

Series CGLN wide opening parallel grippers

Bores: \varnothing 10 - 16 - 20 - 25 - 32 mm

1

MOVEMENT



- » 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 body on the fixing surface is made easier by the locating pins provided in the base.

GENERAL DATA

Operation	double effect
Working pressure	1 ÷ 7 bar (1,5 ÷ 7 bar for \varnothing 10)
Working temperature	-10°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.

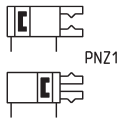
CODING EXAMPLE

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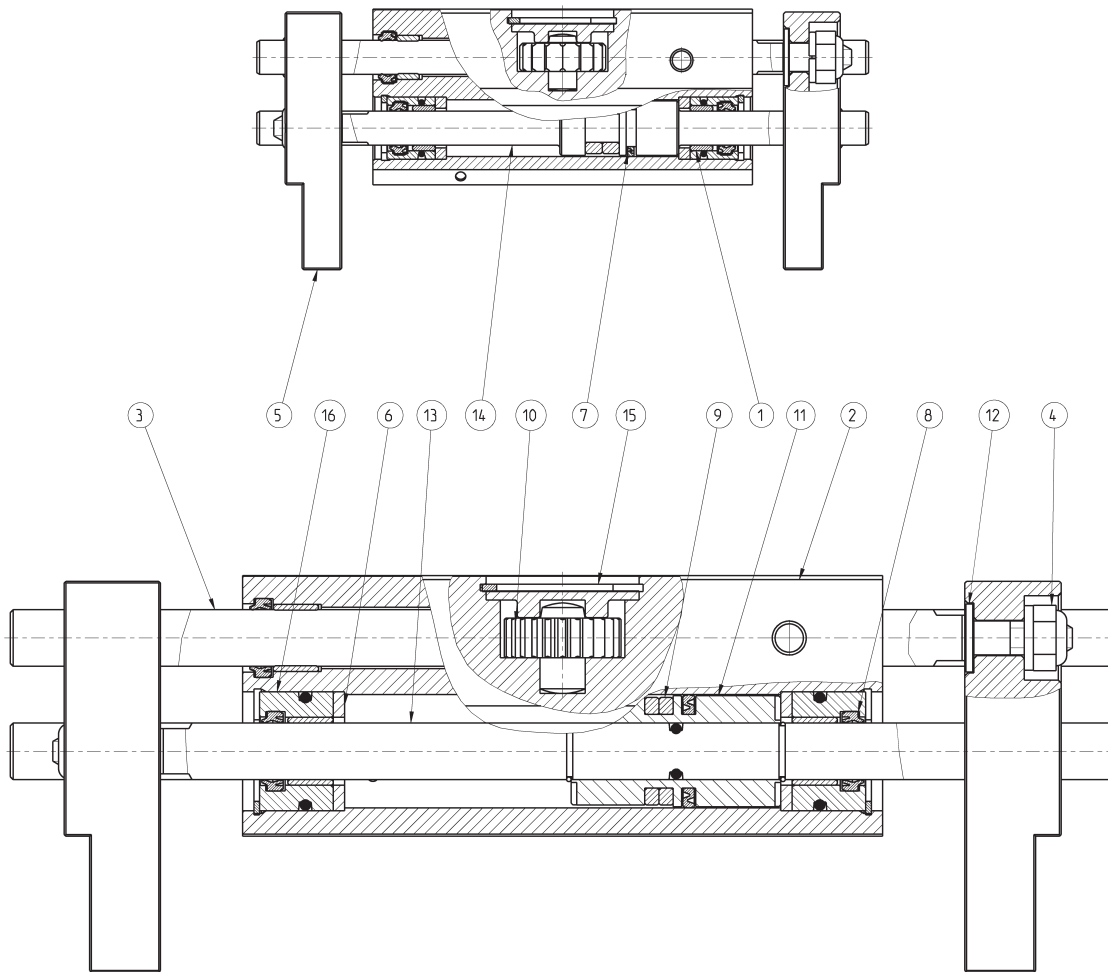
CGLN	SERIES	PNEUMATIC SYMBOL
20	SIZES: 10 = ø 10 mm 16 = ø 16 mm 20 = ø 20 mm 25 = ø 25 mm 32 = ø 32 mm	PNZ1
040	STROKE	

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 - Self-locking nut	Steel
5 - Gripping flange	Aluminium
6 - Buffer seal	PU
7 - Piston seal	NBR
8 - Rod seal	NBR
9 - Magnet	Plastoferrite
10 - Pinion	Steel
11 - Pinion	Aluminium
12 - Washer	Steel
13 - Rod	Stainless steel
14 - Rod-piston	Stainless steel
15 - Plug	Aluminium
16 - Head	Aluminium

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 200 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.

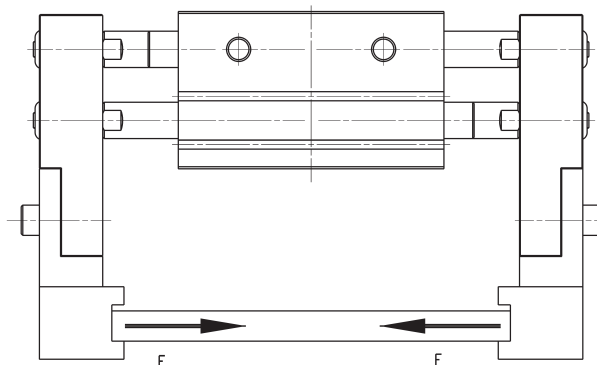
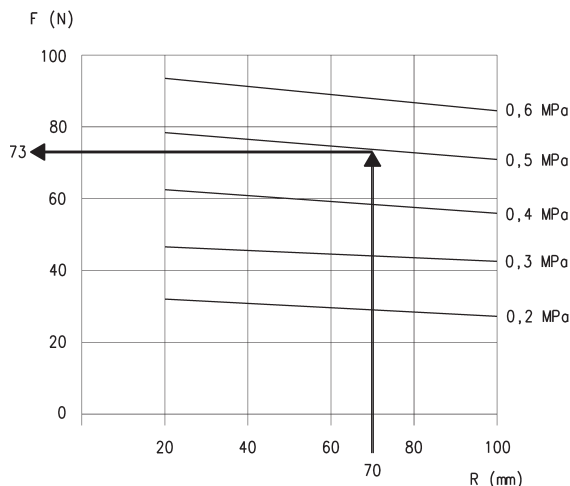
Once the gripper size is chosen, select a stroke that allows to have a maximum opening which is wider than the size of the object to be moved.

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.

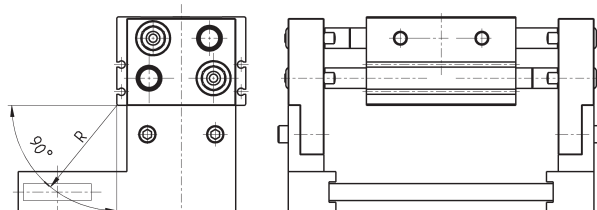
F = Pushing force of 1 finger


Sizing criteria: 2) GRIPPING DISTANCE ANALYSIS

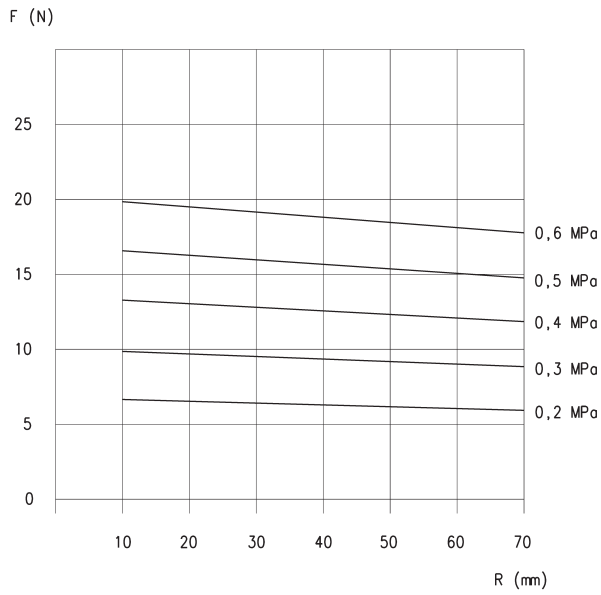
The R gripping distance of the object has to meet the parameters of the lines of force which are indicated for each pressure in the diagrams "Effective grip force".

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)

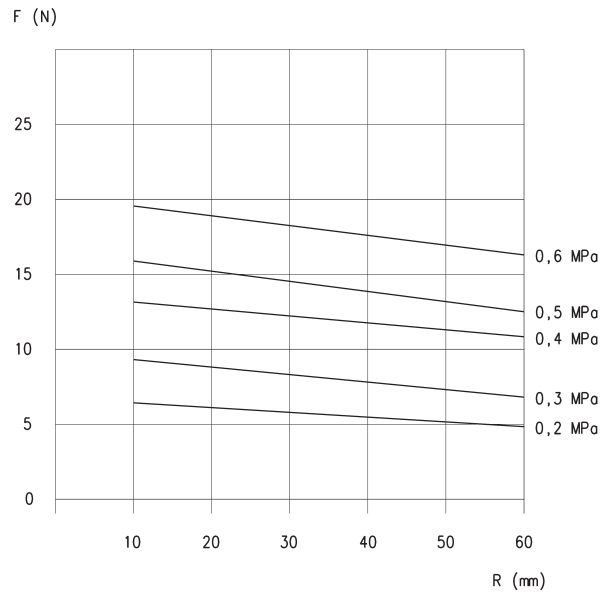


Gripping force for bore 10



CGLN-10-020

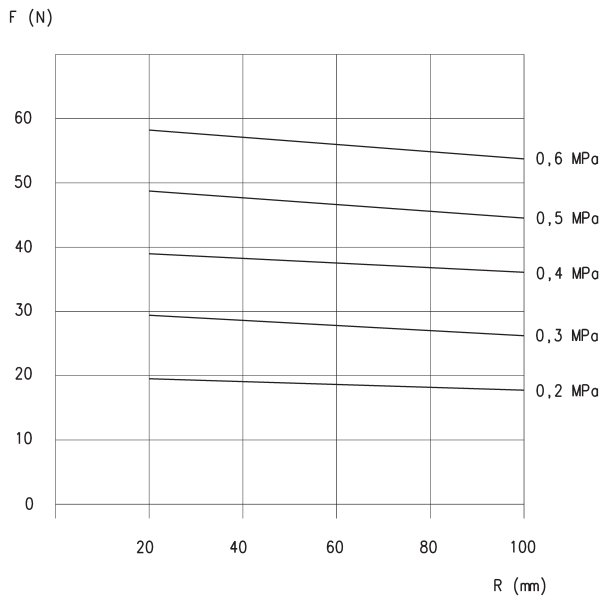
F = Gripping force (N)
R = Gripping moment (mm)



CGLN-10-040 and CGLN-10-060

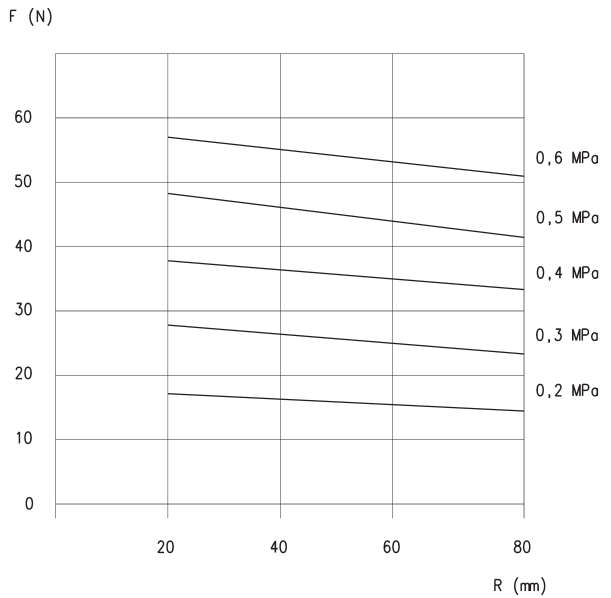
F = Gripping force (N)
R = Gripping moment (mm)

Gripping force for bore 16



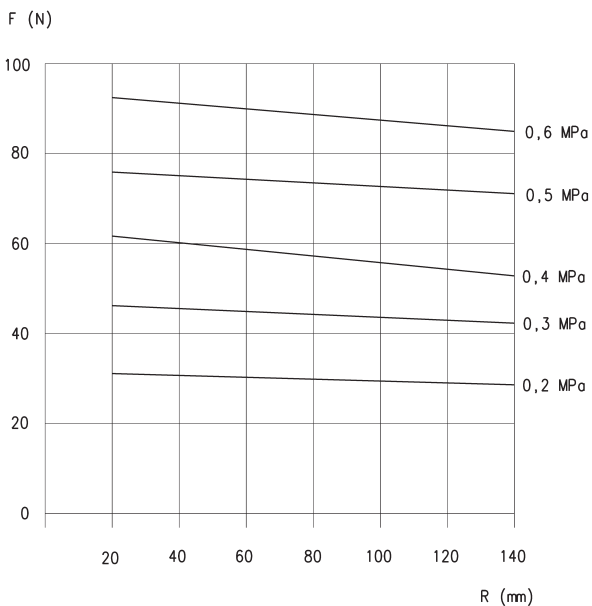
CGLN-16-030

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



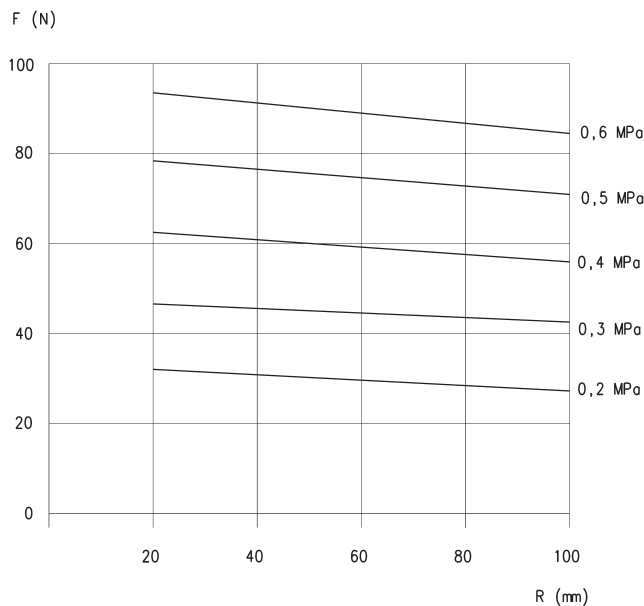
CGLN-16-060 and CGLN-16-080

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

Gripping force for bore 20


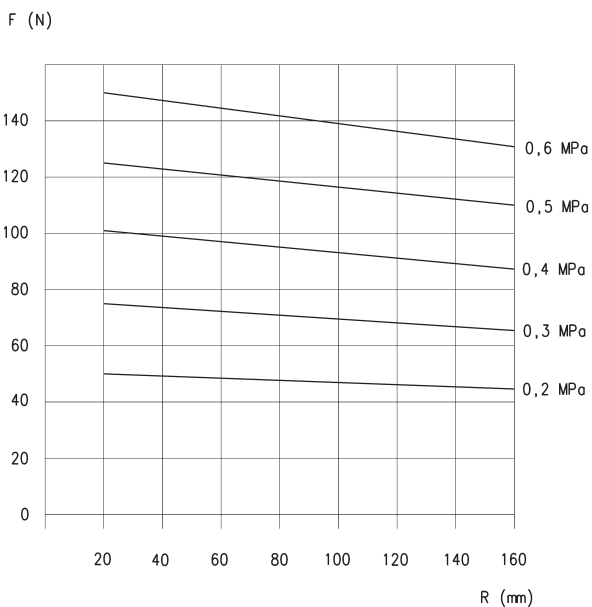
CGLN-20-040

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



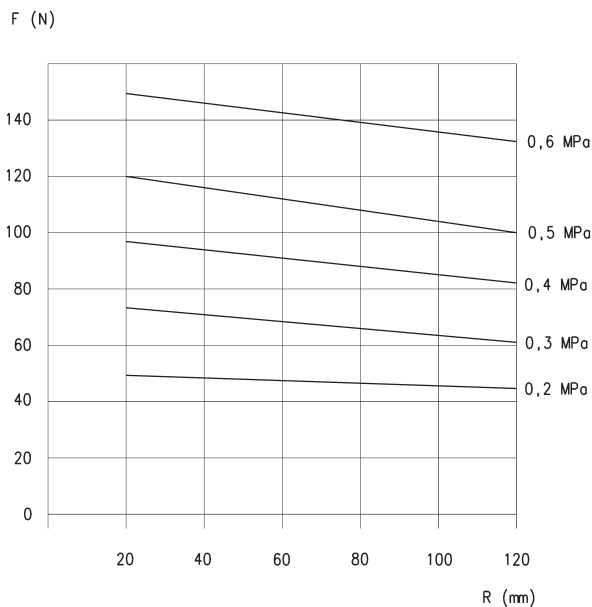
CGLN-20-080 and CGLN-20-100

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

Gripping force for bore 25


CGLN-25-050

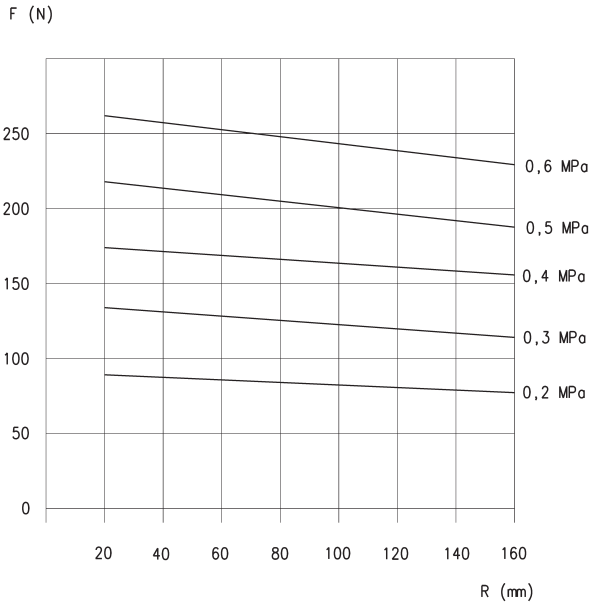
F = Gripping force (N)
R = Gripping moment (mm)



CGLN-25-100 and CGLN-25-120

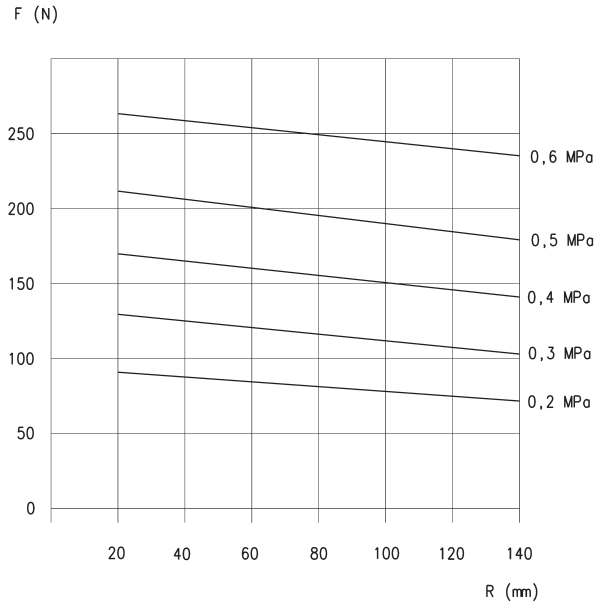
F = Gripping force (N)
R = Gripping moment (mm)

Gripping force for bore 32



CGLN-32-070

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



CGLN-32-120 and CGLN-32-170

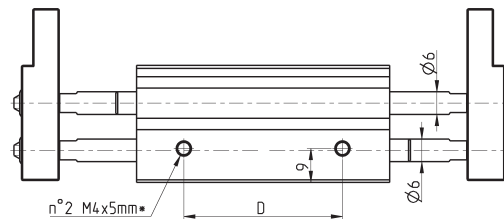
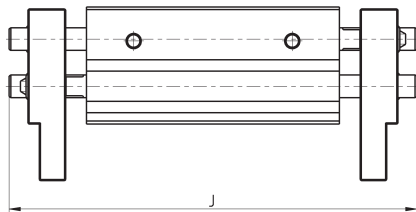
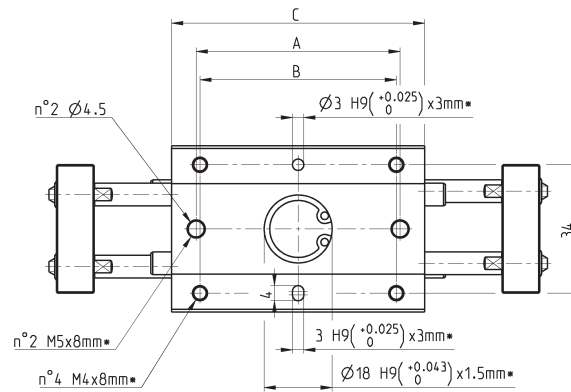
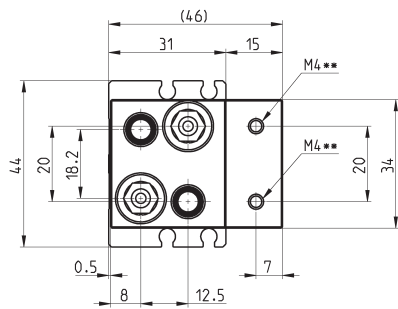
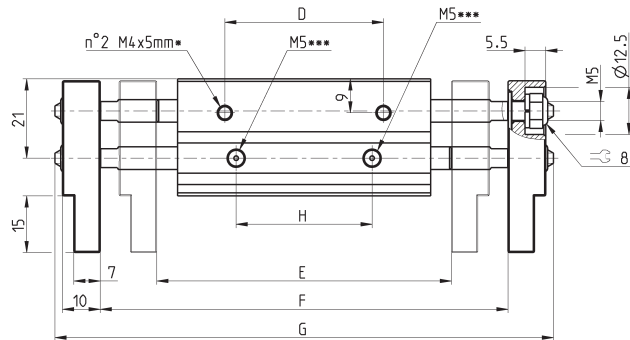
F = Gripping force (N)
R = Gripping moment (mm)

CGLN gripper, bore 10 mm - dimensions



DRAWING LEGEND:

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



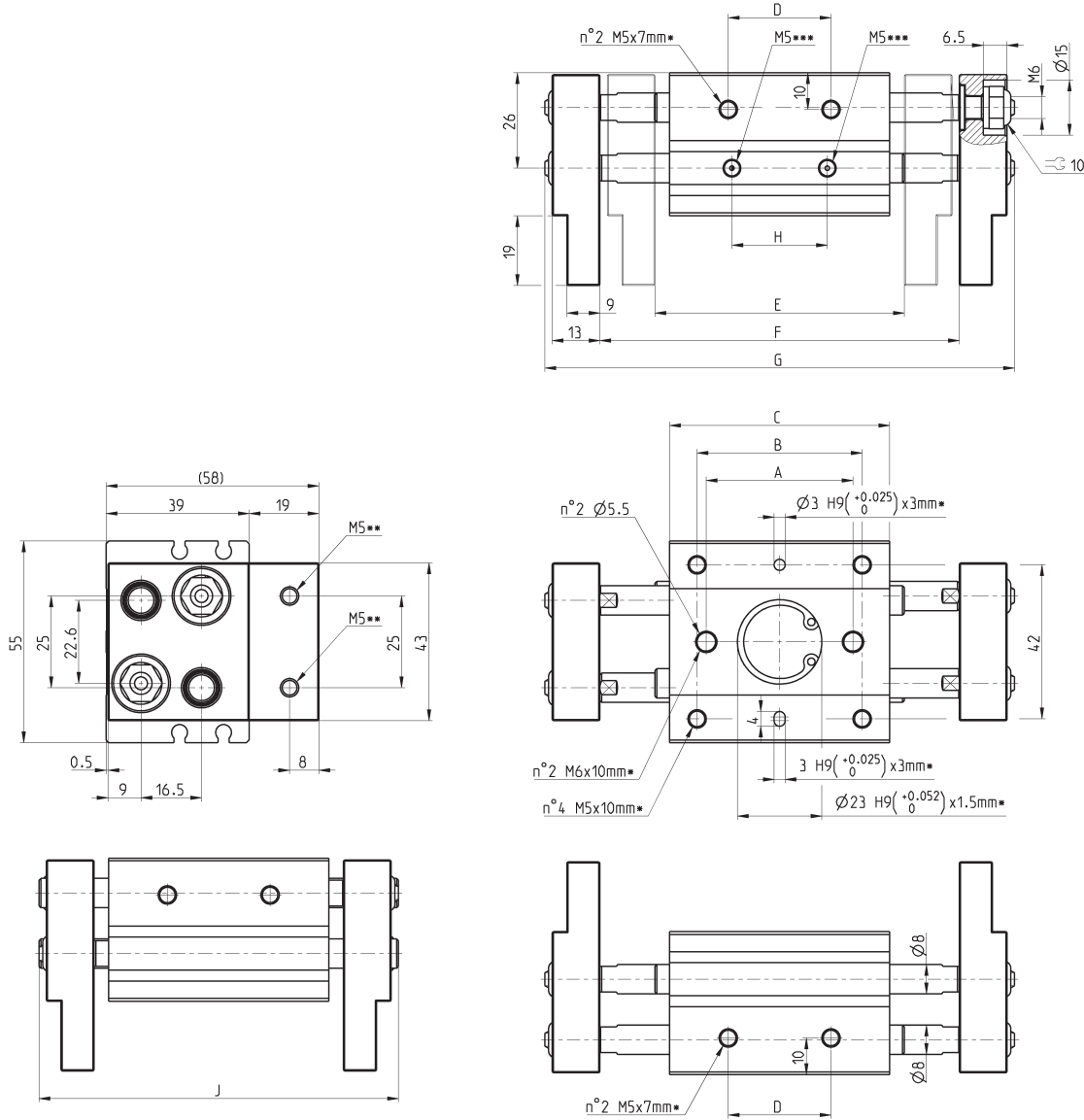
Mod.	Bore	Stroke	A	B	C	D	E (Closed)	Min opening	F (Open)	Max opening	J (Closed)	G (Open)	H	Max frequency (cycles/min)	Weight (g)
CGLN-10-020	10	20	38	36	51	26	56		76		80	100	20	60	285
CGLN-10-040	10	40	54	52	67	42	78		118		108	142	36	40	355
CGLN-10-060	10	60	72	70	85	60	96		156		146	180	54	40	435

CGLN gripper, bore 16 mm - dimensions



DRAWING LEGEND:

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



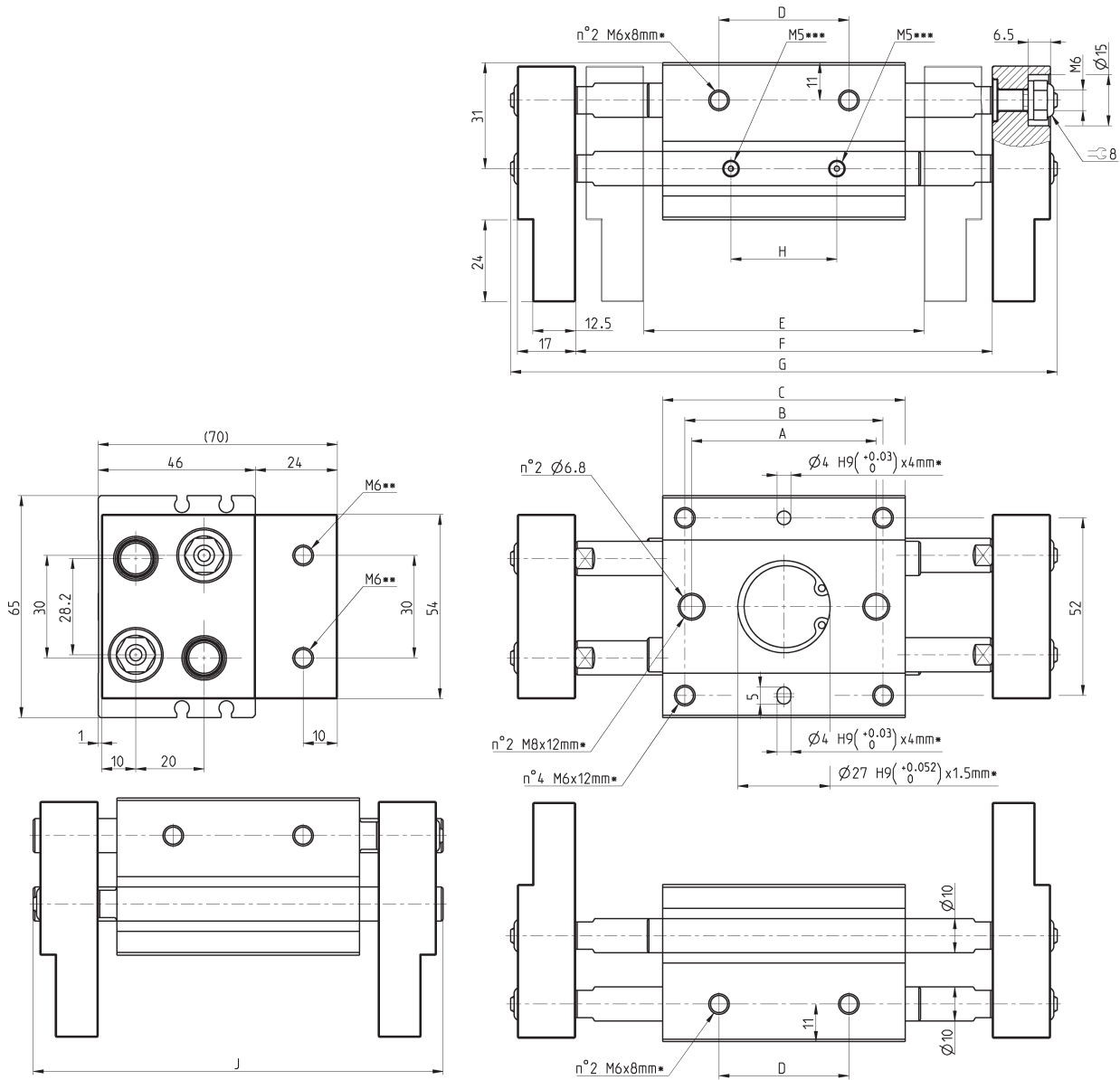
Mod.	Bore	Stroke	A	B	C	D	E (Closed)	Min opening	F (Open)	Max opening	J (Closed)	G (Open)	H	Max frequency (cycles/min)	Weight (g)
CGLN-16-030	16	30	40	45	60	28	68		98		98	128	26	60	570
CGLN-16-060	16	60	70	75	90	58	110		170		152	200	56	40	795
CGLN-16-080	16	80	90	95	110	78	130		210		192	240	76	40	945

CGLN gripper, bore 20 mm - dimensions



DRAWING LEGEND:

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



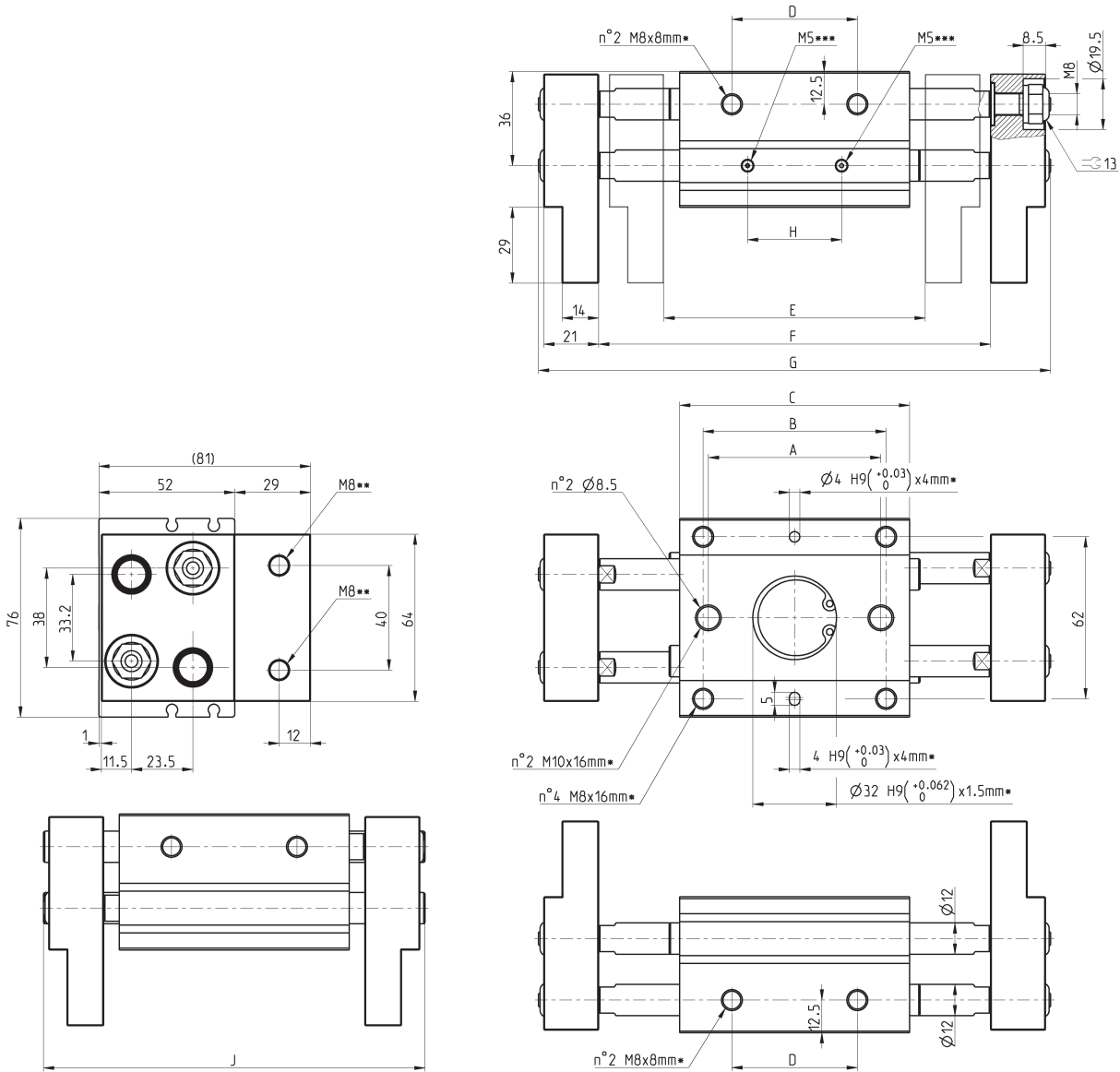
Mod.	Bore	Stroke	A	B	C	D	E (Closed)	Min opening	F (Open)	Max opening	J (Closed)	G (Open)	H	Max frequency (cycles/min)	Weight (g)
CGLN-20-040	20	40	54	58	71	38	82		122		120	160	31	60	990
CGLN-20-080	20	80	96	100	113	80	142		222		195	260	73	40	1415
CGLN-20-100	20	100	116	120	133	100	162		262		235	300	93	40	1610

CGLN gripper, bore 25 mm - dimensions



DRAWING LEGEND:

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



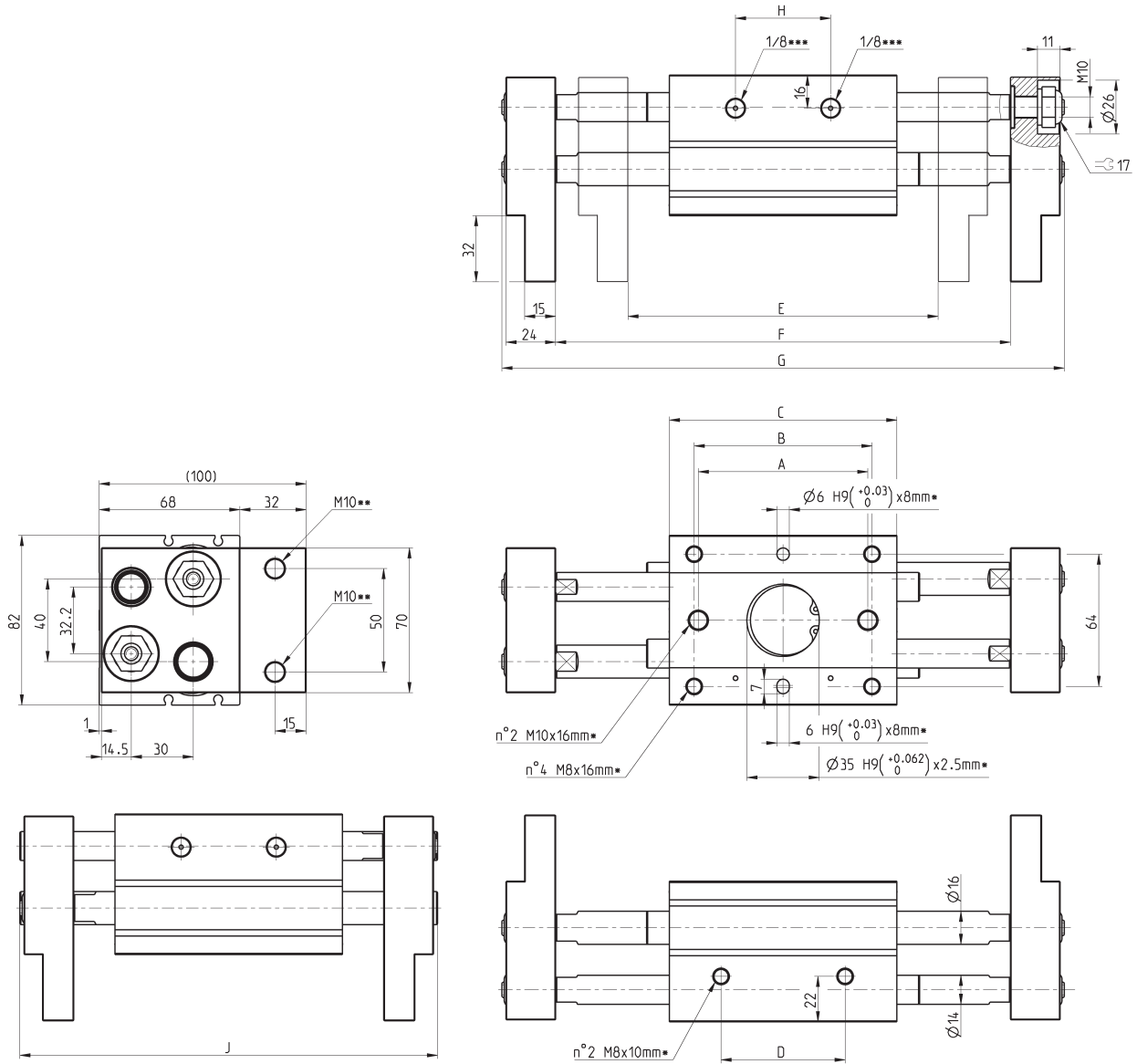
Mod.	Bore	Stroke	A	B	C	D	E (Closed)	Min opening	F (Open)	Max opening	J (Closed)	G (Open)	H	Max frequency (cycles/min)	Weight (g)
CGLN-25-050	25	50	66	70	88	48	100	150	146	196	36	60	60	1670	
CGLN-25-100	25	100	120	124	142	102	182	282	244	328	90	40	2415		
CGLN-25-120	25	120	138	142	160	120	200	320	282	366	108	40	2655		

CGLN gripper, bore 32 mm - dimensions



DRAWING LEGEND:

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



Mod.	Bore	Stroke	A	B	C	D	E (Closed)	Min opening	F (Open)	Max opening	J (Closed)	G (Open)	H	Max frequency (cycles/min)	Weight (g)
CGLN-32-070	32	70	82	86	110	60	150		220		202	272	60	30	2970
CGLN-32-120	32	120	130	134	158	108	198		318		282	370	108	20	3840
CGLN-32-160	32	160	174	178	202	152	242		402		366	454	152	20	4680