

Index Plungers Mini Indexes

EH 22110.



PRODUCT DESCRIPTION

Particularly suitable for screwing into thin walled pieces.
Performance in the smallest space requirements.

Material

Body

- Steel, zinc-plated by galvanization
- Stainless steel 1.4305

Locking pin

- Stainless steel 1.4305

Knob

- Thermoplastic PA 6, black, dull
- Thermoplast PA 6, red, dull

Assembly

Screw in the mini index. By lifting the knob, the hexagon will be released for assembly.

The screw length can be adapted by distance collars for index plungers (EH 22120.).

Operation

When using the self-locking type the knob is pulled-out, turned 30° and secured by a notched catch.

MORE INFORMATION

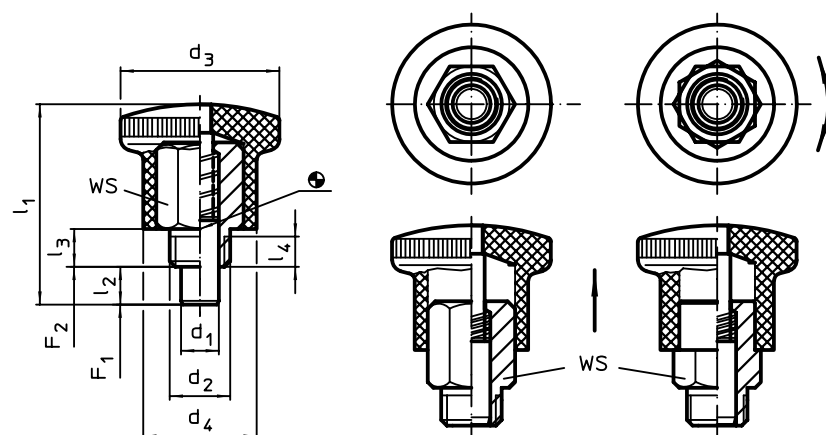
Notes

Knob not removable.

Further products

Distance Collars, for index plungers . . → p. 129

DRAWING



picture 1

picture 2

ORDER INFORMATION

Dimensions								WS	Spring load ¹⁾		min. max.			Art. No.	
d ₀	d ₂	d ₃	d ₄	l ₁	l ₂ min.	l ₃	l ₄ min.		F ₁ ~	F ₂ ~	min.	max.		Steel	Stainless steel
-0.06															
[mm]															
without locking, knob black – picture 1															
4	M 8 x 0,75	21	15	26.5	5	5	3.5	10	4.5	12	-30	80	14	22110.0024	22110.0044
5	M 8 x 0,75	21	15	26.5	5	5	3.5	10	4.5	12	-30	80	14	22110.0026	22110.0046
6	M10 x 1	25	18	34.0	7	7	4.5	12	5.0	18	-30	80	25	22110.0028	22110.0048
7	M10 x 1	25	18	34.0	7	7	4.5	12	5.0	18	-30	80	26	22110.0030	22110.0050
without locking, knob red – picture 1															
4	M 8 x 0,75	21	15	26.5	5	5	3.5	10	4.5	12	-30	80	14	22110.2024	22110.2044
5	M 8 x 0,75	21	15	26.5	5	5	3.5	10	4.5	12	-30	80	14	22110.2026	22110.2046
6	M10 x 1	25	18	34.0	7	7	4.5	12	5.0	18	-30	80	25	22110.2028	22110.2048
7	M10 x 1	25	18	34.0	7	7	4.5	12	5.0	18	-30	80	25	22110.2030	22110.2050
with locking, knob black – picture 2															
4	M 8 x 0,75	21	15	26.5	5	5	3.5	10	4.5	12	-30	80	13	22110.0034	22110.0054
5	M 8 x 0,75	21	15	26.5	5	5	3.5	10	4.5	12	-30	80	14	22110.0036	22110.0056
6	M10 x 1	25	18	34.0	7	7	4.5	12	5.0	18	-30	80	24	22110.0038	22110.0058
7	M10 x 1	25	18	34.0	7	7	4.5	12	5.0	18	-30	80	25	22110.0040	22110.0060
with locking, knob red – picture 2															
4	M 8 x 0,75	21	15	26.5	5	5	3.5	10	4.5	12	-30	80	13	22110.2034	22110.2054
5	M 8 x 0,75	21	15	26.5	5	5	3.5	10	4.5	12	-30	80	14	22110.2036	22110.2056
6	M10 x 1	25	18	34.0	7	7	4.5	12	5.0	18	-30	80	24	22110.2038	22110.2058
7	M10 x 1	25	18	34.0	7	7	4.5	12	5.0	18	-30	80	25	22110.2040	22110.2060

¹⁾ statistical average value

Index Plungers Mini Indexes • basic type

EH 22110.



PRODUCT DESCRIPTION

Particularly suitable for screwing into thin walled pieces.
Performance in the smallest space requirements.
Due to a thread recess the index plungers can be completely screwed in.

Material

Body

- Steel, zinc-plated by galvanization
- Stainless steel 1.4305

Locking pin

- Stainless steel 1.4305

Knob

- Thermoplastic PA 6, black, dull

Assembly

Screw in the mini index. By lifting the knob, the hexagon will be released for assembly.

The screw length can be adapted by distance collars for index plungers (EH 22120.).

Operation

When using the self-locking type the knob is pulled-out, turned 30° and secured by a notched catch.

MORE INFORMATION

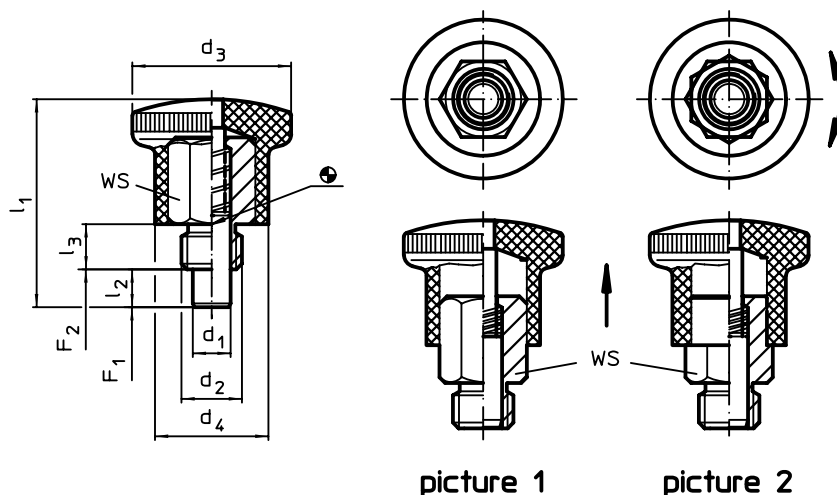
Notes

Knob not removable.

Further products

Distance Collars, for index plungers . . → p. 129

DRAWING



picture 1

picture 2

ORDER INFORMATION

Dimensions							WS	Spring load ¹⁾				Art. No.		
d ₁ h9	d ₂	d ₃	d ₄	l ₁	l ₂ min.	l ₃		F ₁ ~	F ₂ ~	min.	max.		Steel	Stainless steel
[mm]							[mm]	[N]		[°C]		[g]		
without locking – picture 1														
4	M 8	21	15	27.5	5	6	10	4	12	-30	80	14	22110.0602	22110.0702
	M 8 x 1	21	15	27.5	5	6	10	4	12	-30	80	14	22110.0604	22110.0704
5	M10	25	18	34.0	6	8	12	6	16	-30	80	25	22110.0606	22110.0706
	M10 x 1	25	18	34.0	6	8	12	6	16	-30	80	24	22110.0608	22110.0708
6	M10	25	18	34.0	6	8	12	6	16	-30	80	25	22110.0610	22110.0710
	M10 x 1	25	18	34.0	6	8	12	6	16	-30	80	25	22110.0612	22110.0712
	M12	28	20	40.5	7	10	14	10	23	-30	80	40	22110.0614	22110.0714
	M12 x 1,5	28	20	40.5	7	10	14	10	23	-30	80	40	22110.0616	22110.0716
7	M12	28	20	40.5	7	10	14	10	23	-30	80	41	22110.0618	22110.0718
	M12 x 1,5	28	20	40.5	7	10	14	10	23	-30	80	40	22110.0620	22110.0720
8	M16	33	23	47.5	10	12	17	11	35	-30	80	66	22110.0622	22110.0722
	M16 x 1,5	33	23	47.5	10	12	17	11	35	-30	80	67	22110.0624	22110.0724
10	M16	33	23	47.5	10	12	17	11	35	-30	80	68	22110.0626	22110.0726
	M16 x 1.5	33	23	47.5	10	12	17	11	35	-30	80	69	22110.0628	22110.0728

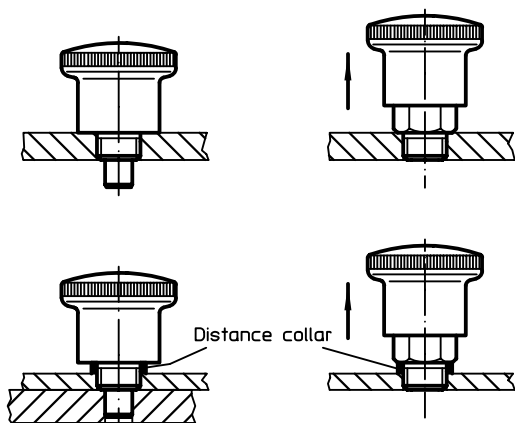
¹⁾ statistical average value



Dimensions							WS	Spring load ¹⁾					Art. No.	
d ₁ h9	d ₂	d ₃	d ₄	l ₁	l ₂ min.	l ₃		F ₁ ~	F ₂ ~	min.	max.		Steel	Stainless steel
[mm]							[mm]	[N]		[°C]		[g]		
with locking – picture 2														
4	M 8	21	15	27.5	5	6	10	4	12	-30	80	14	22110.0630	22110.0730
	M 8 x 1	21	15	27.5	5	6	10	4	12	-30	80	13	22110.0632	22110.0732
5	M10	25	18	34.0	6	8	12	6	16	-30	80	23	22110.0634	22110.0734
	M10 x 1	25	18	34.0	6	8	12	6	16	-30	80	23	22110.0636	22110.0736
6	M10	25	18	34.0	6	8	12	6	16	-30	80	24	22110.0638	22110.0738
	M10 x 1	25	18	34.0	6	8	12	6	16	-30	80	25	22110.0640	22110.0740
	M12	28	20	40.5	7	10	14	10	23	-30	80	38	22110.0642	22110.0742
	M12 x 1,5	28	20	40.5	7	10	14	10	23	-30	80	39	22110.0644	22110.0744
7	M12	28	20	40.5	7	10	14	10	23	-30	80	39	22110.0646	22110.0746
	M12 x 1,5	28	20	40.5	7	10	14	10	23	-30	80	39	22110.0648	22110.0748
8	M16	33	23	47.5	10	12	17	11	35	-30	80	64	22110.0650	22110.0750
	M16 x 1,5	33	23	47.5	10	12	17	11	35	-30	80	65	22110.0652	22110.0752
10	M16	33	23	47.5	10	12	17	11	35	-30	80	66	22110.0654	22110.0754
	M16 x 1,5	33	23	47.5	10	12	17	11	35	-30	80	67	22110.0656	22110.0756

¹⁾ statistical average value

APPLICATION EXAMPLE



Index Plungers Mini Indexes • stainless steel

EH 22110.



PRODUCT DESCRIPTION

Particularly suitable for screwing into thin walled pieces.
Performance in the smallest space requirements.
Due to a thread recess the index plungers can be completely screwed in.

Material

Body

- Stainless steel 1.4305

Locking pin

- Stainless steel 1.4305

Knob

- Stainless steel 1.4308

Assembly

Screw in the mini index. By lifting the knob, the hexagon will be released for assembly.

The screw length can be adapted by distance collars for index plungers (EH 22120.).

Operation

When using the self-locking type the knob is pulled-out, turned 30° and secured by a notched catch.

MORE INFORMATION

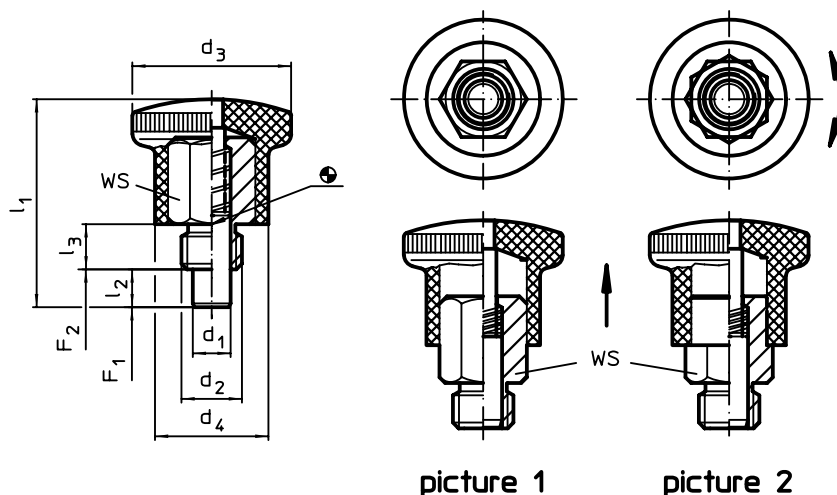
Notes

Knob not removable.

Further products

Distance Collars, for index plungers . . . → p. 129

DRAWING



picture 1

picture 2

ORDER INFORMATION

Dimensions							WS	Spring load ¹⁾				Art. No.
d ₁ h9	d ₂	d ₃	d ₄	l ₁	l ₂ min.	l ₃		F ₁ ~	F ₂ ~	max.		
[mm]							[mm]	[N]		[°C]	[g]	
without locking – picture 1												
4	M 8	21	15	27.5	5	6	10	4	12	250	27	22110.1102
	M 8 x 1	21	15	27.5	5	6	10	4	12	250	28	22110.1104
5	M10	25	18	34.0	6	8	12	6	16	250	49	22110.1106
	M10 x 1	25	18	34.0	6	8	12	6	16	250	50	22110.1108
6	M10	25	18	34.0	6	8	12	6	16	250	50	22110.1110
	M10 x 1	25	18	34.0	6	8	12	6	16	250	50	22110.1112
	M12	28	20	40.5	7	10	14	10	23	250	74	22110.1114
	M12 x 1,5	28	20	40.5	7	10	14	10	23	250	75	22110.1116
7	M12	28	20	40.5	7	10	14	10	23	250	75	22110.1118
	M12 x 1,5	28	20	40.5	7	10	14	10	23	250	75	22110.1120
8	M16	33	23	47.5	10	12	17	11	34	250	110	22110.1122
	M16 x 1,5	33	23	47.5	10	12	17	11	35	250	113	22110.1124
10	M16	33	23	47.5	10	12	17	11	35	250	113	22110.1126
	M16 x 1,5	33	23	47.5	10	12	17	11	35	250	113	22110.1128

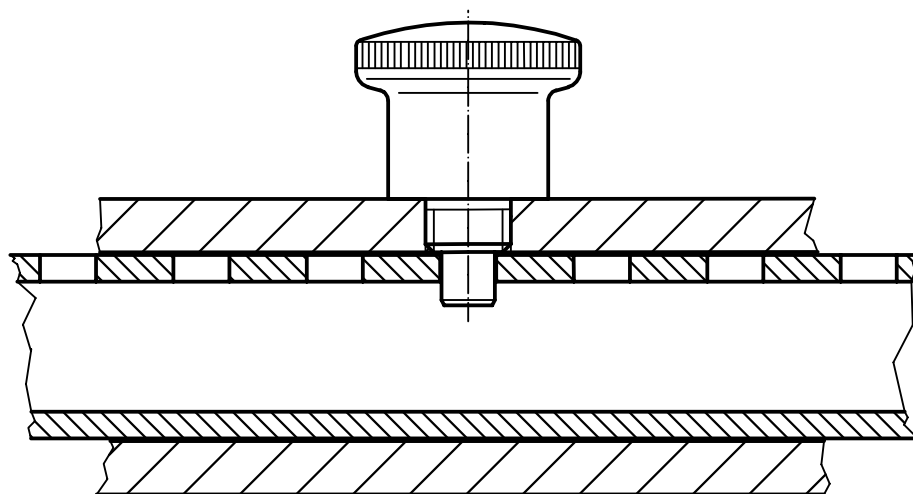
¹⁾ statistical average value



Dimensions							WS	Spring load ¹⁾				Art. No.
d ₁ h9	d ₂	d ₃	d ₄	l ₁	l ₂ min.	l ₃		F ₁ ~	F ₂ ~	max.		
[mm]							[mm]	[N]		[°C]	[g]	
with locking – picture 2												
4	M 8	21	15	27.5	5	6	10	4	12	250	27	22110.1130
	M 8 x 1	21	15	27.5	5	6	10	4	12	250	28	22110.1132
5	M10	25	18	34.0	6	8	12	6	16	250	48	22110.1134
	M10 x 1	25	18	34.0	6	8	12	6	16	250	49	22110.1136
6	M10	25	18	34.0	6	8	12	6	16	250	49	22110.1138
	M10 x 1	25	18	34.0	6	8	12	6	16	250	50	22110.1140
	M12	28	20	40.5	7	10	14	10	23	250	72	22110.1142
	M12 x 1,5	28	20	40.5	7	10	14	10	23	250	73	22110.1144
7	M12	28	20	40.5	7	10	14	10	23	250	73	22110.1146
	M12 x 1,5	28	20	40.5	7	10	14	10	23	250	74	22110.1148
8	M16	33	23	47.5	10	12	17	11	35	250	110	22110.1150
	M16 x 1,5	33	23	47.5	10	12	17	11	35	250	110	22110.1152
10	M16	33	23	47.5	10	12	17	11	35	250	112	22110.1154
	M16 x 1,5	33	23	47.5	10	12	17	11	35	250	114	22110.1156

¹⁾ statistical average value

APPLICATION EXAMPLE



Index Plungers Compact • with hexagon collar

EH 22110.



PRODUCT DESCRIPTION

Index plungers are used for indexing bores.
Types with / without lock have the same building height.
Due to a thread recess the index plungers can be completely screwed in.

Material

Body

- Steel, blackened
- Stainless steel 1.4305

Locking pin

- Steel, hardened
- Stainless steel 1.4305, nickel-plated

Knob

- Thermoplastic PA 6, black, dull
- Thermoplast PA 6, red, dull

Assembly

The screw length can be adapted by distance collars for index plungers (EH 22120.).

MORE INFORMATION

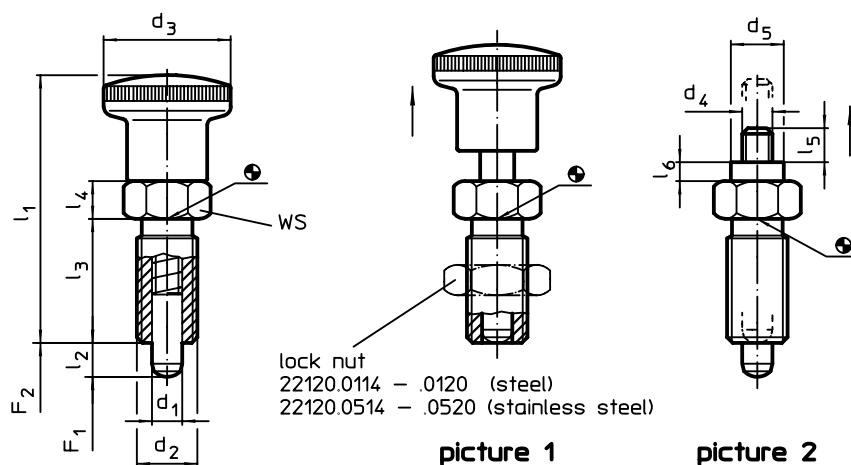
Notes

Knob not removable.
Lock nuts have to be purchased separately.

Further products

Mounting Blocks, for index bolts and index plungers, die-cast. → p. 115
Locating Bushings, for index bolts and index plungers → p. 116
Distance Collars, for index plungers → p. 129

DRAWING



picture 1

picture 2

ORDER INFORMATION

Dimensions											WS	Spring load ¹⁾		Temperature		Weight	Art. No.	
d ₁	d ₂	I ₂ min.	d ₃	d ₄	d ₅	I ₁	I ₃	I ₄	I ₅	I ₆	[mm]	F ₁	F ₂	min.	max.	[g]	Steel	Stainless steel
-0.02 -0.05																		
[mm]																		
[N]																		
[°C]																		
with knob, black – picture 1																		
4	M 8 x 1	4	16	–	–	35.0	16	5	–	–	10	4.5	12.0	-30	80	10	22110.0103	22110.0203
		6	16	–	–	35.0	16	5	–	–	10	4.0	12.5	-30	80	10	22110.0104	22110.0204
5	M10 x 1	5	19	–	–	40.0	18	6	–	–	12	5.0	15.0	-30	80	18	22110.0106	22110.0206
		8	19	–	–	40.0	18	6	–	–	12	5.0	18.0	-30	80	18	22110.0107	22110.0207
6	M12 x 1,5	6	23	–	–	48.0	22	6	–	–	14	6.5	19.0	-30	80	29	22110.0109	22110.0209
		9	23	–	–	48.0	22	6	–	–	14	6.0	25.0	-30	80	29	22110.0110	22110.0210
8	M16 x 1,5	8	28	–	–	58.0	26	8	–	–	17	8.5	26.0	-30	80	62	22110.0112	22110.0212
		12	28	–	–	58.0	26	8	–	–	17	8.5	28.0	-30	80	62	22110.0113	22110.0213
10	M16 x 1,5	12	28	–	–	58.0	26	8	–	–	17	9.5	38.0	-30	80	63	22110.0115	22110.0215
12	M20 x 1,5	15	33	–	–	67.0	33	10	–	–	22	11.5	40.0	-30	80	128	22110.0116	22110.0216
16	M24 x 2	20	33	–	–	78.5	38	12	–	–	27	13.0	54.0	-30	80	203	22110.0117	22110.0217

¹⁾ statistical average value



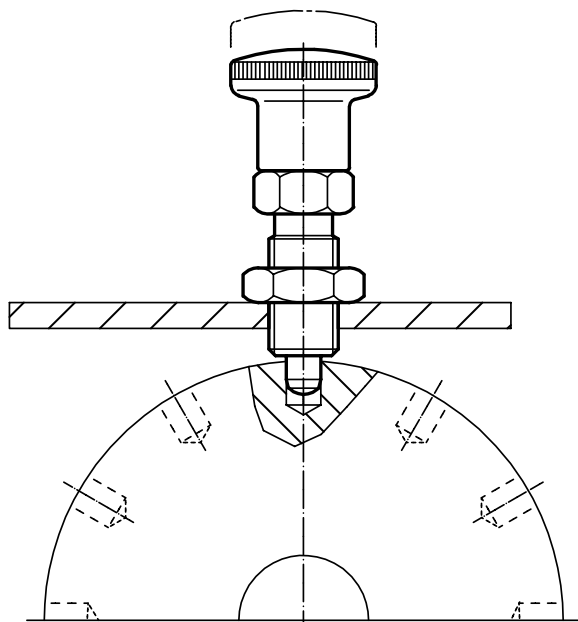
Dimensions											WS	Spring load ¹⁾					Art. No.	
d ₁ -0.02 -0.05	d ₂	I ₂ min.	d ₃	d ₄	d ₅	I ₁	I ₃	I ₄	I ₅	I ₆		F ₁ ~	F ₂ ~	min.	max.		Steel	Stainless steel
[mm]											[mm]	[N]		[°C]		[g]		
with knob, red – picture 1																		
4	M 8 x 1	4	16	–	–	35.0	16	5	–	–	10	4.5	12.0	-30	80	10	22110.2103	22110.2203
		6	16	–	–	35.0	16	5	–	–	10	4.0	12.5	-30	80	11	22110.2104	22110.2204
5	M10 x 1	5	19	–	–	40.0	18	6	–	–	12	5.0	15.0	-30	80	18	22110.2106	22110.2206
		8	19	–	–	40.0	18	6	–	–	12	5.0	18.0	-30	80	18	22110.2107	22110.2207
6	M12 x 1,5	6	23	–	–	48.0	22	6	–	–	14	6.5	19.0	-30	80	30	22110.2109	22110.2209
		9	23	–	–	48.0	22	6	–	–	14	6.0	25.0	-30	80	29	22110.2110	22110.2210
8	M16 x 1,5	8	28	–	–	58.0	26	8	–	–	17	8.5	26.0	-30	80	62	22110.2112	22110.2212
		12	28	–	–	58.0	26	8	–	–	17	8.5	28.0	-30	80	64	22110.2113	22110.2213
10	M16 x 1,5	12	28	–	–	58.0	26	8	–	–	17	9.5	38.0	-30	80	65	22110.2115	22110.2215
12	M20 x 1,5	15	33	–	–	71.5	33	10	–	–	22	11.5	40.0	-30	80	117	22110.2116	22110.2216
16	M24 x 2	20	33	–	–	78.5	38	12	–	–	27	13.0	54.0	-30	80	202	22110.2117	22110.2217
without knob – picture 2																		
4	M 8 x 1	4	–	M3	7	–	16	5	4.5	2.5	10	4.5	12.0	–	250	9	22110.0143	22110.0243
		6	–	M3	7	–	16	5	4.5	2.5	10	4.0	12.5	–	250	9	22110.0144	22110.0244
5	M10 x 1	5	–	M4	8	–	18	6	5.5	3.0	12	5.0	15.0	–	250	16	22110.0146	22110.0246
		8	–	M4	8	–	18	6	5.5	3.0	12	5.0	18.0	–	250	17	22110.0147	22110.0247
6	M12 x 1,5	6	–	M5	9	–	22	6	7.0	3.5	14	6.5	19.0	–	250	25	22110.0149	22110.0249
		9	–	M5	9	–	22	6	7.0	3.5	14	6.0	25.0	–	250	26	22110.0150	22110.0250
8	M16 x 1,5	8	–	M6	10	–	26	8	8.5	4.0	17	8.5	26.0	–	250	54	22110.0152	22110.0252
		12	–	M6	10	–	26	8	8.5	4.0	17	8.5	28.0	–	250	55	22110.0153	22110.0253
10	M16 x 1,5	12	–	M6	10	–	26	8	8.5	4.0	17	9.5	38.0	–	250	56	22110.0155	22110.0255
12	M20 x 1,5	15	–	M6	12	–	33	10	8.5	4.0	22	11.5	40.0	–	250	111	22110.0156	22110.0256
16	M24 x 2	20	–	M8	15	–	38	12	11.5	5.0	27	13.0	54.0	–	250	193	22110.0157	22110.0257

¹⁾ statistical average value

ACCESSORIES

Dimensions		Wrench size		Art. No.	
d ₂				Steel	Stainless steel
[mm]		[mm]	[g]		
lock nuts ISO 8675 (DIN 439)					
	M 8 x 1	13	2.7	22120.0114	22120.0514
	M10 x 1	16	5.2	22120.0115	22120.0515
	M12 x 1,5	18	7.5	22120.0116	22120.0516
	M16 x 1,5	24	15.0	22120.0118	22120.0518
	M20 x 1,5	30	32.0	22120.0120	22120.0520
	M24 x 2	36	58.0	22120.0122	22120.0522

APPLICATION EXAMPLE



Index Plungers Compact • with hexagon collar and locking

EH 22110.



PRODUCT DESCRIPTION

Index plungers are used for indexing bores.
Types with / without lock have the same building height.
Due to a thread recess the index plungers can be completely screwed in.

Material

Body

- Steel, blackened
- Stainless steel 1.4305

Locking pin

- Steel, hardened
- Stainless steel 1.4305, nickel-plated

Knob

- Thermoplastic PA 6, black, dull
- Thermoplast PA 6, red, dull

Assembly

The screw length can be adapted
by distance collars for index plungers
(EH 22120.).

Operation

The knob is pulled-out, turned 90° and
secured by a notched catch (when locking
pin should not overhang).

MORE INFORMATION

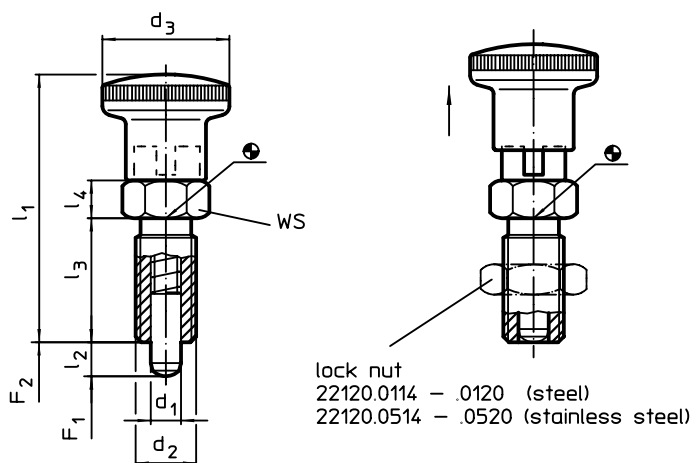
Notes

Knob not removable.
Lock nuts have to be purchased separately.

Further products

Mounting Blocks, for index bolts and
index plungers, die-cast. → p. 115
Locating Bushings, for index bolts and
index plungers → p. 116
Distance Collars, for index plungers . . . → p. 129

DRAWING



ORDER INFORMATION

Dimensions							WS	Spring load ¹⁾				Art. No.		
d ₁ -0.02 -0.05	d ₂	l ₂ min.	d ₃	l ₁	l ₃	l ₄	F ₁ ~	F ₂ ~	min.	max.		Steel	Stainless steel	
[mm]							[mm]	[N]		[°C]		[g]		
with knob, black														
4	M 8 x 1	4	16	35.0	16	5	10	4.5	12.0	-30	80	12	22110.0123	22110.0223
		6	16	35.0	16	5	10	4.0	12.5	-30	80	12	22110.0124	22110.0224
5	M10 x 1	5	19	40.0	18	6	12	5.0	15.0	-30	80	20	22110.0126	22110.0226
		8	19	40.0	18	6	12	5.0	18.0	-30	80	20	22110.0127	22110.0227
6	M12 x 1,5	6	23	48.0	22	6	14	6.5	19.0	-30	80	31	22110.0129	22110.0229
		9	23	48.0	22	6	14	6.0	25.0	-30	80	33	22110.0130	22110.0230
8	M16 x 1,5	8	28	58.0	26	8	17	8.5	26.0	-30	80	65	22110.0132	22110.0232
		12	28	58.0	26	8	17	8.5	28.0	-30	80	68	22110.0133	22110.0233
10	M16 x 1,5	12	28	58.0	26	8	17	9.5	38.0	-30	80	69	22110.0135	22110.0235
12	M20 x 1,5	15	33	67.0	33	10	22	11.5	40.0	-30	80	125	22110.0136	22110.0236
16	M24 x 2	20	33	78.5	38	12	27	13.0	54.0	-30	80	219	22110.0137	22110.0237

¹⁾ statistical average value



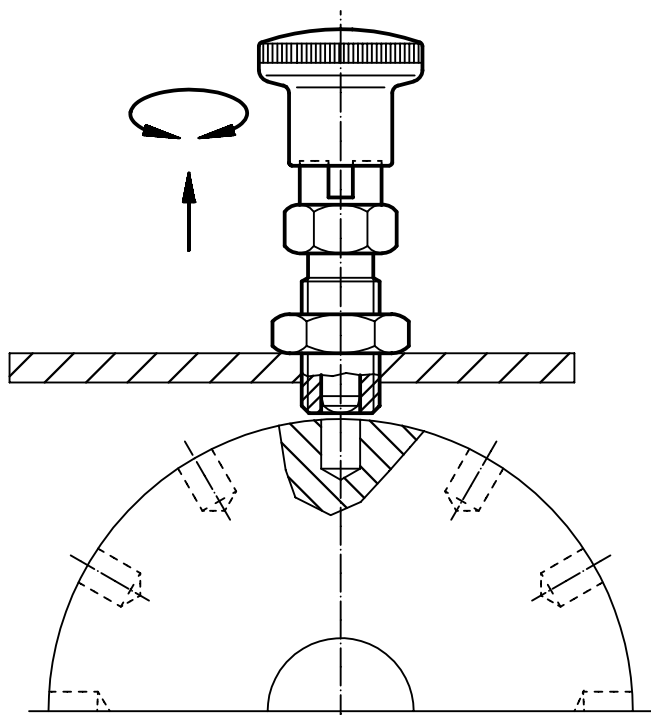
Dimensions							WS	Spring load ¹⁾				Art. No.		
d ₁ -0.02 -0.05	d ₂	l ₂ min.	d ₃	l ₁	l ₃	l ₄		F ₁ ~	F ₂ ~	min.	max.		Steel	Stainless steel
[mm]							[mm]	[N]		[°C]		[g]		
with knob, red														
4	M 8 x 1	4	16	35.0	16	5	10	4.5	12.0	-30	80	11	22110.2123	22110.2223
		6	16	35.0	16	5	10	4.0	12.5	-30	80	13	22110.2124	22110.2224
5	M10 x 1	5	19	40.0	18	6	12	5.0	15.0	-30	80	21	22110.2126	22110.2226
		8	19	40.0	18	6	12	5.0	18.0	-30	80	21	22110.2127	22110.2227
6	M12 x 1,5	6	23	48.0	22	6	14	6.5	19.0	-30	80	33	22110.2129	22110.2229
		9	23	48.0	22	6	14	6.0	25.0	-30	80	32	22110.2130	22110.2230
8	M16 x 1,5	8	28	58.0	26	8	17	8.5	26.0	-30	80	65	22110.2132	22110.2232
		12	28	58.0	26	8	17	8.5	28.0	-30	80	69	22110.2133	22110.2233
10	M16 x 1,5	12	28	58.0	26	8	17	9.5	38.0	-30	80	70	22110.2135	22110.2235
12	M20 x 1,5	15	33	71.5	33	10	22	11.5	40.0	-30	80	127	22110.2136	22110.2236
16	M24 x 2	20	33	78.5	38	12	27	13.0	54.0	-30	80	200	22110.2137	22110.2237

¹⁾ statistical average value

ACCESSORIES

Dimensions		Wrench size		Art. No.	
d_2				Steel	Stainless steel
[mm]		[mm]	[g]		
lock nuts ISO 8675 (DIN 439)					
	M 8 x 1	13	2.7	22120.0114	22120.0514
	M10 x 1	16	5.2	22120.0115	22120.0515
	M12 x 1,5	18	7.5	22120.0116	22120.0516
	M16 x 1,5	24	15.0	22120.0118	22120.0518
	M20 x 1,5	30	32.0	22120.0120	22120.0520
	M24 x 2	36	58.0	22120.0122	22120.0522

APPLICATION EXAMPLE



Index Plungers Compact • with hexagon collar, with T-Handle

EH 22110.



PRODUCT DESCRIPTION

Index plungers are used for indexing bores.
Simple handling, e.g. when using safety gloves, with higher pull release.
Types with / without lock have the same building height.
Due to a thread recess the index plungers can be completely screwed in.

Material

Body

- Steel, blackened
- Stainless steel 1.4305

Locking pin

- Steel, hardened
- Stainless steel 1.4305, nickel-plated

Knob

- Thermoplastic PA 6, black, dull

Assembly

The screw length can be adapted by distance collars for index plungers (EH 22120.).

MORE INFORMATION

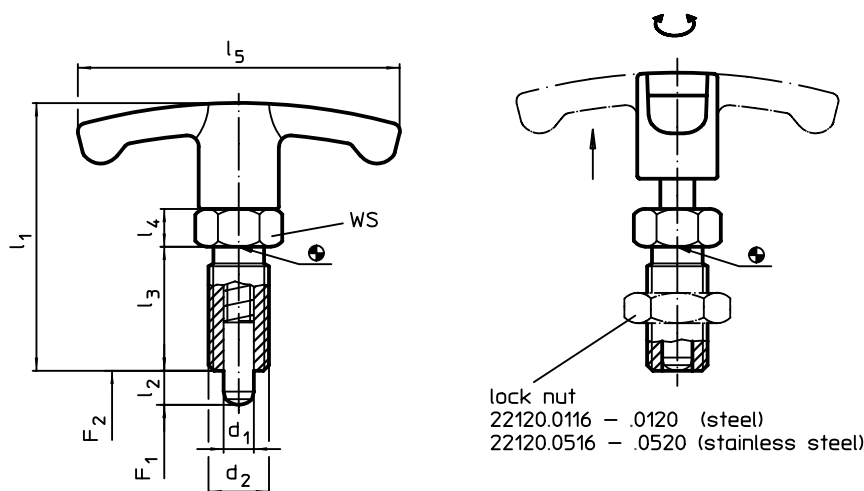
Notes

Knob not removable.
Lock nuts have to be purchased separately.

Further products

Mounting Blocks, for index bolts and index plungers, die-cast. → p. 115
Locating Bushings, for index bolts and index plungers. → p. 116
Distance Collars, for index plungers . . . → p. 129

DRAWING



ORDER INFORMATION

Dimensions							WS	Spring load ¹⁾		min. max.			Art. No.	
d ₁ -0.02 -0.05	l ₂	d ₂	l ₁	l ₃	l ₄	l ₅		F ₁ ~	F ₂ ~				Steel	Stainless steel
							[mm]	[N]		[°C]		[g]		
6	6	M12 x 1,5	48	22	6	54	14	6.5	19	-30	80	31	22110.0820	22110.0920
	9	M12 x 1,5	48	22	6	54	14	6.0	25	-30	80	31	22110.0822	22110.0922
8	8	M16 x 1,5	59	26	8	59	17	8.5	26	-30	80	64	22110.0824	22110.0924
	12	M16 x 1,5	59	26	8	59	17	8.5	28	-30	80	65	22110.0826	22110.0926
10	12	M16 x 1,5	59	26	8	59	17	9.5	38	-30	80	66	22110.0828	22110.0928
12	15	M20 x 1,5	68	33	10	59	22	11.5	40	-30	80	121	22110.0830	22110.0930

¹⁾ statistical average value

ACCESSORIES

Dimensions		Wrench size		Art. No.	
d ₂				Steel	Stainless steel
	[mm]	[mm]	[g]		
lock nuts ISO 8675 (DIN 439)					
	M12 x 1,5	18	7.5	22120.0116	22120.0516
	M16 x 1,5	24	15.0	22120.0118	22120.0518
	M20 x 1,5	30	32.0	22120.0120	22120.0520

Index Plungers Compact • with hexagon collar and locking, with T-Handle

EH 22110.



PRODUCT DESCRIPTION

Index plungers are used for indexing bores.
Simple handling, e.g. when using safety gloves, with higher pull release.
Types with / without lock have the same building height.
Due to a thread recess the index plungers can be completely screwed in.

Material

Body

- Steel, blackened
- Stainless steel 1.4305

Locking pin

- Steel, hardened
- Stainless steel 1.4305, nickel-plated

Knob

- Thermoplastic PA 6, black, dull

Assembly

The screw length can be adapted by distance collars for index plungers (EH 22120.).

Operation

The T-Handle is pulled out, turned 90° and secured by an internal notched catch (when locking pin should not overhang). The positions are defined distinctively by the T-Handle.

MORE INFORMATION

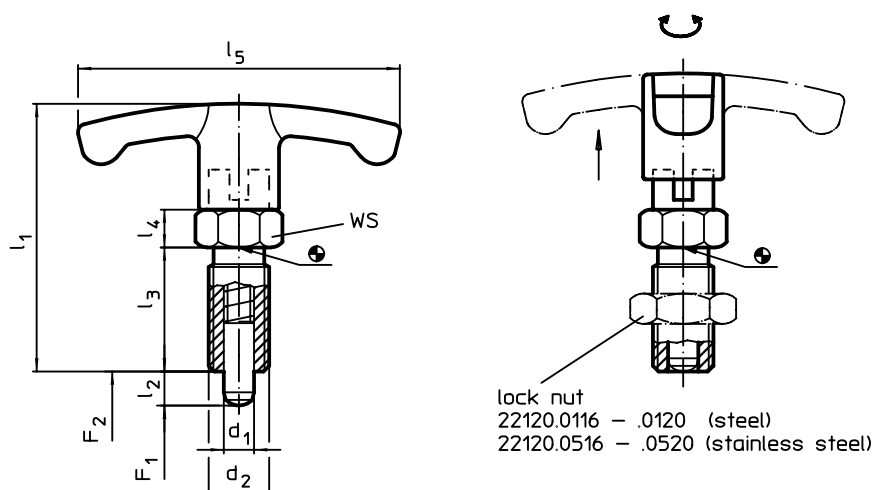
Notes

Knob not removable.
Lock nuts have to be purchased separately.

Further products

Mounting Blocks, for index bolts and index plungers, die-cast. → p. 115
Locating Bushings, for index bolts and index plungers → p. 116
Distance Collars, for index plungers . . . → p. 129

DRAWING



ORDER INFORMATION

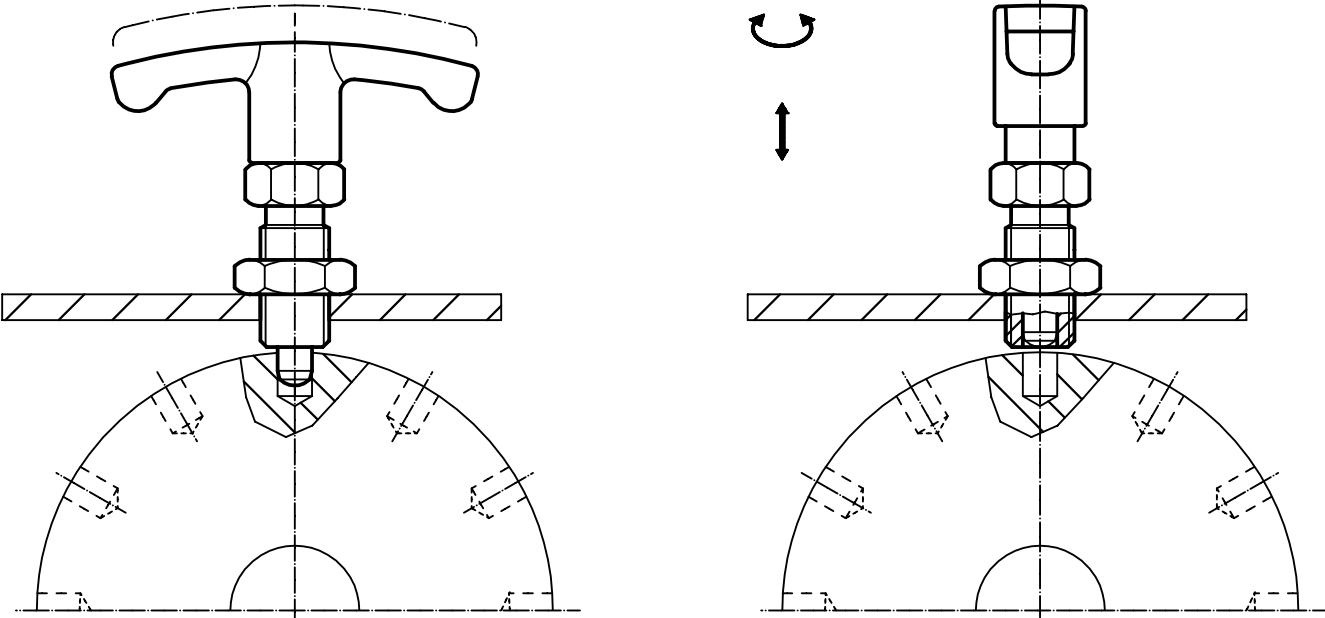
Dimensions							WS	Spring load ¹⁾		min. max.		[g]	Art. No.	
d_1 -0.02 -0.05	l_2	d_2	l_1	l_3	l_4	l_5		F_1 ~	F_2 ~				Steel	Stainless steel
[mm]							[mm]	[N]		[°C]				
6	6	M12 x 1,5	48	22	6	54	14	6.5	19	-30	80	33	22110.0832	22110.0932
	9	M12 x 1,5	48	22	6	54	14	6.0	25	-30	80	34	22110.0834	22110.0934
8	8	M16 x 1,5	59	26	8	59	17	8.5	26	-30	80	68	22110.0836	22110.0936
	12	M16 x 1,5	59	26	8	59	17	8.5	28	-30	80	71	22110.0838	22110.0938
10	12	M16 x 1,5	59	26	8	59	17	9.5	38	-30	80	72	22110.0840	22110.0940
12	15	M20 x 1,5	68	33	10	59	22	11.5	40	-30	80	127	22110.0842	22110.0942

¹⁾ statistical average value

ACCESSORIES

	Dimensions	Wrench size		Art. No.	
	d ₂			Steel	Stainless steel
	[mm]	[mm]	[g]		
lock nuts ISO 8675 (DIN 439)					
	M12 x 1,5	18	7.5	22120.0116	22120.0516
	M16 x 1,5	24	15.0	22120.0118	22120.0518
	M20 x 1,5	30	32.0	22120.0120	22120.0520

APPLICATION EXAMPLE



Index Plungers • with mounting flange, horizontal

EH 22110.

2



PRODUCT DESCRIPTION

Index plungers are used for indexing bores.

Material

Housing

- Zinc die-cast, plastic coated, black

Locking pin

- Stainless steel 1.4305

Knob

- Thermoplastic PA 6, black, dull

Pull-ring

- Stainless steel 1.4310

Assembly

Assembly by means of washers ISO 7092.

Operation

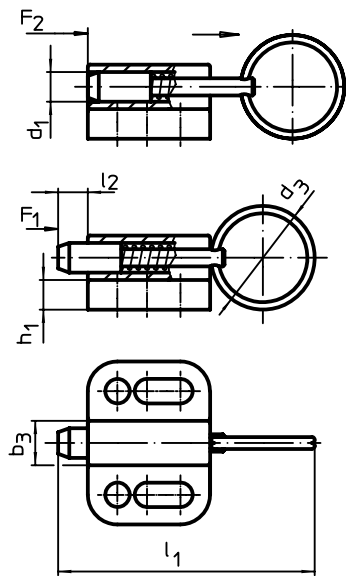
When using locking index plungers, the knob is pulled-out, turned 90° and secured by a notched catch (when locking pin should not overhang).

MORE INFORMATION

Notes

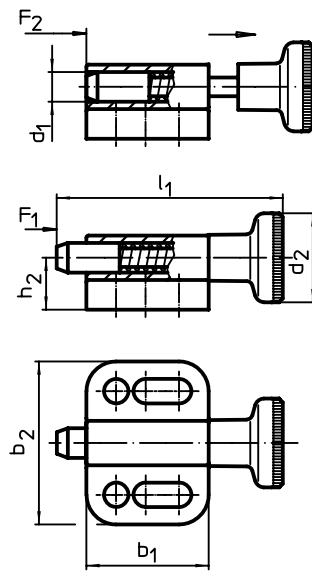
Knob not removable.

DRAWING



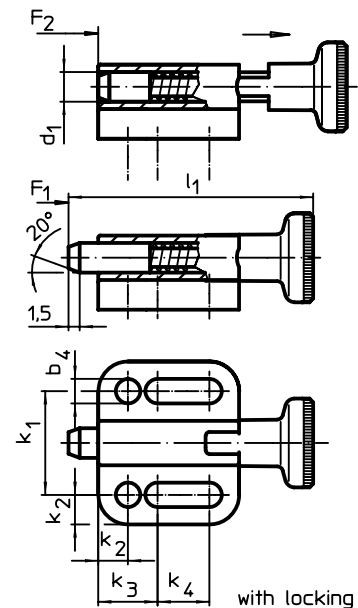
without locking

picture 1



without locking

picture 2



with locking

picture 3

ORDER INFORMATION

Dimensions															Spring load ¹⁾		Temperature		Weight	Art. No.
d ₁	d ₂	d ₃	b ₁	b ₂	b ₃	b ₄ -0.2	h ₁	h ₂	k ₁ ±0.05	k ₂	k ₃	k ₄	l ₁	l ₂ min.	F ₁ ~	F ₂ ~	min.	max.	[g]	
[mm]															[N]		[°C]			
with pull-ring, without locking – picture 1																				
4	–	14	16.5	22	6.0	3.3	4.0	7.0	14	4.0	8	4.5	34.5	4	3	12	–	100	11	22110.0304
5	–	18	22.0	28	8.0	4.3	4.5	9.5	18	5.0	10	7.0	45.0	5	5	24	–	100	21	22110.0305
6	–	24	27.5	32	10.0	5.4	5.0	10.5	21	5.5	12	10.0	57.5	6	5	21	–	100	40	22110.0306
8	–	30	33.0	34	12.0	5.4	6.0	12.5	23	5.5	12	15.5	71.0	8	6	22	–	100	58	22110.0308
10	–	30	35.0	39	14.5	6.5	6.0	14.5	27	6.0	15	13.5	75.0	10	4	25	–	100	83	22110.0310
with knob, without locking – picture 2																				
4	12	–	16.5	22	6.0	3.3	4.0	7.0	14	4.0	8	4.5	30.5	4	3	12	-30	80	11	22110.0324
5	16	–	22.0	28	8.0	4.3	4.5	9.5	18	5.0	10	7.0	40.0	5	5	24	-30	80	20	22110.0325
6	18	–	27.5	32	10.0	5.4	5.0	10.5	21	5.5	12	10.0	49.0	6	5	21	-30	80	37	22110.0326
8	21	–	33.0	34	12.0	5.4	6.0	12.5	23	5.5	12	15.5	59.0	8	6	22	-30	80	59	22110.0328
10	25	–	35.0	39	14.5	6.5	6.0	14.5	27	6.0	15	13.5	67.5	10	4	25	-30	80	90	22110.0330
with knob and locking – picture 3																				
4	12	–	19.0	22	6.0	3.3	4.0	7.0	14	4.0	8	7.0	33.0	4	3	12	-30	80	12	22110.0344
5	16	–	25.5	28	8.0	4.3	4.5	9.5	18	5.0	10	10.5	43.5	5	5	24	-30	80	26	22110.0345
6	18	–	30.5	32	10.0	5.4	5.0	10.5	21	5.5	12	13.0	52.0	6	5	21	-30	80	40	22110.0346
8	21	–	37.5	34	12.0	5.4	6.0	12.5	23	5.5	12	20.0	63.5	8	6	22	-30	80	67	22110.0348
10	25	–	40.0	39	14.5	6.5	6.0	14.5	27	6.0	15	18.5	72.5	10	4	25	-30	80	98	22110.0350

¹⁾ statistical average value

Index Plungers • with mounting flange, horizontal, stainless steel

EH 22110.

2



PRODUCT DESCRIPTION

Index plungers are used for indexing bores.

Material

Housing

- Stainless steel 1.4308, precision casting, bright, matt blasted

Locking pin

- Stainless steel 1.4305

Knob

- Thermoplastic PA 6, black, dull

Pull-ring

- Stainless steel 1.4310

Assembly

Assembly by means of washers ISO 7092.

Operation

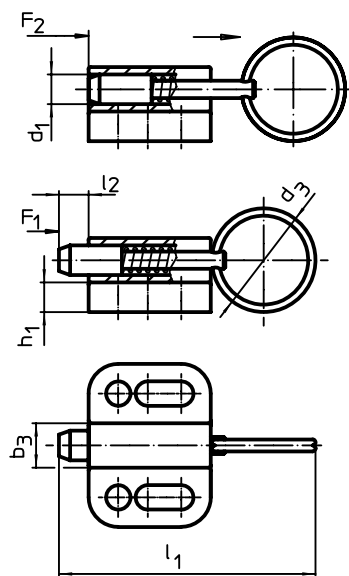
When using locking index plungers, the knob is pulled-out, turned 90° and secured by a notched catch (when locking pin should not overhang).

MORE INFORMATION

Notes

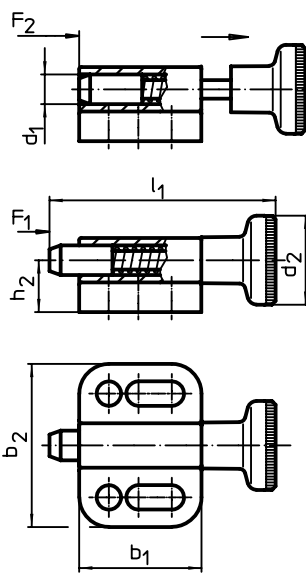
Knob not removable.

DRAWING



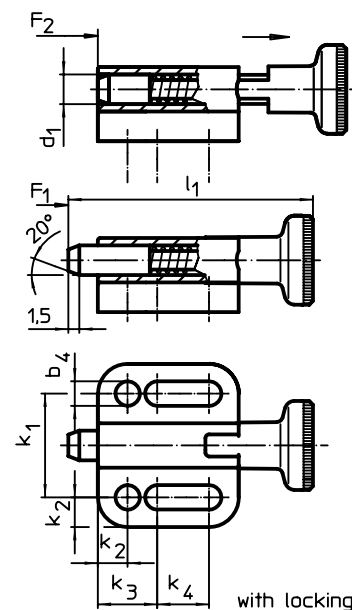
without locking

picture 1



without locking

picture 2



with locking

picture 3

ORDER INFORMATION

Dimensions															Spring load ¹⁾					Art. No.
d ₁ h11	d ₂	d ₃	b ₁	b ₂	b ₃	b ₄ -0.2	h ₁	h ₂	k ₁ ±0.05	k ₂	k ₃	k ₄	l ₁	l ₂ min.	F ₁ ~	F ₂ ~	min.	max.		
[mm]															[N]		[°C]		[g]	
with pull-ring, without locking – picture 1																				
4	–	14	16.5	22	6.0	3.3	4.0	7.0	14	4.0	8	4.5	34.5	4	3	12	–	100	12	22110.2304
5	–	18	22.0	28	8.0	4.3	4.5	9.5	18	5.0	10	7.0	45.0	5	5	24	–	100	24	22110.2305
6	–	24	27.5	32	10.0	5.4	5.0	10.5	21	5.5	12	10.0	57.5	6	5	21	–	100	42	22110.2306
8	–	30	33.0	34	12.0	5.4	6.0	12.5	23	5.5	12	15.5	71.0	8	6	22	–	100	67	22110.2308
10	–	30	35.0	39	14.5	6.5	6.0	14.5	27	6.0	15	13.5	75.0	10	4	25	–	100	93	22110.2310
with knob, without locking – picture 2																				
4	12	–	16.5	22	6.0	3.3	4.0	7.0	14	4.0	8	4.5	30.5	4	3	12	-30	80	14	22110.2324
5	16	–	22.0	28	8.0	4.3	4.5	9.5	18	5.0	10	7.0	40.0	5	5	24	-30	80	26	22110.2325
6	18	–	27.5	32	10.0	5.4	5.0	10.5	21	5.5	12	10.0	49.0	6	5	21	-30	80	44	22110.2326
8	21	–	33.0	34	12.0	5.4	6.0	12.5	23	5.5	12	15.5	59.0	8	6	22	-30	80	67	22110.2328
10	25	–	35.0	39	14.5	6.5	6.0	14.5	27	6.0	15	13.5	67.5	10	4	25	-30	80	99	22110.2330
with knob and locking – picture 3																				
4	12	–	19.0	22	6.0	3.3	4.0	7.0	14	4.0	8	7.0	33.0	4	3	12	-30	80	15	22110.2344
5	16	–	25.5	28	8.0	4.3	4.5	9.5	18	5.0	10	10.5	43.5	5	5	24	-30	80	30	22110.2345
6	18	–	30.5	32	10.0	5.4	5.0	10.5	21	5.5	12	13.0	52.0	6	5	21	-30	80	48	22110.2346
8	21	–	37.5	34	12.0	5.4	6.0	12.5	23	5.5	12	20.0	63.5	8	6	22	-30	80	68	22110.2348
10	25	–	40.0	39	14.5	6.5	6.0	14.5	27	6.0	15	18.5	72.5	10	4	25	-30	80	109	22110.2350

¹⁾ statistical average value

Mounting Blocks • for index bolts and index plungers, die-cast

EH 22110.



PRODUCT DESCRIPTION

Assembly support and extended applications for index bolts and index plungers. Also to be used as a seat for locating bushings EH 22110.

Material

Grub Screw

- Steel, blackened, with brass pad

Body

- Zinc die-cast, plastic coated, black

Assembly

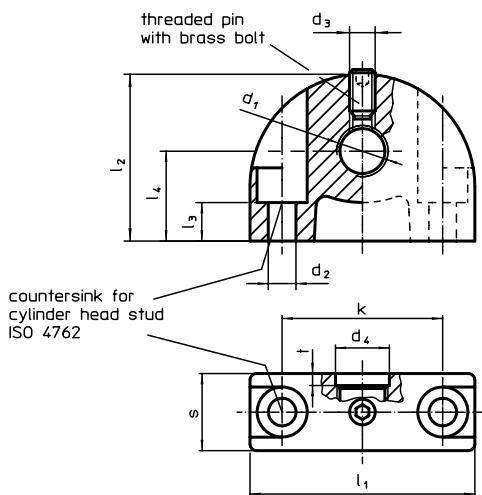
Index plunger must be assembled in hole d_1 on countersink side.

MORE INFORMATION

Further products

Positioning Bushings, for index bolts and index plungers → p. 117

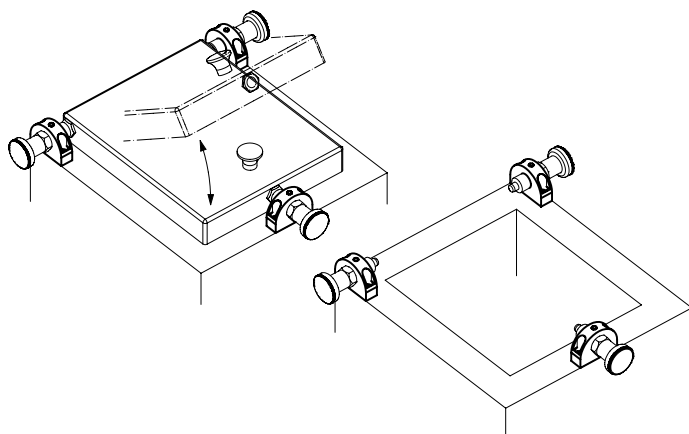
DRAWING



ORDER INFORMATION

Dimensions													Art. No.
d ₁	d ₂	d ₃	d ₄	k	l ₁	l ₂	l ₃	l ₄	s	t	max.		
[mm]											[°C]	[g]	
mounting hole vertical to index bolt and index plunger													
M 8 x 1	4.3	M4	8.2	25	35	26	11.5	14	12	2	100	39	22110.0408
M 8	4.3	M4	8.2	25	35	26	6.0	14	12	2	100	40	22110.0508
M10 x 1	4.3	M4	10.2	25	35	26	11.5	14	12	2	100	36	22110.0410
M10	4.3	M4	10.2	25	35	26	6.0	14	12	2	100	38	22110.0510
M12 x 1,5	4.3	M4	12.2	25	35	26	11.5	14	12	3	100	41	22110.0412
M12	4.3	M4	12.2	25	35	26	6.0	14	12	3	100	36	22110.0512
M16 x 1,5	5.3	M5	16.2	35	47	34	15.5	18	14	3	100	77	22110.0416
M16	5.3	M5	16.2	35	47	34	10.0	18	14	3	100	78	22110.0516
M20 x 1,5	5.3	M5	20.2	35	47	34	15.5	18	14	3	100	68	22110.0420

APPLICATION EXAMPLE



Locating Bushings • for index bolts and index plungers

EH 22110.



PRODUCT DESCRIPTION

Used for locating the locking pin of index bolts and index plungers. Suitable for mounting blocks 22110.0412 and 22110.0416.

Material

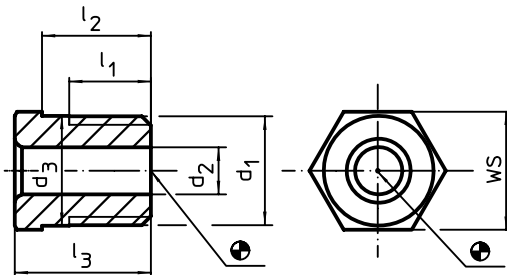
- Steel, nitrided

MORE INFORMATION

Further products

Mounting Blocks, for index bolts and index plungers, die-cast. → p. 115

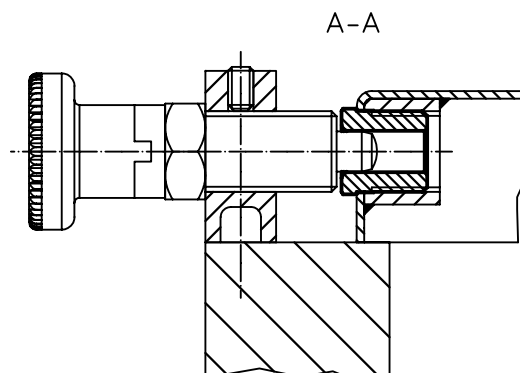
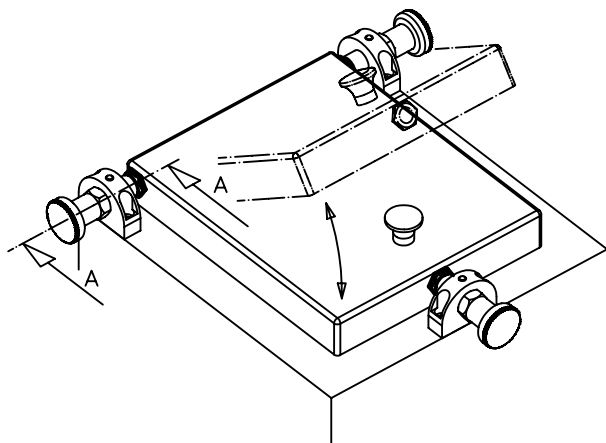
DRAWING



ORDER INFORMATION

Dimensions						For pin	WS			Art. No.
d_1	d_2 +0.1	d_3 ±0.3	l_1 min.	l_2 -0.3	l_3			max.		
[mm]						[mm]	[mm]	[°C]	[g]	
M12 x 1,5	4.2	12.1	9	10	13	4	13	250	10.0	22110.0454
	5.2	12.1	9	10	13	5	13	250	9.6	22110.0455
	6.2	12.1	9	10	13	6	13	250	8.5	22110.0456
M16 x 1,5	8.2	16.1	11	12	15	8	17	250	18.0	22110.0458
	10.2	16.1	11	12	15	10	17	250	14.0	22110.0460
	12.2	16.1	11	12	15	12	17	250	9.1	22110.0462

APPLICATION EXAMPLE



Positioning Bushings • for index bolts and index plungers

EH 22110.



PRODUCT DESCRIPTION

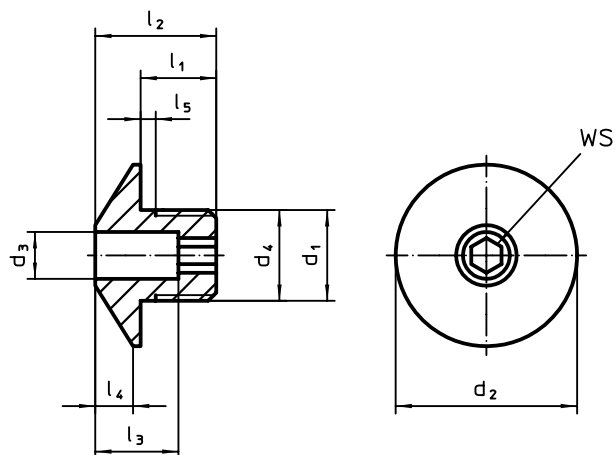
Positioning bushings are suitable for index plungers and index bolts.
Low wear thanks to hardened running ball.

Material

▪ Steel, hardened, blackened

▪ Stainless steel, hardened

DRAWING



ORDER INFORMATION

Dimensions									For pin	WS		Art. No.	
d ₁	d ₃ +0.1	d ₂	d ₄ -0.05	l ₁	l ₂	l ₃	l ₄	l ₅ +0.5				Steel	Stainless steel
[mm]									[mm]	[mm]	[g]		
M12 x 1,5	4.2	24	12	10	16	11	5	1.5	4	4	17	22110.0464	22110.0474
	5.2	24	12	10	16	11	5	1.5	5	4	17	22110.0465	22110.0475
	6.2	24	12	10	16	11	5	1.5	6	4	16	22110.0466	22110.0476
M16 x 1,5	8.2	32	16	12	20	13	7	1.5	8	6	36	22110.0468	22110.0478
	10.2	32	16	12	20	13	7	1.5	10	6	34	22110.0470	22110.0480
	12.2	32	16	12	20	13	7	1.5	12	6	33	22110.0472	22110.0482

APPLICATION EXAMPLE

