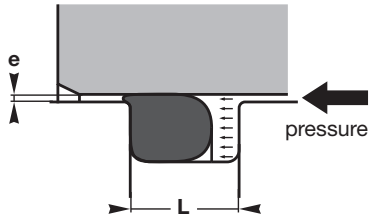


Fig. 154A

EXTRUSION

Extrusion problems appear when the clearance **gap e** between the sealing surface and the groove corners is too large. If the pressure exceeds the deformation limit of the O-ring, he will be forced into this small gap during each pressure cycle.

The O-ring will be damaged by the sharp edges and will break after a while (**Fig. 154A**).

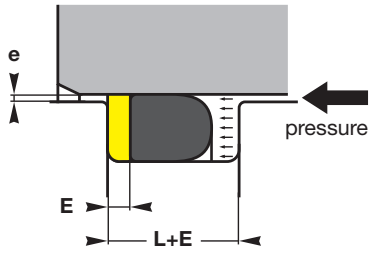


Fig. 154B

To prevent the O-ring from extrusion, a back-up ring (also called anti-extrusion ring) can be placed into the groove at the low-pressure side of the O-ring. In this case, the groove has to be enlarged by **value E** equal to the thickness of the back-up ring.

Back-up rings are made of materials with better extrusion resistance than common elastomers for O-rings (**Fig. 154B**).

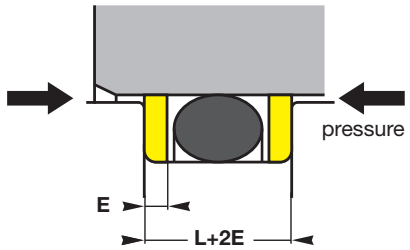


Fig. 154C

In double acting applications two back-up rings are installed, one on each side of the O-ring (**Fig. 154C**).

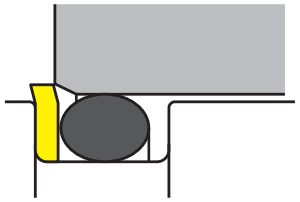


Fig. 154D

A bad determination of the dimensions can have a terrible impact and the mounting of a non-adapted back-up ring can cause following problems:

If the section of the ring is too large, the installation will be difficult or even impossible and the ring will inevitably be damaged (**Fig. 154D**).

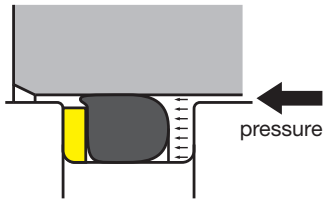


Fig. 154E

If the section of the ring is too small, it makes no sense to install the ring; the extrusion problem will remain (**Fig. 154E**).

PROFILES AND COMPOUNDS

We recommend **endless back-up rings** for internal as well as external grooves.

PTFE is used in applications with **high temperatures** and **special fluids**. For external grooves, the PTFE back-up rings have to be cut to make installation possible.

Although a back-up ring is an easy product, the **choice and the dimensions can be very complex**:

A In case of **replacement of existing back-up rings** during cilinder repair, many different groove depths will be encountered. The initial compression of the corresponding O-ring may vary between 10 and 30%.

Example:
For an O-ring **d**=2,62 mm, the depth of the housring will be:

2,25 mm for the **10PBK**

2,18 mm for the **10BU**

2 mm for the **28ST8** following the ISO groove (see table on page 195)

Therefore, the determination of the dimensions of the existing pieces must be done very carefully, because all dimensions are possible; every **cylinder manufacturer applies different standards**.

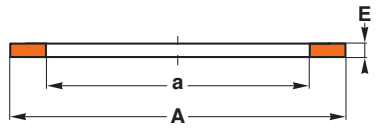
B With regard to **new constructions**, the standard product range of back-up ring manufacturers is rather limited. The same rings are used for static and dynamic sealing.

Example: our rings **10PBK**, **10BR**, **10BU** and **10MBK** are often used as a static seal, but in fact they are tend to be used for dynamic applications. The use of these back-up rings for static applications may be justified for economical reasons, but it is in contradiction with the groove depths we recommend.

This is the reason why we developed **our 28ST8 ring**. This one offers an **optimal technical solution** and moreover, the corresponding groove dimensions meet the requirements of the standard ISO 3601 (see table on page 195).

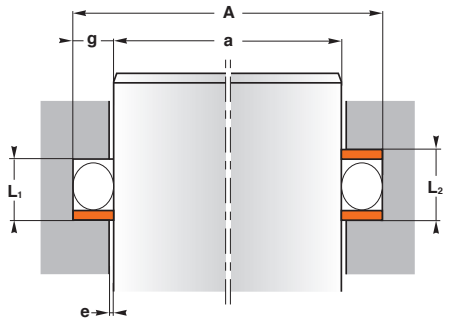
The choice of a back-up ring is completely different when intended to be introduced in a new construction or for replacement: **the table below will help you to make your choice**.

		-30°C to +110°C hydraulic oil	-200°C to +260°C special fluids
A **REPLACEMENT OF EXISTING BACK-UP RINGS REPAIR without adaptation of the groove**	The dimensions of the groove or the ring correspond to our standard back-up rings	**10BU 10MBK 10PBK**	**10BR**
	The dimensions of the groove or the ring do not correspond to our standard back-up rings	**28ST8 PU30** according to the existing groove dimensions	**28ST8 PT01** according to the existing groove dimensions
B **NEW CONSTRUCTION or IMPROVEMENT of the actual solution**	**STATIC SEALING**	**28ST8 PU30** according to the table page 195	**28ST8 PT01** according to the table page 195
	DYNAMIC SEALING	**10PBK**	**10BR**

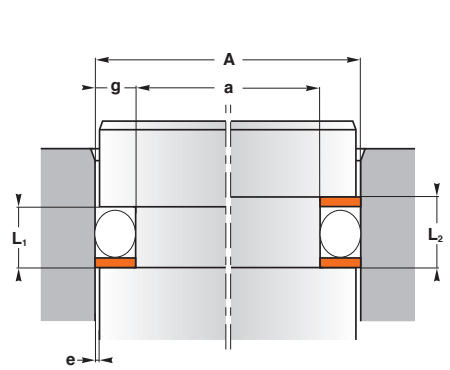


10MBK

For O-rings according to SMS1586.



Internal housing



External housing

Machining of housings: see page 81 and table 156

Pressure (MPa)	25	30	35	40	50
e max (mm)	0,25	0,2	0,15	0,1	0,05

Table 156
Dynamic sealing

d (O-ring)	**g**	**L1**	**L2**	**E**
2,4	2	4,6	5,9	1,3
3	2,5	5,4	6,7	1,3
5,7	5	8,9	10,6	1,7

10MBK back-up rings are used in conjunction with O-rings for both static and dynamic sealing applications. They prevent extrusion of the O-ring when it is subjected to high pressures, or when the extrusion gaps are excessive.

If pressure arises on only one side of the O-ring, it will suffice to fit one anti-extrusion ring on the side not exposed to pressure.

For double-acting applications, **two back-up rings** should be used, one on each side of the O-ring.

10MBK back-up rings are flat continuous anti-extrusion rings without a cut or a spiral shape that could cause system failure under extreme loads. They are made out of an elastic thermoplastic polyester resin which allows them to be stretched over pistons for easy installation and without any auxiliaries.

Operating conditions see page 8

Pressure	≤ 50 MPa
Temperature	-30°C to 110°C
Fluids	mineral oil, HFA, HFB

Materials see pages 10-19

TPE polyester 55 Sh D

Assembly see pages 54-59

In one-piece housings

Advantages

Easy assembly

Endless for internal and external housings

Please contact us for applications approaching maximum values.

More information

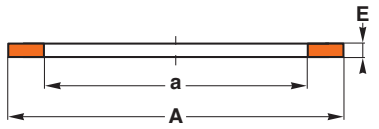
On ***www.hegetu.nl***, click first on the reference and then on the material code to obtain the data sheet of the material.

For special requirements (fluid, temperature, pressure...) or applications approaching maximum values, please contact us.

O-ring cross section	O-ring D x d	a	A	E	Reference
2,4	3,3 x 2,4	4	8	1,3	**10MBK 4 8**
	5,3 x 2,4	6	10	1,3	**10MBK 6 10**
	6,3 x 2,4	7	11	1,3	**10MBK 7 11**
	7,3 x 2,4	8	12	1,3	**10MBK 8 12**
	8,3 x 2,4	9	13	1,3	**10MBK 9 13**
	9,3 x 2,4	10	14	1,3	**10MBK 10 14**
	10,3 x 2,4	11	15	1,3	**10MBK 11 15**
	11,3 x 2,4	12	16	1,3	**10MBK 12 16**
	12,3 x 2,4	13	17	1,3	**10MBK 13 17**
	13,3 x 2,4	14	18	1,3	**10MBK 14 18**
	14,3 x 2,4	15	19	1,3	**10MBK 15 19**
	15,3 x 2,4	16	20	1,3	**10MBK 16 20**
	16,3 x 2,4	17	21	1,3	**10MBK 17 21**
	17,3 x 2,4	18	22	1,3	**10MBK 18 22**
3	19,2 x 3	20	25	1,3	**10MBK 20 25**
	22,2 x 3	23	28	1,3	**10MBK 23 28**
	24,2 x 3	25	30	1,3	**10MBK 25 30**
	26,2 x 3	27	32	1,3	**10MBK 27 32**
	29,2 x 3	30	35	1,3	**10MBK 30 35**
	32,2 x 3	33	38	1,3	**10MBK 33 38**
	34,2 x 3	35	40	1,3	**10MBK 35 40**
	35,2 x 3	36	41	1,3	**10MBK 36 41**
	36,2 x 3	37	42	1,3	**10MBK 37 42**
	39,2 x 3	40	45	1,3	**10MBK 40 45**
	44,2 x 3	45	50	1,3	**10MBK 45 50**
	49,5 x 3	50	55	1,3	**10MBK 50 55**
	53 x 3	54	59	1,4	**10MBK 54 59**
	54,5 x 3	55	60	1,3	**10MBK 55 60**
	57,2 x 3	58	63	1,3	**10MBK 58 63**
	59,5 x 3	60	65	1,3	**10MBK 60 65**
	62,2 x 3	63	68	1,3	**10MBK 63 68**
	64,5 x 3	65	70	1,3	**10MBK 65 70**
	65 x 3	66	71	1,5	**10MBK 66 71**
	69 x 3	69	74	1,3	**10MBK 69 74**
	69,5 x 3	70	75	1,3	**10MBK 70 75**
	74,5 x 3	75	80	1,3	**10MBK 75 80**
	78 x 3	79	84	1,3	**10MBK 79 84**
	79,5 x 3	80	85	1,3	**10MBK 80 85**
	84,5 x 3	85	90	1,3	**10MBK 85 90**
	89,5 x 3	90	95	1,3	**10MBK 90 95**
	94,5 x 3	95	100	1,3	**10MBK 95100**

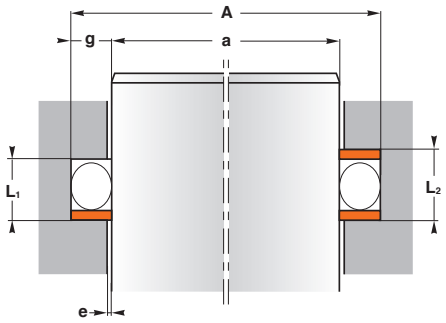
O-ring cross section	O-ring D x d	a	A	E	Reference
3	99,5 x 3	100	105	1,3	**10MBK 100105**
	104,5 x 3	105	110	1,3	**10MBK 105110**
	109,5 x 3	110	115	1,3	**10MBK 110115**
	114,5 x 3	115	120	1,3	**10MBK 115120**
	119,5 x 3	120	125	1,3	**10MBK 120125**
	124,5 x 3	125	130	1,3	**10MBK 125130**
	129,5 x 3	130	135	1,3	**10MBK 130135**
	134,5 x 3	135	140	1,3	**10MBK 135140**
	144,5 x 3	145	150	1,3	**10MBK 145150**
3,5	63 x 3,5	64	70	1,4	**10MBK 64 70**
	68 x 3,5	69	75	1,5	**10MBK 69 75**
	73 x 3,5	74	80	1,5	**10MBK 74 80**
4	74 X 4	74,6	81	1,7	**10MBK 74 81**
	92 x 4	92,5	99,1	1,4	**10MBK 92 99**
4,5	59 X 4,5	60	67	1,5	**10MBK 60 67**
	69 X 4,5	70	77	1,5	**10MBK 70 77**
	79 X 4,5	80	87	1,5	**10MBK 80 87**
5,5	141 X 5,5	142	151	1,8	**10MBK 142151**
	151 X 5,5	152	161	1,8	**10MBK 152161**
5,7	39,2 x 5,7	40	50	1,7	**10MBK 40 50**
	44,2 x 5,7	45	55	1,7	**10MBK 45 55**
	49,2 x 5,7	50	60	1,7	**10MBK 50 60**
	52,2 x 5,7	53	63	1,7	**10MBK 53 63**
	54,2 x 5,7	55	65	1,7	**10MBK 55 65**
	59,2 x 5,7	60	70	1,7	**10MBK 60 70**
	64,2 x 5,7	65	75	1,7	**10MBK 65 75**
	69,2 x 5,7	70	80	1,7	**10MBK 70 80**
	71,2 x 5,7	72,5	82,5	1,7	**10MBK 72 82**
	74,2 x 5,7	75	85	1,7	**10MBK 75 85**
	77,2 x 5,7	78	88	1,7	**10MBK 78 88**
	79,2 x 5,7	80	90	1,7	**10MBK 80 90**
	84,2 x 5,7	85	95	1,7	**10MBK 85 95**
	89,2 x 5,7	90	100	1,7	**10MBK 90100**
	94,2 x 5,7	95	105	1,7	**10MBK 95105**
	99,2 x 5,7	100	110	1,7	**10MBK 100110**
	104,2 x 5,7	105	115	1,7	**10MBK 105115**
	109,2 x 5,7	110	120	1,7	**10MBK 110120**
	114,2 x 5,7	115	125	1,7	**10MBK 115125**
	119,2 x 5,7	120	130	1,7	**10MBK 120130**
	124,2 x 5,7	125	135	1,7	**10MBK 125135**

10MBK seals with diameters between 10 and 1500 mm can be manufactured within short delivery time. For prices and availability: ***www.hegetu.nl***

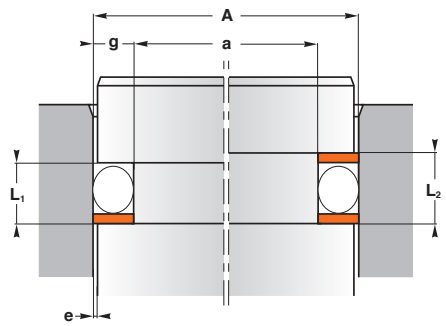


10MBK

For O-rings according to SMS1586.



Internal housing



External housing

Machining of housings: see page 81 and table 158

Pressure (MPa)	25	30	35	40	50
e max (mm)	0,25	0,2	0,15	0,1	0,05

Table 158
Dynamic sealing

d (O-ring)	**g**	**L1**	**L2**	**E**
2,4	2	4,6	5,9	1,3
3	2,5	5,4	6,7	1,3
5,7	5	8,9	10,6	1,7

10MBK back-up rings are used in conjunction with O-rings for both static and dynamic sealing applications. They prevent extrusion of the O-ring when it is subjected to high pressures, or when the extrusion gaps are excessive.

If pressure arises on only one side of the O-ring, it will suffice to fit one anti-extrusion ring on the side not exposed to pressure.

For double-acting applications, **two back-up rings** should be used, one on each side of the O-ring.

10MBK back-up rings are flat continuous anti-extrusion rings without a cut or a spiral shape that could cause system failure under extreme loads. They are made out of an elastic thermoplastic polyester resin which allows them to be stretched over pistons for easy installation and without any auxiliaries.

Operating conditions see page 8

Pressure	≤ 50 MPa
Temperature	-30°C to 110°C
Fluids	mineral oil, HFA, HFB

Materials see pages 10-19

TPE	polyester 55 Sh D

Assembly see pages 54-59

In one-piece housings

Advantages

Easy assembly

Endless for internal and external housings

Please contact us for applications approaching maximum values.

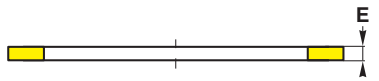
More information

On ***www.hegetu.nl***, click first on the reference and then on the material code to obtain the data sheet of the material.

O-ring cross section	O-ring D x d	a	A	E	Reference
5,7	129,2 x 5,7	130	140	1,7	**10MBK 130140**
	134,2 x 5,7	135	145	1,7	**10MBK 135145**
	139,2 x 5,7	140	150	1,7	**10MBK 140150**
	144,2 x 5,7	145	155	1,7	**10MBK 145155**
	149,2 x 5,7	150	160	1,7	**10MBK 150160**
	154,2 x 5,7	155	165	1,7	**10MBK 155165**
	159,2 x 5,7	160	170	1,7	**10MBK 160170**
	164,2 x 5,7	165	175	1,7	**10MBK 165175**
	169,2 x 5,7	170	180	1,7	**10MBK 170180**
	174,2 x 5,7	175	185	1,7	**10MBK 175185**
	179,2 x 5,7	180	190	1,7	**10MBK 180190**
	184,2 x 5,7	185	195	1,7	**10MBK 185195**
	189,2 x 5,7	190	200	1,7	**10MBK 190200**
	194,2 x 5,7	195	205	1,7	**10MBK 195205**
	199,2 x 5,7	200	210	1,7	**10MBK 200210**
	209,2 x 5,7	210	220	1,7	**10MBK 210220**
	219,2 x 5,7	220	230	1,7	**10MBK 220230**
	229,2 x 5,7	230	240	1,7	**10MBK 230240**
	239,2 x 5,7	240	250	1,7	**10MBK 240250**
	249,2 x 5,7	250	260	1,7	**10MBK 250260**

For special requirements (fluid, temperature, pressure...) or applications approaching maximum values, please contact us.

10MBK seals with diameters between 10 and 1500 mm can be manufactured within short delivery time. For prices and availability: ***www.hegetu.nl***

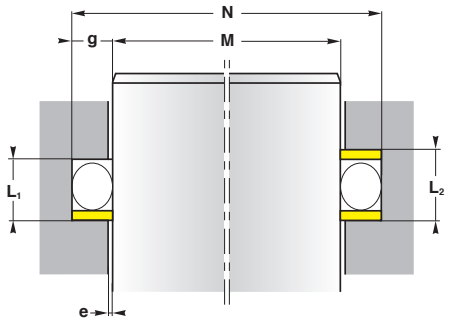


10PBK

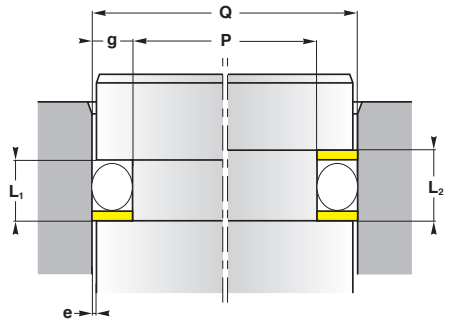
Example of item code

10PBK 218

Profile AS/BS norm



Internal housing



External housing

Machining of housings: see page 81 and table 160

Pressure (MPa)	25	30	35	40	50
e max (mm)	0,25	0,2	0,15	0,1	0,05

Table 160 (dynamic sealing)

d (O-ring)	**g**	**L1**	**L2**	**E**
1,78	1,55	3,8	5,2	1,4
2,62	2,25	5	6,4	1,4
3,53	3,1	6,2	7,6	1,4
5,34	4,7	8,8	10,5	1,7
7	6,1	12	14,5	2,5

10PBK back-up rings are used in conjunction with O-rings for both static and dynamic sealing applications. They prevent extrusion of the O-ring when it is subjected to high pressures, or when the extrusion gaps are excessive.

If pressure arises on only one side of the O-ring, it will suffice to fit one anti-extrusion ring on the side not exposed to pressure.

For double-acting applications, **two back-up rings** should be used, one on each side of the O-ring.

10PBK back-up rings are flat continuous anti-extrusion rings without a cut or a spiral shape that could cause system failure under extreme loads. They are made out of an elastic thermoplastic polyester resin which allows them to be stretched over pistons for easy installation and without any auxiliaries.

Operating conditions see page 8

Pressure	≤ 50 MPa
Temperature	-30°C to 110°C
Fluids	mineral oil, HFA, HFB

Materials see pages 10-19

TPE polyester 55 Sh D

Assembly see pages 54-59

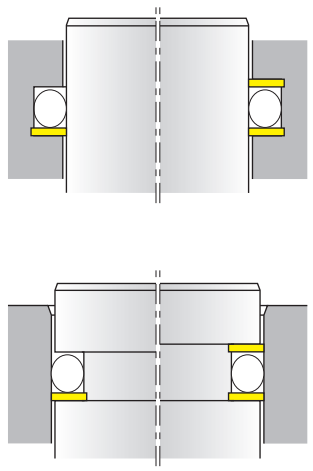
In one-piece housings

Advantages

Easy assembly

Endless for internal and external housings

Please contact us for applications approaching maximum values.

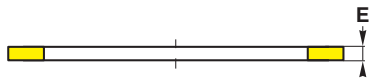


Advise: for static sealing, with machining of housings following the two drawings above, it is possible to use 10PBK back-up rings respecting the DIN/ISO norm (static sealing).

For special requirements (fluid, temperature, pressure...) or applications approaching maximum values, please contact us.

O-ring cross section	O-ring D x d	int. housing M	int. housing N	ext. housing P	ext. housing Q	Reference
1,78	6,07 x 1,78	7	10,1	6,9	10	**10PBK 010/610**
	7,65 x 1,78	8	11,1	7,9	11	**10PBK 011**
	8,73 x 1,78	9	12,1	8,9	12	**10PBK 611**
	9,25 x 1,78	9	12,1	9,9	13	**10PBK 012**
	10,82 x 1,78	11	14,1	10,9	14	**10PBK 013**
	12,42 x 1,78	13	16,1	12,9	16	**10PBK 014**
	14,0 x 1,78	14	17,1	14,9	18	**10PBK 015**
	15,6 x 1,78	16	19,1	15,9	19	**10PBK 016**
	17,17 x 1,78	17	20,1	17,9	21	**10PBK 017**
	20,35 x 1,78	21	24,1	20,9	24	**10PBK 019**
	21,95 x 1,78	22	25,1	22,9	26	**10PBK 020**
	28,3 x 1,78	28	31,1	28,9	32	**10PBK 024**
	29,87 x 1,78	30	33,1	29,9	33	**10PBK 025**
	31,47 x 1,78	32	35,1	31,9	35	**10PBK 026**
	33,05 x 1,78	33	36,1	33,9	37	**10PBK 027**
	37,82 x 1,78	38	41,1	37,9	41	**10PBK 029**
	41,0 x 1,78	41	44,1	41,9	45	**10PBK 030**
	47,35 x 1,78	48	51,1	47,9	51	**10PBK 032**
2,62	7,6 x 2,62	9	13,5	9,5	14	**10PBK 109**
	9,19 x 2,62	10	14,5	10,5	15	**10PBK 110/613**
	10,77 x 2,62	11	15,5	11,5	16	**10PBK 111**
	11,91 x 2,62	12	16,5	12,5	17	**10PBK 614**
	12,37 x 2,62	12,5	17	13,5	18	**10PBK 112**
	13,94 x 2,62	14	18,5	14,5	19	**10PBK 113**
	15,08 x 2,62	15	19,5	15,5	20	**10PBK 616**
	15,54 x 2,62	16	20,5	16,5	21	**10PBK 114/809**
	17,12 x 2,62	17	21,5	17,5	22	**10PBK 115**
	17,86 x 2,62	18	22,5	18,5	23	**10PBK 617**
	18,72 x 2,62	19	23,5	19,5	24	**10PBK 116**
	20,3 x 2,62	20	24,5	20,5	25	**10PBK 117**
	20,64 x 2,62	21	25,5	21,5	26	**10PBK 812**
	21,89 x 2,62	22	26,5	22,5	27	**10PBK 118/813**
	23,47 x 2,62	24	28,5	24,5	29	**10PBK 119/814**
	25,07 x 2,62	25	29,5	25,5	30	**10PBK 120**
	26,64 x 2,62	27	31,5	27,5	32	**10PBK 121**
	28,24 x 2,62	28	32,5	28,5	33	**10PBK 122**
	29,82 x 2,62	30	34,5	30,5	35	**10PBK 123**
	31,42 x 2,62	32	36,5	32,5	37	**10PBK 124**
	32,99 x 2,62	33	37,5	33,5	38	**10PBK 125**
	34,57 x 2,62	35	39,5	35,5	40	**10PBK 126**
	36,17 x 2,62	36	40,5	36,5	41	**10PBK 127**
	37,77 x 2,62	38	42,5	38,5	43	**10PBK 128**

10PBK seals with diameters between 10 and 1500 mm can be manufactured within short delivery time. For prices and availability: ***www.hegetu.nl***

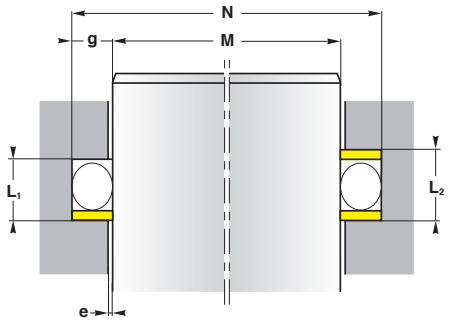


10PBK

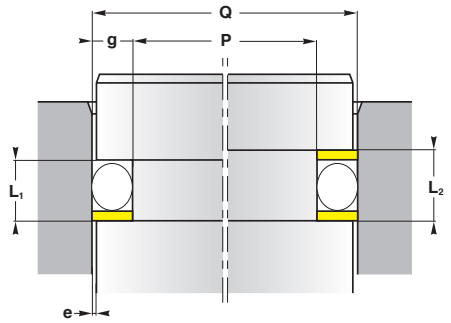
Example of item code

10PBK 218

Profile AS/BS norm



Internal housing



External housing

Machining of housings: see page 81 and table 162

Pressure (MPa)	25	30	35	40	50
e max (mm)	0,25	0,2	0,15	0,1	0,05

Table 162 (dynamic sealing)

d (O-ring)	**g**	**L1**	**L2**	**E**
1,78	1,55	3,8	5,2	1,4
2,62	2,25	5	6,4	1,4
3,53	3,1	6,2	7,6	1,4
5,34	4,7	8,8	10,5	1,7
7	6,1	12	14,5	2,5

10PBK back-up rings are used in conjunction with O-rings for both static and dynamic sealing applications. They prevent extrusion of the O-ring when it is subjected to high pressures, or when the extrusion gaps are excessive.

If pressure arises on only one side of the O-ring, it will suffice to fit one anti-extrusion ring on the side not exposed to pressure.

For double-acting applications, **two back-up rings** should be used, one on each side of the O-ring.

10PBK back-up rings are flat continuous anti-extrusion rings without a cut or a spiral shape that could cause system failure under extreme loads. They are made out of an elastic thermoplastic polyester resin which allows them to be stretched over pistons for easy installation and without any auxiliaries.

Operating conditions see page 8

Pressure	≤ 50 MPa
Temperature	-30°C to 110°C
Fluids	mineral oil, HFA, HFB

Materials see pages 10-19

TPE polyester 55 Sh D

Assembly see pages 54-59

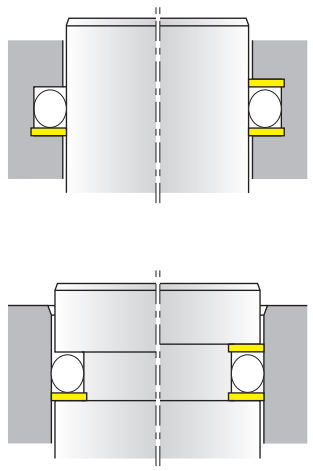
In one-piece housings

Advantages

Easy assembly

Endless for internal and external housings

Please contact us for applications approaching maximum values.

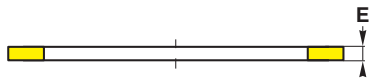


Advise: for static sealing, with machining of housings following the two drawings above, it is possible to use 10PBK back-up rings respecting the DIN/ISO norm (static sealing).

For special requirements (fluid, temperature, pressure...) or applications approaching maximum values, please contact us.

O-ring cross section	O-ring D x d	int. housing M	int. housing N	ext. housing P	ext. housing Q	Reference
2,62	39,34 x 2,62	40	44,5	40,5	45	**10PBK 129**
	40,94 x 2,62	41	45,5	41,5	46	**10PBK 130**
	42,52 x 2,62	43	47,5	43,5	48	**10PBK 131**
	44,12 x 2,62	44	48,5	44,5	49	**10PBK 132**
	45,69 x 2,62	46	50,5	46,5	51	**10PBK 133**
	47,29 x 2,62	48	52,5	48,5	53	**10PBK 134**
	48,9 x 2,62	49	53,5	48,5	54	**10PBK 135**
	50,47 x 2,62	51	55,5	51,5	56	**10PBK 136**
	52,07 x 2,62	52	56,5	52,5	57	**10PBK 137**
	53,64 x 2,62	54	58,5	54,5	59	**10PBK 138**
	55,25 x 2,62	55	59,5	56,5	61	**10PBK 139**
	56,82 x 2,62	57	61,5	57,5	62	**10PBK 140**
	58,42 x 2,62	59	63,5	59,5	64	**10PBK 141**
	59,99 x 2,62	60	64,5	60,5	65	**10PBK 142**
	61,6 x 2,62	62	66,5	62,5	67	**10PBK 143**
	63,17 x 2,62	63	67,5	63,5	68	**10PBK 144**
	64,77 x 2,62	65	69,5	65,5	70	**10PBK 145**
	66,34 x 2,62	67	71,5	67,5	72	**10PBK 146**
	67,95 x 2,62	68	72,5	68,5	73	**10PBK 147**
	69,52 x 2,62	70	74,5	70,5	75	**10PBK 148**
	71,12 x 2,62	71	75,5	71,5	76	**10PBK 149**
	72,69 x 2,62	73	77,5	73,5	78	**10PBK 150**
	82,22 x 2,62	82	86,5	83,5	88	**10PBK 152**
	88,57 x 2,62	89	93,5	89,5	94	**10PBK 153**
	94,92 x 2,62	95	99,5	96,5	101	**10PBK 154**
	113,97 x 2,62	114	118,5	115,5	120	**10PBK 157**
3,53	18,64 x 3,53	19	25,2	19,8	26	**10PBK 210**
	20,22 x 3,53	20	26,2	21,8	28	**10PBK 211**
	21,82 x 3,53	22	28,2	22,8	29	**10PBK 212**
	23,39 x 3,53	23	29,2	23,8	30	**10PBK 213**
	24,99 x 3,53	25	31,2	25,8	32	**10PBK 214**
	25,8 x 3,53	26	32,2	26,8	33	**10PBK 618**
	26,57 x 3,53	27	33,2	27,8	34	**10PBK 215**
	28,17 x 3,53	28	34,2	28,8	35	**10PBK 216**
	29,74 x 3,53	30	36,2	30,8	37	**10PBK 217**
	31,34 x 3,53	31	37,2	31,8	38	**10PBK 218**
	32,92 x 3,53	33	39,2	33,8	40	**10PBK 219**
	34,52 x 3,53	35	41,2	35,8	42	**10PBK 220**
	36,09 x 3,53	36	42,2	36,8	43	**10PBK 221**
	37,69 x 3,53	38	44,2	38,8	45	**10PBK 222**
	39,7 x 3,53	40	46,2	39,8	46	**10PBK 824**

10PBK seals with diameters between 10 and 1500 mm can be manufactured within short delivery time. For prices and availability: ***www.hegetu.nl***

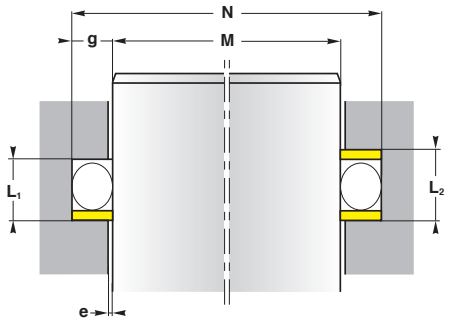


10PBK

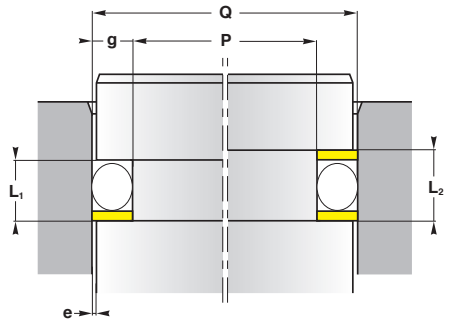
Example of item code

10PBK 218

Profile AS/BS norm



Internal housing



External housing

Machining of housings: see page 81 and table 164

Pressure (MPa)	25	30	35	40	50
e max (mm)	0,25	0,2	0,15	0,1	0,05

Table 164 (dynamic sealing)

d (O-ring)	**g**	**L1**	**L2**	**E**
1,78	1,55	3,8	5,2	1,4
2,62	2,25	5	6,4	1,4
3,53	3,1	6,2	7,6	1,4
5,34	4,7	8,8	10,5	1,7
7	6,1	12	14,5	2,5

10PBK back-up rings are used in conjunction with O-rings for both static and dynamic sealing applications. They prevent extrusion of the O-ring when it is subjected to high pressures, or when the extrusion gaps are excessive.

If pressure arises on only one side of the O-ring, it will suffice to fit one anti-extrusion ring on the side not exposed to pressure.

For double-acting applications, **two back-up rings** should be used, one on each side of the O-ring.

10PBK back-up rings are flat continuous anti-extrusion rings without a cut or a spiral shape that could cause system failure under extreme loads. They are made out of an elastic thermoplastic polyester resin which allows them to be stretched over pistons for easy installation and without any auxiliaries.

Operating conditions see page 8

Pressure	≤ 50 MPa
Temperature	-30°C to 110°C
Fluids	mineral oil, HFA, HFB

Materials see pages 10-19

TPE polyester 55 Sh D

Assembly see pages 54-59

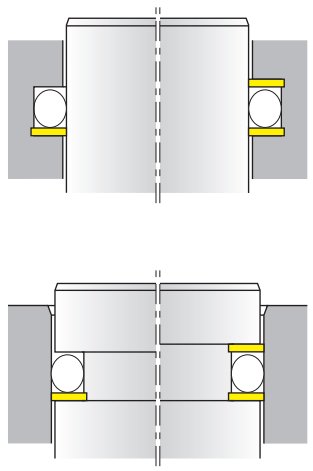
In one-piece housings

Advantages

Easy assembly

Endless for internal and external housings

Please contact us for applications approaching maximum values.

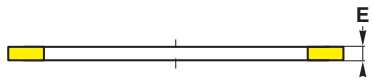


Advise: for static sealing, with machining of housings following the two drawings above, it is possible to use 10PBK back-up rings respecting the DIN/ISO norm (static sealing).

For special requirements (fluid, temperature, pressure...) or applications approaching maximum values, please contact us.

O-ring cross section	O-ring D x d	int. housing M	int. housing N	ext. housing P	ext. housing Q	Reference
3,53	40,87 x 3,53	42	48,2	41,8	48	**10PBK 223/825**
	42,86 x 3,53	43	49,2	43,8	50	**10PBK 826**
	44,04 x 3,53	45	51,2	44,8	51	**10PBK 224/827**
	46,04 x 3,53	46	52,2	46,8	53	**10PBK 828**
	47,22 x 3,53	48	54,2	47,8	54	**10PBK 225/829**
	49,2 x 3,53	49	55,2	49,8	56	**10PBK 830**
	50,39 x 3,53	51	57,2	51,8	58	**10PBK 226/831**
	52,4 x 3,53	52	58,2	53,8	60	**10PBK 832**
	53,57 x 3,53	54	60,2	54,8	61	**10PBK 227/833**
	55,56 x 3,53	56	62,2	55,8	62	**10PBK 834**
	56,74 x 3,53	57	63,2	57,8	64	**10PBK 228/835**
	58,74 x 3,53	59	65,2	58,8	65	**10PBK 836**
	59,92 x 3,53	60	66,2	60,8	67	**10PBK 229/837**
	61,9 x 3,53	62	68,2	62,8	69	**10PBK 838**
	63,09 x 3,53	64	70,2	63,8	70	**10PBK 230/839**
	65,1 x 3,53	65	71,2	65,8	72	**10PBK 840**
	66,27 x 3,53	67	73,2	66,8	73	**10PBK 231/841**
	68,26 x 3,53	68	74,2	68,8	75	**10PBK 842**
	69,44 x 3,53	70	76,2	70,8	77	**10PBK 232/843**
	71,44 x 3,53	72	78,2	71,8	78	**10PBK 844**
	72,62 x 3,53	73	79,2	73,8	80	**10PBK 233/845**
	74,6 x 3,53	75	81,2	74,8	81	**10PBK 846**
	75,79 x 3,53	76	82,2	76,8	83	**10PBK 234**
	78,97 x 3,53	79	85,2	79,8	86	**10PBK 235**
	82,14 x 3,53	82	88,2	82,8	89	**10PBK 236**
	85,32 x 3,53	85	91,2	85,8	92	**10PBK 237**
	88,49 x 3,53	89	95,2	88,8	95	**10PBK 238**
	91,67 x 3,53	92	98,2	92,8	99	**10PBK 239**
	94,84 x 3,53	95	101,2	95,8	102	**10PBK 240**
	98,02 x 3,53	98	104,2	98,8	105	**10PBK 241**
	101,19 x 3,53	101	107,2	101,8	108	**10PBK 242**
	104,37 x 3,53	105	111,2	104,8	111	**10PBK 243**
	107,54 x 3,53	108	114,2	107,8	114	**10PBK 244**
	110,72 x 3,53	111	117,2	111,8	118	**10PBK 245**
	113,89 x 3,53	114	120,2	114,8	121	**10PBK 246**
	117,07 x 3,53	117	123,2	117,8	124	**10PBK 247**
	120,24 x 3,53	120	126,2	120,8	127	**10PBK 248**
	123,42 x 3,53	123	129,2	123,8	130	**10PBK 249**
	126,59 x 3,53	127	133,2	126,8	133	**10PBK 250**
	129,77 x 3,53	130	136,2	129,8	136	**10PBK 251**
	132,94 x 3,53	133	139,2	133,8	140	**10PBK 252**
	136,12 x 3,53	136	142,2	136,8	143	**10PBK 253**

10PBK seals with diameters between 10 and 1500 mm can be manufactured within short delivery time. For prices and availability: ***www.hegetu.nl***

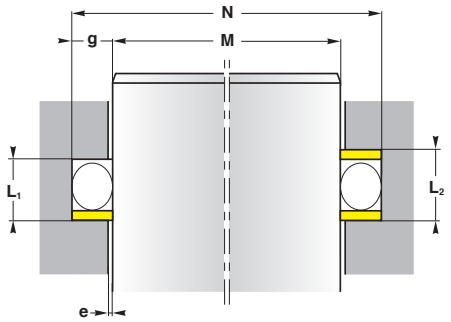


10PBK

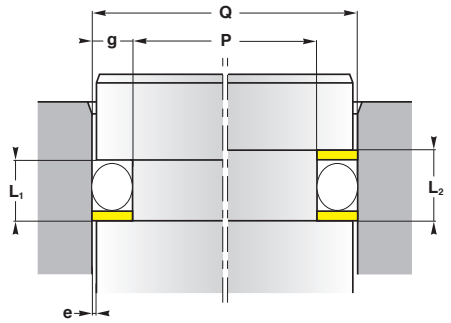
Example of item code

10PBK 218

Profile AS/BS norm



Internal housing



External housing

Machining of housings: see page 81 and table 166

Pressure (MPa)	25	30	35	40	50
e max (mm)	0,25	0,2	0,15	0,1	0,05

Table 166 (dynamic sealing)

d (O-ring)	**g**	**L1**	**L2**	**E**
1,78	1,55	3,8	5,2	1,4
2,62	2,25	5	6,4	1,4
3,53	3,1	6,2	7,6	1,4
5,34	4,7	8,8	10,5	1,7
7	6,1	12	14,5	2,5

10PBK back-up rings are used in conjunction with O-rings for both static and dynamic sealing applications. They prevent extrusion of the O-ring when it is subjected to high pressures, or when the extrusion gaps are excessive.

If pressure arises on only one side of the O-ring, it will suffice to fit one anti-extrusion ring on the side not exposed to pressure.

For double-acting applications, **two back-up rings** should be used, one on each side of the O-ring.

10PBK back-up rings are flat continuous anti-extrusion rings without a cut or a spiral shape that could cause system failure under extreme loads. They are made out of an elastic thermoplastic polyester resin which allows them to be stretched over pistons for easy installation and without any auxiliaries.

Operating conditions see page 8

Pressure	≤ 50 MPa
Temperature	-30°C to 110°C
Fluids	mineral oil, HFA, HFB

Materials see pages 10-19

TPE polyester 55 Sh D

Assembly see pages 54-59

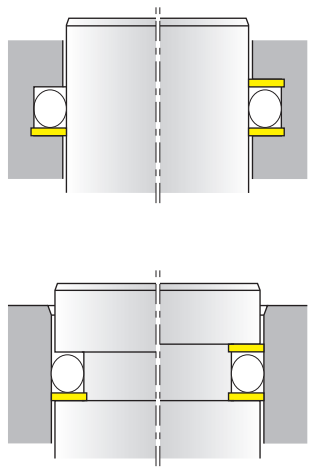
In one-piece housings

Advantages

Easy assembly

Endless for internal and external housings

Please contact us for applications approaching maximum values.

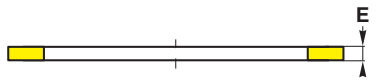


Advise: for static sealing, with machining of housings following the two drawings above, it is possible to use 10PBK back-up rings respecting the DIN/ISO norm (static sealing).

For special requirements (fluid, temperature, pressure...) or applications approaching maximum values, please contact us.

O-ring cross section	O-ring D x d	int. housing M	int. housing N	ext. housing P	ext. housing Q	Reference
3,53	139,29 x 3,53	140	146,2	139,8	146	**10PBK 254**
	142,47 x 3,53	143	149,2	142,8	149	**10PBK 255**
	148,82 x 3,53	149	155,2	148,8	155	**10PBK 257**
	151,99 x 3,53	152	158,2	152,8	159	**10PBK 258**
	202,79 x 3,53	203	209,2	203,8	210	**10PBK 266**
	221,84 x 3,53	222	228,2	221,8	228	**10PBK 269**
5,34	37,47 x 5,34	38	47,4	38,6	48	**10PBK 325**
	40,64 x 5,34	41	50,4	42,6	52	**10PBK 326**
	43,82 x 5,34	44	53,4	45,6	55	**10PBK 327**
	46,99 x 5,34	47	56,4	48,6	58	**10PBK 328**
	50,17 x 5,34	50	59,4	51,6	61	**10PBK 329**
	53,34 x 5,34	53	62,4	54,6	64	**10PBK 330**
	56,52 x 5,34	57	66,4	58,6	68	**10PBK 331**
	59,69 x 5,34	60	69,4	60,6	70	**10PBK 332**
	62,87 x 5,34	63	72,4	63,6	73	**10PBK 333**
	66,04 x 5,34	66	75,4	67,6	77	**10PBK 334**
	69,22 x 5,34	69	78,4	70,6	80	**10PBK 335**
	72,39 x 5,34	73	82,4	73,6	83	**10PBK 336**
	74,63 x 5,34	75	84,4	75,6	85	**10PBK 619**
	75,57 x 5,34	76	85,4	76,6	86	**10PBK 337**
	78,74 x 5,34	79	88,4	80,6	90	**10PBK 338/620**
	81,92 x 5,34	82	91,4	82,6	92	**10PBK 339**
	85,09 x 5,34	85	94,4	85,6	95	**10PBK 340**
	88,27 x 5,34	88	97,4	88,6	98	**10PBK 341**
	89,69 x 5,34	90	99,4	90,6	100	**10PBK 621**
	91,44 x 5,34	92	101,4	92,6	102	**10PBK 342**
	94,62 x 5,34	95	104,4	95,6	105	**10PBK 343**
	97,79 x 5,34	98	107,4	98,6	108	**10PBK 344**
	100,0 x 5,34	100	109,4	100,6	110	**10PBK 622**
	100,97 x 5,34	101	110,4	101,6	111	**10PBK 345**
	104,14 x 5,34	104	113,4	105,6	115	**10PBK 346**
	107,32 x 5,34	107	116,4	108,6	118	**10PBK 347**
	110,49 x 5,34	110	119,4	111,6	121	**10PBK 348/623**
	113,67 x 5,34	114	123,4	115,6	125	**10PBK 349**
	116,84 x 5,34	117	126,4	118,6	128	**10PBK 350/860**
	120,02 x 5,34	121	130,4	122,6	132	**10PBK 351/861**
	123,8 x 5,34	124	133,4	125,6	135	**10PBK 862**
	126,37 x 5,34	127	136,4	127,6	137	**10PBK 353/863**
	129,54 x 5,34	130	139,4	130,6	140	**10PBK 354/864**
	133,35 x 5,34	134	143,4	135,6	145	**10PBK 865**
	135,89 x 5,34	137	146,4	137,6	147	**10PBK 356/866**
	139,07 x 5,34	140	149,4	140,6	150	**10PBK 357/867**

10PBK seals with diameters between 10 and 1500 mm can be manufactured within short delivery time. For prices and availability: ***www.hegetu.nl***

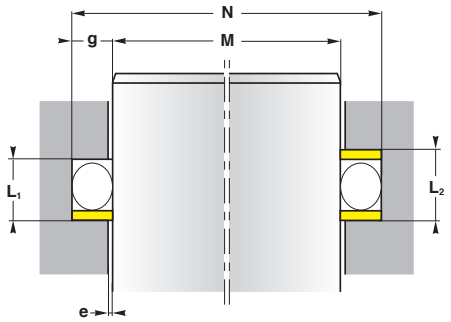


10PBK

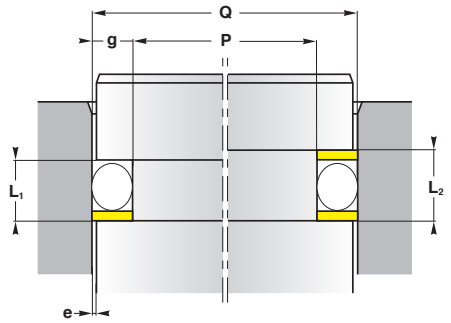
Example of item code

10PBK 218

Profile AS/BS norm



Internal housing



External housing

Machining of housings: see page 81 and table 168

Pressure (MPa)	25	30	35	40	50
e max (mm)	0,25	0,2	0,15	0,1	0,05

Table 168 (dynamic sealing)

d (O-ring)	**g**	**L1**	**L2**	**E**
1,78	1,55	3,8	5,2	1,4
2,62	2,25	5	6,4	1,4
3,53	3,1	6,2	7,6	1,4
5,34	4,7	8,8	10,5	1,7
7	6,1	12	14,5	2,5

10PBK back-up rings are used in conjunction with O-rings for both static and dynamic sealing applications. They prevent extrusion of the O-ring when it is subjected to high pressures, or when the extrusion gaps are excessive.

If pressure arises on only one side of the O-ring, it will suffice to fit one anti-extrusion ring on the side not exposed to pressure.

For double-acting applications, **two back-up rings** should be used, one on each side of the O-ring.

10PBK back-up rings are flat continuous anti-extrusion rings without a cut or a spiral shape that could cause system failure under extreme loads. They are made out of an elastic thermoplastic polyester resin which allows them to be stretched over pistons for easy installation and without any auxiliaries.

Operating conditions see page 8

Pressure	≤ 50 MPa
Temperature	-30°C to 110°C
Fluids	mineral oil, HFA, HFB

Materials see pages 10-19

TPE polyester 55 Sh D

Assembly see pages 54-59

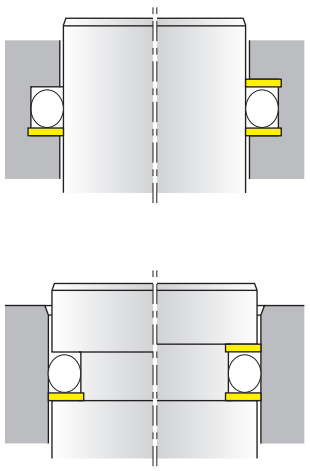
In one-piece housings

Advantages

Easy assembly

Endless for internal and external housings

Please contact us for applications approaching maximum values.

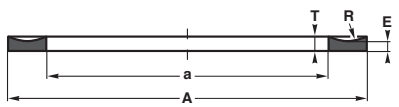


Advise: for static sealing, with machining of housings following the two drawings above, it is possible to use 10PBK back-up rings respecting the DIN/ISO norm (static sealing).

For special requirements (fluid, temperature, pressure...) or applications approaching maximum values, please contact us.

O-ring cross section	O-ring D x d	int. housing M	int. housing N	ext. housing P	ext. housing Q	Reference
5,34	142,24 x 5,34	143	152,4	143,6	153	**10PBK 358/868**
	148,59 x 5,34	150	159,4	150,6	160	**10PBK 360/870**
	151,77 x 5,34	152	161,4	153,6	163	**10PBK 361**
	158,12 x 5,34	158	167,4	159,6	169	**10PBK 362**
	164,47 x 5,34	165	174,4	165,6	175	**10PBK 363**
	170,82 x 5,34	171	180,4	172,6	182	**10PBK 364**
	177,17 x 5,34	178	187,4	178,6	188	**10PBK 365**
	189,87 x 5,34	190	199,4	190,6	200	**10PBK 367**
	196,22 x 5,34	196	205,4	197,6	207	**10PBK 368**
	208,92 x 5,34	209	218,4	210,6	220	**10PBK 370**
	221,62 x 5,34	222	231,4	222,6	232	**10PBK 372**
	227,97 x 5,34	228	237,4	229,6	239	**10PBK 373**
7	113,67 x 7	114	126,2	114,8	127	**10PBK 425**
(6,99)	116,84 x 7	117	129,2	117,8	130	**10PBK 426**
	123,2 x 7	123	135,2	124,8	137	**10PBK 428**
	126,37 x 7	126	138,2	127,8	140	**10PBK 429**
	132,72 x 7	133	145,2	133,8	146	**10PBK 431**
	135,89 x 7	136	148,2	137,8	150	**10PBK 432**
	139,07 x 7	139	151,2	140,8	153	**10PBK 433**
	145,42 x 7	145	157,2	147,8	160	**10PBK 435**
	155,6 x 7	156	168,2	157,8	170	**10PBK 872**
	166,7 x 7	167	179,2	167,8	180	**10PBK 628**
	181,0 x 7	180	192,2	182,8	195	**10PBK 880**
	183,52 x 7	184	196,2	184,8	197	**10PBK 442**
	189,87 x 7	190	202,2	190,8	203	**10PBK 443**
	193,7 x 7	194	206,2	194,8	207	**10PBK 884**
	196,22 x 7	196	208,2	197,8	210	**10PBK 444**
	208,92 x 7	210	222,2	209,8	222	**10PBK 674**
	215,27 x 7	215	227,2	217,8	230	**10PBK 446**
	227,97 x 7	230	242,2	229,8	242	**10PBK 447**
	234,32 x 7	235	247,2	237,8	250	**10PBK 678**
	272,4 x 7	273	285,2	273,8	286	**10PBK 684**

10PBK seals with diameters between 10 and 1500 mm can be manufactured within short delivery time. For prices and availability: ***www.hegetu.nl***

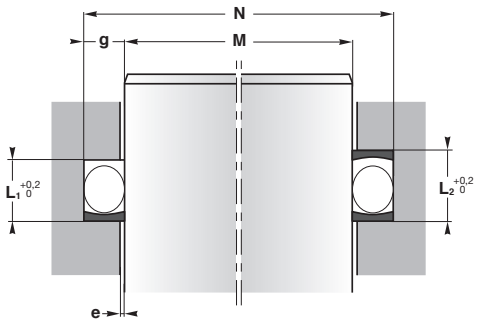


10BU

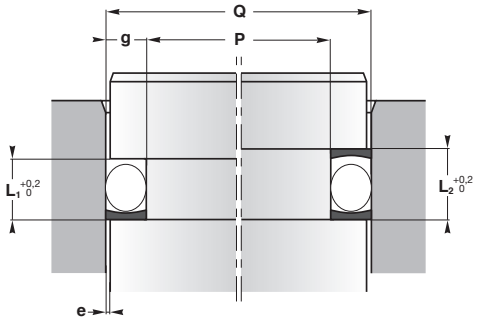
Example of item code

10BU 218

Profile — AS/BS norm



Internal housing



External housing

Machining of housings: see page 81 and table 170

Pressure (MPa)	25	30	35	40
e max (mm)	0,2	0,15	0,1	0,05

Table 170

d (O-ring)	**g**	**L1**	**L2**	**E**	**T**
1,78	1,35	4	5,5	1,14	1,24
2,62	2,18	5	6,5	1,14	1,35
3,53	3	6	7,5	1,02	1,27
5,34	4,65	8,8	10,5	1,52	1,93
7	5,99	12	14,5	2,44	2,97

10BU back-up ring is a closed ring with a concave shaped cross-section. For these back-up rings, we use a NBR elastomer of 90°shore A hardness to guarantee a high level of resistance to extrusion and abrasion.

Their design tends to keep the O-ring in its original form, even at high pressure. They minimize distortion of the O-ring who can therefore withstand better against higher pressure loads. This produces a better sealing effect and **increases the seal's service live**.

10BU rings are continuous. They do not have a cut (unlike open PTFE rings) and they can be stretched over a piston during assembly. Hence they contact the O-ring uniformly, and do not cause localised wear spots.

10BU back-up ring has a symmetrical profile and can therefore be used in both internal and external sealing systems.

Operating conditions — see page 8

Pressure	≤ 40 MPa
Temperature	-30°C to 110°C
Fluids	mineral oils, HFA, HFB, HFC

Materials — see pages 10-19

NBR 90 Sh A	colour: black

Assembly — see pages 54-59

In one-piece housings

Advantages

- Easy assembly
- Closed ring (uncut)
- For inner and outer housings
- Extended service life of the O-ring

Please contact us for applications approaching maximum values.

More information

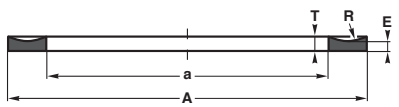
On *www.hegetu.nl*, click first on the reference and then on the material code to obtain the data sheet of the material.

O-ring cross section	O-ring D x d	a	A	E	Reference
1,78	1,78 X 1,78	2,44	5,14	1,14	**10BU 004**
	2,57 X 1,78	3,23	5,93	1,14	**10BU 005**
	2,9 X 1,78	3,56	6,26	1,14	**10BU 006**
	3,68 X 1,78	4,34	7,04	1,14	**10BU 007**
	4,47 X 1,78	5,13	7,83	1,14	**10BU 008**
	5,28 X 1,78	5,94	8,64	1,14	**10BU 009**
	6,07 X 1,78	6,73	9,43	1,14	**10BU 010**
	7,65 X 1,78	8,31	11,01	1,14	**10BU 011**
	9,25 X 1,78	9,91	12,61	1,14	**10BU 012**
	10,82 X 1,78	11,56	14,26	1,14	**10BU 013**
	12,42 X 1,78	13,16	15,86	1,14	**10BU 014**
	14,0 X 1,78	14,73	17,43	1,14	**10BU 015**
	15,6 X 1,78	16,33	19,03	1,14	**10BU 016**
	17,17 X 1,78	17,91	20,61	1,14	**10BU 017**
	18,77 X 1,78	19,51	22,21	1,14	**10BU 018**
	20,35 X 1,78	21,08	23,78	1,14	**10BU 019**
	21,95 X 1,78	22,68	25,38	1,14	**10BU 020**
	23,52 X 1,78	24,26	26,96	1,14	**10BU 021**
	25,12 X 1,78	25,86	28,56	1,14	**10BU 022**
	26,7 X 1,78	27,43	30,13	1,14	**10BU 023**
	28,3 X 1,78	29,03	31,73	1,14	**10BU 024**
	29,87 X 1,78	30,61	33,31	1,14	**10BU 025**
	31,47 X 1,78	32,21	34,91	1,14	**10BU 026**
	33,05 X 1,78	33,78	36,48	1,14	**10BU 027**
	34,65 X 1,78	35,38	38,08	1,14	**10BU 028**
	37,82 X 1,78	38,56	41,26	1,14	**10BU 029**
	41,0 X 1,78	41,73	44,43	1,14	**10BU 030**
	44,17 X 1,78	44,91	47,61	1,14	**10BU 031**
	47,35 X 1,78	48,08	50,78	1,14	**10BU 032**
	50,52 X 1,78	51,26	53,96	1,14	**10BU 033**
	53,7 X 1,78	54,43	57,13	1,14	**10BU 034**
	56,87 X 1,78	57,61	60,31	1,14	**10BU 035**
	60,05 X 1,78	60,78	63,48	1,14	**10BU 036**
	63,22 X 1,78	63,96	66,66	1,14	**10BU 037**
	66,4 X 1,78	67,13	69,83	1,14	**10BU 038**
	69,57 X 1,78	70,31	73,01	1,14	**10BU 039**
	72,75 X 1,78	73,48	76,18	1,14	**10BU 040**
	75,92 X 1,78	76,66	79,36	1,14	**10BU 041**
	82,27 X 1,78	83,01	85,71	1,14	**10BU 042**
	88,62 X 1,78	89,36	92,06	1,14	**10BU 043**
	94,97 X 1,78	95,71	98,41	1,14	**10BU 044**
	101,32 X 1,78	102,06	104,76	1,14	**10BU 045**

O-ring cross section	O-ring D x d	a	A	E	Reference
1,78	107,67 X 1,78	108,41	111,11	1,14	**10BU 046**
	114,02 X 1,78	114,76	117,46	1,14	**10BU 047**
	120,37 X 1,78	121,11	123,81	1,14	**10BU 048**
	126,72 X 1,78	127,46	130,16	1,14	**10BU 049**
	133,07 X 1,78	133,81	136,51	1,14	**10BU 050**
2,62	1,24 X 2,62	1,96	6,32	1,14	**10BU 102**
	2,06 X 2,62	2,77	7,13	1,14	**10BU 103**
	2,84 X 2,62	3,56	7,92	1,14	**10BU 104**
	3,63 X 2,62	4,34	8,7	1,14	**10BU 105**
	4,42 X 2,62	5,13	9,49	1,14	**10BU 106**
	5,23 X 2,62	5,93	10,29	1,14	**10BU 107**
	6,02 X 2,62	6,73	11,09	1,14	**10BU 108**
	7,59 X 2,62	8,31	12,67	1,14	**10BU 109**
	9,19 X 2,62	9,91	14,27	1,14	**10BU 110**
	10,77 X 2,62	11,48	15,84	1,14	**10BU 111**
	12,37 X 2,62	13,08	17,44	1,14	**10BU 112**
	13,94 X 2,62	14,66	19,02	1,14	**10BU 113**
	15,54 X 2,62	16,26	20,62	1,14	**10BU 114**
	17,12 X 2,62	17,83	22,19	1,14	**10BU 115**
	18,72 X 2,62	19,43	23,79	1,14	**10BU 116**
	20,3 X 2,62	21,11	25,47	1,14	**10BU 117**
	21,89 X 2,62	22,68	27,04	1,14	**10BU 118**
	23,47 X 2,62	24,28	28,64	1,14	**10BU 119**
	25,07 X 2,62	25,86	30,22	1,14	**10BU 120**
	26,64 X 2,62	27,46	31,82	1,14	**10BU 121**
	28,24 X 2,62	29,03	33,39	1,14	**10BU 122**
	29,82 X 2,62	30,63	34,99	1,14	**10BU 123**
	31,42 X 2,62	32,21	36,57	1,14	**10BU 124**
	32,99 X 2,62	33,81	38,17	1,14	**10BU 125**
	34,59 X 2,62	35,38	39,74	1,14	**10BU 126**
	36,17 X 2,62	36,98	41,34	1,14	**10BU 127**
	37,77 X 2,62	38,56	42,92	1,14	**10BU 128**
	39,34 X 2,62	40,16	44,52	1,14	**10BU 129**
	40,94 X 2,62	41,73	46,09	1,14	**10BU 130**
	42,52 X 2,62	43,33	47,69	1,14	**10BU 131**
	44,12 X 2,62	44,91	49,27	1,14	**10BU 132**
	45,69 X 2,62	46,51	50,87	1,14	**10BU 133**
	47,29 X 2,62	48,08	52,44	1,14	**10BU 134**
	48,9 X 2,62	49,68	54,04	1,14	**10BU 135**
	50,47 X 2,62	51,26	55,62	1,14	**10BU 136**
	52,07 X 2,62	52,86	57,22	1,14	**10BU 137**

For special requirements (fluid, temperature, pressure...) or applications approaching maximum values, please contact us.

10BU seals with diameters between 10 and 1500 mm can be manufactured within short delivery time. For prices and availability: ***www.hegetu.nl***

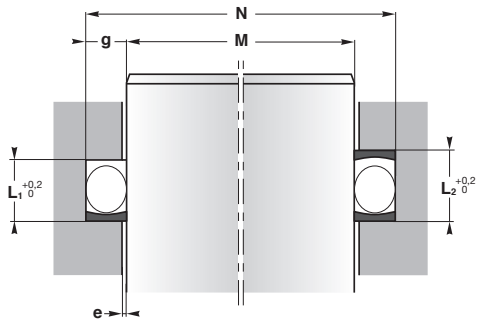


10BU

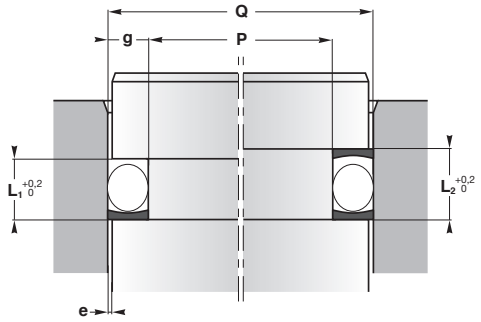
Example of item code

10BU 218

Profile — AS/BS norm



Internal housing



External housing

Machining of housings: see page 81 and table 172

Pressure (MPa)	25	30	35	40
e max (mm)	0,2	0,15	0,1	0,05

Table 172

d (O-ring)	g	L1	L2	E	T
1,78	1,35	4	5,5	1,14	1,24
2,62	2,18	5	6,5	1,14	1,35
3,53	3	6	7,5	1,02	1,27
5,34	4,65	8,8	10,5	1,52	1,93
7	5,99	12	14,5	2,44	2,97

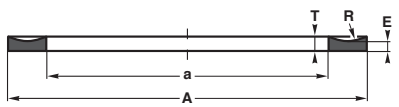
O-ring cross section	O-ring D x d	a	A	E	Reference
2,62	53,64 X 2,62	54,43	58,79	1,14	**10BU 138**
	55,25 X 2,62	56,03	60,39	1,14	**10BU 139**
	56,82 X 2,62	57,61	61,97	1,14	**10BU 140**
	58,42 X 2,62	59,21	63,57	1,14	**10BU 141**
	59,99 X 2,62	60,78	65,14	1,14	**10BU 142**
	61,6 X 2,62	62,38	66,74	1,14	**10BU 143**
	63,17 X 2,62	63,96	68,32	1,14	**10BU 144**
	64,77 X 2,62	65,56	69,92	1,14	**10BU 145**
	66,34 X 2,62	67,13	71,49	1,14	**10BU 146**
	67,95 X 2,62	68,73	73,09	1,14	**10BU 147**
	69,52 X 2,62	70,31	74,67	1,14	**10BU 148**
	71,12 X 2,62	71,91	76,27	1,14	**10BU 149**
	72,69 X 2,62	73,48	77,84	1,14	**10BU 150**
	75,87 X 2,62	76,66	81,02	1,14	**10BU 151**
	82,22 X 2,62	83,01	87,37	1,14	**10BU 152**
	88,57 X 2,62	89,36	93,72	1,14	**10BU 153**
	94,92 X 2,62	95,71	100,07	1,14	**10BU 154**
	101,27 X 2,62	102,06	106,42	1,14	**10BU 155**
	107,62 X 2,62	108,41	112,77	1,14	**10BU 156**
	113,97 X 2,62	114,76	119,12	1,14	**10BU 157**
	120,32 X 2,62	121,11	125,47	1,14	**10BU 158**
	126,67 X 2,62	127,46	131,82	1,14	**10BU 159**
	133,02 X 2,62	133,81	138,17	1,14	**10BU 160**
	139,37 X 2,62	140,16	144,52	1,14	**10BU 161**
	145,72 X 2,62	146,51	150,87	1,14	**10BU 162**
	152,07 X 2,62	152,86	157,22	1,14	**10BU 163**
	158,42 X 2,62	159,21	163,57	1,14	**10BU 164**
	164,77 X 2,62	165,65	170,01	1,14	**10BU 165**
	171,12 X 2,62	171,91	176,27	1,14	**10BU 166**
	177,47 X 2,62	178,26	182,62	1,14	**10BU 167**
	183,82 X 2,62	184,61	188,97	1,14	**10BU 168**
	190,17 X 2,62	190,96	195,32	1,14	**10BU 169**
	196,52 X 2,62	197,31	201,67	1,14	**10BU 170**
	202,87 X 2,62	203,66	208,02	1,14	**10BU 171**
	209,22 X 2,62	210,01	214,37	1,14	**10BU 172**
	215,57 X 2,62	216,36	220,72	1,14	**10BU 173**
	221,92 X 2,62	222,71	227,07	1,14	**10BU 174**
	228,27 X 2,62	229,06	233,42	1,14	**10BU 175**
	234,62 X 2,62	235,41	239,77	1,14	**10BU 176**
	240,97 X 2,62	241,76	246,12	1,14	**10BU 177**
	247,32 X 2,62	248,11	252,47	1,14	**10BU 178**

O-ring cross section	O-ring D x d	a	A	E	Reference
3,53	4,34 X 3,53	5,13	11,13	1,02	**10BU 201**
	5,94 X 3,53	6,73	12,73	1,02	**10BU 202**
	7,52 X 3,53	8,3	14,3	1,02	**10BU 203**
	9,12 X 3,53	9,9	15,9	1,02	**10BU 204**
	10,69 X 3,53	11,56	17,56	1,02	**10BU 205**
	12,29 X 3,53	13,16	19,16	1,02	**10BU 206**
	13,87 X 3,53	14,73	20,73	1,02	**10BU 207**
	15,47 X 3,53	16,33	22,33	1,02	**10BU 208**
	17,04 X 3,53	17,9	23,9	1,02	**10BU 209**
	18,64 X 3,53	19,46	25,46	1,02	**10BU 210**
	20,22 X 3,53	21,03	27,03	1,02	**10BU 211**
	21,82 X 3,53	22,63	28,63	1,02	**10BU 212**
	23,39 X 3,53	24,21	30,21	1,02	**10BU 213**
	24,99 X 3,53	25,81	31,81	1,02	**10BU 214**
	26,57 X 3,53	27,38	33,38	1,02	**10BU 215**
	28,17 X 3,53	28,98	34,98	1,02	**10BU 216**
	29,74 X 3,53	30,56	36,56	1,02	**10BU 217**
	31,34 X 3,53	32,16	38,16	1,02	**10BU 218**
	32,92 X 3,53	33,88	39,88	1,02	**10BU 219**
	34,52 X 3,53	35,48	41,48	1,02	**10BU 220**
	36,09 X 3,53	37,06	43,06	1,02	**10BU 221**
	37,69 X 3,53	38,66	44,66	1,02	**10BU 222**
	40,87 X 3,53	41,83	47,83	1,02	**10BU 223**
	44,04 X 3,53	45,01	51,01	1,02	**10BU 224**
	47,22 X 3,53	48,18	54,18	1,02	**10BU 225**
	50,39 X 3,53	51,36	57,36	1,02	**10BU 226**
	53,57 X 3,53	54,53	60,53	1,02	**10BU 227**
	56,74 X 3,53	57,71	63,71	1,02	**10BU 228**
	59,92 X 3,53	60,88	66,88	1,02	**10BU 229**
	63,09 X 3,53	64,06	70,06	1,02	**10BU 230**
	66,27 X 3,53	66,83	72,83	1,02	**10BU 231**
	69,44 X 3,53	70	76	1,02	**10BU 232**
	72,62 X 3,53	73,18	79,18	1,02	**10BU 233**
	75,79 X 3,53	76,35	82,35	1,02	**10BU 234**
	78,97 X 3,53	79,53	85,53	1,02	**10BU 235**
	82,14 X 3,53	82,7	88,7	1,02	**10BU 236**
	85,32 X 3,53	85,88	91,88	1,02	**10BU 237**
	88,49 X 3,53	89,05	95,05	1,02	**10BU 238**
	91,67 X 3,53	92,23	98,23	1,02	**10BU 239**
	94,84 X 3,53	95,4	101,4	1,02	**10BU 240**
	98,02 X 3,53	98,58	104,58	1,02	**10BU 241**
	101,19 X 3,53	101,75	107,75	1,02	**10BU 242**

O-ring cross section	O-ring D x d	a	A	E	Reference
3,53	104,37 X 3,53	104,93	110,93	1,02	**10BU 243**
	107,54 X 3,53	108,1	114,1	1,02	**10BU 244**
	110,72 X 3,53	111,28	117,28	1,02	**10BU 245**
	113,89 X 3,53	114,45	120,45	1,02	**10BU 246**
	117,07 X 3,53	117,63	123,63	1,02	**10BU 247**
	120,24 X 3,53	121,11	127,11	1,02	**10BU 248**
	123,42 X 3,53	124,28	130,28	1,02	**10BU 249**
	126,59 X 3,53	127,46	133,46	1,02	**10BU 250**
	129,77 X 3,53	130,63	136,63	1,02	**10BU 251**
	132,94 X 3,53	133,81	139,81	1,02	**10BU 252**
	136,12 X 3,53	136,98	142,98	1,02	**10BU 253**
	139,29 X 3,53	140,16	146,16	1,02	**10BU 254**
	142,47 X 3,53	143,33	149,33	1,02	**10BU 255**
	145,64 X 3,53	146,51	152,51	1,02	**10BU 256**
	148,82 X 3,53	149,68	155,68	1,02	**10BU 257**
	151,99 X 3,53	152,86	158,86	1,02	**10BU 258**
	158,34 X 3,53	159,21	165,21	1,02	**10BU 259**
	164,69 X 3,53	165,56	171,56	1,02	**10BU 260**
	171,04 X 3,53	171,91	177,91	1,02	**10BU 261**
	177,39 X 3,53	178,26	184,26	1,02	**10BU 262**
	183,74 X 3,53	184,61	190,61	1,02	**10BU 263**
	190,09 X 3,53	190,96	196,96	1,02	**10BU 264**
	196,44 X 3,53	197,31	203,31	1,02	**10BU 265**
	202,79 X 3,53	203,66	209,66	1,02	**10BU 266**
	209,14 X 3,53	210,01	216,01	1,02	**10BU 267**
	215,49 X 3,53	216,36	222,36	1,02	**10BU 268**
	221,84 X 3,53	222,71	228,71	1,02	**10BU 269**
	228,19 X 3,53	229,06	235,06	1,02	**10BU 270**
	234,54 X 3,53	235,41	241,41	1,02	**10BU 271**
	240,89 X 3,53	241,76	247,76	1,02	**10BU 272**
	247,26 X 3,53	248,11	254,11	1,02	**10BU 273**
	253,59 X 3,53	254,46	260,46	1,02	**10BU 274**
	266,29 X 3,53	267,16	273,16	1,02	**10BU 275**
	278,99 X 3,53	279,86	285,86	1,02	**10BU 276**
	291,69 X 3,53	292,56	298,56	1,02	**10BU 277**
	304,39 X 3,53	305,26	311,26	1,02	**10BU 278**
	329,79 X 3,53	330,66	336,66	1,02	**10BU 279**
	355,19 X 3,53	356,06	362,06	1,02	**10BU 280**
	380,59 X 3,53	381,46	387,46	1,02	**10BU 281**
	405,26 X 3,53	406,12	412,12	1,02	**10BU 282**
	430,66 X 3,53	431,52	437,52	1,02	**10BU 283**
	456,06 X 3,53	456,92	462,92	1,02	**10BU 284**

For special requirements (fluid, temperature, pressure...) or applications approaching maximum values, please contact us.

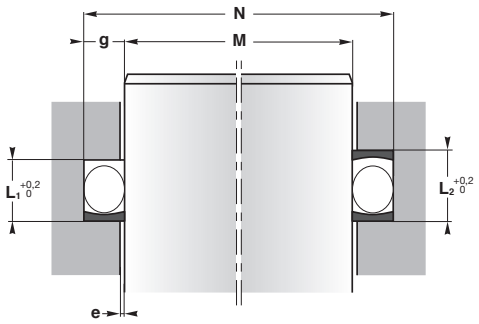
10BU seals with diameters between 10 and 1500 mm can be manufactured within short delivery time. For prices and availability: ***www.hegetu.nl***



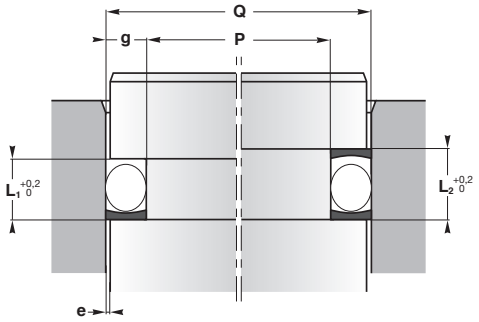
10BU

Example of item code

10BU 218
Profile AS/BS norm



Internal housing



External housing

Machining of housings: see page 81 and table 174

Pressure (MPa)	25	30	35	40
e max (mm)	0,2	0,15	0,1	0,05

Table 174

d (O-ring)	g	L1	L2	E	T
1,78	1,35	4	5,5	1,14	1,24
2,62	2,18	5	6,5	1,14	1,35
3,53	3	6	7,5	1,02	1,27
5,34	4,65	8,8	10,5	1,52	1,93
7	5,99	12	14,5	2,44	2,97

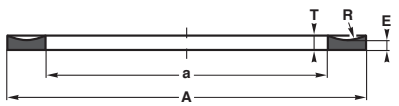
O-ring cross section	O-ring D x d	a	A	E	Reference
5,34	10,46 X 5,34	11,43	20,73	1,52	**10BU 309**
	12,07 X 5,34	13,03	22,33	1,52	**10BU 310**
	13,64 X 5,34	14,6	23,9	1,52	**10BU 311**
	15,24 X 5,34	16,2	25,5	1,52	**10BU 312**
	16,81 X 5,34	17,78	27,08	1,52	**10BU 313**
	18,42 X 5,34	19,38	28,68	1,52	**10BU 314**
	19,99 X 5,34	20,96	30,26	1,52	**10BU 315**
	21,59 X 5,34	22,56	31,86	1,52	**10BU 316**
	23,16 X 5,34	24,13	33,43	1,52	**10BU 317**
	24,77 X 5,34	25,73	35,03	1,52	**10BU 318**
	26,34 X 5,34	27,31	36,61	1,52	**10BU 319**
	27,94 X 5,34	28,91	38,21	1,52	**10BU 320**
	29,51 X 5,34	30,42	39,72	1,52	**10BU 321**
	31,12 X 5,34	32,08	41,38	1,52	**10BU 322**
	32,69 X 5,34	33,43	42,73	1,52	**10BU 323**
	34,29 X 5,34	35,26	44,56	1,52	**10BU 324**
	37,47 X 5,34	38,43	47,73	1,52	**10BU 325**
	40,64 X 5,34	41,61	50,91	1,52	**10BU 326**
	43,82 X 5,34	44,78	54,08	1,52	**10BU 327**
	46,99 X 5,34	47,96	57,26	1,52	**10BU 328**
	50,17 X 5,34	51,13	60,43	1,52	**10BU 329**
	53,34 X 5,34	54,31	63,61	1,52	**10BU 330**
	56,52 X 5,34	57,61	66,91	1,52	**10BU 331**
	59,69 X 5,34	60,78	70,08	1,52	**10BU 332**
	62,87 X 5,34	63,96	73,26	1,52	**10BU 333**
	66,04 X 5,34	67,13	76,43	1,52	**10BU 334**
	69,22 X 5,34	70,31	79,61	1,52	**10BU 335**
	72,39 X 5,34	73,48	82,78	1,52	**10BU 336**
	75,57 X 5,34	76,66	85,96	1,52	**10BU 337**
	78,74 X 5,34	79,83	89,13	1,52	**10BU 338**
	81,92 X 5,34	83,13	92,43	1,52	**10BU 339**
	85,09 X 5,34	86,31	95,61	1,52	**10BU 340**
	88,27 X 5,34	89,48	98,78	1,52	**10BU 341**
	91,44 X 5,34	92,66	101,96	1,52	**10BU 342**
	94,62 X 5,34	95,83	105,13	1,52	**10BU 343**
	97,79 X 5,34	99,01	108,31	1,52	**10BU 344**
	100,97 X 5,34	102,31	111,61	1,52	**10BU 345**
	104,14 X 5,34	105,49	114,79	1,52	**10BU 346**
	107,32 X 5,34	108,66	117,96	1,52	**10BU 347**
	110,49 X 5,34	111,84	121,14	1,52	**10BU 348**
	113,67 X 5,34	115,01	124,31	1,52	**10BU 349**
	116,84 X 5,34	118,19	127,49	1,52	**10BU 350**

O-ring cross section	O-ring D x d	a	A	E	Reference
5,34	120,02 X 5,34	121,36	130,66	1,52	**10BU 351**
	123,19 X 5,34	124,54	133,84	1,52	**10BU 352**
	126,37 X 5,34	127,71	137,01	1,52	**10BU 353**
	129,54 X 5,34	130,89	140,19	1,52	**10BU 354**
	132,72 X 5,34	134,06	143,36	1,52	**10BU 355**
	135,89 X 5,34	137,24	146,54	1,52	**10BU 356**
	139,07 X 5,34	140,41	149,71	1,52	**10BU 357**
	142,24 X 5,34	143,59	152,89	1,52	**10BU 358**
	145,42 X 5,34	146,76	156,06	1,52	**10BU 359**
	148,59 X 5,34	149,94	159,24	1,52	**10BU 360**
	151,77 X 5,34	153,11	162,41	1,52	**10BU 361**
	158,12 X 5,34	159,46	168,76	1,52	**10BU 362**
	164,47 X 5,34	165,81	175,11	1,52	**10BU 363**
	170,82 X 5,34	172,16	181,46	1,52	**10BU 364**
	177,17 X 5,34	178,51	187,81	1,52	**10BU 365**
	183,52 X 5,34	184,86	194,16	1,52	**10BU 366**
	189,87 X 5,34	191,21	200,51	1,52	**10BU 367**
	196,22 X 5,34	197,56	206,86	1,52	**10BU 368**
	202,57 X 5,34	203,91	213,21	1,52	**10BU 369**
	208,92 X 5,34	210,26	219,56	1,52	**10BU 370**
	215,27 X 5,34	216,61	225,91	1,52	**10BU 371**
	221,62 X 5,34	222,96	232,26	1,52	**10BU 372**
	227,97 X 5,34	229,31	238,61	1,52	**10BU 373**
	234,32 X 5,34	235,66	244,96	1,52	**10BU 374**
	240,67 X 5,34	242,01	251,31	1,52	**10BU 375**
	247,02 X 5,34	248,36	257,66	1,52	**10BU 376**
	253,37 X 5,34	254,71	264,01	1,52	**10BU 377**
	266,07 X 5,34	267,41	276,71	1,52	**10BU 378**
	278,77 X 5,34	280,11	289,41	1,52	**10BU 379**
	291,47 X 5,34	292,81	302,11	1,52	**10BU 380**
	304,17 X 5,34	305,51	314,81	1,52	**10BU 381**
	329,57 X 5,34	330,91	340,21	1,52	**10BU 382**
	354,97 X 5,34	356,31	365,61	1,52	**10BU 383**
7	113,67 X 7	115,6	127,58	2,44	**10BU 425**
(6,99)	116,84 X 7	118,77	130,75	2,44	**10BU 426**
	120,02 X 7	121,95	133,93	2,44	**10BU 427**
	123,19 X 7	125,2	137,18	2,44	**10BU 428**
	126,37 X 7	128,3	140,28	2,44	**10BU 429**
	129,54 X 7	131,47	143,45	2,44	**10BU 430**
	132,72 X 7	134,65	146,63	2,44	**10BU 431**
	135,89 X 7	137,82	149,8	2,44	**10BU 432**
	139,07 X 7	141	152,98	2,44	**10BU 433**

O-ring cross section	O-ring D x d	a	A	E	Reference
7	142,24 X 7	144,17	156,15	2,44	**10BU 434**
(6,99)	145,42 X 7	147,35	159,33	2,44	**10BU 435**
	148,59 X 7	150,52	162,5	2,44	**10BU 436**
	151,77 X 7	153,7	165,68	2,44	**10BU 437**
	158,12 X 7	159,36	171,34	2,44	**10BU 438**
	164,47 X 7	165,71	177,69	2,44	**10BU 439**
	170,82 X 7	172,06	184,04	2,44	**10BU 440**
	177,17 X 7	178,41	190,39	2,44	**10BU 441**
	183,52 X 7	184,76	196,74	2,44	**10BU 442**
	189,87 X 7	191,11	203,09	2,44	**10BU 443**
	196,22 X 7	197,46	209,44	2,44	**10BU 444**
	202,57 X 7	203,81	215,79	2,44	**10BU 445**
	215,27 X 7	216,51	228,49	2,44	**10BU 446**
	227,97 X 7	229,21	241,19	2,44	**10BU 447**
	240,67 X 7	241,91	253,89	2,44	**10BU 448**
	253,37 X 7	254,61	266,59	2,44	**10BU 449**
	266,07 X 7	267,31	279,29	2,44	**10BU 450**
	278,77 X 7	280,01	291,99	2,44	**10BU 451**
	291,47 X 7	292,71	304,69	2,44	**10BU 452**
	304,17 X 7	305,41	317,39	2,44	**10BU 453**
	316,87 X 7	318,11	330,09	2,44	**10BU 454**
	329,57 X 7	330,81	342,79	2,44	**10BU 455**
	342,27 X 7	343,51	355,49	2,44	**10BU 456**
	354,97 X 7	356,21	368,19	2,44	**10BU 457**
	367,67 X 7	368,91	380,89	2,44	**10BU 458**
	380,37 X 7	381,61	393,59	2,44	**10BU 459**
	393,07 X 7	394,31	406,29	2,44	**10BU 460**
	405,26 X 7	406,5	418,48	2,44	**10BU 461**
	417,96 X 7	419,2	431,18	2,44	**10BU 462**
	430,66 X 7	431,9	443,88	2,44	**10BU 463**
	443,36 X 7	444,6	456,58	2,44	**10BU 464**
	456,06 X 7	457,3	469,28	2,44	**10BU 465**
	468,76 X 7	470	481,98	2,44	**10BU 466**
	481,46 X 7	482,7	494,68	2,44	**10BU 467**
	494,16 X 7	495,4	507,38	2,44	**10BU 468**
	506,86 X 7	508,1	520,08	2,44	**10BU 469**

For special requirements (fluid, temperature, pressure...) or applications approaching maximum values, please contact us.

10BU seals with diameters between 10 and 1500 mm can be manufactured within short delivery time. For prices and availability: ***www.hegetu.nl***

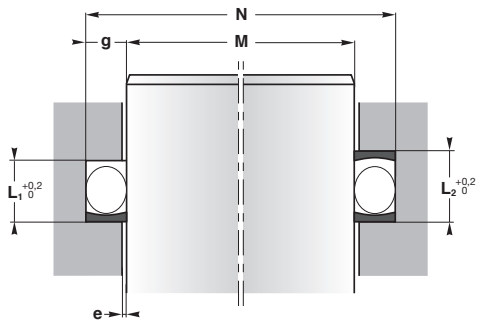


11BU...FPM

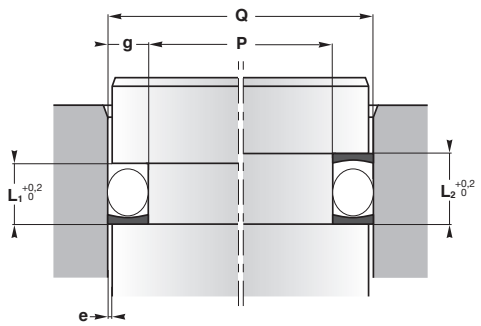
Example of item code

11BU 218

Profile AS/BS norm



Internal housing



External housing

Machining of housings: see page 81 and table 176

Pressure (MPa)	25	30	35	40
e max (mm)	0,2	0,15	0,1	0,05

11BU...FPM back-up ring is a closed ring with a concave shaped cross-section. For these back-up rings, we use a Viton® elastomer of 90°shore A hardness to guarantee a high level of resistance to extrusion and abrasion.

Their design tends to keep the O-ring in its original form, even at high pressure. They minimize distortion of the O-ring who can therefore withstand better against higher pressure loads. This produces a better sealing effect and **increases the lifetime of the O-ring**.

11BU...FPM rings are continuous. They do not have a cut (unlike open PTFE rings) and they can be stretched over a piston during assembly. Hence they contact the O-ring uniformly, and do not cause localised wear spots.

11BU...FPM back-up ring has a symmetrical profile and can therefore be used in both internal and external sealing systems.

Operating conditions see page 8

Pressure	≤ 40 MPa
Temperature	-20°C to 200°C
Fluids	mineral oils, HFA, HFB, HFD

Materials see pages 10-19

FPM 90 Sh A	colour: black

Assembly see pages 54-59

In one-piece housings

Advantages

- Easy assembly
- Closed ring (uncut)
- For inner and outer housings
- Extended service life of the O-ring

Please contact us for applications approaching maximum values.

More information

On *www.hegetu.nl*, click first on the reference and then on the material code to obtain the data sheet of the material.

Table 176

d (O-ring)	g	L1	L2	E	T
1,78	1,35	4	5,5	1,14	1,24
2,62	2,18	5	6,5	1,14	1,35
3,53	3	6	7,5	1,02	1,27
5,34	4,65	8,8	10,5	1,52	1,93
7	5,99	12	14,5	2,44	2,97

For special requirements (fluid, temperature, pressure...) or applications approaching maximum values, please contact us.

O-ring cross section	O-ring D x d	a	A	E	Reference
1,78	9,25 x 1,78	9,91	12,61	1,14	**11BU 012 FPM**
	25,12 x 1,78	25,86	28,56	1,14	**11BU 022 FPM**
	28,3 x 1,78	29,03	31,73	1,14	**11BU 024 FPM**
	34,65 x 1,78	35,38	38,08	1,14	**11BU 028 FPM**
	37,82 x 1,78	38,56	41,26	1,14	**11BU 029 FPM**
2,62	10,77 x 2,62	11,48	15,84	1,14	**11BU 111 FPM**
	12,37 x 2,62	13,08	17,44	1,14	**11BU 112 FPM**
	29,82 x 2,62	30,63	34,99	1,14	**11BU 123 FPM**
	36,17 x 2,62	36,98	41,34	1,14	**11BU 127 FPM**
	39,34 x 2,62	40,16	44,52	1,14	**11BU 129 FPM**
	40,94 x 2,62	41,73	46,09	1,14	**11BU 130 FPM**
	42,52 x 2,62	43,33	47,69	1,14	**11BU 131 FPM**
	44,12 x 2,62	44,91	49,27	1,14	**11BU 132 FPM**
	53,64 x 2,62	54,43	58,79	1,14	**11BU 138 FPM**
	55,25 x 2,62	56,03	60,39	1,14	**11BU 139 FPM**
	63,17 x 2,62	63,96	68,32	1,14	**11BU 144 FPM**
3,53	36,09 x 3,53	37,06	43,06	1,02	**11BU 221 FPM**
	37,69 x 3,53	38,66	44,66	1,02	**11BU 222 FPM**
	40,87 x 3,53	41,83	47,83	1,02	**11BU 223 FPM**
	44,04 x 3,53	45,01	51,01	1,02	**11BU 224 FPM**
	47,22 x 3,53	48,18	54,18	1,02	**11BU 225 FPM**
	53,57 x 3,53	54,53	60,53	1,02	**11BU 227 FPM**
	56,74 x 3,53	57,71	63,71	1,02	**11BU 228 FPM**
	59,92 x 3,53	60,88	66,88	1,02	**11BU 229 FPM**
	63,09 x 3,53	64,06	70,06	1,02	**11BU 230 FPM**
	66,27 x 3,53	66,83	72,83	1,02	**11BU 231 FPM**
	72,62 x 3,53	73,18	79,18	1,02	**11BU 233 FPM**
	75,79 x 3,53	76,35	82,35	1,02	**11BU 234 FPM**
	82,14 x 3,53	82,7	88,7	1,02	**11BU 236 FPM**
	94,84 x 3,53	95,4	101,4	1,02	**11BU 240 FPM**
	104,37 x 3,53	104,93	110,93	1,02	**11BU 243 FPM**
	132,94 x 3,53	133,81	139,81	1,02	**11BU 252 FPM**
5,34	56,52 x 5,34	57,61	66,91	1,52	**11BU 331 FPM**
	88,27 x 5,34	89,48	98,78	1,52	**11BU 341 FPM**
	100,97 x 5,34	102,31	111,61	1,52	**11BU 345 FPM**
	113,67 x 5,34	115,01	124,31	1,52	**11BU 349 FPM**
	116,84 x 5,34	118,19	127,49	1,52	**11BU 350 FPM**
	129,54 x 5,34	130,89	140,19	1,52	**11BU 354 FPM**
	151,77 x 5,34	153,11	162,41	1,52	**11BU 361 FPM**
	158,12 x 5,34	159,46	168,76	1,52	**11BU 362 FPM**
	354,97 x 5,34	356,31	365,61	1,52	**11BU 383 FPM**
	380,37 x 5,34	381,71	391,01	1,52	**11BU 384 FPM**
7	202,57 x 7	203,81	215,79	2,44	**11BU 445 FPM**
(6,99)	304,17 x 7	305,41	317,39	2,44	**11BU 453 FPM**
	329,57 x 7	330,81	342,79	2,44	**11BU 455 FPM**
	342,27 x 7	343,51	355,49	2,44	**11BU 456 FPM**
	582,68 x 7	584,3	596,28	2,44	**11BU 472 FPM**

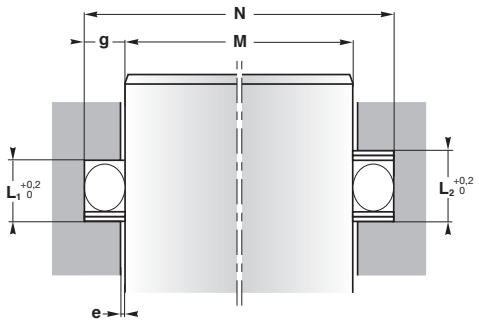
11BU...FPM seals with diameters between 10 and 1500 mm can be manufactured within short delivery time. For prices and availability: ***www.hegetu.nl***

10BR

Example of item code

10BR 218

Profile — AS/BS norm



Machining of housings: see page 81 and table 178

Pressure (MPa)	25	30	35	40	50
e max (mm)	0,25	0,2	0,15	0,1	0,05

Table 178

d (O-ring)	**g**	**L1**	**L2**	**E**
1,78	1,55	3,8	5,2	1,4
2,62	2,25	5	6,4	1,4
3,53	3,1	6,2	7,6	1,4
5,34	4,7	8,8	10,5	1,7
7	6,1	12	14,5	2,5

PTFE anti-extrusion rings **10BR** consists of two spiral windings which are cut at the ends at an angle.

These discontinuities may contribute to seal damage due to biting and pinching.

They are preferred for installations in a closed groove where uncut back-up rings are not suitable

This back-up ring can **compensate** large temperature changes and tolerances.

In addition to the good chemical resistance of the PTFE material, they may be used over a wide temperature range.

By cutting the spiral, it is possible to use it also for smaller dimensions.

Limited to 25 MPa in dynamic applications.

Operating conditions	see page 8
Pressure	≤ 50 MPa
Temperature	-200°C to 260°C
Fluids	mineral oils HFA, HFB, HFC, HFD, steam

Materials	see pages 10-19
PTFE	PT01

Assembly	see pages 54-59
In one-piece housings	

Advantages

- Very good chemical resistance
- Wide temperature range
- The **10BR** ring can be cut in order to assemble it in a groove with a smaller diameter

Please contact us for applications approaching maximum values.

More information

On ***www.hegetu.nl***, click first on the reference and then on the material code to obtain the data sheet of the material.

The back-up rings **10BR** are made for internal housings but there is also possible to assemble them on external housings.

For special requirements (fluid, temperature, pressure...) or applications approaching maximum values, please contact us.

O-ring cross section	O-ring D x d	M	N	E	Reference
1,78	2,9 x 1,78	3	6,1	1,4	**10BR 006**
	3,68 x 1,78	4	7,1	1,4	**10BR 007**
	4,47 x 1,78	4,5	7,6	1,4	**10BR 008**
	5,28 x 1,78	5	8,1	1,4	**10BR 009**
	6,07 x 1,78	7	10,1	1,4	**10BR 010**
	6,75 x 1,78	7	10,1	1,4	**10BR 610**
	7,65 x 1,78	8	11,1	1,4	**10BR 011**
	8,73 x 1,78	9	12,1	1,4	**10BR 611**
	9,25 x 1,78	9	12,1	1,4	**10BR 012**
	10,82 x 1,78	11	14,1	1,4	**10BR 013**
	12,42 x 1,78	13	16,1	1,4	**10BR 014**
	14,0 x 1,78	14	17,1	1,4	**10BR 015**
	15,6 x 1,78	16	19,1	1,4	**10BR 016**
	17,17 x 1,78	17	20,1	1,4	**10BR 017**
	18,77 x 1,78	19	22,1	1,4	**10BR 018**
	20,35 x 1,78	21	24,1	1,4	**10BR 019**
	21,95 x 1,78	22	25,1	1,4	**10BR 020**
	23,52 x 1,78	24	27,1	1,4	**10BR 021**
	25,12 x 1,78	25	28,1	1,4	**10BR 022**
	26,7 x 1,78	27	30,1	1,4	**10BR 023**
	28,3 x 1,78	28	31,1	1,4	**10BR 024**
	29,87 x 1,78	30	33,1	1,4	**10BR 025**
	31,47 x 1,78	32	35,1	1,4	**10BR 026**
	33,05 x 1,78	33	36,1	1,4	**10BR 027**
	34,65 x 1,78	35	38,1	1,4	**10BR 028**
	47,35 x 1,78	48	51,1	1,4	**10BR 032**
	60,05 x 1,78	60	63,1	1,4	**10BR 036**
2,62	9,19 x 2,62	10	14,5	1,4	**10BR 110**
	9,9 x 2,62	10	14,5	1,4	**10BR 613**
	10,77 x 2,62	11	15,5	1,4	**10BR 111**
	11,91 x 2,62	12	16,5	1,4	**10BR 614**
	12,37 x 2,62	12,5	17	1,4	**10BR 112**
	13,1 x 2,62	13	17,5	1,4	**10BR 615**
	13,94 x 2,62	14	18,5	1,4	**10BR 113**
	15,08 x 2,62	15	19,5	1,4	**10BR 616**
	15,54 x 2,62	16	20,5	1,4	**10BR 114**
	15,88 x 2,62	16	20,5	1,4	**10BR 809**
	17,12 x 2,62	17	21,5	1,4	**10BR 115**
	17,86 x 2,62	18	22,5	1,4	**10BR 617**
	18,72 x 2,62	19	23,5	1,4	**10BR 116**
	20,3 x 2,62	20	24,5	1,4	**10BR 117**
	20,64 x 2,62	21	25,5	1,4	**10BR 812**
2,62	21,89 x 2,62	22	26,5	1,4	**10BR 118**
	23,47 x 2,62	24	28,5	1,4	**10BR 119**
	25,07 x 2,62	25	29,5	1,4	**10BR 120**
	26,64 x 2,62	27	31,5	1,4	**10BR 121**
	28,24 x 2,62	28	32,5	1,4	**10BR 122**
	29,82 x 2,62	30	34,5	1,4	**10BR 123**
	31,42 x 2,62	32	36,5	1,4	**10BR 124**
	32,99 x 2,62	33	37,5	1,4	**10BR 125**
	34,59 x 2,62	35	39,5	1,4	**10BR 126**
	36,17 x 2,62	36	40,5	1,4	**10BR 127**
	37,77 x 2,62	38	42,5	1,4	**10BR 128**
	39,34 x 2,62	40	44,5	1,4	**10BR 129**
	40,94 x 2,62	41	45,5	1,4	**10BR 130**
	42,52 x 2,62	43	47,5	1,4	**10BR 131**
	44,12 x 2,62	44	48,5	1,4	**10BR 132**
	45,69 x 2,62	46	50,5	1,4	**10BR 133**
	47,29 x 2,62	48	52,5	1,4	**10BR 134**
	48,9 x 2,62	49	53,5	1,4	**10BR 135**
	50,47 x 2,62	51	55,5	1,4	**10BR 136**
	52,07 x 2,62	52	56,5	1,4	**10BR 137**
	53,64 x 2,62	54	58,5	1,4	**10BR 138**
	55,25 x 2,62	55	59,5	1,4	**10BR 139**
	56,82 x 2,62	57	61,5	1,4	**10BR 140**
	58,42 x 2,62	59	63,5	1,4	**10BR 141**
	59,99 x 2,62	60	64,5	1,4	**10BR 142**
	61,6 x 2,62	62	66,5	1,4	**10BR 143**
	63,17 x 2,62	63	67,5	1,4	**10BR 144**
	64,77 x 2,62	65	69,5	1,4	**10BR 145**
	66,34 x 2,62	67	71,5	1,4	**10BR 146**
	67,95 x 2,62	68	72,5	1,4	**10BR 147**
	69,52 x 2,62	70	74,5	1,4	**10BR 148**
	71,12 x 2,62	71	75,5	1,4	**10BR 149**
	72,69 x 2,62	73	77,5	1,4	**10BR 150**
	75,87 x 2,62	76	80,5	1,4	**10BR 151**
	82,22 x 2,62	82	86,5	1,4	**10BR 152**
	88,57 x 2,62	89	93,5	1,4	**10BR 153**
	94,92 x 2,62	95	99,5	1,4	**10BR 154**
	107,62 x 2,62	108	112,5	1,4	**10BR 156**
	113,97 x 2,62	114	118,5	1,4	**10BR 157**
3,53	18,64 x 3,53	19	25,2	1,4	**10BR 210**
	20,22 x 3,53	20	26,2	1,4	**10BR 211**
	21,82 x 3,53	22	28,2	1,4	**10BR 212**

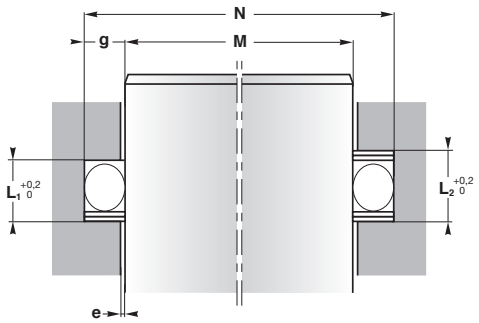
10BR seals with diameters between 10 and 1500 mm can be manufactured within short delivery time. For prices and availability : ***www.hegetu.nl***

10BR

Example of item code

10BR 218

Profile — AS/BS norm



Machining of housings: see page 81 and table 180

Pressure (MPa)	25	30	35	40	50
e max (mm)	0,25	0,2	0,15	0,1	0,05

Table 180

d (O-ring)	**g**	**L1**	**L2**	**E**
1,78	1,55	3,8	5,2	1,4
2,62	2,25	5	6,4	1,4
3,53	3,1	6,2	7,6	1,4
5,34	4,7	8,8	10,5	1,7
7	6,1	12	14,5	2,5

PTFE anti-extrusion rings **10BR** consists of two spiral windings which are cut at the ends at an angle.

These discontinuities may contribute to seal damage due to biting and pinching.

They are preferred for installations in a closed groove where uncut back-up rings are not suitable

This back-up ring can **compensate** large temperature changes and tolerances.

In addition to the good chemical resistance of the PTFE material, they may be used over a wide temperature range.

By cutting the spiral, it is possible to use it also for smaller dimensions.

Limited to 25 MPa in dynamic applications.

Operating conditions	**see page 8**
Pressure	≤ 50 MPa
Temperature	-200°C to 260°C
Fluids	mineral oils HFA, HFB, HFC, HFD, steam

Materials	**see pages 10-19**
PTFE	PT01

Assembly	**see pages 54-59**
In one-piece housings	

Advantages

- Very good chemical resistance
- Wide temperature range
- The **10BR** ring can be cut in order to assemble it in a groove with a smaller diameter

Please contact us for applications approaching maximum values.

More information

On ***www.hegetu.nl***, click first on the reference and then on the material code to obtain the data sheet of the material.

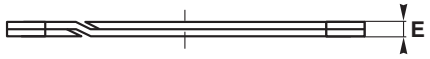
The back-up rings **10BR** are made for internal housings but there is also possible to assemble them on external housings.

For special requirements (fluid, temperature, pressure...) or applications approaching maximum values, please contact us.

O-ring cross section	O-ring D x d	M	N	E	Reference
3,53	23,39 x 3,53	23	29,2	1,4	**10BR 213**
	24,99 x 3,53	25	31,2	1,4	**10BR 214**
	25,8 x 3,53	26	32,2	1,4	**10BR 618**
	26,57 x 3,53	27	33,2	1,4	**10BR 215**
	28,17 x 3,53	28	34,2	1,4	**10BR 216**
	29,74 x 3,53	30	36,2	1,4	**10BR 217**
	31,34 x 3,53	31	37,2	1,4	**10BR 218**
	32,92 x 3,53	33	39,2	1,4	**10BR 219**
	34,52 x 3,53	35	41,2	1,4	**10BR 220**
	36,09 x 3,53	36	42,2	1,4	**10BR 221**
	37,69 x 3,53	38	44,2	1,4	**10BR 222**
	39,7 x 3,53	40	46,2	1,4	**10BR 824**
	40,87 x 3,53	42	48,2	1,4	**10BR 223**
	41,28 x 3,53	42	48,2	1,4	**10BR 825**
	42,86 x 3,53	43	49,2	1,4	**10BR 826**
	44,04 x 3,53	45	51,2	1,4	**10BR 224**
	46,04 x 3,53	46	52,2	1,4	**10BR 828**
	47,22 x 3,53	48	54,2	1,4	**10BR 225**
	47,62 x 3,53	48	54,2	1,4	**10BR 829**
	49,2 x 3,53	49	55,2	1,4	**10BR 830**
	50,39 x 3,53	51	57,2	1,4	**10BR 226**
	52,4 x 3,53	52	58,2	1,4	**10BR 832**
	53,57 x 3,53	54	60,2	1,4	**10BR 227**
	55,56 x 3,53	56	62,2	1,4	**10BR 834**
	56,74 x 3,53	57	63,2	1,4	**10BR 228**
	58,74 x 3,53	59	65,2	1,4	**10BR 836**
	59,92 x 3,53	60	66,2	1,4	**10BR 229**
	61,9 x 3,53	62	68,2	1,4	**10BR 838**
	63,09 x 3,53	64	70,2	1,4	**10BR 230**
	65,1 x 3,53	65	71,2	1,4	**10BR 840**
	66,27 x 3,53	67	73,2	1,4	**10BR 231**
	68,26 x 3,53	68	74,2	1,4	**10BR 842**
	69,44 x 3,53	70	76,2	1,4	**10BR 232**
	69,85 x 3,53	70	76,2	1,4	**10BR 843**
	71,44 x 3,53	72	78,2	1,4	**10BR 844**
	72,62 x 3,53	73	79,2	1,4	**10BR 233**
	74,6 x 3,53	75	81,2	1,4	**10BR 846**
	75,79 x 3,53	76	82,2	1,4	**10BR 234**
	78,97 x 3,53	79	85,2	1,4	**10BR 235**
	82,14 x 3,53	82	88,2	1,4	**10BR 236**
	85,32 x 3,53	85	91,2	1,4	**10BR 237**
	88,49 x 3,53	89	95,2	1,4	**10BR 238**

O-ring cross section	O-ring D x d	M	N	E	Reference
3,53	91,67 x 3,53	92	98,2	1,4	**10BR 239**
	94,84 x 3,53	95	101,2	1,4	**10BR 240**
	98,02 x 3,53	98	104,2	1,4	**10BR 241**
	101,19 x 3,53	101	107,2	1,4	**10BR 242**
	104,37 x 3,53	105	111,2	1,4	**10BR 243**
	107,54 x 3,53	108	114,2	1,4	**10BR 244**
	110,72 x 3,53	111	117,2	1,4	**10BR 245**
	113,89 x 3,53	114	120,2	1,4	**10BR 246**
	117,07 x 3,53	117	123,2	1,4	**10BR 247**
	120,24 x 3,53	120	126,2	1,4	**10BR 248**
	123,42 x 3,53	123	129,2	1,4	**10BR 249**
	126,59 x 3,53	127	133,2	1,4	**10BR 250**
	129,77 x 3,53	130	136,2	1,4	**10BR 251**
	132,94 x 3,53	133	139,2	1,4	**10BR 252**
	136,12 x 3,53	136	142,2	1,4	**10BR 253**
	139,29 x 3,53	140	146,2	1,4	**10BR 254**
	142,47 x 3,53	143	149,2	1,4	**10BR 255**
	145,64 x 3,53	146	152,2	1,4	**10BR 256**
	148,82 x 3,53	149	155,2	1,4	**10BR 257**
	151,99 x 3,53	152	158,2	1,4	**10BR 258**
	158,34 x 3,53	159	165,2	1,4	**10BR 259**
	164,69 x 3,53	165	171,2	1,4	**10BR 260**
	171,04 x 3,53	172	178,2	1,4	**10BR 261**
	177,39 x 3,53	178	184,2	1,4	**10BR 262**
	183,74 x 3,53	184	190,2	1,4	**10BR 263**
	190,09 x 3,53	190	196,2	1,4	**10BR 264**
	196,44 x 3,53	197	203,2	1,4	**10BR 265**
	202,79 x 3,53	203	209,2	1,4	**10BR 266**
	209,14 x 3,53	210	216,2	1,4	**10BR 267**
	215,49 x 3,53	216	222,2	1,4	**10BR 268**
	234,54 x 3,53			1,4	**10BR 271**
	240,89 x 3,53	241	247,2	1,4	**10BR 272**
	278,99 x 3,53	280	286,2	1,4	**10BR 276**
5,34	37,47 x 5,34	38	47,4	1,7	**10BR 325**
	40,64 x 5,34	41	50,4	1,7	**10BR 326**
	43,82 x 5,34	44	53,4	1,7	**10BR 327**
	46,99 x 5,34	47	56,4	1,7	**10BR 328**
	50,17 x 5,34	50	59,4	1,7	**10BR 329**
	53,34 x 5,34	53	62,4	1,7	**10BR 330**
	56,52 x 5,34	57	66,4	1,7	**10BR 331**
	59,69 x 5,34	60	69,4	1,7	**10BR 332**
	62,87 x 5,34	63	72,4	1,7	**10BR 333**

10BR seals with diameters between 10 and 1500 mm can be manufactured within short delivery time. For prices and availability : ***www.hegetu.nl***

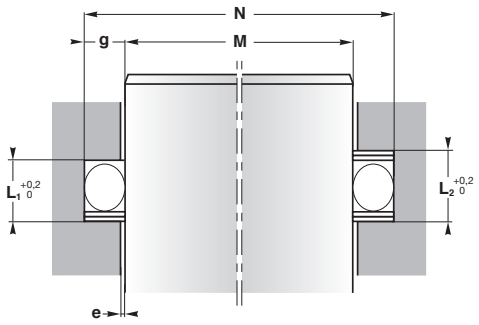


10BR

Example of item code

10BR 218

Profile — AS/BS norm



Machining of housings: see page 81 and table 182

Pressure (MPa)	25	30	35	40	50
e max (mm)	0,25	0,2	0,15	0,1	0,05

Table 182

d (O-ring)	**g**	**L1**	**L2**	**E**
1,78	1,55	3,8	5,2	1,4
2,62	2,25	5	6,4	1,4
3,53	3,1	6,2	7,6	1,4
5,34	4,7	8,8	10,5	1,7
7	6,1	12	14,5	2,5

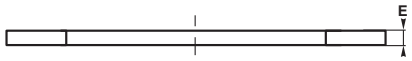
O-ring cross section	O-ring D x d	M	N	E	Reference
5,34	66,04 x 5,34	66	75,4	1,7	**10BR 334**
	69,22 x 5,34	69	78,4	1,7	**10BR 335**
	72,39 x 5,34	73	82,4	1,7	**10BR 336**
	74,63 x 5,34	75	84,4	1,7	**10BR 619**
	75,57 x 5,34	76	85,4	1,7	**10BR 337**
	78,74 x 5,34	79	88,4	1,7	**10BR 338**
	79,73 x 5,34	80	89,4	1,7	**10BR 620**
	81,92 x 5,34	82	91,4	1,7	**10BR 339**
	85,09 x 5,34	85	94,4	1,7	**10BR 340**
	88,27 x 5,34	88	97,4	1,7	**10BR 341**
	89,69 x 5,34	90	99,4	1,7	**10BR 621**
	91,44 x 5,34	92	101,4	1,7	**10BR 342**
	94,62 x 5,34	95	104,4	1,7	**10BR 343**
	97,79 x 5,34	98	107,4	1,7	**10BR 344**
	100,0 x 5,34	100	109,4	1,7	**10BR 622**
	100,97 x 5,34	101	110,4	1,7	**10BR 345**
	104,14 x 5,34	104	113,4	1,7	**10BR 346**
	107,32 x 5,34	107	116,4	1,7	**10BR 347**
	109,54 x 5,34	110	119,4	1,7	**10BR 623**
	110,49 x 5,34	110	119,4	1,7	**10BR 348**
	113,67 x 5,34	114	123,4	1,7	**10BR 349**
	116,84 x 5,34	117	126,4	1,7	**10BR 350**
	117,48 x 5,34	118	127,4	1,7	**10BR 860**
	120,02 x 5,34	121	130,4	1,7	**10BR 351**
	123,19 x 5,34	124	133,4	1,7	**10BR 352**
	126,37 x 5,34	127	136,4	1,7	**10BR 353**
	129,54 x 5,34	130	139,4	1,7	**10BR 354**
	132,72 x 5,34	133	142,4	1,7	**10BR 355**
	133,35 x 5,34	133	143,4	1,7	**10BR 865**
	135,89 x 5,34	137	146,4	1,7	**10BR 356**
	139,07 x 5,34	140	149,4	1,7	**10BR 357**
	139,7 x 5,34	140	149,4	1,7	**10BR 867**
	142,24 x 5,34	143	152,4	1,7	**10BR 358**
	145,42 x 5,34	146	155,4	1,7	**10BR 359**
	148,59 x 5,34	150	159,4	1,7	**10BR 360**
	151,77 x 5,34	152	161,4	1,7	**10BR 361**
	158,12 x 5,34	158	167,4	1,7	**10BR 362**
	164,47 x 5,34	165	174,4	1,7	**10BR 363**
	170,82 x 5,34	171	180,4	1,7	**10BR 364**
	177,17 x 5,34	178	187,4	1,7	**10BR 365**
	183,52 x 5,34	184	193,4	1,7	**10BR 366**
	189,87 x 5,34	190	199,4	1,7	**10BR 367**

O-ring cross section	O-ring D x d	M	N	E	Reference
5,34	196,22 x 5,34	196	205,4	1,7	**10BR 368**
	208,92 x 5,34	209	218,4	1,7	**10BR 370**
	215,27 x 5,34	215	224,4	1,7	**10BR 371**
	227,97 x 5,34	228	237,4	1,7	**10BR 373**
	234,32 x 5,34	234	243,4	1,7	**10BR 374**
	240,67 x 5,34	241	250,4	1,7	**10BR 375**
	247,02 x 5,34	247	256,4	1,7	**10BR 376**
	253,37 x 5,34	253	262,4	1,7	**10BR 377**
	278,77 x 5,34	280	289,4	1,7	**10BR 379**
	291,47 x 5,34	292	301,4	1,7	**10BR 380**
7	113,67 x 7	114	126,2	2,5	**10BR 425**
(6,99)	114,7 x 7	115	127,2	2,5	**10BR 624**
	116,84 x 7	117	129,2	2,5	**10BR 426**
	120,02 x 7	120	132,2	2,5	**10BR 427**
	123,2 x 7	123	135,2	2,5	**10BR 428**
	126,37 x 7	126	138,2	2,5	**10BR 429**
	129,54 x 7	130	142,2	2,5	**10BR 430**
	132,72 x 7	133	145,2	2,5	**10BR 431**
	134,5 x 7	134,5	146,7	2,5	**10BR 626**
	135,89 x 7	136	148,2	2,5	**10BR 432**
	139,07 x 7	139	151,2	2,5	**10BR 433**
	142,24 x 7	142	154,2	2,5	**10BR 434**
	145,42 x 7	145	157,2	2,5	**10BR 435**
	148,59 x 7	149	161,2	2,5	**10BR 436**
	151,77 x 7	152	164,2	2,5	**10BR 437**
	155,6 x 7	156	158,2	2,5	**10BR 872**
	158,12 x 7	158	170,2	2,5	**10BR 438**
	159,5 x 7			2,5	**10BR 627**
	161,9 x 7	162	174,2	2,5	**10BR 874**
	164,47 x 7	165	177,2	2,5	**10BR 439**
	166,7 x 7	167	179,2	2,5	**10BR 628**
	168,3 x 7	168	180,2	2,5	**10BR 876**
	170,82 x 7	170	182,2	2,5	**10BR 440**
	174,6 x 7	175	187,2	2,5	**10BR 878**
	177,17 x 7	178	190,2	2,5	**10BR 441**
	183,52 x 7	184	196,2	2,5	**10BR 442**
	187,3 x 7	188	200,2	2,5	**10BR 882**
	189,87 x 7	190	202,2	2,5	**10BR 443**
	193,7 x 7	194	206,2	2,5	**10BR 884**
	196,22 x 7	196	208,2	2,5	**10BR 444**

O-ring cross section	O-ring D x d	M	N	E	Reference
7	200,0 x 7	200	212,2	2,5	**10BR 886**
(6,99)	202,57 x 7	203	215,2	2,5	**10BR 445**
	208,92 x 7	210	222,2	2,5	**10BR 674**
	215,27 x 7	215	227,2	2,5	**10BR 446**
	221,62 x 7	222	234,2	2,5	**10BR 676**
	227,97 x 7	230	242,2	2,5	**10BR 447**
	234,32 x 7	235	247,2	2,5	**10BR 678**
	240,67 x 7	240	252,2	2,5	**10BR 448**
	247 x 7	248	260,2	2,5	**10BR 680**
	253,37 x 7	255	267,2	2,5	**10BR 449**
	259,7 x 7	260	272,2	2,5	**10BR 682**
	266,07 x 7	265	277,2	2,5	**10BR 450**
	272,4 x 7	273	285,2	2,5	**10BR 684**
	278,77 x 7	280	292,2	2,5	**10BR 451**
	285,1 x 7	285	297,2	2,5	**10BR 686**
	291,47 x 7	292	304,2	2,5	**10BR 452**
	297,8 x 7	300	312,2	2,5	**10BR 688**
	304,17 x 7	305	317,2	2,5	**10BR 453**
	316,87 x 7	318	330,2	2,5	**10BR 454**
	329,57 x 7	330	342,2	2,5	**10BR 455**
	342,27 x 7			2,5	**10BR 456**
	367,67 x 7	370	382,2	2,5	**10BR 458**
	380,37 x 7	380	392,2	2,5	**10BR 459**
	393,07 x 7	393	405,2	2,5	**10BR 460**

For special requirements (fluid, temperature, pressure...) or applications approaching maximum values, please contact us.

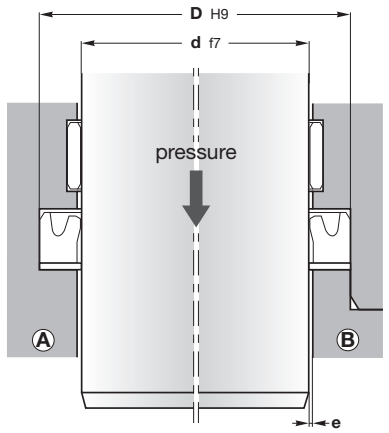
10BR seals with diameters between 10 and 1500 mm can be manufactured within short delivery time. For prices and availability: ***www.hegetu.nl***

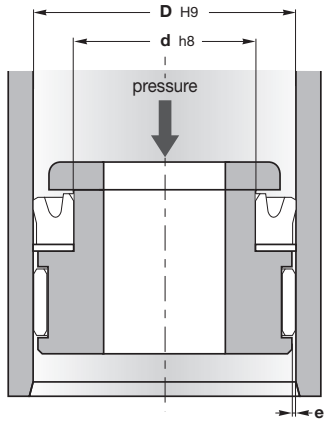


08ST8

Example of item code

08ST8	105	095	PT01
Profile	**D** (mm)	**d** (mm)	Material





Machining of housings: see pages 48-49

08ST8 is an uncut back-up ring with a rectangular cross section. The standard material is PTFE. Other materials like POM, PA or other filled PTFE materials are also possible.

It's also used for reciprocating and rotating movements.

Operating conditions	**see page 8**
Pressure	≤ 50 MPa
Temperature	-60°C to 200°C
Speed	≤ 0,5 m/s
Fluids	see pages 22-45

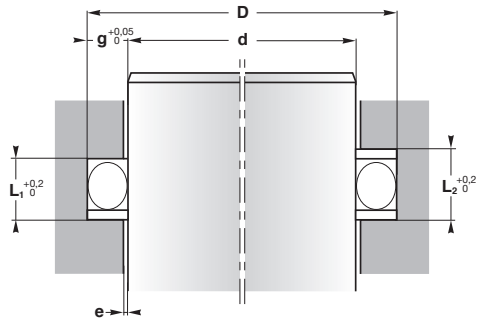
Materials	**see pages 10-19**
	PT01, PT15, POM, PA

Assembly	**see pages 54-59**
In one-piece Ⓐ or two-piece Ⓑ housings	
On multi-piece pistons	

Advantages

- Provides an efficient solution to the extrusion of the seal
- Generally the radial clearance **e** can be increased
- Good price-performance ratio and simple solution

Please contact us for applications approaching maximum values.



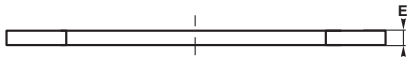
Internal housing

Machining of housings: see page 81

D	d	E	Reference
18	8	2	**08ST8 018008 PT01**
20	10	2	**08ST8 020010 PT01**
22	14	2	**08ST8 022014 PT01**
23	15	2	**08ST8 023015 PT01**
24	14	2	**08ST8 024014 PT01**
	16	1,4	**08ST8 024016 PT01**
	16	2	**08ST8 024016/2 PT01**
26	16	2	**08ST8 026016 PT01**
	18	1	**08ST8 026018 PT01**
	18	2	**08ST8 026018/1 PT01**
28	15	2	**08ST8 028015 PT01**
	20	2	**08ST8 028020 PT01**
30	20	2	**08ST8 030020 PT01**
	22	2	**08ST8 030022 PT01**
32	24	2	**08ST8 032024 PT01**
33	25	2	**08ST8 033025 PT01**
	25	3	**08ST8 033025/1 PT01**
35	25	1,2	**08ST8 035025 PT01**
	25	2	**08ST8 035025/2 PT01**
36	25	3	**08ST8 035025/1 PT01**
	28	3	**08ST8 036028 PT01**
38	25	2	**08ST8 038025 PT01**
	32	2	**08ST8 038032 PT01**
	32	3	**08ST8 038032/1 PT01**
40	28	3	**08ST8 040028 PT01**
	30	1,5	**08ST8 040030 PT01**
	30	2	**08ST8 040030/1 PT01**
	30	3	**08ST8 040030/2 PT01**
41	28	3	**08ST8 041028 PT01**
42	32	3	**08ST8 042032 PT01**
45	30	3	**08ST8 045030 PT01**
	35	2	**08ST8 045035 PT01**
	35	3	**08ST8 045035/1 PT01**
46	36	3	**08ST8 046036 PT01**
50	34	3	**08ST8 050034 PT01**
	35	3	**08ST8 050035 PT01**
	40	1,5	**08ST8 050040 PT01**
	40	2	**08ST8 050040/1 PT01**
	40	3	**08ST8 050040/2 PT01**
55	40	3	**08ST8 055040 PT01**
	45	2	**08ST8 055045 PT01**
	45	3	**08ST8 055045/1 PT01**
60	45	3	**08ST8 060045 PT01**
	50	2	**08ST8 060050 PT01**
	50	3	**08ST8 060050/1 PT01**
62,5	59	3	**08ST8 062059 PT01**
63	48	3	**08ST8 063048 PT01**
	50	3	**08ST8 063050 PT01**
	53	1,5	**08ST8 063053 PT01**
	53	3	**08ST8 063053/1 PT01**
65	55	3	**08ST8 065055 PT01**
	60	1,3	**08ST8 065060/1 PT01**
	60	1,5	**08ST8 065060 PT01**
68	55	3	**08ST8 068055 PT01**
69,5	60,2	3	**08ST8 069060 PT01**
70	50	3	**08ST8 070050 PT01**
	55	3	**08ST8 070055 PT01**
	60	1,7	**08ST8 070060 PT01**
	60	3	**08ST8 070060/1 PT01**
71	55	3	**08ST8 071055 PT01**
	60	3	**08ST8 071060 PT01**
73	60	3	**08ST8 073060 PT01**
	63	3	**08ST8 073063 PT01**
75	55	3	**08ST8 075055 PT01**
	60	3	**08ST8 075060 PT01**
	65	3	**08ST8 075065/1 PT01**
	65,5	1,8	**08ST8 075065 PT01**
77	67	3	**08ST8 077067 PT01**
78	65	3	**08ST8 078065 PT01**

For special requirements (fluid, temperature, pressure, speed...) or applications approaching maximum values, please contact us.

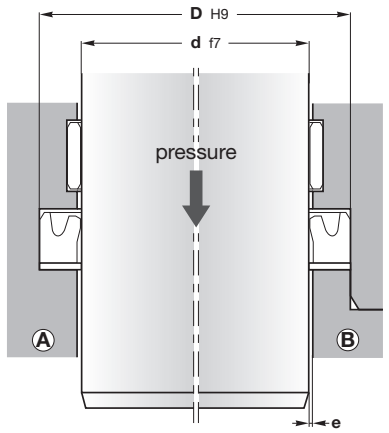
08ST8 seals with diameters between 10 and 1500 mm can be manufactured within short delivery time. For prices and availability: ***www.hegetu.nl***

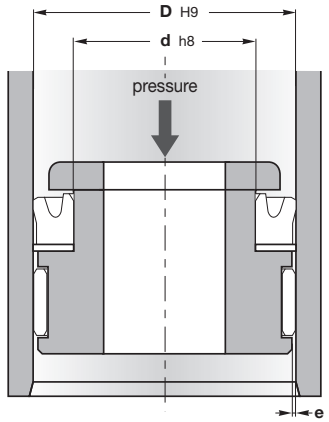


08ST8

Example of item code

08ST8	105	095	PT01
Profile	**D** (mm)	**d** (mm)	Material





Machining of housings: see pages 48-49

08ST8 is an uncut back-up ring with a rectangular cross section. The standard material is PTFE. Other materials like POM, PA or other filled PTFE materials are also possible.

It's also used for reciprocating and rotating movements.

Operating conditions	**see page 8**
Pressure	≤ 50 MPa
Temperature	-60°C to 200°C
Speed	≤ 0,5 m/s
Fluids	see pages 22-45

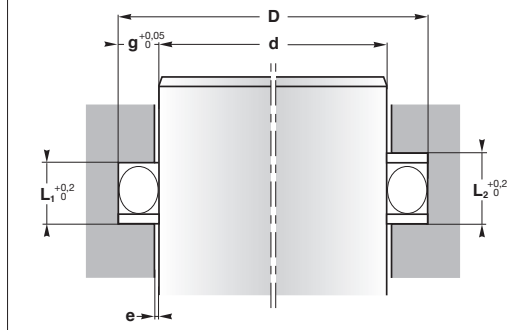
Materials	**see pages 10-19**
	PT01, PT15, POM, PA

Assembly	**see pages 54-59**
In one-piece Ⓐ or two-piece Ⓑ housings	
On multi-piece pistons	

Advantages

- Provides an efficient solution to the extrusion of the seal
- Generally the radial clearance **e** can be increased
- Good price-performance ratio and simple solution

Please contact us for applications approaching maximum values.



Internal housing

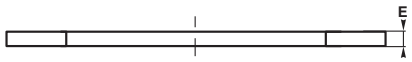
Machining of housings: see page 81

D	d	E	Reference
80	60	3	**08ST8 080060 PT01**
	64	3	**08ST8 080064 PT01**
	65	3	**08ST8 080065 PT01**
	68	1,5	**08ST8 080068 PT01**
	70	2	**08ST8 080070 PT01**
	70	3	**08ST8 080070/1 PT01**
	75	1,5	**08ST8 080075 PT01**
83	70	3	**08ST8 083070 PT01**
85	65	3	**08ST8 085065 PT01**
	70	3	**08ST8 085070 PT01**
	75	2	**08ST8 085075/1 PT01**
	75	3	**08ST8 085075 PT01**
88	75	3	**08ST8 088075 PT01**
90	70	3	**08ST8 090070 PT01**
	75	3	**08ST8 090075 PT01**
	80	2	**08ST8 090080 PT01**
	80	3	**08ST8 090080/2 PT01**
93	80	3	**08ST8 093080 PT01**
95	75	3	**08ST8 095075 PT01**
	80	3	**08ST8 095080 PT01**
100	80	3	**08ST8 100080 PT01**
	85	2	**08ST8 100085 PT01**
	85	3	**08ST8 100085/1 PT01**
	88	2	**08ST8 100088 PT01**
105	85	3	**08ST8 105085 PT01**
	90	2	**08ST8 105090/1 PT01**
	90	3	**08ST8 105090 PT01**
	95	3	**08ST8 105095 PT01**
	95	3,5	**08ST8 105095/1 PT01**
110	90	3	**08ST8 110090 PT01**
	95	3	**08ST8 110095 PT01**
	95	3,5	**08ST8 110095/1 PT01**
115	95	3	**08ST8 115095 PT01**
	100	3	**08ST8 115100 PT01**
120	100	3	**08ST8 120100 PT01**
	105	3	**08ST8 120105 PT01**
125	100	3	**08ST8 125100 PT01**
	105	3	**08ST8 125105 PT01**
	110	2	**08ST8 125110 PT01**
	110	3	**08ST8 125110/1 PT01**

D	d	E	Reference
130	110	3	**08ST8 130110 PT01**
	115	3	**08ST8 130115 PT01**
135	115	3	**08ST8 135115 PT01**
	120	3	**08ST8 135120 PT01**
140	120	3	**08ST8 140120 PT01**
	125	3	**08ST8 140125 PT01**
141	133	1,7	**08ST8 141133 PT01**
145	130	3	**08ST8 145130 PT01**
150	125	2	**08ST8 150125 PT01**
	125	3	**08ST8 150125/1 PT01**
	130	3	**08ST8 150130 PT01**
	135	2	**08ST8 150135 PT01**
	135	3	**08ST8 150135/1 PT01**
155	140	3	**08ST8 155140 PT01**
160	135	3	**08ST8 160135 PT01**
	140	3	**08ST8 160140 PT01**
	145	3	**08ST8 160145 PT01**
165	140	3	**08ST8 165140 PT01**
	145	3	**08ST8 165145 PT01**
	150	3	**08ST8 165150 PT01**
170	145	3	**08ST8 170145 PT01**
	155	4	**08ST8 170155 PT01**
175	160	4	**08ST8 175160 PT01**
180	155	4	**08ST8 180155 PT01**
	160	4	**08ST8 180160 PT01**
	165	4	**08ST8 180165 PT01**
	170	4	**08ST8 180170 PT01**
185	160	4	**08ST8 185160 PT01**
190	170	4	**08ST8 190170 PT01**
	175	4	**08ST8 190175 PT01**
200	170	4	**08ST8 200170 PT01**
	175	4	**08ST8 200175 PT01**
	180	2,5	**08ST8 200180 PT01**
	180	4	**08ST8 200180/1 PT01**
	190	4	**08ST8 200190 PT01**
205	180	4	**08ST8 205180 PT01**
210	190	4	**08ST8 210190 PT01**

For special requirements (fluid, temperature, pressure, speed...) or applications approaching maximum values, please contact us.

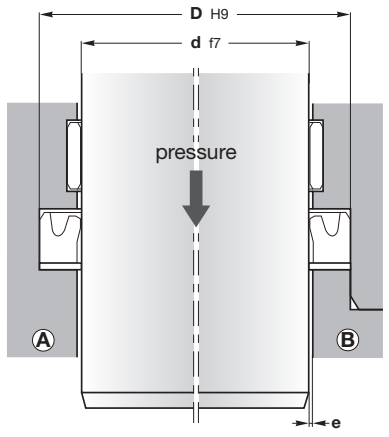
08ST8 seals with diameters between 10 and 1500 mm can be manufactured within short delivery time. For prices and availability: ***www.hegetu.nl***

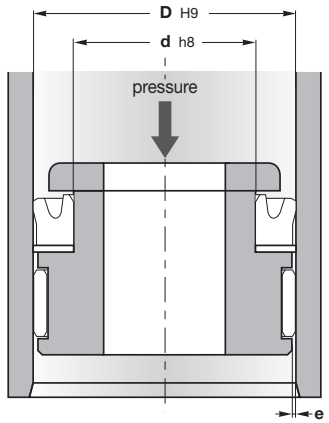


08ST8

Example of item code

08ST8 105 095 PT01
Profile | D (mm) | d (mm) | Material





Machining of housings: see pages 48-49

08ST8 is an uncut back-up ring with a rectangular cross section. The standard material is PTFE. Other materials like POM, PA or other filled PTFE materials are also possible.

It's also used for reciprocating and rotating movements.

Operating conditions	**see page 8**
Pressure	≤ 50 MPa
Temperature	-60°C to 200°C
Speed	≤ 0,5 m/s
Fluids	see pages 22-45

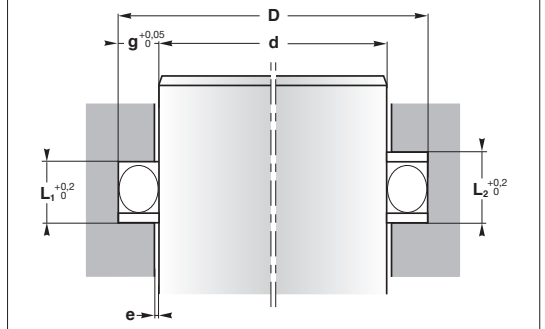
Materials	**see pages 10-19**
	PT01, PT15, POM, PA

Assembly	**see pages 54-59**
In one-piece Ⓐ or two-piece Ⓑ housings	
On multi-piece pistons	

Advantages

- Provides an efficient solution to the extrusion of the seal
- Generally the radial clearance **e** can be increased
- Good price-performance ratio and simple solution

Please contact us for applications approaching maximum values.



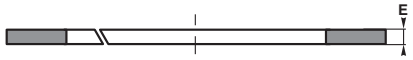
Internal housing

Machining of housings: see page 81

D	d	E	Reference
220	200	2	**08ST8 220200 PT01**
	200	4	**08ST8 220200/1 PT01**
	205	4	**08ST8 220205 PT01**
225	200	4	**08ST8 225200 PT01**
	205	4	**08ST8 225205 PT01**
230	210	4	**08ST8 230210 PT01**
240	220	4	**08ST8 240220 PT01**
245	225	4	**08ST8 245225 PT01**
250	225	4	**08ST8 250225 PT01**
	230	4	**08ST8 250230 PT01**
260	240	4	**08ST8 260240 PT01**
270	250	4	**08ST8 270250 PT01**
275	250	4	**08ST8 275250 PT01**
280	255	4	**08ST8 280255 PT01**
285	260	4	**08ST8 285260 PT01**
290	265	4	**08ST8 290265 PT01**
295	270	4	**08ST8 295270 PT01**
300	270	4	**08ST8 300270 PT01**
	275	4	**08ST8 300275 PT01**
315	307,9	1,5	**08ST8 315307 PT01**
400	387,8	3	**08ST8 400387 PT01**
430	418,3	3	**08ST8 430418 PT01**

For special requirements (fluid, temperature, pressure, speed...) or applications approaching maximum values, please contact us.

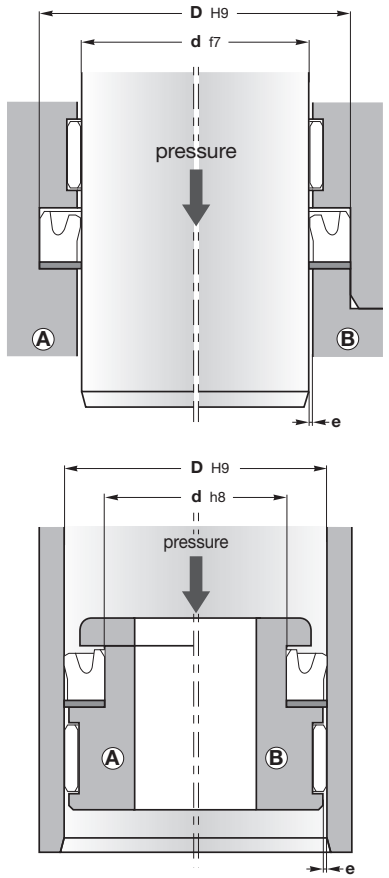
08ST8 seals with diameters between 10 and 1500 mm can be manufactured within short delivery time. For prices and availability: ***www.hegetu.nl***



08ST8/C

Example of item code

08ST8/C	105	095	PA
Profile	**D** (mm)	**d** (mm)	Material



Machining of housings: see pages 48-49

08ST8/C is a cut back-up ring with a rectangular cross section. The standard materials are PTFE, POM or PA. Other materials are also possible. It can work in **static** and **dynamic** applications and is prefered for installations in closed grooves where uncut back-up rings are not suitable.

It's also used in reciprocating and rotating movements.

Operating conditions	**see page 8**
Pressure	≤ 50 MPa
Temperature	-60°C to 200°C
Speed	≤ 0,5 m/s
Fluids	see pages 22-45

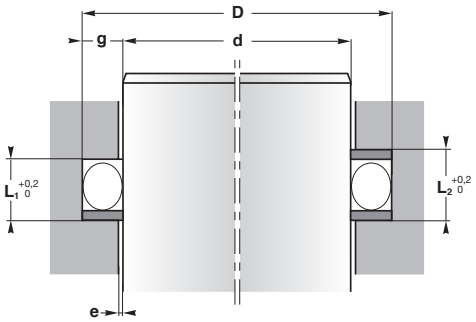
Materials	**see pages 10-19**
	PT01, POM, PA

Assembly	**see pages 54-59**
In one-piece Ⓐ or two-piece Ⓑ housings	
On one-piece Ⓐ or multi-piece Ⓑ pistons	

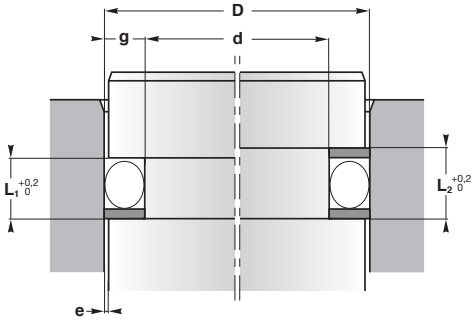
Advantages

- Provides an efficient solution against the extrusion of the seal
- Generally the radial clearance **e** can be increased
- Good price-performance ratio and simple solution

Please contact us for applications approaching maximum values.



Internal housing

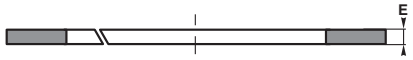


External housing

Machining of housings: see page 81

D	d	E	Reference
22	17	1,4	**08ST8/C 022017 PT01**
33	25	1,2	**08ST8/C 033025 POM**
38,1	28,57	1,8	**08ST8/C 038028 PA**
45	40	1,35	**08ST8/C 045040 PT01**
48	40	1,2	**08ST8/C 048040 POM**
50	40	3	**08ST8/C 050040 PA**
50,8	38,1	7	**08ST8/C 050038 POM**
55	40	3	**08ST8/C 055040 PA**
	42	2	**08ST8/C 055042 PT01**
60	45	3	**08ST8/C 060045 PA**
	50	3	**08ST8/C 060050 PA**
63	50	3	**08ST8/C 063050 PA**
63,5	50,8	7	**08ST8/C 063050 POM**
65	50	3	**08ST8/C 065050 PA**
	55	3	**08ST8/C 065055 PA**
68	55	3	**08ST8/C 068055 PA**
	60	3	**08ST8/C 068060 PA**
70	55	3	**08ST8/C 070055 PA**
	60	3	**08ST8/C 070060 PA**
71	55	3	**08ST8/C 071055 PA**
73	60	3	**08ST8/C 073060 PA**
	68	1,4	**08ST8/C 073068 PT01**
75	60	3	**08ST8/C 075060 PA**
	65	3	**08ST8/C 075065 PA**
78	65	3	**08ST8/C 078065 PA**
79,9	71,5	1,2	**08ST8/C 079071 PT01**
80	65	3	**08ST8/C 080065 PA**
	70	3	**08ST8/C 080070 PA**
81	72,4	1,7	**08ST8/C 081072 PT01**
82,55	63,5	3,6	**08ST8/C 082063/1 POM**
	69,85	1,8	**08ST8/C 082069 PA**
83	70	3	**08ST8/C 083070 PA**
85	70	3	**08ST8/C 085070 PA**
	75	3	**08ST8/C 085075 PA**
88	75	3	**08ST8/C 088075 PA**
90	70	3	**08ST8/C 090070 PA**
	75	3	**08ST8/C 090075 PA**
	80	3	**08ST8/C 090080 PA**
	84,6	1,4	**08ST8/C 090084 PT01**
93	80	3	**08ST8/C 093080 PA**
95	75	3	**08ST8/C 095075 PA**
	80	3	**08ST8/C 095080 PA**
95,25	76,2	3,8	**08ST8/C 095076 POM**
100	80	3	**08ST8/C 100080 PA**
	85	3	**08ST8/C 100085 PA**
101	92,4	1,7	**08ST8/C 101092 PT01**
101,6	88,9	1,8	**08ST8/C 101088 PA**
105	85	3	**08ST8/C 105085 PA**
	90	3	**08ST8/C 105090 PA**
	95	3	**08ST8/C 105095 PA**
107,95	88,9	3,6	**08ST8/C 107088 POM**
110	90	3	**08ST8/C 110090 PA**
	95	3	**08ST8/C 110095 PA**
111	102,4	1,7	**08ST8/C 111102 PT01**
114,3	101,6	1,9	**08ST8/C 114101 PA**
115	95	3	**08ST8/C 115095 PA**
	100	3	**08ST8/C 115100 PA**
	109,6	1,4	**08ST8/C 115109 PT01**
120	100	3	**08ST8/C 120100 PA**
	105	3	**08ST8/C 120105 PA**
120,2	112,2	1,7	**08ST8/C 120112 PT01**
125	105	3	**08ST8/C 125105 PA**
	110	3	**08ST8/C 125110 PA**
130	110	3	**08ST8/C 130110 PA**
	115	3	**08ST8/C 130115 PA**
131	122,4	1,7	**08ST8/C 131122 PT01**

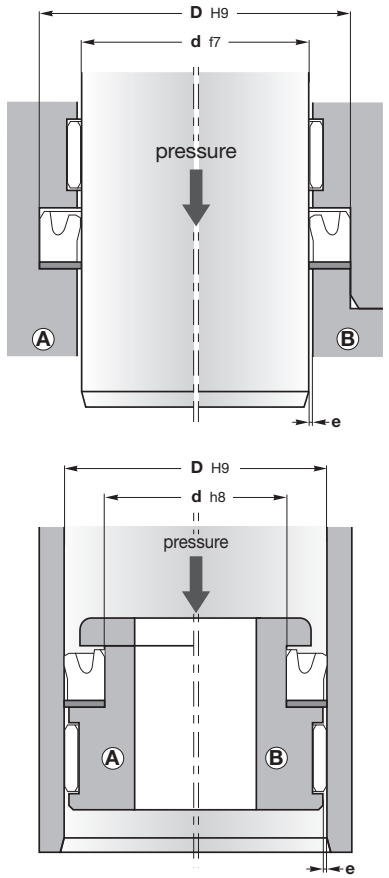
08ST8/C seals with diameters between 10 and 1500 mm can be manufactured within short delivery time. For prices and availability: ***www.hegetu.nl***



08ST8/C

Example of item code

08ST8/C	105	095	PA
Profile	**D** (mm)	**d** (mm)	Material



Machining of housings: see pages 48-49

08ST8/C is a cut back-up ring with a rectangular cross section. The standard materials are PTFE, POM or PA. Other materials are also possible. It can work in **static** and **dynamic** applications and is prefered for installations in closed grooves where uncut back-up rings are not suitable.

It's also used in reciprocating and rotating movements.

Operating conditions	**see page 8**
Pressure	≤ 50 MPa
Temperature	-60°C to 200°C
Speed	≤ 0,5 m/s
Fluids	see pages 22-45

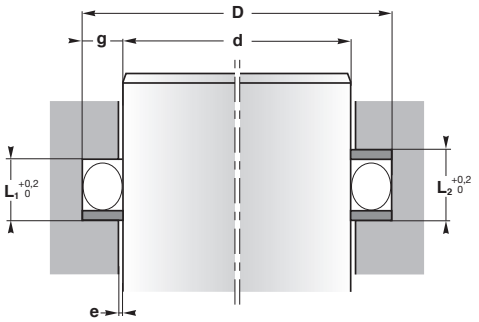
Materials	**see pages 10-19**
	PT01, POM, PA

Assembly	**see pages 54-59**
In one-piece Ⓐ or two-piece Ⓑ housings	
On one-piece Ⓐ or multi-piece Ⓑ pistons	

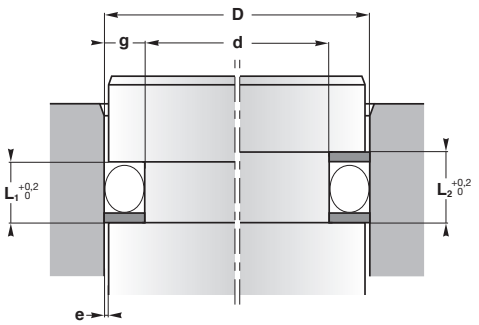
Advantages

- Provides an efficient solution against the extrusion of the seal
- Generally the radial clearance **e** can be increased
- Good price-performance ratio and simple solution

Please contact us for applications approaching maximum values.



Internal housing



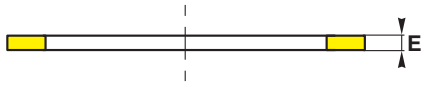
External housing

Machining of housings: see page 81

HEGETU

D	d	E	Reference
133,35	120,65	1,8	**08ST8/C 133120 PA**
135	115	3	**08ST8/C 135115 PA**
	120	3	**08ST8/C 135120 PA**
140	120	3	**08ST8/C 140120 PA**
141	132,4	1,7	**08ST8/C 141132 PT01**
145	130	3	**08ST8/C 145130 PA**
150	130	3	**08ST8/C 150130 PA**
151	142,4	1,7	**08ST8/C 151142 PT01**
152	133,36	3,6	**08ST8/C 152133/1 POM**
152,4	133,36	5,8	**08ST8/C 152133 POM**
160	140	3	**08ST8/C 160140 PA**
161	152,4	1,7	**08ST8/C 161152 PT01**
177,8	158,75	3,8	**08ST8/C 177158 POM**
180	160	4	**08ST8/C 180160 PA**
181	172,4	1,7	**08ST8/C 181172 PT01**
203,2	177,8	7	**08ST8/C 203177 POM**

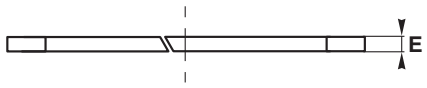
08ST8/C seals with diameters between 10 and 1500 mm can be manufactured within short delivery time. For prices and availability: ***www.hegetu.nl***



28ST8 MACHINED

Example of item code

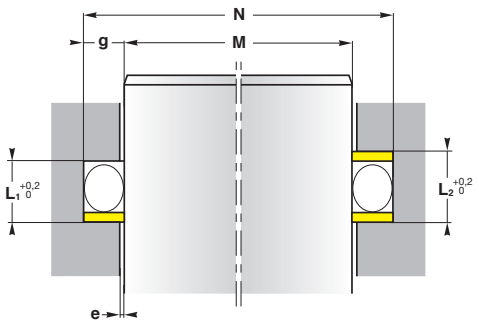
28ST8 PU30 120 x 111,4 x 1,7
Profile | Material | N x M x E (mm) Q x P x E (mm)



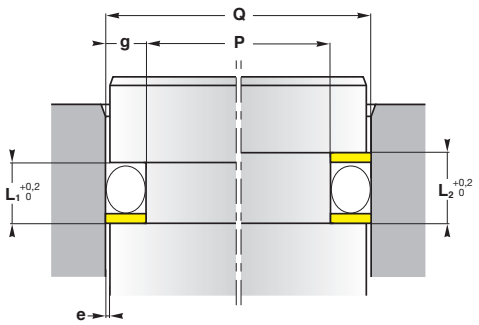
28ST8/C MACHINED

Example of item code

28ST8/C PT01 120 x 111,4 x 1,7
Profile | Material | N x M x E (mm) Q x P x E (mm)



Internal housing



External housing

Machining of housings: see pages 48-49

28ST8 and **28ST8/C** back-up rings with O-ring are the most simple and economic solution.

The back-up ring can be machined in PTFE or PU.

They prevent extrusion of the O-ring when it is subjected to high pressures, or when the extrusion gaps are excessive.

The cutted back-up rings in PTFE **28ST8/C** PT01 are used for external grooves, because stretching closed PTFE back-up rings would be very difficult or even impossible.

In contrast, **28ST8** PU30 can be mounted easily as closed rings. So, there is no discontinuity that may contribute to cause localised wear spots to the O-ring.

MACHINED

Operating conditions see page 8

Pressure	≤ 50 MPa
Temperature	
PU	-30°C to 100°C
PTFE	-200°C to 260°C
Fluids	
PU	mineral oils
PTFE	almost all

Materials see pages 10-19

PU	PU30
PTFE	PT01

Assembly see pages 54-59

In one-piece housings: the **28ST8** in PU30 don't need to be cut before installation

The back-up rings in PTFE need to be cut for external grooves

Advantages

- Economic
- Easy assembly
- Very precise machined back-up rings
- Good extrusion resistance
- Perfect solution for difficult static sealing applications
- The back-up rings **28ST8** in PU30 do not have a cut

Please contact us for applications approaching maximum values.

More information

On *www.hegetu.nl*, click first on the reference and then on the material code to obtain the data sheet of the material.

Pressure (MPa)	25	30	35	40	50
e max (mm)	0,25	0,2	0,15	0,1	0,05

For special requirements (fluid, temperature, pressure...) or applications approaching maximum values, please contact us.

HEGETU

With regards to new constructions, we advise to design the grooves **according norm ISO 3601** (table 195) which represents an optimal technical solution for static sealing applications.

For external housings, use back-up rings **28ST8** and cut rings **28ST8/C**. For internal housings, use back-up rings **28ST8**. To order with the correct item code, give the dimensions of the ring and specify with **/C** if the ring must be cut.

We give four examples of item codes:

1st example: inner housing, material PU30

For an internal diameter **M** of 60 mm and an external diameter **N** of 64 mm the item code will be with a thickness **E** of 1,4 mm:

28ST8 PU30 64 x 60 x 1,4
N (mm) M (mm) E (mm)

2nd example: inner housing, material PT01

For an internal diameter **M** of 60 mm and an external diameter **N** of 64 mm the item code will be with a thickness **E** of 1,4 mm:

28ST8 PT01 64 x 60 x 1,4
N (mm) M (mm) E (mm)

3rd example: outer housing, PU30

For an external diameter **Q** of 120 mm and an internal diameter **P** of 111,4 mm the item code will be with a thickness **E** of 1,7 mm:

28ST8 PU30 120 x 111,4 x 1,7
Q (mm) P (mm) E (mm)

4th example: outer housing, PT01, cut

For an external diameter **Q** of 120 mm and an internal diameter **P** of 111,4 mm the item code will be with a thickness **E** of 1,7 mm:

28ST8/C PT01 120 x 111,4 x 1,7
Q (mm) P (mm) E (mm)

NEW CONSTRUCTION

Table 195

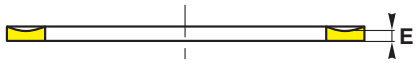
Grooves for O-ring with back-up rings following the **norm ISO 3601**

d	g	L1	L2	E
1,5 1,52	1,1	3	4	1
1,6 1,63	1,2	3,1	4,1	1
1,78 1,8	1,3	3,8	5,2	1,4
1,9	1,4	4	5,4	1,4
2 1,98	1,5	4,1	5,5	1,4
2,4	1,8	4,6	6	1,4
2,5	1,85	4,7	6,1	1,4
2,62 2,65	2	5	6,4	1,4
2,7	2,05	5	6,4	1,4
3	2,3	5,4	6,8	1,4
3,1	2,4	5,5	6,9	1,4
3,5	2,65	6	7,4	1,4
3,53 3,55	2,7	6,2	7,6	1,4
3,6	2,8	6,2	7,6	1,4
4	3,1	6,9	8,6	1,4
4,5	3,5	7,5	9,2	1,7
5	4	8,3	10	1,7
5,34 5,3	4,3	9	10,9	1,7
5,5	4,5	9	10,9	1,7
5,7	4,6	9	10,9	1,7
6	4,9	9	10,9	1,7
7 6,99	5,8	12,3	15,1	2,5
8	6,7	12,3	15,1	2,5
8,4	7,1	12,3	15,1	2,5

Our back-up rings **28ST8** have a fixed price under following conditions:

- maximal thickness: 3 mm
- maximal cross section: 7 mm
- materials: PU30 and PT01

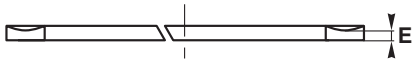
28ST8 and 28ST8/C seals with diameters between 10 and 1500 mm can be manufactured within short delivery time. For prices and availability: ***www.hegetu.nl***



25ST9 MACHINED

Example of item code

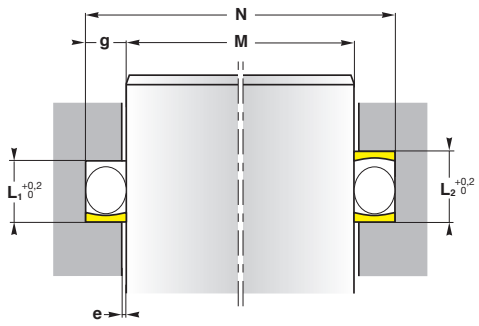
25ST9 PT15 120 x 111,4 x 1,7
Profile | Material | **N** x **M** x **E** (mm) / **Q** x **P** x **E** (mm)



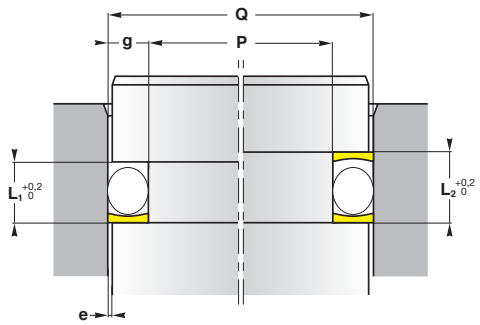
25ST9/C MACHINED

Example of item code

25ST9/C PT01 120 x 111,4 x 1,7
Profile | Material | **N** x **M** x **E** (mm) / **Q** x **P** x **E** (mm)



Internal housing



External housing

Machining of housings: see pages 48-49

25ST9 and **25ST9/C** back-up rings can be machined in PTFE, PU, Elastomers or POM/PA

They prevent extrusion of the O-ring when it is subjected to high pressures, or when the extrusion gaps are excessive.

If pressure arises on only one side of the O-ring, it will suffice to fit one anti-extrusion ring on the side not exposed to pressure.

For double-acting applications, two back-up rings should be used, one on each side of the O-ring.

The concave shape minimizes distortion of the O-ring, thereby **increasing the lifetime** of the sealing.

MACHINED

Operating conditions	see page 8
Pressure	≤ 50 MPa
Temperature	
PU	-30°C to 100°C
PTFE	-200°C to 260°C

Materials	see pages 10-19
25ST9	PU30, PU40, PT01, PT15, PT30, PT55
25ST9/C	PT01, PT15, PT30, PT55

Assembly	see pages 54-59

In one-piece housings

The **25ST9** in PU or in elastomer can be assembled in internal or external grooves and don't need to be cut before assembling.

The back-up rings in PTFE or PA/POM need to be cut for external grooves (**25ST9/C**).

Advantages

- Easy assembly
- Very precise machined back-up rings
- Good extrusion resistance
- Perfect solution for difficult static sealing applications
- Life time increased

Please contact us for applications approaching maximum values.

More information

On *www.hegetu.nl*, click first on the reference and then on the material code to obtain the data sheet of the material.

Pressure (MPa)	25	30	35	40	50
e max (mm)	0,25	0,2	0,15	0,1	0,05

For special requirements (fluid, temperature, pressure...) or applications approaching maximum values, please contact us.

HEGETU

With regards to new constructions, we advise to design the grooves **according norm ISO 3601** (table 197) which represents an optimal technical solution for static sealing applications.

For external grooves, use back-up rings **25ST9** and cut rings **25ST9/C**. For internal grooves, use back-up rings **25ST9**. To order with the correct item code, give the dimensions of the ring and specify with **/C** if the ring must be cut.

We give four examples of item codes:

1st example: inner housing, material PU30

For an internal diameter **M** of 60 mm and an external diameter **N** of 64 mm the item code will be with a thickness **E** of 1,4 mm:

25ST9 PU30 64 (**N** mm) x 60 (**M** mm) x 1,4 (**E** mm)

2nd example: inner housing, material PT01

For an internal diameter **M** of 60 mm and an external diameter **N** of 64 mm the item code will be with a thickness **E** of 1,4 mm:

25ST9 PT01 64 (**N** mm) x 60 (**M** mm) x 1,4 (**E** mm)

3rd example: outer housing, PU30

For an external diameter **Q** of 120 mm and an internal diameter **P** of 111,4 mm the item code will be with a thickness **E** of 1,7 mm:

25ST9 PU30 120 (**Q** mm) x 111,4 (**P** mm) x 1,7 (**E** mm)

4th example: outer housing, PT01, cut

For an external diameter **Q** of 120 mm and an internal diameter **P** of 111,4 mm the item code will be with a thickness **E** of 1,7 mm:

25ST9/C PT01 120 (**Q** mm) x 111,4 (**P** mm) x 1,7 (**E** mm)

NEW CONSTRUCTION

Table 197

Grooves for O-ring with back-up rings following the **norm ISO 3601**

d	g	L1	L2	E
1,5 1,52	1,1	3	4	1
1,6 1,63	1,2	3,1	4,1	1
1,78 1,8	1,3	3,8	5,2	1,4
1,9	1,4	4	5,4	1,4
2 1,98	1,5	4,1	5,5	1,4
2,4	1,8	4,6	6	1,4
2,5	1,85	4,7	6,1	1,4
2,62 2,65	2	5	6,4	1,4
2,7	2,05	5	6,4	1,4
3	2,3	5,4	6,8	1,4
3,1	2,4	5,5	6,9	1,4
3,5	2,65	6	7,4	1,4
3,53 3,55	2,7	6,2	7,6	1,4
3,6	2,8	6,2	7,6	1,4
4	3,1	6,9	8,6	1,4
4,5	3,5	7,5	9,2	1,7
5	4	8,3	10	1,7
5,34 5,3	4,3	9	10,9	1,7
5,5	4,5	9	10,9	1,7
5,7	4,6	9	10,9	1,7
6	4,9	9	10,9	1,7
7 6,99	5,8	12,3	15,1	2,5
8	6,7	12,3	15,1	2,5
8,4	7,1	12,3	15,1	2,5

25ST9 and 25ST9/C seals with diameters between 10 and 1500 mm can be manufactured within short delivery time. For prices and availability: ***www.hegetu.nl***