

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



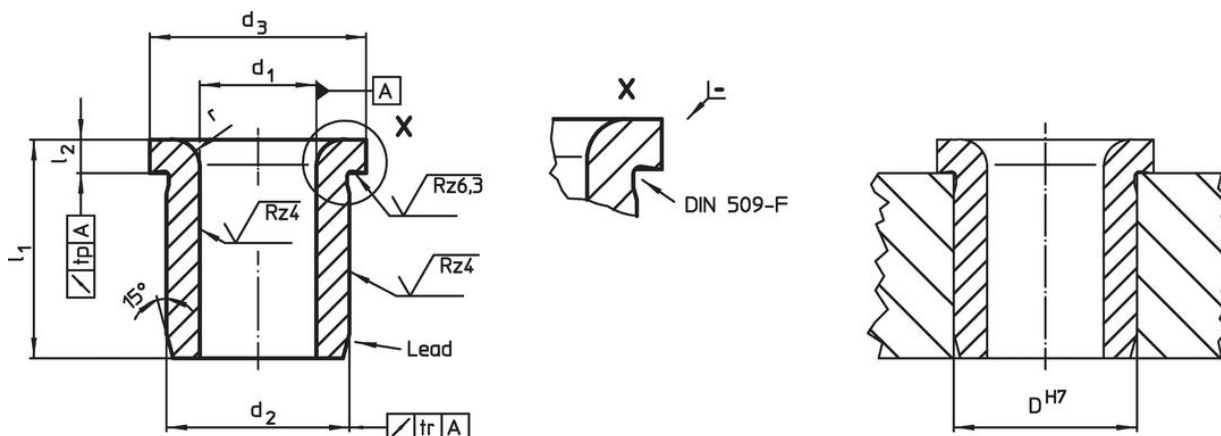
### Product Description

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

## 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.