

STANDARD CLAMPING ELEMENTS



POWER CLAMP



6 - 10

CLAMPS



11 - 38

SUPPORT BLOCKS



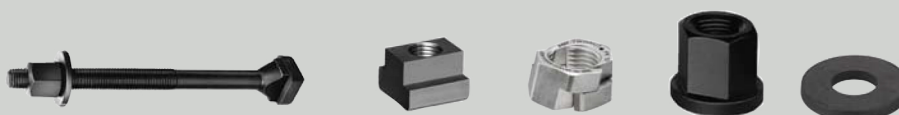
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SETTING ELEMENTS MANDREL AND FLOATING CLAMP



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CLAMPING BOLTS, NUTS AND WASHERS



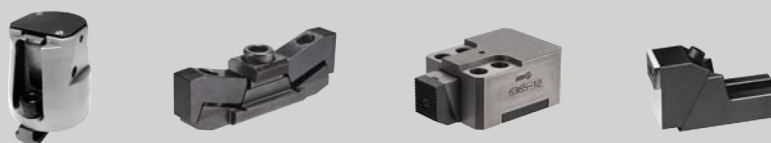
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CLAMPING SETS AND ACCESSORIES



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PULL-DOWN CLAMPS



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CENTRING CLAMP AND ECCENTRIC CLAMP



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PARALLEL SUPPORTS-SET, SUPER-PRECISION

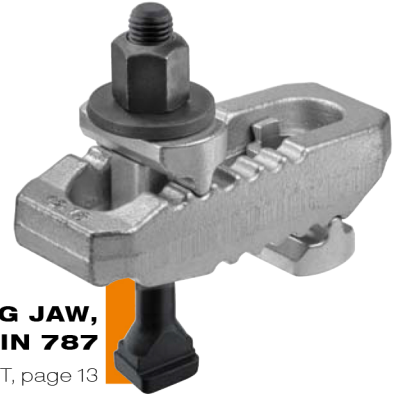
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Optimised wooden case
for perfect handling!

„CROCODILE“ CLAMPING JAW, COMPLETE WITH DIN 787

No. 6312VT, page 13



ALUMINIUM BASE

No. 6406AF, page 50

NEW!



POWER CLAMP

No. 7600, page 6
New size!



- + Low installation height
- + Clamping force up to 22 kN or 49 kN
- + Continuously adjustable

SPACER ELEMENT

No. 7600Z, page 7
New size!



PRESSURE PAD

No. 7600D, page 8
New sizes!



No. 6600

Eccentric clamp with end clamping

hardened and burnished.

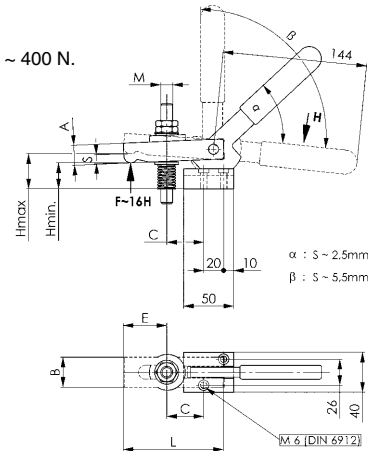


Order no.	Size	H min.	H max.	A	B	C	E	L	M	Weight [g]
73502	1	26	35	20	30	37	21-43	100	M12	1000
73510	2	26	35	20	40	45	34-66	125	M16	1400

Eccentric clamps are useful for specialized fixtures.

Note:

Actuation by hand - hand force ~ 400 N.



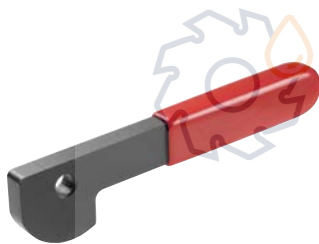
CAD



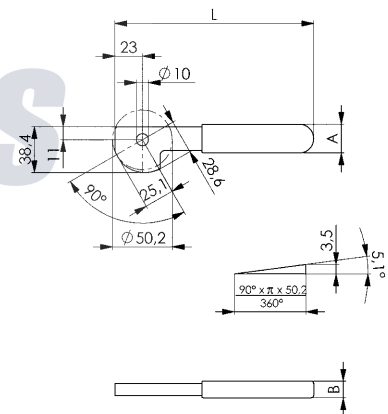
No. 6601

Eccentric lever, loose

for end clamping
(part of 6600)



Order no.	A	B	L	Weight [g]
73569	24	14	167	300



CAD



No. 6610

Eccentric clamp with middle clamping

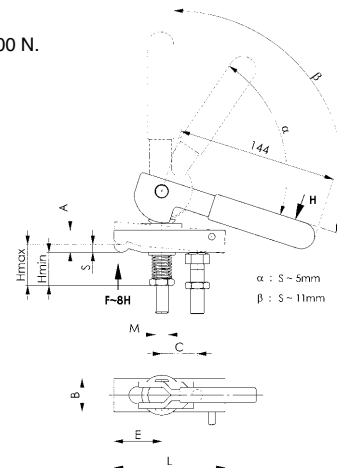
hardened and burnished, lever plastic coated.



Order no.	Size	H min.	H max.	A	B	C	E	L	M	Weight [g]
73619	1	30	45	20	30	32	21-43	100	M12	1000
73627	2	35	50	20	40	40	34-66	125	M16	1450

Note:

Actuation by hand - hand force ~ 400 N.



CAD



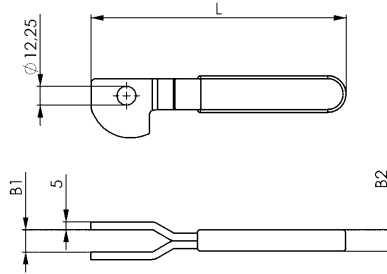
Subject to technical alterations.

No. 6611

Eccentric lever, loose

for middle clamping
(part of 6610)

Order no.	B1	B2	L	Weight [g]
73676	14	14	167	310

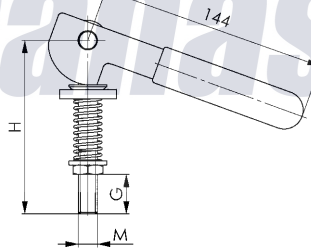


No. 6612

Eccentric lever with eye bolt

(part of 6610)

Order no.	Size	G	H	M	Weight [g]
74500	1	25	110	M12	500
74518	2	30	120	M16	610

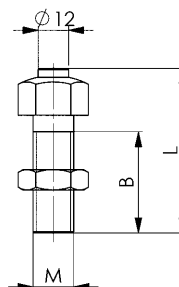


No. 6616

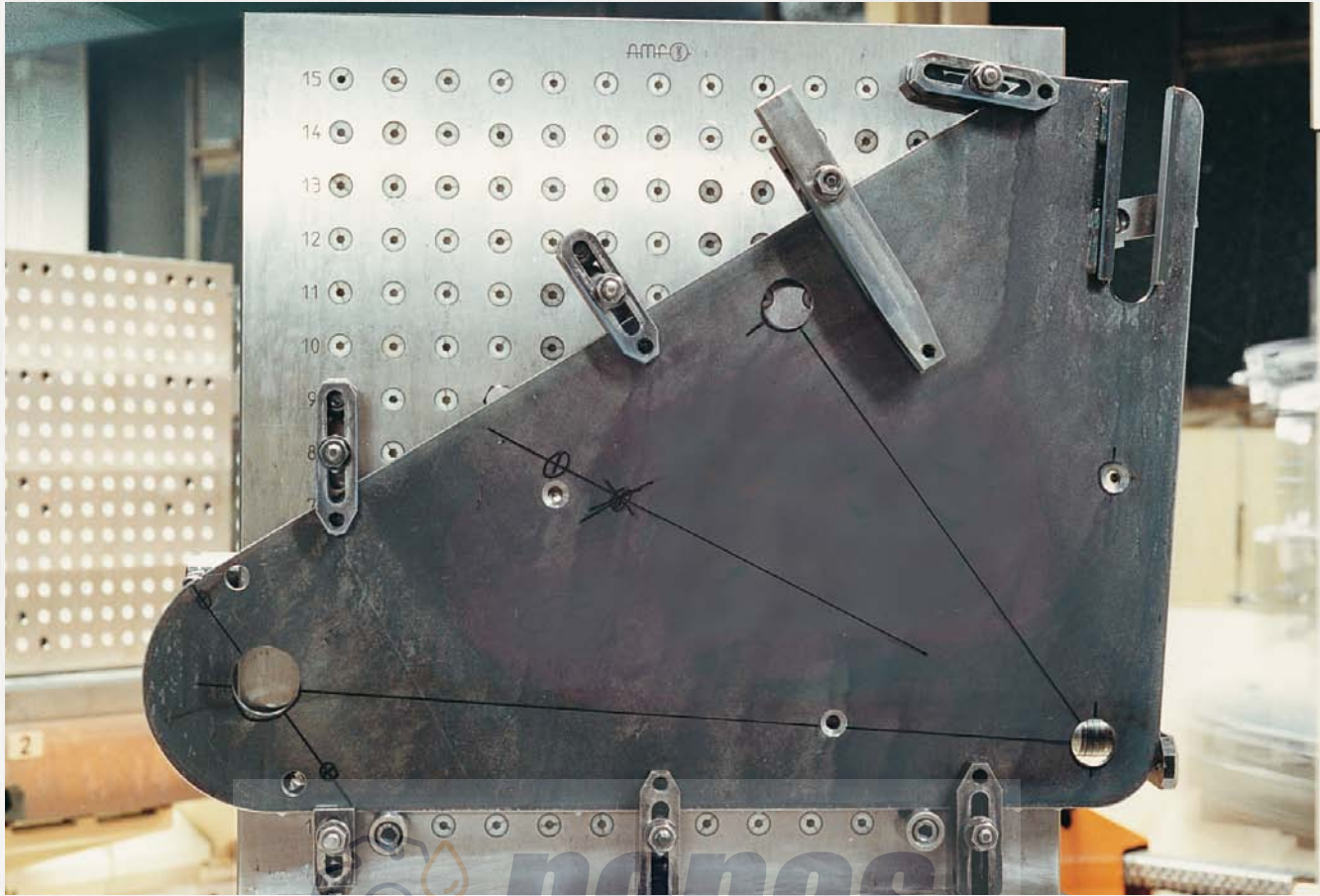
Set screw with nut

(part of 6610)

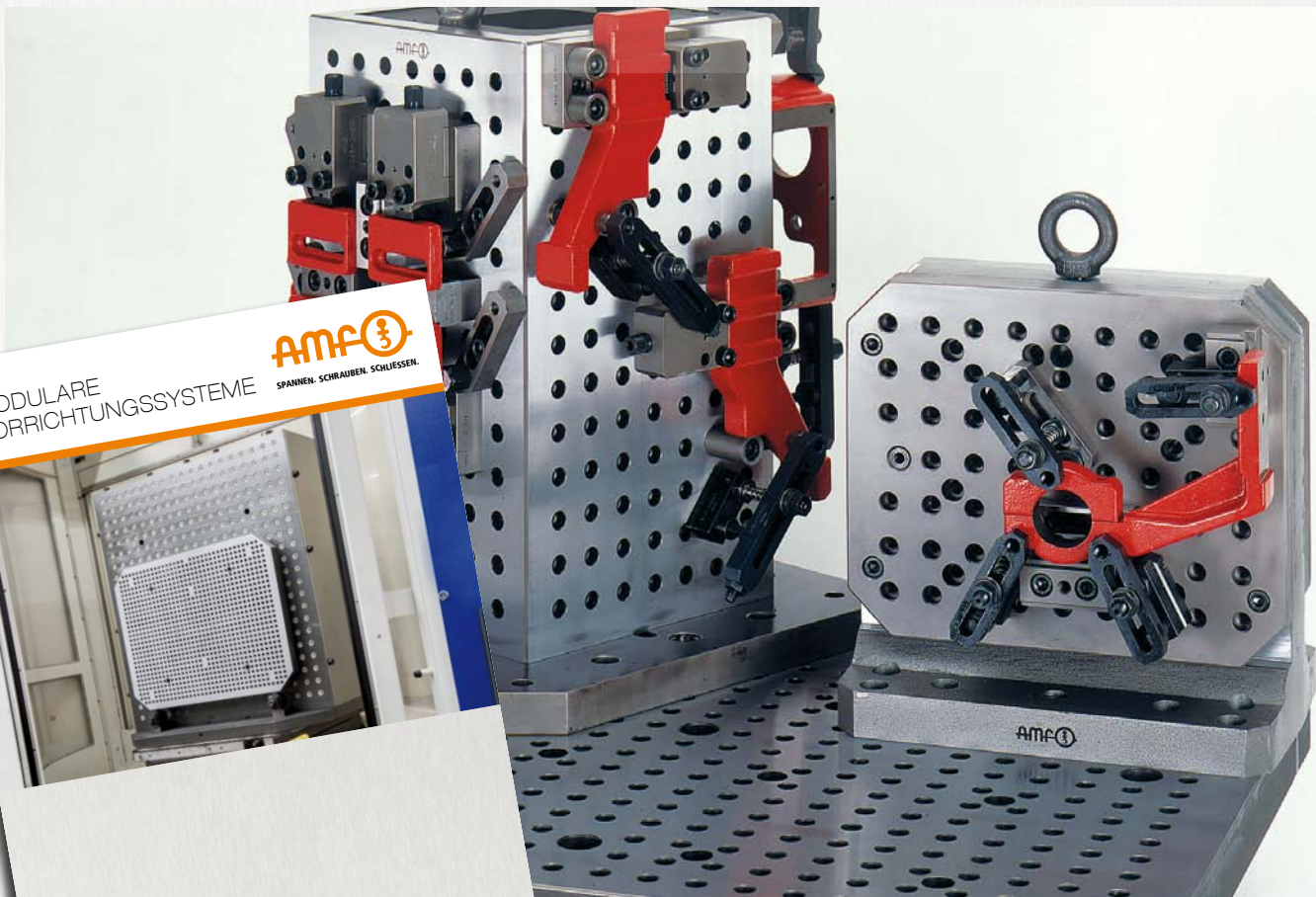
Order no.	Size	B	L	M	Weight [g]
74542	1	40	58,5	M12	70
74559	2	40	65,0	M16	135



Subject to technical alterations.



panas



Subject to technical alterations.

No. 6383ZEK

Centring clamp with ball

Can be used from above.
 Repeatability ± 0.025 mm
 Concentricity ± 0.050 mm



Order no.	D min.	D max.	A min.	A max.	H	P [kN]	Weight [g]
373357	11,7	14,2	3,0	4,2	10,0	0,5	18
373365	14,5	18,5	8,6	9,8	14,5	3,5	20
373373	18,5	22,5	10,4	11,6	16,5	4,0	40
373381	22,5	26,5	13,0	14,2	19,8	4,5	60
373399	26,5	30,5	13,0	14,2	19,8	4,5	86
373407	30,5	38,5	11,9	14,2	23,1	4,5	125
373415	38,5	46,5	15,5	17,8	27,2	6,5	235
373423	46,5	54,5	15,7	18,0	27,2	6,5	325
373431	54,5	70,5	19,1	23,7	40,6	8,0	655
373449	70,5	86,5	23,7	28,3	46,1	10,0	1270
373456	86,5	102,5	25,7	30,2	51,0	12,5	1785

Application:

For central positioning and clamping in holes where slight ball impressions are acceptable.

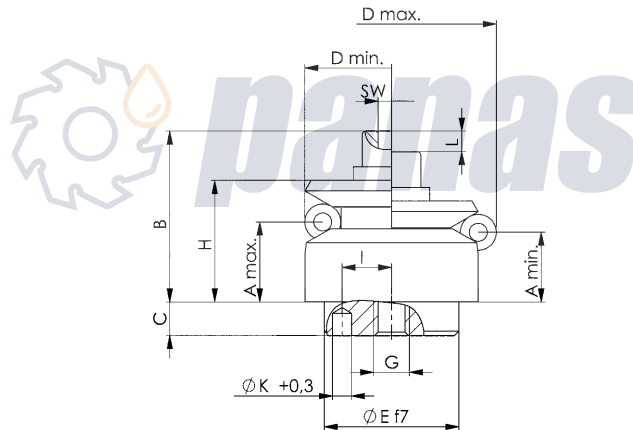
Advantage:

- Low installation height
- Clamping in the zero point
- Pull-down effect
- Distortion-free clamping

Note:

For deep installation, clearance D max. must be provided.

Installation tool: Retaining pin for determining the precise position of the balls. (supplied without installation tool)



Dimensions:

Order no.	B	C	E f7	F	G	I $\pm 0,1$	K	L	Q	QD	SW	T
373357	15,0	3,5	10	9,2	M4	3,5	1,5	1,5	3	2,5	3	2,0
373365	19,5	5,5	12	9,1	M4	4,5	2,0	2,3	3	4,0	3	2,5
373373	23,5	7,5	15	11,6	M5	5,5	2,5	2,3	3	4,0	4	3,5
373381	28,8	6,0	20	15,1	M6	7,0	3,0	2,3	3	4,0	5	3,5
373399	28,8	6,0	20	15,1	M6	7,0	3,0	2,3	3	4,0	5	3,5
373407	32,7	7,0	25	15,2	M6	9,0	4,0	4,6	3	8,0	5	3,5
373415	39,2	7,5	30	18,1	M8	11,0	4,0	4,6	6	8,0	6	4,5
373423	39,2	7,5	30	18,1	M8	11,0	4,0	4,6	6	8,0	6	6,5
373431	54,6	9,0	45	23,7	M10	15,0	5,0	9,3	6	16,0	8	6,5
373449	63,1	10,0	60	28,3	M12	17,0	5,0	9,3	6	16,0	10	6,5
373456	73,0	10,0	60	28,3	M16	25,0	5,0	9,3	6	16,0	14	6,5

Q = number of balls, QD = diameter of the balls

No. 6383ZES

Centring clamp with protective segments

Can be used from above.
 Repeatability ± 0.025 mm
 Concentricity ± 0.050 mm



Order no.	D min.	D max.	A min.	A max.	H	P [kN]	Weight [g]
373464	14,5	18,5	8,6	9,8	14,5	3,5	20
373472	18,5	22,5	10,4	11,6	16,5	4,0	40
373480	22,5	26,5	13,0	14,2	19,8	4,5	60
373498	26,5	30,5	13,0	14,2	19,6	4,5	85
373506	30,5	38,5	11,9	14,2	23,1	4,5	125
373514	38,5	46,5	15,5	17,8	27,2	6,5	235
373522	46,5	54,5	15,7	18,0	27,2	6,5	325
373530	54,5	70,5	19,1	23,7	40,6	8,0	655
373548	70,5	86,5	23,7	28,3	46,1	10,0	1270
373555	86,5	102,5	25,7	30,2	51,0	12,5	1785

Application:

For unmarred surfaces with central positioning and clamping in holes.

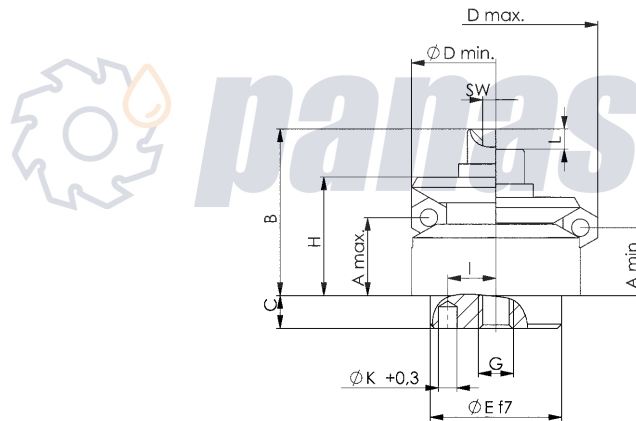
Advantage:

- Low installation height
- Clamping in the zero point
- Pull-down effect
- Distortion-free clamping

Note:

For deep installation, clearance D max. must be provided.

Installation tool: Retaining pin for determining the precise position of the segments. (supplied without installation tool)



Dimensions:

Order no.	B	C	E f7	F	G	I $\pm 0,1$	K	L	Q	QD	SW	T
373464	19,5	5,5	12	4,3	M4	4,5	2,0	2,3	3	4	3	4,3
373472	23,5	7,5	15	5,3	M5	5,5	2,5	2,3	3	4	4	5,3
373480	28,8	6,0	20	6,4	M6	7,0	3,0	2,3	3	4	5	6,4
373498	28,8	6,0	20	6,4	M6	7,0	3,0	2,3	3	4	5	6,4
373506	32,7	7,0	25	6,4	M6	9,0	4,0	4,6	3	8	5	6,4
373514	39,2	7,5	30	8,4	M8	11,0	4,0	4,6	6	8	6	8,4
373522	39,2	7,5	30	8,4	M8	11,0	4,0	4,6	6	8	6	8,4
373530	54,6	9,0	45	10,5	M10	15,0	5,0	9,3	6	16	8	10,5
373548	63,1	10,0	60	13,0	M12	17,0	5,0	9,3	6	16	10	13,0
373555	73,0	10,0	60	17,0	M16	25,0	5,0	9,3	6	16	14	13,0

Q = number of segments, QD = diameter of the segments



No. 6383ZUK

Centring clamp with ball

Can be used from below.
 Repeatability ± 0.025 mm
 Concentricity ± 0.050 mm



Order no.	D min.	D max.	A min.	A max.	H	P [kN]	Weight [g]
373563	11,7	14,2	3,0	4,0	10,0	0,5	8
373571	14,5	18,5	8,6	9,8	14,5	3,5	18
373589	18,5	22,5	10,4	11,6	16,5	4,0	36
373597	22,5	26,5	13,0	14,2	19,8	4,5	61
373605	26,5	30,5	13,0	14,2	19,8	4,5	80
373613	30,5	38,5	11,9	14,2	23,2	4,5	114
373621	38,5	46,5	15,5	17,8	27,2	6,5	221
373639	46,5	54,5	15,7	18,0	27,2	6,5	305
373647	54,5	70,5	19,1	23,7	40,6	8,0	590
373654	70,5	86,5	23,7	28,3	46,1	10,0	1180
373662	86,5	102,5	25,7	30,2	51,0	12,5	1880

Application:

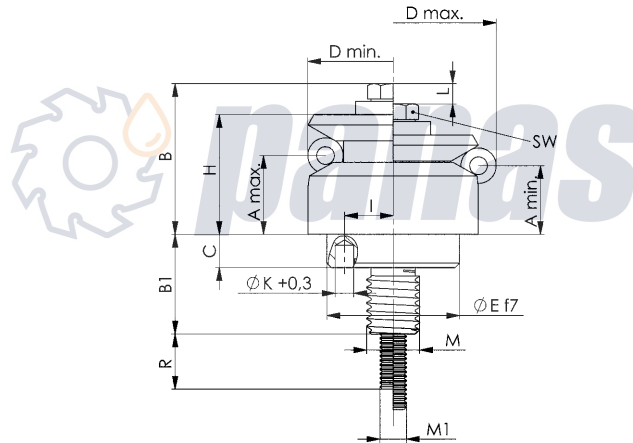
For central positioning and clamping in blind holes where slight ball impressions are acceptable. Operation from below, automated or manual.

Advantage:

- Low installation height
- Clamping in the zero point
- Pull-down effect
- Distortion-free clamping

Note:

For deep installation, clearance D max. must be provided.
 Installation tool: Hole K for retaining pin for determining the precise position of the balls. (supplied without installation tool)



Dimensions:

Order no.	B	B1	C	E f7	F	G	I $\pm 0,1$	K	L	M	M1	Q	QD	R	SW	T
373563	12,8	11,0	3,5	10	5	M5	3,5	1,5	1,4	M5	M3	3	2,5	10	5,5	2,0
373571	17,3	14,1	5,5	12	6	M6	4,5	2,0	2,3	M6	M3	3	4,0	12	5,5	2,5
373589	20,9	18,2	7,5	15	8	M8	5,5	2,5	2,3	M8	M4	3	4,0	14	7,0	3,5
373597	25,4	17,4	6,0	20	10	M10	7,0	3,0	2,3	M10	M5	3	4,0	15	8,0	3,5
373605	25,4	17,4	6,0	20	10	M10	7,0	3,0	2,3	M10	M5	3	4,0	15	8,0	3,5
373613	30,3	21,9	7,0	25	12	M12	9,0	4,0	4,6	M12	M6	3	8,0	20	10,0	3,5
373621	34,2	22,5	7,5	30	12	M12	11,0	4,0	4,6	M12	M6	6	8,0	20	10,0	4,5
373639	34,2	22,5	7,5	30	12	M12	11,0	4,0	4,6	M12	M6	6	8,0	20	10,0	6,5
373647	49,9	24,5	9,0	45	14	M14 x 1,5	15,0	5,0	9,3	M14 x 1,5	M8	6	16,0	32	13,0	6,5
373654	55,4	29,4	10,0	60	16	M16 x 1,5	17,0	5,0	9,3	M16 x 1,5	M8	6	16,0	20	13,0	6,5
373662	61,6	29,4	10,0	60	16	M16 x 1,5	25,0	5,0	9,3	M16 x 1,5	M10	6	16,0	25	16,0	6,5

Q = number of balls, QD = diameter of the balls

No. 6383ZUS

Centring clamp with protective segments

Can be used from below.
 Repeatability ± 0.025 mm
 Concentricity ± 0.025 mm



Order no.	D min.	D max.	A min.	A max.	H	P [kN]	Weight [g]
373670	14,5	18,5	8,6	9,8	14,5	3,5	18
373688	18,5	22,5	10,4	11,6	16,5	4,0	36
373696	22,5	26,5	13,0	14,2	19,8	4,5	61
373704	26,5	30,5	13,0	14,2	19,8	4,5	80
373712	30,5	38,5	11,9	14,2	23,2	4,5	114
373720	38,5	46,5	15,5	17,8	27,2	6,5	221
373738	46,5	54,5	15,7	18,0	27,2	6,5	305
373746	54,5	70,5	19,1	23,7	40,6	8,0	590
373753	70,5	86,5	23,7	28,3	46,1	10,0	1180
373761	86,5	102,5	25,7	30,2	51,0	12,5	1880

Application:

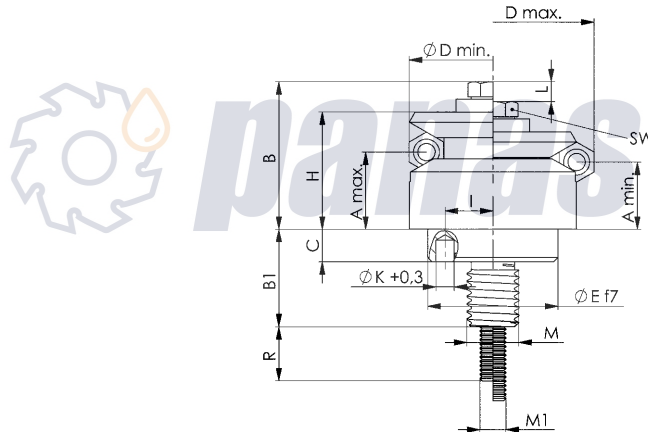
For unmarred surfaces with central positioning and clamping in blind holes. Operation from below, automated or manual.

Advantage:

- Low installation height
- Clamping in the zero point
- Pull-down effect
- Distortion-free clamping

Note:

For deep installation, clearance D max. must be provided.
 Installation tool: Hole K for retaining pin for determining the precise position of the segments.
 (supplied without installation tool)



Dimensions:

Order no.	B	B1	C	E f7	F	G	I $\pm 0,1$	K	L	M	Q	M1	QD	R	SW	T
373670	17,3	14,1	5,5	12	6	M6	4,5	2,0	2,3	M6	3	M3	4	12	5,5	2,5
373688	20,9	18,2	7,5	15	8	M8	5,5	2,5	2,3	M8	3	M4	4	14	7,0	3,5
373696	25,4	17,4	6,0	20	10	M10	7,0	3,0	2,3	M10	3	M5	4	15	8,0	3,5
373704	25,4	17,4	6,0	20	10	M10	7,0	3,0	2,3	M10	3	M5	4	15	8,0	3,5
373712	30,3	21,9	7,0	25	12	M12	9,0	4,0	4,6	M12	3	M6	8	20	10,0	3,5
373720	34,2	22,5	7,5	30	12	M12	11,0	4,0	4,6	M12	6	M6	8	20	10,0	4,5
373738	34,2	22,5	7,5	30	12	M12	11,0	4,0	4,6	M12	6	M6	8	20	10,0	6,5
373746	49,9	24,5	9,0	45	14	M14 x 1,5	15,0	5,0	9,3	M14 x 1,5	6	M8	16	32	13,0	6,5
373753	55,4	29,4	10,0	60	16	M16 x 1,5	17,0	5,0	9,3	M16 x 1,5	6	M8	16	20	13,0	6,5
373761	61,6	29,4	10,0	60	16	M16 x 1,5	25,0	5,0	9,3	M16 x 1,5	6	M10	16	25	16,0	6,5

Q = number of segments, QD = diameter of the segments

THE FIRST STEP FOR USE AND EMPLOYMENT OF SIDE THRUST PIECES:

- > What is being positioned or clamped?
- > Which side thrust pieces will be used?
- > What size corresponds to the workpiece?
- > What tolerance does the workpiece have?
- > How large is the dimension Y? (Workpiece height)
- > How large is the dimension X? (See table)
- > Should the spring deflection be completely used?
- > How is the coordinate dimension determined?

EXAMPLE: POSITIONING OR CLAMPING A PLATE 100 X 50 X 8 MM

Should the pin diameter be 5, 6 or 8 mm?

- > If nothing may extend over the plate 5 mm
- > If projection would not be a problem 6 or 8 mm
- > If clamping will be done additionally 6 mm
- > If drilling will be performed without additional clamping 8 mm

Workpiece height Y?

The tolerance can be ignored

What force should be selected?

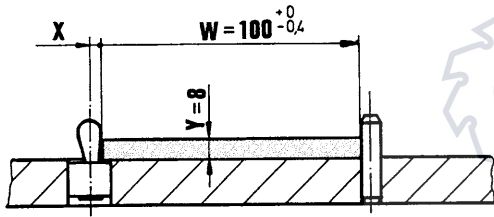
- > For positioning tasks 30 - 60 N
- > For clamping forces 90 - 150 N

Length / width of the workpiece?

- > Length = $100 +0/-0.4$ = medium dimension 99,8 mm
- > Width = $50 +0,2/-0.2$ = medium dimension 50,0 mm

Dimension X for side thrust pieces with steel spring?

- > See table or formula below



W = workpiece (+/- tolerance)
 - F = pre-tension
 F = (-F) + (+F)

Y = workpiece height
 + F = clamping force (spring deflection for tolerance)
 T = tolerance

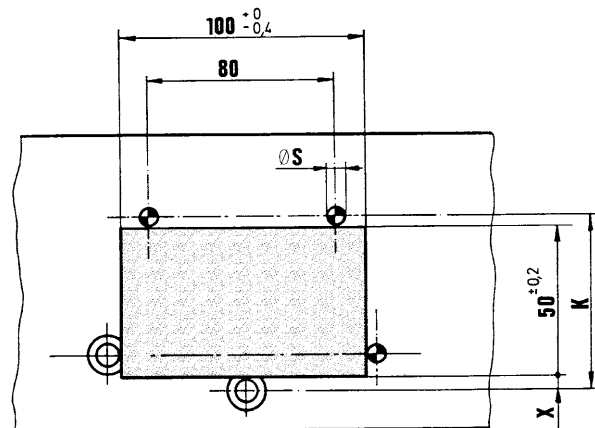
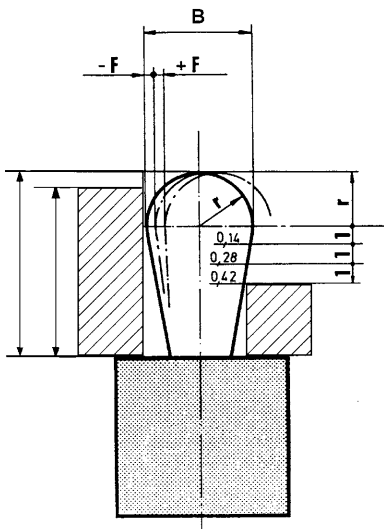
For workpieces that are higher than C minus r, the table values for dimension X or the formula $X = B/2 - (-F)$ apply.

For workpieces that are smaller than C minus r, the table values for dimension X or the formula $X = B/2 - (-F) - [(C - r - Y) \times 0,123]$ apply.

Formula for coordinates:

$$K = W - T/2 + x + S/2$$

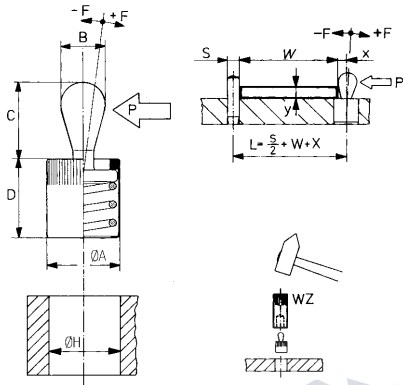
The table values are standard values that should ideally be checked using a sample clamping.



No. 6380

Side thrust piece, without seal

Steel pin: hardened and galvanised
Sleeve: Aluminium



Order no.	dia. A	B	~P Spring force [N]	C	D-1	ØH H8	F	X	Tool 6380WZ	Weight [g]
373001	6	3	10	4,0	7	6	±0,5	0,9	03	0,6
373019	6	3	20	4,0	7	6	±0,5	0,9	03	0,6
373027	6	3	40	4,0	7	6	±0,5	0,9	03	0,7
373035	10	5	20	6,7	11	10	±0,8	1,6	05	2,6
373043	10	5	50	6,7	11	10	±0,8	1,6	05	2,9
373050	10	5	100	6,7	11	10	±0,8	1,6	05	3,1
373068	10	6	40	10,7	11	10	±1,0	1,8	06	3,6
373076	10	6	75	10,7	11	10	±1,0	1,8	06	3,6
373084	10	6	150	10,7	11	10	±1,0	1,8	06	3,9
373092	12	8	50	13,9	13	12	±1,3	2,6	08	7,0
373100	12	8	100	13,9	13	12	±1,3	2,6	08	7,2
373126	16	10	100	16,7	17	16	±1,6	3,2	10	15,0
373134	16	10	200	16,7	17	16	±1,6	3,2	10	15,4
373142	16	10	300	16,7	17	16	±1,6	3,2	10	15,8

Note:

Without sealing for operations without dirt, temperature-resistant up to 250°C.
Installation by pressing in.

Recommendations



No. 6387,
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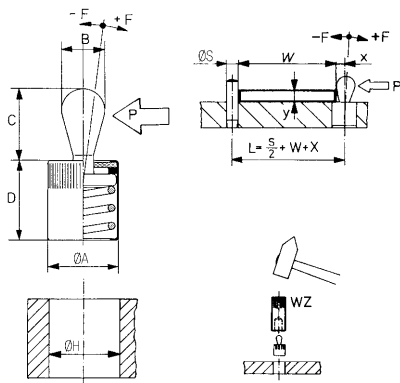
CAD



No. 6380D

Side thrust piece, with seal

against chips and dirt.
Steel pin for clamping: hardened and galvanised
Sleeve: Aluminium



Order no.	dia. A	B	~P Spring force [N]	C	D-1	ØH H8	F	X	Tool 6380WZ	Weight [g]
373159	6	3	10	4	7	6	±0,5	0,9	03	0,6
373167	6	3	20	4	7	6	±0,5	0,9	03	0,6
373175	6	3	40	4	7	6	±0,5	0,9	03	0,7
373183	10	5	20	6	12	10	±0,8	1,6	05	2,7
373191	10	5	50	6	12	10	±0,8	1,6	05	2,9
373209	10	5	100	6	12	10	±0,8	1,6	05	2,9
373217	10	6	40	10	12	10	±1,0	1,8	06	3,1
373225	10	6	75	10	12	10	±1,0	1,8	06	3,6
373233	10	6	150	10	12	10	±1,0	1,8	06	3,7
373241	12	8	50	13	14	12	±1,3	2,6	08	3,9
373258	12	8	100	13	14	12	±1,3	2,6	08	7,1
373266	12	8	200	13	14	12	±1,3	2,6	08	7,3
373274	16	10	100	16	18	16	±1,6	3,2	10	7,6
373282	16	10	200	16	18	16	±1,6	3,2	10	15
373290	16	10	300	16	18	16	±1,6	3,2	10	15,4

Note:

With sealing for chip-producing operations with dirt, temperature-resistant up to 150°C.
Sealing: CR, black, 60 Shore. Installation by pressing in.

Recommendations



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CAD



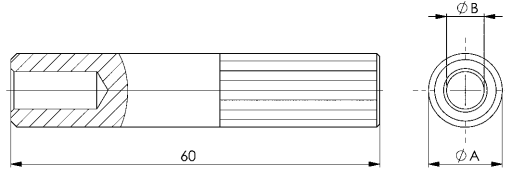
No. 6380WZ

Insertion tool

for pressing in the lateral pressure pad.



Order no.	Size	dia. A	B	Weight [g]
373308	03	8	3,1	16
373316	05/06	12	6,1	19
373332	08	14	8,1	64
373340	10	18	10,2	105



No. 6387

Eccentric clamping bolt

clamp in x-y direction with pull down effect.
Hardened steel 56±1 HRC.



Order no.	dia. A	B	C	D	E	F	G	SW	X	Z	max. holding force [kN]	Md [Nm]	Weight [g]
373779	9,2	M4	3	8	3,0	4,6	4,0	2,5	3,5	4,2	0,09	1,5	2
373787	14,2	M6	5	12	4,5	7,1	6,1	4,0	5,4	6,4	0,3	5,0	6
373795	18,0	M8	6	16	5,5	8,9	7,7	5,0	6,6	8,0	2,7	22,0	9
373803	22,2	M10	7	20	6,5	11,1	9,4	6,0	8,3	9,8	4,0	35,0	16
373811	27,0	M12	9	24	8,0	13,5	11,6	8,0	10,1	12,0	5,4	45,0	31

Application:

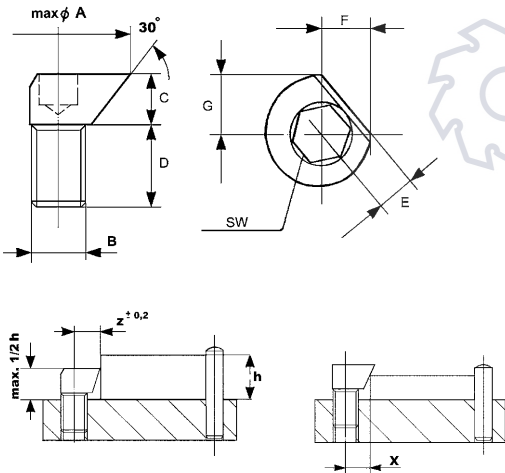
- Clamping above the machining surface
- Clamping below the machining surface
- Clamping in holes.

Advantage:

- stepless adjustment with eccentric
- high wear resistance.

On request:

The eccentric clamping bolt is also available with left-hand thread on request.



Clamping above the machining surface



Clamping below the machining surface



Subject to technical alterations.