

Compact Seal POLYPAC® - Duopac DPS/DPC

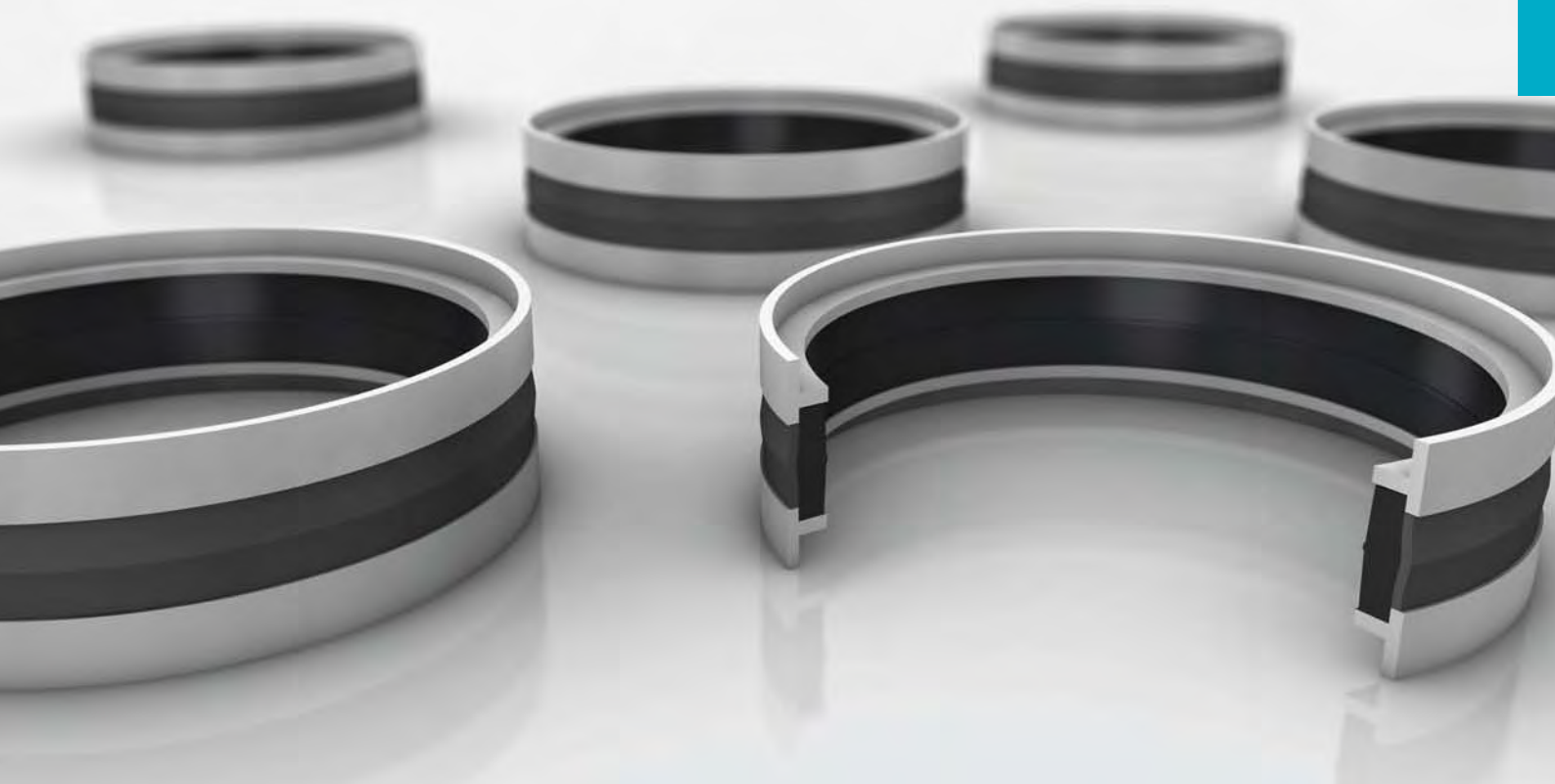


Double-acting

Combined seal and guide element

Material:

Rubber fabric reinforced NBR and POM





DUOPAC rubber fabric reinforced compact seals Type DPS and DPC



Description

The compact seals DUOPAC DPS and DPC types are double acting piston seals with integrated guide rings. DUOPAC has been designed to optimize the advantages of the materials selection:

- Fabric reinforcement with high mechanical strength, optimum thermal stability and lubricating properties is incorporated in the sealing element all over the dynamic contact area. For the DUOPAC DPC the reinforcement is extended on both sides to improve the extrusion resistance
- Nitrile based elastomer with optimum elasticity and low compression set provides the initial radial pre-load
- Acetal resin with improved form stability gives the Guide/backup rings high distortion and extrusion resistance

TYPE DPS

The DPS profile has been designed for its installation in closed grooves. The radial dimension of the profile has been reduced to the minimum to allow the necessary deformation during installation in closed grooves.

Consequently its use must be limited to pressures up to 35 MPa.

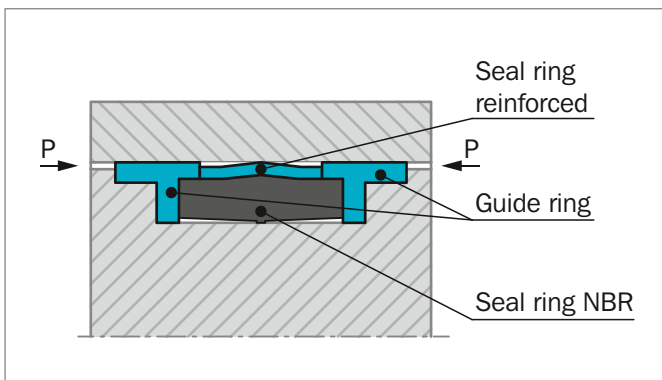


Figure 161: Compact Seal, Type DPS

TYPE DPC

The DPC profile is much more robust and can therefore be used for pressure level up to 70 MPa.

An open groove is necessary.

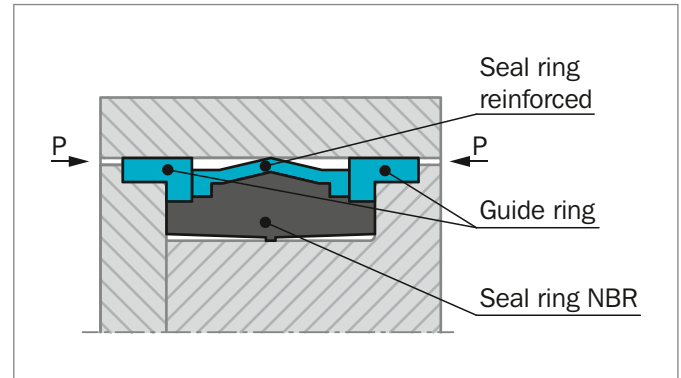


Figure 162: Compact Seal, Type DPC

ADVANTAGES

- DPS can be installed into closed grooves but its use must consequently be limited to medium duty applications
- DPC are usually installed in open grooves in Heavy Duty applications (pressure peak up to 80 MPa)
- Improved abrasion resistance
- Excellent sealing effect in combination with good dynamic and static friction behavior

APPLICATION EXAMPLES

The Compact seals are the recommended Sealing element for double acting Pistons of hydraulic components in following applications:

- Mining cylinders
- Presses
- Steel mills equipment
- Water hydraulic cylinders



OPERATING CONDITIONS

For an optimum performance of the DUOPAC, the recommended tolerances and surface finish must be applied.

Pressure:	Up to 35 MPa DPS type Up to 70 MPa DPC type
Speed:	Up to 0.5 m/s
Temperature:	-30 °C to +130 °C
Media:	Mineral oil based hydraulic fluids, water/oil and water/glycol emulsions.

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 depends on media.

MATERIALS

- The compact seals DUOPAC are available in the following material composition:

Sealing element: Rubber fabric reinforced NBR

Guide/Back-up Rings: POM

Material set-code: NOOOC



■ Installation Recommendation, Type DPS

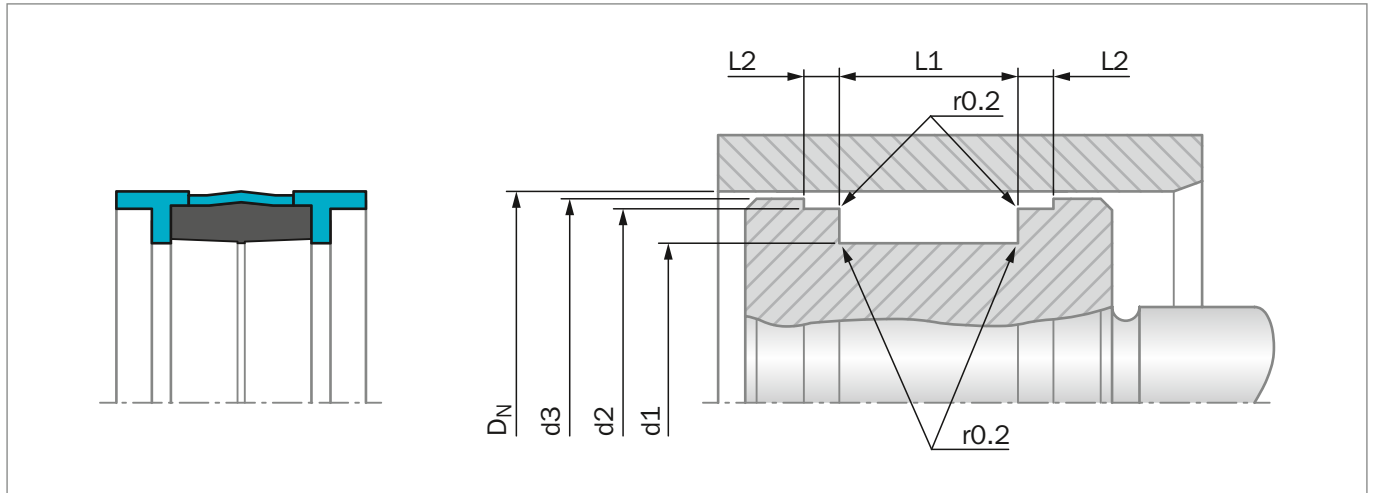


Figure 163: Installation Drawing

ORDERING EXAMPLE

Compact Seal Type DPS

Bore Diameter:	$D_N = 80 \text{ mm}$
Groove Diameter:	$d1 = 66 \text{ mm}$
Groove Width:	$L1 = 22.5 \text{ mm}$
TSS Part No.:	PCE100800 from Table 153
Material Set-Code:	N000C

TSS Article No. **PCE1 0 0800 - N000C**

TSS Series No. _____
 Type (Standard) _____
 Bore Diameter x 10 _____
 Quality Index (Standard) _____
 Material Set-Code _____
 Polypac Ref. No.: DPS 8066

Table 153: Installation Dimensions / TSS Article No.

Bore Diameter	Groove Dimensions					TSS Article No.	Description
	D_N	d1	L1	L2	d2		
H11	h9	+0.2	+0.1	h9	h11		
25.0	17.0	10.0	4.0	22.0	24.0	PCE000250-N000C	DPS 2517/1
32.0	24.0	15.5	3.2	28.0	31.4	PCE000320-N000C	DPS 3224
32.0	24.0	10.0	4.0	29.0	31.0	PCE100320-N000C	DPS 3224/1
35.0	27.0	15.5	3.2	31.0	34.4	PCE000350-N000C	DPS 3527
40.0	32.0	15.5	3.2	36.0	39.4	PCE000400-N000C	DPS 4032
40.0	32.0	10.0	4.0	37.0	39.0	PCE100400-N000C	DPS 4032/1
45.0	37.0	15.5	3.2	41.0	44.4	PCE000450-N000C	DPS 4537
50.0	38.0	20.5	4.2	46.0	49.4	PCE000500-N000C	DPS 5038
50.0	40.0	12.5	4.0	47.0	49.0	PCE100500-N000C	DPS 5040/1
55.0	43.0	20.5	4.2	51.0	54.4	PCE000550-N000C	DPS 5543
60.0	48.0	20.5	4.2	56.0	59.4	PCE000600-N000C	DPS 6048
63.0	51.0	20.5	4.2	59.0	62.4	PCE000630-N000C	DPS 6351



Bore Diameter	Groove Dimensions					TSS Article No.	Description
	D _N	d1	L1	L2	d2		
H11	h9	+0.2	+0.1	h9	h11		
63.0	53.0	12.5	4.0	60.0	62.0	PCE100630-N000C	DPS 6353/1
65.0	53.0	20.5	4.2	61.0	64.4	PCE000650-N000C	DPS 6553
70.0	58.0	20.5	4.2	66.0	69.4	PCE000700-N000C	DPS 7058
75.0	63.0	20.5	4.2	71.0	74.4	PCE000750-N000C	DPS 7563
80.0	65.0	20.0	5.0	76.0	78.5	PCE000800-N000C	DPS 8065/1
80.0	66.0	22.5	5.2	76.0	79.4	PCE100800-N000C	DPS 8066
85.0	71.0	22.5	5.2	81.0	84.4	PCE000850-N000C	DPS 8571
90.0	76.0	22.5	5.2	86.0	89.4	PCE000900-N000C	DPS 9076
100.0	85.0	20.0	5.0	96.0	98.5	PCE001000-N000C	DPS 10085/1
100.0	86.0	22.5	5.2	96.0	99.4	PCE101000-N000C	DPS 10086
110.0	96.0	22.5	5.2	106.0	109.4	PCE001100-N000C	DPS 11096
120.0	106.0	22.5	5.2	116.0	119.4	PCE001200-N000C	DPS 120106
125.0	105.0	25.0	6.3	120.0	123.0	PCE001250-N000C	DPS 125105/1
125.0	108.0	26.5	7.2	121.0	124.4	PCE101250-N000C	DPS 125108
140.0	120.0	25.0	6.3	135.0	138.0	PCE001400-N000C	DPS 140120/1
140.0	123.0	26.5	7.2	136.0	139.4	PCE101400-N000C	DPS 140123
150.0	133.0	26.5	7.2	146.0	149.4	PCE001500-N000C	DPS 150133
160.0	140.0	25.0	6.3	155.0	158.0	PCE001600-N000C	DPS 160140/1
160.0	143.0	26.5	7.2	156.0	159.4	PCE101600-N000C	DPS 160143
180.0	163.0	26.5	7.2	176.0	179.4	PCE001800-N000C	DPS 180163
200.0	170.0	36.0	12.5	192.0	197.0	PCE002000-N000C	DPS 200170/1
200.0	180.0	31.5	9.2	196.0	199.4	PCE102000-N000C	DPS 200180
220.0	200.0	31.5	9.2	216.0	219.4	PCE002200-N000C	DPS 220200
250.0	230.0	31.5	9.2	246.0	249.4	PCE002500-N000C	DPS 250230

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



■ Installation Recommendation, Type DPC

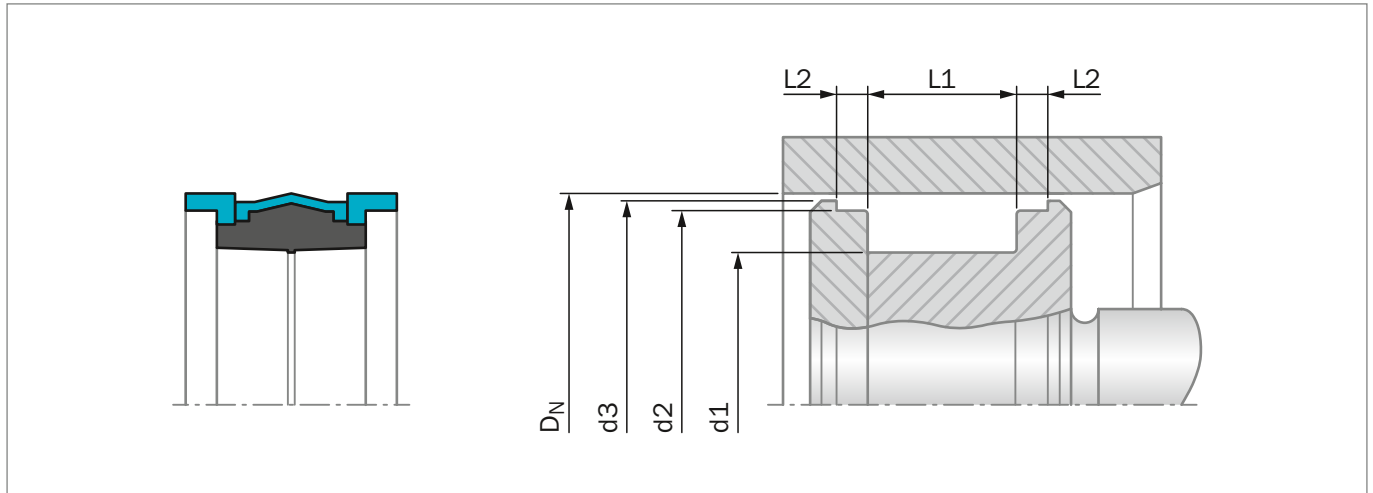


Figure 164: Installation Drawing

ORDERING EXAMPLE

Compact Seal Type DPC

Bore Diameter:	$D_N = 80 \text{ mm}$
Groove Diameter:	$d1 = 60 \text{ mm}$
Groove Width:	$L1 = 22.4 \text{ mm}$
TSS Part No.:	PCF000800 from Table 154
Material Set-Code:	N000C

TSS Article No. **PCF0 0 0800 - N000C**

TSS Series No. _____
 Type (Standard) _____
 Bore Diameter x 10 _____
 Quality Index (Standard) _____
 Material Set-Code _____
 Polypac Ref. No.: DPC 8060

Table 154: Installation Dimensions / TSS Article No.

Bore Diameter	Groove Dimensions					TSS Article No.	Description
	D_N	$d1$	L1	L2	$d2$		
H11	h9	+0.2	+0.1	h11	h11		
30.0	17.0	15.4	6.35	26.50	29.00	PCF000300-N000C	DPC 3017
35.0	22.0	15.4	6.35	31.40	33.70	PCF000350-N000C	DPC 3522
40.0	24.0	18.4	6.35	35.40	38.70	PCF000400-N000C	DPC 4024
45.0	29.0	18.4	6.35	40.40	43.70	PCF000450-N000C	DPC 4529
50.0	34.0	18.4	6.35	45.40	48.70	PCF000500-N000C	DPC 5034
55.0	39.0	18.4	6.35	50.40	53.70	PCF000550-N000C	DPC 5539
60.0	44.0	18.4	6.35	55.40	58.70	PCF000600-N000C	DPC 6044
65.0	50.0	18.4	6.35	60.40	63.70	PCF000650-N000C	DPC 6550
70.0	50.0	22.4	6.35	64.20	68.30	PCF000700-N000C	DPC 7050
75.0	55.0	22.4	6.35	69.20	73.30	PCF000750-N000C	DPC 7555
80.0	60.0	22.4	6.35	74.20	78.30	PCF000800-N000C	DPC 8060
85.0	65.0	22.4	6.35	79.20	83.30	PCF000850-N000C	DPC 8565



Bore Diameter	Groove Dimensions					TSS Article No.	Description
	D _N	d1	L1	L2	d2		
H11	h9	+0.2	+0.1	h11	h11		
90.0	70.0	22.4	6.35	84.15	88.30	PCF000900-N000C	DPC 9070
95.0	75.0	22.4	6.35	89.15	93.30	PCF000950-N000C	DPC 9575
100.0	75.0	22.4	6.35	93.15	98.05	PCF001000-N000C	DPC 10075
100.0	80.0	25.4	6.35	94.15	98.30	PCF101000-N000C	DPC 10080
105.0	85.0	22.4	6.35	98.10	103.00	PCF001050-N000C	DPC 10585
110.0	85.0	22.4	6.35	103.10	108.00	PCF001100-N000C	DPC 11085
120.0	100.0	25.4	6.35	114.10	118.00	PCF001200-N000C	DPC 120100
130.0	105.0	25.4	6.35	123.10	128.00	PCF001300-N000C	DPC 130105
140.0	115.0	25.4	6.35	133.00	138.00	PCF001400-N000C	DPC 140115
150.0	125.0	25.4	6.35	143.00	148.00	PCF001500-N000C	DPC 150125
160.0	135.0	33.0	6.35	153.00	158.00	PCF001600-N000C	DPC 160135