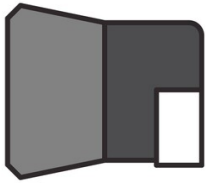


## Compact seal type ERS

Type ERS is a two piece single acting rod seal which consists of a reinforced cotton fabric and nitrile rubber vulcanized together forming an integral sealing element and one thermoplastic back-up ring.



### Characteristics

**Type:** ERS

**Max. operating pressure:** 400 bar

**Maximum speed:** 0.5 m/s

### Application

- Mining equipment , after market , mobile hydraulics , presses and standard cylinders.

### Technical Information

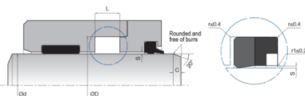
- Functions even with poor surfaces
- Reinforced cotton fabric base prevents the seal from extrusion
- Good sealing effect at low pressures
- Improved sealing gap due to the active back-up ring

### Operating Principle

- Type ERS is to be assembled into open grooves. It is very important that the assembly tools must be of soft material and have no sharp edges. Before installation all individual parts of the seal must be oiled with system oil.

### Options

- The permissible sealing gap values of type ERS rod seal is given in the below table.



Operating conditions			
Media	Mineral Oils [DIN 51524]	HFA and HFB	HFC
Temperature	-30°C + 100°C	+5°C + 60°C	-30°C + 60 °C
Pressure	≤400 bar	≤400 bar	≤400 bar
Speed	≤0,5 m/s	≤0,5 m/s	≤0,5 m/s

Note: The above data are maximum values, they may only be maintained for short periods of time and cannot be used at the same time simultaneously.

Surface roughness		
	Ra	Rmax
Sliding Surface	≤0,4 µm	≤3,2 µm
Groove Base	≤1,8 µm	≤6,3 µm
Groove Flanks	≤3,2 µm	≤16 µm

Maximum permissible sealing gap - S (mm)		
150 bar	250 bar	400 bar
0,35	0,25	0,20

Note: The largest sealing gap value occurring on the non-pressurized side of the seal does have a vital importance for the function of the seal and in this respect it is very important to use an S value lower than the above indicated numbers.

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Hardware tolerances			
Dimension	Ød	ØD	L
Tolerance	f8	H9	+0,2/-0 mm

Rod diameter	Groove diameter	Groove width	Material seal	Material back-up ring	Temperature range	Article
mm	mm	mm			°C	Max. 200 articles in the table
6	14	6.5	NBR/fabric	POM	-30 / 100	14193953
12	23	7.5	NBR/fabric	POM	-30 / 100	14193954
15	27	7	NBR/fabric	POM	-30 / 100	12042562
16	24	7	NBR/fabric	POM	-30 / 100	11859065
16	28	7.5	NBR/fabric	POM	-30 / 100	14193955
18	26	6.3	NBR/fabric	POM	-30 / 100	14193956
18	28	6.3	NBR/fabric	POM	-30 / 100	14193957
18	30	7.5	NBR/fabric	POM	-30 / 100	14193958
20	27	6	NBR/fabric	POM	-30 / 100	14193960
20	28	5.6	NBR/fabric	POM	-30 / 100	14193962
20	28	6.3	NBR/fabric	POM	-30 / 100	12989488
20	28	7	NBR/fabric	POM	-30 / 100	14193961
20	30	8	NBR/fabric	POM	-30 / 100	14193959
20	30	8.5	NBR/fabric	POM	-30 / 100	10018669
22	29	5	NBR/fabric	POM	-30 / 100	14193964
22	30	7	NBR/fabric	POM	-30 / 100	10018568
22	32	7.5	NBR/fabric	POM	-30 / 100	14193963
22	32	10	NBR/fabric	POM	-30 / 100	14193965
22	34	9.5	NBR/fabric	POM	-30 / 100	14193966
22	35	10	NBR/fabric	POM	-30 / 100	14193967
25	33	6	NBR/fabric	POM	-30 / 100	14193969
25	33	6.4	NBR/fabric	POM	-30 / 100	14193970
25	33	7	NBR/fabric	POM	-30 / 100	14193973
25	35	8	NBR/fabric	POM	-30 / 100	11120346
25	35	9	NBR/fabric	POM	-30 / 100	14193971
25	38	9.5	NBR/fabric	POM	-30 / 100	14193968
25	38	10	NBR/fabric	POM	-30 / 100	10018625
25.4	38.1	10	NBR/fabric	POM	-30 / 100	14193972
28	36	6.5	NBR/fabric	POM	-30 / 100	14193975
28	38	8	NBR/fabric	POM	-30 / 100	12989506
28	40	9.5	NBR/fabric	POM	-30 / 100	14193976
28	41	9.5	NBR/fabric	POM	-30 / 100	14193974
28	41	10	NBR/fabric	POM	-30 / 100	14193977
28.57	39.68	9.25	NBR/fabric	POM	-30 / 100	14193978
30	38	6.5	NBR/fabric	POM	-30 / 100	10018671
30	40	7	NBR/fabric	POM	-30 / 100	12764838
30	40	7.5	NBR/fabric	POM	-30 / 100	11023538
30	40	10.5	NBR/fabric	POM	-30 / 100	10018751
30	45	9	NBR/fabric	POM	-30 / 100	10018570
30	50	14.5	NBR/fabric	POM	-30 / 100	14193979
31.75	47.62	11.6	NBR/fabric	POM	-30 / 100	14193980
32	40	5	NBR/fabric	POM	-30 / 100	14193983
32	40	9	NBR/fabric	POM	-30 / 100	11299952
32	42	11	NBR/fabric	POM	-30 / 100	14193981
32	45	10	NBR/fabric	POM	-30 / 100	14193982
32.92	50.8	8.5	NBR/fabric	POM	-30 / 100	14193984
35	43	6	NBR/fabric	POM	-30 / 100	14193988
35	45	10	NBR/fabric	POM	-30 / 100	14193987

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Rod diameter	Groove diameter	Groove width	Material seal	Material back-up ring	Temperature range	Article
mm	mm	mm			°C	Max. 200 articles in the table
35	45	10.5	NBR/fabric	POM	-30 / 100	14193985
35	50	10.5	NBR/fabric	POM	-30 / 100	14193986
35	50	11.5	NBR/fabric	POM	-30 / 100	11288373
36	43	6.5	NBR/fabric	POM	-30 / 100	14193989
36	44	6.4	NBR/fabric	POM	-30 / 100	14193990
36	46	8.5	NBR/fabric	POM	-30 / 100	10018676
36	48	9.5	NBR/fabric	POM	-30 / 100	14193992
36	48	12	NBR/fabric	POM	-30 / 100	14193991
38	55	10.5	NBR/fabric	POM	-30 / 100	14193993
38.1	50.8	10	NBR/fabric	POM	-30 / 100	14193994
38.1	53.97	10.5	NBR/fabric	POM	-30 / 100	14193995
40	48	6.5	NBR/fabric	POM	-30 / 100	10018677
40	50	8	NBR/fabric	POM	-30 / 100	11727995
40	50	10	NBR/fabric	POM	-30 / 100	13224366
40	50	10.5	NBR/fabric	POM	-30 / 100	11588577
40	50	11	NBR/fabric	POM	-30 / 100	10018627
40	55	8	NBR/fabric	POM	-30 / 100	10018571
40	55	10.5	NBR/fabric	POM	-30 / 100	14193996
40	55	11	NBR/fabric	POM	-30 / 100	10018628
40	60	14.5	NBR/fabric	POM	-30 / 100	10018753
42	52	9	NBR/fabric	POM	-30 / 100	14193997
44.45	53.97	7.14	NBR/fabric	POM	-30 / 100	14193998
44.45	53.97	7.62	NBR/fabric	POM	-30 / 100	14193999
44.45	60.32	11.6	NBR/fabric	POM	-30 / 100	14194000
45	53	8.5	NBR/fabric	POM	-30 / 100	14194005
45	55	7.5	NBR/fabric	POM	-30 / 100	14194002
45	55	8	NBR/fabric	POM	-30 / 100	10018573
45	55	10.5	NBR/fabric	POM	-30 / 100	14194001
45	55	11	NBR/fabric	POM	-30 / 100	10018629
45	57	10	NBR/fabric	POM	-30 / 100	14194003
45	60	10	NBR/fabric	POM	-30 / 100	14194006
45	60	10.5	NBR/fabric	POM	-30 / 100	11071094
45	65	14.5	NBR/fabric	POM	-30 / 100	14194004
50	60	7.5	NBR/fabric	POM	-30 / 100	13025773
50	60	8	NBR/fabric	POM	-30 / 100	10018574
50	60	10	NBR/fabric	POM	-30 / 100	12961498
50	60	10.5	NBR/fabric	POM	-30 / 100	10018755
50	62	8	NBR/fabric	POM	-30 / 100	14194008
50	62	10	NBR/fabric	POM	-30 / 100	10018631
50	63	12	NBR/fabric	POM	-30 / 100	13029084
50	65	10.5	NBR/fabric	POM	-30 / 100	14194007
50	65	11	NBR/fabric	POM	-30 / 100	10018630
50	70	14	NBR/fabric	POM	-30 / 100	14194009
50	70	14.5	NBR/fabric	POM	-30 / 100	10018756
54	66	9.5	NBR/fabric	POM	-30 / 100	14194010
55	65	8	NBR/fabric	POM	-30 / 100	14194013
55	65	10.5	NBR/fabric	POM	-30 / 100	14194011
55	65	11	NBR/fabric	POM	-30 / 100	10018632
55	65	12	NBR/fabric	POM	-30 / 100	14194012
55	70	10.5	NBR/fabric	POM	-30 / 100	11120347
55	75	14	NBR/fabric	POM	-30 / 100	12984306
55	75	14.5	NBR/fabric	POM	-30 / 100	11339549
56	66	10.5	NBR/fabric	POM	-30 / 100	14194014

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mm	mm	mm			°C	Max. 200 articles in the table
56	71	10.5	NBR/fabric	POM	-30 / 100	14194015
56	76	14.5	NBR/fabric	POM	-30 / 100	11246106
57.15	69.85	10	NBR/fabric	POM	-30 / 100	14194016
60	69.5	7	NBR/fabric	POM	-30 / 100	10018678
60	70	8	NBR/fabric	POM	-30 / 100	12961499
60	70	10.5	NBR/fabric	POM	-30 / 100	11157520
60	70	11	NBR/fabric	POM	-30 / 100	10018636
60	70	12.5	NBR/fabric	POM	-30 / 100	14194017
60	70	13	NBR/fabric	POM	-30 / 100	10018634
60	72	10	NBR/fabric	POM	-30 / 100	10018635
60	75	12.5	NBR/fabric	POM	-30 / 100	10018758
60	75	13	NBR/fabric	POM	-30 / 100	13000096
60	80	14	NBR/fabric	POM	-30 / 100	14194018
60	80	14.5	NBR/fabric	POM	-30 / 100	10018759
63	71	9	NBR/fabric	POM	-30 / 100	14194019
63	75	11	NBR/fabric	POM	-30 / 100	14194020
63	78	12.5	NBR/fabric	POM	-30 / 100	14194021
63.5	76.2	8.5	NBR/fabric	POM	-30 / 100	12553283
63.5	77.78	11.5	NBR/fabric	POM	-30 / 100	11488291
63.5	82.55	14.28	NBR/fabric	POM	-30 / 100	14194023
63.5	83	14.5	NBR/fabric	POM	-30 / 100	14194022
65	75	12.5	NBR/fabric	POM	-30 / 100	14194025
65	75	13.5	NBR/fabric	POM	-30 / 100	10018760
65	77	9.6	NBR/fabric	POM	-30 / 100	14194026
65	80	11.5	NBR/fabric	POM	-30 / 100	12228361
65	80	12.5	NBR/fabric	POM	-30 / 100	14194024
70	80	8	NBR/fabric	POM	-30 / 100	14194030
70	80	12.5	NBR/fabric	POM	-30 / 100	14194027
70	80	13	NBR/fabric	POM	-30 / 100	10018637
70	82	10.5	NBR/fabric	POM	-30 / 100	10018763
70	84	12.5	NBR/fabric	POM	-30 / 100	12961500
70	85	12	NBR/fabric	POM	-30 / 100	14194028
70	85	12.5	NBR/fabric	POM	-30 / 100	10018764
70	90	12	NBR/fabric	POM	-30 / 100	14194031
70	90	14	NBR/fabric	POM	-30 / 100	14194029
75	85	11	NBR/fabric	POM	-30 / 100	12961502
75	85	12.5	NBR/fabric	POM	-30 / 100	14194032
75	88	12.5	NBR/fabric	POM	-30 / 100	14194035
75	90	11	NBR/fabric	POM	-30 / 100	14194033
75	90	11.5	NBR/fabric	POM	-30 / 100	10018767
75	90	12.8	NBR/fabric	POM	-30 / 100	14194034
75	95	14.5	NBR/fabric	POM	-30 / 100	10018768
80	90	12.5	NBR/fabric	POM	-30 / 100	14194036
80	93	14.5	NBR/fabric	POM	-30 / 100	14194039
80	95	10	NBR/fabric	POM	-30 / 100	14194041
80	95	12	NBR/fabric	POM	-30 / 100	11555884
80	96	10.5	NBR/fabric	POM	-30 / 100	11200138
80	100	12	NBR/fabric	POM	-30 / 100	14194040
80	100	12.5	NBR/fabric	POM	-30 / 100	14194037
80	100	14	NBR/fabric	POM	-30 / 100	14194038
80	100	14.5	NBR/fabric	POM	-30 / 100	10018769
85	95	8	NBR/fabric	POM	-30 / 100	12968778
85	100	12	NBR/fabric	POM	-30 / 100	10018680

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mm	mm	mm			°C	Max. 200 articles in the table
85	100	12.5	NBR/fabric	POM	-30 / 100	14194042
85	105	14.5	NBR/fabric	POM	-30 / 100	11204713
88.9	114.3	19.5	NBR/fabric	POM	-30 / 100	14194043
90	105	9.5	NBR/fabric	POM	-30 / 100	11177972
90	105	12.5	NBR/fabric	POM	-30 / 100	10018773
90	106.5	10.8	NBR/fabric	POM	-30 / 100	14194044
90	110	12.5	NBR/fabric	POM	-30 / 100	10018774
95	106.2	11	NBR/fabric	POM	-30 / 100	14194045
95	107	12.5	NBR/fabric	POM	-30 / 100	14194050
95	110	12	NBR/fabric	POM	-30 / 100	14194048
95	112	12	NBR/fabric	POM	-30 / 100	14194046
95	115	12	NBR/fabric	POM	-30 / 100	14194049
95	115	14.5	NBR/fabric	POM	-30 / 100	14194047
100	113	13.5	NBR/fabric	POM	-30 / 100	11272094
100	115	11.5	NBR/fabric	POM	-30 / 100	11392680
100	115	12.5	NBR/fabric	POM	-30 / 100	10018776
100	120	12	NBR/fabric	POM	-30 / 100	12106522
100	120	14	NBR/fabric	POM	-30 / 100	14194051
100	120	14.5	NBR/fabric	POM	-30 / 100	11266851
100	120	24.5	NBR/fabric	POM	-30 / 100	14194053
100	125	19	NBR/fabric	POM	-30 / 100	14194052
105	115	11	NBR/fabric	POM	-30 / 100	14194054
105	125	12.5	NBR/fabric	POM	-30 / 100	11911218
110	125	12	NBR/fabric	POM	-30 / 100	11267517
110	130	12.5	NBR/fabric	POM	-30 / 100	10018777
110	135	15.5	NBR/fabric	POM	-30 / 100	14194055
115	135	16	NBR/fabric	POM	-30 / 100	14194056
120	130	10.5	NBR/fabric	POM	-30 / 100	14194057
120	132.7	10	NBR/fabric	POM	-30 / 100	14194058
120	135	12.5	NBR/fabric	POM	-30 / 100	10018779
120	140	12.5	NBR/fabric	POM	-30 / 100	12647294
120	145	18.8	NBR/fabric	POM	-30 / 100	14194059
125	150	14	NBR/fabric	POM	-30 / 100	14194060
125	150	14.5	NBR/fabric	POM	-30 / 100	10018781
130	150	16	NBR/fabric	POM	-30 / 100	11385984
140	155	13	NBR/fabric	POM	-30 / 100	12961497
140	160	12.5	NBR/fabric	POM	-30 / 100	11394022
140	160	14.5	NBR/fabric	POM	-30 / 100	11225431
145	157.7	10	NBR/fabric	POM	-30 / 100	13016546
150	170	14	NBR/fabric	POM	-30 / 100	12986361
150	170	14.5	NBR/fabric	POM	-30 / 100	13229545
160	175	16	NBR/fabric	POM	-30 / 100	10018784
160	180	14.5	NBR/fabric	POM	-30 / 100	12621593
180	200	14.5	NBR/fabric	POM	-30 / 100	11390549
200	220	14.5	NBR/fabric	POM	-30 / 100	11428751

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