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.

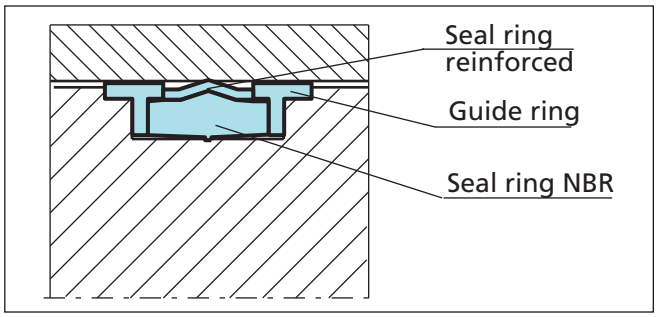

Figure 59 Compact Seal, Type DPS

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.

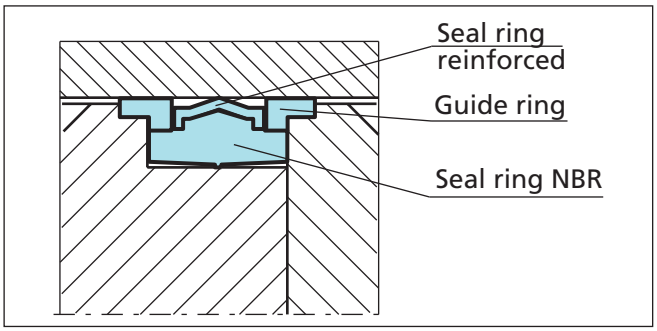

Figure 60 Compact Seal, Type DPC

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 80MPa)
- 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

Technical Data

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 dependent on medium.

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:	N00OC

■ Installation Recommendation, Type DPS

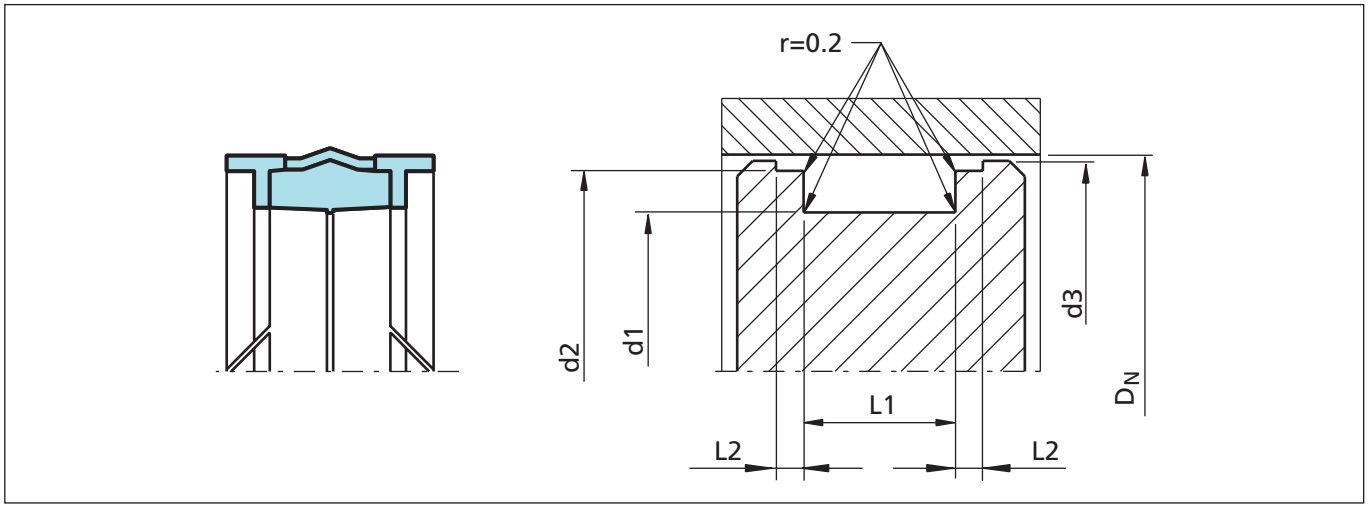

Figure 61 Installation drawing

Ordering Example

Compact Seal Type DPS

Bore diameter:	D_N = 80 mm
Groove diameter:	d1 = 66 mm
Groove width:	L1 = 22.5 mm
TSS Part No.:	PCE100800 (from Table LVIII)
Material set-code:	N00OC

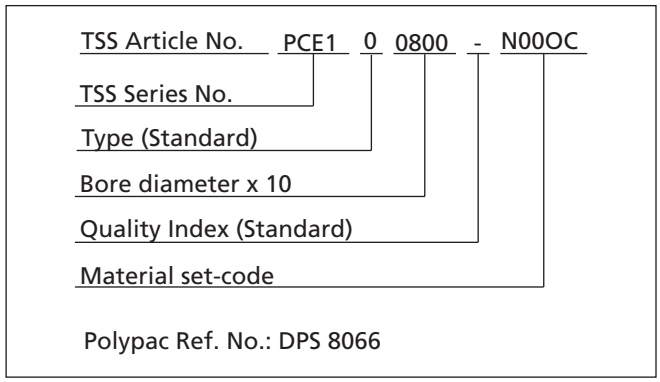

Table LVIII Installation dimensions / TSS Article No.

Bore Dia.	Groove Dimensions					TSS Article No.	Description
D_N H11	**d1** h9	**L1** +0.2	**L2** +0.1	**d2** h9	**d3** h11		
25.0	**17.0**	**10.0**	**4.0**	**22.0**	**24.0**	**PCE000250-N00OC**	**DPS 2517/1**
32.0	24.0	15.5	3.2	28.0	31.4	PCE000320-N00OC	DPS 3224
32.0	**24.0**	**10.0**	**4.0**	**29.0**	**31.0**	**PCE100320-N00OC**	**DPS 3224/1**
35.0	27.0	15.5	3.2	31.0	34.4	PCE000350-N00OC	DPS 3527
40.0	32.0	15.5	3.2	36.0	39.4	PCE000400-N00OC	DPS 4032
40.0	**32.0**	**10.0**	**4.0**	**37.0**	**39.0**	**PCE100400-N00OC**	**DPS 4032/1**
45.0	37.0	15.5	3.2	41.0	44.4	PCE000450-N00OC	DPS 4537
50.0	38.0	20.5	4.2	46.0	49.4	PCE000500-N00OC	DPS 5038
50.0	**40.0**	**12.5**	**4.0**	**47.0**	**49.0**	**PCE100500-N00OC**	**DPS 5040/1**
55.0	43.0	20.5	4.2	51.0	54.4	PCE000550-N00OC	DPS 5543
60.0	48.0	20.5	4.2	56.0	59.4	PCE000600-N00OC	DPS 6048
63.0	51.0	20.5	4.2	59.0	62.4	PCE000630-N00OC	DPS 6351
63.0	**53.0**	**12.5**	**4.0**	**60.0**	**62.0**	**PCE100630-N00OC**	**DPS 6353/1**
65.0	53.0	20.5	4.2	61.0	64.4	PCE000650-N00OC	DPS 6553
70.0	58.0	20.5	4.2	66.0	69.4	PCE000700-N00OC	DPS 7058
75.0	63.0	20.5	4.2	71.0	74.4	PCE000750-N00OC	DPS 7563
80.0	**65.0**	**20.0**	**5.0**	**76.0**	**78.5**	**PCE000800-N00OC**	**DPS 8065/1**
80.0	66.0	22.5	5.2	76.0	79.4	PCE100800-N00OC	DPS 8066
85.0	71.0	22.5	5.2	81.0	84.4	PCE000850-N00OC	DPS 8571
90.0	76.0	22.5	5.2	86.0	89.4	PCE000900-N00OC	DPS 9076
100.0	**85.0**	**20.0**	**5.0**	**96.0**	**98.5**	**PCE001000-N00OC**	**DPS 10085/1**
100.0	86.0	22.5	5.2	96.0	99.4	PCE101000-N00OC	DPS 10086
110.0	96.0	22.5	5.2	106.0	109.4	PCE001100-N00OC	DPS 11096
120.0	106.0	22.5	5.2	116.0	119.4	PCE001200-N00OC	DPS 120106
125.0	**105.0**	**25.0**	**6.3**	**120.0**	**123.0**	**PCE001250-N00OC**	**DPS 125105/1**
125.0	108.0	26.5	7.2	121.0	124.4	PCE101250-N00OC	DPS 125108
140.0	120.0	25.0	6.3	135.0	138.0	PCE001400-N00OC	DPS 140120/1
140.0	123.0	26.5	7.2	136.0	139.4	PCE101400-N00OC	DPS 140123
150.0	133.0	26.5	7.2	146.0	149.4	PCE001500-N00OC	DPS 150133
160.0	**140.0**	**25.0**	**6.3**	**155.0**	**158.0**	**PCE001600-N00OC**	**DPS 160140/1**
160.0	143.0	26.5	7.2	156.0	159.4	PCE101600-N00OC	DPS 160143
180.0	163.0	26.5	7.2	176.0	179.4	PCE001800-N00OC	DPS 180163
200.0	**170.0**	**36.0**	**12.5**	**192.0**	**197.0**	**PCE002000-N00OC**	**DPS 200170/1**
200.0	180.0	31.5	9.2	196.0	199.4	PCE102000-N00OC	DPS 200180
220.0	200.0	31.5	9.2	216.0	219.4	PCE002200-N00OC	DPS 220200
250.0	230.0	31.5	9.2	246.0	249.4	PCE002500-N00OC	DPS 250230

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

■ Installation Recommendation, Type DPC

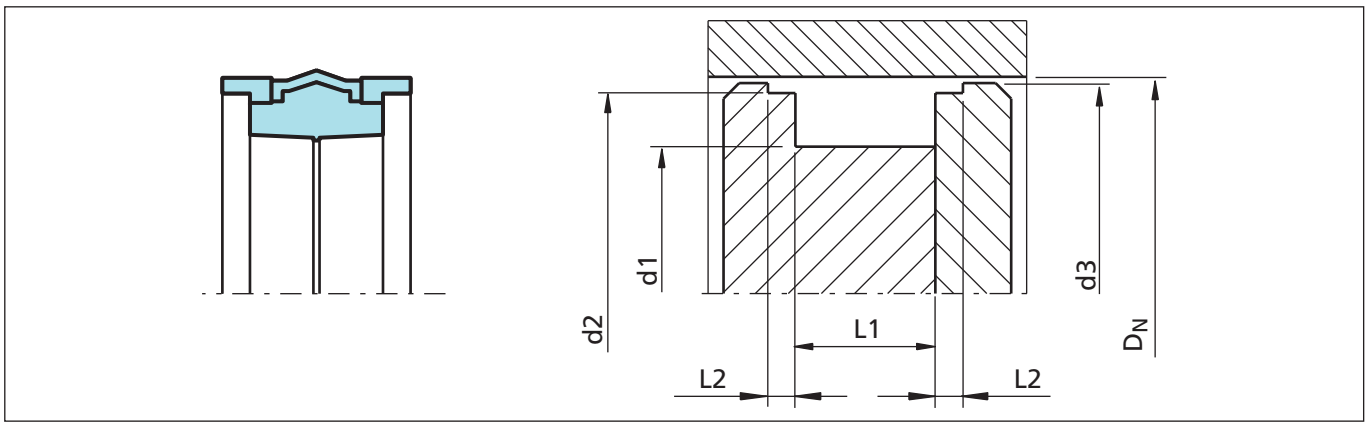

Figure 62 Installation drawing

Ordering Example

Compact Seal Type DPC

Bore diameter:	D_N = 80 mm
Groove diameter:	d1 = 60 mm
Groove width:	L1 = 22.4 mm
TSS Part No.:	PCF000800 (from Table LIX)
Material set-code:	N00OC

TSS Article No. PCF0 0 0800 - N00OC

TSS Series No.

Type (Standard)

Bore diameter x 10

Quality Index (Standard)

Material set-code

Polypac Ref. No.: DPC 8060

Table LIX Installation dimensions / TSS Article No.

Bore Dia.	**Groove Dimensions**					**TSS Article No.**	**Description**
D_N H11	**d1** h9	**L1** +0.2	**L2** +0.1	**d2** h11	**d3** h11		
30.0	17.0	15.4	6.35	26.50	29.00	PCF000300-N00OC	DPC 3017
35.0	22.0	15.4	6.35	31.40	33.70	PCF000350-N00OC	DPC 3522
40.0	24.0	18.4	6.35	35.40	38.70	PCF000400-N00OC	DPC 4024
45.0	29.0	18.4	6.35	40.40	43.70	PCF000450-N00OC	DPC 4529
50.0	34.0	18.4	6.35	45.40	48.70	PCF000500-N00OC	DPC 5034
55.0	39.0	18.4	6.35	50.40	53.70	PCF000550-N00OC	DPC 5539
60.0	44.0	18.4	6.35	55.40	58.70	PCF000600-N00OC	DPC 6044
65.0	50.0	18.4	6.35	60.40	63.70	PCF000650-N00OC	DPC 6550
70.0	50.0	22.4	6.35	64.20	68.30	PCF000700-N00OC	DPC 7050
75.0	55.0	22.4	6.35	69.20	73.30	PCF000750-N00OC	DPC 7555
80.0	60.0	22.4	6.35	74.20	78.30	PCF000800-N00OC	DPC 8060
85.0	65.0	22.4	6.35	79.20	83.30	PCF000850-N00OC	DPC 8565

Bore Dia.	Groove Dimensions					TSS Article No.	Description
D_N H11	**d1** h9	**L1** +0.2	**L2** +0.1	**d2** h11	**d3** h11		
90.0	70.0	22.4	6.35	84.15	88.30	PCF000900-N00OC	DPC 9070
95.0	75.0	22.4	6.35	89.15	93.30	PCF000950-N00OC	DPC 9575
100.0	75.0	22.4	6.35	93.15	98.05	PCF001000-N00OC	DPC 10075
100.0	80.0	25.4	6.35	94.15	98.30	PCF101000-N00OC	DPC 10080
105.0	85.0	22.4	6.35	98.10	103.00	PCF001050-N00OC	DPC 10585
110.0	85.0	22.4	6.35	103.10	108.00	PCF001100-N00OC	DPC 11085
120.0	100.0	25.4	6.35	114.10	118.00	PCF001200-N00OC	DPC 120100
130.0	105.0	25.4	6.35	123.10	128.00	PCF001300-N00OC	DPC 130105
140.0	115.0	25.4	6.35	133.00	138.00	PCF001400-N00OC	DPC 140115
150.0	125.0	25.4	6.35	143.00	148.00	PCF001500-N00OC	DPC 150125
160.0	135.0	33.0	6.35	153.00	158.00	PCF001600-N00OC	DPC 160135