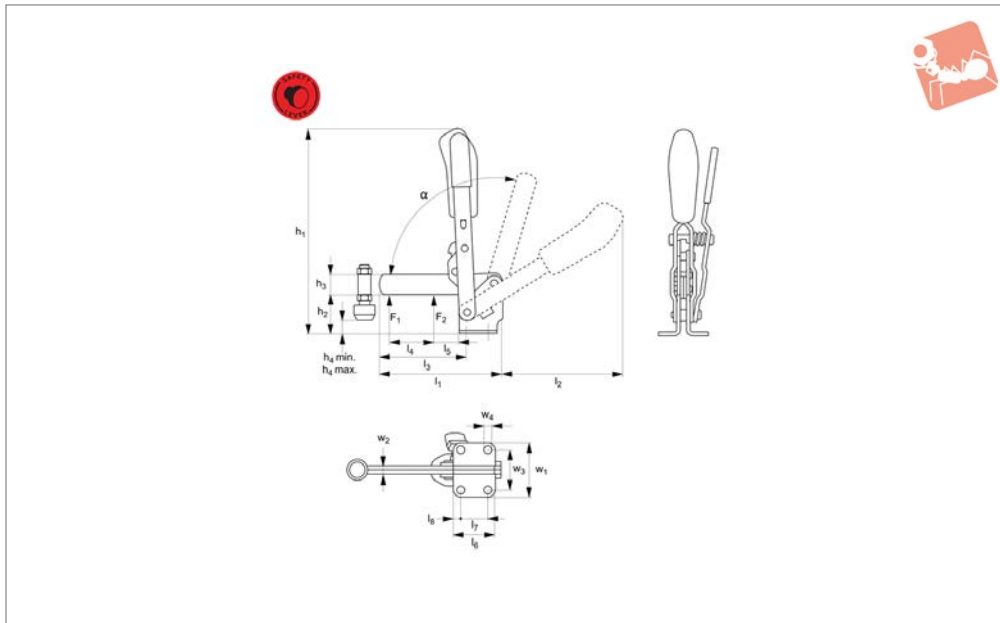




Vertical Acting Toggle Clamps

safety lever - solid arm - horizontal base



40160

SAFETY LEVER TOGGLE CLAMPS

Material

Body: steel, zinc plated. Rivets: stainless steel running in hardened bushes. Pre-lubricated bearings (grease suitable for food industry use). Ergonomic soft feel oil-resistant handle with large grip area. Supplied complete with weldable clamping

screw (with rubber pad).

Technical Notes

For fastening to mounting plates, etc. The arm can be shortened to suit the work-piece. The sleeve is then welded to the arm.

The safety lever holds the clamp in both

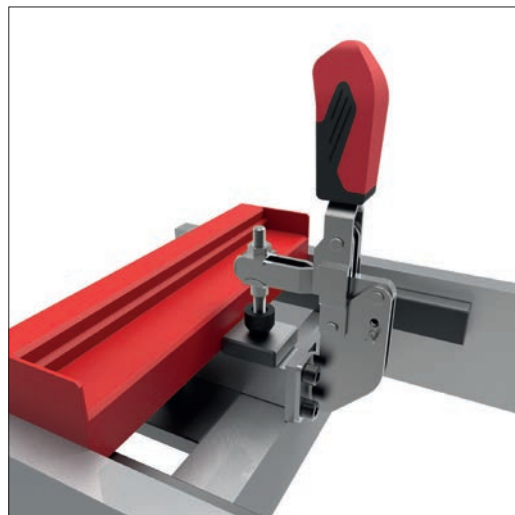
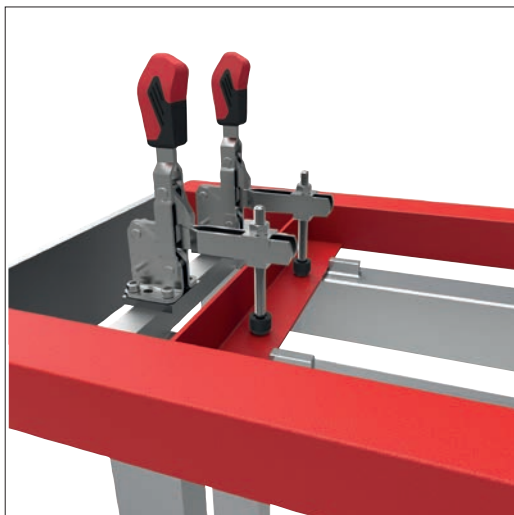
the open and the closed position. This prevents opening under vibration or inadvertent movement of the clamping arm when loading or unloading a fixture. Opening angle (symbol α) can be changed by pressing in a stop pin on the clamp body. Temperature range -10°C to $+80^{\circ}\text{C}$.

Order No.	Size	F_1 kN	F_2 kN	Clamping screw	h_1	h_2	h_3	h_4 min.	h_4 max.	h_5	Weight g
40160.W0003	3	1.4	2.5	M 8x45	186	48.0	18	0	12	35	470
40160.W0004	4	2.0	3.0	M 8x65	220	42.5	20	-8	21	53	690

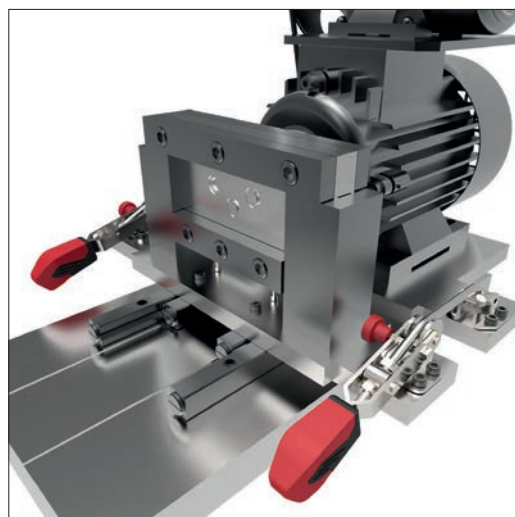
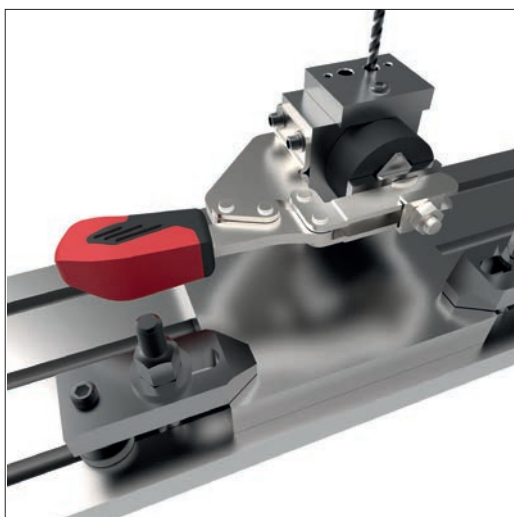
Order No.	h_6	h_7	l_1	l_2	l_3	l_4	l_5	w_1	w_2	w_3	w_4	α	α^*
40160.W0003	20	7.5	112	112	81	43	19	46	6	32	7.1	105°	60°
40160.W0004	32	13.0	140	130	101	61	16	64	8	45	8.5	105°	60°



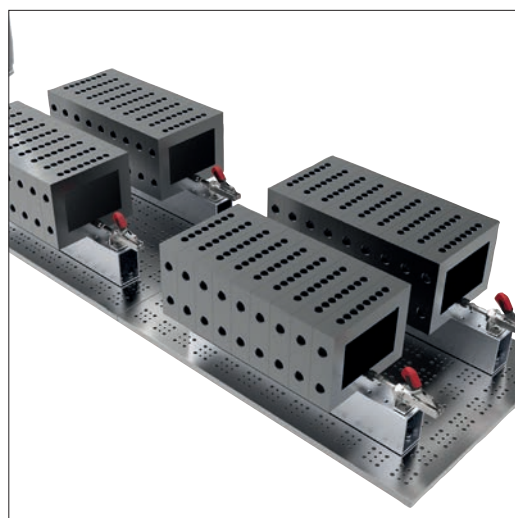
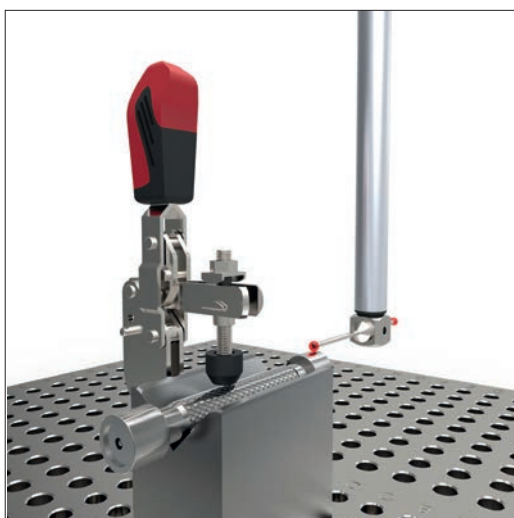
Welding Fixtures



Machining and Jig Assemblies



Cmm's

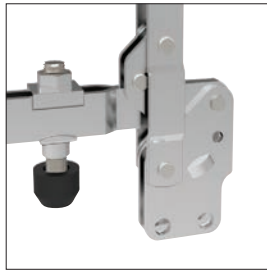




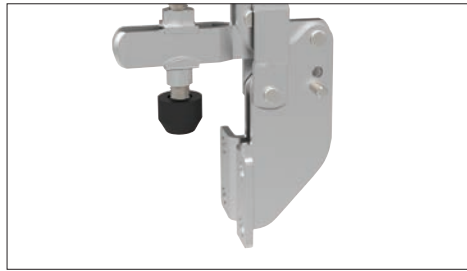
Mounting Base Variations



Horizontal base



Vertical base



Angled base

Clamping Variations



Vertical acting



Horizontal acting



Push-pull



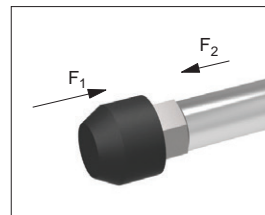
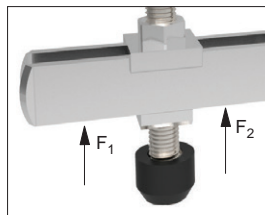
Hook type



Latch type

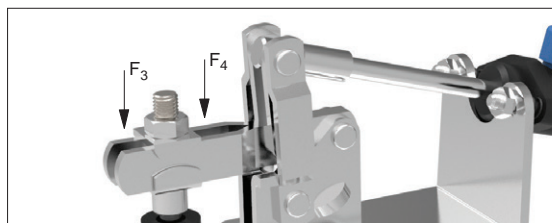
Explanation of forces

The force transmitted to the workpiece by the toggle clamp's closed arm, without itself being deformed when machine forces are applied. The holding force value is dependent upon the proximity of the measuring load point to the toggle clamp's pivot point (therefore two values, F_1 and F_2 are provided).



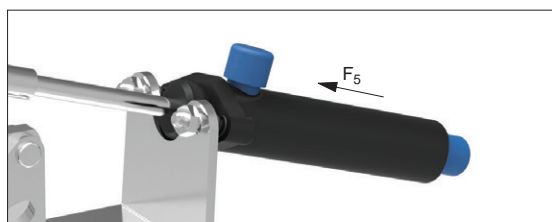
Holding Forces F_1 or F_2

The force applied to the workpiece when the toggle clamp's arm is closed. These clamping forces can only be stated for pneumatic toggle clamps, clamping forces of manual clamps cannot be easily measured as they are dependent upon the operator.



Clamping Forces F_3 or F_4

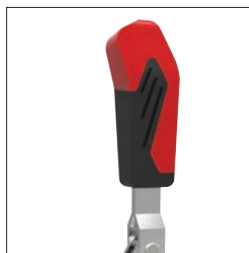
For pneumatically controlled toggle clamps only, F_5 is the piston force required (at 6 bar to) achieve the stated clamping force.



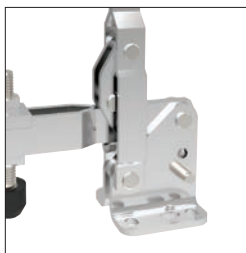
Piston Forces F_5



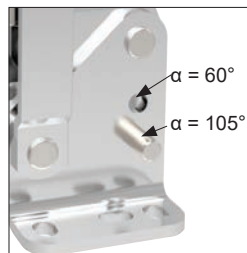
Quality Features



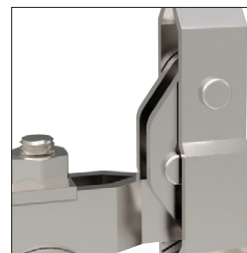
Ergonomic soft grip
2-component handle



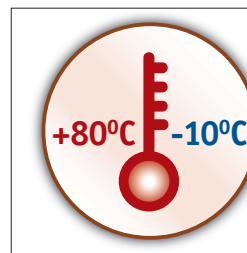
Stainless rivets and
hardened bushings



Moveable stop for
variable opening angle



Operator
finger protection



Temperature resistant

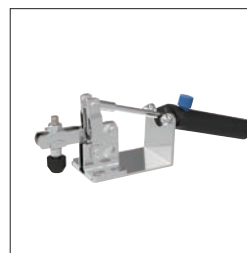
Unique Features



Safety catches



Heavy duty versions



Pneumatic versions



Matt black surface for
optical measurement

Materials



Steel, zinc plated
and passivated



Stainless steel (304)



Steel, matt black
vario-spektron coated



Protective cap and
handle made of an
electrostatic conductive
(dissipative) material.