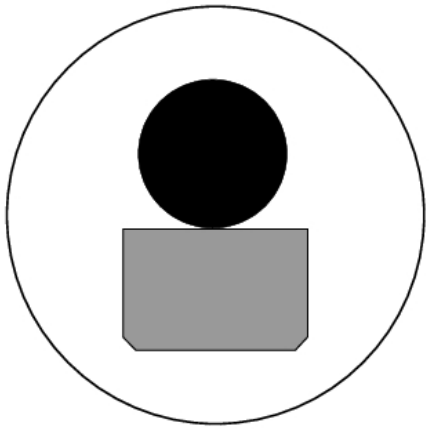
Rod Seal
HS 255

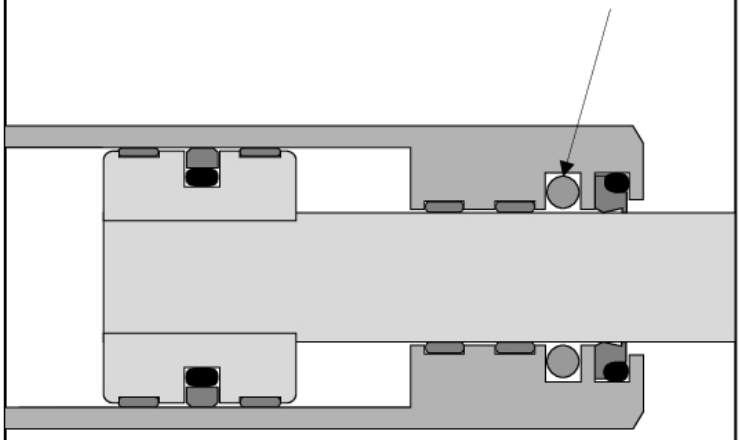
Double acting rod seals of the HS 255 series can be used in all hydraulics applications. Different materials combinations guarantee high functional reliability and long life over the entire pressure and velocity range at low friction considering various temperatures and pressure of fluids.

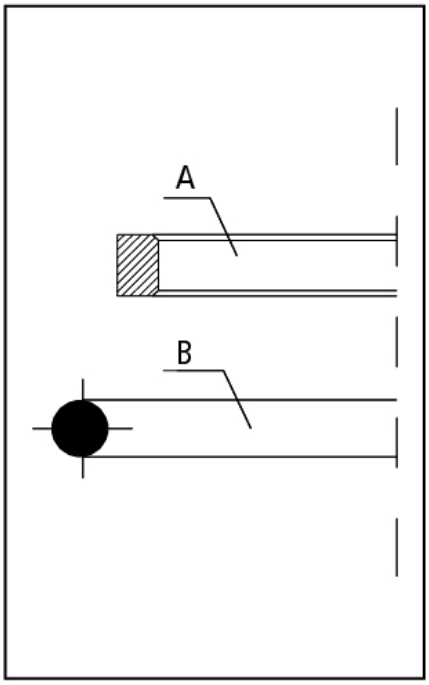
Special Features:

- Two part composition comprising of profile gasket and O-ring
- Outstanding shear characteristics, no stick-slip effect
- Good dynamic and static sealing
- Good abrasion resistance, long life
- Wide temperature range and chemical resistance depending on choice of O-ring material
- Suitable for mounting into undivided grooves
- Available for all rod diameters up to approx. 2500 mm.



Material	: PTFE-Compound
Operating pressure	: up to 40 MPa (400 bar)
Velocity	: reciprocating to 15 m/s
Temperature	: -40 to +200 °C





Profile Gasket (Part A)

Gasket section is rectangular and is provided with a chamfer on the dynamic side so as to simplify mounting.

Profile gaskets are manufactured from specially modified PTFE materials. Compound 55 is the standard material of construction (MOC) that is used in hydraulics applications. This material is particularly superior in respect of very high abrasion resistance, inherent stability, very good shearing characteristics and very good thermal and chemical resistance.

O-Ring (Part B)

O-rings are standard sealing elements with circular cross section. Those used in the present application conform to the series of dimensions as per AS 568 A (American norms). Standard MOC for hydraulics applications is NBR (Acrylonitrile Butadiene Rubber) which guarantees particularly good resistance to hydraulic fluids.

For use with profile gaskets O-rings with hardness of 70 Shore A are preferred.

Materials Overview: Profile Gasket

01: Pure PTFE - Outstanding chemical resistance - used in chemical, foodstuffs and pharmaceutical industry with light mechanical stress.

12: Modified PTFE - Very good chemical resistance, outstanding shear characteristics - used for special purpose and intermediate-stress applications.

25: Modified PTFE + glass fiber - High abrasion resistance and inherent stability, good chemical resistance - used in various areas of industry and intermediate-stress hydraulic applications.

30: Modified PTFE + carbon - Good abrasion resistance and inherent stability, good chemical resistance - used in water and water-oil emulsions with intermediate-stress. Also designed for dry runs.

55: Modified PTFE + bronze - High abrasion resistance and inherent stability, very good shear characteristics, good chemical resistance - used in intermediate- to high-stress hydraulics applications.

67: Modified PTFE - Very high abrasion resistance and inherent stability - used in hydraulics and abrasive pressure fluid applications.

83: Modified Polyurethane - Very high abrasion resistance and inherent stability - used primarily in intermediate-stress hydraulics applications.

Materials Overview: O-Ring

N: Acrylonitrile-Butadiene-Rubber - Used in general machine construction, hydraulics, pneumatics. Resistant to mineral oil based pressure fluids, HFA, HFB and HFC fluids and water.

F: Fluorine containing Rubbers - Used at high temperatures and aggressive surrounding media, resistant to mineral based and synthetic pressure fluids, aliphatic, aromatic and chlorated hydrocarbons, phosphate-ester based poorly inflammable fluids.

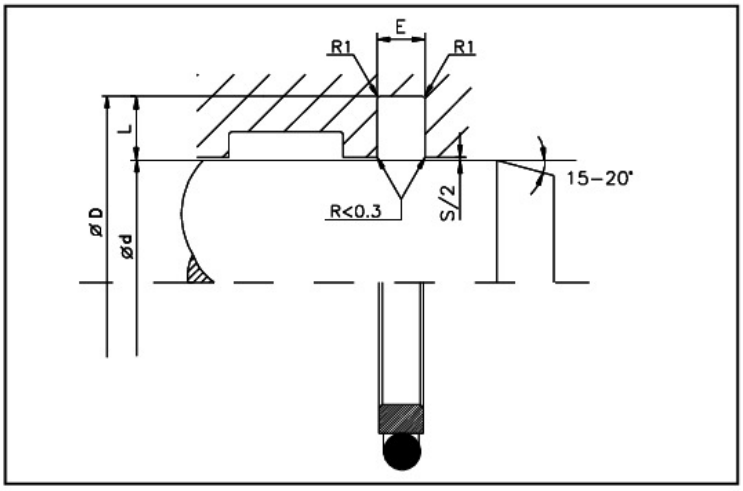
E: Ethylene Propylene Diene Rubbers - Used in armature and pump industry. Resistant to hot water, steam, phosphate-ester based poorly inflammable fluids but is not resistant to mineral oils!

S: Silicon Rubbers.

C: Chloroprene Rubbers.

The HS 255 rod seal has been used for many years in hydraulic cylinders. It can be used for unilateral or variable pressure application on the rod.

The seal can be mounted in divided and undivided grooves (from ø 30 mm onwards). For use in an undivided groove, the profile ring must be carefully bent to a kidney shape. The ring is then further stretched apart through the chamfered piston rod.



Limitations on Use

Operating pressure	: up to 40 MPa (400 bar)
Velocity	: reciprocating to 15 m/s
Temperature	: -40 to +200 °C (depending on O-Ring material)

Media for Use

Mineral oil based pressure fluids, flame resistant fluids (HFA, HFB, HFC), non-polluting pressure fluids (Bio Oils), water, air and other media (depending on O-ring material).

Surface Finish

Surfaces	Rmax	Rz	Ra
Faces	2,5 µm	1,6 µm	0,4 µm
Groove root	10,0 µm	6,3 µm	1,6 µm
Groove flanks	16,0 µm	10,0 µm	3,2 µm

Recommended Sizes for Installation

Section	O-Ring Cord-ø mm	Recommended Diameter Standard **d** mm	Groove Width **E** mm	Groove Depth **L** mm	Max. Diameter Clearance **S** 0 - 200 bar mm	Max. Diameter Clearance **S** 200 - 400 bar mm	Radius **R1** max. mm
01	1,78	3 - 7,9	2,2	2,45	0,4 - 0,2	0,3 - 0,1	0,3
02	2,62	8 - 18,9	3,2	3,65	0,4 - 0,2	0,3 - 0,1	0,5
03	3,53	19 - 37,9	4,2	5,35	0,6 - 0,3	0,4 - 0,2	0,7
04	5,33	38 - 199,9	6,3	7,55	0,8 - 0,4	0,4 - 0,2	1,2
05	7,00	200 - 255,9	8,1	10,25	1,0 - 0,5	0,5 - 0,3	1,5
06	7,00	256 - 649,9	8,1	12,00	1,0 - 0,5	0,5 - 0,3	1,5

d f8/h9	**D** H 9	**E** +0,2	O-Ring	**Part N°**
4,00	8,90	2,20	010	HS255 0040-01-55N
5,00	9,90	2,20	011	HS255 0050-01-55N
6,00	10,90	2,20	011	HS255 0060-01-55N
7,00	11,90	2,20	012	HS255 0070-01-55N
8,00	**12,90**	**2,20**	**012**	**HS255 0080-01-55N**
8,00	15,30	3,20	111	HS255 0080-02-55N
10,00	**14,90**	**2,20**	**014**	**HS255 0100-01-55N**
10,00	17,30	3,20	113	HS255 0100-02-55N
12,00	**16,90**	**2,20**	**015**	**HS255 0120-01-55N**
12,00	**19,30**	**3,20**	**114**	**HS255 0120-02-55N**
14,00	**18,90**	**2,20**	**016**	**HS255 0140-01-55N**
14,00	**21,30**	**3,20**	**115**	**HS255 0140-02-55N**
15,00	22,30	3,20	115	HS255 0150-02-55N
16,00	20,90	2,20	017	HS255 0160-01-55N
16,00	**23,30**	**3,20**	**116**	**HS255 0160-02-55N**
18,00	22,90	2,20	019	HS255 0180-01-55N
18,00	**25,30**	**3,20**	**118**	**HS255 0180-02-55N**
20,00	**27,30**	**3,20**	**119**	**HS255 0200-02-55N**
20,00	**30,70**	**4,20**	**214**	**HS255 0200-03-55N**
22,00	**29,30**	**3,20**	**120**	**HS255 0220-02-55N**
22,00	**32,70**	**4,20**	**215**	**HS255 0220-03-55N**
25,00	**32,20**	**3,20**	**122**	**HS255 0250-02-55N**
25,00	**35,70**	**4,20**	**217**	**HS255 0250-03-55N**
28,00	**38,70**	**4,20**	**219**	**HS255 0280-03-55N**
30,00	37,30	3,20	125	HS255 0300-02-55N
30,00	40,70	4,20	220	HS255 0300-03-55N
32,00	39,30	3,20	126	HS255 0320-02-55N
32,00	**42,70**	**4,20**	**221**	**HS255 0320-03-55N**

d f8/h9	**D** H 9	**E** +0,2	O-Ring	**Part N°**
35,00	45,70	4,20	222	HS255 0350-03-55N
36,00	43,30	3,20	129	HS255 0360-02-55N
36,00	**46,70**	**4,20**	**223**	**HS255 0360-03-55N**
40,00	**50,70**	**4,20**	**224**	**HS255 0400-03-55N**
40,00	55,10	6,30	328	HS255 0400-04-55N
45,00	**55,70**	**4,20**	**226**	**HS255 0450-03-55N**
45,00	60,10	6,30	329	HS255 0450-04-55N
50,00	**60,70**	**4,20**	**227**	**HS255 0500-03-55N**
50,00	65,10	6,30	331	HS255 0500-04-55N
56,00	**66,70**	**4,20**	**229**	**HS255 0560-03-55N**
56,00	**71,10**	**6,30**	**333**	**HS255 0560-04-55N**
60,00	70,70	4,20	230	HS255 0600-03-55N
60,00	75,10	6,30	334	HS255 0600-04-55N
63,00	**73,70**	**4,20**	**842**	**HS255 0630-03-55N**
63,00	**78,10**	**6,30**	**335**	**HS255 0630-04-55N**
65,00	80,10	6,30	336	HS255 0650-04-55N
70,00	**85,10**	**6,30**	**337**	**HS255 0700-04-55N**
75,00	90,10	6,30	339	HS255 0750-04-55N
80,00	**95,10**	**6,30**	**340**	**HS255 0800-04-55N**
85,00	100,10	6,30	342	HS255 0850-04-55N
90,00	**105,10**	**6,30**	**343**	**HS255 0900-04-55N**
95,00	110,10	6,30	345	HS255 0950-04-55N
100,00	**115,10**	**6,30**	**347**	**HS255 1000-04-55N**
105,00	120,10	6,30	348	HS255 1050-04-55N
110,00	**125,10**	**6,30**	**350**	**HS255 1100-04-55N**
115,00	130,10	6,30	351	HS255 1150-04-55N
120,00	135,10	6,30	353	HS255 1200-04-55N
125,00	**140,10**	**6,30**	**355**	**HS255 1250-04-55N**

d f8/h9	**D** H 9	**E** +0,2	O-Ring	**Part N°**
130,00	145,10	6,30	356	HS255 1300-04-55N
135,00	150,10	6,30	358	HS255 1350-04-55N
140,00	**155,10**	**6,30**	**359**	**HS255 1400-04-55N**
150,00	165,10	6,30	362	HS255 1500-04-55N
160,00	**175,10**	**6,30**	**363**	**HS255 1600-04-55N**
160,00	**180,50**	**8,10**	**440**	**HS255 1600-05-55N**
170,00	185,10	6,30	365	HS255 1700-04-55N
180,00	**195,10**	**6,30**	**366**	**HS255 1800-04-55N**
180,00	**200,50**	**8,10**	**443**	**HS255 1800-05-55N**
190,00	205,10	6,30	368	HS255 1900-04-55N
200,00	**220,50**	**8,10**	**445**	**HS255 2000-05-55N**
210,00	230,50	8,10	446	HS255 2100-05-55N
220,00	**240,50**	**8,10**	**447**	**HS255 2200-05-55N**
230,00	250,50	8,10	448	HS255 2300-05-55N
240,00	260,50	8,10	449	HS255 2400-05-55N
250,00	**270,50**	**8,10**	**449**	**HS255 2500-05-55N**
260,00	284,00	8,10	450	HS255 2600-06-55N
270,00	294,00	8,10	451	HS255 2700-06-55N
280,00	**304,00**	**8,10**	**452**	**HS255 2800-06-55N**
290,00	314,00	8,10	453	HS255 2900-06-55N
300,00	324,00	8,10	454	HS255 3000-06-55N

d f8/h9	**D** H 9	**E** +0,2	O-Ring	**Part N°**
310,00	334,00	8,10	454	HS255 3100-06-55N
320,00	**344,00**	**8,10**	**455**	**HS255 3200-06-55N**
330,00	354,00	8,10	456	HS255 3300-06-55N
340,00	364,00	8,10	457	HS255 3400-06-55N
350,00	374,00	8,10	458	HS255 3500-06-55N
360,00	**384,00**	**8,10**	**458**	**HS255 3600-06-55N**
370,00	394,00	8,10	459	HS255 3700-06-55N
380,00	404,00	8,10	460	HS255 3800-06-55N
390,00	414,00	8,10	461	HS255 3900-06-55N
400,00	424,00	8,10	461	HS255 4000-06-55N
410,00	434,00	8,10	462	HS255 4100-06-55N
420,00	444,00	8,10	463	HS255 4200-06-55N
430,00	454,00	8,10	464	HS255 4300-06-55N
440,00	464,00	8,10	464	HS255 4400-06-55N
450,00	474,00	8,10	465	HS255 4500-06-55N
460,00	484,00	8,10	466	HS255 4600-06-55N
470,00	494,00	8,10	467	HS255 4700-06-55N
480,00	504,00	8,10	468	HS255 4800-06-55N
490,00	514,00	8,10	469	HS255 4900-06-55N
500,00	524,00	8,10	469	HS255 5000-06-55N

Further sizes up to Ø 2500 mm available on request.
Dimensions in bold correspond to mounting spaces as per DIN ISO 7425/2.

Example for ordering Rod Seal:

HS 255 0360 - 02 - 55N - ...

Profile
Nominal diameter x 10
Cross-section
Standard material profile gasket
Standard material O-Ring
HME internal code

Material Key:

Profile gasket
01 - PTFE pure
12 - modified PTFE
25 - PTFE glass fiber
30 - PFTE carbon
55 - PTFE bronze
67 - modified PTFE
83 - modified PU

O-Ring
N - NBR
F - FPM
E - EPDM
S - Silikon
C - Chloropren

Issue 01 | 05