

# Series CGLN wide opening parallel grippers

Bores:  $\varnothing$  10, 16, 20, 25, 32 mm



- » High installation versatility
- » Rack and pinion synchronized mechanism
- » Sturdy and accurate construction

Series CGLN's double piston ensures a high gripping force from within a compact unit. The body of the gripper is complete of grooves to mount magnetic proximity switches (Series CSC).

The wide range of bores and strokes available allows to meet technical requirements at its best. Repositioning of the gripper is made easier by the 2 calibrated holes provided in the jaws and by the 2 locating pins in the base.

## GENERAL DATA

Operation	double effect
Working pressure	2 ÷ 8 bar (3 ÷ 8 bar for $\varnothing$ 10)
Working temperature	5°C ÷ 60°C
Lubrication	not required
Repeatability	± 0.1 mm
Effective gripping force with pressure = 0.5MPa and gripping moment R = 40 mm ( $\varnothing$ 10-16-20-25 ) or = 80 mm ( $\varnothing$ 32 )	$\varnothing$ 10 = 15N $\varnothing$ 16 = 45N $\varnothing$ 20 = 75N $\varnothing$ 25 = 125N $\varnothing$ 32 = 225N
Air ports	$\varnothing$ 10 - 16 - 20 - 25 = M5 $\varnothing$ 32 = G1/8
Fluid	filtered air, without lubrication. If lubricated air is used, it is recommended to use oil ISO VG32. Once applied, the lubrication should never be interrupted.

**CODING EXAMPLE**

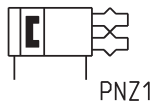
<b>CGLN</b>	-	<b>20</b>	-	<b>040</b>
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<b>CGLN</b>	SERIES	PNEUMATIC SYMBOL PNZ1
<b>20</b>	SIZES: 10 = ø 10 mm 16 = ø 16 mm 20 = ø 20 mm 25 = ø 25 mm 32 = ø 32 mm	
<b>040</b>	STROKE	

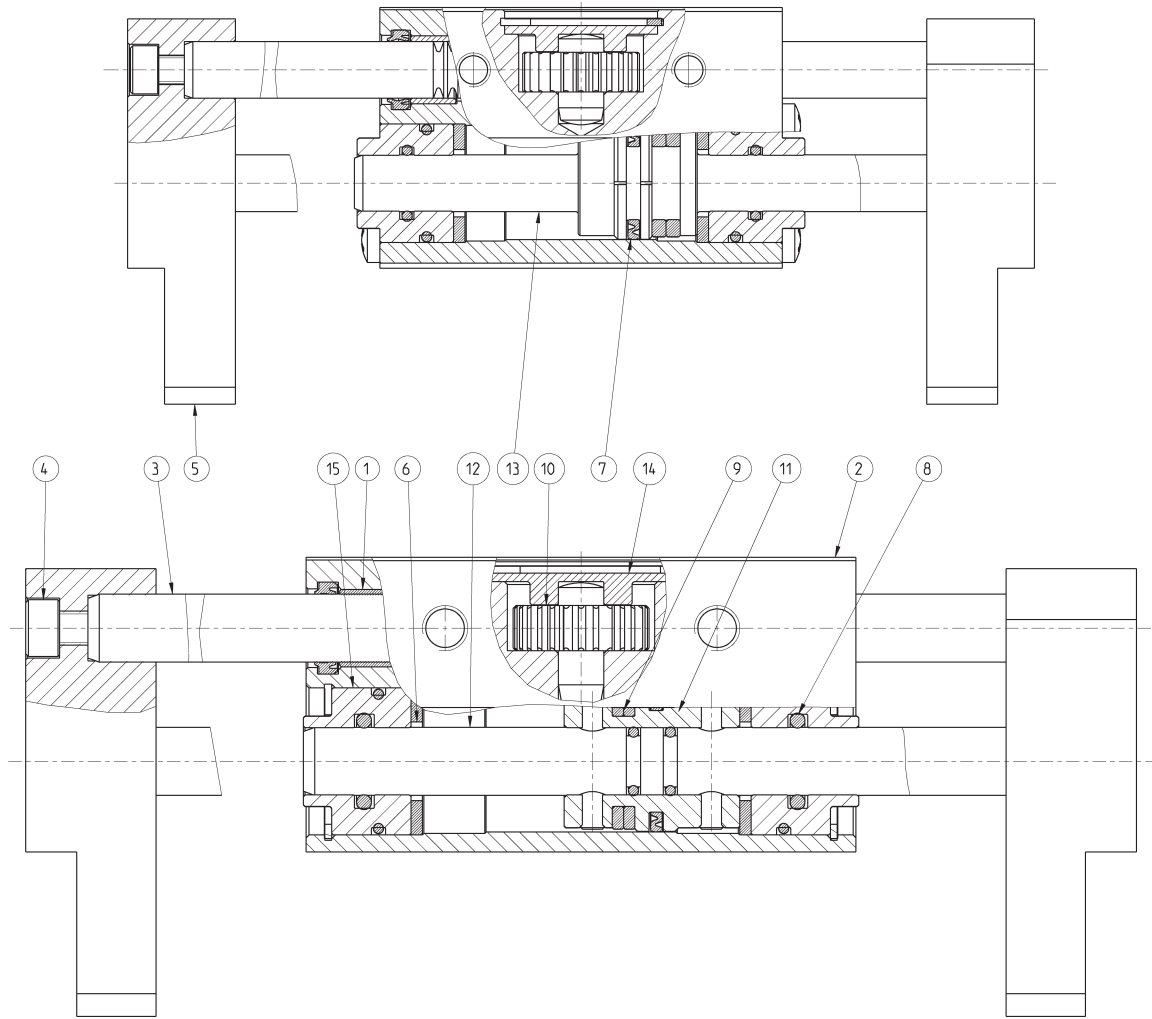
SERIES CGLN WIDE OPENING PARALLEL GRIPPERS

**PNEUMATIC SYMBOLS**

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



**Series CGLN Gripper - construction**



LIST OF COMPONENTS	
PARTS	MATERIALS
1 - Bushing	Bronze
2 - Body	Aluminium
3 - Rack	Stainless steel
4 - Fixing screw	Steel
5 - Gripping flange	Aluminium
6 - Buffer seal	PU
7 - Piston seal	NBR
8 - Rod seal	NBR
9 - Magnet	Plastoferrite
10 - Pinion	Steel
11 - Piston	Aluminium
12 - Rod	Stainless steel
13 - Rod-piston	Stainless steel
14 - Plug	Aluminium
15 - Header	Steel

## Sizing criteria: 1) GRIPPING FORCE ANALYSIS

The selection of the size of the gripper has to be carried out according to the weight of the object that has to be moved. It is strongly recommended to select a gripper bore able to develop a gripping force at least 20 times higher than the weight of the object. In case of great acceleration or impact during the moving of the object, it is necessary to increase the factor of safety.

EXAMPLE OF CALCULATION (see the diagram on the right)  
 Size of the object to be moved (side x side) = 200 mm x 20 mm  
 Weight of the object to be moved (Kg) = 0.3  
 Factor of safety = 20  
 Gripping moment R (mm) = 70  
 Working pressure (MPa) = 0.5  
 Minimum required gripping force  $F_{min} = 0.3 \text{ kg} \times 20 \times 9.8 \text{ m/s}^2 = 60 \text{ N}$

Through the diagrams "Effective Gripping force" we deduce from the above mentioned conditions that the gripping force with the mod. CGLN-20 is 73N, that is 24 times the weight of the object. The condition requiring that gripping force is at least 20 times higher than the set gripping force is thus satisfied.

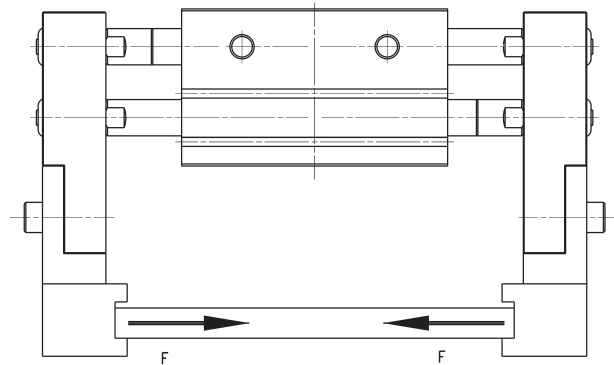
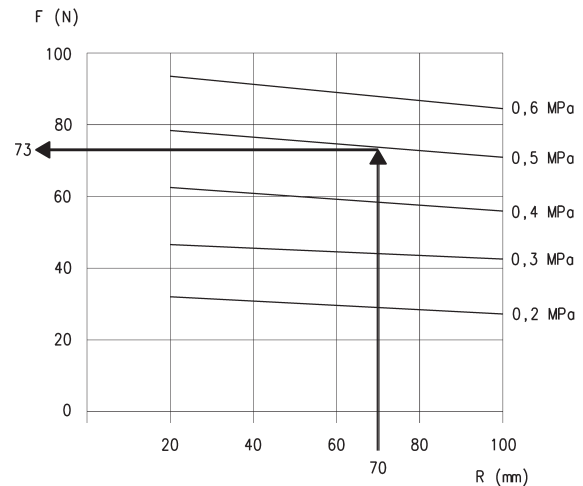
Once the gripper size is chosen, select a stroke that allows to have a maximum opening which is wider than the size of the object to be moved.

In the case above the gripper CGLN-20-80 is the right choice.

$F = 220 \text{ mm} > 200 \text{ mm}$

### ACTUAL GRIPPING FORCE (F)

The shown gripping force corresponds to the gripping force of a finger when all fingers (or accessories) are in contact with the load.  
 $F =$  Pushing force of 1 finger

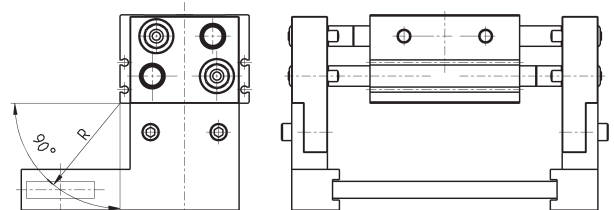


## Sizing criteria: 2) GRIPPING DISTANCE ANALYSIS

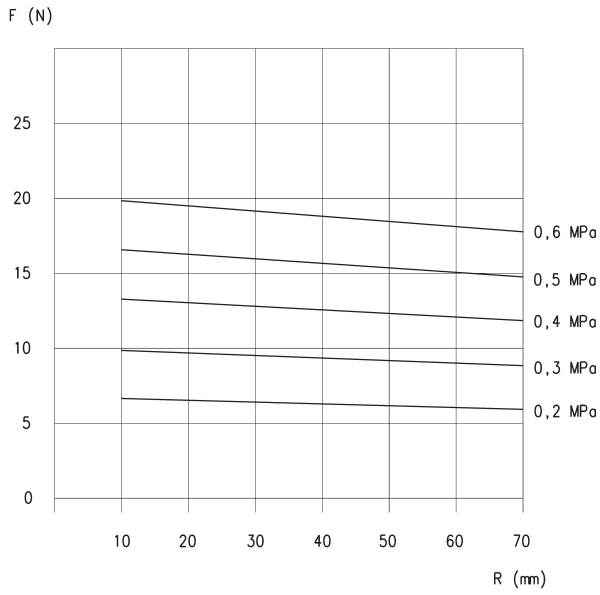
The R gripping distance of the object has to meet the parameters of the lines of force which are indicated for each pressure in the diagrams "Effective grip force".

If the R distance is exceeded, the load applied will be too much overhanging, thus causing the screws to loosen as well as a reduced component life.

$R =$  gripping distance (mm)

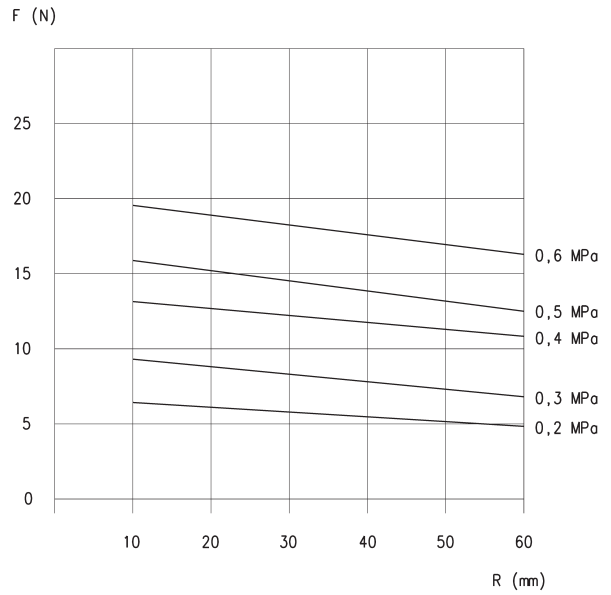


### Gripping force for bore 10



CGLN-10-020

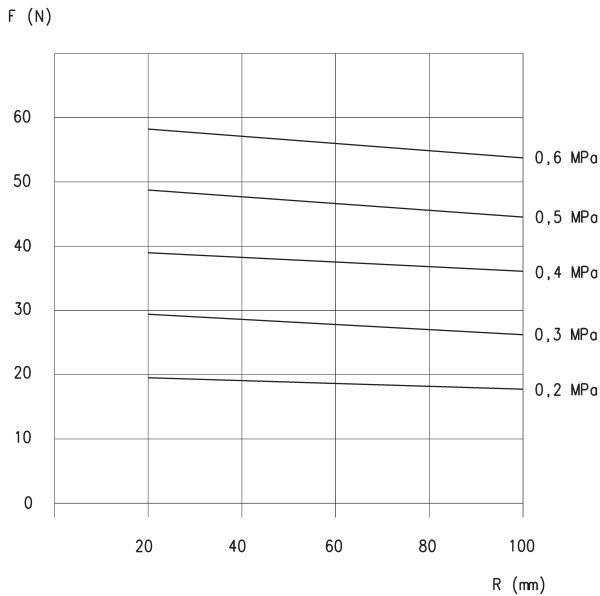
F = Gripping force (N)  
R = Gripping moment (mm)



CGLN-10-040 and CGLN-10-060

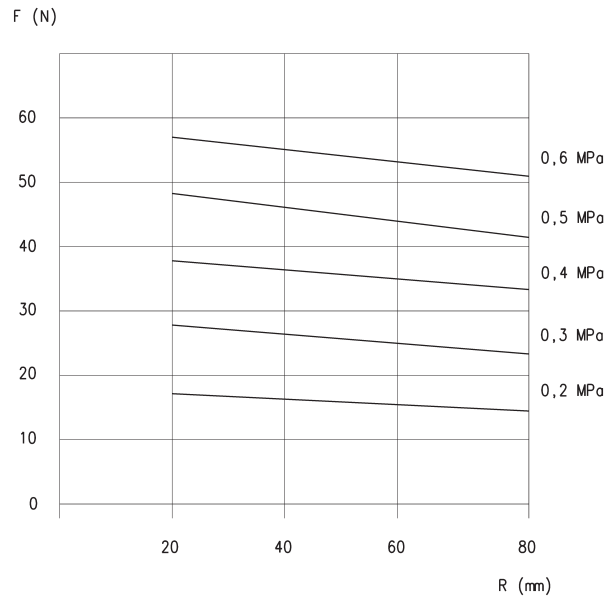
F = Gripping force (N)  
R = Gripping moment (mm)

### Gripping force for bore 16



CGLN-16-030

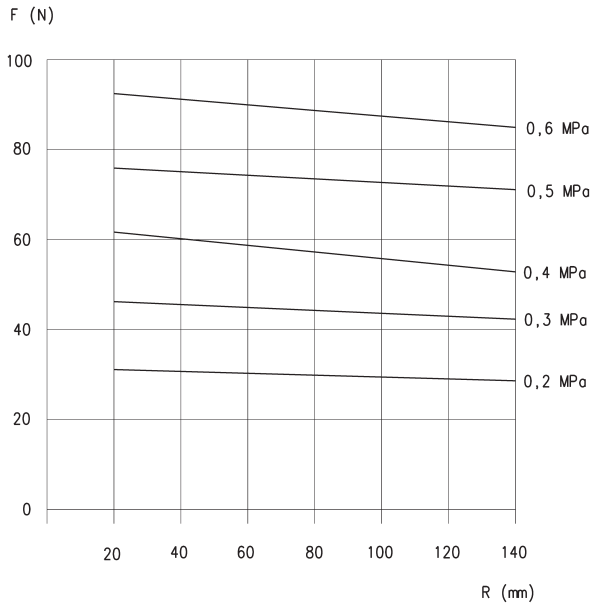
F = Gripping force (N)  
R = Gripping moment (mm)



CGLN-16-060 and CGLN-16-080

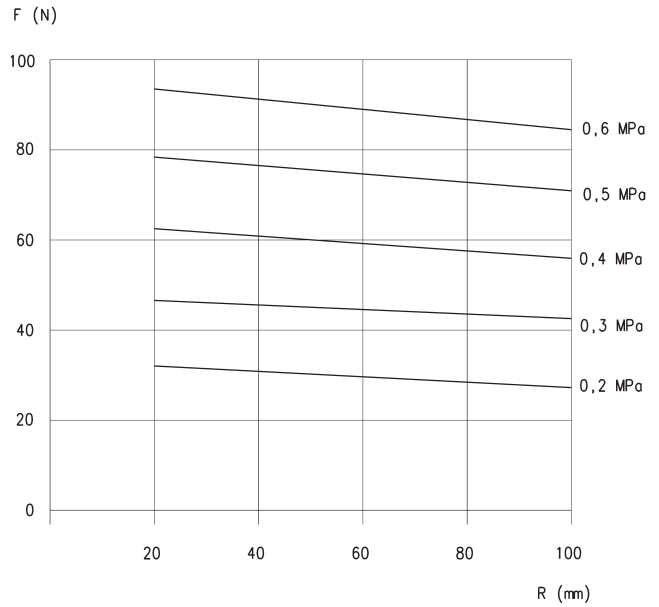
F = Gripping force (N)  
R = Gripping moment (mm)

### Gripping force for bore 20



CGLN-20-040

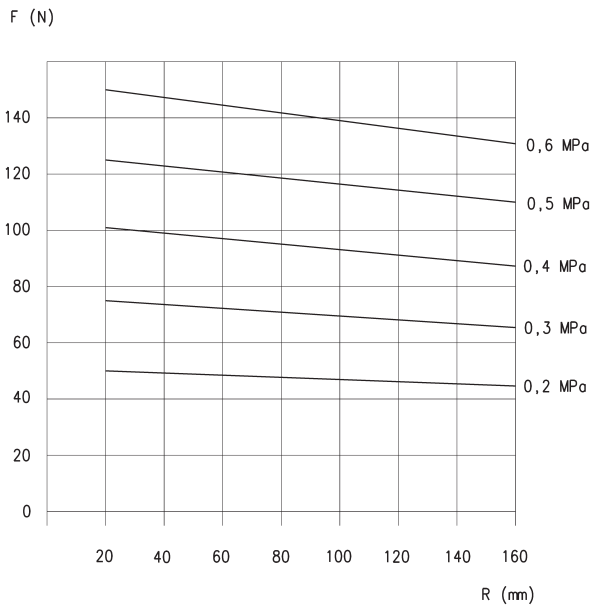
F = Gripping force (N)  
R = Gripping moment (mm)



CGLN-20-080 and CGLN-20-100

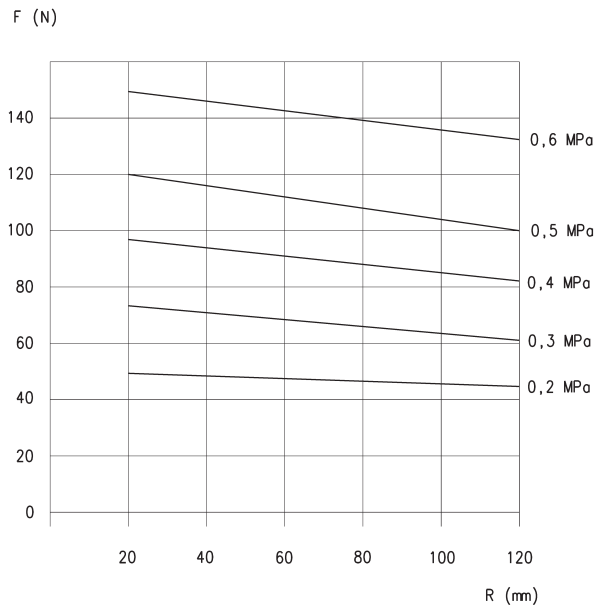
F = Gripping force (N)  
R = Gripping moment (mm)

### Gripping force for bore 25



CGLN-25-050

F = Gripping force (N)  
R = Gripping moment (mm)

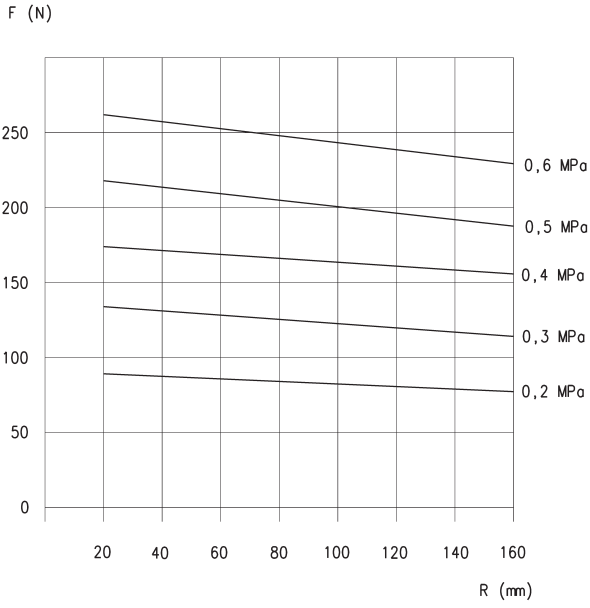


CGLN-25-100 and CGLN-25-120

F = Gripping force (N)  
R = Gripping moment (mm)

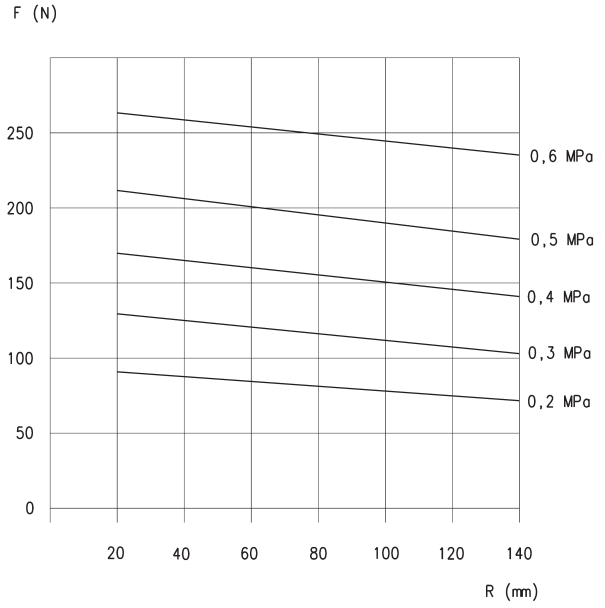
**Gripping force for bore 32**

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**CGLN-32-070**

F = Gripping force (N)  
R = Gripping moment (mm)



**CGLN-32-120 and CGLN-32-170**

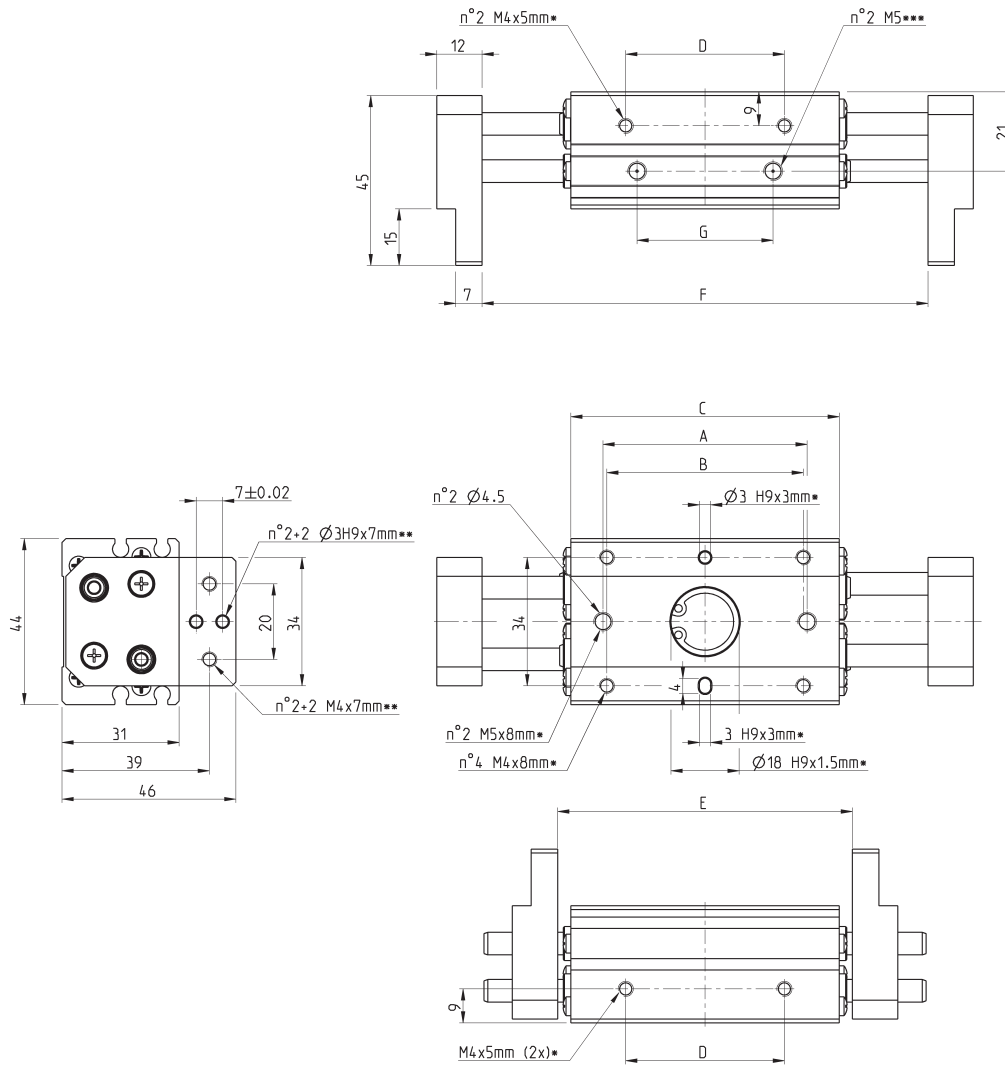
F = Gripping force (N)  
R = Gripping moment (mm)

**CGLN gripper, bore 10 mm - dimensions**



**DRAWING LEGEND:**

- \* = depth of the mounting threads
- \*\* = thread for the accessory mounting
- \*\*\* = opening/closing of air connections



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Mod.	Bore	Total stroke	A	B	C	D	E (Closed)	Min opening	F (Open)	Max opening	G	Max frequency (cycles/min)	Weight (g)
<b>CGLN-10-020</b>	10	20	38	36	51	26		56		76	20	60	310
<b>CGLN-10-040</b>	10	40	54	52	71	42		78		118	36	40	390
<b>CGLN-10-060</b>	10	60	72	70	89	60		96		156	54	40	460

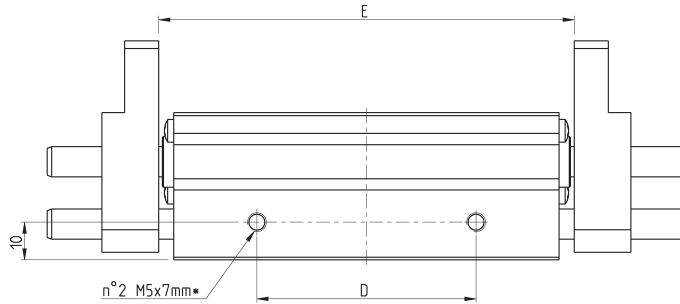
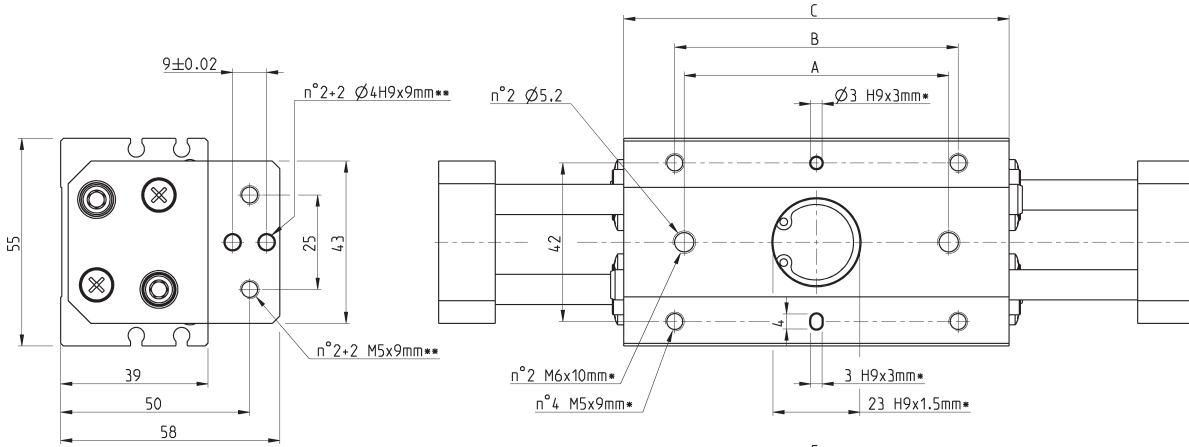
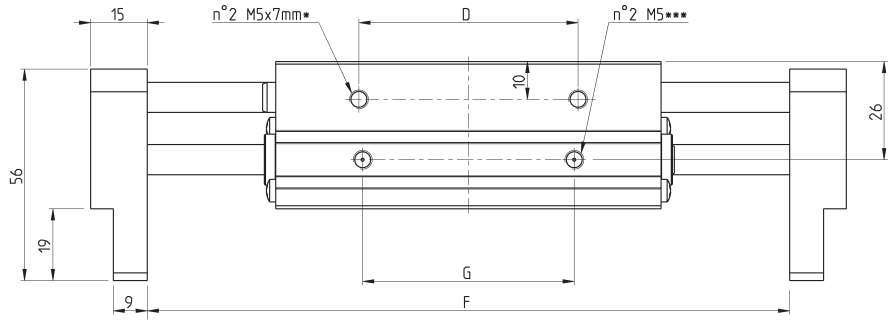


**CGLN gripper, bore 16 mm - dimensions**



**DRAWING LEGEND:**

- \* = depth of the mounting threads
- \*\* = thread for the accessory mounting
- \*\*\* = opening/closing of air connections



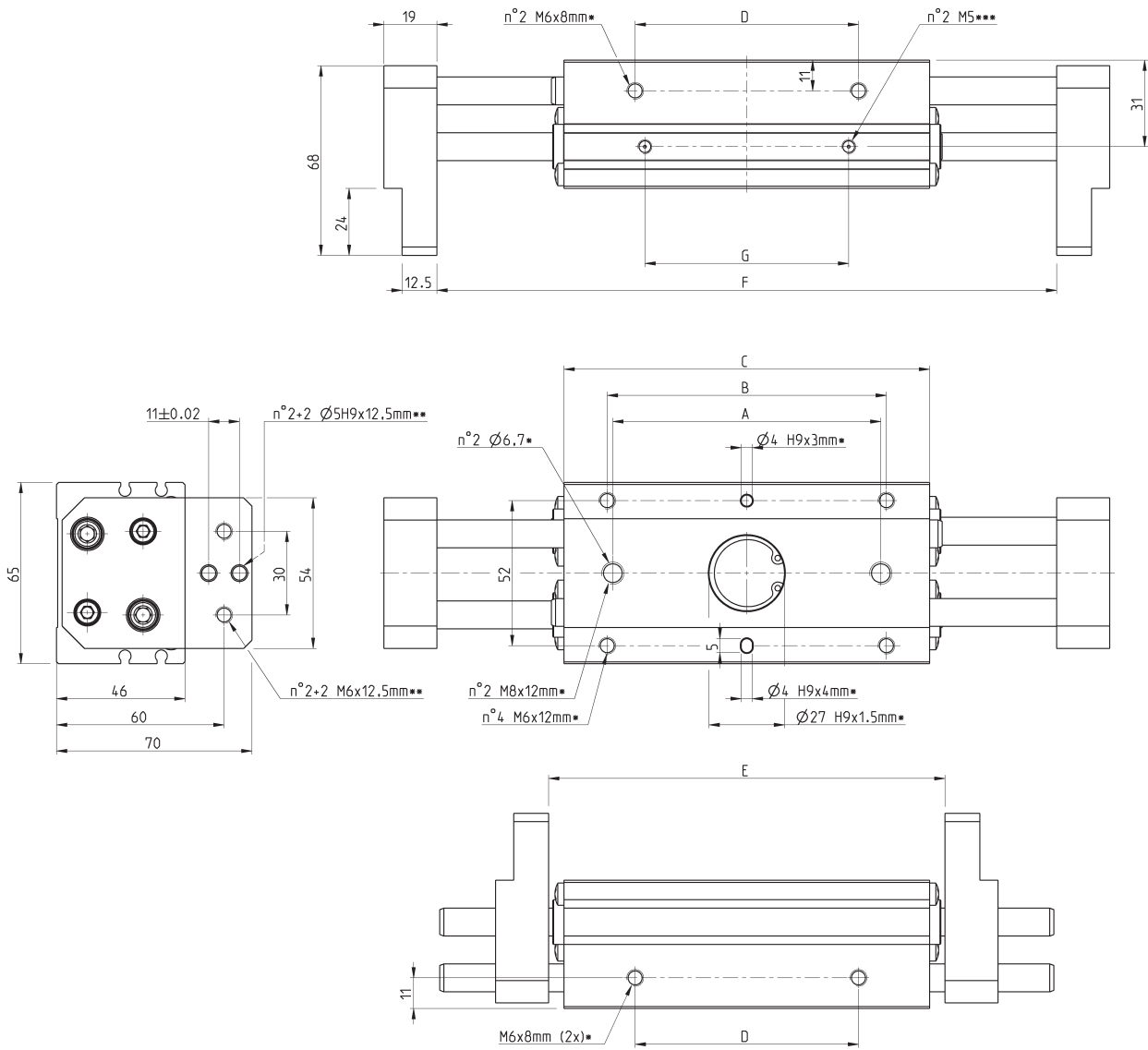
Mod.	Bore	Total stroke	A	B	C	D	E (Closed) Min opening	F (Open) Max opening	G	Max frequency (cycles/min)	Weight (g)
<b>CGLN-16-030</b>	16	30	40	45	60	28	68	98	26	60	590
<b>CGLN-16-060</b>	16	60	70	75	102	58	110	170	56	40	890
<b>CGLN-16-080</b>	16	80	90	95	122	78	130	210	76	40	1020

**CGLN gripper, bore 20 mm - dimensions**



**DRAWING LEGEND:**

- \* = depth of the mounting threads
- \*\* = thread for the accessory mounting
- \*\*\* = opening/closing of air connections



SERIES CGLN WIDE OPENING PARALLEL GRIPPERS

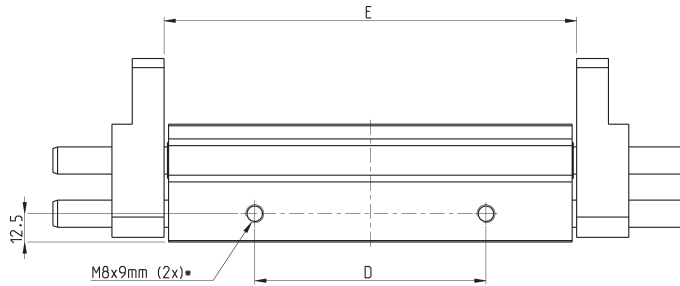
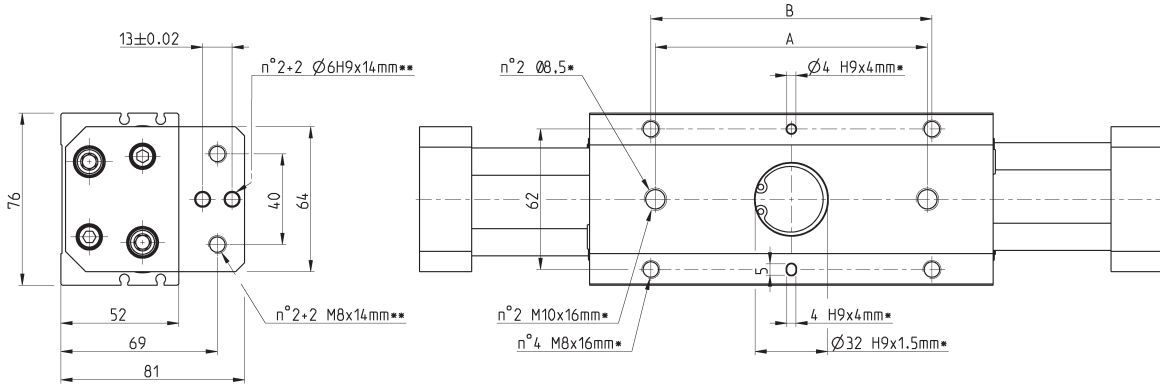
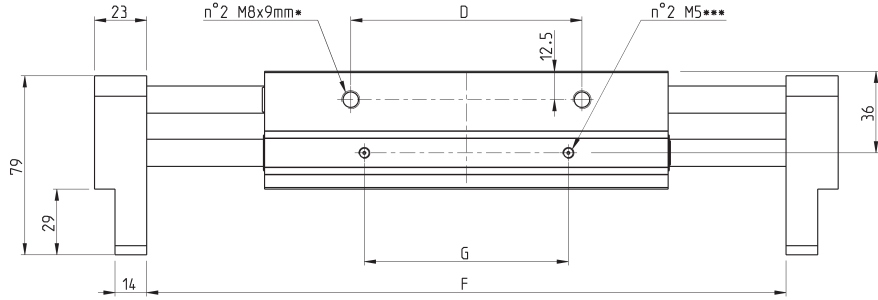
Mod.	Bore	Total stroke	A	B	C	D	E (Closed)	Min opening	F (Open)	Max opening	G	Max frequency (cycles/min)	Weight (g)
CGLN-20-040	20	40	54	58	71	38		82		122	31	60	1080
CGLN-20-080	20	80	96	100	131	80		142		222	73	40	1670
CGLN-20-100	20	100	116	120	151	100		162		262	93	40	1890

**CGLN gripper, bore 25 mm - dimensions**



**DRAWING LEGEND:**

- \* = depth of the mounting threads
- \*\* = thread for the accessory mounting
- \*\*\* = opening/closing of air connections



Mod.	Bore	Total stroke	A	B	C	D	E (Closed) Min opening	F (Open) Max opening	G	Max frequency (cycles/min)	Weight (g)
CGLN-25-050	25	50	66	70	97	48	100	150	36	60	1780
CGLN-25-100	25	100	120	124	178	102	182	282	90	40	2710
CGLN-25-120	25	120	138	142	195	120	200	320	108	40	2960

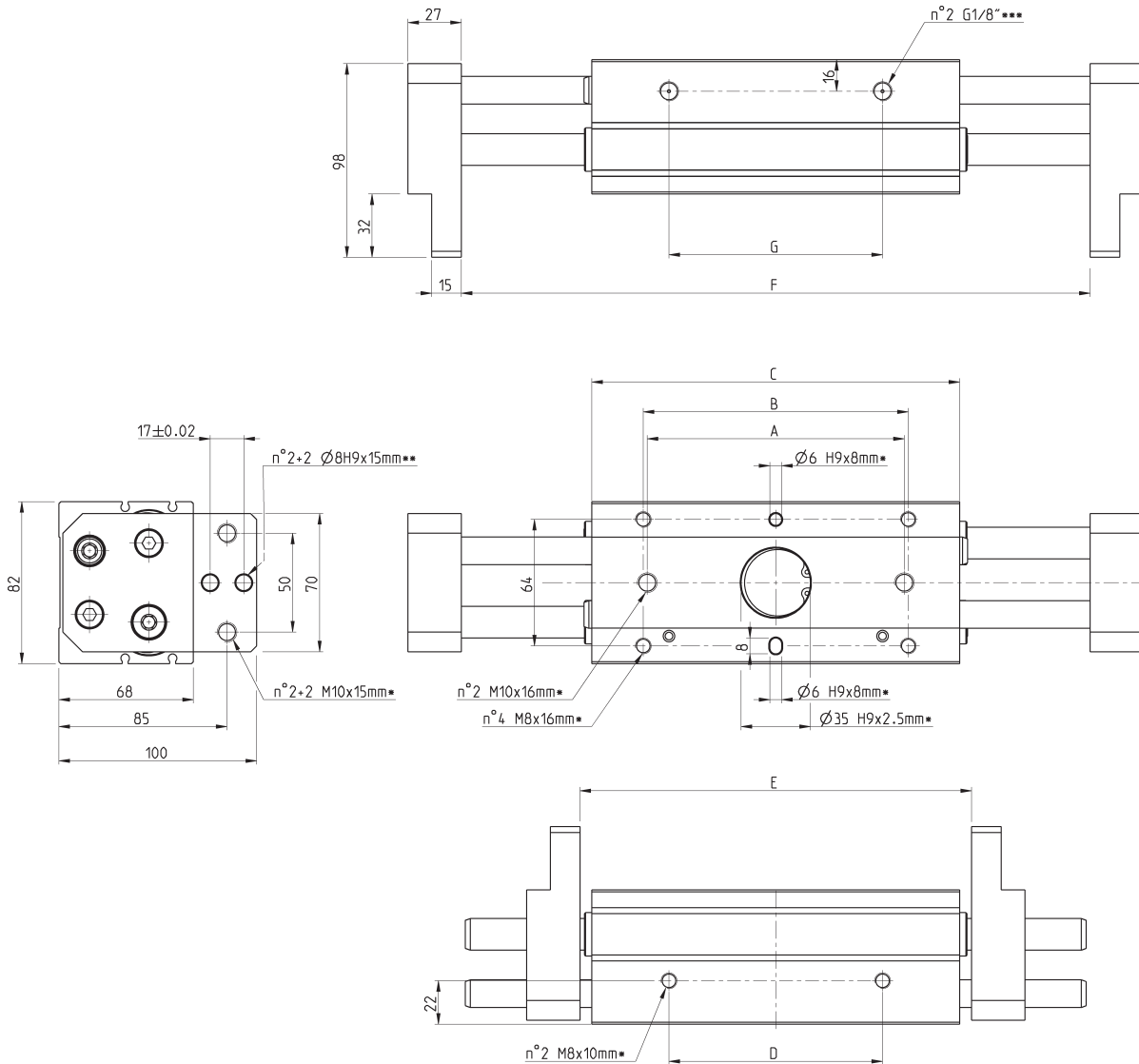
**CGLN gripper, bore 32 mm - dimensions**



**DRAWING LEGEND:**

- \* = depth of the mounting threads
- \*\* = thread for the accessory mounting
- \*\*\* = opening/closing of air connections

SERIES CGLN WIDE OPENING PARALLEL GRIPPERS



Mod.	Bore	Total stroke	A	B	C	D	E (Closed) Min opening	F (Open) Max opening	G	Max frequency (cycles/min)	Weight (g)
<b>CGLN-32-070</b>	32	70	82	86	138	60	150	220	60	30	3580
<b>CGLN-32-120</b>	32	120	130	134	186	108	198	318	108	20	4470
<b>CGLN-32-160</b>	32	160	174	178	230	152	242	402	152	20	5240

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