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# POLYPAC<sup>®</sup> - Veepac CH



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Single Acting

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Set of Chevron Ring

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With Support and Pressure  
Energizing Ring

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Without and with Anti-extrusion  
Ring

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**Material:**

Farbric Reinforced Rubber -  
POM or PTFE

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## ■ Veepac CH



### Description

Veepac seals are sets of fabric reinforced chevron rings. They are composed by a support ring, "V" shaped sealing rings and a pressure energizing ring.

The support ring or base ring guides and sustains the other "V" shaped rings for best performance. Special versions provide incorporated anti-extrusion rings, either on the inner or outer side, for rod or piston applications (see type CH/NEI or CH/NEO). In standard version the support ring is manufactured in cotton fabric reinforced rubber, for a good anti-extrusion resistance.

The intermediate "V" shaped rings (vee-rings) are the real sealing elements of Veepac seals. Their particular shape confers the capacity of increasing sealing effectiveness under high pressure. In standard version they are made in cotton fabric reinforced NBR and pure NBR.

The energizer ring ensures uniform loading of pressure on the other rings. This element is manufactured in acetal resin, or cotton fabric reinforced nitrile for diameters over 300 mm (standard material).

### Design

The veepac seals are available in different compositions. The standard version consists in a support ring, two fabric reinforced vee-rings, one rubber vee-ring and the energizing ring.

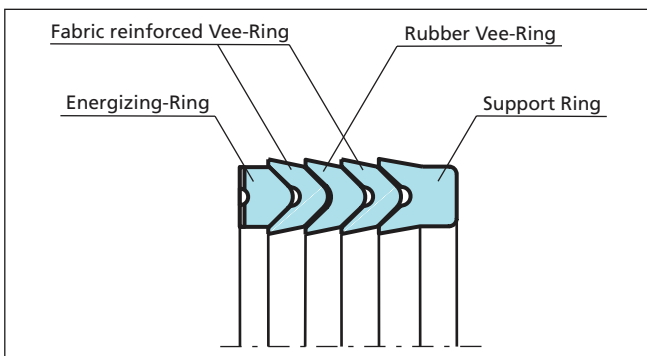


Figure 63 Veepac standard design

When the rubber vee-ring isn't available (indicated in the Table LXI with the symbol ^) the veepac are assembled with three fabric reinforced vee-ring as shown in figure below.

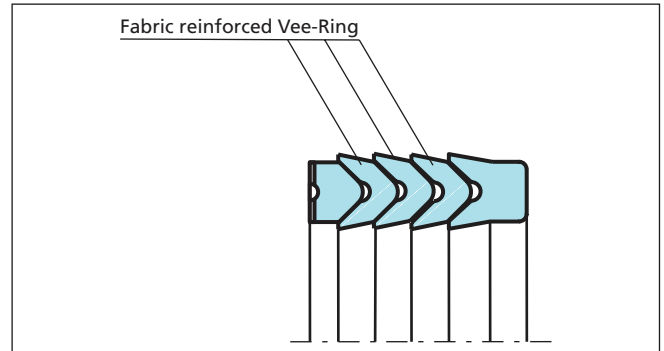


Figure 64 Veepac design with 3 fabric reinforced vee-ring

Where extrusion gaps are greater than those specified or for higher pressure conditions, special designs incorporating anti-extrusion rings can be made, to suit piston (suffix NEO) at the Polypac ref.

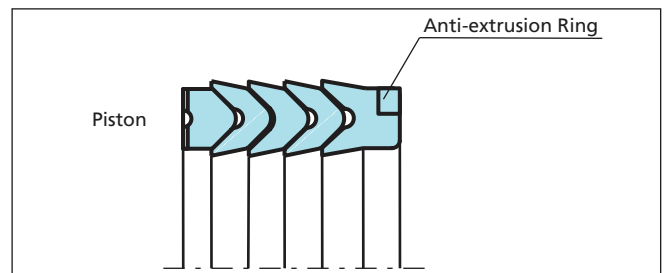


Figure 65 Veepac design with anti-extrusion ring



# Polypac® - Veepac CH

## Advantages

- Exceptional wear resistance
- Pre-load adjustment capability
- Excellent behaviour in harsh conditions
- Rod-seal replacement without complete cylinder dismantling possible
- Long service life

## Application Examples

VEEPAC seals are recommended for single acting or double acting (back to back installation) hydraulic cylinders in the following applications:

- Ship hydraulics
- Excavators
- Steel mills
- Presses

## Technical Data

Pressure:	Up to 40 MPa
Velocity:	Up to 0.5 m/s
Temperature:	-30 °C to +200 °C
Media:	Hydraulic fluids Mineral Oil based hydraulic fluids, Water/oil and Water/Glycol emulsions.
Groove type:	Open

### 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.

## Gap Dimensions

To prevent extrusion the diameter not facing the pressure must be max. 0.3 mm smaller (than the piston seal) and 0.3 mm larger (than the rod seal). Using Veepac with Back-up Ring enables double values.

## Materials

Components of the VEEPAC seals are made in different combinations of materials, according to the specific application (see table below).

Table LX Material Selection

Material Set Code	Temperature	Sealing Ring Material	Energizer Ring Material	
N000C	-30 to +130 °C	Cotton reinforced NBR	POM-GL-BK	up to 300 mm I.D.
			Cotton reinforced NBR	over 300 mm I.D.
V000A	-20 to +150 °C	Aramididic Fibre reinforced FKM	POM-GL-BK	up to 300 mm I.D.
			Aramididic Fibre reinforced FKM	over 300 mm I.D.
V0P0A	-20 to +200 °C	Aramididic Fibre reinforced FKM	Filled PTFE	up to 300 mm I.D.
			Aramididic Fibre reinforced FKM	over 300 mm I.D.

 Highlighted material is standard.



■ Installation Recommendation, Type POLYPAC® CH/NEO (with Back-up Ring)

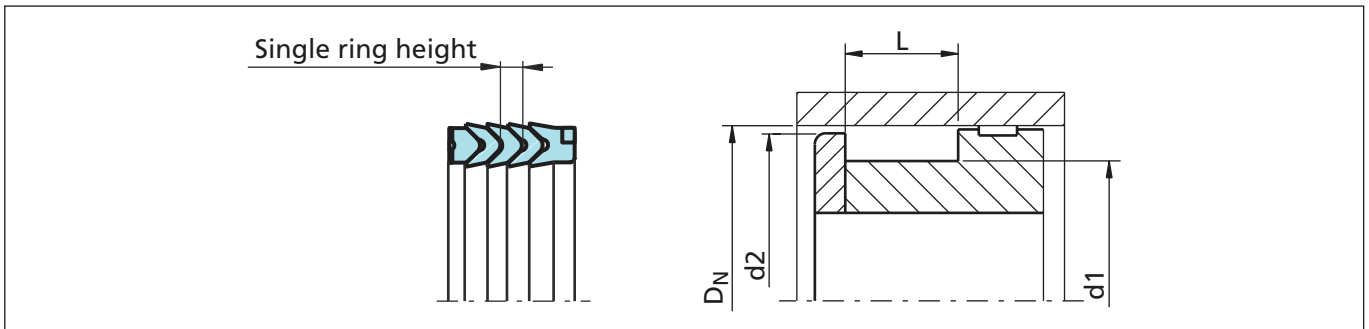


Figure 66 Installation drawing

Ordering Example

For a **piston** application of standard Veepac sealing element composed by: Support ring **with anti-extrusion ring**, 3 elements vee-rings and Energizer ring:

Bore diameter:  $D_N = 150.0 \text{ mm}$   
 Groove diameter:  $d1 = 120.0 \text{ mm}$   
 TSS Part No.: PCH0 E 1500  
 Material Set-Code: N000C  
 Polypac Part. No.: CH 590472/NEO

TSS Article No.	PCH0	E	1500	-	N000C
TSS Series No.					
Type (Standard)					
Bore diameter x 10					
Quality Index					
Material Set-code					

Table LXI Installation dimensions / TSS Part No.

Bore Diameter	Groove Diameter	Groove Width	Diameter	Single Ring Height	Special Version	TSS Part No.	Polypac Ref. No.*
$D_N$ H9/f8	$d1$ h11	L -0.25	$d2$ +/-0.1				
80.00	60.00	32.15	79.00	5.66		PCH1E0800	CH 314236/NEO
88.90	69.85	35.50	87.90	4.83		PCH0E0889	CH 350275/1/NEO
90.00	70.00	30.00	89.00	5.08		PCH0E0900	CH 354275/NEO
95.25	76.20	28.97	94.20	5.16		PCH0E0952	CH 375300/NEO
95.25	82.55	21.72	94.20	3.71	# ^	PCH1E0952	CH 375325/NEO
101.60	85.72	26.75	100.60	4.14	^	PCH0E1016	CH 400337/NEO
107.95	88.90	31.00	106.90	4.90	^	PCH0E1079	CH 425350/NEO
114.30	88.90	35.32	113.30	6.55	^	PCH0E1143	CH 450350/NEO
114.30	95.25	25.40	113.30	5.00	^	PCH1E1143	CH 450375/NEO
114.30	98.42	26.59	113.30	4.34	^	PCH2E1143	CH 450387/NEO
125.00	100.00	36.90	124.00	6.60	# ^	PCH1E1250	CH 492393/NEO
125.00	105.00	27.00	124.00	5.00	^	PCH2E1250	CH 492413/1/NEO

\* As the Polypac Ref. No. does not refer to the material, please always state the full number if available for identification.  
 "# " and "^ " see Table LXII.



# Polypac® - Veepac CH

Bore Diameter	Groove Diameter	Groove Width	Diameter	Single Ring Height	Special Version		TSS Part No.	Polypac Ref. No.*
D <sub>N</sub> H9/f8	d1 h11	L -0.25	d2 +/-0.1		#	^		
127.00	101.60	32.15	126.00	5.82	#		PCH0E1270	CH 500400/NEO
127.00	107.95	30.00	126.00	4.52		^	PCH1E1270	CH 500425/NEO
139.70	114.30	33.50	138.70	5.56		^	PCH0E1397	CH 550450/1/NEO
140.00	115.00	37.12	139.00	6.00		^	PCH0E1400	CH 551452/NEO
140.00	120.00	30.00	139.00	5.36			PCH1E1400	CH 551472/NEO
150.00	120.00	44.00	149.00	7.50			PCH0E1500	CH 590472/NEO
152.40	127.00	38.63	151.40	6.48			PCH0E1524	CH 600500/NEO
160.00	130.00	41.50	159.00	5.50	#		PCH1E1600	CH 629511/NEO
160.00	130.00	43.50	159.00	5.50	#		PCH2E1600	CH 629511/1/NEO
187.32	171.45	24.20	186.30	4.09	#	^	PCH0E1873	CH 737675/NEO
210.00	180.00	32.97	209.00	5.99			PCH0E2100	CH 826708/B/NEO
222.25	190.50	50.00	221.20	7.57		^	PCH0E2222	CH 875750/NEO
280.00	250.00	32.97	279.00	5.99		^	PCH0E2800	CH 1102984/B/NEO

\* As the Polypac Ref. No. does not refer to the material, please always state the full number if available for identification.

"#" and "^" see Table LXII.

**Table LXII Explanation to "Special Version"**

Not available with rubber V-ring		^		
Available upon request	#			