

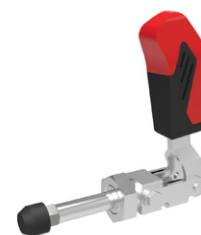
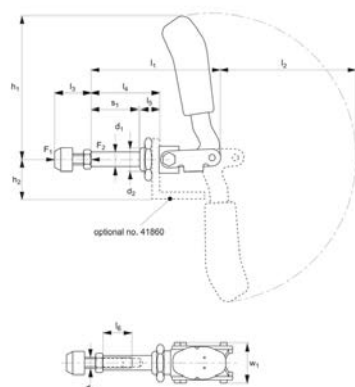


# Push-Pull Toggle Clamps

compact version



## Steel Toggle Clamps



**41840.1**

STEEL 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 clamping screw (with rubber pad).

### Technical Notes

Compact construction with long travel.

Temperature range -10°C to +80°C.

### Tips

For stainless steel version see part no. 41840.W0002- .W0005.

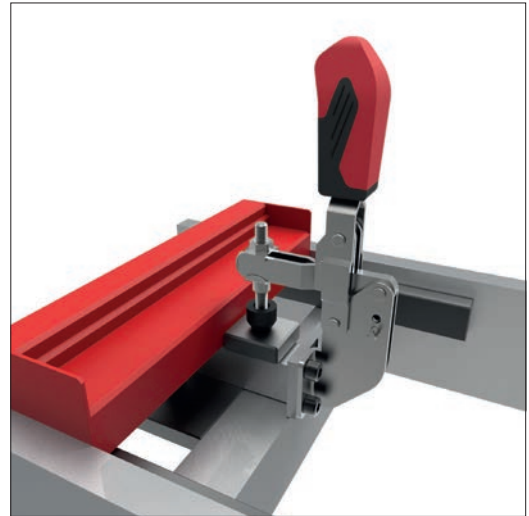
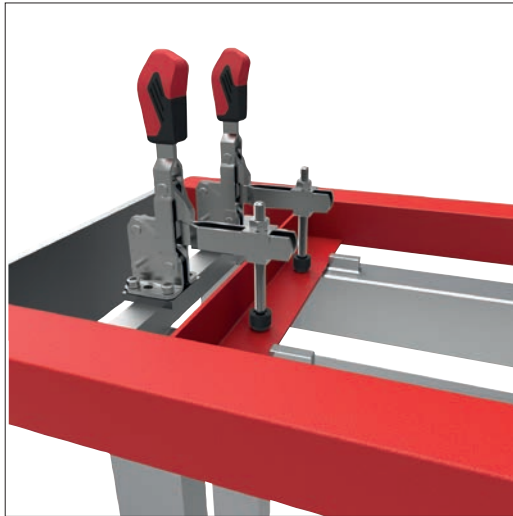
Order No.	Size	Clamping screw	F <sub>1</sub> kN	F <sub>2</sub> kN	d <sub>1</sub>	d <sub>2</sub>	d <sub>3</sub>	h <sub>1</sub>	h <sub>2</sub>	Weight g
41840.W0002	2	M 6x25	1.0	1.0	10	M16x1,5	M 6	73	24	130
41840.W0003	3	M 8x35	2.5	2.5	12	M20x1,5	M 8	123	33	320
41840.W0005	5	M12x50	4.0	4.0	16	M24x1,5	M12	149	37	1200
41840.W0006	5-M27	M12x50	4.0	4.0	16	M27x2,0	M12	149	37	1200

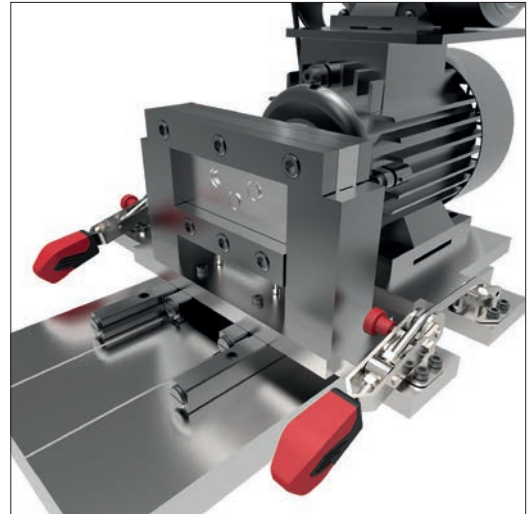
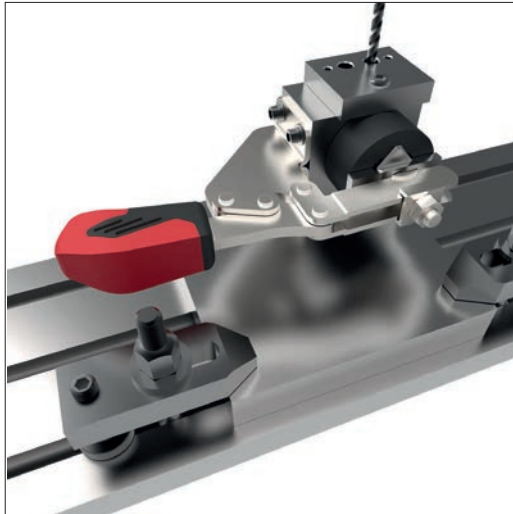
Order No.	l <sub>1</sub>	l <sub>2</sub>	l <sub>3</sub> min.	l <sub>3</sub> max.	l <sub>4</sub>	l <sub>5</sub>	l <sub>6</sub>	w <sub>1</sub>	Stroke s <sub>1</sub>
41840.W0002	68.5	68	17	25	36	13	15	30.5	21.5
41840.W0003	108.5	115	22	35	57	16	25	33.0	40.0
41840.W0005	175.0	139	30	50	92	24	45	49.0	67.0
41840.W0006	175.0	139	30	50	92	24	45	49.0	67.0



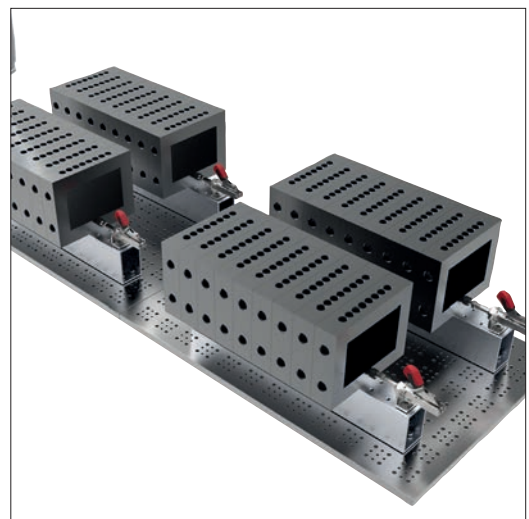
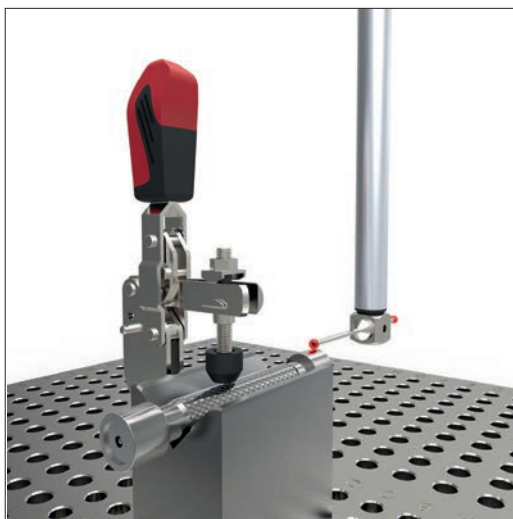
## Welding Fixtures

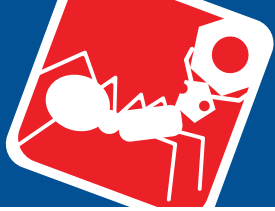


## Machining and Jig Assemblies



## Cmm's

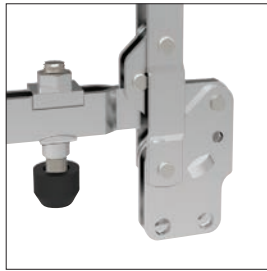




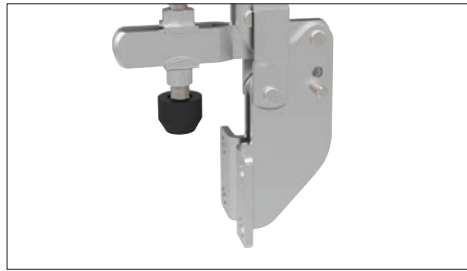
### Mounting Base Variations



Horizontal base



Vertical base



Angled base

### Clamping Variations



Vertical acting



Horizontal acting



Push-pull



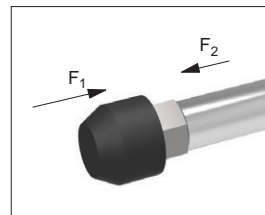
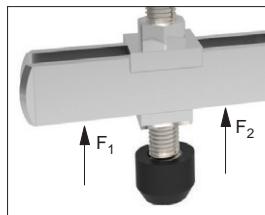
Hook type



Latch type

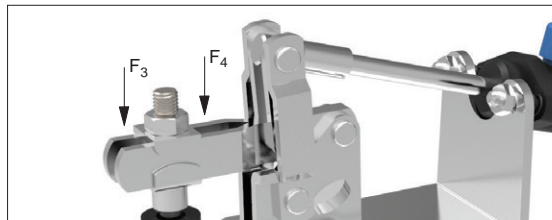
### Explanation of forces

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).



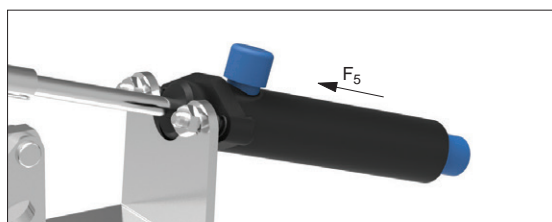
### Holding Forces $F_1$ or $F_2$

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.



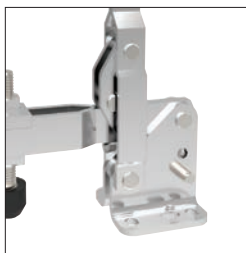
### Piston Forces $F_5$



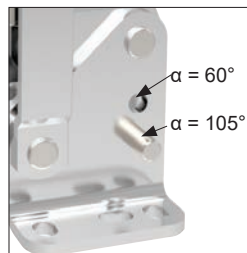
### Quality Features



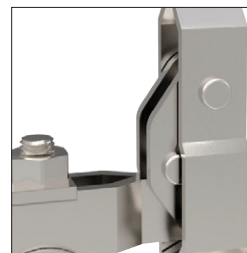
Ergonomic soft grip  
2-component handle



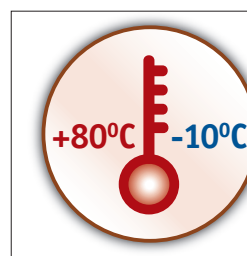
Stainless rivets and  
hardened bushings



Moveable stop for  
variable opening angle



Operator  
finger protection



Temperature resistant

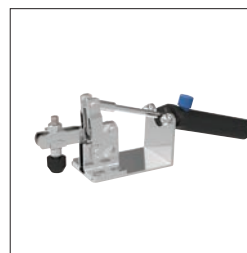
### Unique Features



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.