

1. Application and purpose

The grooves are used to accept the round sealing rings in components where the groove is predominantly **turned**.

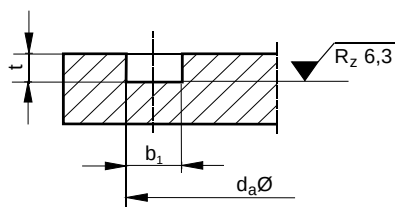
The seal effectiveness of the round sealing ring depends on the axial and radial deformation of its cross section when fitted. A distinction is made between static sealing (sealing of machine parts with no movement relative to each other) and dynamic sealing (sealing of machine parts which move relative to each other). This standard only refers to **static sealing**. It covers the axial and the radial deformation.

2. Groove forms

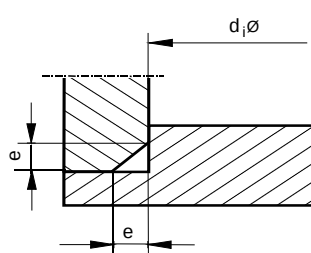
2.1 Axial deformation

This occurs at flange and cap sealings. The direction of pressure must be observed when specifying the ring dimensions or the groove. The ring internal $\varnothing$ should have a slightly smaller dimension for use under external pressure (e.g. vacuum container). (Also see LHH-N 355.015)

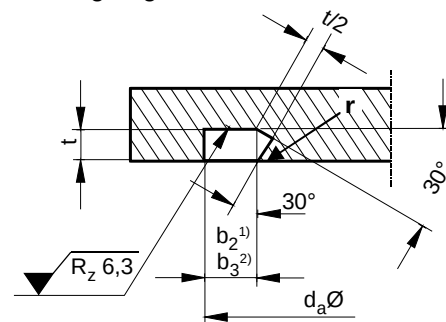
Shape **R** Rectangular groove



Shape **D** Triangular groove only in special cases



Shape **H** Relieved groove for hanging or vertically-oriented round sealing ring



¹⁾**b2:** Use for dynamic sealings with frequent load change, e.g. V1-valve-plate (the volume of the O-ring is greater than the volume of the groove!)

²⁾**b3:** Use only for static sealings

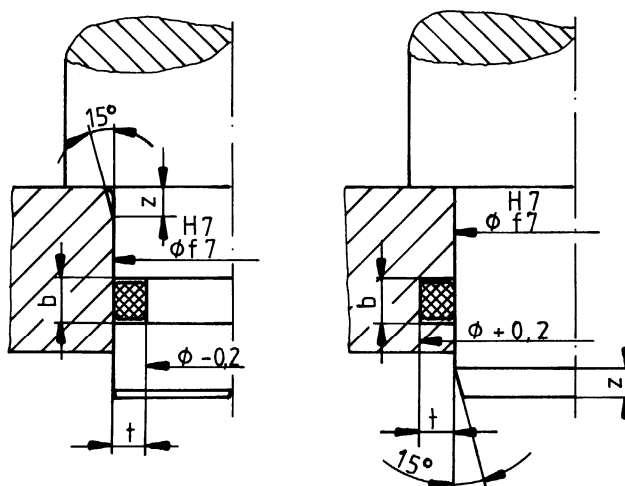
All groove edges with radius r

Round Sealing Ring		R			D		H				
Profile- $\varnothing$	Cross section	$b_1^{+0,2}$	t	Tol.	e	Tol.	b2	with r b3	t	Tol.	r
1,5	1,767	2,0	1,1	+0,10	2,0	+0,10	1,3	1,55	1,1	+0,05	0,2
2,0	3,142	2,7	1,5	+0,10	2,6	+0,10	1,8	2,05	1,5	+0,05	0,2
2,4	4,524	3,2	1,8	+0,10	3,2	+0,20	2,1	2,35	1,8	+0,05	0,2
3,0	7,069	3,9	2,2	+0,10	4,0	+0,20	2,6	3,02	2,2	+0,05	0,3
4,0	12,57	5,2	3,0	+0,10	5,3	+0,20	3,5	4,02	3,0	+0,10	0,3
5,0	19,63	6,5	3,8	+0,10	6,6	+0,20	4,3	5,07	3,8	+0,10	0,5
5,33	22,313	6,9	4,1	+0,20	7,0	+0,20	4,6	5,27	4,1	+0,10	0,5
6,0	28,27	7,8	4,5	+0,20	8,0	+0,30	5,2	6,07	4,5	+0,10	0,5
6,99	38,375	9,1	5,4	+0,20	9,2	+0,30	6,0	6,77	5,4	+0,10	0,5
8,0	50,27	10,4	6,0	+0,20	10,6	+0,30	7,0	7,94	6,0	+0,20	0,6
10,0	78,54	13,0	7,5	+0,20	13,0	+0,40	8,7	9,74	7,5	+0,20	0,6
12,0	113,1	15,6	9,0	+0,20	15,9	+0,50	10,5	11,64	9,0	+0,20	0,6

2.2 Radial deformation

This occurs at sealings for tappets, bushings, pins or caps with centering shoulder.

Shape Z



The components must be beveled for ring insertion or slipping on.

The grooves can be recessed at the inner or outer part according to the processing and assembly option.

Round Sealing Ring Profile-Ø	$b^{+0.2}$	$t^{+0.1}$ ¹⁾	z	R ring Profile-Ø	$b^{+0.2}$	$t^{+0.1}$ ¹⁾	z
1.5	2.0	1.0	1.5	5.33	6.6	4.0	4.0
2.0	2.7	1.4	2.0	6.0	7.8	4.8	4.0
2.4	3.2	1.7	2.3	7.0 (6.99)	9.1	5.6	4.5
3.0	4.0	2.2	2.5	8.0	10.4	6.7	5.0
4.0	5.2	3.0	3.0	10.0	13.0	8.2	5.5
5.0	6.6	3.8	4.0	12.0	15.0	9.5	5.5

1) In the drawings the diameter is specified, not the groove depth t.