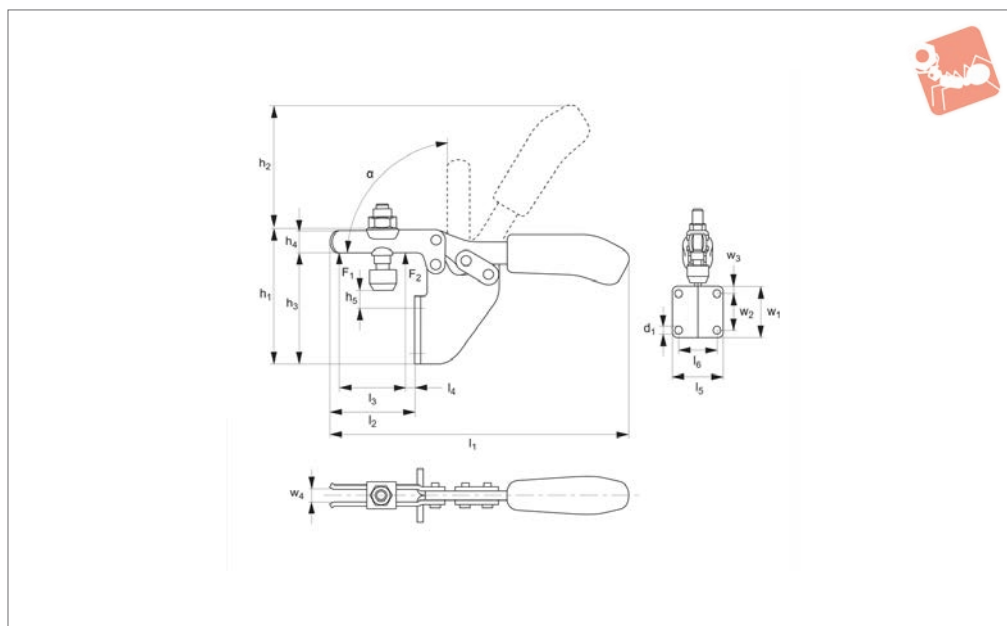


# Horizontal Acting Toggle Clamps

open arm - angle base



**41100**

STEEL TOGGLE CLAMPS

## Material

Body: steel, zinc plated.  
Rivets: stainless steel running in hardened bushes (sizes 2-3).  
Pre-lubricated bearings (grease suitable

for food industry use).  
Ergonomic, soft feel, oil-resistant handle with large grip area.  
Supplied complete with clamping screw (with rubber pad).

## Technical Notes

Temperature range -10°C to +80°C.

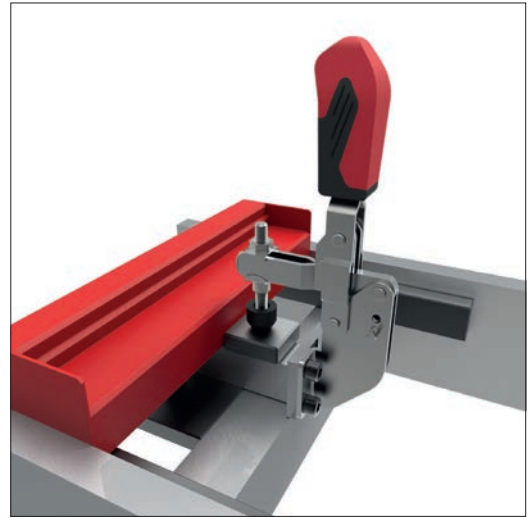
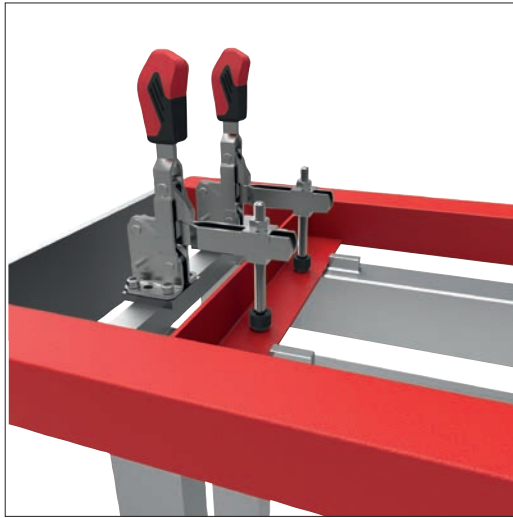
Order No.	Size	F <sub>1</sub> kN	F <sub>2</sub> kN	Clamping screw	h <sub>1</sub>	h <sub>2</sub>	h <sub>3</sub>	h <sub>4</sub>	h <sub>5</sub> min.	h <sub>5</sub> max.	Weight g
41100.W0001	1	0.8	1.1	M 5x30	68.0	49	57	10.0	14	20.0	170
41100.W0002	2	1.0	1.2	M 6x35	94.0	68	73	13.2	22	29.5	245
41100.W0003	3	1.8	2.5	M 8x45	86.5	86	70	15.0	5	16.0	390
41100.W0004	4	2.0	3.0	M 8x65	133.0	120	102	20.0	11	40.0	730

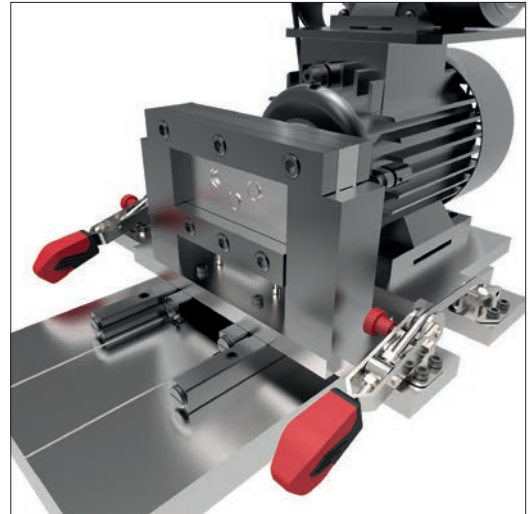
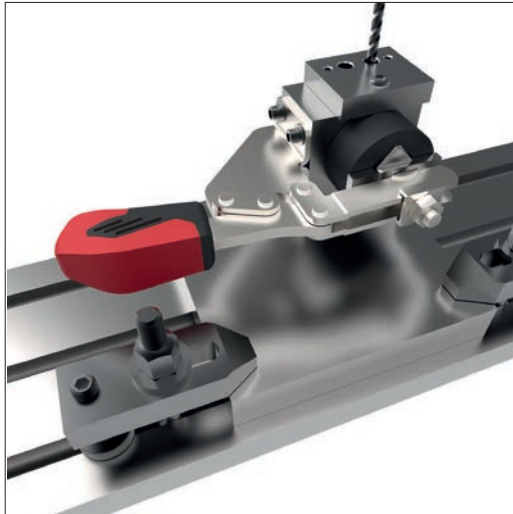
Order No.	l <sub>1</sub>	l <sub>2</sub>	l <sub>3</sub>	l <sub>4</sub>	l <sub>5</sub>	l <sub>6</sub>	w <sub>1</sub>	w <sub>2</sub>	w <sub>3</sub>	w <sub>4</sub>	d <sub>1</sub>	α
41100.W0001	120	32	18.5	4.0	31.0	19.0	28	13.5	8	5.0	5.2	90°
41100.W0002	162	52	32.0	10.5	37.0	25.5	32	20.0	6	6.2	5.6	90°
41100.W0003	206	59	37.0	6.5	42.5	28.5	38	24.0	7	8.0	6.8	90°
41100.W0004	282	93	63.0	15.0	52.0	32.0	82	32.0	40	10.0	8.5	90°



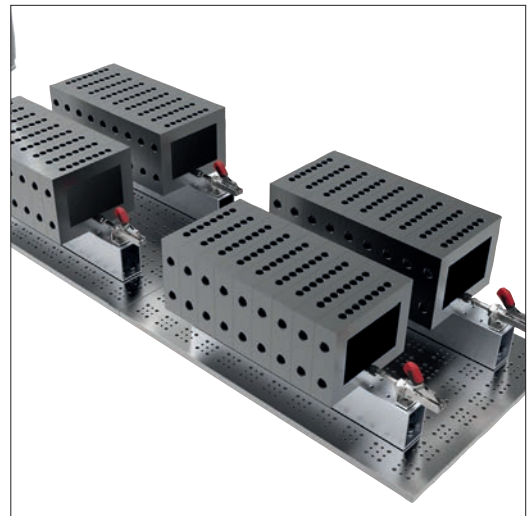
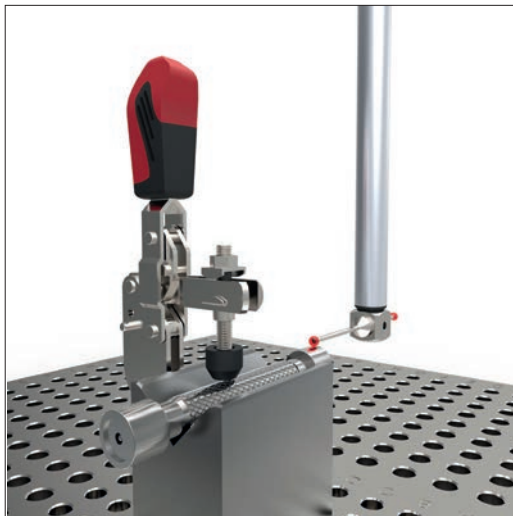
## Welding Fixtures

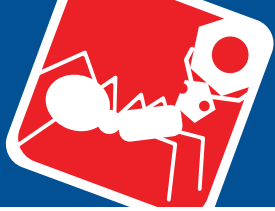


## Machining and Jig Assemblies

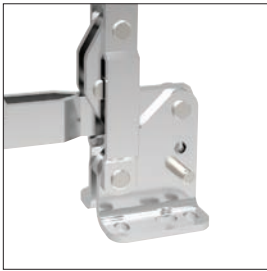


## Cmm's

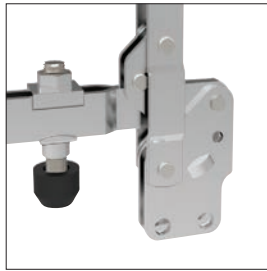




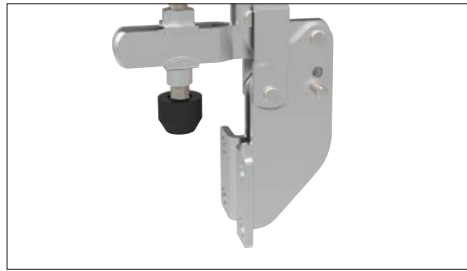
### Mounting Base Variations



Horizontal base



Vertical base



Angled base

### Clamping Variations



Vertical acting



Horizontal acting



Push-pull



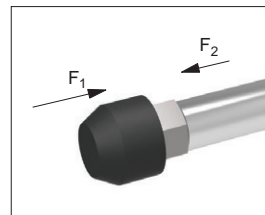
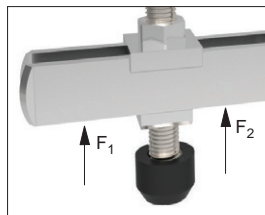
Hook type



Latch type

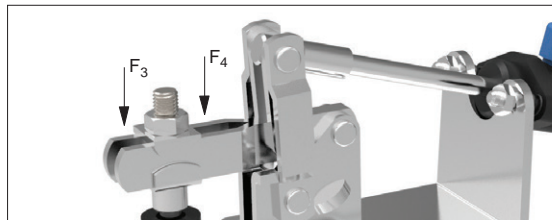
### Explanation of forces

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).



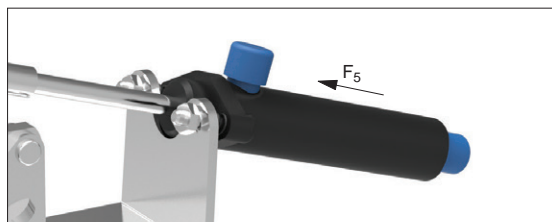
### Holding Forces $F_1$ or $F_2$

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.



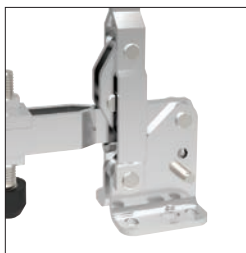
### Piston Forces $F_5$



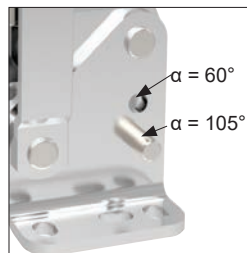
### Quality Features



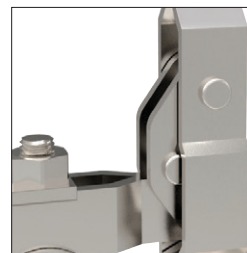
Ergonomic soft grip  
2-component handle



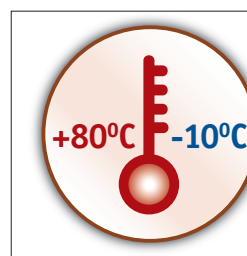
Stainless rivets and  
hardened bushings



Moveable stop for  
variable opening angle



Operator  
finger protection



Temperature resistant

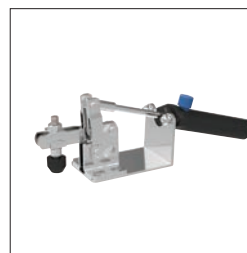
### Unique Features



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.