

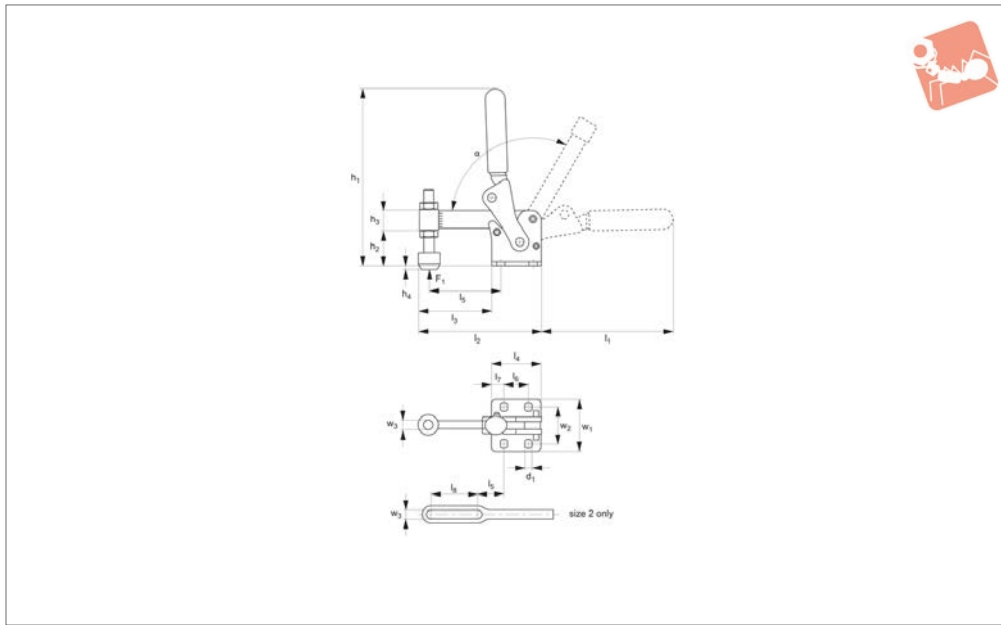


# Heavy Duty Vertical Toggle Clamp

horizontal base



# Heavy Duty Toggle Clamps



**46080**

HEAVY DUTY TOGGLE CLAMPS

### Material

Body: steel, black oxide coated.  
 Lever: cast steel, black oxide coated.  
 Bushes: reamed, case hardened.  
 Pins: hardened, ground and permanently lubricated.  
 Handle: ergonomic soft feel, oil-resistant, with large grip area.  
 Supplied complete with zinc plated and

tempered clamping screw (with rubber pad).

### Technical Notes

Heavy vertical toggle clamps are especially suitable for production equipment and fixtures.  
 Temperature range -10°C to +80°C.

### Tips

Clamp nuts on lever arm to vary friction in movement.  
 Supplement these base modular toggle clamps with your own clamping arms, handles etc. to meet the requirements of your specific application.

Order No.	Size	F <sub>1</sub> kN	Clamping screw	h <sub>1</sub>	h <sub>2</sub>	h <sub>3</sub>	h <sub>4</sub> min.	h <sub>4</sub> max.	l <sub>1</sub>	l <sub>2</sub>	l <sub>3</sub>	Weight g
46080.W0202	2	2.5	M 6x50	127	25	15	-13.5	6	94	85	57	320
46080.W0204	4	5.0	M12x80	216	44	24	-19.0	14	160	146	100	1250
46080.W0206	6	6.0	M12x110	263	65	30	-22.0	35	185	181	121	2130
46080.W0208	8	12.0	M12x110	303	71	36	-10.0	41	203	226	151	4050

Order No.	l <sub>4</sub>	l <sub>5</sub>	l <sub>6</sub>	l <sub>7</sub>	l <sub>8</sub>	w <sub>1</sub>	w <sub>2</sub>	w <sub>3</sub>	d <sub>1</sub>	α
46080.W0202	37	21	20	8.5	30	47	32	6.1	7.1	120°
46080.W0204	60	75	30	15.0	-	65	45	12.2	8.5	120°
46080.W0206	75	95	45	15.0	-	78	52	12.2	10.5	120°
46080.W0208	95	120	55	20.0	-	108	75	12.2	12.5	120°

# Heavy Duty Toggle Clamps

## Heavy Duty Vertical Toggle Clamp horizontal base



HEAVY DUTY TOGGLE CLAMPS

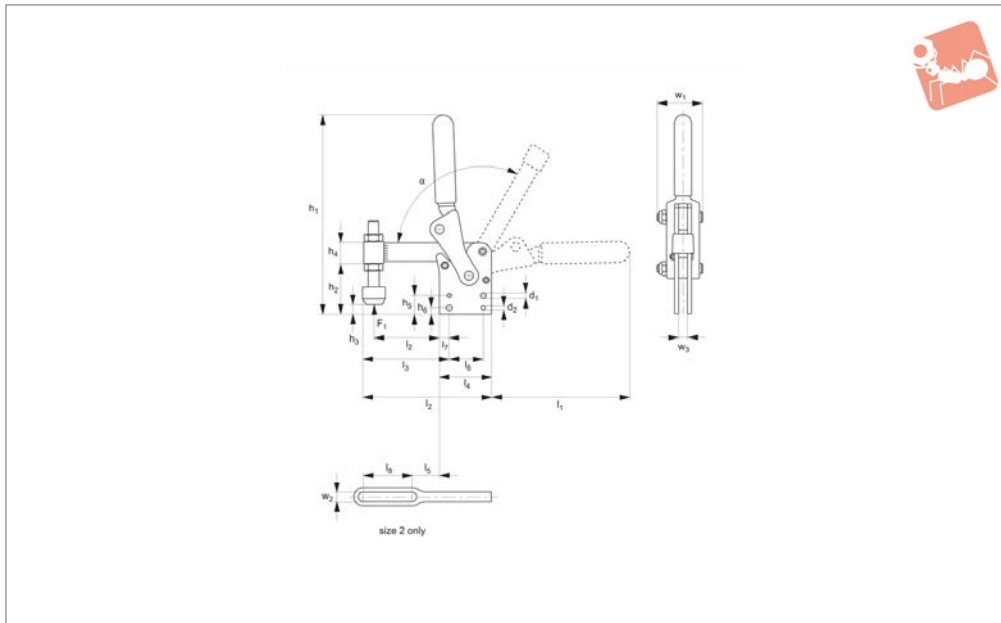




# Heavy Duty Vertical Toggle Clamp

with vertical base and mounting holes

## Heavy Duty Toggle Clamps



**46090**

HEAVY DUTY TOGGLE CLAMPS

### Material

Body and lever: steel, blued.  
 Bushes: reamed, case hardened.  
 Pins: hardened, ground and permanently lubricated.  
 Handle: ergonomic soft feel, oil-resistant, with large grip area.

Supplied complete with clamping screw (with rubber pad).

### Technical Notes

Heavy vertical toggle clamps are especially suitable for production equipment and fixtures.

Temperature range -10°C to +80°C.

### Tips

Clamp nuts on lever arm to vary friction in movement.

Order No.	Size	F <sub>1</sub> kN	Clamping screw	h <sub>1</sub>	h <sub>2</sub>	h <sub>3</sub> min.	h <sub>3</sub> max.	h <sub>4</sub>	h <sub>5</sub>	h <sub>6</sub>	Weight g
46090.W0202	2	2.5	M 6x50	144	42.0	3.5	22.8	15	-	-	320
46090.W0204	4	10.0	M12x80	233	62.0	-1.0	35.0	24	25	10	1320
46090.W0206	6	12.0	M12x110	289	87.5	0.0	58.0	30	35	15	2120
46090.W0208	8	20.0	M12x110	338	106.0	25.0	76.0	36	40	20	4060

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>	l <sub>7</sub>	l <sub>8</sub>	w <sub>1</sub>	w <sub>2</sub>	w <sub>3</sub>	d <sub>1</sub>	d <sub>2</sub>	α
46090.W0202	94	85	48	37	12	-	-	30	31	6.2	6	-	-	190°
46090.W0204	161	146	101	60	75	30	15	-	52	12.2	10	8.5	5.7	120°
46090.W0206	189	181	121	75	95	45	15	-	60	12.2	12	10.5	7.7	120°
46090.W0208	219	226	151	95	120	55	20	-	76	12.2	16	12.5	9.7	120°

# Heavy Duty Toggle Clamps

# Heavy Duty Vertical Toggle Clamp

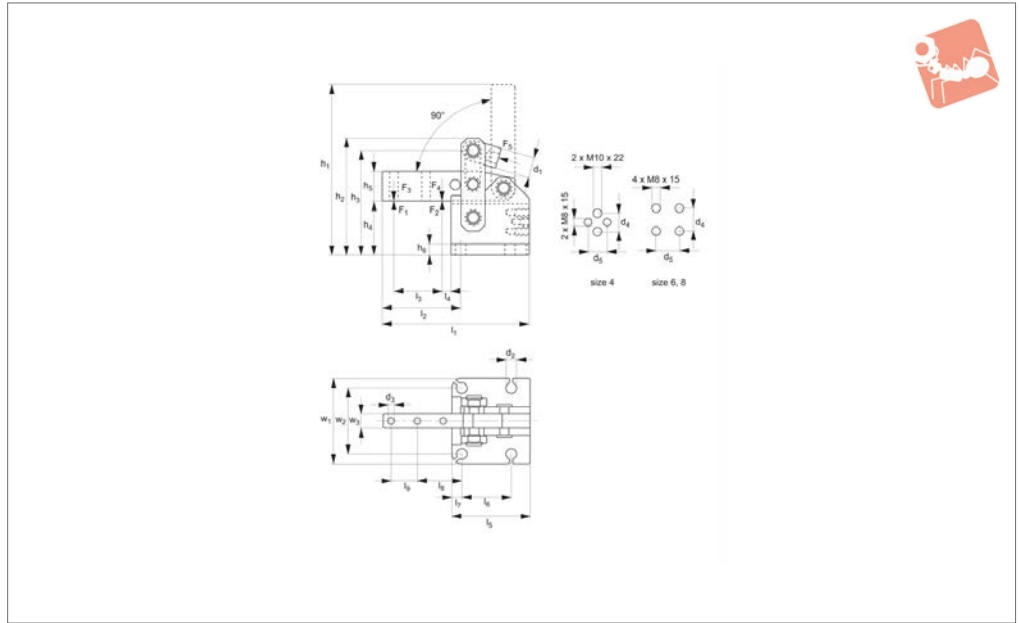
with vertical base and mounting holes



HEAVY DUTY TOGGLE CLAMPS



## 46100



### Material

Body: tempered steel, burnished.  
Axle Bolts: tempered and ground, locked with circlips.

Bushes: case hardened and greased.

### Technical Notes

The clamping forces  $F_3$  and  $F_4$  can be

achieved by using a cylinder with piston force  $F_5$ . This clamp can be equipped with a normal hydraulic or pneumatic cylinder. The rod joint is exchangeable.

Order No.	Size	$F_1$ kN	$F_2$ kN	$F_3$ kN	$F_4$ kN	$F_5$ kN	$h_1$	$h_2$	$h_3$	$h_4$	$h_5$	$h_6$	$l_1$	$l_2$	$l_3$	Weight g
46100.W0000	0	0.6	1.0	0.2	0.4	0.1	75.5	53.5	47.5	25.5	10	6	50	33.5	14	110
46100.W0001	1	0.8	1.2	0.6	0.8	0.2	96.0	68.0	61.5	37.0	12	8	61	41.0	17	230
46100.W0004	4	6.0	9.0	1.5	2.2	0.8	197.0	122.0	109.0	57.0	30	12	154	82.0	54	2535
46100.W0006	6	12.0	18.0	2.5	3.5	1.0	215.0	147.0	129.0	61.0	40	12	169	90.0	60	4215
46100.W0008	8	20.0	30.0	4.0	6.0	1.8	306.0	196.0	176.0	86.0	60	12	235	127.5	95	10670

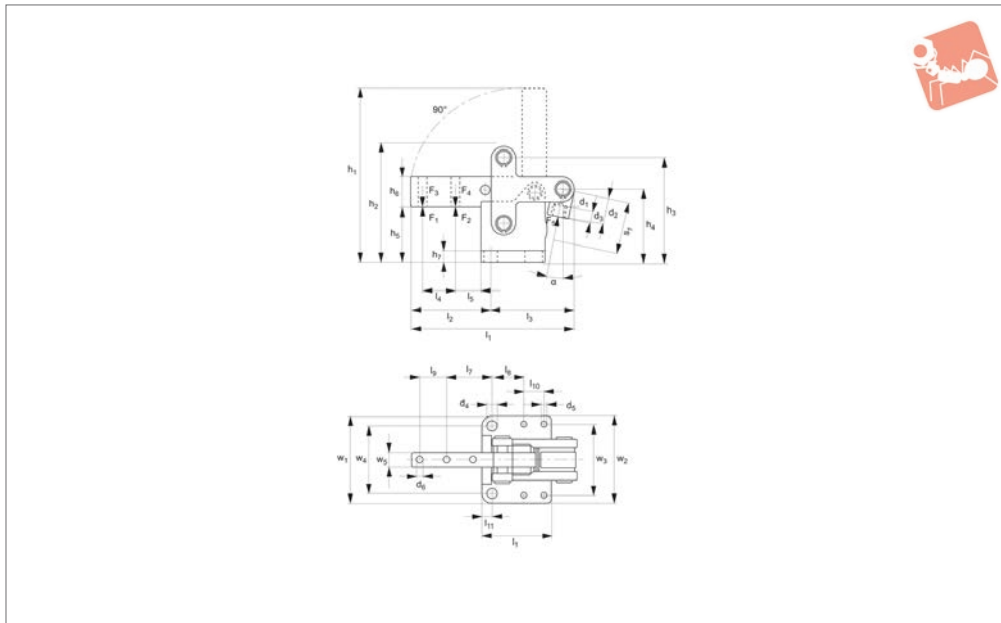
Order No.	$l_4$	$l_5$	$l_6$	$l_7$	$l_8$	$l_9$	$w_1$	$w_2$	$w_3$	$d_1$	$d_2$	$d_3$	$d_4$	$d_5$	Piston dia.	Piston stroke
46100.W0000	8.5	22.0	11	5.5	-	-	35	27	5	M 6	4.5	-	-	-	16	40
46100.W0001	9.0	28.0	14	8.0	-	-	50	35	6	M 8	7.0	-	-	-	20	40
46100.W0004	10.0	77.0	52	10.0	47.0	27	90	70	15	M12x1,25	11.0	6.2	20	18	40	80
46100.W0006	10.0	85.0	55	11.0	53.0	26	105	83	20	M16x1,50	11.0	8.2	24	24	50	100
46100.W0008	9.5	112.5	80	12.5	69.5	40	136	111	30	M16x1,50	13.0	13.0	40	34	63	120



# Heavy Duty Toggle Clamps

for vertical cylinder connection

# Heavy Duty Toggle Clamps



**46200**

HEAVY DUTY TOGGLE CLAMPS

### Material

Body: tempered steel, burnished.  
Axle Bolts: tempered and ground, locked with circlips.

Bushes: case hardened and greased.

### Technical Notes

The clamping forces  $F_3$  and  $F_4$  can be

achieved by using a cylinder with piston force  $F_5$ . This clamp can be equipped with a normal hydraulic or pneumatic cylinder. The rod joint is exchangeable.

Order No.	Size	$F_1$ kN	$F_2$ kN	$F_3$ kN	$F_4$ kN	$F_5$ kN	$h_1$	$h_2$	$h_3$	$h_4$	$h_5$	$h_6$	$h_7$	$l_1$	$l_{10}$	$l_{11}$	$l_2$	$l_3$	Weight g
<b>46200.W0004</b>	4	6	9	1.5	2.2	0.75	206	130	117	82	65	30	12	172	18	10	82	76	2400
<b>46200.W0006</b>	6	12	18	2.5	3.5	1.00	226	155	137	92	69	40	15	200	24	12	91	88	4300
<b>46200.W0008</b>	8	20	30	4.0	6.0	1.80	318	204	184	124	94	60	20	265	40	15	125	120	11000

Order No.	$l_4$	$l_5$	$l_6$	$l_7$	$l_8$	$l_9$	Stroke $s_1$	$w_1$	$w_2$	$w_3$	$w_4$	$w_5$	$d_1$	$d_2$	$d_3$	$d_4$	$d_5$	$d_6$	$\alpha$
<b>46200.W0004</b>	54	20.0	67.0	47	33.0	27	74	90	90	75.5	70	15	M12x1,25	29.5	14	11	6.5	6.2	9,0°
<b>46200.W0006</b>	60	22.0	73.5	54	29.5	26	87	107	100	87.5	83	20	M16x1,50	37.0	18	13	6.5	8.2	7,5°
<b>46200.W0008</b>	95	24.5	109.0	67	44.0	40	120	145	123	120.5	115	30	M16x1,50	32.0	17	13	6.5	13.2	6,5°