



The profile E4 piston seal is a lip seal specially developed for use in pneumatics. The dimensions of the profile E4 standard series correspond to the cylinder diameters according to ISO 3320, CETOP RP 52 P, RP 43 P and RP 53 P. Profile E4 is fully interchangeable with the profile C2 standard series formerly used in pneumatics.

- Due to application-optimized geometry and compounds suitable for use in oiled as well as in oil-free air (after initial lubrication on assembly).
- Suitable for cylinders with dead-center cushioning.
- Good wear resistance.
- Long service life thanks to application-optimized compounds.
- Smooth running due to optimum lubricant-retaining sealing lip geometry.
- Easier installation.
- Suitable for fully automatic installation
- Assembly on one-part piston is possible.
- High temperature resistance in case of suitable compound selection.
- Excellent media resistance in case of suitable compound selection.
- Installation in closed housings.
- Special seal geometry ensures optimal function even in case of flow-controlled exhaust air.

## Range of application

Working pressure	≤ 16 bar
Working temperature	-30 °C to +80 °C
Surface speed	≤ 1 m/s
Media	Oiled as well as oil-free compressed air (after initial lubrication during assembly).

## Compounds

Standard: N3578, NBR compound (≈ 75 Shore A)  
 for low temperatures: N8613, NBR compound (≈ 80 Shore A)  
 for high temperatures: V3664, FKM compound (≈ 85 Shore A)

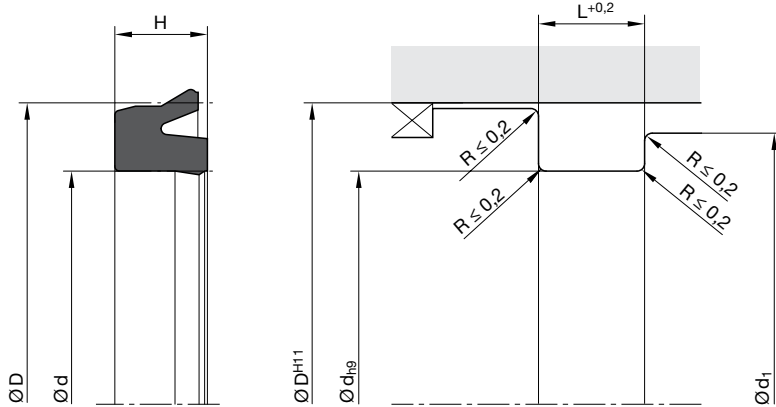
## Installation

The profile E4 lip seals are simply pulled over the piston into the groove. To avoid damaging the seal lips during installation, sharp edges should be removed from the piston and the cylinder tube.

Under oil-free conditions it is important to obtain a solid lubrication film inside the cylinder tube. This must be achieved before assembly to ensure a long service life of the seal.

For piston guidance we recommend the profile F2 piston guidance tape. Please refer to our profile F2 for details of the piston outside diameter and the gap measurements.

In case of special operating conditions (specific pressure loads, temperature, speed, use in water, HFA, HFB fluids etc.), please contact our consultancy service for a selection of the material and design best suited to your particular application requirements.



$d_1$  = minimum piston diameter on pressure side

For surface finish, lead in chamfer and other installation dimensions see "General installation guidelines".

D	d	H	L	$d_1$	Order code
10	5	3	3.5	9	E4 1050 N3578
12	6	4	4.5	11	E4 1206 N3578
12	7	4	4.5	11	E4 1207 N3578
14	8	4	4.5	13	E4 1408 N3578
16	8	5.5	6	15	E4 1608 N3578
16	9	5	5.5	15	E4 1609 N3578
16	10	4	4.5	15	E4 1610 N3578
20	12	5.5	6	19	E4 2012 N3578
20	14	4	4.5	19	E4 2014 N3578
20.5	14	4	4.5	19.5	E4 2016 N3578
22	16	5	5.5	21	E4 2216 N3578
24	16	5.5	6	23	E4 2416 N3578
25	15.5	5.8	6.3	24	E4 2515 N3578
25	17	4.5	5	24	E4 2516 N3578
25	17	5.5	6	24	E4 2517 N3578
28	18	7	7.5	26.5	E4 2818 N3578
32	20	6.5	7	30	E4 3220 N3578
32	22	7	7.5	30.5	E4 3222 N3578
32	24	5.5	6	31	E4 3224 N3578
34	24	7	7.5	32.5	E4 3424 N3578
36	26	7	7.5	34.5	E4 3666 N3578
40	30	7	7.5	38.5	E4 4030 N3578
42	30	6	6.5	40	E4 4203 N3578
45	33	9	10	43	E4 4533 N3578
45	37	7	7.5	44	E4 4537 N3578
50	40	7	7.5	48.5	E4 5040 N3578
60	50	7	7.5	58.5	E4 6022 N3578
63	53	7	7.5	61.5	E4 6353 N3578
65	55	7	7.5	63.5	E4 6510 N3578
70	58	7	7.5	68	E4 7058 N3578
75	65	7.5	8	73.5	E4 7065 N3578
80	68	8.5	9.5	78	E4 8068 N3578
84	72	8.5	9.5	82	E4 8072 N3578
100	88	8.5	9.5	98	E4 A088 N3578

Further sizes on request.

D	d	H	L	$d_1$	Order code
105	93	8.5	9.5	103	E4 A501 N3578
110	98	8.5	9.5	108	E4 B002 N3578
120	105	10	11	117.5	E4 C005 N3578
125	110	10	11	122.5	E4 C010 N3578
130	115	10	11	127.5	E4 D015 N3578
140	125	10	11	137.5	E4 E040 N3578
150	135	10	11	147.5	E4 F004 N3578
160	140	14	15	155	E4 G014 N3578
160	145	10	11	157.5	E4 G022 N3578
180	160	14	15	175	E4 J014 N3578
200	180	14	15	195	E4 L018 N3578
220	199	15	16	215	E4 M005 N3578
250	225	18	19	242.5	E4 N525 N3578
250	226	16	17	242.5	E4 N502 N3578
250	230	14	15	245	E4 N503 N3578
320	295	14	15	312.5	E4 Q205 N3578
320	295	17	18	312.5	E4 Q206 N3578
470	440	21	22	460	E4 R720 N3578



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- Due to application-optimized geometry and compounds suitable for use in oiled as well as in oil-free air (after initial lubrication on assembly).
- Suitable for cylinders with dead-center cushioning.
- Robust seal profile for harshest operating conditions.
- Extreme wear resistance.
- Long service life thanks to application-optimized compounds.
- Smooth running due to optimum lubricant-retaining sealing lip geometry.
- Easier installation.
- Suitable for fully automatic installation
- Assembly on one-part piston is possible.
- Excellent media resistance in case of suitable compound selection.
- Installation in closed housings.
- Low compression set.
- Pressure relief grooves at the back of the seal ensure optimal function even in case of flow-controlled exhaust air.

## Range of application

Working pressure	≤ 16 bar
Working temperature	-35 °C to +80 °C
Surface speed	≤ 1 m/s
Media	Oiled as well as oil-free compressed air (after initial lubrication during assembly).

## Compounds

Standard: P5007, PUR compound (≈ 82 Shore A)  
for low temperatures: P5075, PUR compound (≈ 80 Shore A)

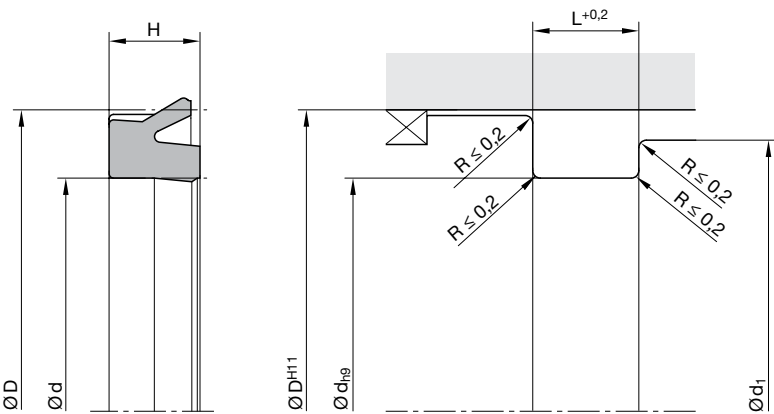
## Installation

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D	d	H	L	d <sub>1</sub>	Order code
20.5	14	4	4.5	19.5	E4 2016 P5007
25	17	5.5	6	24	E4 2517 P5007
32	24	5.5	6	31	E4 3224 P5007
40	30	7	7.5	38.5	E4 4030 P5007
45	33	9	10	43	E4 4533 P5007
50	40	7	7.5	48.5	E4 5040 P5007
63	53	7	7.5	61.5	E4 6353 P5007
80	68	8.5	9.5	78	E4 8068 P5007
100	88	8.5	9.5	98	E4 A088 P5007
125	110	10	11	122.5	E4 C010 P5007
160	140	14	15	155	E4 G014 P5007
160	145	10	11	157.5	E4 G022 P5007
200	180	14	15	195	E4 L018 P5007
320	295	17	18	312.5	E4 Q206 P5007

Further sizes on request.