



The double-acting profile CP Caveseal® piston sealing set consists of a PTFE piston sealing ring and an elastomer O-ring as a preloading element.

Profile sealing set is appropriate for dynamic applications as an alternative to an O-ring in situations where sealing performance and friction have to be optimized.

The material combination of the slipper ring (PTFE) and the O-ring (elastomer) makes this product suitable for a wide range of applications, especially for aggressive media and/or high temperatures. Multiple compounds can alternatively be selected according to the individual application profile.

## Advantages

- Good sealing performance in extremely small assembly conditions.
- Excellent wear resistance.
- Minimal break-away and dynamic friction and no stick-slip tendency ensures uniform motion even at low speeds.
- Good energy efficiency due to low friction.
- Assembly on one-part piston is possible.
- High temperature resistance assured by suitable O-ring compound selection.
- Adaptable to nearly all media thanks to high chemical resistance of the sealing ring and large O-ring compound selection.
- Short axial assembly length.
- Short radial assembly depth.
- Installation in closed and undercut housings.
- Available in diameters from 4 to 3000 mm.
- Can be used in existing O-ring grooves.
- Machined small-volume series and samples available with short lead times.

## Range of Application

The CP profile range has been designed exclusively to replace standard O-rings. For dynamic applications we recommend our OA (pneumatics) or OE (hydraulics) profile ranges.

Operating pressure	≤ 16 bar
Operating temperature	-30 to +80 °C <sup>1)</sup>
Surface speed	≤ 4.0 m/s

<sup>1)</sup> For requirements outside of standard temperature range please contact our consultancy service for suitable O-ring compound.

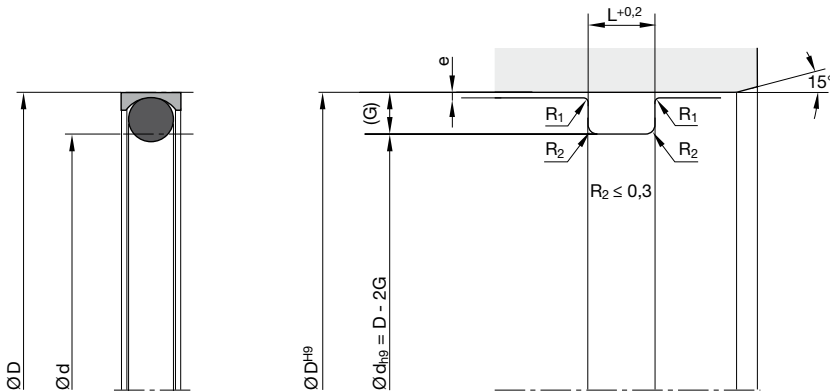
## Compounds

Sealing ring: Polon® 012, modified PTFE  
 O-ring: N0674, NBR elastomer with approx. 70 Shore A

## Installation

For design modifications of the groove, please contact our consultancy service.

This seal should only be used in combination with guiding elements (e.g. F3).



**Housing dimensions**

Series No.	Cross-section	O-ring cross-section (mm)	Recommended piston Ø range		Groove width L (mm)	Groove depth G (mm)	Gap e (mm)	Radius max. R <sub>1</sub> (mm)
			≥ D (mm)	< D (mm)				
08400	A	1.78	8	14	2.4	1.45	0.15	0.5
08400	B	2.62	14	25	3.6	2.25	0.20	0.5
08400	C	3.53	25	46	4.8	3.10	0.20	0.5
08400	D	5.33	46	125	7.1	4.70	0.25	0.9
08400	E	6.99	125	400	9.5	6.10	0.30	0.9

**Ordering example**

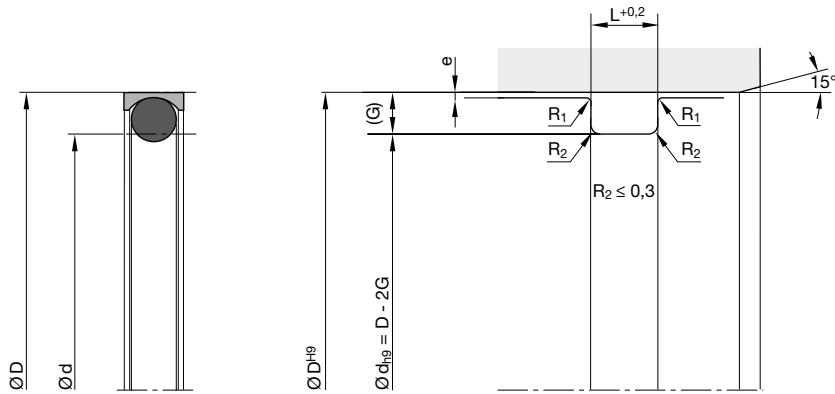
Piston diameter 80 mm

CP 0800 012 08401 D (80 x 70.6 x 7.1)

- CP Profile
- 0800 Piston diameter x 10
- 012 Compound
- 08401 Series no. / Compound code O-ring:
  - 08400 without O-ring
  - 08401 N0674 (NBR) 70±5 Shore A -30 / +110 °C
  - 08402 V0747 (FKM) 75±5 Shore A -25 / +200 °C
  - 08403 N0304 (NBR) 75±5 Shore A -50 / +110 °C
  - 08404 E0540 (EPDM) 80±5 Shore A -40 / +150 °C
  - 08405 N3578 (NBR) 75±5 Shore A -30 / +110 °C
  - 08406 N3588 (NBR) 90±5 Shore A -20 / +110 °C
- D Cross-section

**Please note**

For certain applications, it may be appropriate to use a non-standard cross-section – reduced or heavier. In these cases, please replace the standard cross-section code (in above example: “D”) by the one you require (for example “C” or “E”).



Standard range

Groove				O-ring			Groove				O-ring		
Size	Ø D mm	Ø d mm	L mm	No.	CS mm	ID mm	Size	Ø D mm	Ø d mm	L mm	No.	CS mm	ID mm
0080	8	5.1	2.4	2-008	1.78	4.47	1500	150	137.8	9.5	2-432	6.99	135.89
0100	10	7.1	2.4	2-010	1.78	6.07	1550	155	142.8	9.5	2-433	6.99	133.97
0120	12	9.1	2.4	2-011	1.78	7.65	1600	160	147.8	9.5	2-435	6.99	145.42
0150	15	10.5	3.6	2-110	2.62	9.19	1650	165	152.8	9.5	2-437	6.99	151.77
0160	16	11.5	3.6	2-111	2.62	10.77	1700	170	157.8	9.5	2-437	6.99	151.77
0180	18	13.5	3.6	2-112	2.62	12.37	1750	175	162.8	9.5	2-438	6.99	158.12
0200	20	15.5	3.6	2-114	2.62	15.54	1800	180	167.8	9.5	2-439	6.99	164.47
0220	22	17.5	3.6	2-115	2.62	17.12	1900	190	177.8	9.5	2-441	6.99	177.17
0240	24	19.5	3.6	2-116	2.62	18.72	2000	200	187.8	9.5	2-442	6.99	183.52
0250	25	18.8	4.8	2-209	3.53	17.04	2100	210	197.8	9.5	2-444	6.99	196.22
0254	25.4	19.2	4.8	2-210	3.53	18.64	2200	220	207.8	9.5	2-445	6.99	202.57
0280	28	21.8	4.8	2-212	3.53	21.82	2300	230	217.8	9.5	2-446	6.99	215.27
0300	30	23.8	4.8	2-213	3.53	23.39	2400	240	227.8	9.5	2-447	6.99	227.97
0320	32	25.8	4.8	2-214	3.53	24.99	2500	250	237.8	9.5	2-447	6.99	227.97
0350	35	28.8	4.8	2-216	3.53	28.17	2600	260	247.8	9.5	2-448	6.99	240.67
0400	40	33.8	4.8	2-219	3.53	32.92	2700	270	257.8	9.5	2-449	6.99	253.37
0420	42	35.8	4.8	2-220	3.53	34.52	2800	280	267.8	9.5	2-450	6.99	266.07
0450	45	38.8	4.8	2-222	3.53	37.69	2900	290	277.8	9.5	2-450	6.99	266.07
0480	48	38.6	7.1	2-325	5.33	37.47	3000	300	287.8	9.5	2-451	6.99	278.77
0500	50	40.6	7.1	2-326	5.33	40.64	3100	310	297.8	9.5	2-452	6.99	291.47
0508	50.8	41.4	7.1	2-326	5.33	40.64	3200	320	307.8	9.5	2-453	6.99	304.17
0520	52	42.6	7.1	2-326	5.33	40.64	3300	330	317.8	9.5	2-454	6.99	316.87
0550	55	45.6	7.1	2-327	5.33	43.82	3400	340	327.8	9.5	2-454	6.99	316.87
0600	60	50.6	7.1	2-329	5.33	50.17	3500	350	337.8	9.5	2-455	6.99	329.57
0630	63	53.6	7.1	2-330	5.33	53.34	3600	360	347.8	9.5	2-456	6.99	342.27
0650	65	55.6	7.1	2-330	5.33	53.34	3700	370	357.8	9.5	2-457	6.99	354.97
0700	70	60.6	7.1	2-332	5.33	59.69	3800	380	367.8	9.5	2-458	6.99	367.67
0750	75	65.6	7.1	2-333	5.33	62.87	3900	390	377.8	9.5	2-458	6.99	367.67
0800	80	70.6	7.1	2-335	5.33	69.22	4000	400	387.8	9.5	2-459	6.99	380.37
0850	85	75.6	7.1	2-337	5.33	75.57							
0900	90	80.6	7.1	2-338	5.33	78.74							
0950	95	85.6	7.1	2-340	5.33	85.09							
1000	100	90.6	7.1	2-341	5.33	88.27							
1050	105	95.6	7.1	2-343	5.33	94.62							
1100	110	100.6	7.1	2-344	5.33	97.79							
1150	115	105.6	7.1	2-346	5.33	104.14							
1200	120	110.6	7.1	2-348	5.33	110.49							
1250	125	112.8	9.5	2-425	6.99	113.67							
1300	130	117.8	9.5	2-426	6.99	116.84							
1350	135	122.8	9.5	2-427	6.99	120.02							
1400	140	127.8	9.5	2-429	6.99	126.37							
1450	145	132.8	9.5	2-430	6.99	129.54							

Further sizes on request.

Slipper seals