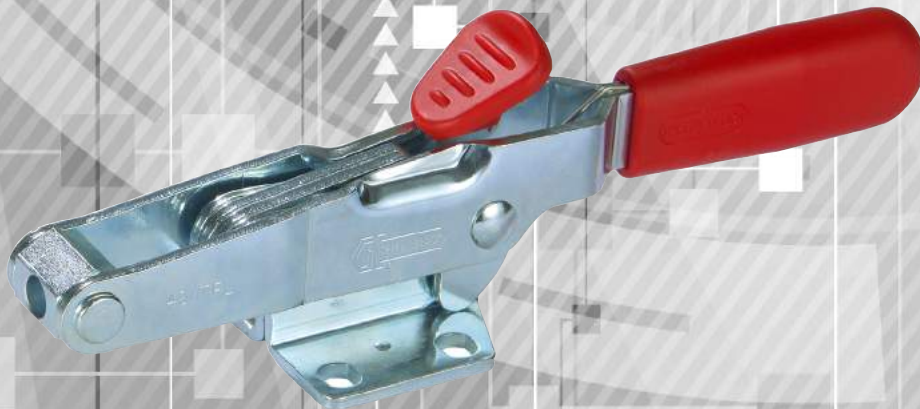


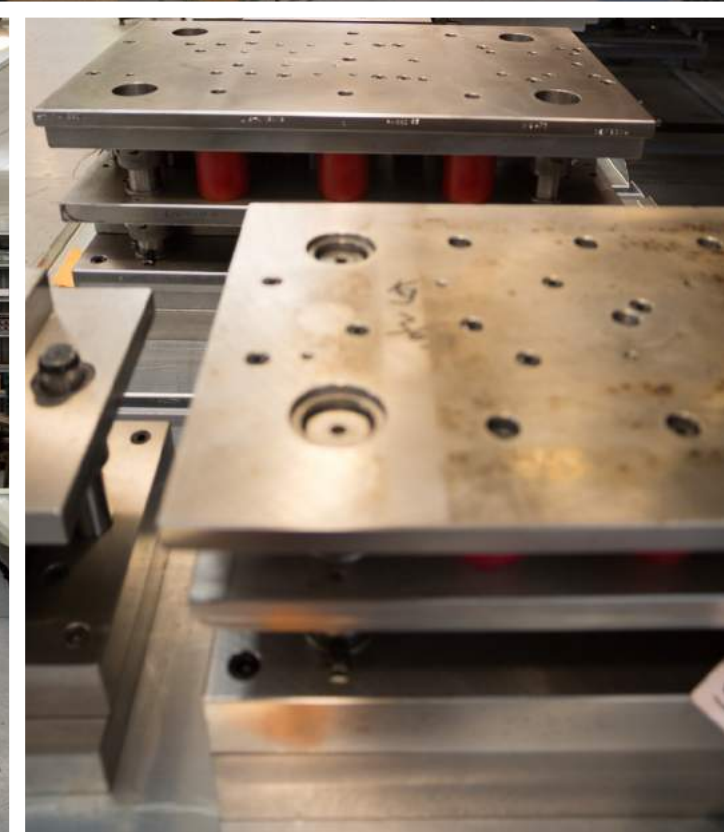


TOGGLE CLAMPS

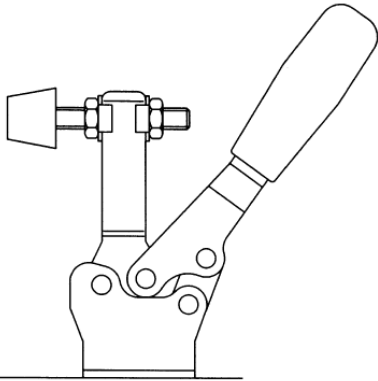
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ANNIVERSARY

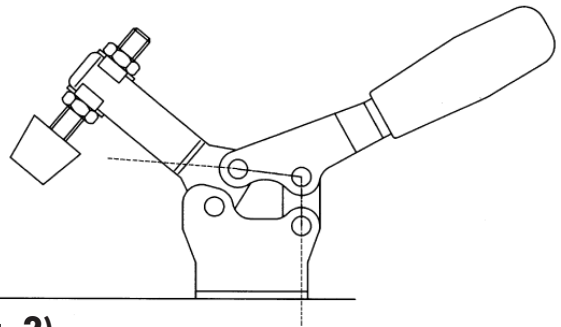




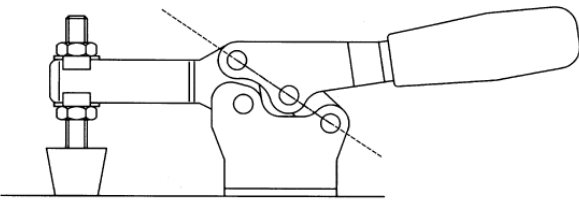
FEATURES



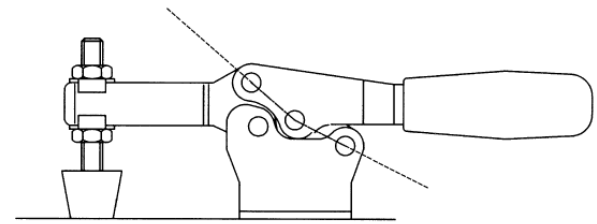
(fig. 1)



(fig. 2)



(fig. 3)



(fig. 4)

Using the toggle principle, the quick clamping tools have decisive advantages:

- The clamping lever is opened so as to completely clear the work surface, so that the work piece can be extracted from and/or placed in the equipment without difficulty (**fig. 1**).
- A small shift of the control lever is sufficient to bring the control lever to the work piece. The placement of three pivots (**fig. 2**) clearly shows that the force exerted by the clamping lever is transmitted to the control lever.
- In the **fig. 3** position, when the three pivots are aligned the maximum F_s clamping force is obtained (dead centre of the lever). The intensity of the F_s force exerted on the clamp depends on the:
 - 1) Force exerted on the control lever.
 - 2) Position of the pressure screw on the clamping lever.
 Since it is not possible to determine the strength of the

operator in manual, the tables indicate the F_s clamping force for pneumatic clamps only. In the maximum strength position (**fig. 3**), the clamping balance is unstable since opposing forces acting on the clamping lever can disengage the clamp.

- If in the clamping position, the dead centre of the lever exceeds a certain limit (**fig. 4**), the clamping lever stops with a fixed stop and, thus obtains secure and irreversible clamping.

The strength that the clamp can receive in the closed position without permanent deformation is called F_h holding force. This is a feature variable for each clamp and depends on the size (sizes and geometry) of each clamp. The tables show the respective maximum F_h retaining force of the clamp including the safety factor. All forces are shown in daN. (decaNewton)=10 N (Newton)=1Kg. weight.

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VERTICAL F



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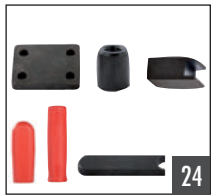
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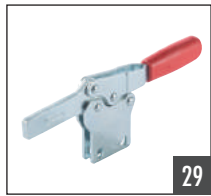
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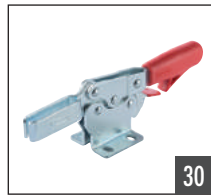
LONG LIFE ACCESSORIES



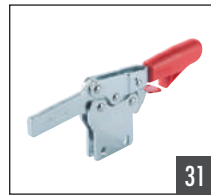
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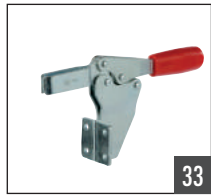
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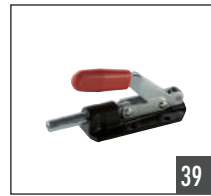
PUSH AND PULL STRAIGHT-LINE ACTION ASD-ASS



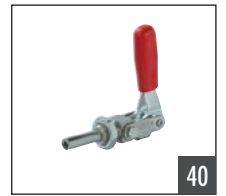
PUSH AND PULL STRAIGHT-LINE ACTION ASD-ASS



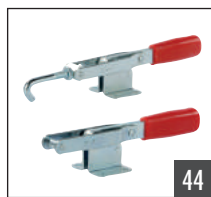
ONLY PUSH STRAIGHT-LINE ACTION AS



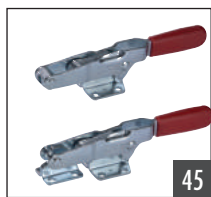
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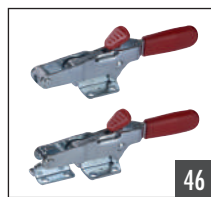
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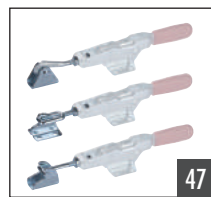
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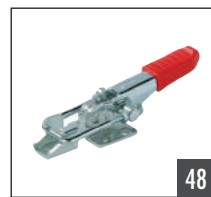
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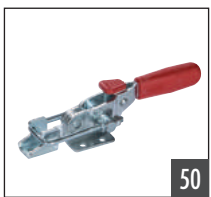
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**VERTICAL
ROTATIONAL**



**HORIZONTAL
ROTATIONAL**



**LATCH
ROTATIONAL**



C ROTATIONAL



**PNEUMATIC
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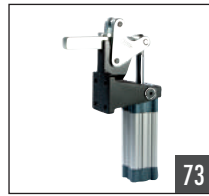
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APV3-EPV3**



**PNEUMATIC
APV3S-EPV3S**



**PNEUMATIC EPM
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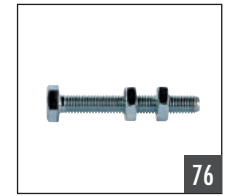
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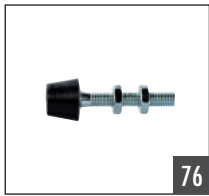
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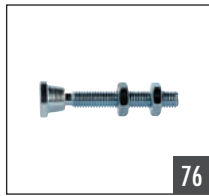
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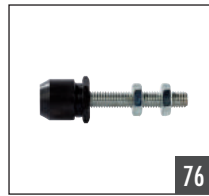
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**ARTICULATED
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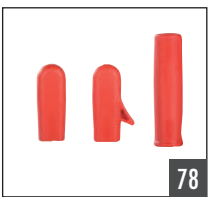
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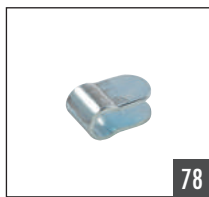
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EXTENSION



CROSS BAR



**ARTICULATED
CROSS BAR**

AISI 304/316 STAINLESS STEEL INDEX

COMPANY WITH
QUALITY SYSTEM
CERTIFIED BY DNV GL
= ISO 9001 =



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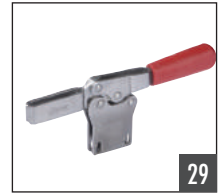
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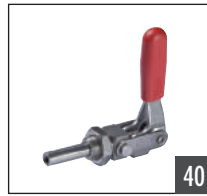
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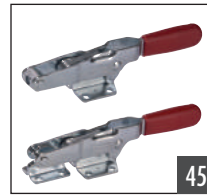
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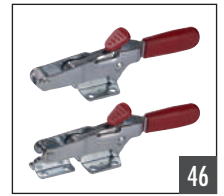
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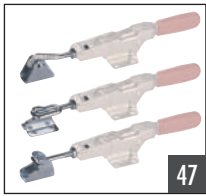
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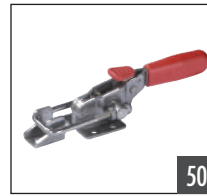
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RIGID SPINDLE 76



NEOPRENE SPINDLE 76



ARTICULATED SPINDLE 76

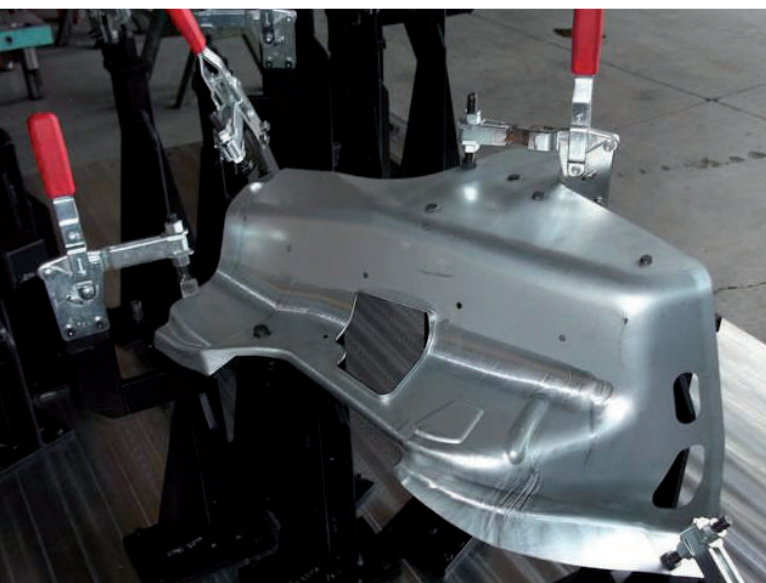
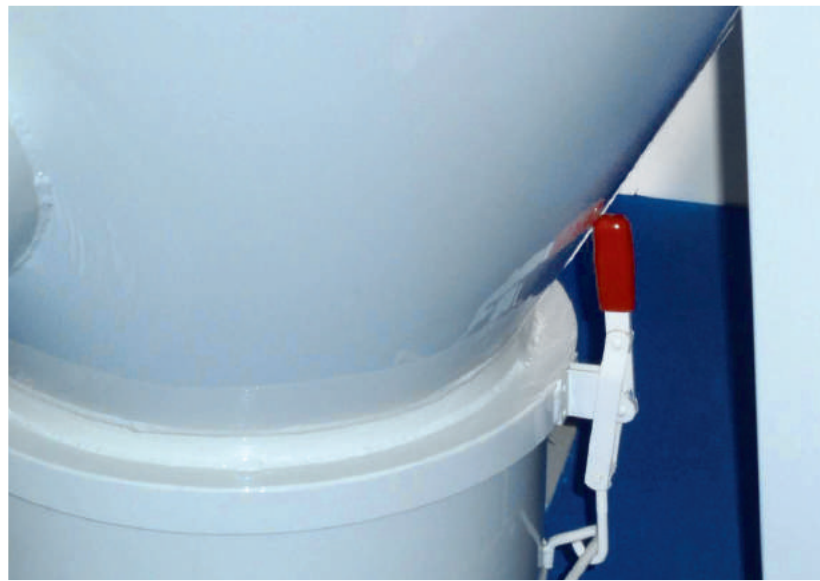
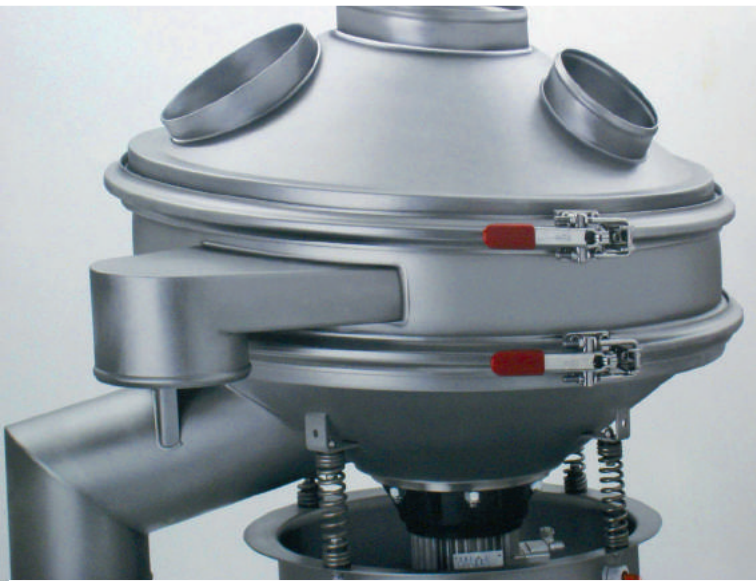
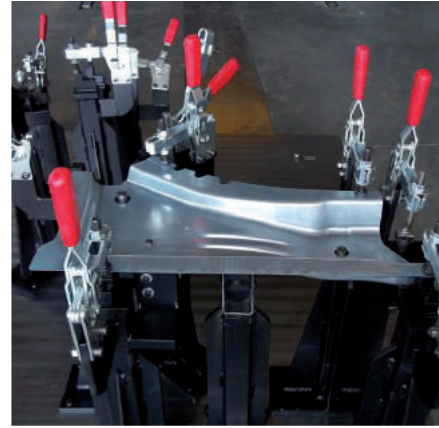
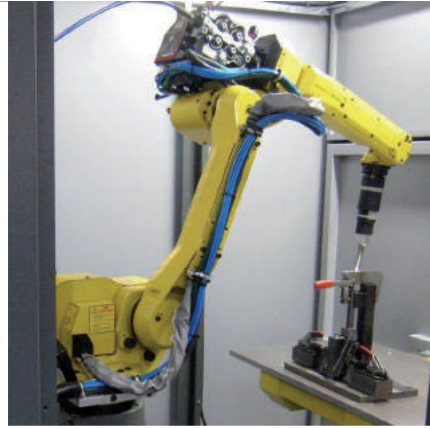
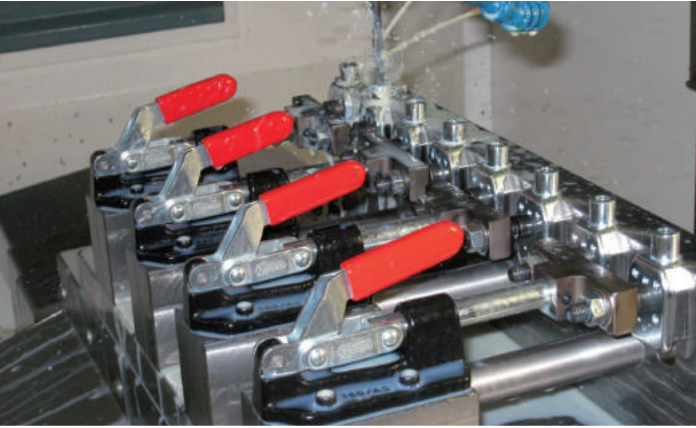


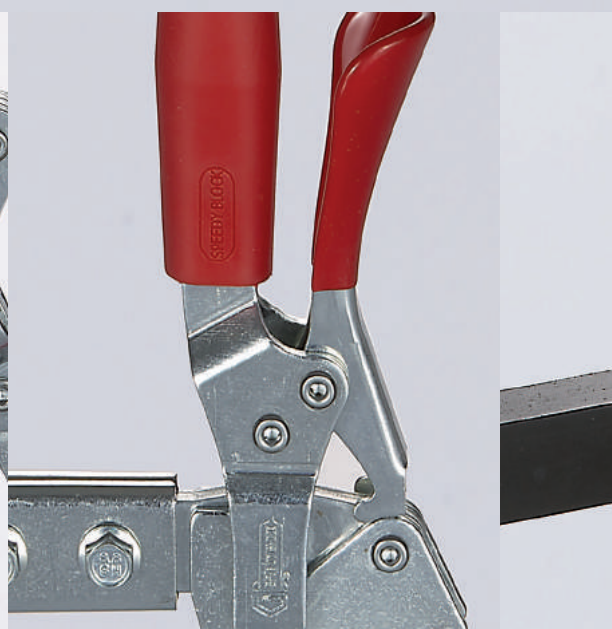
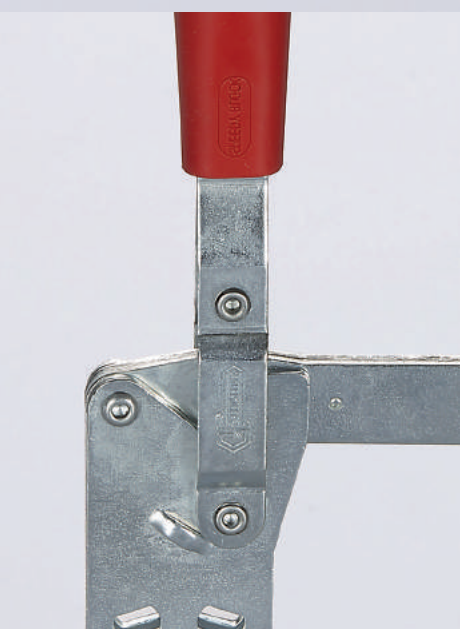
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POSSIBLE APPLICATIONS







VERTICAL SERIES

The clamping and control levers move in the same direction. When clamping is obtained, the control lever is in the vertical position. The light version of the series presented in this catalogue has a retaining force between 75 and 875 daN, while the heavy version has a retaining force between 1000 and 3000 daN. The heavy version is used when highly intense resistant forces are used, for example when closing jigs for foams, polyurethanes, etc. The clamp of this series are built to be easily disassembled for reworking of the individual elements depending on the requirements of use.

PERFORMANCE

FOR THE LIGHT SERIES: Components in case-hardening sheet steel. Hardened and tempered supporting pivots. Supporting bushes (for sizes from 130 daN and over) hardened by cementation and ground. The clamping lever is shorn and reinforced in the points of maximum stress. In the closing movement, it is guided laterally to ensure greater stability against possible transverse stresses. Finishing of the series: galvanized

FOR THE HEAVY SERIES: The pivots and supporting bushes are made of tempered and ground steel. The other parts are made of weldable steel. Finishing of the series: phosphated.

The red handles are made of polyurethane and are resistant to oils, solvents and other chemical agents.

In order to prevent accidental openings, caused by vibrations, some tools of this series are provided with a device called, "safety device", suitable for maintaining the clamp in a closed position. This device is also able to lock the tool in open position (Pat. Pend.)

VERTICAL SERIES



VERTICAL SERIES WITH FOLDED BASE

Some sizes of this series are also produced in stainless steel and are shown below in red.

Material:

Galvanized steel or **AISI 304 stainless steel**

Riveted pivots:

Galvanized steel or **AISI 304 stainless steel**

Supporting bushes:

Hardened and ground steel (for sizes ≥ 130)

Handles:

Red polyurethane; resistant to oils, grease and other chemical agents.

Performance:

Form A and **form AX** with open clamping lever and two flanged washers. Form E and **form EX** with full clamping lever and bolt retainers to be welded in the desired position and angle.

Spindles:

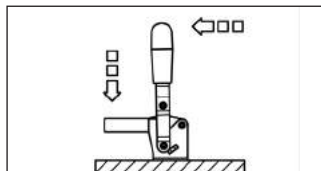
To be ordered separately (see Accessories on page 76).

Characteristics and applications:

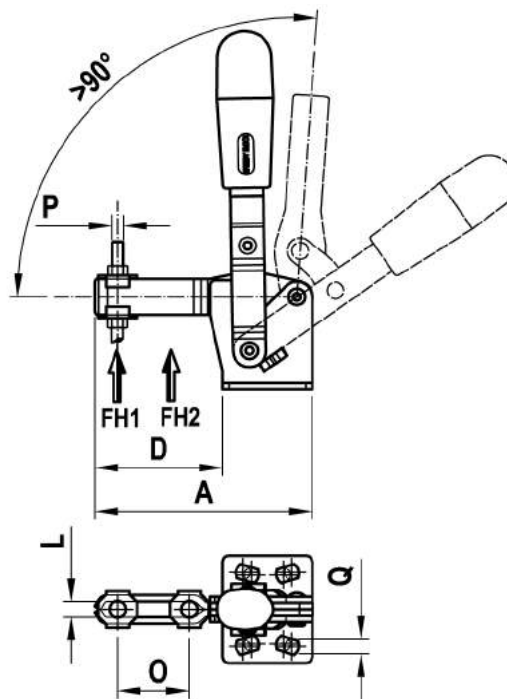
During the closing, the clamping lever is guided laterally to ensure greater stability against possible transverse stresses.

These tools are designed to prevent the operator's fingers from being crushed by the levers when opening.

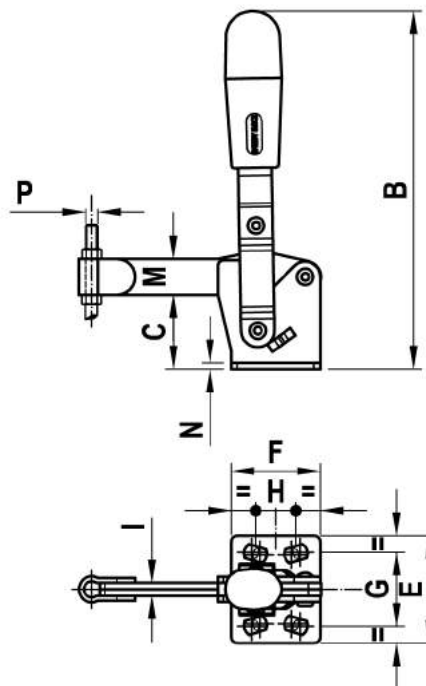
A special grease is placed between two contacting surfaces during assembly. This pneumatic actuated series is found on page 69.



FORM A

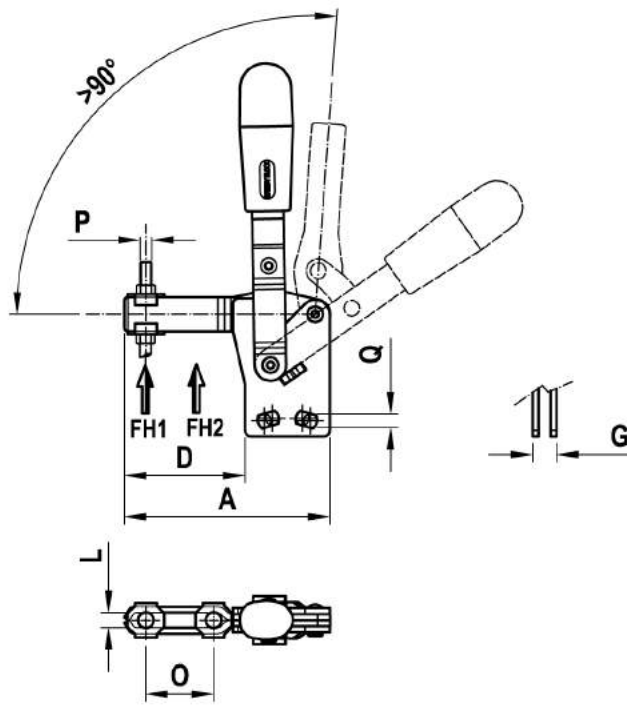


FORM E



Code	Description	Stainless steel Code	Stainless steel	A	B	C	D	E	F	G	H	I	L	M	N	O	P	Q	Fh1 (daN)	Fh2 (daN)	gr.
AA520	75/A	AS095	75/AX	66.5	98	20.5	37.5	34	29	24	15-16		5.2	11	2	20	M5	4.5	75	160	98
AA524	75/E	AS105	75/EX	67	98	20.5	38	34	29	24	15-16	4		11	2		M5	4.5	75		100
AA530	130/A	AS150	130/AX	85	142	28	50	42	35	27-29	12.5-19		6.2	16	2.5	28	M6	5.6	105	175	230
AA534	130/E	AS160	130/EX	86	142	28	51	42	35	27-29	12.5-19	5		16	2.5		M6	5.6	105		235
AA540	230/A	AS180	230/AX	110.5	168	33.5	67.5	45	43	32	19-20		8.5	18	3	40	M8	6.7	200	320	380
AA544	230/E	AS190	230/EX	112	168	33.5	69	45	43	32	19-20	6		18	3		M8	6.7	200		390
AA550	330/A			129	195	43	79	65	50	45-46	29-32		10.5	22	3.5	43	M10	8.5	240	400	604
AA554	330/E			130.5	195	43	80.5	65	50	45-46	29-32	7		22	3.5		M10	8.5	240		604
AA560	430/A			164	247	55.5	106	65	58	45	32		12.5	26	4	64	M12	8.5	280	500	1100
AA564	430/E			166	247	55.5	108	65	58	45	32	10		26	4		M12	8.5	280		1100
AA570	530/A			223	303	84.5	143	95	80	70	50-51		12.5	32	7	90	M12	12.5	450	875	2110
AA574	530/E			225	303	84.5	145	95	80	70	50-51	10		32	7		M12	12.5	450		2110

FORM B



VERTICAL SERIES WITH STRAIGHT BASE

Some sizes of this series are also produced in stainless steel and are shown below in red.

Material:

Galvanized steel or **AISI 304 stainless steel**

Riveted pivots:

Galvanized steel or **AISI 304 stainless steel**

Supporting bushes:

Hardened and ground steel (for sizes ≥ 130)

Handles:

Red polyurethane resistant to oils, grease and other chemical agents.

Performance:

Form B and **form BX** with open clamping lever and two flanged washers. Form F and **form FX** with full clamping lever and bolt retainers to be welded in the desired position and angle.

Spindles:

To be ordered separately (see Accessories on page 76).

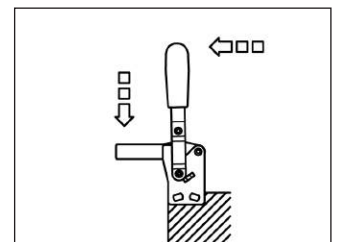
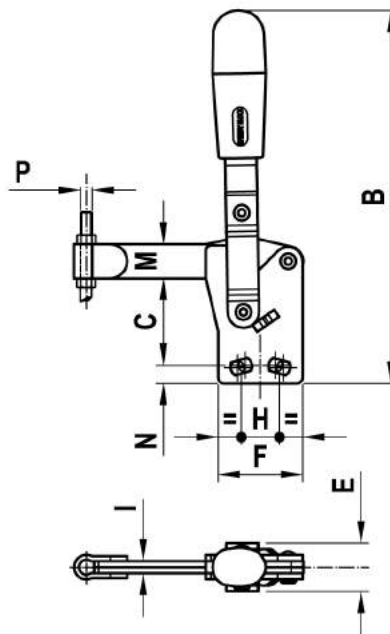
Features and applications:

During the closing, the clamping lever is guided laterally to ensure greater stability against possible transverse stresses.

These tools are designed to prevent the operator's fingers from being crushed by the levers when opening.

A special grease is placed between two contacting surfaces during assembly.

FORM F



Code	Description	Stainless steel Code	Stainless steel	A	B	C	D	E	F	G	H	I	L	M	N	O	P	Q	Fh1 (daN)	Fh2 (daN)	gr.
AA522	75/B	AS100	75/BX	66.5	109.5	27	37.5	16	29	8	15-16		5.2	11	5	20	M5	4.5	75	160	98
AA526	75/F	AS110	75/FX	67	109.5	27	38	16	29	8	15-16	4		11	5		M5	4.5	75		100
AA532	130/B	AS155	130/BX	85	156	35	50	20	35	10	12.5-19		6.2	16	6.5	28	M6	5.6	105	175	230
AA536	130/F	AS165	130/FX	86	156	35	51	20	35	10	12.5-19	5		16	6.5		M6	5.6	105		235
AA542	230/B	AS185	230/BX	110.5	183	41.5	67.5	23	43	12	19-20		8.5	18	6.5	40	M8	6.7	200	320	380
AA546	230/F	AS195	230/FX	112	183	41.5	69	23	43	12	19-20	6		18	6.5		M8	6.7	200		390
AA552	330/B			129	218	56.5	79	25	50	14	29-32		10.5	22	9.5	43	M10	8.5	240	400	620
AA556	330/F			130.5	218	56.5	80.5	25	50	14	29-32	7		22	9.5		M10	8.5	240		620
AA562	430/B			164	267.5	67.5	106	34	58	18	32		12.5	26	10	64	M12	8.5	280	500	1110
AA566	430/F			166	267.5	67.5	108	34	58	18	32	10		26	10		M12	8.5	280		1110
AA572	530/B			223	337	105	146	34	77	18	50-51		12.5	32	12.5	90	M12	12.5	450	875	1920
AA576	530/F			225	337	105	148	34	77	18	50-51	10		32	12.5		M12	12.5	450		1920

VERTICAL SERIES

VERTICAL SERIES WITH FOLDED BASE AND ANTI-RELEASE LEVER

Some sizes of this series are also produced in stainless steel and are shown below in red.

Material:

Galvanized steel or **AISI 304 stainless steel**

Riveted pivots:

Galvanized steel or **AISI 304 stainless steel**

Supporting bushes:

Hardened and ground steel.

Handles:

Red polyurethane resistant to oils, grease and other chemical agents.

Performance:

Form AL and **form ALX** with open clamping lever and two flanged washers. Form EL and **form ELX** with full clamping lever and bolt retainers to be welded in the desired position and angle.

Spindles:

To be ordered separately (see Accessories on page 76).

Features and applications:

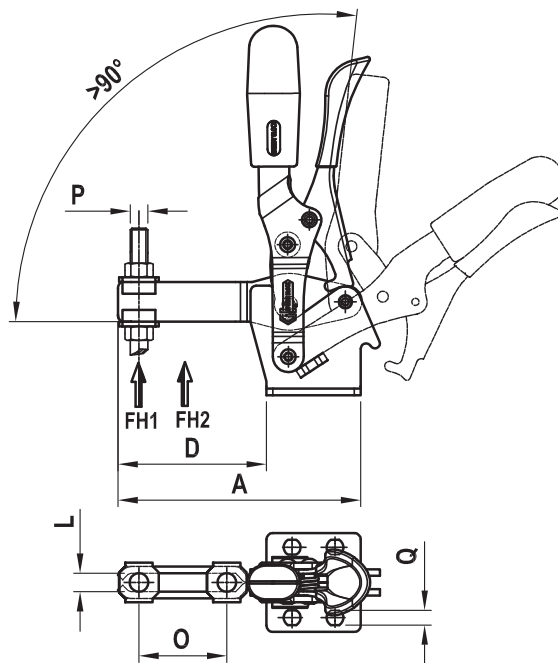
The main feature of this series is the special anti-release lever with the purpose of avoiding any accidental openings caused by vibrations; and to block the tool in the open position; these tools are designed to prevent the operator's fingers from being crushed by the levers when opening. During the closing, the clamping lever is guided laterally to ensure greater stability against possible transverse stresses.

A special grease is placed between two contacting surfaces during assembly.

FORM AL



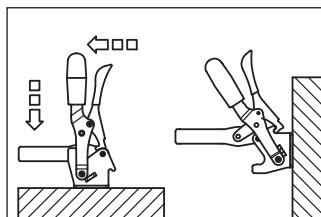
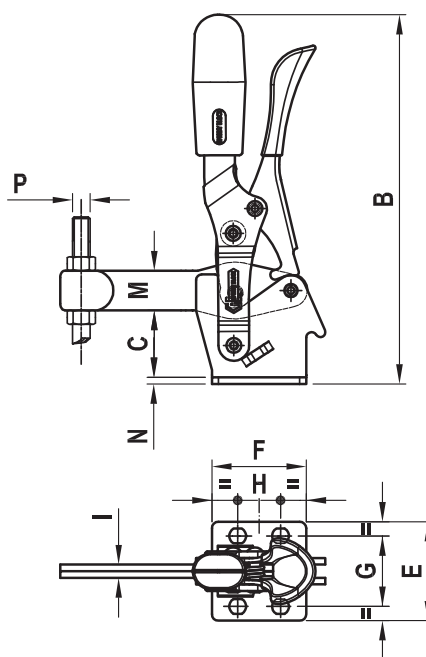
PATENT PENDING



FORM EL



PATENT PENDING

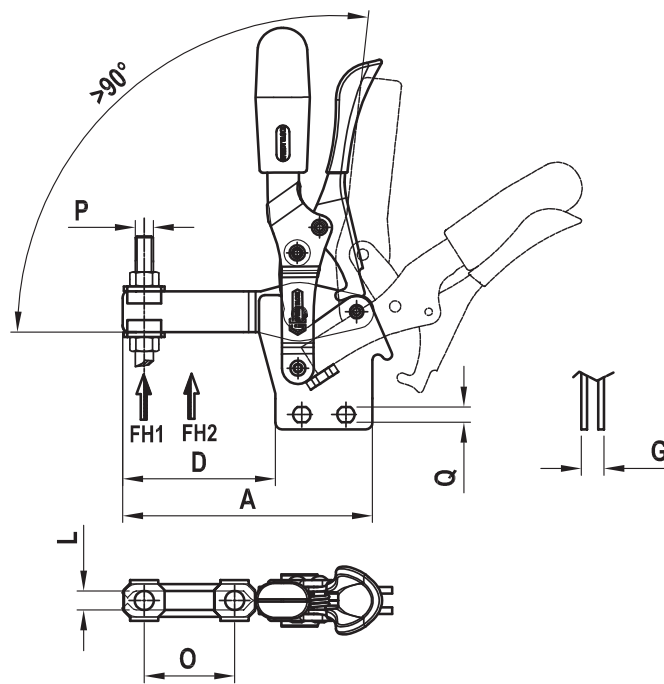


Code	Description	Stainless steel Code	Stainless steel	A	B	C	D	E	F	G	H	I	L	M	N	O	P	Q	Fh1 (daN)	Fh2 (daN)	gr.
AA582	130/AL	AS200	130/ALX	85	142	28	50	42	35	27-29	12.5-19		6.2	16	2.5	28	M6	5.6	105	175	275
AA586	130/EL	AS204	130/ELX	86	142	28	51	42	35	27-29	12.5-19	5		16	2.5		M6	5.6	105	175	280
AA590	230/AL	AS210	230/ALX	110.5	168	33.5	67.5	45	43	32	18-21		8.5	18	3	40	M8	6.7	200	320	380
AA594	230/EL	AS214	230/ELX	112	168	33.5	69	45	43	32	18-21	6		18	3		M8	6.7	200	320	390

FORM BL



PATENT PENDING



VERTICAL SERIES WITH STRAIGHT BASE AND ANTI-RELEASE LEVER

Some sizes of this series are also produced in stainless steel and are shown below in red.

Material:

Galvanized steel or **AISI 304 stainless steel**

Riveted pivots:

Galvanized steel or **AISI 304 stainless steel**

Supporting bushes:

Hardened and ground steel.

Handles:

Red polyurethane resistant to oils, grease and other chemical agents.

Performance:

Form BL and **form BLX** with open clamping lever and two flanged washers. Form FL and **form FLX** with full clamping lever and bolt retainers to be welded in the desired position and angle.

Spindles:

To be ordered separately (see Accessories on page 76).

Features and applications:

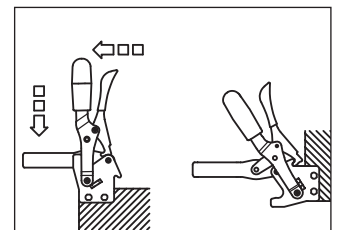
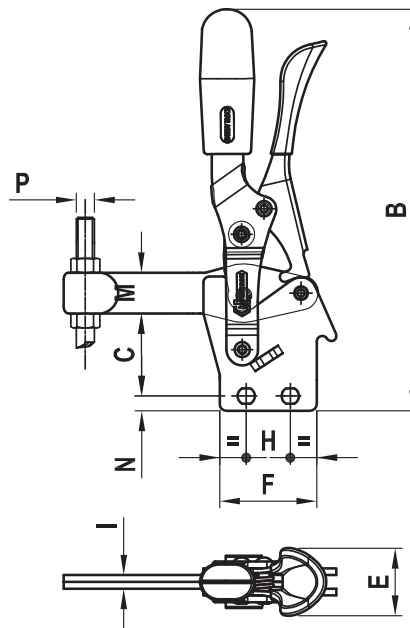
The main feature of this series is the special anti-release lever with the purpose of avoiding any accidental openings caused by vibrations; and to block the tool in the open position; these tools are designed to prevent the operator's fingers from being crushed by the levers when opening. During the closing, the clamping lever is guided laterally to ensure greater stability against possible transverse stresses.

A special grease is placed between two contacting surfaces during assembly.

FORM FL



PATENT PENDING



Code	Description	Stainless steel Code	Stainless steel	A	B	C	D	E	F	G	H	I	L	M	N	O	P	Q	Fh1 (daN)	Fh2 (daN)	gr.
AA584	130/BL	AS202	130/BLX	85	156	35-36	50	25.5	35	10	12.5-19		6.2	16	6.5-7.5	28	M6	5.6	105	175	275
AA588	130/FL	AS206	130/FLX	86	156	35-36	51	25.5	35	10	12.5-19	5		16	6.5-7.5		M6	5.6	105	175	280
AA592	230/BL	AS212	230/BLX	110.5	168	33.5	67.5	45	43	32	18-21		8.5	18	3	40	M8	6.7	200	320	380
AA596	230/FL	AS216	230/FLX	112	168	33.5	69	45	43	32	18-21	6		18	3		M8	6.7	200	320	390

VERTICAL SERIES WITH ANTI-RELEASE LEVER AND EXTENDED CLAMPING LEVER

Material:

Galvanized steel

Riveted pivots:

Galvanized steel

Supporting bushes:

Hardened and ground steel

Handles:

Red polyurethane resistant to oils, grease and other chemical agents.

Performance:

Form ELS with extended clamping lever and folded base.

Form FLS with extended clamping lever and straight base.

Spindles:

To be ordered separately (see Accessories on page 76).

Extensions:

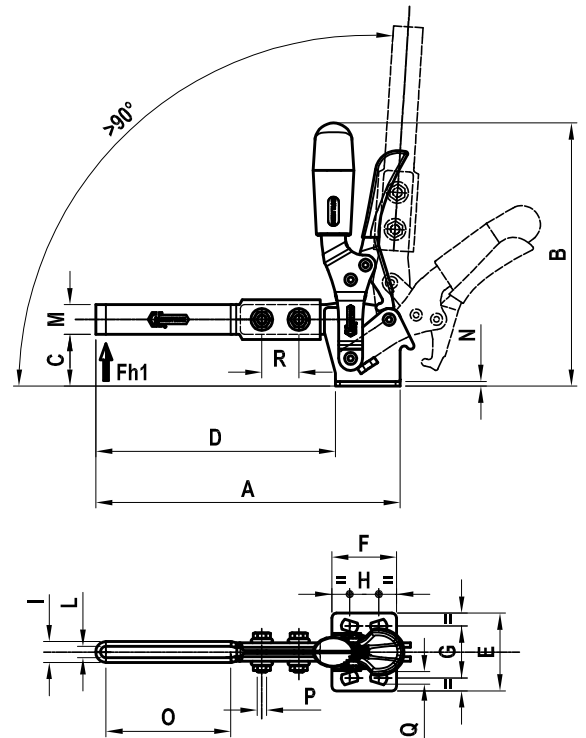
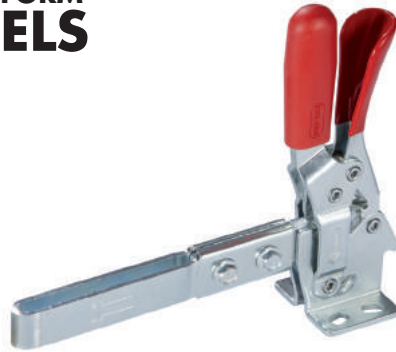
The models are supplied with AP6 and AP8 extension as per the drawing and with two flanged washers (see Accessories on page 79).

Features and applications:

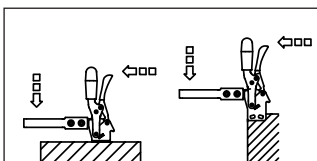
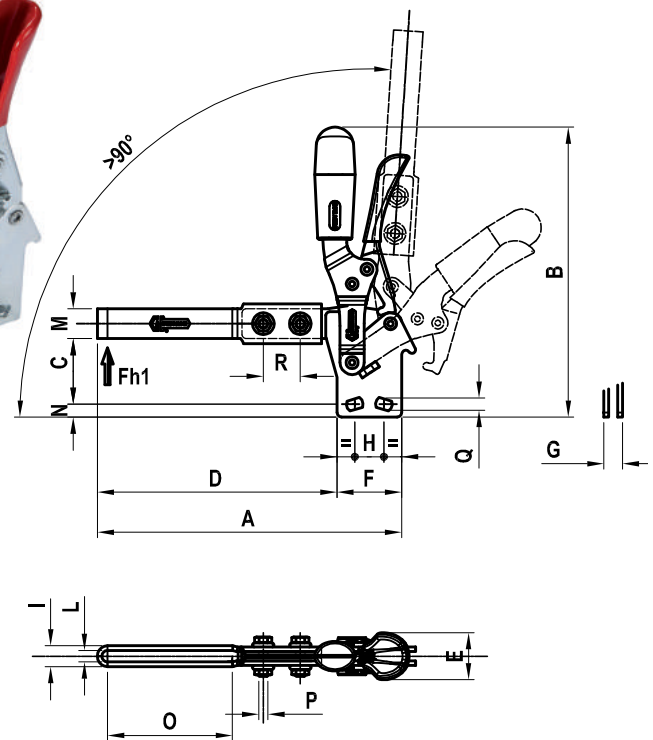
The main features of this series are the special anti-release lever and the special extension of the locking arm to facilitate the specific use in control templates; these tools are designed to prevent the operator's fingers from being crushed by the levers when opening. During the closing, the clamping lever is guided laterally to ensure greater stability against possible transverse stresses.

A special grease is placed between two contacting surfaces during assembly.

FORM ELS

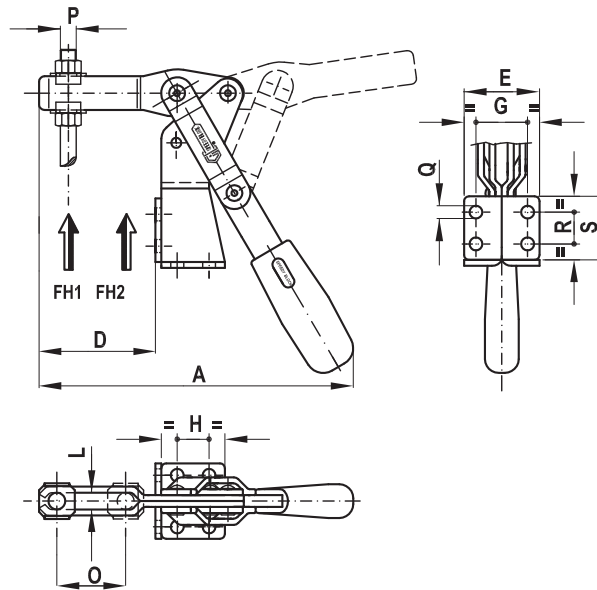


FORM FLS

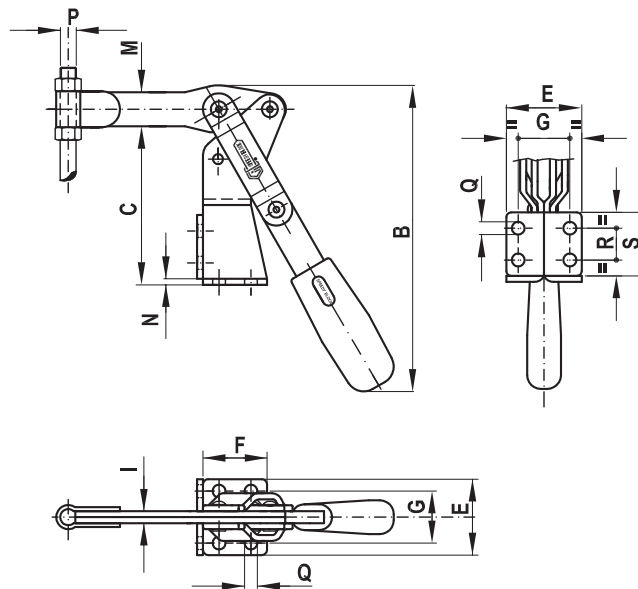


Code	Description	A	B	C	D	E	F	G	H	I	L	M	N	O	P	Q	R	Fh1 (daN)	gr.
AA587	130/ELS	164	142	28	129	42	35	27-29	12.5-19	11.3	6.3	16	2.5	67.5	M5	5.6	20	50	375
AA589	130/FLS	164	156	35-36	129	25.5	35	10	12.5-19	11.3	6.3	16	6.5-7.5	67.5	M5	5.6	20	50	375
AA595	230/ELS	198	168	33.5	155	45	43	32	19.5	14.2	8.2	18	3	71.5	M6	6.7	26	100	545
AA597	230/FLS	198	183	41.5	155	30	43	12	19.5	14.2	8.2	18	6.5	71.5	M6	6.7	26	100	545

FORM AV

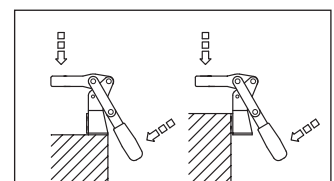


FORM EV



VERTICAL SERIES WITH FOLDED AND FRONT BASE

Material: Galvanized steel
Riveted pivots: Galvanized steel
Supporting bushes: Hardened and ground steel
Handles: Red polyurethane resistant to oils, grease and other chemical agents.
Performance: Form AV with open clamping lever and two flanged washers. Form EV with full clamping lever and bolt retainers to be welded in the desired position and angle.
Spindles: To be ordered separately (see Accessories on page 76).
Features and applications: During the closing, the clamping lever is guided laterally to ensure greater stability against possible transverse stresses. A special grease is placed between two contacting surfaces during assembly. This series is pneumatically actuated it is found on page 70.



Code	Description	A	B	C	D	E	F	G	H	I	L	M	N	O	P	Q	R	S	Fh1 (daN)	Fh2 (daN)	gr.
AA220	200/AV	157	154	76	58.5	38	32	26	16	8.5	17	3	34	M8	6.5	16	32	120	240	430	
AA225	200/EV	159	154	76	60.5	38	32	26	16	6	17	3		M8	6.5	16	32	120	240	430	
AA320	300/AV	193	198	108	76	48	45	30	28	10.4	20	3	42	M10	8.5	30	48	190	280	800	
AA325	300/EV	195	198	108	78	48	45	30	28	8	20	3		M10	8.5	30	48	190	280	800	

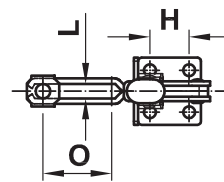
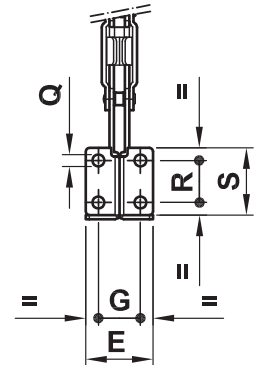
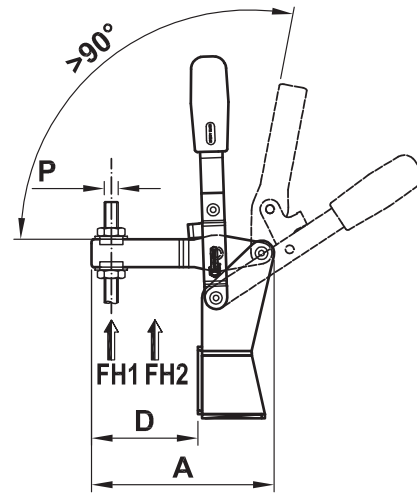
VERTICAL SERIES



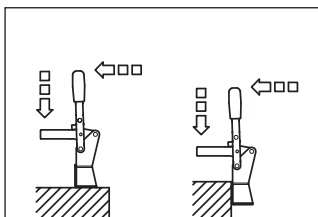
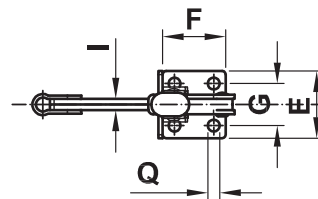
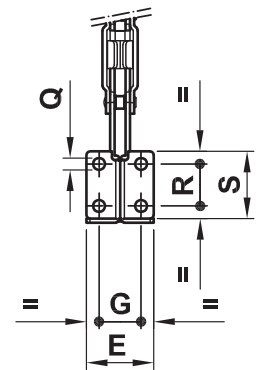
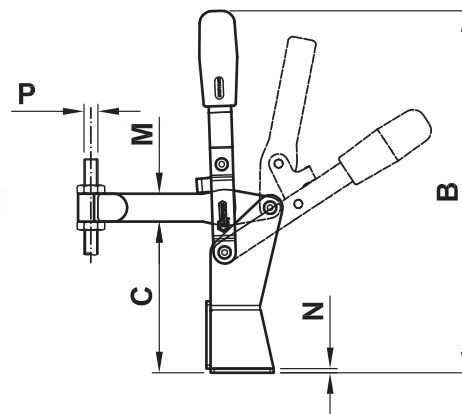
VERTICAL SERIES WITH STRAIGHT AND FRONT BASE

Material: Galvanized steel
Riveted pivots: Galvanized steel
Supporting bushes: Hardened and ground steel
Handles: Red polyurethane resistant to oils, grease and other chemical agents.
Performance: Form AVF with open clamping lever and two flanged washers. Form EVF with full clamping lever and bolt retainers to be welded in the desired position and angle.
Spindles: To be ordered separately (see Accessories on page 76).
Features and applications: During the closing, the clamping lever is guided laterally to ensure greater stability against possible transverse stresses. A special grease is placed between two contacting surfaces during assembly. This pneumatic actuated series is found on page 71.

FORM AVF

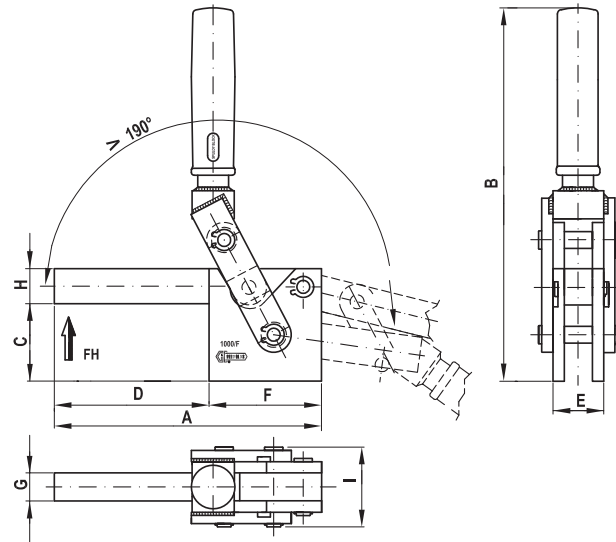


FORM EVF



Code	Description	A	B	C	D	E	F	G	H	I	L	M	N	O	P	Q	R	S	Fh1 (daN)	Fh2 (daN)	gr.
AA221	200/AVF	103	203	77	59	38	32	26	16	8.5	17	3	36	M8	6.5	16	32	160	250	390	
AA226	200/EVF	105	203	77	61	38	32	26	16	6	17	3		M8	6.5	16	32	160	250	400	
AA321	300/AVF	130	258	108	76	48	45	30	28	10.3	20	3	50	M10	8.5	30	48	240	370	680	
AA326	300/EVF	132	258	108	77.5	48	45	30	28	8	20	3		M10	8.5	30	48	240	370	690	

FORM F



HEAVY VERTICAL SERIES

Material: Weldable phosphated steel.

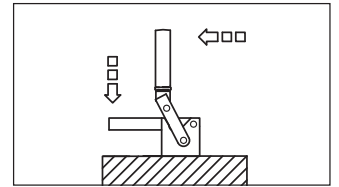
Pivots: Hardened and ground steel.

Supporting bushes: Hardened and ground steel.

Handles: Red polyurethane resistant to oils, grease and other chemical agents.

Features and applications:

Series generally used for heavy applications requiring which require major resistant forces. The clamps of this series are built to be easily disassembled for reworking of the individual elements depending on the requirements of use.



Code	Description	A	B	C	D	E	F	G	H	I	Fh (daN)	gr.
AA900	1000/F	190	265	55	110	36	80	20	25	57.5	1000	2400
AA905	2000/F	220	295	65	120	36	100	20	35	57.5	2000	3600
AA910	3000/F	250	320	80	140	45	110	25	40	71	3000	5700







LONG LIFE SERIES

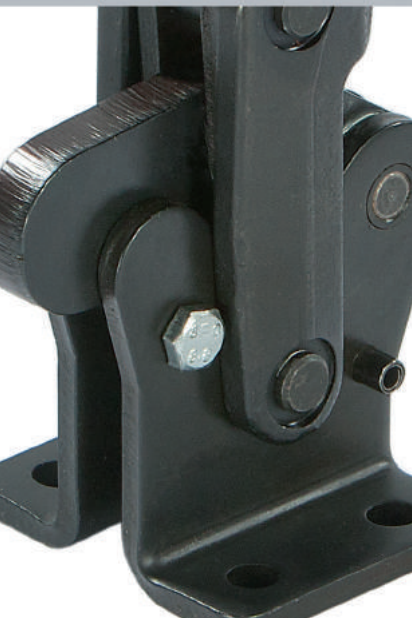
REINFORCED LONG LIFE SERIES: the hot forged parts, as well as hardened and ground pivots and bushings make this series suitable for heavy duty loads and a long operating life.

TOGGLE MECHANISM: the accessories such as clamping arm and control lever can be welded according to applications for use.

PECULIARITIES AND ADVANTAGES: • The clamping and control levers are forged. • All pivots are hardened and ground and flow into similar bushings. • Red, ergonomic and oil resistant handles. • The clamping arm guide is adjustable.

APPLICATIONS: For uses in medium and heavy duty clamping works, on welding jigs, carpentry works, moulds and generally when high clamping forces are needed and when there is strong repetitiveness of movements.

TOGGLE MECHANISM: Same peculiarities and applications as the previous vertical reinforced series. The design of these mechanisms is more versatile, being possible to weld the different parts and accessories and make up your clamp to better meet the requirements for all types of clamping needs.



REINFORCED VERTICAL SERIES

REINFORCED VERTICAL SERIES WITH FOLDED BASE

Material: Phosphated steel.

Pivots: Hardened and ground steel.

Supporting bushes: Hardened and ground steel.

Handles: Red polyurethane resistant to oils, grease and other chemical agents.

Performance: Form A with open clamping lever and two flanged washers. Form E with eyelet clamping lever to insert the spindle.

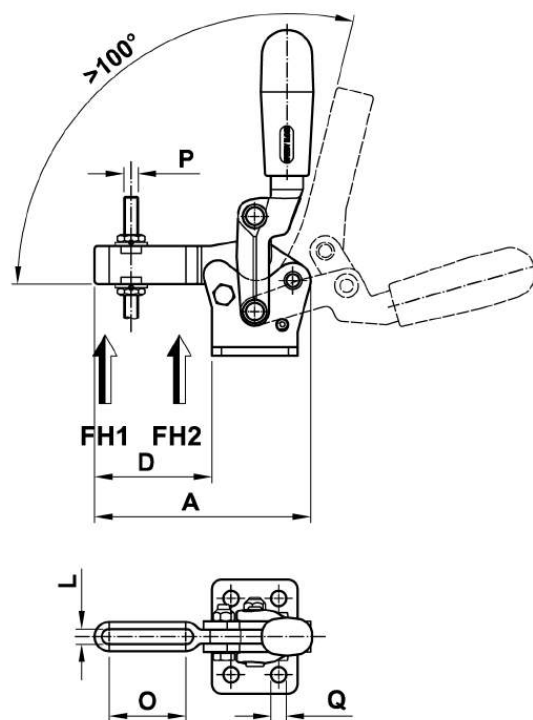
Spindles: To be ordered separately (see Accessories on page 76).

Features and applications:

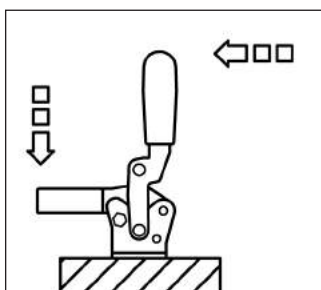
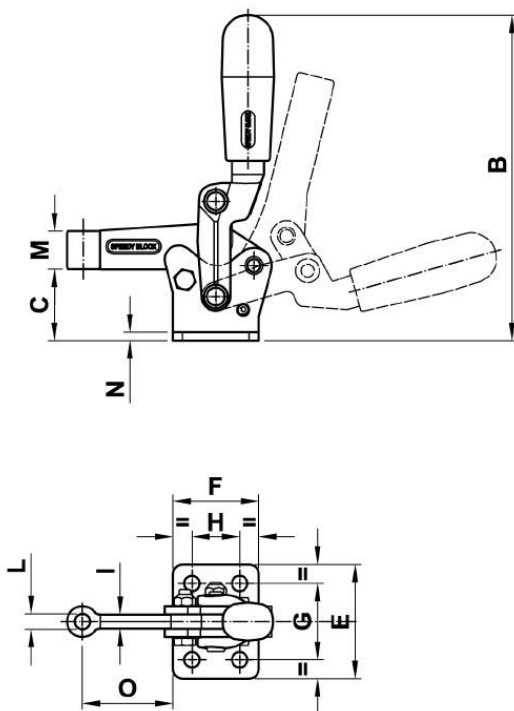
The clamping levers and control levers are forged; the guide of the clamping lever is adjustable.

This series is usually used for medium and heavy duty clamping works, on welding jigs, carpentry works, moulds and generally when high clamping forces are needed and when there is strong repetitiveness of movements.

FORM LLA

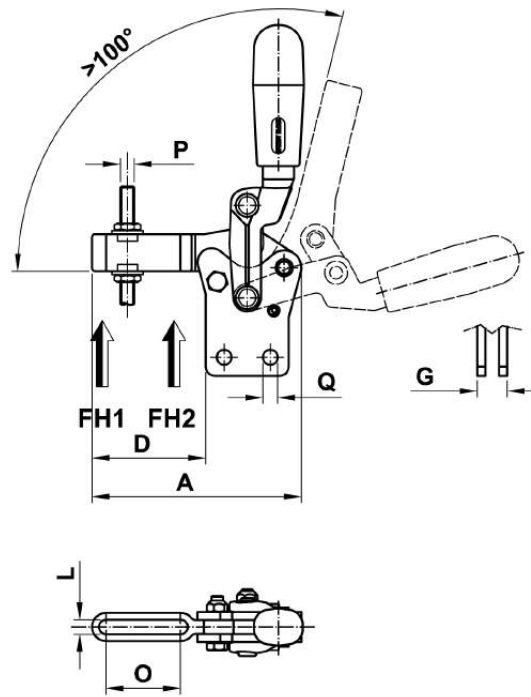


FORM LLE



Code	Description	A	B	C	D	E	F	G	H	I	L	M	N	O	P	Q	Fh1 (daN)	Fh2 (daN)	gr.
AA600	LLA01	91	136.5	30	49	48	36	32	20		6.3	16	3.5	32	M6	6.5	220	280	330
AA610	LLE01	86	136.5	30	44	48	36	32	20	6	6.5	16	3.5	38	M6	6.5	220		325
AA630	LLA02	129.5	215	50	64	65	54	45	30		10.3	24	5	34	M10	8.5	440	820	1200
AA640	LLE02	129.5	215	50	64	65	54	45	30	10	10.5	24	5	54.5	M10	8.5	440		1200
AA660	LLE03	161	280	67	74	75	75	55	55	12	12.5	30	6	62	M12	10.5	850		1200
AA680	LLE04	203	330	76.5	96	100	90	65	65	16	16.5	35	8	80	M16	12.5	1540		4510

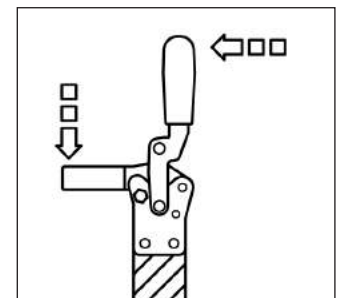
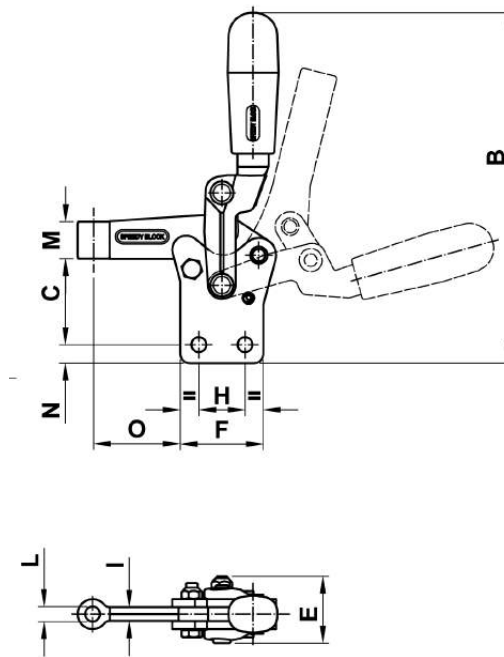
FORM LLB



REINFORCED VERTICAL SERIES WITH STRAIGHT BASE

Material: Phosphated steel.
Pivots: Hardened and ground steel.
Supporting bushes: Hardened and ground steel.
Handles: Red polyurethane resistant to oils, grease and other chemical agents.
Performance: Form B with open clamping lever and two flanged washers. Form F with eyelet clamping lever to insert the spindle.
Spindles: To be ordered separately (see Accessories on page 76).
Features and applications: The clamping levers and control levers are forged; the guide of the clamping lever is adjustable. This series is usually used for medium and heavy duty clamping works, on welding jigs, carpentry works, moulds and generally when high clamping forces are needed and when there is strong repetitiveness of movements.

FORM LLF



Code	Description	A	B	C	D	E	F	G	H	I	L	M	N	O	P	Q	Fh1 (daN)	Fh2 (daN)	gr.
AA605	LLB01	91	152	37.5	49	29	36	13	20		6.3	16	8	32	M6	6.5	220	280	330
AA615	LLF01	86	152	37.5	44	29	36	13	20	6	6.5	16	8	38	M6	6.5	220		325
AA635	LLB02	129.5	235	59.5	64	42	54	20	30		10.3	24	10	34	M10	8.5	440	820	1200
AA645	LLF02	129.5	235	59.5	64	42	54	20	30	10	10.5	24	10	54.5	M10	8.5	440		1200
AA665	LLF03	161	301	78	74	52	75	24	55	12	12.5	30	10	62	M12	10.5	850		1200
AA685	LLF04	203	330	88.5	96	68	90	32	65	16	16.5	35	17.5	80	M16	12.5	1540		4510

TOGGLE MECHANISMS

TOGGLE MECHANISMS WITH FOLDED BASE AND STRAIGHT BASE

Material: Phosphated steel.

Pivots: Hardened and ground steel.

Supporting bushes: Hardened and ground steel.

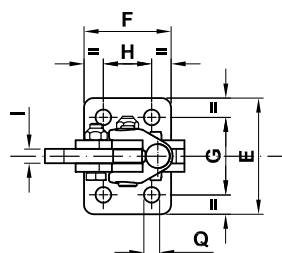
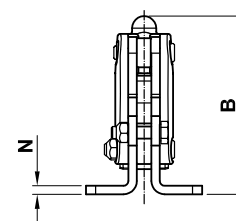
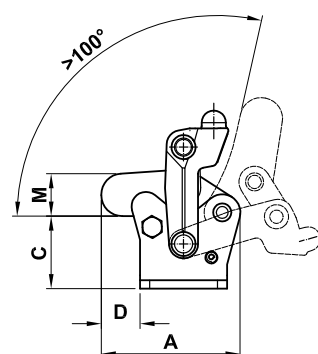
Accessories: To be ordered separately (see Accessories on page 24).

Features and applications:

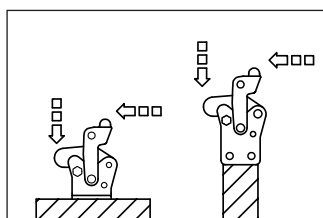
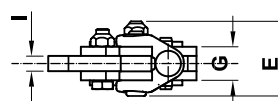
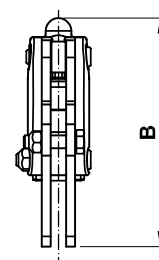
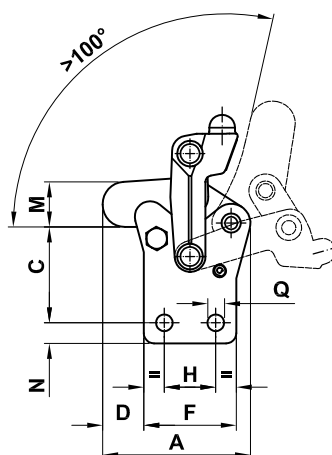
The clamping and control levers are forged; for uses in medium and heavy duty clamping works, on welding jigs, carpentry works, moulds and generally when high clamping forces are needed and when there is strong repetitiveness of movements.

The design of these mechanisms is more versatile, being possible to weld the different parts and accessories and make up your clamp to better meet your requirements.

FORM LSC



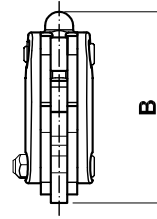
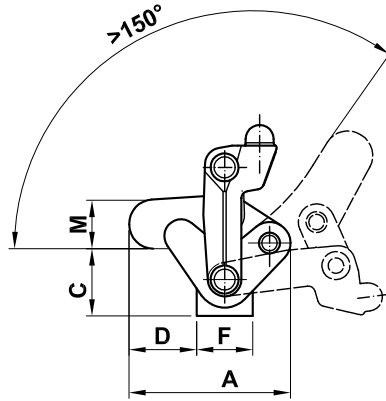
FORM LSG



Code	Description	A	B	C	D	E	F	G	H	I	M	N	Q	Fh (daN)	gr.
AA700	LSC01	57.5	71	30	16	48	36	32	20	6	17.5	3.5	6.5	220	256
AA725	LSC02	85.5	121	50	20	65	54	45	30	10	28	5	8.5	440	967
AA750	LSC03	115	158	67	28	75	75	55	55	12	35	6	10.5	850	1900
AA775	LSC04	147.5	193	76.5	40.5	100	90	65	65	16	40.5	8	12.5	1540	3980

Code	Description	A	B	C	D	E	F	G	H	I	M	N	Q	Fh (daN)	gr.
AA705	LSG01	57.5	86	37.5	16	29	36	13	20	6	17.5	8	6.5	220	256
AA730	LSG02	85.5	140.5	59.5	20	42.5	54	20	30	10	28	10	8.5	440	967
AA755	LSG03	115	180	78	28	52	75	24	55	12	35	10	10.5	850	1900
AA780	LSG04	147.5	222	88.5	40.5	68	90	32	65	16	40.5	17.5	12.5	1540	3980

FORM LSH



TOGGLE MECHANISM WITH SWINGING BASE

Material: Phosphated steel.

Pivots: Hardened and ground steel.

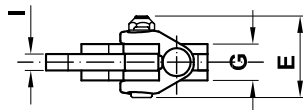
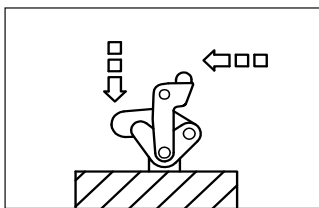
Supporting bushes: Hardened and ground steel.

Accessories: To be ordered separately (see Accessories on page 24).

Features and applications:

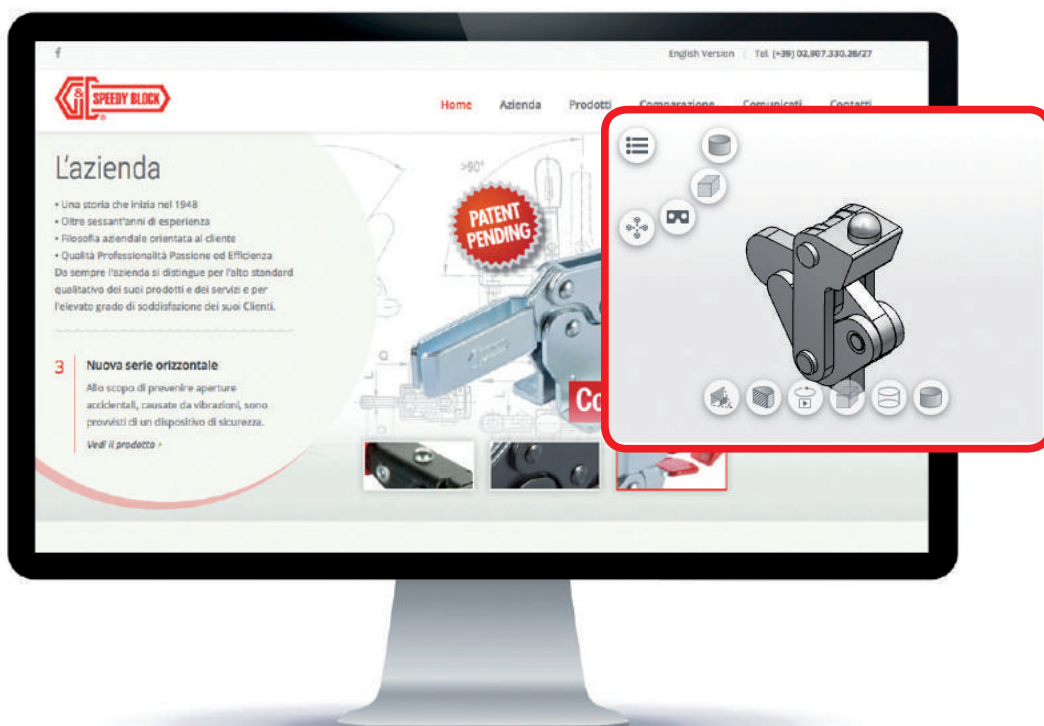
The clamping and control levers are forged; for uses in medium and heavy duty clamping works, on welding jigs, carpentry works, moulds and generally when high clamping forces are needed and when there is strong repetitiveness of movements.

The design of these mechanisms is more versatile, being possible to weld the different parts and accessories and make up your clamp to better meet your requirements.

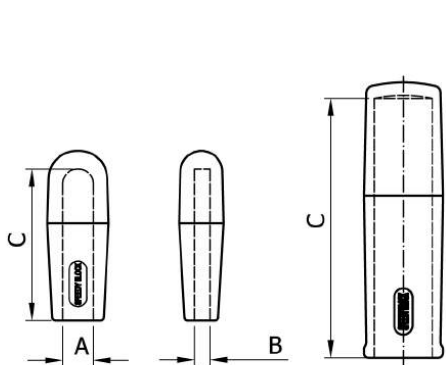


Code	Description	A	B	C	D	E	F	G	I	M	Fh (daN)	gr. ⚖️
AA710	LSH01	57.5	68	24	24	29	20	13	6	17.5	220	268
AA735	LSH02	85.5	113	42	32	42	30	20	10	28	440	820
AA760	LSH03	115	148	57	40.5	52	50	24	12	35	850	1600
AA785	LSH04	147.5	183	66.5	55.5	68	60	32	16	40.5	1540	3450

For more technical information
and to download the technical drawings in 2D-3D format go to the website
www.speedyblock.com

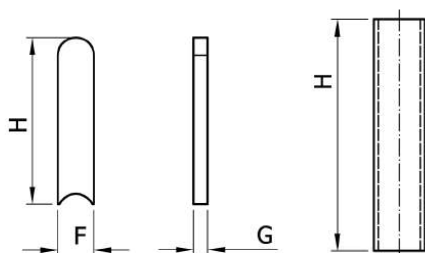


LONG LIFE ACCESSORIES SERIES



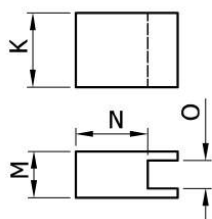
HANDLE

Code	Description	A	B	C	F	gr.
AU151	10151	13	5	55		12
AU154	10154	20	8	77		34
AU156	10156			112	22	50
AU157	10157			112	25	50



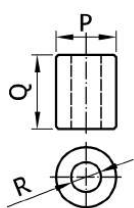
CONTROL LEVER

Code	Description	F	G	H	gr.
AU250	LC01	13	5	63	31
AU255	LC02	20	8	90	108
AU260	LC03	22		122	122
AU265	LC04	25		138	175



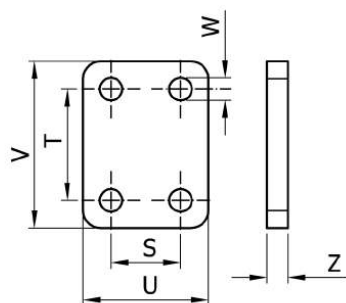
CLAMPING LEVER

Code	Description	K	M	N	O	gr.
AU230	LS01	16	10	15.5	6	23
AU235	LS02	24	15	24	10	75.5
AU240	LS03	30	20	22.1	12	130
AU245	LS04	35	25	23.5	16.2	160



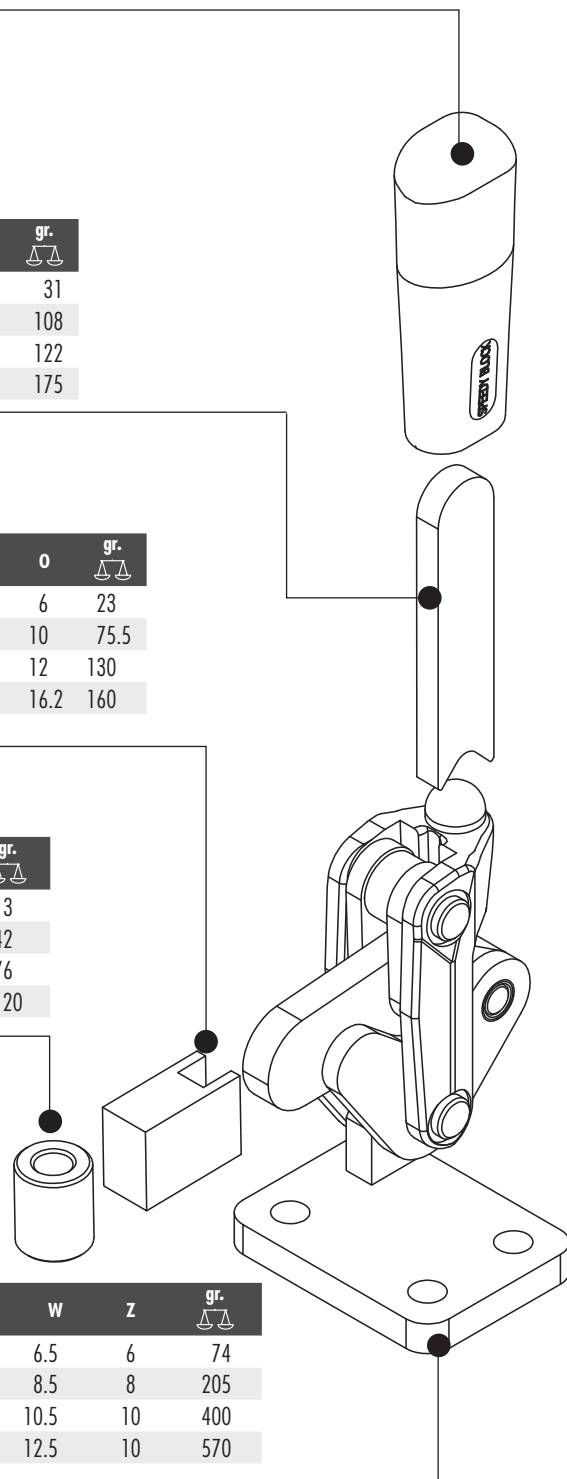
SLEEVE

Code	Description	P	Q	R	gr.
AU280	LM01	13	16	6.5	13
AU285	LM02	20	24	10.5	42
AU290	LM03	24	30	12.5	76
AU295	LM04	32	35	16.5	120

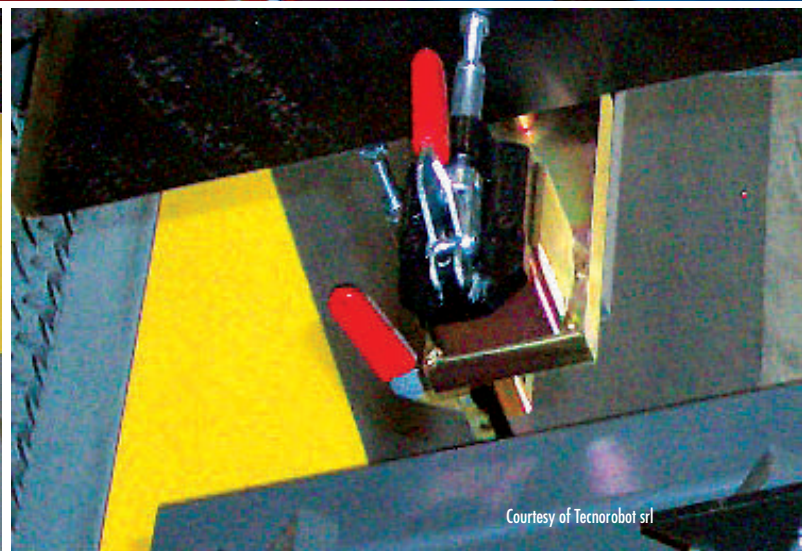
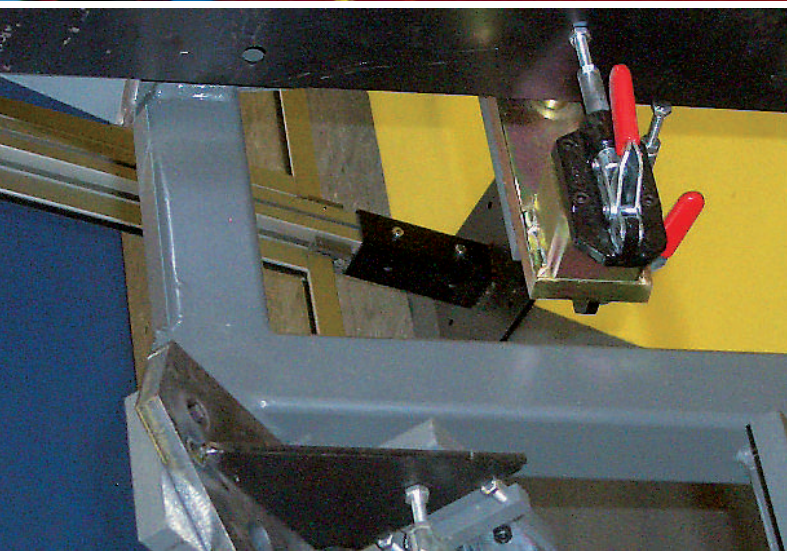
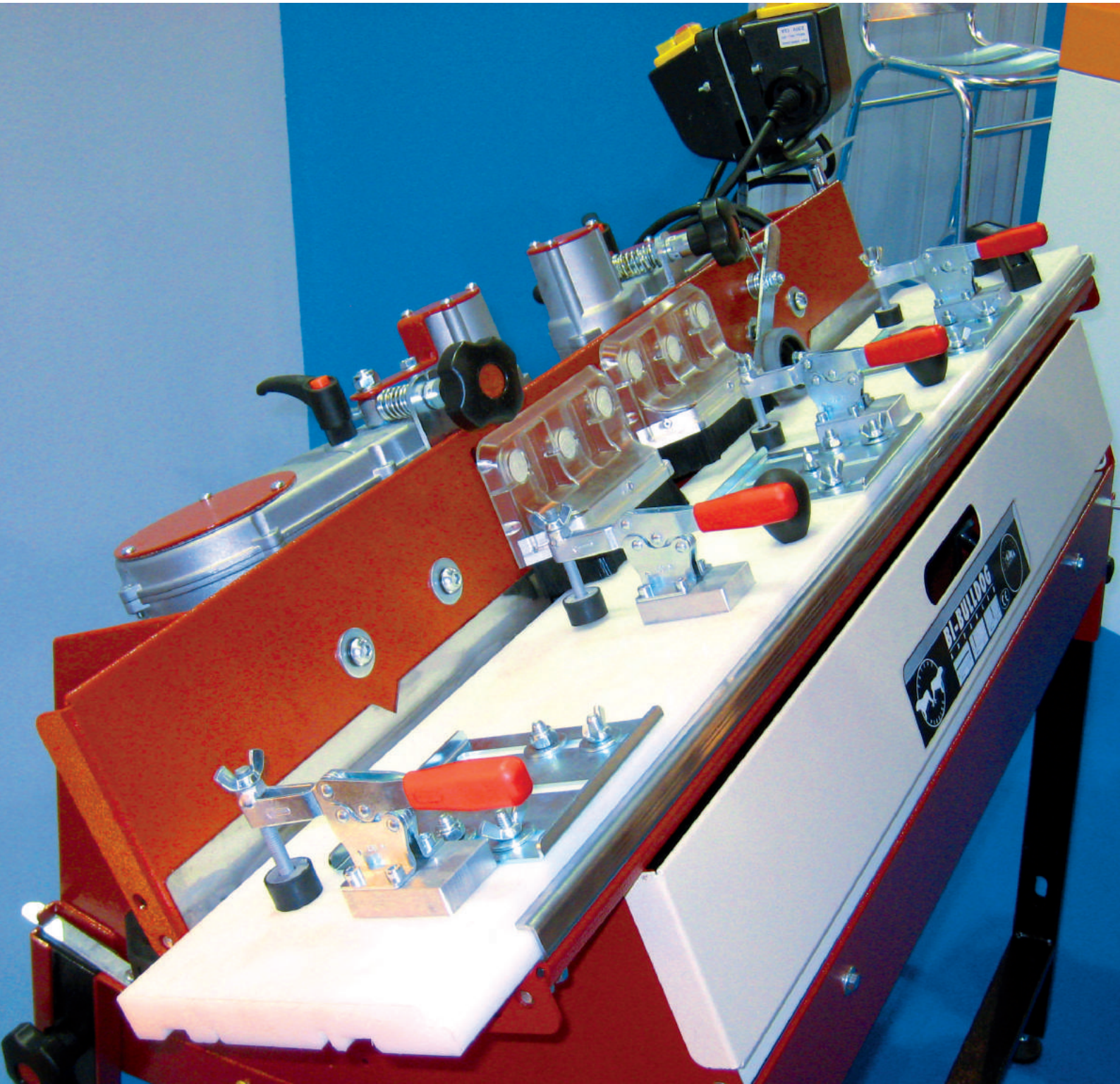


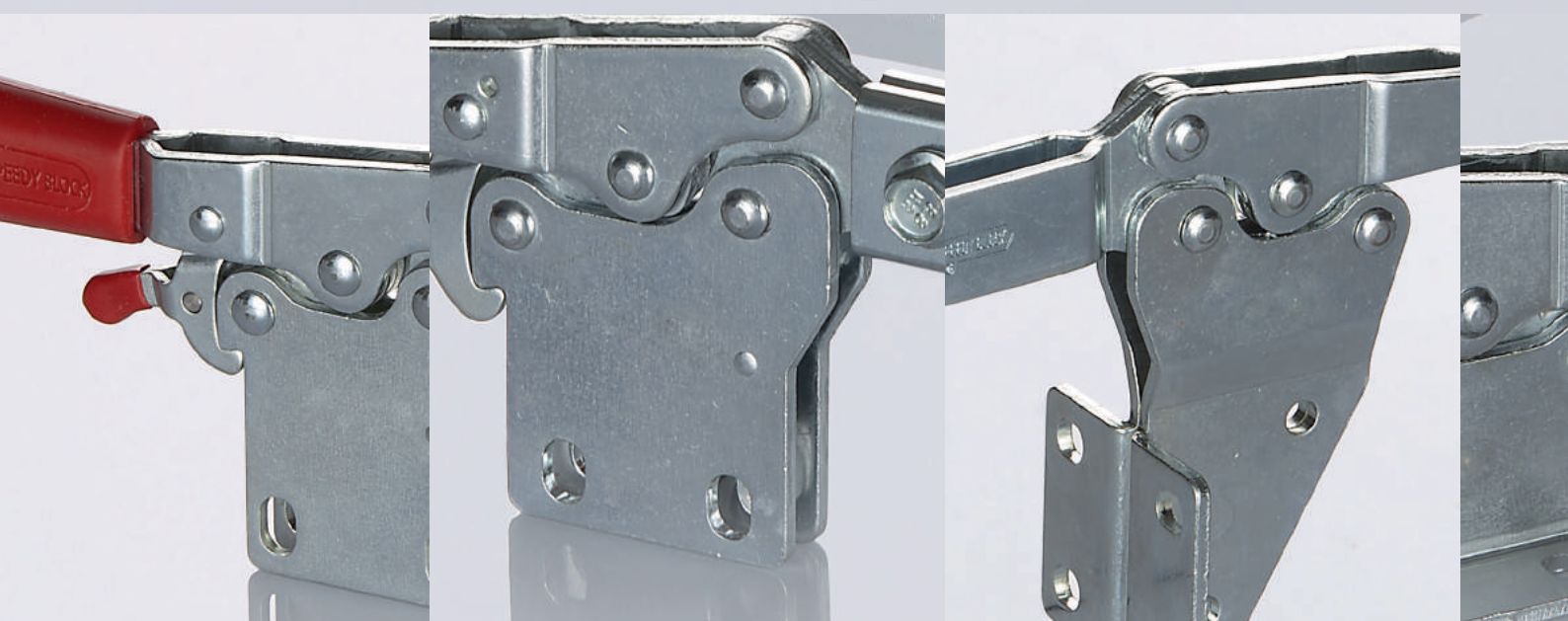
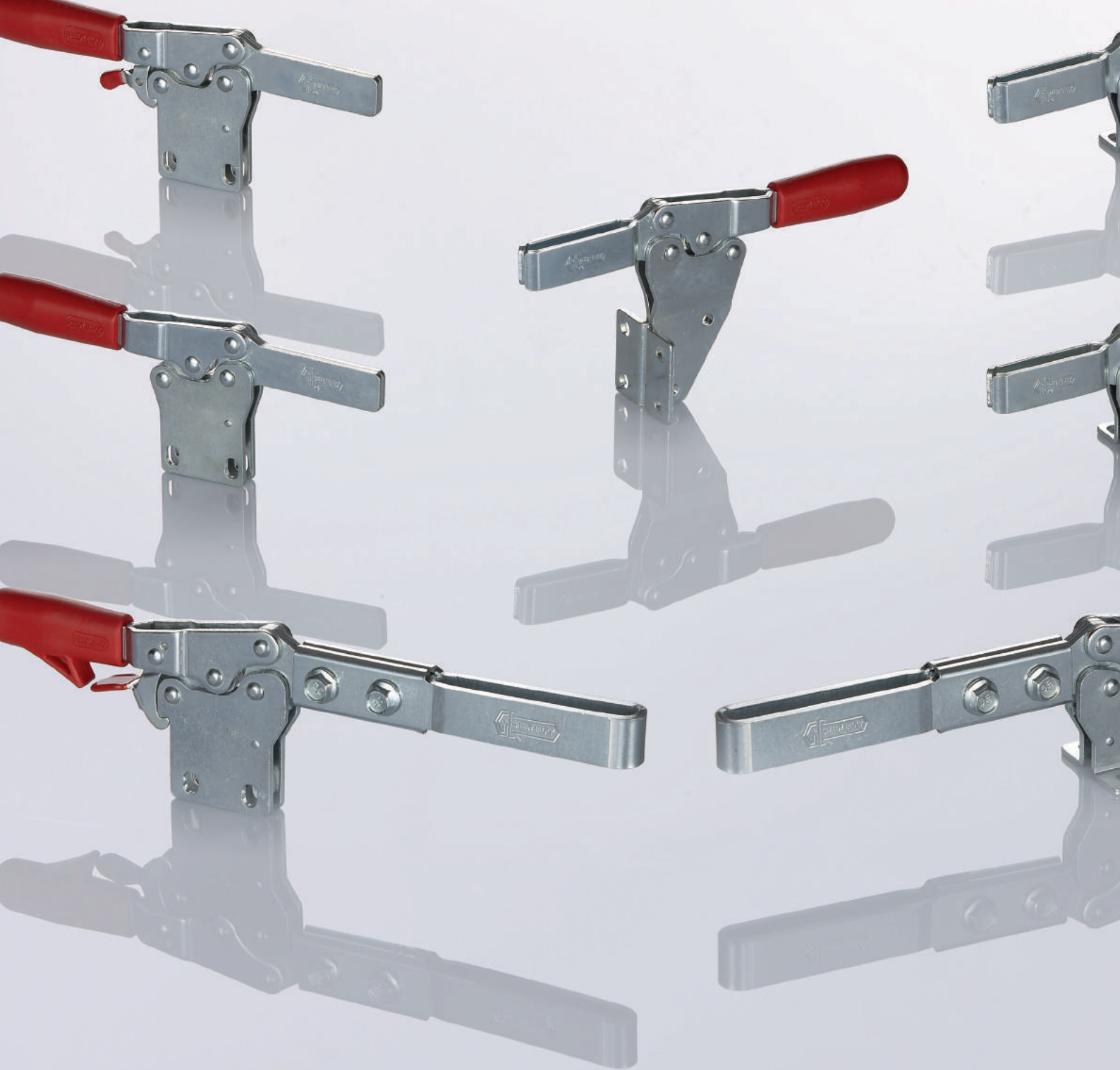
BASE

Code	Description	S	T	U	V	W	Z	gr.
AU300	PB01	20	32	36	48	6.5	6	74
AU305	PB02	30	45	54	65	8.5	8	205
AU310	PB03	55	55	75	75	10.5	10	400
AU315	PB04	65	65	90	100	12.5	10	570



APPLICATIONS







HORIZONTAL SERIES

The control and clamping levers move in opposite directions. When clamping is obtained, the control lever is in the horizontal position. Available with clamping forces between 40 and 620 daN.

PERFORMANCE

Parts made of case-hardening sheet steel. Hardened and tempered supporting pivots. Supporting bushes (for sizes from 350 daN and over) undergo case-hardening and grinding. Finish: Galvanized. The shape of the tool ensures a safe distance between the clamping and control lever that prevents the operator's fingers from getting stuck during the opening of the tool.

The clamping lever is guided in the locked position for additional stability any sideways movement.

In order to prevent accidental openings, caused by vibrations, some tools of this series are provided with a device called, "safety device", suitable for maintaining the clamp in a closed position.

HORIZONTAL SERIES

HORIZONTAL SERIES WITH FOLDED BASE

Some sizes of this series are also produced in stainless steel and are shown below in red.

Material:

Galvanized steel or **AISI 304 stainless steel**

Riveted pivots:

Galvanized steel or **AISI 304 stainless steel**

Supporting bushes:

Hardened and ground steel (for sizes ≥ 355).

Handles:

Red polyurethane resistant to oils, grease and other chemical agents.

Performance:

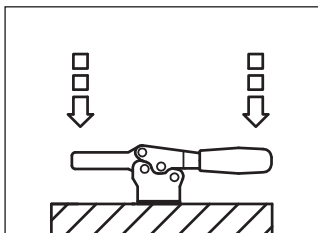
Form M and **form MX** with open clamping lever and two flanged washers. Form O and **form OX** with full clamping lever and bolt retainers to be welded in the desired position and angle.

Spindles: To be ordered separately (see Accessories on page 76).

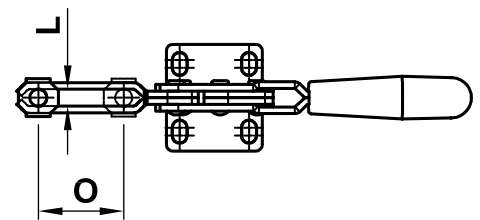
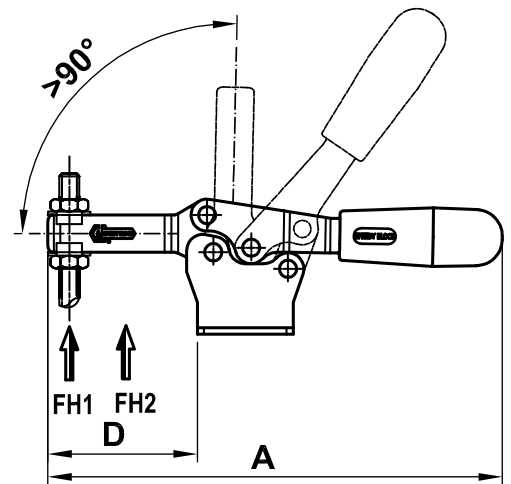
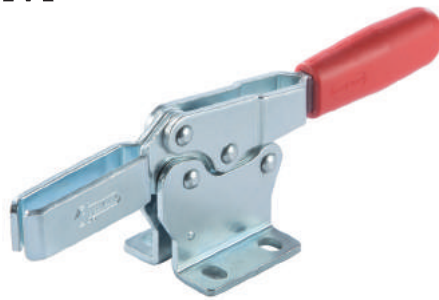
Features and applications:

The main feature of this series is the low profile of the tool; these tools are designed to prevent the operator's fingers from being crushed by the levers when opening. During the closing, the clamping lever is guided laterally to ensure greater stability against possible transverse stresses.

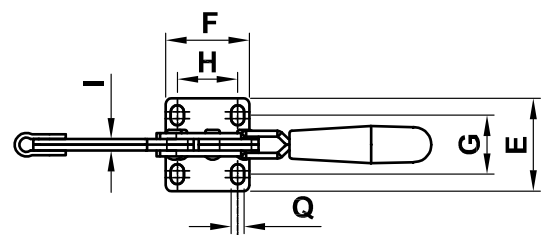
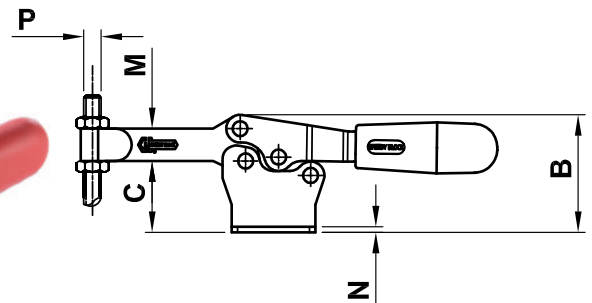
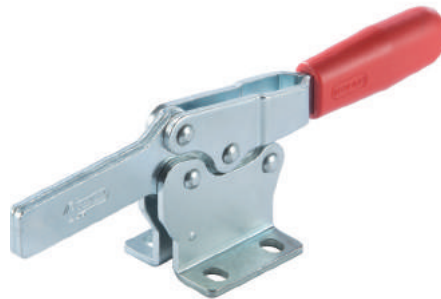
A special grease is placed between two contacting surfaces during assembly.



FORM M

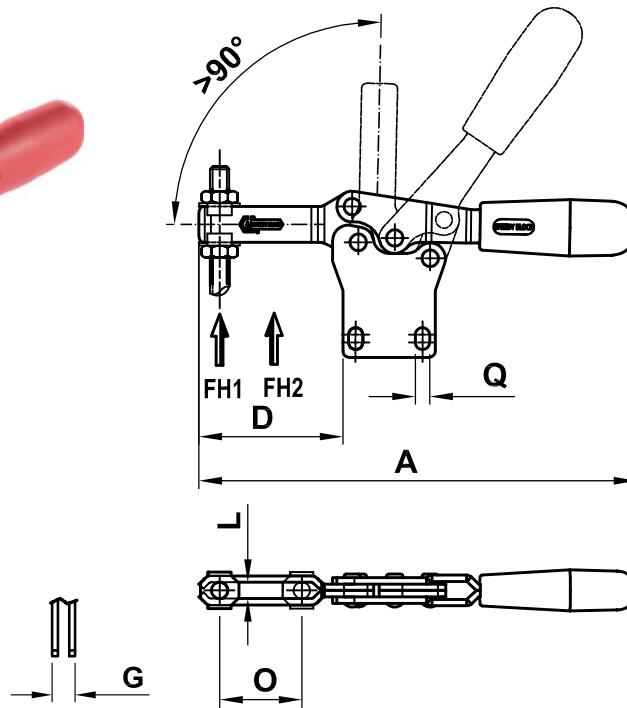
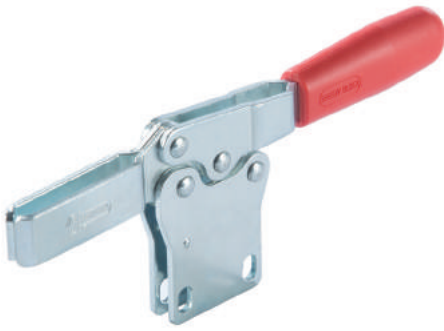


FORM O



Code	Description	Stainless steel Code	Stainless steel	A	B	C	D	E	F	G	H	I	L	M	N	O	P	Q	Fh1 (daN)	Fh2 (daN)	gr-
AD025	25/M	DS025	25/MX	68	23	12	19	24.5	24	16	15		4.2	7	1.2	10	M4	4.3	40		25
AD075	75/M	DS075	75/MX	118	37	20	40	26	28	16-19	13.5		5.5	11	2	20	M5	4.5	90	135	88
AD085	75/O	DS085	75/OX	118.5	37	20	40.5	26	28	16-19	13.5	4		11	2		M5	4.5	90	135	88
AD135	130/M	DS135	130/MX	170	51	30.5	56	40	36	22.4-28.4	26		6.5	16	2.5	32	M6	5.5	100	200	200
AD145	130/O	DS145	130/OX	171	51	30.5	57	40	36	22.4-28.4	26	5		16	2.5		M6	5.5	100	200	200
AD270	230/M	DS270	230/MX	195	61.5	36.5	65	42	44	26-31.5	26		8.5	18	3	37	M8	6.5	170	330	330
AD280	230/O	DS280	230/OX	197	61.5	36.5	67	42	44	26-31.5	26	6		18	3		M8	6.5	170	330	340
AD370	355/M			269	83	50	100	56	60	38.8-43	41		10	22	3.5	58	M10	8.5	180	400	700
AD380	355/O			271	83	50	102	56	60	38.8-43	41	7		22	3.5		M10	8.5	180	400	720
AD470	455/M			308	98.5	60	115	65	70	40-43	41.5		12.4	26	4	65	M12	8.5	320	620	1200
AD480	455/O			310	98.5	60	117	65	70	40-43	41.5	10		26	4		M12	8.5	320	620	1230

FORM N



HORIZONTAL SERIES WITH STRAIGHT BASE.

Some sizes of this series are also produced in stainless steel and are shown below in red.

Material:

Galvanized steel or **AISI 304 stainless steel**

Riveted pivots:

Galvanized steel or **AISI 304 stainless steel**

Supporting bushes:

Hardened and ground steel (for sizes ≥ 355).

Handles:

Red polyurethane resistant to oils, grease and other chemical agents.

Performance:

Form N and **form NX** with open clamping lever and two flanged washers. Form P and **form PX** with full clamping lever and bolt retainers to be welded in the desired position and angle.

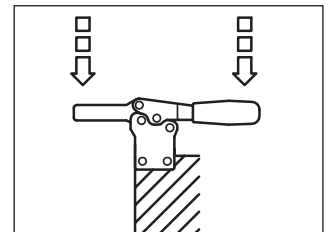
Spindles:

To be ordered separately (see Accessories on page 76).

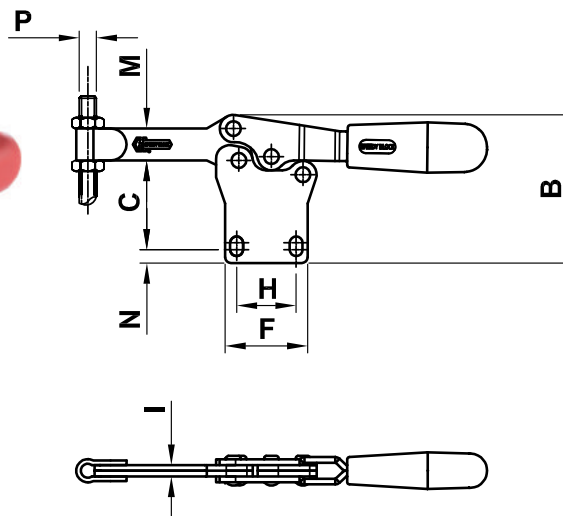
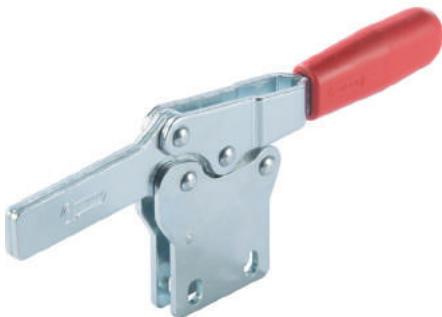
Features and applications:

The main feature of this series is the low profile of the tool; these tools are designed to prevent the operator's fingers from being crushed by the levers when opening. During the closing, the clamping lever is guided laterally to ensure greater stability against possible transverse stresses.

A special grease is placed between two contacting surfaces during assembly.



FORM P



Code	Description	Stainless steel Code	Stainless steel	A	B	C	D	F	G	H	I	L	M	N	O	P	Q	Fh1 (daN)	Fh2 (daN)	gr.
AD080	75/N	DS080	75/NX	118	44.5	24-25.5	40	28	8	13.5		5.5	11	4.5	20	M5	4.5	90	135	88
AD090	75/P	DS090	75/PX	118.5	44.5	24-25.5	40.5	28	8	13.5	4		11	4.5		M5	4.5	90	135	88
AD140	130/N	DS140	130/NX	170	64	35-38	56	36	10	26		6.5	16	7	32	M6	5.5	100	200	200
AD150	130/P	DS150	130/PX	171	64	35-38	57	36	10	26	5		16	7		M6	5.5	100	200	200
AD275	230/N	DS275	230/NX	195	74.5	42-44.5	65	44	12	26		8.5	18	6.75	37	M8	6.5	170	330	330
AD285	230/P	DS285	230/PX	197	74.5	42-44.5	67	44	12	26	6		18	6.75		M8	6.5	170	330	340
AD375	355/N			269	102	60-62	100	60	14	41		10	22	7.5	58	M10	8.5	180	400	700
AD385	355/P			271	102	60-62	102	60	14	41	7		22	7.5		M10	8.5	180	400	720
AD475	455/N			308	119	68-69.5	115	70	18	41.5		12.4	26	11.75	65	M12	8.5	320	620	1200
AD485	455/P			310	119	68-69.5	117	70	18	41.5	10		26	11.75		M12	8.5	320	620	1230

HORIZONTAL SERIES

HORIZONTAL SERIES WITH FOLDED BASE AND WITH SAFETY LEVER

Some sizes of this series are also produced in stainless steel and are shown below in red.

Material: Galvanized steel or **AISI 304 stainless steel**

Riveted pivots: Galvanized steel or **AISI 304 stainless steel**

Supporting bushes:

Hardened and ground steel (for sizes ≥ 355).

Handles:

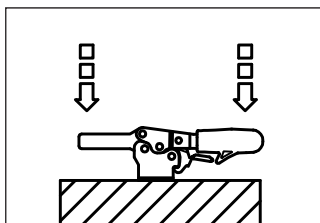
Red polyurethane resistant to oils, grease and other chemical agents.

Performance: Form ML and **form MLX** with open clamping lever and two flanged washers.

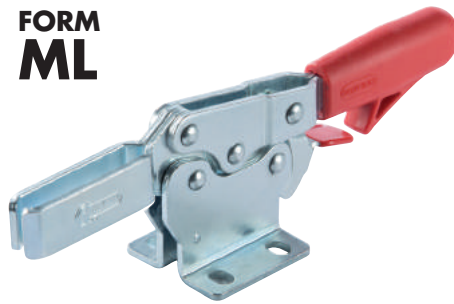
Form OL and **form OLX** with full clamping lever and bolt retainers to be welded in the desired position and angle.

Spindles: To be ordered separately (see Accessories on page 76).

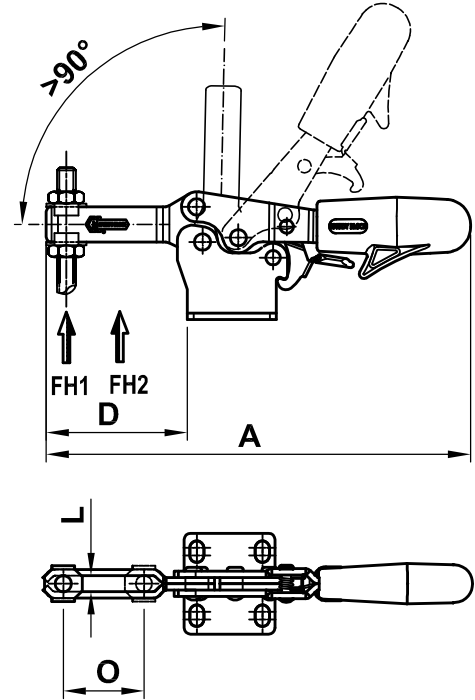
Features and applications: The main feature of this series is the special anti-release lever with the purpose of avoiding any accidental openings caused by vibrations; these tools are designed to prevent the operator's fingers from being crushed by the levers when opening. During the closing, the clamping lever is guided laterally to ensure greater stability against possible transverse stresses. A special grease is placed between two contacting surfaces during assembly.



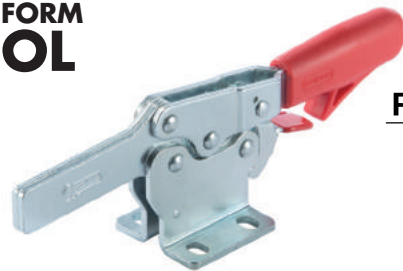
FORM ML



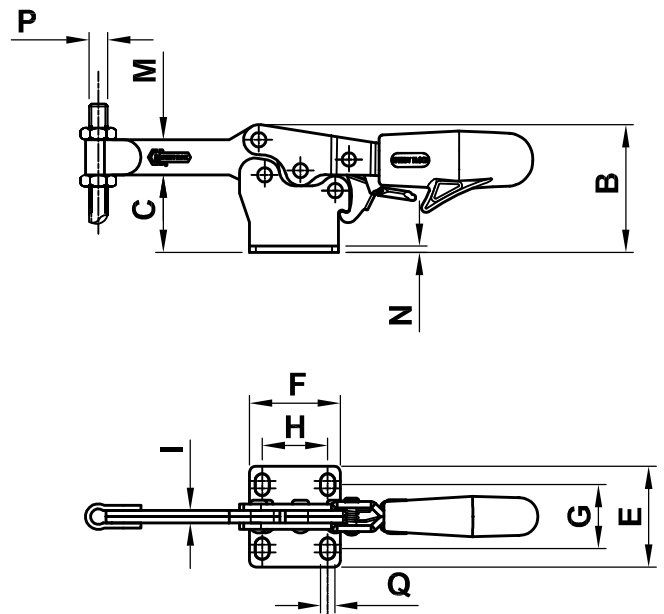
PATENT PENDING



FORM OL

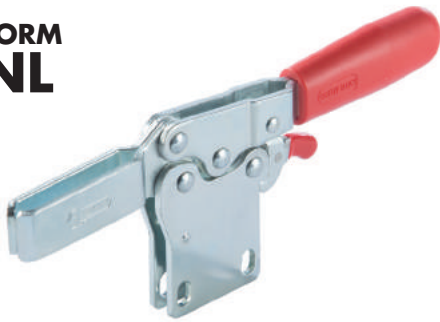


PATENT PENDING

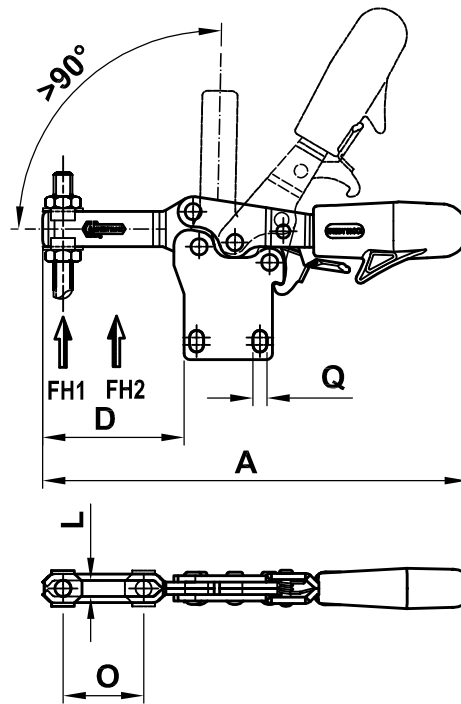


Code	Description	Stainless steel Code	Stainless steel	A	B	C	D	E	F	G	H	I	L	M	N	O	P	Q	Fh1 (daN)	Fh2 (daN)	gr. \triangle
AD092	75/ML	DS100	75/MLX	118	37	20	39	26	28	16-19	13.5	5.3	11	2	20	M5	4.5	90	135	90	
AD096	75/OL	DS104	75/OLX	118.5	37	20	39.5	26	28	16-19	13.5	4	11	2	20	M5	4.5	90	135	90	
AD152	130/ML	DS152	130/MLX	171.5	51	30.5	56.5	40	36	22.4-28.4	26	6.3	16	2.5	32	M6	5.6	100	200	200	
AD156	130/OL	DS156	130/OLX	172	51	30.5	57	40	36	22.4-28.4	26	5	16	2.5	32	M6	5.6	100	200	200	
AD290	230/ML	DS287	230/MLX	196	61.5	36.5	65	44	44	26-31.5	26	8.5	18	3	37	M8	6.6	170	330	320	
AD294	230/OL	DS291	230/OLX	196.5	61.5	36.5	66	44	44	26-31.5	26	6	18	3	37	M8	6.6	170	330	330	
AD390	355/ML			269	83	50	100	58	60	38.8-43	41	10.5	22	3.5	58	M10	8.6	180	400	750	
AD394	355/OL			270	83	50	101	58	60	38.8-43	41	7	22	3.5	58	M10	8.6	180	400	750	
AD490	455/ML			305	99	60	114	65	70	40-43	41.5	12.5	26	4	65	M12	8.7	320	620	1200	
AD494	455/OL			306.5	99	60	115.5	65	70	40-43	41.5	10	26	4	65	M12	8.7	320	620	1220	

FORM NL



PATENT PENDING



HORIZONTAL SERIES WITH STRAIGHT BASE AND WITH ANTI-RELEASE LEVER

Some sizes of this series are also produced in stainless steel and are shown below in red.

Material: Galvanized steel or **AISI 304 stainless steel**

Riveted pivots: Galvanized steel or **AISI 304 stainless steel**

Supporting bushes:

Hardened and ground steel (for sizes ≥ 355).

Handles:

Red polyurethane resistant to oils, grease and other chemical agents.

Performance:

Form NL and **form NLX** with open clamping lever and two flanged washers. Form PL and **form PLX** with full clamping lever and bolt retainers to be welded in the desired position and angle.

Spindles:

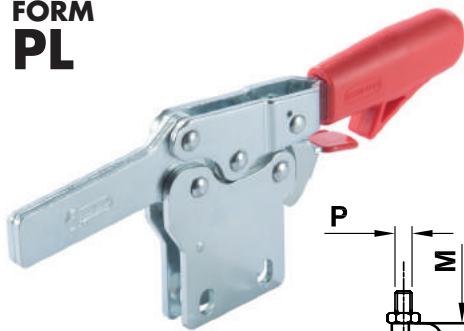
To be ordered separately (see Accessories on page 76).

Features and applications: The main feature of this series is the special anti-release lever with the purpose of avoiding any accidental openings caused by vibrations; these tools are designed to prevent the operator's fingers from being crushed by the levers when opening.

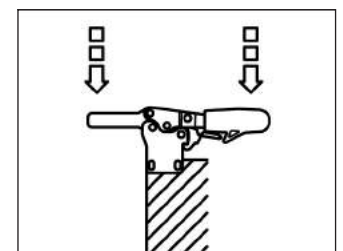
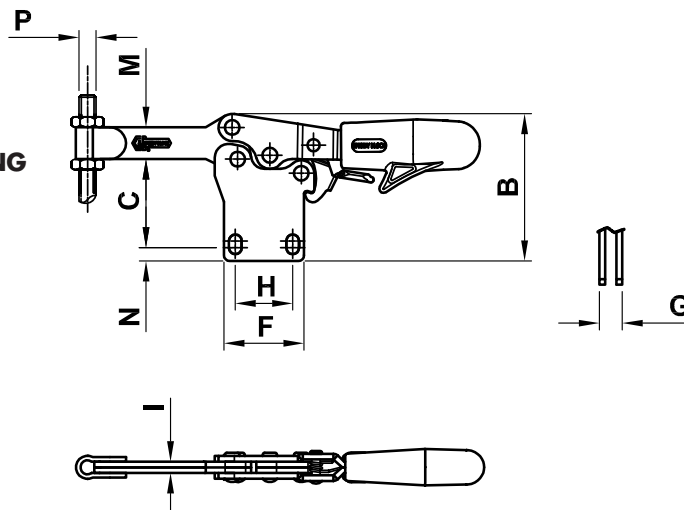
During the closing, the clamping lever is guided laterally to ensure greater stability against possible transverse stresses.

A special grease is placed between two contacting surfaces during assembly.

FORM PL



PATENT PENDING



Code	Description	Stainless steel Code	Stainless steel	A	B	C	D	F	G	H	I	L	M	N	O	P	Q	Fh1 (daN)	Fh2 (daN)	gr- ⚖
AD094	75/NL	DS102	75/NLX	118	45.5	24-25.5	39	28	8	13.5		5.3	11	5-3.5	20	M5	4.5	90	135	90
AD098	75/PL	DS106	75/PLX	118.5	45.5	24-25.5	39.5	28	8	13.5	4		11	5-3.5		M5	4.5	90	135	90
AD154	130/NL	DS154	130/NLX	171.5	64.5	35-38	56.5	36	10	26		6.3	16	8.8-5.8	32	M6	5.6	100	200	200
AD158	130/PL	DS158	130/PLX	172	64.5	35-38	57	36	10	26	5		16	8.8-5.8		M6	5.6	100	200	200
AD292	230/NL	DS289	230/NLX	196	75.5	42-44.5	65	44	12	26		8.5	18	9-6.5	37	M8	6.6	170	330	320
AD296	230/PL	DS293	230/PLX	196.5	75.5	42-44.5	66	44	12	26	6		18	9-6.5		M8	6.6	170	330	330
AD392	355/NL			269	102	60-62	100	60	14	41		10.5	22	9.6-7.5	58	M10	8.6	180	400	730
AD396	355/PL			270	102	60-62	101	60	14	41	7		22	9.6-7.5		M10	8.6	180	400	750
AD492	455/NL			305	120	68-69.5	114	70	18	41.5		12.5	26	12.5-11	65	M12	8.7	320	620	1200
AD496	455/PL			306.5	120	68-69.5	115.5	70	18	41.5	10		26	12.5-11		M12	8.7	320	620	1220

HORIZONTAL SERIES

HORIZONTAL SERIES WITH ANTI-RELEASE LEVER AND EXTENDED CLAMPING LEVER

Material:

Galvanized steel

Riveted pivots:

Galvanized steel

Supporting bushes:

Hardened and ground steel.

Handles: Red polyurethane resistant to oils, grease and other chemical agents.

Performance:

Form OLS with extended clamping lever and folded base.

Form PLS with extended clamping lever and straight base.

Spindles:

To be ordered separately (see Accessories on page 76).

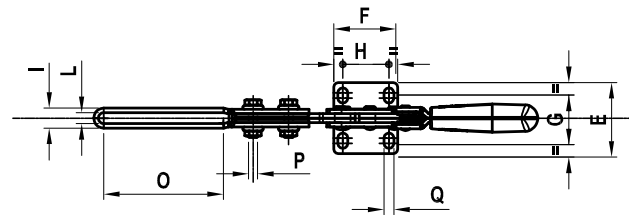
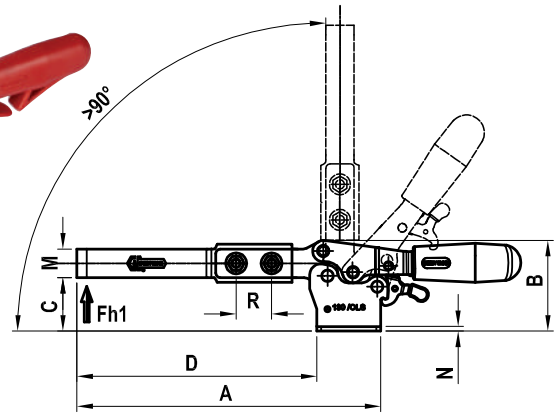
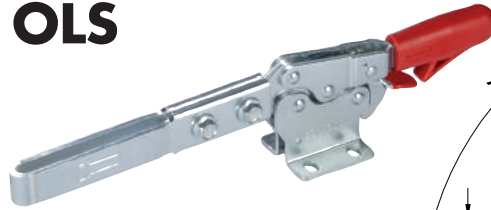
Extensions:

The models are supplied with AP6 and AP8 extension as per the drawing and with two flanged washers (see Accessories on page 79).

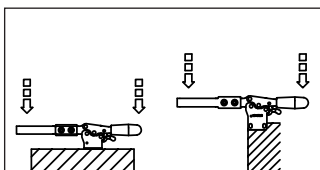
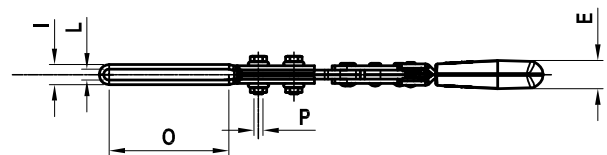
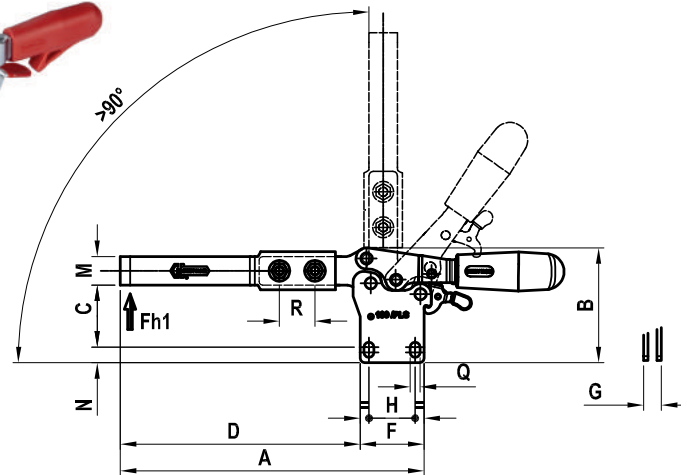
Features and applications:

The main features of this series are the special anti-release lever and the special extension of the locking arm to facilitate the specific use in control templates; these tools are designed to prevent the operator's fingers from being crushed by the levers when opening. During the closing, the clamping lever is guided laterally to ensure greater stability against possible transverse stresses. A special grease is placed between two contacting surfaces during assembly.

FORM OLS

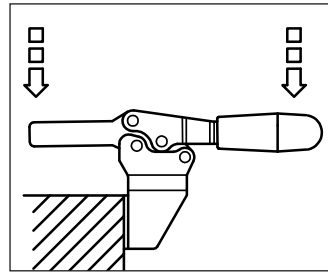
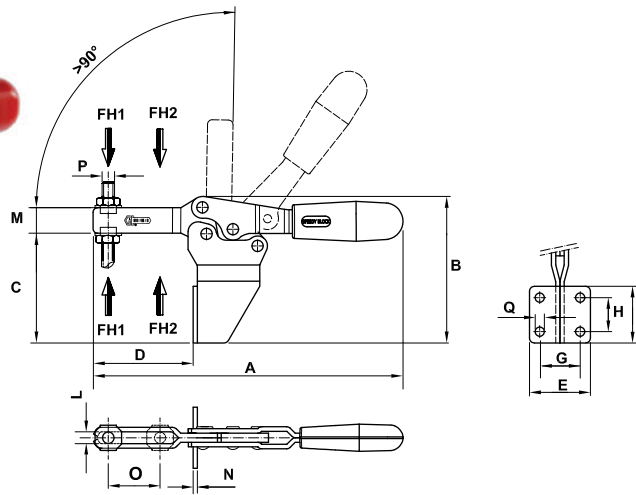
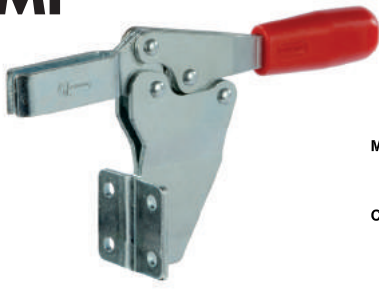


FORM PLS



Code	Description	A	B	C	D	E	F	G	H	I	L	M	N	O	P	Q	R	Fh1 (daN)	gr.
AD146	130/OLS	171	51	30.5	135	40	36	22.4-28.4	26	11.5	6.3	16	2.5	67.5	M5	5.6	20	60	295
AD151	130/PLS	171	64.5	35-38	135	16	36	10	26	11.5	6.3	16	5.8-8.8	67.5	M5	5.6	20	60	295
AD295	230/OLS	196	61.5	36.5	152	44	44	26-31.5	26	14.2	8.2	18	3	71.5	M6	6.6	26	110	485
AD297	230/PLS	196	75.5	42-44.5	152	16	44	12	26	14.2	8.2	18	6.5	71.5	M6	6.6	26	110	485

FORM MF



HORIZONTAL SERIES WITH FRONT BASE

Some sizes of this series are also produced in stainless steel and are shown below in red.

Material: Galvanized steel or **AISI 304 stainless steel**

Riveted pivots: Galvanized steel or **AISI 304 stainless steel**

Supporting bushes:

Hardened and ground steel (for sizes ≥ 355)

Handles: Red polyurethane resistant to oils, grease and other chemical agents.

Performance: Form MF and **form MFX** with open clamping lever and two flanged washers.

Spindles: To be ordered separately (see Accessories on page 76).

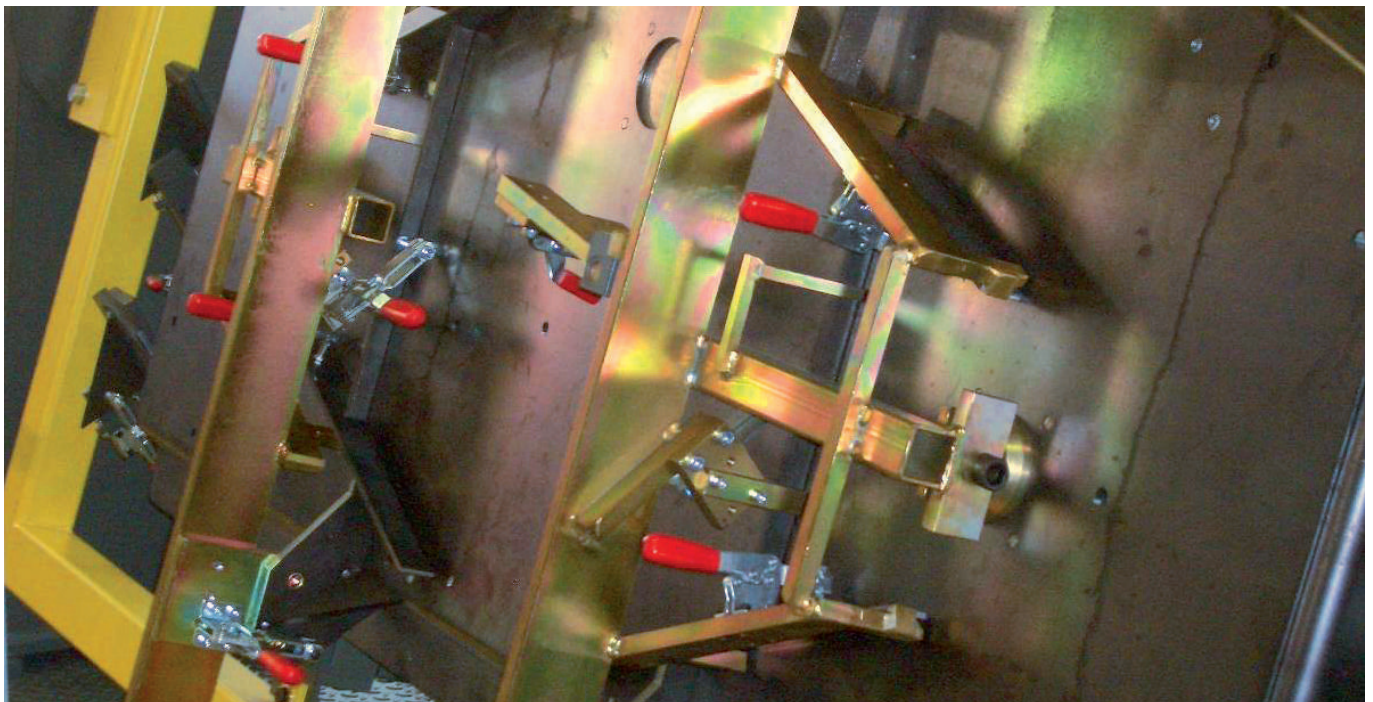
Features and applications:

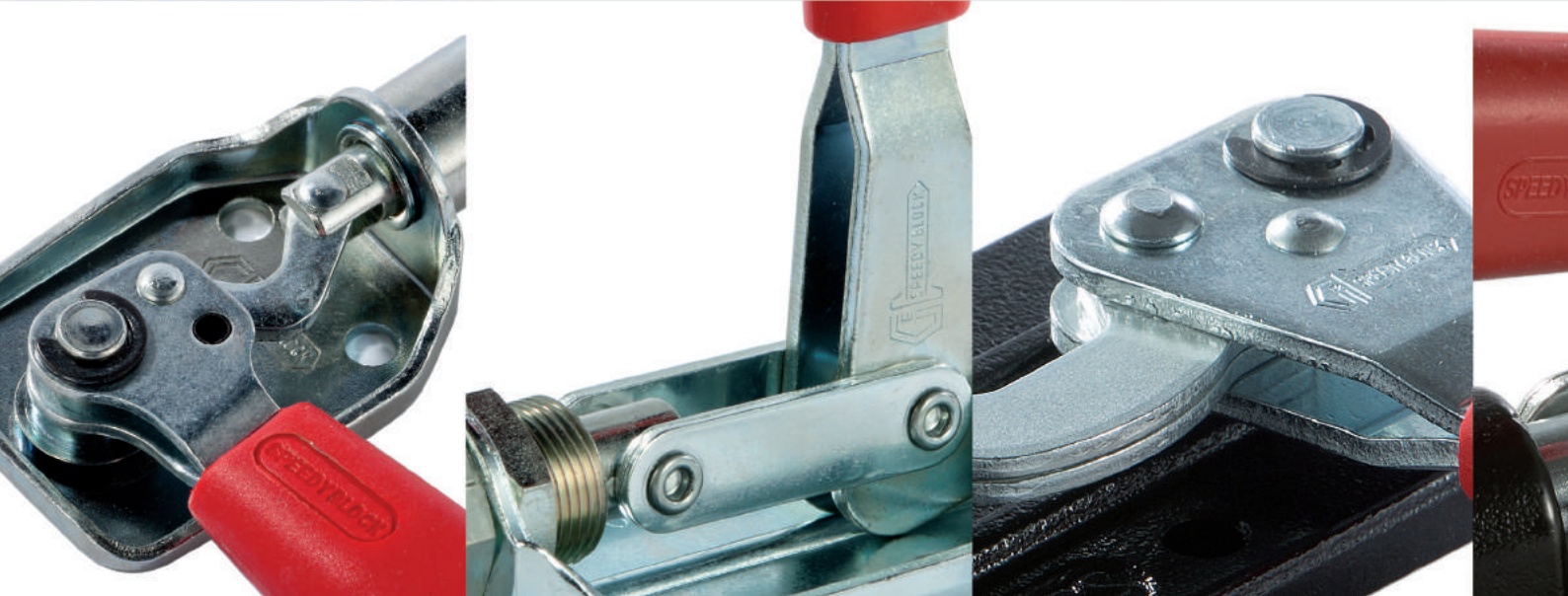
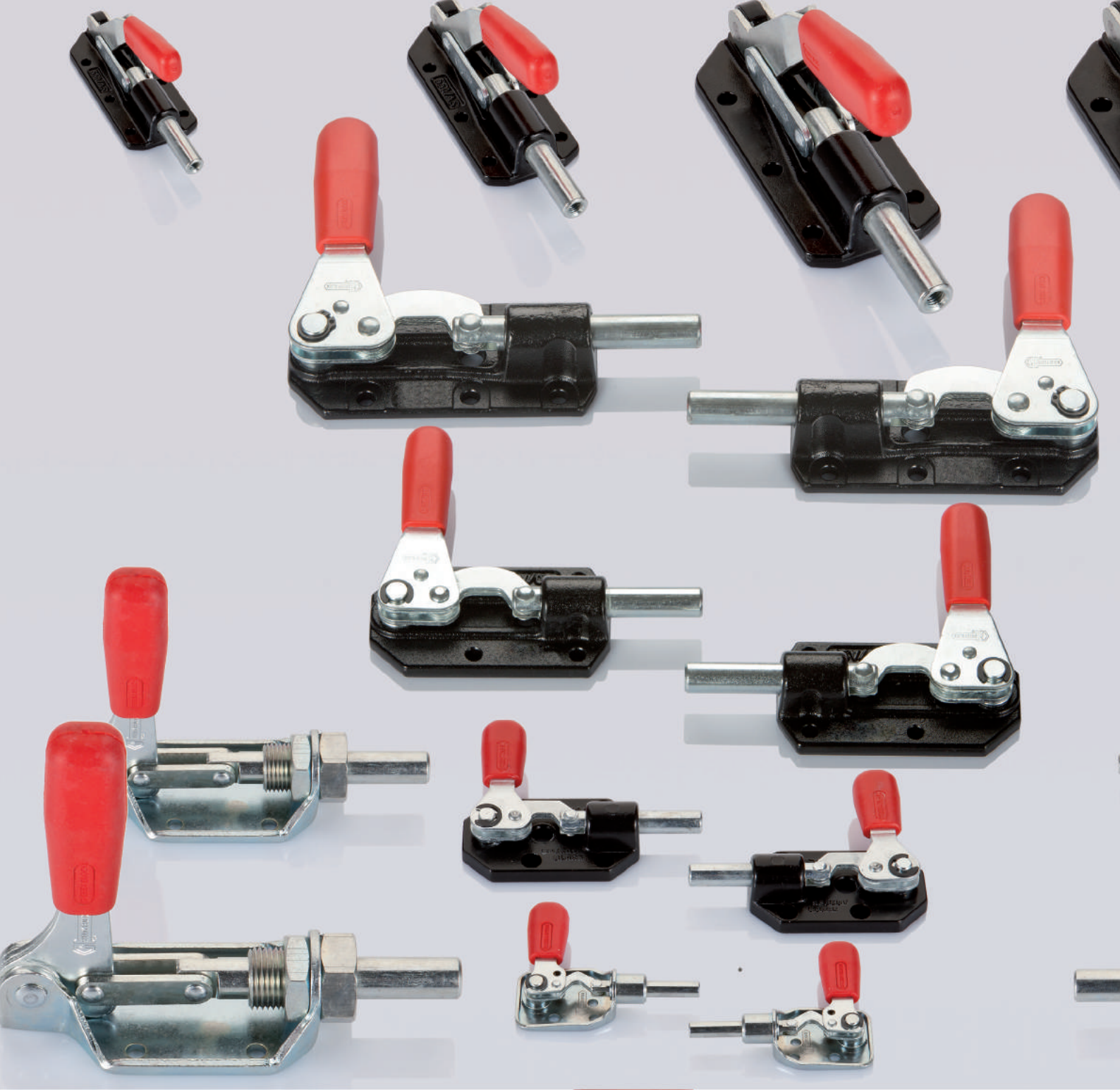
The main feature of this series is the front mount; these tools are designed to prevent the operator's fingers from being crushed by the levers when opening.

During the closing, the clamping lever is guided laterally to ensure greater stability against possible transverse stresses.

A special grease is placed between two contacting surfaces during assembly.

Code	Description	Stainless steel Code	Stainless steel	A	B	C	D	E	F	G	H	L	M	N	O	P	Q	Fh1 (daN)	Fh2 (daN)	gr.
AD076	75/MF	DS076	75/MFX	118	62	45	36	30	25.5	18	13.5	5.5	11	2	20	M5	4.5	90	135	105
AD136	130/MF	DS136	130/MFX	171.5	85	64	54	39	35	26	22	6.5	16	2.5	32	M6	5.5	100	200	240
AD271	230/MF	DS271	230/MFX	196	102	77	62	43	40	28.5	24	8.5	18	3	37	M8	6.5	170	330	400
AD371	355/MF			269	135	102	96	52	52	32	32	10.5	22	3.5	58	M10	8.5	180	400	830







STRAIGHT-LINE ACTION SERIES

In this series, the circular movement of the control lever is transformed into a linear movement of the push rod. Except for models 120/AS and 300/AS, this series works and clamps either by pushing or pulling. The light version meets clamping requirements from 80 to 720 daN, while the heavy series from 120 to 4500 daN.

PERFORMANCE

FOR THE LIGHT SERIES: Push rod, guide sleeve and other parts in galvanized sheet steel.

The main feature of the ASD/ASS models is the low force application point as well as the very reduced encumbrance in the vertical. Models 80-165-340/AS have the possibility of front mounting with an external thread that enables rotation of the control lever to the most favourable position for use. The bracket increases the range of applications.

FOR THE HEAVY SERIES: Based made of black varnished brass for size 70. Base made of forged black varnished steel for the other sizes. Components in galvanized case hardening sheet steel. Galvanized steel push rods. Supporting bushes and pivots undergo case hardening.



STRAIGHT-LINE ACTION SERIES

PUSH AND PULL STRAIGHT-LINE ACTION SERIES

Material: Galvanized steel

Riveted pivots, sliding push bar and bearing: Galvanized steel

Handles: Red polyurethane resistant to oils, grease and other chemical agents.

Performance:

Form ASS

- push clamping with clockwise control lever rotation

- traction clamping with anti-clockwise control lever rotation

Form ASD

- push clamping with anti-clockwise control lever rotation

- traction clamping with clockwise control lever rotation

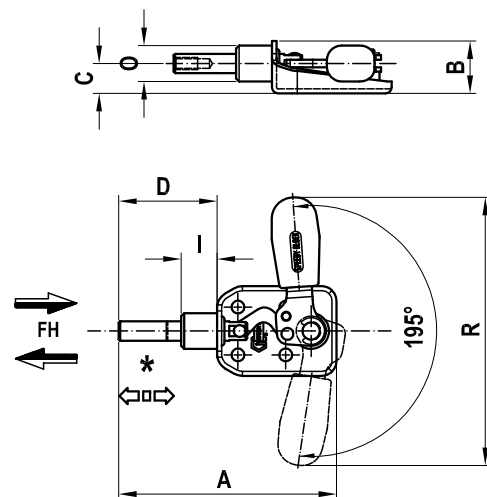
Spindles: To be ordered separately (see Accessories on page 76).

Features and applications:

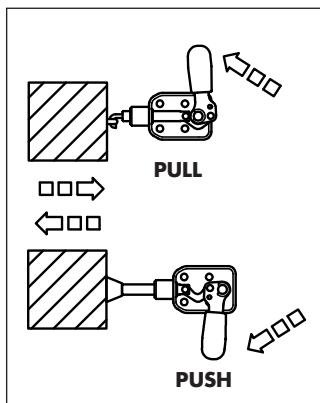
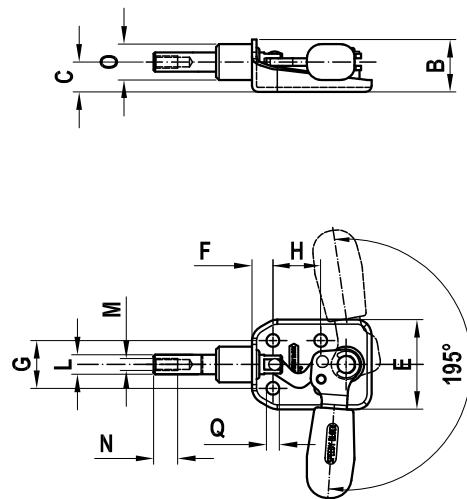
The main feature of this series is its low force application point as well as the very reduced encumbrance in the vertical.

A special grease is placed between two contacting surfaces during assembly.

FORM ASD

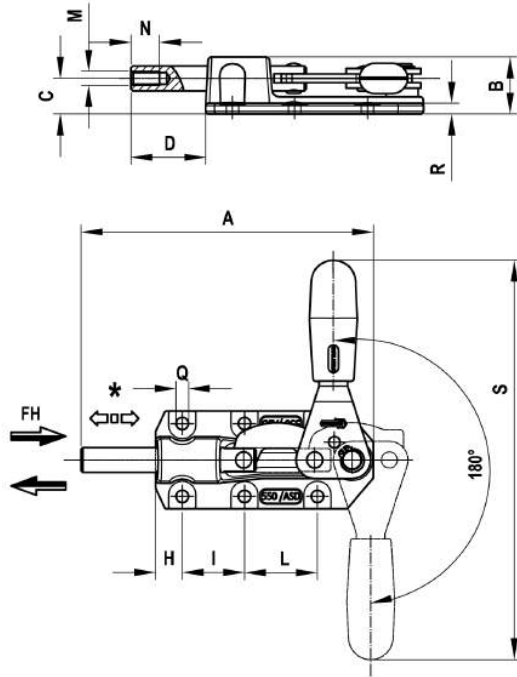


FORM ASS



Code	Description	A	B	C	D	E	F	G	H	I	L	M	N	O	Q	R	*	Fh (daN)	gr.
AG050	50/ASD	73	17.5	10	33	30.5	7	16	16	12	6.5	M4	9	12	4.3	90	16	80	60
AG055	50/ASS	73	17.5	10	33	30.5	7	16	16	12	6.5	M4	9	12	4.3	90	16	80	60

FORM ASD



PUSH AND PULL STRAIGHT-LINE ACTION SERIES

Material: Galvanized steel
Riveted pivots, push bar and control lever: Galvanized steel
Basic clamp body: Black varnished brass for size 70; hot forged steel and painted black for the other sizes.
Handles: Red polyurethane resistant to oils, grease and other chemical agents.
Performance:

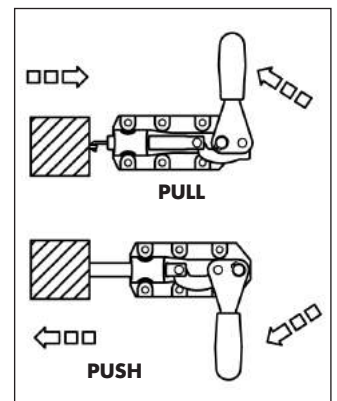
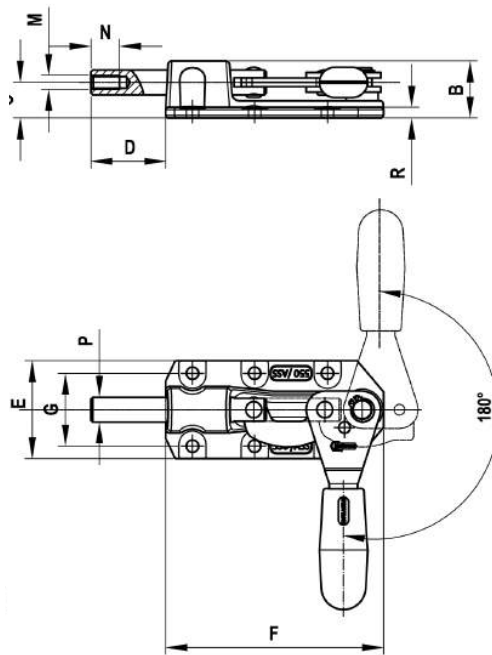
- Form ASS
 - push clamping with clockwise control lever rotation
 - traction clamping with anti-clockwise control lever rotation
- Form ASD push clamping
 - with anti-clockwise control lever rotation
 - traction clamping with clockwise control lever rotation

Spindles: To be ordered separately (see Accessories on page 76).

Features and applications:

The main feature of this series is its low force application point as well as the very reduced encumbrance in the vertical. A special grease is placed between two contacting surfaces during assembly.

FORM ASS



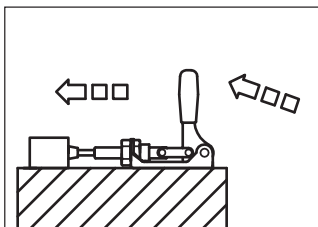
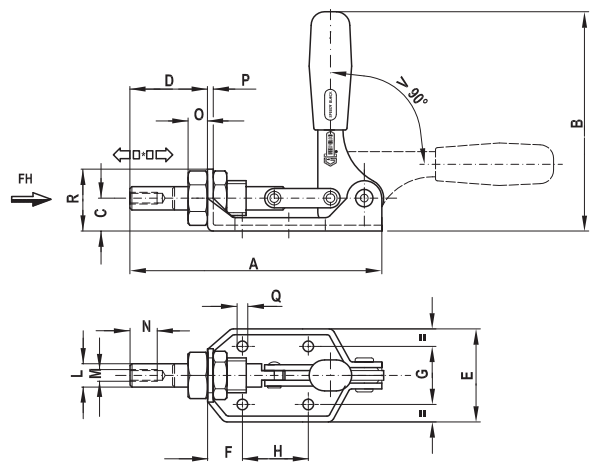
Code	Description	A	B	C	D	E	F	G	H	I	L	M	N	P	Q	R	S	*	Fh (daN)	gr.
AG075	70/ASD	85	19.5	12	22	36	64	26	13	26		M6	12	8.5	4.3	6	98	20	90	160
AG080	70/ASS	85	19.5	12	22	36	64	26	13	26		M6	12	8.5	4.3	6	98	20	90	160
AG165	160/ASD	117	25	15	32	46	85	33.5	11.5	36.5		M6	12	11	5.5	7	158	30	130	350
AG170	160/ASS	117	25	15	32	46	85	33.5	11.5	36.5		M6	12	11	5.5	7	158	30	130	350
AG175	550/ASD	164.5	32	20	42	55	122.5	41	15	35	41	M8	16	14	7	7	225	42	450	720
AG180	550/ASS	164.5	32	20	42	55	122.5	41	15	35	41	M8	16	14	7	7	225	42	450	720

STRAIGHT-LINE ACTION SERIES

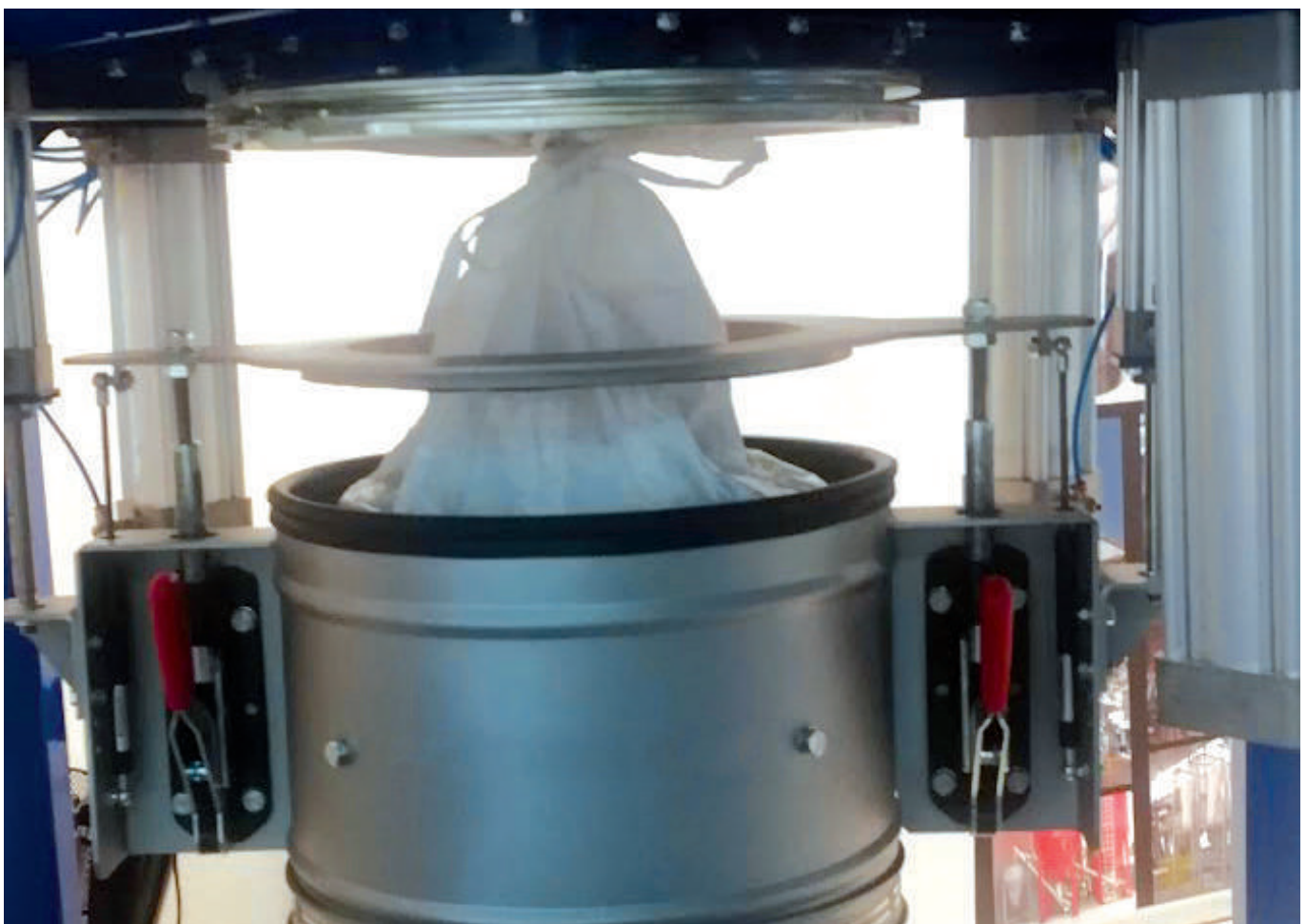
ONLY PUSH STRAIGHT-LINE ACTION SERIES

Material: Galvanized steel
Riveted pivots, push bar, sliding bearing and nut: Galvanized steel
Handles: Red polyurethane resistant to oils, grease and other chemical agents.
Spindles: To be ordered separately (see Accessories on page 76).
Features and applications: The tools of this series can only be pushed. A special grease is placed between two contacting surfaces during assembly.

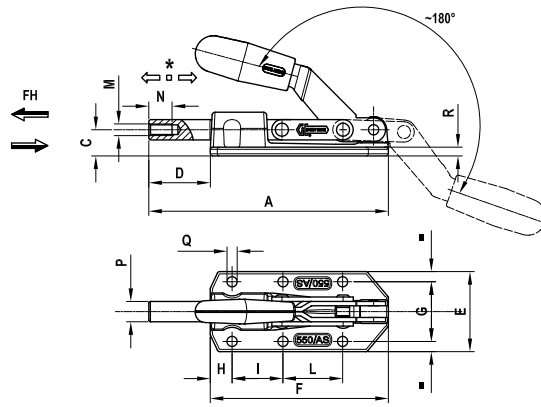
FORM AS



Code	Description	A	B	C	D	E	F	G	H	L	M	N	O	P	Q	R	*	Fh (daN)	gr.
AG120	120/AS	130	111	17	40	48	18	30	34	12	M6	12	10	3	5.5	32	20	360	350
AG300	300/AS	167	140	20	57	58	18	34	50	14	M8	16	12	3	6.5	36	33	720	560

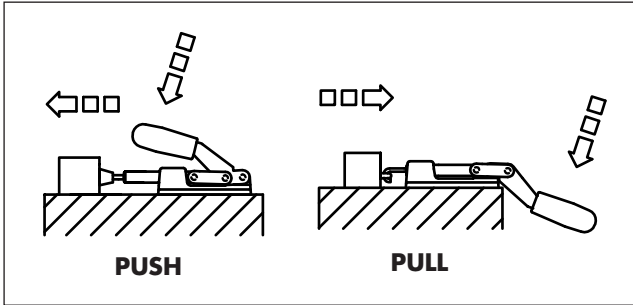


FORM AS

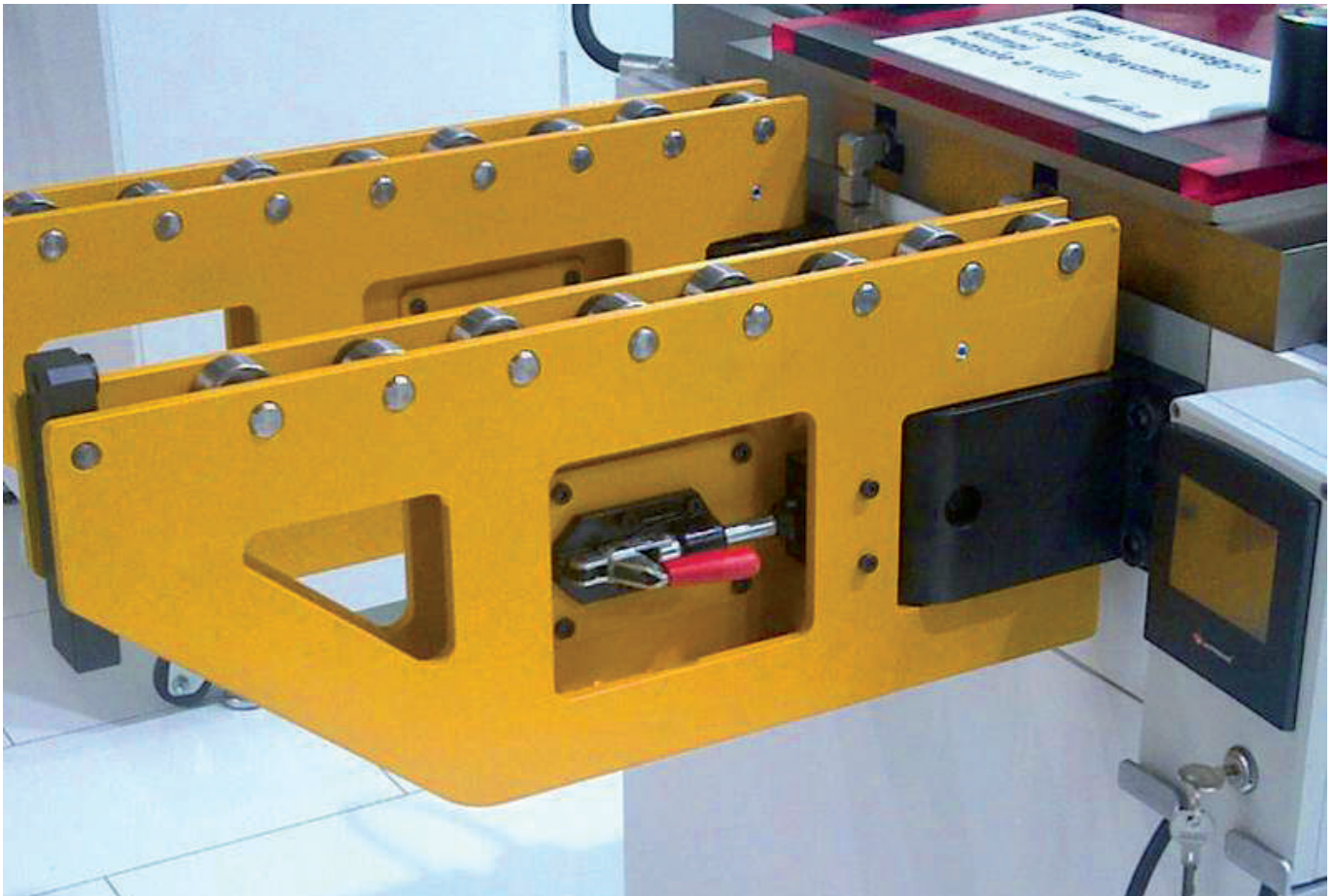


PUSH AND PULL STRAIGHT-LINE ACTION SERIES

Material: Galvanized steel
Riveted pivots, push bar and control lever: Galvanized steel
Basic clamp body: Black varnished brass for size 70; hot forged steel and painted black for the other sizes.
Handles: Red polyurethane; resistant to oils, grease and other chemical agents.
Spindles: To be ordered separately (see Accessories on page 76).
Features and applications:
 The tools of this series can either be pushed or pulled.
 A special grease is placed between two contacting surfaces during assembly.
 This pneumatic actuated series is found on page 75.



Code	Description	A	B	C	D	E	F	G	H	I	L	M	N	P	Q	R	*	Fh (daN)	gr.
AG070	70/AS	86	42.5	12	22	36	64	26	13	26		M6	12	8.5	4.3	6	20	120	165
AG160	160/AS	116	56	15	31	46	85	33.5	11.5	36.5		M6	12	11	5.5	7	30	280	360
AG351	360/AS	122	72	25	32	45.5	90	33.5	30	36.5		M8	15	12	5.5	7	32	560	480
AG355	550/AS	164.5	75	18	42	55	122.5	41	15	35	41	M8	16	14	7	7	42	800	750
AG361	1100/AS	182	95	25	49	57	133	41	15	35	41	M10	18	16	8.5	8	50	1600	1060
AG371	2100/AS	238	118.5	35	61	70	177	50	35	50	50	M12	22	20	8.5	10	60	2500	2280
AG381	3100/AS	316	137	40	100	76	216	54	40	70	70	M14	25	22	11	10	100	4500	3350



STRAIGHT-LINE ACTION SERIES

PUSH AND PULL STRAIGHT-LINE ACTION SERIES

The sizes of this series are also produced in stainless steel and are shown below in red.

Material: Galvanized steel or **AISI 304 stainless steel**

Riveted pivots, push bar, bushing fixing screws and sliding bearing and ring:

Galvanized steel or **AISI 304 stainless steel**

Sliding bushes: Galvanized steel or **AISI 303 steel**

Mounting bracket (to be ordered separately): Galvanized steel or **AISI 304 stainless steel**

Handles: Red polyurethane resistant to oils, grease and other chemical agents.

Spindles: To be ordered separately (see Accessories on page 76)

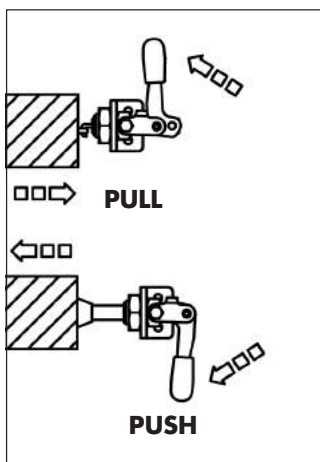
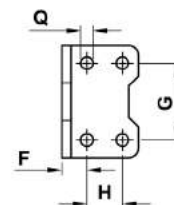
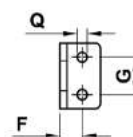
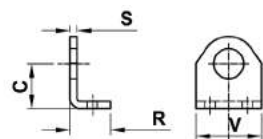
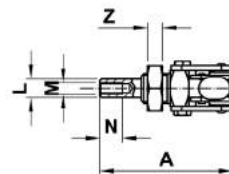
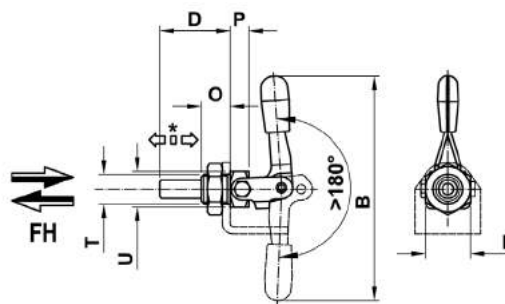
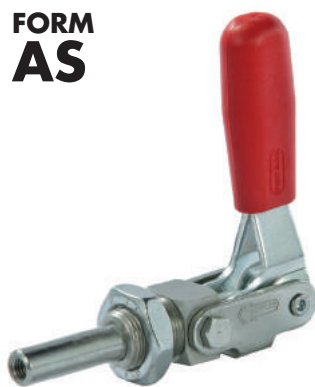
Features and applications:

Thanks to the front thread, the tools of this series can be mounted directly on the equipment used and the control lever can be turned to the most favourable position for use.

The mounting bracket (order separately) increases the possibility of use.

A special grease is placed between two contacting surfaces during assembly.

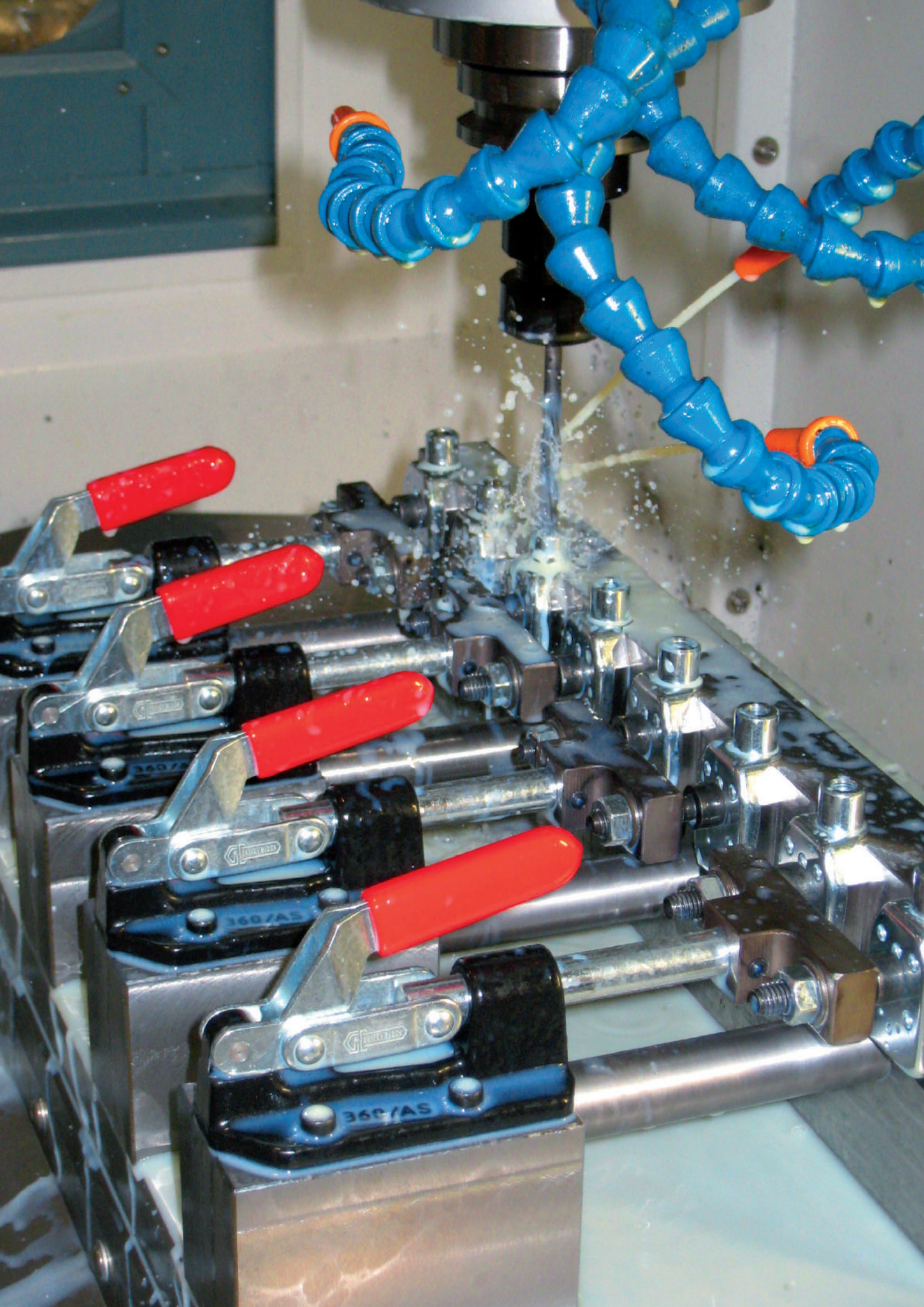
FORM AS

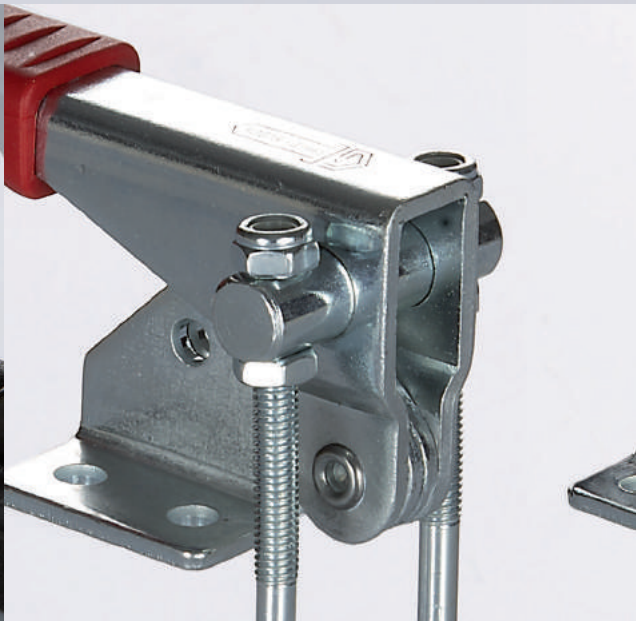


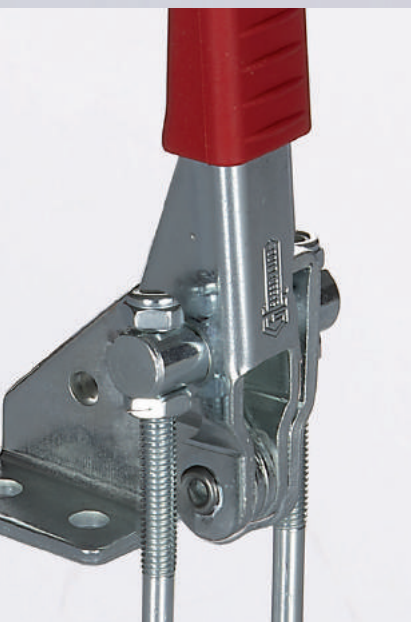
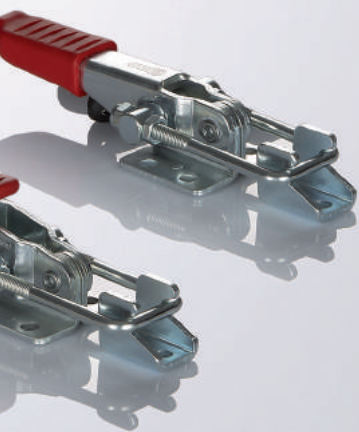
Code	Description	Stainless steel Code	Stainless steel	A	B	D	E	I	L	M	N	O	P	T	U	Z	*	Fh (daN)	gr.
AG401	80/AS	AS401	80/ASX	71	120	38	24	24	10	M6	12	15.5	10	M16X1.5	19	8	21	300	135
AG406	165/AS	AS406	165/ASX	113	194	59	28	30	12	M8	15	20	16	M20X1.5	22	9	38	540	335
AG411	340/AS	AS411	340/ASX	173	256	90	38	36	16	M10	18	22	28	M24X2	30	10	66	700	835

Code	Description	Stainless steel Code	Stainless steel	C	F	G	H	Q	R	S	V	Support for model
AG416	30080	AS416	30080X	24	8	20	-	5.5	22	4	35	80/AS - 80/ASX
AG421	30165	AS421	30165X	32	13.5	41	19	6.5	41	5	60	165/AS - 165/ASX
AG426	30340	AS426	30340X	48	19	55	25	8.5	59	5	75	340/AS - 340/ASX









LATCH SERIES

The circular movement of the control lever is transformed into linear movement of the rod. This series is mostly used to fasten hinged lids and for containers. Available with forces from 160 to 1000 daN, and in the heavy series from 1700 to 4000 daN. The push bars can be adjusted within the stroke (height D). The main features of the different models are:

FOR T - TF - TL - TFL - T2 MODELS: • Support base parallel to the force line of action. • In the closed position, the control lever is parallel to the support base.

FOR T3 MODELS: • Support base perpendicular to the force line of action. • In the closed position, the control lever is parallel to the support base.

FOR T4 MODELS: • Support base perpendicular to the force line of action. • In the closed position, the control lever is perpendicular to the support base.

FOR T5 - T6 MODELS: • If the tool must be used on machines or with applications in the presence of strong stress or vibrations, in which an accidental and undesired opening is likely, it is necessary to ensure a secure grip by means of a latch.

LATCH SERIES

T – TF ROD SERIES (LIGHT PERFORMANCE)

Material: Zinc coated plates

Riveted pivots and rod:

Galvanized steel

Handles: Red polyurethane resistant to oils, grease and other chemical agents.

Performance:

Form T is supplied with a pivot for traction;

Form TF is supplied with a coupling hook for traction

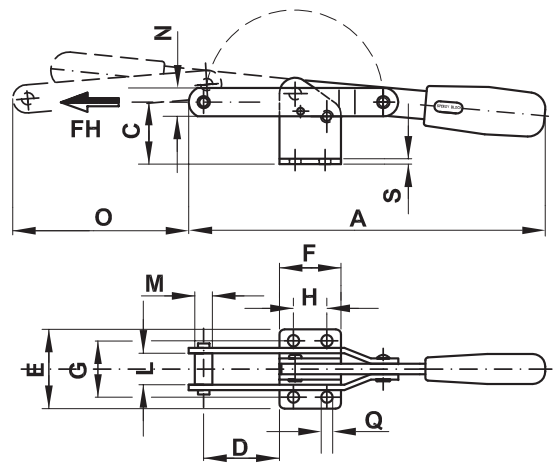
Features and applications:

The tools of this series ensure a perfect closing of lids.

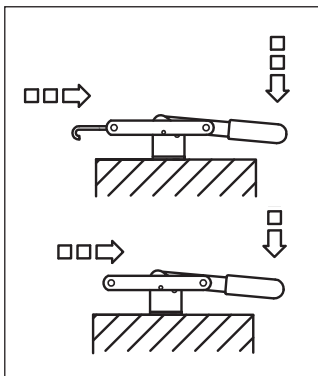
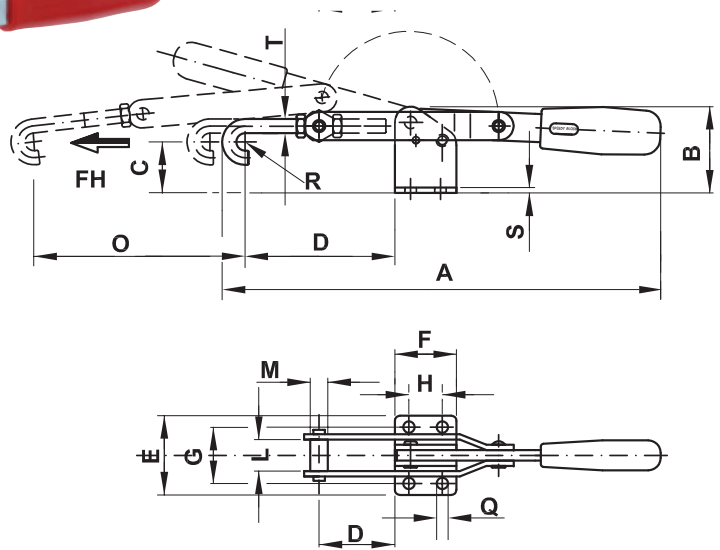
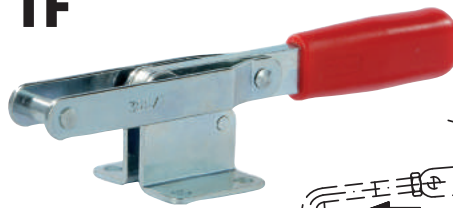
The position of the threaded rod can be adjusted within a certain range (see dimension "D") to meet the requirements of use.

A special grease is placed between two contacting surfaces during assembly.

FORM T



FORM TF

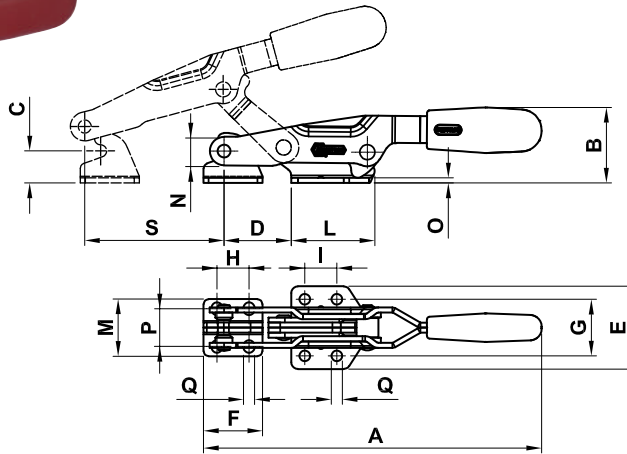


Code	Description	A	B	C	D	E	F	G	H	L	M	N	O	Q	R	S	T	Fh (daN)	gr.
AL200	200/T	203	49	37	43	45	35	32	19	18	10	16	100	6.5		3		200	300
AL205	200/TF	250	49	29	85-105	45	35	32	19			16	100	6.5	5	3	M8	200	380
AL300	300/T	226	49	35	43	60	48	45	32	21	10	18	104	8.5		3		300	460
AL305	300/TF	305	49	25	90-120	60	48	45	32			18	104	8.5	6	3	M10	300	560
AL400	400/T	278	60.5	43	45.5	84	54	60.5	28.5	26	14	25	160	10.5		5		400	1000
AL405	400/TF	343	60.5	30	105-135	84	54	60.5	28.5	26		25	160	10.5	7	5	M12	400	1200

FORM T



PATENT PENDING



T - TF ROD SERIES (LIGHT PERFORMANCE)

The sizes of this series are also produced in stainless steel and are shown below in red.

Material: Galvanized sheet metal or **AISI 304 stainless steel**

Riveted pivots and rod: Galvanized steel or **AISI 304 stainless steel**

Handles: Red polyurethane resistant to oils, grease and other chemical agents.

Performance:

Form T and **form TX** is supplied with a pivot for traction and a hooking bracket; Form TF and **form TFX** it is possible to choose from three different optional rods (to be ordered separately):

Eye bolt rod "TG", T-shaped rod "TT", Hook Rod "U" (See page 47).

Features and applications:

The tools of this series ensure a perfect closing of lids.

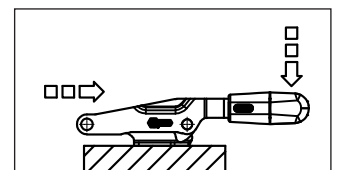
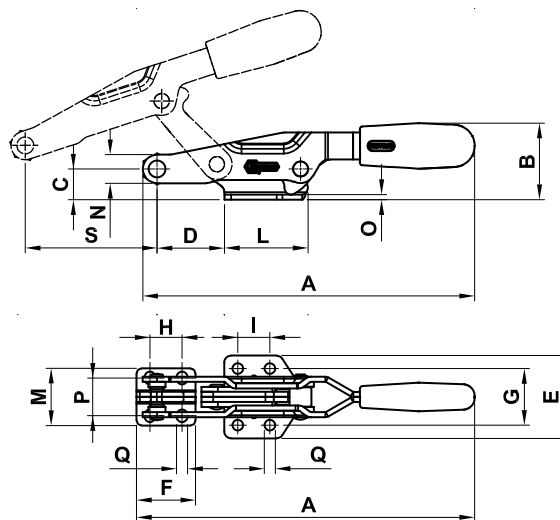
The position of the threaded rod can be adjusted within a certain range (see drawing) to meet the requirements of use.

A special grease is placed between two contacting surfaces during assembly

FORM TF



PATENT PENDING



Code	Description	Stainless steel Code	Stainless steel	A	B	C	D	E	F	G	H	I	L	M	N	O	P	Q	S	Fh (daN)	gr.
AL410	33/T	AS430	33/TX	200	45	19	40	49	35	33.5	19	19	50	34	17	3	22.3	6.5	83	500	422
AL415	33/TF	AS532	33/TFX	197	45	19	40	49		33.5		19	50		17	3		6.5	83	500	394
AL420	43/T	AS436	43/TX	248	56	28	51	63	50	45	31	32	61	41	20	4	25.4	8.5	110	1000	811
AL425	43/TF	AS438	43/TFX	242	56	28	51	63		45		32	61		20	4		8.5	90	1000	696

LATCH SERIES

TL – TFL ROD SERIES WITH SAFETY LEVER (LIGHT PERFORMANCE)

The sizes of this series are also produced in stainless steel and are shown below in red.

Material: Galvanized sheet metal or **AISI 304 stainless steel**

Riveted pivots and rod: Galvanized steel or **AISI 304 stainless steel**

Handles: Red polyurethane resistant to oils, grease and other chemical agents.

Performance:

Form TL and **form TLX** is supplied with a pivot for traction and a hooking bracket;

Form TFL and **form TFLX** it is possible to choose from three different optional rods (to be ordered separately):

Eye bolt rod "TG", T-shaped rod "TT", Hook Rod "U" (see Page 47).

Features and applications:

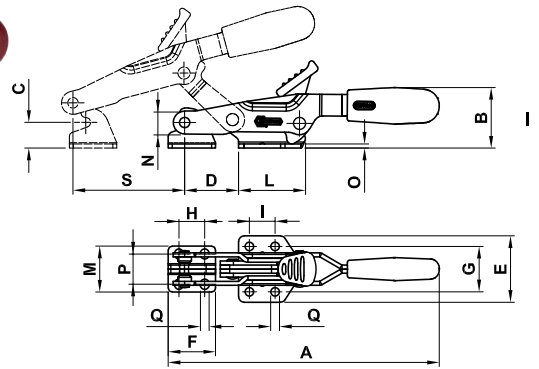
The tools of this series ensure a perfect closing of lids.

The position of the threaded rod can be adjusted within a certain range (see drawing) to meet the requirements of use.

FORM TL



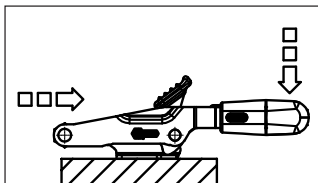
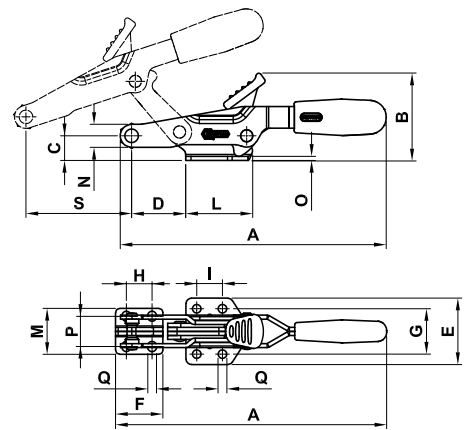
PATENT PENDING



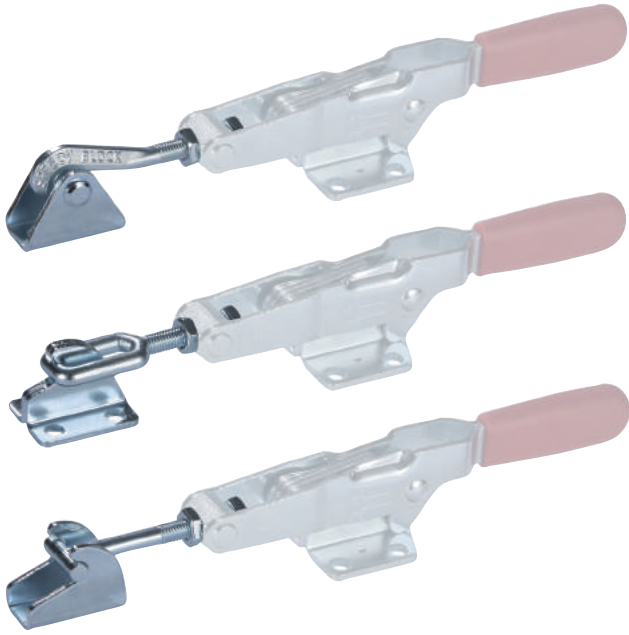
FORM TFL



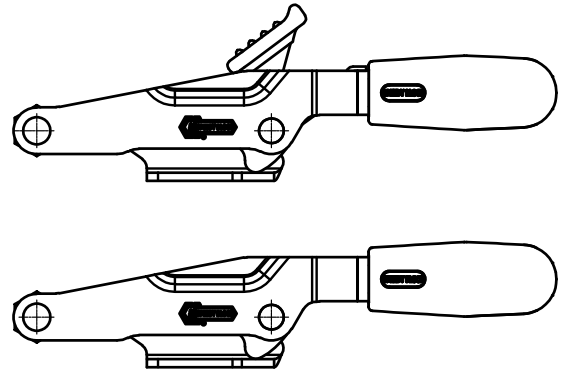
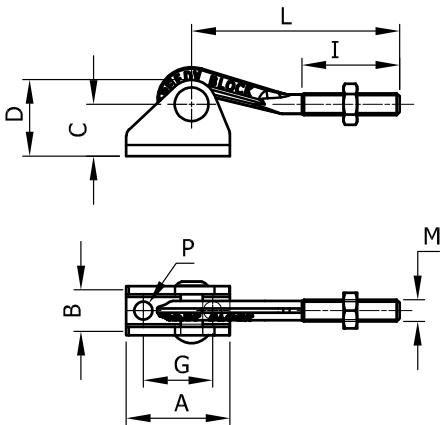
PATENT PENDING



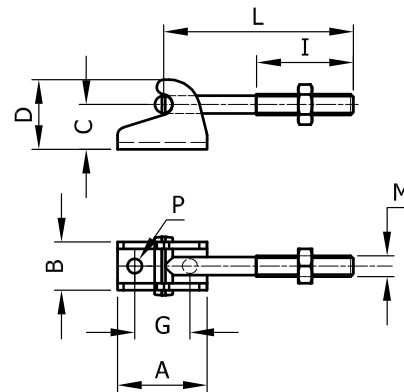
Code	Description	Stainless steel Code	Stainless steel	A	B	C	D	E	F	G	H	I	L	M	N	O	P	Q	S	Fh (daN)	gr.
AL430	33/TL	AS440	33/TLX	200	65	19	40	49	35	33.5	19	19	50	34	17	3	22.3	6.5	83	500	441
AL435	33/TFL	AS442	33/TFLX	197	65	19	40	49		33.5		19	50		17	3		6.5	83	500	413
AL440	43/TL	AS444	43/TLX	248	74	28	51	63	50	45	31	32	61	41	20	4	25.4	8.5	110	1000	834
AL445	43/TFL	AS446	43/TFLX	242	74	28	51	63		45		32	61		20	4		8.5	90	1000	719



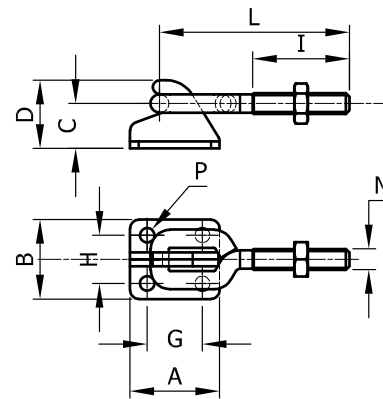
TU Hook rod



TT T-shaped rod



TG Eye bolt rod



Code	Description	Stainless steel Code	Stainless steel	A	B	C	D	G	H	I	L	M	P
AU544	33/TG	AU556	33/TGX	35	34	19	30	19	22.3	34	76.5	M8	6.7
AU546	43/TG	AU558	43/TGX	50	41	28	40.5	31	25.4	42	95.5	M10	8.5
Code	Description	Stainless steel Code	Stainless steel	A	B	C	D	G	I	L	M	P	
AU548	33/TU	AU560	33/TUX	38	18	19	28	25.4	34	76.5	M8	6.7	
AU550	43/TU	AU562	43/TUX	50	26	28	39	31	43	93	M10	8.5	
Code	Description	Stainless steel Code	Stainless steel	A	B	C	D	G	I	L	M	P	
AU552	33/TT	AU564	33/TTX	35	18	19	30	19	34	76.5	M8	6.7	
AU554	43/TT	AU566	43/TTX	50	26	28	40.5	31	43	93	M10	8.5	

LATCH SERIES

DOUBLE ROD SERIES (LIGHT PERFORMANCE).

The sizes of this series are also produced in stainless steel and are shown below in red.

Material: Galvanized steel or **AISI 304 stainless steel**

Riveted pivots and rod: Galvanized steel or **AISI 304 stainless steel**

Swinging pivot: Galvanized steel or **AISI 303 stainless steel**

Handles: Red polyurethane resistant to oils, grease and other chemical agents.

Performance: The tool comes with a double bar with hooking bracket and nuts.

In addition to the standard length of the U rods, a variety of other lengths are given on page 55.

Therefore, when ordering, indicate:

T2 or T2X = Tool with Standard Double Threaded Rod and hooking bracket

T20 or T20X = Tool without double Threaded rod, which is to be ordered separately (see page 55)

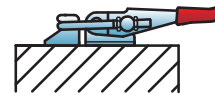
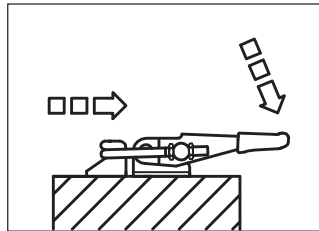
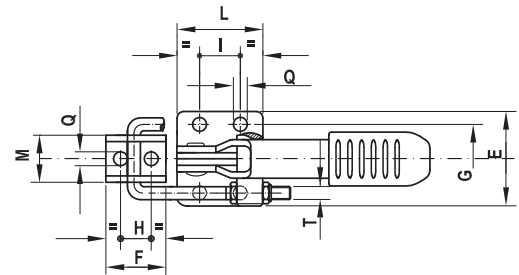
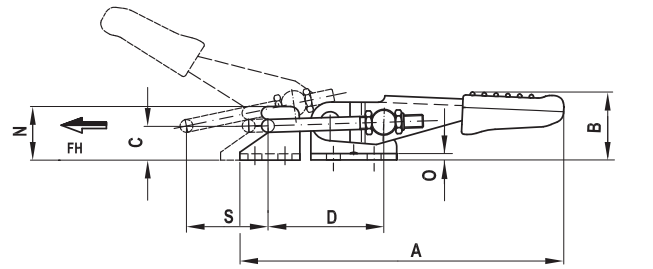
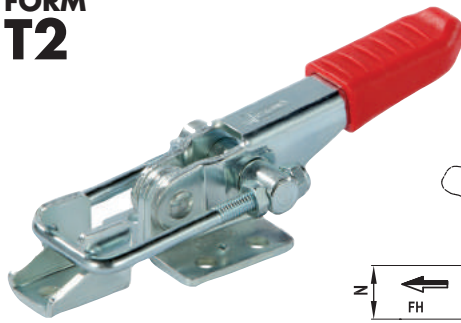
Features and applications: The tools of this series ensure a perfect closing of lids.

The support base is perpendicular to the force line of action.

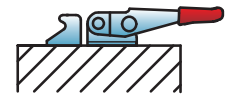
In the closed position, the control lever is parallel to the support base.

A special grease is placed between two contacting surfaces during assembly.

FORM T2



T2-T2X

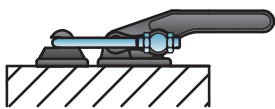
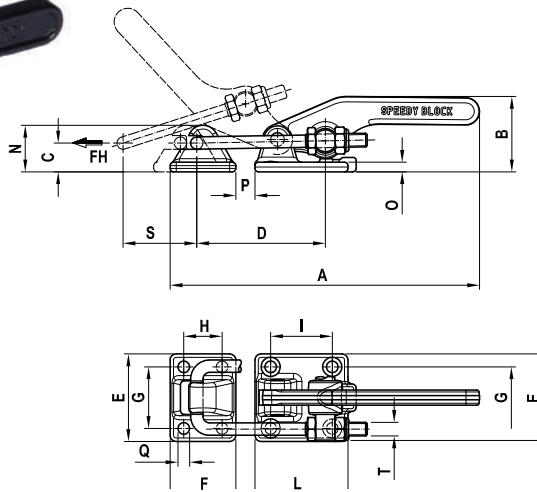


T20-T20X

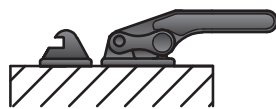
Code	Description	Stainless steel Code	Stainless steel	A	B	C	D	E	F	G	H	I	L	M	N	O	Q	S	T	Fh (daN)	gr.
AL500	160/T2	AS500	160/T2X	98	25	12	35-44	28	20	19	10	16	26	14	18	2	4.3	25	M4	160	85
AL505	320/T2	AS505	320/T2X	152	30	16	54-63	44	28	32	14.3	19	40	22	25	3	6.5	48	M6	320	250
AL510	700/T2	AS510	700/T2X	220	42	24	70-90	54	38	38	19	41.5	60	26	36	3.5	8.5	58	M8	750	600



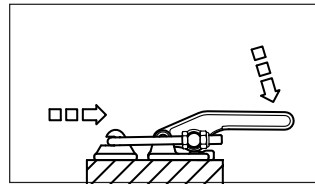
FORM T2



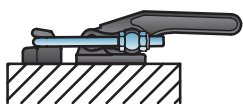
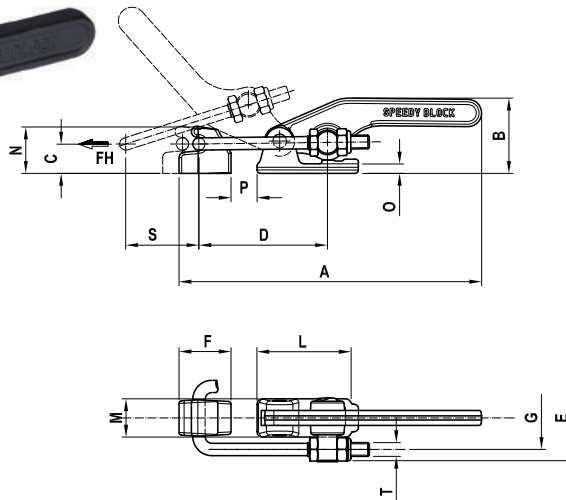
T2-T2X



T20-T20X



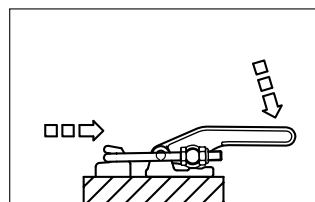
FORM T2S



T2S-T2SX



T2S0-T2S0X



DOUBLE AND WELDABLE DOUBLE ROD SERIES (HEAVY PERFORMANCE)

The sizes of this series are also produced in stainless steel and are shown below in red.

Material: Hot-stamped, weldable, black varnished steel or **hot-stamped AISI 304 stainless steel**.

Pivot: Hardened, ground and knurled steel to prevent rotation.

Bar, swinging pivot and nuts: Galvanized steel or **AISI 303 stainless steel**

Performance:

Form T2 Hot-stamped black varnished steel or **hot-stamped AISI 304 stainless steel**

Form T2S Hot-stamped and phosphated stainless steel or **hot-stamped AISI 304 stainless steel**

The tool comes with a double bar with hooking bracket and nuts.

In addition to the standard length of the U rods, a variety of other lengths are given on page 55.

Therefore, when ordering, indicate:

T2-T2S or T2X-T2SX == Tool with Standard Double Threaded Rod and hooking bracket

T20-T250 or T20X-T250X == Tool without double Threaded rod, which is to be ordered separately (see page 55)

Features and applications: The tools of this series ensure a good closure of lids. The construction features and the materials chosen give these tools high resistance qualities.

The support base is perpendicular to the force line of action.

In the closed position, the control lever is parallel to the support base.

A special grease is placed between two contacting surfaces during assembly.

Code	Description	Stainless steel Code	Stainless steel	A	B	C	D	E	F	G	H	I	L	N	O	P	Q	S	T	Fh (daN)	FhX (daN)	gr.
AL518	1700/T2	AS518	1700/T2X	226	55	21	94-106	64	48	45	28	45	68	34	7	14	8.5	54-58	M10	1700	1400	1085
AL522	4000/T2	AS522	4000/T2X	282	68	27	112-124	80	60	57	35	57	85	42	9	14	10.5	62-65	M12	4000	3000	2070

Code	Description	Stainless steel Code	Stainless steel	A	B	C	D	E	F	G	L	M	N	O	P	S	T	Fh (daN)	FhX (daN)	gr.
AL520	1700/T2S	AS520	1700/T2SX	221	55	21	94-106	64	38	46	68	26.5	34.5	7	19	54-58	M10	1700	1400	1085
AL524	4000/T2S	AS524	4000/T2SX	277	68	27	102-124	80	50	55	85	32	43	9	19	62-65	M12	4000	3000	2070

LATCH SERIES

DOUBLE ROD WITH SAFETY LEVER SERIES (LIGHT PERFORMANCE)

The sizes of this series are also produced in **Stainless Steel 316** and are shown below in red.

Material: Galvanized steel or **AISI 316 stainless steel**

Rivets and rods: Galvanized steel or **AISI 316 stainless steel**

Swinging pivot: Galvanized steel or **AISI 316 stainless steel**

Handles: Red polyurethane resistant to oils, grease and other chemical agents.

Performance: The tool comes with a double bar with hooking bracket and nuts.

In addition to the standard length of the U rods, a variety of other lengths are given on page 55.

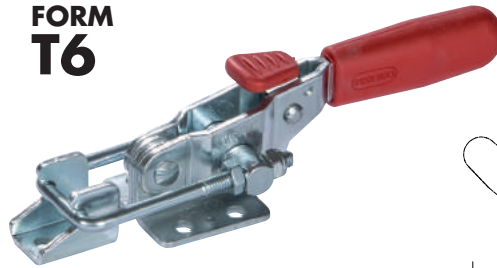
T6 or T16 = Tool with Standard Double Threaded Rod and hooking bracket

T60 or T160X = Tool without double Threaded rod, which is to be ordered separately (see page 55)

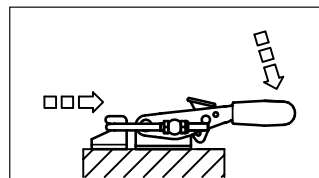
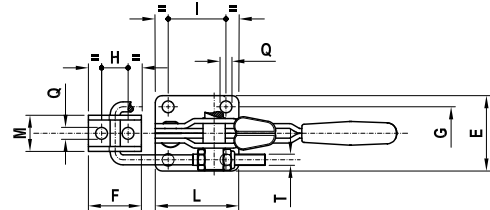
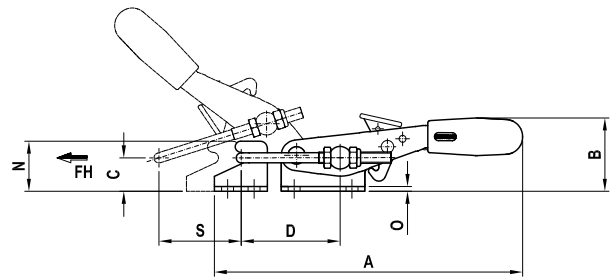
Features and applications:

The main feature of this series is the special safety lever with the purpose of preventing any accidental openings caused by vibrations. The tools of this series ensure a perfect closing of lids. The support base is perpendicular to the force line of action. In the closed position, the control lever is parallel to the support base. A special grease is placed between two contacting surfaces during assembly.

FORM T6



PATENT PENDING



T6-T16

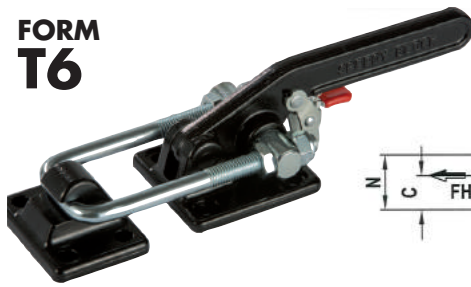


T60-T160

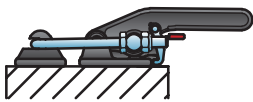
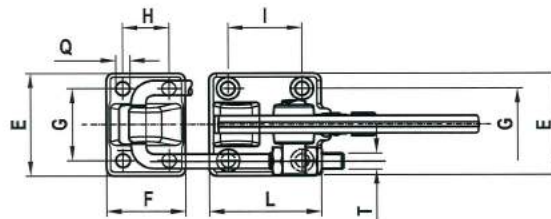
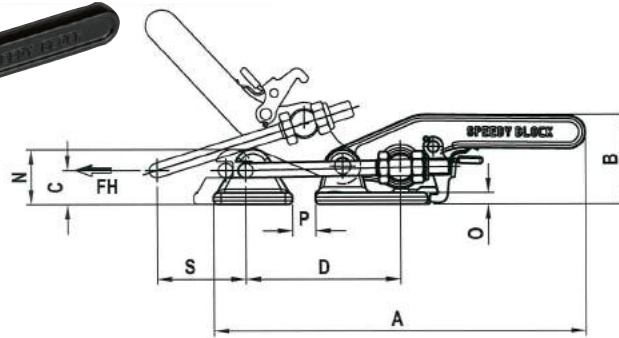
Code	Description	Stainless steel Code	316 stainless steel	A	B	C	D	E	F	G	H	I	L	M	N	O	Q	S	T	Fh (Dan)	gr. stainless steel	gr. stainless steel
AL780	160/T6	AS600	160/T16	101	31	12	35-44	28	20	19	10	16	26	14	18	2	4.3	25	M4	160	92	95
AL785	320/T6	AS605	320/T16	169	45	16	54-63	44	28	32	14.3	19	40	22	25	3	6.5	44	M6	320	307	331
AL790	700/T6	AS610	700/T16	221	56	24	70-90	54	38	38	19	41.5	60	26	36	3.5	8.5	58	M8	750	627	644



FORM T6



PATENT PENDING



T6-T6X



T60-T60X

DOUBLE AND WELDABLE DOUBLE ROD WITH SAFETY LEVER SERIES (HEAVY PERFORMANCE)

The sizes of this series are also produced in stainless steel and are shown below in red.

Material: Hot stamped, weldable, black varnished steel or hot stamped **AISI 304** stainless steel.

Pivot: Hardened, ground and knurled steel to prevent rotation.

Bar, swinging pivot and nuts: Galvanized steel or **AISI 303 stainless steel**

Performance: Form T6 hot stamped, black varnished steel or hot stamped **AISI 304** stainless steel.

Form T6S hot stamped, and phosphated steel or hot stamped **AISI 304** stainless steel.

The tool comes with a double bar with hooking bracket and nuts.

In addition to the standard length of the U rods, a variety of other lengths are given on page 55.

Therefore, when ordering, indicate:

T6-T6S or T6X-T6SX = Tool with Standard Double Threaded Rod and hooking bracket

T60-T6S0 or T60X-T6S0X = Tool without double Threaded rod, which is to be ordered separately (see page 55).

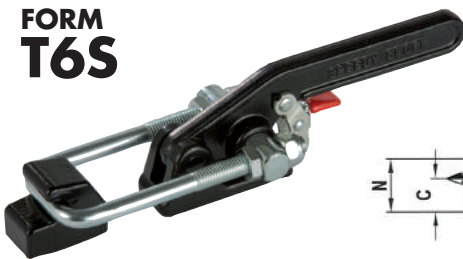
Features and applications: The tools of this series ensure a perfect closing of lids.

The construction features and materials chosen make these tools highly resistant. The support base is perpendicular to the force line of action.

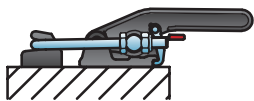
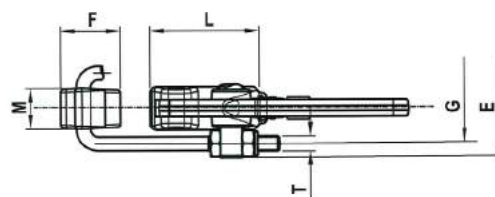
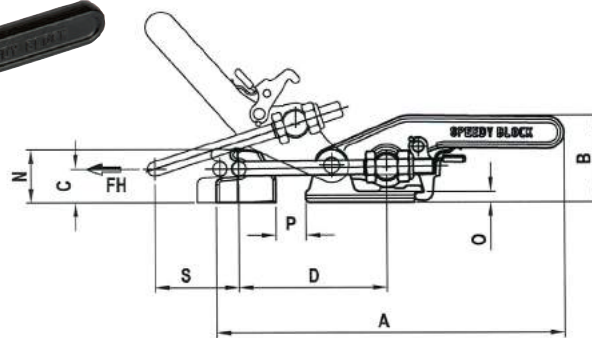
In the closed position, the control lever is parallel to the support base.

A special grease is placed between two contacting surfaces during assembly

FORM T6S



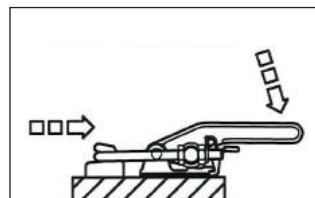
PATENT PENDING



T6S-T6SX



T6S0-T6S0X



Code	Description	Stainless steel Code	Stainless steel	A	B	C	D	E	F	G	H	I	L	N	O	P	Q	S	T	Fh (daN)	gr.	gr.
																					stainless steel	stainless steel
AL795	1700/T6	AS615	1700/T6X	226	55	21	94-106	64	48	45	28	45	68	34	7	14	8.5	54-58	M10	1700	1400	1110
AL800	4000/T6	AS620	4000/T6X	282	68	27	112-124	80	60	57	35	57	85	42	9	14	10.5	62-65	M12	4000	3000	2100

Code	Description	Stainless steel Code	Stainless steel	A	B	C	D	E	F	G	L	M	N	O	P	S	T	Fh (daN)	FhX (daN)	gr.	
AL805	1700/T6S	AS625	1700/T6SX	221	55	21	94-106	64	38	46	68	26.5	34.5	7	19	54-58	M10	1700	1400	1110	
AL810	4000/T6S	AS630	4000/T6SX	277	68	27	112-124	80	50	55	85	32	43	9	19	62-65	M12	4000	3000	2100	

LATCH SERIES

DOUBLE ROD SERIES (LIGHT PERFORMANCE)

The sizes of this series are also produced in stainless steel and are shown below in red.

Material: Galvanized steel or **AISI 304 stainless steel**

Riveted pivots and rod: Galvanized steel or **AISI 304 stainless steel**

Swinging pivot: Galvanized steel or **AISI 303 stainless steel**

Handles: Red polyurethane resistant to oils, grease and other chemical agents.

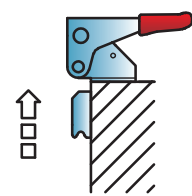
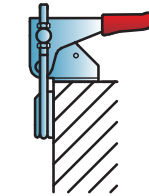
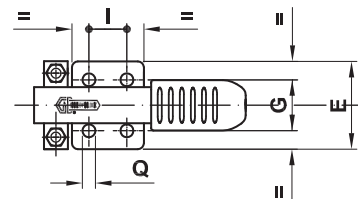
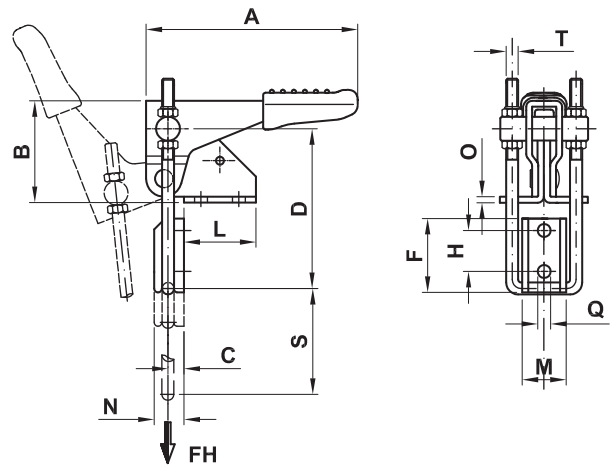
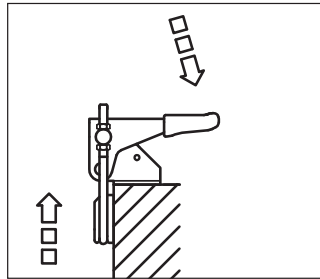
Performance: the tool comes with a double bar with hooking bracket and nuts. In addition to the standard length of the U rods, a variety of other lengths are given on page 55. Therefore, when ordering, indicate:

T3 or T3X = Tool with Standard Double Threaded Rod and hooking bracket

T30 or T30X = Tool without double Threaded rod, which is to be ordered separately (see page 55)

Features and applications: The tools of this series ensure a perfect closing of lids. The support base is perpendicular to the force line of action. In the closed position, the control lever is parallel to the support base. A special grease is placed between two contacting surfaces during assembly.

FORM T3



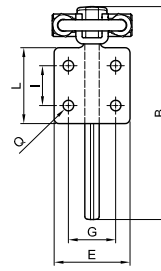
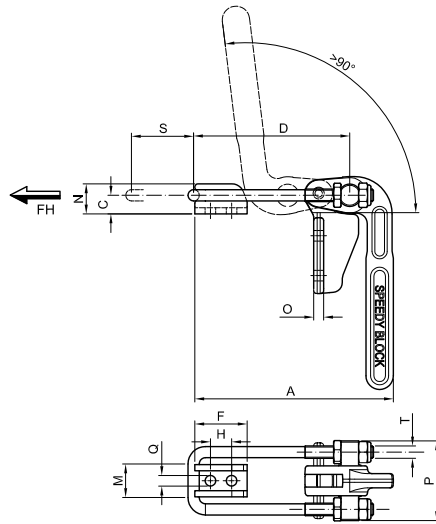
T3-T3X

T30-T30X

Code	Description	Stainless steel Code	Stainless steel	A	B	C	D	E	F	G	H	I	L	M	N	O	Q	S	T	Fh (daN)	gr.
AL530	160/T3	AS530	160/T3X	68	36	5	48-58	35	25.5	22	14.3	13	26	14	10	2	4.3	34.5	M4	160	100
AL535	320/T3	AS535	320/T3X	106	52.5	8	75-95	44	37	25.5	20.5	19	36	22	15	3	6.5	53	M6	320	320
AL540	700/T3	AS540	700/T3X	147	66	13	98-122	54	48.5	36.5	27	32	52	26	23	3.5	8.5	64	M8	750	680



FORM T3



DOUBLE AND WELDABLE DOUBLE ROD SERIES (HEAVY PERFORMANCE)

Material: Hot-stamped, weldable, black varnished steel.

Pivot: Hardened, ground and knurled steel to prevent rotation.

Bar, swinging pivot and nuts: Galvanized steel

Performance: Form T3 Hot-stamped, black varnished steel
Form T3S Hot-stamped and phosphated steel

The tool comes with a double bar with hooking bracket and nuts.

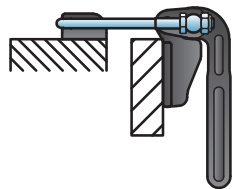
In addition to the standard length of the U rods, a variety of other lengths are given on page 55.

Therefore, when ordering, indicate:

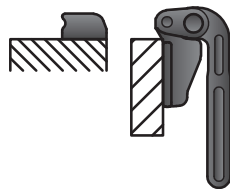
T3-T3S = Tool with Standard Double Threaded Rod and hooking bracket

T30-T3S0 = Tool without double Threaded rod, **which is to be ordered separately** (see page 55)

Features and applications: The tools of this series ensure a perfect closing of lids. The construction features and materials chosen make these tools highly resistant. The support base is perpendicular to the force line of action. In the closed position, the control lever is parallel to the support base.

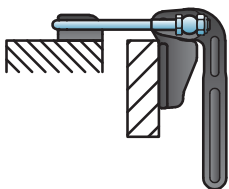
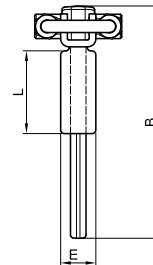
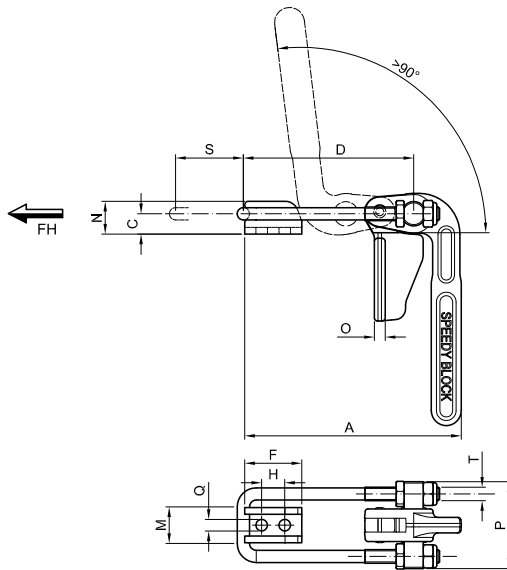


T3

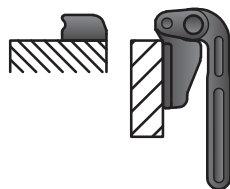


T30

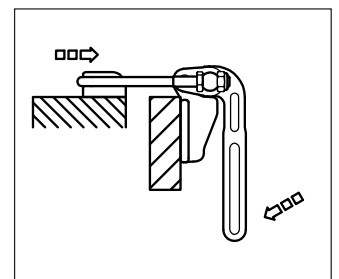
FORM T3S



T3S



T3S0



Code	Description	A	B	C	D	E	F	G	H	I	L	M	N	O	P	Q	S	T	Fh (daN)	gr.
AL550	1400/T3	159.5	171	15	104.5-125.5	61	42	38	17	32	61	26	24	8	64	8.5	50	M10	1200	1235

Code	Description	A	B	C	D	E	F	H	L	M	N	O	P	Q	S	T	Fh (daN)	gr.
AL552	1400/T3S	159.5	171	15	104.5-125.5	61	42	17	61	26	24	8	64	8.5	50	M10	1200	1115

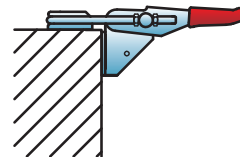
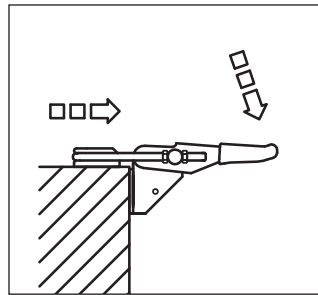
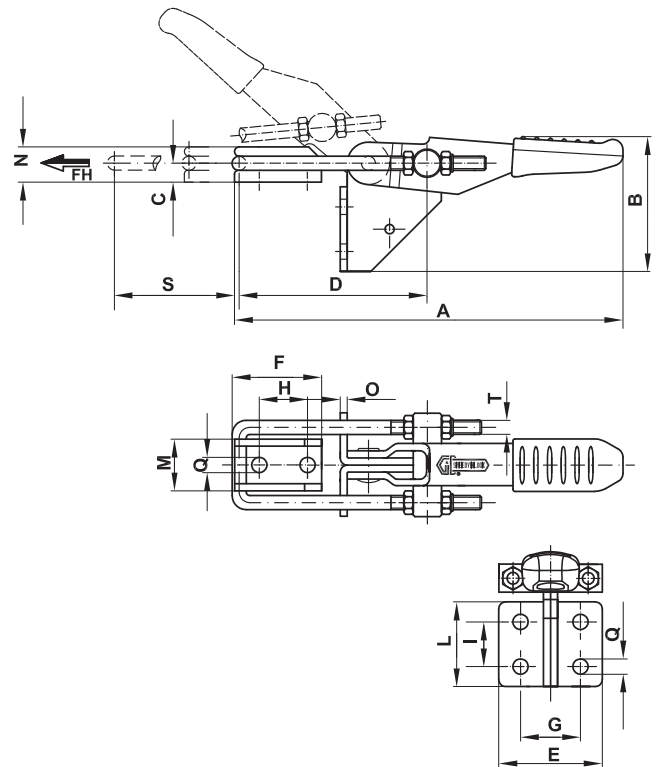
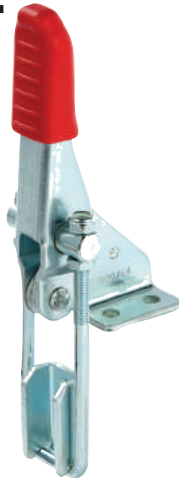
LATCH SERIES

DOUBLE ROD SERIES (LIGHT PERFORMANCE)

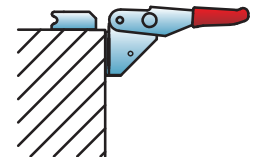
Material: Galvanized steel
Riveted pivots and rod: Galvanized steel
Swinging pivot: Galvanized steel
Handles: Red polyurethane resistant to oils, grease and other chemical agents.
Performance: The tool comes with a double bar with hooking bracket and nuts.
 In addition to the standard length of the U rods, a variety of other lengths are given on page 55.
 Therefore, when ordering, indicate:
T4 = Tool with Standard Double Threaded Rod and hooking bracket
T40 = Tool without double Threaded rod, **which is to be ordered separately** (see page 55)

Features and applications: The tools of this series ensure a perfect closing of lids.
 The support base is perpendicular to the force line of action.
 In the closed position, the control lever is perpendicular to the support base.
 A special grease is placed between two contacting surfaces during assembly.

FORM T4

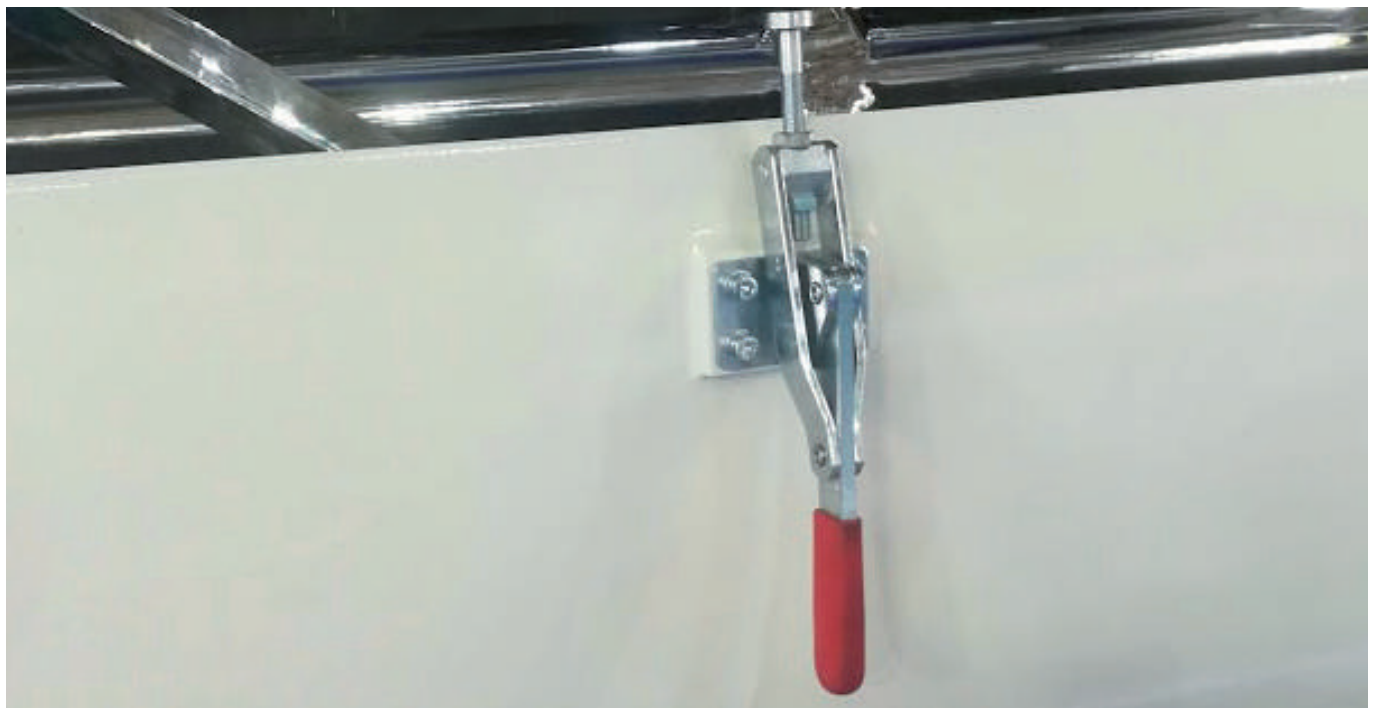


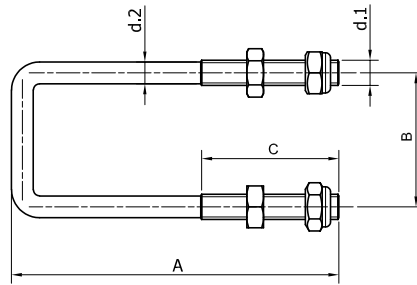
T4



T40

Code	Description	A	B	C	D	E	F	G	H	I	L	M	N	O	Q	S	T	Fh (daN)	gr.
AL560	160/T4	99	40	5	48-58	35	25.5	22	14.3	13	26	14	10	2	4.3	32	M4	160	95
AL565	320/T4	152	57.5	8	75-95	44	37	25.5	20.5	19	36	22	15	3	6.5	53	M6	320	295
AL570	700/T4	225	82	13	98-122	54	48.5	36.5	27	32	52	26	23	3.5	8.5	64	M8	750	655





U-SHAPED ACCESSORY FOR LATCH SERIES

Material:

Galvanized steel or **AISI 304 stainless steel**

or **AISI 316 stainless steel**

Performance:

The rod comes complete with 4 nuts.

Rod code	For model	Stainless steel 304 Code	For model	Stainless steel 316 Code	For model	A	B	C	D.1	D.2
AX556	160/T2-T6	AX570	160/T2X	AX604	160/T16	56.4	21	27.5	M4	3.4
AX557	160/T3-T4	AX574	160/T3X			70.4	21	28.5	M4	3.4
AX556-103	160/T20-T30-T40-T60	AX570-103	160/T20X-T30X	AX604-103	160/T160	103.4	21	30	M4	3.4
AX556-153	160/T20-T30-T40-T60	AX570-153	160/T20X-T30X	AX604-153	160/T160	153.4	21	35	M4	3.4
AX556-203	160/T20-T30-T40-T60	AX570-203	160/T20X-T30X	AX604-203	160/T160	203.4	21	35	M4	3.4
AX558	320/T2-T6	AX572	320/T2X	AX606	320/T16	78.2	32	44	M6	5.2
AX559	320/T3-T4	AX576	320/T3X			110.2	32	44	M6	5.2
AX558-130	320/T20-T30-T40-T60	AX572-130	320/T20X-T30X	AX606-130	320/T160	130.2	32	45	M6	5.2
AX558-155	320/T20-T30-T40-T60	AX572-155	320/T20X-T30X	AX606-155	320/T160	155.2	32	45	M6	5.2
AX558-205	320/T20-T30-T40-T60	AX572-205	320/T20X-T30X	AX606-205	320/T160	205.2	32	45	M6	5.2
AX560	700/T2-T6	AX573	700/T2X	AX608	700/T16	111.2	38	52	M8	7.2
AX563	700/T3-T4	AX577	700/T3X			143.2	38	56	M8	7.2
AX560-127	700/T20-T30-T40-T60	AX573-127	700/T20X-T30X	AX608-127	700/T160	127.2	38	60	M8	7.2
AX560-157	700/T20-T30-T40-T60	AX573-157	700/T20X-T30X	AX608-157	700/T160	157.2	38	60	M8	7.2
AX560-207	700/T20-T30-T40-T60	AX573-207	700/T20X-T30X	AX608-207	700/T160	207.2	38	60	M8	7.2

Rod code	For model	Stainless steel 304 Code	For model	A	B	C	D.1	D.2
AX561	1700/T2-T2S-T6-T6S	AX578	1700/T2X-T2SX-T6-T6SX	129	46	45	M10	9
AX564	1400/T3-T3S			149	46	55	M10	9
AX561-179	1400/T30-T3S0 1700/T20-T2S0-T60-T6S0	AX578-179	1700/T20X-T2S0X-T60X-T6S0X	179	46	45	M10	9
AX561-209	1400/T30-T3S0 1700/T20-T2S0-T60-T6S0	AX578-209	1700/T20X-T2S0X-T60X-T6S0X	209	46	45	M10	9
AX561-259	1400/T30-T3S0 1700/T20-T2S0-T60-T6S0	AX578-259	1700/T20X-T2S0X-T60X-T6S0X	259	46	45	M10	9
AX565	1510/T2-T2S			179	52	70	M10	8.9
AX562	4000/T2-T2S-T6-T6S	AX580	4000/T2X	150.8	55	70	M12	10.8
AX562-211	4000/T20-T2S0-T60-T6S0	AX580-211	4000/T20X-T2S0X-T60X-T6S0X	210.8	55	70	M12	10.8
AX562-361	4000/T20-T2S0-T60-T6S0	AX580-361	4000/T20X-T2S0X-T60X-T6S0X	360.8	55	70	M12	10.8
AX562-421	4000/T20-T2S0-T60-T6S0	AX580-421	4000/T20X-T2S0X-T60X-T6S0X	420.8	55	70	M12	10.8

HEAVY LATCH SERIES

T5 ROD SERIES WITH SAFETY LEVER (LIGHT PERFORMANCE)

The sizes of this series are also produced in stainless steel and are shown below in red.

Material: Parts made of phosphated sheet metal and riveted pivots made of galvanized steel or **AISI 304 stainless steel**.

Turned parts made of galvanized steel or **AISI 303 stainless steel**.

Handles: Red polyurethane resistant to oils, grease and other chemical agents.

Rod: Phosphated steel or **AISI 304 stainless steel** to be ordered separately.

Features and applications: The tool can be opened with only one hand, disengage the working surface (the clamping lever opens by itself) and close it again for the next operation; you can choose from three different optional tie rods (to be ordered separately): Eye bolt rod "TG", T-shaped rod "TT", Hook Rod "TU".

The construction features and materials chosen make these tools highly resistant. The support base is perpendicular to the force line of action.

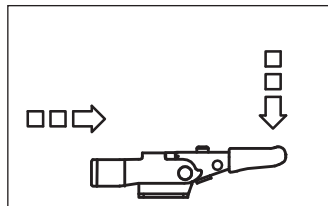
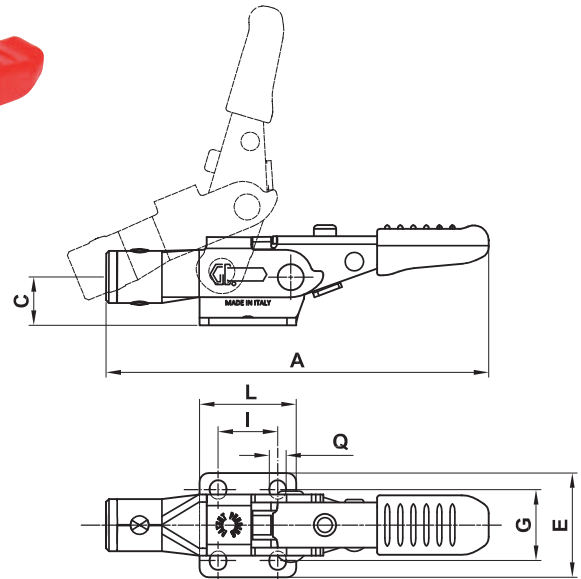
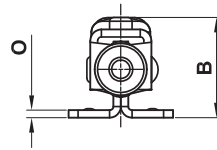
In the closed position, the control lever is parallel to the support base.

A special grease is placed between two contacting surfaces during assembly.

FORM T5



PATENTED

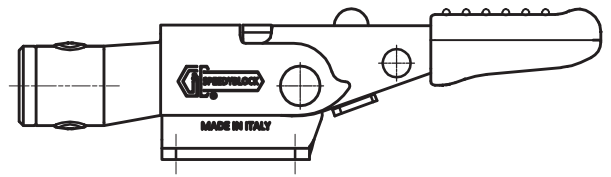
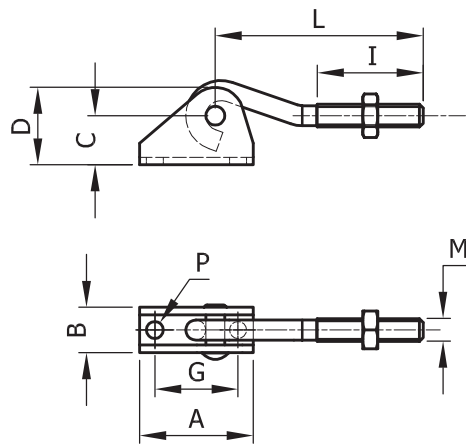


Code	Description	Stainless steel Code	Stainless steel	A	B	C	E	G	I	L	O	Q	Fh (Dan)	gr.
AL575	160/T5	AS545	160/T5X	103	26.8	13	28	19	16	26	2	4.5	175	100
AL580	320/T5	AS550	320/T5X	153	38.5	19	44	32	19	40	3	6.7	400	295
AL585	700/T5	AS555	700/T5X	222	53	28	54	38.1	41.5	60	3.5	8.5	750	690

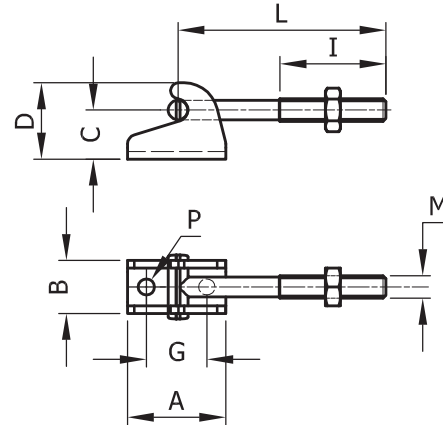




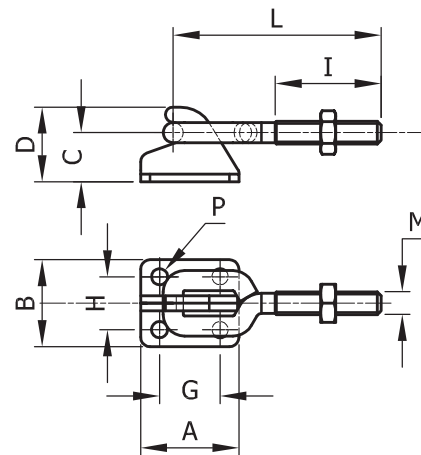
TU Hook rod



TT T-shaped rod



TG Eye bolt rod



Code	Description	Stainless steel Code	Stainless steel	A	B	C	D	G	H	I	L	M	P
AU400	160/TG	AU420	160/TGX	26	23	13	19.8	16	14.30	28	55.5	M6	4.5
AU406	320/TG	AU426	320/TGX	35	34	19	30	19	22.30	34	76.5	M8	6.7
AU412	700/TG	AU432	700/TGX	50	41	28	40.5	31	25.40	42	95.5	M10	8.5
Code	Description	Stainless steel Code	Stainless steel	A	B	C	D	G	I	L	M	P	
AU402	160/TU	AU422	160/TUX	35	14	13	20.4	25.4	28	54.5	M6	4.5	
AU408	320/TU	AU428	320/TUX	38	18	19	28	25.4	34	76.5	M8	6.7	
AU414	700/TU	AU434	700/TUX	50	26	28	39	31	43	93	M10	8.5	
Code	Description	Stainless steel Code	Stainless steel	A	B	C	D	G	I	L	M	P	
AU404	160/TT	AU424	160/TTX	26	14	13	20	16	28	55	M6	4.5	
AU410	320/TT	AU430	320/TTX	35	18	19	30	19	34	76.5	M8	6.7	
AU416	700/TT	AU436	700/TTX	50	26	28	40.5	31	43	93	M10	8.5	

HEAVY LATCH SERIES

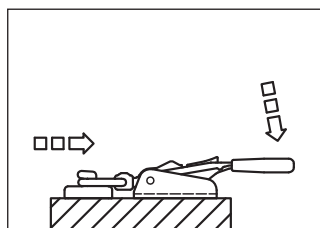
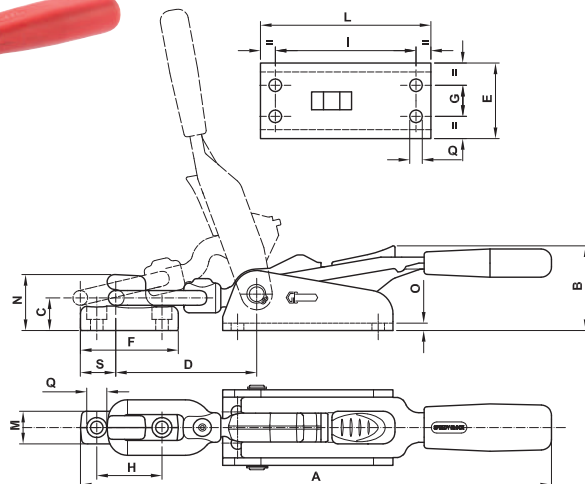
T5 ROD SERIES WITH SAFETY LEVER (HEAVY PERFORMANCE)

Material: Parts made of sheet metal and phosphated riveted pivots
 Turned parts made of phosphated steel
Handles: Red polyurethane resistant to oils, grease and other chemical agents.
Performance: The tool comes with an eye bolt bar and hooking bracket.
Features and applications: The tool can be opened with only one hand, disengage the working surface (the clamping lever opens by itself) and close it again for the next operation.
 The construction features and materials chosen make these tools highly resistant. The support base is perpendicular to the force line of action.
 In the closed position, the control lever is parallel to the support base.
 A special grease is placed between two contacting surfaces during assembly.

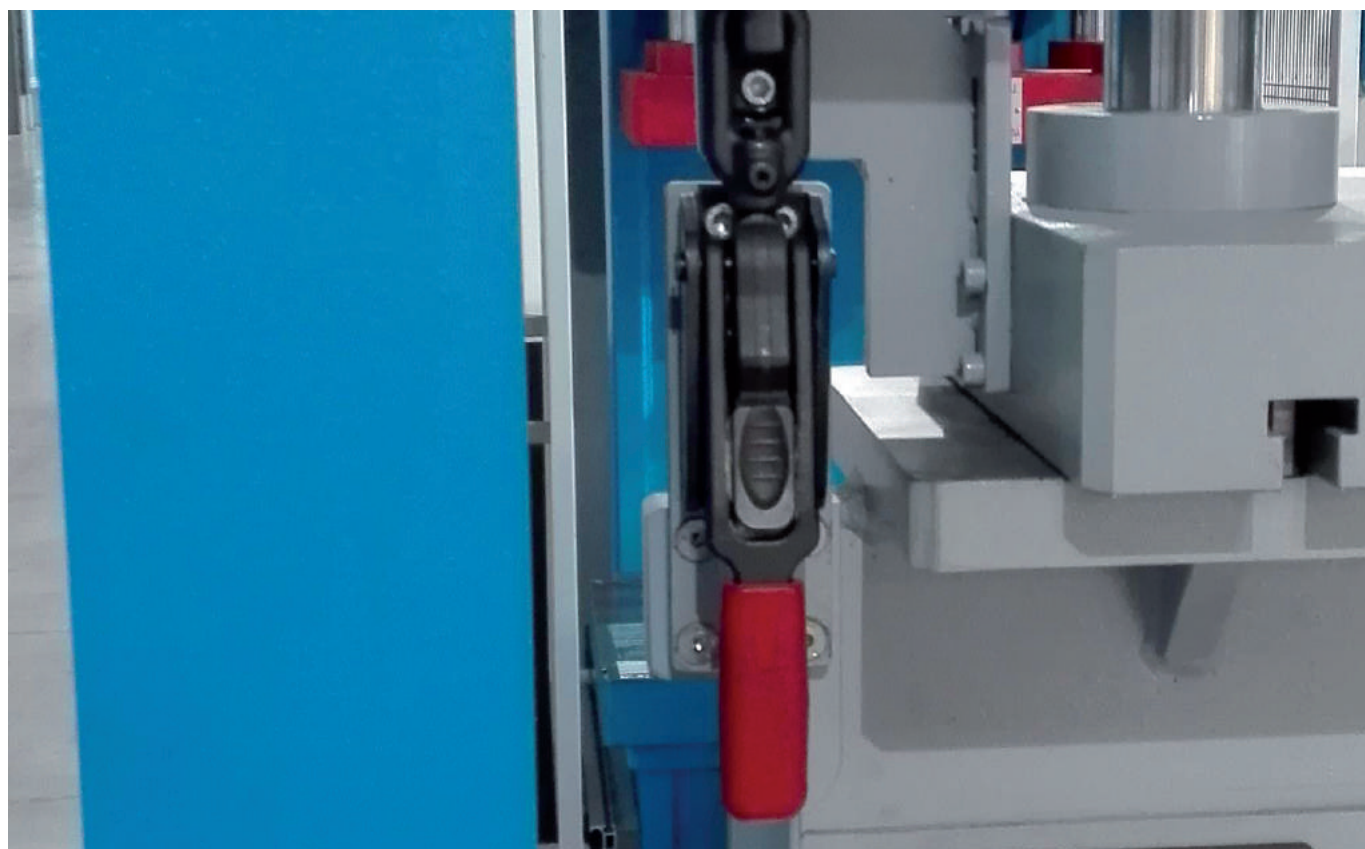
FORM T5

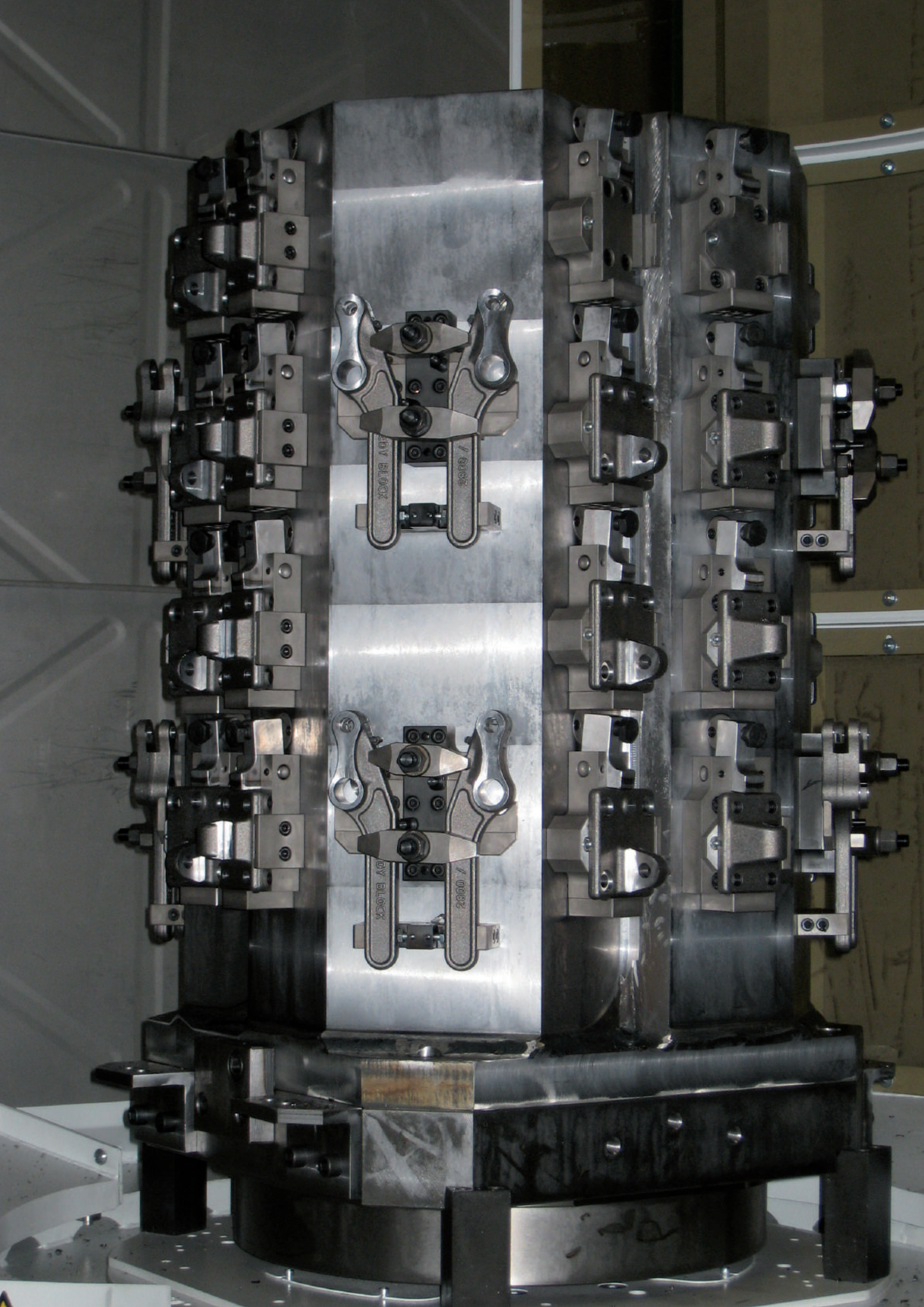


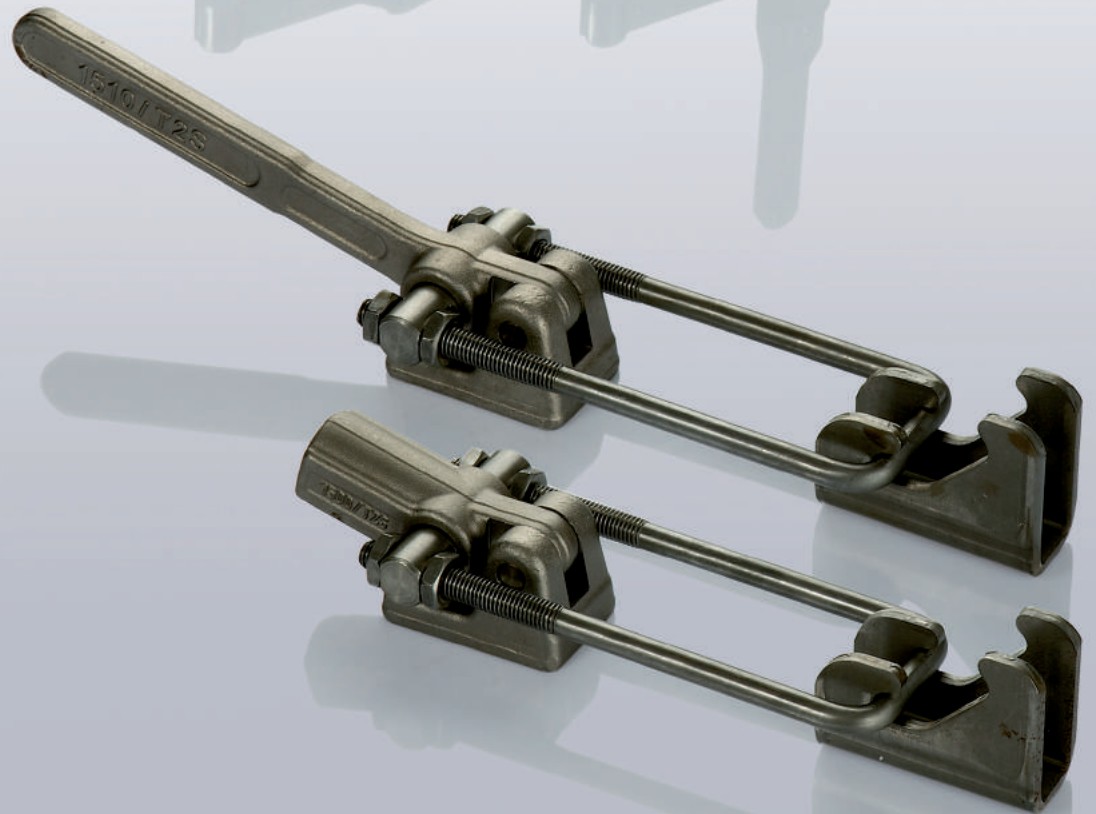
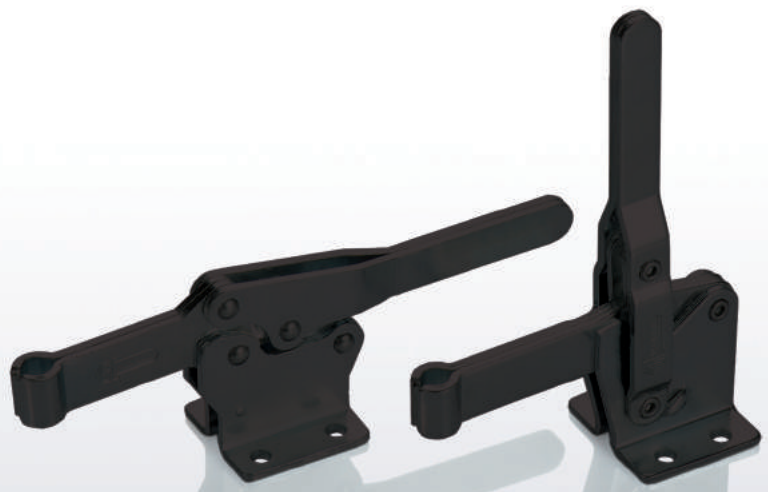
PATENTED



Code	Description	A	B	C	D	E	F	G	H	I	L	M	N	O	Q	S	Fh (daN)	gr.
AL590	1400/T5	318	57	22	95-105	51	66	21	44	95	115	22	38	5	8.5	24	1500	1600



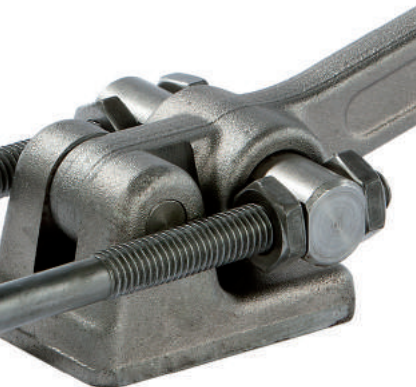






ROTATIONAL SERIES

The rotational moulding of the plastic requires clamping devices able to work in a quick and safe way at very high temperatures (240-300°C.) without any hesitation when opening and clamping. So, we have achieved a full series of clamps suitable to this type of work. This series is in part a spin off from the Speedy Block's mass production with the contribution of suitable alterations (couplings with different tolerances, modified geometries, different finishings, etc.), and in part is achieved following the suggestions and expectations of the users which urged their design.



VERTICAL ROTATIONAL SERIES

VERTICAL SERIES FOR HIGH TEMPERATURES

Material: Phosphated steel

Riveted pivots: Phosphated steel

Supporting bushes: Hardened and ground steel.

Performance: With eye bolt clamping lever for inserting the spindle.

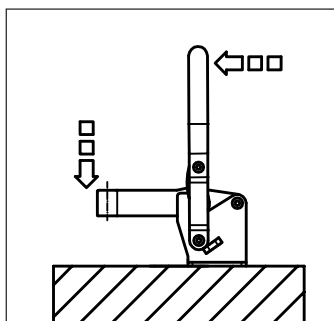
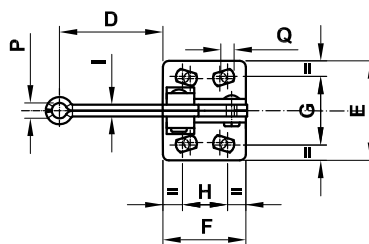
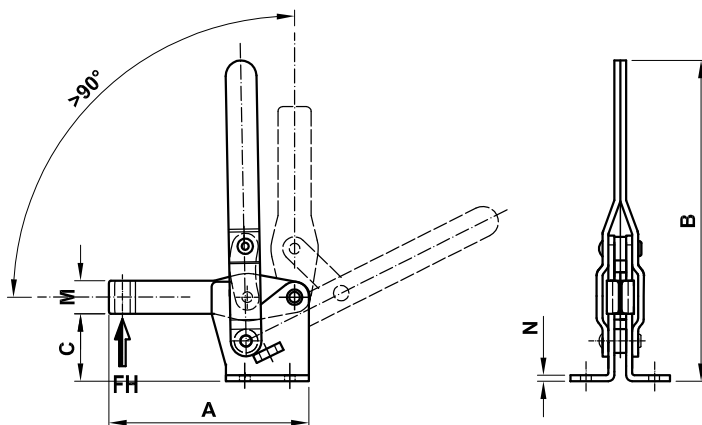
Spindles: To be ordered separately (see Accessories on page 76)

Features and applications:

The tools of this series are generally used in rotational forging, as it is able to operate at high temperatures (240-300°C).

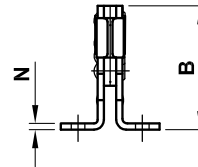
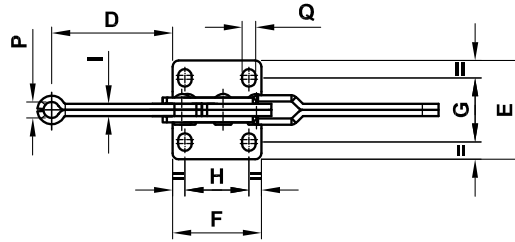
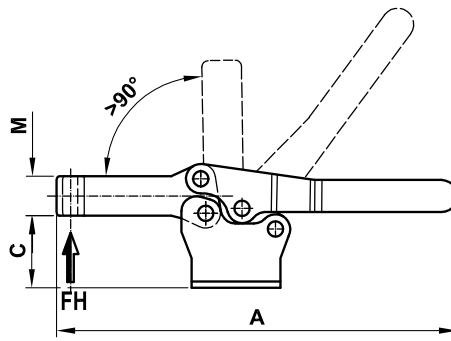
This is made possible thanks to their finish, the interposition of special copper grease between the parts and appropriate tolerances between the couplings.

FORM ER



Code	Description	A	B	C	D	E	F	G	H	I	M	N	P	Q	Fh1 (daN)	gr. △
AR530	130/ER	85	136	28	44	42	35	27-29	12.5-19	5	16	2.5	6.5	5.6	160	210
AR540	230/ER	110	164	33.5	60	45	43	32	19-20	6	18	3	8	6.7	200	330
AR550	330/ER	128	189	43	69	68.5	50	45-46	29-32	7	22	3.5	10.5	8.5	240	519

**FORM
OR**



HORIZONTAL SERIES FOR HIGH TEMPERATURES

Material: Phosphated steel

Riveted pivots: Phosphated steel

Supporting bushes: Hardened and ground steel.

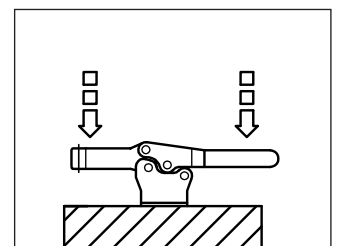
Performance: With eye bolt clamping lever for inserting the spindle.

Spindles: To be ordered separately (see Accessories on page 76).

Features and applications:

The tools of this series are generally used in rotational forging, as it is able to operate at high temperatures (240-300°C).

This is made possible thanks to their finish, the interposition of special copper grease between the parts and appropriate tolerances between the couplings.



Code	Description	A	B	C	D	E	F	G	H	I	M	N	P	Q	Fh1 (daN)	gr.
AR145	130/OR	165	51	30.5	50	40	36	22.4-28.4	26	5	16	2.5	6.5	5.6	100	185
AR280	230/OR	190	61.5	36.5	56	44	44	26-31.5	26	6	18	3	8.5	6.6	170	300
AR380	355/OR	260.5	83	50	89.5	58	60	38.8-43	41	7	22	3.5	10.5	8.6	180	700

ROTATIONAL ROD SERIES

DOUBLE ROD SERIES FOR HIGH TEMPERATURES

Material: Base and lever in hot pressed rough steel

Rod: Rough steel

Hooking bracket: Rough steel.

Performance: The tool comes with a bar with hooking bracket and nuts.

Features and applications: The tools of this series are generally used in rotational forging, as it is able to operate at high temperatures (240-300°C). This is made possible thanks to their finish, the interposition of special copper grease between the parts and appropriate tolerances between the couplings.

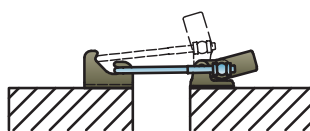
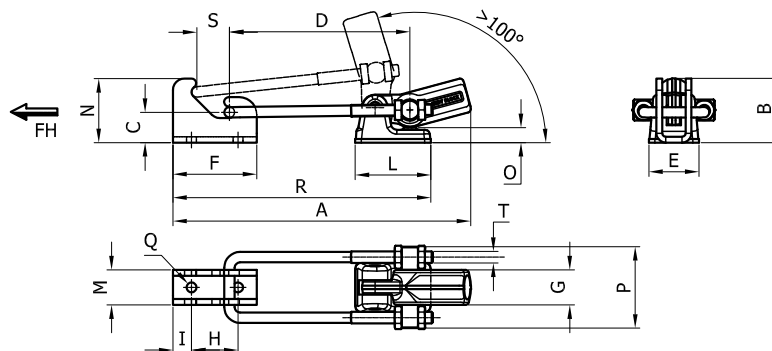
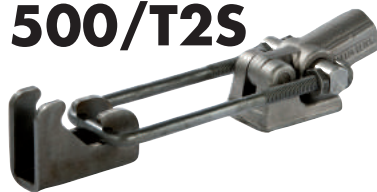
In addition to the standard length of the U rods, a variety of other lengths are given on page 55.

Therefore, when ordering, indicate:

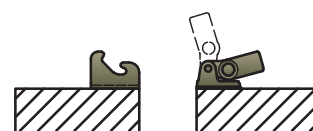
T2S = Tool with Standard Double Threaded Rod and hooking bracket

T2S0 = Tool without double Threaded rod, which is to be ordered separately (see page 55)

FORM 1500/T2S

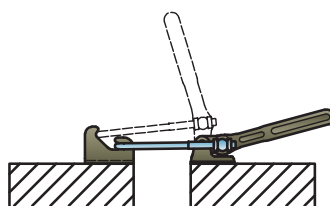
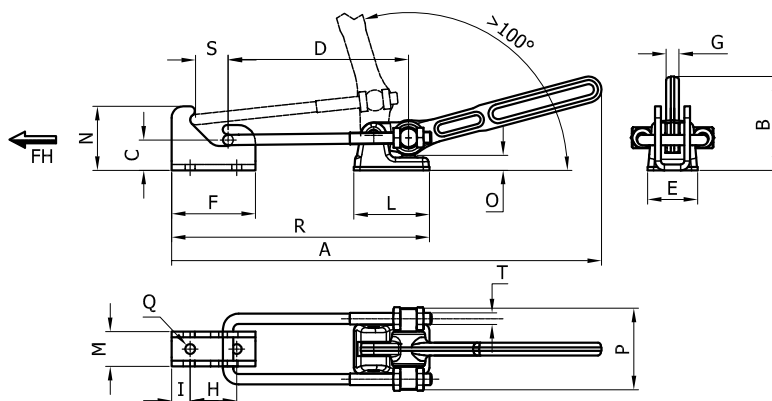
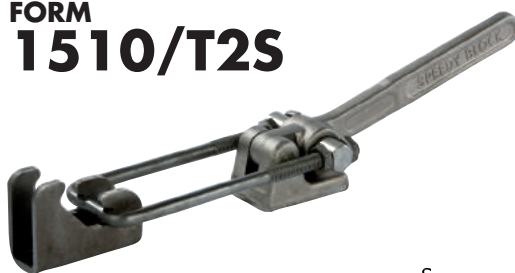


T2S

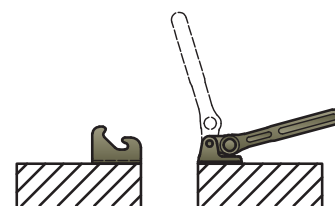


T2S0

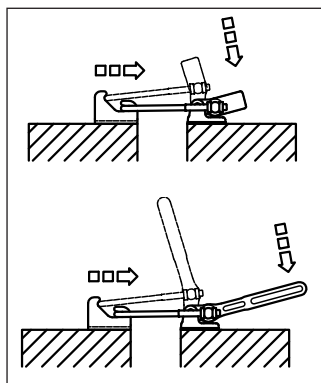
FORM 1510/T2S



T2S

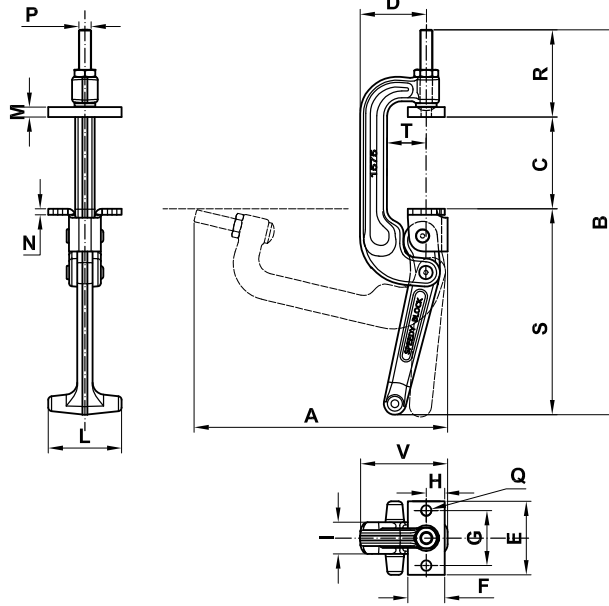


T2S0



Code	Description	A	B	C	D	E	F	G	H	I	L	M	N	P	Q	R	S	T	Fh1 (daN)	gr.
AL750	1500/T2S	256	55	26	155	43	72	30	40	16	65	30	55	70	8.5	222	28	M10	1500	1240
AL755	1510/T2S	369	80.5	26	155	43	72	11	40	16	65	30	55	70	8.5	222	28	M10	1500	1320

FORM C

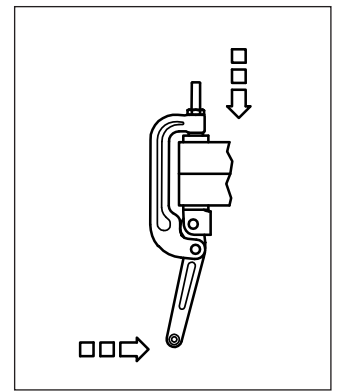


C SERIES FOR HIGH TEMPERATURES

Material: The sheet metal parts are made from steel; The other parts are made of hot-stamped weldable steel.

Performance: The tool comes complete with adjusting screw and bearing plate.

Features and applications: The tools of this series are generally used in rotational forging, as it is able to operate at high temperatures (240-300°C). This is made possible thanks to their finish, the interposition of special copper grease between the parts and appropriate tolerances between the couplings.

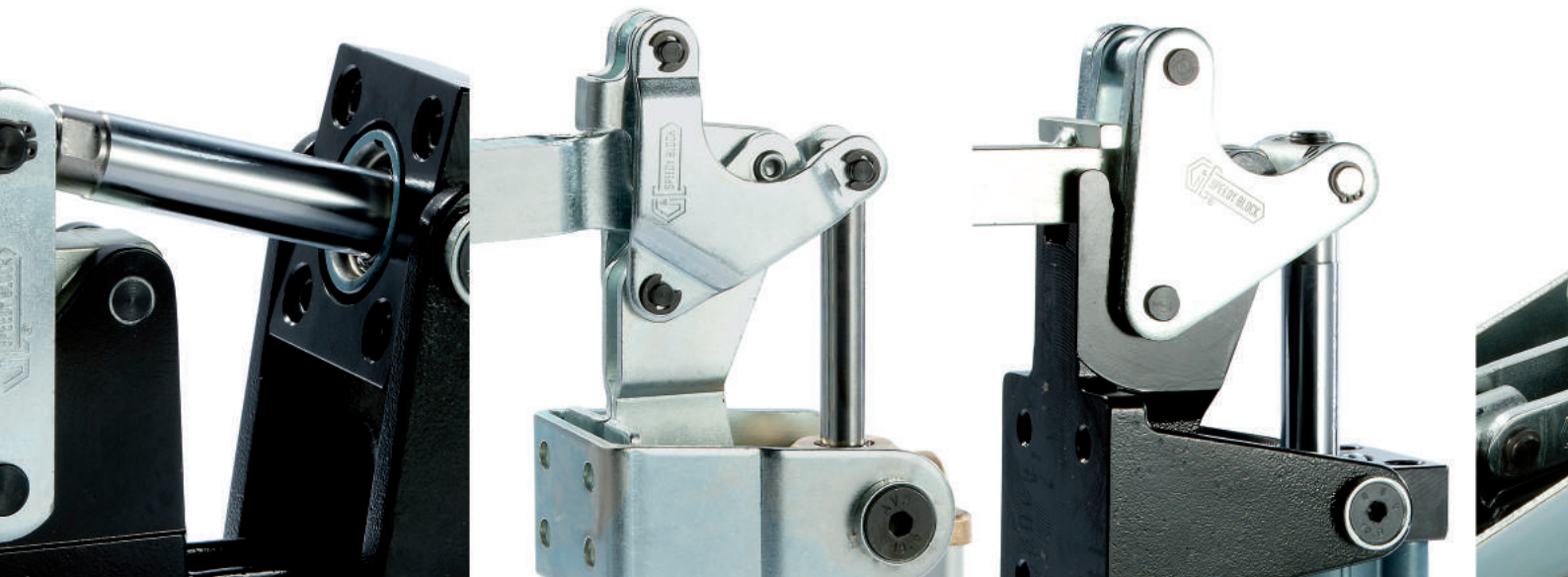
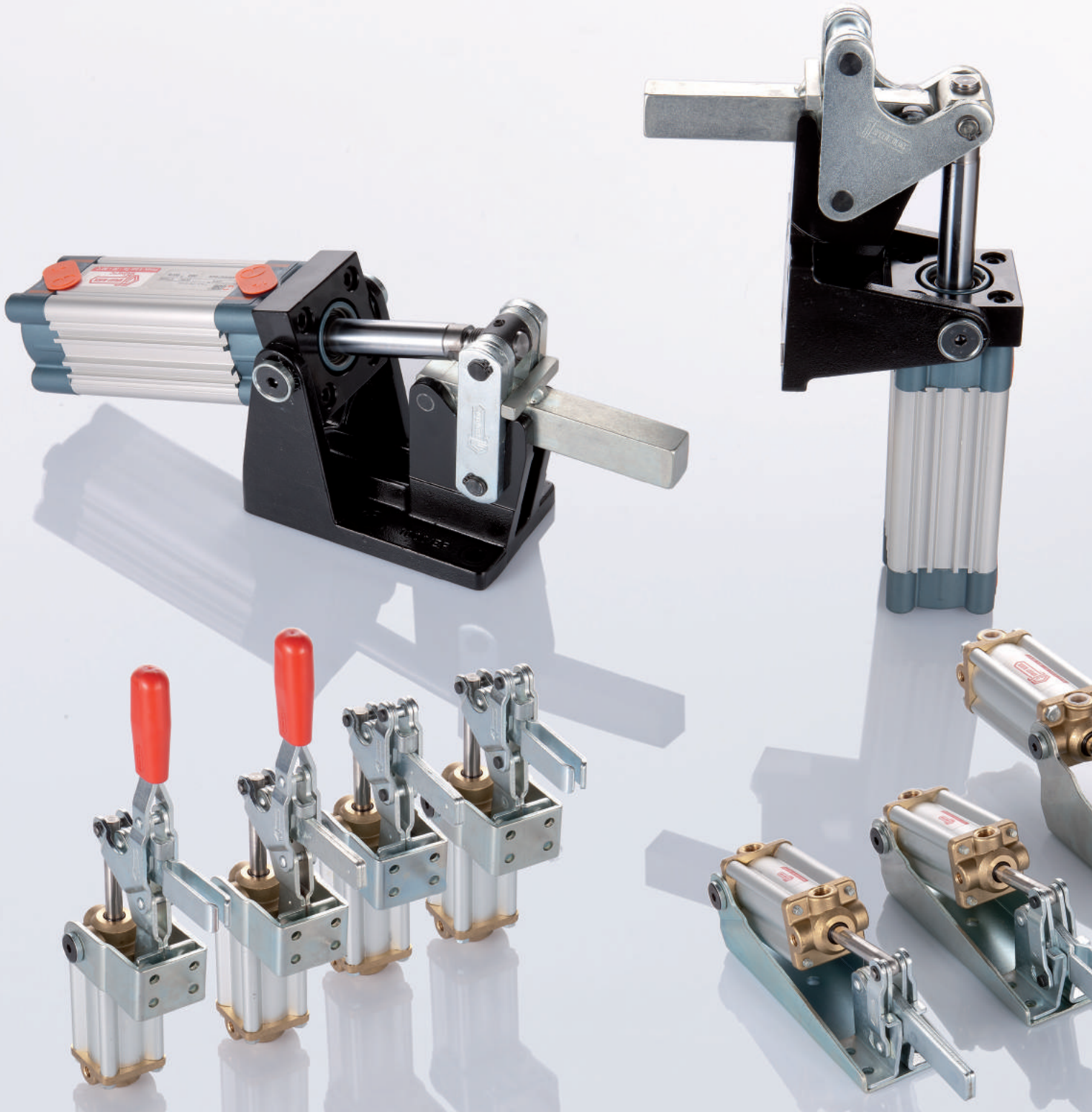


Code	Description	A	B	C	D	E	F	G	H	I	L	M	N	P	Q	R	S	T	V	Fh1 (daN)	gr.	
AL758		1540	173	280	40	54	60	30	45	15	26	60	8	5	M10	8.5	71	168	32	72	1500	1110
AL760		1575	207	315	75	54	60	30	45	15	26	60	8	5	M10	8.5	71	168	32	72	1500	1190



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PNEUMATIC SERIES

This series combines the advantages of toggle action (even in case of pressure loss the tool remains closed) with the possibilities offered by the pneumatics:

- Constant FS clamping force independent of the operation.
- Possibility of actuating several devices at the same time.
- Possibility of actuating various points; remote control performed also by machines.
- Several versions are available with magnetic cylinders that enable positioning control without contacts, to obtain electric command impulses in certain clamping situations.

The pneumatic series also contains vertical and push rod series with F_s clamping forces between 50 and 240 daN and F_h retaining forces from 70 to 450 daN for the light series; and F_s from 87 daN to 430 daN with F_h from 220 to 2000 daN for the heavy series. The use of a filter - reducer - lubricator group is essential for a long and smooth operation of the cylinder, while for a long duration of the mechanical components we recommend using suitable flow regulators and calibrating the speed of the motions desired, starting from a low speed and gradually increasing this speed. The cylinders of the heavy series (1000-2000/EPM/EPVM) already mount these flow regulators on the heads and they can be adjusted using a screw on the side of the air supply. Operating pressure between 2-6 bar. Ambient temperature $-30^{\circ} + 80^{\circ}\text{C}$. The F_s forces indicated in the catalogue were measured at a pressure of 4 bar.

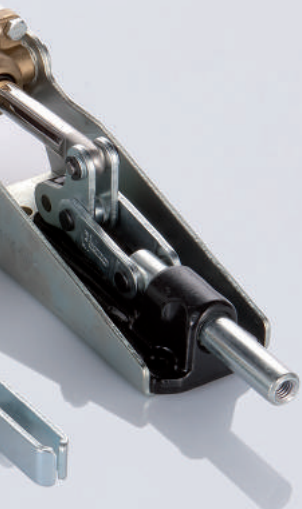
PERFORMANCE

LIGHT SERIES: Components in case-hardening sheet steel. Hardened and tempered supporting pivots. Supporting bushes (for sizes from 200 daN and over) undergo case-hardening and grinding.

HEAVY SERIES: Base made of black varnished spheroidal cast iron. Other parts made of galvanized (weldable) steel. Supporting pivots undergo case hardening.

REINFORCED HEAVY SERIES: Base body made of black phosphated steel sheet; cemented and ground support pins and bushes.

Double-acting cylinder with adjustable shock absorption. The tools of this series are built so as to be easily disassembled: the pivots are fixed axially with seeger rings.

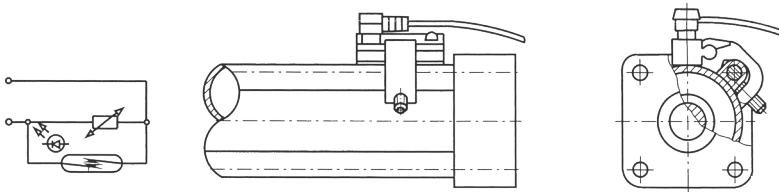
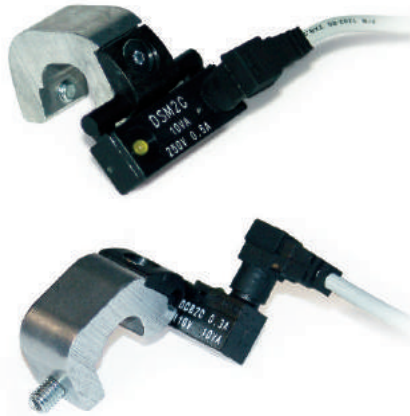


PNEUMATIC SERIES

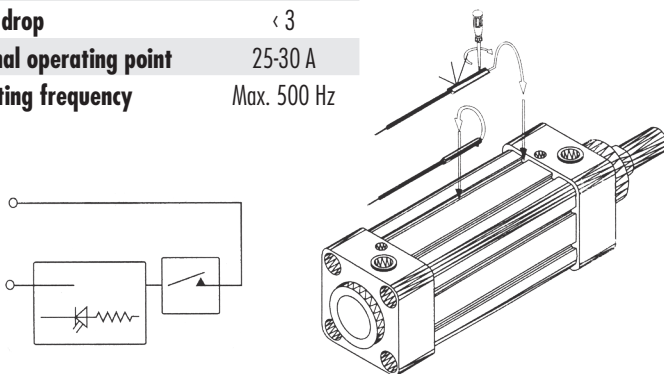
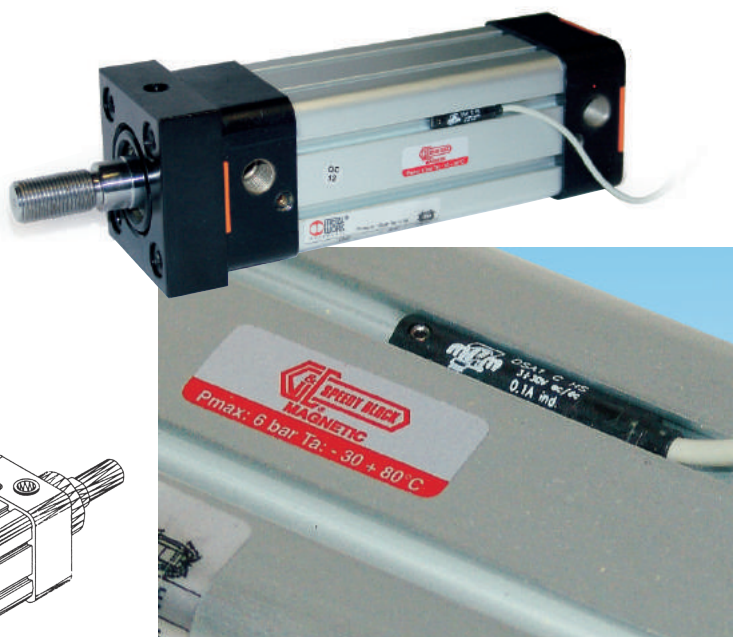
THE PROXIMITY SWITCHES

are sensors capable of sensing the presence of a magnetic field and report it through an electric pulse. The tools of the magnetic pneumatic series are provided with magnetic cylinders that, since they are related by relative proximity switches, provide electric command and/or control impulses as they work. Since it is equipped with luminous LEDs, operates at a minimum voltage of 3 V, and in case of series connection, the voltage drop will be 3 V. for each. It is good practice to use a connecting cable that is as short as possible since this could harm the operation of the sensor due to the capacity of the cable, which is directly proportional to its length. For example, for a 10 meter cable we recommend the series application to an inductor sensor that annuls the effects of the capacity of the cable. DC positive pole is always connected to the brown wire, we recommend keeping an adequate distance between the electric cables and large ferrous objects as this could cause disturbances to the sensor due to the effects of mutual induction. The sensors are in a condition to feel a signal at a speed of 1 m/s.

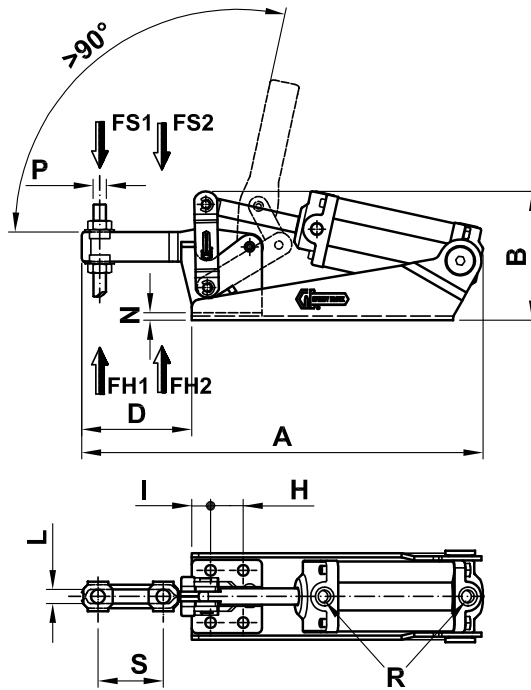
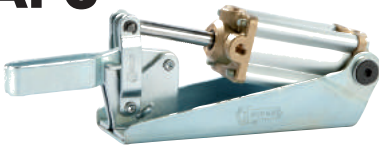
ELECTRICAL DATA	
DC Voltage	3-110 V
AC Voltage	3-110 V
Current at 25°	0.3 A
Power	10 VA
Connection time	0.6 mS
Disconnection time	0.1 mS
Connection point	110 Gauss
Disconnection point	60 Gauss
Electrical life (pulses)	10 ⁷
Contact resistance	0.1 Ohm



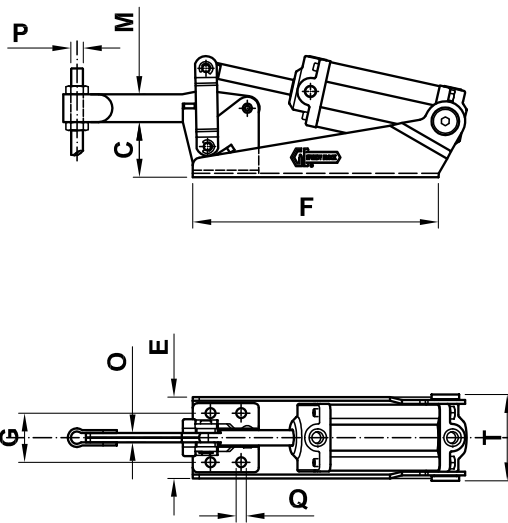
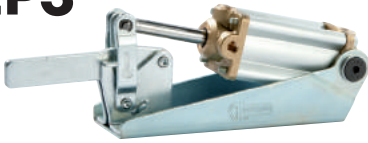
ELECTRICAL DATA	
DC Voltage	3-110V
AC Voltage	3-110 V
Current at 25°	200 mA
Power	6 w
Connection time	0.5 mS
Disconnection time	0.1 mS
Connection point	110 Gauss
Disconnection point	60 Gauss
Electrical life (pulses)	10 ⁷
Contact resistance	0.1 Ohm
Voltage drop	< 3
V Nominal operating point	25-30 A
T Operating frequency	Max. 500 Hz



FORM AP3



FORM EP3



LIGHT PNEUMATIC SERIES

Some sizes of this series are also produced for Magnetic performance and are shown in the table below ("magnetic version")

Material: Sheet metal and galvanized steel riveted pivots. Hardened and ground steel rotation pivots.

Performance:

Form AP3 with open clamping lever and two flanged washers.

Form EP3 with full clamping lever and bolt retainers.

Form APM just like AP3 but with magnetic cylinder for the detection of the position.

Form EPM just like EP3 but with magnetic cylinder for the detection of the position

Cylinder:

Maximum operating pressure 6 bar.

Maximum operating temperature 80°C

The AU460 model reed switch is used for detecting the position, for sizes 200 and 300; model AU450 is used for size 400 (see Accessories on page 76).

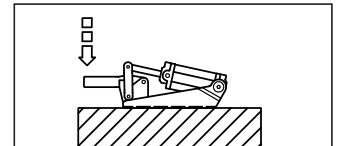
The proximity switches must be ordered separately.

Spindles: To be ordered separately (see Accessories on page 76).

Features and applications: We recommend using a filter-reducer-lubricator group for a long and smooth operation of the cylinder, while for a long duration of the mechanical components we recommend using suitable flow regulators and calibrating the speed of the motions desired, starting from a low speed and gradually increasing this speed.

A special grease is placed between two contacting surfaces during assembly.

This manually actuated series is found on page 10.



Code	Description	Magnetic Version Code	Description	A	B	C	D	E	F	G	H	I	L	M	N	O	P	Q	R	S	T	Fh1 (daN)	Fh2 (daN)	Fs1 (daN)	Fs2 (daN)	gr.
A0020	70/AP3			163	51.5	21	38	42	92	24	15	6.5-7	5.2	11	4	M5	4.5	1/8"	20	45	70	145	50	75	500	
A0025	70/EP3			163	51.5	21	38	42	92	24	15	6.5-7		11	4	4	M5	4.5	1/8"	45	70	145	50	75	500	
A0041	125/AP3			200	70.5	30	50	47.5	150	29	19	8-11.2	6.2	14	4.5	M6	5.5	1/8"	23	46	160	300	70	120	700	
A0046	125/EP3			201	70.5	30	51	47.5	150	29	19	8-11.2		14	4.5	5	M6	5.5	1/8"	46	160	300	70	120	700	
A0161	200/AP3	A0162	200/APM	246	79	36	67.5	53	160	32	20	11.5-12	8.5	18	5.5	M8	6.5	1/8"	40	56	220	350	90	150	1070	
A0166	200/EP3	A0167	200/EPM	248	79	36	69.5	53	160	32	20	11.5-12		18	5.5	6	M8	6.5	1/8"	56	220	350	90	150	1070	
A0201	300/AP3	A0202	300/APM	304.5	98	48	78.5	74	195.5	46	29	8.5-10.5	10.5	20	8.5	M10	8.5	1/4"	42	66	270	450	120	240	2100	
A0206	300/EP3	A0207	300/EPM	306	98	48	80	74	195.5	46	29	8.5-10.5		20	8.5	8	M10	8.5	1/4"	66	270	450	120	240	2100	
A0301	400/AP3	A0302	400/APM	360	107.5	51	110	74	216	45	32	10	12.5	22	10	M12	8.5	1/4"	66	80	300	640	140	260	3100	
A0306	400/EP3	A0307	400/EPM	362	107.5	51	112	74	216	45	32	10		22	10	10	M12	8.5	1/4"	80	300	640	140	260	3100	

PNEUMATIC SERIES

LIGHT PNEUMATIC SERIES

The sizes of this series are also produced for Magnetic performance and are shown in the table (see "magnetic version").

Material: Sheet metal and galvanized steel riveted pivots
Hardened and ground steel rotation pivots.

Performance:

Form APV3 with open clamping lever and two flanged washers.

Form EPV3 with full clamping lever and bolt retainers.

Form APVM just like APV3 but with magnetic cylinder for the detection of the position.

Form EPVM just like EPV3 but with magnetic cylinder for the detection of the position.

Cylinder: Maximum operating pressure 6 bar.

Maximum operating temperature 80°C

Model AU460 is the reed switch for detecting the position

(see Accessories on page 76).

The proximity switches must be ordered separately.

Spindles: To be ordered separately (see Accessories on page 76).

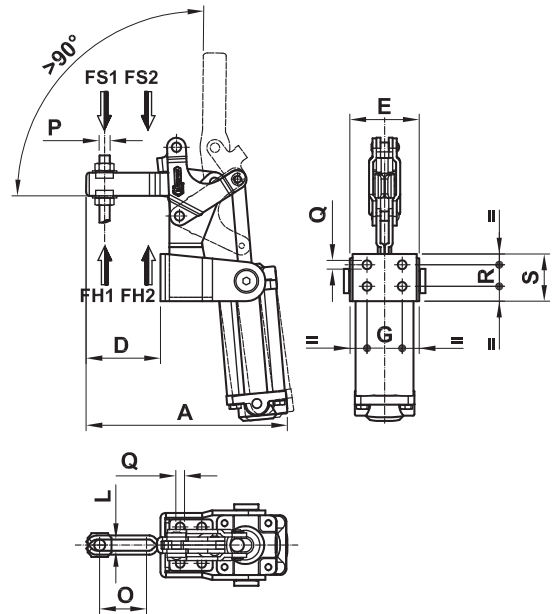
Features and applications:

We recommend using a filter-reducer-lubricator group for a long and smooth operation of the cylinder, while for a long duration of the mechanical components we recommend using suitable flow regulators and calibrating the speed of the motions desired, starting from a low speed and gradually increasing this speed.

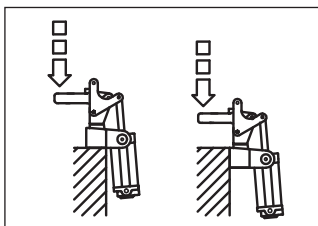
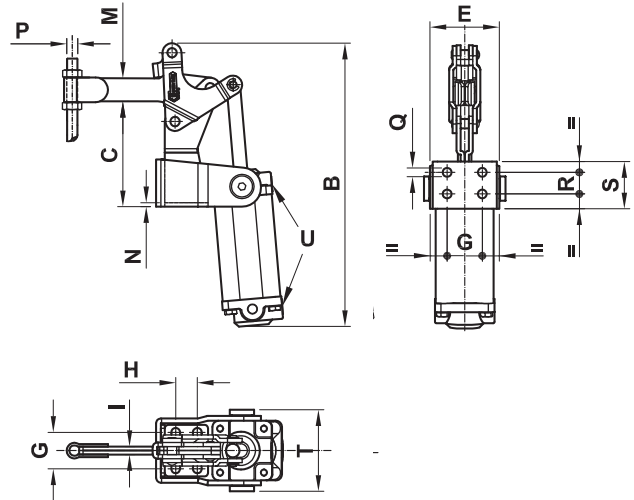
A special grease is placed between two contacting surfaces during assembly.

This manually actuated series is found on page 15.

FORM APV3

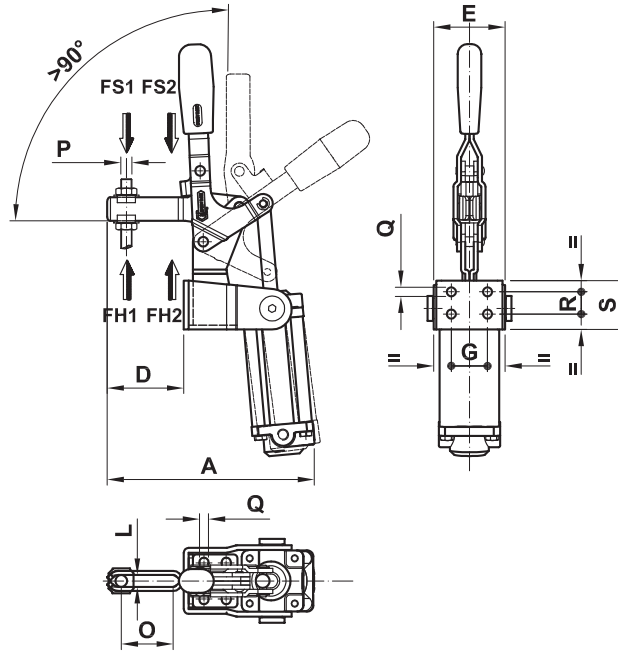


FORM EPV3

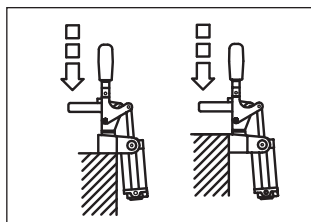
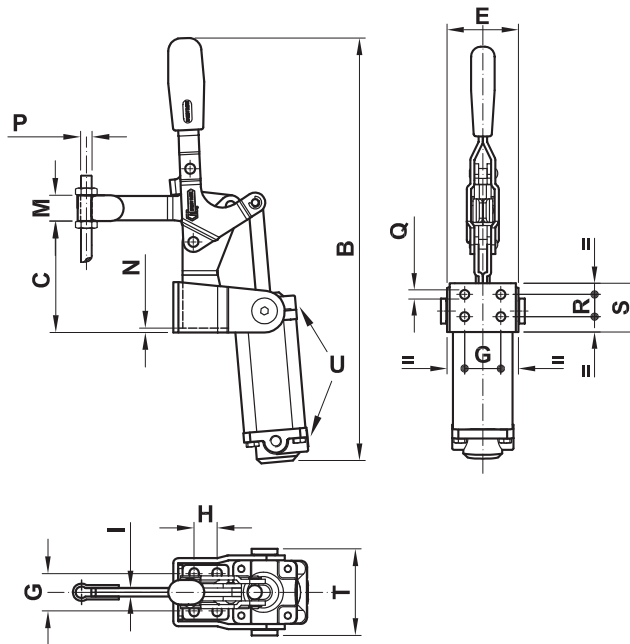


Code	Description	Magnetic Version Code	Description	A	B	C	D	E	G	H	I	L	M	N	O	P	Q	R	S	T	U	Fh1 (daN)	Fh2 (daN)	Fs1 (daN)	Fs2 (daN)	gr.
A0181	200/APV3	A0182	200/APVM	149	210	77	55	51	26	16		8.5	17	3	34	M8	6.5	16	35	59.5	1/8"	160	250	90	150	1200
A0186	200/EPV3	A0187	200/EPVM	151	210	77	57	51	26	16	6		17	3		M8	6.5	16	35	59.5	1/8"	160	250	90	150	1200
A0221	300/APV3	A0222	300/APVM	186	258	108	71	60.5	30	28		10.3	20	3	42	M10	8.5	30	50	68.5	1/4"	240	370	120	240	2450
A0226	300/EPV3	A0227	300/EPVM	187.5	258	108	72.5	60.5	30	28	8		20	3		M10	8.5	30	50	68.5	1/4"	240	370	120	240	2450

FORM APV3S



FORM EPV3S



LIGHT PNEUMATIC SERIES

The sizes of this series are also produced for Magnetic performance and are shown in the table (see "magnetic version")

Material: Sheet metal and galvanized steel riveted pivots

Hardened and ground steel rotation pivots.

Performance:

Form APV3S with open clamping lever and two flanged washers.

Form EPV3S with full clamping lever and bolt retainers.

Form APVMS just like APV3S but with magnetic cylinder for the detection of the position.

Form EPVMS just like EPV3S but with magnetic cylinder for the detection of the position

Cylinder: Maximum operating pressure 6 bar. Maximum operating temperature 80°C

Model AU460 is the reed switch for detecting the position (see Accessories on page 76).

The proximity switches must be ordered separately.

Handles: Red polyurethane resistant to oils, grease and other chemical agents.

Spindles: To be ordered separately (see Accessories on page 76).

Features and applications: The tools of this series are used when there is a need for pneumatic closing (generally simultaneous closing of the tools remotely) but manual and single opening is mandatory. We recommend using a filter-reducer-lubricator group for a long and smooth operation of the cylinder, while for a long duration of the mechanical components we recommend using suitable flow regulators and calibrating the speed of the motions desired, starting from a low speed and gradually increasing this speed.

A special grease is placed between two contacting surfaces during assembly. This manually actuated series is found on page 16.

Code	Description	Magnetic version code	Description	A	B	C	D	E	G	H	I	L	M	N	O	P	Q	R	S	T	U	Fh1 (daN)	Fh2 (daN)	Fs1 (daN)	Fs2 (daN)	gr.
A0184	200/APV3S	A0185	200/APVMS 149	296	77	55	51	26	16			8.5	17	3	34	M8	6.5	16	35	59.5	1/8"	160	250	90	150	1200
A0189	200/EPV3S	A0190	200/EPVMS 151	296	77	57	51	26	16	6			17	3		M8	6.5	16	35	59.5	1/8"	160	250	90	150	1200
A0224	300/APV3S	A0225	300/APVMS 186	360	108	71	60.5	30	28			10.3	20	3	42	M10	8.5	30	50	68.5	1/4"	240	370	120	240	2450
A0229	300/EPV3S	A0230	300/EPVMS 187.5	360	108	72.5	60.5	30	28	8			20	3		M10	8.5	30	50	68.5	1/4"	240	370	120	240	2450

PNEUMATIC SERIES

HEAVY PNEUMATIC SERIES

Material: Base made of black varnished spheroidal cast iron
Lever in galvanized steel;
Hardened and ground pivots.

Cylinder: ISO Magnetic Standards
Maximum operating pressure 10 bar.
Maximum operating temperature 80°C
Model AU470 is the reed switch for detecting the position (See Accessories on page 76) to be ordered separately.

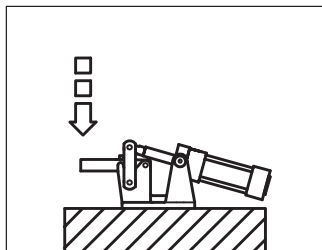
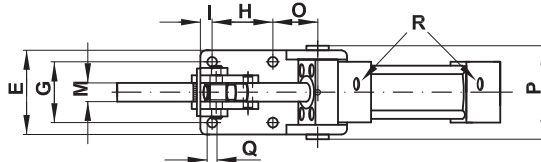
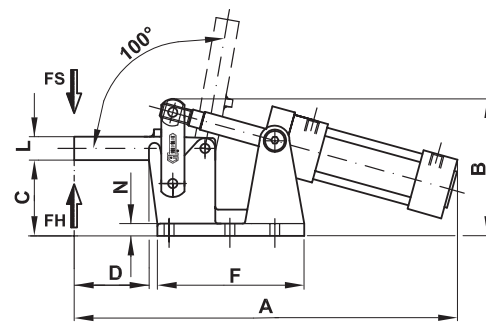
Features and applications:

These tools are designed to withstand high loads and a high number of operations.

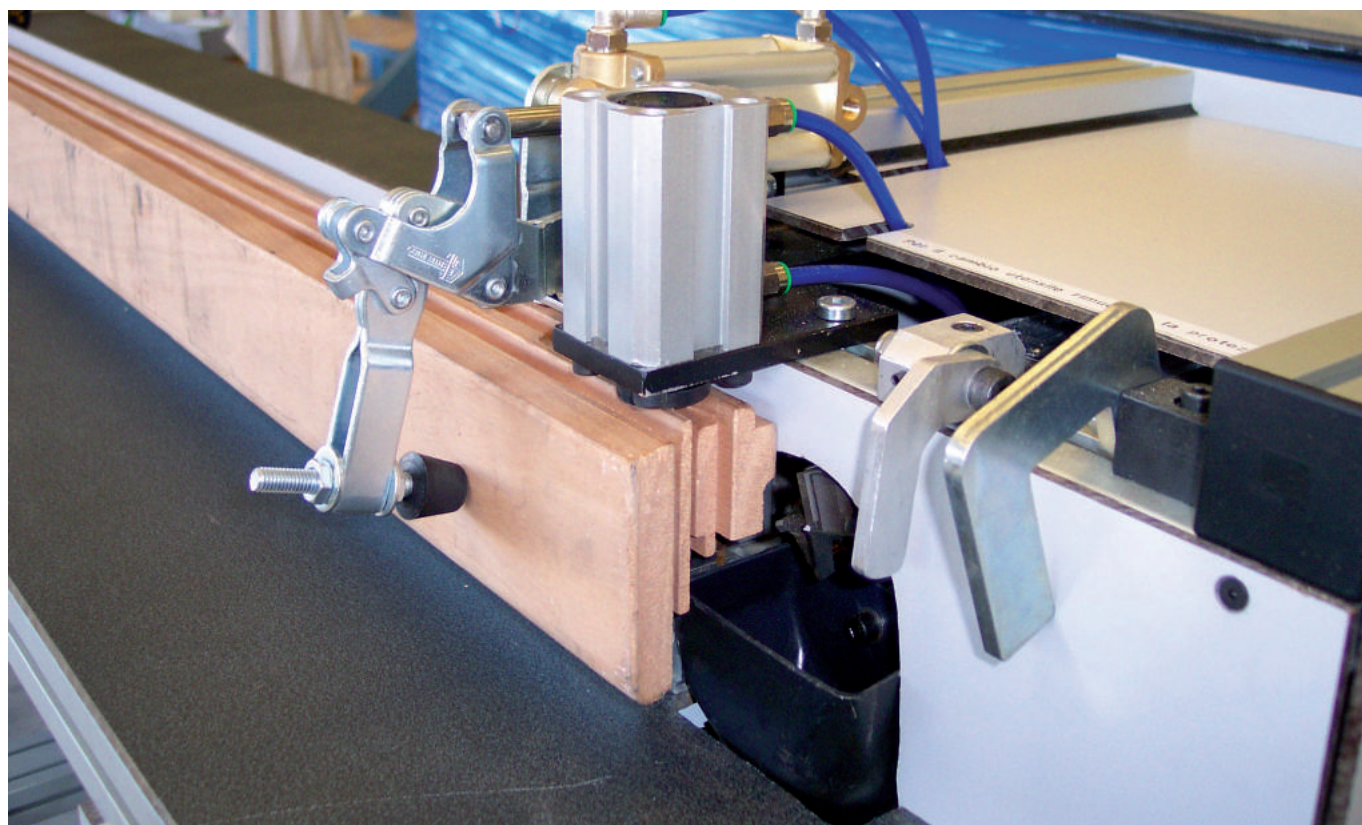
We recommend using a filter-reducer-lubricator group for a long and smooth operation of the cylinder, while for a long duration of the mechanical components we recommend using the flow regulators found on the head for calibrating the speed of the motions desired, starting from a low speed and gradually increasing this speed.

A special grease is placed between two contacting surfaces during assembly.

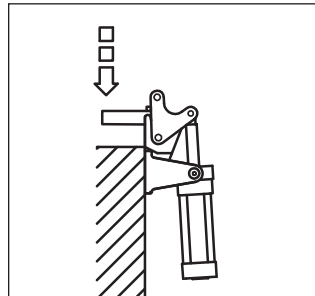
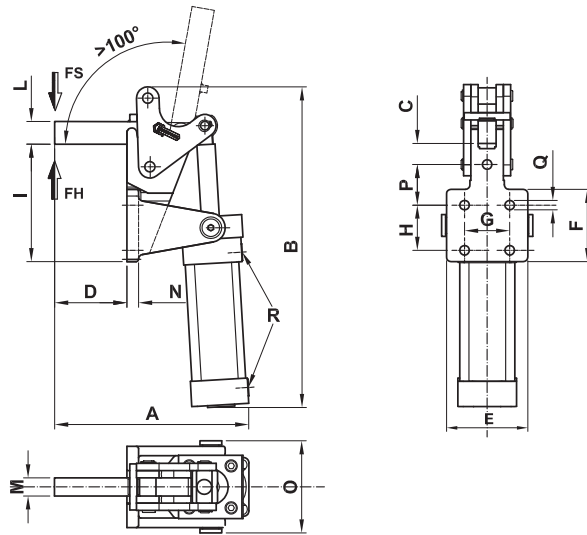
FORM EPM



Code	Description	A	B	C	D	E	F	G	H	I	L	M	N	O	P	Q	R	Fh (daN)	Fs (daN)	gr.
AO600	1000/EPM	410	146.5	80	80	90	155	65	65	12.5	25	20	13	48	102	10.5	1/4"	1000	320	6500
AO620	2000/EPM	487	171.5	90	100	100	176	70	70	15	35	20	13	56	112	10.5	3/8"	2000	380	9500



FORM EPVM



HEAVY PNEUMATIC SERIES

Material: Base made of black/ varnished spheroidal cast iron
Lever in galvanized steel;
Hardened and ground pivots.

Cylinder: ISO Magnetic Standards
Maximum operating pressure 10 bar.
Maximum operating temperature 80°C
Model AU470 is the reed switch for detecting the position (see Accessories on page 76) to be ordered separately.

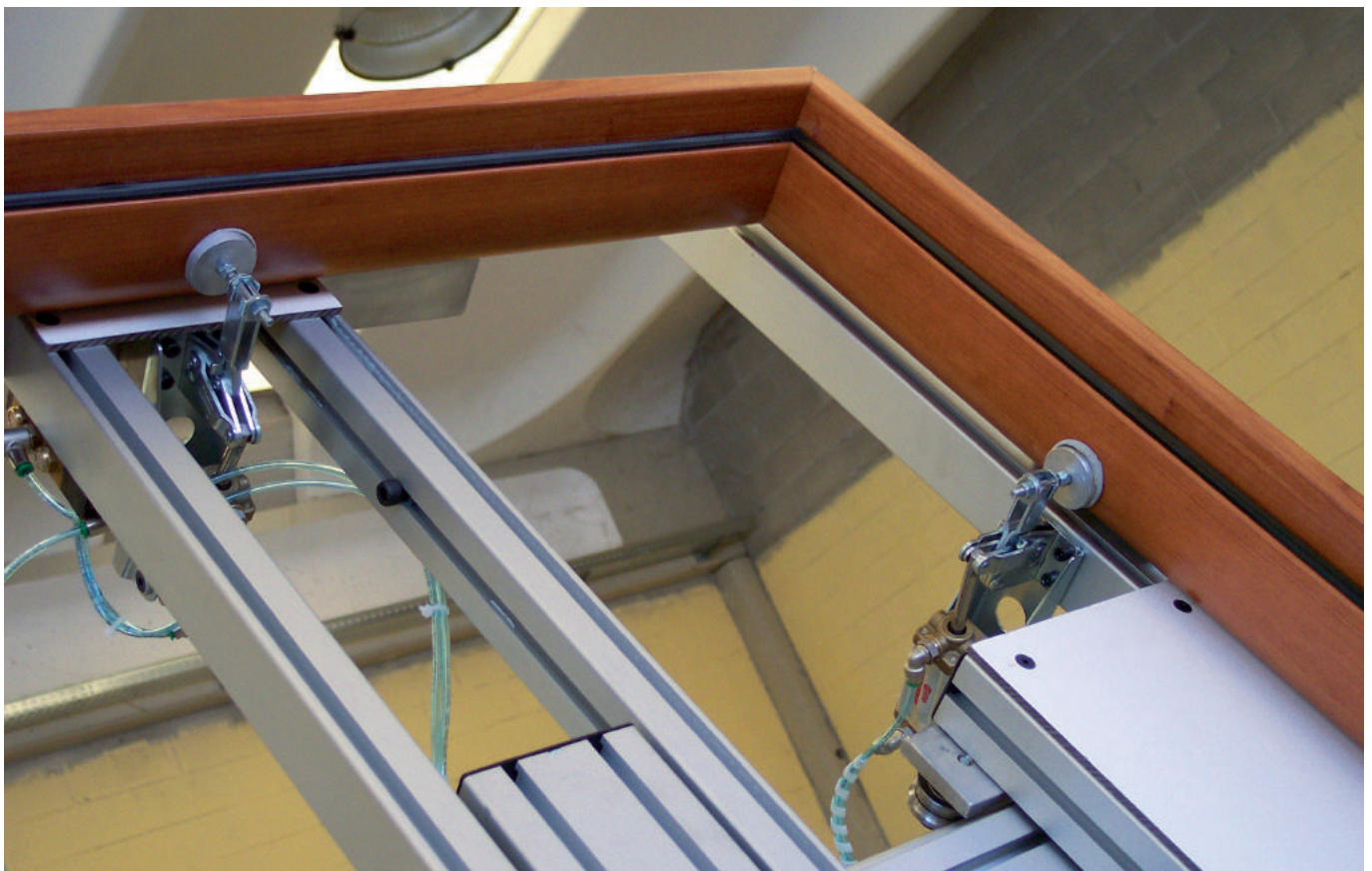
Features and applications:

These tools are designed to withstand high loads and a high number of operations.

We recommend using a filter-reducer-lubricator group for a long and smooth operation of the cylinder, while for a long duration of the mechanical components we recommend using the flow regulators found on the head for calibrating the speed of the motions desired, starting from a low speed and gradually increasing this speed.

A special grease is placed between two contacting surfaces during assembly.

Code	Description	A	B	C	D	E	F	G	H	I	L	M	N	O	P	Q	R	Fh (daN)	Fs (daN)	gr.
A0605	1000/EPVM 215	355			80	90	80	50	50	130	25	20	13	102		10.5	1/4"	1000	340	6500
A0625	2000/EPVM246.5	424	45		100	100	90	54	58	157	35	20	14	112	45	12.5	3/8"	2000	432	9000

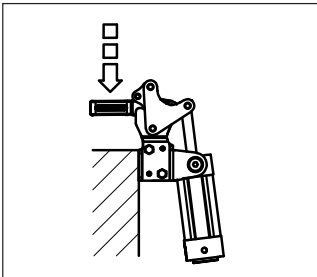
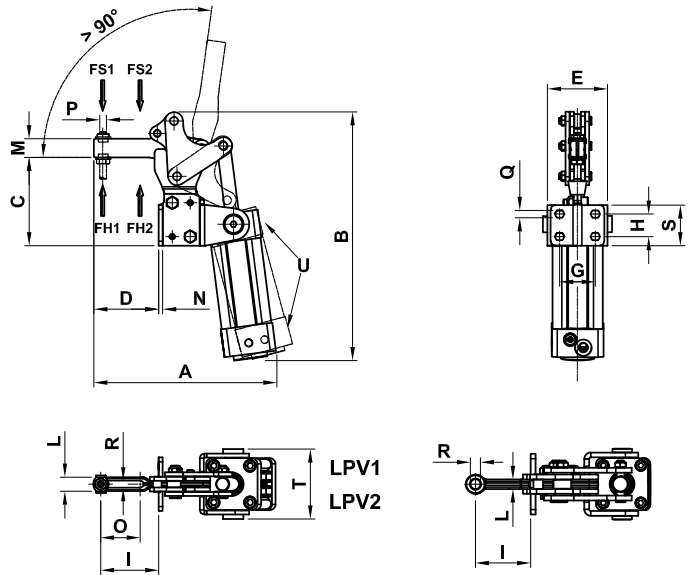


REINFORCED PNEUMATIC SERIES

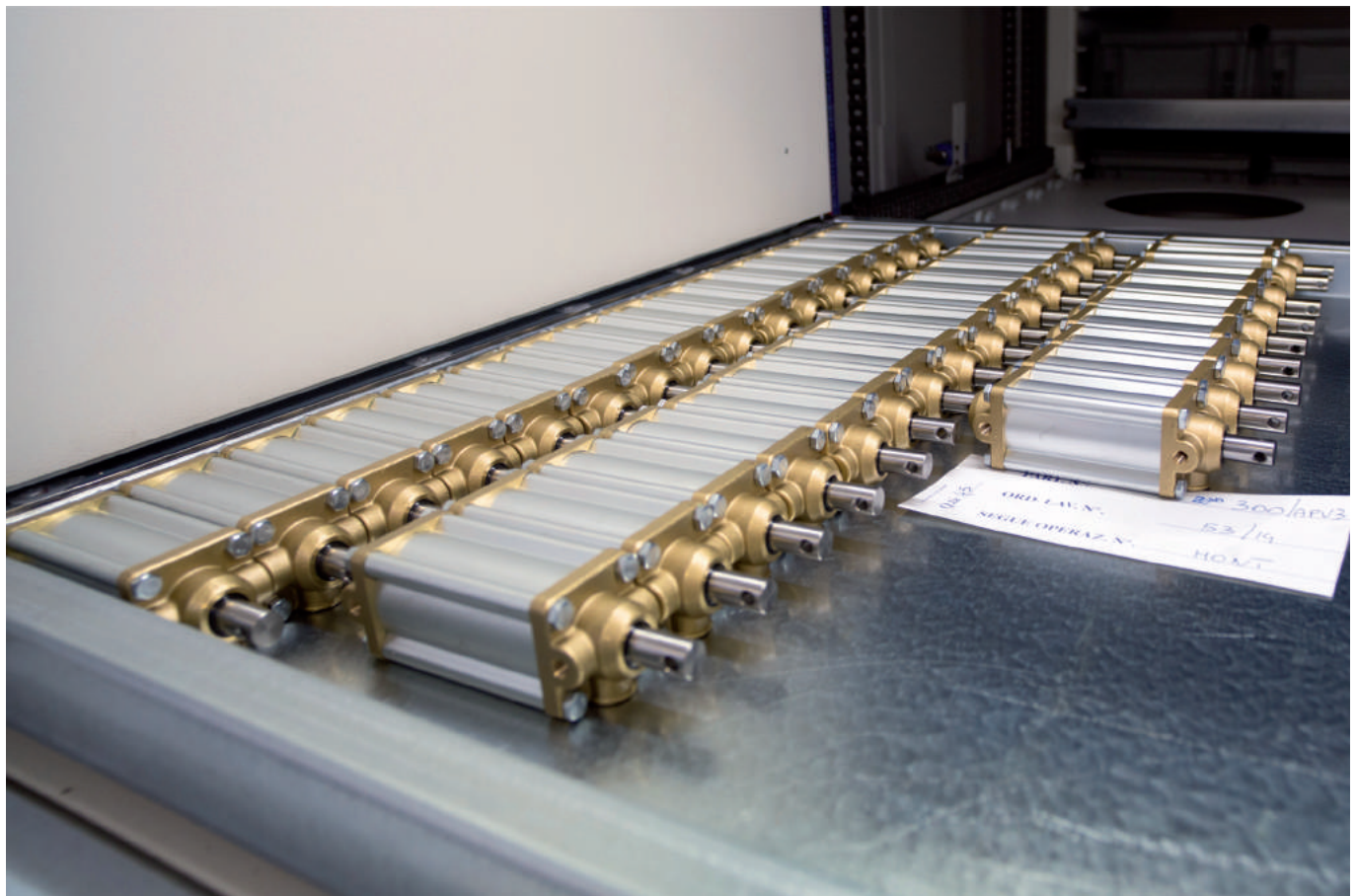
REINFORCED HEAVY PNEUMATIC SERIES

Material: Phosphated Steel;
Pivots: Hardened and ground Steel.
Supporting bushes: Hardened and ground Steel.
Spindles: To be ordered separately (see Accessories on page 76).
Features and applications: the clamping levers are obtained by hot moulding; the series is generally used in clamping jobs with medium and heavy loads, on welding masks, carpentry works, moulds and where large clamping forces and strong repetitiveness of movements are required.

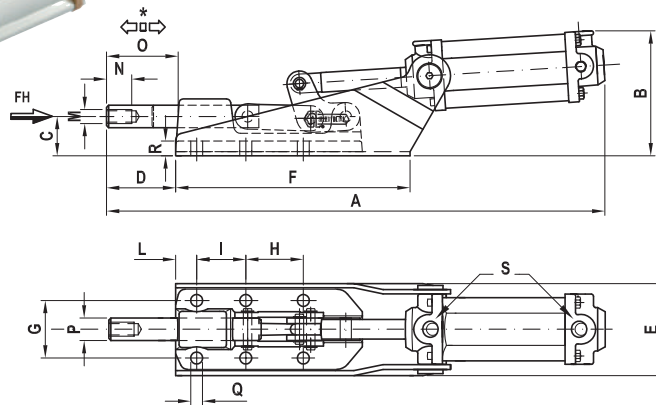
FORM LPV



Code	Description	A	B	C	D	E	G	H	I	L	M	N	O	P	Q	R	S	T	U	Fh1 (daN)	Fh2 (daN)	Fs1 (daN)	Fs2 (daN)	gr.
A0384	LPV1	161	221	77	57	54	30-34	20	51	12.3	16.6	3.5	35	M6	6.3	6.3	36	62	1/8"	220	360	87	140	974
A0386	LPV2	195	287	106	71	65	42.5-46.5	30	60	20	24	5	35	M10	10.3	10.3	54	74	1/4"	440	630	122	175	1576
A0388	LPV3	229	355	140	80	78	52-56	55	68	12	31	6		M12	10.5	12.5	75	87.5	1/4"	850		228		3700



FORM SP3



PUSH HEAVY PNEUMATIC SERIES

Some sizes of this series are also produced for Magnetic performance and are shown in the table below (see "magnetic version").

Material: Galvanized steel

Riveted pivots, push bar and control lever: Galvanized steel

Basic clamp body: Black varnished brass for size 70; hot forged steel and painted black for the other sizes.

Performance:

Form SP3 Tool equipped with normal pneumatic cylinder.

Form SPM Tool equipped with magnetic pneumatic cylinder.

Cylinder:

Maximum operating pressure 6 bar.

Maximum operating temperature 80°C.

The AU460 model reed switch is used for detecting the position, for sizes 360 and 1100; model AU450 is used for size 2100 (see Accessories on page 76).

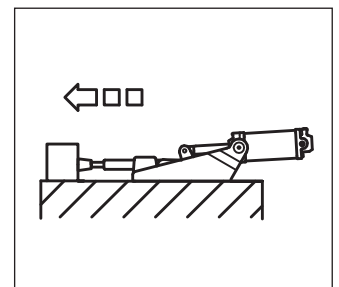
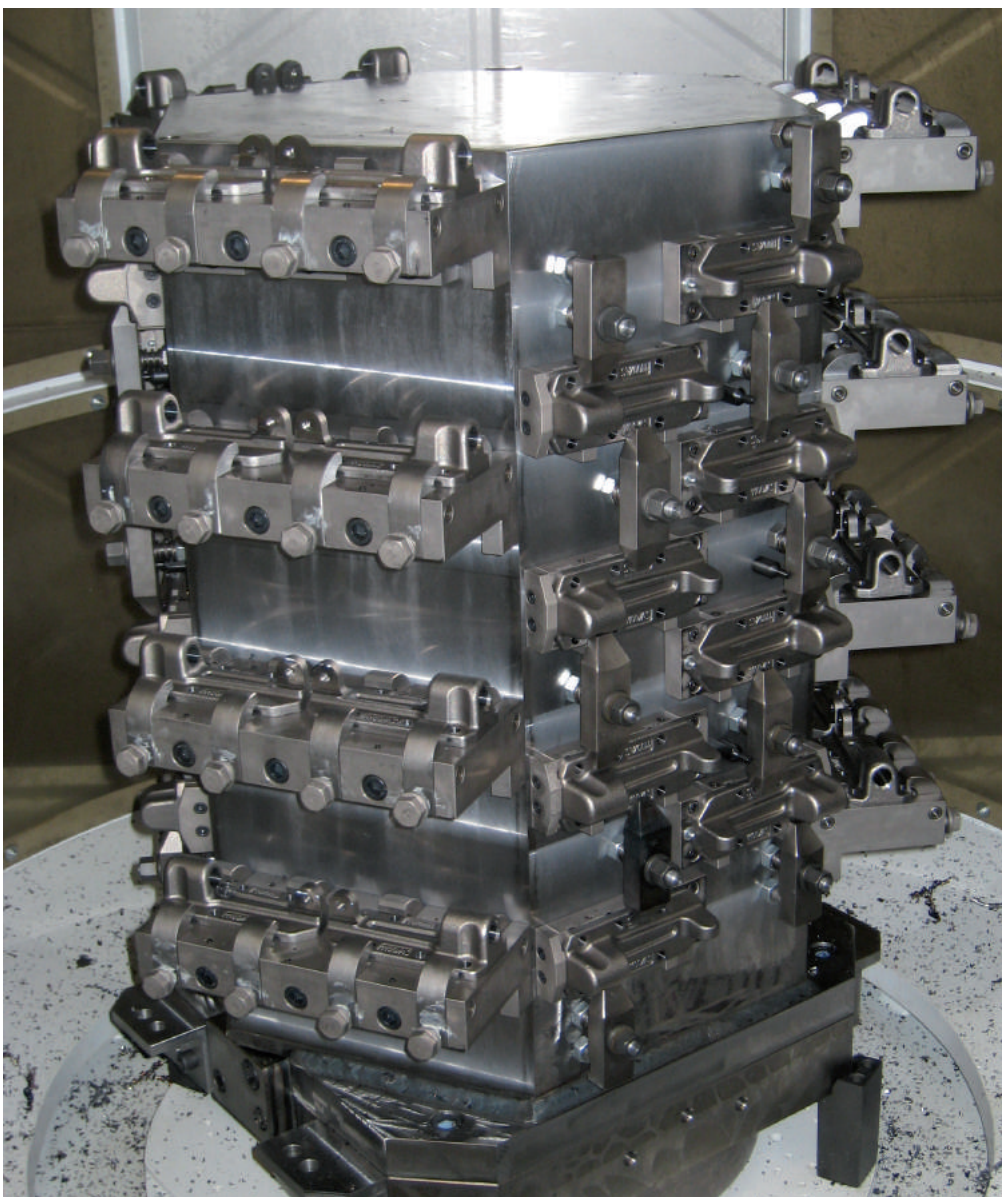
The proximity switches must be ordered separately.

Spindles: To be ordered separately (see Accessories on page 76).

Features and applications: We recommend using a filter-reducer-lubricator group for a long and smooth operation of the cylinder, while for a long duration of the mechanical components we recommend using suitable flow regulators and calibrating the speed of the motions desired, starting from a low speed and gradually increasing this speed.

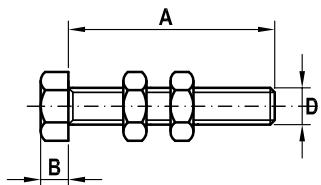
A special grease is placed between two contacting surfaces during assembly.

This manually actuated series is found on page 39.



Code	Description	Magnetic version code	Description	A	B	C	D	E	F	G	H	I	L	M	N	O	P	Q	R	S	*	Fh (daN)	Fs (daN)	Gr.
A0350	70/SP3			171	51	14	20	42	64	26	26		13	M6	12	22	8.5	4.3	8	1/8"	12	120	50	550
A0361	360/SP3	A0362	360/SPM	260	72.5	27.5	32	55	116	33.5	36.5		30	M8	15	34	12	5.5	9.5	1/8"	22	560	310	1300
A0371	1100/SP3	A0372	1100/SPM	355	89	28	49	66	167	41	41	35	15	M10	18	51.5	16	8.5	12	1/4"	32	1600	410	2400
A0381	2100/SP3	A0382	2100/SPM	468.5	100	38.5	61.5	81	231	50	50	50	35	M12	22	64.5	20	8.5	13	1/4"	45	2500	607	5000

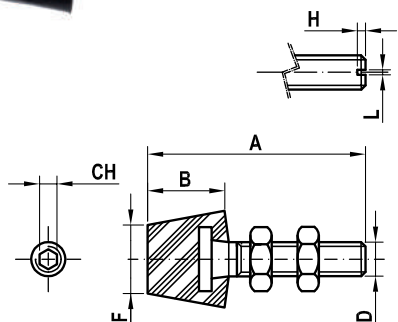
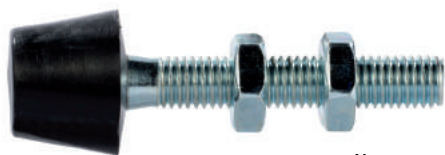
ACCESSORIES



RIGID SPINDLE

ALSO IN STAINLESS STEEL (See table)

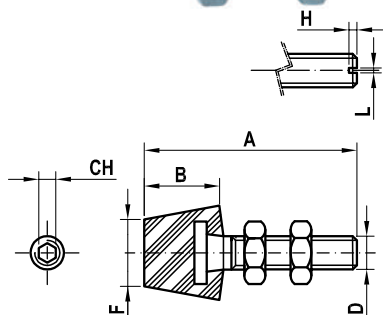
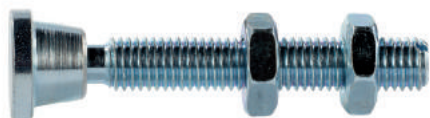
Code	Description	Stainless steel Code	Stainless steel	A	B	D
AU099	10099	AU509	50099	20	3	M4
AU100	10100	AU510	50100	35	3.5	M5
AU101	10101	AU511	50101	45	4	M6
AU102	10102	AU512	50102	55	5	M8
AU103	10103			70	6	M10
AU104	10104			80	8	M12
AU105	10105			120	8	M12



NEOPRENE SPINDLE

ALSO IN STAINLESS STEEL (See table)

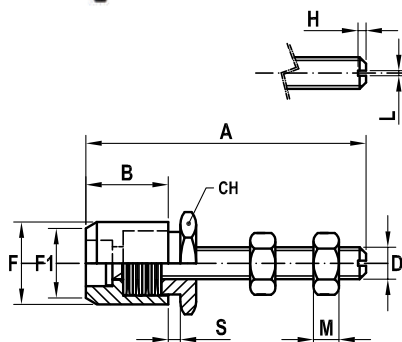
Code	Description	Stainless steel Code	Stainless steel	A	B	D	F	CH	L	H
AU139	10139	AU539	50139	25	5	M4	6			
AU140	10140	AU540	50140	45	11	M5	10	2.5		
AU141	10141	AU541	50141	55	12	M6	12.5	3		
AU142	10142	AU542	50142	70	16	M8	16	4		
AU143	10143			77	20	M10	20	5		
AU144	10144			100	25	M12	24		2	2.8
AU145	10145			130	25	M12	24		2	2.8



ARTICULATED SPINDLE

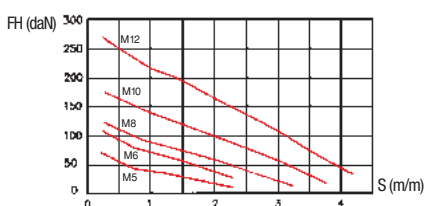
ALSO IN STAINLESS STEEL (See table)

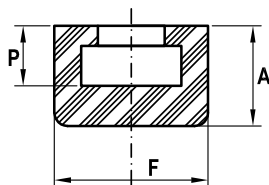
Code	Description	Stainless steel Code	Stainless steel	A	B	D	F	L	H
AU120	10120	AU520	50120	36	9.5	M5	14	0.8	1.25
AU121	10121	AU521	50121	46	10	M6	16	1	1.6
AU122	10122	AU522	50122	65	12	M8	18	1.2	2
AU123	10123			75	14	M10	20	1.6	2.4
AU124	10124			85	16	M12	24	2	2.8
AU125	10125			125	16	M12	24	2	2.8



SPRING SPINDLE

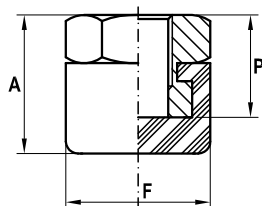
Code	Description	A	B	D	F	F1	M	CH	L	H
AU128	10128	45	13	M5	10	11	4	14	0.8	1.25
AU129	10129	50	15	M6	13	13	4	16	1	1.6
AU130	10130	70	17	M8	15	15	5	18	1.2	3
AU131	10131	85	20	M10	18	18	6	24	1.6	2.4
AU132	10132	106	24	M12	21	21	7	27	2	2.8





NEOPRENE CAP

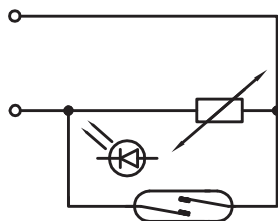
Code	Description	A	F	P	For spindle
AU109	1099	6.5	11	4	10099-M4
AU110	1100	8	12	5.5	10100-M5
AU111	1101	10	15	6	10101-M6
AU112	1102	13	19	7.5	10102-M8
AU113	1103	16	24	9	10103-M10
AU114	1104	19	26	10.5	10104-10105-M12



THREADED NEOPRENE CAP

Code	Description	A	F	P	For spindle
AU200	1200	11	12.5	8.5	M5
AU201	1201	14	15	10	M6
AU202	1202	18	19	12.5	M8
AU203	1203	23	24	16	M10
AU204	1204	26.6	26	18	M12

PROXIMITY SWITCHES



AU450 for models

400/APM/EPM - 2100/SPM

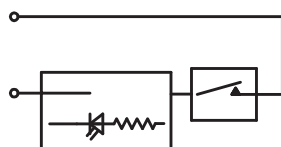
AU460 for models

200/APM/EPM - 300/APM/EPM

200/APVM/EPVM - 200/APVMS/EPVMS

300/APVM/EPVM - 300/APVMS/EPVMS

360/SPM - 1100/SPM



AU470 for models

1000/EPM/EPVM

2000/EPM/EPVM

ACCESSORIES



ERGONOMIC HANDLE

Code	Description	Used for series
AU150	10150	75/A-B-E-F-M-MF-N-O-P-ML-NL-OL-PL**50/ASD-ASS**70/AS-ASD-ASS**80/AS**160/T6 "Also for the Stainless steel series"
AU151	10151	120/AS**130/M-N-O-P-MF-A-B-E-F-ML-NL-OL-PL-OLS-PLS**1LLA-LLB-LLE-LLF/01 "Also for the Stainless steel series"
AU152	10152	200/AVF-EVF**230/A-B-E-F-AL-BL-EL-ELS-FL-FLS-M-MF-N-O-P**165/AS**320/T6**200/ APV3S-APVMS-EPV3S-EPVMS** "Also for the Stainless steel series"
AU153	10153	200/AV-EV**300/AVF-EVF**330/A-B-E-F**550/ASD-ASS**300/AS**550/AS**200/ T-TF**33/T-TF-TL-TFL**700/T6**300/APV3S-APVMS-EPV3S-EPVMS "Also for the Stainless steel series"
AU154	10154	300/AV-EV**430/A-B-E-F**LLA-LLB-LLE-LLF/02**1100/AS**340/AS**300/T-TF**43/ T-TF-TL-TFL**1400/T5**355/M-MF-N-O-P "Also for the Stainless steel series"
AU155	10155	530/A-B-E-F**2100/AS**3100/AS**400-T-TF**455/M-MF-N-O-P
AU156	10156	LLE-LLF/03**1000/F**2000/F
AU157	10157	LLE-LLF/04**3000/F
AU158	10158	160/AS-ASD-ASS**230/OLS-PLS
AU159	10159	230/ML-NL-OL-PL "Also for the Stainless steel series"

FLANGED WASHER

ALSO IN STAINLESS STEEL (See table)



Code	Description	Stainless steel Code	Stainless steel	Used for series	For spindle
AU205	20105	AU505	50105	25/M-MX	M4
AU206	20106	AU506	50106	70/AP3-75/M-N-MF-A-B-ML-NL "Also for the stainless steel series"	M5
AU207	20107	AU507	50107	AT6-AP6 (NO STAINLESS STEEL) 130/M-N-MF-A-B-ML-NL-AL-BL "Also for the Stainless steel series"	M6
AU208	20108	AU508	50108	AT8-AP8 (NO STAINLESS STEEL) 200/AV-APM-AP3-APV3- APVM-APV3S-APVMS-AVF-230/M-N-MF-A-B-ML-NL-AL-BL "Also for the stainless steel series"	M8
AU209	20109			300/A-B-AV-APV3S-APVMS-APM-APV3-APVM-AP3-AVF-330/A- B-355/M-N-MF-ML-NL	M10
AU210	20110			400/AP3-APM-430/A-B-455/M-N-ML-NL-530/A	M12
AU211	20111			LLA-B/01	M6
AU212	20112			LLA-B/02	M10

BOLT RETAINER BAND

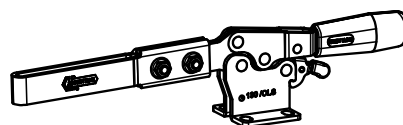
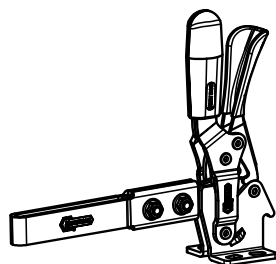
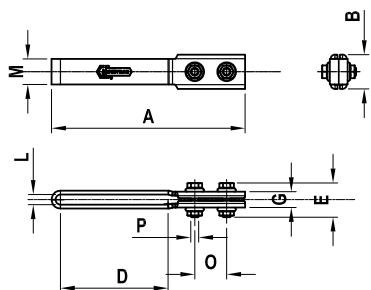
ALSO IN STAINLESS STEEL (See table)



Code	Description	Stainless steel code	Stainless steel	Used for series	For spindle
AU180	10180	AU580	50180	70/EP3-75/O-P-E-F-OL-PL "Also for the Stainless steel series"	M5
AU181	10181	AU581	50181	125/EP3	M6
AU182	10182	AU582	50182	200/EV-EPM-EP3-EPV3-EPVM-EPV3S-EPVMS-EVF-230/ O-P-E-F-OL-PL-EL-FL "Also for the Stainless steel series"	M8
AU183	10183			300/EV-EPV3S-EPVMS-EPM-EPV3-EPVM-EP3-EVF	M10
AU184	10184			330/E-F-355/O-P-OL-PL	M12
AU185	10185			400/EP3-EPM	M12
AU186	10186			430/E-F-455/O-P-OL-PL	M12
AU189	10189	AU589	50189	130/O-P-E-F-OL-PL-EL-FL "Also for the Stainless steel series"	M6
AU190	10190			530/E-F	M12



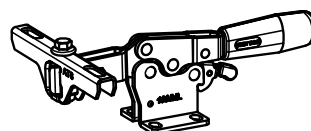
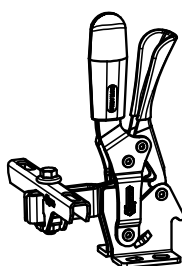
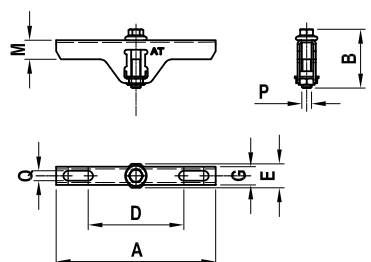
EXTENSION



Code	Description	A	B	D	E	G	L	M	O	P	Q	gr.	Can be applied to the tools
AU340	AP6	121	21.5	67.5	21.5	10	6.3	16	20	M5		95	130/OLS/PLS/ELS/FLS
AU342	AP8	142	24.5	71.5	26.5	12	8.2	18	26	M6		165	230/OLS/PLS/ELS/FLS



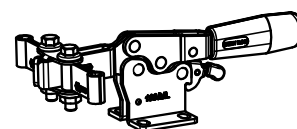
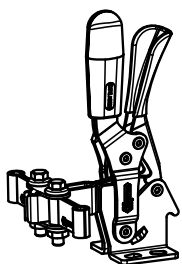
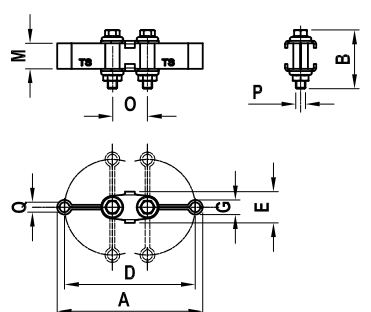
CROSS BAR



Code	Description	A	B	D	E	G	L	M	O	P	Q	gr.	Can be applied to the tools
AU320	AT6	100	37	60-85	15	11.5		12	M6	6.2	50	130 VERTIC.-130 HORIZ.-125/AP3	
AU322	AT8	120	43	70-100	18	14		15.5	M8	8.2	96	230 VERTIC.-130 HORIZ.-200/AP3	



ARTICULATED CROSS BAR



Code	Description	A	B	D	E	G	L	M	O	P	Q	gr.	Can be applied to the tools
AU330	TS6	91	37	82	19.5	9.2		16	22	M6	6.2	70	130 VERTIC.-130 HORIZ.-125AP3

ANALYTICAL INDEX

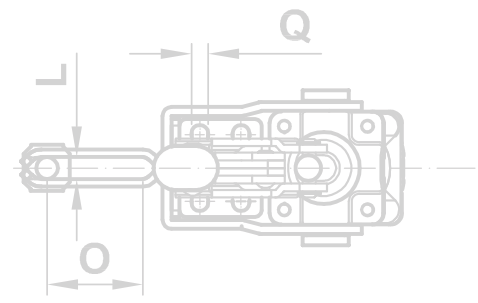
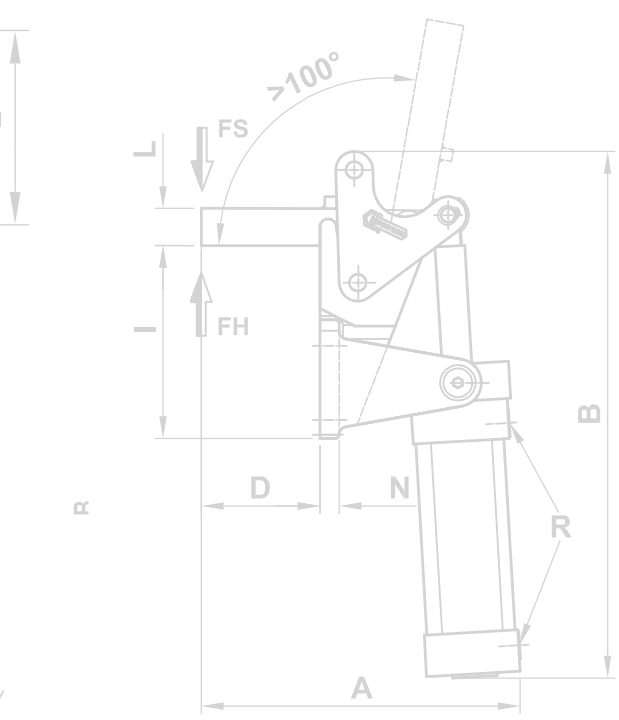
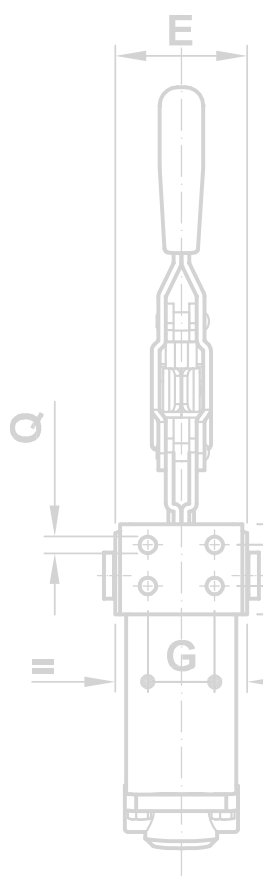
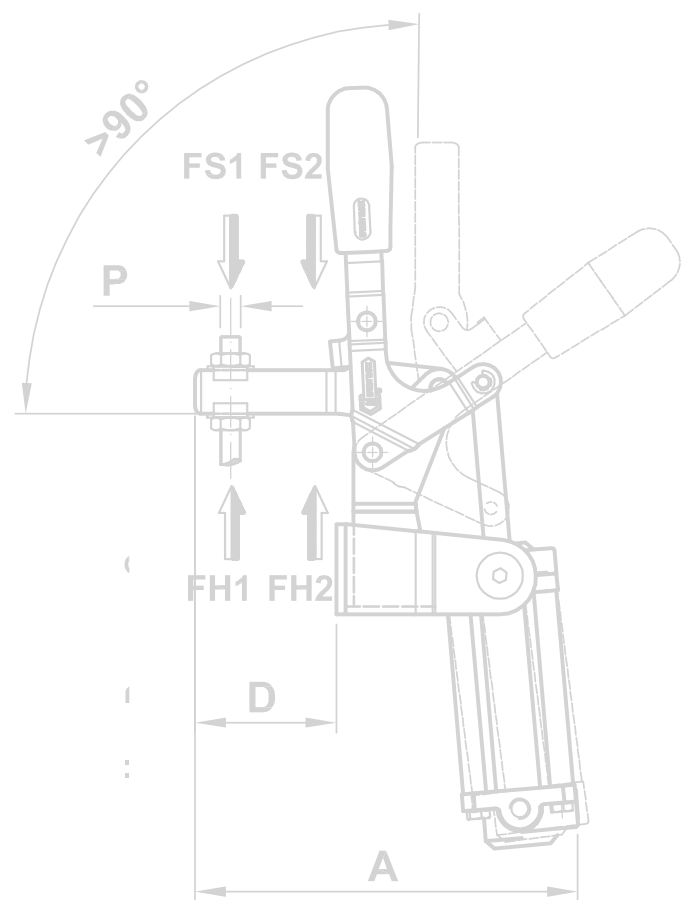
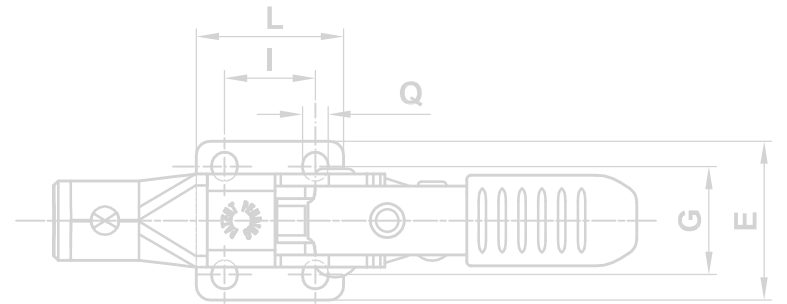
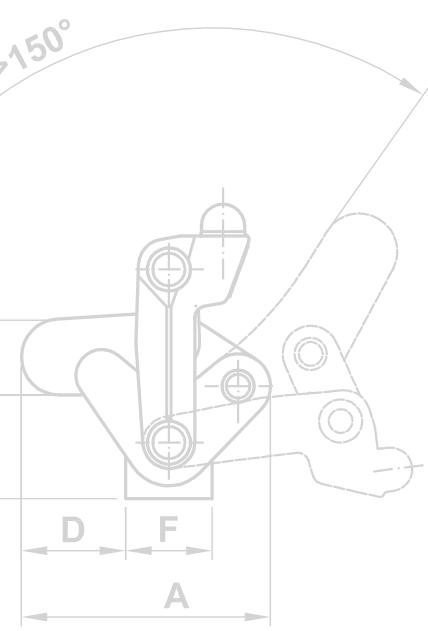
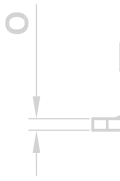
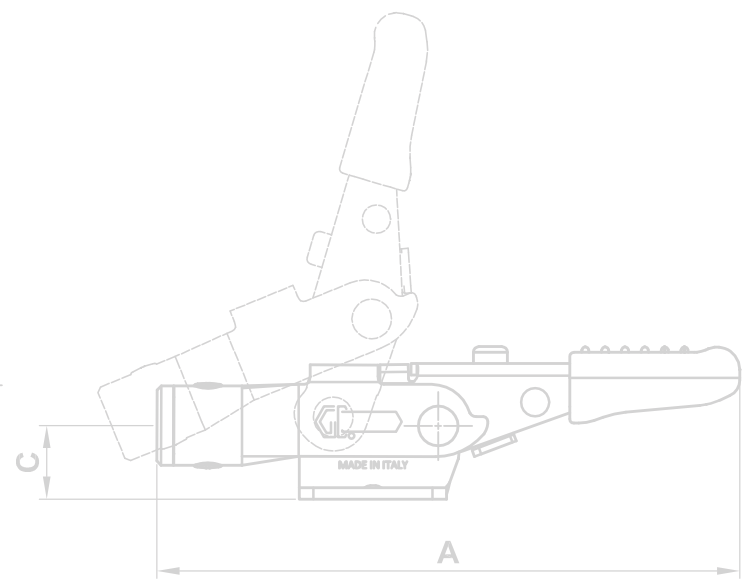
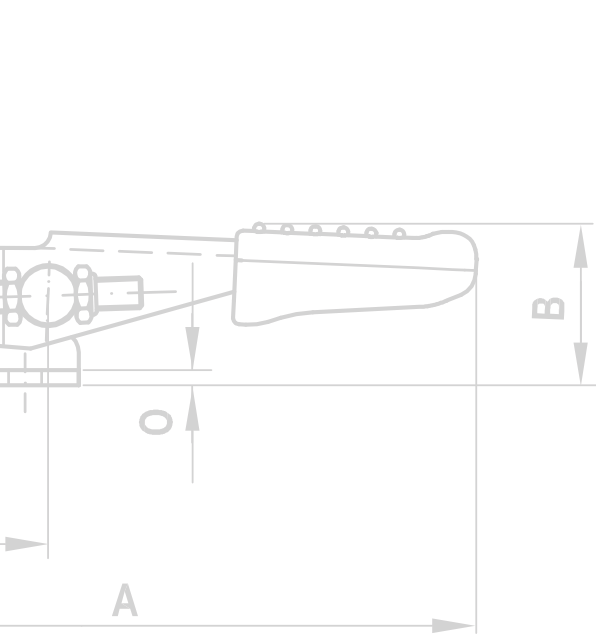
Description	Code	Pag.	Description	Code	Pag.	Description	Code	Pag.
1099	AU109	77	10184	AU184	78	130/EX	AS160	10
1100	AU110	77	10185	AU185	78	130/F	AA536	11
1101	AU111	77	10186	AU186	78	130/FL	AA588	13
1102	AU112	77	10189	AU189	78	130/FLS	AA589	14
1103	AU113	77	10190	AU190	78	130/FLX	AS206	13
1104	AU114	77	20105	AU205	78	130/FX	AS165	11
1200	AU200	77	20106	AU206	78	130/M	AD135	28
1201	AU201	77	20107	AU207	78	130/MF	AD136	33
1202	AU202	77	20108	AU208	78	130/MFX	DS136	33
1203	AU203	77	20109	AU209	78	130/ML	AD152	30
1204	AU204	77	20110	AU210	78	130/MLX	DS152	30
1540	AL758	65	20111	AU211	78	130/MX	DS135	28
1575	AL760	65	20112	AU212	78	130/N	AD140	29
10099	AU099	76	30080	AG416	40	130/NL	AD154	31
10100	AU100	76	30165	AG421	40	130/NLX	DS154	31
10101	AU101	76	30340	AG426	40	130/NX	DS140	29
10102	AU102	76	50099	AU509	76	130/O	AD145	28
10103	AU103	76	50100	AU510	76	130/OL	AD156	30
10104	AU104	76	50101	AU511	76	130/OLS	AD146	32
10105	AU105	76	50102	AU512	76	130/OLX	DS156	30
10120	AU120	76	50105	AU505	78	130/OR	AR145	63
10121	AU121	76	50106	AU506	78	130/OX	DS145	28
10122	AU122	76	50107	AU507	78	130/P	AD150	29
10123	AU123	76	50108	AU508	78	130/PL	AD158	31
10124	AU124	76	50120	AU520	76	130/PLS	AD151	32
10125	AU125	76	50121	AU521	76	130/PLX	DS158	31
10128	AU128	76	50122	AU522	76	130/PX	DS150	29
10129	AU129	76	50139	AU539	76	1400/T3	AL550	53
10130	AU130	76	50140	AU540	76	1400/T3S	AL552	53
10131	AU131	76	50141	AU541	76	1400/T5	AL590	58
10132	AU132	76	50142	AU542	76	1500/T2S	AL750	64
10139	AU139	76	50180	AU580	78	1510/T2S	AL755	64
10140	AU140	76	50181	AU581	78	160/AS	AG160	39
10141	AU141	76	50182	AU582	78	160/ASD	AG165	37
10142	AU142	76	50189	AU589	78	160/ASS	AG170	37
10143	AU143	76	1000/EPM	A0600	72	160/T16	AS600	50
10144	AU144	76	1000/EPVM	A0605	73	160/T2	AL500	48
10145	AU145	76	1000/F	AA900	17	160/T2X	AS500	48
10150	AU150	78	1100/AS	AG361	39	160/T3	AL530	52
10151	AU151	24	1100/SP3	A0371	75	160/T3X	AS530	52
10151	AU151	78	120/AS	AG120	38	160/T4	AL560	54
10152	AU152	78	125/AP3	A0041	69	160/T5	AL575	56
10153	AU153	78	125/EP3	A0046	69	160/T5X	AS545	56
10154	AU154	24	130/A	AA530	10	160/T6	AL780	50
10154	AU154	78	130/AL	AA582	12	160/TG	AU400	57
10155	AU155	78	130/ALX	AS200	12	160/TGX	AU420	57
10156	AU156	24	130/AX	AS150	10	160/TT	AU404	57
10156	AU156	78	130/B	AA532	11	160/TTX	AU424	57
10157	AU157	24	130/BL	AA584	13	160/TU	AU402	57
10157	AU157	78	130/BLX	AS202	13	160/TUX	AU422	57
10158	AU158	78	130/BX	AS155	11	165/AS	AG406	40
10159	AU159	78	130/E	AA534	10	165/ASX	AS406	40
10180	AU180	78	130/EL	AA586	12	1700/T2	AL518	49
10181	AU181	78	130/ELS	AA587	14	1700/T2S	AL520	49
10182	AU182	78	130/ELX	AS204	12	1700/T2SX	AS520	49
10183	AU183	78	130/ER	AR530	62	1700/T2X	AS518	49

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Description	Code	Pag.	Description	Code	Pag.	Description	Code	Pag.
1700/T6	AL795	51	230/P	AD285	29	330/E	AA554	10
1700/T6S	AL805	51	230/PL	AD296	31	330/ER	AR550	62
1700/T6SX	AS625	51	230/PLS	AD297	32	330/F	AA556	11
1700/T6X	AS615	51	230/PLX	DS293	31	340/AS	AG411	40
200/AP3	A0161	69	230/PX	DS285	29	340/ASX	AS411	40
200/APV3	A0181	70	25/M	AD025	28	355/M	AD370	28
200/APV3S	A0184	71	25/MX	DS025	28	355/MF	AD371	33
200/AV	AA220	15	300/AP3	A0201	69	355/ML	AD390	30
200/AVF	AA221	16	300/APV3	A0221	70	355/N	AD375	29
200/EP3	A0166	69	300/APV3S	A0224	71	355/NL	AD392	31
200/EPV3	A0186	70	300/AS	AG300	38	355/O	AD380	28
200/EPV3S	A0189	71	300/AV	AA320	15	355/OL	AD394	30
200/EV	AA225	15	300/AVF	AA321	16	355/OR	AR380	63
200/EVF	AA226	16	300/EP3	A0206	69	355/P	AD385	29
200/T	AL200	44	300/EPV3	A0226	70	355/PL	AD396	31
200/TF	AL205	44	300/EPV3S	A0229	71	360/AS	AG351	39
2000/EPM	A0620	72	300/EV	AA325	15	360/SP3	A0361	75
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230/FX	AS195	11	320/TUX	AU428	57	43/TTX	AU566	47
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230/MX	DS270	28	33/TG	AU544	47	430/E	AA564	10
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