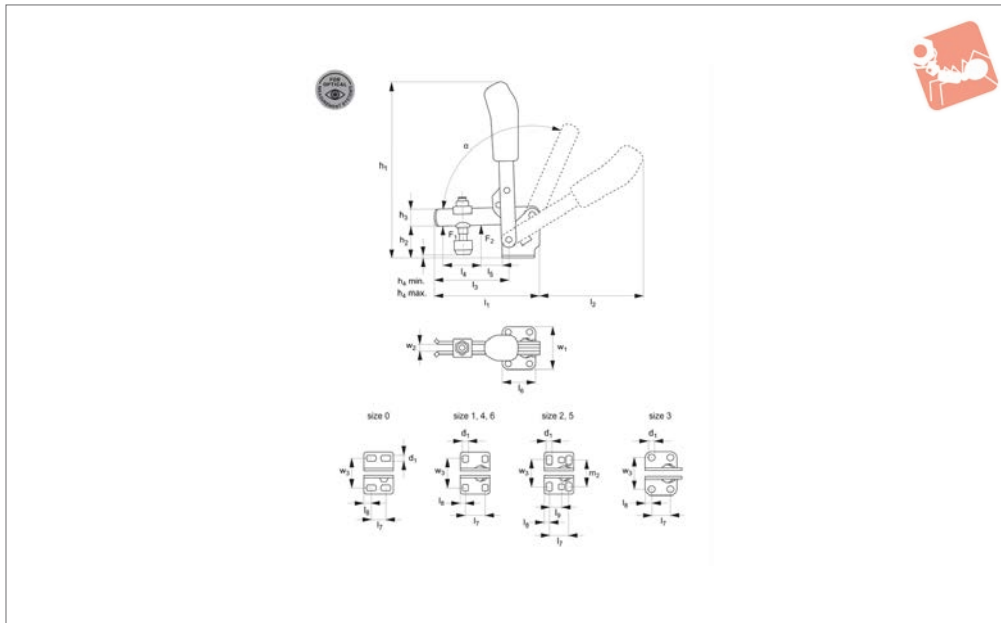




# Vertical Acting Toggle Clamps

black - open arm - horizontal base

# Optical Measuring Toggle



**40000.2**

OPTICAL MEASURING TOGGLE CLAMPS

### Material

Body: steel matt black.  
 Bushes: case hardened and pre-lubricated.  
 Handle: plastic, black, oil resistant, ergonomic.  
 Supplied complete with matt black clamping screw (with rubber pad).

### Technical Notes

For fastening to mounting plates, etc.

symbola/symbol\* alternative angle through using the removable stop. Opening angle (symbola/symbol/symbola/symbol\*) can be changed by pressing in a stop pin on the clamp body.

### For optical analysis applications.

### Tips

Designed specifically for clamping of parts during photometric measurement. Uniform

matt black surface prevents reflection, enabling easy „knocking-out“ of the clamp during optical analysis of a component.

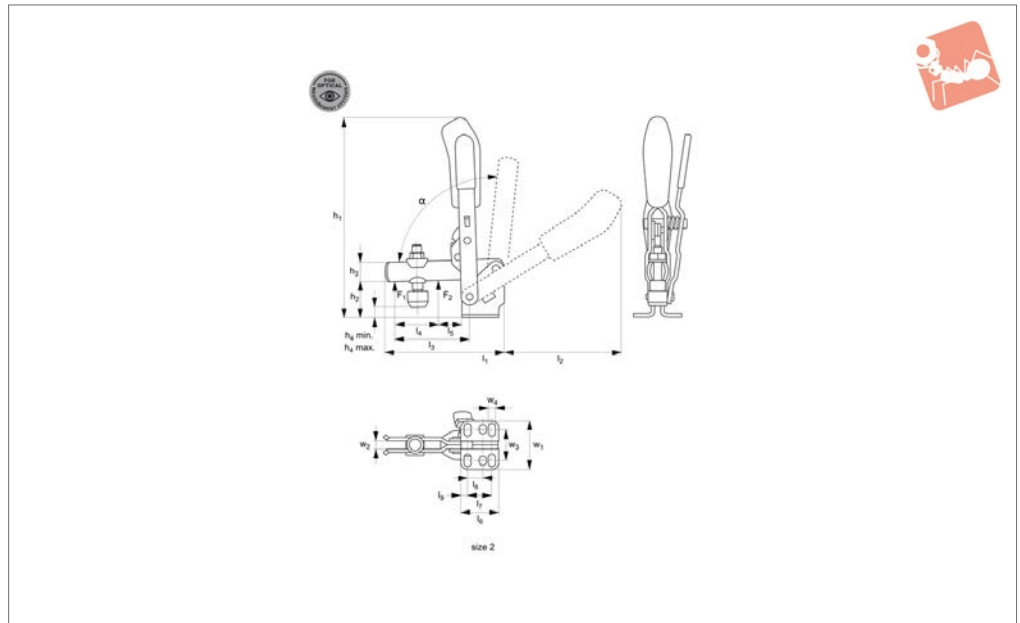
Order No.	Size	F <sub>1</sub> kN	F <sub>2</sub> kN	Clamping screw	h <sub>1</sub>	h <sub>2</sub>	h <sub>3</sub>	h <sub>4</sub> min.	h <sub>4</sub> max.	l <sub>1</sub>	l <sub>2</sub>	l <sub>3</sub>	Weight g
40000.W0100	0	0.5	0.7	M 4x34,5	81	18	8	-4.0	6.5	49	50	32	60
40000.W0101	1	0.6	1.1	M 5x38,0	98	19	10	-3.7	1.6	61	58	39	105
40000.W0102	2	0.8	1.2	M 6x46,0	140	23	12	-4.4	4.4	78	89	52	175
40000.W0103	3	1.2	2.5	M 8x63,0	188	33	18	-2.8	7.0	112	112	79	410

Order No.	l <sub>4</sub>	l <sub>5</sub>	l <sub>6</sub>	l <sub>7</sub>	l <sub>8</sub>	l <sub>9</sub>	w <sub>1</sub>	w <sub>2</sub>	w <sub>3</sub>	w <sub>4</sub>	d <sub>1</sub>	α	α*
40000.W0100	14	5.5	22	8,5-13,5	5.5	-	4	32	23.0	-	4.5	95°	-
40000.W0101	18	6.0	27	16.0	5.5	-	5	34	22,5-26,0	-	4.5	95°	-
40000.W0102	25	11.0	32	20.0	6.0	12.5	6	43	23,0-31,0	27	5.5	105°	60°
40000.W0103	36	19.0	35	20.0	7.5	-	8	46	32.5	-	7.5	105°	60°



## 40010.2



### Material

Body: steel matt black.  
 Bushes: case hardened and pre-lubricated.  
 Ergonomic soft feel, oil-resistant handle with large grip area.  
 Supplied complete with clamping screw (with rubber pad).

### Technical Notes

The safety lever holds the clamping arm in

both the clamped and open position. This prevents opening under vibration or accidental movement of the clamping arm during assembly/disassembly of the fixture.

Opening angle (symbol $\alpha$ /symbol $\alpha^*$ ) can be changed by pressing in a stop pin on the clamp body.

**For optical analysis applications.**

### Tips

Designed specifically for clamping of parts during photometric measurement. Uniform matt black surface prevents reflection, enabling easy „knocking-out“ of the clamp during optical analysis of a component.

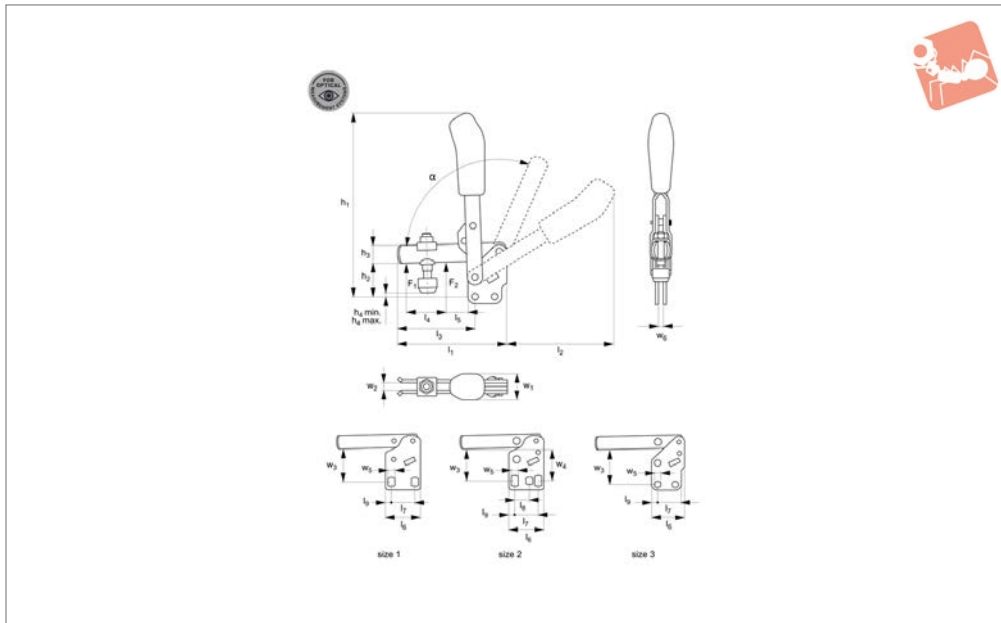
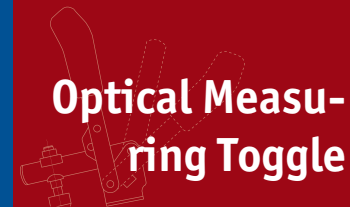
Order No.	Size	F <sub>1</sub> kN	F <sub>2</sub> kN	Clamping screw	h <sub>1</sub>	h <sub>2</sub>	h <sub>3</sub>	h <sub>4</sub> min.	h <sub>4</sub> max.	l <sub>1</sub>	l <sub>2</sub>	l <sub>3</sub>	Weight g
40010.W0005	2	1.0	1.2	M 6x46	139	23	12	-4.4	4.4	78	88	52	260
Order No.	l <sub>4</sub>	l <sub>5</sub>	l <sub>6</sub>	l <sub>7</sub>	l <sub>8</sub>	l <sub>9</sub>	w <sub>1</sub>	w <sub>2</sub>	w <sub>3</sub>	d <sub>1</sub>	$\alpha$	$\alpha^*$	
40010.W0005	26	11	32	20	6	12.5	6	43	23-31	5.5	105°	60°	



# Vertical Acting Toggle Clamps

open arm - vertical base - black

# Optical Measuring Toggle



40050.2

OPTICAL MEASURING TOGGLE CLAMPS

### Material

Body: steel matt black.  
 Bushes: case hardened and pre-lubricated.  
 Ergonomic soft feel, oil-resistant handle with large grip area.  
 Supplied complete with clamping screw (with rubber pad).

### Technical Notes

For fastening to mounting plates, etc.  
 Opening angle (symbol $\alpha$ /symbol $\alpha$ /symbol $\alpha$ /symbol $\alpha$ \*) can be changed by pressing in a stop pin on the clamp body.  
**For optical analysis applications.**

### Tips

Designed specifically for clamping of parts during photometric measurement. Uniform matt black surface prevents reflection, enabling easy „knocking-out“ of the clamp during optical analysis of a component.

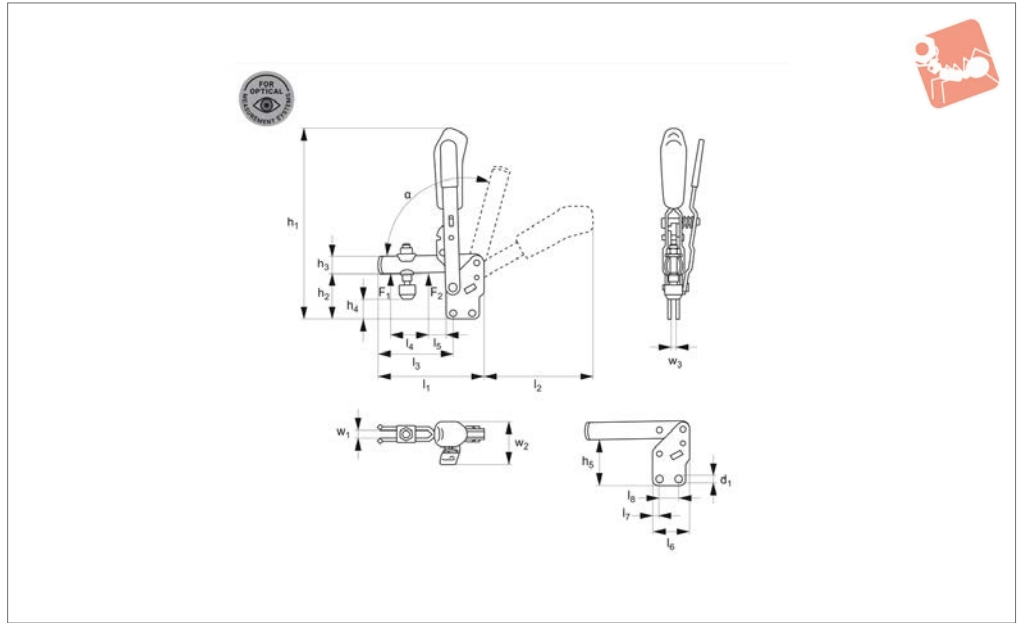
Order No.	Size	F <sub>1</sub> kN	F <sub>2</sub> kN	Clamping screw	h <sub>1</sub>	h <sub>2</sub>	h <sub>3</sub>	h <sub>4</sub> min.	h <sub>4</sub> max.	h <sub>5</sub>	h <sub>6</sub>	l <sub>1</sub>	Weight g
40050.W0101	1	0.6	1.1	M 5x38	110.5	29	10	6.8	12	23,5-25,0	-	61	105
40050.W0102	2	0.8	1.2	M 6x46	114.5	38	12	10.5	19	28,5-32,0	30	78	175
40050.W0103	3	1.2	2.5	M 8x63	201.0	48	18	11.4	21	41.0	-	112	410

Order No.	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>	l <sub>9</sub>	w <sub>1</sub>	w <sub>2</sub>	w <sub>3</sub>	d <sub>1</sub>	$\alpha$	$\alpha^*$
40050.W0101	58	39	18	6	27	16	5.5	-	5	19	5	4.5	95°	-
40050.W0102	80	52	25	11	32	20	6.0	12,5	6	21	5	5.5	105°	60°
40050.W0103	113	79	36	19	40	20	7.5	-	8	27	6	7.5	105°	60°



## 40060.2



### Material

Body: steel matt black.  
 Bushes: case hardened and pre-lubricated.  
 Ergonomic soft feel, oil-resistant handle with large grip area.  
 Supplied complete with clamping screw (with rubber pad).

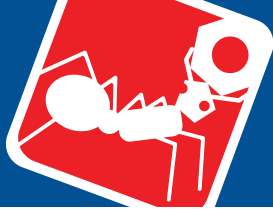
### Technical Notes

For fastening to mounting plates, etc.  
 Opening angle (symbol $\alpha$ /symbol $\alpha$ /symbol $\alpha$ /symbol $\alpha^*$ ) can be changed by pressing in a stop pin on the clamp body.  
**For optical analysis applications.**

### Tips

Designed specifically for clamping of parts during photometric measurement. Uniform matt black surface prevents reflection, enabling easy „knocking-out“ of the clamp during optical analysis of a component.

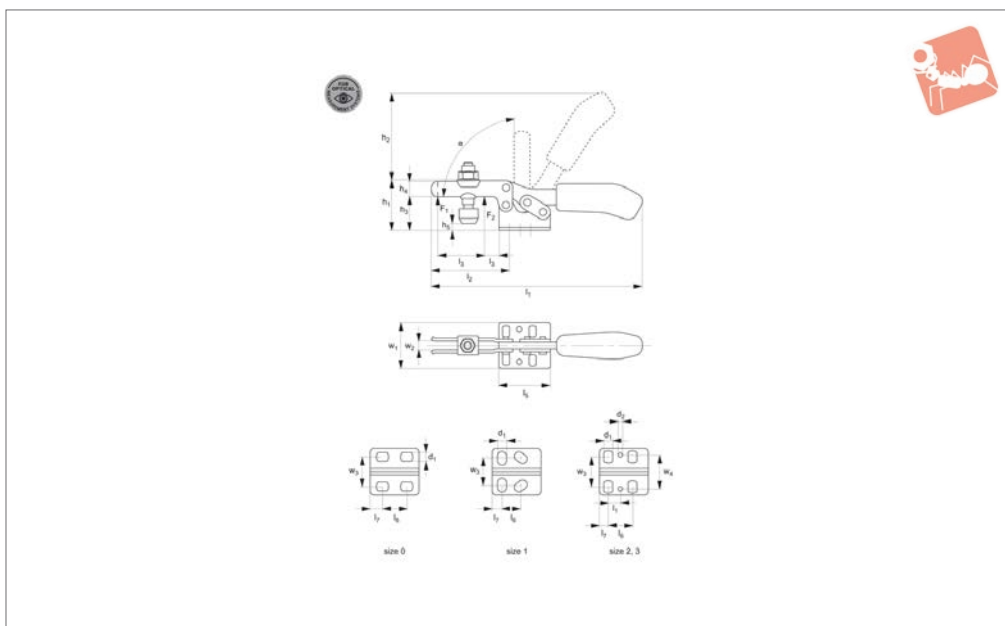
Order No.	Size	F <sub>1</sub> kN	F <sub>2</sub> kN	Clamping screw	h <sub>1</sub>	h <sub>2</sub>	h <sub>3</sub>	h <sub>4</sub> min.	h <sub>4</sub> max.	h <sub>5</sub>	l <sub>1</sub>	l <sub>2</sub>	Weight g
40060.W0006	3	1.4	2.5	M 8x63	200	48	18	16.5	25	41	112	114	470
Order No.	l <sub>3</sub>	l <sub>4</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>	$\alpha$	$\alpha^*$	
40060.W0006	79	37	19	40	7.5	20	8	45.5	6	7.5	105°	60°	



# Horizontal Acting Toggle Clamps

black - open arm - horizontal base

## Optical Measuring Toggle



**41000.2**

OPTICAL MEASURING TOGGLE CLAMPS

### Material

Body: steel matt black.  
 Bushes: case hardened and pre-lubricated.  
 Ergonomic soft feel, oil-resistant handle with large grip area.  
 Supplied complete with clamping screw

(with rubber pad).

### Technical Notes

For optical analysis applications.

### Tips

Designed specifically for clamping of parts

during photometric measurement. Uniform matt black surface prevents reflection, enabling easy „knocking-out“ of the clamp during optical analysis of a component.

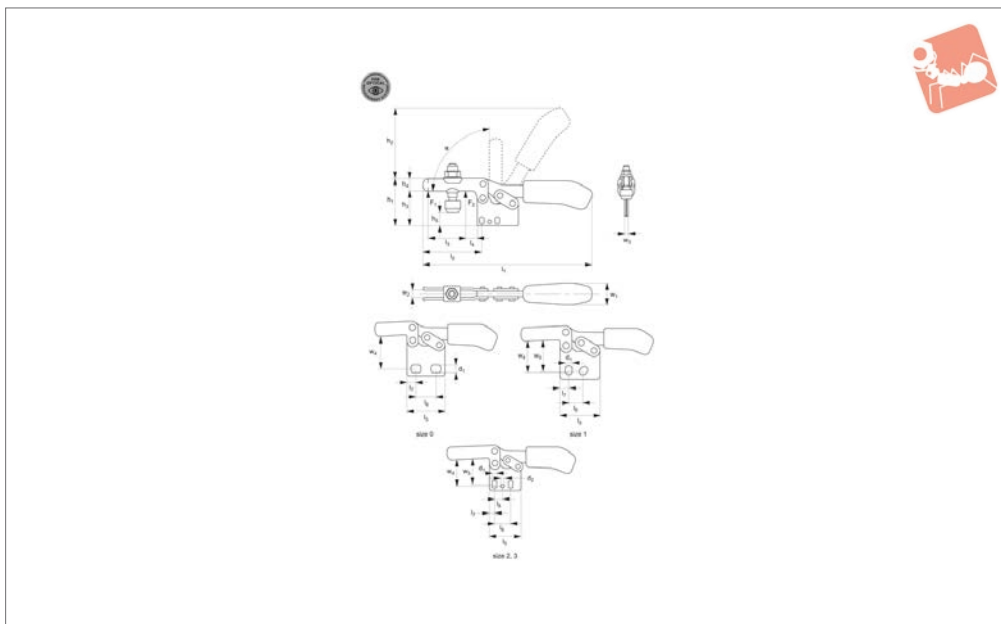
Order No.	Size	F <sub>1</sub> kN	F <sub>2</sub> kN	Clamping screw	h <sub>1</sub>	h <sub>2</sub>	h <sub>3</sub>	h <sub>4</sub>	h <sub>5</sub> min.	h <sub>5</sub> max.	l <sub>1</sub>	l <sub>2</sub>	Weight g
<b>41000.W0100</b>	0	0.3	0.4	M 4x34,5	23.0	34.0	14.5	7.5	-7.4	2.7	79	28	35
<b>41000.W0101</b>	1	0.8	1.1	M 5x38,0	30.0	49.0	19.0	10.0	-3.6	1.8	120	42	105
<b>41000.W0102</b>	2	1.0	1.2	M 6x46,0	45.0	66.3	24.0	13.2	-2.6	5.0	162	64	185
<b>41000.W0103</b>	3	1.8	2.5	M 8x63,0	48.5	86.0	32.0	15.0	-7.4	5.0	206	73	320

Order No.	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>	w <sub>4</sub>	d <sub>1</sub>	d <sub>2</sub>	α
<b>41000.W0100</b>	9.0	5.5	25.5	11,5-15,5	6.25	-	25.0	4	16.0	-	4.6	-	90°
<b>41000.W0101</b>	18.8	8.0	34.0	13,0-14,5	5.50	-	34.0	5	18,0-21,5	-	5.2	-	90°
<b>41000.W0102</b>	32.0	16.0	38.0	26.0	6.00	12.7	42.0	6	19,5-29,5	28.5	5.6	5.6	90°
<b>41000.W0103</b>	37.0	14.0	50.0	25.7	7.00	-	45.5	8	22,0-31,8	31.6	6.5	5.1	90°



## 41050.2



### Material

Body: steel, matt black.  
 Bushes: sizes 2-3 case hardened and pre-lubricated.  
 Ergonomic soft feel, oil-resistant handle with large grip area.  
 Supplied complete with clamping screw

(with rubber pad).

### Technical Notes

Opening angle (symbola/symbol/symbola/symbol\*) can be changed by pressing in a stop pin on the clamp body.

**For optical analysis applications.**

### Tips

Designed specifically for clamping of parts during photometric measurement. Uniform matt black surface prevents reflection, enabling easy „knocking-out“ of the clamp during optical analysis of a component.

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.	l <sub>1</sub>	l <sub>2</sub>	l <sub>3</sub>	Weight g
41050.W0100	0	0.3	0.4	M 4x34,5	33	34	24.5	7.5	2.2	13.7	79.0	28.0	9.0	35
41050.W0101	1	0.8	1.1	M 5x38,0	43	49	31.5	10.0	8.9	14.8	119.7	41.7	18.5	105
41050.W0102	2	1.0	1.2	M 6x46,0	61	68	40.0	13.2	14.0	22.0	164.0	64.0	32.0	185
41050.W0103	3	1.8	2.5	M 8x63,0	65	86	49.0	15.0	9.5	22.0	206.0	73.0	39.0	320

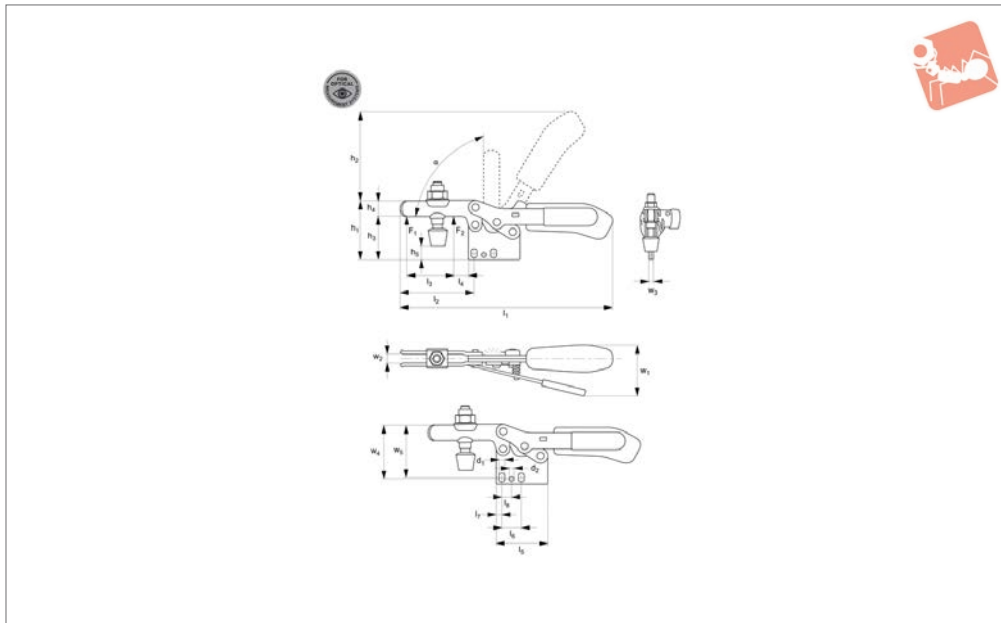
Order No.	l <sub>4</sub>	l <sub>5</sub>	l <sub>6</sub>	l <sub>7</sub>	l <sub>8</sub>	w <sub>1</sub>	w <sub>2</sub>	w <sub>3</sub>	w <sub>4</sub>	w <sub>5</sub>	d <sub>1</sub>	d <sub>2</sub>	α
41050.W0100	5.5	25.5	11,5-15,5	6.25	-	4	12	3	-	20.0	4.6	-	90°
41050.W0101	8.0	34.0	13,0-15,5	5.50	-	5	18	5	24.5	23,5-25,5	5.2	-	90°
41050.W0102	16.0	38.0	26.0	6.00	12.7	6	21	5	34.0	29,5-34,0	5.6	5.6	90°
41050.W0103	12.0	50.0	25.7	7.00	13.0	8	27	6	42.0	37,5-42,5	6.5	5.1	90°



# Horizontal Acting Toggle Clamps

black - open arm - vertical base - safety

# Optical Measuring Toggle



**41060.2**

OPTICAL MEASURING TOGGLE CLAMPS

### Material

Body: steel, matt black.  
 Bushes: case hardened and pre-lubricated.  
 Ergonomic soft feel, oil-resistant handle with large grip area.  
 Supplied complete with clamping screw (with rubber pad).

### Technical Notes

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.

### For optical analysis applications.

### Tips

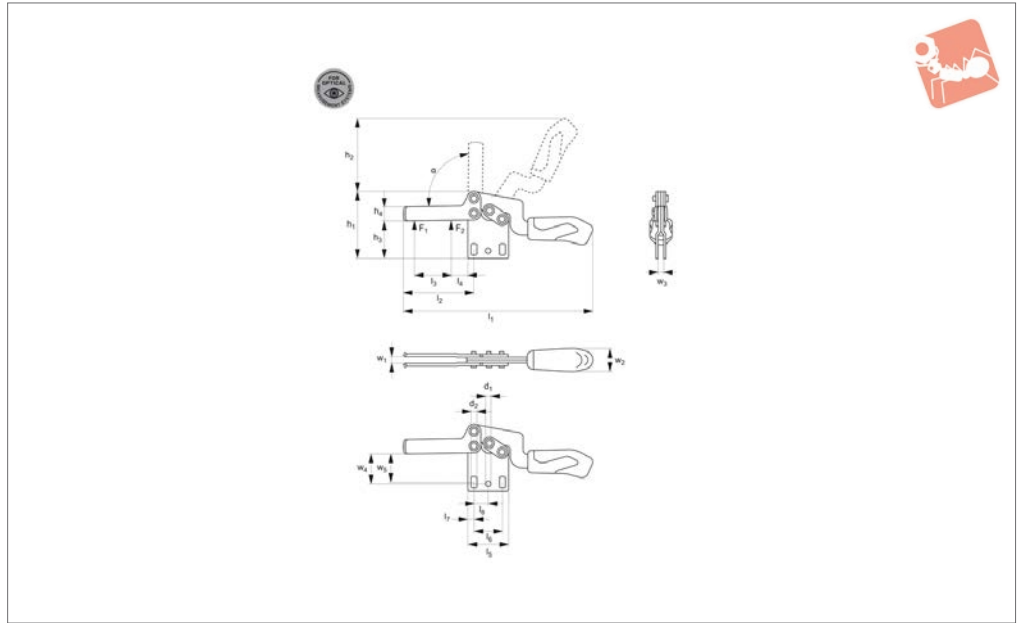
Designed specifically for clamping of parts during photometric measurement. Uniform matt black surface prevents reflection,

enabling easy „knocking-out“ of the clamp during optical analysis of a component.

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.	l <sub>1</sub>	l <sub>2</sub>	l <sub>3</sub>	Weight g
<b>41060.W0100</b>	3	1.8	2.5	M 8x63	65	86	49	15	9	22	206	73	37	390
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>	w <sub>4</sub>	w <sub>5</sub>	d <sub>1</sub>	d <sub>2</sub>	α	
<b>41060.W0100</b>	14	50	25.7	7	13	8	47	6	42	38-42	6.5	5.1	90°	



## 41062.1



### Material

Body: steel, matt black.  
 Bushes: case hardened and pre-lubricated.  
 Ergonomic soft feel, oil-resistant handle with large grip area.  
 Supplied complete with clamping screw (with rubber pad).

### Technical Notes

symbola/symbol\* alternative angle

through using the removable stop.  
 Opening angle (symbola/symbol/symbola/symbol\*) can be changed by pressing in a stop pin on the clamp body.

### For optical analysis applications.

### Tips

Designed specifically for clamping of parts during photometric measurement. Uniform matt black surface prevents reflection,

enabling easy „knocking-out“ of the clamp during optical analysis of a component.

Order No.	Size	F <sub>1</sub> kN	F <sub>2</sub> kN	h <sub>1</sub>	h <sub>2</sub>	h <sub>3</sub>	h <sub>4</sub>	l <sub>1</sub>	l <sub>2</sub>	l <sub>3</sub>	l <sub>4</sub>	l <sub>5</sub>	Weight g
41062.W0100	2	1	1.2	190	34	67	13.2	173.5	64	38.6	11	38	61
Order No.	l <sub>6</sub>	l <sub>7</sub>	l <sub>8</sub>	w <sub>1</sub>	w <sub>2</sub>	w <sub>3</sub>	w <sub>4</sub>	w <sub>5</sub>	d <sub>1</sub>	d <sub>2</sub>	α		
41062.W0100	26	6	13.1	6.2	21	5	27	23-28	5.6	4.8	90°		

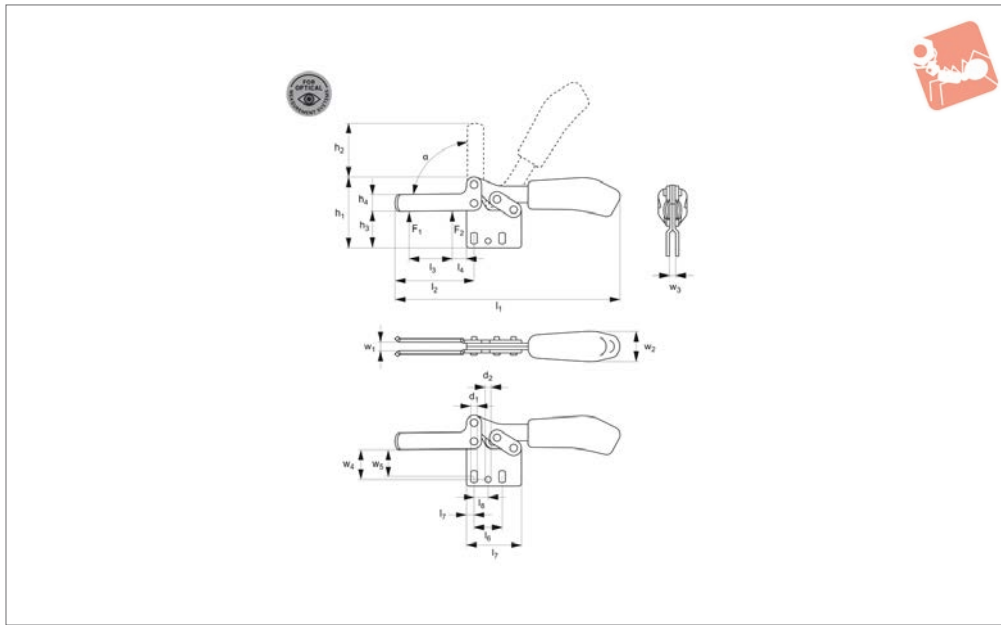




# Horizontal Acting Toggle Clamps

black - open arm - vertical base

# Optical Measuring Toggle



**41062.2**

OPTICAL MEASURING TOGGLE CLAMPS

**Material**

Body: steel, matt black.  
 Bushes: case hardened and pre-lubricated.  
 Ergonomic soft feel, oil-resistant handle with large grip area.  
 Supplied complete with clamping screw

(with rubber pad).

**Technical Notes**  
 For optical analysis applications.

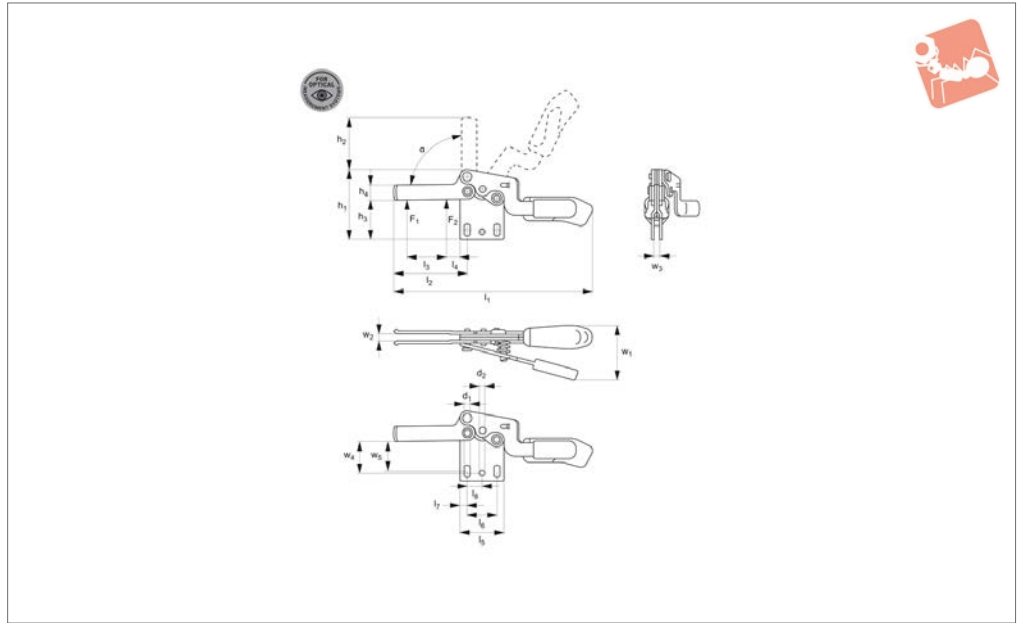
**Tips**  
 Designed specifically for clamping of parts

during photometric measurement. Uniform matt black surface prevents reflection, enabling easy „knocking-out“ of the clamp during optical analysis of a component.

Order No.	Size	F <sub>1</sub> kN	F <sub>2</sub> kN	h <sub>1</sub>	h <sub>2</sub>	h <sub>3</sub>	h <sub>4</sub>	l <sub>1</sub>	l <sub>2</sub>	l <sub>3</sub>	l <sub>4</sub>	l <sub>5</sub>	Weight g
<b>41062.W0110</b>	3	1.8	2.5	65	86	34	15	206	73	34.5	16.5	50	320
Order No.	l <sub>6</sub>	l <sub>7</sub>	l <sub>8</sub>	w <sub>1</sub>	w <sub>2</sub>	w <sub>3</sub>	w <sub>4</sub>	w <sub>5</sub>	d <sub>1</sub>	d <sub>2</sub>	α		
<b>41062.W0110</b>	25.7	7	13	8	27	6	27	22,5-27,5	6.5	5.1	90°		



## 41064.1



### Material

Body: steel, matt black.  
 Bushes: case hardened and pre-lubricated.  
 Ergonomic soft feel, oil-resistant handle with large grip area.  
 Supplied complete with clamping screw (with rubber pad).

### Technical Notes

The safety lever holds the clamping arm in

both the clamped and open position. This prevents opening under vibration or accidental movement of the clamping arm during assembly/disassembly of the fixture.

### For optical analysis applications.

### Tips

Designed specifically for clamping of parts during photometric measurement. Uniform

matt black surface prevents reflection, enabling easy „knocking-out“ of the clamp during optical analysis of a component.

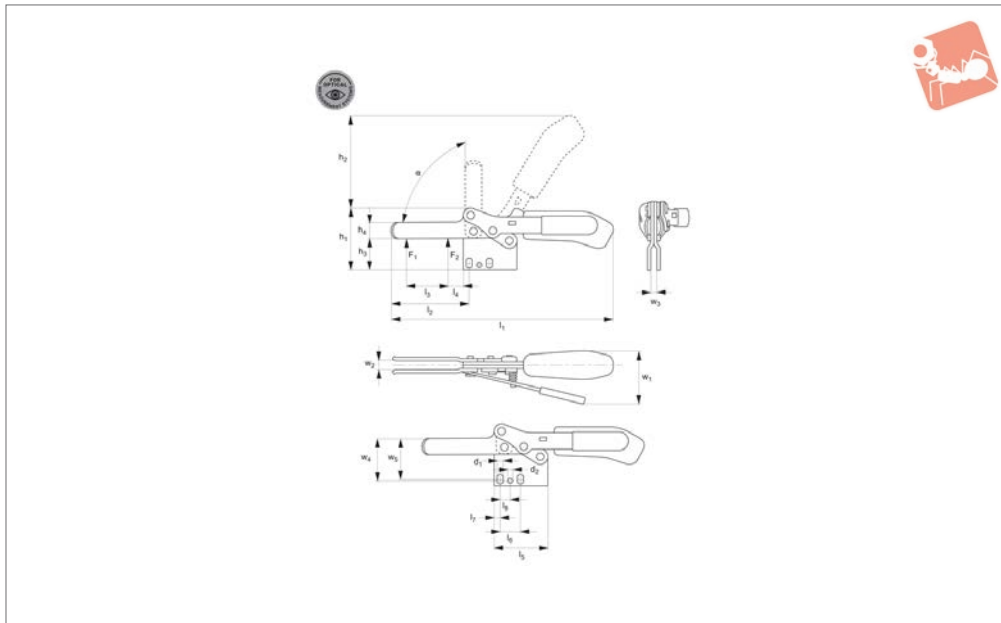
Order No.	Size	F <sub>1</sub> kN	F <sub>2</sub> kN	h <sub>1</sub>	h <sub>2</sub>	h <sub>3</sub>	h <sub>4</sub>	l <sub>1</sub>	l <sub>2</sub>	l <sub>3</sub>	l <sub>4</sub>	l <sub>5</sub>	Weight g
41064.W0100	2	1	1.2	61	67	34	13.2	173.5	64	38.6	11	38	230
Order No.	l <sub>6</sub>	l <sub>7</sub>	l <sub>8</sub>	w <sub>1</sub>	w <sub>2</sub>	w <sub>3</sub>	w <sub>4</sub>	w <sub>5</sub>	d <sub>1</sub>	d <sub>2</sub>	α		
41064.W0100	26	6	13.1	6.2	48	5	27	23-28	5.6	4.8	90°		



# Horizontal Acting Toggle Clamps

black - open arm - vertical base - safety

# Optical Measuring Toggle



**41064.2**

OPTICAL MEASURING TOGGLE CLAMPS

### Material

Body: steel, matt black.  
 Bushes: case hardened and pre-lubricated.  
 Ergonomic soft feel, oil-resistant handle with large grip area.  
 Supplied complete with clamping screw (with rubber pad).

### Technical Notes

The safety lever holds the clamping arm in

both the clamped and open position. This prevents opening under vibration or accidental movement of the clamping arm during assembly/disassembly of the fixture.

### For optical analysis applications.

### Tips

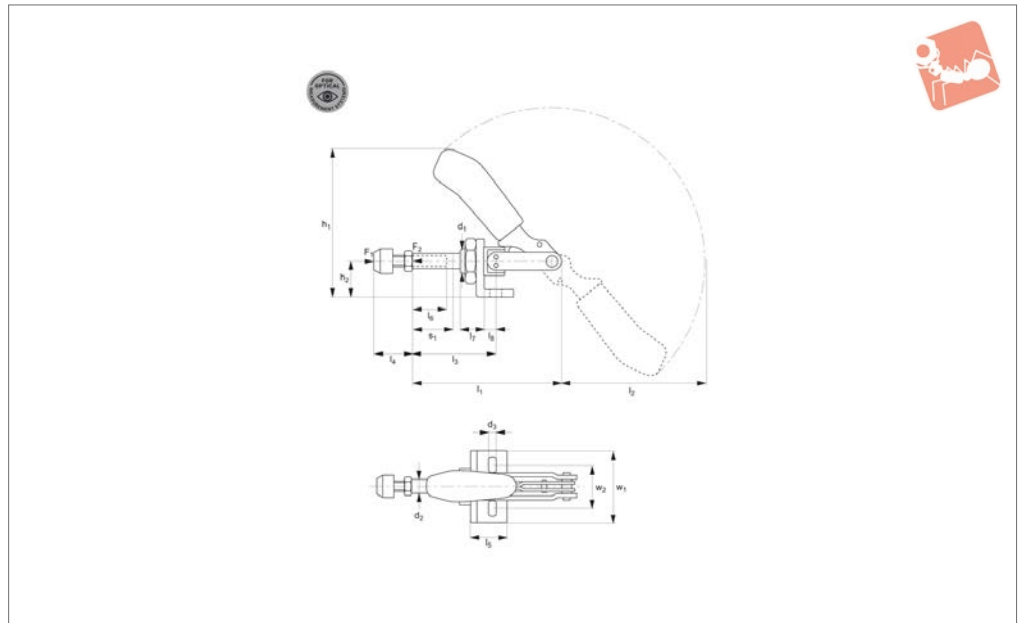
Designed specifically for clamping of parts during photometric measurement. Uniform

matt black surface prevents reflection, enabling easy „knocking-out“ of the clamp during optical analysis of a component.

Order No.	Size	F <sub>1</sub> kN	F <sub>2</sub> kN	h <sub>1</sub>	h <sub>2</sub>	h <sub>3</sub>	h <sub>4</sub>	l <sub>1</sub>	l <sub>2</sub>	l <sub>3</sub>	l <sub>4</sub>	l <sub>5</sub>	Weight g
<b>41064.W0110</b>	3	1.8	2.5	65	86	34	15	206	73	34.5	16.5	50	350
Order No.	l <sub>6</sub>	l <sub>7</sub>	l <sub>8</sub>	w <sub>1</sub>	w <sub>2</sub>	w <sub>3</sub>	w <sub>4</sub>	w <sub>5</sub>	d <sub>1</sub>	d <sub>2</sub>	α		
<b>41064.W0110</b>	25.7	7	13	8	46.5	6	27	22,5-27,5	6.5	5.1	90°		



## 42000.2



### Material

Body: steel, matt black.  
 Bushes: case hardened and pre-lubricated.  
 Ergonomic soft feel, oil-resistant handle with large grip area.  
 Supplied complete with clamping screw

45020.2 (with rubber pad).

### Technical Notes

**For optical analysis applications.**

**Tips**  
 Designed specifically for clamping of parts

during photometric measurement. Uniform matt black surface prevents reflection, enabling easy „knocking-out“ of the clamp during optical analysis of a component.

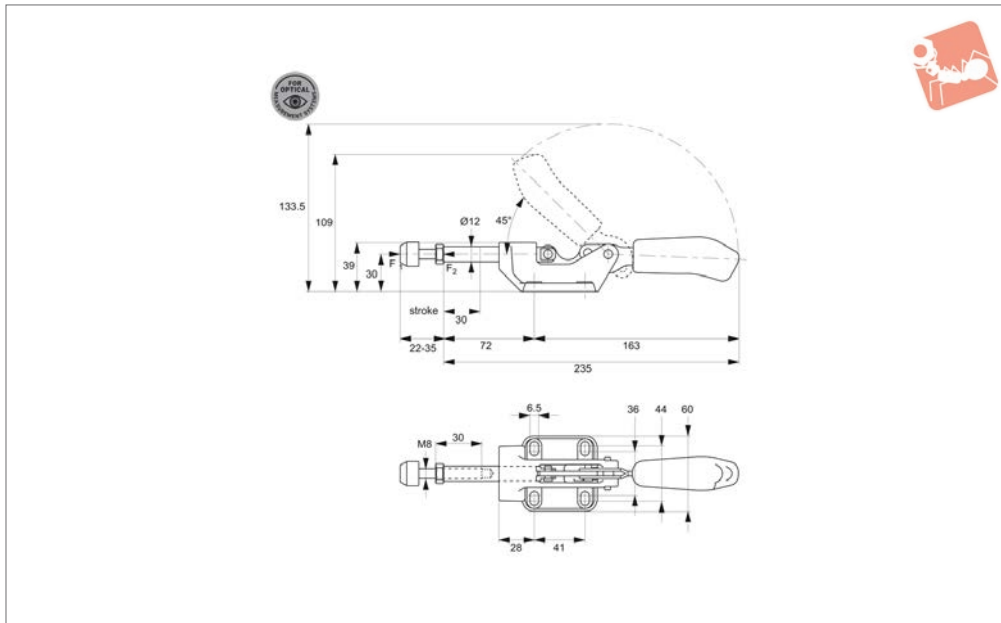
Order No.	Size	F <sub>1</sub> kN	F <sub>2</sub> kN	Stroke s <sub>1</sub>	d <sub>1</sub>	d <sub>2</sub>	Clamping screw d <sub>3</sub>	d <sub>4</sub>	h <sub>1</sub>	h <sub>2</sub>	l <sub>1</sub>	Weight g
42000.W0501	1	1	1	20	M12x1,5	8	M 4x20	4.5	60	15	91	125
42000.W0502	2	2	2	26	M16x1,5	10	M 6x25	5.6	95	20	114	245

Order No.	l <sub>2</sub>	l <sub>3</sub> min.	l <sub>4</sub> min.	l <sub>5</sub>	l <sub>6</sub>	l <sub>7</sub>	l <sub>8</sub>	w <sub>1</sub>	w <sub>2</sub>
42000.W0501	72	24.5	12	20	20	16	7.0	30	16,0-19,5
42000.W0502	105	32.5	17	34	25	19	12.5	50	31,8-36,0



# Push-Pull Type Toggle Clamps - Black for optical measuring equipment

## Optical Measuring Toggle



**42050.2**

OPTICAL MEASURING TOGGLE CLAMPS

### Material

Body: malleable cast iron, matt black.  
Levers and rods of tempered steel, matt black galvanised.

### Technical Notes

For optical analysis applications.

### Tips

Designed specifically for clamping of parts during photometric measurement. Uniform matt black surface prevents reflection, enabling easy „knocking-out“ of the clamp during optical analysis of a component.

Order No.	Size	F <sub>1</sub> kN	Clamping screw	Weight g
42050.W0103	3	4	M 8x44	540