

Centering Clamping Elements • with clamping segments

EH 23340.



PRODUCT DESCRIPTION

For clamping and centering of workpieces with internal bore. Exact self centering with a precision of $\pm 0,025$ mm. Due to the clamping segments being ground, workpieces with raw and/or machined surfaces can be frictionally connected, centered and held down at the seats. Large adjustment stroke and a low building height are a feature of the centering clamping element.

Mounting from either top or bottom.

Material

Body

- Tool steel, hardened, blackened

Spring

- Stainless steel

Clamping segments

- Stainless steel 1.4112, hardened and ground

Assembly

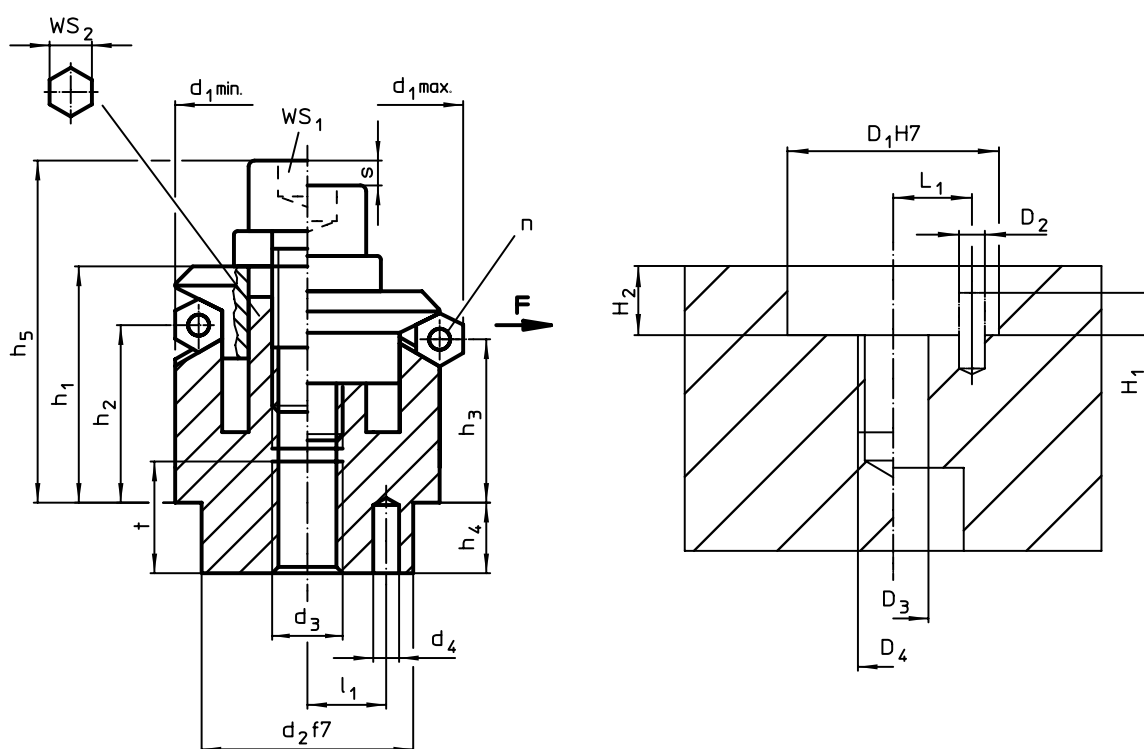
Assembly instructions for mounting from above: Remove clamping plate and screw. Screw in threaded pin from below, and tighten from above using female WS_2 .

MORE INFORMATION

Further products

Centering Clamping Elements, with clamping balls → p. 564

DRAWING



ORDER INFORMATION

Dimensions												Number of segments n	Stroke s	WS		Clamping force F max.	Tightening torque max.	Location hole								Art. No.
d ₁ min.	d ₁ max.	d ₂ f7	d ₃	d ₄ +0.3	h ₁ -1	h ₂	h ₃	h ₄	h ₅ -2	l ₁ ±0.1	t			WS ₁	WS ₂			D ₁ H7	D ₂	D ₃	D ₄	H ₁	H ₂ +0.5	L ₁ ±0.1		
[mm]														[mm]	[mm]			[kN]	[Nm]	[mm]						
14.5	18.5	12	M 4	2.0	14.3	9.8	8.6	5.5	19.3	4.5	6	3	2.3	3	5	3.5	5	12	2.0	4	M 4	2.0	5.5	4.5	26	23340.0014
18.5	22.5	15	M 5	2.5	16.6	11.5	10.4	7.5	22.8	5.5	7	3	2.3	4	5	4.5	10	15	2.5	5	M 5	2.5	7.5	5.5	45	23340.0018
22.5	26.5	20	M 6	3.0	19.7	14.1	13.0	6.0	28.7	7.0	8	3	2.3	5	6	5.0	17	20	3.0	6	M 6	3.0	6.0	7.0	72	23340.0022
26.5	30.5	20	M 6	3.0	19.9	14.2	13.0	6.0	28.9	7.0	8	3	2.3	5	6	5.0	17	20	3.0	6	M 6	3.0	6.0	7.0	96	23340.0026
30.5	38.5	25	M 6	4.0	23.2	14.0	11.7	7.0	32.2	9.0	8	3	4.6	5	6	5.0	17	25	4.0	6	M 6	4.0	7.0	9.0	131	23340.0030
38.5	46.5	30	M 8	4.0	27.2	18.0	15.5	7.5	39.2	11.0	10	6	4.6	6	8	6.5	43	30	4.0	8	M 8	4.0	7.5	11.0	259	23340.0038
46.5	54.5	30	M 8	4.0	27.2	18.0	15.7	7.5	39.2	11.0	10	6	4.6	6	8	6.5	43	30	4.0	8	M 8	4.0	7.5	11.0	348	23340.0046
54.5	70.5	45	M10	5.0	40.7	23.7	19.1	9.0	54.7	15.0	12	6	9.2	8	10	8.0	79	45	5.0	10	M10	5.0	9.0	15.0	675	23340.0054
70.5	86.5	60	M12	5.0	46.0	28.3	23.6	10.0	63.0	17.0	15	6	9.2	10	12	10.0	141	60	5.0	12	M12	5.0	10.0	17.0	1346	23340.0070
86.5	102.5	60	M16	5.0	51.1	30.3	25.6	10.0	72.1	25.0	15	6	9.2	14	17	10.0	354	60	5.0	16	M16	5.0	10.0	25.0	2000	23340.0086

Centering Clamping Elements • with clamping balls

EH 23340.



PRODUCT DESCRIPTION

To be used for accurate centering and clamping of workpieces with locating hole on which light spherical marks are acceptable. Exact self-centering with a precision of $\pm 0,025$ mm. The clamping balls frictionally center and hold workpieces with raw or pre-machined surfaces down to the bearing points. Large adjustment stroke and a small building height are a feature of this center clamping element.

Mounting from either top or bottom.

Material

Body

- Tool steel, hardened, blackened

Spring

- Stainless steel

Clamping balls

- Stainless steel 1.4112, hardened and ground

Assembly

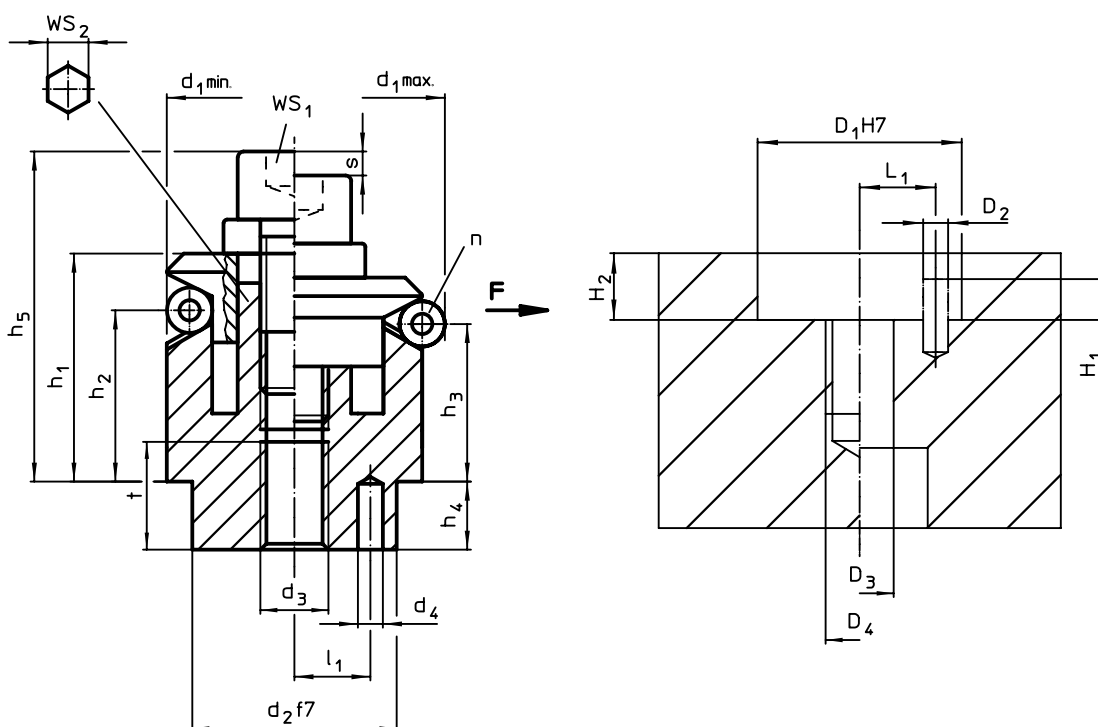
Assembly instructions for mounting from above: Remove clamping plate and screw. Screw in threaded pin from below, and tighten from above using female WS_2 .

MORE INFORMATION

Further products

Centering Clamping Elements, with clamping segments → p. 562

DRAWING



ORDER INFORMATION

Dimensions														Number of balls n	Stroke s	WS		Clamp- ing force F max.	Tight- ening torque max.	Location hole									Art. No.
d ₁ min.	d ₁ max.	d ₂ f7	d ₃	d ₄ +0.3	h ₁ -1	h ₂	h ₃	h ₄	h ₅ -2	l ₁ ±0.1	ball diam- eter	t	WS ₁			WS ₂	D ₁ H7			D ₂	D ₃	D ₄	H ₁	H ₂ +0.5	L ₁ ±0.1				
[mm]																[mm]				[mm]	[kN]	[Nm]	[mm]						
11.7	14.2	10	M 4	1.5	8.6	3.9	3.2	3.5	14.7	3.5	2.5	4	3	3	1.3	3	–	0.5	5	10	1.5	4	M 4	2.0	3.5	3.5	18	23340.0212	
14.5	18.5	12	M 4	2.0	14.2	9.8	8.6	5.5	19.2	4.5	4.0	6	3	3	2.3	3	5	3.5	5	12	2.0	4	M 4	2.5	5.5	4.5	26	23340.0214	
18.5	22.5	15	M 5	2.5	16.5	11.6	10.4	7.5	22.7	5.5	4.0	7	3	3	2.3	4	5	4.5	10	15	2.5	5	M 5	3.5	7.5	5.5	38	23340.0218	
22.5	26.5	20	M 6	3.0	19.6	14.1	12.9	6.0	28.6	7.0	4.0	8	3	3	2.3	5	6	5.0	17	20	3.0	6	M 6	3.5	6.0	7.0	73	23340.0222	
26.5	30.5	20	M 6	3.0	19.8	14.1	13.0	6.0	28.8	7.0	4.0	8	3	3	2.3	5	6	5.0	17	20	3.0	6	M 6	3.5	6.0	7.0	93	23340.0226	
30.5	38.5	25	M 6	4.0	23.2	14.1	11.8	7.0	32.2	9.0	8.0	8	3	3	4.6	5	6	5.0	17	25	4.0	6	M 6	3.5	7.0	9.0	119	23340.0230	

¹⁾ no WS_2 clamping screw and threaded pin to be mounted from top



Centering Clamping Elements • with clamping segments, operation from the bottom

EH 23340.



PRODUCT DESCRIPTION

For centering and clamping in blind holes of workpieces with locating hole. Exact self-centering with a precision of $\pm 0,025$ mm. Components with raw or machined surface can be centered positively and are pulled down on the contact points due to the ground clamping elements. The centering clamping element is characterised by large setting ranges and a compact construction height.

Mounting from either top or bottom.

Material

Body

- Tool steel, hardened, blackened

Spring

- Stainless steel

Clamping segments

- Stainless steel 1.4112, hardened and ground

Assembly

Assembly instructions for mounting from above: Remove clamping plate and screw.

Screw in threaded pin from below, and tighten from above using female WS_2 .

Operation

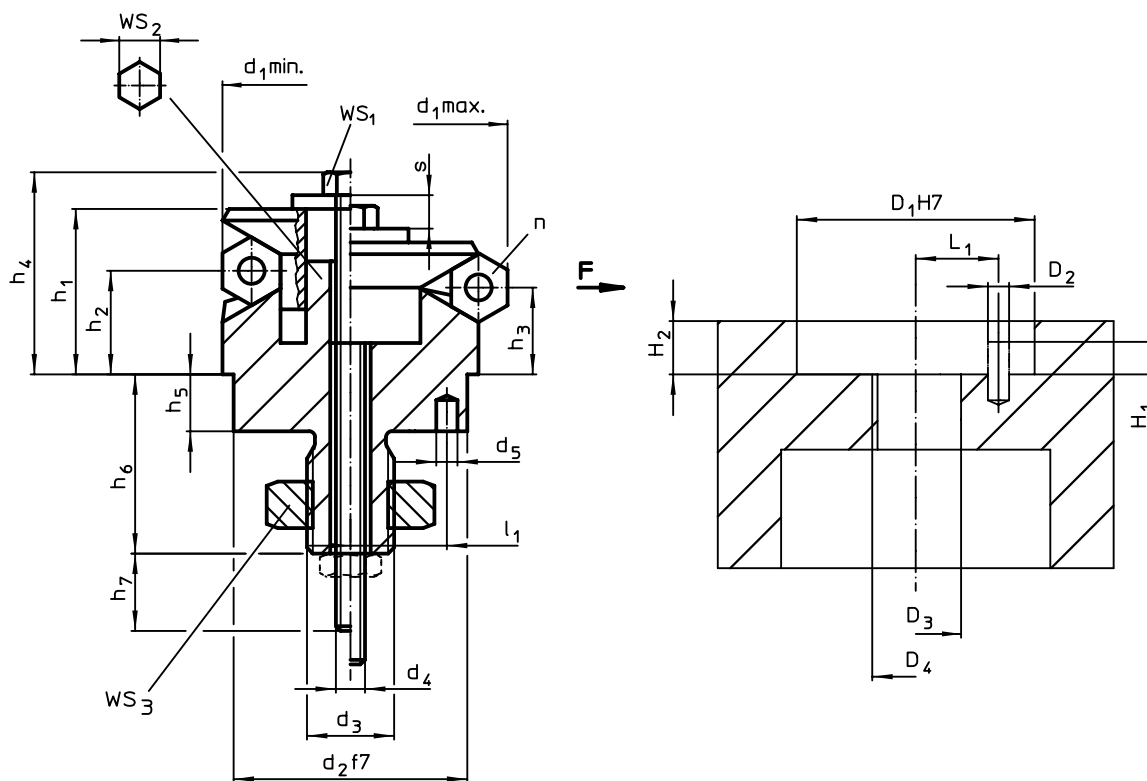
Operation from bottom manually or automatically with either pneumatic or hydraulic actuation.

MORE INFORMATION

Further products

Centering Clamping Elements, with clamping balls, operation from the bottom → p. 568

DRAWING



ORDER INFORMATION

Dimensions														Number of segments n	Stroke s	WS			Clamp- ing force F max.	Tight- ening torque max.	Location hole								Art. No.
d ₁ min.	d ₁ max.	d ₂ f7	d ₃	d ₄	d ₅ +0.3	h ₁	h ₂	h ₃	h ₄ -2	h ₅	h ₆ +1	h ₇ ~	l ₁ ±0.1			WS ₁	WS ₂	WS ₃			D ₁ H7	D ₂	D ₃	D ₄	H ₁	H ₂ +0.5	L ₁ ±0.1		
[mm]														[mm]	[mm]			[kN]	[Nm]	[mm]							[g]		
14.5	18.5	12	M 6	M 3	2.0	14.2	9.8	8.6	17.0	5.5	14.1	12	4.5	3	2.3	5.5	3	10	3.5	2	12	2.0	6	M 6	2.5	5.5	4.5	21	23340.0114
18.5	22.5	15	M 8	M 4	2.5	16.6	11.5	10.4	20.5	7.5	18.2	14	5.5	3	2.3	7.0	5	13	4.0	5	15	2.5	8	M 8	3.5	7.5	5.5	51	23340.0120
22.5	26.5	20	M10	M 5	3.0	19.7	14.1	13.0	24.4	6.0	17.4	15	7.0	3	2.3	8.0	6	16	4.5	10	20	3.0	10	M10	3.5	6.0	7.0	82	23340.0122
26.5	30.5	20	M10	M 5	3.0	19.9	14.2	13.0	24.6	6.0	17.4	15	7.0	3	2.3	8.0	6	16	4.5	10	20	3.0	10	M10	3.5	6.0	7.0	104	23340.0126
30.5	38.5	25	M12	M 6	4.0	23.2	14.0	11.7	28.8	7.0	21.9	20	9.0	3	4.6	10.0	6	18	4.5	17	25	4.0	12	M12	3.5	7.0	9.0	154	23340.0130



Centering Clamping Elements • with clamping balls, operation from the bottom

EH 23340.



PRODUCT DESCRIPTION

To be used for accurate centering and clamping in blind holes of workpieces with locating hole. Exact self-centering with a precision of $\pm 0,025$ mm. The clamping balls frictionally center and hold workpieces with raw or pre-machined surfaces down to the bearing points. Large adjustment stroke and a small building height are a feature of this center clamping element.

Mounting from either top or bottom.

Material

Body

- Tool steel, hardened, blackened

Spring

- Stainless steel

Clamping balls

- Stainless steel 1.4112, hardened and ground

Assembly

Assembly instructions for mounting from above: Remove clamping plate and screw.

Screw in threaded pin from below, and tighten from above using female WS_2 .

Operation

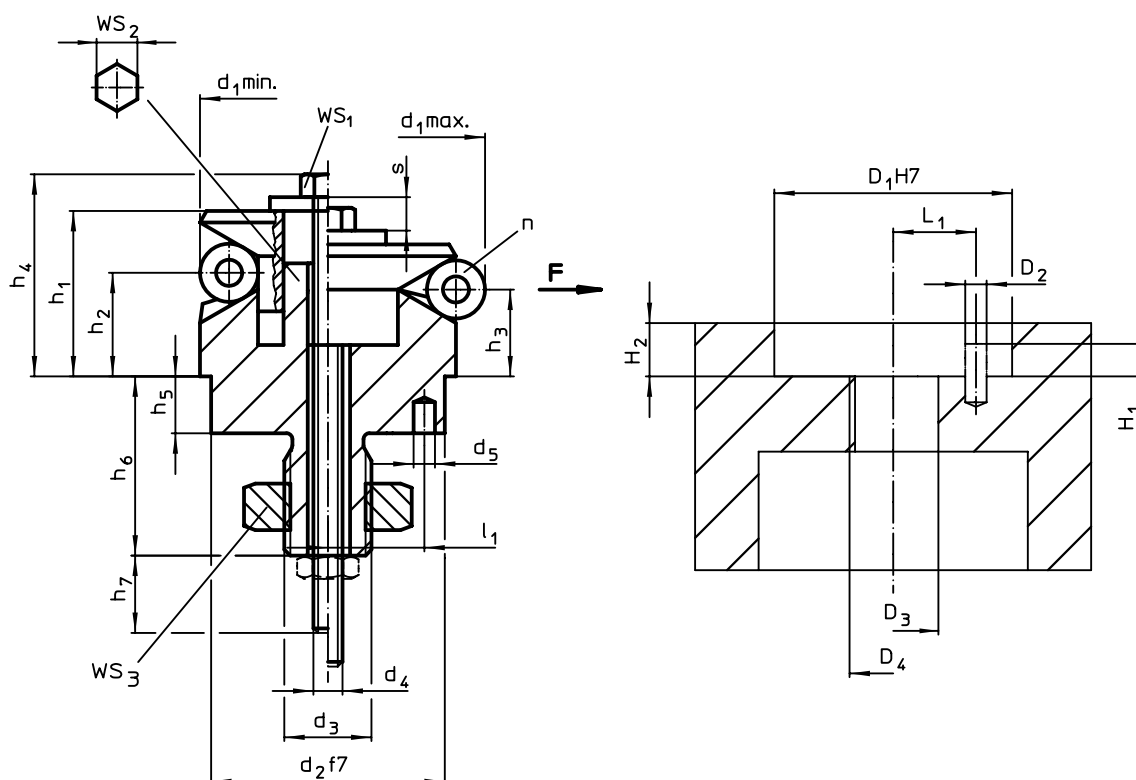
Operation from bottom manually or automatically with either pneumatic or hydraulic actuation.

MORE INFORMATION

Further products

Centering Clamping Elements, with clamping segments, operation from the bottom → p. 566

DRAWING



ORDER INFORMATION

Dimensions															Number of balls n	Stroke s	WS			Clamping force F max.	Tightening torque max.	Location hole									Art. No.
d ₁ min.	d ₁ max.	d ₂ f7	d ₃	d ₄	d ₅ +0.3	h ₁	h ₂	h ₃	h ₄ -2	h ₅	h ₆ +1	h ₇ ~	l ₁ ±0.1	ball dia- meter			WS ₁	WS ₂	WS ₃			D ₁ H7	D ₂	D ₃	D ₄	H ₁	H ₂ +0.5	L ₁ ±0.1	[g]		
[mm]															[mm]	[mm]			[kN]	[Nm]	[mm]								[g]		
11.7	14.2	10	M 5	M 3	1.5	9.9	3.9	3.2	12.7	3.5	11.0	13	3.5	2.5	3	1.3	5.5	4	8	0.5	2	10	1.5	5	M 5	2.0	3.5	3.5	13	23340.0312	
14.5	18.5	12	M 6	M 3	2.0	14.2	9.8	8.6	17.0	5.5	14.1	12	4.5	4.0	3	2.3	5.5	3	10	3.5	2	12	2.0	6	M 6	2.5	5.5	4.5	28	23340.0314	
18.5	22.5	15	M 8	M 4	2.5	16.5	11.6	10.4	20.4	7.5	18.2	14	5.5	4.0	3	2.3	7.0	5	13	4.0	5	15	2.5	8	M 8	3.5	7.5	5.5	52	23340.0318	
22.5	26.5	20	M10	M 5	3.0	19.6	14.1	12.9	24.3	6.0	17.4	15	7.0	4.0	3	2.3	8.0	6	16	4.5	10	20	3.0	10	M10	3.5	6.0	7.0	83	23340.0322	
26.5	30.5	20	M10	M 5	3.0	19.8	14.1	13.0	24.5	6.0	17.4	15	7.0	4.0	3	2.3	8.0	6	16	4.5	10	20	3.0	10	M10	3.5	6.0	7.0	103	23340.0326	
30.5	38.5	25	M12	M 6	4.0	23.2	14.1	11.8	28.8	7.0	21.9	20	9.0	8.0	3	4.6	10.0	6	18	4.5	17	25	4.0	12	M12	3.5	7.0	9.0	153	23340.0330	



Centering Clamping Mandrels

EH 23340.



PRODUCT DESCRIPTION

For clamping and centering of workpieces with internal bore.

Material

Body

- Steel, blackened

Clamping screw

- Case-hardened steel, case-hardened

Assembly

The centering clamping mandrel can be machined to the required seating diameter (e.g. by turning/milling). It must be noticed that before machining the centering clamping

mandrel, it will be expanded approx. 0.1 mm over the clamping diameter. To machine the mandrel, a nut will be provided.

MORE INFORMATION

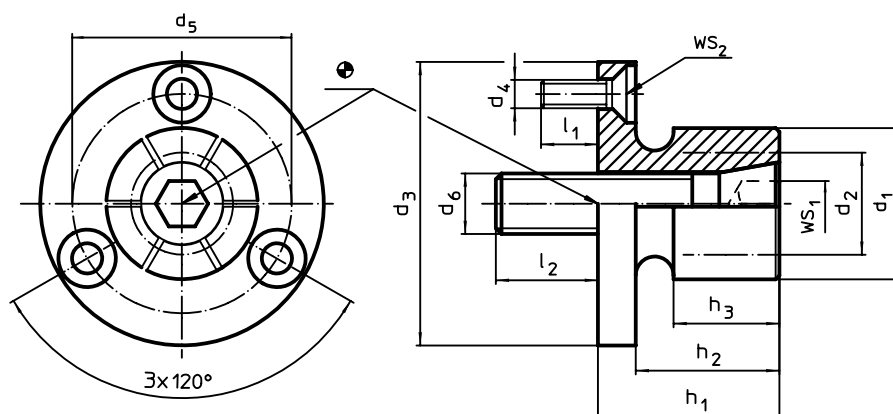
Notes

Special types on request.

Further products

Centering Clamping Mandrels, with lateral handling → p. 571

DRAWING

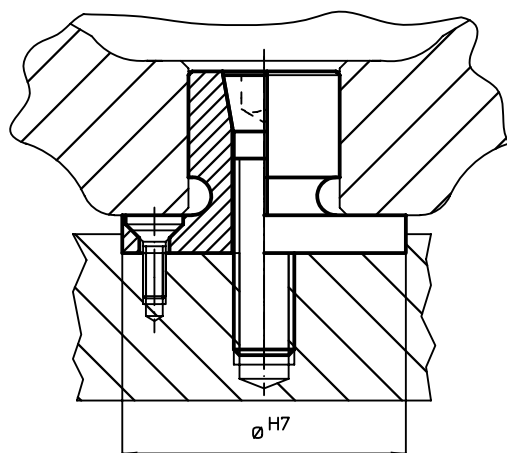


ORDER INFORMATION

d ₁	d ₂ min.	d ₃ -0.05	Dimensions								Num- ber of seg- ments	WS		Clamping force max. [kN]	Tight- ening torque max. [Nm]	Location hole H7 [mm]		Art. No.
			d ₄	d ₅	d ₆	h ₁	h ₂	h ₃	l ₁ ~	l ₂		WS ₁	WS ₂					
			[mm]									[mm]						
12.4	8.0	29.72	M3	21.0	M 4	21.8	16.0	15.0	6	8	4	3	2.0	3	3.5	29.72	58	23340.0104
14.2	12.2	31.50	M3	23.1	M 6	24.9	19.0	15.0	6	12	4	5	2.0	6	12.0	31.50	62	23340.0106
20.0	13.5	37.50	M3	29.0	M 8	24.9	19.0	15.0	6	14	6	6	2.0	8	24.0	37.50	99	23340.0108
27.0	18.0	50.00	M4	39.4	M10	28.6	22.2	17.5	7	17	6	8	2.5	13	42.0	50.00	191	23340.0111
35.3	25.4	56.00	M4	45.5	M12	31.8	25.4	20.6	7	21	6	10	2.5	15	105.0	56.00	306	23340.0112
51.0	30.0	75.50	M5	63.9	M16	39.6	31.8	27.0	11	22	6	14	3.0	26	200.0	75.50	762	23340.0116
77.0	30.0	107.50	M6	92.5	M16	45.5	37.6	32.3	12	20	8	14	4.0	26	200.0	107.50	1832	23340.0118 ¹⁾

¹⁾ including clamping nut and clamping ring to enable machining as described in note

APPLICATION EXAMPLE



Centering Clamping Mandrels • with lateral handling

EH 23340.



PRODUCT DESCRIPTION

For clamping and centering of workpieces with internal bore.

Material

Body

- Steel, blackened

Clamping screw

- Heat-treated steel

Assembly

The centering clamping mandrel can be machined to the required seating diameter (e.g. by turning/milling). It must be noticed that before machining the centering clamping

mandrel, it will be expanded approx. 0,1 mm over the clamping diameter. To machine the mandrel, a locking ring will be provided.

Operation

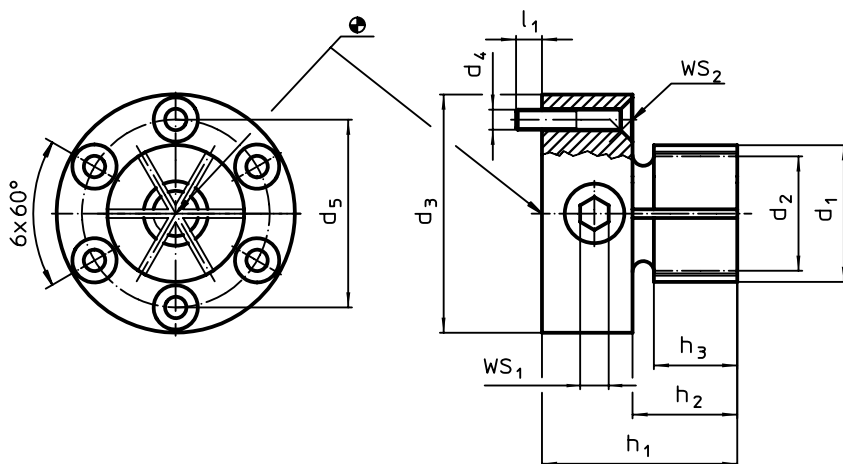
Thanks to the lateral handling it can also be used for blind hole drilling.

MORE INFORMATION

Further products

Centering Clamping Mandrels → p. 570

DRAWING



ORDER INFORMATION

Dimensions									WS		Clamping force max.	Tightening torque max.	Location hole H7		Art. No.
d ₁	d ₂ min.	d ₃ -0.05	d ₄	d ₅	h ₁	h ₂	h ₃	l ₁	WS ₁	WS ₂					
[mm]									[mm]		[kN]	[Nm]	[mm]	[g]	
28.7	17.8	50	M4	39.4	41	22	17.5	7	6	2.5	20	66	50	363	23340.0125

APPLICATION EXAMPLE

