

O-rings for use in fluid systems

Dimensions to ISO 3601-1

DIN
3771
Part 1

Fluidtechnik; O-Ringe; Maße nach ISO 3601-1

In keeping with current practice in standards published by the International Organization for Standardization (ISO), a comma has been used throughout as the decimal marker.

See Explanatory notes for connection with International Standard ISO 3601-1:1988 published by the International Organization for Standardization.

Dimensions in mm

1 Scope and field of application

This standard specifies dimensions and limit deviations for O-rings produced to particularly close tolerances, for use in fluid systems, as specified in ISO 3601-1 (see Explanatory notes). It does not specify requirements for aerospace applications.

2 Dimensions and designation

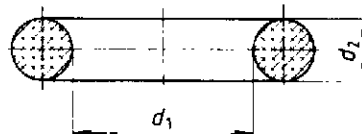


Figure 1

O-rings shall be designated by the internal and section diameters, the quality grade to DIN 3771-4 and the material to DIN 3771-3.

Designation of an O-ring with an internal diameter, d_1 , of 13,2 mm, a section diameter, d_2 , of 1,8 mm, quality grade N, made of material NBR with 70 IRHD (NBR 70):

O-ring DIN 3771 - 13,2 × 1,8 - N - NBR 70

Continued on pages 2 and 3.

Table 1: Inside diameters, section diameters and limit deviations for general-purpose O-rings

d_1		d_2					d_1		d_2					d_1		d_2					
		1,8 ± 0,08	2,65 ± 0,09	3,55 ± 0,10	5,3 ± 0,13	7 ± 0,15			1,8 ± 0,08	2,65 ± 0,09	3,55 ± 0,10	5,3 ± 0,13	7 ± 0,15			1,8 ± 0,08	2,65 ± 0,09	3,55 ± 0,10	5,3 ± 0,13	7 ± 0,15	
Limit dev						Limit dev					Limit dev					Limit dev					
1,8	± 0,13	X				36,5	± 0,35		X	X					165	± 1,31			X	X	
2	± 0,13	X				37,5	± 0,36		X	X					170	± 1,34			X	X	
2,24	± 0,13	X				38,7	± 0,37		X	X					175	± 1,38			X	X	
2,5	± 0,13	X				40	± 0,38			X	X				180	± 1,41			X	X	
2,8	± 0,14	X				41,2	± 0,39			X	X				185	± 1,44			X	X	
3,15	± 0,14	X				42,5	± 0,40			X	X				190	± 1,48			X	X	
3,55	± 0,14	X				43,7	± 0,41			X	X				195	± 1,51			X	X	
3,75	± 0,14	X				45	± 0,42			X	X				200	± 1,55			X	X	
4	± 0,14	X				46,2	± 0,43			X	X				206	± 1,59				X	X
4,5	± 0,14	X				47,5	± 0,44			X	X				212	± 1,63				X	X
4,87	± 0,15	X				48,7	± 0,45			X	X				218	± 1,67			X	X	X
5	± 0,15	X				50	± 0,46			X	X				224	± 1,71				X	X
5,15	± 0,15	X				51,5	± 0,47			X	X				230	± 1,75				X	X
5,3	± 0,15	X				53	± 0,48			X	X				236	± 1,79				X	X
5,6	± 0,15	X				54,5	± 0,50			X	X				243	± 1,83				X	X
6	± 0,15	X				56	± 0,51			X	X				250	± 1,88				X	X
6,3	± 0,15	X				58	± 0,52			X	X				258	± 1,93				X	X
6,7	± 0,16	X				60	± 0,54			X	X				265	± 1,98				X	X
6,9	± 0,16	X				61,5	± 0,55			X	X				272	± 2,02				X	X
7,1	± 0,16	X				63	± 0,56			X	X				280	± 2,08				X	X
7,5	± 0,16	X				65	± 0,58			X	X				290	± 2,14				X	X
8	± 0,16	X				67	± 0,59			X	X				300	± 2,21				X	X
8,5	± 0,16	X				69	± 0,61			X	X				307	± 2,25				X	X
8,76	± 0,17	X				71	± 0,63			X	X				315	± 2,30				X	X
9	± 0,17	X				73	± 0,64			X	X				325	± 2,37				X	X
9,5	± 0,17	X				75	± 0,66			X	X				335	± 2,43				X	X
10	± 0,17	X				77,5	± 0,67			X	X				345	± 2,49				X	X
10,6	± 0,18	X				80	± 0,69			X	X				355	± 2,56				X	X
11,2	± 0,18	X				82,5	± 0,71			X	X				365	± 2,62				X	X
11,8	± 0,19	X				85	± 0,73			X	X				375	± 2,68				X	X
12,5	± 0,19	X				87,5	± 0,75			X	X				387	± 2,76				X	X
13,2	± 0,19	X				90	± 0,77			X	X				400	± 2,84				X	X
14	± 0,19	X	X			92,5	± 0,79			X	X				412	± 2,91				X	X
15	± 0,20	X	X			95	± 0,81			X	X				425	± 2,99				X	X
16	± 0,20	X	X			97,5	± 0,83			X	X				437	± 3,07				X	X
17	± 0,21	X	X			100	± 0,84			X	X				450	± 3,15				X	X
18	± 0,21		X	X		103	± 0,87			X	X				462	± 3,22				X	X
19	± 0,22		X	X		106	± 0,89			X	X				475	± 3,30				X	X
20	± 0,22		X	X		109	± 0,91			X	X				487	± 3,37				X	X
21,2	± 0,23		X	X		112	± 0,93			X	X				500	± 3,45				X	X
22,4	± 0,24		X	X		115	± 0,95			X	X				515	± 3,54				X	X
23,6	± 0,24		X	X		118	± 0,97			X	X				530	± 3,63				X	X
25	± 0,25		X	X		122	± 1,00			X	X				545	± 3,72				X	X
25,8	± 0,26		X	X		125	± 1,03			X	X				560	± 3,81				X	X
26,5	± 0,26		X	X		128	± 1,05			X	X				580	± 3,93				X	X
28	± 0,28		X	X		132	± 1,08			X	X				600	± 4,05				X	X
30	± 0,29		X	X		136	± 1,10			X	X				615	± 4,13				X	X
31,5	± 0,31		X	X		140	± 1,13			X	X				630	± 4,22				X	X
32,5	± 0,32		X	X		145	± 1,17			X	X				650	± 4,34				X	X
33,5	± 0,32		X	X		150	± 1,20			X	X				670	± 4,46				X	X
34,5	± 0,33		X	X		155	± 1,24			X	X										X
35,5	± 0,34		X	X		160	± 1,27			X	X										X

3 Materials

As specified in DIN 3771-3.

4 Testing and marking

As specified in DIN 3771-2.

5 Quality acceptance criteria

As specified in DIN 3771-4.

6 Storage

As specified in DIN 7716.

Standards referred to

DIN 3771-2	O-rings for use in fluid systems; testing and marking
DIN 3771-3	O-rings for use in fluid systems; materials and fields of application
DIN 3771-4	O-rings for use in fluid systems; quality acceptance criteria
DIN 7716	Requirements for storage, cleaning and maintenance of rubber products
DIN 65 203	Elastomeric toroidal sealing rings for aerospace applications; technical delivery conditions
ISO 3601-1:1988	Fluid systems; sealing devices, O-rings; inside diameters, cross sections, tolerances and size identification code

Explanatory notes

The dimensions and limit deviations specified in this standard comply with those specified in International Standard ISO 3601-1:1988. However, the size identification code has not been adopted since it differs from that used in Germany.

DIN 65 203 specifies O-rings for aerospace applications. These have the same section diameters, whereas the inside diameter range is more extended and the limit deviations are smaller.

International Patent Classification

F 16 J 15-14