

PISTON SEALS

BECA 535



DESCRIPTION

The BECA 535 profile is a double acting composite piston seal composed of a pre-tightened rubber square ring and a trapezoidal polyurethane or TPC (Hytrel) friction ring, depending on the type of application.

ADVANTAGES

Optimal sealing in static and dynamic applications

Excellent abrasion and wear resistance

The square ring does not twist under pressure

APPLICATIONS

Agriculture

Middle-sized and heavy industry

Machine tools

Material handling/Lifting

MATERIALS

Friction ring

PU 93 Shore A - Blue

PU 96 Shore A - Blue

High temp. PU 96 Shore A - Beige

TPC-E (Hytrel)

Square ring

NBR 70 Shore A

Other grades of materials are available. Please refer to the materials table on the next page.

TECHNICAL DATA

Temperature	-30°C / +100°C
Pressure	25 MPa
Speed	0.5 m/sec
Media	Mineral hydraulic oils

The figures above indicate the maximum values and may not be cumulated. They may be developed, depending on the materials used.

EXTRUSION GAPS

Radial section S	Radial gap F/2
2.45	0.20
3.75	0.30
5.50	0.30
7.75	0.40
10.50	0.40
12.25	0.50
14.00	0.60
19.00	0.70

SURFACE ROUGHNESS

Roughness	Dynamic surface area	Static surface area	Groove flanks
Ra	0.1 - 0.4 µm	≤1.6 µm	≤3.2 µm
Rz	0.63 - 2.5 µm	≤6.3 µm	≤10.0 µm
Rmax	1.0 - 4.0 µm	≤10.0 µm	≤16.0 µm

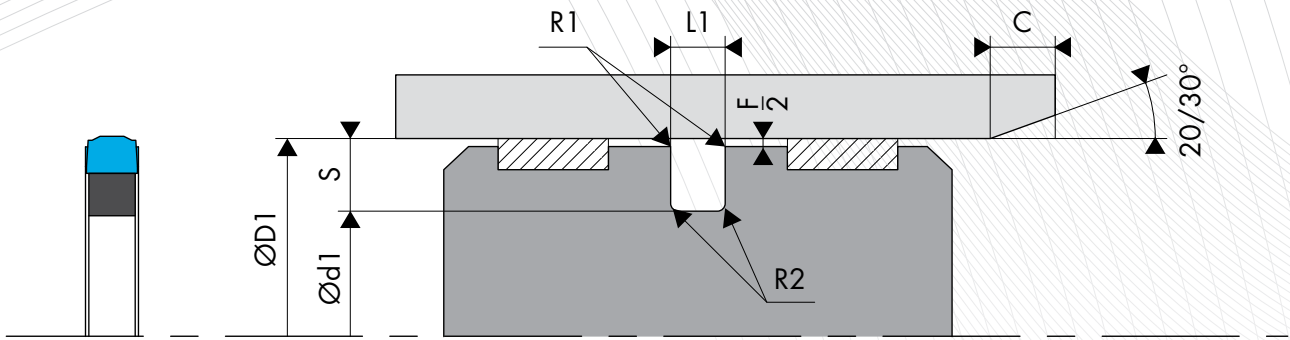
CHAMFERS AND RADIUS

Radial section S	Radius R1	Radius R2	Chamfer C
2.45	0.30	0.40	2.00
3.75	0.30	0.60	2.00
5.50	0.30	1.00	2.50
7.75	0.30	1.30	5.00
10.50	0.30	1.80	5.00
12.25	0.30	1.80	6.00
14.00	0.30	2.50	8.00
19.00	0.30	3.00	10.00

○ TABLE MATERIALS

Friction ring					Square ring			Mating surface material
Standard code	ISO code	Material	Colour	Characteristics	Code	Type of material	Service temperature	
HG	HG	PE-UHMW	White or off-white	Excellent wear resistance on contact with water and air	K6	NBR 70 Shore A	-30°C/+80°C	Steel Stainless steel Chrome steel Aluminium Bronze Cast iron Treated surface
PU	U	Polyurethane	Blue	Strong mechanical resistance Good resistance to wear and abrasion High elasticity modulus	K6	NBR 70 Shore A	-30°C/+90°C	
PUHT	U	High-temperature polyurethane	White or off-white	Good flexibility Very good resistance to ozone and oxidation	K6	NBR 70 Shore A	-30°C/+100°C	

Other grades of materials are available depending on your specificities.



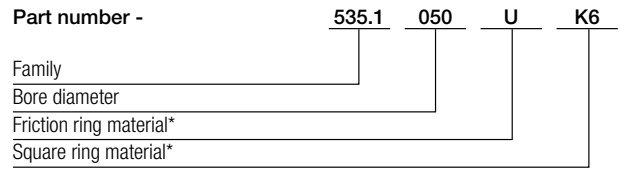
○ INSTALLATION DIMENSIONS

Bore diameter ØD1 H9			Groove diameter	Groove width	Radial section	Square ring
BECA 535.1 Standard range	BECA 535.3 Light range	BECA 535.2 Heavy-duty range	Ød1 h9	L1 0/+0.20	S	Thickness
8.0 - 14.9	15.0 - 39.9	---	D1 - 4.90	2.20	2.45	1.78
15.0 - 39.9	40.0 - 79.9	---	D1 - 7.50	3.20	3.75	2.62
40.0 - 79.9	80.0 - 132.9	15.0 - 39.9	D1 - 11.00	4.20	5.50	3.53
80.0 - 132.9	133.0 - 329.9	40.0 - 79.9	D1 - 15.50	6.30	7.75	5.33
133.0 - 329.9	330.0 - 669.9	80.0 - 132.9	D1 - 21.00	8.10	10.50	6.99
330.0 - 669.9	670.0 - 999.9	133.0 - 329.9	D1 - 24.50	8.10	12.25	6.99
670.0 - 999.9	1000.0 - **	330.0 - 669.9	D1 - 28.00	9.50	14.00	8.40
1000.0 - **	---	1000.0 - **	D1 - 38.00	13.80	19.00	12.00

○ EXAMPLE OF CODIFICATION

STANDARD CODIFICATION

Materials _____ : Polyurethane friction ring - Code U
 _____ : NBR 70 Shore A square ring - Code K6
 Bore diameter _____ : ØD1 = 50.00 mm
 Groove diameter _____ : Ød1 + 39.00 mm
 Part number _____ : 535.1050UK6



* The codes that define the materials are set out in the materials table on the previous page.

DIMENSIONS

Part number	Bore diameter ØD1 H9	Groove diameter Ød1 h9	Groove width L1 0/+0.20
535.1008	8.00	3.10	2.20
535.1010	10.00	5.10	2.20
535.1012	12.00	7.10	2.20
535.1014	14.00	9.10	2.20
535.1015	15.00	7.50	3.20
535.1016	16.00	8.50	3.20
535.3016	16.00	11.10	2.20
535.1018	18.00	10.50	3.20
535.1020	20.00	12.50	3.20
535.3020	20.00	15.10	2.20
535.1021	21.00	13.50	3.20
535.1022	22.00	14.50	3.20
535.1024	24.00	16.50	3.20
535.2025	25.00	14.00	4.20
535.1025	25.00	17.50	3.20
535.1028	28.00	20.50	3.20
535.1030	30.00	22.50	3.20
535.2032	32.00	21.00	4.20
535.1032	32.00	24.50	3.20
535.1035	35.00	27.50	3.20
535.1036	36.00	28.50	3.20
535.1038	38.00	30.50	3.20
535.1040	40.00	29.00	4.20
535.3040	40.00	32.50	3.20
535.1042	42.00	31.00	4.20
535.1045	45.00	34.00	4.20
535.1048	48.00	37.00	4.20
535.2050	50.00	34.50	6.30
535.1050	50.00	39.00	4.20
535.1052	52.00	41.00	4.20
535.1053	53.00	42.00	4.20
535.1055	55.00	44.00	4.20
535.1057	57.00	46.00	4.20
535.1058	58.00	47.00	4.20
535.1060	60.00	49.00	4.20
535.1062	62.00	51.00	4.20
535.2063	63.00	47.50	6.30
535.1063	63.00	52.00	4.20
535.1065	65.00	54.00	4.20
535.1068	68.00	57.00	4.20
535.1070	70.00	59.00	4.20
535.1072	72.00	61.00	4.20
535.1075	75.00	64.00	4.20
535.1080	80.00	64.50	6.30
535.3080	80.00	69.00	4.20
535.1082	82.00	66.50	6.30
535.1085	85.00	69.50	6.30
535.1087	87.00	71.50	6.30
535.1090	90.00	74.50	6.30
535.1092	92.00	76.50	6.30
535.1095	95.00	79.50	6.30
535.1100	100.00	84.50	6.30
535.3100	100.00	89.00	4.20
535.1105	105.00	89.50	6.30
535.1108	108.00	92.50	6.30
535.1110	110.00	94.50	6.30
535.1115	115.00	99.50	6.30

Part number	Bore diameter ØD1 H9	Groove diameter Ød1 h9	Groove width L1 0/+0.20
535.1120	120.00	104.50	6.30
535.2125	125.00	104.00	8.10
535.1125	125.00	109.50	6.30
535.1127	127.00	111.50	6.30
535.1130	130.00	114.50	6.30
535.1132	132.00	116.50	6.30
535.1135	135.00	114.00	8.10
535.1140	140.00	119.00	8.10
535.1145	145.00	124.00	8.10
535.1150	150.00	129.00	8.10
535.1155	155.00	134.00	8.10
535.1160	160.00	139.00	8.10
535.3160	160.00	144.50	6.30
535.1165	165.00	144.00	8.10
535.1170	170.00	149.00	8.10
535.1175	175.00	154.00	8.10
535.1180	180.00	159.00	8.10
535.1185	185.00	164.00	8.10
535.1190	190.00	169.00	8.10
535.1195	195.00	174.00	8.10
535.1200	200.00	179.00	8.10
535.3200	200.00	184.50	6.30
535.1205	205.00	184.00	8.10
535.1210	210.00	189.00	8.10
535.1215	215.00	194.00	8.10
535.1220	220.00	199.00	8.10
535.1230	230.00	209.00	8.10
535.1240	240.00	219.00	8.10
535.2250	250.00	225.50	8.10
535.1250	250.00	229.00	8.10
535.1260	260.00	239.00	8.10
535.1270	270.00	249.00	8.10
535.1280	280.00	259.00	8.10
535.1290	290.00	269.00	8.10
535.1300	300.00	279.00	8.10
535.1310	310.00	289.00	8.10
535.2320	320.00	295.50	8.10
535.1320	320.00	299.00	8.10
535.1330	330.00	305.50	8.10
535.1340	340.00	315.50	8.10
535.1350	350.00	325.50	8.10
535.1360	360.00	335.50	8.10
535.1370	370.00	345.50	8.10
535.1380	380.00	355.50	8.10
535.1390	390.00	365.50	8.10
535.1400	400.00	375.50	8.10
535.1410	410.00	385.50	8.10
535.1420	420.00	395.50	8.10
535.1430	430.00	405.50	8.10
535.1440	440.00	415.50	8.10
535.1450	450.00	425.50	8.10
535.1460	460.00	435.50	8.10
535.1470	470.00	445.50	8.10
535.1480	480.00	455.50	8.10
535.1490	490.00	465.50	8.10
535.1500	500.00	475.50	8.10

The figures highlighted in bold correspond to the dimensions for standard ISO 7425/1, with the bore diameters in line with standard ISO 3320. Other intermediate sizes can be provided.