.5	8,50	+/- 0.55 mm
OR SCHNUR 9	9,00	+/- 0.55 mm
OR SCHNUR 9.5	9,50	+/- 0.55 mm
OR SCHNUR 10	10,00	+/- 0.65 mm

Web: http://cat.hansa-flex.com/en/ORINGSCHNUR70SHORENBR

O-Ringschnur 75° Shore FPM

O-ring cord 75SH FPM



Design: O-ring cord
Colour: black
Temp. min.: -15 °C
Temp. max.: 200 °C
Material: FPM 75 Shore

Identification	S mm	Tolerance
OR 178 FPM 75	1,78	+/- 0.20 mm
OR 240 FPM 75	2,40	+/- 0.20 mm
OR 250 FPM 75	2,50	+/- 0.20 mm
OR 300 FPM 75	3,00	+/- 0.25 mm
OR 400 FPM 75	4,00	+/- 0.30 mm
OR 450 FPM 75	4,50	+/- 0.30 mm
OR 500 FPM 75	5,00	+/- 0.30 mm

Identification	S mm	Tolerance
OR 534 FPM 75	5,34	+/- 0.30 mm
OR 570 FPM 75	5,70	+/- 0.30 mm
OR 600 FPM 75	6,00	+/- 0.30 mm
OR 700 FPM 75	7,00	+/- 0.40 mm
OR 800 FPM 75	8,00	+/- 0.40 mm
OR 900 FPM 75	9,00	+/- 0.40 mm

Web: http://cat.hansa-flex.com/en/ORINGSCHNUR75SHOREFPM

BOX A

Boxed set A, norm AS/BS, small

Box A consists of 30 sizes - 340 off

Design: O-ring
Construction type: Standard AS / BS
Colour: Box, grey
Temp. min.: -30 °C
Temp. max.: 100 °C
FPM temp. min.: -15 °C
FPM temp. max.: 200 °C

D x d	Menge / Quantity	D x d	Menge / Quantity
2,09 x 1,78	20	12,37 x 2,62	15
3,68 x 1,78	20	13,95 x 2,62	15
4,48 x 1,78	20	15,54 x 2,62	10
5,28 x 1,78	20	17,13 x 2,62	10
6,07 x 1,78	20	18,72 x 2,62	10
7,66 x 1,78	20	20,29 x 2,62	5
9,25 x 1,78	20	21,88 x 2,62	5
10,82 x 1,78	15	23,47 x 2,62	5
12,42 x 1,78	15	25,06 x 3,53	5
14,00 x 1,78	10	26,22 x 3,53	5
15,60 x 1,78	10	31,02 x 3,53	5
17,16 x 1,78	5	33,68 x 3,53	5
18,77 x 1,78	5	34,98 x 3,53	5
9,19 x 2,62	15	36,58 x 3,53	5
10,78 x 2,62	15	39,17 x 3,53	5

Identification	Material	Blower
BOX A NBR90	NBR 90 Shore A	30
BOX A FPM80	FPM 80 Shore A	30
BOX A	NBR 70 Shore A	30

Web: http://cat.hansa-flex.com/en/BOXA

BOX B

Boxed set B, norm AS/BS, large

Box B consists of 24 sizes - 275 off

Design: O-ring
Construction type: Standard AS / BS
Colour: Box, red
Temp. min.: -30 °C
Temp. max.: 100 °C
FPM temp. min.: -15 °C
FPM temp. max.: 200 °C

D x d	Menge / Quantity	D x d	Menge / Quantity
26,25 x 1,70	15	34,52 x 3,53	10
21,86 x 1,78	15	36,10 x 3,53	10
25,87 x 2,62	15	37,69 x 3,53	10
26,64 x 2,62	15	40,87 x 3,53	10
28,25 x 2,62	15	42,46 x 3,53	10
29,82 x 2,62	15	47,22 x 3,53	10
31,42 x 2,62	10	50,40 x 3,53	10
33,80 x 2,62	10	37,47 x 5,34	10
34,59 x 2,62	10	40,65 x 5,34	10
26,75 x 3,53	15	43,82 x 5,34	10
31,34 x 3,53	15	47,80 x 5,34	5
32,92 x 3,53	15	50,95 x 5,34	5

Identification	Material	Blower
BOX B NBR90	NBR 90 Shore A	24
BOX B FPM80	FPM 80 Shore A	24
BOX B	NBR 70 Shore A	24

Web: http://cat.hansa-flex.com/en/BOXB

BOX C

Boxed set C, small metric

Box C consists of 30 sizes - 425 off

Design: O-ring
Construction type: metric standard
Colour: Box, grey
Temp. min.: -30 °C
Temp. max.: 100 °C
FPM temp. min.: -15 °C
FPM temp. max.: 200 °C

D x d	Menge / Quantity	D x d	Menge / Quantity
3,00 x 1,50	20	5,00 x 2,50	15
5,00 x 1,50	20	7,00 x 2,50	10
7,00 x 1,50	20	10,00 x 2,50	15
9,00 x 1,50	20	12,00 x 2,50	15
11,00 x 1,50	20	15,00 x 2,50	15
6,00 x 2,00	20	10,00 x 3,00	10
8,00 x 2,00	20	12,00 x 3,00	10
10,00 x 2,00	20	14,00 x 3,00	10
12,00 x 2,00	20	15,00 x 3,00	10
14,00 x 2,00	20	18,00 x 3,00	10
6,30 x 2,40	15	28,20 x 3,00	5
8,30 x 2,40	15	22,20 x 3,00	5
11,30 x 2,40	15	26,20 x 3,00	5
13,30 x 2,40	15	26,20 x 3,00	5
17,30 x 2,40	15	30,20 x 3,00	5

Identification	Material	Blower
BOX C NBR90	NBR 90 Shore A	30
BOX C FPM80	FPM 80 Shore A	30
BOX C	NBR 70 Shore A	30

Web: http://cat.hansa-flex.com/en/BOXC

BOX D

Boxed set D, large metric

D x d	Menge / Quantity	D x d	Menge / Quantity
10,00 x 2,00	15	36,00 x 4,00	15
20,00 x 2,00	15	38,00 x 4,00	10
22,00 x 2,00	15	40,00 x 4,00	10
25,00 x 2,00	15	44,00 x 4,00	10
28,30 x 3,00	15	48,00 x 4,00	10
30,20 x 3,00	15	50,00 x 4,00	10
32,20 x 3,00	10	25,00 x 5,00	10
36,30 x 3,00	10	30,00 x 5,00	10
25,00 x 4,00	15	35,00 x 5,00	10
30,00 x 4,00	15	40,00 x 5,00	10
32,00 x 4,00	15	45,00 x 5,00	5
34,00 x 4,00	15	50,00 x 5,00	5

Box D consists of 24 sizes - 285 off

Design: O-ring
Construction type: metric standard
Colour: Box, red
Temp. min.: -30 °C
Temp. max.: 100 °C
FPM temp. min.: -15 °C
FPM temp. max.: 200 °C

Identification	Material	Blower
BOX D NBR90	NBR 90 Shore A	24
BOX D FPM80	FPM 80 Shore A	24
BOX D	NBR 70 Shore A	24

Web: http://cat.hansa-flex.com/en/BOXD

BOX G

Boxed set G, norm AS/BS, small

D x d	Menge / Quantity	D x d	Menge / Quantity
2,06 x 1,78	20	20,22 x 3,53	10
3,68 x 1,78	20	21,82 x 3,53	10
4,48 x 1,78	20	23,48 x 3,53	10
5,28 x 1,78	20	24,99 x 3,53	10
6,07 x 1,78	20	26,58 x 3,53	10
7,66 x 1,78	20	28,17 x 3,53	10
9,25 x 1,78	20	29,75 x 3,53	10
9,19 x 2,62	13	31,34 x 3,53	10
10,78 x 2,62	13	32,92 x 3,53	10
12,37 x 2,62	13	34,92 x 3,53	10
13,95 x 2,62	13	36,19 x 3,53	10
15,54 x 2,62	13	37,69 x 3,53	10
17,13 x 2,62	13	37,47 x 5,34	7
18,72 x 2,62	13	40,65 x 5,34	7
19,64 x 3,53	13	43,82 x 5,34	7

Box G consists of 30 sizes - 382 off

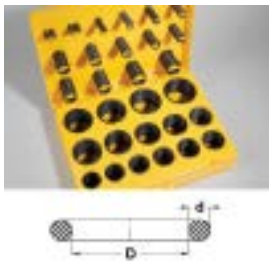
Design: O-ring
Construction type: Standard AS / BS
Colour: Box, red
Temp. min.: -30 °C
Temp. max.: 100 °C

Identification	Material	Blower
BOX G	NBR 70 Shore A	30
BOX G NBR90	NBR 90 Shore A	30

Web: http://cat.hansa-flex.com/en/BOXG

BOX H

Boxed set H, small metric



D x d	Menge / Quantity	D x d	Menge / Quantity
3,08 x 2,08	18	20,00 x 3,00	12
4,08 x 2,08	18	22,00 x 3,00	12
5,08 x 2,08	18	24,00 x 3,00	12
6,08 x 2,08	18	25,00 x 3,00	12
7,08 x 2,08	17	27,00 x 3,00	12
8,08 x 2,08	17	28,00 x 3,00	12
10,08 x 2,08	17	30,00 x 3,00	12
10,08 x 2,58	14	32,00 x 3,00	12
11,08 x 2,58	14	33,00 x 3,00	12
12,08 x 2,58	14	35,00 x 3,00	12
14,08 x 2,58	14	36,00 x 3,00	12
16,08 x 2,58	14	38,00 x 3,00	12
17,08 x 2,58	14	30,00 x 4,00	5
18,08 x 2,58	14	42,00 x 4,00	5
19,08 x 3,08	12	45,00 x 4,00	5

Box H consists of 30 sizes - 404 off

Design: O-ring
Construction type: metric standard
Colour: Box, yellow
Temp. min.: -30 °C
Temp. max.: 100 °C

Identification	Material	Blower
BOX H	NBR 70 Shore A	30
BOX H NBR90	NBR 90 Shore A	30

Web: http://cat.hansa-flex.com/en/BOXH

BOX Schnur

Boxed set cord & tools

Design: O-ring cord
Included in scope of supply: Blade, cutting device, adhesive, measuring tape
Colour: Box, red
Temp. min.: -30 °C
Temp. max.: 100 °C
Material: NBR 70 Shore

d (mm)	NBR	FPM
1,78	2 m	1 m
2,00	2 m	1 m
2,40	2 m	1 m
2,62	2 m	1 m
3,00	2 m	1 m
3,53	2 m	1 m
4,00	2 m	1 m
4,50	2 m	1 m
5,00	2 m	1 m
5,34	2 m	1 m
5,70	2 m	1 m
6,00	2 m	1 m
7,00	2 m	1 m
8,00	2 m	1 m

Identification
BOX CORD NBR

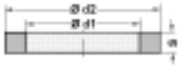
Web: http://cat.hansa-flex.com/en/BOXSCHNUR

SF SET CAT

O-ring set, CAT

Design: Sealing ring
Construction type: for SFS-CAT
Material: NBR

Bezeichnung	Menge/ Quantity	Ø d1	Ø d2	S
SFDR1P3700	10	19,5	25,8	5
SFDR1P3702	10	25,4	32,2	5
SFDR1P3703	10	31,9	38,7	5
SFDR1P3704	10	38,2	45,0	5
SFDR1P3705	10	44,7	51,5	5
SFDR1P3706	10	51,1	57,9	5
SFDR1P3707	10	54,2	61,0	5
SFDR1P3708	5	57,4	64,2	5
SFDR1P3709	5	63,9	70,7	5

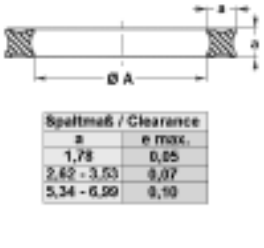


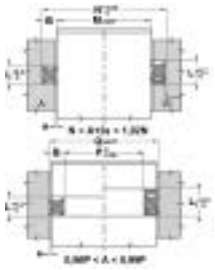
Identification	Dimension
SF SET CAT	330mm x 220mm x 60mm

Web: http://cat.hansa-flex.com/en/SFSETCAT

QR (70° Shore NBR)

Quad ring 70SH NBR





Low spatial requirement and low friction. Numerous applications possible in static and dynamic sectors, no distortion possible with rotational movements.

Design: Quad ring
Operating pressure: up to 150 bar, up to 400 bar with support ring
Sliding speed max.: 0,5 m/s
Temp. min.: -30 °C
Temp. max.: 110 °C
Media: Mineral oils, HFA, HFB
Installation: in external and internal grooves
Material: NBR 70 Shore A

Note: Rotational movements (consult us) up to 2 m/s QR6, QR7, QR8 must be fitted into an open groove type B Clearance: a= 1.78; e max.=0.05 a= 2.62 - 3.53; e max.=0.07 a= 5.34 - 6.99; e max.=0.1

Ordering information: For special operating conditions (fluid, temperature, pressure ...) please contact us. Alternative material possible: NBR 90, EPDM, MVQ, FPM

Identification	a	Ø A
	mm	mm
QR 6	1,78	2,90
QR 7	1,78	3,68
QR 8	1,78	4,47
QR 9	1,78	5,28
QR 10	1,78	6,07
QR 11	1,78	7,65
QR 12	1,78	9,25
QR 110	2,62	9,19
QR 111	2,62	10,77
QR 112	2,62	12,37
QR 113	2,62	13,94
QR 114	2,62	15,54
QR 115	2,62	17,12
QR 116	2,62	18,72
QR 117	2,62	20,29
QR 124	2,62	31,42
QR 210	3,53	18,64
QR 211	3,53	20,22
QR 212	3,53	21,82
QR 213	3,53	23,40
QR 214	3,53	24,99
QR 215	3,53	26,58
QR 216	3,53	28,17
QR 217	3,53	29,75
QR 218	3,53	31,34
QR 219	3,53	32,92
QR 220	3,53	34,52
QR 221	3,53	36,09
QR 222	3,53	37,69
QR 223	3,53	40,87
QR 224	3,53	44,05
QR 325	5,34	37,47
QR 326	5,34	40,65
QR 327	5,34	43,82
QR 328	5,34	47,00
QR 329	5,34	50,16
QR 330	5,34	53,34
QR 331	5,34	56,52
QR 332	5,34	59,69
QR 333	5,34	62,87
QR 334	5,34	66,04
QR 335	5,34	69,22
QR 336	5,34	72,39
QR 337	5,34	75,57
QR 338	5,34	78,74
QR 339	5,34	81,92
QR 340	5,34	85,09

Identification	a	Ø A
	mm	mm
QR 341	5,34	88,27
QR 342	5,34	91,44
QR 343	5,34	94,62
QR 344	5,34	97,79
QR 345	5,34	100,14
QR 346	5,34	104,14
QR 347	5,34	107,32
QR 348	5,34	110,50
QR 349	5,34	113,67
QR 356	5,34	135,89
QR 425	6,99	113,67
QR 426	6,99	116,84
QR 427	6,99	120,02
QR 428	6,99	123,20
QR 429	6,99	126,37
QR 430	6,99	129,54
QR 431	6,99	132,72
QR 432	6,99	135,90
QR 433	6,99	139,06
QR 434	6,99	142,24
QR 435	6,99	145,42
QR 436	6,99	148,60
QR 437	6,99	151,77
QR 438	6,99	158,12
QR 439	6,99	194,47
QR 440	6,99	170,82
QR 441	6,99	177,17
QR 442	6,99	183,52
QR 443	6,99	189,97
QR 444	6,99	196,22
QR 445	6,99	202,57
QR 446	6,99	215,27
QR 447	6,99	227,97
QR 448	6,99	240,67
QR 449	6,99	253,30
QR 450	6,99	266,07
QR 451	6,99	278,77
QR 452	6,99	291,47
QR 453	6,99	304,17
QR 454	6,99	316,87
QR 455	6,99	329,57
QR 456	6,99	342,30
QR 457	6,99	355,00
QR 458	6,99	367,67
QR 459	6,99	380,37
QR 460	6,99	393,07

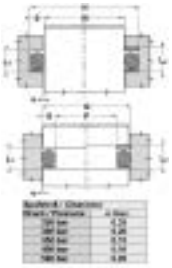
Web: http://cat.hansa-flex.com/en/QR70SHORENBR

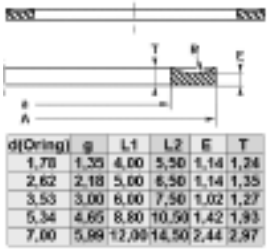
BU

Support ring BU

Simple solution. The rings do not need to be cut. Economical solution.

Design: Support ring
Operating pressure: up to 500 bar
Colour: black
Temp. min.: -30 °C
Temp. max.: 110 °C
Media: Mineral oils
Installation: in closed installation spaces
Material: NBR 90 Shore A





d[Oring]	g	L1	L2	E	T
1,78	1,35	4,00	5,50	1,14	1,24
2,62	2,18	5,00	6,50	1,14	1,35
3,53	3,00	6,00	7,50	1,02	1,27
5,34	4,65	8,80	10,50	1,42	1,93
7,00	5,99	12,00	14,50	2,44	2,97

Note: Clearance: Pressure = 250 bar / e max.= 0.25 Pressure = 300 bar / e max.= 0.20 Pressure = 350 bar / e max.= 0.15 Pressure = 400 bar / e max.= 0.10 Pressure = 500 bar / e max.= 0.05

Identification	Ø d mm	Ø D mm	OR
BU 4	2,44	5,14	1.78 x 1.78
BU 5	3,23	5,93	2.57 x 1.78
BU 6	3,56	6,26	2.90 x 1.78
BU 7	4,34	7,04	3.68 x 1.78
BU 8	5,13	7,83	4.47 x 1.78
BU 9	5,94	8,64	5.28 x 1.78
BU 10	6,73	9,43	6.07 x 1.78
BU 11	8,31	11,01	7.65 x 1.78
BU 12	9,91	12,61	9.25 x 1.78
BU 13	11,56	14,26	10.82 x 1.78
BU 14	13,16	15,86	12.42 x 1.78
BU 15	14,73	17,43	14.00 x 1.78
BU 16	16,33	19,03	15.60 x 1.78
BU 17	17,91	20,61	17.17 x 1.78
BU 18	19,51	22,21	18.77 x 1.78
BU 19	21,08	23,78	20.35 x 1.78
BU 20	22,68	25,38	21.95 x 1.78
BU 21	24,26	26,96	23.52 x 1.78
BU 22	25,86	28,56	25.12 x 1.78
BU 23	27,43	30,13	26.70 x 1.78
BU 24	29,03	31,73	28.30 x 1.78
BU 25	30,61	33,31	29.87 x 1.78
BU 26	32,21	34,91	31.47 x 1.78
BU 27	33,78	36,48	33.05 x 1.78
BU 28	35,38	38,08	34.65 x 1.78
BU 29	38,56	41,26	37.82 x 1.78
BU 30	41,73	44,43	41.00 x 1.78
BU 31	44,91	47,61	44.17 x 1.78
BU 32	48,08	50,78	47.35 x 1.78
BU 33	51,26	53,96	50.52 x 1.78
BU 34	54,43	57,13	53.70 x 1.78
BU 35	57,61	60,31	56.87 x 1.78
BU 36	60,78	63,48	60.05 x 1.78
BU 37	63,96	66,66	63.22 x 1.78
BU 38	67,13	69,83	66.40 x 1.78
BU 39	70,31	73,01	69.57 x 1.78
BU 40	73,48	76,18	72.75 x 1.78
BU 41	76,66	79,36	75.92 x 1.78
BU 42	83,01	85,71	82.27 x 1.78
BU 43	89,36	92,06	88.62 x 1.78
BU 44	95,71	98,41	94.97 x 1.78
BU 45	102,06	104,76	101.32 x 1.78
BU 46	108,41	111,11	107.67 x 1.78
BU 47	114,76	117,46	114.02 x 1.78
BU 48	121,11	123,81	120.37 x 1.78
BU 49	127,46	130,16	126.72 x 1.78
BU 50	133,81	136,51	133.07 x 1.78
BU 103	2,77	7,13	2.06 x 2.62
BU 104	3,56	7,92	2.84 x 2.62
BU 105	4,34	8,70	3.63 x 2.62
BU 106	5,13	9,49	4.42 x 2.62
BU 107	5,93	10,29	5.23 x 2.62
BU 108	6,73	11,09	6.02 x 2.62
BU 109	8,31	12,67	7.59 x 2.62
BU 110	9,91	14,27	9.19 x 2.62
BU 111	11,48	15,84	10.77 x 2.62
BU 112	13,08	17,44	12.37 x 2.62
BU 113	14,66	19,02	13.94 x 2.62
BU 114	16,26	20,62	15.54 x 2.62
BU 115	17,83	22,19	17.12 x 2.62
BU 116	19,43	23,79	18.72 x 2.62
BU 117	21,11	25,47	20.30 x 2.62
BU 118	22,68	27,04	21.89 x 2.62
BU 119	24,28	28,64	23.47 x 2.62
BU 120	25,86	30,22	25.07 x 2.62
BU 121	27,46	31,82	26.64 x 2.62
BU 122	29,03	33,39	28.24 x 2.62
BU 123	30,63	34,99	29.82 x 2.62
BU 124	32,21	36,57	31.42 x 2.62
BU 125	33,81	38,17	32.99 x 2.62
BU 126	35,38	39,74	34.59 x 2.62
BU 127	36,98	41,34	36.17 x 2.62
BU 128	38,56	42,92	37.77 x 2.62
BU 129	40,16	44,52	39.34 x 2.62

Identification	Ø d mm	Ø D mm	OR
BU 130	41,73	46,09	40.94 x 2.62
BU 131	43,33	47,69	42.52 x 2.62
BU 132	44,91	49,27	44.12 x 2.62
BU 133	46,51	50,87	45.69 x 2.62
BU 134	48,08	52,44	47.29 x 2.62
BU 135	49,68	54,04	48.90 x 2.62
BU 136	51,26	55,62	50.47 x 2.62
BU 137	52,86	57,22	52.07 x 2.62
BU 138	54,43	58,79	53.64 x 2.62
BU 139	56,03	60,39	55.25 x 2.62
BU 140	57,61	61,97	56.82 x 2.62
BU 141	59,21	63,57	58.42 x 2.62
BU 142	60,78	65,14	59.99 x 2.62
BU 143	62,38	66,74	61.60 x 2.62
BU 144	63,96	68,32	63.17 x 2.62
BU 145	65,56	69,92	64.77 x 2.62
BU 146	67,13	71,49	66.34 x 2.62
BU 147	68,73	73,09	67.95 x 2.62
BU 148	70,31	74,67	69.52 x 2.62
BU 149	71,91	76,27	71.12 x 2.62
BU 150	73,48	77,84	72.69 x 2.62
BU 151	76,66	81,02	75.87 x 2.62
BU 152	83,01	87,37	82.22 x 2.62
BU 153	89,36	93,72	88.57 x 2.62
BU 154	95,71	100,07	94.92 x 2.62
BU 155	102,06	106,42	101.27 x 2.62
BU 156	108,41	112,77	107.62 x 2.62
BU 157	144,76	119,12	113.97 x 2.62
BU 158	121,11	125,47	120.32 x 2.62
BU 159	127,46	131,82	126.67 x 2.62
BU 160	133,81	138,17	133.02 x 2.62
BU 161	140,16	144,52	139.37 x 2.62
BU 162	146,51	150,87	145.72 x 2.62
BU 163	152,86	157,22	152.07 x 2.62
BU 164	159,21	163,57	158.42 x 2.62
BU 165	165,65	170,01	164.77 x 2.62
BU 166	171,91	176,27	171.12 x 2.62
BU 167	178,26	182,62	177.47 x 2.62
BU 168	184,61	188,97	183.82 x 2.62
BU 169	190,96	195,32	190.17 x 2.62
BU 170	197,31	201,67	196.52 x 2.62
BU 171	203,66	208,02	202.87 x 2.62
BU 172	210,01	214,37	209.22 x 2.62
BU 173	216,36	220,72	215.57 x 2.62
BU 174	222,71	227,07	221.92 x 2.62
BU 175	229,06	233,42	228.27 x 2.62
BU 176	235,41	239,77	234.62 x 2.62
BU 177	241,76	246,12	240.97 x 2.62
BU 178	248,11	252,47	247.32 x 2.62
BU 201	5,13	11,13	4.34 x 3.53
BU 202	6,73	12,73	5.94 x 3.53
BU 203	8,30	14,30	7.52 x 3.53
BU 204	9,90	15,90	9.12 x 3.53
BU 205	11,56	17,56	10.69 x 3.53
BU 206	13,16	19,16	12.29 x 3.53
BU 207	14,73	20,73	13.87 x 3.53
BU 208	16,33	22,33	15.47 x 3.53
BU 209	17,90	23,90	17.04 x 3.53
BU 210	19,46	25,46	18.64 x 3.53
BU 211	21,03	27,03	20.22 x 3.53
BU 212	22,63	28,63	21.82 x 3.53
BU 213	24,21	30,21	23.39 x 3.53
BU 214	25,81	31,81	24.99 x 3.53
BU 215	27,38	33,38	26.57 x 3.53
BU 216	28,98	34,98	28.17 x 3.53
BU 217	30,56	36,56	29.74 x 3.53
BU 218	32,16	38,16	31.34 x 3.53
BU 219	33,88	39,88	32.92 x 3.53
BU 220	35,48	41,48	34.52 x 3.53
BU 221	37,06	43,06	36.09 x 3.53
BU 222	38,66	44,66	37.69 x 3.53
BU 223	41,83	47,83	40.87 x 3.53
BU 224	45,01	51,01	44.04 x 3.53
BU 225	48,18	54,18	47.22 x 3.53

→

BU (Continued)

Support ring BU

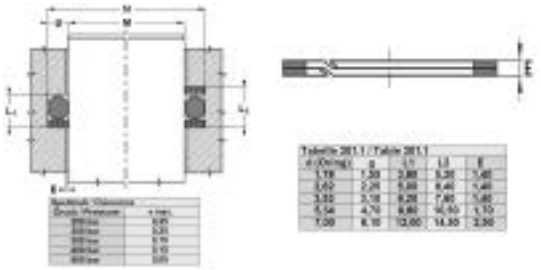
Identification	Ø d mm	Ø D mm	OR
BU 226	51,36	57,36	50.39 x 3.53
BU 227	54,53	60,53	53.57 x 3.53
BU 228	57,71	63,71	56.74 x 3.53
BU 229	60,88	66,88	59.92 x 3.53
BU 230	64,06	70,06	63.09 x 3.53
BU 231	66,83	72,83	66.27 x 3.53
BU 232	70,00	76,00	69.44 x 3.53
BU 233	73,18	79,18	72.62 x 3.53
BU 234	76,35	82,35	75.79 x 3.53
BU 235	79,53	85,53	78.97 x 3.53
BU 236	82,70	88,70	82.14 x 3.53
BU 237	85,88	91,88	85.32 x 3.53
BU 238	89,05	95,05	88.49 x 3.53
BU 239	92,23	98,23	91.67 x 3.53
BU 240	95,40	101,40	94.84 x 3.53
BU 241	98,58	104,58	98.02 x 3.53
BU 242	101,75	107,75	101.19 x 3.53
BU 243	104,93	110,93	104.37 x 3.53
BU 244	108,10	114,10	107.54 x 3.53
BU 245	111,28	117,28	110.72 x 3.53
BU 246	114,45	120,45	113.89 x 3.53
BU 247	117,63	123,63	117.07 x 3.53
BU 248	121,11	127,11	120.24 x 3.53
BU 249	124,28	130,28	123.42 x 3.53
BU 250	127,46	133,46	126.59 x 3.53
BU 251	130,63	136,63	129.77 x 3.53
BU 252	133,81	139,81	132.94 x 3.53
BU 253	136,98	142,98	136.12 x 3.53
BU 254	140,16	146,16	139.29 x 3.53
BU 255	143,33	149,33	142.47 x 3.53
BU 256	146,51	152,51	145.64 x 3.53
BU 257	149,68	155,68	148.82 x 3.53
BU 258	152,86	158,86	151.99 x 3.53
BU 259	159,21	165,21	158.34 x 3.53
BU 260	165,56	171,56	164.69 x 3.53
BU 261	171,91	177,91	171.04 x 3.53
BU 262	178,26	184,26	177.39 x 3.53
BU 263	184,61	190,61	183.74 x 3.53
BU 264	190,96	196,96	190.09 x 3.53
BU 265	197,31	203,31	196.44 x 3.53
BU 266	203,66	209,66	202.57 x 3.53
BU 267	210,01	216,01	209.14 x 3.53
BU 268	216,36	222,36	215.49 x 3.53
BU 269	222,71	128,71	221.84 x 3.53
BU 270	229,06	235,06	228.19 x 3.53
BU 271	235,41	241,41	234.54 x 3.53
BU 272	241,76	247,76	240.89 x 3.53
BU 273	248,11	254,11	247.26 x 3.53
BU 274	254,46	260,46	253.59 x 3.53
BU 275	267,16	273,16	266.29 x 3.53
BU 276	279,66	285,86	278.99 x 3.53
BU 277	292,56	298,56	291.69 x 3.53
BU 278	305,26	311,26	304.39 x 3.53
BU 279	330,66	336,66	329.79 x 3.53
BU 280	356,06	362,06	355.19 x 3.53
BU 281	381,46	387,46	380.59 x 3.53
BU 282	406,12	415,12	405.26 x 3.53
BU 283	431,52	437,52	430.66 x 3.53
BU 284	456,92	462,92	456.06 x 3.53
BU 309	11,43	20,73	10.46 x 5.34
BU 310	13,03	22,33	12.07 x 5.34
BU 311	14,60	23,90	13.64 x 5.34
BU 312	16,20	25,50	15.24 x 5.34
BU 313	17,78	27,08	16.81 x 5.34
BU 314	19,38	26,68	18.42 x 5.34
BU 315	20,96	30,26	19.99 x 5.34
BU 316	22,56	31,86	21.59 x 5.34
BU 317	24,13	33,43	23.16 x 5.34
BU 318	25,73	35,03	24.77 x 5.34
BU 319	27,31	36,61	26.34 x 5.34
BU 320	28,91	38,21	27.94 x 5.34
BU 321	30,42	39,72	29.51 x 5.34
BU 322	32,08	41,38	31.12 x 5.34
BU 323	33,43	42,73	32.69 x 5.34
BU 324	35,26	44,56	34.29 x 5.34
BU 325	38,43	47,73	37.47 x 5.34
BU 326	41,61	50,91	40.64 x 5.34
BU 327	44,78	54,08	43.82 x 5.34
BU 328	47,96	57,26	46.99 x 5.34
BU 329	51,13	60,43	50.17 x 5.34
BU 330	54,31	63,61	53.34 x 5.34
BU 331	57,61	66,91	56.52 x 5.34
BU 332	60,78	70,08	59.69 x 5.34
BU 333	63,96	73,26	62.87 x 5.34
BU 334	67,13	76,43	66.04 x 5.34
BU 335	70,31	79,61	69.22 x 5.34
BU 336	73,48	82,78	72.39 x 5.34
BU 337	76,66	85,96	75.57 x 5.34
BU 338	79,83	89,13	78.74 x 5.34
BU 339	83,13	92,43	81.92 x 5.34
BU 340	86,31	95,61	85.09 x 5.34
BU 341	89,48	98,78	88.27 x 5.34
BU 342	92,66	101,96	91.44 x 5.34
BU 343	95,83	105,13	94.62 x 5.34
BU 344	99,01	108,31	97.79 x 5.34
BU 345	102,31	111,61	100.97 x 5.34
BU 346	105,49	114,79	104.14 x 5.34
BU 347	108,66	117,96	107.32 x 5.34
BU 348	111,84	121,14	110.49 x 5.34
BU 349	115,01	124,31	113.67 x 5.34
BU 350	118,19	127,49	116.84 x 5.34
BU 351	121,36	130,66	120.02 x 5.34
BU 352	124,54	133,84	123.19 x 5.34
BU 353	127,71	137,01	126.37 x 5.34
BU 354	130,89	140,19	129.54 x 5.34
BU 355	134,06	143,36	132.72 x 5.34
BU 356	137,24	146,54	135.89 x 5.34
BU 357	140,41	149,71	139.07 x 5.34
BU 358	143,59	152,89	142.24 x 5.34
BU 359	146,76	156,06	145.42 x 5.34
BU 360	149,94	159,24	148.59 x 5.34
BU 361	153,11	162,41	151.77 x 5.34
BU 362	159,46	168,76	158.12 x 5.34
BU 363	165,81	175,11	164.47 x 5.34
BU 364	172,16	181,46	170.82 x 5.34
BU 365	178,51	187,81	177.17 x 5.34
BU 366	184,86	194,16	183.52 x 5.34
BU 367	191,21	200,51	189.87 x 5.34
BU 368	197,56	206,86	196.22 x 5.34
BU 369	203,91	213,21	202.57 x 3.53
BU 370	210,26	216,56	208.92 x 5.34
BU 371	216,61	225,91	215.27 x 5.34
BU 372	222,96	232,26	221.62 x 5.34
BU 373	229,31	238,61	227.97 x 5.34
BU 374	235,66	244,96	234.32 x 5.34
BU 375	242,01	251,31	240.67 x 5.34
BU 376	248,36	257,66	247.02 x 5.34
BU 377	254,71	264,01	253.37 x 5.34
BU 378	267,41	276,71	266.07 x 5.34
BU 379	280,11	289,41	278.77 x 5.34
BU 380	292,81	302,11	291.47 x 5.34
BU 381	305,51	314,81	304.17 x 5.34
BU 382	330,91	340,21	329.57 x 5.34
BU 383	356,31	365,61	354.97 x 5.34
BU 425	115,60	127,58	113.67 x 7.00
BU 426	118,77	130,75	116.84 x 7.00
BU 427	121,95	133,93	120.02 x 7.00
BU 428	125,20	137,18	123.20 x 7.00
BU 429	128,30	140,28	126.37 x 7.00
BU 430	131,47	143,45	129.54 x 7.00
BU 431	134,65	146,63	132.72 x 7.00
BU 432	137,82	149,80	135.89 x 7.00
BU 433	141,00	152,98	139.07 x 7.00
BU 434	144,17	156,15	142.24 x 7.00
BU 435	147,35	159,33	145.42 x 7.00
BU 436	150,52	162,50	148.59 x 7.00
BU 437	153,70	165,68	151.77 x 7.00
BU 438	159,36	171,34	158.12 x 7.00
BU 439	165,71	177,69	164.47 x 7.00
BU 440	172,06	184,04	170.82 x 7.00
BU 441	178,41	190,39	177.17 x 7.00
BU 442	184,76	196,74	183.52 x 7.00
BU 443	191,11	203,09	189.87 x 7.00
BU 444	197,46	209,44	196.22 x 7.00
BU 445	203,81	215,79	202.57 x 7.00
BU 446	216,51	228,49	215.27 x 7.00
BU 447	229,21	241,19	227.97 x 7.00
BU 448	241,91	253,89	240.67 x 7.00
BU 449	254,61	266,59	253.37 x 7.00
BU 450	267,31	279,29	266.07 x 7.00
BU 451	280,01	291,99	278.77 x 7.00
BU 452	292,71	304,69	291.47 x 7.00
BU 453	305,41	317,39	304.17 x 7.00
BU 454	318,11	330,09	316.87 x 7.00
BU 455	330,81	342,79	329.57 x 7.00
BU 456	343,51	355,49	342.27 x 7.00
BU 457	356,21	368,19	354.97 x 7.00
BU 458	368,91	380,89	367.67 x 7.00
BU 459	381,61	393,59	380.37 x 7.00
BU 460	394,31	406,29	393.07 x 7.00
BU 461	406,50	418,48	405.26 x 7.00
BU 462	419,20	431,18	417.96 x 7.00
BU 463	431,90	443,88	430.66 x 7.00
BU 464	440,60	452,58	443.36 x 7.00
BU 465	457,30	469,28	456.06 x 7.00
BU 466	470,00	481,98	468.76 x 7.00
BU 467	482,70	494,68	481.46 x 7.00

Web: http://cat.hansa-flex.com/en/BU

BR

Spiral support ring BR

Design: Support ring
Operating pressure: up to 500 bar
Colour: white
Temp. min.: -200 °C
Temp. max.: 260 °C
Media: Mineral oils, HFA, HFB, HFC, HFD, steam
Material: PTFE



Identification	M	N	OR
	mm	mm	
BR 6	3,0	6,1	2.90 x 1.78
BR 7	4,0	7,1	3.68 x 1.78
BR 8	4,5	7,6	4.47 x 1.78
BR 9	5,0	8,1	5.28 x 1.78
BR 10	7,0	10,1	6.07 x 1.78
BR 610	7,0	10,1	6.75 x 1.78
BR 11	8,0	11,1	7.65 x 1.78
BR 611	9,0	12,1	8.73 x 1.78
BR 12	9,0	12,1	9.25 x 1.78
BR 13	11,0	14,1	10.82 x 1.78
BR 14	13,0	16,1	12.42 x 1.78
BR 15	14,0	17,1	14.00 x 1.78
BR 16	16,0	19,1	15.60 x 1.78
BR 17	17,0	20,1	17.17 x 1.78
BR 18	19,0	22,1	18.77 x 1.78
BR 19	21,0	24,1	20.35 x 1.78
BR 20	22,0	25,1	23.52 x 1.78
BR 21	24,0	27,1	23.52 x 1.78
BR 22	25,0	28,1	25.12 x 1.78
BR 24	28,0	31,1	28.30 x 1.78
BR 25	30,0	33,1	29.87 x 1.78
BR 28	35,0	38,1	34.65 x 1.78
BR 110	10,0	14,5	9.19 x 2.62
BR 613	10,0	14,5	9.90 x 2.62
BR 111	11,0	15,5	10.77 x 2.62
BR 614	12,0	16,5	11.91 x 2.62
BR 615	13,0	17,5	13.10 x 2.62
BR 113	14,0	18,5	13.94 x 2.62
BR 616	15,0	19,5	15.08 x 2.62
BR 114	16,0	20,5	15.54 x 2.62
BR 809	16,0	20,5	15.88 x 2.62
BR 115	17,0	21,5	17.12 x 2.62
BR 116	19,0	23,5	18.72 x 2.62
BR 117	20,0	24,5	20.30 x 2.62
BR 812	21,0	25,5	20.64 x 2.62
BR 118	22,0	26,5	21.89 x 2.62
BR 119	24,0	28,5	23.47 x 2.62
BR 120	25,0	29,5	25.07 x 2.62
BR 121	27,0	31,5	26.64 x 2.62
BR 122	28,0	32,5	28.24 x 2.62
BR 123	30,0	34,5	29.82 x 2.62
BR 124	32,0	36,5	31.42 x 2.62
BR 125	33,0	37,5	32.99 x 2.62
BR 126	35,0	39,5	34.59 x 2.62
BR 127	36,0	40,5	36.17 x 2.62
BR 128	38,0	42,5	37.77 x 2.62
BR 129	40,0	44,5	39.34 x 2.62
BR 130	41,0	45,5	40.94 x 2.62
BR 131	43,0	47,5	42.52 x 2.62
BR 133	46,0	50,5	45.69 x 2.62
BR 134	48,0	52,5	47.29 x 2.62
BR 135	49,0	53,5	48.90 x 2.62
BR 136	51,0	55,5	50.47 x 2.62
BR 137	52,0	56,5	52.07 x 2.62
BR 139	55,0	59,5	55.25 x 2.62
BR 140	57,0	61,5	56.82 x 2.62
BR 141	59,0	63,5	58.42 x 2.62
BR 142	60,0	64,5	59.99 x 2.62
BR 143	62,0	66,5	61.60 x 2.62
BR 144	63,0	67,5	63.17 x 2.62
BR 148	70,0	74,5	69.52 x 2.62
BR 151	76,0	80,5	75.87 x 2.62
BR 152	82,0	86,5	82.22 x 2.62
BR 153	89,0	93,5	88.57 x 2.62
BR 154	95,0	99,5	94.92 x 2.62
BR 156	108,0	112,5	107.62 x 2.62
BR 157	114,0	118,5	113.97 x 2.62
BR 210	19,0	25,2	18.64 x 3.53
BR 211	20,0	26,2	20.22 x 3.53
BR 212	22,0	28,2	21.82 x 3.53
BR 213	23,0	29,2	23.39 x 3.53
BR 214	25,0	31,2	24.99 x 3.53
BR 215	27,0	33,2	26.57 x 3.53
BR 216	28,0	34,2	28.17 x 3.53
BR 217	30,0	36,2	29.74 x 3.53
BR 218	31,0	37,2	31.34 x 3.53
BR 219	33,0	39,2	32.92 x 3.53

Identification	M	N	OR
	mm	mm	
BR 220	35,0	41,2	34.52 x 3.53
BR 221	36,0	42,2	36.09 x 3.53
BR 222	38,0	44,2	37.69 x 3.53
BR 824	40,0	46,2	39.70 x 3.53
BR 223	42,0	48,2	40.87 x 3.53
BR 825	42,0	48,2	41.28 x 3.53
BR 826	43,0	49,2	42.86 x 3.53
BR 224	45,0	51,2	44.04 x 3.53
BR 828	46,0	52,2	46.04 x 3.53
BR 829	48,0	54,2	47.62 x 3.53
BR 830	49,0	55,2	49.20 x 3.53
BR 226	51,0	57,2	50.39 x 3.53
BR 832	52,0	58,2	52.40 x 3.53
BR 227	54,0	60,2	53.57 x 3.53
BR 834	56,0	62,2	55.56 x 3.53
BR 228	57,0	63,2	56.74 x 3.53
BR 836	59,0	65,2	58.74 x 3.53
BR 229	60,0	66,2	59.92 x 3.53
BR 838	62,0	68,2	61.90 x 3.53
BR 230	64,0	70,2	63.09 x 3.53
BR 231	67,0	73,2	66.27 x 3.53
BR 842	68,0	74,2	68.26 x 3.53
BR 843	70,0	76,2	69.44 x 3.53
BR 844	72,0	78,2	71.44 x 3.53
BR 233	73,0	79,2	72.62 x 3.53
BR 846	75,0	81,2	74.60 x 3.53
BR 234	76,0	82,2	75.79 x 3.53
BR 235	79,0	85,2	78.97 x 3.53
BR 236	82,0	88,2	82.14 x 3.53
BR 237	85,0	91,2	85.32 x 3.53
BR 238	89,0	95,2	88.49 x 3.53
BR 239	92,0	98,2	91.67 x 3.53
BR 240	95,0	101,2	94.84 x 3.53
BR 241	98,0	104,2	98.02 x 3.53
BR 242	101,0	107,2	101.19 x 3.53
BR 243	105,0	111,2	104.37 x 3.53
BR 244	108,0	114,2	107.54 x 3.53
BR 245	110,0	117,2	110.72 x 3.53
BR 246	114,0	120,2	113.89 x 3.53
BR 247	117,0	123,2	117.07 x 3.53
BR 248	120,0	126,2	120.24 x 3.53
BR 249	123,0	129,2	123.42 x 3.53
BR 250	127,0	133,2	126.59 x 3.53
BR 252	133,0	139,2	132.94 x 3.53
BR 254	140,0	146,2	139.29 x 3.53
BR 255	143,0	149,2	142.47 x 3.53
BR 256	146,0	152,2	145.64 x 3.53
BR 257	149,0	155,2	148.82 x 3.53
BR 258	152,0	158,2	151.99 x 3.53
BR 260	165,0	171,2	164.69 x 3.53
BR 262	178,0	184,2	177.39 x 3.53
BR 263	184,0	190,2	183.74 x 3.53
BR 264	190,0	196,2	190.09 x 3.53
BR 265	197,0	203,2	196.44 x 3.53
BR 266	203,0	209,2	202.57 x 3.53
BR 272	241,0	247,2	240.89 x 3.53
BR 276	280,0	286,2	278.99 x 3.53
BR 326	41,0	50,4	40.64 x 5.34
BR 327	44,0	53,4	43.82 x 5.34
BR 328	47,0	56,4	46.99 x 5.34
BR 329	50,0	59,4	50.17 x 5.34
BR 330	53,0	62,4	53.34 x 5.34
BR 331	57,0	66,4	56.52 x 5.34
BR 332	60,0	69,4	59.69 x 5.34
BR 333	63,0	72,4	62.87 x 5.34
BR 334	66,0	75,4	66.04 x 5.34
BR 335	69,0	78,4	69.22 x 5.34
BR 336	73,0	82,4	72.39 x 5.34
BR 619	75,0	84,4	74.63 x 5.34
BR 337	76,0	85,4	75.57 x 5.34
BR 338	79,0	88,4	78.74 x 5.34
BR 620	80,0	89,4	79.73 x 5.34
BR 339	82,0	91,4	81.92 x 5.34
BR 340	85,0	94,4	85.09 x 5.34
BR 341	88,0	97,4	88.27 x 5.34
BR 621	90,0	99,4	89.69 x 5.34
BR 342	92,0	101,4	91.44 x 5.34

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BR (Continued)

Spiral support ring BR

Identification	M	N	OR
	mm	mm	
BR 343	95,0	104,4	94.62 x 5.34
BR 344	98,0	107,4	97.79 x 5.34
BR 622	100,0	109,4	100.00 x 5.34
BR 345	101,0	110,4	100.97 x 5.34
BR 346	104,0	113,4	104.14 x 5.34
BR 623	110,0	119,4	109.54 x 5.34
BR 348	110,0	119,4	110.49 x 5.34
BR 349	114,0	123,4	113.67 x 5.34
BR 350	117,0	126,4	116.84 x 5.34
BR 860	118,0	127,4	117.48 x 5.34
BR 351	121,0	130,4	120.02 x 5.34
BR 352	124,0	133,4	123.19 x 5.34
BR 354	130,0	139,4	129.54 x 5.34
BR 355	133,0	142,4	132.72 x 5.34
BR 865	133,0	143,4	133.35 x 5.34
BR 356	137,0	146,4	135.89 x 5.34
BR 357	140,0	149,4	139.07 x 5.34
BR 867	140,0	149,4	139.70 x 5.34
BR 358	143,0	152,4	142.24 x 5.34
BR 359	146,0	155,4	145.42 x 5.34
BR 360	150,0	159,4	148.59 x 5.34
BR 361	152,0	161,4	151.77 x 5.34
BR 362	158,0	167,4	158.12 x 5.34
BR 363	165,0	174,4	164.47 x 5.34
BR 364	171,0	180,4	170.82 x 5.34
BR 365	178,0	187,4	177.17 x 5.34
BR 366	184,0	193,4	183.52 x 5.34
BR 367	190,0	199,4	189.87 x 5.34
BR 368	196,0	205,4	196.22 x 5.34
BR 370	209,0	218,4	208.92 x 5.34
BR 371	215,0	224,4	215.27 x 5.34
BR 373	228,0	237,4	227.97 x 5.34
BR 374	234,0	243,4	234.32 x 5.34
BR 375	241,0	250,4	240.67 x 5.34
BR 376	247,0	256,4	247.02 x 5.34
BR 377	253,0	262,4	253.37 x 5.34
BR 379	280,0	289,4	278.77 x 5.34
BR 380	292,0	301,4	278.99 x 3.53
BR 425	114,0	126,2	113.67 x 7.00
BR 624	115,0	127,2	114.70 x 7.00
BR 426	117,0	129,2	116.84 x 7.00
BR 427	120,0	132,2	120.02 x 7.00
BR 428	123,0	135,2	123.20 x 7.00
BR 429	126,0	138,2	126.37 x 7.00

Identification	M	N	OR
	mm	mm	
BR 430	130,0	142,2	129.54 x 7.00
BR 431	133,0	145,2	132.72 x 7.00
BR 432	136,0	148,2	135.89 x 7.00
BR 433	139,0	151,2	139.07 x 7.00
BR 434	142,0	154,2	142.24 x 7.00
BR 435	145,0	157,2	145.42 x 7.00
BR 436	149,0	161,2	148.59 x 7.00
BR 437	152,0	164,2	151.77 x 7.00
BR 872	156,0	158,2	155.60 x 7.00
BR 438	158,0	170,2	158.12 x 7.00
BR 874	162,0	174,2	161.90 x 7.00
BR 439	165,0	177,2	164.47 x 7.00
BR 628	167,0	179,2	166.70 x 7.00
BR 876	168,0	180,2	168.30 x 7.00
BR 440	170,0	182,2	170.82 x 7.00
BR 878	175,0	187,2	174.60 x 7.00
BR 442	184,0	196,2	183.52 x 7.00
BR 882	188,0	200,2	187.30 x 7.00
BR 443	190,0	202,2	189.87 x 7.00
BR 884	194,0	206,2	193.70 x 7.00
BR 444	196,0	208,2	196.22 x 7.00
BR 445	203,0	215,2	202.57 x 7.00
BR 674	210,0	222,2	208.92 x 7.00
BR 446	215,0	227,2	215.27 x 7.00
BR 676	222,0	234,2	221.62 x 7.00
BR 447	230,0	242,2	227.97 x 7.00
BR 678	235,0	247,2	234.32 x 7.00
BR 448	240,0	252,2	240.67 x 7.00
BR 680	248,0	260,2	247.00 x 7.00
BR 449	255,0	267,2	253.37 x 7.00
BR 682	260,0	272,2	259.70 x 7.00
BR 450	265,0	277,2	266.07 x 7.00
BR 684	273,0	285,2	272.40 x 7.00
BR 451	280,0	292,2	278.77 x 7.00
BR 686	285,0	297,2	285.10 x 7.00
BR 452	292,0	304,2	291.47 x 7.00
BR 688	300,0	312,2	297.80 x 7.00
BR 453	305,0	317,2	304.17 x 7.00
BR 454	318,0	330,2	316.87 x 7.00
BR 455	330,0	342,2	329.57 x 7.00
BR 458	370,0	382,2	367.67 x 7.00
BR 459	380,0	392,2	380.37 x 7.00
BR 460	393,0	405,2	393.07 x 7.00

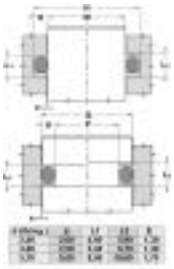
Web: http://cat.hansa-flex.com/en/BR

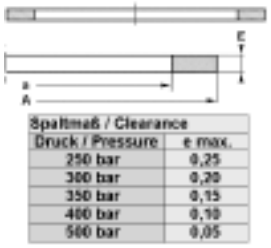
MBK

Support ring MBK

Easy assembly. The rings do not need to be cut. Economical solution.

Design: Support ring
Operating pressure: up to 500 bar
Temp. min.: -50 °C
Temp. max.: 130 °C
Media: Mineral oils, HFA, HFB
Installation: in closed installation spaces
Material: PBTB (polyester 55 Shore D)





Spaltmaß / Clearance	
Druck / Pressure	e max.
250 bar	0,25
300 bar	0,20
350 bar	0,15
400 bar	0,10
500 bar	0,05

Note: Clearance: Pressure = 250 bar / e max.= 0.25 Pressure = 300 bar / e max.= 0.20 Pressure = 350 bar / e max.= 0.15 Pressure = 400 bar / e max.= 0.10 Pressure = 500 bar / e max.= 0.05

Identification	M	N	e	OR
	mm	mm	mm	
MBK 4 8	4,0	8,0	1,3	3.30 x 2.40
MBK 6 10	6,0	10,0	1,3	5.30 x 2.40
MBK 7 11	7,0	11,0	1,3	6.30 x 2.40
MBK 10 14	10,0	14,0	1,3	9.30 x 2.30
MBK 11 15	11,0	15,0	1,3	10.30 x 2.40
MBK 12 16	12,0	16,0	1,3	11.30 x 2.30
MBK 13 17	13,0	17,0	1,3	12.30 x 2.40
MBK 14 18	14,0	18,0	1,3	13.30 x 2.40
MBK 15 19	15,0	19,0	1,3	14.30 x 2.40
MBK 16 20	16,0	20,0	1,3	15.30 x 2.40
MBK 17 21	17,0	21,0	1,3	16.30 x 2.40
MBK 18 22	18,0	22,0	1,3	17.30 x 2.40
MBK 20 25	20,0	25,0	1,3	19.20 x 3.00
MBK 23 28	23,0	28,0	1,3	22.20 x 3.00
MBK 25 30	25,0	30,0	1,3	24.20 x 3.00
MBK 27 32	27,0	32,0	1,3	26.20 x 3.00
MBK 30 35	30,0	35,0	1,3	29.20 x 3.00
MBK 35 40	35,0	40,0	1,3	34.20 x 3.00
MBK 37 42	37,0	42,0	1,3	36.20 x 3.00
MBK 40 45	40,0	45,0	1,3	39.20 x 3.00
MBK 40 50	40,0	50,0	1,7	39.20 x 5.70
MBK 45 50	45,0	50,0	1,3	44.20 x 3.00
MBK 45 55	45,0	55,0	1,7	44.20 x 5.70
MBK 50 55	50,0	55,0	1,3	49.50 x 3.00
MBK 50 60	50,0	60,0	1,7	49.20 x 5.70
MBK 53 63	53,0	63,0	1,7	52.20 x 5.70
MBK 55 65	55,0	65,0	1,7	54.20 x 5.70
MBK 55 60	55,0	60,0	1,3	54.50 x 3.00
MBK 58 63	58,0	63,0	1,3	57.20 x 3.00
MBK 60 65	60,0	65,0	1,3	59.50 x 3.00
MBK 60 67	60,0	67,0	1,5	39.20 x 5.70
MBK 60 70	60,0	70,0	1,7	59.20 x 5.70
MBK 63 68	63,0	68,0	1,3	62.20 x 3.00
MBK 65 70	65,0	70,0	1,3	64.50 x 3.00
MBK 65 75	65,0	75,0	1,7	64.20 x 5.70
MBK 69 74	69,0	74,0	1,3	69.00 x 3.00
MBK 70 75	70,0	75,0	1,3	69.50 x 3.00
MBK 70 77	70,0	77,0	1,5	39.20 x 5.70
MBK 70 80	70,0	80,0	1,7	69.20 x 5.70
MBK 72 77	72,5	77,5	1,3	72.00 x 3.00
MBK 72 82	72,5	82,5	1,7	71.20 x 5.70
MBK 75 80	75,0	80,0	1,3	74.50 x 3.00
MBK 75 85	75,0	85,0	1,7	74.20 x 5.70
MBK 78 88	78,0	88,0	1,7	87.20 x 5.70
MBK 79 84	79,0	84,0	1,3	78.00 x 3.00
MBK 80 85	80,0	85,0	1,3	79.50 x 3.00
MBK 80 87	80,0	87,0	1,5	39.20 x 5.70
MBK 80 90	80,0	90,0	1,7	79.20 x 5.70

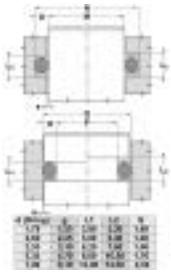
Identification	M	N	e	OR
	mm	mm	mm	
MBK 85 90	85,0	90,0	1,3	84.50 x 3.00
MBK 85 95	85,0	95,0	1,7	84.20 x 5.70
MBK 90 95	90,0	95,0	1,3	89.50 x 3.00
MBK 90 100	90,0	100,0	1,7	89.20 x 5.70
MBK 92 99	92,5	99,1	1,4	92.00 x 4.00
MBK 94 99	94,0	99,0	1,3	93.00 x 3.00
MBK 95 100	95,0	100,0	1,3	94.50 x 3.00
MBK 95 105	95,0	105,0	1,7	94.20 x 5.70
MBK 100 105	100,0	105,0	1,3	99.50 x 3.00
MBK 100 110	100,0	110,0	1,7	99.20 x 5.70
MBK 105 110	105,0	110,0	1,3	104.50 x 3.00
MBK 105 115	105,0	115,0	1,7	104.20 x 5.70
MBK 110 115	110,0	115,0	1,3	109.50 x 3.00
MBK 110 120	110,0	120,0	1,7	109.20 x 5.70
MBK 113 118	113,0	118,0	1,3	112.00 x 3.00
MBK 115 120	115,0	120,0	1,3	114.50 x 3.00
MBK 115 125	115,0	125,0	1,7	114.20 x 5.70
MBK 120 125	120,0	125,0	1,3	119.50 x 3.00
MBK 120 130	120,0	130,0	1,7	119.20 x 5.70
MBK 125 130	125,0	130,0	1,3	124.50 x 3.00
MBK 125 135	125,0	135,0	1,7	124.20 x 5.70
MBK 130 135	130,0	135,0	1,3	129.50 x 3.00
MBK 130 140	130,0	140,0	1,7	129.20 x 5.70
MBK 135 140	135,0	140,0	1,3	134.50 x 3.00
MBK 135 145	135,0	145,0	1,7	134.20 x 5.70
MBK 140 145	140,0	145,0	1,3	139.50 x 3.00
MBK 140 150	140,0	150,0	1,7	139.20 x 5.70
MBK 142 151	142,0	151,0	1,8	
MBK 145 150	145,0	150,0	1,3	144.50 x 3.00
MBK 145 155	145,0	155,0	1,7	144.20 x 5.70
MBK 150 160	150,0	160,0	1,7	149.20 x 5.70
MBK 152 161	152,0	161,0	1,8	
MBK 155 165	155,0	165,0	1,7	154.20 x 5.70
MBK 160 170	160,0	170,0	1,7	159.20 x 5.70
MBK 165 175	165,0	175,0	1,7	164.20 x 5.70
MBK 170 180	170,0	180,0	1,7	169.20 x 5.70
MBK 175 185	175,0	185,0	1,7	174.20 x 5.70
MBK 180 190	180,0	190,0	1,7	179.20 x 5.70
MBK 185 195	185,0	195,0	1,7	184.20 x 5.70
MBK 190 200	190,0	200,0	1,7	189.20 x 5.70
MBK 195 205	195,0	205,0	1,7	194.20 x 5.70
MBK 200 210	200,0	210,0	1,7	199.20 x 5.70
MBK 210 220	210,0	220,0	1,7	209.20 x 5.70
MBK 220 230	220,0	230,0	1,7	219.20 x 5.70
MBK 230 240	230,0	240,0	1,7	229.20 x 5.70
MBK 240 250	240,0	250,0	1,7	239.20 x 5.70
MBK 250 260	250,0	260,0	1,7	249.20 x 5.70
MBK 270 280	270,0	280,0	1,7	269.20 x 5.70

Web: http://cat.hansa-flex.com/en/MBK

PBK

Support ring PBK

Spaltmaß / Clearance	
Druck / Pressure	e max.
250 bar	0.25
300 bar	0.20
350 bar	0.15
400 bar	0.10
500 bar	0.05



Easy assembly. The rings do not need to be cut. Economical solution.

Operating pressure: up to 500 bar
Temp. min.: -50 °C
Temp. max.: 130 °C
Media: Mineral oils, HFA, HFB
Installation: in closed installation spaces
Material: PBTB (polyester 55 Shore D)

Note: Clearance: Pressure = 250 bar / e max.= 0.25 Pressure = 300 bar / e max.= 0.20 Pressure = 350 bar / e max.= 0.15 Pressure = 400 bar / e max.= 0.10 Pressure = 500 bar / e max.= 0.05

Identification	M	N	P	Q	OR
	mm	mm	mm	mm	
PBK 010-610	7,0	10,1	6,9	10	6.07 x 1.78
PBK 11	8,0	11,1	7,9	11	7.65 x 1.78
PBK 611	9,0	12,1	8,9	12	8.73 x 1.78
PBK 12	9,0	12,1	9,9	13	9.25 x 1.78
PBK 109	9,0	13,5	9,5	14	7.60 x 2.62
PBK 110-613	10,0	14,5	10,5	15	9.19 x 2.62
PBK 13	11,0	14,1	10,9	14	10.82 x 1.78
PBK 111	11,0	15,5	11,5	16	10.77 x 2.62
PBK 614	12,0	16,5	12,5	17	11.91 x 2.62
PBK 112	12,5	17,0	13,5	18	12.37 x 2.62
PBK 14	13,0	16,1	12,9	16	12.42 x 1.78
PBK 15	14,0	17,1	14,9	18	14.00 x 1.78
PBK 113	14,0	18,5	14,5	19	13.94 x 2.62
PBK 616	15,0	19,5	15,5	20	15.08 x 2.62
PBK 16	16,0	19,1	15,9	19	15.60 x 1.78
PBK 114-809	16,0	20,5	16,5	21	15.54 x 2.62
PBK 17	17,0	20,1	17,9	21	17.17 x 1.78
PBK 115	17,0	21,5	17,5	22	17.12 x 2.62
PBK 617	18,0	22,5	18,5	23	17.86 x 2.62
PBK 116	19,0	23,5	19,5	24	18.72 x 2.62
PBK 210	19,0	25,2	19,8	26	18.64 x 3.53
PBK 117	20,0	24,5	20,5	25	20.30 x 2.62
PBK 211	20,0	26,2	21,8	28	20.22 x 3.53
PBK 19	21,0	24,1	20,9	24	20.35 x 1.78
PBK 812	21,0	25,5	21,5	26	20.64 x 2.62
PBK 20	22,0	25,1	22,9	26	21.95 x 1.78
PBK 118-813	22,0	26,5	22,5	27	21.89 x 2.62
PBK 212	22,0	28,2	22,8	29	21.82 x 3.53
PBK 213	23,0	29,2	23,8	30	23.39 x 3.53
PBK 119-814	24,0	28,5	24,5	29	23.47 x 2.62
PBK 120	25,0	29,5	25,5	30	25.07 x 2.62
PBK 214	25,0	31,2	25,8	32	24.99 x 3.53
PBK 618	26,0	32,2	26,8	33	26.80 x 3.53
PBK 121	27,0	31,5	27,5	32	26.64 x 2.62
PBK 215	27,0	33,2	27,8	34	26.57 x 3.53
PBK 24	28,0	31,1	28,9	32	28.30 x 1.78
PBK 122	28,0	32,5	28,5	33	28.24 x 2.62
PBK 216	28,0	34,2	28,8	35	28.17 x 3.53
PBK 123	30,0	34,5	30,5	35	29.82 x 2.62
PBK 217	30,0	36,2	30,8	37	29.74 x 3.53
PBK 218	31,0	37,2	31,8	38	31.34 x 3.53
PBK 26	32,0	35,1	31,9	35	31.47 x 1.78
PBK 124	32,0	36,5	32,5	37	31.42 x 2.62
PBK 125	33,0	37,5	33,5	38	32.99 x 2.62
PBK 219	33,0	39,2	33,8	40	32.92 x 3.53
PBK 126	35,0	39,5	35,5	40	34.59 x 2.62
PBK 220	35,0	41,2	35,8	42	34.52 x 3.53
PBK 127	36,0	40,5	36,5	41	36.17 x 2.62
PBK 221	36,0	42,2	36,8	43	36.09 x 3.53
PBK 29	38,0	41,1	37,9	41	37.82 x 1.78
PBK 128	38,0	42,5	38,5	43	37.77 x 2.62
PBK 222	38,0	44,2	38,8	45	37.69 x 3.53
PBK 325	38,0	47,4	38,6	48	37.47 x 5.34
PBK 129	40,0	44,5	40,5	45	39.34 x 2.62
PBK 824	40,0	46,2	39,8	46	39.70 x 3.53
PBK 30	41,0	44,1	41,9	45	41.00 x 1.78
PBK 130	41,0	45,5	41,5	46	40.94 x 2.62
PBK 326	41,0	50,4	42,6	52	40.64 x 5.34
PBK 223-825	42,0	48,2	41,8	48	40.87 x 3.53
PBK 131	43,0	47,5	43,5	48	42.52 x 2.62
PBK 826	43,0	49,2	43,8	50	42.86 x 3.53
PBK 132	44,0	48,5	44,5	49	44.12 x 2.62
PBK 327	44,0	53,4	45,6	55	43.82 x 5.34
PBK 224-827	45,0	51,2	44,8	51	44.04 x 3.53
PBK 133	46,0	50,5	46,5	51	45.69 x 2.62
PBK 828	46,0	52,2	46,8	53	46.04 x 3.53
PBK 328	47,0	56,4	48,6	58	46.99 x 5.34
PBK 32	48,0	51,1	47,9	51	47.35 x 1.78
PBK 134	48,0	52,5	48,5	53	47.29 x 2.62
PBK 225-829	48,0	54,2	47,8	54	47.22 x 3.53
PBK 135	49,0	53,5	48,5	54	48.90 x 2.62
PBK 830	49,0	55,2	49,8	56	49.20 x 3.53
PBK 329	50,0	59,4	51,6	61	50.17 x 5.34
PBK 136	51,0	55,5	51,5	56	50.47 x 2.62

→

(Continued) **PBK**

Support ring PBK

Identification	M	N	P	Q	OR
	mm	mm	mm	mm	
PBK 226-831	51,0	57,2	51,8	58	50.39 x 3.53
PBK 137	52,0	56,5	52,5	57	52.07 x 2.62
PBK 832	52,0	58,2	53,8	60	52.40 x 3.53
PBK 330	53,0	62,4	54,6	64	53.34 x 5.34
PBK 138	54,0	58,5	54,5	59	53.64 x 2.62
PBK 227-833	54,0	60,2	54,8	61	53.57 x 3.53
PBK 139	55,0	59,5	56,5	61	55.25 x 2.62
PBK 834	56,0	62,2	55,8	62	55.56 x 3.53
PBK 140	57,0	61,5	57,5	62	56.82 x 2.62
PBK 228-835	57,0	63,2	57,8	64	56.74 x 3.53
PBK 331	57,0	66,4	58,6	68	56.52 x 5.34
PBK 141	59,0	63,5	59,5	64	58.42 x 2.62
PBK 836	59,0	65,2	58,8	65	58.74 x 3.53
PBK 142	60,0	64,5	60,5	65	59.99 x 2.62
PBK 229-837	60,0	66,2	60,8	67	59.92 x 3.53
PBK 332	60,0	69,4	60,6	70	59.69 x 5.34
PBK 143	62,0	66,5	62,5	67	61.60 x 2.62
PBK 838	62,0	68,2	62,8	69	61.90 x 3.53
PBK 144	63,0	67,5	63,5	68	63.17 x 2.62
PBK 333	63,0	72,4	63,6	73	62.87 x 5.34
PBK 230-839	64,0	70,2	63,8	70	63.09 x 3.53
PBK 145	65,0	69,5	65,5	70	64.77 x 2.62
PBK 840	65,0	71,2	65,8	72	65.10 x 3.53
PBK 334	66,0	75,4	67,6	77	66.04 x 5.34
PBK 146	67,0	71,5	67,5	72	66.34 x 2.62
PBK 231-841	67,0	73,2	66,8	73	66.27 x 3.53
PBK 147	68,0	72,5	68,5	73	67.95 x 2.62
PBK 842	68,0	74,2	68,8	75	68.26 x 3.53
PBK 335	69,0	78,4	70,6	80	69.22 x 5.34
PBK 148	70,0	74,5	70,5	75	69.52 x 2.62
PBK 232-843	70,0	76,2	70,8	77	69.44 x 3.53
PBK 149	71,0	75,5	71,5	76	71.12 x 2.62
PBK 844	72,0	78,2	71,8	78	71.44 x 3.53
PBK 150	73,0	77,5	73,5	78	72.69 x 2.62
PBK 233-845	73,0	79,2	73,8	80	72.62 x 3.53
PBK 336	73,0	82,4	73,6	83	72.39 x 5.34
PBK 846	75,0	81,2	74,8	81	74.60 x 3.53
PBK 619	75,0	84,4	75,6	85	74.63 x 5.34
PBK 234	76,0	82,2	76,8	83	75.79 x 3.53
PBK 337	76,0	85,4	76,6	86	75.57 x 5.34
PBK 235	79,0	85,2	79,8	86	78.97 x 3.53
PBK 338-620	79,0	88,4	80,6	90	78.74 x 5.34
PBK 152	82,0	86,5	83,5	88	82.22 x 2.62
PBK 236	82,0	88,2	82,8	89	82.14 x 3.53
PBK 339	82,0	91,4	82,6	92	81.92 x 5.34
PBK 237	85,0	91,2	85,8	92	85.32 x 3.53
PBK 340	85,0	94,4	85,6	95	85.09 x 5.34
PBK 341	88,0	97,4	88,6	98	88.27 x 5.34
PBK 153	89,0	93,5	89,5	94	88.57 x 2.62
PBK 238	89,0	95,2	88,8	95	88.49 x 3.53
PBK 621	90,0	99,4	90,6	100	89.69 x 5.34
PBK 239	92,0	98,2	92,8	99	91.67 x 3.53
PBK 342	92,0	101,4	92,6	102	91.44 x 5.34
PBK 154	95,0	99,5	96,5	101	94.92 x 2.62
PBK 240	95,0	101,2	95,8	102	94.84 x 3.53
PBK 343	95,0	104,4	65,6	105	94.62 x 5.34
PBK 241	98,0	104,2	98,8	105	98.02 x 3.53
PBK 344	98,0	107,4	98,6	108	97.79 x 5.34
PBK 622	100,0	109,4	100,6	110	100.00 x 5.34
PBK 242	101,0	107,2	101,8	108	101.19 x 3.53
PBK 345	101,0	110,4	101,6	111	100.97 x 5.34
PBK 346	104,0	113,4	105,6	115	104.14 x 5.34
PBK 243	105,0	111,2	104,8	111	104.37 x 3.53
PBK 347	107,0	116,5	108,6	118	107.32 x 5.34
PBK 244	108,0	114,2	107,8	114	107.54 x 3.53
PBK 348-623	110,0	119,4	111,6	121	110.49 x 5.34
PBK 245	111,0	117,2	111,8	118	110.72 x 3.53
PBK 157	114,0	118,5	115,5	120	113.97 x 2.62
PBK 246	114,0	120,2	114,8	121	113.89 x 3.53
PBK 349	114,0	123,4	115,6	125	113.67 x 5.34
PBK 425	114,0	126,2	114,8	127	113.67 x 7.00
PBK 247	117,0	123,2	117,8	124	117.07 x 3.53
PBK 350-860	117,0	126,4	118,6	128	116.84 x 5.34
PBK 426	117,0	129,2	117,8	130	116.84 x 7.00
PBK 248	120,0	126,2	120,8	127	120.24 x 3.53
PBK 351-861	121,0	130,4	122,6	132	120.02 x 5.34
PBK 249	123,0	129,2	123,8	130	123.42 x 3.53
PBK 428	123,0	135,2	124,8	137	123.20 x 7.00
PBK 862	124,0	133,4	125,6	135	123.80 x 5.34
PBK 429	126,0	138,2	127,8	140	126.37 x 7.00
PBK 250	127,0	133,2	126,8	133	126.59 x 3.53
PBK 353-863	127,0	136,4	127,6	137	126.37 x 5.34
PBK 251	130,0	136,2	129,8	136	129.77 x 3.53
PBK 354-864	130,0	139,4	130,6	140	129.54 x 5.34
PBK 252	133,0	139,2	133,8	140	132.94 x 3.53
PBK 431	133,0	145,2	133,8	146	132.72 x 7.00
PBK 865	134,0	143,4	135,6	145	133.35 x 5.34
PBK 253	136,0	142,2	136,8	143	136.12 x 3.53
PBK 432-433	136,0	148,2	140,8	153	135.89 x 7.00
PBK 356-866	137,0	146,4	137,6	147	135.89 x 5.34
PBK 254	140,0	146,2	139,8	146	139.29 x 3.53
PBK 357-867	140,0	149,4	140,6	150	139.07 x 5.34

PBK (Continued)

Support ring PBK

Identification	M	N	P	Q	OR
	mm	mm	mm	mm	
PBK 255	143,0	149,2	142,8	149	142.47 x 3.53
PBK 358-868	143,0	152,4	143,6	153	142.24 x 5.34
PBK 435	145,0	157,2	147,8	160	145.42 x 7.00
PBK 257	149,0	155,2	148,8	155	148.82 x 3.53
PBK 360-870	150,0	159,4	150,6	160	148.59 x 5.34
PBK 258	152,0	158,2	152,8	159	151.99 x 3.53
PBK 872	156,0	168,2	157,8	170	155.60 x 7.00
PBK 362	158,0	167,4	159,6	169	158.12 x 5.34
PBK 363	165,0	174,4	165,6	175	164.47 x 5.34
PBK 628	167,0	179,2	167,8	180	166.70 x 7.00
PBK 364	171,0	180,4	172,6	182	170.82 x 5.34
PBK 365	178,0	187,4	178,6	188	177.17 x 5.34
PBK 880	180,0	192,2	182,8	195	181.00 x 7.00
PBK 263	184,0	190,2	183,8	190	183.74 x 3.53
PBK 442	184,0	196,2	184,8	197	183.52 x 7.00
PBK 367	190,0	199,4	190,6	200	189.87 x 5.34
PBK 443	190,0	202,2	190,8	203	189.87 x 7.00
PBK 884	194,0	206,2	194,8	207	193.70 x 7.00
PBK 368	196,0	205,4	197,6	207	196.22 x 5.34
PBK 444	196,0	208,2	197,8	210	196.22 x 7.00
PBK 266	203,0	209,2	203,8	210	202.57 x 3.53
PBK 370	209,0	218,4	210,6	220	208.92 x 5.34
PBK 446	215,0	227,2	217,8	230	215.27 x 7.00
PBK 269	222,0	228,2	221,8	228	221.84 x 3.53
PBK 372	222,0	231,4	222,6	232	221.62 x 5.34
PBK 373	228,0	237,4	229,6	239	227.97 x 5.34
PBK 447	230,0	242,2	229,8	242	227.97 x 7.00
PBK 678	235,0	247,2	237,8	250	234.32 x 7.00
PBK 684	273,0	285,2	273,8	286	272.40 x 7.00

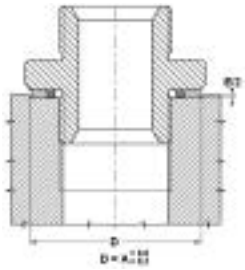
Web: http://cat.hansa-flex.com/en/PBK

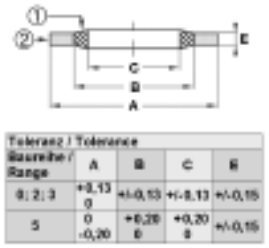
UR / 08BS

Usit ring, UR

Perfect tightness. Prevents loosening of the parts.

Design: Usit ring
Construction type: with internally vulcanised, trapezoidal elastic rubber sealing bead
Temp. min.: -30 °C
Temp. max.: 110 °C
Material: 1) NBR 90 Shore A, (2) Cadmium-plated or passivated carbon steel
Surface: Metal ring: zinc chromated





Toleranz / Tolerance				
Baureihe / Range	A	B	C	E
0 ; 2 ; 3	+0,13 0	+/-0,13	+/-0,13	+/-0,15
5	0 -0,20	+0,20 0	+0,20 0	+/-0,15

Identification	for thread	for thread	for thread	A	B	C	E	Pressure PB
				mm	mm	mm	mm	bar
UR 5.7-9-1	-		M 5	9,00	6,80	5,70	1,00	1400
UR 6.2-9.2-1	-		M 5.5	9,20	7,20	6,20	1,00	1220
08BS 304	-		M 6	11,00	8,00	6,60	1,00	1680
08BS 206	-		M 6	10,00	8,00	6,70	1,00	1130
UR 6.7-11-1	-		M 6	11,00	8,20	6,70	1,00	1510
UR 6.9-13.2-1.3	-	1/4 inch	-	13,21	8,00	6,86	1,30	2450
UR 7-13.4-1.3	-	1/4 inch	-	13,34	9,53	6,99	1,30	1700
08BS 306	-		M 6	11,40	8,40	7,00	1,00	1540
08BS 006	-	5/16 inch	-	13,34	9,53	8,31	1,30	1700
UR 8.5-13.4-1	-		M 8	13,00	9,40	8,50	1,00	1780
08BS 007	-	5/16 inch	-	14,22	10,04	8,64	1,30	1750
UR 8.7-13-1	-		M 8	13,00	10,00	8,70	1,00	1330
UR 8.7-14-1	-		M 8	14,00	10,40	8,70	1,00	1550
UR 8.7-14.2-1.3	-	5/16 inch	-	14,20	10,04	8,70	1,30	1750
UR 9.3-13.3-1	-		-	13,00	10,50	9,30	1,00	1200
UR 10.35-16-2	-		M 10	16,00	12,00	10,35	2,00	1470
08BS 020	G 1/8"	3/8 inch	-	15,88	11,84	10,37	2,00	1500
08BS 510	G 1/8"		-	14,70	12,00	10,40	1,25	930
UR 10.7-16-1.5	-		M 10	16,00	12,40	10,70	1,50	1350
08BS 310	-		M 10	17,00	12,10	10,70	1,50	1730
UR 10.7-18-1.5	-		M 10	18,00	12,40	10,70	1,50	1880
08BS 008	-	7/16 inch	-	18,36	12,45	11,26	2,00	1950
UR 11.4-16.3-1.5	-		M 11	16,30	12,70	11,40	1,50	1280
08BS 009	-	7/16 inch	-	19,05	13,08	11,69	2,00	1900
UR 11.8-18.5-1.5	-		M 11	18,50	13,70	11,80	1,50	1540
UR 11.8-19.1-1.5	-		M 11	19,10	13,50	11,80	1,50	1770
UR 12.7-18-1.5	-		M 12	18,00	14,40	12,70	1,50	1250
08BS 313	-		M 12	19,00	14,10	12,70	1,50	1530
UR 12.7-20-1.5	-		M 12	20,00	14,00	12,70	1,50	1680
UR 13.7-20-1.5	-		M 13	20,00	15,40	13,70	1,50	1340
UR 13.7-22-1.5	-		M 13	22,00	15,40	13,70	1,50	1810
08BS 021	G 1/4"	1/2 inch	-	20,57	15,21	13,74	2,00	1550
08BS 315	-		-	20,10	15,20	13,80	1,50	1440
08BS 511	G 1/4"		-	18,70	15,75	13,90	1,25	793
UR 14-18.7-1.5	-		-	18,70	15,70	14,00	1,50	900
08BS 316	-		M 14	21,00	16,10	14,70	1,50	1370
UR 14.7-22-1.5	-		M 14	22,00	16,40	14,70	1,50	1510
08BS 022	-	19/32 inch	-	22,23	17,30	15,83	2,00	1310
UR 16-22.7-1.5	-		M 15	22,00	17,78	16,00	1,50	1260
08BS 011	-	5/8 inch	-	25,40	18,75	16,51	2,00	1550
08BS 317	-		M 16	23,00	18,10	16,70	1,50	1240
UR 16.7-24-1.5	-		M 16	24,00	18,40	16,70	1,50	1400
08BS 023	G 3/8"		-	23,80	18,75	17,28	2,00	1260
08BS 512	G 3/8"		-	22,70	19,25	17,30	1,25	775
UR 17.4-24-1.5	-		M 17	24,00	19,20	17,40	1,50	1150
UR 18-24.7-1.5	-		-	24,70	20,10	18,00	1,50	1070
UR 18.2-25.4-2.5	-	11/16 inch	-	25,40	16,69	18,16	2,50	1320
UR 18.7-26-1.5	-		M 18	26,00	20,40	18,70	1,50	1275
08BS 320	-		M 18	27,00	20,40	18,70	2,00	1450
08BS 024	-	3/4 inch	-	26,92	21,21	19,69	2,50	1260
UR 20.7-28-1.5	-		M 20	28,00	22,50	20,70	1,50	1150
08BS 321	-		M 20	29,00	22,40	20,70	2,00	1340
UR 21.5-28.7-2.5	-		M 21	28,70	23,30	21,50	2,50	1080
08BS 025	G 1/2"	13/16 inch	-	28,58	23,01	21,54	2,50	1150
08BS 513	G 1/2"		-	26,70	23,55	21,70	1,25	586
08BS 323	-		-	30,00	23,40	21,70	2,00	1290
UR 22.5-28-1.5	-		M 22	28,00	24,20	22,50	1,50	760
UR 22.7-30-2	-		M 22	30,00	24,40	22,70	2,00	1100
08BS 324	-		M 22	31,00	24,40	22,70	2,00	1240
08BS 026	-		-	31,75	24,97	23,49	2,50	1250
08BS 013	-	15/16 inch	-	33,27	26,40	24,26	2,50	1275
UR 24.7-32-2	-		M 24	32,00	26,40	24,70	2,00	1050
08BS 326	-		M 24	33,00	26,40	24,70	2,00	1160
UR 26.7-35-2	-		-	35,00	28,40	26,70	2,00	1050
UR 27-35-2.5	G 3/4"	1 inch	-	34,93	28,53	27,05	2,50	1060
08BS 514	-	5/8 inch	-	32,50	29,20	27,30	1,25	500
08BS 328	-		M 27	36,00	29,40	27,70	2,00	1060
08BS 028	-	1 1/16 inch	-	38,61	30,61	27,82	2,50	1250
08BS 329	-		-	36,00	30,30	28,60	2,00	730
08BS 014	-	1 1/8 inch	-	36,58	30,86	29,33	2,50	900
08BS 331	-		M 30	39,00	32,40	30,70	2,00	970
08BS 029	G 7/8"	1 3/16 inch	-	38,10	32,29	30,81	2,50	900
UR 31-39-2	-		M 30	39,00	32,40	31,00	2,00	970
08BS 015	-	1 1/4 inch	-	41,40	35,69	32,64	3,40	810
UR 33.7-42-2	-		M 33	42,00	35,40	33,70	2,00	900
UR 33.9-42.9-3.4	G 1"	1 5/16 inch	-	42,80	36,88	33,89	3,40	790
08BS 515	-	1 inch	-	39,50	36,10	34,20	2,00	414

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UR / 08BS (Continued)

Usit ring, UR

Identification	for thread	for thread	for thread	A	B	C	E	Pressure PB
				mm	mm	mm	mm	bar
UR 34.3-43-2	-		M 33	43,00	36,40	34,30	2,00	880
08BS 016	-	1 3/8 inch	-	44,45	38,99	35,94	3,40	700
UR 36.7-46-2	-		M 36	46,00	38,80	36,70	2,00	890
08BS 333	-		-	48,00	39,60	37,00	2,50	1010
08BS 017	-	1 1/2 inch	-	47,75	42,04	38,96	3,40	700
UR 40-51-2.5	-		M 39	51,00	42,60	40,00	2,50	970
UR 42.7-53-3	-		M 42	53,00	44,00	42,70	3,00	800
08BS 516	G 1.1/4"		-	49,50	44,70	42,80	2,00	500
08BS 032	G 1.1/4"	1 5/8 inch	-	52,38	45,93	42,93	3,40	690
08BS 018	-	1 3/4 inch	-	57,15	48,39	45,34	3,40	875
08BS 033	G 1.1/2"	1 7/8 inch	-	58,60	51,39	48,44	3,40	690
08BS 517	-	1 1/2 inch	M 48	55,50	50,60	48,70	2,00	434
UR 48.7-59-3	-		M 48	59,00	50,80	48,70	3,00	800
08BS 337	-		M 48	60,00	51,60	49,00	2,50	790
UR 53.3-64.5-3	-		M 52	64,50	56,40	53,30	3,00	710
08BS 034	G 1 3/4"	2 1/8 inch	-	69,85	58,30	54,89	3,40	950
08BS 035	-	2 1/4 inch	-	70,36	61,09	58,04	3,40	740
08BS 518	G 2"		-	68,50	62,40	60,50	2,00	448
08BS 036	G 2"		-	73,03	63,63	60,58	3,40	700
UR 60.7-73-3	-		M 60	73,00	63,00	60,70	3,00	780
08BS 037	-	2 1/2 inch	-	77,72	67,44	64,39	3,40	750
08BS 038	G 2 1/4"		-	79,50	69,98	66,68	3,40	670
08BS 039	G 2 1/2"		-	90,30	79,38	76,08	3,40	680

Web: http://cat.hansa-flex.com/en/UR08BS

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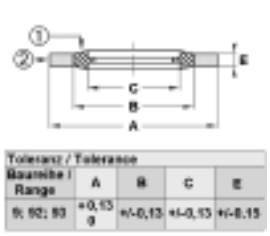
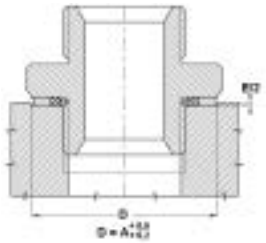
08BS 9 FPM

Usit ring centred 08BS9-FPM





Perfect tightness. Numerous applications possible in static and dynamic sectors, no distortion possible with rotational movements. Numerous applications depending on material. Available for metric, Whitworth and BSP threads.

Design: Usit ring
Construction type: self-centring
Temp. min.: -20 °C
Temp. max.: 200 °C
Installation: with screws and connecting pieces
Material: 1) FPM, (2) Cadmium-plated or passivated carbon steel

Identification	for thread	for thread	A	B	C	E	Pressure PB
			mm	mm	mm	mm	bar
08BS 921 FPM	G 1/4"	1/2 inch	20,57	15,21	13,74	2,10	1550
08BS 923 FPM	G 3/8"		23,80	18,75	17,28	2,10	1260
08BS 925 FPM	G 1/2"	13/16 inch	28,58	23,01	21,54	2,40	1150
08BS 927 FPM	G 3/4"	1 inch	34,93	28,53	27,05	2,40	1060
08BS 929 FPM	G 7/8"	1 3/16 inch	38,10	32,29	30,81	2,40	900
08BS 930 FPM	G 1"	1 5/16 inch	42,80	36,88	33,89	2,50	790
08BS 932 FPM	G 1.1/4"	1 5/8 inch	52,38	45,93	42,93	2,50	690

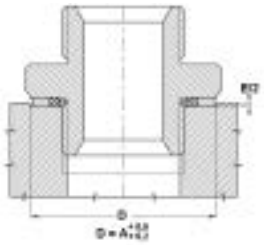
Web: http://cat.hansa-flex.com/en/08BS9FPM

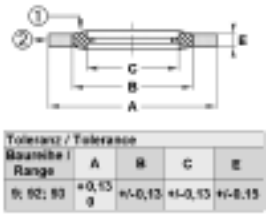
08BS 9

Usit ring centred 08BS9

Perfect tightness. Numerous applications possible in static and dynamic sectors, no distortion possible with rotational movements. Numerous applications depending on material. Available for metric, Whitworth and BSP threads.

Design: Usit ring
Construction type: self-centring
Temp. min.: -30 °C
Temp. max.: 110 °C
Installation: with screws and connecting pieces
Material: 1) NBR 90 Shore A, (2) Cadmium-plated or passivated carbon steel





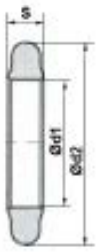
Toleranz / Tolerance				
Baureihe / Range	A	B	C	E
9; 92; 93	+0,15 0	+/-0,13	+/-0,13	+/-0,15

Identification	for thread	for thread	for thread	A	B	C	E	Pressure PB
				mm	mm	mm	mm	bar
08BS 920	G 1/8"	3/8 inch	-	15,88	11,84	10,37	2,10	1500
08BS 921	G 1/4"	1/2 inch	-	20,57	15,21	13,74	2,10	1550
08BS 923	G 3/8"		-	23,80	18,75	17,28	2,10	1260
08BS 925	G 1/2"	13/16 inch	-	28,58	23,10	21,54	2,40	1150
08BS 926	G 5/8"	7/8 inch	-	31,75	24,97	23,49	2,40	1250
08BS 927	G 3/4"	1 inch	-	34,93	28,53	27,05	2,40	1060
08BS 929	G 7/8"	1 3/16 inch	-	38,10	32,29	30,81	2,40	900
08BS 930	G 1"	1 5/16 inch	-	42,80	36,88	33,89	3,40	790
08BS 932	G 1.1/4"	1 5/8 inch	-	52,38	45,93	42,93	3,40	690
08BS 933	G 1.1/2"	1 7/8 inch	-	58,60	51,39	48,44	3,40	690
08BS 936	G 2"		-	73,03	63,63	60,53	3,40	700
08BS 938	G 2 1/4"		-	79,50	69,98	66,68	3,25	670
08BS 939	G 2 1/2"		-	90,30	79,38	76,08	3,25	680
08BS 9202	-		M 4	7,00	5,40	4,50	1,00	1270
08BS 9204	-		M 5	10,00	7,40	5,70	1,00	1510
08BS 9203	-		M 5	9,00	6,80	5,70	1,00	1400
08BS 9206	-		M 6	10,00	8,00	6,70	1,00	1130
08BS 9207	-		M 6	11,00	8,20	6,70	1,00	1510
08BS 9212	-		M 8	13,00	10,00	8,70	1,00	1330
08BS 9213	-		M 8	14,00	10,40	8,70	1,00	1550
08BS 9215	-		M 9	13,30	10,50	9,30	1,00	1200
08BS 9216	-		M 10	16,00	12,00	10,35	2,00	1470
08BS 9217	-		M 10	16,00	12,40	10,70	1,50	1350
08BS 9218	-		M 10	18,00	12,40	10,70	1,50	1880
08BS 9221	-		M 11	19,10	13,50	11,80	1,50	1250
08BS 9222	-		M 12	18,00	14,40	12,70	1,50	1250
08BS 9225	-		M 13	22,00	15,40	13,70	1,50	1810
08BS 9227	-		M 14	22,00	16,40	14,70	1,50	1510
08BS 9229	-		M 16	24,00	18,40	16,70	1,50	1400
08BS 9230	-		M 17	24,00	19,20	17,40	1,50	1150
08BS 9232	-		M 18	26,00	20,40	18,70	1,50	1275
08BS 9233	-		M 20	28,00	22,40	20,70	1,50	1150
08BS 9236	-		M 22	30,00	24,40	22,70	2,00	1100
08BS 9238	-		M 24	32,00	26,40	24,70	2,00	1050
08BS 9239	-		M 26	35,00	28,40	26,70	2,00	1050
08BS 9240	-		M 27	36,00	29,00	27,70	2,00	1130
08BS 9243	-		M 33	42,00	35,80	33,70	2,00	900
08BS 9245	-		M 36	46,00	38,80	36,70	2,00	890

Web: http://cat.hansa-flex.com/en/08BS9

FS

Seal for SAE and ISO flanges



Operating pressure: up to 500 bar
Temp. min.: -40 °C
Temp. max.: 120 °C
Media: Mineral oils
Material: Polyurethane 93 Shore A

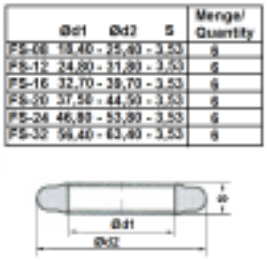
Identification	Flange size	d1	d2	S
		mm	mm	mm
FS-08	1/2"	18,40	25,40	3,53
FS-12	3/4"	24,80	31,80	3,53
FS-16	1"	32,70	39,70	3,53
FS-20	1.1/4"	37,50	44,50	3,53
FS-24	1.1/2"	46,80	53,80	3,53
FS-32	2"	56,40	63,40	3,53
FS-40	2.1/2"	69,40	76,20	3,53
FS-48	3"	85,30	91,90	3,53

Web: http://cat.hansa-flex.com/en/FSDIT

4

FS-BOX

Seal box for SAE and ISO flanges, SET



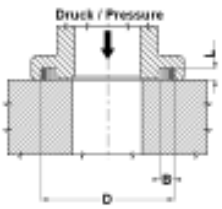
Operating pressure: up to 500 bar
Temp. min.: -40 °C
Temp. max.: 120 °C
Media: Mineral oils
Material: Polyurethane 93 Shore A

Identification	Flange size
FS-BOX	1/2" - 2"

Web: http://cat.hansa-flex.com/en/FSBOXDIT

SFS

SAE flange seal SFS



Good extrusion resistance. Long service life. Easy assembly because the seal and flange adhere to each other.

Operating pressure: to 420 bar (6000PSI)
Colour: yellow + black
Temp. min.: -35 °C
Temp. max.: 110 °C
Media: Mineral oils
Installation: on SAE flange 3000 and 6000 PSI
Material: 1) Polyurethane 57 Shore A, (2) Polyurethane 95 Shore A

Identification	Flange size	D	e	B
		mm	mm	mm
SFS - 08	1/2"	25,4	2,85	4,2
SFS - 12	3/4"	31,8	2,85	4,2
SFS - 16	1"	39,7	2,85	4,2
SFS - 20	1.1/4"	44,5	2,85	4,2
SFS - 24	1.1/2"	53,8	2,85	4,2
SFS - 32	2"	63,4	2,85	4,2

(Continued) SFS

SAE flange seal SFS

Identification	Flange size	D mm	e mm	B mm
SFS - 40	2.1/2"	76,2	2,85	4,2
SFS - 48	3"	91,9	2,85	4,2

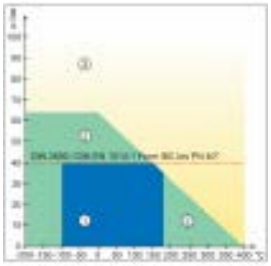
Web: http://cat.hansa-flex.com/en/SFS

5

Flat seals

FD C4400

Flat seal



Technical values for 2 mm thickness:
- compressibility ASTM F36 A = 11%
- resilience ASTM F36 A = 55 %
- creep resistance under load DIN 52913 = 25 MPA (50 MPA, 16 h / 300 °C)
- creep resistance under load BS 7531 = 23 MPA
- Thinning at 23 °C = 10 %
- Thinning at 300 °C = 22 %
- leak tightness according to DIN 3535/6 = 0.2 ml/min
- anti-corrosion aptitude (chloride content soluble) = 150 ppm
- Thickness change according to ASTM F 146 (oil JRM 903: 5 h / 23 °C) = 3 %
- Thickness change according to ASTM F 146 (fuel B: 5 h / 23 °C) = 5 %
- density = 1.6 g/cm3

Design: Universal high-pressure seal for a wide range of sectors
Construction type: ultra high-performance standard
Approval: DIN-DVGW approval, BAM-, HTB approved, KTW recommended, WRC approval
Media: Oil, Water, Steam, Gases, Saline solutions, Fuels, Alcohols, organic and inorganic acids, hydrocarbons, Lubricants, Refrigerants
Material: aramid fibres, bonded with NBR
Application: food processing, drinking water supply, Chemical industry

Note: Tolerances:
longitudinal dimension according to DIN 7715 - Part 5 P2,
thickness according to DIN 7715 - Part 5 P3,
surface seals according to DIN 2690 are only standardized to PN 40 bar

5

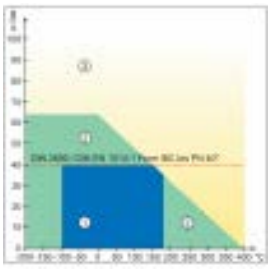
Identification	D	d	S
	mm	mm	mm
FD 15-11-1 C4400	15,0	11,00	1,00
FD 41-33.2-2 C4400	41,0	33,20	3,00
FD 55-41-1.5 C4400	55,0	41,00	1,50
FD 60-20-3 C4400	60,0	20,00	3,00
FD 70-45-3 C4400	70,0	45,00	3,00
FD 82-66-1 C4400	82,0	66,00	3,00
FD 85-70-0.5 C4400	85,0	70,00	0,50
FD 90-40-3 C4400	90,0	40,00	3,00
FD 100-50-3 C4400	100,0	50,00	3,00
FD 105-65-3 C4400	105,0	65,00	3,00
FD 110-75-2 C4400	110,0	75,00	2,00
FD 110-85-3 C4400	110,0	85,00	3,00
FD 140-121-1.5 C44	140,0	121,00	1,50
FD 140-121-1.5 C4400	140,0	121,00	1,50
FD 190-125-3 C4400	190,0	125,00	3,00
FD 220-150-3 C4400	220,0	150,00	3,00

Identification	D	d	S
	mm	mm	mm
FD 270-200-3 C4400	270,0	200,00	3,00
FD 280-162-2 C4400	280,0	162,00	2,00
FD 310-295-0.5 C44	310,0	295,00	0,50
FD 310-295-0.5 C4400	310,0	295,00	0,50
FD 320-250-3 C4400	320,0	250,00	3,00
FD 380-300-3 C4400	380,0	300,00	3,00
FD 380-325-2 C4400	380,0	325,00	3,00
FD 485-400-3 C4400	485,0	400,00	3,00
FD 540-490-3 C4400	540,0	490,00	3,00
FD 570-500-3 C4400	570,0	500,00	3,00
FD 590-500-3 C4400	590,0	500,00	3,00
FD 680-600-3 C4400	680,0	600,00	3,00
FD 800-670-3 C4400	800,0	670,00	3,00
FD 1080-1010-3 C44	1080,0	1010,00	3,00
FD 1080-1010-3 C4400	1080,0	1010,00	3,00

Web: http://cat.hansa-flex.com/en/FDC4400

FDDN PN C4400

Flat seal, DIN2690 asbestos-free



Technical values for 2 mm thickness:
- compressibility ASTM F36 A = 11%
- resilience ASTM F36 A = 55 %
- creep resistance under load DIN 52913 = 25 MPA (50 MPA, 16 h / 300 °C)
- creep resistance under load BS 7531 = 23 MPA
- Thinning at 23 °C = 10 %
- Thinning at 300 °C = 22 %
- leak tightness according to DIN 3535/6 = 0.2 ml/min
- anti-corrosion aptitude (chloride content soluble) = 150 ppm
- Thickness change according to ASTM F 146 (oil JRM 903: 5 h / 23 °C) = 3 %
- Thickness change according to ASTM F 146 (fuel B: 5 h / 23 °C) = 5 %
- density = 1.6 g/cm3

Design: Universal high-pressure seal for a wide range of sectors
Construction type: ultra high-performance standard
Approval: DIN-DVGW approval, BAM-, HTB approved, KTW recommended, WRC approval
Media: Oil, Water, Steam, Gases, Saline solutions, Fuels, Alcohols, organic and inorganic acids, hydrocarbons, Lubricants, Refrigerants
Material: aramid fibres, bonded with NBR
Application: Chemical industry, food processing, drinking water supply

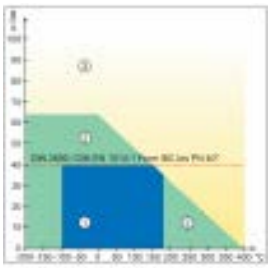
Note: Tolerances:
longitudinal dimension according to DIN 7715 - Part 5 P2,
thickness according to DIN 7715 - Part 5 P3,
surface seals according to DIN 2690 are only standardized to PN 40 bar

Identification	D	d	S
	mm	mm	mm
FD DN10 PN40 C4400	45,0	18,00	2,00
FD DN15 PN40 C4400	50,0	22,00	2,00
FD DN20 PN40 C4400	61,0	27,00	2,00
FD DN25 PN40 C4400	70,0	35,00	2,00
FD DN32 PN16 C4400	82,0	43,00	2,00
FD DN40 PN40 C4400	92,0	49,00	2,00
FD DN50 PN40 C4400	107,0	61,00	2,00
FD DN65 PN40 C4400	127,0	77,00	2,00
FD DN80 PN40 C4400	142,0	90,00	3,00
FD DN100 PN16 C4400	162,0	115,00	2,00
FD DN125 PN16 C4400	192,0	141,00	2,00
FD DN150 PN16 C4400	218,0	169,00	2,00
FD DN150 PN40 C4400	225,0	168,00	2,00
FD DN200 PN16 C4400	273,0	220,00	3,00
FD DN250 PN16 C4400	328,0	274,00	3,00
FD DN500 PN10 C4400	595,0	520,00	3,00

Web: http://cat.hansa-flex.com/en/FDDNPNC4400

PLATTE C4400

Sealing plate, asbestos-free



Technical values for 2 mm thickness:
- compressibility ASTM F36 A = 11%
- resilience ASTM F36 A = 55 %
- creep resistance under load DIN 52913 = 25 MPA (50 MPA, 16 h / 300 °C)
- creep resistance under load BS 7531 = 23 MPA
- Thinning at 23 °C = 10 %
- Thinning at 300 °C = 22 %
- leak tightness according to DIN 3535/6 = 0.2 ml/min
- anti-corrosion aptitude (chloride content soluble) = 150 ppm
- Thickness change according to ASTM F 146 (oil JRM 903: 5 h / 23 °C) = 3 %
- Thickness change according to ASTM F 146 (fuel B: 5 h / 23 °C) = 5 %
- density = 1.6 g/cm3

Design: Universal high-pressure seal for a wide range of sectors
Construction type: ultra high-performance standard
Media: Oil, Water, Steam, Gases, Saline solutions, Fuels, Alcohols, organic and inorganic acids, hydrocarbons, Lubricants, Refrigerants
Material: aramid fibres, bonded with NBR
Application: food processing, drinking water supply, Chemical industry

Note: Tolerances:
longitudinal dimension according to DIN 7715 - Part 5 P2,
thickness according to DIN 7715 - Part 5 P3,
surface seals according to DIN 2690 are only standardized to PN 40 bar

Identification	S
	mm
PLATTE C4400X0.5	0,50
PLATTE C4400X1.0	1,00
PLATTE C4400X1.5	1,50
PLATTE C4400X2.0	2,00
PLATTE C4400X2.5	2,50
PLATTE C4400X3.0	3,00

Web: http://cat.hansa-flex.com/en/PLATTEC4400

BOERD DI PN16

Sealing DIN2690 graphite/serrated perforated plate

Note: Tolerances:
longitudinal dimension according to DIN 7715 - Part 5 P2,
thickness according to DIN 7715 - Part 5 P3,

Identification	D	d	s
	mm	mm	mm
BOERD DI DN15 PN16	50,0	22,00	2,0
BOERD DI DN20 PN16	60,0	28,00	2,0
BOERD DI DN25 PN16	70,0	35,00	2,0
BOERD DI DN32 PN16	82,0	43,00	2,0
BOERD DI DN40 PN16	92,0	49,00	2,0
BOERD DI DN50 PN16	107,0	61,00	2,0
BOERD DI DN65 PN16	127,0	77,00	2,0
BOERD DI DN100 PN16	162,0	115,00	2,0
BOERD DI DN125 PN16	192,0	141,00	2,0
BOERD DI DN150 PN16	218,0	169,00	2,0
BOERD DI DN175 PN10	248,0	195,00	2,0
BOERD DI DN200 PN16	273,0	220,00	2,0
BOERD DI DN250 PN16	330,0	274,00	2,0
BOERD DI DN300 PN16	385,0	325,00	2,0
BOERD DI DN350 PN16	445,0	368,00	2,0
BOERD DI DN400 PN16	497,0	420,00	2,0
BOERD DI DN450 PN16	557,0	470,00	2,0

Web: http://cat.hansa-flex.com/en/BOERDDIPN16

FLAT SEALS – GRAPHITE WITHOUT GLUE (GRAPHITE / SERRATED PERFORATED PLATE)

Material profile
Made of expanded graphite reinforced with perforated stainless steel SUS316 (0.10 mm thick), used as seal material

Typical use
High thermal and mechanical loads, frequently changing loads; saturated steam, superheated steam, oil as heat carrier.

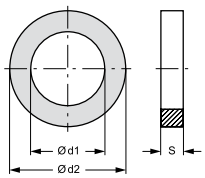
Properties	Standard	Unit	Values		
Thickness		mm	**1.0**	**2.0**	**3.0**
Density (graphite)		g/cm³	1.0	1.0	1.0
Compressibility	**ASTM F36/A**	%	35-50	35-50	35-50
Recovery	**ASTM F36/A**	%	10-20	10-20	10-20
Leakage rate	**DIN 3535**	ml/min	≤ 1.0	≤ 1.0	≤ 1.0
Temperature					
Max. temperature inert atmosphere		°C	2500	2500	2500
Continual work temp. (with oxidation)		°C	250	250	250
Short-term max. work temp. (inert atmosphere)		°C	550	550	550
Fluid resistant	**ASTM F146**				
ASTM 3 oil 150 °C, 5 h					
Weight increase		%	< 15	< 15	< 15
Thickness increase		%	≤ 6	≤ 6	≤ 6
LLC50% 100 °C, 22 h					
Weight increase		%	<15	<15	15
Thickness increase		%	≤ 6	≤ 6	≤ 6
Sulphur content	**ASTM C816**	ppm	≈ 1300	≈ 1300	≈ 1300
Leachable chloride content	**ASTM F1277**	ppm	≤ 50	≤ 50	≤ 50
Carbon content	**JB/T 914**	%	≥ 98.5	≥ 98.5	≥ 98.5
Fluoride content		ppm	≤ 30	≤ 30	≤ 30

6

Sealing rings

ALR (1,0 mm)

Aluminium sealing ring



Material: Aluminium

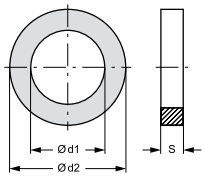
Identification	d1	d2	S
	mm	mm	mm
ALR 4-8-1	4,00	8,00	1,00
ALR 5-7.5-1	5,00	7,50	1,00
ALR 5-9-1	5,00	9,00	1,00
ALR 6-10-1	6,00	10,00	1,00
ALR 6-12-1	6,00	12,00	1,00
ALR 6.5-9.5-1	6,50	9,50	1,00
ALR 8-11.5-1	8,00	11,50	1,00

Identification	d1	d2	S
	mm	mm	mm
ALR 8-12-1	8,00	12,00	1,00
ALR 8-13-1	8,00	13,00	1,00
ALR 8-14-1	8,00	14,00	1,00
ALR 10-13.5-1	10,50	13,50	1,00
ALR 10-14-1	10,50	14,00	1,00
ALR 10-15-1	10,50	15,00	1,00
ALR 10-16-1	10,00	16,00	1,00

Web: http://cat.hansa-flex.com/en/ALR10MM

ALR (1,5 mm)

Aluminium sealing ring



Material: Aluminium

Identification	d1	d2	S
	mm	mm	mm
ALR 12-15-1.5	12,00	15,00	1,50
ALR 12-16-1.5	12,00	16,00	1,50
ALR 12-17-1.5	12,00	17,00	1,50
ALR 12-18-1.5	12,00	18,00	1,50
ALR 12-19-1.5	12,00	19,00	1,50
ALR 13-18-1.5	13,00	18,00	1,50
ALR 14-18-1.5	14,00	18,00	1,50
ALR 14-20-1.5	14,00	20,00	1,50
ALR 14-22-1.5	14,00	22,00	1,50
ALR 15-19-1.5	15,00	19,00	1,50
ALR 15-24-1.5	15,00	24,00	1,50
ALR 16-20-1.5	16,00	20,00	1,50

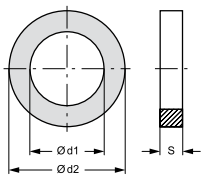
Identification	d1	d2	S
	mm	mm	mm
ALR 16-22-1.5	16,00	22,00	1,50
ALR 17-21-1.5	17,00	21,00	1,50
ALR 17-23-1.5	17,00	23,00	1,50
ALR 18-22-1.5	18,00	22,00	1,50
ALR 18-24-1.5	18,00	24,00	1,50
ALR 20-24-1.5	20,00	24,00	1,50
ALR 20-26-1.5	20,00	26,00	1,50
ALR 21-26-1.5	21,00	26,00	1,50
ALR 21-28-1.5	21,00	28,00	1,50
ALR 22-27-1.5	22,00	27,00	1,50
ALR 22-29-1.5	22,00	29,00	1,50

Web: http://cat.hansa-flex.com/en/ALR15MM

ALR (2,0 mm)

Aluminium sealing ring

Material: Aluminium



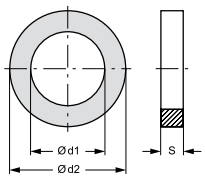
Identification	d1	d2	S
	mm	mm	mm
ALR 13-18-2	13,00	18,00	2,00
ALR 24-29-2	24,00	29,00	2,00
ALR 24-30-2	24,00	30,00	2,00
ALR 24-32-2	24,00	32,00	2,00
ALR 26-31-2	26,00	31,00	2,00
ALR 26-32-2	26,00	32,00	2,00
ALR 26-34-2	26,00	34,00	2,00
ALR 27-32-2	27,00	32,00	2,00
ALR 28-34-2	28,00	34,00	2,00
ALR 28-36-2	28,00	36,00	2,00
ALR 30-36-2	30,00	36,00	2,00

Identification	d1	d2	S
	mm	mm	mm
ALR 30-38-2	30,00	38,00	2,00
ALR 32-38-2	32,00	38,00	2,00
ALR 33-39-2	33,00	39,00	2,00
ALR 35-41-2	35,00	41,00	2,00
ALR 36-42-2	36,00	42,00	2,00
ALR 38-44-2	38,00	44,00	2,00
ALR 40-47-2	40,00	47,00	2,00
ALR 42-49-2	42,00	49,00	2,00
ALR 45-52-2	45,00	52,00	2,00
ALR 48-55-2	48,00	55,00	2,00
ALR 50-57-2	50,00	57,00	2,00

Web: http://cat.hansa-flex.com/en/ALR20MM

CR (1,0 mm)

Copper sealing ring, 1 mm thick



Design: Sealing ring
Temp. min.: -50 °C
Temp. max.: 300 °C
Material: Copper

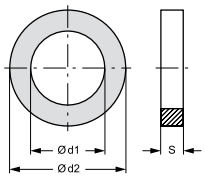
Identification	d1	d2	S
	mm	mm	mm
CR 4-8-1	4,00	8,00	1,00
CR 5-7.5-1	5,00	7,50	1,00
CR 5-8-1	5,00	8,00	1,00
CR 5-9-1	5,00	9,00	1,00
CR 5-10-1	5,00	10,00	1,00
CR 5.5-8-1	5,50	8,00	1,00
CR 6-10-1	6,00	10,00	1,00
CR 6-12-1	6,00	12,00	1,00
CR 6.5-9.5-1	6,50	9,50	1,00
CR 6.5-11-1	6,50	11,00	1,00
CR 8-11.5-1	8,00	11,50	1,00
CR 8-12-1	8,00	12,00	1,00
CR 8-13-1	8,00	13,00	1,00
CR 8-14-1	8,00	14,00	1,00
CR 8-15-1	8,00	15,00	1,00
CR 9-13-1	9,00	13,00	1,00
CR 9-14-1	9,00	14,00	1,00
CR 10-13-1	10,00	13,00	1,00
CR 10-13.5-1	10,00	13,50	1,00
CR 10-14-1	10,00	14,00	1,00
CR 10-15-1	10,00	15,00	1,00
CR 10-16-1	10,00	16,00	1,00
CR 10-17-1	10,00	17,00	1,00
CR 10-18-1	10,00	18,00	1,00
CR 10-20-1	10,00	20,00	1,00
CR 11-17-1	11,00	17,00	1,00
CR 11-20-1	11,00	20,00	1,00
CR 12-15.5-1	12,00	15,50	1,00
CR 12-16-1	12,00	16,00	1,00
CR 12-17-1	12,00	17,00	1,00

Identification	d1	d2	S
	mm	mm	mm
CR 12-18-1	12,00	18,00	1,00
CR 12-20-1	12,00	20,00	1,00
CR 13-17-1	13,00	17,00	1,00
CR 13-18-1	13,00	18,00	1,00
CR 13-19-1	13,00	19,00	1,00
CR 13-20-1	13,00	20,00	1,00
CR 14-18-1	14,00	18,00	1,00
CR 14-20-1	14,00	20,00	1,00
CR 14-24-1	14,00	24,00	1,00
CR 15-20-1	15,00	20,00	1,00
CR 16.5-24-1	16,50	24,00	1,00
CR 16-20-1	16,00	20,00	1,00
CR 16-22-1	16,00	22,00	1,00
CR 17-21-1	17,00	21,00	1,00
CR 17-22-1	17,00	22,00	1,00
CR 17-23-1	17,00	23,00	1,00
CR 18-22-1	18,00	22,00	1,00
CR 18-24-1	18,00	24,00	1,00
CR 20-24-1	20,00	24,00	1,00
CR 20-26-1	20,00	26,00	1,00
CR 21-26-1	21,00	26,00	1,00
CR 21-27-1	21,00	27,00	1,00
CR 21-28-1	21,00	28,00	1,00
CR 21-30-1	21,00	30,00	1,00
CR 22-27-1	22,00	27,00	1,00
CR 22-28-1	22,00	28,00	1,00
CR 22-29-1	22,00	29,00	1,00
CR 24-30-1	24,00	30,00	1,00
CR 26-30-1	26,00	30,00	1,00
CR 30-36-1	30,00	36,00	1,00

Web: http://cat.hansa-flex.com/en/CR10MM

CR (1,5 mm)

Copper sealing ring, 1.5 mm thick



Design: Sealing ring
Temp. min.: -50 °C
Temp. max.: 300 °C
Material: Copper

Identification	d1	d2	S
	mm	mm	mm
CR 5-9-1.5	5,00	9,00	1,50
CR 5-11-1.5	5,00	11,00	1,50
CR 6-10-1.5	6,00	10,00	1,50
CR 6-12-1.5	6,00	12,00	1,50
CR 8-11.5-1.5	8,00	11,50	1,50
CR 8-12-1.5	8,00	12,00	1,50
CR 8-13-1.5	8,00	13,00	1,50
CR 8-14-1.5	8,00	14,00	1,50
CR 9-14-1.5	9,00	14,00	1,50
CR 10-13.5-1.5	10,00	13,50	1,50
CR 10-14-1.5	10,00	14,00	1,50
CR 10-15-1.5	10,00	15,00	1,50
CR 10-16-1.5	10,00	16,00	1,50
CR 10-17-1.5	10,00	17,00	1,50
CR 10-18-1.5	10,00	18,00	1,50
CR 10-20-1.5	10,00	20,00	1,50
CR 11-17-1.5	11,00	17,00	1,50
CR 12-15.5-1.5	12,00	15,50	1,50
CR 12-16-1.5	12,00	16,00	1,50
CR 12-17-1.5	12,00	17,00	1,50

Identification	d1	d2	S
	mm	mm	mm
CR 12-18-1.5	12,00	18,00	1,50
CR 12-19-1.5	12,00	19,00	1,50
CR 12-20-1.5	12,00	20,00	1,50
CR 13-17-1.5	13,00	17,00	1,50
CR 13-18-1.5	13,00	18,00	1,50
CR 13-19-1.5	13,00	19,00	1,50
CR 13-20-1.5	13,00	20,00	1,50
CR 13.5-17.5-1.5	13,50	17,50	1,50
CR 14-18-1.5	14,00	18,00	1,50
CR 14-20-1.5	14,00	20,00	1,50
CR 14-22-1.5	14,00	22,00	1,50
CR 14-23-1.5	14,00	23,00	1,50
CR 14-24-1.5	14,00	24,00	1,50
CR 15-19-1.5	15,00	19,00	1,50
CR 15-20-1.5	15,00	20,00	1,50
CR 16-20-1.5	16,00	20,00	1,50
CR 16-21-1.5	16,00	21,00	1,50
CR 16-22-1.5	16,00	22,00	1,50
CR 16-24-1.5	16,00	24,00	1,50
CR 16.5-22-1.5	16,50	22,00	1,50

→

(Continued) CR (1,5 mm)

Copper sealing ring, 1.5 mm thick

Identification	d1	d2	S
	mm	mm	mm
CR 16.5-23-1.5	16,50	23,00	1,50
CR 16.5-24-1.5	16,50	24,00	1,50
CR 17-21-1.5	17,00	21,00	1,50
CR 17-22-1.5	17,00	22,00	1,50
CR 17-23-1.5	17,00	23,00	1,50
CR 17-25-1.5	17,00	25,00	1,50
CR 18-22-1.5	18,00	22,00	1,50
CR 18-23-1.5	18,00	23,00	1,50
CR 18-24-1.5	18,00	24,00	1,50
CR 18-26-1.5	18,00	26,00	1,50
CR 19-25-1.5	19,00	25,00	1,50
CR 20-24-1.5	20,00	24,00	1,50
CR 20-26-1.5	20,00	26,00	1,50
CR 20-28-1.5	20,00	28,00	1,50
CR 21-25-1.5	21,00	25,00	1,50
CR 21-26-1.5	21,00	26,00	1,50
CR 21-27-1.5	21,00	27,00	1,50
CR 21-28-1.5	21,00	28,00	1,50
CR 22-26-1.5	22,00	26,00	1,50
CR 22-27-1.5	22,00	27,00	1,50

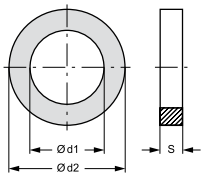
Identification	d1	d2	S
	mm	mm	mm
CR 22-28-1.5	22,00	28,00	1,50
CR 22-29-1.5	22,00	29,00	1,50
CR 23-30-1.5	23,00	30,00	1,50
CR 24-29-1.5	24,00	29,00	1,50
CR 24-30-1.5	24,00	30,00	1,50
CR 24-32-1.5	24,00	32,00	1,50
CR 26-31-1.5	26,00	31,00	1,50
CR 26-32-1.5	26,00	32,00	1,50
CR 26-34-1.5	26,00	34,00	1,50
CR 27-32-1.5	27,00	32,00	1,50
CR 27-35-1.5	27,00	35,00	1,50
CR 30-36-1.5	30,00	36,00	1,50
CR 30-38-1.5	30,00	38,00	1,50
CR 32-38-1.5	32,00	38,00	1,50
CR 33-39-1.5	33,00	39,00	1,50
CR 35-41-1.5	35,00	41,00	1,50
CR 36-42-1.5	36,00	42,00	1,50
CR 38-46-1.5	38,00	46,00	1,50
CR 42-51-1.5	42,00	51,00	1,50

Web: http://cat.hansa-flex.com/en/CR15MM

CR (2,0 mm)

Copper sealing ring, 2 mm thick

Design: Sealing ring
Temp. min.: -50 °C
Temp. max.: 300 °C
Material: Copper



Identification	d1	d2	S
	mm	mm	mm
CR 5-9-2	5,00	9,00	2,00
CR 6-10-2	6,00	10,00	2,00
CR 6-12-2	6,00	12,00	2,00
CR 6.2-17.5-2	6,20	17,50	2,00
CR 8-11.5-2	8,00	11,50	2,00
CR 8-12-2	8,00	12,00	2,00
CR 8-13-2	8,00	13,00	2,00
CR 8-14-2	8,00	14,00	2,00
CR 8-19-2	8,00	19,00	2,00
CR 10-13.5-2	10,00	13,50	2,00
CR 10-14-2	10,00	14,00	2,00
CR 10-15-2	10,00	15,00	2,00
CR 10-16-2	10,00	16,00	2,00
CR 10-18-2	10,00	18,00	2,00
CR 10-20-2	10,00	20,00	2,00
CR 12-16-2	12,00	16,00	2,00
CR 12-17-2	12,00	17,00	2,00
CR 12-18-2	12,00	18,00	2,00
CR 12-20-2	12,00	20,00	2,00
CR 13-17-2	13,00	17,00	2,00
CR 13-18-2	13,00	18,00	2,00
CR 13-19-2	13,00	19,00	2,00
CR 13-20-2	13,00	20,00	2,00
CR 14-18-2	14,00	18,00	2,00
CR 14-20-2	14,00	20,00	2,00
CR 14-22-2	14,00	22,00	2,00
CR 14-24-2	14,00	24,00	2,00
CR 15-20-2	15,00	20,00	2,00
CR 16-20-2	16,00	20,00	2,00
CR 16-21-2	16,00	21,00	2,00
CR 16-22-2	16,00	22,00	2,00
CR 16-24-2	16,00	24,00	2,00
CR 17-21-2	17,00	21,00	2,00
CR 17-22-2	17,00	22,00	2,00
CR 17-23-2	17,00	23,00	2,00
CR 17-25-2	17,00	25,00	2,00
CR 18-22-2	18,00	22,00	2,00
CR 18-23-2	18,00	23,00	2,00
CR 18-24-2	18,00	24,00	2,00
CR 20-24-2	20,00	24,00	2,00
CR 20-26-2	20,00	26,00	2,00
CR 21-26-2	21,00	26,00	2,00
CR 21-27-2	21,00	27,00	2,00

Identification	d1	d2	S
	mm	mm	mm
CR 21-28-2	21,00	28,00	2,00
CR 22-26-2	22,00	26,00	2,00
CR 22-27-2	22,00	27,00	2,00
CR 22-28-2	22,00	28,00	2,00
CR 22-29-2	22,00	29,00	2,00
CR 23-28-2	23,00	28,00	2,00
CR 23-30-2	23,00	30,00	2,00
CR 24-29-2	24,00	29,00	2,00
CR 24-30-2	24,00	30,00	2,00
CR 24-32-2	24,00	32,00	2,00
CR 25-30-2	25,00	30,00	2,00
CR 25-33-2	25,00	33,00	2,00
CR 26-31-2	26,00	31,00	2,00
CR 26-32-2	26,00	32,00	2,00
CR 26-34-2	26,00	34,00	2,00
CR 26-36-2	26,00	36,00	2,00
CR 26.5-33-2	26,50	33,00	2,00
CR 27-32-2	27,00	32,00	2,00
CR 27-33-2	27,00	33,00	2,00
CR 27-34-2	27,00	34,00	2,00
CR 27-35-2	27,00	35,00	2,00
CR 27-38-2	27,00	38,00	2,00
CR 28-33-2	28,00	33,00	2,00
CR 28-34-2	28,00	34,00	2,00
CR 28-36-2	28,00	36,00	2,00
CR 30-36-2	30,00	36,00	2,00
CR 30-38-2	30,00	38,00	2,00
CR 30-42-2	30,00	42,00	2,00
CR 31-43-2	31,00	43,00	2,00
CR 32-38-2	32,00	38,00	2,00
CR 32-40-2	32,00	40,00	2,00
CR 33-39-2	33,00	39,00	2,00
CR 33-40-2	33,00	40,00	2,00
CR 33-41-2	33,00	41,00	2,00
CR 35-41-2	35,00	41,00	2,00
CR 36-42-2	36,00	42,00	2,00
CR 36-44-2	36,00	44,00	2,00
CR 38-44-2	38,00	44,00	2,00
CR 38-46-2	38,00	46,00	2,00
CR 38-49-2	38,00	49,00	2,00
CR 39-46-2	39,00	46,00	2,00
CR 39-48-2	39,00	48,00	2,00
CR 40-47-2	40,00	47,00	2,00

CR (2,0 mm) (Continued)

Copper sealing ring, 2 mm thick

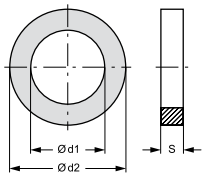
Identification	d1	d2	S
	mm	mm	mm
CR 40-49-2	40,00	49,00	2,00
CR 42-49-2	42,00	49,00	2,00
CR 44-51-2	44,00	51,00	2,00
CR 45-52-2	45,00	52,00	2,00

Identification	d1	d2	S
	mm	mm	mm
CR 48-55-2	48,00	55,00	2,00
CR 48-57-2	48,00	57,00	2,00
CR 50-57-2	50,00	57,00	2,00

Web: http://cat.hansa-flex.com/en/CR20MM

CR (2,5 - 3,5 mm)

Copper sealing ring, 2.5 - 3.5 mm thick



Design: Sealing ring
Temp. min.: -50 °C
Temp. max.: 300 °C
Material: Copper

Identification	d1	d2	S
	mm	mm	mm
CR 6.2-17.5-2.5	6,20	17,50	2,50
CR 11-24-2.5	11,00	24,00	2,50
CR 52-60-2.5	52,00	60,00	2,50
CR 60-68-2.5	60,00	68,00	2,50
CR 64-72-2.5	64,00	72,00	2,50

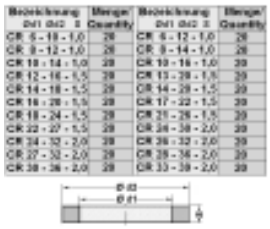
Identification	d1	d2	S
	mm	mm	mm
CR 65-74-2.5	65,00	74,00	2,50
CR 75-84-2.5	75,00	84,00	2,50
CR 90-100-2.5	90,00	100,00	2,50
CR 21-27-3	21,00	27,00	3,00
CR 35-42-3.5	35,00	42,00	3,50

Web: http://cat.hansa-flex.com/en/CR2535MM

6

CR SET

Copper sealing ring set



Design: Sealing ring
Included in scope of supply: Consisting of 440 parts:
Temp. min.: -250 °C
Temp. max.: 300 °C
Material: Copper

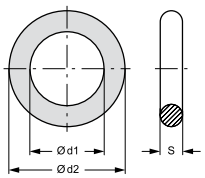
Identification	Dimension
CR SET	340mm x 240mm x 60mm

Web: http://cat.hansa-flex.com/en/CRSET

CAR (1,5 mm)

Copper ring with asbestos filler, thickness 1,5 mm

Material: Copper



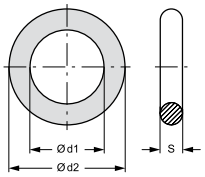
Identification	d1	d2	S
	mm	mm	mm
CAR 6-10-1.5	6,00	10,00	1,50
CAR 6-12-1.5	6,00	12,00	1,50
CAR 8-11.5-1.5	8,00	11,50	1,50
CAR 8-12-1.5	8,00	12,00	1,50
CAR 8-13-1.5	8,00	13,00	1,50
CAR 8-14-1.5	8,00	14,00	1,50
CAR 10-13.5-1.5	10,00	13,50	1,50
CAR 10-14-1.5	10,00	14,00	1,50
CAR 10-15-1.5	10,00	15,00	1,50
CAR 10-16-1.5	10,00	16,00	1,50

Web: http://cat.hansa-flex.com/en/CAR15MM

CAR (2,0 mm)

Copper ring with asbestos filler, thickness 2 mm

Material: Copper

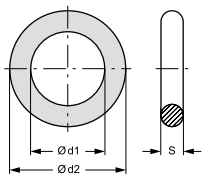


Identification	d1	d2	S
	mm	mm	mm
CAR 12-15.5-2	12,00	15,50	2,00
CAR 12-16-2	12,00	16,00	2,00
CAR 12-17-2	12,00	17,00	2,00
CAR 12-18-2	12,00	18,00	2,00
CAR 13-18-2	13,00	18,00	2,00
CAR 13-19-2	13,00	19,00	2,00
CAR 14-18-2	14,00	18,00	2,00
CAR 14-20-2	14,00	20,00	2,00
CAR 16-20-2	16,00	20,00	2,00
CAR 16-22-2	16,00	22,00	2,00
CAR 17-21-2	17,00	21,00	2,00
CAR 17-23-2	17,00	23,00	2,00
CAR 18-22-2	18,00	22,00	2,00
CAR 18-24-2	18,00	24,00	2,00
CAR 20-24-2	20,00	24,00	2,00
CAR 20-26-2	20,00	26,00	2,00
CAR 21-26-2	21,00	26,00	2,00
CAR 22-27-2	22,00	27,00	2,00
CAR 22-29-2	22,00	29,00	2,00

Web: http://cat.hansa-flex.com/en/CAR20MM

CAR (2,5 mm)

Copper ring with asbestos filler, thickness 2,5 mm



Material: Copper

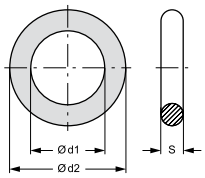
Identification	d1	d2	S
	mm	mm	mm
CAR 24-29-2.5	24,00	29,00	2,50
CAR 24-30-2.5	24,00	30,00	2,50
CAR 24-32-2.5	24,00	32,00	2,50
CAR 26-31-2.5	26,00	31,00	2,50
CAR 26-32-2.5	26,00	32,00	2,50
CAR 26-34-2.5	26,00	34,00	2,50
CAR 27-32-2.5	27,00	32,00	2,50
CAR 28-34-2.5	28,00	34,00	2,50
CAR 30-36-2.5	30,00	36,00	2,50
CAR 30-38-2.5	30,00	28,00	2,50
CAR 32-38-2.5	32,00	28,00	2,50
CAR 33-39-2.5	33,00	39,00	2,50
CAR 35-41-2.5	35,00	41,00	2,50
CAR 36-42-2.5	36,00	42,00	2,50
CAR 38-44-2.5	38,00	44,00	2,50
CAR 40-47-2.5	40,00	47,00	2,50
CAR 42-49-2.5	42,00	49,00	2,50
CAR 45-52-2.5	45,00	52,00	2,50
CAR 48-55-2.5	48,00	55,00	2,50

Web: http://cat.hansa-flex.com/en/CAR25MM

6

CAR (3,0 mm)

Copper ring with asbestos filler, thickness 3 mm



Material: Copper

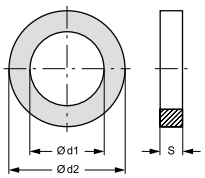
Identification	d1	d2	S
	mm	mm	mm
CAR 52-60-3	52,00	60,00	3,00
CAR 60-68-3	60,00	68,00	3,00

Web: http://cat.hansa-flex.com/en/CAR30MM

VFR (1,0 mm)

Vulcanised fibre sealing ring, 1 mm thick

Standard: DIN 7603-A
Material: Vulcanised fibre



Identification	d1	d2	S
	mm	mm	mm
VFR 4-8-1	4,00	8,00	1,00
VFR 5-9-1	5,00	9,00	1,00
VFR 6-10-1	6,00	10,00	1,00
VFR 8-12-1	8,00	12,00	1,00

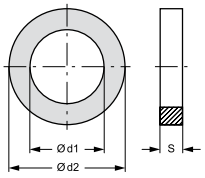
Identification	d1	d2	S
	mm	mm	mm
VFR 8-14-1	8,00	14,00	1,00
VFR 10-14-1	10,00	14,00	1,00
VFR 10-16-1	10,00	16,00	1,00
VFR 13-18-1	13,00	18,00	1,00

Web: http://cat.hansa-flex.com/en/VFR10MM

VFR (1,5 mm)

Vulcanised fibre sealing ring, 1.5 mm thick

Standard: DIN 7603-A
Material: Vulcanised fibre



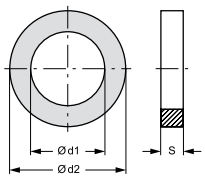
Identification	d1	d2	S
	mm	mm	mm
VFR 5-11-1.5	5,00	11,00	1,50
VFR 12-16-1.5	12,00	16,00	1,50
VFR 12-17-1.5	12,00	17,00	1,50
VFR 12-18-1.5	12,00	18,00	1,50
VFR 12-19-1.5	12,00	19,00	1,50
VFR 12-20-1.5	12,00	20,00	1,50
VFR 12-22-1.5	12,00	22,00	1,50
VFR 13-18-1.5	13,00	18,00	1,50
VFR 13-20-1.5	13,00	20,00	1,50
VFR 14-18-1.5	14,00	18,00	1,50
VFR 14-20-1.5	14,00	20,00	1,50
VFR 14-22-1.5	14,00	22,00	1,50
VFR 14-24-1.5	14,00	24,00	1,50
VFR 15-19-1.5	15,00	19,00	1,50

Identification	d1	d2	S
	mm	mm	mm
VFR 15-24-1.5	15,00	24,00	1,50
VFR 16-20-1.5	16,00	20,00	1,50
VFR 16-22-1.5	16,00	22,00	1,50
VFR 17-21-1.5	17,00	21,00	1,50
VFR 17-23-1.5	17,00	23,00	1,50
VFR 18-22-1.5	18,00	22,00	1,50
VFR 18-24-1.5	18,00	24,00	1,50
VFR 20-24-1.5	20,00	24,00	1,50
VFR 20-26-1.5	20,00	26,00	1,50
VFR 21-26-1.5	21,00	26,00	1,50
VFR 21-28-1.5	21,00	28,00	1,50
VFR 22-27-1.5	22,00	27,00	1,50
VFR 22-29-1.5	22,00	29,00	1,50

Web: http://cat.hansa-flex.com/en/VFR15MM

VFR (2,0 mm)

Vulcanised fibre sealing ring, 2 mm thick

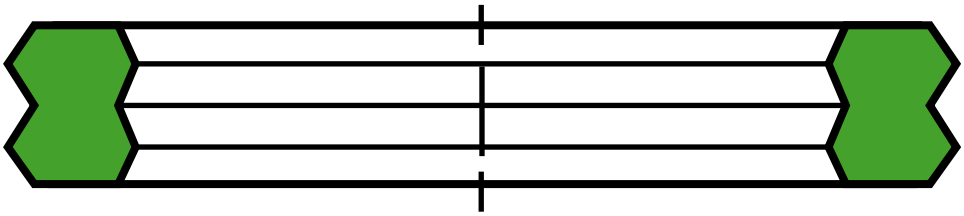


Standard: DIN 7603-A
Material: Vulcanised fibre

Identification	d1	d2	S
	mm	mm	mm
VFR 6.2-17.5-2	6,20	17,50	2,00
VFR 24-30-2	24,00	30,00	2,00
VFR 26-32-2	26,00	32,00	2,00
VFR 27-32-2	27,00	32,00	2,00
VFR 28-34-2	28,00	34,00	2,00
VFR 30-36-2	30,00	36,00	2,00
VFR 32-38-2	32,00	38,00	2,00

Identification	d1	d2	S
	mm	mm	mm
VFR 33-39-2	33,00	39,00	2,00
VFR 35-41-2	35,00	41,00	2,00
VFR 36-42-2	36,00	42,00	2,00
VFR 40-47-2	40,00	47,00	2,00
VFR 42-49-2	42,00	49,00	2,00
VFR 45-52-2	45,00	52,00	2,00
VFR 48-55-2	48,00	55,00	2,00

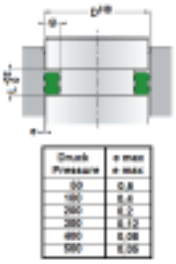
Web: http://cat.hansa-flex.com/en/VFR20MM



Moulded parts

XS AK 353

Moulded seals XS AK 353



O-ring grooves according to ISO standards may be manufactured in a wide range of dimensions. For sections of 3.53 mm, the groove depth varies according to ISO 2.7 to 3.1 mm. For the best possible seal in all dimension ranges this seal has been developed that can replace conventional O-rings. Interchangeable with O-rings High resistance to extrusion. no anti-extrusion ring required

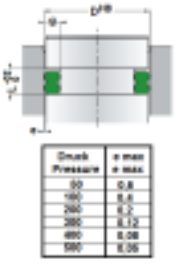
Design: Sealing ring
Operating pressure: up to 500 bar
Temp. range: PU18: -30 °C bis +100 °C, PU33: -40 °C bis + 120 °C

Identification	D (mm)	g (mm)	L (mm)	cross section mm	Material
XS 40 - AK 353	40 to 41.9 mm	2.7 to 3.1 mm		3,53	PU33
XS 42 - AK 353	42 to 43.9 mm	2.7 to 3.1 mm		3,53	PU18
XS 44 - AK 353	44 to 45.9 mm	2.7 to 3.1 mm		3,53	PU33
XS 46 - AK 353	46 to 47.9 mm	2.7 to 3.1 mm		3,53	PU18
XS 48 - AK 353	48 to 49.9 mm	2.7 to 3.1 mm		3,53	PU18
XS 50 - AK 353	50 to 51.9 mm	2.7 to 3.1 mm		3,53	PU33
XS 52 - AK 353	52 to 53.9 mm	2.7 to 3.1 mm		3,53	PU18
XS 54 - AK 353	54 to 55.9 mm	2.7 to 3.1 mm		3,53	PU33
XS 56 - AK 353	56 to 57.9 mm	2.7 to 3.1 mm		3,53	PU18
XS 58 - AK 353	58 to 59.9 mm	2.7 to 3.1 mm		3,53	PU18
XS 60 - AK 353	60 to 62.9 mm	2.7 to 3.1 mm		3,53	PU33
XS 63 - AK 353	63 to 65.9 mm	2.7 to 3.1 mm		3,53	PU33
XS 66 - AK 353	66 to 69.9 mm	2.7 to 3.1 mm		3,53	PU18
XS 70 - AK 353	70 to 72.9 mm	2.7 to 3.1 mm		3,53	PU33
XS 73 - AK 353	73 to 75.9 mm	2.7 to 3.1 mm		3,53	PU33
XS 76 - AK 353	76 to 79.9 mm	2.7 to 3.1 mm		3,53	PU18
XS 80 - AK 353	80 to 84 mm	2.7 to 3.1 mm		3,53	PU33

Web: http://cat.hansa-flex.com/en/XSAK353

XS AK 534

Moulded seals XS AK 534

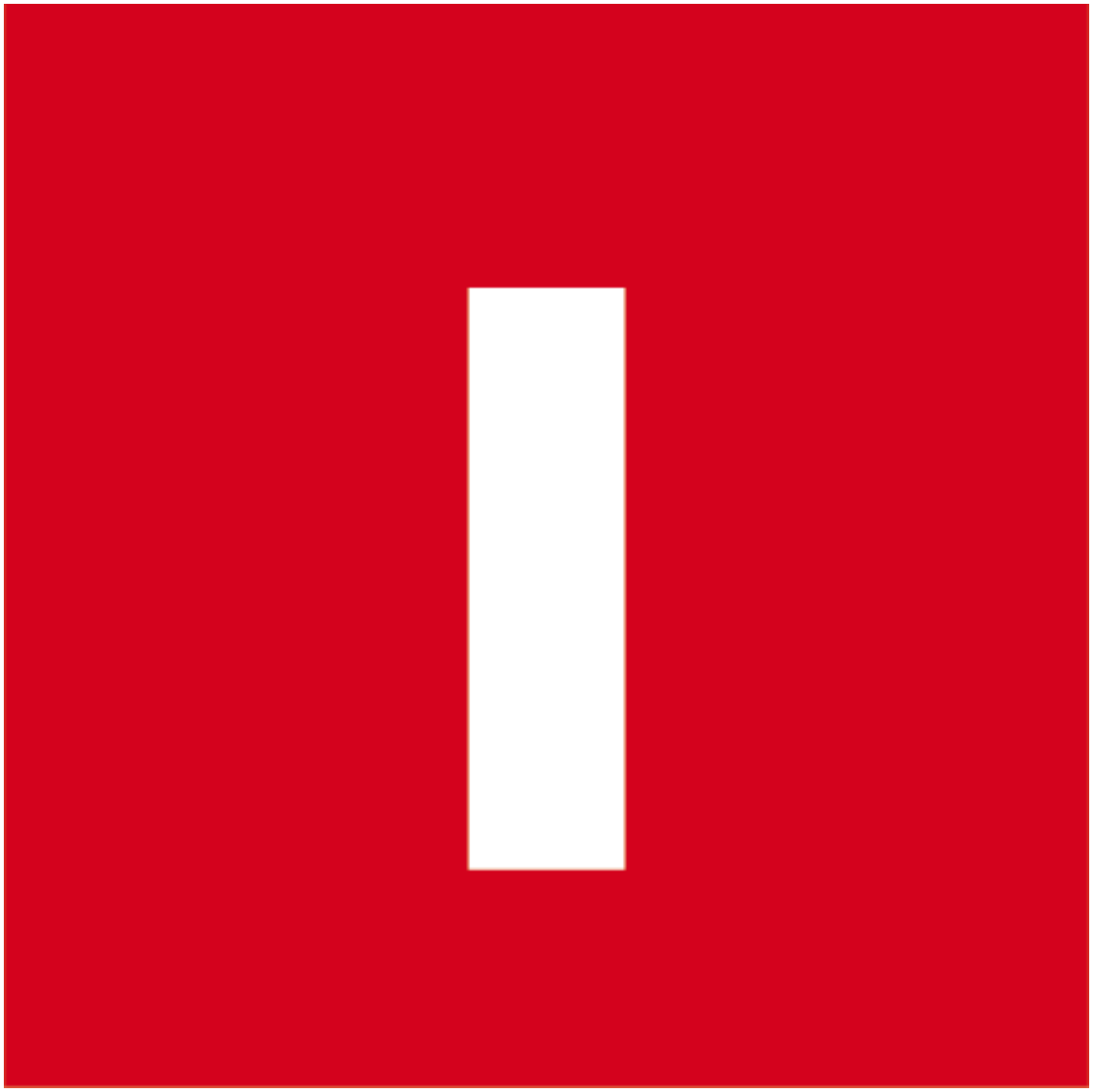


O-ring grooves according to ISO standards may be manufactured in a wide range of dimensions. For sections of 3.53 mm, the groove depth varies according to ISO 2.7 to 3.1 mm. For the best possible seal in all dimension ranges this seal has been developed that can replace conventional O-rings. Interchangeable with O-rings High resistance to extrusion. no anti-extrusion ring required

Design: Sealing ring
Operating pressure: up to 500 bar
Temp. range: PU18: -30 °C bis +100 °C, PU33: -40 °C bis + 120 °C

Identification	D (mm)	g (mm)	L (mm)	cross section mm	Material
XS 80 - AK 534	80 to 84.9 mm	4.3 to 4.7 mm		5,34	PU33
XS 85 - AK 534	85 to 89.9 mm	4.3 to 4.7 mm		5,34	PU33
XS 90 - AK 534	90 to 94.9 mm	4.3 to 4.7 mm		5,34	PU33
XS 95 - AK 534	95 to 99.9 mm	4.3 to 4.7 mm		5,34	PU18
XS 100 - AK 534	100 to 104.9 mm	4.3 to 4.7 mm		5,34	PU33
XS 105 - AK 534	105 to 109.9 mm	4.3 to 4.7 mm		5,34	PU18
XS 110 - AK 534	110 to 114.9 mm	4.3 to 4.7 mm		5,34	PU33
XS 115 - AK 534	115 to 119.9 mm	4.3 to 4.7 mm		5,34	PU18
XS 120 - AK 534	120 to 124.9 mm	4.3 to 4.7 mm		5,34	PU18
XS 125 - AK 534	125 to 129.9 mm	4.3 to 4.7 mm		5,34	PU18
XS 130 - AK 534	130 to 135.9 mm	4.3 to 4.7 mm		5,34	PU18
XS 136 - AK 534	136 to 142.9 mm	4.3 to 4.7 mm		5,34	PU18
XS 143 - AK 534	143 to 149.9 mm	4.3 to 4.7 mm		5,34	PU18
XS 150 - AK 534	150 to 157.9 mm	4.3 to 4.7 mm		5,34	PU18
XS 158 - AK 534	158 to 165.9 mm	4.3 to 4.7 mm		5,34	PU18
XS 166 - AK 534	166 to 173.9 mm	4.3 to 4.7 mm		5,34	PU18
XS 174 - AK 534	174 to 181.9 mm	4.3 to 4.7 mm		5,34	PU18
XS 182 - AK 534	182 to 189.9 mm	4.3 to 4.7 mm		5,34	PU18
XS 190 - AK 534	190 to 199.9 mm	4.3 to 4.7 mm		5,34	PU18
XS 200 - AK 534	200 to 210 mm	4.3 to 4.7 mm		5,34	PU18

Web: http://cat.hansa-flex.com/en/XSAK534



Subject Index / Index

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- Pipes
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- Adapters
- Flanges
- Ball valves
- Measuring equipment

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- Hoses
- Compressed air technology
- Hose fittings
- Fluid service
- Couplings
- Accessories and tools
- Ball valves
- Mounting technology
- Water technology

Pneumatic Products

- Hoses and accessories
- Cylinders and control valves
- Hose couplings
- Service units
- Screw fittings and connectors
- linear drive technology
- Pipeline system Infinity
- Vacuum technology
- Pressure and temperature measurement
- Valves and shut-off devices

Metal Hoses

- Metal hoses
- Hose fittings
- PTFE hoses
- Wound hoses
- Coolant hoses
- Expansion joints
- Hose protection

Hydraulic Components

- Hydraulic components
- Tanks
- Pumps
- High-pressure hydraulics 700 bar
- Hydraulic motors
- Cylinders and cylinder components
- Valves
- Electric motors
- Pressure accumulators
- Filtration
- Heat exchangers
- Measuring equipment

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