

Positioning Bushings • with collar, DIN 172 A EH 23112.



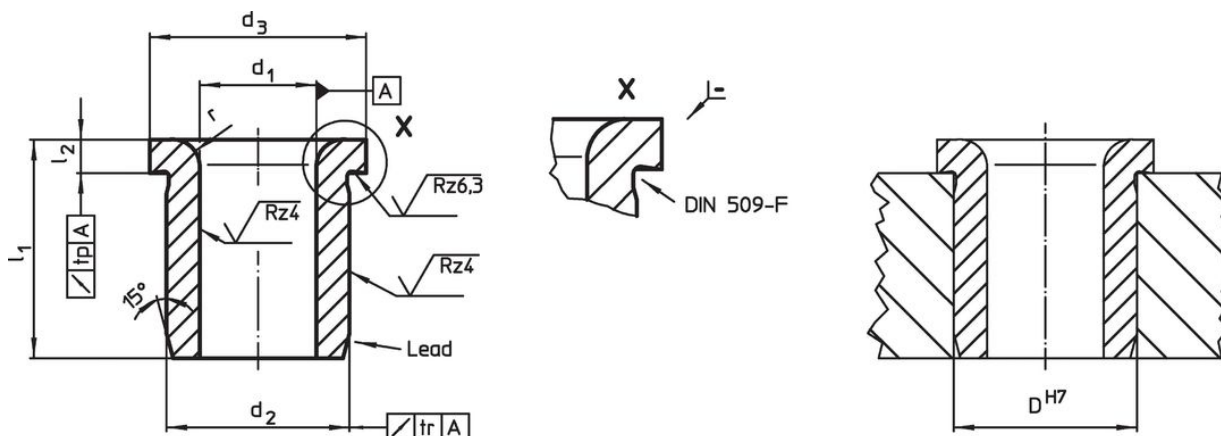
Product Description

Positioning or drill bushings are used to drill repetitive holes in the same location to ensure repeatability.
The hardened and ground positioning bushings can be used as wear-resistant guide for drills, shafts etc.

Material


- Case-hardened steel, case-hardened


Drawing



Order information

Dimensions						Location hole	Art. No.	
d ₁ F7	l ₁	d ₂ n6	d ₃	l ₂	r	D H7		
[mm]						[mm]	[g]	
2.0	6	5	8	2.0	1.0	5	1.2	23112.0020
2.0	9	5	8	2.0	1.0	5	1.6	23112.0021
2.1	6	5	8	2.0	1.0	5	1.2	23112.0022
2.1	9	5	8	2.0	1.0	5	1.5	23112.0023
2.5	6	5	8	2.0	1.0	5	1.1	23112.0024
2.5	9	5	8	2.0	1.0	5	1.4	23112.0025
3.0	8	6	9	2.5	1.0	6	1.9	23112.0030
3.0	12	6	9	2.5	1.0	6	2.6	23112.0031
3.0	16	6	9	2.5	1.0	6	3.2	23112.0032
3.1	8	6	9	2.5	1.0	6	1.9	23112.0033
3.1	12	6	9	2.5	1.0	6	2.5	23112.0034
3.1	16	6	9	2.5	1.0	6	3.2	23112.0035
3.5	8	7	10	2.5	1.0	7	2.4	23112.0036
3.5	12	7	10	2.5	1.0	7	3.4	23112.0037
3.5	16	7	10	2.5	1.0	7	4.3	23112.0038
4.0	8	7	10	2.5	1.0	7	2.3	23112.0040
4.0	12	7	10	2.5	1.0	7	3.1	23112.0041
4.0	16	7	10	2.5	1.0	7	3.9	23112.0042
4.1	8	8	11	2.5	1.0	8	3.0	23112.0043
4.1	12	8	11	2.5	1.0	8	4.2	23112.0044
4.1	16	8	11	2.5	1.0	8	5.3	23112.0045
4.5	8	8	11	2.5	1.0	8	2.9	23112.0046
4.5	12	8	11	2.5	1.0	8	3.9	23112.0047
4.5	16	8	11	2.5	1.0	8	5.0	23112.0048
5.0	8	8	11	2.5	1.0	8	1.8	23112.0050
5.0	12	8	11	2.5	1.0	8	3.6	23112.0051
5.0	16	8	11	2.5	1.0	8	4.5	23112.0052

d ₁ F7	l ₁	Dimensions				r	Location hole D H7 [mm]	 [g]	Art. No.
		d ₂ n6 [mm]	d ₃ [mm]	l ₂ [mm]					
5.1	10	10	13	3.0	1.5	10	5.5	23112.0053	
5.1	16	10	13	3.0	1.5	10	8.2	23112.0054	
5.1	20	10	13	3.0	1.5	10	10.0	23112.0055	
5.5	10	10	13	3.0	1.5	10	5.3	23112.0056	
5.5	16	10	13	3.0	1.5	10	7.9	23112.0057	
5.5	20	10	13	3.0	1.5	10	9.6	23112.0058	
6.0	10	10	13	3.0	1.5	10	4.9	23112.0060	
6.0	16	10	13	3.0	1.5	10	7.3	23112.0061	
6.0	20	10	13	3.0	1.5	10	8.8	23112.0062	
6.1	10	12	15	3.0	1.5	12	7.7	23112.0063	
6.1	16	12	15	3.0	1.5	12	12.0	23112.0064	
6.1	20	12	15	3.0	1.5	12	14.0	23112.0065	
6.5	10	12	15	3.0	1.5	12	7.4	23112.0066	
6.5	16	12	15	3.0	1.5	12	11.0	23112.0067	
6.5	20	12	15	3.0	1.5	12	14.0	23112.0068	
7.0	10	12	15	3.0	1.5	12	7.0	23112.0070	
7.0	16	12	15	3.0	1.5	12	10.0	23112.0071	
7.0	20	12	15	3.0	1.5	12	13.0	23112.0072	
7.1	10	12	15	3.0	1.5	12	6.9	23112.0073	
7.1	16	12	15	3.0	1.5	12	10.0	23112.0074	
7.1	20	12	15	3.0	1.5	12	13.0	23112.0075	
7.5	10	12	15	3.0	1.5	12	6.5	23112.0076	
7.5	16	12	15	3.0	1.5	12	9.7	23112.0077	
7.5	20	12	15	3.0	1.5	12	12.0	23112.0078	
8.0	10	12	15	3.0	1.5	12	6.0	23112.0080	
8.0	16	12	15	3.0	1.5	12	9.0	23112.0081	
8.0	20	12	15	3.0	1.5	12	11.0	23112.0082	
8.1	12	15	18	3.0	2.0	15	13.0	23112.0083	
8.1	20	15	18	3.0	2.0	15	25.0	23112.0084	
8.1	25	15	18	3.0	2.0	15	26.0	23112.0085	
8.5	12	15	18	3.0	2.0	15	13.0	23112.0086	
8.5	20	15	18	3.0	2.0	15	20.0	23112.0087	
8.5	25	15	18	3.0	2.0	15	25.0	23112.0088	
9.0	12	15	18	3.0	2.0	15	12.0	23112.0090	
9.0	20	15	18	3.0	2.0	15	19.0	23112.0091	
9.0	25	15	18	3.0	2.0	15	23.0	23112.0092	
9.1	12	15	18	3.0	2.0	15	12.0	23112.0093	
9.1	20	15	18	3.0	2.0	15	19.0	23112.0094	
9.1	25	15	18	3.0	2.0	15	23.0	23112.0095	
9.5	12	15	18	3.0	2.0	15	11.0	23112.0096	
9.5	20	15	18	3.0	2.0	15	18.0	23112.0097	
9.5	25	15	18	3.0	2.0	15	22.0	23112.0098	
10.0	12	15	18	3.0	2.0	15	10.0	23112.0100	
10.0	20	15	18	3.0	2.0	15	17.0	23112.0101	
10.0	25	15	18	3.0	2.0	15	20.0	23112.0102	
10.1	12	18	22	4.0	2.0	18	19.0	23112.0103	
10.1	20	18	22	4.0	2.0	18	30.0	23112.0104	
10.1	25	18	22	4.0	2.0	18	37.0	23112.0105	
10.5	12	18	22	4.0	2.0	18	19.0	23112.0106	
10.5	20	18	22	4.0	2.0	18	29.0	23112.0107	
10.5	25	18	22	4.0	2.0	18	36.0	23112.0108	
11.0	12	18	22	4.0	2.0	18	18.0	23112.0110	
11.0	20	18	22	4.0	2.0	18	28.0	23112.0111	
11.0	25	18	22	4.0	2.0	18	34.0	23112.0112	
11.1	12	18	22	4.0	2.0	18	18.0	23112.0113	
11.1	20	18	22	4.0	2.0	18	28.0	23112.0114	
11.1	25	18	22	4.0	2.0	18	34.0	23112.0115	
11.5	12	18	22	4.0	2.0	18	17.0	23112.0116	
11.5	20	18	22	4.0	2.0	18	26.0	23112.0117	
11.5	25	18	22	4.0	2.0	18	33.0	23112.0118	
12.0	12	18	22	4.0	2.0	18	16.0	23112.0120	

d ₁ F7	l ₁	Dimensions				l ₂	r	Location hole D H7 [mm]	 [g]	Art. No.
		d ₂ n6	d ₃	[mm]						
12.0	20	18	22	4.0	2.0	18	25.0	23112.0121		
12.0	25	18	22	4.0	2.0	18	31.0	23112.0122		
12.1	16	22	26	4.0	2.0	22	37.0	23112.0123		
12.1	28	22	26	4.0	2.0	22	62.0	23112.0124		
12.1	36	22	26	4.0	2.0	22	78.0	23112.0125		
12.5	16	22	26	4.0	2.0	22	36.0	23112.0126		
12.5	28	22	26	4.0	2.0	22	60.0	23112.0127		
12.5	36	22	26	4.0	2.0	22	76.0	23112.0128		
13.0	16	22	26	4.0	2.0	22	34.0	23112.0130		
13.0	28	22	26	4.0	2.0	22	58.0	23112.0131		
13.0	36	22	26	4.0	2.0	22	73.0	23112.0132		
14.0	16	22	26	4.0	2.0	22	32.0	23112.0140		
14.0	28	22	26	4.0	2.0	22	198.0	23112.0141		
14.0	36	22	26	4.0	2.0	22	67.0	23112.0142		
15.0	16	22	26	4.0	2.0	22	29.0	23112.0150		
15.0	28	22	26	4.0	2.0	22	48.0	23112.0151		
15.0	36	22	26	4.0	2.0	22	61.0	23112.0152		
16.0	16	26	30	4.0	2.0	26	45.0	23112.0160		
16.0	28	26	30	4.0	2.0	26	76.0	23112.0161		
16.0	36	26	30	4.0	2.0	26	97.0	23112.0162		
16.1	16	26	30	4.0	2.0	26	45.0	23112.0163		
16.1	28	26	30	4.0	2.0	26	76.0	23112.0164		
16.1	36	26	30	4.0	2.0	26	96.0	23112.0165		
16.5	16	26	30	4.0	2.0	26	44.0	23112.0166		
16.5	28	26	30	4.0	2.0	26	73.0	23112.0167		
16.5	36	26	30	4.0	2.0	26	93.0	23112.0168		
17.0	16	26	30	4.0	2.0	26	42.0	23112.0171		
17.0	28	26	30	4.0	2.0	26	70.0	23112.0172		
17.0	36	26	30	4.0	2.0	26	89.0	23112.0173		
18.0	16	26	30	4.0	2.0	26	39.0	23112.0181		
18.0	28	26	30	4.0	2.0	26	64.0	23112.0182		
18.0	36	26	30	4.0	2.0	26	82.0	23112.0183		
19.0	20	30	34	5.0	3.0	30	71.0	23112.0191		
19.0	36	30	34	5.0	3.0	30	125.0	23112.0192		
19.0	45	30	34	5.0	3.0	30	154.0	23112.0193		
20.0	20	30	34	5.0	3.0	30	67.0	23112.0201		
20.0	36	30	34	5.0	3.0	30	117.0	23112.0202		
20.0	45	30	34	5.0	3.0	30	143.0	23112.0203		
20.1	20	30	34	5.0	3.0	30	66.0	23112.0204		
20.1	36	30	34	5.0	3.0	30	115.0	23112.0205		
20.1	45	30	34	5.0	3.0	30	142.0	23112.0206		
22.0	20	30	34	5.0	3.0	30	56.0	23112.0221		
22.0	36	30	34	5.0	3.0	30	96.0	23112.0222		
22.0	45	30	34	5.0	3.0	30	120.0	23112.0223		
25.0	20	35	39	5.0	3.0	35	80.0	23112.0251		
25.0	36	35	39	5.0	3.0	35	138.0	23112.0252		
25.0	45	35	39	5.0	3.0	35	171.0	23112.0253		
30.0	25	42	46	5.0	3.0	42	139.0	23112.0301		
30.0	45	42	46	5.0	3.0	42	245.0	23112.0302		
30.0	56	42	46	5.0	3.0	42	303.0	23112.0303		

Compliance

RoHS compliant

Contains lead - compliant according to exceptions 6a / 6b / 6c.

Contains SVHC substances >0,1% w/w

Contains lead - SVHC list [REACH] as of 23.01.2024.

Contains Proposition 65 substances



Lead can cause cancer and reproductive harm from exposure
<https://www.P65Warnings.ca.gov/>

Free from Conflict Minerals

This product does not contain any substances designated as "conflict minerals" such as tantalum, tin, gold or tungsten from the Democratic Republic of Congo or adjacent countries.