

## Product group – standard power clamps

### High safety standard

The DE-STA-CO toggle action power clamps lock in the over-centre position when being clamped. If used correctly, these clamps remain closed even if exposed to vibrations, changing loads and pressure failure.



### The main product features

- Ideal for series production
- Short cycles
- Large opening angles
- High clamping and holding forces
- Compact design
- Low air consumption

### End position sensing

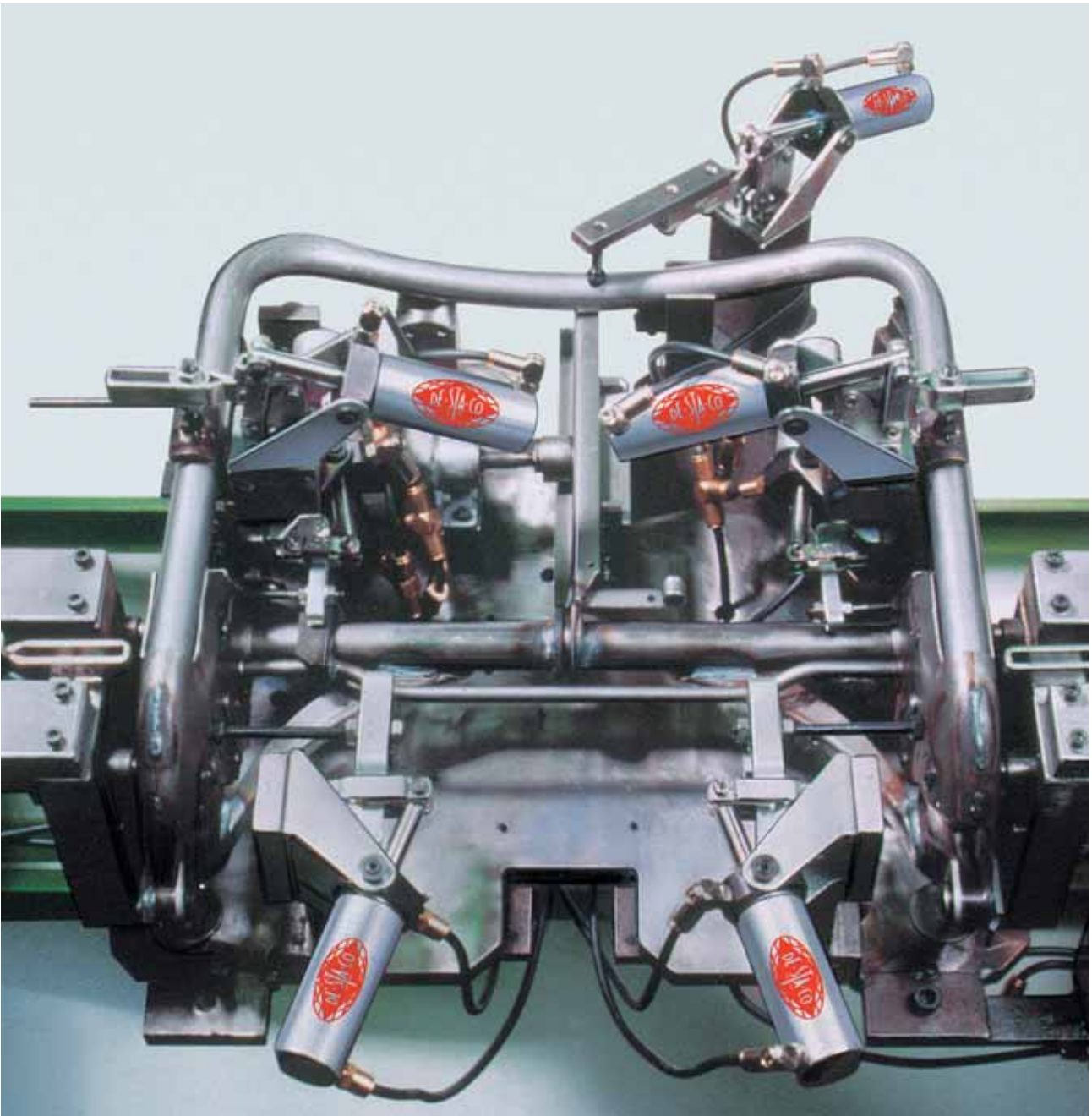
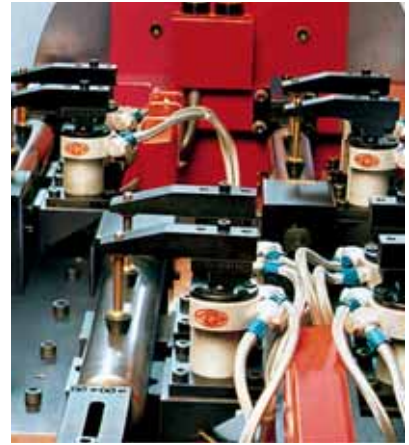
Sensors for end position sensing allow to use the clamp in automated production

## Product range

Holding force max. [N]	Model no.	Page
400	816-M	12.17
450	812	12.5
1.100	802-U	12.5
1.100	NEW! 802-UE	12.5
1.700	807-U	12.7
1.700	NEW! 807-UE	12.7
1.700	817-U	12.13
1.700	NEW! 817-UE	12.13
1.750	NEW! 8021	12.9
1.900	817-S	12.13
1.900	NEW! 817-SE	12.13
2.000	NEW! 8071	12.9
2.000	807-S	12.7
2.000	NEW! 807-SE	12.7
2.700	803-M	12.17
2.700	NEW! 803-ME	12.17

Holding force max. [N]	Model no.	Page
2.800	810-U	12.7
2.800	810-UF	12.7
2.800	810-UFA	12.7
3.100	NEW! 8101	12.9
3.400	810-S	12.7
3.400	810-SF	12.7
3.400	810-SFA	12.7
3.700	8007-2F	12.11
3.700	8007-2FHL	12.11
3.700	8007-2FHR	12.11
3.700	8007-2FA	12.11
3.700	8007-2FAHL	12.11
3.700	8007-2FAHR	12.11
5.500	827-S	12.13
5.500	827-U	12.13
9.000	870-2	12.21

Holding force max. [N]	Model no.	Page
9.000	871-2	12.21
11.000	830-M	12.19
11.000	830-MF	12.19
11.000	830-MFA	12.19
15.000	858	12.11
15.000	858-A	12.11
16.000	868	12.15
16.000	868-A	12.15
45.000	850-M	12.19
45.000	850-MA	12.19



## Pneumatic clamps for single and mass production

### General

Besides the extensive range of manual clamping elements, DE-STA-CO also offers pneumatically operated power clamps. The most important advantages of the DE-STA-CO power clamps are as follows:

### Reduction of non productive time

Reduction of non-productive time is of increasing importance in modern manufacturing processes, even at a small and medium production scale. Even a manually operated quick clamp helps reduce considerably the non-productive time of clamping and releasing parts. This effect is multiplied by the amount of clamping stations. If several or even all clamping stations are opened and closed simultaneously from a central point by "pressing a button", the non production time for clamping becomes almost negligible. A control valve allows simultaneous operation of as many DE-STA-CO power clamps as required!

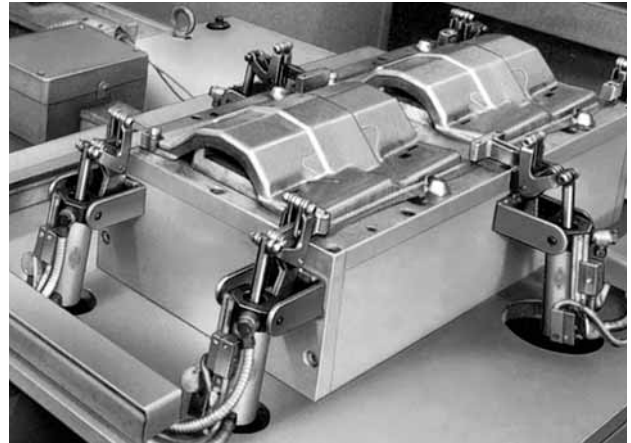
### Constant and high clamping forces

Constant air pressure produces constant clamping forces. In many applications repeatable clamping forces are necessary to obtain constant quality of the parts to be manufactured. Only power clamps guarantee necessary repeatability of the clamping forces as well as the possibility of regulating the clamping forces by modifying the air supply without jeopardizing the clamp's holding force. High clamping forces are achieved without overexerting the operator – he simply "presses the button" – hence no risk of fatigue or lack of concentration.

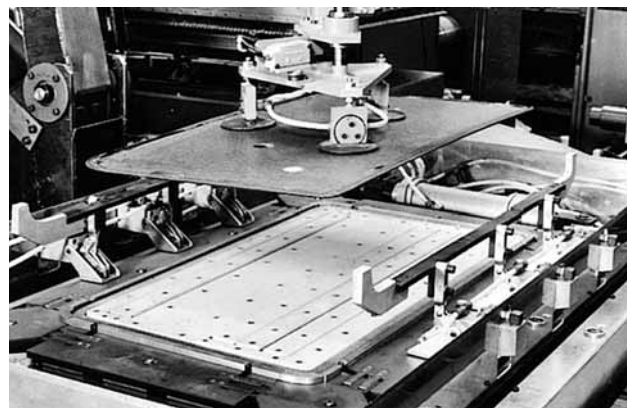
### Quality and durability

DE-STA-CO stands for high quality clamps all over the world. Especially for power clamps! This applies both to the clamps mechanical parts and to the pneumatic cylinders we use.

All the cylinders which were specially designed for our clamps have chrome piston rods and are specially lubricated. Depending on the model, the clamps are equipped with stainless steel rivets, hardened and ground pivot pins and maintenance-free high-performance bushes. This guarantees long service life and high cycle times.



Power clamp model 817-UF equipped with an end position sensing system on a pneumatic clamping fixture



Power clamp models 807-UF on a drilling fixture



Power clamp model 817-UF on a pneumatic clamping fixture

## End position sensing of the pneumatic clamps for automated production

### Different options



model 810-UFA including  
2 sensors (SMEO-1-LED)



model 871-2 with  
2 sensors (BIM-IKT-AP) order separately

## Remote control and end position sensing

A particularly interesting advantage of DE-STA-CO power clamps is the fact that they may be mounted on rather inaccessible places of clamping fixtures; they may be operated simultaneously while being controlled by a control valve. Power clamps with an end position sensing system allow fully automated operation within controlled manufacturing processes.

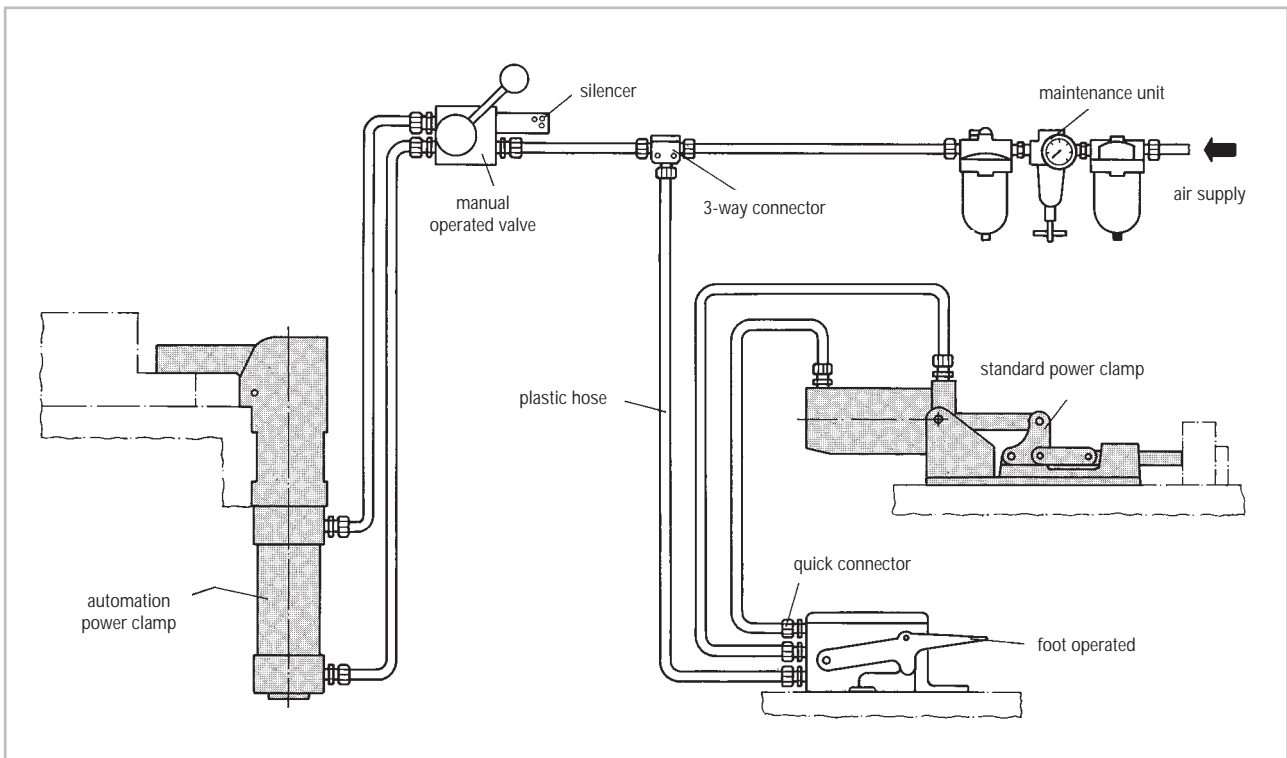
Further details concerning the sensing systems are described in this catalogue.

## Safety

DE-STA-CO power clamps are based on the toggle action principle (exceptions will be mentioned separately) and offer the same safety advantages as DE-STA-CO manual clamps: no risk of accidental opening of the clamp arm – even in case of a sudden pressure drop.

The toggle action principle with over-centre locking guarantees safety during operation and protects the parts from damage. Provided that the power clamp is mounted correctly and the air supply is reliable.

## Pneumatic diagram

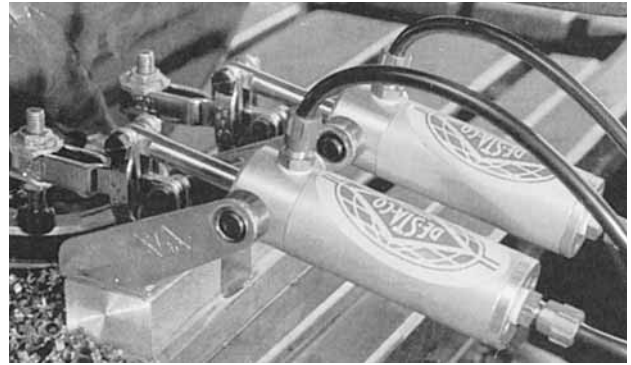


pneumatic accessories see page 14.7 onwards

## Model 812

cylinder horizontal

Model no.	Holding force max.		clamping force 5 bar	
	inner [N]	outer [N]	inner [N]	outer [N]
812	450	300	400	270



Mini power clamp model 812 on a sawing fixture

### Standard equipment

- 1 adjustment spindle M5, part no. 213208-M
- 2 flange washers, part no. 102111

## Series 802



Model no.	Holding force max.		clamping force 5 bar	
	inner [N]	outer [N]	inner [N]	outer [N]
802-U	1.100	600	1.000	500
802-UE	1.100	600	1.000	500

### Standard equipment

- 1 adjustment spindle M6, part no. 202208-M
- 2 flange washers, part no. 215105-M

### Optional equipment for model 802-UE

- Sensor for T-slot



Model 802-UE



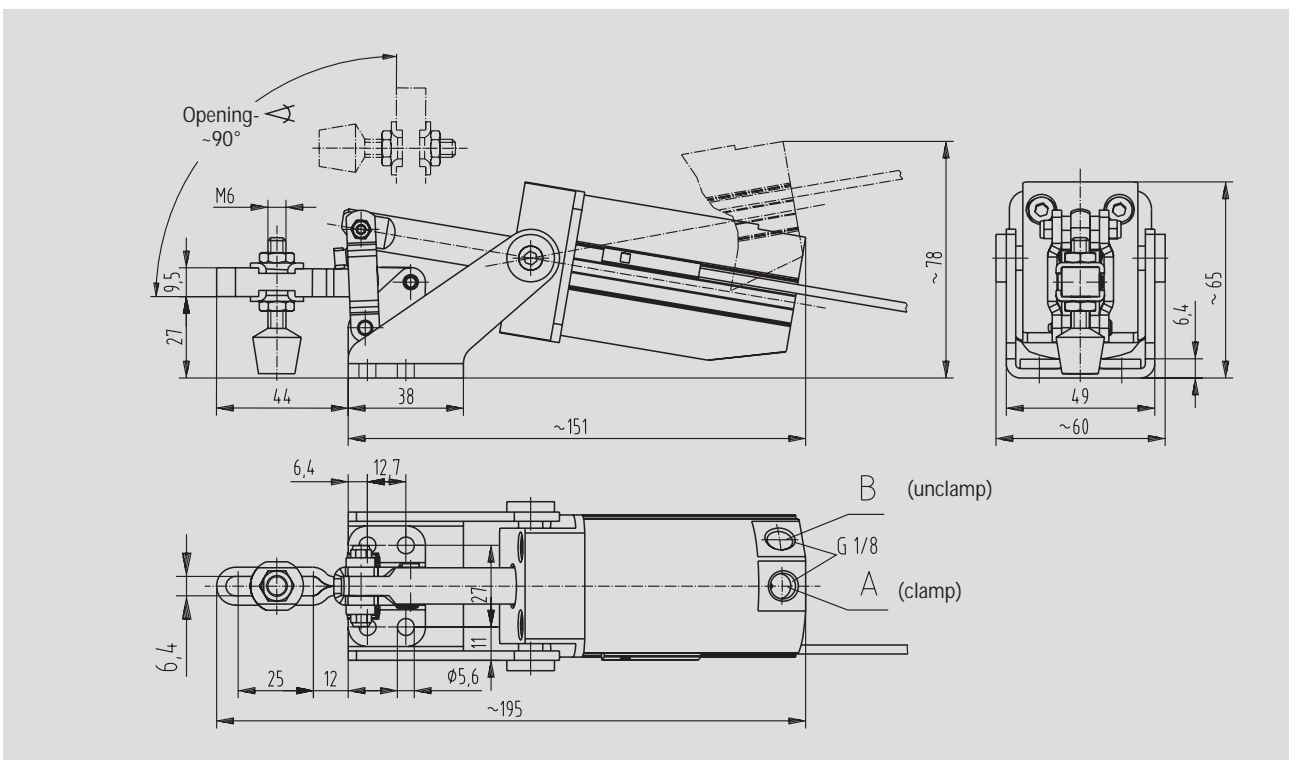
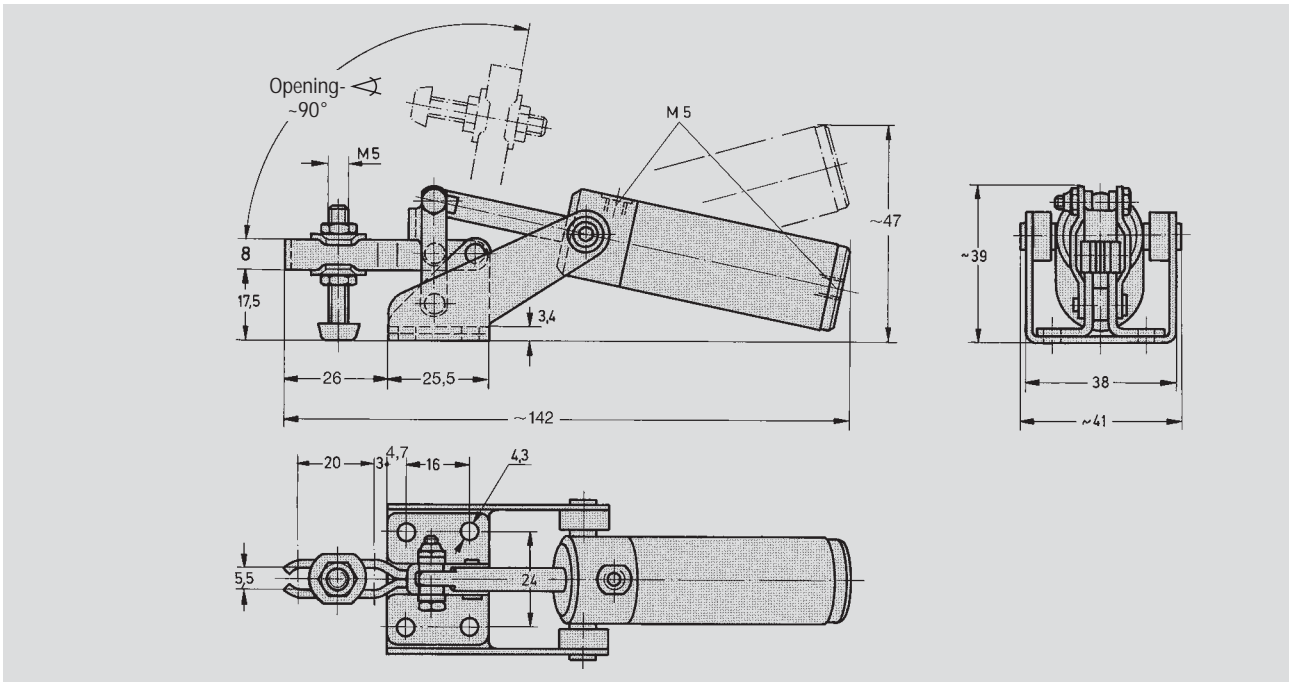
SME-8F-DE  
(includes cable)



Model 802-U



SME-8F-DE-S  
(includes plug)



Model no.	operating pressure max. [bar]	air consumption per double stroke [dm <sup>3</sup> ]	connection	weight ~ [kg]
<b>812</b>	4,5	0,1 (bei 4 bar)	M5	0,25
<b>802-U</b>	6	0,3 (bei 5 bar)	G1/8	0,5
<b>802-UE</b>	6	0,3 (bei 5 bar)	G1/8	0,5

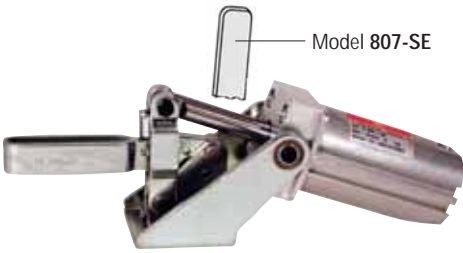
## Series 807



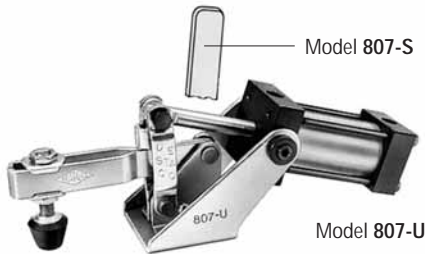
### cylinder horizontal

Model no.	Holding force max.		clamping force 5 bar	
	inner [N]	outer [N]	inner [N]	outer [N]
807-U	1.700	750	1.400	650
807-UE	1.700	750	1.700	750
807-S	2.000	900	1.400	650
807-SE	2.000	900	1.700	750

Clamping arm: Mat. St37K



Model 807-UE



Model 807-U

#### Standard equipment:

**Model 807-U / -UE**

2 flange washers 507107

**Model 807-S / -SE**

1 spindle retainer 207105

#### Optional equipment:

**Model 807-U / -UE**

1 adjustment spindle M8, 225208-M

#### Optional equipment for models 807-UE / SE:

■ Sensor for T-slot



**SME-8F-DE**

(includes cable)



**SME-8F-DE-S**

(includes plug)

## Series 810

Model no.		Holding force max.		clamping force 5 bar	
without end position sensing	with end position sensing	inner [N]	outer [N]	inner [N]	outer [N]
810-U	-	2.800	1.550	2.000	1.150
810-UF	810-UFA	2.800	1.550	2.700	1.550
810-S	-	3.400	1.800	2.000	1.150
810-SF	810-SFA	3.400	1.800	2.700	1.550

Clamping arm: St37K

#### Standard equipment

**Model 810-U/-UF/-UFA**

2 flange washers, part no. 235106-M

**Model 810-S/-SF/-SFA**

1 spindle retainer, part no. 210114



Model 810-U

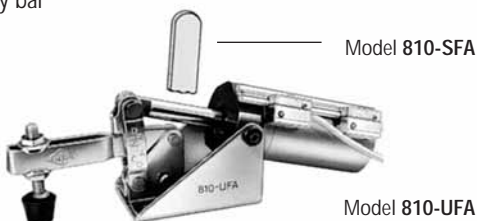
#### Power clamp with end position sensing

##### Standard equipment for the model 810-UFA/-SFA:

2 sensors (SME0-1-LED\*)

2 fastening sets for sensors (SMB-1)

1 assembly bar



\*for technical data see p.14.10

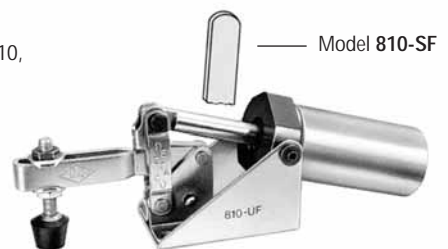
#### Recommended equipment

(order separately)

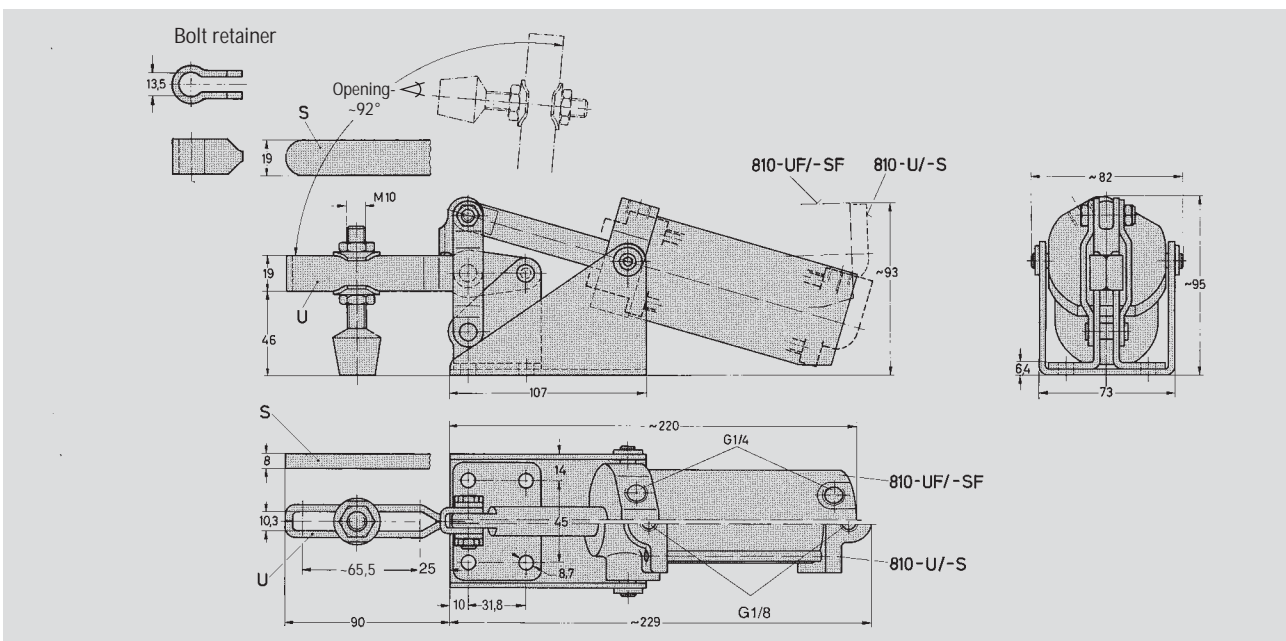
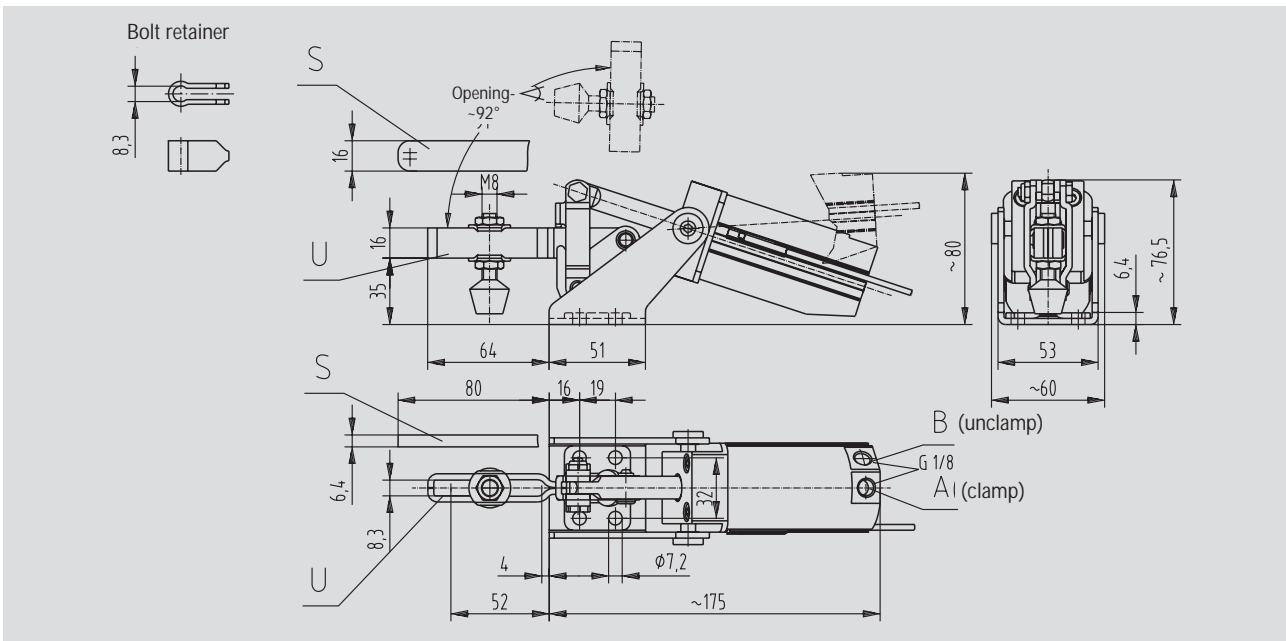
adjustment spindle M10,

part no. 240208-M

see p. 14.2



Model 810-UF



Model no.		max. operating pressure [bar]	air consumption per double stroke at 5 bar [dm <sup>3</sup> ]	connection	weight ~ [kg]
without end position sensing	with end position sensing				
807-U	-	6	0,4	G 1/8	0,7
807-UE	-	6	0,55	G 1/8	0,7
807-S	-	6	0,4	G 1/8	0,7
807-SE	-	6	0,55	G 1/8	0,7
810-U	-	6	0,8	G 1/4	1,6
810-UF	810-UFA	6	1,4	G 1/4	1,6
810-S	-	6	0,8	G 1/4	1,6
810-SF	810-SFA	6	1,4	G 1/4	1,6



# Models 8021, 8071, 8101



Closed version, cylinder horizontal

DE-STA-CO's newest family of pneumatic workholding power hold-down clamps is ideal for dirty environments such as spot and MIG welding. Holding capacities exceed that of their parent clamps the 802, 807-UL and 810-U. These models also feature an enclosed, protected cylinder rod and linkages, as well as a lower

and narrower mounting profile. The non-pivoting cylinder can be hard-piped into fixtures. Maximum intermittent temperature rating is 110°C. Clamps come with a magnetic ring for sensing as a standard feature. Switches (BIM-IKE-AP) have to be ordered separately.



Model 8021



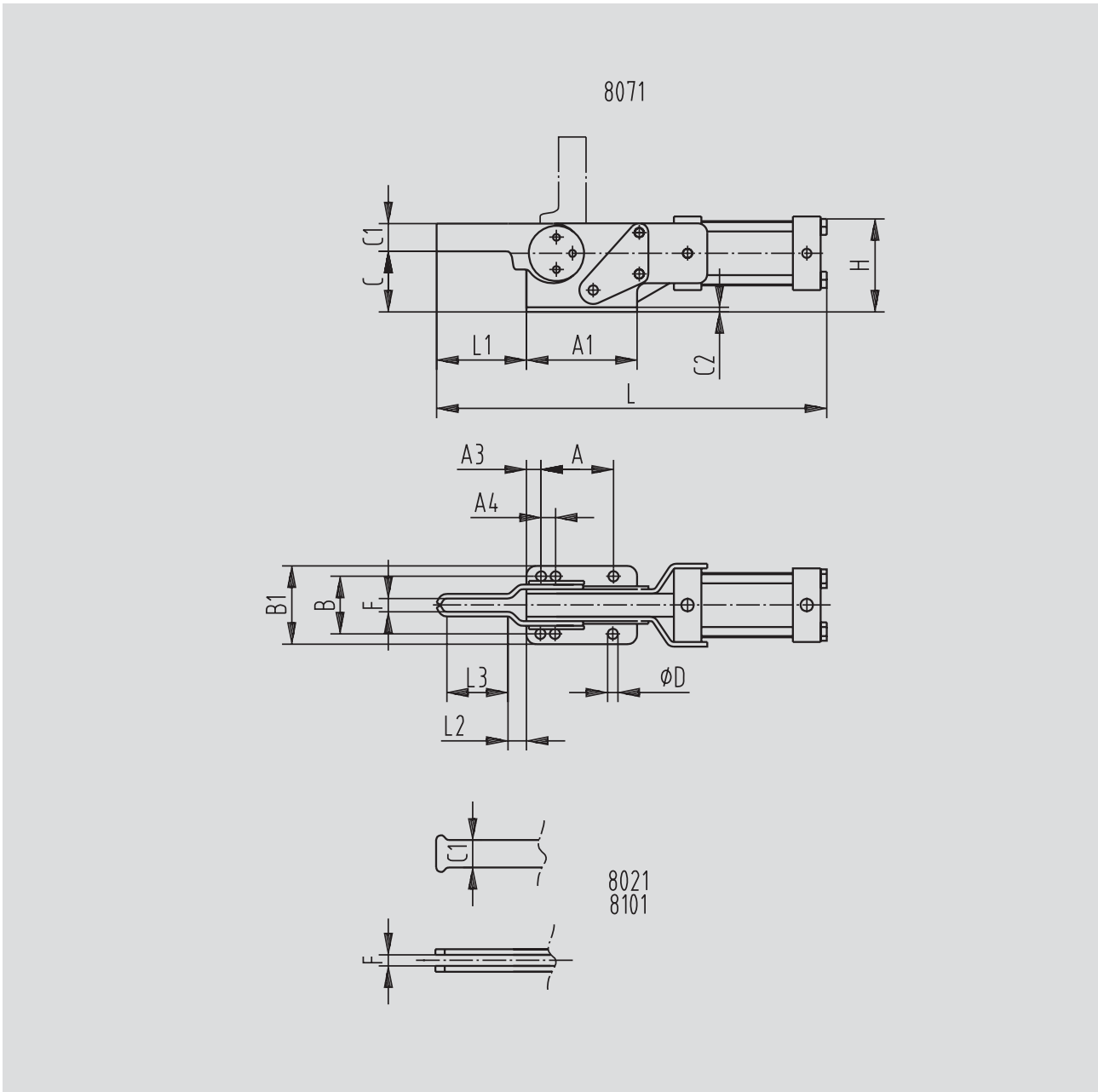
Model 8071



Model 8101

Model no.	holding force [N]	Opening- +10°	[kg]	flange washers standard feature	recommended
8021	1.750	90°	1,04	8021122	202203-M
8071	2.000	90°	1,27	507107-M	507208-M
8101	3.100	90°	3,31	8101122	235208-M

Model no.	inner clamping force 5 bar	outer clamping force 5 bar	operating pressure	air consumption per double stroke at 5 bar	connection
8021	700	400	6	0,3	G1/8
8071	1.200	760	6	0,4	G1/8
8101	2.000	1.100	6	0,8	G1/4



Model no.	A	A1	A3	A4	B	B1	C	C1	C2	øD	F	H	L	L1	L2	L3	connection			
8021	20	50	12	-	38,1	49,5	39,5	16	3,1	5,3	14,2	56	236,5	57	25,5	19	G1/8			
8071	50	78	10	10	40,1	54	42	19	3,1	7,1	8	67	273	63,5	25,5	38	G1/8			
8101	90	121	15	-	55,9	73	63,5	25,4	3,1	8,6	19	89	389	101,5	40,5	40,5	G1/4			

## Series 8007

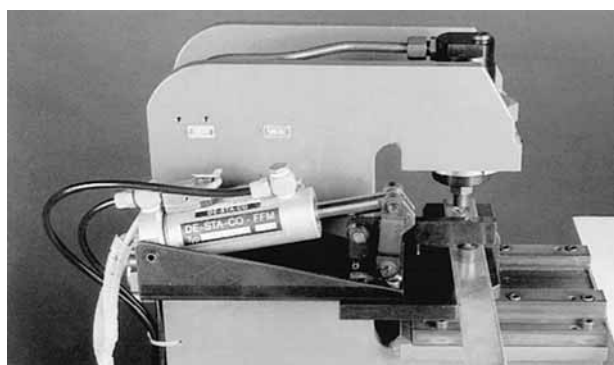
### cylinder horizontal

Model no.		max. holding force		clamping force 5 bar	
without end position sensing	with end position sensing	inner [N]	outer [N]	inner [N]	outer [N]
8007-2F	8007-2FA	3.700	1.800	2.700	1.800

Clamping arm: Mat. C45K



Model 8007-2F



Power clamp with end position sensing at a rivet machine

#### Power clamp with end position sensing

##### Standard equipment for the model 8007-2FA:

- 2 sensors (SMEO-1-LED\*)
- 2 fastening sets for sensors (SMB-1)
- 1 assembly bar



Model 8007-2FA

\*for technical data see p.14.10

## Series 858 cylinder horizontal

Model no.		max. holding force		clamping force 5 bar	
without end position sensing	with end position sensing	inner [N]	outer [N]	inner [N]	outer [N]
858	858-A	15.000	10.500	6.600	3.700

Clamping arm: Mat. C22



Model 858

#### Power clamp with end position sensing

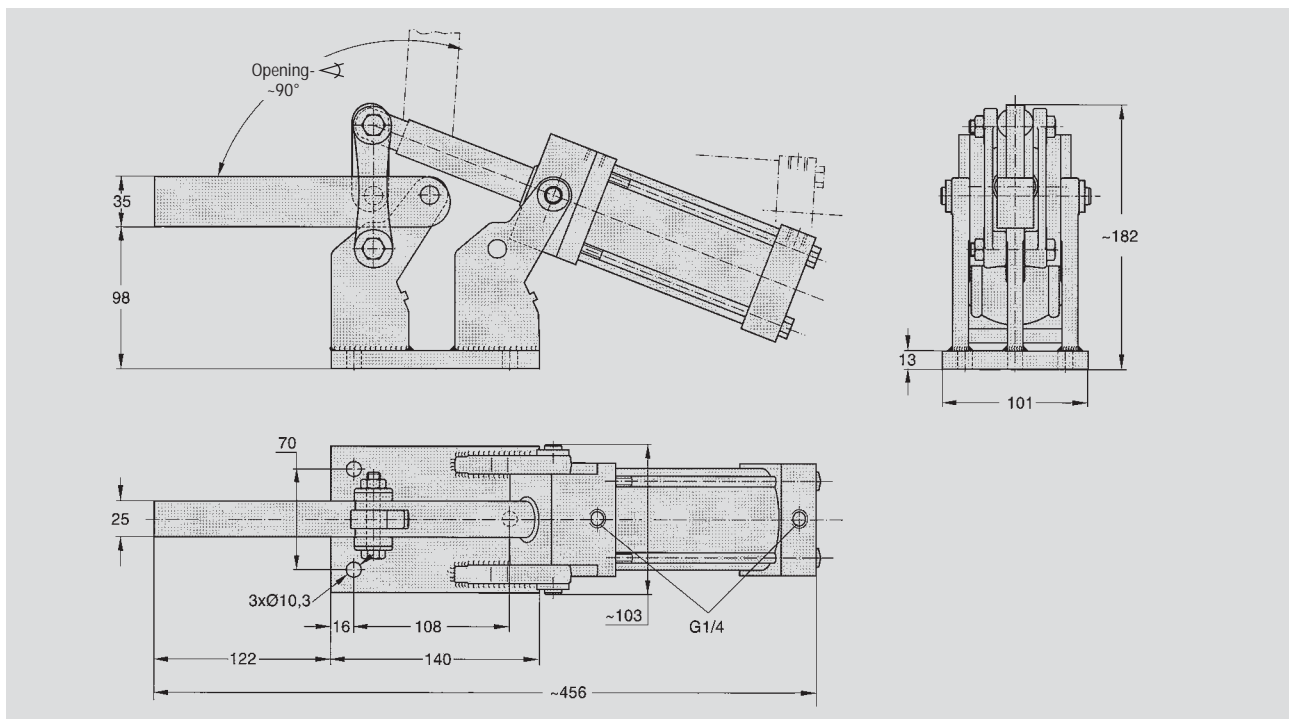
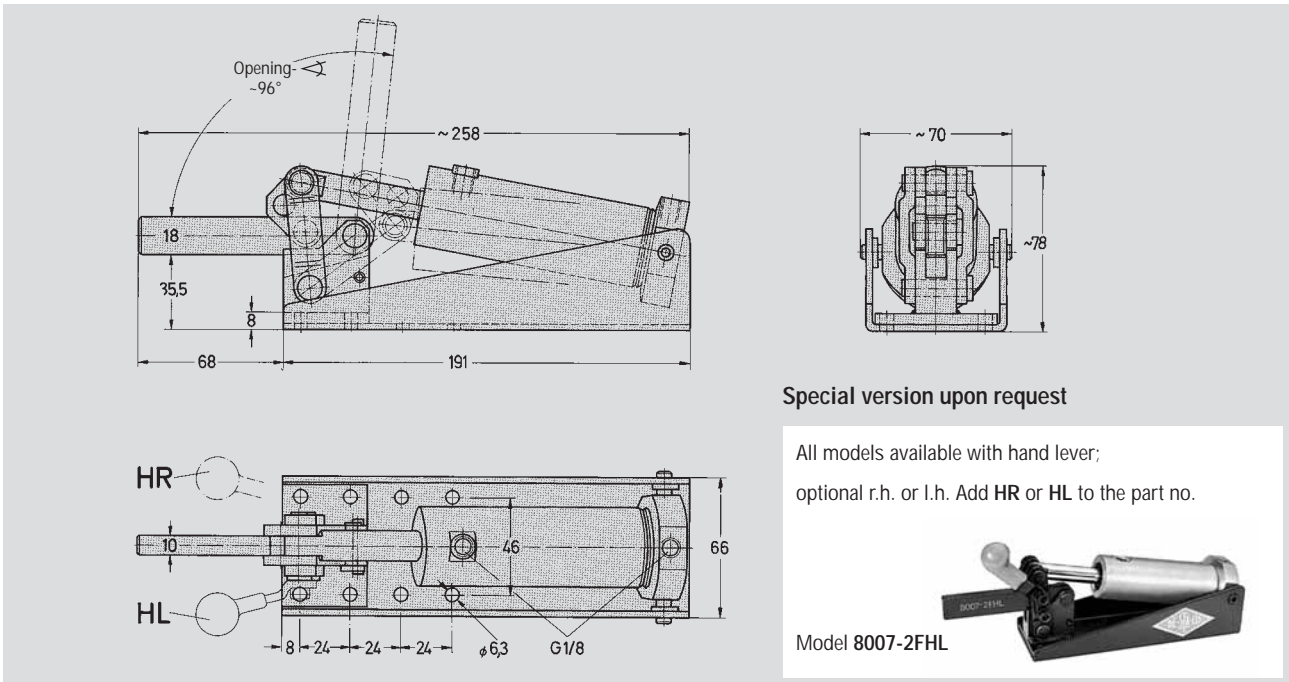
##### Standard equipment for the model 858-A:

- 2 sensors (SMEO-1-LED\*)
- 2 fastening sets for sensors (SMB-2)



Model 858-A

\*for technical data see p.14.10



Model no.		max. operating pressure [bar]	air consumption per double stroke at 5 bar [dm <sup>3</sup> ]	connection	weight ~ [kg]
without end position sensing	with end position sensing				
8007-2F	8007-2FA	6	0,6	G1/8	1,6
858	858-A	10	3,4	G1/4	6,6

## Series 817

**NEW**

cylinder vertical

Model no.	max. holding force		clamping force 5 bar	
	inner	outer	inner	outer
	[N]	[N]	[N]	[N]
817-U	1.700	750	1.400	600
817-UE	1.700	750	1.700	750
817-S	1.900	850	1.400	600
817-SE	1.900	850	1.700	750

Clamping arm: Mat. St37K



**Standard equipment:**

**Model 817-U / -UE**

2 flange washers 507107

**Model 817-S / -SE**

1 spindle retainer 207105

**Optional equipment:**

**Model 817-U / -UE**

1 adjustment spindle M8, 225208-M

**Optional equipment for models 817-UE / SE:**

■ Sensor for T-slot



**SME-8F-DE**

(includes cable)



**SME-8F-DE-S**

(includes plug)

**Advice:**

If clamp installed on plate, first side must be secured with screws.

## Series 827

Model 817-U

Model no.	max. holding force		clamping force 5 bar	
	inner	outer	inner	outer
	[N]	[N]	[N]	[N]
827-U	5.500	2.700	2.700	1.300
827-S	5.500	2.700	2.700	1.300

Clamping arm: Mat. St37K

**Advice:**

If clamp installed on plate, front side must be secured with screws.

**Standard equipment**

**Model 827-U**

2 flange washers, part no. 235106-M

**Model 827-S**

1 spindle retainer for M10, part no. 210114

**Recommended equipment**

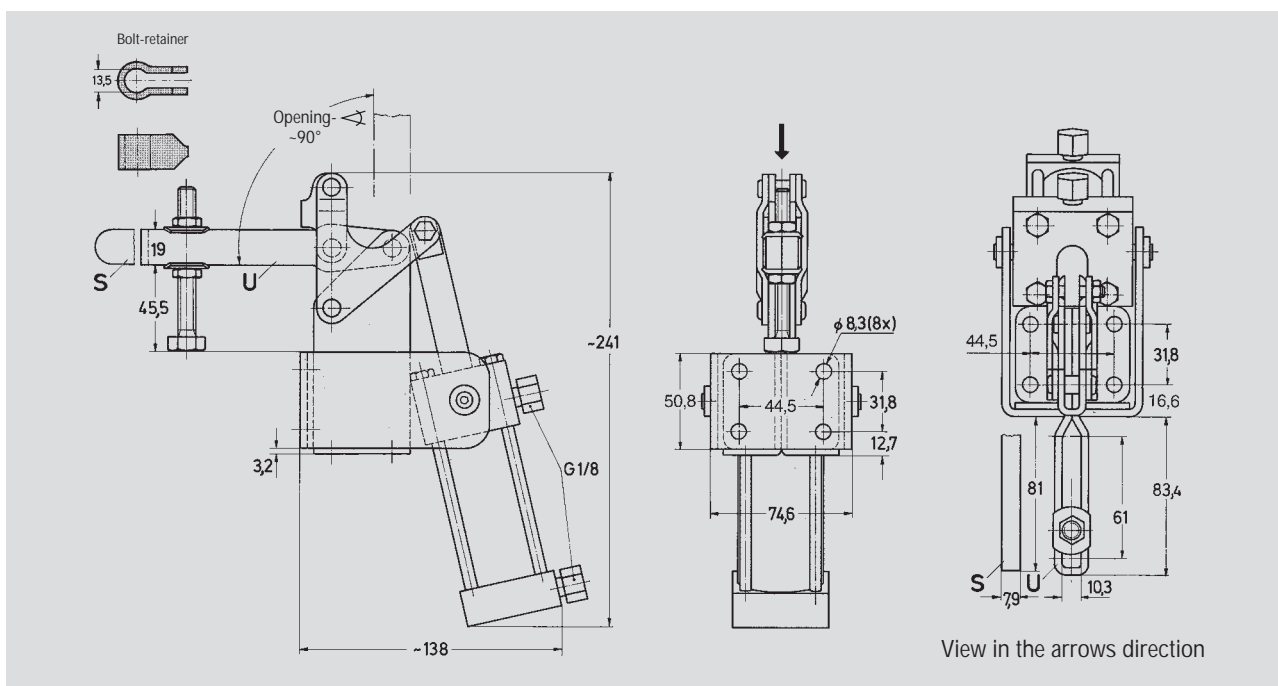
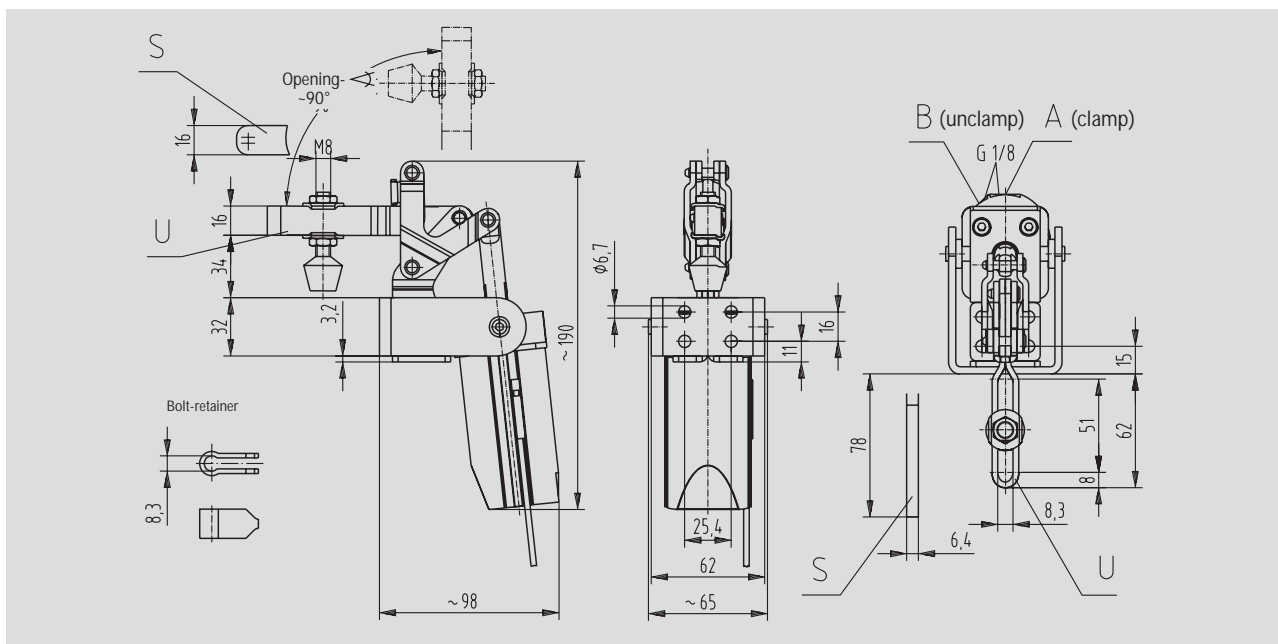
(order separately)

adjustment spindle M10,

part no. 210203-M

see page 14.3





Model no.	operating pressure	air consumption per double stroke at 5 bar [dm <sup>3</sup> ]	connection	weight ~ [kg]
	max. [bar]			
817-U	6	0,3	G 1/8	0,85
817-UE	6	0,55	G 1/8	0,9
817-S	6	0,3	G 1/8	0,85
817-SE	6	0,55	G 1/8	0,9
827-U	6	0,95	G 1/8	1,95
827-S	6	0,95	G 1/8	1,95

Series **868**

cylinder vertical

Model no.		max. holding force		clamping force 5 bar	
without end position sensing	with end position sensing	inner [N]	outer [N]	inner [N]	outer [N]
868	868-A	16.000	10.500	6.600	3.700
Spannarm: Mat. C22					



Model 868



Power clamp model 868 in an automated welding fixture for clamping of longitudinal beams.

Power clamp with end position sensing

Standard equipment for the model 868-A:

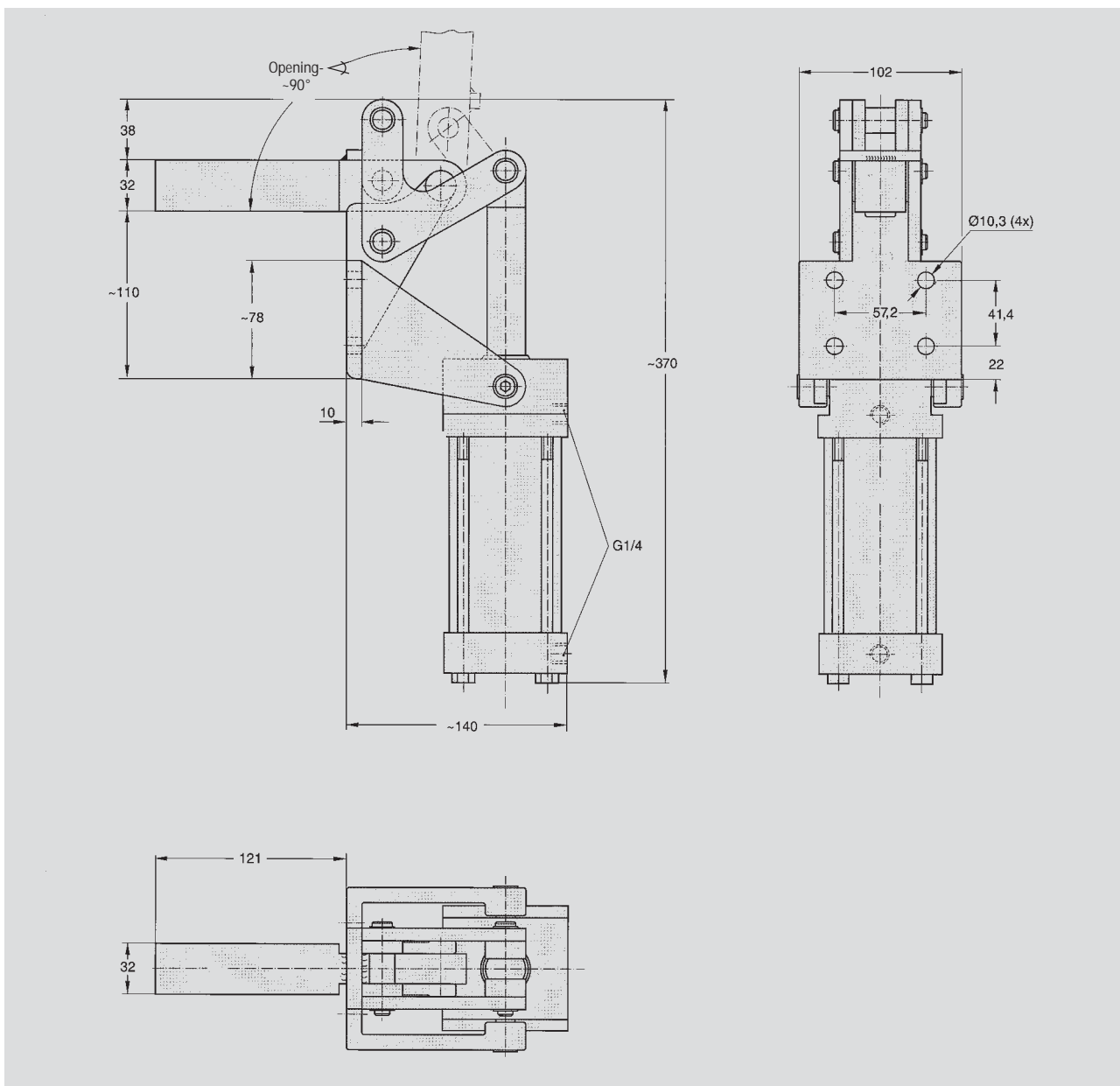
2 sensors (SMEO-1-LED\*)

2 fastening sets for sensors (SMB-2)



Model 868-A

\*for technical data see p.14.10



Model no.		max. operating pressure [bar]	air consumption per double stroke at 5 bar [dm <sup>3</sup> ]	connection	weight ~ [kg]
without end position sensing	with end position sensing				
868	868-A	10	3,4	G1/4	6,2



## Model 816-M

### Straight line action power clamp

Model no.	max. holding force [N]	clamping force 5 bar [N]	stroke
816-M	400	400	11

#### Standard equipment

1 adjustment spindle M4, part no. 205208-M



## Series 803

**NEW**

Model-no.	max. holding force [N]	clamping force 5 bar [N]	stroke
803-M	2.700	1.600	19
803-ME	2.700	1.900	19

#### Optional equipment:

##### Model 803-M/-ME

1 adjustment spindle 225203-M



Model 803-ME

#### Optional equipment for model 803-ME:

- Sensor for T-slot



SME-8F-DE  
(includes cable)



Model 803-M



SME-8F-DE-S  
(includes plug)



## Model 830

### Straight line action power clamp

Model no.		max. holding force [N]	clamping force 5 bar [N]	stroke
without end position sensing	with end position sensing			
830-M	-	11.000	2.000	32
830-MF	830-MFA	11.000	3.600	32



Model 830-M



Model 830-MF

**Recommended equipment** (order separately)  
 adjustment spindle M10, part no. 210203-M  
 see p. 14.3

#### Power clamp with end position sensing

##### Standard equipment for the model 830-MFA:

- 2 sensors (SMEO-1-LED\*)
- 2 fastening sets for sensors (SMB-1)
- 1 assembly bar



Model 830-MFA

\*for technical data see p.14.10

## Series 850

Model no.		max. holding force [N]	clamping force 5 bar [N]	stroke
without end position sensing	with end position sensing			
850-M	850-MA	45.000	5.000	50



Model 850-M

**Recommended equipment** (order separately)  
 adjustment spindle M16, part no. 250203-M  
 see p. 14.3

#### Power clamp with end position sensing

##### Standard equipment for the model 850-MA:

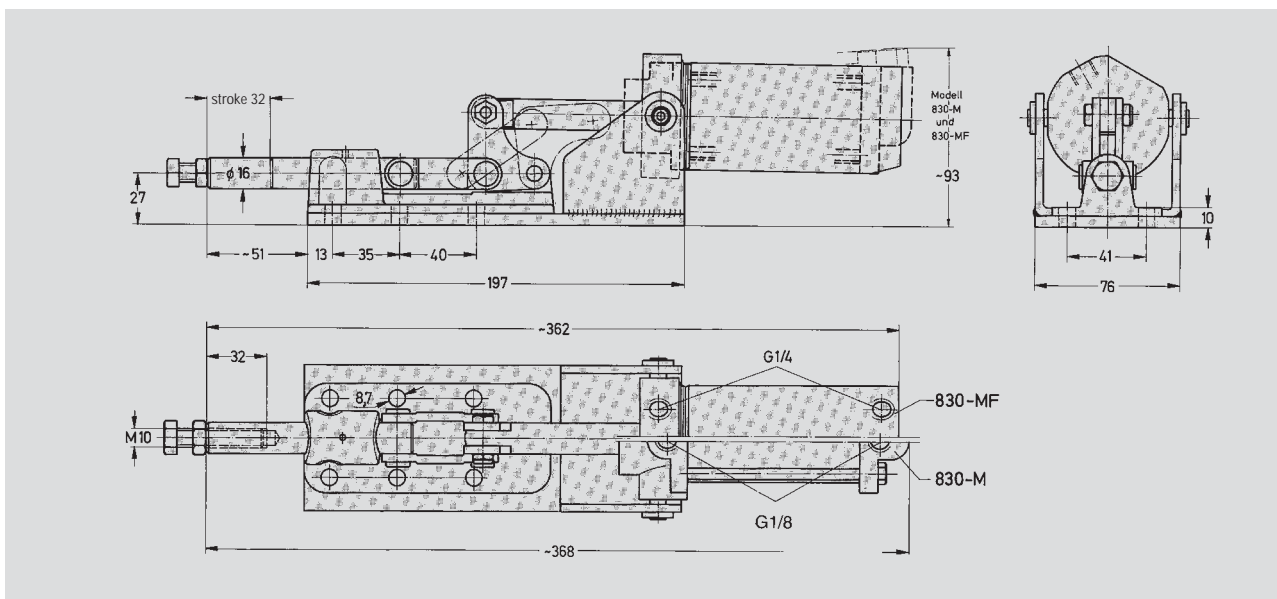
- 2 sensors (SMEO-1-LED\*)
- 2 fastening sets for sensors (SMB-1)



Model 850-MA

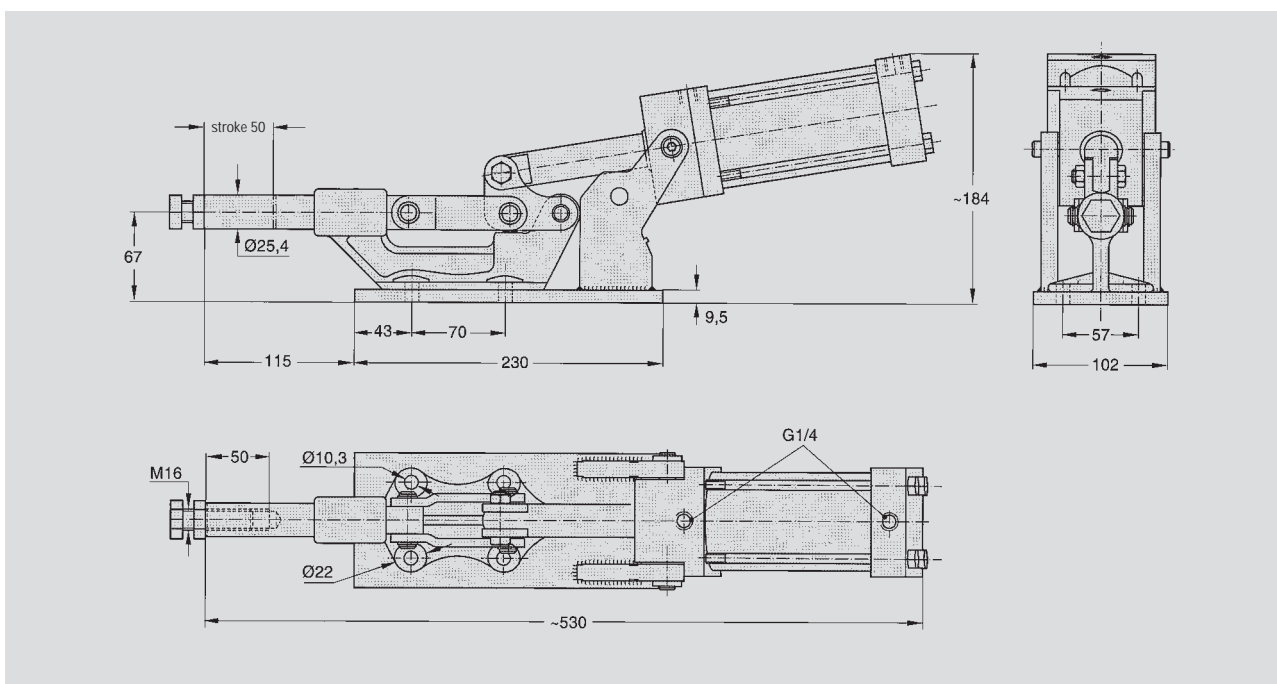
\*for technical data see p.14.10

## Straight line action power clamp



Models 830-M, 830-MF and 830-MFA

# Series 850



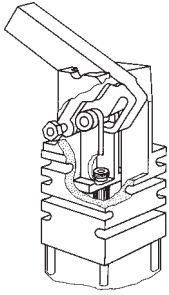
Models 850-M and 850-MA

Model no.		max. operating pressure [bar]	air consumption per double stroke at 5 bar [dm <sup>3</sup> ]	connection	weight ~ [kg]
without end position sensing	with end position sensing				
830-M	-	10	0,8	G1/8	2,6
830-MF	830-MFA	10	1,4	G1/4	3,0
850-M	850-MA	10	3,4	G1/4	7,0

# Models 870-2, 871-2

Power clamps with the roller and cam principle

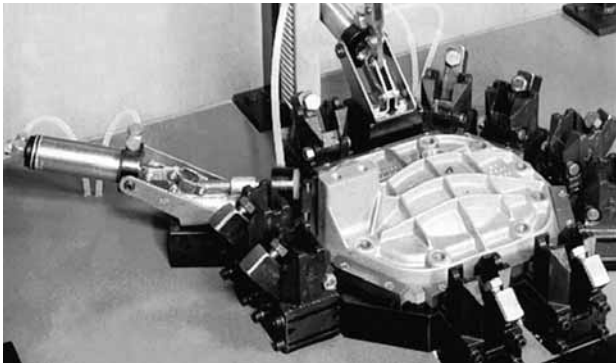
Model no.	Opening- ↖	holding torque max. [Nm]	clamping torque at 5 bar [Nm]
870-2	112°	260	60
871-2	118°	260	60



Roller and cam mechanism of the models 870-2 and 871-2

**Standard equipment:**

- 1 assembly plate, part no. 870116
- 2 restrictor connections

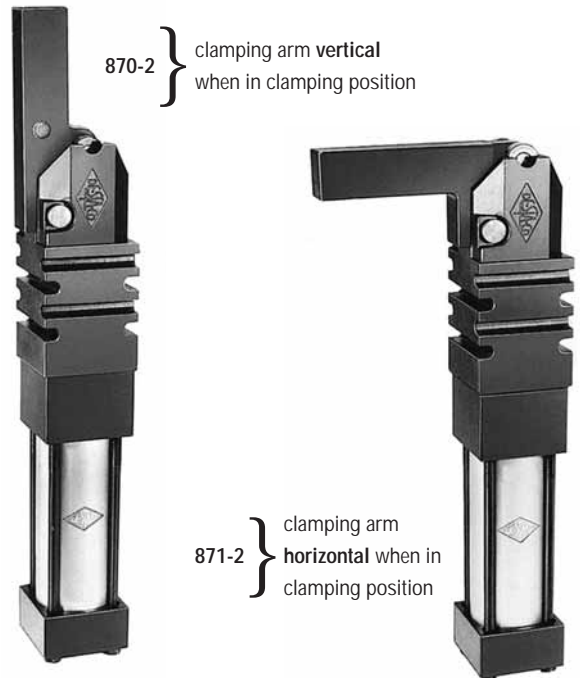


Power clamp models 871-2 and 803-MF on a pressure test fixture for vehicle gearbox lids

**Light duty version for large scale production**

Thanks to their design power clamps with the roller and cam principle automatically compensate for workpiece tolerances. When being clamped, the clamp arm of model 870-2 is in the vertical position, whereas the clamp arm of model 871-2 is in the horizontal position. The assembly plate which is included in the scope of delivery allows easy fastening of the clamps.

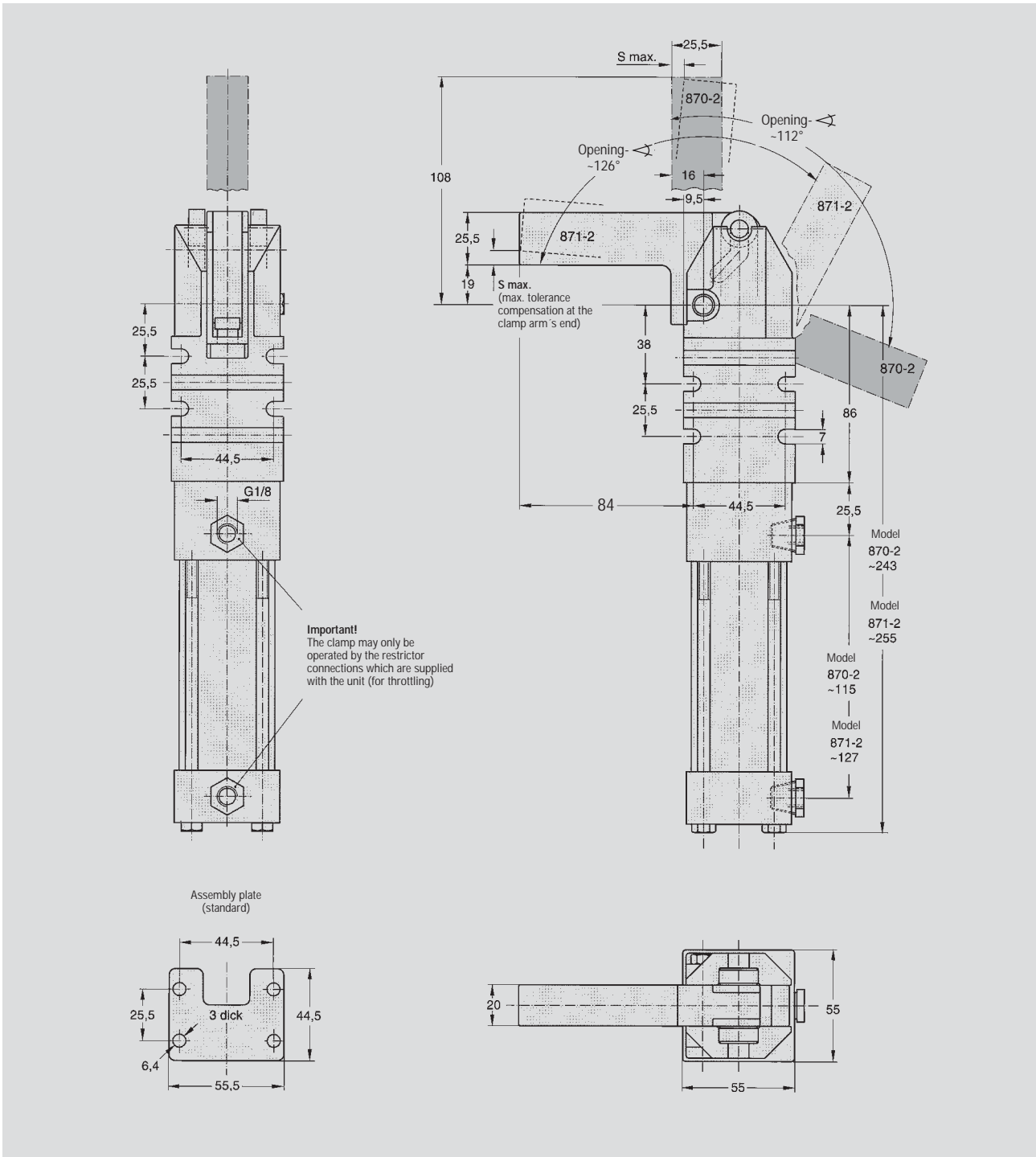
The cylinders are equipped with a magnetic piston for end position sensing. The sensors (BIM-IKT-AP) must be ordered separately, 2 pieces are required.



**Sensors**

Order separately:  
sensors (BIM-IKT-AP)  
(2 pieces required)

\*for technical data see p.14.10



Model no.	S max. max. tolerance compensa- tion at the clamp arm's end [mm]	max. operating pressure [bar]	air consumption at 5 bar [dm <sup>3</sup> ]	connection	weight ~ [kg]
870-2	4,5	10	0,95	G1/8	3
871-2	3,5	10	0,95	G1/8	3