

# Compact parallel grippers with T-guide Series CGSP

Single and double acting, magnetic, self-centering  
Sizes: 20, 25, 32, 40

SERIES CGSP COMPACT PARALLEL GRIPPERS WITH T-GUIDE



Series CGSP grippers, available in 4 sizes (20, 25, 32 and 40) are parallel and double acting, self-centering and guided by means of a T-shaped sliding guide. Thanks to the materials and surface coating used, the gripper offers a high reliability. Moreover, the internal force transmission system is protected against the entrance of impurities by means of a steel cover so the gripper can also be used in dusty environments.

Extreme compact dimensions, a light design and high positioning repeatability make this series of grippers particularly suitable for handling small items, even if high operating frequencies are required. Typical applications are pick & place, insertion, machine tending in the electronic components assembly sector, cosmetics & medical industry or in food packaging.

- » Robust, compact and light design
- » High resistance to external loads thanks to the T-guide
- » High closing/opening repeatability
- » High reliability
- » Position detection thanks to magnetic proximity switch or inductive sensor kits.
- » Protected against the entrance of impurities (IP40)
- » Free from Copper, Silicone and PTFE
- » High interchangeability (centering bushes)
- » Variants available for use in ATEX zones

## GENERAL DATA

Type of construction	Self-centering parallel gripper with T-guide
Operation	Single acting (NO, NC), double acting
Bores	Ø20, 25, 32, 40 mm
Force transmission	Lever
Air connections	M3 (Ø20, 25), M5 (Ø32, 40)
Working temperature	5°C ÷ 60°C
Storage temperature	-10°C ÷ 80°C
Maximum use frequency	3 Hz (Ø20, 25, 32), 2 Hz (Ø 40)
Repeatability	0.02 mm
Interchangeability	0.1 mm
Medium	Filtered air in class 7.4.4 according to ISO 8573-1. In case lubricated air is used, we recommend ISOVG32 oil and to never interrupt lubrication
Lubrication	After 10 million cycles, grease the sliding zones using Molykote DX grease
Protection class	IP 40
Compatibility	ROHS Directive
Certifications	ATEX (II 2GD c IIC 120°C(T4)-20°C≤T <sub>a</sub> ≤80)
Materials	PTFE, Silicone and Copper free
Working pressure	Double acting: 2 ÷ 8 bar Single acting: 4 ÷ 8 bar

N.B. Pressurize the pneumatic system gradually in order to avoid uncontrolled movements

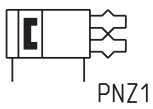
## CODING EXAMPLE

<b>CGSP</b>	-	<b>20</b>	-	<b>NC</b>	-	<b>EX</b>
-------------	---	-----------	---	-----------	---	-----------

<b>CGSP</b>	SERIES	
<b>20</b>	SIZES 20 25 32 40	
<b>NC</b>	FUNCTIONING = double acting NO = single acting, normally open NC = single acting, normally closed	PNEUMATIC SYMBOLS PNZ1 PNZ3 PNZ2
<b>EX</b>	CERTIFICATION = standard EX = ATEX certification	

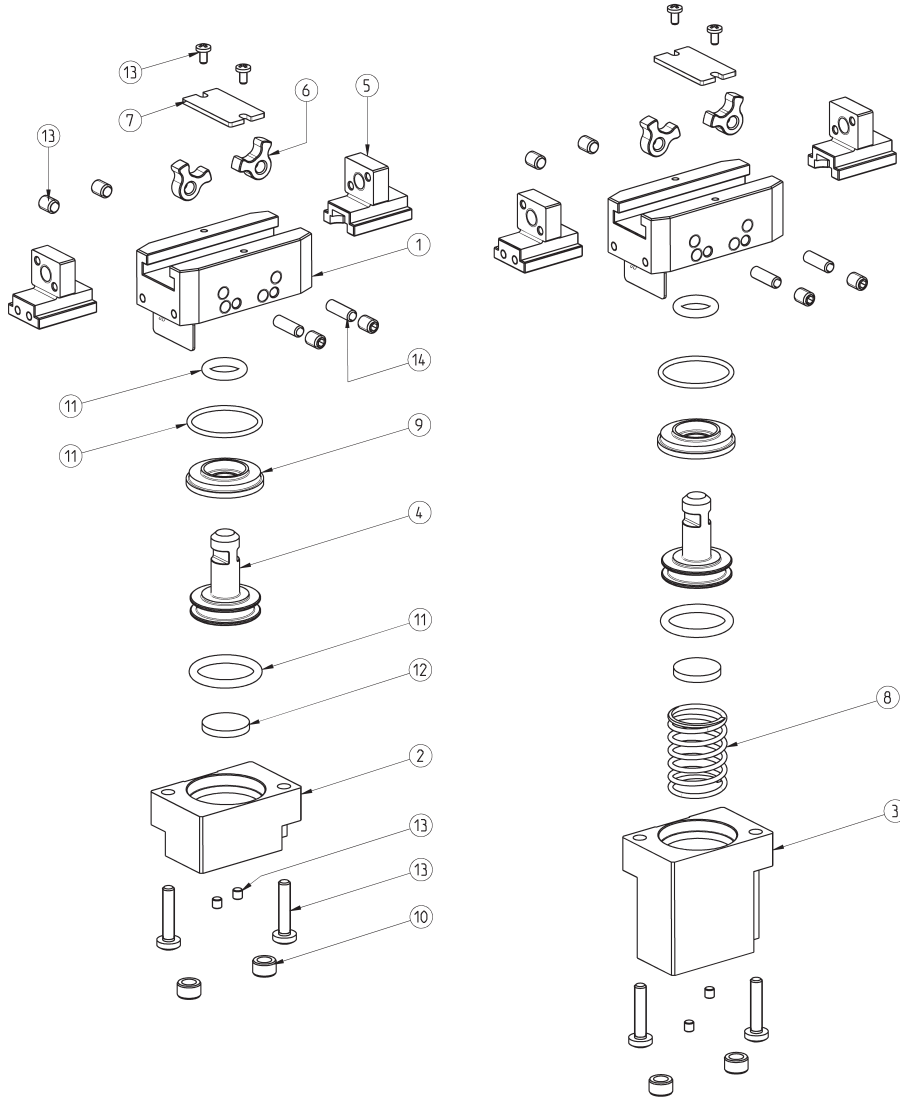
## PNEUMATIC SYMBOLS

The pneumatic symbols which have been indicated in the CODING EXAMPLE are shown below.



**Series CGSP grippers - construction**

SERIES CGSP COMPACT PARALLEL GRIPPERS WITH T-GUIDE

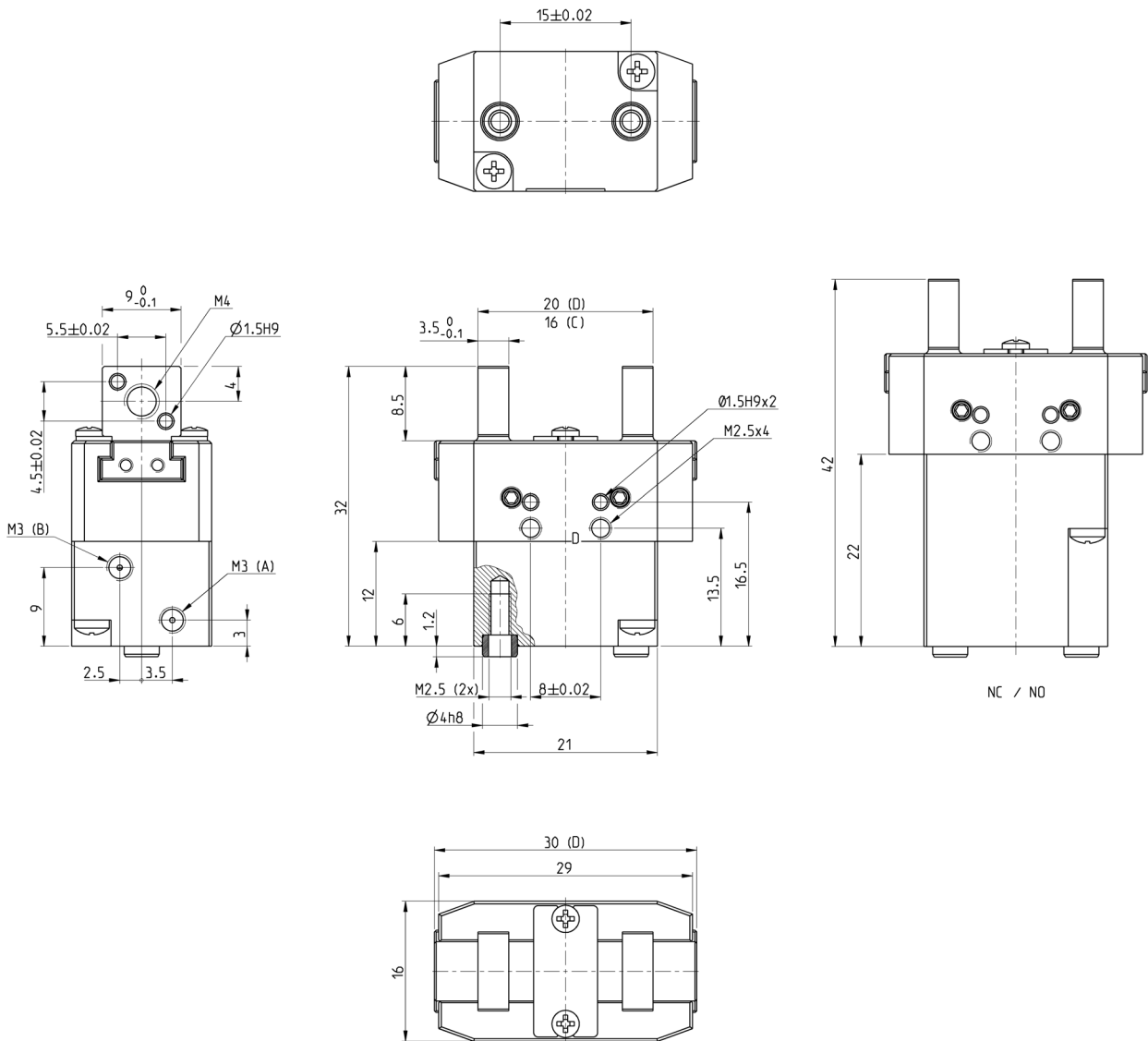


LIST OF COMPONENTS	
PARTS	MATERIALS
1 - Body	Aluminium
2 - End cap	Aluminium
3 - End cap NC/NO	Aluminium
4 - Piston	Stainless steel
5 - Jaw	Stainless steel
6 - Levers	Steel
7 - Cover	Stainless steel
8 - Spring	Stainless steel
9 - End cover	Aluminium
10 - Centering bushes	Stainless steel
11 - Seals	HNBR / FKM
12 - Magnet	Neodymium
13 - Screws and grub screws	Stainless steel
14 - Pins	Steel

## CGSP gripper, size 20 - dimensions



DRAWING LEGEND:  
 A = Opening of air connection  
 B = Closing of air connection  
 C = Closed gripper  
 D = Open gripper

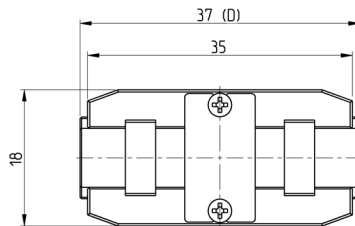
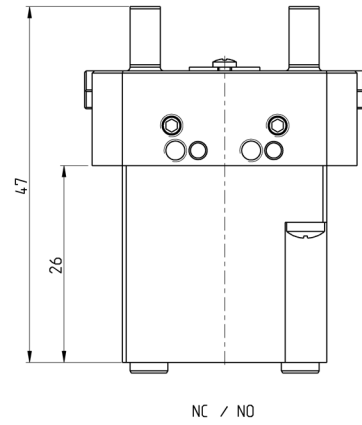
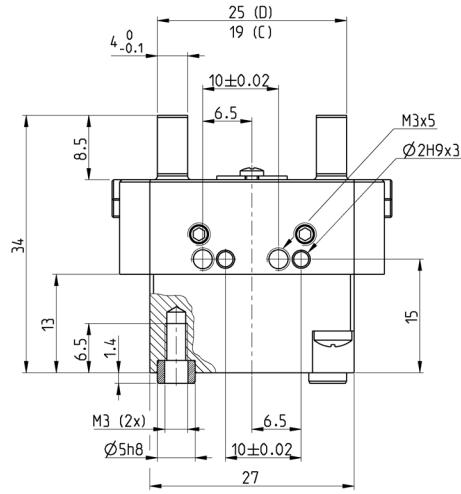
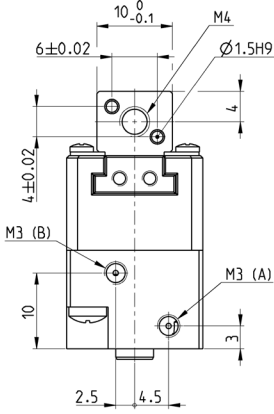
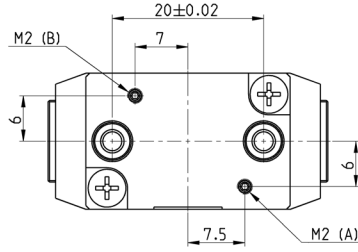


Mod.	Total closing gripping force at 6 bar (N)	Closing gripping force each jaw at 6 bar (N)	Total opening gripping force at 6 bar (N)	Opening gripping force each jaw at 6 bar (N)	Stroke per jaw (mm)	Working pressure (bar)	Working temperature (°C)	Opening time (ms)	Closing time (ms)	Weight (g)
CGSP-20	36	18	44	22	2	2 ÷ 8	5 ÷ 60	9	12	34
CGSP-20-NC	46	23	38	19	2	4 ÷ 8	5 ÷ 60	9	10	42
CGSP-20-NO	30	15	54	27	2	4 ÷ 8	5 ÷ 60	12	7	40

**CGSP gripper, size 25 - dimensions**



**DRAWING LEGEND:**  
A = Opening of air connection  
B = Closing of air connection  
C = Closed gripper  
D = Open gripper

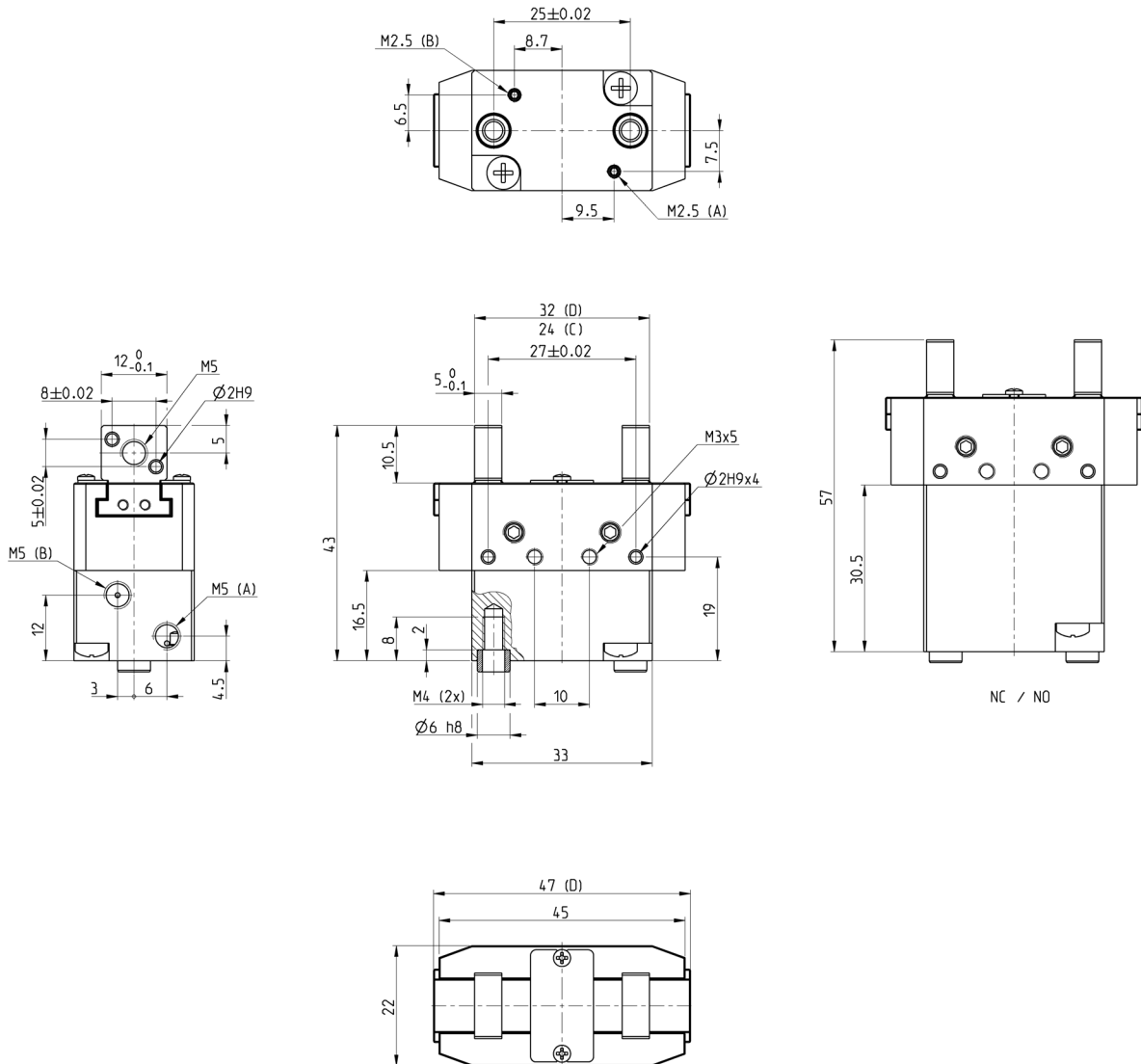


Mod.	Total closing gripping force at 6 bar (N)	Closing gripping force each jaw at 6 bar (N)	Total opening gripping force at 6 bar (N)	Opening gripping force each jaw at 6 bar (N)	Stroke per jaw (mm)	Working pressure (bar)	Working temperature (°C)	Opening time (ms)	Closing time (ms)	Weight (g)
CGSP-25	70	35	84	42	3	2 ÷ 8	5 ÷ 60	11	13	51
CGSP-25-NC	86	43	76	38	3	4 ÷ 8	5 ÷ 60	9	24	66
CGSP-25-NO	62	31	98	49	3	4 ÷ 8	5 ÷ 60	20	8	61

## CGSP gripper, size 32 - dimensions



DRAWING LEGEND:  
 A = Opening of air connection  
 B = Closing of air connection  
 C = Closed gripper  
 D = Open gripper

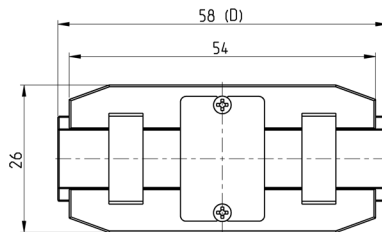
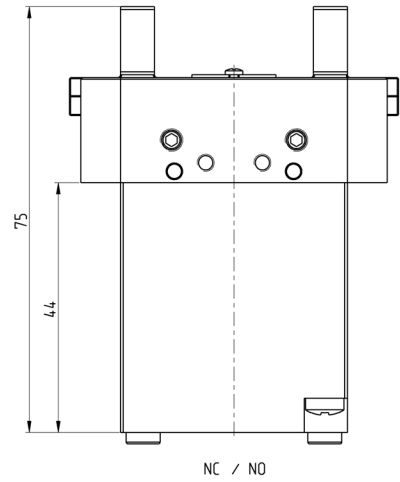
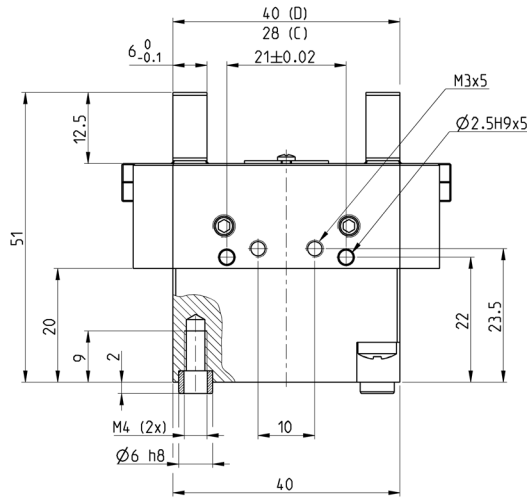
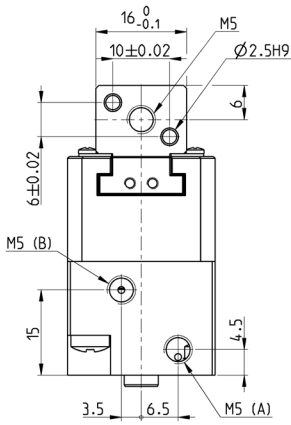
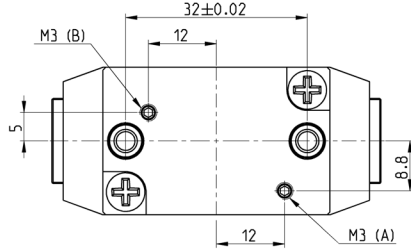


Mod.	Total closing gripping force at 6 bar (N)	Closing gripping force each jaw at 6 bar (N)	Total opening gripping force at 6 bar (N)	Opening gripping force each jaw at 6 bar (N)	Stroke per jaw (mm)	Working pressure (bar)	Working temperature (°C)	Opening time (ms)	Closing time (ms)	Weight (g)
CGSP-32	104	52	122	61	4	2 ÷ 8	5 ÷ 60	18	20	99
CGSP-32-NC	126	63	106	53	4	4 ÷ 8	5 ÷ 60	9	27	126
CGSP-32-NO	88	44	142	71	4	4 ÷ 8	5 ÷ 60	22	8	120

**CGSP gripper, size 40 - dimensions**

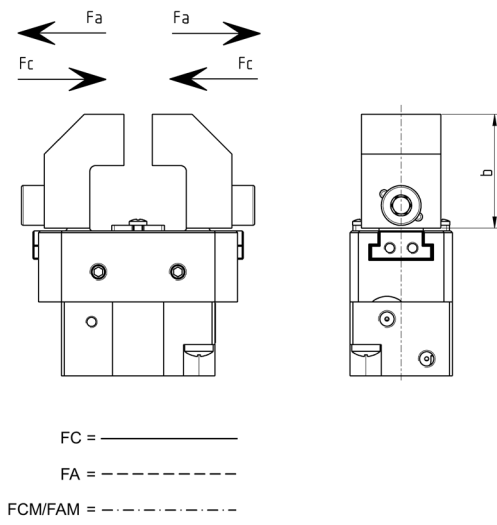


**DRAWING LEGEND:**  
A = Opening of air connection  
B = Closing of air connection  
C = Closed gripper  
D = Open gripper

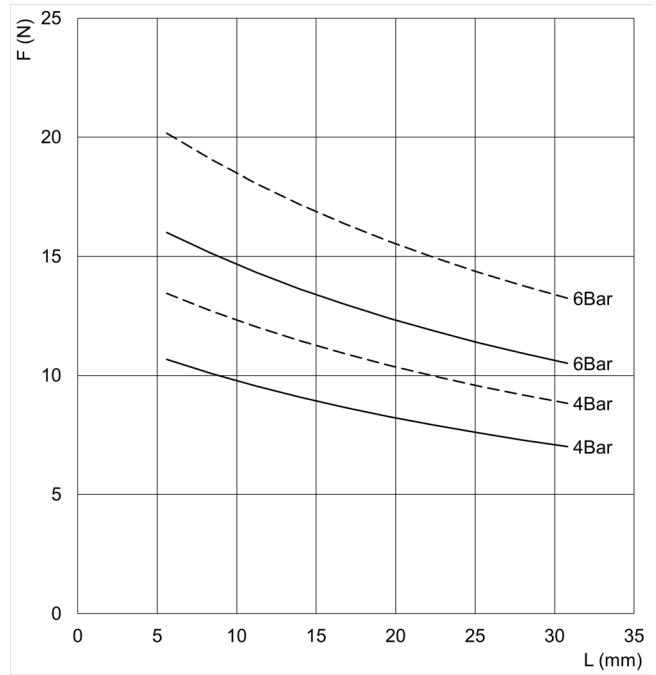


Mod.	Total closing gripping force at 6 bar (N)	Closing gripping force each jaw at 6 bar (N)	Total opening gripping force at 6 bar (N)	Opening gripping force each jaw at 6 bar (N)	Stroke per jaw (mm)	Working pressure (bar)	Working temperature (°C)	Opening time (ms)	Closing time (ms)	Weight (g)
CGSP-40	154	77	184	92	6	2 ÷ 8	5 ÷ 60	16	13	163
CGSP-40-NC	188	94	152	76	6	4 ÷ 8	5 ÷ 60	11	28	238
CGSP-40-NO	124	62	214	107	6	4 ÷ 8	5 ÷ 60	27	11	219

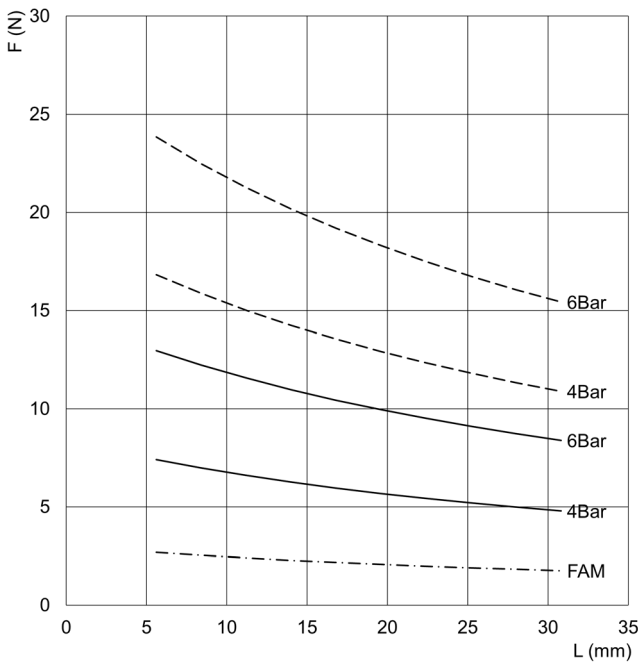
**GRIPPING FORCE PER SINGLE JAW**



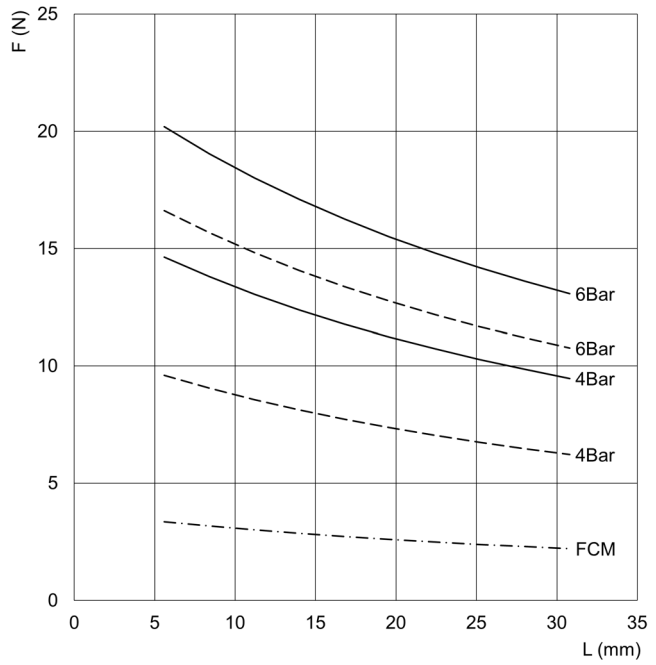
L = distance from gripping point  
 FA = opening force  
 FC = closing force  
 FAM = opening force of the spring  
 FCM = closing force of the spring



CGSP-20



CGSP-20-NO

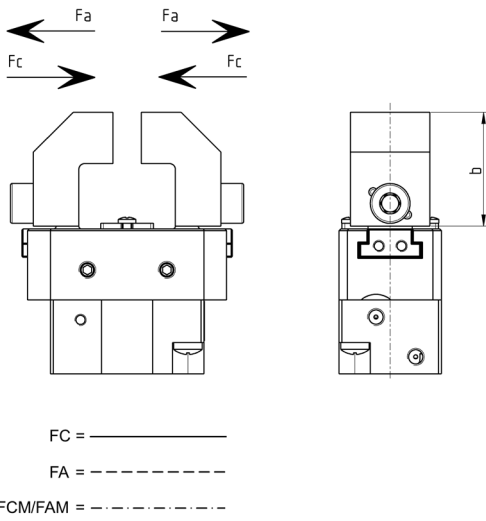


CGSP-20-NC

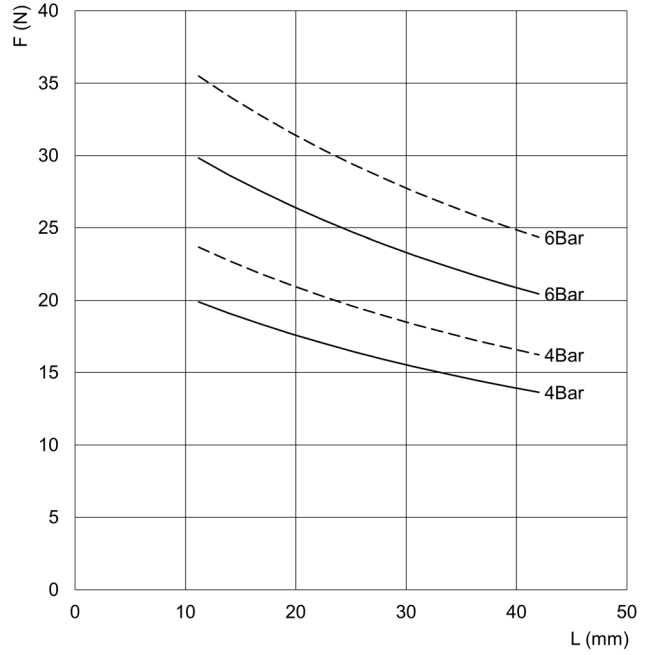
SERIES CGSP COMPACT PARALLEL GRIPPERS WITH T-GUIDE



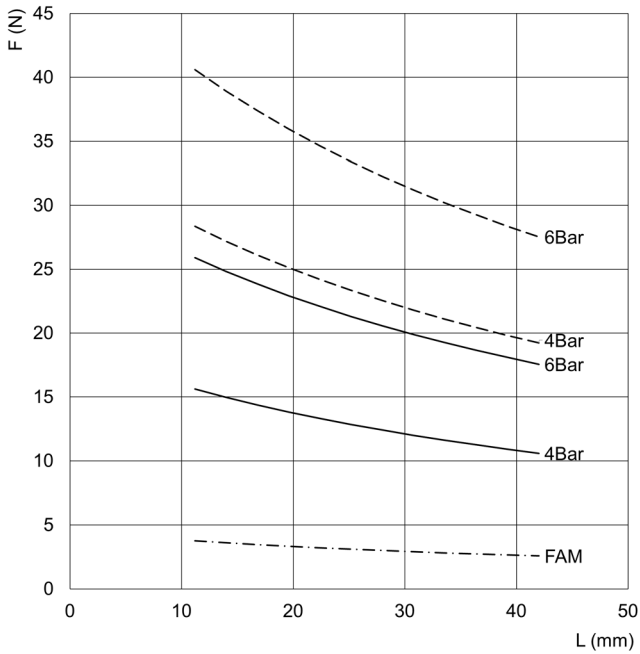
**GRIPPING FORCE PER SINGLE JAW**



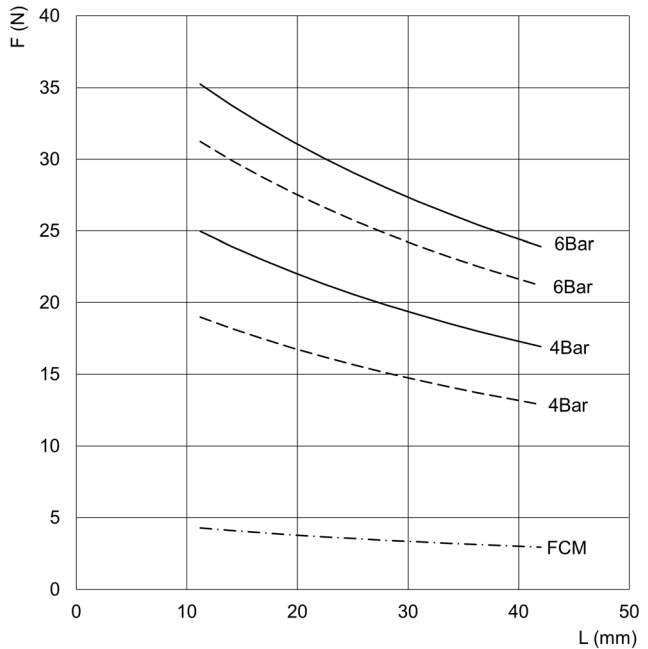
L = distance from gripping point  
 FA = opening force  
 FC = closing force  
 FAM = opening force of the spring  
 FCM = closing force of the spring



CGSP-25

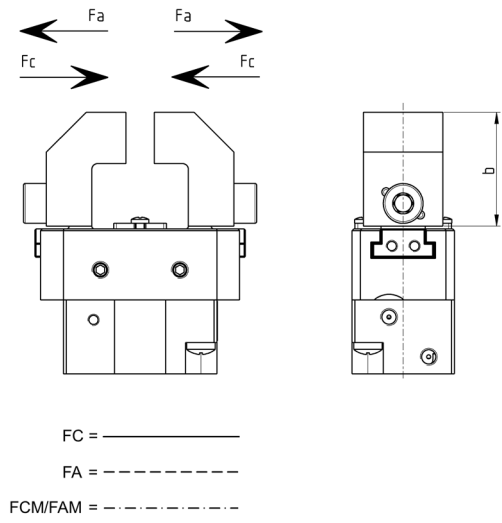


CGSP-25-NO

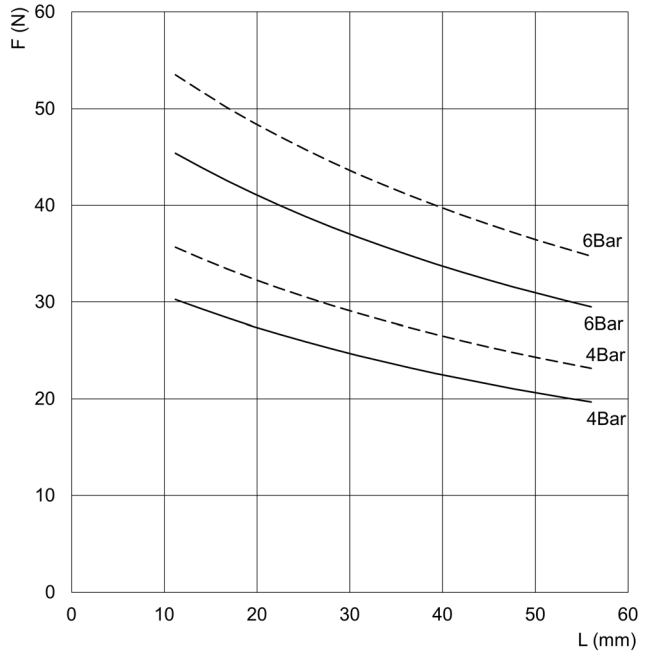


CGSP-25-NC

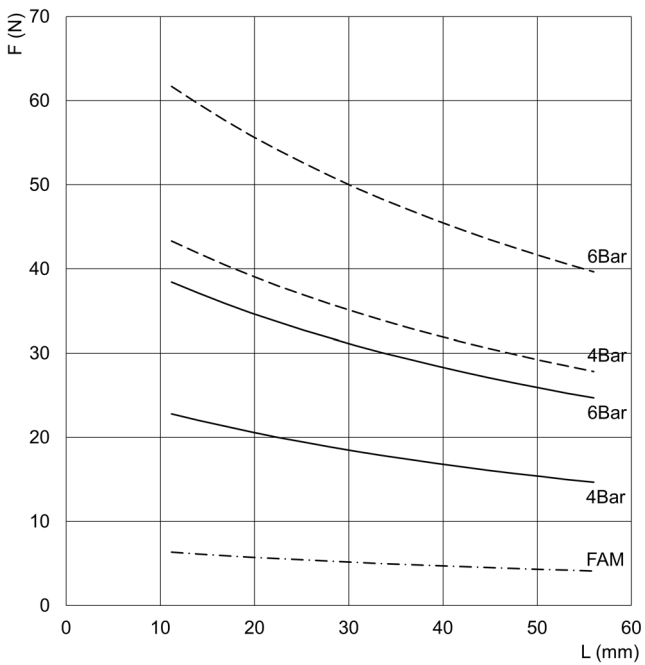
**GRIPPING FORCE PER SINGLE JAW**



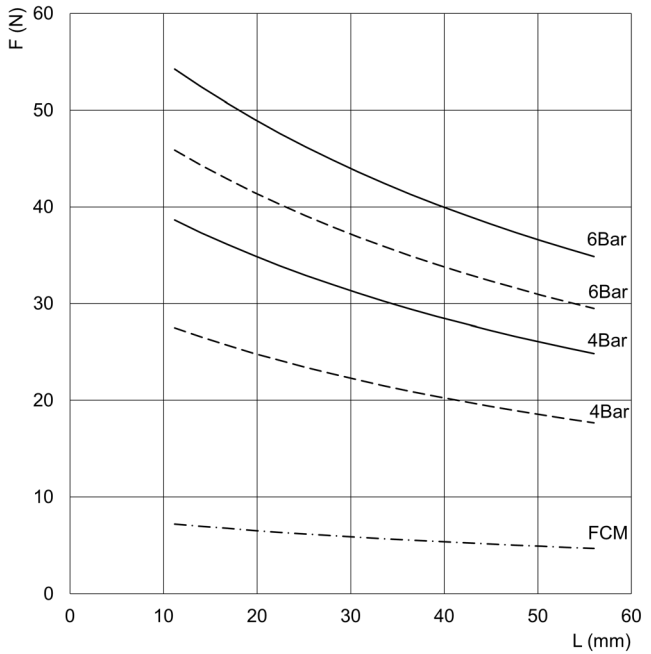
$L$  = distance from gripping point  
 $F_a$  = opening force  
 $F_c$  = closing force  
 $F_{AM}$  = opening force of the spring  
 $F_{CM}$  = closing force of the spring



CGSP-32



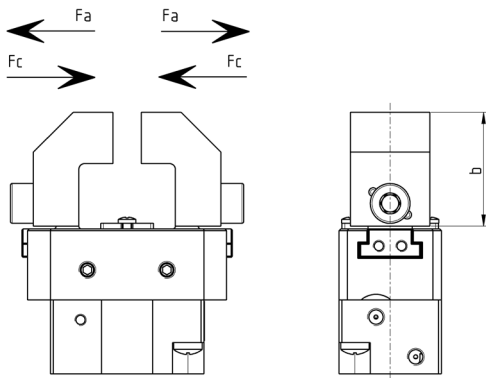
CGSP-32-NO



CGSP-32-NC

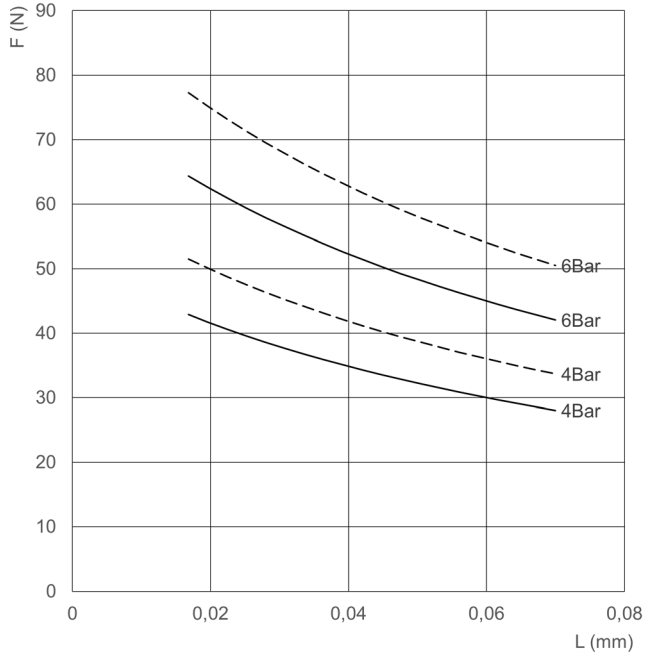
SERIES CGSP COMPACT PARALLEL GRIPPERS WITH T-GUIDE

**GRIPPING FORCE PER SINGLE JAW**

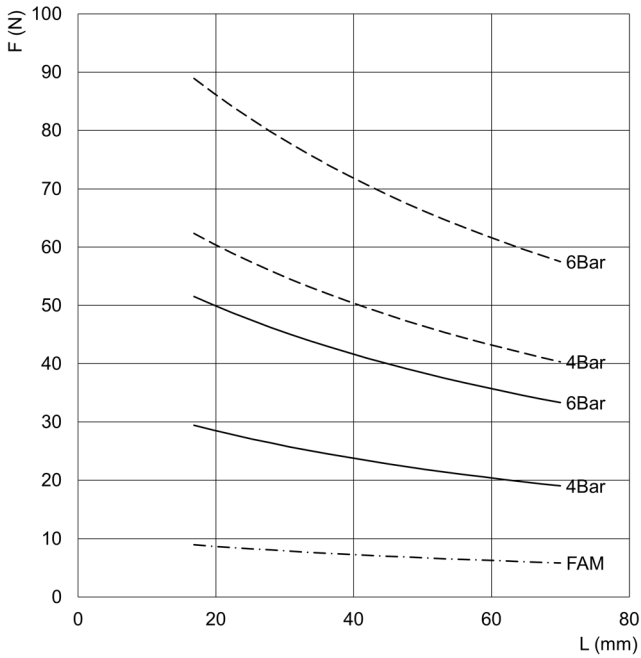


FC = \_\_\_\_\_  
 FA = - - - - -  
 FCM/FAM = - · - · - · -

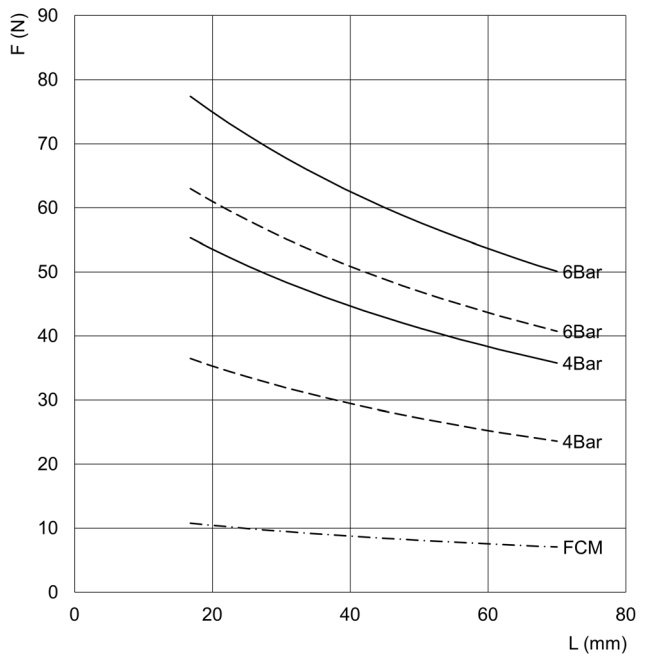
L = distance from gripping point  
 FA = opening force  
 FC = closing force  
 FAM = opening force of the spring  
 FCM = closing force of the spring



CGSP-40

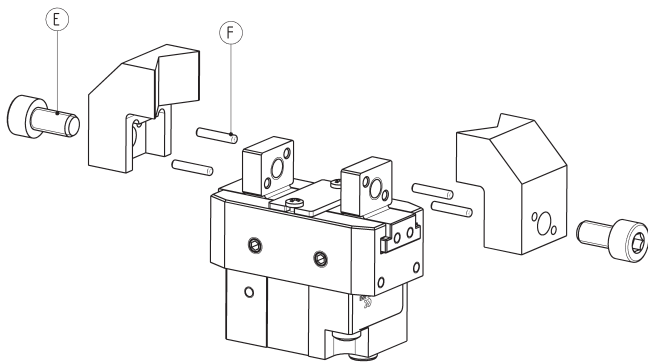
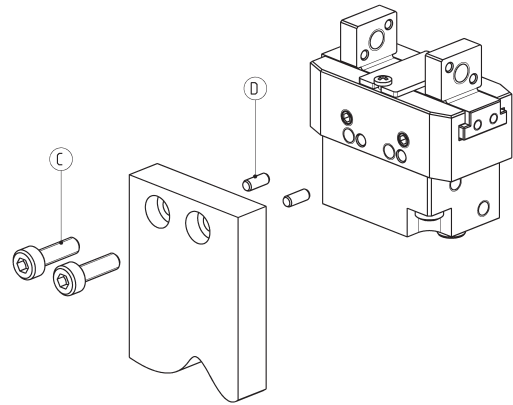
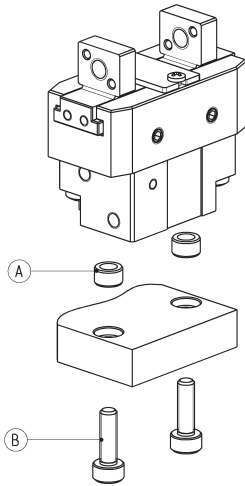


CGSP-40-NO



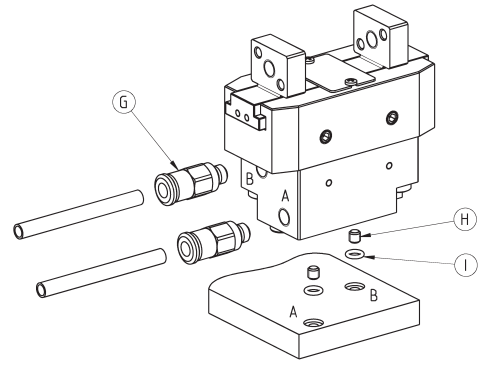
CGSP-40-NC

## Examples of mounting



Mod.	A	B	C	D	E	F
CGSP-20	Ø4	M2.5	M2.5	Ø1.5	M4	Ø1.5
CGSP-25	Ø5	M3	M3	Ø2	M4	Ø1.5
CGSP-32	Ø6	M4	M3	Ø2	M5	Ø2
CGSP-40	Ø6	M4	M3	Ø2.5	M5	Ø2.5

## Air supply ports

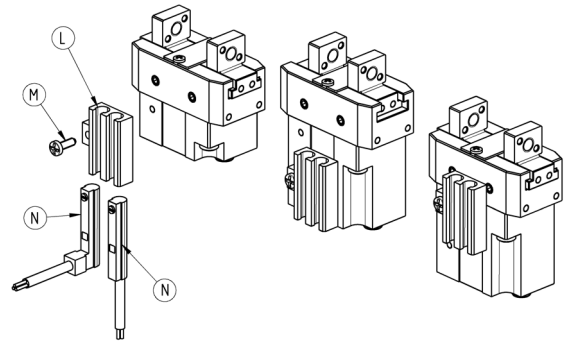


Mod.	G	H	I
CGSP-20	M3	-	-
CGSP-25	M3	M2	OR 1x2.5
CGSP-32	M5	M2.5	OR 1x3
CGSP-40	M5	M3	OR 1x3.5

## Magnetic sensors fixing kit



Supplied with:  
- fixing screws (M)  
- flange (L)

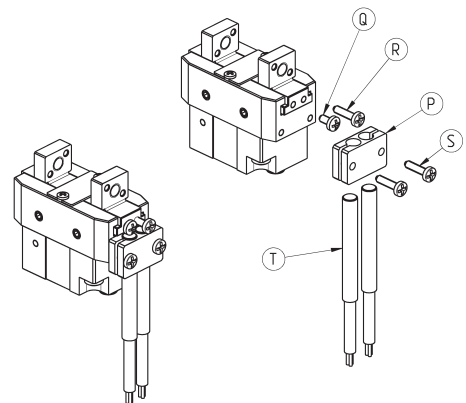


Mod.	M	N
M-CGSP-20	M2x6	CSD-...
M-CGSP-25	M2x6	CSD-...
M-CGSP-32	M2x6	CSD-...
M-CGSP-40	M2x6	CSD-...

## Inductive sensors fixing kit

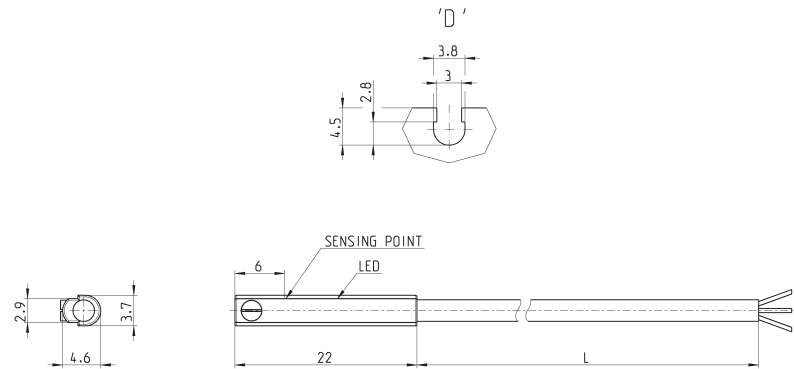


Supplied with:  
- fixing screws (S)  
- setting screws (Q - R)  
- flange (P)



Mod.	Q	R	S	T
I-CGSP-20	M1,6x3	M1,6x6	M2x6	Ø3
I-CGSP-25	M2x4	M2x8	M2x8	Ø4
I-CGSP-32	M2x4	M2x8	M2x8	Ø4
I-CGSP-40	M2x4	M2x10	M2x10	Ø4

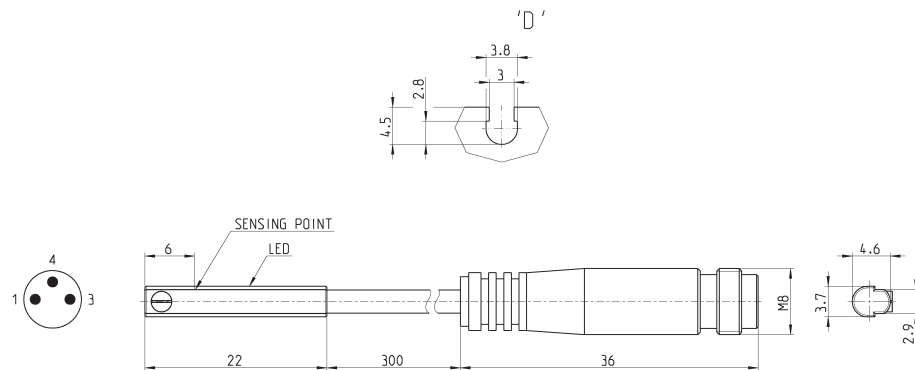
## Series CSD magnetic proximity switches, 3-wire cable, D-slot



Mod.	Operation	Connections	Voltage	Output	Max. current	Max Load	Protection	L = length cable
CSD-D-334	Magnetoresistive	3 wires	10 ÷ 27 V DC	PNP	200 mA	6W	Against polarity reversing and overvoltage	2 m

## Series CSD magnetic switches, male M8 3-pin conn., D-slot, right

Length of cable 0.3 metres



Mod.	Operation	Connection	Voltage	Output	Max. current	Max load	Protection
CSD-D-364	Magnetoresistive	3 wires with M8 connector	10 ÷ 27 V DC	PNP	200 mA	6W	Against polarity reversing and overvoltage