

## 36220

LOCATING PINS

### Material

Tool steel, hardened, ground. Bearing surface without centre.

### Technical Notes

Produced to DIN 6321.

Cylindrical locating pins serve to locate workpieces and fixture elements into tole-

ranced holes. The flattened locating pin can be used to overcome differences in tolerances, between holes or to position an element in one direction only.

Standard seating pins 36220.W0011 to .W0014 only, have tolerance h9 on dimension  $l_1$ , and can act as bearing

surfaces for tools and jigs.

### Tips

Suggested hole tolerance for shaft  $d_2$ , is a hole to H7.

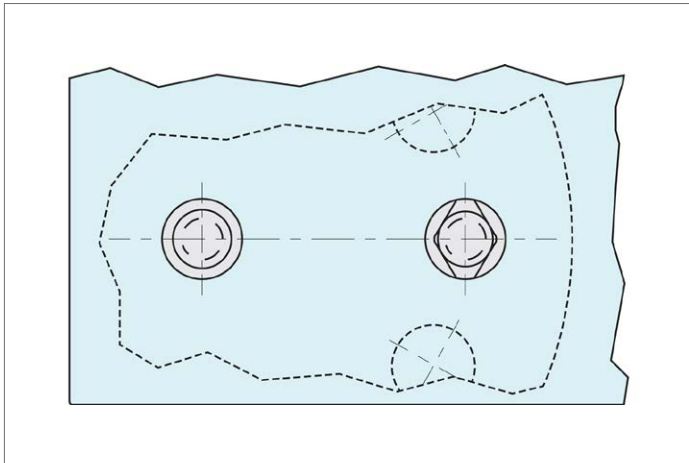
For standard type length tolerance is  $h_{-9}$ , for all other types length tolerance is  $\pm 0,1$ .

Order No.	Size	Type	$d_1$ tol. g6	$l_1$	$d_2$ tol. n6	$l_2$	$l_3$	$w_1$	Weight g
36220.W0011	Short	Standard seating pin	6	5	6	6	-	-	2
36220.W0012	Short	Standard seating pin	10	6	6	9	-	-	6
36220.W0013	Short	Standard seating pin	16	8	8	12	-	-	17
36220.W0014	Short	Standard seating pin	25	10	12	18	-	-	50
36220.W0020	Short	Cylindrical locating pin	6	7	4	6	4	-	2
36220.W0021	Long	Cylindrical locating pin	6	12	4	6	6	-	3
36220.W0022	Short	Cylindrical locating pin	8	10	6	9	6	-	5
36220.W0023	Long	Cylindrical locating pin	8	16	6	9	6	-	8
36220.W0024	Short	Cylindrical locating pin	10	10	6	9	8	-	7
36220.W0025	Long	Cylindrical locating pin	10	18	6	9	9	-	12
36220.W0026	Short	Cylindrical locating pin	12	10	6	9	9	-	10
36220.W0027	Long	Cylindrical locating pin	12	18	6	9	4	-	17
36220.W0028	Short	Cylindrical locating pin	16	13	8	12	4	-	23
36220.W0029	Long	Cylindrical locating pin	16	22	8	12	6	-	36
36220.W0030	Short	Cylindrical locating pin	20	15	12	18	6	-	47
36220.W0031	Long	Cylindrical locating pin	20	25	12	18	6	-	72
36220.W0032	Short	Cylindrical locating pin	25	15	12	18	6	-	66
36220.W0033	Long	Cylindrical locating pin	25	25	12	18	6	-	106
36220.W0040	Short	Diamond locating pin	6	7	4	6	6	1.0	2
36220.W0041	Long	Diamond locating pin	6	12	4	6	8	1.0	2
36220.W0042	Short	Diamond locating pin	8	10	6	9	8	1.6	5
36220.W0043	Long	Diamond locating pin	8	16	6	9	9	1.6	6
36220.W0044	Short	Diamond locating pin	10	10	6	9	9	2.5	6
36220.W0045	Long	Diamond locating pin	10	18	6	9	9	2.5	9
36220.W0046	Short	Diamond locating pin	12	10	6	9	9	2.5	7
36220.W0047	Long	Diamond locating pin	12	18	6	9	4	2.5	11
36220.W0048	Short	Diamond locating pin	16	13	8	12	6	3.5	17
36220.W0049	Long	Diamond locating pin	16	22	8	12	6	3.5	26
36220.W0050	Short	Diamond locating pin	20	15	12	18	6	5.0	39
36220.W0051	Long	Diamond locating pin	20	25	12	18	8	5.0	55



Order No.	Size	Type	$d_1$ tol. g6	$l_1$	$d_2$ tol. n6	$l_2$	$l_3$	$w_1$	Weight g
<b>36220.W0052</b>	Short	Diamond locating pin	25	15	12	18	9	5.0	49
<b>36220.W0053</b>	Long	Diamond locating pin	25	25	12	18	9	5.0	72

LOCATING PINS



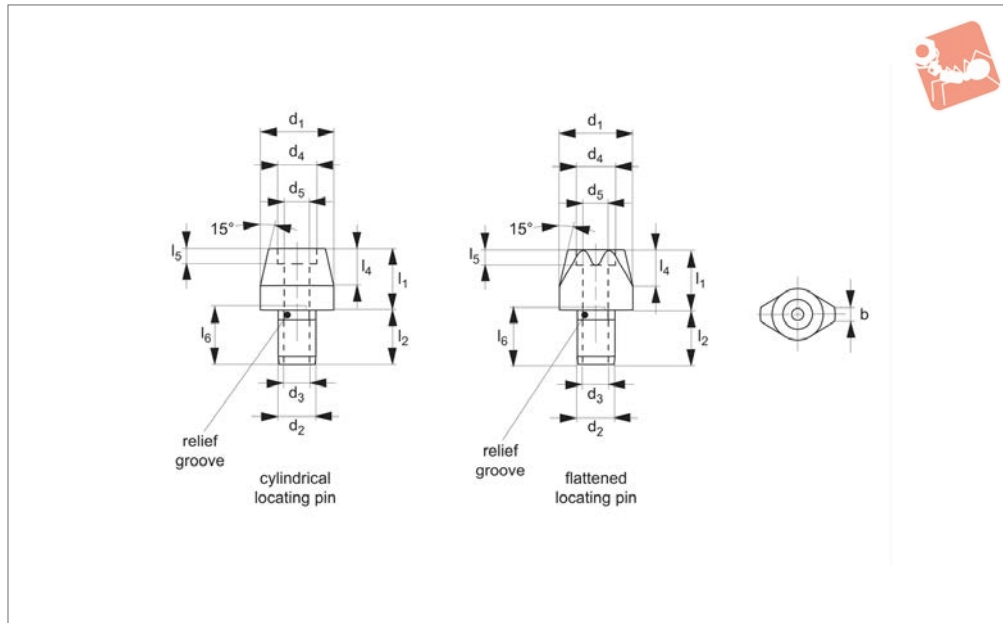


# Locating Pins

with bore holes - similar to DIN 6321



# Locating Pins



**36240**

LOCATING PINS

### Material

Case hardened steel, blackened and ground.

### Technical Notes

Cylindrical locating pins for locating work pieces in toleranced holes and also to be used as stops and feet. Flattened locating

pins used to overcome differences in tolerances, between holes or to position an element in one direction only.

Outer dimensions similar to DIN 63210.

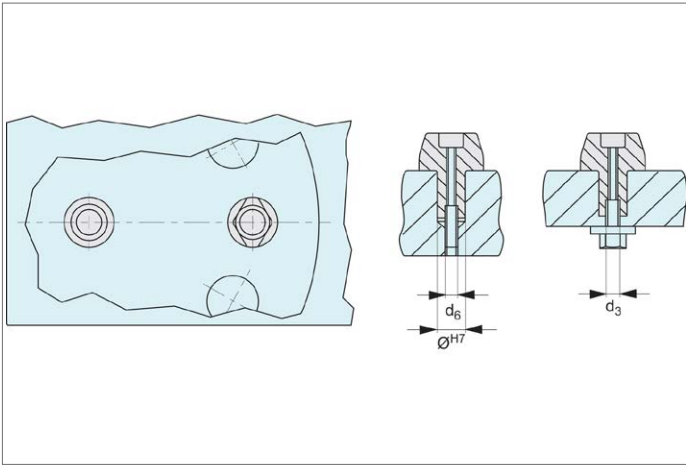
For additional safety these parts can be secured to the jig from above, see dimension  $d_6$  for cap screw size, or from below,

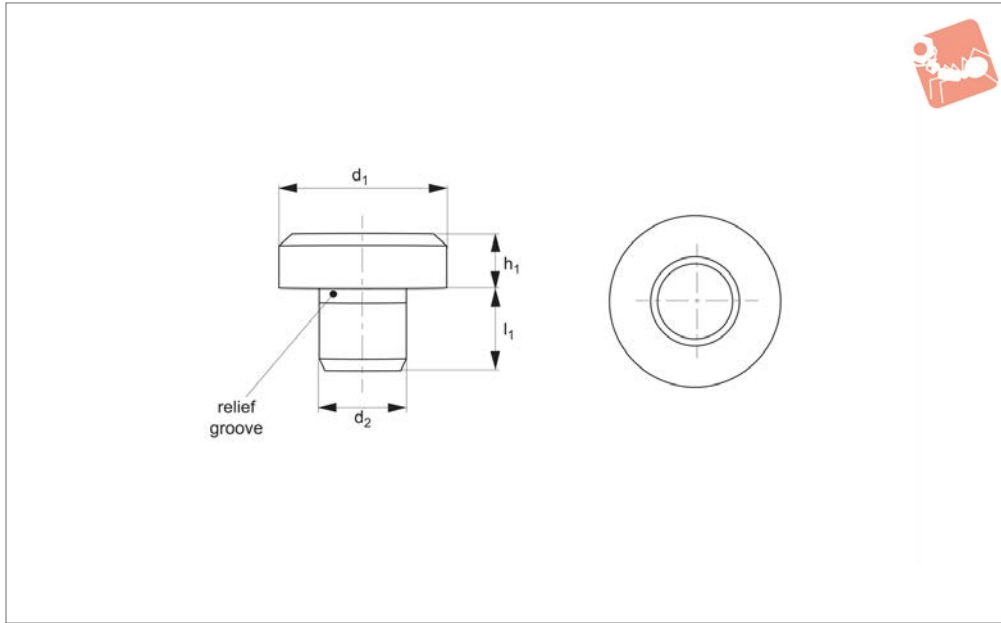
see dimension  $d_3$  for thread size.

**\* size  $d_1 = 6$ , can only be fixed from above.**

Suggested hole tolerance for shaft  $d_2$ , is a hole to H7.

Order No.	Type	b	$d_1$ tol. g6	$l_1$	$d_2$ tol. k6	$l_2$	$d_3$	$d_4$	$l_4$	$d_5$	$l_5$	$d_6$	$l_6$	Weight g
36240.W0220	Cylindrical	-	6*	7	4	6	-	-	4	2.1	-	M2,0	-	1.2
36240.W0221	Cylindrical	-	6*	12	4	6	-	-	4	2.1	-	M2,0	-	2.0
36240.W0222	Cylindrical	-	8	10	6	9	M 3	-	6	2.6	-	M2,5	10	3.9
36240.W0223	Cylindrical	-	8	16	6	9	M 3	-	6	2.6	-	M2,5	10	6.6
36240.W0224	Cylindrical	-	10	10	6	9	M 3	5.0	6	2.6	2.6	M2,5	10	5.9
36240.W0225	Cylindrical	-	10	18	6	9	M 3	5.0	6	2.6	2.6	M2,5	10	8.5
36240.W0226	Cylindrical	-	12	10	6	9	M 3	5.0	6	2.6	2.6	M2,5	10	8.4
36240.W0227	Cylindrical	-	12	18	6	9	M 3	5.0	6	2.6	2.6	M2,5	10	10.5
36240.W0228	Cylindrical	-	16	13	8	12	M 4	6.5	8	3.3	3.1	M3,0	13	19.5
36240.W0229	Cylindrical	-	16	22	8	12	M 4	6.5	8	3.3	3.1	M3,0	13	27.7
36240.W0230	Cylindrical	-	20	15	12	18	M 6	10.0	9	5.2	5.1	M5,0	19	39.5
36240.W0231	Cylindrical	-	20	25	12	18	M 6	10.0	9	5.2	5.1	M5,0	19	53.5
36240.W0232	Cylindrical	-	25	15	12	18	M 6	10.0	9	5.2	5.1	M5,0	19	57.5
36240.W0233	Cylindrical	-	25	25	12	18	M 6	10.0	9	5.2	5.1	M5,0	19	87.5
36240.W0240	Flattened	1.0	6*	7	4	6	-	-	4	2.1	-	M2,0	-	0.7
36240.W0241	Flattened	1.0	6*	12	4	6	-	-	4	2.1	-	M2,0	-	0.9
36240.W0242	Flattened	1.6	8	10	6	9	M 3	-	6	2.6	-	M2,5	10	2.9
36240.W0243	Flattened	1.6	8	16	6	9	M 3	-	6	2.6	-	M2,5	10	4.1
36240.W0244	Flattened	2.5	10	10	6	9	M 3	5.0	6	2.6	2.6	M2,5	10	4.5
36240.W0245	Flattened	2.5	10	18	6	9	M 3	5.0	6	2.6	2.6	M2,5	10	7.4
36240.W0246	Flattened	2.5	12	10	6	9	M 3	5.0	6	2.6	2.6	M2,5	10	5.9
36240.W0247	Flattened	2.5	12	18	6	9	M 3	5.0	6	2.6	2.6	M2,5	10	9.8
36240.W0248	Flattened	3.5	16	13	8	12	M 4	6.5	8	3.3	3.1	M3,0	13	14.5
36240.W0249	Flattened	3.5	16	22	8	12	M 4	6.5	8	3.3	3.1	M3,0	13	22.2
36240.W0250	Flattened	5.0	20	15	12	18	M 6	10.0	9	5.2	5.1	M5,0	19	30.3
36240.W0251	Flattened	5.0	20	25	12	18	M 6	10.0	9	5.2	5.1	M5,0	19	43.9
36240.W0252	Flattened	5.0	25	15	12	18	M 6	10.0	9	5.2	5.1	M5,0	19	40.6
36240.W0253	Flattened	5.0	25	25	12	18	M 6	10.0	9	5.2	5.1	M5,0	19	61.7





**36300**

LOCATING PINS

### Material

Tool steel (DIN 6321), hardened and ground.

Seating pins serve as bearing surfaces for tools and jigs.

Suggested hole tolerance for shaft  $d_2$  is a hole to N6.

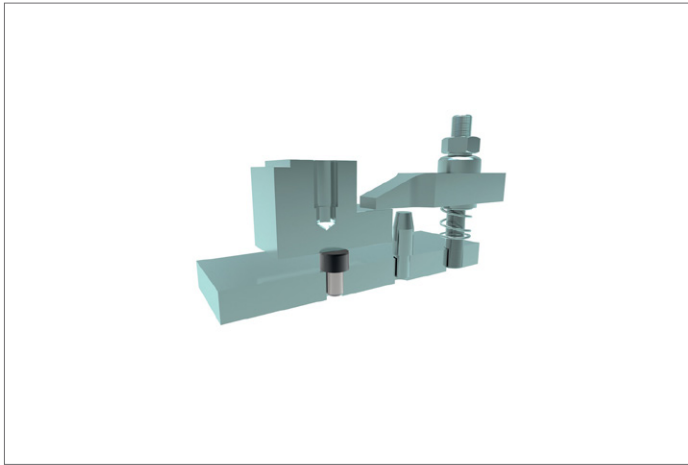
### Technical Notes

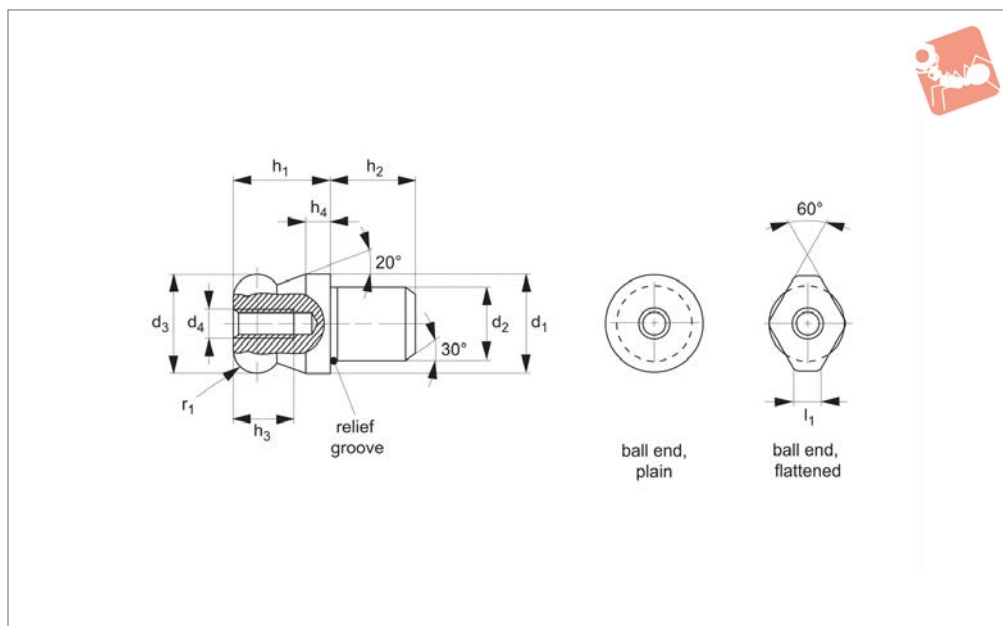
Bearing surface without centering.

Order No.	Type	$d_1$	$l_1$	$d_2$ tol. N6	$h_1$ tol. H9	Location hole = $d_2$ to tol. H7	Weight g
36300.W0001	DIN 6321 Standard	6	6.0	4	5.0	4	1.8
36300.W0002	DIN 6321 Standard	10	8.0	6	8.0	6	6.5
36300.W0003	DIN 6321 Standard	16	10.0	8	5.0	8	11
36300.W0004	DIN 6321 Standard	16	10.0	8	13.0	8	24
36300.W0005	DIN 6321 Standard	25	14.0	12	8.0	12	41
36300.W0006	DIN 6321 Standard	25	14.0	12	20.0	12	88
36300.W0007	DIN 6321 Standard	40	20.0	20	13.0	20	171
36300.W0008	DIN 6321 Standard	40	20.0	20	32.0	20	358
36300.W0110	Intermediate Sizes	6	6.5	4	2.5	4	1.2
36300.W0112	Intermediate Sizes	6	8.5	4	4.5	4	1.9
36300.W0116	Intermediate Sizes	8	8.0	5	4.0	5	3.1
36300.W0118	Intermediate Sizes	8	8.0	5	7.0	5	4.2
36300.W0120	Intermediate Sizes	10	8.5	6	4.5	6	4.4
36300.W0124	Intermediate Sizes	12	10.0	6	6.0	6	7.6
36300.W0126	Intermediate Sizes	12	10.0	6	10.0	6	11
36300.W0130	Intermediate Sizes	20	12.0	10	6.0	10	21
36300.W0132	Intermediate Sizes	20	12.0	10	12.0	10	36
36300.W0135	Intermediate Sizes	25	14.0	12	30.0	12	125
36300.W0137	Intermediate Sizes	30	20.0	16	25.0	16	164
36300.W0140	Intermediate Sizes	30	20.0	16	40.0	16	248
36300.W0144	Intermediate Sizes	30	20.0	16	50.0	16	305
36300.W0148	Intermediate Sizes	30	20.0	16	65.0	16	385
36300.W0152	Intermediate Sizes	30	20.0	20	80.0	20	485
36300.W0156	Intermediate Sizes	30	20.0	20	100.0	20	594



LOCATING PINS





## 36340

LOCATING PINS

### Material

#### Steel type:

Tool steel, hardened, blackened and ground.

#### Stainless steel type:

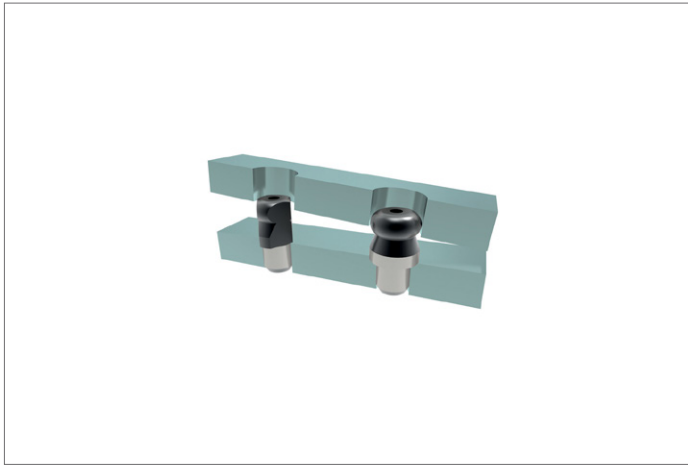
Stainless steel (AISI 303, 1.4305), ground, surface heat-treated.

#### Technical Notes

Ball ended straight pins facilitate inserting

workpieces and avoid clamping inclination. Suggested installation is a hole =  $d_2$  H7 tolerance.

Order No.	Type	Material	$d_1$ tol. g6	$l_1$	$d_2$ tol. n6	$d_3$ -0.01   -0.05	$d_4$	$h_1$	$h_2$	$h_3$	$h_4$	$r_1$	Weight g
36340.W0310	Plain	Steel	10	-	7	10	M 3	10	7	6	2.5	2.5	7
36340.W0312	Plain	Steel	12	-	8	12	M 4	12	8	8	3.0	3.0	11
36340.W0316	Plain	Steel	16	-	12	16	M 5	16	12	10	4.0	4.0	30
36340.W0320	Plain	Steel	20	-	14	20	M 5	20	14	10	5.0	5.0	57
36340.W0322	Plain	Steel	22	-	16	22	M 5	22	16	10	5.5	5.5	79
36340.W0325	Plain	Steel	25	-	18	25	M 5	25	18	10	6.0	6.0	116
36340.W0410	Flattened	Steel	10	2.5	7	10	M 3	10	7	6	2.5	2.5	5
36340.W0412	Flattened	Steel	12	2.5	8	12	M 4	12	8	8	3.0	3.0	8
36340.W0416	Flattened	Steel	16	4.3	12	16	M 5	16	12	10	4.0	4.0	23
36340.W0420	Flattened	Steel	20	5.0	14	20	M 5	20	14	10	5.0	5.0	45
36340.W0422	Flattened	Steel	22	5.0	16	22	M 5	22	16	10	5.5	5.5	62
36340.W0425	Flattened	Steel	25	5.6	18	25	M 5	25	18	10	6.0	6.0	91
36340.W0350	Plain	Stainless	10	-	7	10	M 3	10	7	6	2.5	2.5	7
36340.W0352	Plain	Stainless	12	-	8	12	M 4	12	8	8	3.0	3.0	11
36340.W0356	Plain	Stainless	16	-	12	16	M 5	16	12	10	4.0	4.0	30
36340.W0360	Plain	Stainless	20	-	14	20	M 5	20	14	10	5.0	5.0	57
36340.W0450	Flattened	Stainless	10	2.5	7	10	M 3	10	7	6	2.5	2.5	5
36340.W0452	Flattened	Stainless	12	2.5	8	12	M 4	12	8	8	3.0	3.0	8
36340.W0456	Flattened	Stainless	16	4.3	12	16	M 5	16	12	10	4.0	4.0	23
36340.W0460	Flattened	Stainless	20	5.0	14	20	M 5	20	14	10	5.0	5.0	45



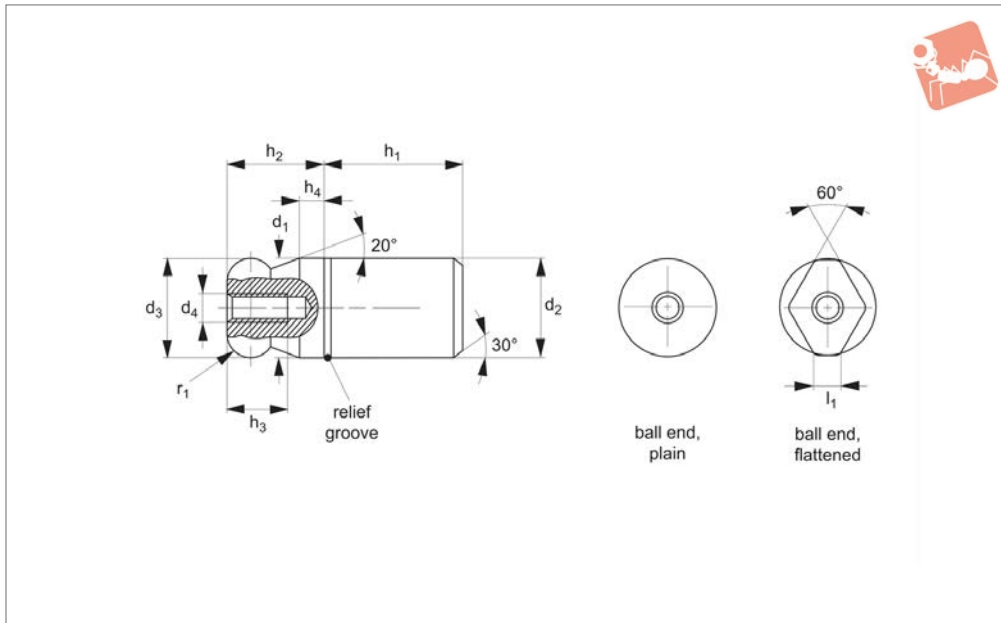




# Location Pins - Non-Stepped ball end



## Locating Pins



# 36341

LOCATING PINS

### Material

#### Steel type:

Tool steel, hardened, ground, blackened.

#### Stainless steel type:

Stainless steel 1.4305 (AISI 303), ground, surface heat-treated.

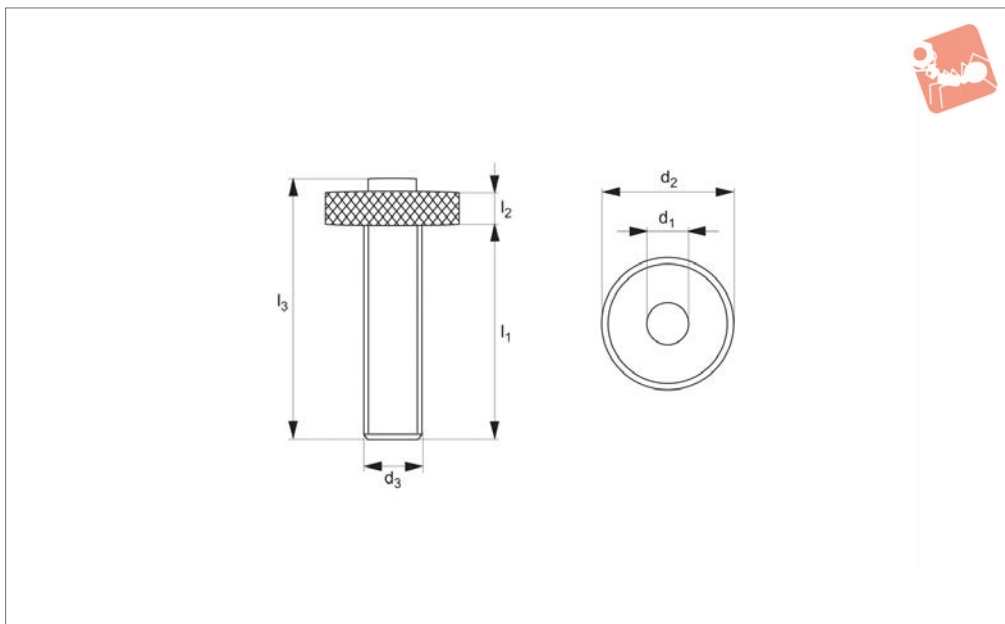
### Technical Notes

Ball ended straight pins facilitate inserting workpieces and avoid clamping inclination. Suggested installation is a hole =  $d_2$  H7

Order No.	Type	Material	$d_1$ tol. g6	$l_1$	$d_2$ tol. n6	$d_3$ -0.01   -0.05	$d_4$	$h_1$	$h_2$	$h_3$	$h_4$	$r_1$	Weight g
36341.W0508	Plain	Steel	8	-	8	8	M 3	10	8	6	2.0	2.0	6
36341.W0510	Plain	Steel	10	-	10	10	M 3	13	10	6	2.5	2.5	12
36341.W0512	Plain	Steel	12	-	12	12	M 4	15	12	8	3.0	3.0	21
36341.W0516	Plain	Steel	16	-	16	16	M 5	20	16	10	4.0	4.0	51
36341.W0520	Plain	Steel	20	-	20	20	M 5	25	20	10	5.0	5.0	101
36341.W0525	Plain	Steel	25	-	25	25	M 5	25	25	10	6.0	6.0	176
36341.W0530	Plain	Steel	30	-	30	30	M 6	30	30	12	8.0	8.0	307
36341.W0540	Plain	Steel	40	-	40	40	M 6	40	40	12	10.0	10.0	729
36341.W0550	Plain	Steel	50	-	50	50	M 6	50	50	12	12.0	12.0	1422
36341.W0608	Flattened	Steel	8	1.9	8	8	M 3	10	8	6	2.0	2.0	5
36341.W0610	Flattened	Steel	10	2.5	10	10	M 3	13	10	6	2.5	2.5	11
36341.W0612	Flattened	Steel	12	2.5	12	12	M 4	15	12	8	3.0	3.0	17
36341.W0616	Flattened	Steel	16	4.3	16	16	M 5	20	16	10	4.0	4.0	44
36341.W0620	Flattened	Steel	20	5.0	20	20	M 5	25	20	10	5.0	5.0	88
36341.W0625	Flattened	Steel	25	5.6	25	25	M 5	25	25	10	6.0	6.0	149
36341.W0630	Flattened	Steel	30	8.8	30	30	M 6	30	30	12	8.0	8.0	270
36341.W0640	Flattened	Steel	40	12.8	40	40	M 6	40	40	12	10.0	10.0	657
36341.W0650	Flattened	Steel	50	16.7	50	50	M 6	50	50	12	12.0	12.0	1243
36341.W0568	Plain	Stainless	8	-	8	8	M 3	10	8	6	2.0	2.0	6
36341.W0570	Plain	Stainless	10	-	10	10	M 3	13	10	6	2.5	2.5	12
36341.W0572	Plain	Stainless	12	-	12	12	M 4	15	12	8	3.0	3.0	21
36341.W0576	Plain	Stainless	16	-	16	16	M 5	20	16	10	4.0	4.0	51
36341.W0580	Plain	Stainless	20	-	20	20	M 5	25	20	10	5.0	5.0	101
36341.W0668	Flattened	Stainless	8	1.9	8	8	M 3	10	8	6	2.0	2.0	5
36341.W0670	Flattened	Stainless	10	2.5	10	10	M 3	13	10	6	2.5	2.5	11
36341.W0672	Flattened	Stainless	12	2.5	12	12	M 4	15	12	8	3.0	3.0	17
36341.W0676	Flattened	Stainless	16	4.3	16	16	M 5	20	16	10	4.0	4.0	44
36341.W0680	Flattened	Stainless	20	5.0	20	20	M 5	25	20	10	5.0	5.0	88



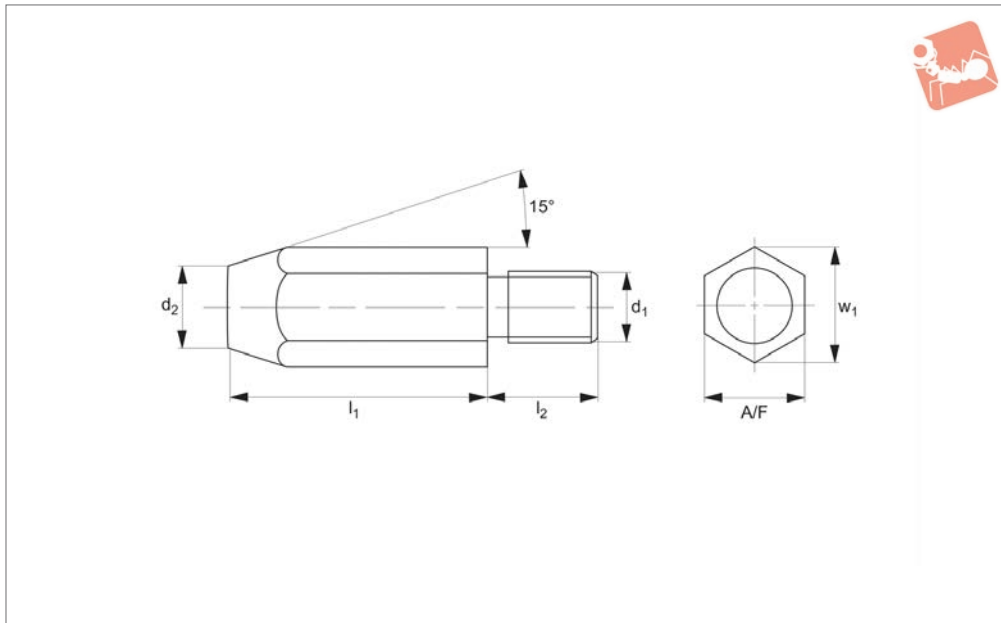
**18420**



**Material**

Steel, heat-treated.

Order No.	$d_1$	$d_2$	$d_3$	$l_1$	$l_2$	$l_3$	Weight g
18420.W0001	12	28	M12	46	8	58	70
18420.W0002	16	34	M16	57	9	72	150



**36000**

LOCATING PINS

### Material

Heat-treated steel (DIN 6320), blackened, turned, unhardened.

### Technical Notes

Bearing surface without centre.  
Locating pins nos. 36220 and 36300 can

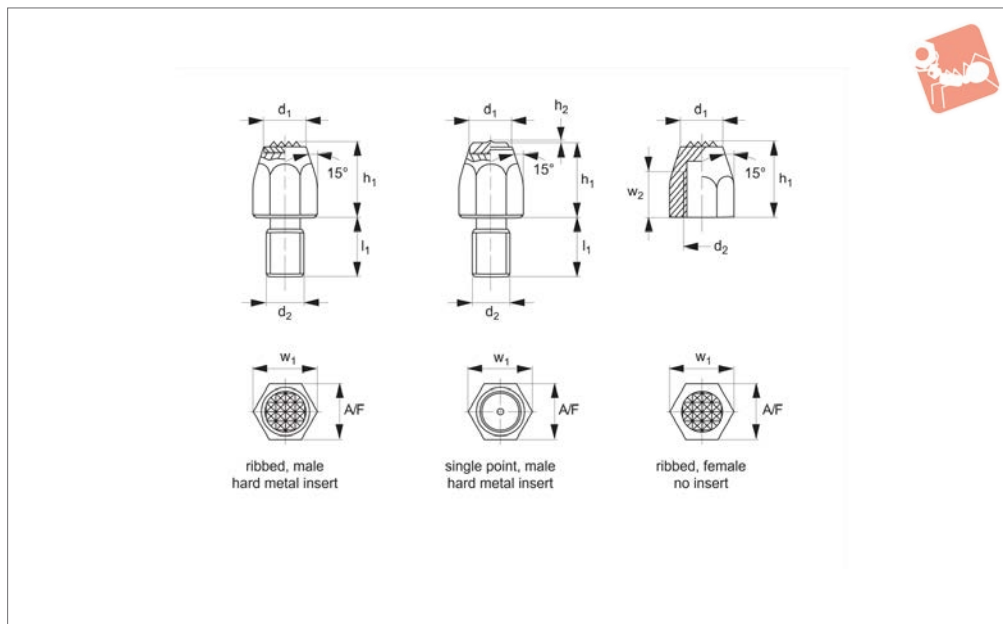
also be used as feet.

Order No.	d <sub>1</sub>	l <sub>1</sub>	d <sub>2</sub>	l <sub>2</sub>	w <sub>1</sub>	A/F	Torque to Nm max.	Weight g
36000.W0061	M 6	10	8	11	11.5	10	7	8
36000.W0062	M 6	20	6	11	11.5	10	7	13
36000.W0081	M 8	15	10	13	15.0	13	7	19
36000.W0082	M 8	30	9	13	15.0	13	18	35
36000.W0101	M10	20	13	16	19.6	17	32	41
36000.W0102	M10	40	13	16	19.6	17	32	81
36000.W0121	M12	25	15	20	21.9	19	60	70
36000.W0122	M12	50	15	20	21.9	19	60	129





## 36200



### Material

#### With hard metal insert:

Body: heat-treated steel, tempered, blackened.

Insert: hard metal, brazed-in.

#### Without hard metal insert:

Body: free-cutting steel, case-hardened, blackened.

### Technical Notes

For workpieces having a rough surface. The single pointed type is ideal for cast parts.

Order No.	Type	Insert material	d <sub>1</sub>	l <sub>1</sub>	d <sub>2</sub>	h <sub>1</sub>	h <sub>2</sub>	w <sub>1</sub>	w <sub>2</sub>	A/F	Torque to Nm max.	Weight g
36200.W0061	Ribbed, Male	Hard Metal	9.5	11	M 6	10	-	11.5	-	10	7	9
36200.W0081	Ribbed, Male	Hard Metal	12.5	13	M 8	15	-	15.0	-	13	18	22
36200.W0101	Ribbed, Male	Hard Metal	12.5	15	M10	20	-	19.6	-	17	32	40
36200.W0121	Ribbed, Male	Hard Metal	13.8	20	M12	25	-	21.9	-	19	60	64
36200.W0063	Single Point, Male	Hard Metal	9.5	11	M 6	10	0.8	11.5	-	10	7	9
36200.W0083	Single Point, Male	Hard Metal	12.5	13	M 8	15	0.8	15.0	-	13	18	23
36200.W0103	Single Point, Male	Hard Metal	12.5	15	M10	20	0.8	19.6	-	17	32	40
36200.W0123	Single Point, Male	Hard Metal	13.8	20	M12	25	0.8	21.9	-	19	60	65
36200.W0142	Ribbed, Female	W/O Insert	9.0	-	M 8	20	-	15.0	10	13	18	14
36200.W0144	Ribbed, Female	W/O Insert	9.0	-	M 8	25	-	15.0	10	13	18	20
36200.W0164	Ribbed, Female	W/O Insert	12.5	-	M10	25	-	19.6	13	17	32	1
36200.W0166	Ribbed, Female	W/O Insert	12.5	-	M10	30	-	19.6	13	17	32	40
36200.W0168	Ribbed, Female	W/O Insert	12.5	-	M10	40	-	19.6	13	17	32	60
36200.W0184	Ribbed, Female	W/O Insert	13.0	-	M12	25	-	21.9	15	19	60	33
36200.W0186	Ribbed, Female	W/O Insert	13.0	-	M12	30	-	21.9	15	19	60	44
36200.W0188	Ribbed, Female	W/O Insert	13.0	-	M12	40	-	21.9	15	19	60	69

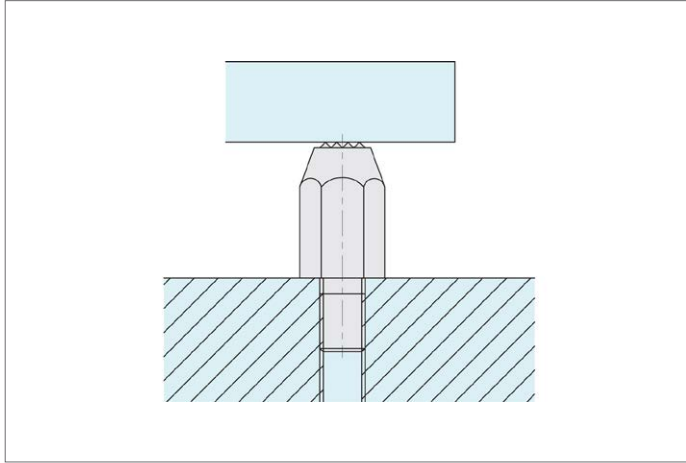


# Locating Pins

with and without hard metal insert

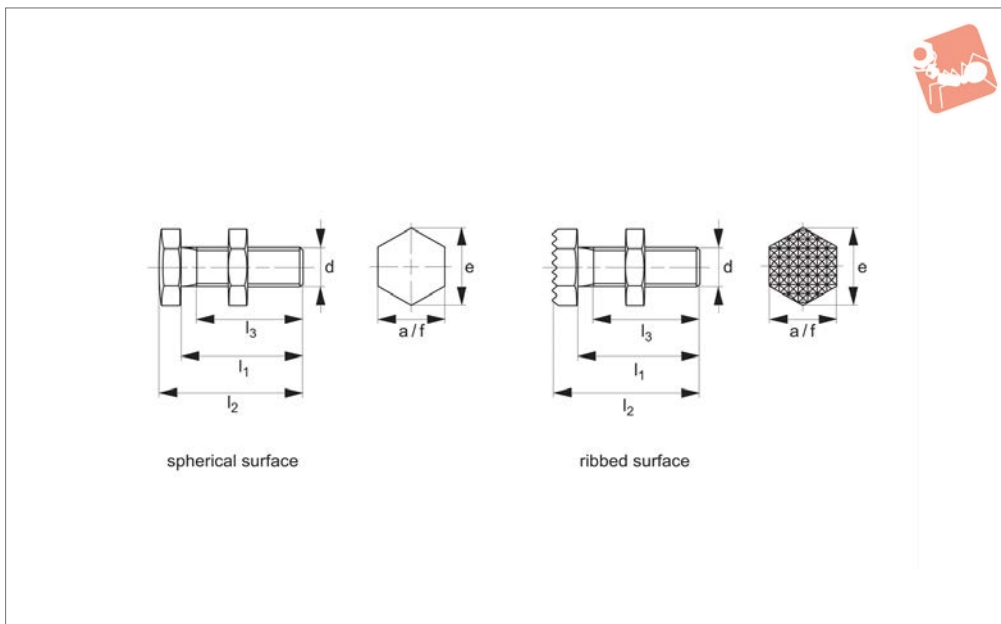


# Locating Pins





## 36210



### Material

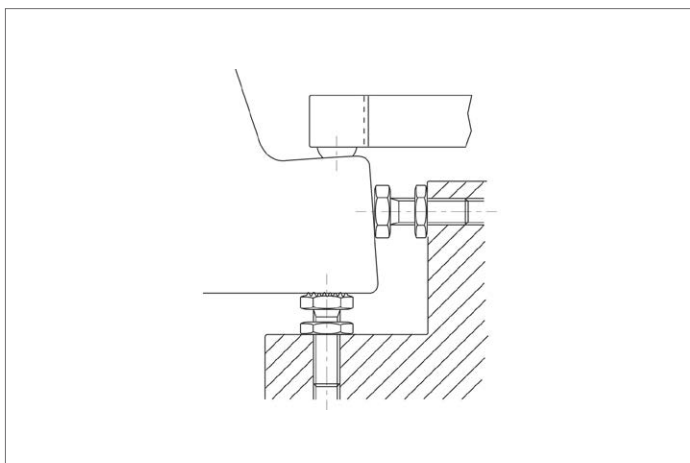
Body and nut: heat treated steel, tempered, blackened and support induc-

tion hardened, quality 10,9.

### Technical Notes

Ideal for use as seats and stops.

Order No.	Finish	d	$l_1$ $\pm 1.5$	$l_2$ $\pm 1.5$	$l_3$ min.	e	A/F	Weight g
36210.W0606	Spherical Surface	M 6	20	23.5	19.0	11.5	10	6.8
36210.W0608	Spherical Surface	M 8	25	30.0	21.0	14.5	13	15.0
36210.W0610	Spherical Surface	M10	30	36.0	25.5	19.6	17	31.0
36210.W0612	Spherical Surface	M12	35	42.0	29.7	21.9	19	48.0
36210.W0616	Spherical Surface	M16	40	49.5	34.0	27.7	24	99.0
36210.W0620	Spherical Surface	M20	45	57.0	37.0	34.6	30	179.0
36210.W0624	Spherical Surface	M24	50	64.0	40.0	41.6	36	294.0
36210.W0626	Ribbed Surface	M 6	20	23.5	19.0	11.5	10	6.7
36210.W0628	Ribbed Surface	M 8	25	30.0	21.0	14.5	13	15.0
36210.W0630	Ribbed Surface	M10	30	36.0	25.5	19.6	17	32.0
36210.W0632	Ribbed Surface	M12	35	42.0	29.7	21.9	19	49.0
36210.W0636	Ribbed Surface	M16	40	49.5	34.0	27.7	24	99.0
36210.W0640	Ribbed Surface	M20	45	57.0	37.0	34.6	30	177.0
36210.W0644	Ribbed Surface	M24	50	64.0	40.0	41.6	36	296.0



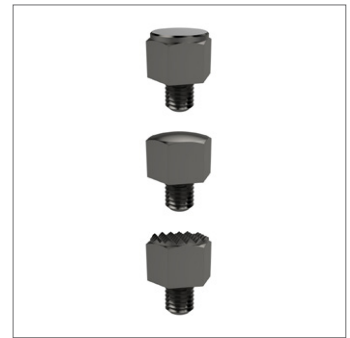
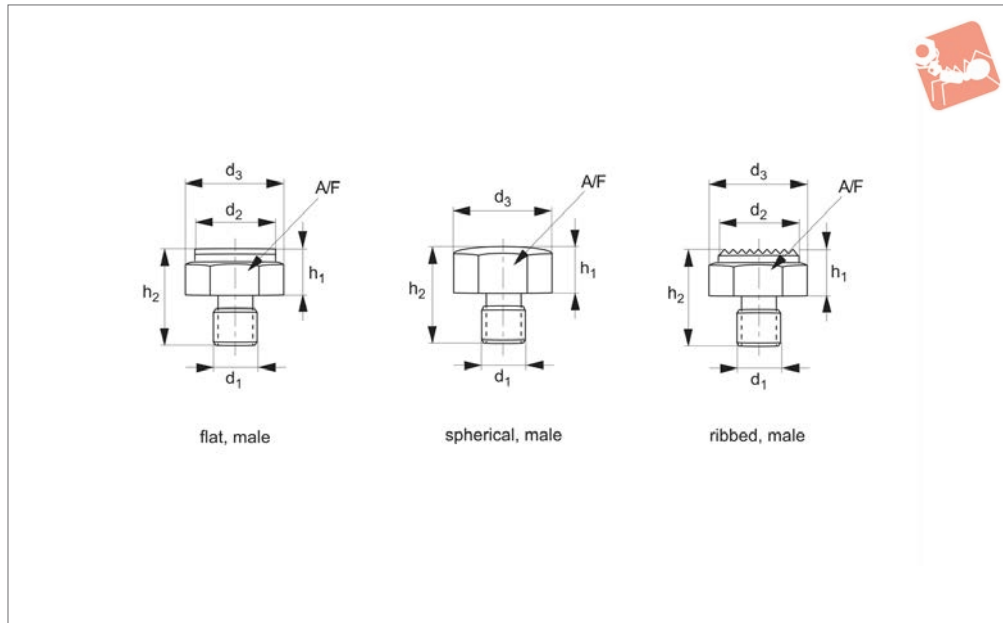


# Threaded Rest Buttons

male thread



# Locating Pins



**36401**

LOCATING PINS

### Material

Free-cutting steel, case-hardened and blackened. Thread not hardened.

### Technical Notes

The buttons are used as seats, stops and

thrust pads in jigs and fixtures as well as machine and equipment design. Dimension  $h_1$  tolerance of  $\pm 0,01$  for flat face type only, other types have  $h_1$  tolerance of  $\pm 0,1$ . Stated starting torque for female thread is

based on use of bolt of strength class 8 or greater and with full engagement of female thread.

### Tips

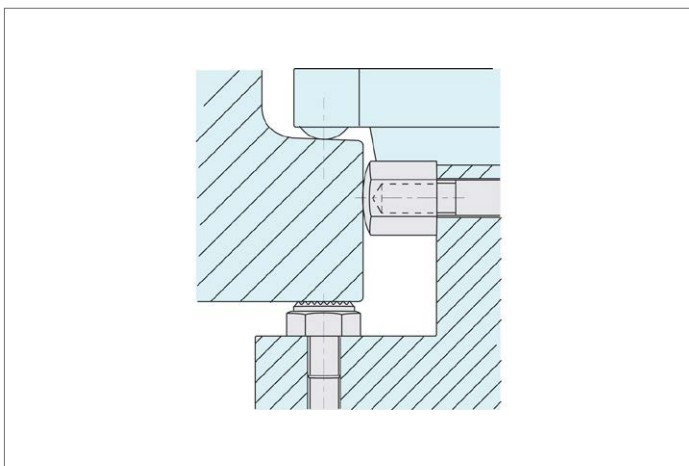
For female thread see 36402.

Order No.	Type	$d_1$	$d_2$	$d_3$	$h_1$	$h_2$	A/F	Torque to Nm max.	Weight g
36401.W0021	Flat Face	M 8	17	19.4	10	20	17	18	21
36401.W0031	Flat Face	M10	19	21.9	10	22	19	32	28
36401.W0032	Flat Face	M10	19	21.9	15	27	19	32	40
36401.W0001	Flat Face	M12	22	25.2	10	24	22	60	34
36401.W0002	Flat Face	M12	22	25.2	15	29	22	60	56
36401.W0042	Flat Face	M16	30	33.0	15	34	30	140	110
36401.W0043	Flat Face	M16	30	33.0	20	39	30	140	140
36401.W0052	Flat Face	M20	36	40.0	20	44	36	290	214
36401.W0053	Flat Face	M20	36	40.0	25	49	36	290	257
36401.W0062	Flat Face	M24	41	46.0	20	49	41	498	300
36401.W0063	Flat Face	M24	41	46.0	25	54	41	498	356
36401.W0064	Flat Face	M24	41	46.0	30	59	41	498	412
36401.W0121	Spherical Face	M 8	-	19.4	10	20	17	18	20
36401.W0131	Spherical Face	M10	-	21.9	10	22	19	32	30
36401.W0132	Spherical Face	M10	-	21.9	15	27	19	32	40
36401.W0101	Spherical Face	M12	-	25.2	10	24	22	60	38
36401.W0102	Spherical Face	M12	-	25.2	15	29	22	60	53
36401.W0142	Spherical Face	M16	-	33.0	15	34	30	140	105
36401.W0143	Spherical Face	M16	-	33.0	20	39	30	140	135
36401.W0152	Spherical Face	M20	-	40.0	20	44	36	290	206
36401.W0153	Spherical Face	M20	-	40.0	25	49	36	290	249
36401.W0162	Spherical Face	M24	-	46.0	20	49	41	498	258
36401.W0163	Spherical Face	M24	-	46.0	25	54	41	498	342
36401.W0164	Spherical Face	M24	-	46.0	30	59	41	498	398
36401.W0221	Ribbed Face	M 8	17	19.4	10	20	17	18	21
36401.W0231	Ribbed Face	M10	19	21.9	10	22	19	32	30
36401.W0232	Ribbed Face	M10	19	21.9	15	27	19	32	41
36401.W0201	Ribbed Face	M12	22	25.2	10	24	22	60	38
36401.W0202	Ribbed Face	M12	22	25.2	15	29	22	60	54
36401.W0242	Ribbed Face	M16	30	33.0	15	34	30	140	106
36401.W0243	Ribbed Face	M16	30	33.0	20	39	30	140	136



Order No.	Type	d <sub>1</sub>	d <sub>2</sub>	d <sub>3</sub>	h <sub>1</sub>	h <sub>2</sub>	A/F	Torque to Nm max.	Weight g
<b>36401.W0252</b>	Ribbed Face	M20	36	40.0	20	44	36	290	206
<b>36401.W0253</b>	Ribbed Face	M20	36	40.0	25	49	36	290	253
<b>36401.W0262</b>	Ribbed Face	M24	41	46.0	20	49	41	498	297
<b>36401.W0263</b>	Ribbed Face	M24	41	46.0	25	54	41	498	353
<b>36401.W0264</b>	Ribbed Face	M24	41	46.0	30	59	41	498	410

LOCATING PINS





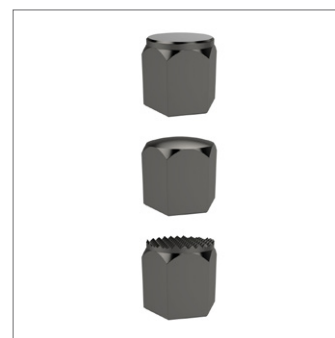
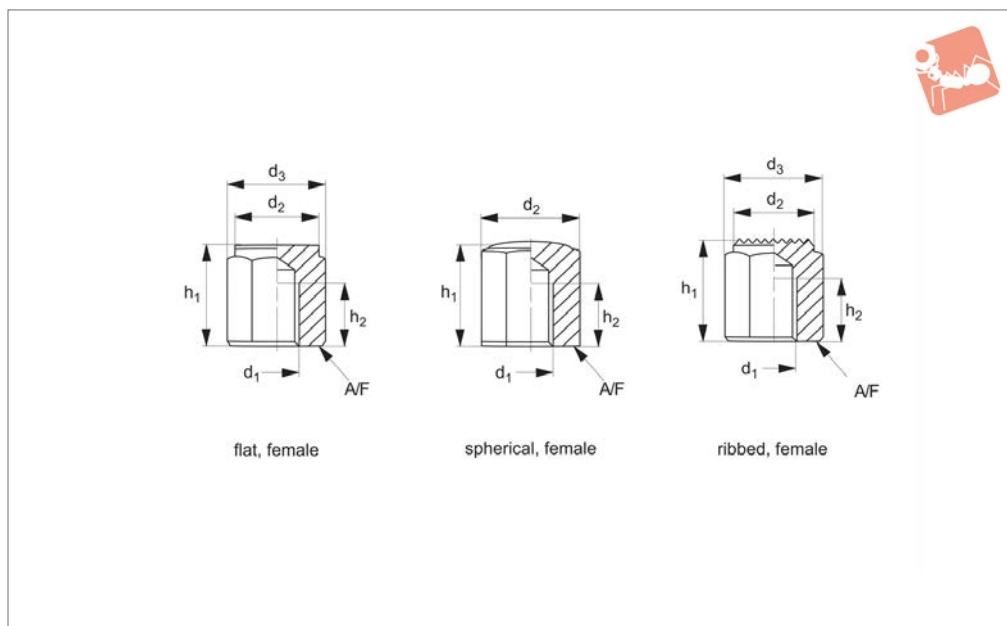


# Threaded Rest Buttons

female thread



## Locating Pins



# 36402

LOCATING PINS

### Material

Free-cutting steel, case-hardened and blackened. Thread not hardened.

### Technical Notes

The buttons are used as seats, stops and thrust pads in jigs and fixtures as well as

machine and equipment design. Dimension  $h_1$  tolerance of  $\pm 0,01$  for flat face type only, other types have  $h_1$  tolerance of  $\pm 0,1$ . Stated starting torque for female thread is based on use of bolt strength class 8 or greater and with full engagement of female

thread.

### Tips

For male thread see 36401.

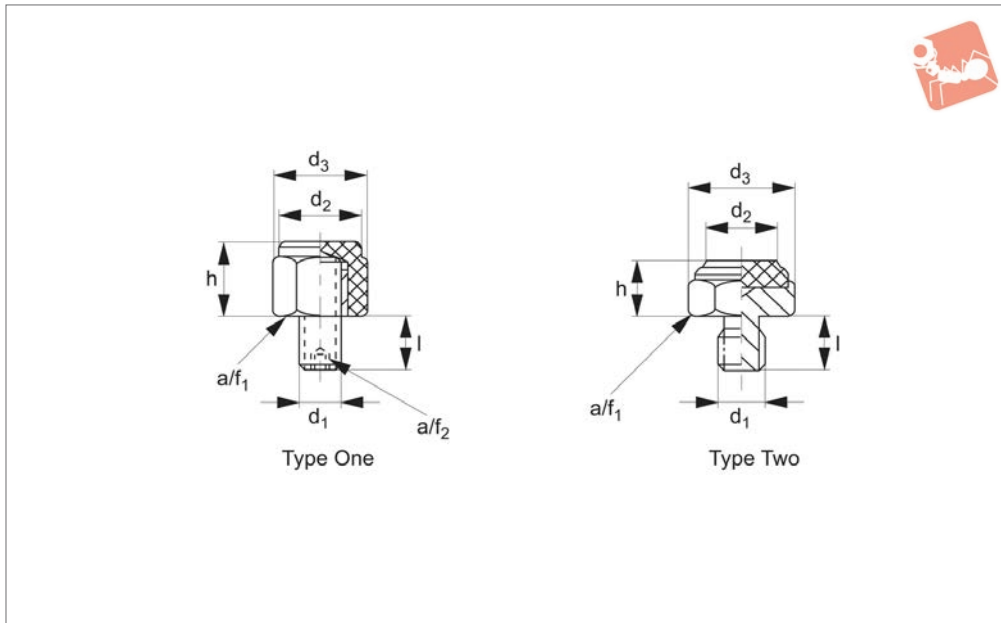
Order No.	Type	$d_1$	$d_2$	$d_3$	$h_1$	$h_2$	A/F	Torque to Nm max.	Weight g
36402.W0321	Flat Face	M 8	17	19.4	15	6	17	25	25
36402.W0323	Flat Face	M 8	17	19.4	25	12	17	25	42
36402.W0333	Flat Face	M10	19	21.9	20	10	19	46	40
36402.W0335	Flat Face	M10	19	21.9	30	15	19	46	61
36402.W0337	Flat Face	M10	19	21.9	40	15	19	46	85
36402.W0301	Flat Face	M12	22	25.2	20	10	22	82	52
36402.W0302	Flat Face	M12	22	25.2	25	15	22	82	65
36402.W0303	Flat Face	M12	22	25.2	30	18	22	82	79
36402.W0304	Flat Face	M12	22	25.2	40	18	22	82	111
36402.W0305	Flat Face	M12	22	25.2	50	18	22	82	142
36402.W0343	Flat Face	M16	30	33.0	30	20	30	206	140
36402.W0345	Flat Face	M16	30	33.0	50	24	30	206	257
36402.W0353	Flat Face	M20	36	40.0	40	26	36	407	279
36402.W0355	Flat Face	M20	36	40.0	60	38	36	407	431
36402.W0363	Flat Face	M24	41	46.0	40	26	41	698	341
36402.W0365	Flat Face	M24	41	46.0	60	38	41	698	530
36402.W0421	Spherical Face	M 8	-	19.4	15	6	17	25	23
36402.W0423	Spherical Face	M 8	-	19.4	25	12	17	25	41
36402.W0433	Spherical Face	M10	-	21.9	20	10	19	46	38
36402.W0435	Spherical Face	M10	-	21.9	30	15	19	46	60
36402.W0437	Spherical Face	M10	-	21.9	40	15	19	46	84
36402.W0401	Spherical Face	M12	-	25.2	20	10	22	82	50
36402.W0402	Spherical Face	M12	-	25.2	25	15	22	82	62
36402.W0403	Spherical Face	M12	-	25.2	30	18	22	82	76
36402.W0404	Spherical Face	M12	-	25.2	40	18	22	82	109
36402.W0405	Spherical Face	M12	-	25.2	50	18	22	82	141
36402.W0443	Spherical Face	M16	-	33.0	30	20	30	206	136
36402.W0445	Spherical Face	M16	-	33.0	50	24	30	206	252
36402.W0453	Spherical Face	M20	-	40.0	40	26	36	407	272
36402.W0455	Spherical Face	M20	-	40.0	60	38	36	407	423



Order No.	Type	d <sub>1</sub>	d <sub>2</sub>	d <sub>3</sub>	h <sub>1</sub>	h <sub>2</sub>	A/F	Torque to Nm max.	Weight g
<b>36402.W0463</b>	Spherical Face	M24	-	46.0	40	26	41	698	340
<b>36402.W0465</b>	Spherical Face	M24	-	46.0	60	38	41	698	530
<b>36402.W0521</b>	Ribbed Face	M 8	17	19.4	15	6	17	25	24
<b>36402.W0523</b>	Ribbed Face	M 8	17	19.4	25	12	17	25	41
<b>36402.W0533</b>	Ribbed Face	M10	19	21.9	20	10	19	46	38
<b>36402.W0535</b>	Ribbed Face	M10	19	21.9	30	15	19	46	60
<b>36402.W0537</b>	Ribbed Face	M10	19	21.9	40	15	19	46	84
<b>36402.W0501</b>	Ribbed Face	M12	22	25.2	20	10	22	82	50
<b>36402.W0502</b>	Ribbed Face	M12	22	25.2	25	15	22	82	63
<b>36402.W0503</b>	Ribbed Face	M12	22	25.2	30	18	22	82	77
<b>36402.W0504</b>	Ribbed Face	M12	22	25.2	40	18	22	82	109
<b>36402.W0505</b>	Ribbed Face	M12	22	25.2	50	18	22	82	141
<b>36402.W0543</b>	Ribbed Face	M16	30	33.0	30	20	30	206	137
<b>36402.W0545</b>	Ribbed Face	M16	30	33.0	50	24	30	206	254
<b>36402.W0553</b>	Ribbed Face	M20	36	40.0	40	26	36	407	266
<b>36402.W0555</b>	Ribbed Face	M20	36	40.0	60	38	36	407	418
<b>36402.W0563</b>	Ribbed Face	M24	41	46.0	40	26	41	698	338
<b>36402.W0565</b>	Ribbed Face	M24	41	46.0	60	38	41	698	528



# Screwed Rest Buttons - Plastic male thread



**36403**

LOCATING PINS

### Material

Body: stainless steel 1.4305  
Pad: plastic (PEEK), blue

supports and thrust pads in jigs and fixtures as well as machine and equipment design.  
Temperature range -60 to +250°C.

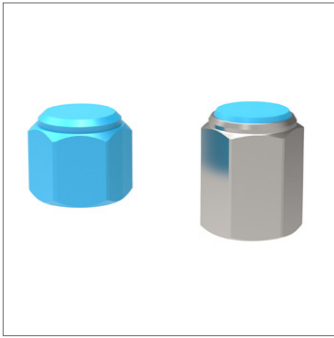
### Tips

For female thread see 36404.

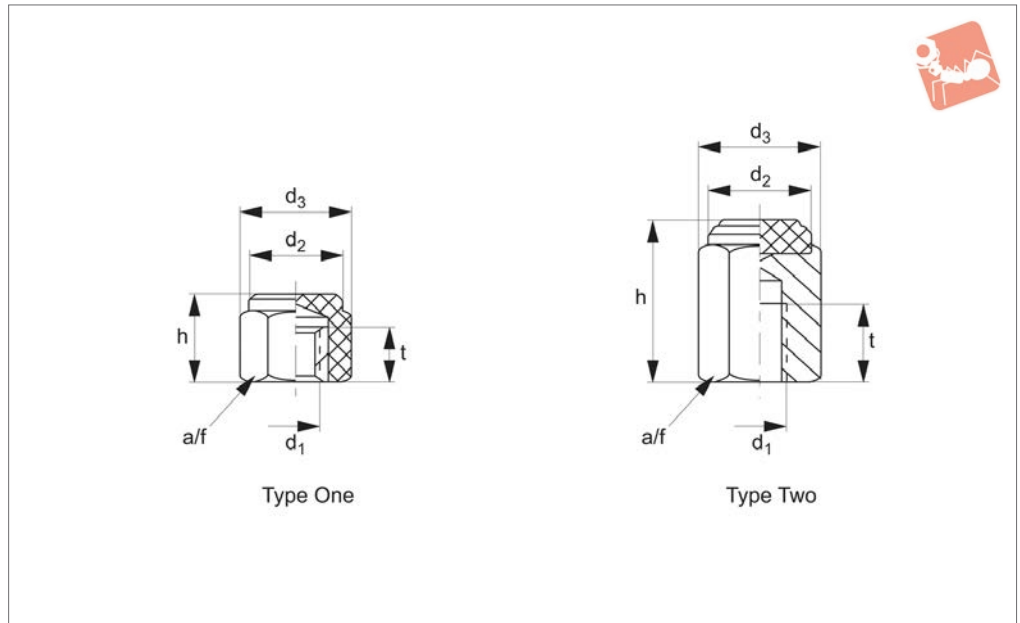
### Technical Notes

The buttons are used as seats, stops,

Order No.	d <sub>1</sub>	d <sub>2</sub>	d <sub>3</sub>	h ±0.1	l	A/F <sub>1</sub>	A/F <sub>2</sub>	Static load kN max.	Tightening torque Nm max.	Weight g
36403.W0122	M 8	17.0	19.0	15	8	17	4	2.1	10	12
36403.W0133	M10	19.0	21.5	20	10	19	5	2.4	10	18
36403.W0143	M12	22.0	25.0	20	14	22	6	3.4	10	24
36403.W0021	M 8	12.5	19.4	10	10	17	-	2.8	18	15
36403.W0031	M10	14.5	21.9	10	12	19	-	3.8	2	21
36403.W0032	M10	14.5	21.9	15	12	19	-	3.8	32	33
36403.W0041	M12	17.5	25.2	10	14	22	-	5.5	60	30
36403.W0042	M12	17.5	25.2	15	14	22	-	5.5	60	46



## 36404



### Material

Body: stainless steel 1.4305  
Pad: plastic (PEEK), blue

### Technical Notes

The buttons are used as seats, stops,

supports and thrust pads in jigs and fixtures as well as machine and equipment design.

Stated starting torque for female thread is based on use of bolt strength class 8 or

greater, and with full engagement of female thread.

Temperature range -60 to +250°C.

### Tips

For male thread see 36403.

Order No.	Type	d <sub>1</sub>	d <sub>2</sub>	d <sub>3</sub>	h <sub>1</sub> ±0.1	t <sub>1</sub>	A/F <sub>1</sub>	Static load kN	Tightening torque Nm max.	Weight g
36404.W0222	One	M 8	17.0	19.0	15	9	-	2.1	10	7
36404.W0233	One	M10	19.0	21.5	20	10	-	2.4	10	11
36404.W0243	One	M12	22.0	25.0	20	12	-	3.4	10	16
36404.W0324	Two	M 8	12.5	19.4	25	12	17	2.8	18	36
36404.W0335	Two	M10	14.5	21.9	30	15	19	3.8	32	54
36404.W0345	Two	M12	17.5	25.2	30	18	22	5.5	60	71



# Locating Pins

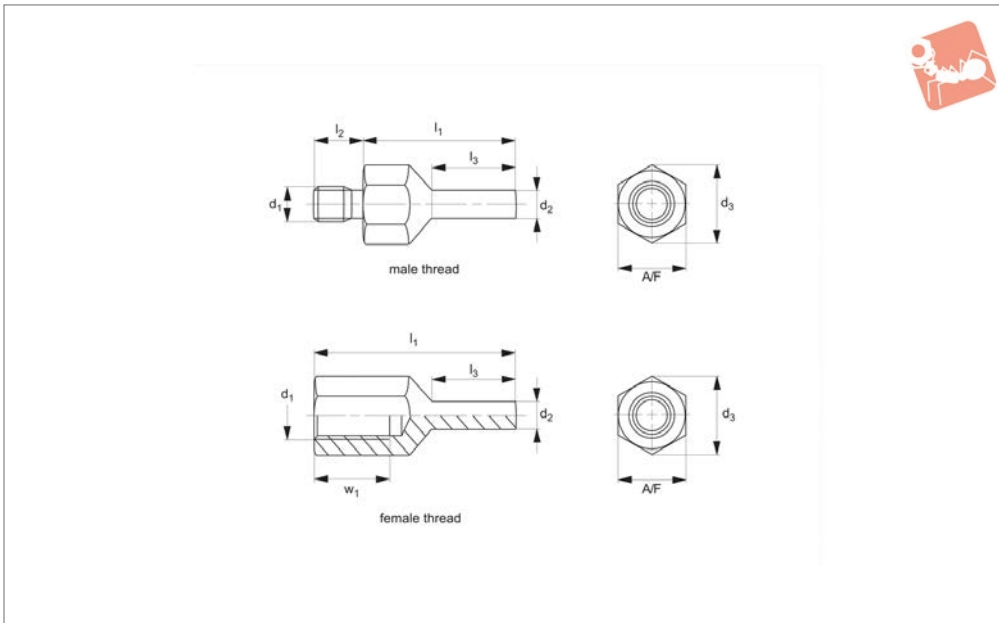
pin shaped

# Locating Pins



**36440**

LOCATING PINS



### Material

Heat-treated steel, blackened. Surface induction hardened and ground.

### Technical Notes

To be used as solid and precise seat and stop. The pin-shaped form of this locating

pin allows an application in components with narrow seating points.

Order No.	Finish	d <sub>1</sub>	l <sub>1</sub> ±0.01	d <sub>2</sub>	l <sub>2</sub>	d <sub>3</sub>	l <sub>3</sub>	w <sub>1</sub>	A/F	Torque to Nm max.	Weight g
<b>36440.W0402</b>	Male Thread	M 6	20	4	8	11.0	10.0	-	10	7	8
<b>36440.W0404</b>	Male Thread	M 6	30	4	8	11.0	15.0	-	10	7	12
<b>36440.W0412</b>	Male Thread	M 8	30	4	10	14.4	15.0	-	13	18	17
<b>36440.W0414</b>	Male Thread	M 8	40	4	10	14.4	20.0	-	13	18	23
<b>36440.W0416</b>	Male Thread	M 8	30	6	10	14.4	15.0	-	13	18	20
<b>36440.W0418</b>	Male Thread	M 8	40	6	10	14.4	20.0	-	13	18	27
<b>36440.W0422</b>	Male Thread	M10	30	6	14	19.0	15.0	-	17	32	30
<b>36440.W0424</b>	Male Thread	M10	50	6	14	19.0	25.0	-	17	32	51
<b>36440.W0426</b>	Male Thread	M10	30	8	14	19.0	15.0	-	17	32	35
<b>36440.W0428</b>	Male Thread	M10	50	8	14	19.0	25.0	-	17	32	58
<b>36440.W0432</b>	Male Thread	M12	40	6	14	21.2	20.0	-	19	60	48
<b>36440.W0434</b>	Male Thread	M12	60	6	14	21.2	30.0	-	19	60	75
<b>36440.W0436</b>	Male Thread	M12	40	8	14	21.2	20.0	-	19	60	56
<b>36440.W0438</b>	Male Thread	M12	60	8	14	21.2	30.0	-	19	60	83
<b>36440.W0452</b>	Female Thread	M 6	20	4	-	11.0	8.5	6	10	7	6
<b>36440.W0454</b>	Female Thread	M 6	30	4	-	11.0	13.5	9	10	7	9
<b>36440.W0462</b>	Female Thread	M 8	30	4	-	14.4	13.0	10	13	18	13
<b>36440.W0464</b>	Female Thread	M 8	40	4	-	14.4	18.0	14	13	18	18
<b>36440.W0466</b>	Female Thread	M 8	30	6	-	14.4	13.0	10	13	18	16
<b>36440.W0468</b>	Female Thread	M 8	40	6	-	14.4	18.0	14	13	18	21
<b>36440.W0472</b>	Female Thread	M10	30	6	-	19.0	12.0	10	17	32	24
<b>36440.W0474</b>	Female Thread	M10	50	6	-	19.0	25.0	15	17	32	38
<b>36440.W0476</b>	Female Thread	M10	30	8	-	19.0	12.0	10	17	32	28
<b>36440.W0478</b>	Female Thread	M10	50	8	-	19.0	25.0	15	17	32	44
<b>36440.W0482</b>	Female Thread	M12	40	6	-	21.2	18.0	12	19	60	36
<b>36440.W0484</b>	Female Thread	M12	60	6	-	21.2	28.0	18	19	60	56
<b>36440.W0486</b>	Female Thread	M12	40	8	-	21.2	18.0	12	19	60	41
<b>36440.W0488</b>	Female Thread	M12	60	8	-	21.2	28.0	18	19	60	63

