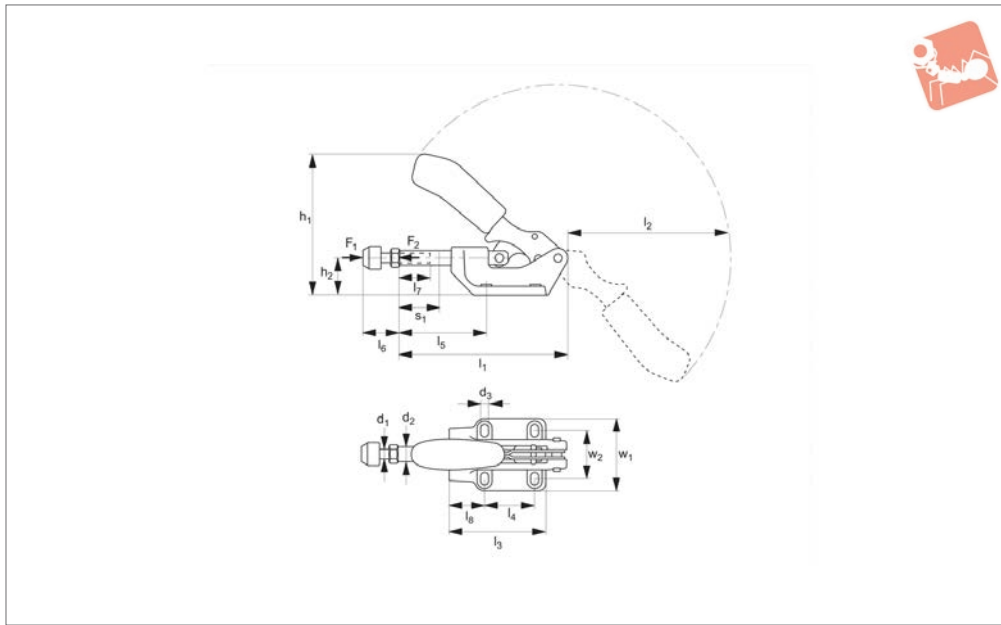




# Heavy Duty Push-Pull Toggle Clamp



## Steel Toggle Clamps



**42050.1**

STEEL TOGGLE CLAMPS

### Material

Base: cast iron, malleable, varnished.

Lever and push rod: zinc plated, passivated and tempered.

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

and rubber nose.

### Technical Notes

Temperature range -10°C to +80°C.

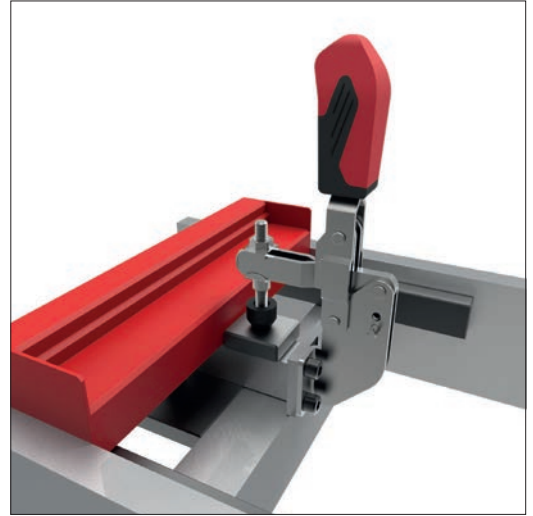
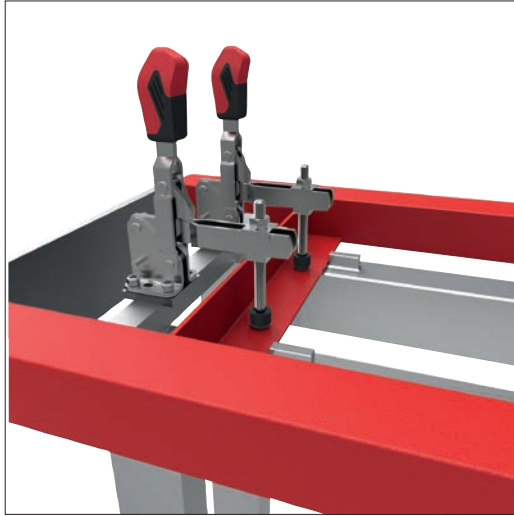
Order No.	Size	Clamping screw $d_1$	$F_1$ kN	$F_2$ kN	$d_2$	$d_3$	$h_1$	$h_2$	$l_1$	$l_2$	Weight g
42050.W0003	3	M 8x35	4	4	12	6.5	116.0	30	139	135	540
42050.W0005	5	M12x50	10	10	16	8.5	137.5	38	174	156	1115
42050.W0007	7	M12x50	25	25	22	11.0	179.0	55	218	192	2840

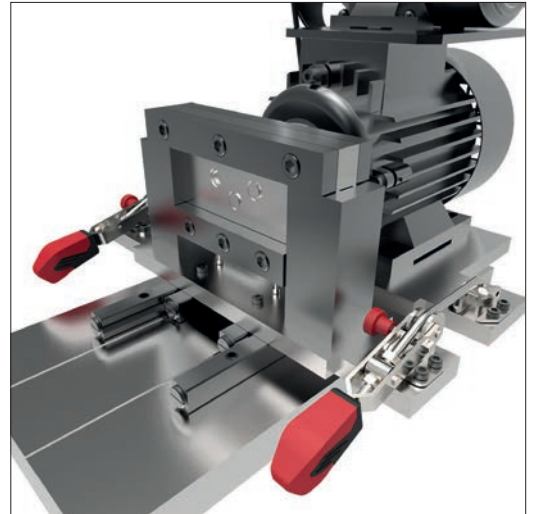
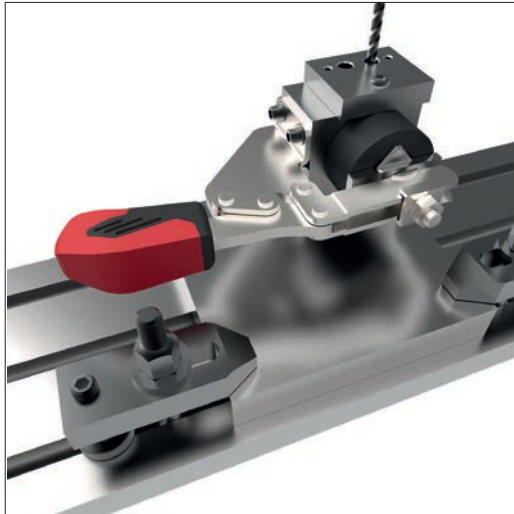
Order No.	$l_3$	$l_4$	$l_5$ min.	$l_5$ max.	$l_6$ min.	$l_6$ max.	$l_7$	$l_8$	$w_1$	$w_2$	Stroke $s_1$
42050.W0003	95	41	40	72	22	35	30	28	60	36-44	32
42050.W0005	121	41	58	98	30	50	50	45	71	41-50	40
42050.W0007	158	70	59	105	30	50	50	45	93	57-65	50



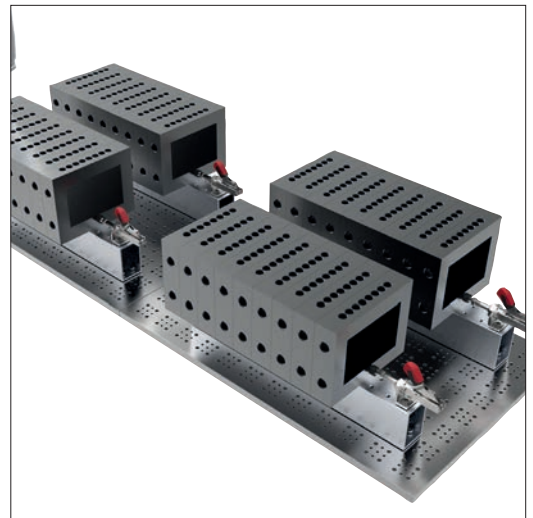
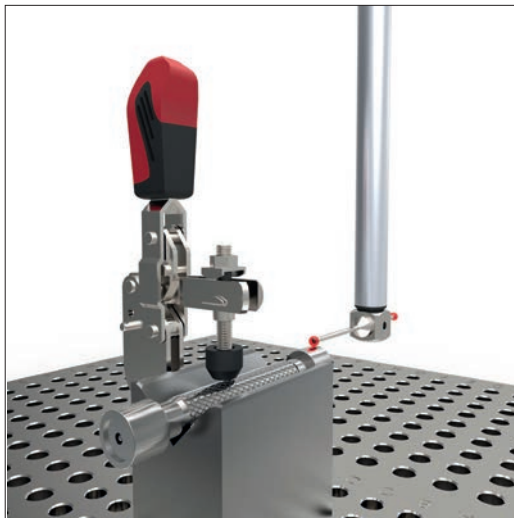
## Welding Fixtures



## Machining and Jig Assemblies

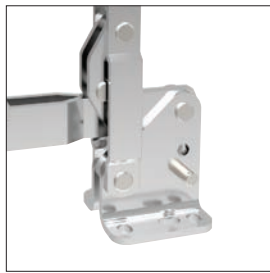


## Cmm's

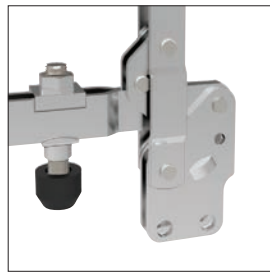




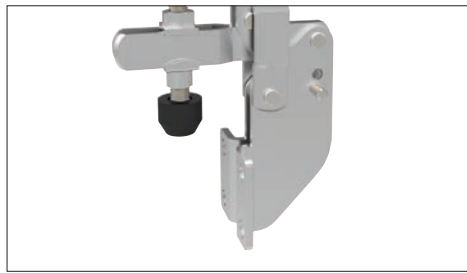
STEEL TOGGLE CLAMPS



Horizontal base



Vertical base



Angled base

### Mounting Base Variations



Vertical acting



Horizontal acting



Push-pull

### Clamping Variations



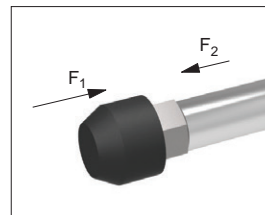
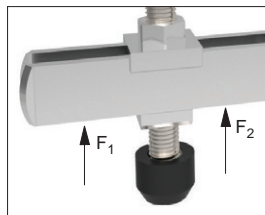
Hook type



Latch type

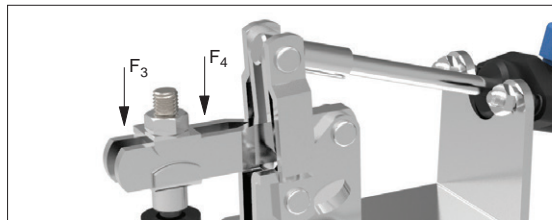
### Explanation of forces

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).



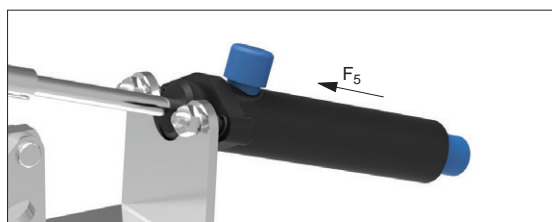
### Holding Forces $F_1$ or $F_2$

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 $F_5$

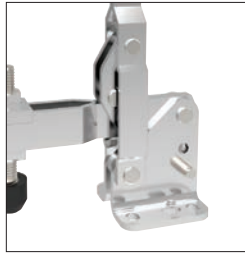
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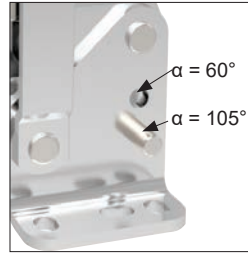
### Quality Features



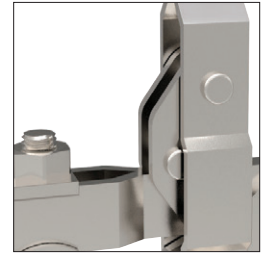
Ergonomic soft grip  
2-component handle



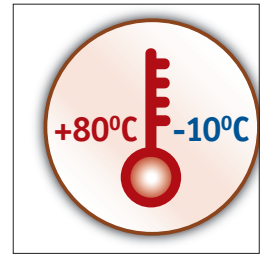
Stainless rivets and  
hardened bushings



Moveable stop for  
variable opening angle



Operator  
finger protection



Temperature resistant

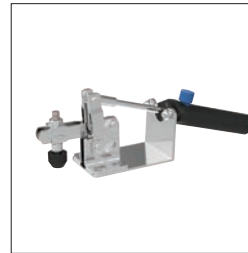
### Unique Features



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.