



## STANDARDNI VPENJALNI ELEMENTI

Zatezne ročice, zatezni vijaki, gumbi, nogice





Široka izbira standardnih vpenjalnih in zateznih elementov  
za kovinske omarice, kovinska ohišja, kovinsko pohištvo, za uporabo pri  
izdelavi strojne opreme, za uporabo v industriji predelave pločevine in vozil.

04



Clamp Levers  
reinforced Polyamide



Clamp Levers  
Handle from Polyamide



Clamp Levers  
Handle from Die-Cast Zinc



Flat Clamp Levers  
Handle from Die-Cast Zinc



Flat Tension Levers



Tension Levers



Safety Clamp Levers



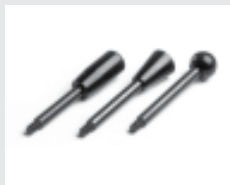
Safety Tension Levers



Clamp Levers  
unadjustable



Tension Levers  
unadjustable



Grips



Wing Nuts/ -Screws



Quick Acting  
Star Knobs



Star Knobs  
similar to DIN 6336



Star Knobs  
with Projecting Bush



Star Knobs  
Closed Shape



Star Knobs  
threaded through-bore



Star Knobs



Cross Knobs  
similar to DIN 6335



Cross Knobs with  
Projecting Steel Bush



Ball Knobs  
similar to DIN 319



Ball Knobs  
from reinforced ABS



Knurl Nuts/Screws



Knurl Nuts  
DIN 6303



Flat Knurl Nuts/Screws



Elevated Knurl Nuts/  
Screws



Knurl Nuts/Screws



Knurl Nuts  
threaded through-bore



Knurl Nuts/Screws



Knurl Screws



Knurl Screws resp.  
Height Adjusters



Levelling Elements  
resp. Height Adjusters



Levelling Elements



Levelling Elements  
resp. Height Adjusters



Levelling Elements



Levelling Elements



Levelling Elements



Levelling Elements



Pull Handles Aluminium  
resp. Stainless Steel



Pull Handles  
from Plastic



Pull Handles to assemble  
from front side



Fixing Bolts  
Steel resp. Stainless Steel



Fixing Bolts  
without Collar



Fixing Bolts  
without Thread



Fixing- and Clamping  
Knobs



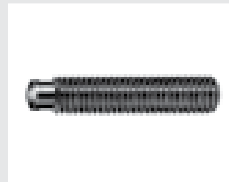
Indexing Bolts  
Steel resp. Stainless Steel



Spring Plungers



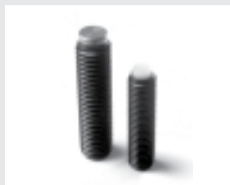
Ball Clamping Screws



Thread Pins  
DIN 6332



Pressure Heads  
DIN 6311



Thread Pins with Brass  
resp. Plastic Point



Crank Handles



Revolving Grips



Revolving Grips  
DIN 98



Fixed Grips  
Fixed Grips DIN 39



Disc Hand Wheels



Hand Wheels  
DIN 950



Two Spoke Hand Wheels



Universal Ratchets

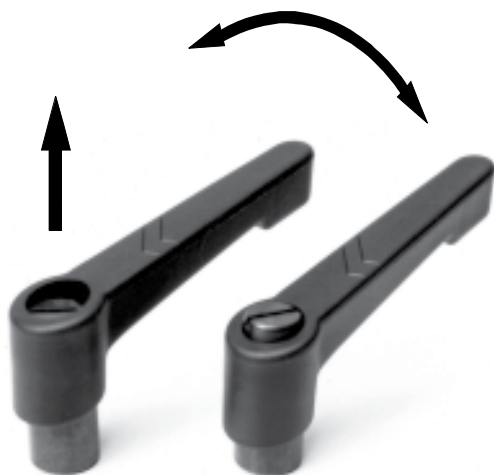


Eye Screws  
DIN 444

## Adjustable Clamp and Tension Levers / *Vpenjalne in zatezne ročice*

It is especially profitable to use adjustable clamp and tension levers when space is limited or when the handle must be set in a certain clamping position. The adjusting mechanism enables the constructive and economical solution of almost each application.

- 06 *Uporaba zateznih ročic je priporočljiva, ko je prostor omejen ali pa mora biti ročaj nastavljen v točno določeni poziciji. Prilagodljiv mehanizem omogoča konstruktivno in ekonomično rešitev za skoraj kakršnokoli namestitvev.*



### Handling / *Uporaba*

In order to reach the most favourable clamping position, the handle must be lifted until the teeth are disengaged, then turn it into the desired position. Self-locking is effected by spring pressure.

*Za nastavitev najugodnejše zatezne pozicije, je potrebno ročaj dvigniti in ga zavrteti v željen položaj. Ko ročaj izpustite ta sam pade nazaj v delovno pozicijo.*

### Important Notes Ensuring an Easy Ordering / *Pomembni napotki pri naročanju:*

#### Model

In the catalogue, you will find all current standard sizes. In addition, various types of models can also be supplied quickly at favourable prices.

#### Order Instructions

Please quote the order numbers stated in the catalogue in order to ensure correct delivery. Thus, delays and incorrect deliveries can be avoided.

#### Posebne izvedbe

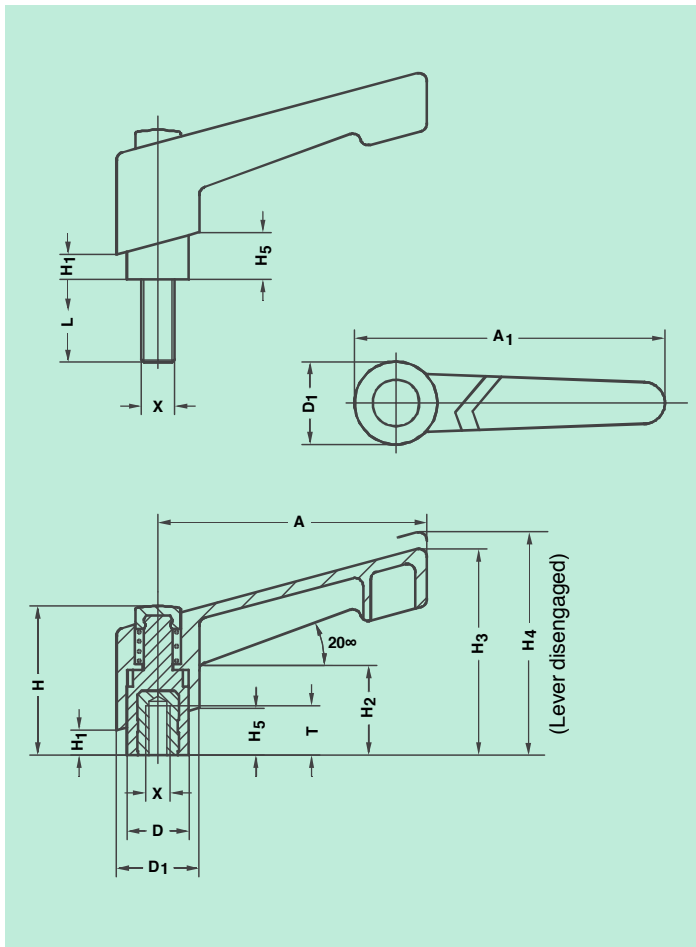
*V katalogu najdete naše najbolj standardne izdelke. Poleg navedenih so na voljo tudi različni modeli z drugimi dimenzijami.*

#### Navodila za povpraševanje ali naročanje

*Vaše povpraševanje ali naročilo z veseljem sprejmemo po zgoraj navedenem e-mailu ali telefonu. Za najbolj učinkovito in enostavno komunikacijo vas prosimo, da navedete naročniško številko artikla in željeno količino.*

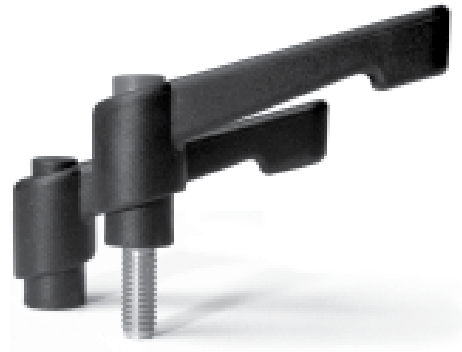
#### Dobavni roki

*Standardni izdelki so vedno na zalogi in dobavljivi v 24 urah.*



## Clamp Levers

adjustable  
Special glass-fibre reinforced Polyamide  
At excellent prices



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Ergonomy and handling perfectly joined.  
Convincing quality. The optimum solution for clamping operations. Resistant to oils, solvents, and other chemicals.

**Model:** Handle from special glass-fibre reinforced polyamide. Bush resp. screw from zinc-plated steel quality 4.8, surrounded by plastic body.

**Standard colours:**  
Handle and push button: black RAL 9005 or orange RAL 2004.  
Other colours on request.

### Clamp Levers - Internal thread

order no. handle black, push button black	order no. handle black, push button orange	order no. handle orange, push button black	size	internal thread X	A mm	A <sub>1</sub> mm	D mm	D <sub>1</sub> mm	H mm	H <sub>1</sub> mm	H <sub>2</sub> mm	H <sub>3</sub> mm	H <sub>4</sub> mm	H <sub>5</sub> mm	T mm	no. of teeth	weight approx. kg
13 042 04 999 00	13 042 04 999 01	13 042 04 999 10	42	M 4													
13 042 05 999 00	13 042 05 999 01	13 042 05 999 10	42	M 5	42	50	12	16	26,5	3,2	15,9	34,9	37,7	7,5	9	10	0,010
13 042 06 999 00	13 042 06 999 01	13 042 06 999 10		M 6													
13 065 06 999 00	13 065 06 999 01	13 065 06 999 10	65	M 6	65	75	15	20	36	6	21,5	49,7	53,7	11,4	12	12	0,022
13 065 08 999 00	13 065 08 999 01	13 065 08 999 10		M 8													
13 080 08 999 00	13 080 08 999 01	13 080 08 999 10		M 8													
13 080 10 999 00	13 080 10 999 01	13 080 10 999 10	80	M 10	80	92,5	20	25	46	7,5	28,3	63,1	67,1	14,2	17	12	0,051
13 080 12 999 00	13 080 12 999 01	13 080 12 999 10		M 12													

### Clamp Levers - External thread

order no. handle black, push button black	order no. handle black, push button orange	order no. handle orange, push button black	size	external thread X	length of screw L (mm)												
13 042 04 ... 00	13 042 04 ... 01	13 042 04 ... 10		M 4	10												
13 042 05 ... 00	13 042 05 ... 01	13 042 05 ... 10	42	M 5	10												
13 042 06 ... 00	13 042 06 ... 01	13 042 06 ... 10		M 6	10	15	20	25	30						45		
13 065 06 ... 00	13 065 06 ... 01	13 065 06 ... 10	65	M 6	10		20	25	30	35							
13 065 08 ... 00	13 065 08 ... 01	13 065 08 ... 10		M 8		15	20	25	30	35	40					50	
13 080 10 ... 00	13 080 10 ... 01	13 080 10 ... 10	80	M 10			20		30		40					50	
13 080 12 ... 00	13 080 12 ... 01	13 080 12 ... 10		M 12					30		40					50	

... Please indicate here the desired length of screw e.g. 025 for L = 25 mm.

## Clamp Levers

adjustable  
Special glass-fibre reinforced Polyamide  
Steel Parts from Stainless Steel

08

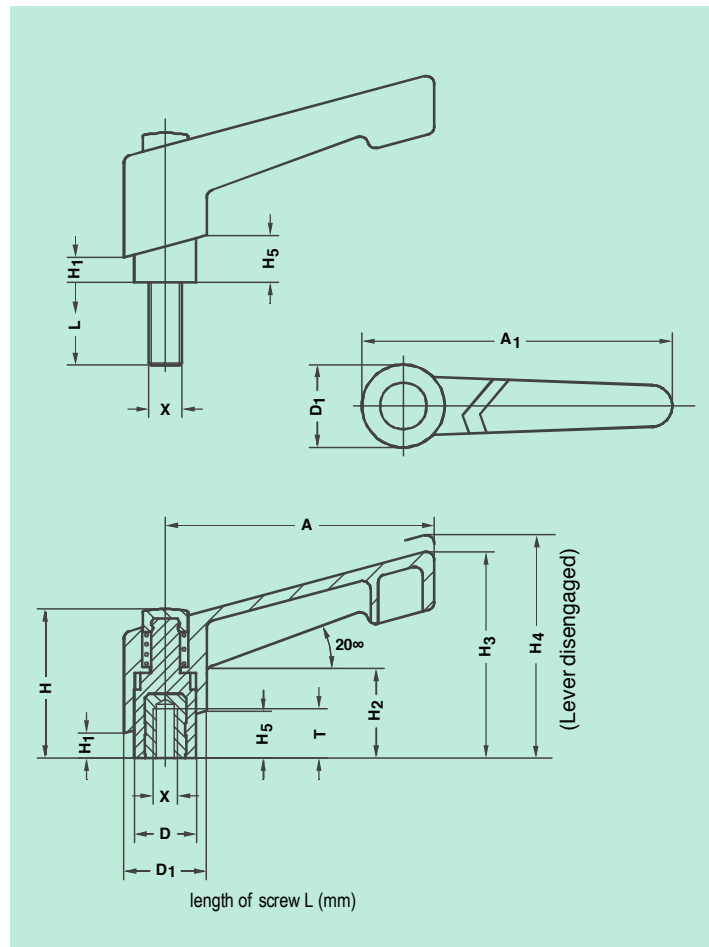


Ergonomy and handling perfectly joined. Convincing quality. The optimum solution for clamping operations. Resistant to oils, solvents, and other chemicals.

**Model:** Handle from special glass-fibre reinforced polyamide. Bush resp. screw from stainless steel, surrounded by plastic body.

### Standard colours:

Handle and push button: black RAL 9005 or orange RAL 2004. Other colours on request.



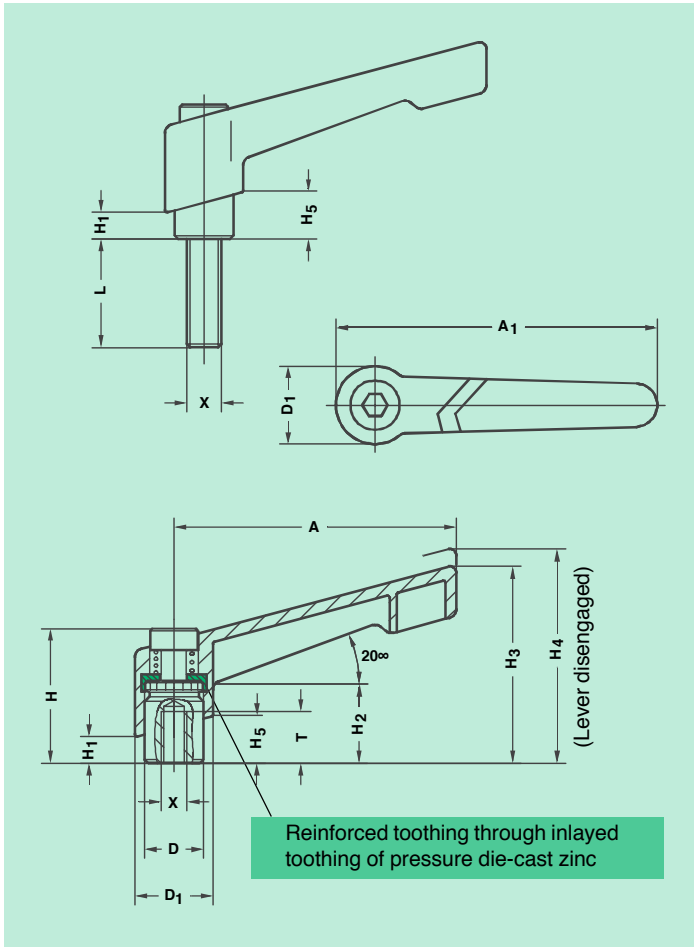
### Zimmermann Clamp Levers with Stainless Steel Parts - Internal thread

order no. handle black, push button black	order no. handle black, push button orange	order no. handle orange, push button black	size	internal thread X	A	A <sub>1</sub>	D	D <sub>1</sub>	H	H <sub>1</sub>	H <sub>2</sub>	H <sub>3</sub>	H <sub>4</sub>	H <sub>5</sub>	T	no. of teeth	weight approx. kg
13 042 04 999 00 E0A	13 042 04 999 01 E0A	13 042 04 999 10 E0A	42	M 4	42	50	12	16	26,5	3,2	15,9	34,9	37,7	7,5	9	10	0,010
13 042 05 999 00 E0A	13 042 05 999 01 E0A	13 042 05 999 10 E0A		M 5													
13 042 06 999 00 E0A	13 042 06 999 01 E0A	13 042 06 999 10 E0A		M 6													
13 065 06 999 00 E0A	13 065 06 999 01 E0A	13 065 06 999 10 E0A	65	M 6	65	75	15	20	36	6	21,5	49,7	53,7	11,4	12	12	0,022
13 065 08 999 00 E0A	13 065 08 999 01 E0A	13 065 08 999 10 E0A		M 8													
13 080 08 999 00 E0A	13 080 08 999 01 E0A	13 080 08 999 10 E0A		M 8													
13 080 10 999 00 E0A	13 080 10 999 01 E0A	13 080 10 999 10 E0A	80	M 10	80	92,5	20	25	46	7,5	28,3	63,1	67,1	14,2	17	12	0,051
13 080 12 999 00 E0A	13 080 12 999 01 E0A	13 080 12 999 10 E0A		M 12													

### Zimmermann Clamp Levers with Stainless Steel Parts - External thread

order no. handle black, push button black	order no. handle black, push button orange	order no. handle orange, push button black	size	external thread X	length of screw L (mm)
13 042 04 ... 00 E0A	13 042 04 ... 01 E0A	13 042 04 ... 10 E0A	42	M 4	10
13 042 05 ... 00 E0A	13 042 05 ... 01 E0A	13 042 05 ... 10 E0A		M 5	10
13 042 06 ... 00 E0A	13 042 06 ... 01 E0A	13 042 06 ... 10 E0A		M 6	10
13 065 06 ... 00 E0A	13 065 06 ... 01 E0A	13 065 06 ... 10 E0A	65	M 6	10
13 065 08 ... 00 E0A	13 065 08 ... 01 E0A	13 065 08 ... 10 E0A		M 8	15
13 080 10 ... 00 E0A	13 080 10 ... 01 E0A	13 080 10 ... 10 E0A		M 10	20
					20
					30
					30
					35
					50

... Please indicate here the desired length of screw e.g. 020 for L = 20 mm.



## Clamp Levers

adjustable  
Handle from special Polyamide  
Reinforced Design



**Registered Design**

Zimmermann Clamp Levers. Modern design.  
Convincing quality.

**Model:** Handle from polyamide. Reinforced by glassfibre. Reinforced tothing with zinc ring of pressure die-cast zinc. Steel parts stability class 5.8, black oxide finished. Reinforced tothing through inlayed tothing from pressure die-cast zinc.

**Standard colours of the handle:** black RAL 9005  
and orange RAL 2004.

**Special types** such as other thread diameter, screw length etc. are available on request.

### Clamp Levers with Handle from Polyamide - Internal Thread

Order No. Black	Order No. Orange	Size	Internal Thread X	A mm	A <sub>1</sub> mm	D mm	D <sub>1</sub> mm	H mm	H <sub>1</sub> mm	H <sub>2</sub> mm	H <sub>3</sub> mm	H <sub>4</sub> mm	H <sub>5</sub> mm	T mm	No. of Teeth	kg
10 042 04 999 sw	10 042 04 999 or		M 4													
10 042 05 999 sw	10 042 05 999 or	42	M 5	42	49	10	14	24,5	3,2	15,4	33,5	37	6,8	9	18	0,014
10 042 06 999 sw	10 042 06 999 or		M 6													
10 065 06 999 sw	10 065 06 999 or	65	M 6	65	74	13,5	18	31	6	18,4	45,5	49,5	10,5	11	24	0,031
10 065 08 999 sw	10 065 08 999 or		M 8													
10 078 08 999 sw	10 078 08 999 or	78	M 8	78	89	16	22	36	7,5	22,3	54	58	13	14	26	0,048
10 078 10 999 sw	10 078 10 999 or		M 10													
10 092 10 999 sw	10 092 10 999 or	92	M 10	92	105	19	25	43	9	27	64	68	15,2	17	28	0,084
10 092 12 999 sw	10 092 12 999 or		M 12													

### Clamp Levers with Handle from Polyamide - External Thread

Order No. Black	Order No. Orange	Size	External Thread X	Length of Screw L (mm)			
10 042 04 ... sw	10 042 04 ... or		M 4	12	16	20	25
10 042 05 ... sw	10 042 05 ... or	42	M 5	12	16	20	25
10 042 06 ... sw	10 042 06 ... or		M 6	12	16	20	25
10 065 08 ... sw	10 065 08 ... or	65	M 8	12	16	20	25
10 065 10 ... sw	10 065 10 ... or		M 10			20	25
10 078 08 ... sw	10 078 08 ... or	78	M 8		16	20	25
10 078 10 ... sw	10 078 10 ... or		M 10			20	25
10 092 10 ... sw	10 092 10 ... or	92	M 10			20	25
10 092 12 ... sw	10 092 12 ... or		M 12			20	25

... Please indicate here the desired length of Screw e.g., 025 for L = 25 mm.



## Clamp Levers

Handle from special Polyamide Reinforced Design, Steel Parts from Stainless Steel

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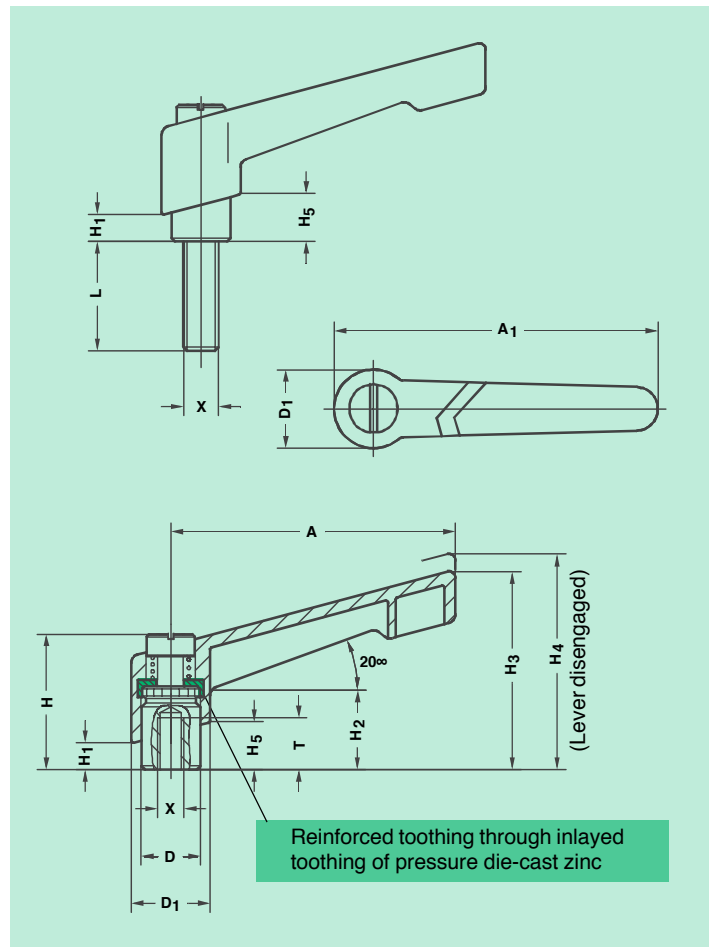
### Registered Design

Zimmermann Clamp Levers. Handle from special polyamide and steel parts from stainless steel. For special demand e.g. hospitals and laboratories, food- and beverage industries.

**Model:** Handle from polyamide with zinc ring from pressure die-cast zinc. Stainless steel parts, material no. 1.4305. Reinforced toothing through inlaid toothing from pressure die-cast zinc

**Standard colours of the handle:** black RAL 9005 and orange RAL 2004.

**Special types** such as different thread diameter, screw length etc. are available on request.



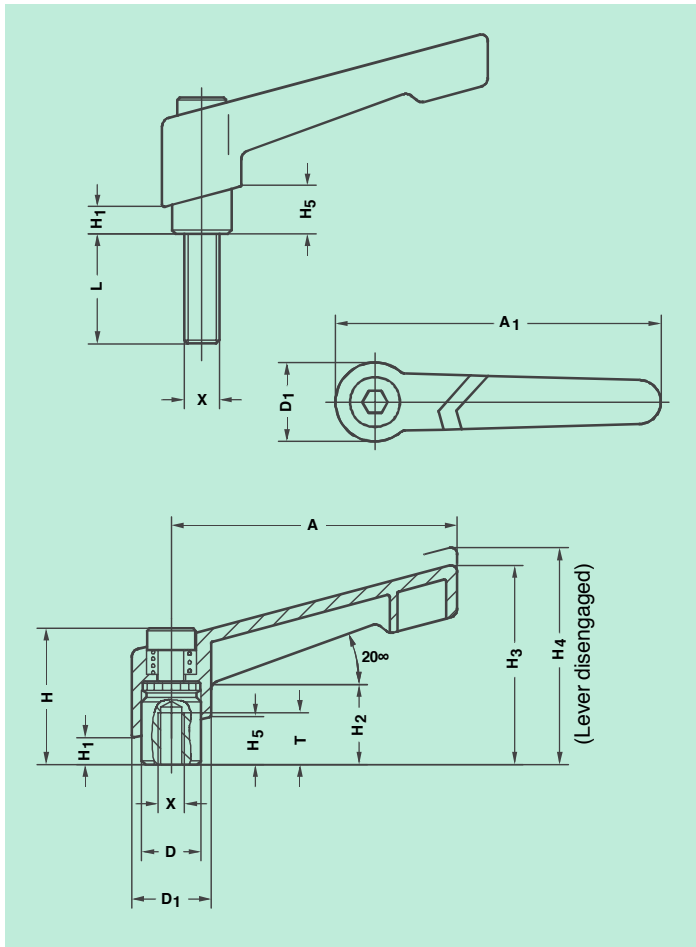
### Clamp Levers with Handle from Polyamide and Stainless Steel Parts - Internal Thread

Order No. Black	Order No. Orange	Size	Internal Thread X	A mm	A <sub>1</sub> mm	D mm	D <sub>1</sub> mm	H mm	H <sub>1</sub> mm	H <sub>2</sub> mm	H <sub>3</sub> mm	H <sub>4</sub> mm	H <sub>5</sub> mm	T mm	No. of Teeth	Weight approx. Kg
10 042 05 999 sw E0A	10 042 05 999 or E0A	42	M 5	42	49	10	14	24,5	3,2	15,4	33,5	37	6,8	9	18	0,014
10 042 06 999 sw E0A	10 042 06 999 or E0A		M 6													
10 065 06 999 sw E0A	10 065 06 999 or E0A	65	M 6	65	74	13,5	18	31	6	18,4	45,5	49,5	10,5	11	24	0,031
10 065 08 999 sw E0A	10 065 08 999 or E0A		M 8													
10 078 08 999 sw E0A	10 078 08 999 or E0A	78	M 8	78	89	16	22	36	7,5	22,3	54	58	13	14	26	0,048
10 078 10 999 sw E0A	10 078 10 999 or E0A		M 10													
10 092 10 999 sw E0A	10 092 10 999 or E0A	92	M 10	92	105	19	25	43	9	27	64	68	15,2	17	28	0,084
10 092 12 999 sw E0A	10 092 12 999 or E0A		M 12													

### Clamp Levers with Handle from Polyamide and Stainless Steel Parts - External Thread

Order No. Black	Order No. Orange	Size	External Thread X	Length of Screw L (mm)													
10 042 05 ... sw E0A	10 042 05 ... or E0A	42	M 5	12	16	20	25	32	40	50							
10 042 06 ... sw E0A	10 042 06 ... or E0A		M 6	12	16	20	25	32	40	50							
10 065 06 ... sw E0A	10 065 06 ... or E0A	65	M 6		16	20	25	32	40	50							
10 065 08 ... sw E0A	10 065 08 ... or E0A		M 8		16	20	25	32	40	50	63						
10 078 10 ... sw E0A	10 078 10 ... or E0A	78	M 10			20	25	32	40	50	63	80					
10 092 10 ... sw E0A	10 092 10 ... or E0A	92	M 10			20	25	32	40	50	63	80					
10 092 12 ... sw E0A	10 092 12 ... or E0A		M 12			20	25	32	40	50	63	80					

... Please indicate here the desired length of screw e.g. 025 for L = 25 mm.



## Clamp Levers adjustable Handle from Pressure Die-Cast Zinc For Heavy Load



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### Registered Design

Zimmermann Clamp Levers. Extremely high safety handle. Convincing quality. Modern and functional design. For heavy load.

**Model:** Handle from pressure die-cast zinc, plastic coated. Steel parts stability class 5.8, black oxide finished.

**Standard colours of the handle:** black RAL 9005 and orange RAL 2004.

**Special types** such as other thread diameter, screw length, etc. are available on request.

### Clamp Levers with Handle from Pressure Die-Cast Zinc - Internal Thread

Order No. Black	Order No. Orange	Size	Internal Thread X	A mm	A <sub>1</sub> mm	D mm	D <sub>1</sub> mm	H mm	H <sub>1</sub> mm	H <sub>2</sub> mm	H <sub>3</sub> mm	H <sub>4</sub> mm	H <sub>5</sub> mm	T mm	No. of Teeth	Weight approx. kg
11 042 04 999 sw	11 042 04 999 or	42	M 4	42	49	10	14	24,5	3,2	15,4	33,5	37	6,8	9	18	0,030
11 042 05 999 sw	11 042 05 999 or		M 5													
11 042 06 999 sw	11 042 06 999 or		M 6													
11 065 06 999 sw	11 065 06 999 or	65	M 6	65	74	13,5	18	31	6	18,4	45,5	49,5	10,5	11	24	0,072
11 065 08 999 sw	11 065 08 999 or		M 8													
11 078 08 999 sw	11 078 08 999 or	78	M 8	78	89	16	22	36	7,5	22,3	54	58	13	14	26	0,105
11 078 10 999 sw	11 078 10 999 or		M 10													
11 092 10 999 sw	11 092 10 999 or	92	M 10	92	105	19	25	43	9	27	64	68	15,2	17	28	0,170
11 092 12 999 sw	11 092 12 999 or		M 12													
11 108 12 999 sw	11 108 12 999 or	108	M 12	108	123	23	30	50,5	11	30	75	80	17	23	30	0,265
11 108 16 999 sw	11 108 16 999 or		M 16													

### Clamp Levers with Handle from Pressure Die-Cast Zinc - External Thread

Order No. Black	Order No. Orange	Size	External Thread X	Length of Screw L (mm)												
11 042 04 ... sw	11 042 04... or	42	M 4	12	16	20	25	32								
11 042 05 ... sw	11 042 05... or		M 5	12	16	20	25	32	40	50						
11 042 06 ... sw	11 042 06... or		M 6	12	16	20	25	32	40	50						
11 065 08 ... sw	11 065 08... or	65	M 8	12	16	20	25	32	40	50	63					
11 065 10 ... sw	11 065 10... or		M 10	12	16	20	25	32	40	50	63					
11 078 08 ... sw	11 078 08... or	78	M 8	12	16	20	25	32	40	50	63					
11 078 10 ... sw	11 078 10... or		M 10	12	16	20	25	32	40	50	63	80				
11 092 10 ... sw	11 092 10... or	92	M 10	12	16	20	25	32	40	50	63	80				
11 092 12 ... sw	11 092 12... or		M 12	12	16	20	25	32	40	50	63	80				
11 108 12 ... sw	11 108 12... or	108	M 12	12	16	20	25	32	40	50	63	80				
11 108 16 ... sw	11 108 16... or		M 16	12	16	20	25	32	40	50	63	80				

indicate here the desired length of screw e.g. 025 for L = 25 mm.

## Clamp Levers

Handle from Pressure Die-Cast Zinc  
For Heavy Load, Steel Parts  
from Stainless Steel

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**INOX**



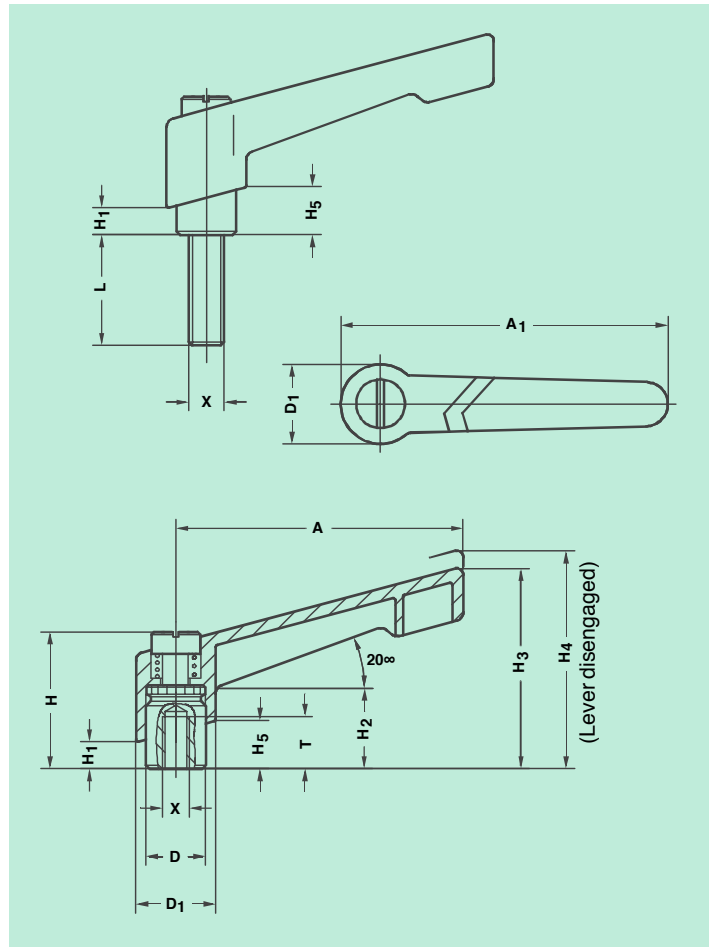
**Registered Design**

Zimmermann Clamp Levers. For special demand, e.g. hospitals and laboratories, food- and beverage industries.

**Model:** Handle from pressure die-cast zinc, plastic coated. Stainless steel parts, material no. 1.4305.

**Standard colours of the handle:** black RAL 9005 and orange RAL 2004.

**Special types** such as different thread diameter, screw length, etc. are available on request.



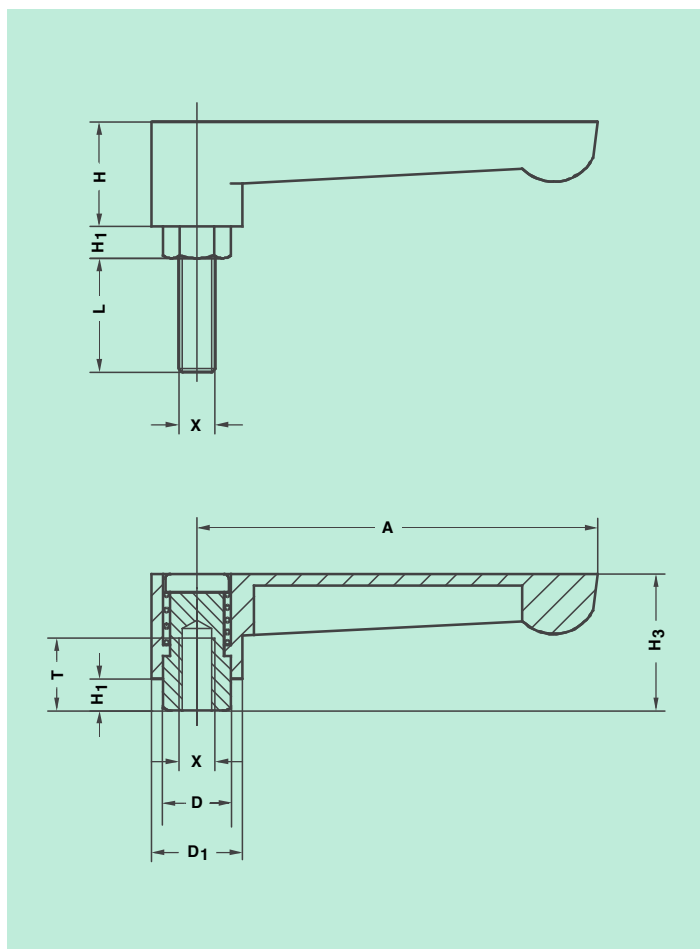
### Clamp Levers with Handle from Pressure Die-Cast Zinc, Stainless Steel - Internal Thread

Order No. Black	Order No. Orange	Size	Internal Thread X	A mm	A <sub>1</sub> mm	D mm	D <sub>1</sub> mm	H mm	H <sub>1</sub> mm	H <sub>2</sub> mm	H <sub>3</sub> mm	H <sub>4</sub> mm	H <sub>5</sub> mm	T mm	No. of Teeth	Weight approx. kg
11 042 05 999 sw E0A	11 042 05 999 or E0A	42	M 5	42	49	10	14	24,5	3,2	15,4	33,5	37	6,8	9	18	0,014
11 042 06 999 sw E0A	11 042 06 999 or E0A		M 6													
11 065 06 999 sw E0A	11 065 06 999 or E0A	65	M 6	65	74	13,5	18	31	6	18,4	45,5	49,5	10,5	11	24	0,031
11 065 08 999 sw E0A	11 065 08 999 or E0A		M 8													
11 078 08 999 sw E0A	11 078 08 999 or E0A	78	M 8	78	89	16	22	36	7,5	22,3	54	58	13	14	26	0,048
11 078 10 999 sw E0A	11 078 10 999 or E0A		M 10													
11 092 10 999 sw E0A	11 092 10 999 or E0A	92	M 10	92	105	19	25	43	9	27	64	68	15,2	17	28	0,084
11 092 12 999 sw E0A	11 092 12 999 or E0A		M 12													
11 108 12 999 sw E0A	11 108 12 999 or E0A	108	M 12	108	123	23	30	50,5	11	30	75	80	17	23	30	0,265
11 108 16 999 sw E0A	11 108 16 999 or E0A		M 16													

### Clamp Levers with Handle from Pressure Die-Cast Zinc, Stainless Steel - External Thread

Order No. Black	Order No. Orange	Size	External Thread X	Length of Screw L (mm)												
11 042 05 ... sw E0A	11 042 05 ... or E0A	42	M 5	12	16	20	25	32	40	50						
11 042 06 ... sw E0A	11 042 06 ... or E0A		M 6	12	16	20	25	32	40	50						
11 065 06 ... sw E0A	11 065 06 ... or E0A	65	M 6		16	20	25	32	40	50						
11 065 08 ... sw E0A	11 065 08 ... or E0A		M 8		16	20	25	32	40	50	63					
11 078 10 ... sw E0A	11 078 10 ... or E0A	78	M 10			20	25	32	40	50	63	80				
11 092 10 ... sw E0A	11 092 10 ... or E0A	92	M 10			20	25	32	40	50	63	80				
11 092 12 ... sw E0A	11 092 12 ... or E0A		M 12			20	25	32	40	50	63	80				
11 108 16 ... sw E0A	11 108 16 ... or E0A	108	M 16					32	40	50	63	80				

... Please indicate here the desired length of screw e.g. 025 for L = 25 mm.



## Flat Clamp Levers

adjustable  
Handle from Pressure Die-Cast Zinc

13



Zimmermann Flat Clamp Levers. For clamping needs where the vertical space is extremely restricted.

**Model:** Handle from pressure die-cast zinc, plastic coated. Steel parts stability class 5.8, black oxide finished.

**Standard colours of the handle:** black RAL 9005 and orange RAL 2004.

**Special types** such as different thread diameter, screw length, etc. are available on request.

### Flat Clamp Levers - Internal Thread

Order No. Black	Order No. Orange	Internal Thread X	A mm	D mm	D <sub>1</sub> mm	H mm	H <sub>1</sub> mm	H <sub>3</sub> mm	T mm	Weight approx. kg
16 064 06 999 sw	16 064 06 999 or	M 6	64	10	15	19	6	24	11	0,042
16 088 08 999 sw	16 088 08 999 or	M 8	88	13	20	22	7	29	15	0,080
16 112 10 999 sw	16 112 10 999 or	M 10	112	17	25	28	9	37	23	0,136
16 133 12 999 sw	16 133 12 999 or	M 12	133	19	28	32	11	43	24	0,194

### Flat Clamp Levers - External Thread

Order No. Black	Order No. Orange	External Thread X	Length of Screw L (mm)							
16 064 06 ... sw	16 064 06 ... or	M 6	10	15	20	25	30			
16 088 08 ... sw	16 088 08 ... or	M 8		15	20	25	30	40	50	
16 112 10 ... sw	16 112 10 ... or	M 10			20	25	30	40	50	
16 133 12 ... sw	16 133 12 ... or	M 12				25	30	40	50	60

... Please indicate here the desired length of screw e.g. 025 for L = 25 mm.

## Flat Tension Levers adjustable

14



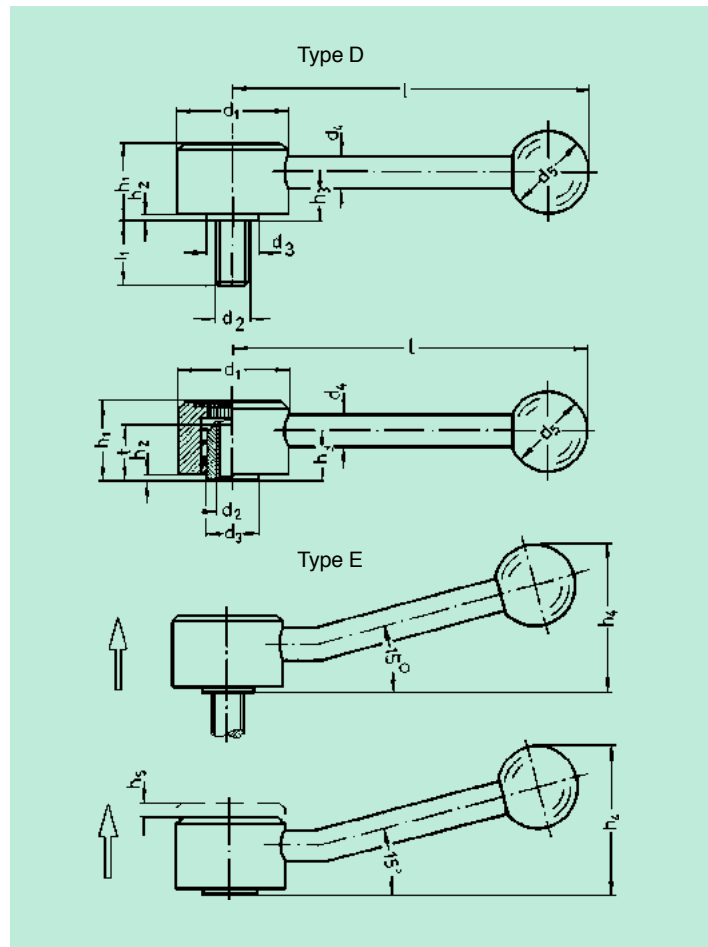
Zimmermann Flat Tension Levers from steel. For clamping needs where the vertical space is extremely restricted. The height of this lever has been kept to a minimum to meet these requirements.

**Model:** Steel parts stability class 5.8, black oxide finished. Ball knob DIN 319, plastic, black.

**Type D:** straight handle.

**Type E:** cranked handle 15°

**Special types** such as different thread diameter, screw length are available on request.



### Flat Tension Levers - Internal Thread

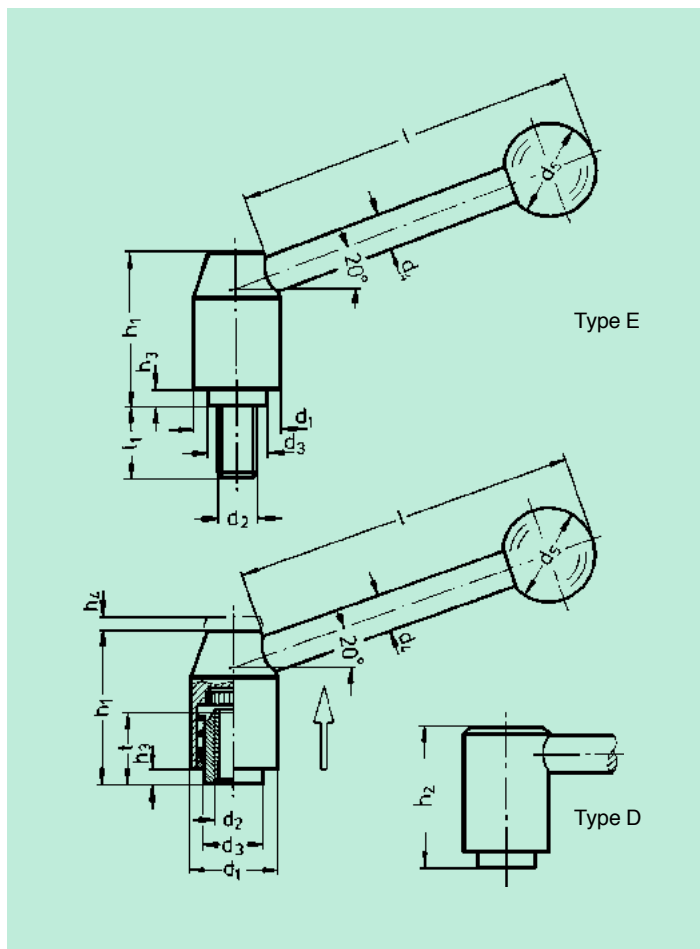
Order No. Type D	Order No. Type E	Size	Internal Thread d <sub>2</sub>	d <sub>1</sub> mm	d <sub>3</sub> mm	d <sub>4</sub> mm	d <sub>5</sub> mm	h <sub>1</sub> mm	h <sub>2</sub> mm	h <sub>3</sub> mm	h <sub>4</sub> mm	h <sub>5</sub> mm	l mm	t mm	No. of Teeth	Weight approx. kg
15 32 06 999 D		32	M 6	32	13,5	8	20	20,5	1,5	12,5	36	4	100	11	24	0,139
15 32 08 999 D	15 32 08 999 E		M 8													
15 36 08 999 D		36	M 8	36	16	10	25	24,5	2	15	45	4,5	120	14	26	0,219
15 36 10 999 D	15 36 10 999 E		M 10													
15 40 10 999 D		40	M 10	40	19	12	30	26,5	2	16	50	4,5	130	17	28	0,301
15 40 12 999 D	15 40 12 999 E		M 12													
15 45 16 999 D	15 45 16 999 E	45	M 16	45	23	12	32	31,5	2	20	60	5	145	23	30	0,406

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### Flat Tension Levers - External Thread

Order No. Type D	Order No. Type E	Size	External Thread d <sub>2</sub>	Length of Screw l <sub>1</sub> (mm)												
15 32 08 ... D	15 32 08 ... E	32	M 8	16	20	25	32	40	50	63						
15 32 10 ... D	15 32 10 ... E		M 10		20	25	32	40	50	63						
15 36 10 ... D	15 36 10 ... E	36	M 10		20	25	32	40	50	63						
15 36 12 ... D	15 36 12 ... E		M 12			25	32	40	50	63						
15 40 12 ... D	15 40 12 ... E	40	M 12			25	32	40	50	63						
15 45 16 ... D	15 45 16 ... E	45	M 16				32	40	50	63						

... Please indicate here the desired length of screw e.g. 032 for l<sub>1</sub> = 32 mm.



## Tension Levers adjustable



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Zimmermann Tension Levers from steel. For applications requiring maximum stability. Zimmermann tension levers meet the requirements for a strong and comfortable clamping means.

**Model:** Steel parts stability class 5.8, black oxide finished. Ball knob DIN 319, plastic, black.

**Type E:** lever position 20°.

**Type D:** lever position 0°.

**Special types** such as different thread diameter, screw length, etc. are available on request.

### Tension Levers - Internal Thread

Order No. Type E	Order No. Type D	Internal Thread d <sub>2</sub>	d <sub>1</sub> mm	Size	d <sub>3</sub> mm	d <sub>4</sub> mm	d <sub>5</sub> mm	h <sub>1</sub> mm	h <sub>2</sub> mm	h <sub>3</sub> mm	h <sub>4</sub> mm	l mm	t mm	No. of Teeth	Weight approx. kg
14 21 06 999 E	14 21 06 999 D	M 6	21	21	13,5	8	20	33,5	31	1	4	70	11	24	0,095
14 21 08 999 E	14 21 08 999 D	M 8	24	24	16	10	25	40	37	2,5	4,5	96	14	26	0,155
14 24 10 999 E	14 24 10 999 D	M 10	28	28	19	12	30	48,5	44,5	4,5	4,5	110	17	28	0,261
14 28 10 999 E	14 28 10 999 D	M 10	28	28	19	12	30	48,5	44,5	4,5	4,5	110	17	28	0,261
14 28 12 999 E	14 28 12 999 D	M 12	33	33	23	12	32	55	51,5	6	5,5	124	23	30	0,372
14 33 12 999 E	14 33 12 999 D	M 12	33	33	23	12	32	55	51,5	6	5,5	124	23	30	0,372
14 33 16 999 E	14 33 16 999 D	M 16	40	40	28	14	35	68	64	6	5,5	138	36	50	0,615
14 40 20 999 E	14 40 20 999 D	M 20	40	40	28	14	35	68	64	6	5,5	138	36	50	0,615

### Tension Levers - External Thread

Order No. Type E	Order No. Type D	Size	External Thread d <sub>2</sub>	Length of Screw l <sub>1</sub> (mm)						
14 21 08 ... E	14 21 08 ... D	21	M 8	16	20	25	32	40	50	63
14 24 10 ... E	14 24 10 ... D	24	M 10	16	20	25	32	40	50	63
14 28 10 ... E	14 28 10 ... D	28	M 10	20	25	32	40	50	63	63
14 28 12 ... E	14 28 12 ... D	28	M 12	20	25	32	40	50	63	63
14 33 12 ... E	14 33 12 ... D	33	M 12	25	32	40	50	63	63	63
14 33 16 ... E	14 33 16 ... D	33	M 16	32	40	50	63	63	63	63
14 40 20 ... E	14 40 20 ... D	40	M 20	40	50	63	63	63	63	63

... Please indicate here the desired length of screw e.g. 032 for l<sub>1</sub> = 32 mm.

## Tension Levers

adjustable  
from Stainless Steel

16

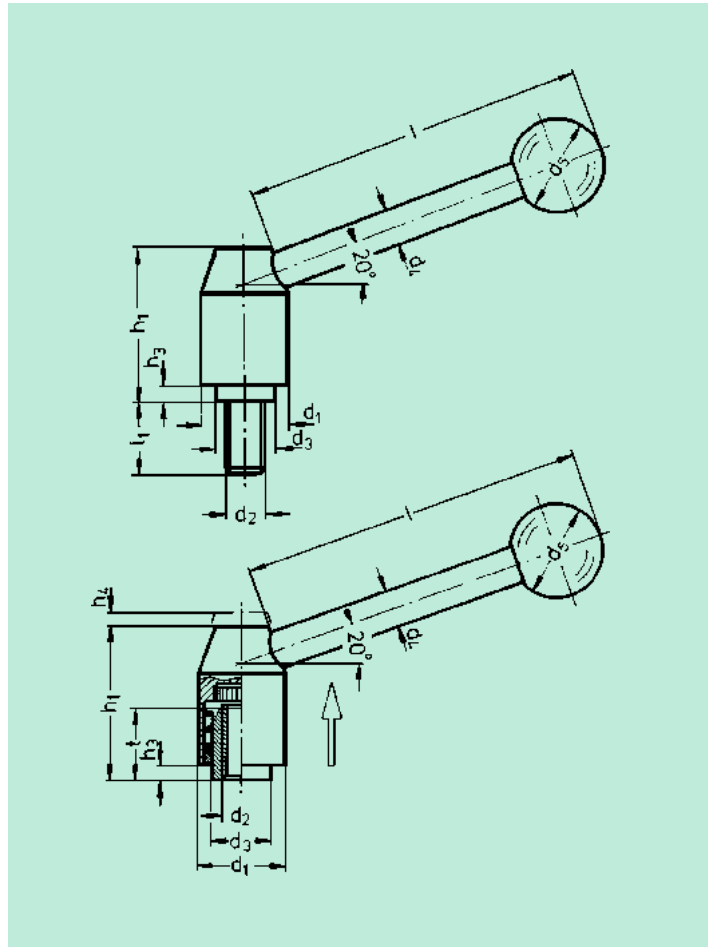


INOX

Zimmermann Tension Levers. For special demand e.g. hospitals and laboratories, food- and beverage industries.

**Model:** Complete lever from stainless steel, material no. 1.4305, sand-blasted matt. Ball knob DIN 319, plastic, black.

**Special types** such as different thread diameter, screw length, etc. are available on request.



### Tension Levers with Internal Thread - Stainless steel

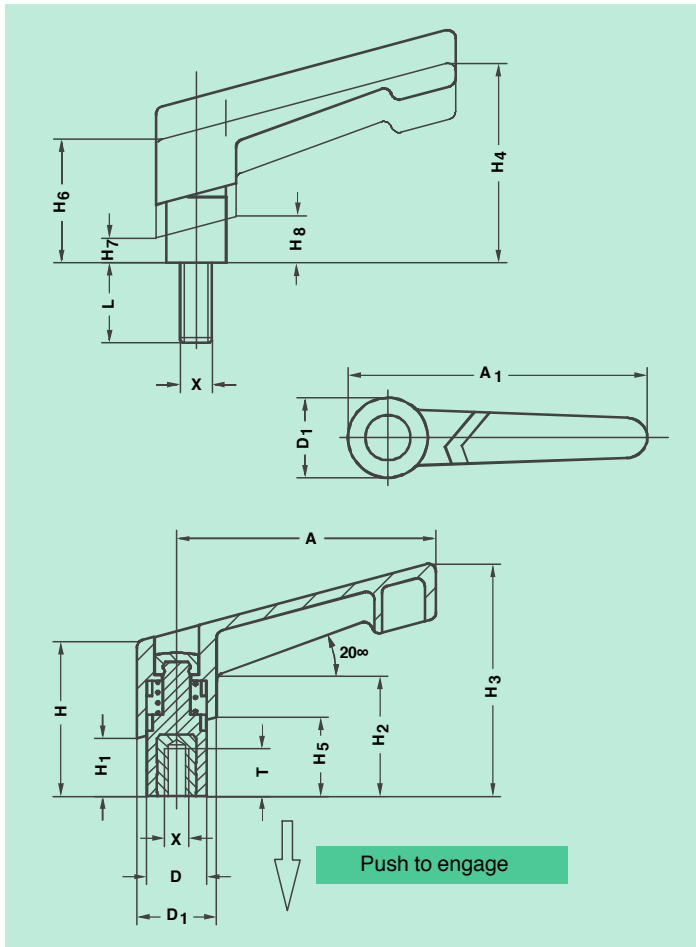
Order No.	Size	Internal Thread d <sub>2</sub>	d <sub>1</sub> mm	d <sub>3</sub> mm	d <sub>4</sub> mm	d <sub>5</sub> mm	h <sub>1</sub> mm	h <sub>3</sub> mm	h <sub>4</sub> mm	l mm	t mm	No. of Teeth	Weight approx. kg
14 21 06 999 E E0A	21	M 6	21	13,5	8	20	33,5	1	4	70	10	24	0,095
14 21 08 999 E E0A		M 8											
14 24 08 999 E E0A	24	M 8	24	16	10	25	40	2,5	4,5	96	14	26	0,155
14 24 10 999 E E0A		M 10											
14 28 10 999 E E0A	28	M 10	28	19	12	30	48,5	4,5	4,5	110	17	28	0,261
14 28 12 999 E E0A		M 12											

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### Tension Levers with External Thread - Stainless Steel

Order No.	Size	External Thread d <sub>2</sub>	Length of Screw l <sub>1</sub> (mm)						
14 21 08 ... E E0A	21	M 8	16	20	25	32	40	50	63
14 24 10 ... E E0A	24	M 10		20	25	32	40	50	63
14 28 12 ... E E0A	28	M 12			25	32	40	50	63

... Please indicate here the desired length of screw e.g. 032 for l<sub>1</sub> = 32 mm.



## Safety Clamp Levers adjustable



Zimmermann Safety Clamp Levers are used on such applications where a thoughtless or mistaken releasing or re-positioning of the tension lever could lead to an accident. The lever in its rest position is not connected with the internal spindle and can be rotated un-hindered. The tension lever engages in the serration only after pushing it down, thus allowing clamping or unclamping. The freewheel position is re-established as soon as the handle is released.

**Model:** Handle from special glass-fibre reinforced polyamide. Bush resp. screw from zinc-plated steel quality 4.8, surrounded by plastic body.

**Standard colours:**  
Handle: black RAL 9005.  
Push button: orange RAL 2004.

Other colours on request.

### Safety Clamp Levers - Internal Thread

order no. handle black, push button orange	size	internal thread X	A	A <sub>1</sub>	D	D <sub>1</sub>	H	H <sub>1</sub>	H <sub>2</sub>	H <sub>3</sub>	H <sub>4</sub>	H <sub>5</sub>	H <sub>6</sub>	H <sub>7</sub>	H <sub>8</sub>	T	no. of teeth	weight approx. kg
44 042 05 999 01	42	M 5	42	50	12	16	27	8,5	20,5	40	36	12	23	4,5	16	9	10	0,010
44 042 06 999 01		M 6																
44 065 06 999 01	65	M 6	65	75	15	20	37	14	29	56	50	18,5	30	7	11,5	12	12	0,022
44 065 08 999 01		M 8																
44 080 10 999 01	80	M 10	80	92,5	20	25	48	16,5	37	70	61	22	40	9	14	17	12	0,051
44 080 12 999 01		M 12																

### Safety Clamp Levers - External Thread

order no. handle black, push button orange	size	external thread X	length of screw L (mm)
44 042 06 ... 01	42	M 6	10 20
44 065 08 ... 01	65	M 8	15 20 30
44 080 10 ... 01	80	M 10	20 30 40
44 080 12 ... 01		M 12	30 50

... Please indicate here the desired length of screw e.g. 020 for L = 20 mm.



## Flat Clamp Lever

Adjustable  
Special glass-fibre reinforced Polyamide  
New design

18

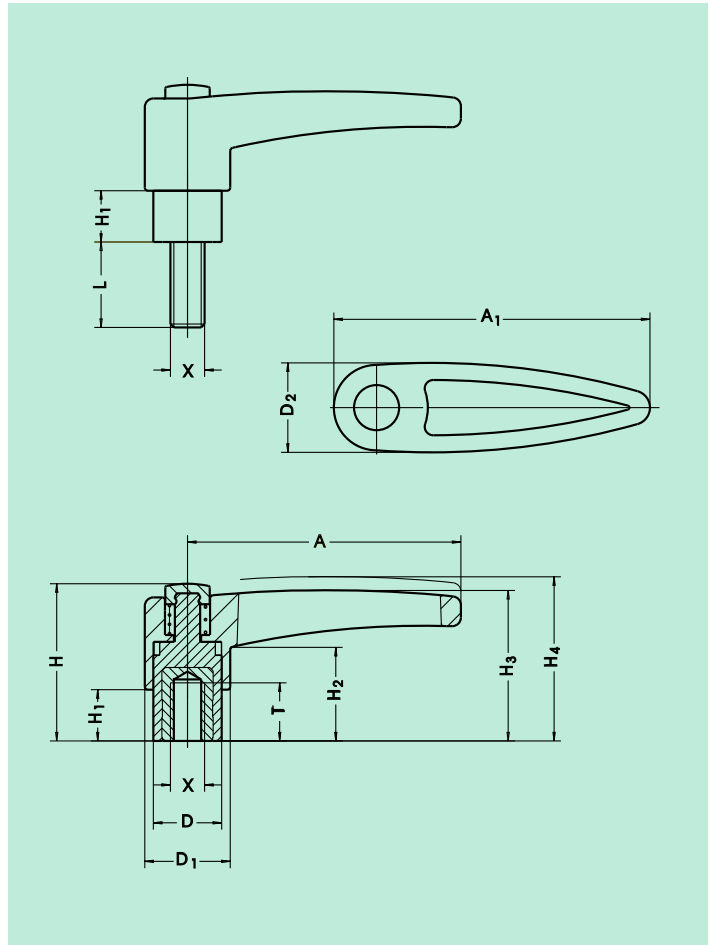


Completely new design with perfect handling. In high quality. Zimmermann Flat Clamp Levers maximize handling and tensioning. Especially suitable in hygiene areas such as hospital equipping and food stuffs or fitness equipment.

**Model:** Handle from special glass-fibre reinforced polyamide. Bush resp. screw from zinc-plated steel quality 4.8, surrounded by plastic body.

### Standard colours:

Handle and push button: black RAL 9005 or orange RAL 2004. Other colours on request.



### Flat Clamp Lever - Internal thread

order no. handle black, push button black	order no. handle black, push button orange	order no. handle orange, push button black	size	internal thread X	A mm	A <sub>1</sub> mm	D mm	D <sub>1</sub> mm	H mm	H <sub>1</sub> mm	H <sub>2</sub> mm	H <sub>3</sub> mm	H <sub>4</sub> mm	T mm	no. of teeth	weight approx. kg
17 042 04 999 00	17 042 04 999 01	17 042 04 999 10	42	M 4	42	50	12	16	26,5	7,5	15,1	25,8	28,6	9	10	0,010
17 042 05 999 00	17 042 05 999 01	17 042 05 999 10		M 5												
17 042 06 999 00	17 042 06 999 01	17 042 06 999 10		M 6												
17 065 06 999 00	17 065 06 999 01	17 065 06 999 10	65	M 6	65	75	15	23	36	8	17	35	39	12	12	0,026
17 065 08 999 00	17 065 08 999 01	17 065 08 999 10		M 8												
17 080 08 999 00	17 080 08 999 01	17 080 08 999 10	80	M 8	80	92,5	20	25	46	15	27,4	44	48	17	12	0,051
17 080 10 999 00	17 080 10 999 01	17 080 10 999 10		M 10												
17 080 12 999 00	17 080 12 999 01	17 080 12 999 10		M 12												

### Flat Clamp Lever - External thread

order no. handle black, push button black	order no. handle black, push button orange	order no. handle orange, push button black	size	external thread X	length of screw L (mm)											
17 042 04 ... 00	17 042 04 ... 01	17 042 04 ... 10	42	M 4	10											
17 042 05 ... 00	17 042 05 ... 01	17 042 05 ... 10		M 5	10	20	30									
17 042 06 ... 00	17 042 06 ... 01	17 042 06 ... 10		M 6	10	15	20	25	30	45						
17 065 06 ... 00	17 065 06 ... 01	17 065 06 ... 10	65	M 6	10	20	30	35								
17 065 08 ... 00	17 065 08 ... 01	17 065 08 ... 10		M 8	15	20	25	30	35	40	50					
17 080 10 ... 00	17 080 10 ... 01	17 080 10 ... 10	80	M 10	20	30	40	50								
17 080 12 ... 00	17 080 12 ... 01	17 080 12 ... 10		M 12	30	40	50									

Please indicate here the desired length of screw , e.g. 025 for L = 25 mm.

## Quick Release Handle

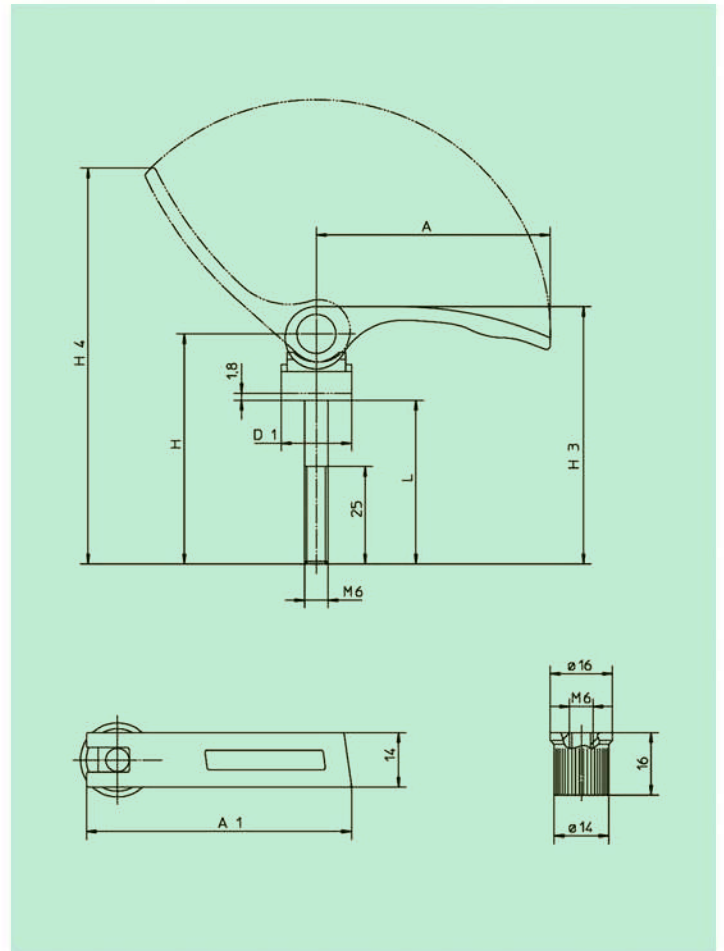


Designed for agreeable and safe operating.

**Model:** Handle and nut from anodised aluminium.  
 Screw from steel quality 5.8, black oxide finished.

**Type A:** without nut

**Type B:** with nut



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## Quick Release Handle

Order nr. Type A	Order nr. Type B	thread	L mm	A mm	A <sub>1</sub> mm	D <sub>1</sub> mm	H mm	H <sub>3</sub> mm	H <sub>4</sub> mm	Weight ca. g
95 62 06 043 A	95 62 06 043 B	M6	43	62	71	18	58	66	104	41

## Safety Tension Levers

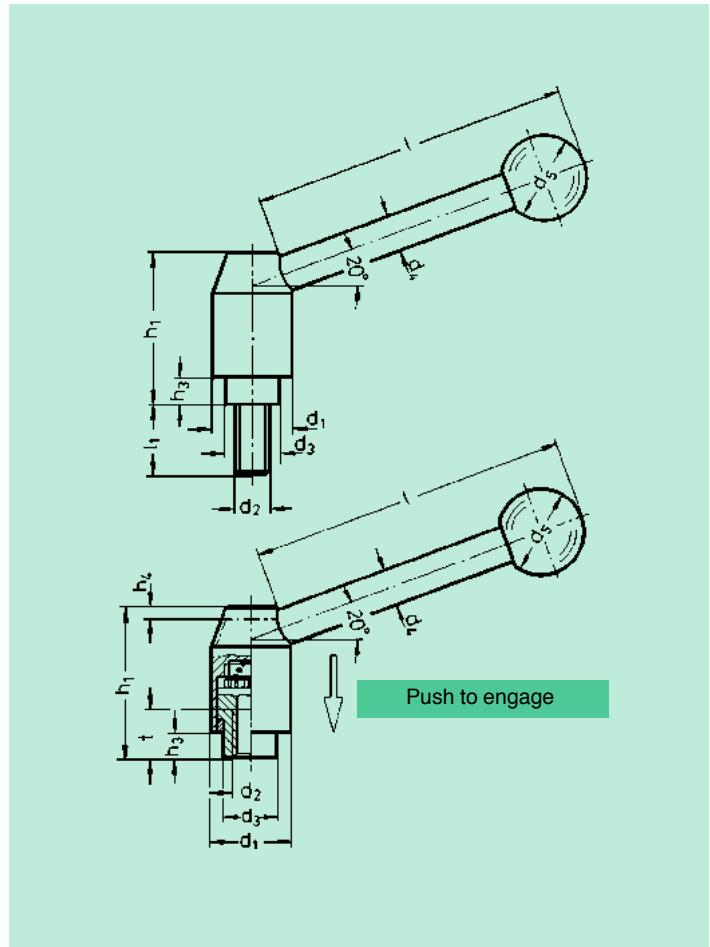
adjustable

20



Zimmermann Safety Tension Levers are used on such applications where a thoughtless or mistaken releasing or re-positioning of the tension lever could lead to an accident. The lever in its rest position is not connected with the internal spindle and can be rotated un-hindered. The tension lever engages in the serration only after pushing it down, thus allowing clamping or unclamping. The free-wheel position is re-established as soon as the handle is released.

**Model:** Steel parts stability class 5.8, black oxide finished. Ball knob DIN 319, plastic, black.



### Safety Tension Levers - Internal Thread

Order No.	Size	Internal Thread d <sub>2</sub>	d <sub>1</sub> mm	d <sub>3</sub> mm	d <sub>4</sub> mm	d <sub>5</sub> mm	h <sub>1</sub> mm	h <sub>3</sub> mm	h <sub>4</sub> mm	l mm	t mm	No. of Teeth	Weight approx. kg
19 21 08 999 E	21	M 8	21	13,5	8	20	37	4,5	3	70	10	24	0,095
19 24 10 999 E	24	M 10	24	16	10	25	44	6,5	3,5	96	14	26	0,155
19 28 12 999 E	28	M 12	28	19	12	30	53	8,5	4	110	17	28	0,261
19 33 16 999 E	33	M 16	33	23	12	32	60	10,5	4,5	124	23	30	0,372

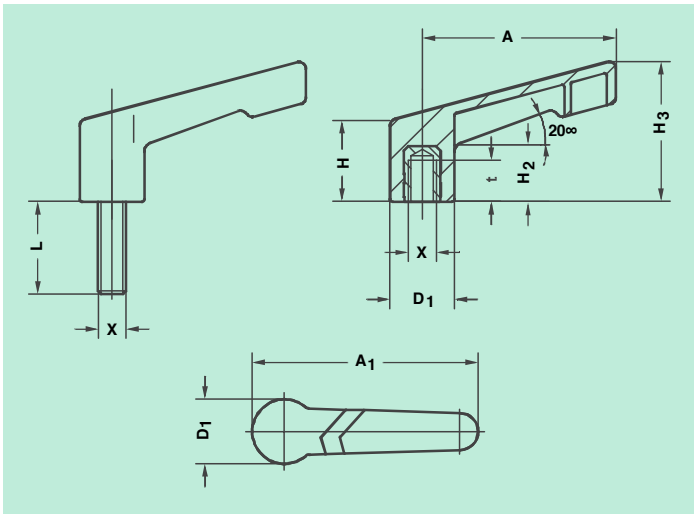
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### Safety Tension Levers - External Thread

Order No.	Size	External Thread d <sub>2</sub>	Length of Screw l <sub>1</sub> (mm)					
19 21 08 ... E	21	M 8	16	20	32	40	50	
19 24 10 ... E	24	M 10		20	32	40	50	
19 28 12 ... E	28	M 12		20	32		50	63
19 33 16 ... E	33	M 16			32		50	63

... Please indicate here the desired length of screw e.g. 032 for l<sub>1</sub> = 32 mm.



## Clamp Levers unadjustable

21

Zimmermann Clamp Levers unadjustable are used as tension element as well as for operating process.

**Model:** Handle from special glass-fibre reinforced polyamide. Bush resp. screw from zinc-plated steel quality 4.8.

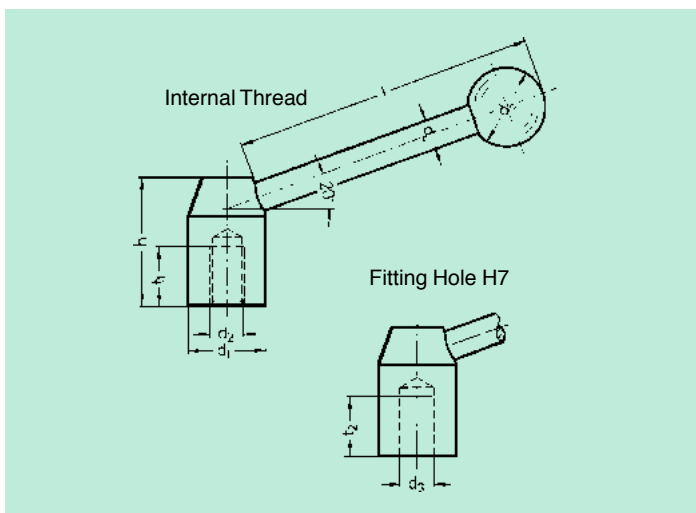
**Standard colour** of the handle: black RAL 9005.

Other sizes and dimensions on request.

### Unadjustable Clamp Levers

Order No.	Internal Thread	t mm	Weight approx. ca. g	Order No.	External Thread	Length of Screw L (mm)	Size A mm	A1 mm	D1 mm	H mm	H2 mm	H3 mm
12 042 04 999 sw	M4	9	7	12 042 05 ... sw	M5	10 20	42	49	14	18	12	30
12 042 05 999 sw	M5	9	7	12 042 06 ... sw	M6	10 20 30	42	49	14	18	12	30
12 042 06 999 sw	M6	9	7				42	49	14	18	12	30

... Please indicate here the desired length e.g. 020 for L = 20 mm.



## Tension Levers unadjustable

Zimmermann Tension Levers are used as tension element as well as for operating process.

**Model:** Steel parts stability class 5.8, black oxide finished. Ball knob DIN 319, plastic, black. With internal thread or with fitting hole H7.

Handles with 0° lever position or tension lever from stainless steel are available on request.

### Unadjustable Tension Levers

Order No.	Order No.	Size	Internal Thread d <sub>2</sub>	Fitting Hole d <sub>3</sub> H7	d <sub>1</sub> mm	d <sub>4</sub> mm	d <sub>5</sub> mm	h mm	l mm	t <sub>1</sub> mm	t <sub>2</sub> mm
31 20 08 999	31 20 08 PBG	20	M 8	B 8	20	8	20	33	70	15	17
31 22 10 999	31 22 10 PBG	22	M 10	B 10	22	8	20	37	82	15	19
31 28 12 999	31 28 12 PBG	28	M 12	B 12	28	12	30	47	110	18	23
31 36 16 999	31 36 16 PBG	36	M 16	B 16	36	14	35	58	138	24	27
31 40 20 999	31 40 20 PBG	40	M 20	B 20	40	16	40	64	152	27	29

## Grips from Steel resp. Stainless Steel

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**INOX**



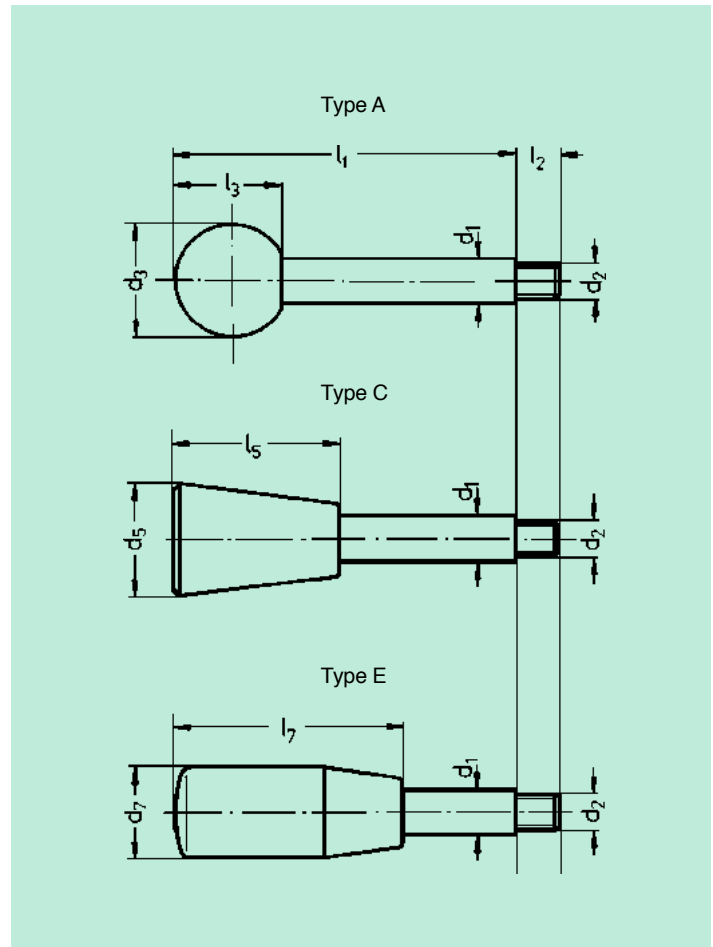
Grips are simple operating elements suitable for various types of applications.

**Model:** Handle from steel, black oxide finish, resp. stainless steel 1.4305, matt.  
Plastic knobs Duroplastic FS 31, black polished.

**Type A:** with ball knob DIN 319

**Type C:** with taper knob

**Type E:** with cylindric knob



### Grips - Steel

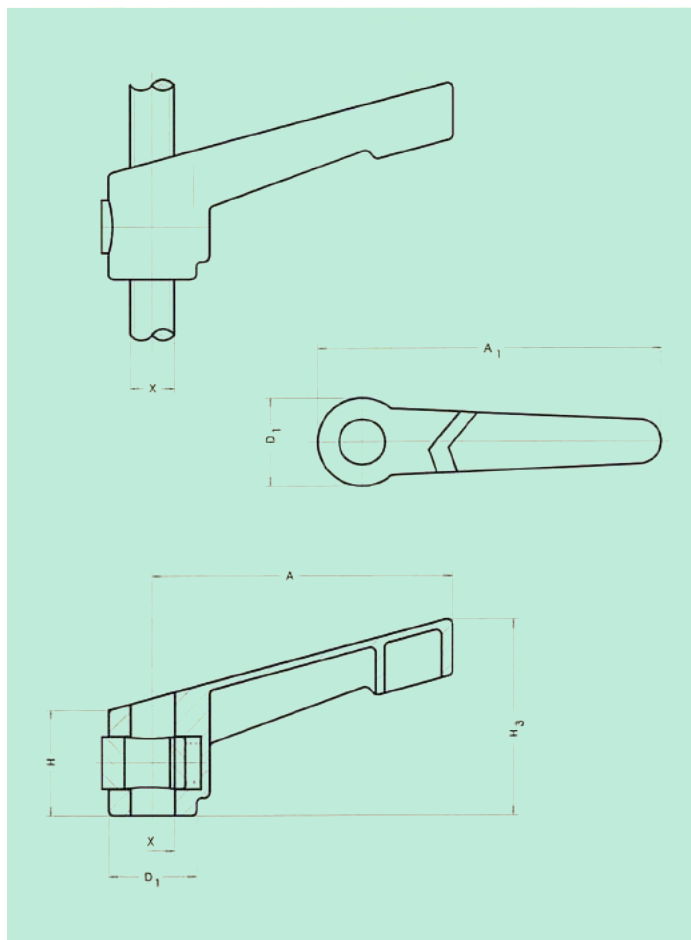
Order No.	d <sub>3</sub>	l <sub>3</sub>	Order No.	d <sub>5</sub>	l <sub>5</sub>	Order No.	d <sub>7</sub>	l <sub>7</sub>	Size	Thread	Length of Screw l <sub>1</sub> (mm)		l <sub>2</sub>
Type A	mm	mm	Type C	mm	mm	Type E	mm	mm	d <sub>1</sub>	d <sub>2</sub>			mm
35 08 ... A	20	18	35 08 ... C	20	30	35 08 ... E	18	40	8	M 6	63	100	9
35 10 ... A	25	22,5	35 10 ... C	25	38	35 10 ... E	21	50	10	M 8		80 125	11
35 12 ... A	32	29	35 12 ... C	30	46	35 12 ... E	23	65	12	M 10		100 160	14
35 14 ... A	35	32,5	35 14 ... C	35	53	35 14 ... E	26	80	14	M 12		125 200	16

... Please indicate here the desired length e.g. 100 for l<sub>1</sub> = 100 mm.

### Grips - Stainless Steel

Order No.	d <sub>3</sub>	l <sub>3</sub>	Order No.	d <sub>7</sub>	l <sub>7</sub>	Size	Thread	Length of Screw l <sub>1</sub> (mm)		l <sub>2</sub>
Type A	mm	mm	Type E	mm	mm	d <sub>1</sub>	d <sub>2</sub>			mm
35 08 ... A E0A	20	18	35 08 ... E E0A	18	40	8	M 6	63	100	9
35 10 ... A E0A	25	22,5	35 10 ... E E0A	21	50	10	M 8		80 125	11
35 12 ... A E0A	32	29	35 12 ... E E0A	23	65	12	M 10		125	14
35 14 ... A E0A	35	32,5	35 14 ... E E0A	26	80	14	M 12		125	16

... Please indicate here the desired length e.g. 080 for l<sub>1</sub> = 80 mm.



## Quick Release Handles

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A big time saver. The handle with continuous thread allows quick clamping with long threaded spindles. Only press the button and the thread is disengaged. Now you can open the handle quickly and easily. Release the button, the thread becomes engaged by spring pressure again and you can carry out the clamping process.

**Model:** Handle made of zinc die-cast, black RAL 9005. Steel insert bronzed.

### Quick Release Handles

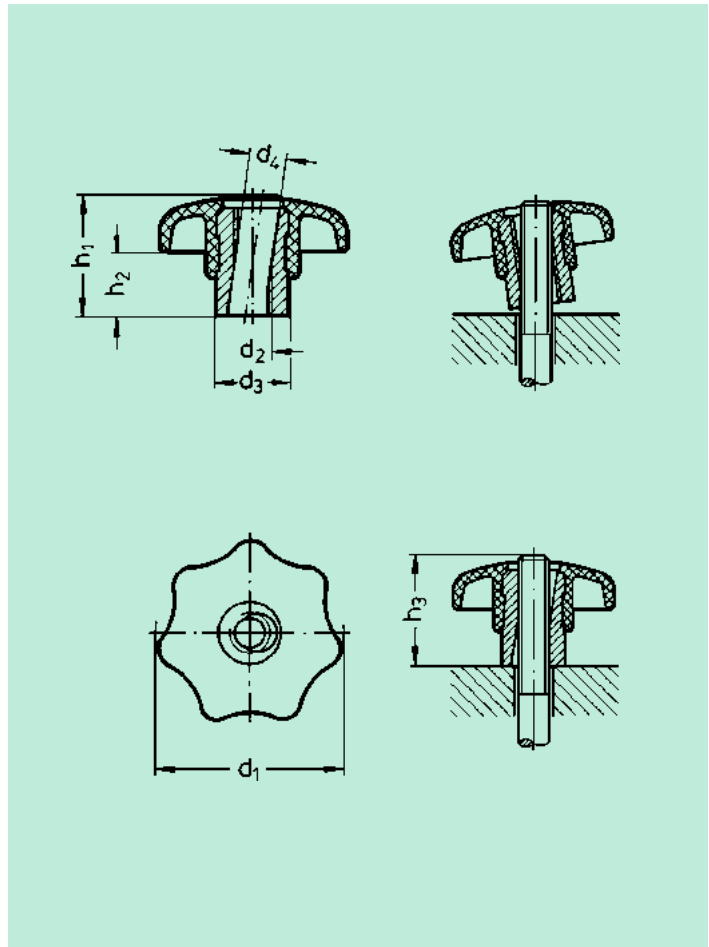
Order No.	Internal Thread X	Size A mm	A <sub>1</sub> mm	D <sub>1</sub> mm	H mm	H <sub>3</sub> mm	Weight approx. kg
17 065 06 sw	M 6	65	75	21	26	45	0,082
17 078 08 sw	M 8	78	90	24	29	52	0,118
17 078 10 sw	M 10						
17 108 12 sw	M 12	108	124	32	38	71	0,236
17 108 16 sw	M 16						

24



Quick acting star knobs are used in such applications where the knob has to be completely removed after the releasing operation and refitted very rapidly for re-clamping. The knob is tilted over the threaded spindle. When in position, the knob is brought into a straight position for meshing of the two threads on nut and spindle. The knob will then have to be turned only by fraction of a rotation to achieve clamping. The use of this knob is, however, limited to such applications where relatively low clamping forces are required.

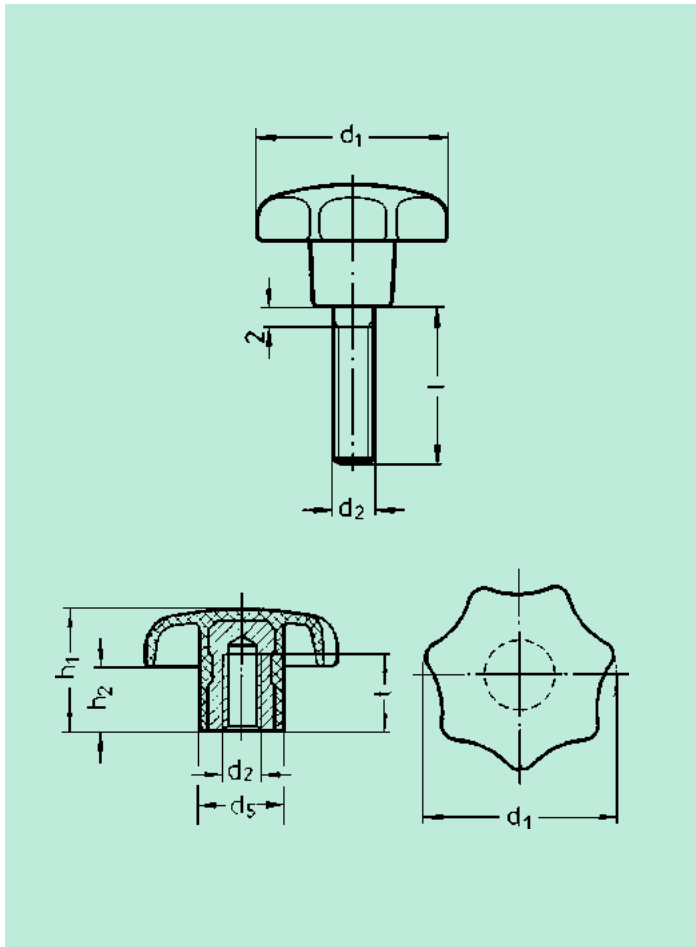
**Model:** Body from reinforced polyamide, black matt. Bush from steel, zinc-plated.



### Quick Acting Star Knobs

Order No.	Internal Thread $d_2$	Size $d_1$ mm	$d_4$ mm	$d_5$ mm	$h_1$ mm	$h_2$ ⊕ mm	$h_3$ min. mm	Weight approx. g
25 40 08	M 8	40	8,4	16	26	13	24	31
25 50 10	M 10	50	10,5	20	34	17	30	61
25 63 12	M 12	63	13	26	42	21	37	130

similar to DIN 6336



25

Zimmermann Star Knobs for various applications and individual solutions. Zimmermann star knobs offer high flexibility and captivate by their modern design and nice surface finish.

**Model:** Body from reinforced polyamide, black matt. Bush resp. screw from steel, zinc-plated.

Star knobs with fitting hole H7 and star knobs from cast iron or aluminium are available on request.

Star Knobs similar to DIN 6336

Order No.	Internal Thread	Internal Thread d <sub>2</sub>	t mm	Weight approx. g	Order No.	External Thread	External Thread d <sub>2</sub>	Length of Screw l (mm)				Size d <sub>1</sub> mm	d <sub>5</sub> mm	h <sub>1</sub> mm	h <sub>2</sub> mm	
24 25 04	M 4		7,5													
24 25 05	M 5		8,5	5	24 25 05 ...	M 5	10	15	20	25	30	25	12	16	8	
24 25 06	M 6		9		24 25 06 ...	M 6	10	15	20	25	30					
24 32 05	M 5		8,5													
24 32 06	M 6		9	8	24 32 06 ...	M 6	11	16	21	26	31	32	14	20	10	
					24 32 08 ...	M 8		15	20	25	30	40				
24 40 05	M 5		8,5	15								40	18	25	13	
24 40 06	M 6		9	16												
24 40 08	M 8		14	17	24 40 08 ...	M 8		15	20	25	30	40				
24 50 08	M 8		14	31	24 50 08 ...	M 8		14	19	24	29	39	50	22	32	17
24 50 10	M 10		21	30	24 50 10 ...	M 10			20		30	40	50			
24 63 10	M 10		23	85									63	26	40	21
24 63 12	M 12		23	82	24 63 12 ...	M 12				25	30	40	60			

... Please indicate here the desired length of screw e.g. 025 for l = 25 mm.



## with Projecting Steel or Stainless Steel Bush

**INOX**

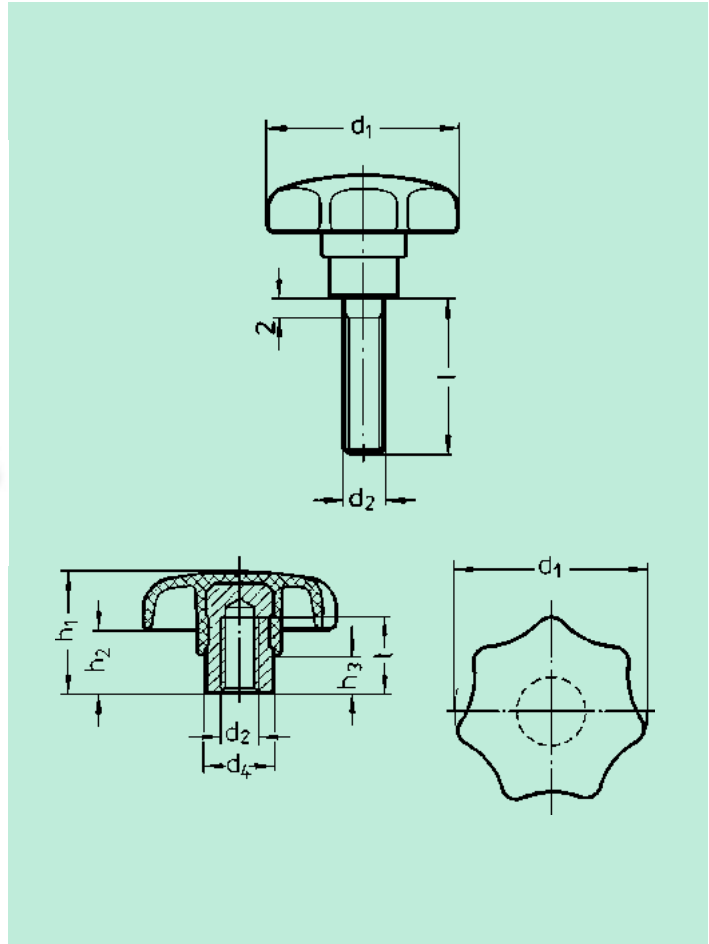
26



Zimmermann Star Knobs with projecting steel bush. Especially suitable for cross pin connections.

**Model:** Body from reinforced polyamide, black matt. Bush resp. screw from steel, zinc-plated resp. from stainless steel, material no. 1.4305.

Star knobs with fitting hole H7 are available on request.



### Star Knobs with Projecting Bush - Steel

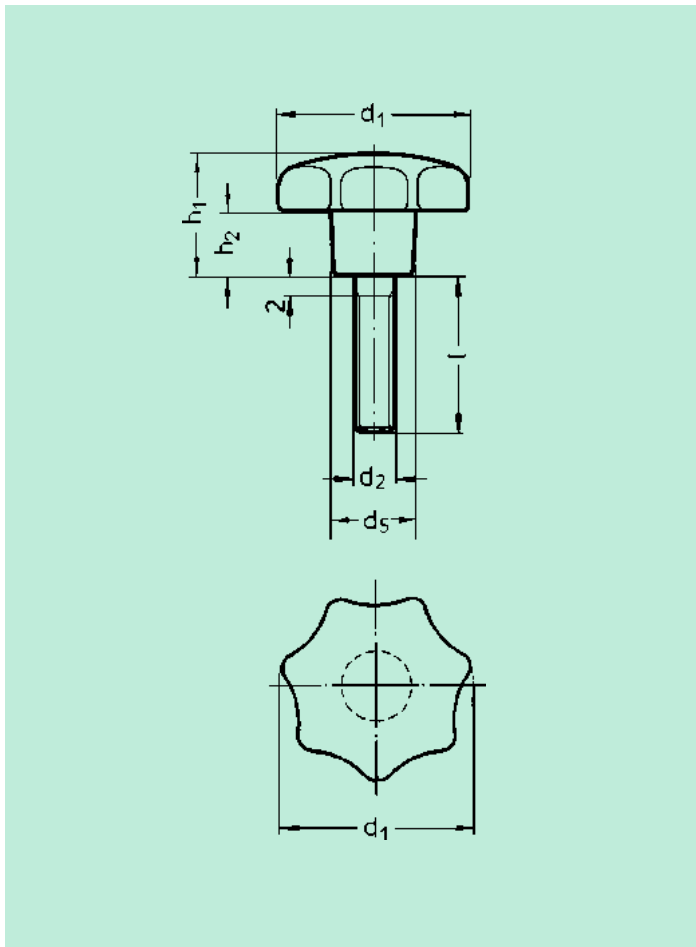
Order No. Internal Thread	Internal Thread d <sub>2</sub>	t mm	Order No. External Thread	External Thread d <sub>2</sub>	Length of Screw l (mm)			Size				
					d <sub>1</sub> mm	d <sub>4</sub> mm	h <sub>1</sub> mm	h <sub>2</sub> mm	h <sub>3</sub> mm			
26 32 06	M 6	12	26 32 06 ...	M 6	16	25	30	32	12	21	11	8,5
26 40 06	M 6	14	26 40 08 ...	M 8	16	30	40	40	14	26	14	10
26 40 08	M 8	18	26 50 10 ...	M 10	25	35	55	50	18	32	17	10
26 50 08	M 8	22	26 63 12 ...	M 12	30	60		63	20	40	21	14
26 50 10	M 10											
26 63 10	M 10											
26 63 12	M 12											

... Please indicate here the desired length of screw e.g. 025 for l = 25 mm.

### Star Knobs with Projecting Bush - Stainless Steel

Order No.	Internal Thread d <sub>2</sub>	t mm	Size d <sub>1</sub> mm	d <sub>4</sub> mm	h <sub>1</sub> mm	h <sub>2</sub> mm	h <sub>3</sub> mm
26 32 06 E0A	M 6	12	32	12	21	11	8,5
26 40 08 E0A	M 8	14	40	14	26	14	10
26 50 10 E0A	M 10	18	50	18	32	17	10
26 63 12 E0A	M 12	22	63	22	40	21	14

## Steel Parts from Stainless Steel Similar to DIN 6336



INOX

27



**Model:** Body from reinforced polyamide, black matt.  
 Screw from stainless steel, material no. 1.4567.

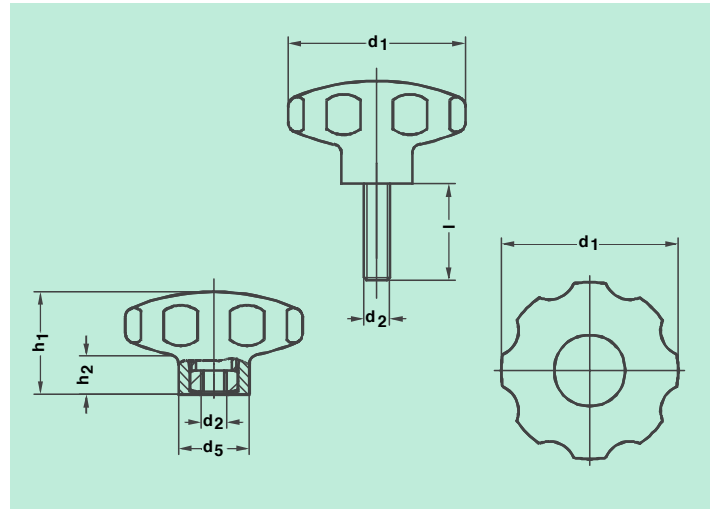
### Star Knobs similar to DIN 6336 - Stainless Steel

Order No. External Thread	External Thread d <sub>2</sub>	Length of Screw l (mm)				Size				
		10	15	25	45	d <sub>1</sub> mm	d <sub>5</sub> mm	h <sub>1</sub> mm	h <sub>2</sub> mm	
24 25 05 ... E0A	M 5	10	15	25		25	12	16	8	
24 32 06 ... E0A	M 6			21	26	31	32	14	20	10
24 40 08 ... E0A	M 8		20	30	40		40	18	25	13
24 50 10 ... E0A	M 10			25	30	45	50	22	32	17
24 63 12 ... E0A	M 12			30	40	50	63	26	40	21

... Please indicate here the desired length of screw e.g. 025 for l = 25 mm.

## Star Knobs

### Closed Shape



28

Due to their closed shape and smooth surface these star knobs meet great demands on hygiene. Knobs size 55 are also available as safety star knobs.

**Model:** Body from glass-fibre reinforced polyamide, black matt. Nut resp. screw acc. to DIN 934.

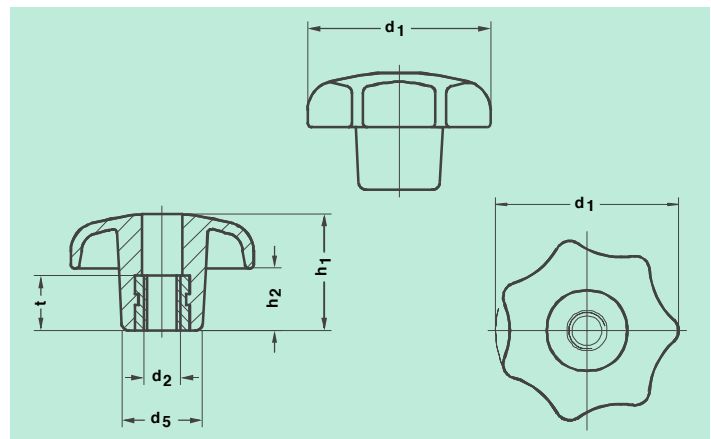
Knobs are also available disassembled or without nuts/ screws.

### Star Knobs closed shape

Order No.	Internal Thread	Order No.	External Thread	Length of Screw l (mm)				Size d <sub>1</sub> mm	d <sub>5</sub> mm	h <sub>1</sub> mm	h <sub>2</sub> mm
Internal Thread	d <sub>2</sub>	External Thread	d <sub>2</sub>	10	14	23	28				
29 32 05	M 5	29 32 05 ...	M 5				28	32	19	19	10
29 32 06	M 6	29 32 06 ...	M 6		14	23	28				
29 39 06	M 6	29 39 06 ...	M 6		14	23	28	39	23	27	11
29 39 08	M 8	29 39 08 ...	M 8		18	23	33	38			
29 55 08	M 8	29 55 08 ...	M 8		18	23	33	38	55	22	32

... Please indicate here the desired length of screw e.g. 023 for l = 23 mm.

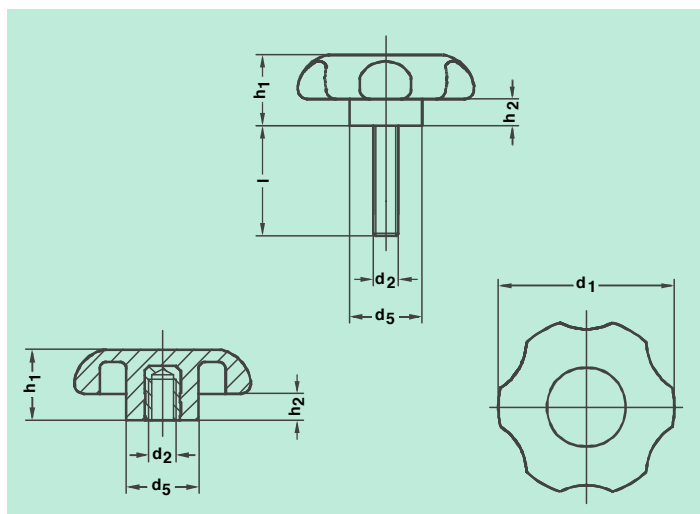
### similar to DIN 6336 threaded through-bore



**Model:** Body from glass-fibre reinforced polyamide, black matt. Bush from steel, zinc-plated.

### Star Knobs similar to DIN 6336, threaded through-bore

Order No.	Internal Thread d <sub>2</sub>	t mm	Size d <sub>1</sub> mm	d <sub>5</sub> mm	h <sub>1</sub> mm	h <sub>2</sub> mm	Weight approx. g
71 32 06	M 6	11	32	14	20	10	9
71 40 08	M 8	14	40	18	25	13	17
71 50 10	M 10	15	50	22	32	17	33
71 63 12	M 12	20	63	26	40	21	60



## Star Knobs



31

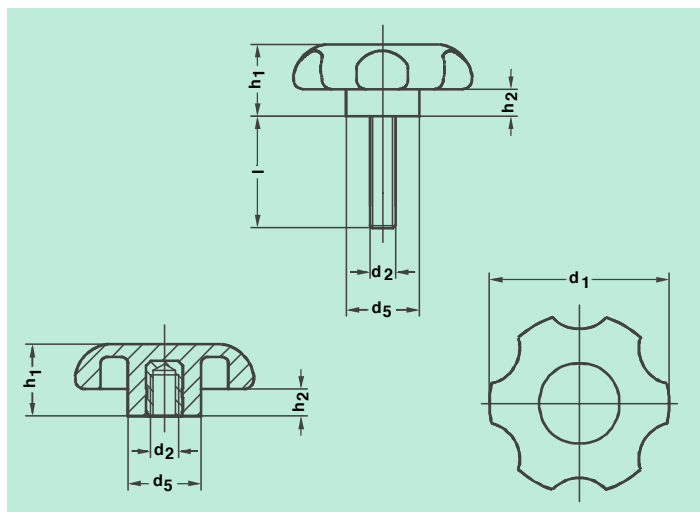
At excellent prices.

**Model:** Body from polyamide, black. Bush resp. screw from steel, zinc-plated.

### Star Knobs

Order No. Internal Thread	Internal Thread d <sub>2</sub>	t mm	Order No. External Thread	External Thread d <sub>2</sub>	Length of Screw l (mm)			Size d <sub>1</sub> mm	d <sub>5</sub> mm	h <sub>1</sub> mm	h <sub>2</sub> mm
68 32 06	M 6	9	68 32 06 ...	M 6	15	20	30	32	12	16	5
68 32 08	M 8		68 32 08 ...	M 8	15	20	30				
68 40 06	M 6	15	68 40 06 ...	M 6	18	28		40	17	25	10
68 40 08	M 8		68 40 08 ...	M 8	18	28					

... Please indicate here the desired length of screw e.g. 020 for l = 20 mm.



## Star Knobs



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K71

At excellent prices.

**Model:** Body from polyamide, black. Bush resp. screw from steel, zinc-plated.

### Star Knobs

Order No. Internal Thread	Internal Thread d <sub>2</sub>	t mm	Order No. External Thread	External Thread d <sub>2</sub>	Length of Screw l (mm)			Size d <sub>1</sub> mm	d <sub>5</sub> mm	h <sub>1</sub> mm	h <sub>2</sub> mm
69 55 06	M 6	9	69 55 06 ...	M 6	17	22	32	55	22,5	22,5	9
69 55 08	M 8	15	69 55 08 ...	M 8	17	32	47	55	22,5	22,5	9
69 55 10	M10	15	69 55 10 ...	M10		32	42 47	55	22,5	22,5	9

... Please indicate here the desired length of screw e.g. 032 for l = 32 mm.

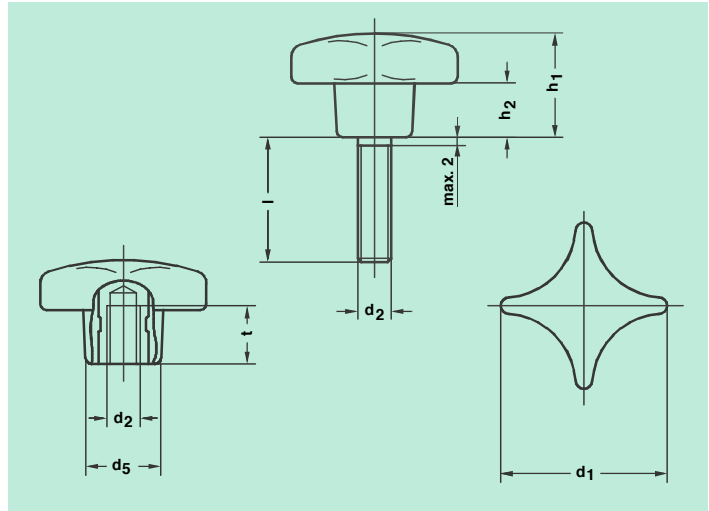
## Cross Knobs similar to DIN 6335

32



**Model:** Body from duroplastic FS 31.  
Bush resp. screw from steel, zinc-plated.

Cross knobs from cast iron or aluminium are available on request.



### Cross Knobs similar to DIN 6335

Order No. Internal Thread	Internal Thread d <sub>2</sub>	t mm	Weight approx. kg	Order No. External Thread	External Thread d <sub>2</sub>	Length of Screw l (mm)				Size				
						d <sub>1</sub> mm	d <sub>5</sub> mm	h <sub>1</sub> mm	h <sub>2</sub> mm					
21 25 05	M 5	10,5	0,006	21 25 05 ...	M 5	10	15	20		25	11	17	9	
21 32 06	M 6	13,5	0,010	21 32 06 ...	M 6		15	20	30	32	14	20	10	
21 40 08	M 8	16	0,018	21 40 08 ...	M 8		15	20	30	40	18	26	15	
21 50 10	M 10	21	0,033	21 50 10 ...	M 10			20	30	40	50	22	23	20
21 63 12	M 12	25	0,061	21 63 12 ...	M 12				25	40	63	27	40	23

... Please indicate here the desired length of screw e.g. 020 for l = 20 mm.

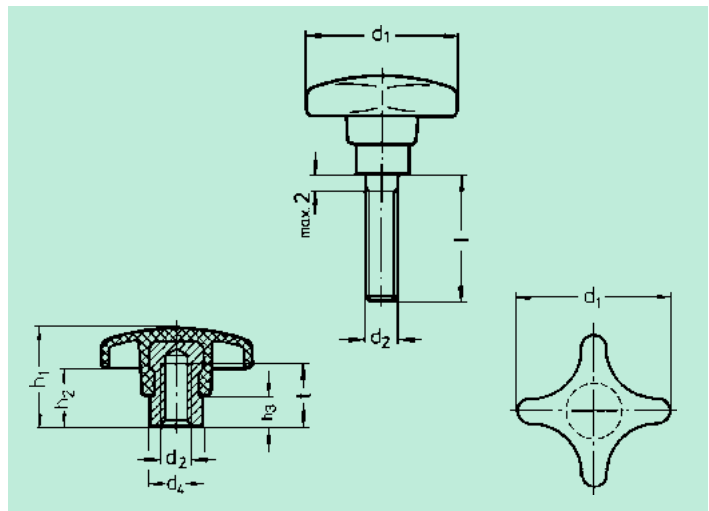
## Cross Knobs

### with Projecting Steel Bush



Cross Knobs with projecting steel bush.  
Especially suitable for cross pin connections.

**Model:** Body from polyamide, black matt. Bush resp. screw from steel, zinc-plated.



Cross Knobs with fitting hole H7 are available on request.

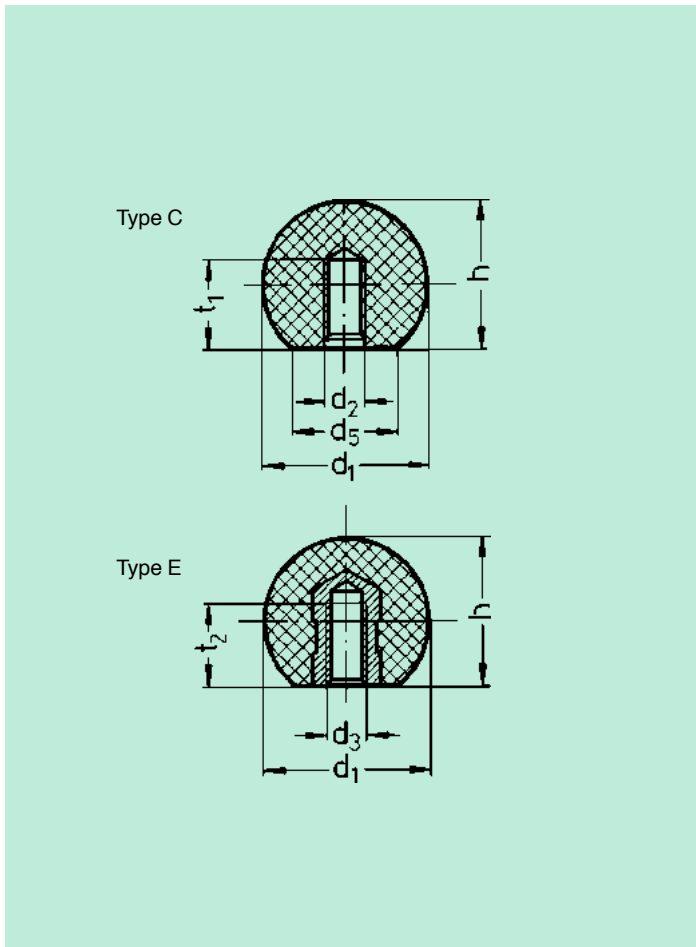
### Cross Knobs with Projecting Steel Bush

Order No. Internal Thread	Internal Thread d <sub>2</sub>	t mm	Order No. External Thread	External Thread d <sub>2</sub>	Length of Screw l (mm)				Size					
					d <sub>1</sub> mm	d <sub>4</sub> mm	h <sub>1</sub> mm	h <sub>2</sub> mm	h <sub>3</sub> mm					
23 32 06	M 6	12	23 32 06 ...	M 6	16	20	30		32	12	20	10	9	
23 40 08	M 8	14	23 40 08 ...	M 8	16		25	30	40	40	14	25	13	10
23 50 10	M 10	18	23 50 10 ...	M 10			25	35	55	50	18	32	20	12
23 63 12	M 12	22	23 63 12 ...	M 12			30	40	60	63	20	40	25	14

... Please indicate here the desired length of screw e.g. 020 for l = 20 mm.

## Ball Knobs

similar to DIN 319



33

**Model:** Duroplastic FS 31, black, deburred and polished. Bush from steel, zinc plated.

**Type C:** with plastic thread.

**Type E:** with bush thread.

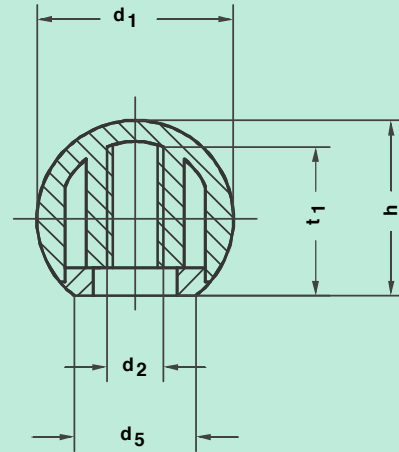
### Ball Knobs similar to DIN 319

Order No.	Thread	t <sub>1</sub>	Order No.	Thread	t <sub>2</sub>	Size	d <sub>5</sub>	h
Type C	d <sub>2</sub>	mm	Type E	d <sub>3</sub>	mm	d <sub>1</sub>	mm	mm
* 20 10 03 C	M 3	5				10	5	9,5
20 12 04 C	M 4	8				12	6	11
20 16 04 C	M 4	8				16	8	15
20 20 05 C	M 5	10,5	20 20 05 E	M 5	10,5	20	12	18
20 20 06 C	M 6	13,5						
20 25 06 C	M 6	13,5	20 25 06 E	M 6	13,5	25	15	22,5
20 25 08 C	M 8	16						
20 32 06 C	M 6	13,5						
20 32 08 C	M 8	16	20 32 08 E	M 8	16	32	18	29
20 32 10 C	M 10	21						
20 36 08 C	M 8	16	20 36 08 E	M 8	16	36	16	34
20 36 10 C	M 10	21	20 36 10 E	M 10	21			
20 40 10 C	M 10	21	20 40 10 E	M 10	21	40	22	37
20 40 12 C	M 12	25	20 40 12 E	M 12	25			
20 50 12 C	M 12	25	20 50 12 E	M 12	25	50	29	46

## Ball Knobs

from reinforced ABS

34

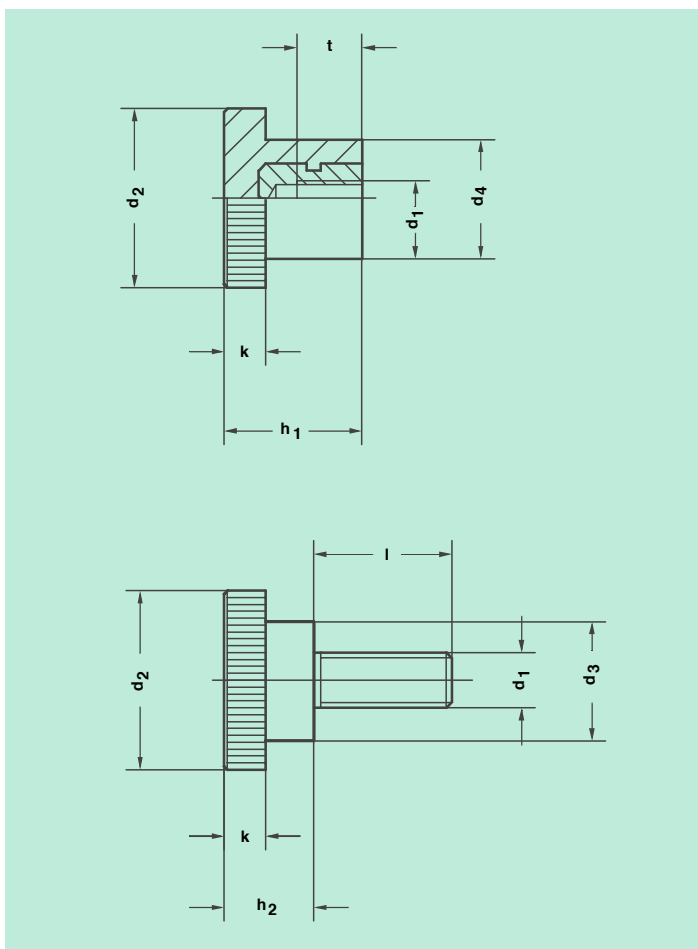


**Model:** ABS, black.

Other colours on request.

### Ball Knobs from ABS

Order No.	Thread $d_2$	$t_1$ mm	Size $d_1$ mm	$d_5$ mm	$h$ mm
22 20 05 C	M 5	15,5	20	12	18
22 20 06 C	M 6				
22 25 06 C	M 6	20	25	15	22,5
22 25 08 C	M 8				
22 32 06 C	M 6				
22 32 08 C	M 8	26,5	32	18,6	29
22 32 10 C	M 10				
22 40 08 C	M 8				
22 40 10 C	M 10	34,5	40	21	37
22 40 12 C	M 12				



## Knurl Nuts/Screws

35



**Model:** Body from duroplastic FS 31, black. Bush  
 resp. screw from steel, zinc-plated.

### Knurl Nuts/Screws

Order No. Internal Thread	Internal Thread d <sub>1</sub>	t mm	d <sub>4</sub> mm	h <sub>1</sub> mm	Order No. External Thread	External Thread d <sub>1</sub>	Length of Screw l (mm)	l max mm	Size d <sub>2</sub> mm	d <sub>3</sub> mm	h <sub>2</sub> mm	k mm
					67 18 04 ...	M 4	12	45	18	10	12	5,5
					67 22 05 ...	M 5	10	20	22	12	13	6
					67 22 06 ...	M 6	15	20	20	15	13	6
67 26 06	M 6	13,5	17	20	67 26 06 ...	M 6	15	20	70	26	15	6
67 26 08	M 8	11	17	20	67 26 08 ...	M 8	15	20	30			

... Please indicate here the desired length of screw e.g. 020 for l = 20 mm.



## Knurl Nuts

DIN 6303 from Steel respectively  
Stainless Steel

36

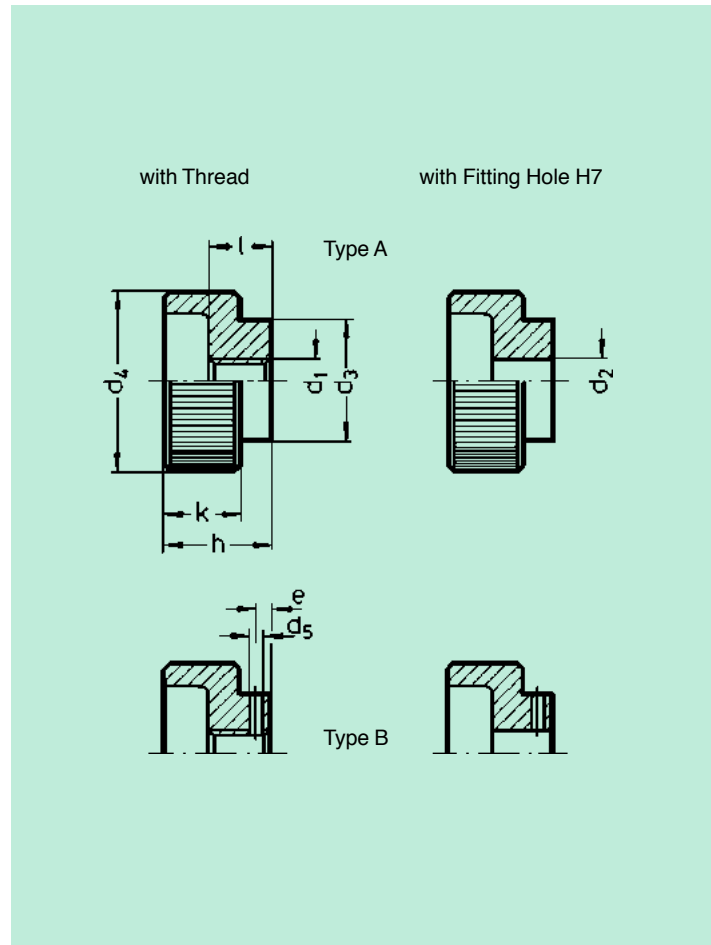
**INOX**



**Model:** Steel black oxide finished resp. stainless steel. With thread or fitting hole H7.

**Type A:** without Pin Hole.

**Type B:** with Pin Hole.



### Knurl Nuts DIN 6303 with Thread

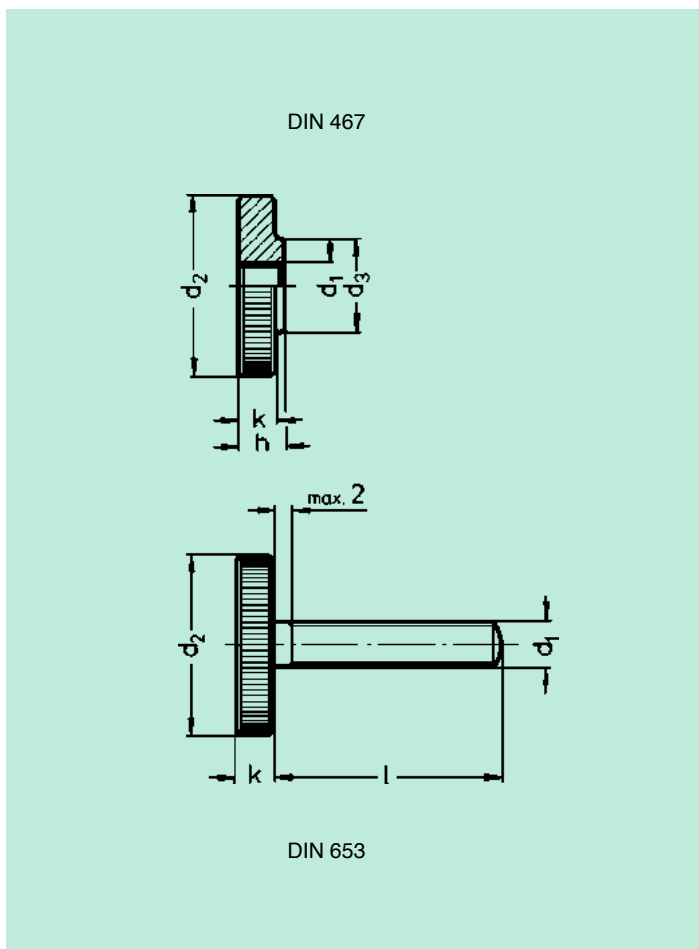
Order No. Steel Type A	Order No. Steel Type B	Order No. Stainless Steel, Material No. 1.4305 Type A	Thread d <sub>1</sub> mm	d <sub>3</sub> mm	d <sub>4</sub> mm	d <sub>5</sub> H11 mm	e mm	h mm	k mm	l mm
32 20 05 A	32 20 05 B	32 20 05 A E0A	M 5	14	20	1,5	2,5	12	8	7
32 24 06 A	32 24 06 B	32 24 06 A E0A	M 6	16	24	1,5	2,5	14	10	8
32 30 08 A	32 30 08 B	32 30 08 A E0A	M 8	20	30	2	3	17	12	10
32 36 10 A	32 36 10 B	32 36 10 A E0A	M 10	28	36	3	4	20	14	12
32 40 12 A	32 40 12 B		M 12	32	40	4	4	24	16	14

### Knurl Nuts DIN 6303 with Fitting Hole H7

Order No. Steel Type A	Order No. Steel Type B	Fitting Hole d <sub>2</sub> H7 mm	d <sub>3</sub> mm	d <sub>4</sub> mm	d <sub>5</sub> H11 mm	e mm	h mm	k mm	l mm
32 20 05 PBGA	32 20 05 PBGB	B 5	14	20	1,5	2,5	12	8	7
32 24 06 PBGA	32 24 06 PBGB	B 6	16	24	1,5	2,5	14	10	8
32 30 08 PBGA	32 30 08 PBGB	B 8	20	30	2	3	17	12	10
32 36 10 PBGA	32 36 10 PBGB	B 10	28	36	3	4	20	14	12
32 40 12 PBGA	32 40 12 PBGB	B 12	32	40	4	4	24	16	14

## Flat Knurl Nuts/Screws

DIN 467 resp. DIN 653



**Model:** Steel, stability class 5.8, visible fine turning end surface, black oxide finished.

Also available from polyamide.

### Flat Knurl Nuts/Screws

Order No. Internal Thread	Internal Thread d <sub>1</sub>	Order No. External Thread	External Thread d <sub>1</sub>	Length of Screw l (mm)				Size d <sub>2</sub> mm	d <sub>3</sub> mm	h mm	k mm
				6	8	10	12				
52 12 03	M 3	52 12 03 ...	M 3	6	10	16		12	6	3	2,5
52 16 04	M 4	52 16 04 ...	M 4	8	10	12	16	20	16	8	3,5
52 20 05	M 5	52 20 05 ...	M 5		10	12	16	20	20	10	4
52 24 06	M 6	52 24 06 ...	M 6		12	16	20	30	24	12	5
52 30 08	M 8	52 30 08 ...	M 8		16	20	25	30	30	16	6
52 36 10	M 10	52 36 10 ...	M 10		20	25	30	40	36	20	8

... Please indicate here the desired length of screw e.g. 020 for l = 20 mm.

# Elevated Knurl Nuts/Screws

from Steel resp. Stainless Steel  
DIN 466 resp. 464

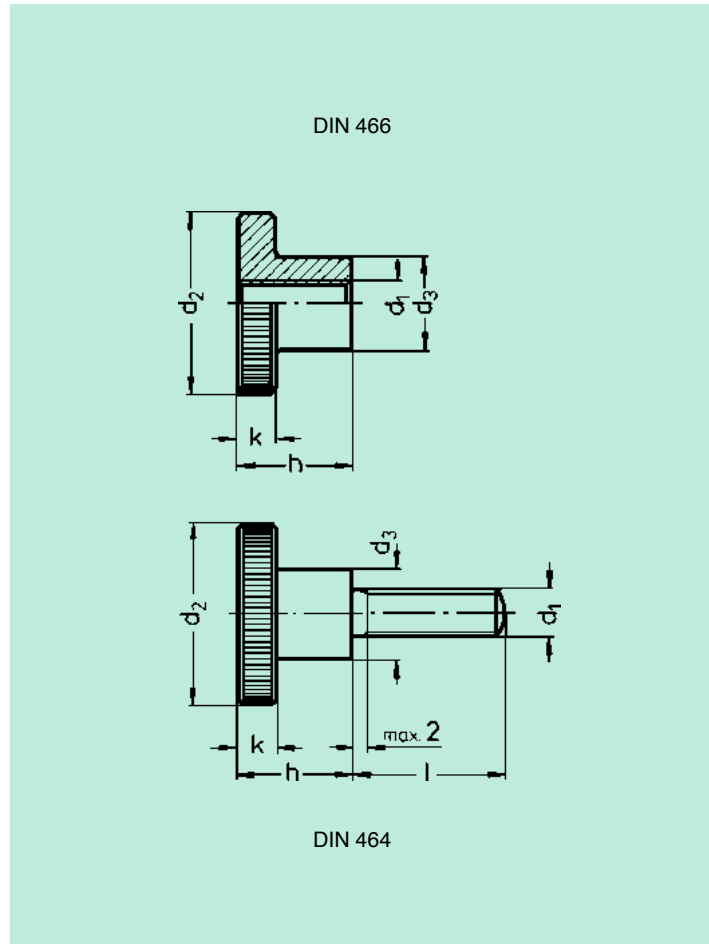
38

**INOX**



**Model:** Steel, stability class 5.8, visible fine turning end surface, black oxide finished. Stainless steel 1.4305, matt finished.

Also available from polyamide.



## Elevated Knurl Nuts/Screws - Steel

Order No. Internal Thread	Internal Thread d <sub>1</sub>	Order No. External Thread	External Thread d <sub>1</sub>	Length of Screw l (mm)						Size			
				d <sub>2</sub> mm	d <sub>3</sub> mm	h mm	k mm	d <sub>2</sub> mm	d <sub>3</sub> mm	h mm	k mm		
36 12 03	M 3	36 12 03 ...	M 3	6	10	12	16			12	6	7,5	2,5
36 16 04	M 4	36 16 04 ...	M 4	5	8	10	12	16	20	16	8	9,5	3,5
36 20 05	M 5	36 20 05 ...	M 5	6	8	10	12	16	20	20	10	11,5	4
36 24 06	M 6	36 24 06 ...	M 6	8	8	10	12	16	20	24	12	16	5
36 30 08	M 8	36 30 08 ...	M 8		12	16	20	25	30	30	16	18	6
36 36 10	M 10	36 36 10 ...	M 10		16	20	25	30	40	36	20	23	8

... Please indicate here the desired length of screw e.g. 020 for l = 20 mm.

## Elevated Knurl Nuts/Screws - Stainless Steel

Order No. Internal Thread	Internal Thread d <sub>1</sub>	Order No. External Thread	External Thread d <sub>1</sub>	Length of Screw l (mm)						Size			
				d <sub>2</sub> mm	d <sub>3</sub> mm	h mm	k mm	d <sub>2</sub> mm	d <sub>3</sub> mm	h mm	k mm		
36 16 04 E0A	M 4	36 16 04 ... E0A	M 4	8	10	12	16			16	8	9,5	3,5
36 20 05 E0A	M 5	36 20 05 ... E0A	M 5		10	12	16	20		20	10	11,5	4
36 24 06 E0A	M 6	36 24 06 ... E0A	M 6		12	16	20	30	24	12	15	5	
36 30 08 E0A	M 8	36 30 08 ... E0A	M 8		16	20	30	30	16	18	18	6	

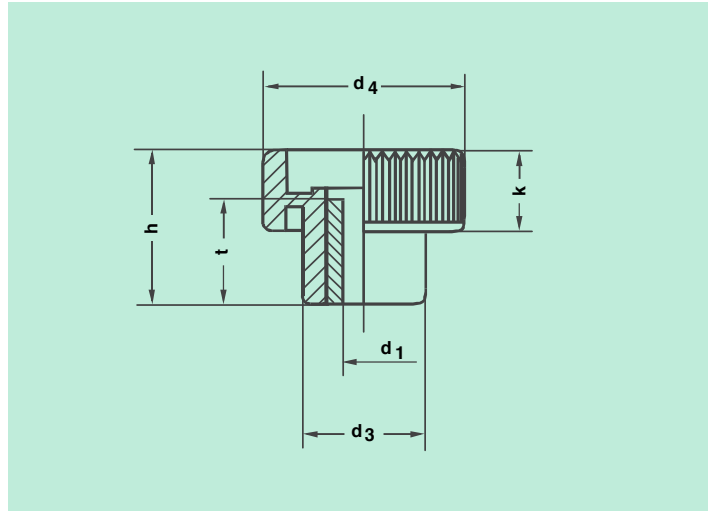
... Please indicate here the desired length of screw e.g. 020 for l = 20 mm.

## Knurl Nuts

threaded through-bore



**Model:** Body from polyamide PA 6. Bush from brass resp. from stainless steel.



39

### Knurl Nuts threaded through-bore

Order No. Bush from brass	Order No. Bush from Stainless Steel	Internal Thread $d_1$	$d_3$ mm	$d_4$ mm	$h$ mm	$t$ mm	$k$ mm
57 20 04 E5A		M 4	12	20	13	11	8
57 20 05 E5A	57 20 05 E0A	M 5					
57 25 06 E5A	57 25 06 E0A	M 6	15	25	19	14	9
57 30 08 E5A	57 30 08 E0A	M 8	18	30	21	14	11
57 35 10 E5A	57 35 10 E0A	M 10	21	35	28	17	13

## Knurl Nuts/Screws

resp. Height Adjusters  
rough



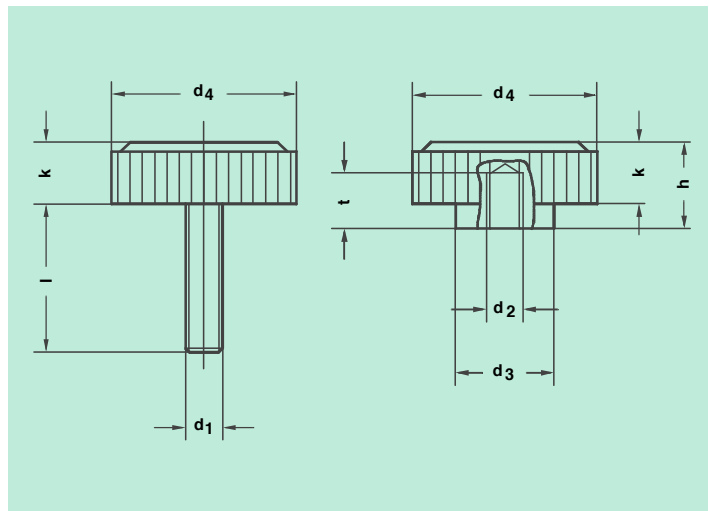
**Model:** Body from plastic PA 6, black polished.  
Bush from brass. Screw from steel, zinc-plated.

Other colours on request.

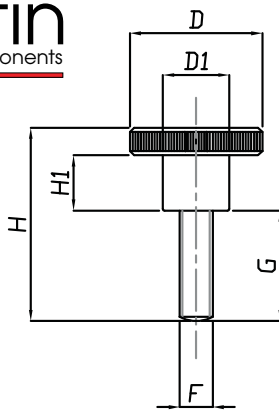
### Knurl Nuts/Screws resp. Height Adjusters, rough knurl

Order No. Internal Thread	Internal Thread $d_2$	Thread Depth $t$	$d_3$ mm	$h$ mm	Order No. External Thread	External Thread $d_1$	Length of Screw $l$ (mm)		Size $d_4$ mm	$k$ mm
					27 30 05 ... A	M 5	20		30	10
27 30 06 A	M 6	9	16	14	27 30 06 ... A	M 6	16	20	30	40
27 30 08 A	M 8	12	16	14	27 30 08 ... A	M 8	16	20	30	40

... Please indicate here the desired length of screw e.g. 020 for  $l = 20$  mm.



**Martin**  
Levelling Components



## Volantini Inox

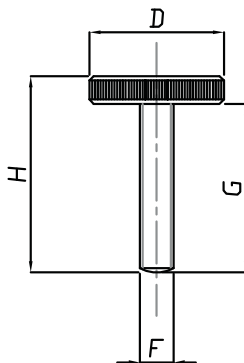
Caratteristiche: IMPUGNATURA ZIGRINATA

Features: KNURLED GRIP



40

CODICE - CODE	descrizione - description	DIMENSIONI PRINCIPALI - MAIN DIMENSIONS					
		D	D1	F	G	H1	H
3000	VOLANTINO MASCHIO M 5x6	20	10	M5	6	7,5	17,5
3001	VOLANTINO MASCHIO M 5x8	20	10	M5	8	7,5	19,5
3002	VOLANTINO MASCHIO M 5x10	20	10	M5	10	7,5	21,5
3003	VOLANTINO MASCHIO M 5x12	20	10	M5	12	7,5	23,5
3004	VOLANTINO MASCHIO M 5x16	20	10	M5	16	7,5	27,5
3005	VOLANTINO MASCHIO M 5x20	20	10	M5	20	7,5	31,5
3006	VOLANTINO MASCHIO M 6x12	24	12	M6	12	10	27
3007	VOLANTINO MASCHIO M 6x16	24	12	M6	16	10	31
3008	VOLANTINO MASCHIO M 6x20	24	12	M6	20	10	35
3009	VOLANTINO MASCHIO M 6x25	24	12	M6	25	10	40
3010	VOLANTINO MASCHIO M 6x30	24	12	M6	30	10	45
3011	VOLANTINO MASCHIO M 8x12	30	16	M8	12	12	30
3012	VOLANTINO MASCHIO M 8x16	30	16	M8	16	12	34
3013	VOLANTINO MASCHIO M 8x20	30	16	M8	20	12	38
3014	VOLANTINO MASCHIO M 8x25	30	16	M8	25	12	43
3015	VOLANTINO MASCHIO M 8x30	30	16	M8	30	12	48
3016	VOLANTINO MASCHIO M 8x35	30	16	M8	35	12	53



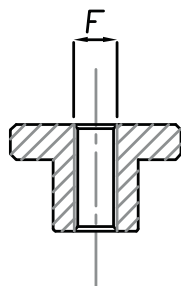
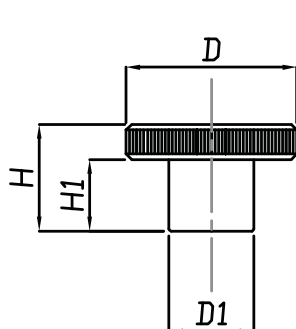
CODICE - CODE	descrizione - description	DIMENSIONI PRINCIPALI - MAIN DIMENSIONS			
		D	F	G	H
3017	VOLANTINO MASCHIO M5x10	20	M5	10	14
3018	VOLANTINO MASCHIO M5x12	20	M5	12	16
3019	VOLANTINO MASCHIO M5x16	20	M5	16	20
3020	VOLANTINO MASCHIO M5x20	20	M5	20	24
3021	VOLANTINO MASCHIO M6x12	24	M6	12	17
3022	VOLANTINO MASCHIO M6x16	24	M6	16	21
3023	VOLANTINO MASCHIO M6x20	24	M6	20	25
3024	VOLANTINO MASCHIO M6x25	24	M6	25	30
3025	VOLANTINO MASCHIO M6x30	24	M6	30	35
3026	VOLANTINO MASCHIO M8x12	30	M8	12	18
3027	VOLANTINO MASCHIO M8x16	30	M8	16	22
3028	VOLANTINO MASCHIO M8x20	30	M8	20	26
3029	VOLANTINO MASCHIO M8x25	30	M8	25	31
3030	VOLANTINO MASCHIO M8x30	30	M8	30	36

## Volantini Inox

Caratteristiche: IMPUGNATURA ZIGRINATA

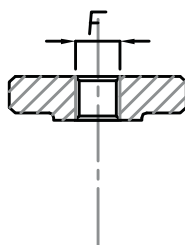
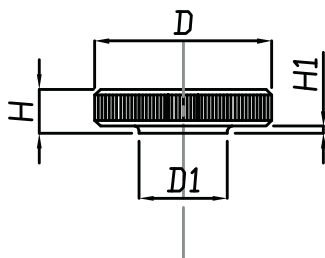
Features: KNURLED GRIP

**Martin**  
Levelling Components



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CODICE - CODE	descrizione - description	DIMENSIONI PRINCIPALI - MAIN DIMENSIONS				
		D	D1	F	H1	H
3031	VOLANTINO FEMMINA M5	20	10	M5	7,5	11,5
3032	VOLANTINO FEMMINA M6	24	12	M6	10	15
3033	VOLANTINO FEMMINA M8	30	16	M8	12	18



CODICE - CODE	descrizione - description	DIMENSIONI PRINCIPALI - MAIN DIMENSIONS				
		D	D1	F	H1	H
3034	VOLANTINO FEMMINA M5	20	10	M5	1	5
3035	VOLANTINO FEMMINA M6	24	12	M6	1	6
3036	VOLANTINO FEMMINA M8	30	16	M8	2	8

- Volantini di manovra per l'industria farmaceutica, chimica, beverage, alimentare e del packaging.
- Materiale: acciaio inox AISI 303 (a richiesta AISI 304 e 316)

- Knobs for pharmaceutical, chimica, berage and food industry
- Material: stainless steel 1.4305 (1.4301 and 1.4401 on request)

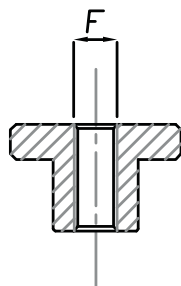
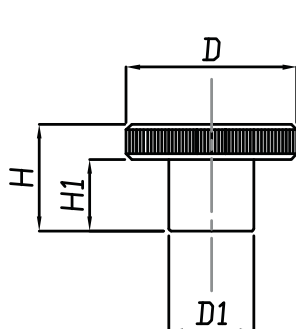
## Volantini Inox

Caratteristiche: IMPUGNATURA ZIGRINATA

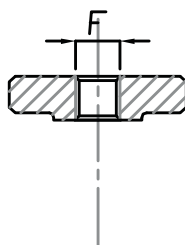
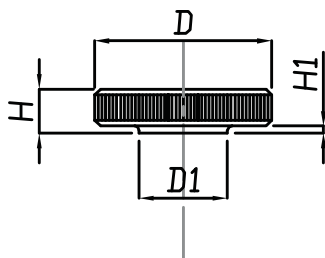
Features: KNURLED GRIP

**Martin**  
Levelling Components

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CODICE - CODE	descrizione - description	DIMENSIONI PRINCIPALI - MAIN DIMENSIONS				
		D	D1	F	H1	H
3031	VOLANTINO FEMMINA M5	20	10	M5	7,5	11,5
3032	VOLANTINO FEMMINA M6	24	12	M6	10	15
3033	VOLANTINO FEMMINA M8	30	16	M8	12	18



CODICE - CODE	descrizione - description	DIMENSIONI PRINCIPALI - MAIN DIMENSIONS				
		D	D1	F	H1	H
3034	VOLANTINO FEMMINA M5	20	10	M5	1	5
3035	VOLANTINO FEMMINA M6	24	12	M6	1	6
3036	VOLANTINO FEMMINA M8	30	16	M8	2	8

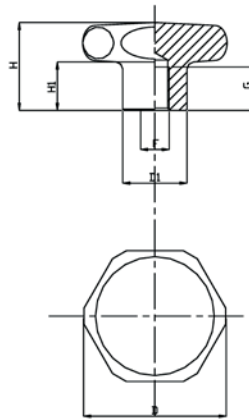
- Volantini di manovra per l'industria farmaceutica, chimica, beverage, alimentare e del packaging.
- Materiale: acciaio inox AISI 303 (a richiesta AISI 304 e 316)

- Knobs for pharmaceutical, chimica, berage and food industry
- Material: stainless steel 1.4305 (1.4301 and 1.4401 on request)

**Martin**  
Levelling Components

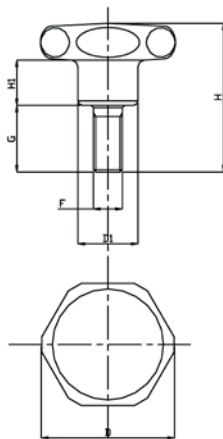
## Volantini Inox

Caratteristiche: IMPUGNATURA A LOI  
Features: STAR GRIP



VOLANINI INOX A LOBI - FILETTO FEMMINA  
STAINLESS STEEL KNOBS - FEMALE

CODICE - CODE	descrizione - description	DIMENSIONI PRINCIPALI - MAIN DIMENSIONS					
		D	D1	H	H1	G	F
30000E/27	VOLANTINO D27 M5	27	15	19	10	10	M5
30010E/33	VOLANTINO D33 M6	33	19	23	12	12	M6
30020E/40	VOLANTINO D40 M8	40	21	27	15	13	M8
30030E/50	VOLANTINO D50 M10	50	25	33	17,5	17	M10
30040E/60	VOLANTINO D60 M12	60	27	37	20	20	M12



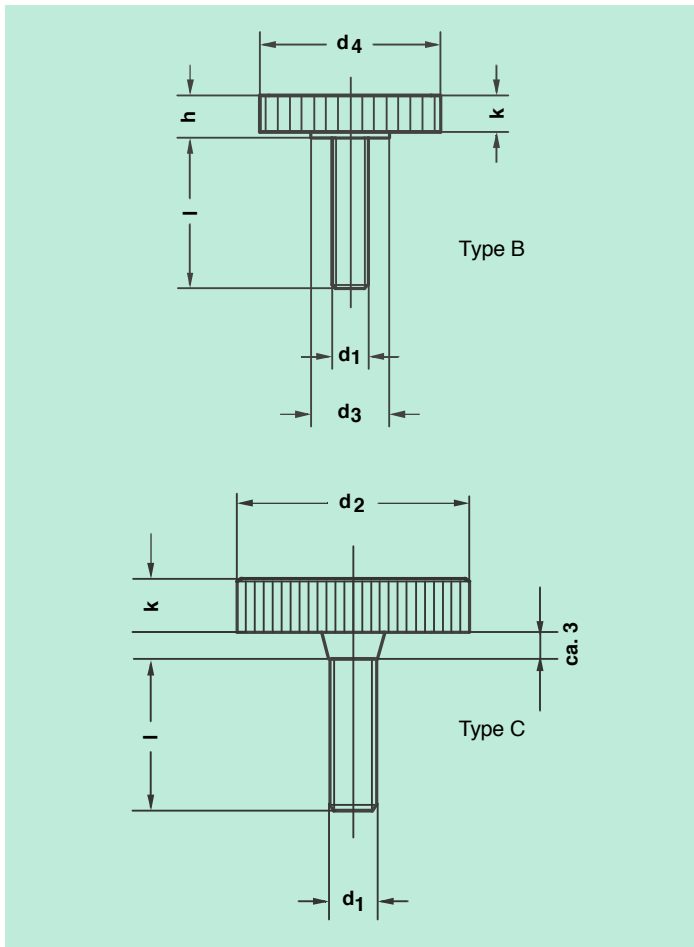
VOLANINI INOX A LOBI - FILETTO MASCHIO  
STAINLESS STEEL KNOBS - MALE

CODICE - CODE	descrizione - description	DIMENSIONI PRINCIPALI - MAIN DIMENSIONS					
		D	D1	H	H1	G	F
30060E/27	VOLANTINO D27 M6	27	15	30	10	10	M6
30070E/33	VOLANTINO D33 M8	33	19	43	11	20	M8
30080E/40	VOLANTINO D40 M8	40	21	47	15	20	M8
30090E/50	VOLANTINO D50 M10	50	25	63	17,5	30	M10
30100E/60	VOLANTINO D60 M12	60	27	77	20	40	M12

- Volantini dal design privo di cavità e pertanto non depositari di sporco e impurità. Settori d'impiego: industria farmaceutica, chimica, beverage, alimentare e del packaging
- Materiale: acciaio inox AISI 304 (a richiesta AISI 316). Superficie lucidata a specchio o, a richiesta, sabbiata
- Material: 1.4301 (1.4401 request). Polished surface (sandblasted treatment on request). Thanks to their design the knobs avoid any dirt and dust deposit.
- Applications: pharmaceutical, chemical, food, wine and packaging industry.



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## Knurl Screws

resp. Height Adjusters



**Model:** Body from polyamide, black. Screw from steel, zinc-plated.

Other colours on request.

### Knurl Screws resp. Height Adjusters Type B

Order No.	External Thread $d_1$	Length of Screw $l$ (mm)				Size $d_4$ mm	$d_3$ mm	$h$ mm	$k$ mm
27 14 04 ... B	M 4	14	15	19	14	10	6	5	
27 20 04 ... B	M 4	10	15						
27 20 05 ... B	M 5	10	15	20	20	13	7	6	
27 20 06 ... B	M 6	10	15	20	20				

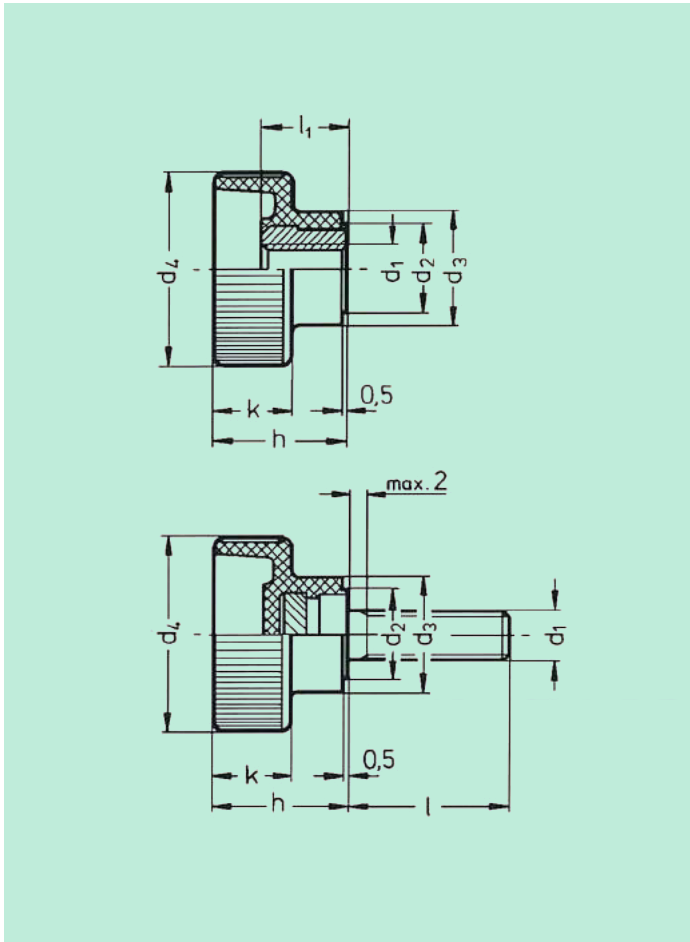
... Please indicate here the desired length of screw e.g. 020 for  $l = 20$  mm.

### Knurl Screws resp. Height Adjusters Type C

Order No.	External Thread $d_1$	Length of Screw $l$ (mm)				Size $d_2$ mm	$k$ mm
27 25 06 ... C	M 6	17	27		25	7	
27 30 06 ... C	M 6	17	27		30	7	
27 30 08 ... C	M 8	16	26	36			
27 35 08 ... C	M 8	16	26	36	35	7	
27 35 10 ... C	M 10	15		35	45		

... Please indicate here the desired length of screw e.g. 016 for  $l = 16$  mm.

## Knurl Nuts / Screws



INOX



45

**Model:** Body Termoplast (Polyamid)  
Black, Polished

Socket Screw made of galvanized steel or stainless steel  
Nirosta 1.4305.

### Knurl Nuts / Screws

Order No. Internal Thread	Internal Thread $d_1$	$l_1$ mm	Order No. External Thread	External Thread $d_1$	Length of Screw $l$ (mm)				$d_2$ mm	$d_3$ mm	$d_4$ mm	$h$ mm	$k$ mm			
33 19 04	M 4	9	33 19 04 ...	M 4	10	15	20	9	12	19	14	8				
33 19 05	M 5		33 19 05 ...	M 5	10	15	20	25								
33 24 06	M 6	10,5	33 24 06 ...	M 6	10		16	20	25	30	11	14	24	16,5	9,5	
33 30 08	M 8	11,5	33 30 08 ...	M 8			16	20	25	30	40	13	16	30	19,5	11
33 36 10	M 10	14	33 36 10 ...	M 10			20	25	30	40	15	18	36	22,5	12,5	

... Please indicate here the desired length of screw e.g. 020 for  $l = 20$  mm.

### Knurl Nuts / Screws - Nirosta - Stainless steel

Order No. Internal Thread	Internal Thread $d_1$	$l_1$ mm	Order No. External Thread	External Thread $d_1$	Length of Screw $l$ (mm)				$d_2$ mm	$d_3$ mm	$d_4$ mm	$h$ mm	$k$ mm	
33 19 05 E0A	M 5	9	33 19 05 ... E0A	M 5	10	15	25	9	12	19	14	8		
33 24 06 E0A	M 6	10,5	33 24 06 ... E0A	M 6			16	20	30	11	14	24	16,5	9,5
33 30 08 E0A	M 8	11,5	33 30 08 ... E0A	M 8			20	25	30	13	16	30	19,5	11

... Please indicate here the desired length of screw e.g. 020 for  $l = 20$  mm.

## Knurl Screws

46

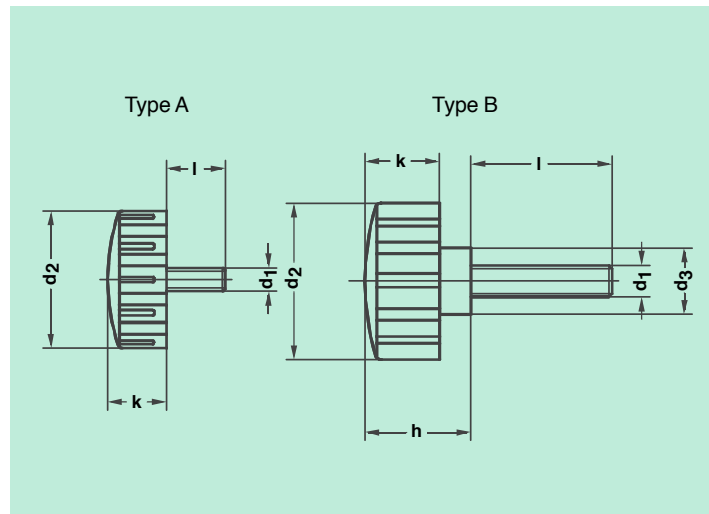


**Model:** Body from polyamide, black. Screw from steel, zinc-plated.

**Type A:** without collar.

**Type B:** with collar.

Internal Thread on request.



## Knurl Screws

Order No. Type A	Order No. Type B	External Thread d <sub>1</sub>	Length of Screw l (mm)				Size d <sub>2</sub> mm	k mm	h mm
86 30 06 ...		M 6	12	15	20		30	12	-
86 35 06 ...		M 6		15	20	30	35	15	-
86 35 08 ...		M 8			20	30			
	86 40 06 ...	M 6		16	21	31	40	19	27
	86 40 08 ...	M 8			21	26	31		

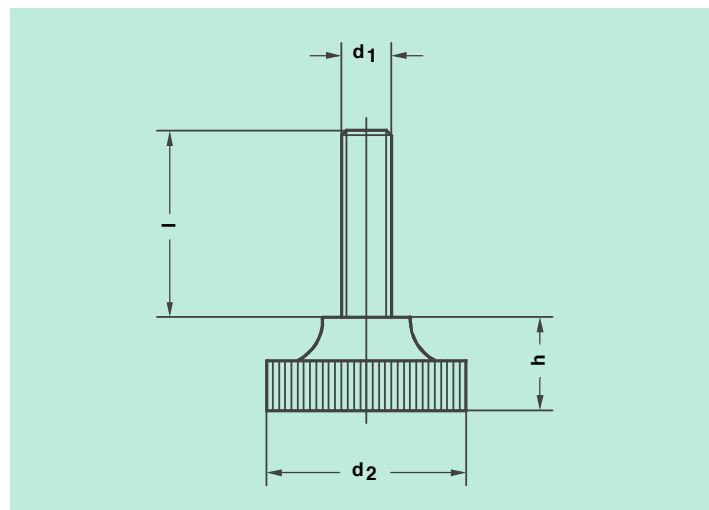
... Please indicate here the desired length of screw e.g. 020 for l = 20 mm.

## Knurl Screws

resp. Height Adjusters



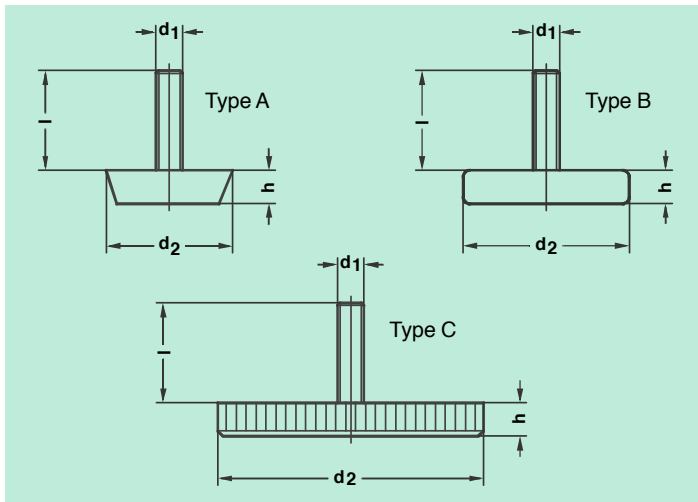
**Model:** No-slip body from rubber, black. Screw from steel, zinc-plated.



## Knurl Screws resp. Height Adjusters

Order No.	External Thread d <sub>1</sub>	Length of Screw l (mm)			Size d <sub>2</sub> mm	h mm
78 32 06 ...	M 6	20	30	40	32	14,5
78 32 08 ...	M 8	20	30	40	32	14,5
78 32 10 ...	M 10		30	40	32	14,5

se indicate here the desired length of screw e.g. 020 for l = 20 mm.



## Levelling Elements

resp. Height Adjusters



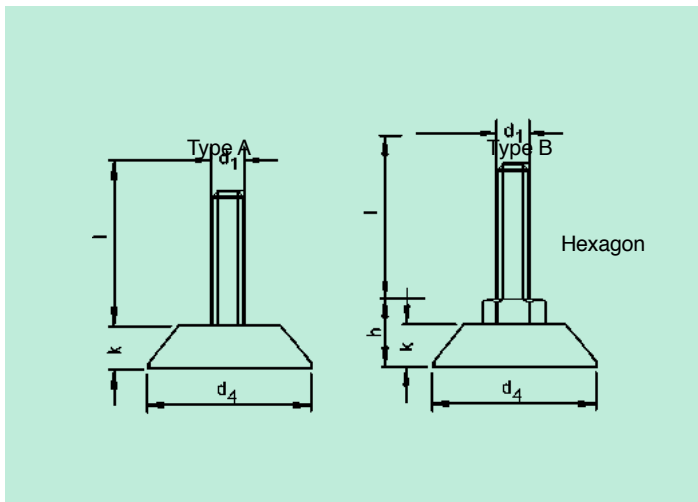
47

**Model:** Disk from polyamide, black. Screw from steel, zinc-plated.

### Levelling Elements resp. Height Adjusters

Order No. Form A	Order No. Type B	Order No. Type C	External Thread $d_1$	Length of Screw $l$ (mm)		Size $d_2$ mm	$h$ mm	
80 38 06 ... A			M 6	15	30	38	10	
80 38 08 ... A			M 8	20	30			
	80 50 06 ... B		M 6		20	50	10	
	80 50 08 ... B		M 8		20			
	80 50 10 ... B		M 10		20			
		80 60 08 ... C	M 8	15	35	55	60	8
		80 60 10 ... C	M 10	15	35	55		

... Please indicate here the desired length of screw e.g. 020 for  $l = 20$  mm.



## Levelling Elements

resp. Height Adjusters



**Model:** Body from polyamide, black. Screw from steel, zinc-plated.

**Type A:** without Hexagon.  
**Type B:** with Hexagon.

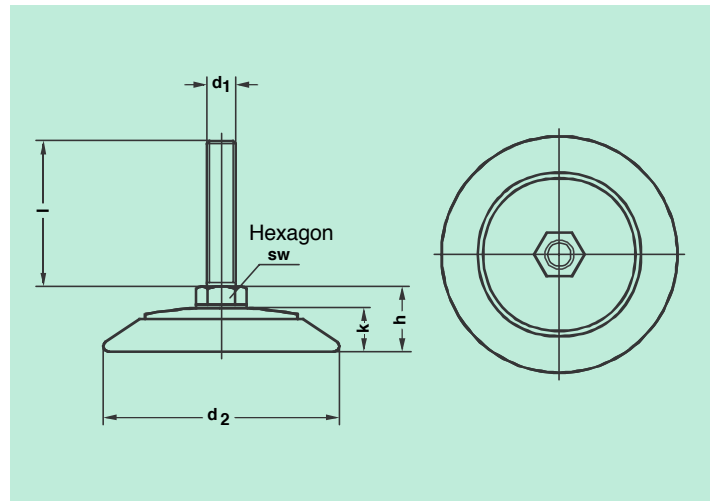
### Levelling Elements resp. Height Adjusters

Order No. Type A	Order No. Type B	External Thread $d_1$	Length of Screw $l$ (mm)			Size $d_2$ mm	$h$ mm	$k$ mm	sw
28 30 06 ... A	28 30 06 ... B	M 6	20	30	40	30	15	10	13
28 30 08 ... A	28 30 08 ... B	M 8	20	30	40				
28 47 08 ... A	28 47 08 ... B	M 8	20	40	50	47	15	10	13
28 47 10 ... A	28 47 10 ... B	M 10	30	50	60				

... Please indicate here the desired screw length e.g. 020 for  $l = 20$  mm.

## Levelling Elements

48



**Model:** Disk from polyamide, black with chromium-plated metal cap. Screw with hexagon from steel, zinc-plated.

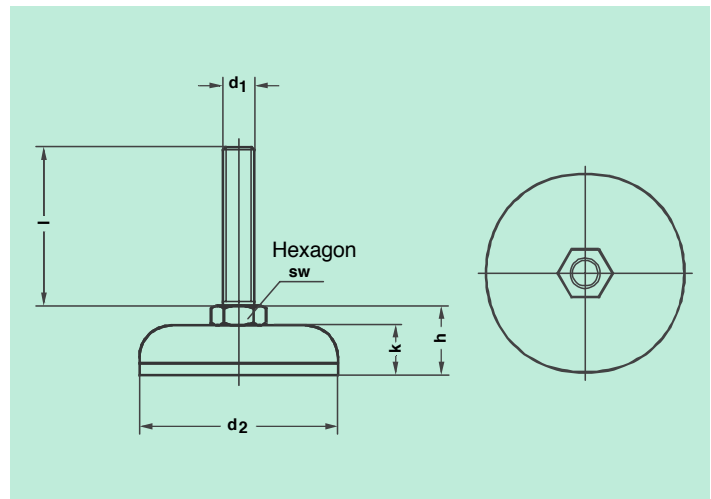
### Levelling Elements

Order No.	External Thread $d_1$	Length of Screw l (mm)		Size $d_2$ mm	h mm	k mm	sw
87 65 08 ...	M 8	20	50	65	18	14	13
87 65 10 ...	M 10	20	50				
87 80 08 ...	M 8	20	50	80	18	14	13
87 80 10 ...	M 10	20	50				

... Please indicate here the desired length of screw e.g. 020 for l = 20 mm.

## Levelling Elements

STANDARDNI VPENJALNI ELEMENTI  
www.metalika-kacin.com  
k71

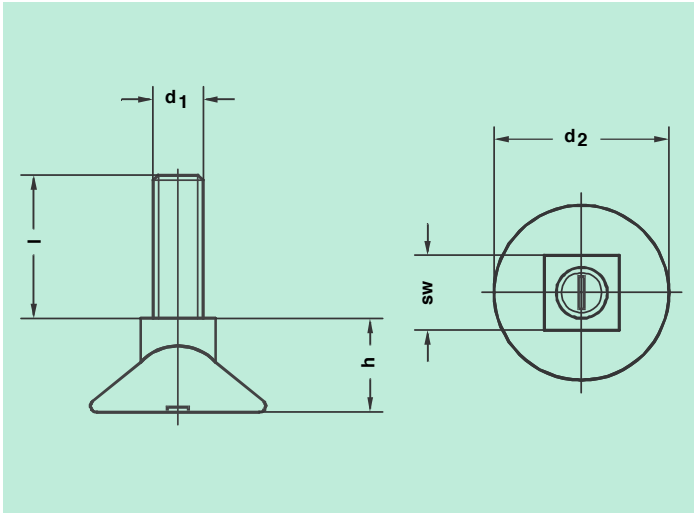


**Model:** Disk from polypropylene, with chromium-plated cover. Screw with hexagon from steel, zinc-plated.

### Levelling Elements

Order No.	External Thread $d_1$	Length of Screw l (mm)		Size $d_2$ mm	h mm	k mm	sw
85 35 08 ...	M 8	20	30	35	17	13	12
85 50 08 ...	M 8	25	30	50	18	14	13
85 50 10 ...	M 10	25	30				
85 75 10 ...	M 10	25	30	75	19	14	14

... Please indicate here the desired length of screw e.g. 025 for l = 25 mm.



## Levelling Elements

resp. Height Adjusters



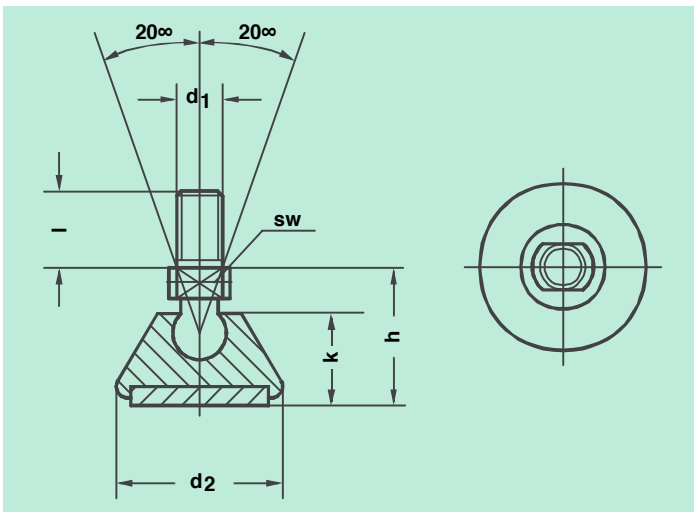
**Model:** Disk with square, from polyamide, black.  
Screw from steel, zinc-plated.

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### Levelling Elements

Order No. Type A	Order No. Type B	External Thread $d_1$	Length of Screw $l$ (mm)	Size $d_2$ mm	$h$ mm	$k$ mm	$sw$ mm
82 24 06 ... A		M 6	10	24	19,5	12	6
	82 30 06 ... B	M 6	15	30	21	14	-
	82 30 08 ... B	M 8	15				

... Please indicate here the desired length of screw e.g. 018 for  $l = 18$  mm.



## Levelling Elements

from Stainless Steel

**INOX**



**Model:** Cover from stainless steel. Ball-screw from steel, zinc-plated. Mount from polypropylene resp. no-slip rubber, black.

**Type A:** Mount from polypropylene, black .

**Type B:** Mount from no-slip rubber.

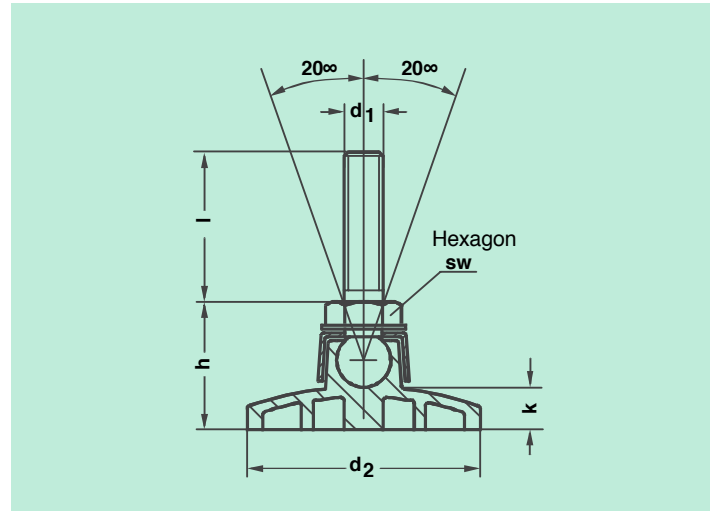
### Levelling Elements

Order No. Type A	Order No. Type B	External Thread $d_1$	Length of Screw $l$ (mm)	Size $d_2$ mm	$h$ mm	$k$ mm	$sw$ mm
82 24 06 ... A		M 6	10	24	19,5	12	6
	82 30 06 ... B	M 6	15	30	21	14	-
	82 30 08 ... B	M 8	15				

... Please indicate here the desired length of screw e.g. 015 for  $l = 15$  mm.

## Levelling Elements

50

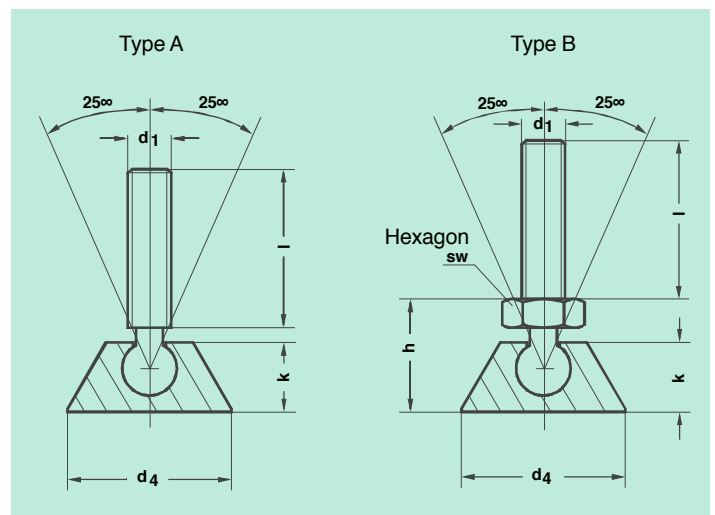


**Model:** Disk from polyamide, black. Ball-screw with hexagon from steel, zinc-plated.

### Levelling Elements

Order No.	External Thread $d_1$	Length of Screw $l$ (mm)	Size $d_4$ mm	$h$ mm	$k$ mm	$sw$
813008025	M8	25	30	23	9	11
814208025	M8	25	42	23	9	11

## Levelling Elements



**Model:** Disk from polyamide, black. Ball-screw from steel, zinc-plated.

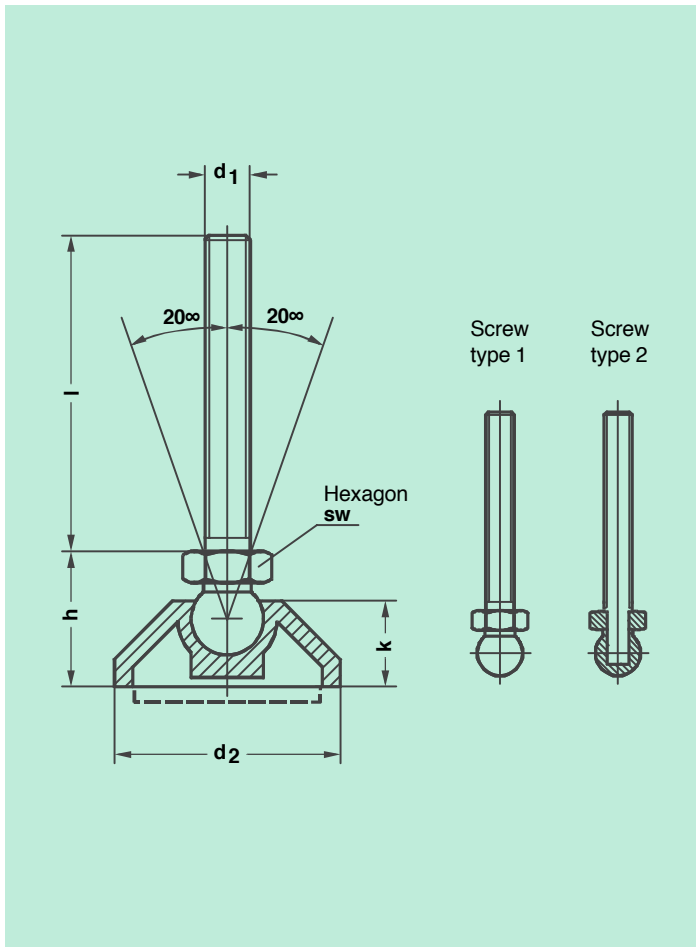
**Type A:** without Hexagon

**Type B:** with Hexagon

### Levelling Elements

Order No.	External Thread $d_1$	Useable Length of Screw $l$ (mm)	Order No.	External Thread $d_1$	Useable Length of Screw $l$ (mm)	$d_4$ mm	$h$ mm	$k$ mm	$sw$
Type A			Type B						
38 26 08 025 A	M 8	25	38 26 08 ... B	M 8	33	26	22	13	12
38 30 08 025 A	M 8	25	38 30 08 ... B	M 8	33	30	22	13	12
			38 30 10 ... B	M 10	45 60				
38 47 08 025 A	M 8	25	38 47 08 ... B	M 8	33	47	22	13	12
			38 47 10 ... B	M 10	45 60				

. Please indicate here the desired length of screw e.g. 033 for  $l = 33$  mm.



## Levelling Elements

**INOX**



51

**Model:** Disk from reinforced polyamide, black. Ball-screw with hexagon from steel, zinc-plated resp. from stainless steel, material no. 1.4301. Ball-screw with hexagon from reinforced polyamide for sizes 60-100.

Static load: 1200 kg.

**Type S:** with vibration absorbing disk (oil resistant rubber, shore A).

**Screw type 1:** all from steel.

**Screw type 2:** screw from steel, ball with hexagon from polyamide.

### Levelling Elements - Steel

Order No.	Order No.	External Thread	Length of Screw l (mm)		Size d <sub>2</sub> mm	h mm	k mm	sw	Screw type	
Steel	Type S Steel	d <sub>1</sub>								
83 40 08 ...	83 40 08 ... S	M 8	43	65	40	28	19,5	14	1	
83 40 10 ...	83 40 10 ... S	M 10		71						125
83 40 12 ...	83 40 12 ... S	M 12		71						125
83 60 12 ...	83 60 12 ... S	M 12	55	110	60	50	23	24	2	
83 60 16 ...	83 60 16 ... S	M 16	55	105	150	60	50	23	24	
83 60 20 ...	83 60 20 ... S	M 20		105	150	60	50	23	24	
83 80 16 ...	83 80 16 ... S	M 16	55	105	150	80	51	23	24	
83 80 20 ...	83 80 20 ... S	M 20		105	150	80	51	23	24	
83 100 16 ...	83 100 16 ... S	M 16	55	105	150	100	54	28	24	
83 100 20 ...	83 100 20 ... S	M 20		105	150	100	54	28	24	
83 100 24 ...	83 100 24 ... S	M 24		95	140	100	59	28	30	

... Please indicate here the desired length of screw e.g. 150 for l = 150 mm.

### Levelling Elements - Stainless Steel

Order No.	Order No.	External Thread	Length of Screw l (mm)		Size d <sub>2</sub> mm	h mm	k mm	sw	Screw type	
Stainless Steel	Type S Stainless Steel	d <sub>1</sub>								
83 40 08 ... E0A	83 40 08 ... E0A S	M 8	43	65	40	28	19,5	14	1	
83 40 10 ... E0A	83 40 10 ... E0A S	M 10		71						125
83 40 12 ... E0A	83 40 12 ... E0A S	M 12		71						125
83 60 12 ... E0A	83 60 12 ... E0A S	M 12	55	110	60	50	23	24	2	
83 60 16 ... E0A	83 60 16 ... E0A S	M 16	55	105	150	60	50	23	24	
83 60 20 ... E0A	83 60 20 ... E0A S	M 20		105	150	60	50	23	24	
83 80 16 ... E0A	83 80 16 ... E0A S	M 16	55	105	150	80	51	23	24	
83 80 20 ... E0A	83 80 20 ... E0A S	M 20		105	150	80	51	23	24	
83 100 16 ... E0A	83 100 16 ... E0A S	M 16	55	105	150	100	54	28	24	
83 100 20 ... E0A	83 100 20 ... E0A S	M 20		105	150	100	54	28	24	
83 100 24 ... E0A	83 100 24 ... E0A S	M 24		95	140	100	59	28	30	

... Please indicate here the desired length of screw e.g. 150 for l = 150 mm.



## Levelling Elements

52

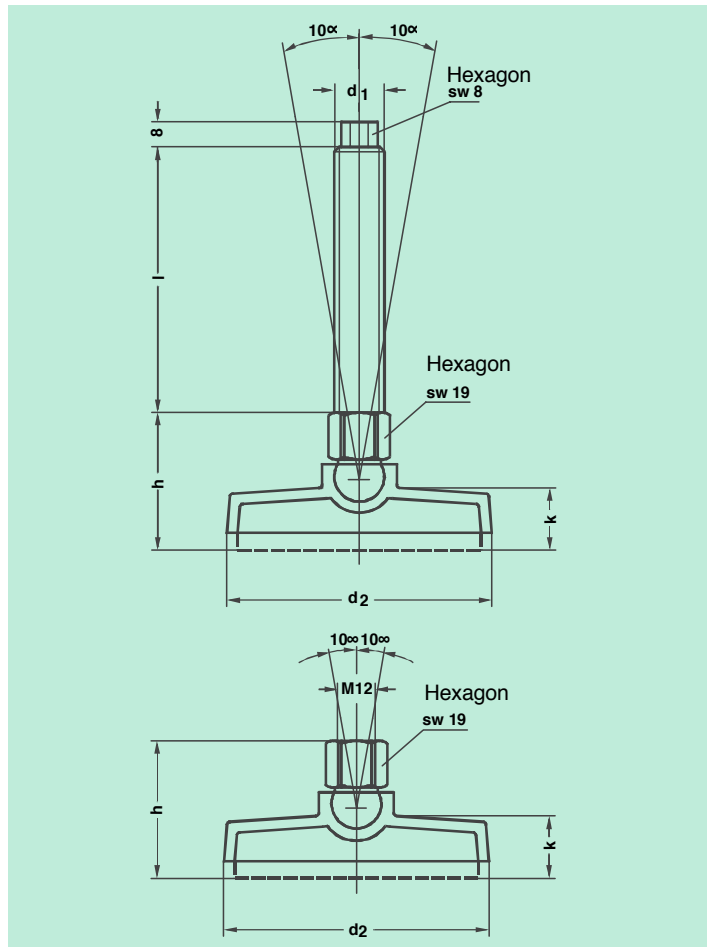


**Model:** Upper part of disk from reinforced polyamide, black RAL 9011. Bottom from no-slip rubber, white RAL 1015. Bottom structure stem vibration and avoids slipping of the disk. Ball-screw with hexagon from steel, zinc-plated resp. fro stainless steel, material no. 1.4305.

**Resistant to:**

cold (- 30°C), heat (+ 90°C), leaches, oils greases, salt and soapy solutions, gas, ozone and weather.

Static load: 1000 kg.

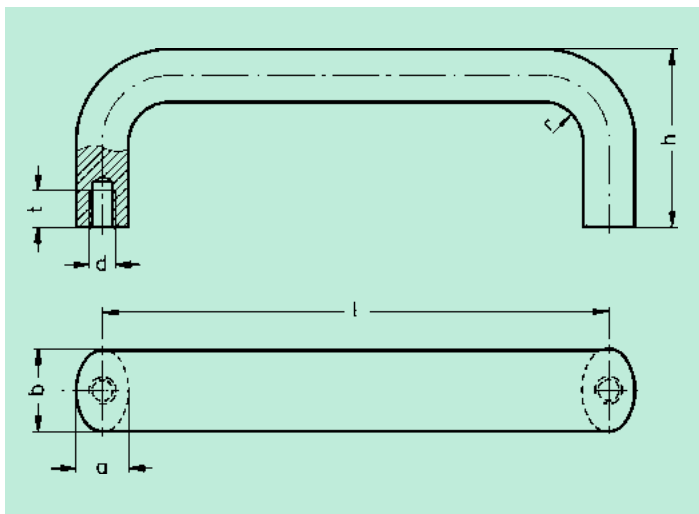


### Levelling Elements

Order No. Steel	Order No. Stainless Steel	External Thread d <sub>1</sub>	Length of Screw l (mm)		Size d <sub>2</sub> mm	h mm	k mm
84 85 12 ...	84 85 12 ... E0A	M 12	85	135	85	44	20
84 85 16 ...	84 85 16 ... E0A	M 16	85	135	85	44	20

... Please indicate here the desired length of screw e.g. 085 for l = 85 mm.

Elements (without screw) with bush M12 from steel, zinc-plated:  
Order no. 84 85 GF.



## Pull Handles from Aluminium resp. Stainless Steel

**INOX**



53

Grip from aluminium profile with high stability and smooth surface. Modern design and ergonomical points of view were the standard basis for the design.

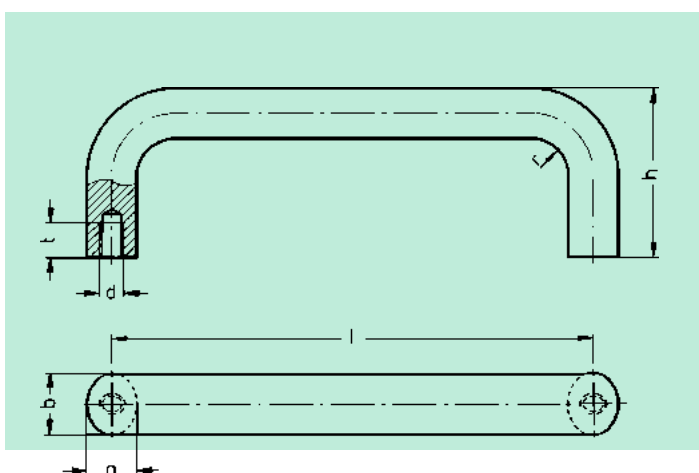
Due to the production system (bending), special lengths can be delivered also in small quantities.

**Model Aluminium:** Plastic coated black RAL 9011, matt finish or blank, bright tumbled finish.

**Model Stainless Steel:** Material No. 1.4301, sand-blasted matt.

### Pull Handles - Aluminium resp. Stainless Steel

Order No. Black	Order No. Blank	Order No. Stainless Steel	b mm	l mm	a mm	Thread d	h mm	r	t mm
63 20 100 sw	63 20 100 bl		20	100	13	M 6	47	13	10
		63 20 112 E0A	20	112	13	M 6	49	13	10
63 20 128 sw	63 20 128 bl	63 20 128 E0A	20	128	13	M 6	51	13	10
63 26 128 sw	63 26 128 bl		26	128	17	M 8	55	17	12
63 26 160 sw	63 26 160 bl		26	160	17	M 8	57	17	12
63 26 192 sw	63 26 192 bl		26	192	17	M 8	57	17	12
63 26 300 sw	63 26 300 bl		26	300	17	M 8	57	17	12



## Pull Handles from Plastic



**Model:** Polyamide black. Thread from brass MS 58.

### Pull Handles - Plastic

Order No.	b mm	l mm	a mm	Thread d	h mm	r	t mm
64 12 088 sw	12	88	9	M 5	40	22	7,5
64 12 100 sw	12	100	9	M 5	40	22	7,5
64 12 120 sw	12	120	9	M 5	40	22	7,5

## Pull Handles

from Aluminium  
to assemble from front side

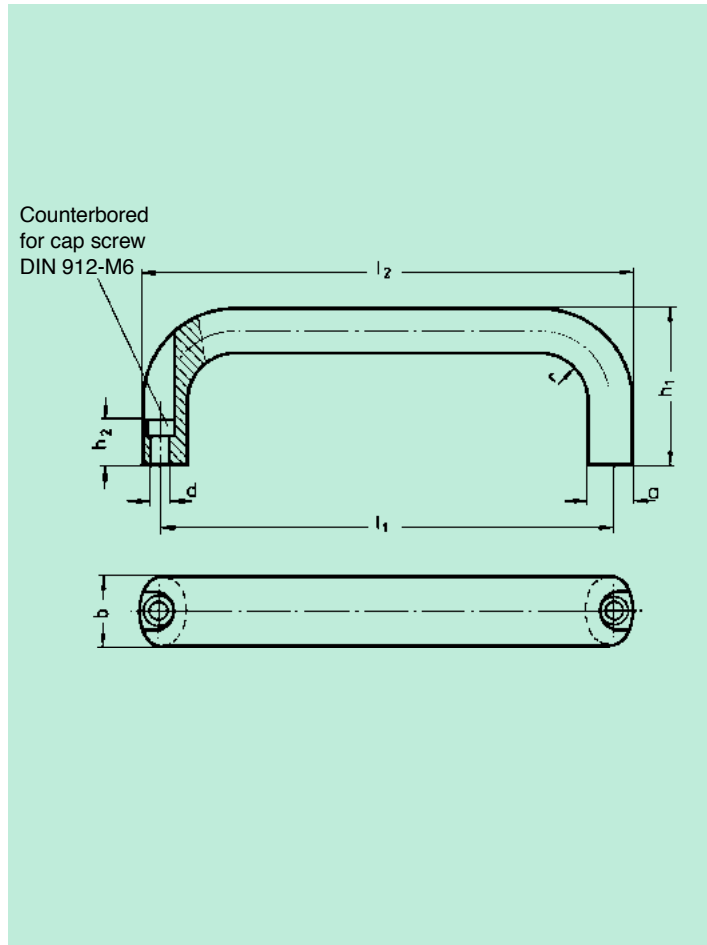
54



These pull handles allow assembling from front side.

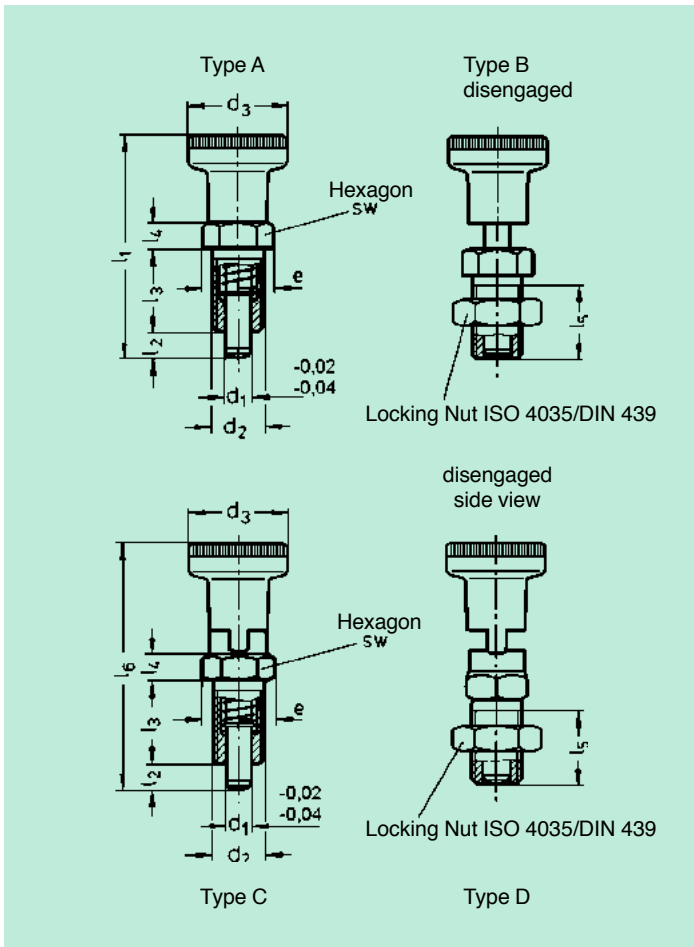
Grip from aluminium profile with high stability and smooth surface. Modern design and ergonomical points of view were the standard basis for the design. Due to the production system (bending), special lengths can be delivered also in small quantities.

**Model:** Aluminium, Plastic coated black RAL 9011, matt finish or blank, bright tumbled finish.



### Pull Handles to assemble from front side - Aluminium

Order No.	Order No.	b	l <sub>1</sub>	l <sub>2</sub>	a	d	h <sub>1</sub>	h <sub>2</sub>	r
Black	Blank	mm	mm	mm	mm	mm	mm	mm	
66 26 116 sw	66 26 116 bl	26	116	130	17	6,3	53	17	17
66 26 132 sw	66 26 132 bl	26	132	146	17	6,3	55	17	17
66 26 164 sw	66 26 164 bl	26	164	178	17	6,3	57	17	17
66 26 196 sw	66 26 196 bl	26	196	210	17	6,3	57	17	17



## Fixing Bolts

from Steel resp. Stainless Steel

**INOX**



55

**Model Steel:** Knob from polyamide black matt. Steel parts stability class 5.8, black oxide finish. Locking bolt hardened and ground.

**Model Stainless Steel:** Knob from polyamide black matt. Steel parts from stainless steel, Material No. 1.4305. Locking bolt ground and nitrated.

**Type A:** without Fixing Slot, without Locking Nut

**Type B:** without Fixing Slot, with Locking Nut

**Type C:** with Fixing Slot, without Locking Nut

**Type D:** with Fixing Slot, with Locking Nut

### Note for Zimmermann Fixing Bolts:

Fixing bolts are used when a change of resting position by axial loads has to be avoided. Another resting position only can be choiced if bolt has been pressed out manually. If fixing pin has to be locked out longer time and unintentional resting has to be avoided, please use Type C resp. Type D.

### Zimmermann Fixing Bolts - Steel

Order No.	Order No.	Order No.	Order No.	Size	d <sub>1</sub>	d <sub>2</sub>	d <sub>3</sub>	e	l <sub>1</sub>	l <sub>2</sub>	l <sub>3</sub>	l <sub>4</sub>	l <sub>5</sub>	l <sub>6</sub>	sw
Type A	Type B	Type C	Type D	mm	mm	mm	mm	mm	mm	min. mm	mm	mm	mm	min. mm	
30 05 A	30 05 B	30 05 C	30 05 D	5	M 10 x 1	21	13,8	45	5	17	5	15	51	12	
30 06 A	30 06 B	30 06 C	30 06 D	6	M 12 x 1,5	25	16,2	54,5	6	20	6	17	61	14	
30 08 A	30 08 B	30 08 C	30 08 D	8	M 16 x 1,5	31	21,9	69	8	26	8	23	75,5	19	
30 10 A	30 10 B	30 10 C	30 10 D	10	M 20 x 1,5	31	25,4	80	10	33	10	30	91	22	

### Zimmermann Fixing Bolts - Stainless Steel

Order No.	Order No.	Order No.	Order No.	Size	d <sub>1</sub>	d <sub>2</sub>	d <sub>3</sub>	e	l <sub>1</sub>	l <sub>2</sub>	l <sub>3</sub>	l <sub>4</sub>	l <sub>5</sub>	l <sub>6</sub>	sw
Type A	Type B	Type C	Type D	mm	mm	mm	mm	mm	mm	min. mm	mm	mm	mm	min. mm	
30 05 A E0A	30 05 B E0A	30 05 C E0A	30 05 D E0A	5	M 10 x 1	21	13,8	45	5	17	5	15	51	12	
30 06 A E0A	30 06 B E0A	30 06 C E0A	30 06 D E0A	6	M 12 x 1,5	25	16,2	54,5	6	20	6	17	61	14	
30 08 A E0A	30 08 B E0A	30 08 C E0A	30 08 D E0A	8	M 16 x 1,5	31	21,9	69	8	26	8	23	75,5	19	
30 10 A E0A	30 10 B E0A			10	M 20 x 1,5	31	25,4	80	10	33	10	30		22	

## Fixing Bolts

### without Collar Steel/ Stainless Steel

56

**INOX**

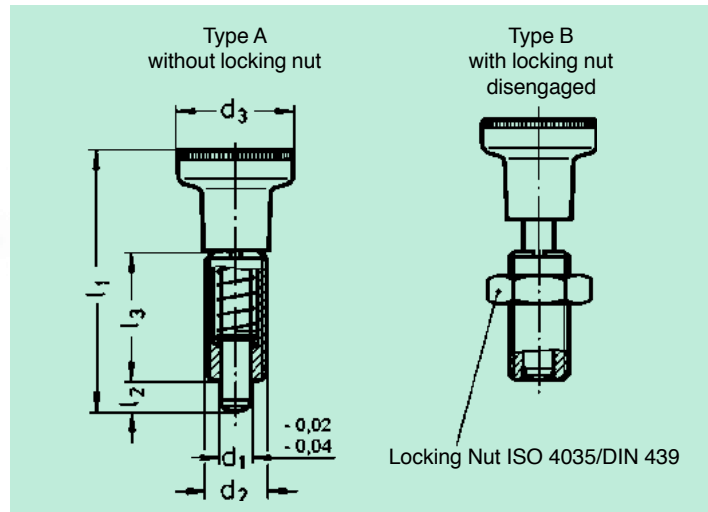


Fixing bolts without collar are a low cost alternative.

**Model Steel:** Knob from polyamide black matt. Steel parts stability class 5.8, black oxide finished. Locking bolt hardened and ground.

**Model Stainless Steel:** Steel parts from stainless steel, material no. 1.4305. Locking bolt ground and nitrated.

A special screwdriver is available. Two slots are provided in the upper end of the body which are accessible with the knob in its retracted position.



### Fixing Bolts without Collar - Steel resp. Stainless Steel

Order No. Steel Type A	Order No. Steel Type B	Order No. Stainless Steel Type A	Order No. Stainless Steel Type B	Size d1 mm	d2 mm	d3 mm	l1 mm	l2 min. mm	l3 mm	Order No. Screw Driver
59 05 A	59 05 B	59 05 A E0A	59 05 B E0A	5	M 10 x 1	21	44	5	22	59 05 S
59 06 A	59 06 B	59 06 A E0A	59 06 B E0A	6	M 12 x 1,5	25	53	6	26	59 06 S
59 08 A	59 08 B	59 08 A E0A	59 08 B E0A	8	M 16 x 1,5	31	67	8	34	59 08 S
59 10 A	59 10 B	59 10 A E0A	59 10 B E0A	10	M 20 x 1,5	31	78	10	43	59 10 S

## Fixing Bolts

### without Thread

STANDARDNI VPENJALNI ELEMENTI  
www.metalika-kacin.com

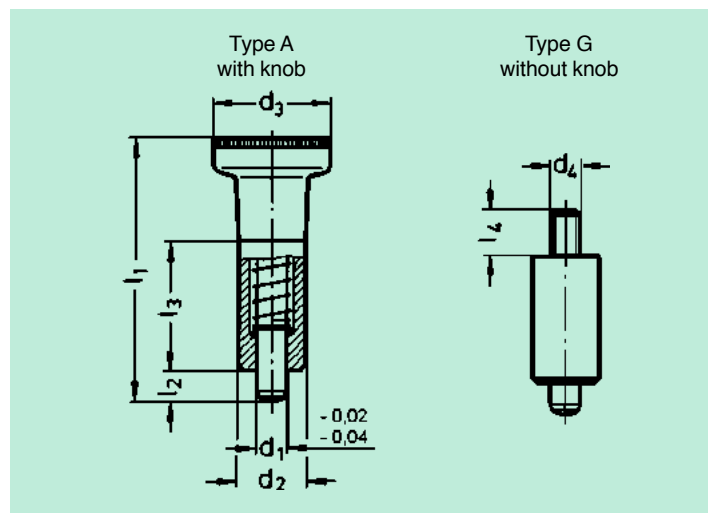


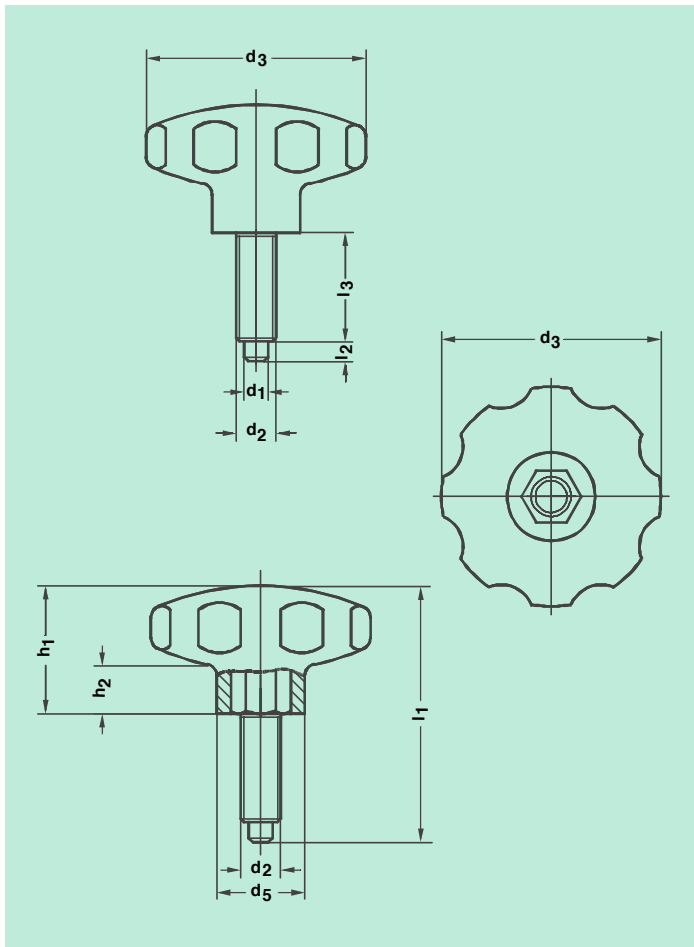
Fixing bolts without thread are for applications where welding or resin bonding is favoured. Type G with threaded bolt end are for applications where a special knob to customers own design is required or for such cases where the spindle is linked directly to an operating mechanism.

**Model:** Knob from polyamide black matt. Steel parts black oxide finished, weldable. Locking bolt hardened and ground.

### Fixing Bolts without Thread

Order No. Type A	Order No. Type G	Size d1 mm	d2h9 mm	d3 mm	d4 mm	l1 mm	l2 min. mm	l3 mm	l4 mm
58 05 A	58 05 G	5	12	21	M 5	44	5	22	6
58 06 A	58 06 G	6	14	25	M 6	53	6	26	10
58 08 A	58 08 G	8	18	31	M 8	67	8	34	12





## Fixing and Clamping Knobs



57

Fixing and Clamping Knobs allow for quick and precise positioning, securing and clamping of adjusting elements.

Especially efficient for moving telescopes or similar applications.

**Model:** Body from polyamide, black.  
Screw from steel, zinc-plated.

### Fixing- and Clamping Knobs

Order No.	External Thread $d_2$	Size $d_3$ mm	$d_1$ mm	$d_5$ mm	$l_1$ mm	$l_2$ mm	$l_3$ mm	$h_1$ mm	$h_2$ mm
49 025 08 04	M8 x 1	25	4	12	35	5	10	20	8
49 025 10 05	M10 x 1	25	5	12	38	5	13	20	8
49 025 12 06	M12 x 1,5	25	6	12	43	6	17	20	8
49 035 10 05	M10 x 1	35	5	17	47	5	15	27	10
49 055 10 05	M10 x 1	55	5	25	52	5	15	32	12
49 055 12 06	M12 x 1,5	55	6	25	58	6	20	32	12
49 055 16 08	M16 x 1,5	55	8	25	68	9	27	32	12
49 065 16 08	M16 x 1,5	65	8	30	70	8	22	40	14

## Indexing Bolts

**INOX**

58

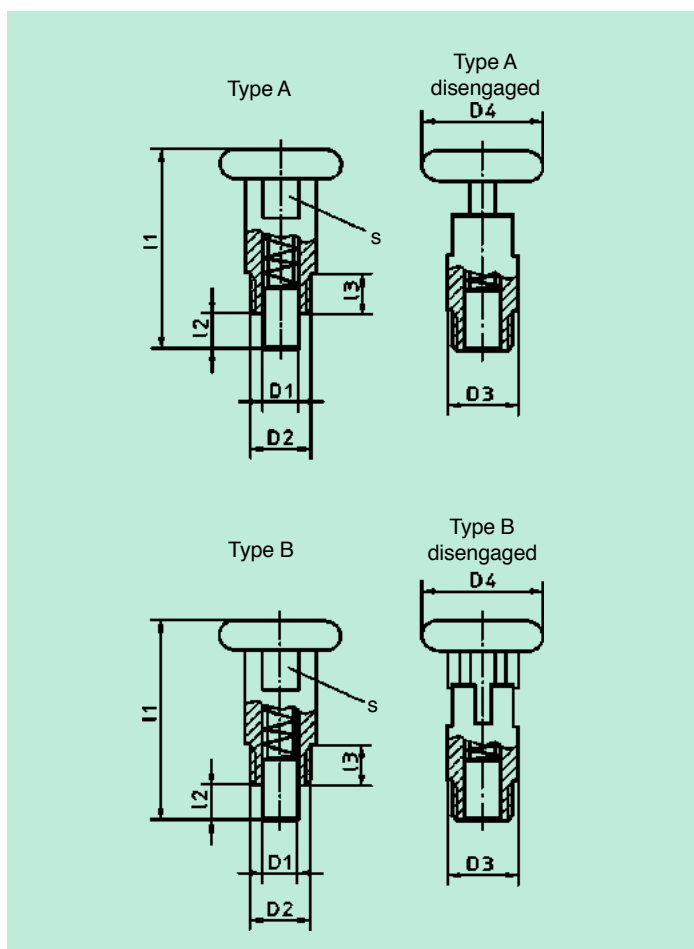


Indexing Bolts have the same application as Fixing Bolts. However they are a low-cost alternative to them.

**Model:** Steel zinc plated, resp. stainless steel.

**Type A:** without Fixing Slot.

**Type B:** with Fixing Slot.



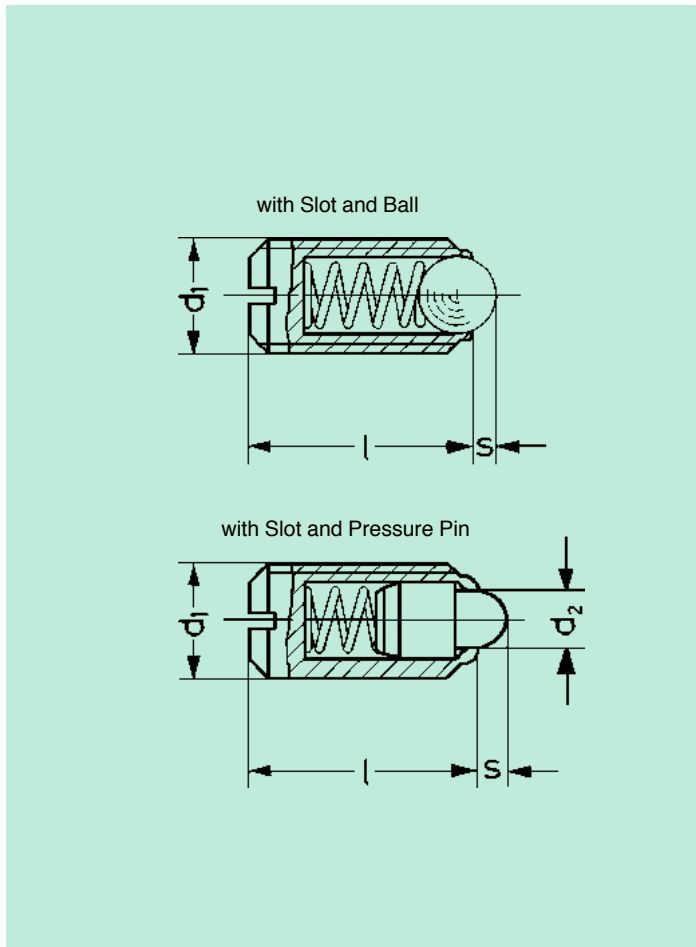
### Indexing Bolts - Steel

Order No. Type A	Order No. Type B	Size d <sub>4</sub> mm	d <sub>1</sub> mm	d <sub>2</sub> mm	d <sub>3</sub> mm	l <sub>1</sub> mm	l <sub>2</sub> mm	l <sub>3</sub> mm	Type A s	Type B s
77 06 A	77 06 B	18	M10x1	6	11,4	31	7	4	10	10
77 07 A	77 07 B	24	M12x1,75	7	14,0	40	7	8	12	12

### Indexing Bolts - Stainless Steel

Order No. Type A	Order No. Type B	Size d <sub>4</sub> mm	d <sub>1</sub> mm	d <sub>2</sub> mm	d <sub>3</sub> mm	l <sub>1</sub> mm	l <sub>2</sub> mm	l <sub>3</sub> mm	Type A s	Type B s
77 06 A E0A	77 06 B E0A	18	M10x1	6	11,4	31	7	4	10	10
77 07 A E0A	77 07 B E0A	24	M12x1,75	7	14,0	40	7	8	12	12

## Spring Plungers



INOX



59

Spring Plungers are used for locking and positioning. They also serve for push-on and push-off operations. They are used for example in fixture and tool shops.

### Model Spring Plungers with Slot and Ball:

**Type K:** Steel, black oxide finished. Ball hardened and blank.

**Type KN:** Stainless steel, material no. 1.4305, blank. Ball hardened and blank. Heat-resistance: 250<sup>∞</sup>- 350<sup>∞</sup> C.

### Model Spring Plungers with Slot and Pressure Pin:

**Type K:** Steel, black oxide finished. Pressure pin hardened.

### Spring Plungers with Slot and Ball

Order No.	Order No.	d <sub>1</sub>	Ball ∅ mm	l mm	s mm	Initial Pressure approx. N	Final Pressure approx. N	Weight approx. g
Type K	Type KN							
40 103	40 203	M 3	1,5	7	0,5	2	3	0,2
40 104	40 204	M 4	2,5	9	0,8	6	12	0,6
40 105	40 205	M 5	3	12	0,9	7	13	0,9
40 106	40 206	M 6	3,5	14	1	9	15	1,5
40 108	40 208	M 8	5	16	1,5	20	35	3,5
40 110	40 210	M 10	6	19	2	25	45	7
40 112	40 212	M 12	8	22	2,5	35	60	10
40 116	40 216	M 16	10	24	3,5	65	110	24
40 120	40 220	M 20	12	30	4,5	90	140	43
40 124	40 224	M 24	15	34	5,5	125	180	70

### Spring Plungers with Slot and Pressure Pin

Order No.	d <sub>1</sub>	d <sub>2</sub> mm	l mm	s mm	Initial Pressure approx. N	Final Pressure approx. N
Type K						
43 104	M 4	1,8	9	1,5	6	16
43 105	M 5	2,4	12	2	6	17
43 106	M 6	2,7	14	2	7	18
43 108	M 8	4	16	2	20	35
43 110	M 10	4,5	19	2,5	20	45
43 112	M 12	6	22	3,5	25	60
43 116	M 16	8,5	24	4,5	50	95
43 120	M 20	10	30	6,5	80	140



## Spring Plungers

INOX

60



### Model with Hexagon Socket and Pressure Pin:

Capable of being assembled from both sides.

**Type A:** Insert from steel, black oxide finished.  
Pressure pin of steel, hardened.

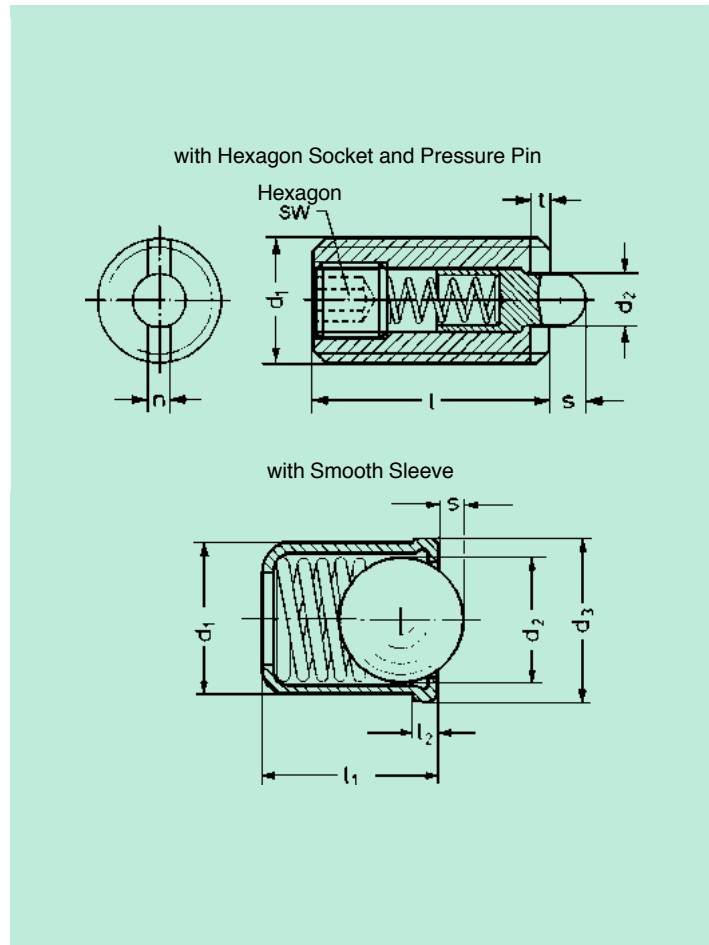
**Type D:** Insert from steel. Pressure pin from plastic (delrin).

**Type AN:** Complete from stainless steel available on request.

### Model with Smooth Sleeve:

**Type K:** Sleeve from plastic (delrin), ball from stainless steel.

**Type N:** Sleeve and ball from stainless steel.

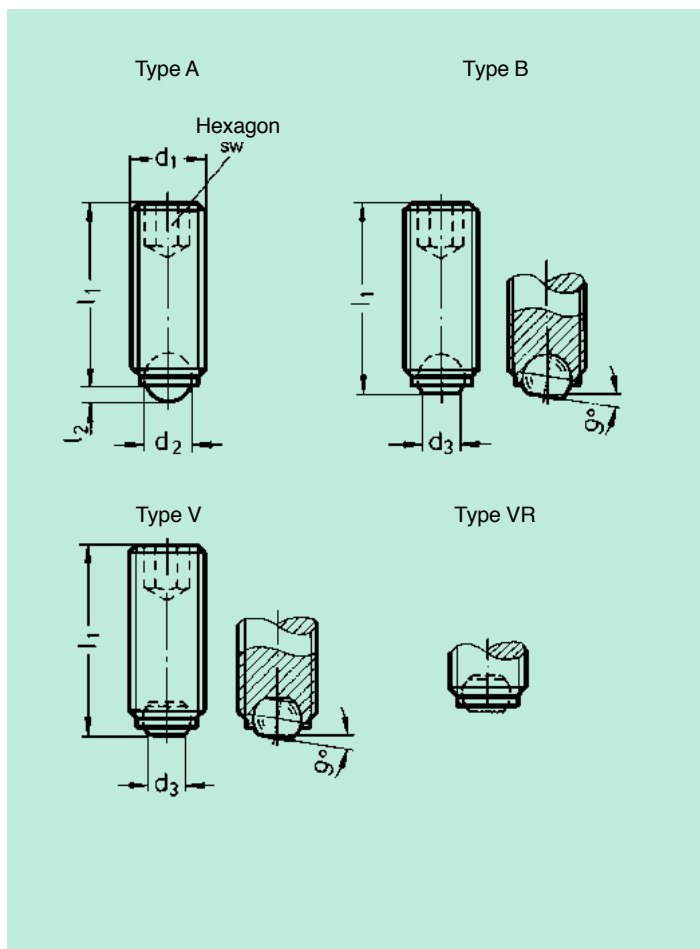


### Spring Plungers with Hexagon Socket and Pressure Pin

Order No. Type A	Order No. Type D	d <sub>1</sub>	d <sub>2</sub> mm	l mm	s mm	n mm	t mm	sw	Initial Pressure approx. N	Final Pressure approx. N	Weight approx. g
41 104	41 204	M 4	1,5	15	1,5	0,6	0,6	1,3	5	15	0,8
41 105	41 205	M 5	2,4	18	2,3	1,2	0,8	1,5	7	20	1,3
41 106	41 206	M 6	2,7	20	2,5	1,3	0,9	2	7	20	2,5
41 108	41 208	M 8	3,5	22	3	1,5	1,4	2,5	9	35	6
41 110	41 210	M 10	4	22	3	1,5	1,4	3	9	35	9
41 112	41 212	M 12	6	28	4	2,7	2	4	15	55	16
41 116	41 216	M 16	7,5	32	5	3,2	2,5	5	45	100	35
41 120		M 20	10	40	7	3,7	3	6	70	140	65
41 124		M 24	12	52	10	3,7	3	8	80	180	120

### Spring Plungers with Smooth Sleeve

Order No. Type K	d <sub>1</sub> mm	Initial Pressure approx. N	Final Pressure approx. N	Weight approx. g	Order No. Type N	d <sub>1</sub> mm	Initial Pressure approx. N	Final Pressure approx. N	Weight approx. g	d <sub>2</sub> mm	d <sub>3</sub> mm	l <sub>1</sub> mm	l <sub>2</sub> mm	s mm
42 204	4	3,5	7	0,17	42 104	4	2	5	0,3	3	4,6	5	1	0,9
42 205	5	5	9	0,35	42 105	5	4	7	0,6	4	5,6	6	1	1
42 206	6	8	14	0,68	42 106	6	6	12	1,0	5	6,5	7	1	1,5
42 208	8	9	17	1,45	42 108	8	6	12	2,0	6,5	8,5	9	1	1,8



## Ball Clamping Screws



61

Ball clamping screws with solid ball (Type A) are used in applications where a ball point contact is required.

The flat faced movable ball allows the clamping or supporting of non parallel surfaces.

The maximum rotating efficiency (Type V/VR) for the ball is only  $9^\circ$ , thereby safely adjusted, so that always tensioned with the surface.

**Model:** Steel 10.9 or 12.9, black oxide finished.  
Ball hardened, blank.

**Type A:** solid ball

**Type B:** flat ball

**Type V:** flat ball with safety rotary

**Type VR:** flat ball with safety rotary, knurled

Ball clamping screws with head are available on request.

### Ball Clamping Screws

Order No. Type A	Order No. Type B	Order No. Type V	Order No. Type VR	Thread $d_1$	Length of Screw $l_1$ (mm)			$d_2$ mm	$d_3$ mm	$l_2$ mm	sw
47 04 .. A				M 4	10	16		2,5	0,4	2	
47 05 .. A				M 5	12	20		3	0,6	2,5	
47 06 .. A	47 06 .. B	47 06 .. V	47 06 .. VR	M 6	10	20	25	4	3,2	0,8	3
47 08 .. A	47 08 .. B	47 08 .. V	47 08 .. VR	M 8	10	20	30	5,5	4,5	1,2	4
47 10 .. A	47 10 .. B	47 10 .. V	47 10 .. VR	M 10	12	20	25	7	6	1,7	5
47 12 .. A	47 12 .. B	47 12 .. V	47 12 .. VR	M 12	16	30	40	8,5	7,2	2	6
47 16 .. A	47 16 .. B	47 16 .. V	47 16 .. VR	M 16	20	50		12	10,7	3,3	8

..Please indicate here the desired length, e.g. 010 for  $l_1 = 10$  mm

# Ball Clamping Screws

from Stainless Steel

62

**INOX**



Ball clamping screws with solid ball (Type AN) are used in applications where a ball point contact is required.

The flat faced movable ball allows the clamping or supporting of non-parallel surfaces.

The maximum rotating efficiency (Type VN/VRN) for the ball is only  $90^\circ$ , thereby safely adjusted, so that always tensioned with the surface.

**Model:** stainless steel 1.4301/1.4006.

Ball hardened, blank.

**Type AN:** solid ball

**Type BN:** flat ball

**Type VN:** flat ball with safety rotary

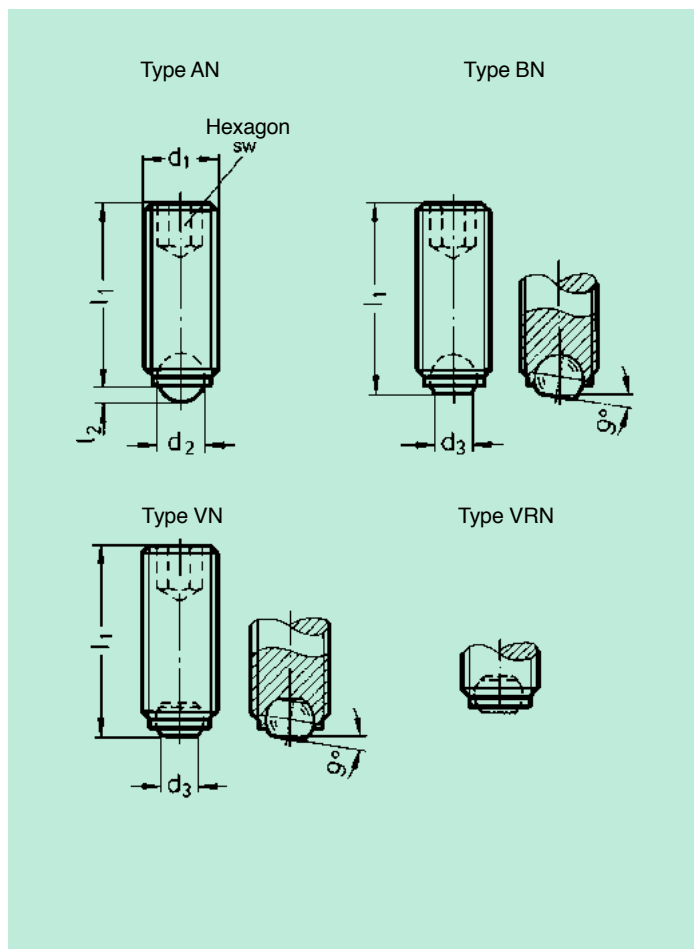
**Type VRN:** flat ball with safety rotary, knurled

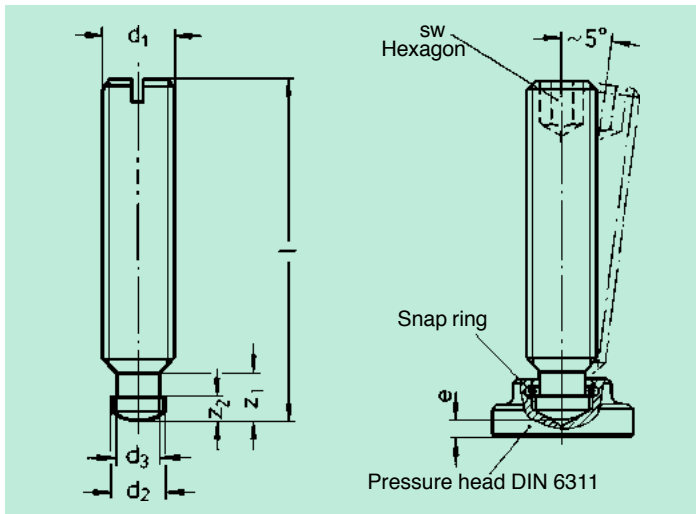
Ball clamping screws with head are available on request.

## Ball Clamping Screws - Stainless Steel

Order No.	Order No.	Order No.	Order No.	Thread	Length of Screw $l_1$ (mm)				$d_2$	$d_3$	$l_2$	$sw$	
Type AN	Type BN	Type VN	Type VRN	$d_1$					mm	mm	⊕ mm		
47 04 .. AN E0A				M 4	10	16			2,5		0,4	2	
47 05 .. AN E0A				M 5		12	20		3		0,6	2,5	
47 06 .. AN E0A	47 06 .. BN E0A	47 06 .. VN E0A	47 06 .. VRN E0A	M 6	10		20	25	4	3,2	0,8	3	
47 08 .. AN E0A	47 08 .. BN E0A	47 08 .. VN E0A	47 08 .. VRN E0A	M 8	10		20	30	5,5	4,5	1,2	4	
47 10 .. AN E0A	47 10 .. BN E0A	47 10 .. VN E0A	47 10 .. VRN E0A	M 10		12	20	25	7	6	1,7	5	
47 12 .. AN E0A	47 12 .. BN E0A	47 12 .. VN E0A	47 12 .. VRN E0A	M 12			16		8,5	7,2	2	6	
47 16 .. AN E0A	47 16 .. BN E0A	47 16 .. VN E0A	47 16 .. VRN E0A	M 16			20		50	12	10,	3,3	8
											7		

..Please indicate here the desired length, e.g. 010 for  $l_1 = 10$  mm

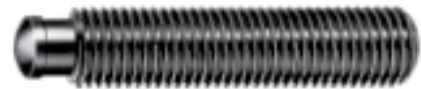




## Thread Pins

with Pressure Point, DIN 6332

**INOX**



63

The pressure point of thread pin DIN 6332 is designed to be used with or without the pressure head. The snap ring of the pressure head provides simple and fast connection between screw and pressure head.

**Model:** Steel, stability class 5.8, black oxide finished. Pressure point hardened.

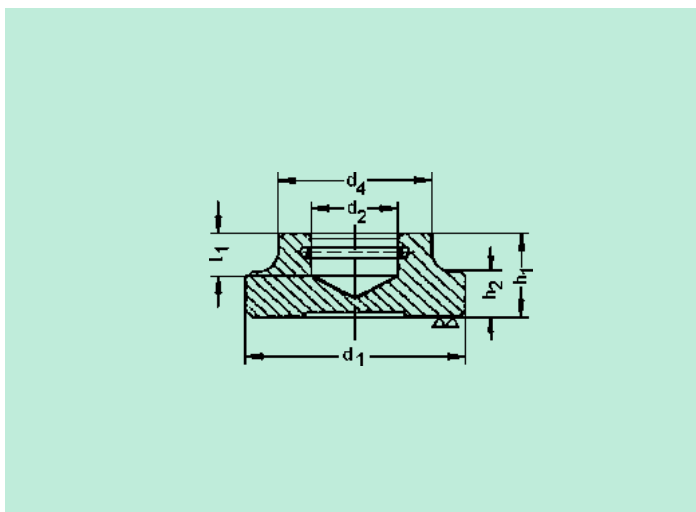
**Type S:** with slot

**Type SK:** with internal hexagon

### Thread Pins with Pressure Point DIN 6332

Order No. Type S	Order No. Type SK	d <sub>1</sub>	Length of Screw l (mm)			d <sub>2</sub> h <sub>11</sub> mm	d <sub>3</sub> mm	e mm	sw	Z <sub>1</sub> ⊕ mm	Z <sub>2</sub> ⊕ mm		
50 06 ... S	50 06 ... SK	M 6	30	40	50	4,5	4	2,2	3	5,4	2,5		
50 08 ... S	50 08 ... SK	M 8		40	50	6	5,4	3	4	6,8	3		
50 10 ... S	50 10 ... SK	M 10			60	8	7,2	3,6	5	8,2	4,5		
50 12 ... S	50 12 ... SK	M 12			60	8	7,2	4,5	6	8,6	4,5		
50 16 ... S	50 16 ... SK	M 16			80	100	12	11	5,3	8	10,6	5	
50 20 ... S	50 20 ... SK	M 20			100	100	125	15,5	14,4	5,6	10	12,4	5,5

... Please indicate here the desired length of screw, e.g. 030 for l = 30 mm.



## Pressure Heads

DIN 6311



Pressure heads can be connected with pressure point screws (Thread Pins DIN 6332) to transmit the applied tension force. It is also suitable for uneven or non-parallel surfaces and prevent any screw turning movements to the workpiece.

**Model:** Blank turned, insert hardened. Snap ring inlaid.

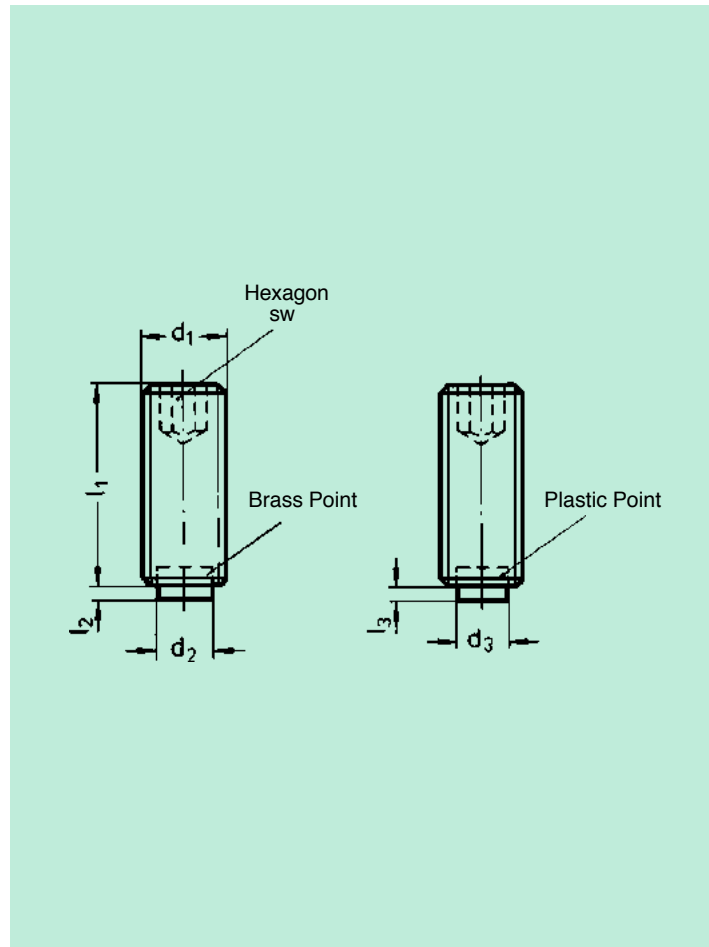
### Pressure Heads DIN 6311

Order No.	used Thread Pin	d <sub>1</sub> mm	d <sub>2</sub> H <sub>12</sub> mm	d <sub>4</sub> mm	h <sub>1</sub> mm	h <sub>2</sub> mm	t <sub>1</sub> mm
53 12 06	M 6	12	4,6	10	7	2,5	4
53 16 08	M 8	16	6,1	12	9	4	5
53 20 10	M 10	20	8,1	15	11	5	6
53 25 12	M 12	25	8,1	18	13	6	7
53 32 16	M 16	32	12,1	22	15	7	7,5
53 40 20	M 20	40	15,6	28	16	9	8

# Thread Pins

with Brass resp. Plastic Point

64



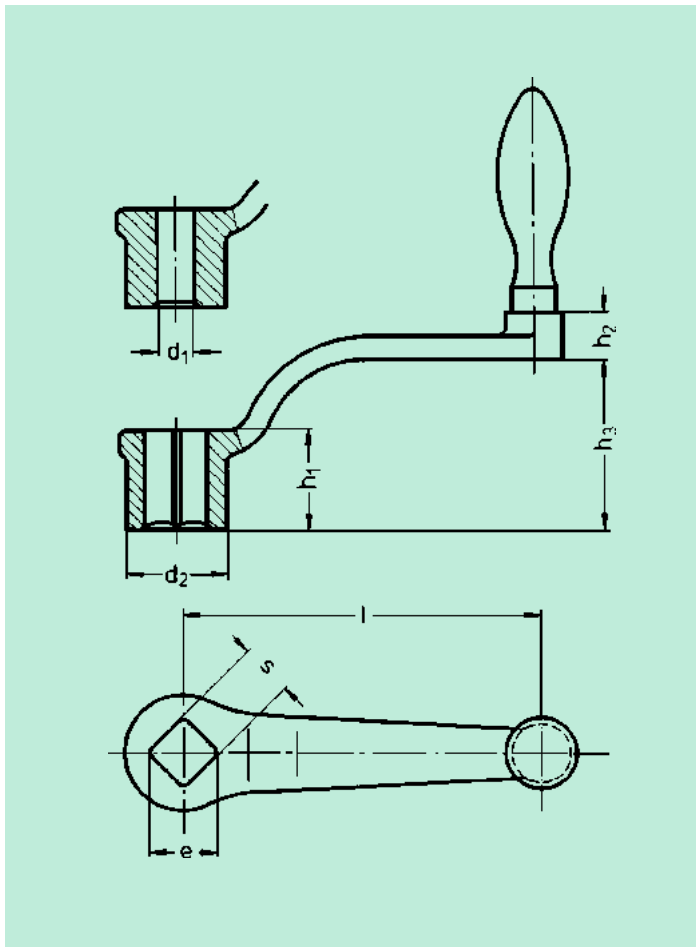
Through the application of thread pins with pressure point of brass resp. plastic, marks or damages in the tension surface can be prevented. Thread pins are also suitable for combinations with grip elements.

**Model:** Steel, stability class 5.8, black oxide finished. Pressure point from brass (MS) resp. plastic (KU) Delrin.

## Thread Pins with Brass resp. Plastic Point

Order No.	Order No.	d <sub>1</sub>	Length of Screw l <sub>1</sub> (mm)						d <sub>2</sub>	d <sub>3</sub>	l <sub>2</sub>	l <sub>3</sub>	sw			
Brass Point	Plastic Point								Brass Point	Plastic Point	Brass Point	Plastic Point				
51 04 ... E5A	51 04 ... KU	M 4	6	8	10	16	20		2,5	2	0,5	1	2			
51 05 ... E5A	51 05 ... KU	M 5		8	10	16	20	25	3	3	0,5	1	2,5			
51 06 ... E5A	51 06 ... KU	M 6			10	16	20	32	40	50	4	3,5	1	1,3	3	
51 08 ... E5A	51 08 ... KU	M 8				12	20	32	50	63	6	5	1,5	1,6	4	
51 10 ... E5A	51 10 ... KU	M 10					16	20	32	50	63	8	6,5	2	1,9	5
51 12 ... E5A	51 12 ... KU	M 12						20	32	50	63	10	8	2	2,1	6

... Please indicate here the desired length of screw e.g. 025 for l<sub>1</sub> = 25 mm.



## Offset Crank Handles

DIN 468



65

Crank Handles DIN 468 are available as standard with steel grips. Grip from plastic (only Type B) can be supplied on request.

**Model:**

Crank body cast iron (GGG):  
Hub machined, cast edge deburred and sand-blasted.

**Type A:** with fixed grip.  
**Type B:** with revolving grip.

### Zimmermann Offset Crank Handles DIN 468

Plastic crank handles are available on request.

Order No. Type A with Square Hole S H <sub>11</sub>	Order No. Type A with Fitting Hole d <sub>1</sub> H <sub>7</sub>	Order No. Type B with Square Hole S H <sub>11</sub>	Order No. Type B with Fitting Hole d <sub>1</sub> H <sub>7</sub>	Square Hole SH <sub>11</sub>	e mm	Fitting Hole d <sub>1</sub> H <sub>7</sub>	l mm	d <sub>2</sub> mm	h <sub>1</sub> mm	h <sub>2</sub> mm	h <sub>3</sub> ≈ mm	Ø Ball Grip
65 080 10 VKT A	65 080 08 PBG A	65 080 10 VKT B	65 080 08 PBG B	V 10	13,1	8	80	24	24	13	38	18
65 100 12 VKT A	65 100 10 PBG A	65 100 12 VKT B	65 100 10 PBG B	V 12	16,1	10	100	28	28	13	48	20
65 125 14 VKT A	65 125 10 PBG A	65 125 14 VKT B	65 125 10 PBG B	V 14	18,1	10	125	34	34	14	55	22
65 160 17 VKT A	65 160 14 PBG A	65 160 17 VKT B	65 160 14 PBG B	V 17	22,2	14	160	38	38	14	65	25
65 200 19 VKT A	65 200 17 PBG A	65 200 19 VKT B	65 200 17 PBG B	V 19	25,2	17	200	44	44	21	78	28
65 250 22 VKT A	65 250 17 PBG A	65 250 22 VKT B	65 250 17 PBG B	V 22	28,2	17	250	48	48	21	90	32

# Straight Crank Handles

## DIN 469

66



Crank handles DIN 469 are available as standard with steel grips. Grip from plastic (only Type D) can be supplied on request.

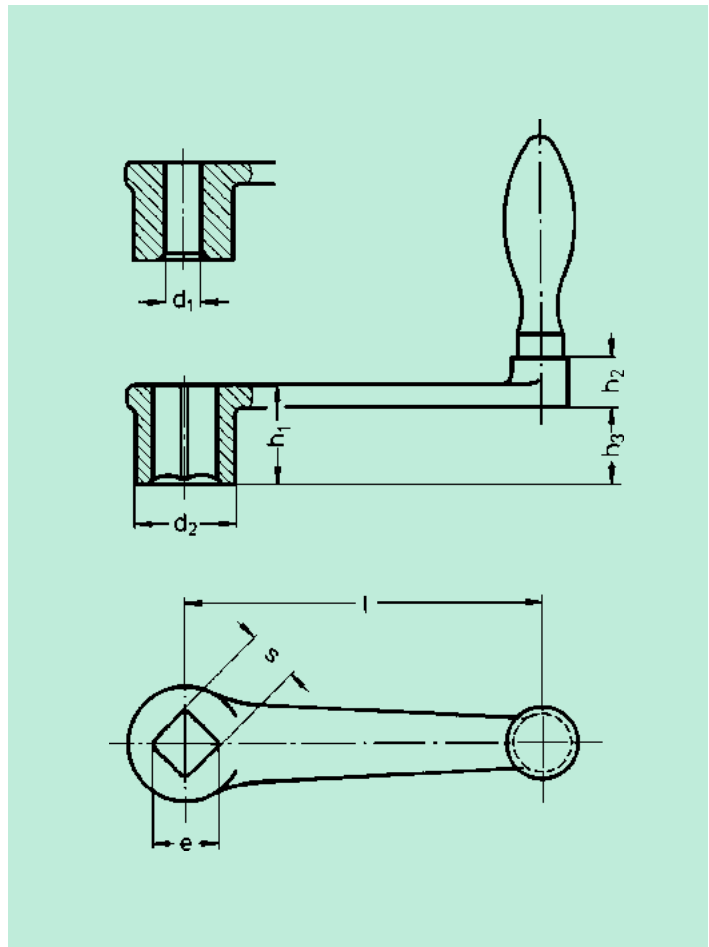
### Model:

Crank body cast iron (GGG):  
Hub machined, cast edge deburred and sand-blasted.

**Type C:** straight crank with fixed grip.

**Type D:** straight crank with revolving grip.

Plastic crank handles are available on request.



## Straight Crank Handles DIN 469

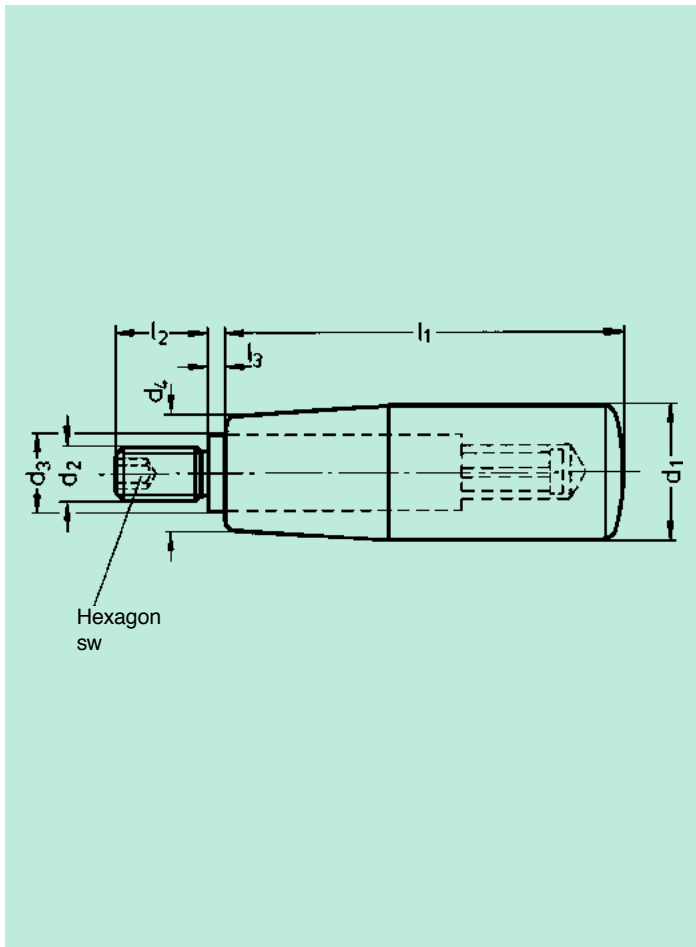
Order No. Type C with Square Hole S H <sub>11</sub>	Order No. Type C with Fitting Hole d <sub>1</sub> H <sub>7</sub>	Order No. Type D with Square Hole S H <sub>11</sub>	Order No. Type D with Fitting Hole d <sub>1</sub> H <sub>7</sub>	Square Hole SH <sub>11</sub>	e mm	Fitting Hole d <sub>1</sub> H <sub>7</sub>	l mm	d <sub>2</sub> mm	h <sub>1</sub> mm	h <sub>2</sub> mm	h <sub>3</sub> ≈ mm	∅ Ball Grip
65 080 10 VKT C	65 080 08 PBG C	65 080 10 VKT D	65 080 08 PBG D	V 10	13,1	8	80	24	24	13	18	18
65 100 12 VKT C	65 100 10 PBG C	65 100 12 VKT D	65 100 10 PBG D	V 12	16,1	10	100	28	28	13	21	20
65 125 14 VKT C	65 125 10 PBG C	65 125 14 VKT D	65 125 10 PBG D	V 14	18,1	10	125	34	34	14	26	22
65 160 17 VKT C	65 160 14 PBG C	65 160 17 VKT D	65 160 14 PBG D	V 17	22,2	14	160	38	38	14	29	25
65 200 19 VKT C	65 200 17 PBG C	65 200 19 VKT D	65 200 17 PBG D	V 19	25,2	17	200	44	44	21	34	28
65 250 22 VKT C	65 250 17 PBG C	65 250 22 VKT D	65 250 17 PBG D	V 22	28,2	17	250	48	48	21	36	32

## Revolving Grips

Spindle from Steel resp. Stainless Steel

INOX

67



Revolving grips in modern form and compact plastic grip. Suitable especially for rectangular shaped rim handwheels.

**Model:** Grip from polyamide, black matt. Spindle from zinc-plated steel resp. from stainless steel 1.4305.

**Assembling Instructions:** Mount the bolt without the grip part. Then push the grip on the bolt by hand. Through light stroke with plastic hammer, the grip is connected with the bolt. Now the grip will revolve freely, but cannot be pulled back off the bolt by hand.

### Revolving Grips

Order No. Spindle from Steel	Order No. Spindle from Stainless Steel	d <sub>1</sub> mm	Thread d <sub>2</sub>	d <sub>3</sub> mm	d <sub>4</sub> mm	l <sub>1</sub> mm	l <sub>2</sub> mm	l <sub>3</sub> mm	sw
39 18 06 12	39 18 06 12 E0A	18	M 6	10	15	40	12	2,5	3
39 21 06 13	39 21 06 13 E0A	21	M 6	10	17	50	13	2,5	3
39 21 08 13		21	M 8	10	17	50	13	2,5	4
39 23 08 14	39 23 08 14 E0A	23	M 8	13	19	65	14	2,5	4
39 26 10 16	39 26 10 16 E0A	26	M 10	13	21	80	16	2,5	5
39 28 10 16		28	M 10	13	22	90	16	2,5	5



## Revolving Grips

### DIN 98 Grip from Aluminium resp. Plastic

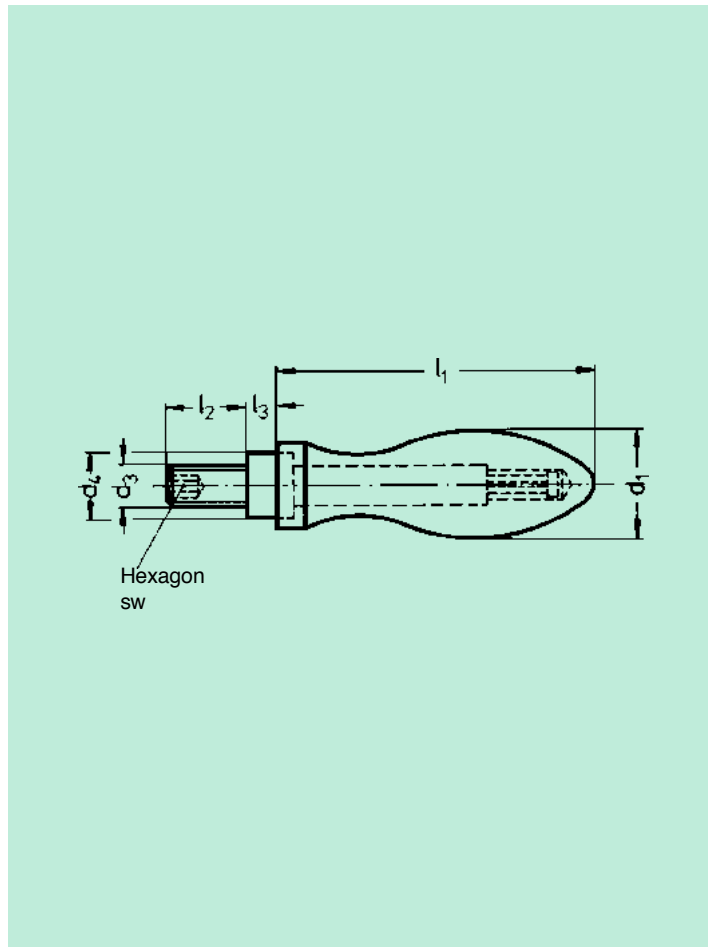
68



**Type A:** Grip from Aluminium polished, spindle from steel, zinc-plated.

**Type K:** Grip from polyamide, black matt, spindle from steel, zinc-plated.

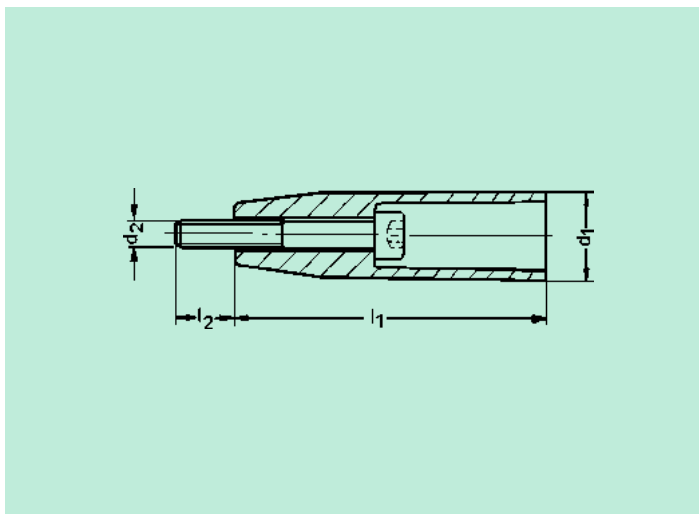
**Assembling Instructions:** Mount the bolt without the grip part. Then push the grip on the bolt by hand. Through light stroke with plastic hammer, the grip is connected with the bolt. Now the grip will revolve freely, but cannot be pulled back off the bolt by hand.



### Revolving Grips DIN 98

Order No. Type A	Order No. Type K	d <sub>1</sub> mm	Thread d <sub>3</sub>	d <sub>4</sub> h <sub>13</sub> mm	l <sub>1</sub> ⊕ mm	l <sub>2</sub> ⊕ mm	l <sub>3</sub> mm	SW
60 16 06 11 A	60 16 06 11 K	16	M 6	10	49	11	5,5	3
60 20 08 13 A	60 20 08 13 K	20	M 8	13	61	13	6	4
60 25 10 14 A	60 25 10 14 K	25	M 10	16	75	14	8	5
60 32 12 21 A	60 32 12 21 K	32	M 12	20	95	21	10,5	6

## Fixed Grips



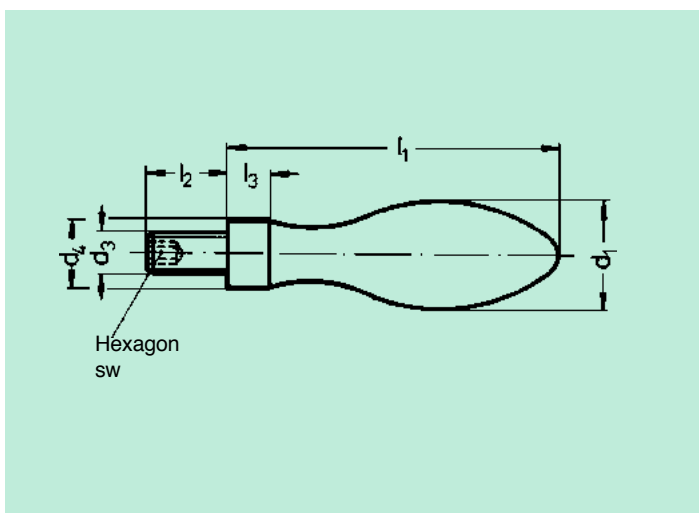
69

**Model:**

Grip from polyamide, black matt. Thread bolt from steel, zinc-plated.

### Fixed Grips

Order No.	d <sub>1</sub> mm	Thread d <sub>2</sub>	Length of Screw l <sub>2</sub> mm	l <sub>1</sub> mm
61 21 08 015	21	M 8	15	50
61 23 10 015	23	M 10	15	70
61 26 12 015	26	M 12	15	90



## Fixed Grips

**DIN 39**



STANDARDNI VPENJALNI ELEMENTI  
www.metalika-kacin.com  
K71

**Model:**

**Type S:** Complete from steel, polished. Thread bolt zinc-plated.

**Type K:** Grip from polyamide, black matt. Thread bolt from steel, zinc-plated.

### Fixed Grips DIN 39

Order No. Type S	Order No. Type K	d <sub>1</sub> mm	Thread d <sub>3</sub>	Length of Screw l <sub>2</sub> mm	l <sub>1</sub> ⊕ mm	d <sub>4</sub> h <sub>13</sub> mm	l <sub>3</sub> mm	sw
62 16 06 011 S		16	M 6	11	50	10	7	3
62 20 08 013 S	62 20 08 013 K	20	M 8	13	64	13	8	4
62 25 10 014 S	62 25 10 014 K	25	M 10	14	80	16	10	5
62 32 12 021 S	62 32 12 021 K	32	M 12	21	100	20	13	6

## Disc Hand Wheels

from Aluminium  
 Modern Design

70

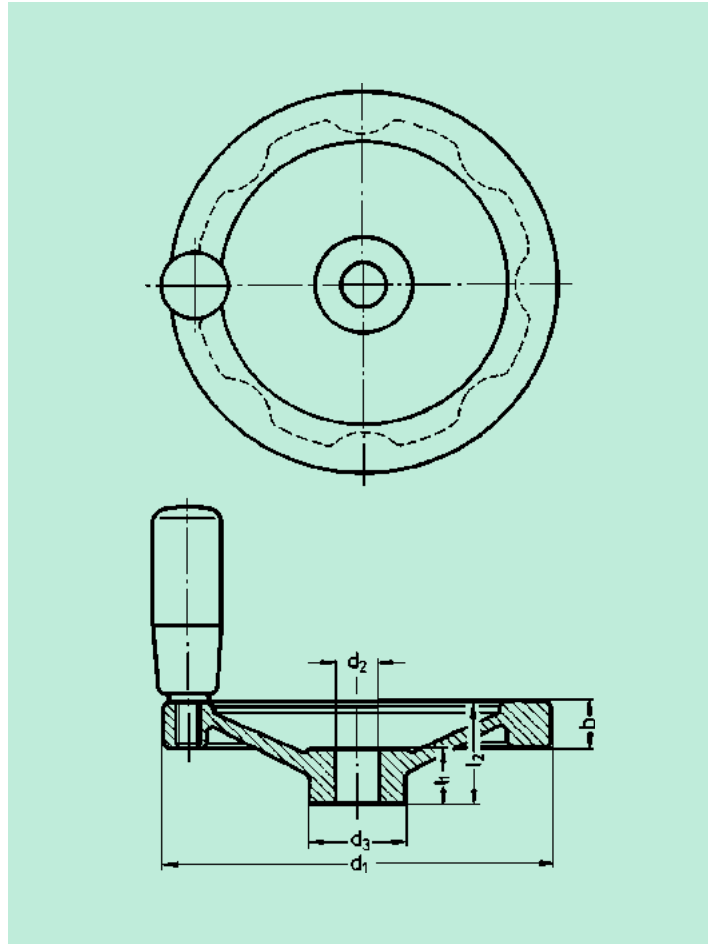


**Model:** Aluminium, gravity die-casting, hub machined. Rim of wheel turned and polished.

**Type A:** without grip.

**Type D:** with revolving grip from polyamide, black matt.

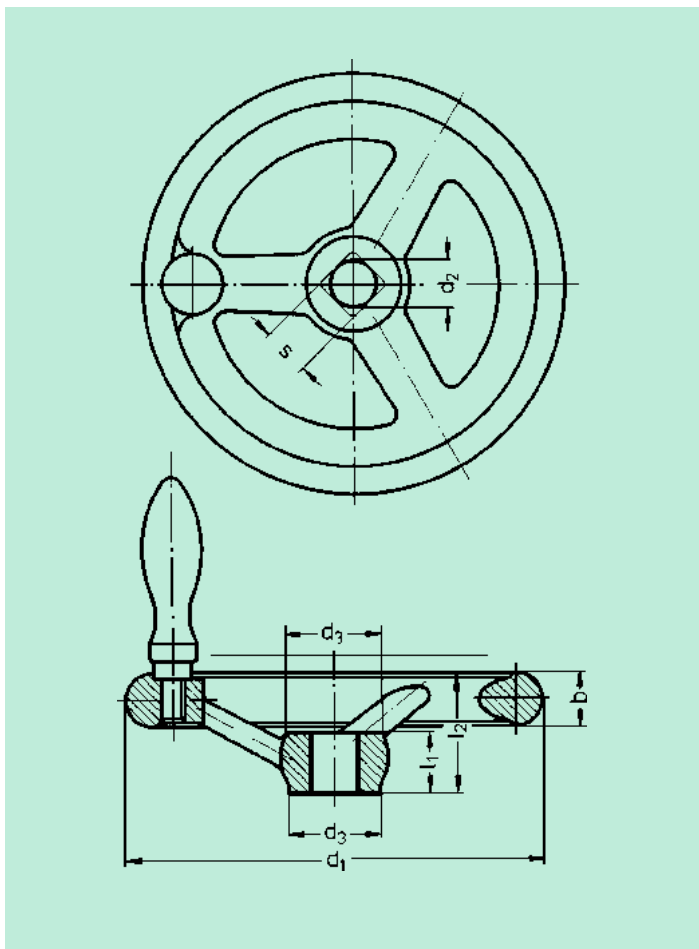
Complete plastic coated disc hand wheels are available on request.



### Disc Hand Wheels modern design

Order No. Type A	Order No. Type D	d <sub>1</sub> mm	Fitting Hole d <sub>2</sub> H7	b mm	d <sub>3</sub> mm	l <sub>1</sub> mm	l <sub>2</sub> ≈ mm	∅ Cyl. Grip
72 100 10 PBG . A	72 100 10 PBG . D	100	10	14	28	17	30	21
72 125 12 PBG . A	72 125 12 PBG . D	125	12	15	31	18	33	23
72 160 16 PBG . A	72 160 16 PBG . D	160	16	18	36	20	39	26
72 200 20 PBG . A	72 200 20 PBG . D	200	20	20,5	42	24	45	26
72 250 22 PBG . A	72 250 22 PBG . D	250	22	23	48	28	51	28

. Please indicate here: B = without Keyway; K = with Keyway.



## Hand Wheels

### DIN 950 from Aluminium



71

Hand wheels DIN 950 are supplied with revolving grip DIN 98 from polyamide, black matt and fixed grip DIN 39.

**Model:** Aluminium  
Hub machined, rim of wheel turned and polished.  
Unmachined surfaces of Aluminium hand wheels sand-blasted. Keyway P9 DIN 6885, sheet 1.

**Type A:** without grip.

**Type F:** with fixed grip DIN 39, steel.

**Type D:** with revolving grip DIN 98 from polyamide, black matt.

### Hand Wheels DIN 950 with Fitting Hole

Order No. Fitting Hole $d_2$ H7			$d_1$ mm	Fitting Hole $d_2$ H7	$d_3$ mm	$b$ mm	$l_1$ mm	$l_2$ $\approx$ mm	$\varnothing$ Ball Grip	No. of Spoke
Type A	Type F	Type D								
70 080 10 PBG . A	70 080 10 PBG . F	70 080 10 PBG . D	80	10	24	14	16	29	16	3
70 100 12 PBG . A	70 100 12 PBG . F	70 100 12 PBG . D	100	12	26	15	17	33	16	3
70 125 14 PBG . A	70 125 14 PBG . F	70 125 14 PBG . D	125	14	28	16	18	36	20	3
70 160 16 PBG . A	70 160 16 PBG . F	70 160 16 PBG . D	160	16	33	18	20	40	25	3
70 200 18 PBG . A	70 200 18 PBG . F	70 200 18 PBG . D	200	18	38	22	24	45	25	3
70 250 22 PBG . A	70 250 22 PBG . F	70 250 22 PBG . D	250	22	45	26	28	50	32	5

Please indicate here: B = without Keyway, K = with Keyway

### Hand Wheels DIN 950 with Square Hole

Order No. Square Hole S H11			$d_1$ mm	Square Hole S H11	$d_3$ mm	$b$ mm	$l_1$ mm	$l_2$ $\approx$ mm	$\varnothing$ Ball Grip	No. of Spoke
Type A	Type F	Type D								
70 080 09 VKT A	70 080 09 VKT F	70 080 09 VKT D	80	V 9	24	14	16	29	16	3
70 100 09 VKT A	70 100 09 VKT F	70 100 09 VKT D	100	V 9	26	15	17	33	16	3
70 125 11 VKT A	70 125 11 VKT F	70 125 11 VKT D	125	V 11	28	16	18	36	20	3
70 160 12 VKT A	70 160 12 VKT F	70 160 12 VKT D	160	V 12	33	18	20	40	25	3
70 200 14 VKT A	70 200 14 VKT F	70 200 14 VKT D	200	V 14	38	22	24	45	25	3
70 250 17 VKT A	70 250 17 VKT F	70 250 17 VKT D	250	V 17	45	26	28	50	32	5

## Hand Wheels

### Two Spoke Hand Wheels Modern Design from Aluminium

72

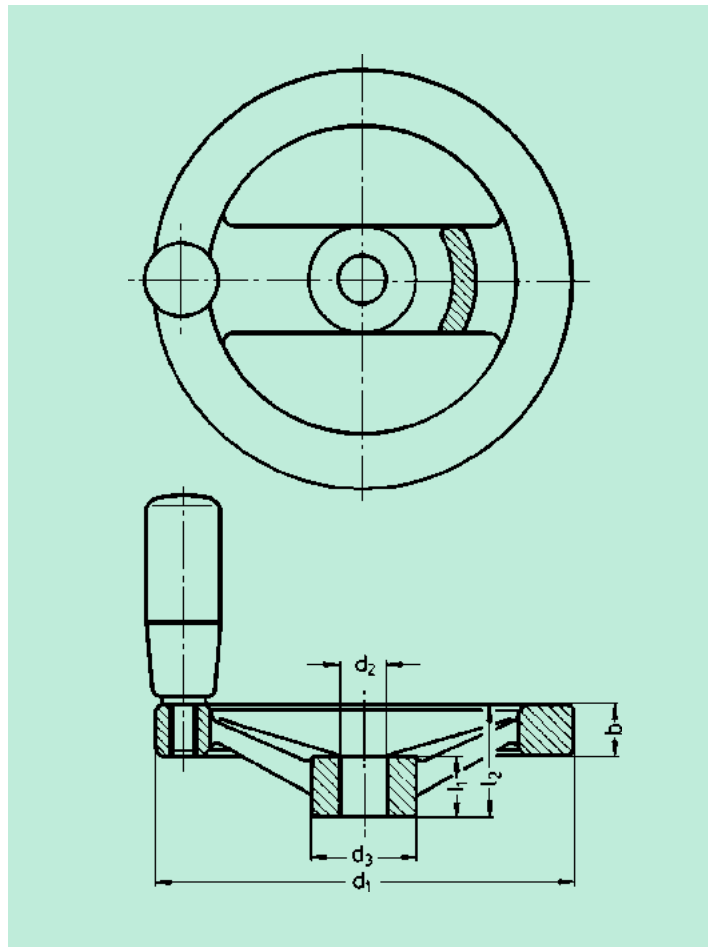


**Model:** Aluminium, gravity die-casting, hub machined, rim of wheel turned and polished.

**Type A:** without grip.

**Type D:** with revolving grip from polyamide, black matt.

Complete plastic coated two spoke hand wheels are available on request.



### Two Spoke Hand Wheels - Aluminium

Order No.		d <sub>1</sub> mm	Fitting Hole d <sub>2</sub> H7	b mm	d <sub>3</sub> mm	l <sub>1</sub> mm	l <sub>2</sub> mm	Ø Cyl. Grip
Type A	Type D							
74 125 12 PBG . A	74 125 12 PBG . D	125	12	15	31	18	33	23
74 160 16 PBG . A	74 160 16 PBG . D	160	16	18	36	20	39	26
74 200 20 PBG . A	74 200 20 PBG . D	200	20	20,5	42	24	45	26
74 250 22 PBG . A	74 250 22 PBG . D	250	22	23	48	28	51	28

. Please indicate here: B = without Keyway, K = with Keyway.



## Eye Screws

**DIN 444**  
from Steel resp. Stainless Steel

58

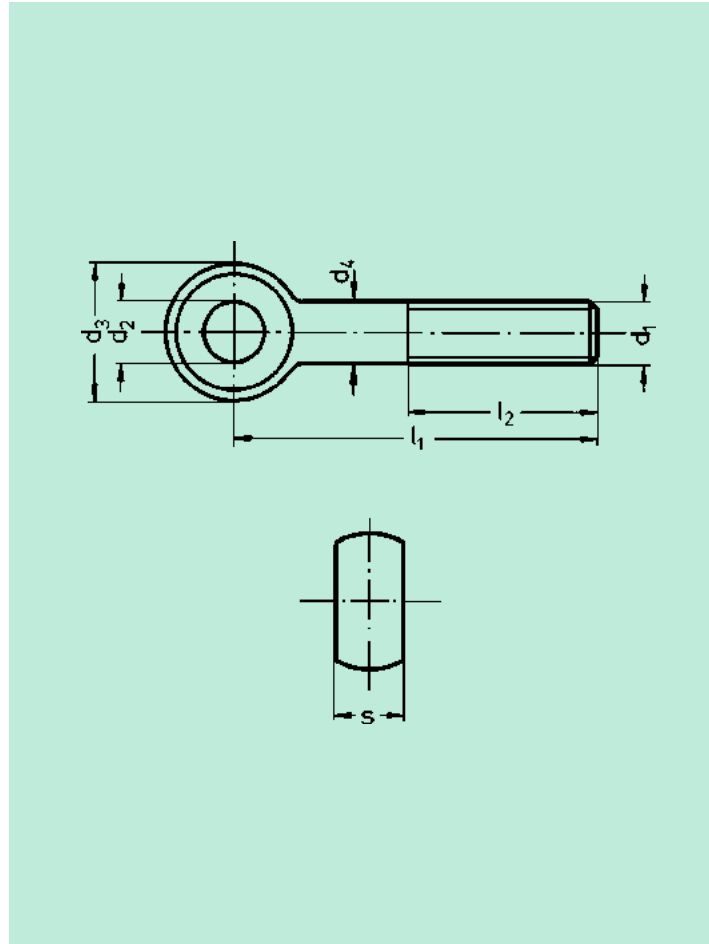
**INOX**



In precise design finished. Mainly used for jigs and fixtures.

Different from the specified standard, the eye screw have stability class 5.8 (instead of 4.6/5.6) and a larger thread length  $l_2$ .

**Model:** Steel 5.8, black oxide finished resp. stainless steel 1.4305, sand-blasted matt. Thread rolled. Eye screws M 12, M 16, M 20 from steel 5.8 can also be supplied at more reasonable prices in finish  $\checkmark$ Screw/Eye butt welded, weld turned.



### Eye Screws DIN 444

Order No. Steel	Order No. Stainless Steel	$l_1$ mm	Thread $d_1$	$l_2$ mm	$d_2$ H7	$d_3 - 0,3$ mm	$s - 0,15$ mm	$d_4$ mm
54 050 06	54 050 06 E0A	50	M 6	32	6	14	7	6
54 075 06	54 075 06 E0A	75	M 6					
54 050 08	54 050 08 E0A	50	M 8	32	8	18	9	8
54 075 08	54 075 08 E0A	75	M 8					
54 075 10	54 075 10 E0A	75	M 10	40	10	20	12	10
54 100 10	54 100 10 E0A	100	M 10					
54 100 12	54 100 12 E0A	100	M 12	40	12	25	14	12
54 130 12	54 130 12 E0A	130	M 12					
54 100 16	54 100 16 E0A	100	M 16	50	16	32	17	16
54 130 16	54 130 16 E0A	130	M 16					

### Eye Screws DIN 444 - Type B

Zimmermann Eye Screws, Type B in the usual model DIN 444 at more reasonable prices are available on request.

KLJUČAVNICE, ZAPIRALA



STANDARDNI ELEMENTI



TRANSPORTNA KOLESA



TEČAJI



ROČAJI



NIVELIRNI VIJAKI



PLINSKE VZMETI



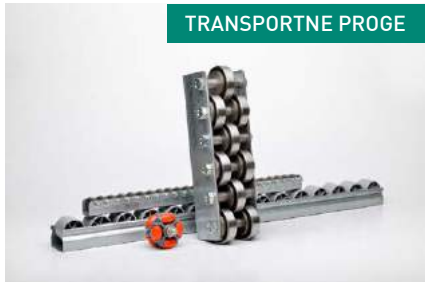
INOX ARTIKLI



PLASTIČNI ELEMENTI



TRANSPORTNE PROGE



GUMIJASTI, ROBNI, TESNILNI PROFILI



PROZORNA STEKLA



ADAPTERJI ZA POLNJENJE PLINOV



TRANSPORTNI VALJČKI



TELESKOPSKA VODILA

