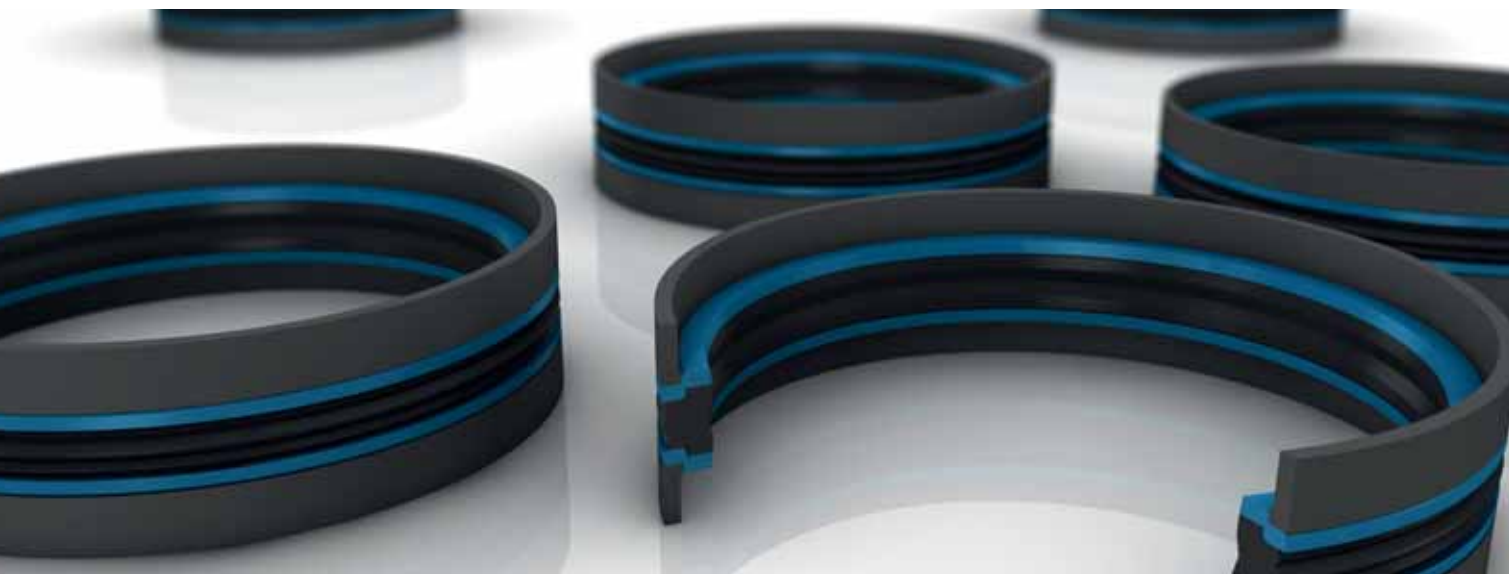

Compact Seal

D A S Type A/B

POLYPAC® - DBM



Double Acting

Combined Seal and
Guide Element

Material:
NBR, Polyester Elastomer + POM



■ Compact Piston Seals



Description

The Compact Seal is a double-acting seal and guide element comprising an elastomeric profile seal ring, two back-up rings and two guide rings. The profile seal ring seals in both the static and dynamic range whilst the back-up rings prevent extrusion into the sealing gap. The function of the guide rings is to guide the piston in the cylinder tube and to absorb transverse forces. The design provides a compact seal and guide combination for a closed or split installation groove.

Designs

The Compact Seal is available in various profile geometries which are in practical use. The choice is normally determined by the existing installation grooves.

DAS Type A

This type is characterized by the straight, long-sided L-profiles of the guide rings. Compared with Type B, it exhibits a smaller groove depth with the same cylinder diameter.

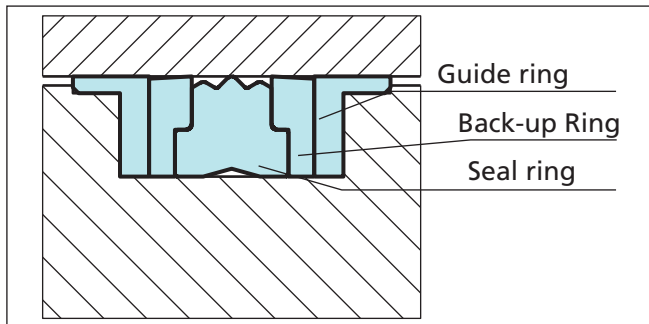


Figure 50 D-A-S Compact Seal, Type A

DAS Type B

This type is characterized by a Z-shaped back-up ring which forms a chamber with the elastomer seal ring on the inside and is centered on the outside by the guide ring.

For many piston diameters, the width of the guide ring (dimension L2) can be selected due to sideloads.

Due to the larger groove depth, the profile of the seal ring is more rigid than that of Type A and requires higher installation forces.

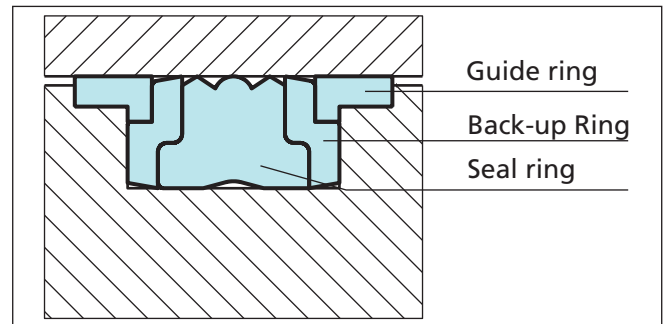


Figure 51 D-A-S Compact Seal, Type B

Polypac® DBM

The DBM Compact seal profile is characterized by a concave-shaped Back-up ring that prevents the elastomer profile ring from deformation and/or extrusion. The Back-up ring is centered on the outside by the guide ring.

Option

Polypac DBM is as option available without L-shape wear rings, but with Back-up Rings. If DBM/NEO is installed as piston sealing system, additional Slydring®/wear rings are required.

Polypac type: DBM/NEO
Consult TSS for available sizes

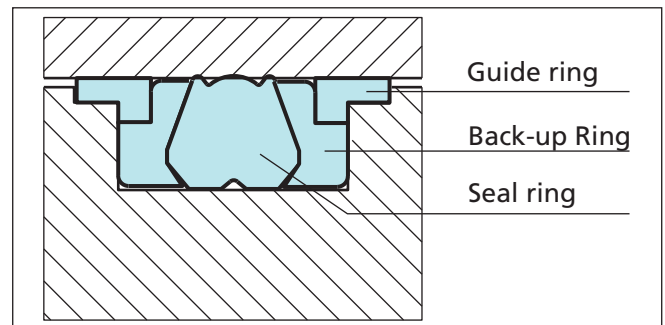


Figure 52 DBM Compact Seal

Advantages

- Good sealing effect, also suitable for holding cylinders
- Capable of installation in closed grooves for reduced machining costs
- Economic sealing and guiding solution
- Simple snap installation.



Compact Seal

Application Examples

The Compact seals are the recommended sealing element for double acting pistons of hydraulic components such as:

- Machine tools
- Truck cranes
- Forklifts & handling machinery
- Agriculture equipment

Technical Data

Operating conditions

Pressure: Up to 35 MPa peak up to 40 MPa

Speed: Up to 0.5 m/s

Temperature: -30 °C to +100 °C

Media: Mineral oil-based hydraulic fluids,
flame retardant hydraulic fluids,
HFA, HFB, HFC (< +40 °C)

Important Note:

The above data are maximum values and cannot be used at the same time. e.g. the maximum operating speed depends on material type, pressure, temperature and gap value. Temperature range also dependent on medium.

Materials

- The D-A-S Compact Seal is available in the following material combinations:

Profile seal: NBR 70 Shore A

Back-up Ring: Polyester elastomer

Guide rings: HM061

Set ref.: NCRO

- The DBM Compact Seal is available in the following material combination:

Profile seal: NBR 80 Shore A

Back-up Ring: Polyester elastomer

Guide rings: POM

Set reference: N8RO



■ Installation Recommendation, DAS Type A

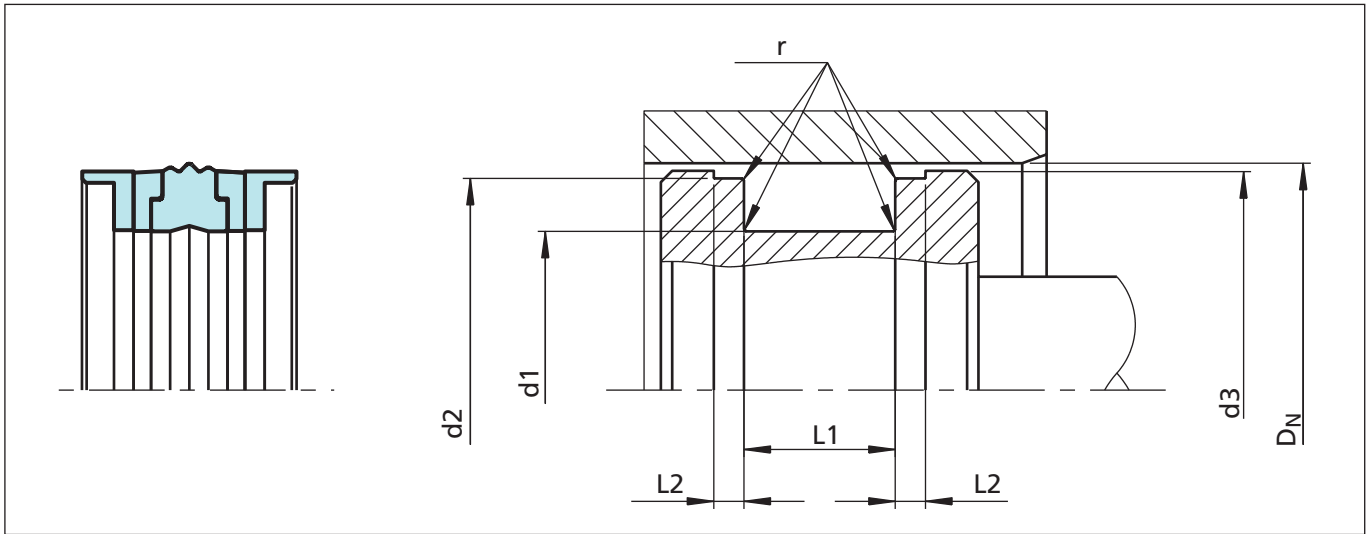


Figure 53 Installation drawing

Table LIV Installation dimensions / TSS Article No.

Bore Dia.	Groove Dimensions						TSS Article No.	Description
DN H9	d1 h9	d2 h9	L1 +0.2	d3 h11	L2 +0.1	r max		
32.0	24.0	28.0	15.5	31.4	3.2	0.3	PCA200320-NCRO	DAS 32 24
40.0	32.0	36.0	15.5	39.4	3.2	0.3	PCA400400-NCRO	DAS 40 32
50.0	38.0	46.0	20.5	49.4	4.2	0.3	PCA200500-NCRO	DAS 50 38
60.0	48.0	56.0	20.5	59.4	4.2	0.3	PCA200600-NCRO	DAS 60 48
63.0	51.0	59.0	20.5	63.4	4.2	0.3	PCA300630-NCRO	DAS 63 51
70.0	58.0	66.0	20.5	69.4	4.2	0.3	PCA200700-NCRO	DAS 70 58
80.0	66.0	76.0	22.5	79.4	5.2	0.3	PCA200800-NCRO	DAS 80 66
90.0	76.0	86.0	22.5	89.4	5.2	0.3	PCA200900-NCRO	DAS 90 76
100.0	86.0	96.0	22.5	99.4	5.2	0.3	PCA201000-NCRO	DAS 100 86
110.0	96.0	106.0	22.5	109.4	5.2	0.3	PCA201100-NCRO	DAS 110 96
120.0	106.0	116.0	22.5	119.4	5.2	0.8	PCA101200-NCRO	DAS 120 106
125.0	108.0	121.0	26.5	124.4	7.2	0.8	PCA201250-NCRO	DAS 125 108
130.0	113.0	126.0	26.5	129.4	7.2	0.8	PCA201300-NCRO	DAS 130 113
140.0	123.0	136.0	26.5	139.4	7.2	0.8	PCA301400-NCRO	DAS 140 123
150.0	133.0	146.0	26.5	149.4	7.2	0.8	PCA301500-NCRO	DAS 150 133
160.0	143.0	156.0	26.5	159.4	7.2	0.8	PCA301600-NCRO	DAS 160 143



■ Installation Recommendation, DAS Type B and Polypac® DBM

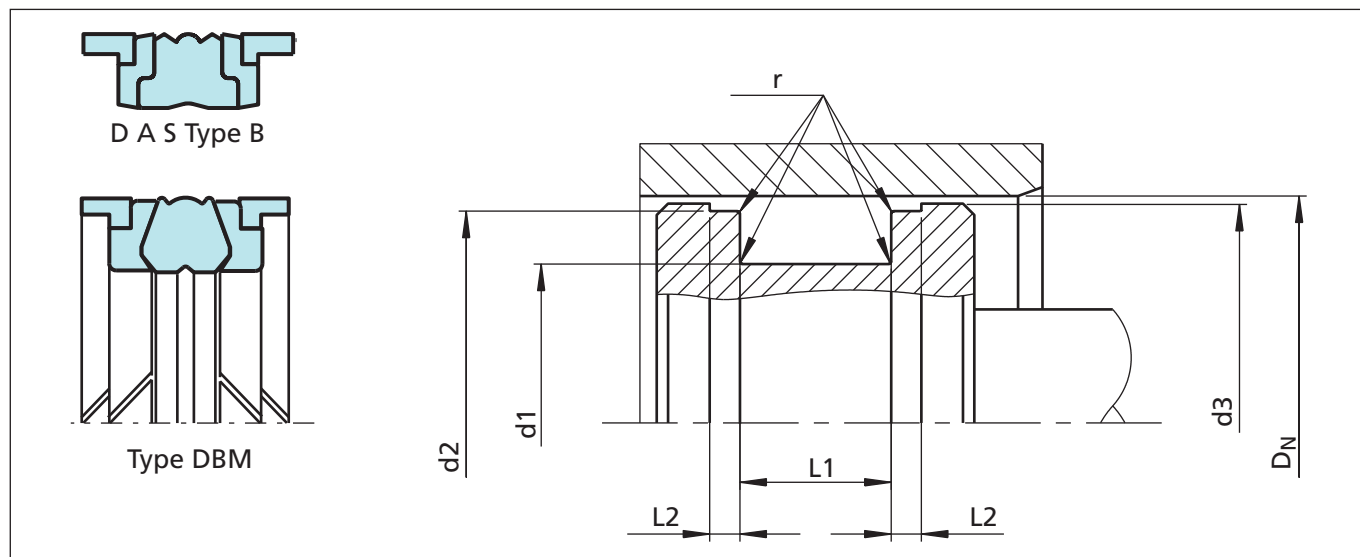


Figure 54 Installation drawing

Ordering Example

Bore diameter: $D_N = 80.0 \text{ mm}$
 Groove diameter: $d1 = 60.0 \text{ mm}$
 Groove width: $L1 = 22.4 \text{ mm}$

DAS Type B

TSS Article No.	PCBO	A	0800	-	NCRO
TSS Series No.					
Execution code					
Bore diameter x 10					
Quality Index (Standard)					
Material set-code					
Sealing Parts Ref. No.: DAS 8060					

Polypac DBM

TSS Article No.	PCBO	A	0800	-	N8RO
TSS Series No.					
Execution code					
Bore diameter x 10					
Quality Index (Standard)					
Material set-code					
Polypac Ref. No.: DBM 314236					



Table LV Installation dimensions / TSS Article No.

Bore Diameter	Groove Dimensions						TSS Part No.	Description	
								Material code	
D_N H9	d1 h9	L1 +0.2	d2 h9	d3 h11	L2 +0.1	r max		N8RO	NCRO
20.0	11.00	13.50	17.00	19.00	2.10	0.40	PCB0N0200		DAS 20 11
22.0	13.00	13.50	19.00	21.00	2.10	0.40	PCB0N0220		DAS 22 13
25.0	15.00	12.00	21.00	23.00	4.00	0.40	PCB0D0250		DAS 25 15/1
25.0	15.00	12.50	22.00	24.00	4.00	0.40	PCB0N0250		DAS 25 15/2
25.0	15.00	16.40	21.45	23.50	6.35	0.40	PCB1N0250	DBM 098059	DAS 25 15
25.0	16.00	13.50	22.00	24.00	2.10	0.40	PCB2N0250		DAS 25 16
28.0	19.00	13.50	25.00	27.00	2.10	0.40	PCB0N0280		
30.0	17.00	15.40	26.50	28.50	6.35	0.40	PCB000300	DBM 118066	DAS 28 19
30.0	21.00	13.50	27.00	29.00	2.10	0.40	PCB0A0300		DAS 30 21
32.0	22.00	15.50	28.00	31.00	2.60	0.40	PCB0B0320		DAS 32 22/1
32.0	22.00	16.40	28.50	30.50	6.35	0.40	PCB1A0320	DBM 125086	DAS 32 22
35.0	25.00	15.50	31.00	34.00	2.60	0.40	PCB0B0350		DAS 35 25/1
35.0	25.00	16.40	31.40	33.50	6.35	0.40	PCB1A0350	DBM 137098	DAS 35 25
40.0	24.00	18.40	35.40	38.50	6.35	0.40	PCB0A0400	DBM 157094	DAS 40 24
40.0	26.00	15.50	36.00	39.00	2.60	0.40	PCB1A0400	DBM 157102/M	DAS 40 26
40.0	30.00	12.50	36.00	38.00	4.00	0.40	PCB2D0400		DAS 40 30/1
40.0	30.00	12.50	37.00	39.00	4.00	0.40	PCB2E0400		DAS 40 30/2
40.0	30.00	16.40	35.40	38.50	6.35	0.40	PCB3A0400	DBM 157118	DAS 40 30
42.0	28.00	15.50	38.00	41.00	2.60	0.40	PCB0N0420		DAS 42 28
45.0	29.00	18.40	40.40	43.50	6.35	0.40	PCB0N0450	DBM 177114	DAS 45 29
45.0	31.00	15.50	41.00	44.00	2.60	0.40	PCB1A0450		DAS 45 31
45.0	35.00	16.40	40.40	43.50	6.35	0.40	PCB2N0450	DBM 177137	DAS 45 35
50.0	34.00	18.40	45.40	48.50	6.35	0.40	PCB1A0500	DBM 196133	DAS 50 34
50.0	34.00	20.50	46.00	49.00	3.10	0.40	PCB0B0500	DBM 196133/M	DAS 50 34/1
55.0	39.00	18.40	50.36	53.50	6.35	0.40	PCB1A0550	DBM 216153	DAS 55 39
55.0	39.00	20.50	51.00	54.00	3.10	0.40	PCB0B0550		DAS 55 39/1
56.0	40.00	20.50	52.00	55.00	3.10	0.40	PCB0A0560		DAS 56 40
60.0	44.00	18.40	55.40	58.50	6.35	0.40	PCB1A0600	DBM 236173	DAS 60 44
60.0	44.00	20.50	56.00	59.00	3.10	0.40	PCB0B0600	DBM 236173/M	DAS 60 44/1
63.0	47.00	18.40	58.40	61.50	6.35	0.40	PCB1A0630	DBM 248185	DAS 63 47
63.0	47.00	19.40	58.40	61.50	6.35	0.40	PCB2C0630		DAS 63 47/2
63.0	47.00	20.50	59.00	62.00	3.10	0.40	PCB0B0630	DBM 248185/M	DAS 63 47/1
65.0	49.00	20.50	61.00	64.00	3.10	0.40	PCB0N0650	DBM 255192/M	DAS 65 49

* TSS mold available, same ref. as TSS Part No.

The listed products are technically equivalent but availability and pricing may vary.

The bore diameters in **bold** type comply with the recommendations of ISO 6547.

Imperial (inch) sizes can be supplied.



Compact Seal

Bore Diameter	Groove Dimensions						TSS Part No.	Description	
								Material code	
	D _N H9	d1 h9	L1 +0.2	d2 h9	d3 h11	L2 +0.1		N8RO	NCRO
65.0	50.00	18.40	60.40	63.50	6.35	0.40	PCB1A0650	DBM 255196	DAS 65 50
70.0	50.00	22.40	64.20	68.30	6.35	0.40	PCB0A0700	DBM 275196	DAS 70 50
70.0	54.00	20.50	66.00	69.00	3.10	0.40	PCB1N0700	DBM 275212/M	DAS 70 54
75.0	55.00	22.40	69.20	73.30	6.35	0.40	PCB0A0750	DBM 295216	DAS 75 55
75.0	59.00	20.50	71.00	74.00	3.10	0.40	PCB1A0750		DAS 75 59
80.0	60.00	22.40	74.15	78.30	6.35	0.40	PCB0A0800	DBM 314236	DAS 80 60
80.0	62.00	22.50	76.00	79.00	3.60	0.40	PCB1A0800	DBM 314244/M	DAS 80 62
85.0	65.00	22.40	79.15	83.30	6.35	0.40	PCB0A0850	DBM 334255	DAS 85 65
90.0	70.00	22.40	84.15	88.30	6.35	0.40	PCB0A0900	DBM 354275	DAS 90 70
90.0	72.00	22.50	86.00	89.00	3.60	0.40	PCB1A0900		DAS 90 72
95.0	75.00	22.40	89.15	93.30	6.35	0.40	PCB0A0950	DBM 374295	DAS 95 75
100.0	75.00	22.40	93.15	98.00	6.35	0.40	PCB0A1000	DBM 393295	DAS 100 75
100.0	82.00	22.50	96.00	99.00	3.60	0.40	PCB1A1000	DBM 393332/M	DAS 100 82
105.0	80.00	22.40	98.10	103.00	6.35	0.40	PCB0A1050	DBM 413314	DAS 105 80
110.0	85.00	22.40	103.10	108.00	6.35	0.40	PCB0A1100	DBM 433334	DAS 110 85
110.0	92.00	22.50	106.00	109.00	3.60	0.40	PCB1A1100		DAS 110 92
115.0	90.00	22.40	108.10	113.00	6.35	0.40	PCB0A1150	DBM 452354	DAS 115 90
115.0	97.00	22.50	111.00	114.00	3.60	0.40	PCB1N1150		DAS 115 97
120.0	95.00	22.40	113.10	118.10	6.35	0.80	PCB0A1200	DBM 472374	DAS 120 95
125.0	100.00	25.40	118.10	123.00	6.35	0.80	PCB0A1250	DBM 492393	DAS 125 100
125.0	103.00	26.50	121.00	124.00	5.10	0.80	PCB1A1250	DBM 492405/M	DAS 125 103
130.0	105.00	25.40	123.10	128.00	6.35	0.80	PCB0B1300		DAS 130 105/1
130.0	105.00	25.40	122.60	127.50	9.50	0.80	PCB1A1300	DBM 511413	DAS 130 105
133.0	115.00	22.40	125.60	130.50	9.52	0.80	PCB001330	DBM 523452	
135.0	110.00	25.40	128.10	133.00	6.35	0.80	PCB0B1350		DAS 135 110/1
135.0	110.00	25.40	127.60	132.50	9.50	0.80	PCB1A1350	DBM 531433	DAS 135 110
140.0	115.00	25.40	133.00	138.00	6.35	0.80	PCB0B1400		DAS 140 115/1
140.0	115.00	25.40	132.60	137.50	9.50	0.80	PCB1A1400	DBM 551452	DAS 140 115
140.0	118.00	26.50	136.00	139.00	5.10	0.80	PCB2A1400	DBM 551464/M	DAS 140 118
145.0	120.00	25.40	138.30	142.95	6.35	0.80	PCB0B1450		DAS 145 120/1
145.0	120.00	25.40	137.60	142.50	9.50	0.80	PCB1A1450	DBM 570472	DAS 145 120
150.0	125.00	25.40	142.60	147.50	9.50	0.80	PCB1A1500	DBM 590492	DAS 150 125
150.0	125.00	25.40	143.00	148.00	6.35	0.80	PCB0B1500		DAS 150 125/1
150.0	128.00	26.50	146.00	149.00	5.10	0.80	PCB2A1500		DAS 150 128
152.4	127.00	31.75	145.00	149.91	9.50	0.80	PCB001524	DBM 600500	
155.0	130.00	25.40	147.60	152.50	9.50	0.80	PCB0A1550	DBM 610511	DAS 155 130

* TSS mold available, same ref. as TSS Part No.

The listed products are technically equivalent but availability and pricing may vary.

The bore diameters in **bold** type comply with the recommendations of ISO 6547.

Imperial (inch) sizes can be supplied.



Bore Diameter	Groove Dimensions						TSS Part No.	Description	
								Material code	
	D_N H9	d1 h9	L1 +0.2	d2 h9	d3 h11	L2 +0.1		N8RO	NCRO
155.0	130.00	25.40	148.00	153.00	6.35	0.80	PCB1B1550		DAS 155 130/1
160.0	130.00	25.40	153.00	157.50	6.35	0.80	PCB0A1600		DAS 160 130
160.0	130.00	25.40	152.60	157.50	9.50	0.80	PCB3A1600	DBM 629511	DAS 160 130/1
160.0	135.00	25.40	152.60	157.50	9.50	0.80	PCB1A1600	DBM 629531	DAS 160 135
160.0	138.00	26.50	156.00	159.00	5.10	0.80	PCB2A1600		DAS 160 138
165.0	140.00	25.40	157.60	162.50	9.50	0.80	PCB0A1650	DBM 649551	DAS 165 140
170.0	145.00	25.40	161.70	167.10	12.70	0.80	PCB0A1700	DBM 669570	DAS 170 145
170.0	148.00	26.50	166.00	169.00	5.10	0.80	PCB1A1700		DAS 170 148
175.0	150.00	25.40	166.70	172.10	12.70	0.80	PCB0A1750	DBM 688590	DAS 175 150
180.0	150.00	35.40	172.95	177.87	6.35	0.80	PCB0A1800		DAS 180 150
180.0	155.00	25.40	171.70	177.10	12.70	0.80	PCB1A1800	DBM 708610	DAS 180 155
185.0	160.00	25.40	176.70	182.10	12.70	0.80	PCB0A1850	DBM 728629	DAS 185 160
190.0	165.00	25.40	181.70	187.00	12.70	0.80	PCB0A1900	DBM 748649	DAS 190 165
195.0	170.00	25.40	186.70	192.00	12.70	0.80	PCB0A1950	DBM 767669	DAS 195 170
200.0	175.00	25.40	191.60	197.00	12.70	0.80	PCB0A2000	DBM 787688	DAS 200 175
200.0	175.00	31.50	196.00	199.00	6.60	0.80	PCB102000	DBM 787688/M	
210.0	185.00	25.40	201.60	207.00	12.70	0.80	PCB0A2100	DBM 826728	DAS 210 185
220.0	190.00	35.40	212.70	217.90	6.35	0.80	PCB0A2200		DAS 220 190
220.0	195.00	25.40	211.60	217.00	12.70	0.80	PCB1A2200	DBM 866767	DAS 220 195
230.0	205.00	25.40	221.60	227.00	12.70	0.80	PCB0A2300	DBM 905807	DAS 230 205
240.0	215.00	25.40	231.60	237.00	12.70	0.80	PCB0A2400	DBM 944846	DAS 240 215
250.0	220.00	35.40	242.90	247.85	6.35	0.80	PCB0A2500		DAS 250 220
250.0	225.00	25.40	241.60	247.00	12.70	0.80	PCB1A2500	DBM 984886	DAS 250 225

* TSS mold available, same ref. as TSS Part No.
 The listed products are technically equivalent but availability and pricing may vary.
 The bore diameters in **bold** type comply with the recommendations of ISO 6547.
 Imperial (inch) sizes can be supplied.



Compact Seal
