

Airwork Pneumatic Equipment

Robotic Grippers



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Newmarket, Ontario L3Y 9E5

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Airwork's angular pneumatic grippers are the right solution for simple manipulation applications while maintaining a very compact design to reduce as much as possible their overall dimensions. Thanks to the possibility to assemble them in different positions, they can be used for several applications. Moreover, there's the possibility to insert a round magnetic switch in each of the four side surfaces.



CAD Files Available

ORDERING CODE

PA 3 0 0

Ø Bore
Ø 10 - 16 - 20 - 25 mm

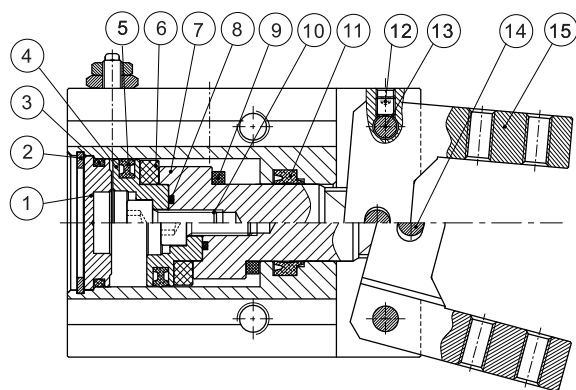
VERSION
3= Double acting
5= Single acting open fingers

ANGULAR GRIPPERS

TECHNICAL DATA / DONNÉES TECHNIQUES / DATI TECNICI

Standard bore	Ø 10 - 16 - 20 - 25 mm
Fluid	Lubricated or non lubricated air / Air lubrifié ou non lubrifié / Aria con o senza lubrificazione
Operating temperature range	-10°C / +80°C
Pressure range	2 - 7 bar
Action tolerance	± 0.1mm
Max operating frequency	180 c.p.m.

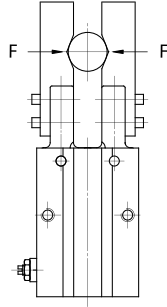
COMPONENTS



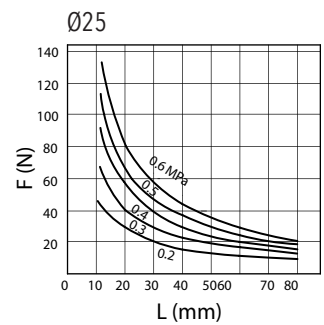
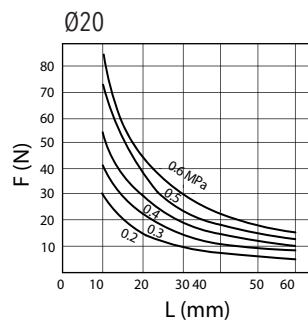
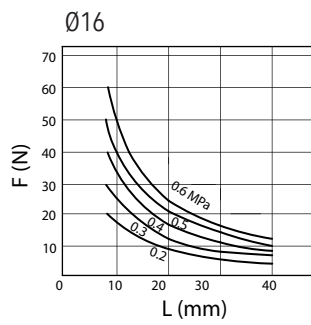
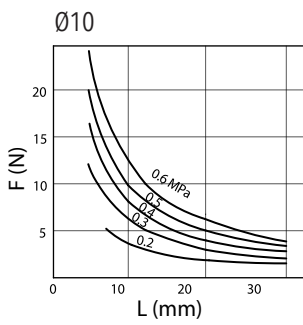
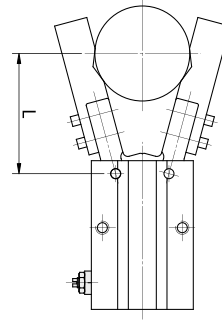
N.	DESCRIPTION	MATERIAL
1	rear cap /	aluminium /
2	snap ring	steel alloy
3	O-ring	NBR
4	piston	aluminium
5	seal piston	NBR
6	magnet	synthetic rubber
7	piston rod /	aluminium
8	O-ring	NBR
9	bumper	PTEE
10	screw	steel alloy
11	seal /	NBR
12	screw /	steel alloy
13	pin /	stainless steel /
14	pin	stainless steel / acier inox / acciaio inox
15	finger	steel alloy

HOLDING FORCE

Effective holding force

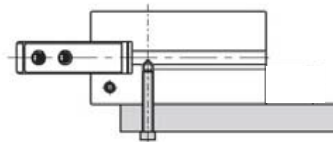


Holding point



INSTALLATION

Horizontal with screws in grip on body

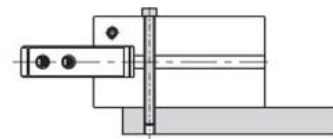


Bolt size

Max. locking torque

Ø10	M3x0.5	0.69 Nm
Ø16	M4x0.7	2.1 Nm
Ø20	M5x0.8	4.3 Nm
Ø25	M6x1.0	7.3 Nm

Horizontal with through screws

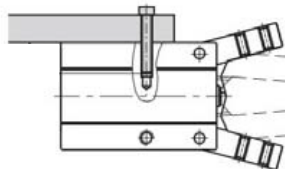


Bolt size

Max. locking torque

Ø10	M2.5x0.45	0.49 Nm
Ø16	M3x0.5	0.88 Nm
Ø20	M4x0.7	2.1 Nm
Ø25	M5x0.8	4.3 Nm

In coast with screws in grip on body

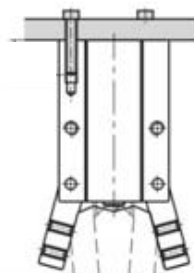


Bolt size

Max. locking torque

Ø10	M3x0.5	0.88 Nm
Ø16	M4x0.7	1.6 Nm
Ø20	M5x0.8	3.3 Nm
Ø25	M6x1.0	5.9 Nm

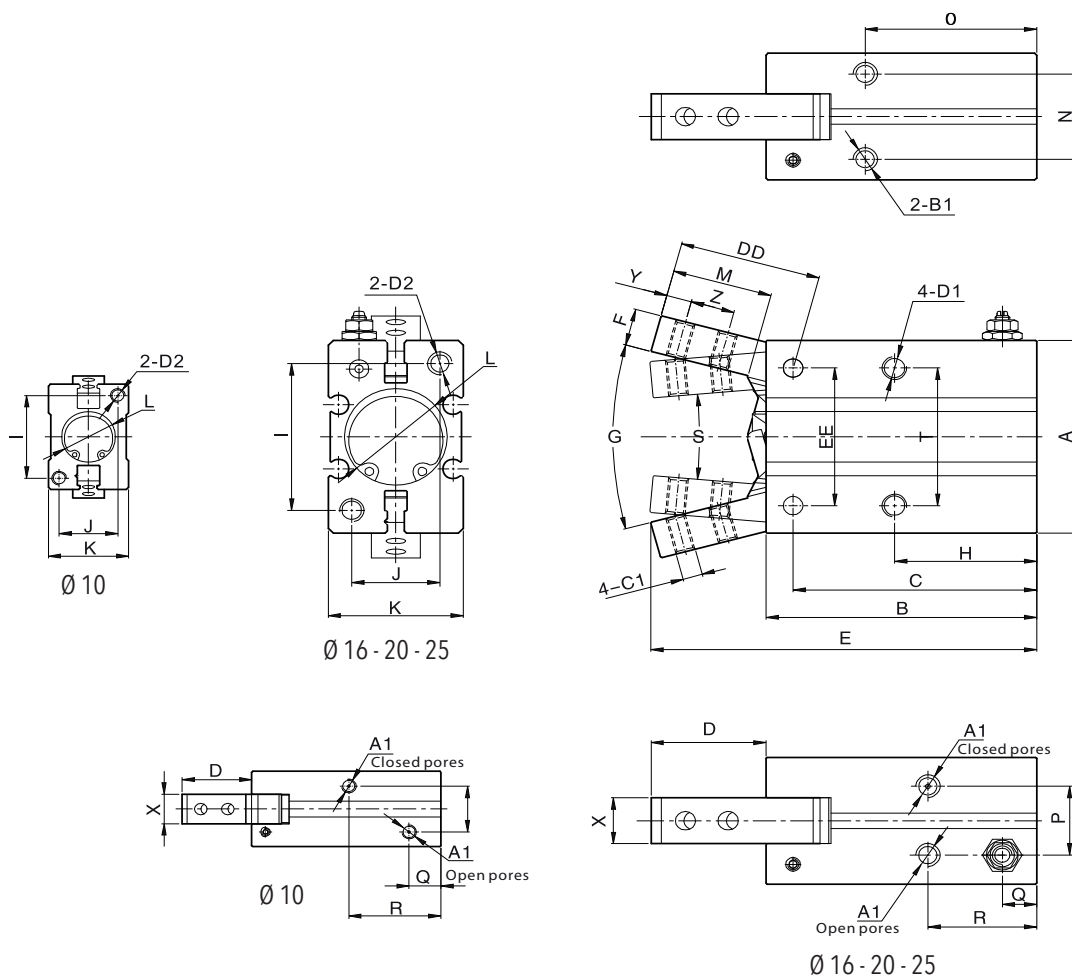
Vertically with screws in grip on body



Bolt size

Max. locking torque

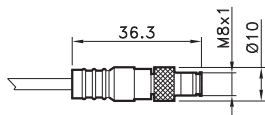
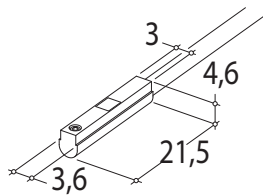
Ø10	M3x0.5	0.88 Nm
Ø16	M4x0.7	2.1 Nm
Ø20	M5x0.8	4.3 Nm
Ø25	M6x1.0	7.3 Nm



Ø	A	A1	B	B1	C	C1	D	DD	D1	D2	E	EE	F	G	H	I	J
10	23	M3x0.5	38.6	M3x0.5 depth 6	35.8	M2x0.45	14.2	17.2	M3x0.5 depth 6	M3x0.5 depth 6	52.8	14	4	30°	23	18	12
16	30.6	M5x0.8	44.6	M4x0.7 depth 5.5	39.7	M3x0.5	18.9	23.6	M4x0.7 depth 9.5	M4x0.7 depth 8	63.5	24	7	30°	24.5	22	15
20	42	M5x0.8	55.2	M5x0.8 depth 8	49.7	M4x0.7	23.5	29	M5x0.8 depth 11.5	M5x0.8 depth 10	78.7	30	8	30°	29	32	18
25	52	M5x0.8	60.4	M6x1.0 depth 10	54.8	M5x0.8	32.8	38.5	M6x1.0 depth 14.5	M6x1.0 depth 12	93.2	36	10	30°	30	40	22

Ø	K	L	M	N	O	P	Q	R	S	T	X	Y	Z
10	16.4	Ø11 depth 1.5	12.5	11.4	27	10	6.5	18.8	10°	16	6.4	3	5.7
16	23.6	Ø17 depth 1.5	16.5	16	30	13	6.5	18.3	10°	24	8	4	7
20	27.6	Ø21 depth 1.5	20.5	18.6	35	15	7	22.2	10°	30	10	5.2	9
25	33.6	Ø26 depth 1.5	27.5	22	36.5	19.5	7.4	23.5	10°	36	12	8	12

ROUND SWITCH



4= black / **noire** / nero
1= brown / **brun** / marrone
3= blue / **bleu** / azzurro

CODE

AR4018010	REED (MT.2,5) / REED (MT.2,5) / REED (MT.2,5)
AR4018020	HALL (MT.2,5) / HALL (MT.2,5) / HALL (MT.2,5)
AR4018110	REED + M8 (CM 30) / REED + M8 / REED + M8 (CM 30)
AR4018120	HALL + M8 (CM 30) / HALL + M8 / HALL + M8 (CM 30)

For technical data see page 1.75

Angular grippers with 180° opening are the ideal solution to limited space requirements and where is necessary necessity to have fully retractable jaws, avoiding the impact with other machine's components. This series of grippers allows the possibility to install magnetic round switches on the two main surfaces. Available sizes: Ø10, 16, 20 and 25 mm.



CAD Files Available

ORDERING CODE

PG300

Ø Bore
Ø / 10 - 16 - 20 - 25 mm

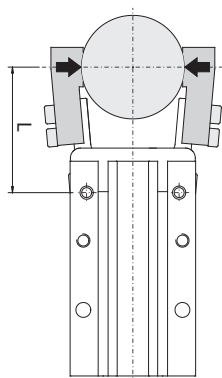
3= Double acting

ANGULAR GRIPPERS 180°

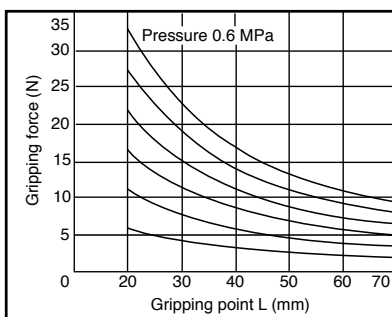
TECHNICAL DATA

Standard bore	Ø 10 - 16 - 20 - 25 mm
Fluid / Fluide /	Lubricated or non lubricated air
Operating temperature range	-10°C / +60°C
Pressure range	2 - 7 bar
Action tolerance	± 0.2 mm
Max operating frequency	60 c.p.m.

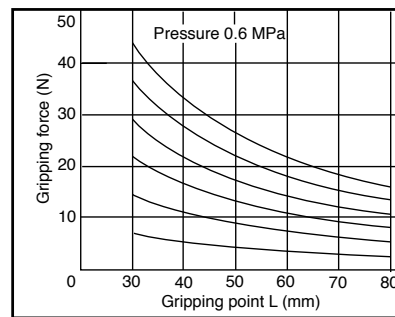
HOLDING POINT



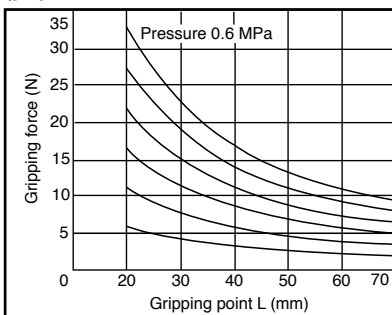
Ø10



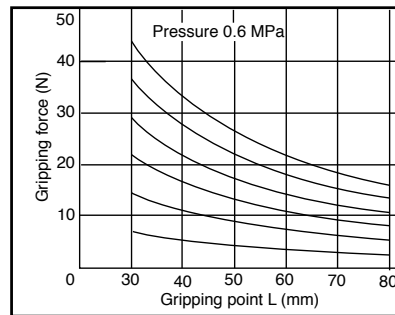
Ø16

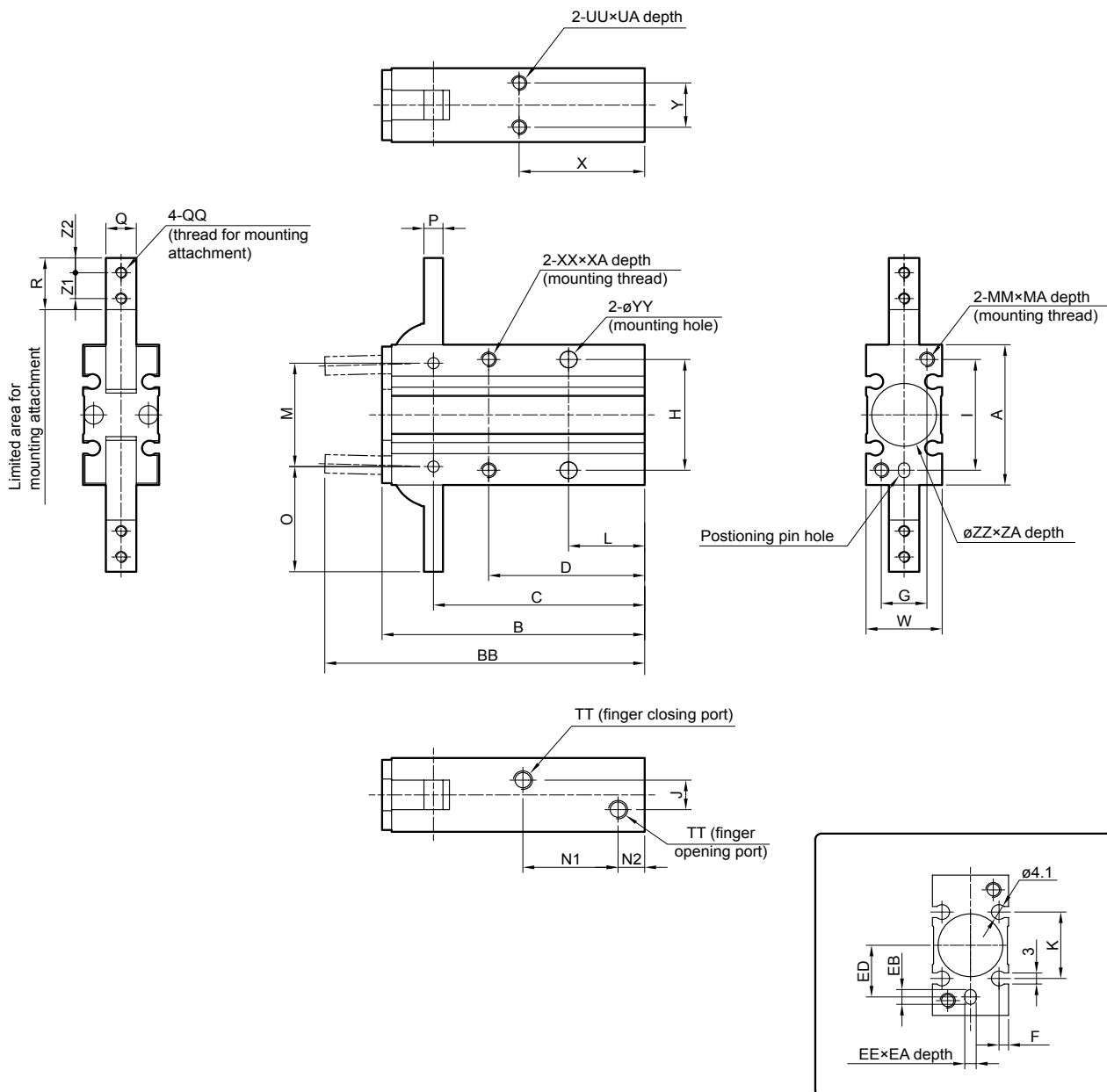


Ø20



Ø25

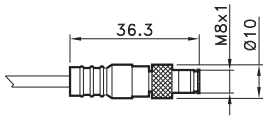
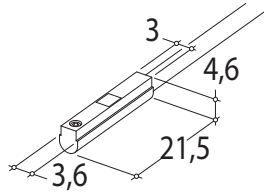




\emptyset	A	B	BB	C	D	EE	EA	EB	ED	F	G	H	I	J	K	L	M	MA	MM	N1	N2
10	30	58	71	47.5	35	3H9	3	4	9	2	9	24	24	3	13	18	22	6	M3x0.5	23	7
16	38	69	84	55.5	41	3H9	3	4	15	2.5	12	30	30	8	18	20	28	8	M4x0.7	25	7
20	48	86	106	69	50	4H9	4	5	19	3	16	36	38	12	20	25	36	10	M5x0.8	32	8
25	58	107	131	86	60	4H9	4	5	23	3	18	42	46	14	24	30	45	12	M6x1	42	8

\emptyset	O	P	Q	QH	QQ	R	TT	UA	UU	W	X	XA	XX	Y	YY	ZA	ZZ	Z1	Z2
10	23.5	4	6	3.4	M3x0.5	12	M5X0.8	4	M3x0.5	15	30	6	M3x0.5	9	3.4	1.5	11H9	6	3
16	28.5	5	8	3.4	M3x0.5	14	M5X0.8	5	M4x0.7	20	33	8	M4x0.7	12	4.5	1.5	17H9	7	4
20	37	8	10	4.5	M4x0.7	18	M5X0.8	8	M5x0.8	26	42	10	M5x0.8	14	5.5	1.5	21H9	9	5
25	45	10	12	5.5	M5x0.8	22.5	M5X0.8	10	M6x1	30	50	12	M6x1	16	6.6	1.5	26H9	12	6

ROUND SWITCH



4= black / **noire** / *nero*
1= brown / **brun** / *marrone*
3= blue / **bleu** / *azzurro*

CODE

AR4018010	REED (MT.2,5) / REED (MT.2,5) / <i>REED (MT.2,5)</i>
AR4018020	HALL (MT.2,5) / HALL (MT.2,5) / <i>HALL (MT.2,5)</i>
AR4018110	REED + M8 (CM 30) / REED + M8 / <i>REED + M8 (CM 30)</i>
AR4018120	HALL + M8 (CM 30) / HALL + M8 / <i>HALL + M8 (CM 30)</i>

For technical data see page 1.75

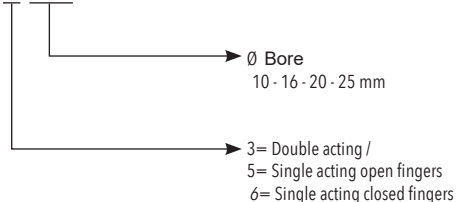


Designed for precise and high repeatability usage, Airwork parallel air grippers are the perfect compromise between compact size and gripping force. Indeed, the roller system allows to reduce frictions at minimums and guarantees high precision of grip. PS series permits the mounting in all available positions and the possibility to add a round magnetic switch on all four surfaces.

CAD Files Available

ORDERING CODE

PS300

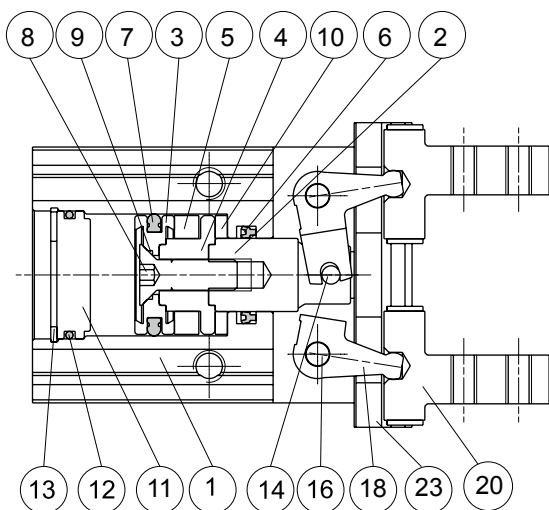


TECHNICAL DATA

	Ø10	Ø16	Ø20	Ø25
Opening - closing	4 mm	6 mm	10 mm	14 mm
External gripping force (5 bar)	11 (N)	34 (N)	42 (N)	65 (N)
Internal gripping force (5 bar)	17 (N)	45 (N)	66 (N)	104 (N)

Fluid / Fluide	Lubricated or non lubricated air
Operating temperature range	-20°C / +70°C
Pressure range	2 - 7 bar
Action tolerance	± 0.01 mm
Max operating frequency	180 c.p.m.

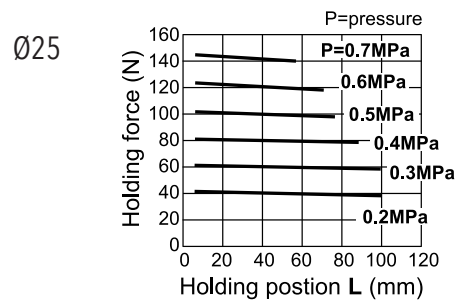
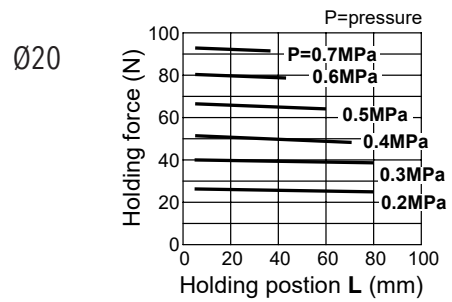
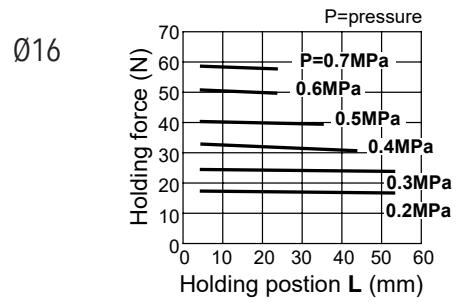
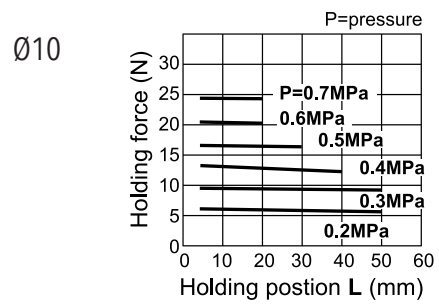
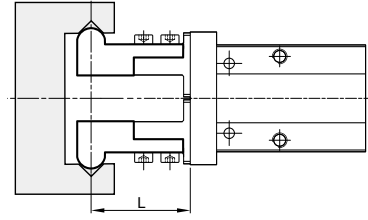
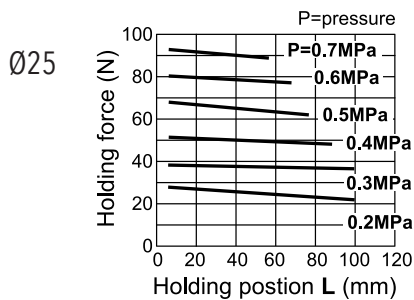
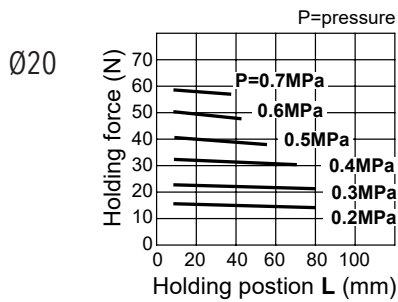
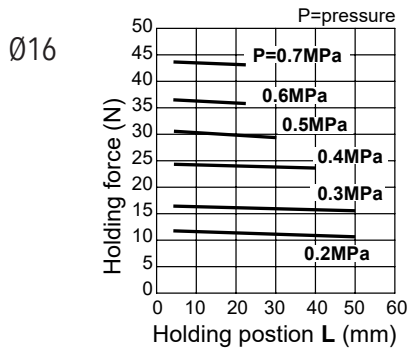
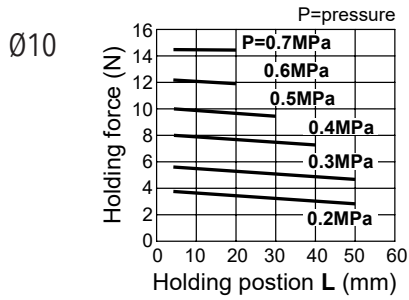
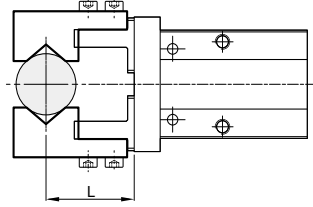
COMPONENTS



N.	DESCRIPTION	MATERIAL
1	body	aluminium
2	rod	aluminium
3	piston	aluminium
4	piston	aluminium
5	magnet	synthetic rubber
6	rod seals	NBR
7	seal piston	NBR
8	screw	steel alloy
10	bumper	PU
11	rear cap	aluminium
12	seal	NBR
13	snap ring	steel alloy
14	driver pin	stainless steel
16	driver pin	stainless steel
18	lever	stainless steel
20	finger	stainless steel
23	guide	stainless steel

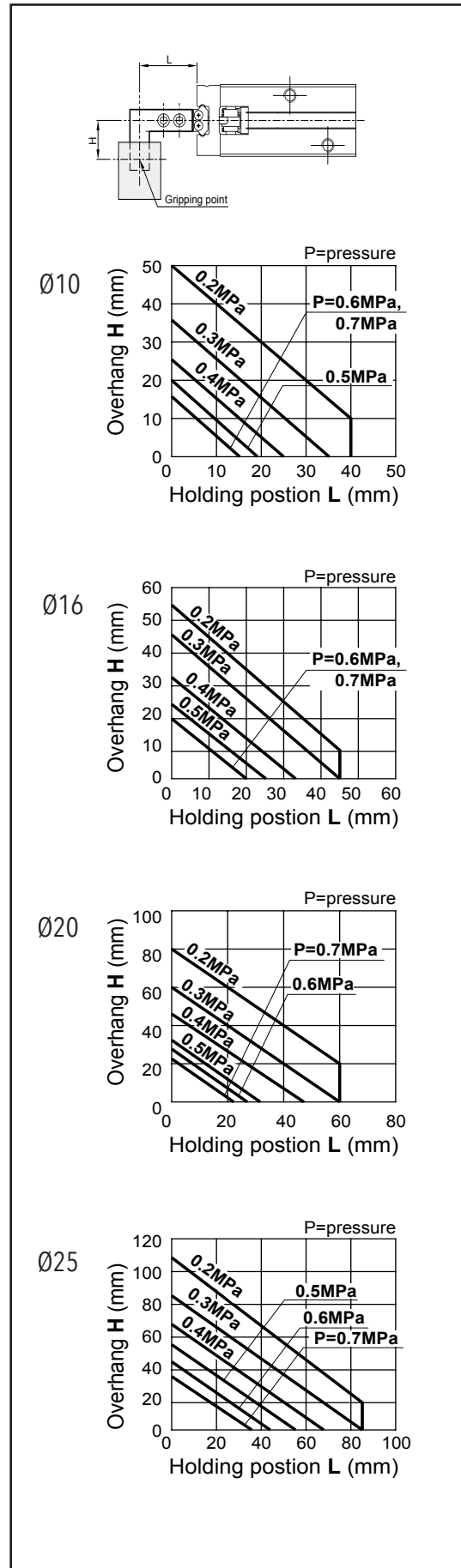
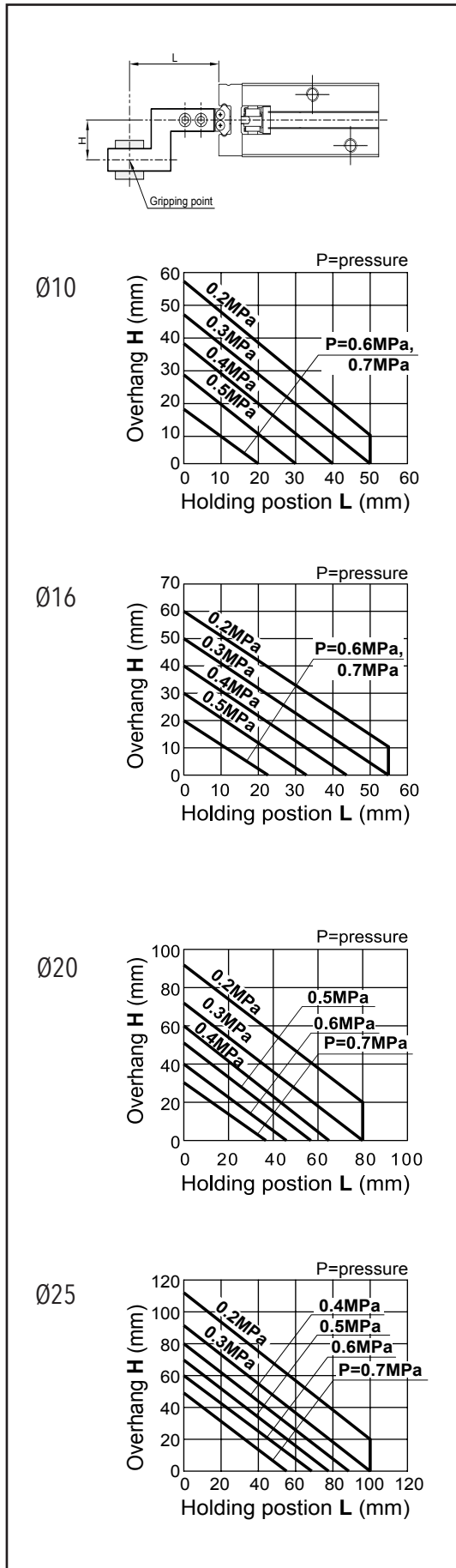
EXTERNAL GRIPPING FORCE

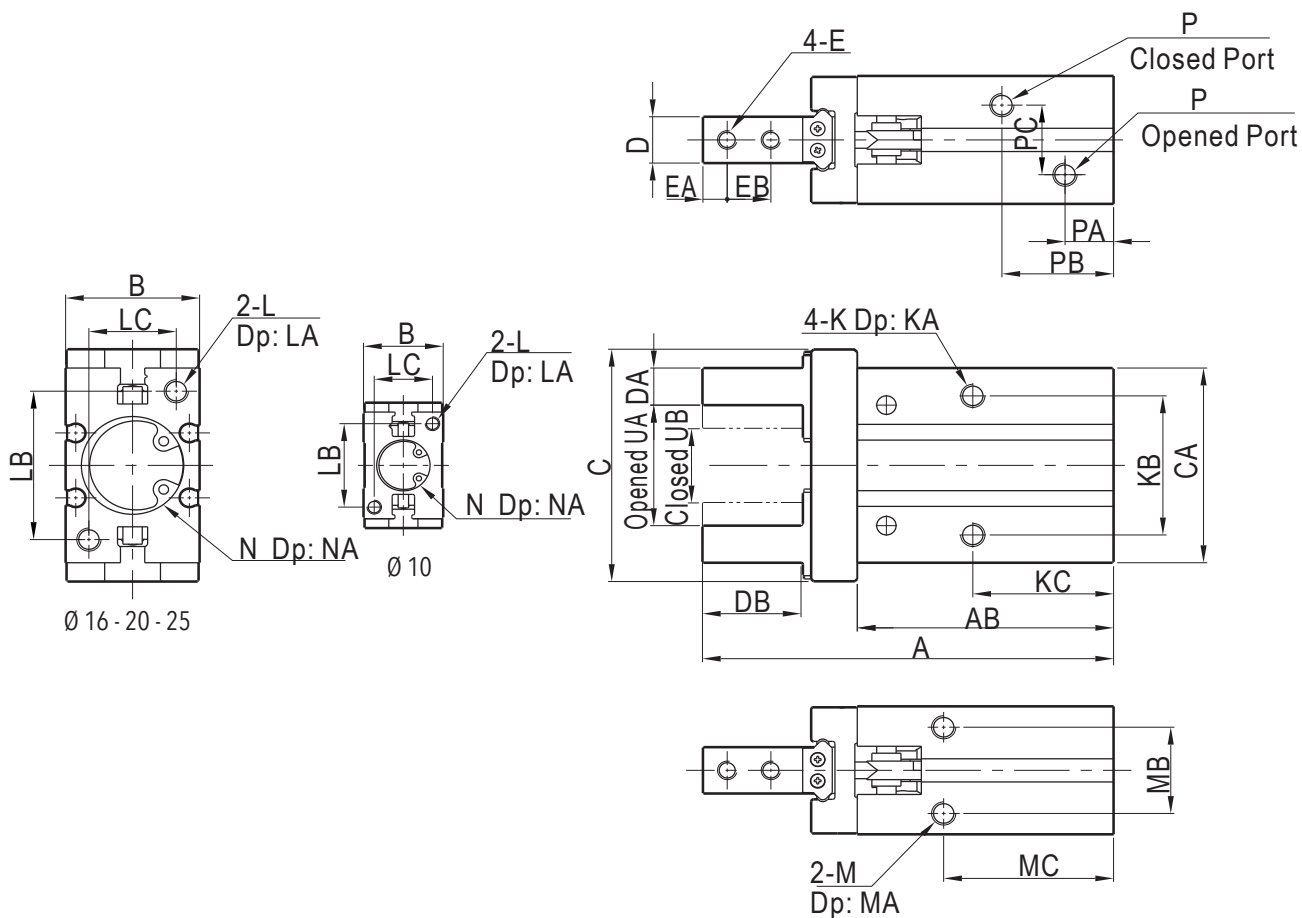
INTERNAL GRIPPING FORCE



EXTERNAL GRIPPING POINT

INTERNAL GRIPPING POINT

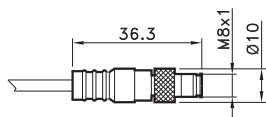
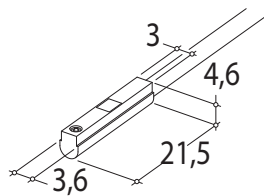




\varnothing	A	AB	B	C	CA	D	DA	DB	E	EA	EB	K	KA	KB	KC	L	LA	LB	LC
10	57	37.6	16.4	29	23	5	4	12.3	M2.5x0.45	3	5.7	M3x0.5	6	16	23	M3x0.5	6	18	12
16	67.3	42.5	23.6	38	30.6	8	5	15.5	M3x0.5	4	7	M4x0.7	9.5	24	24.5	M4x0.7	8	22	15
20	84.7	52.8	27.6	50	42	10	8	20.7	M4x0.7	5	9	M5x0.8	11.5	30	29	M5x0.8	10	32	18
25	102.7	63.6	33.6	63	52	12	10	25.5	M5x0.8	6	12	M6x1.0	14.5	36	30	M6x1.0	12	40	22

\varnothing	M	MA	MB	MC	N	NA	P	PA	PB	PC	UA (opened)	UB (closed)
10	M3x0.5	6	11.4	27	$\varnothing 11$	1.5	M3x0.5	7	18.8	10	14.8	11.4
16	M4x0.7	5.5	16	30	$\varnothing 17$	1.5	M5x0.8	7.1	18.5	13	20.8	14.8
20	M5x0.8	8	18.6	35	$\varnothing 21$	2	M5x0.8	8.4	23	15	26	16.2
25	M6x1.0	10	22	36.5	$\varnothing 26$	2	M5x0.8	9.5	23.5	19.5	33.5	19.2

ROUND SWITCH



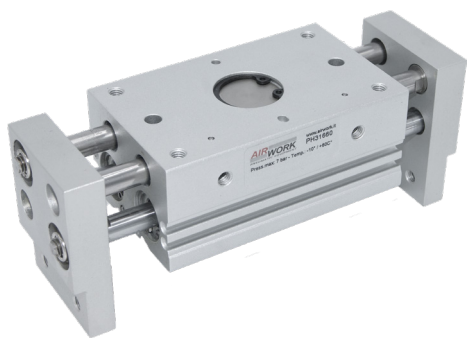
4= black / **noire** / nero
1= brown / **brun** / marrone
3= blue / **bleu** / azzurro

CODE

AR4018010	REED (MT.2,5) / REED (MT.2,5) / REED (MT.2,5)
AR4018020	HALL (MT.2,5) / HALL (MT.2,5) / HALL (MT.2,5)
AR4018110	REED + M8 (CM 30) / REED + M8 / REED + M8 (CM 30)
AR4018120	HALL + M8 (CM 30) / HALL + M8 / HALL + M8 (CM 30)

For technical data see page 1.75

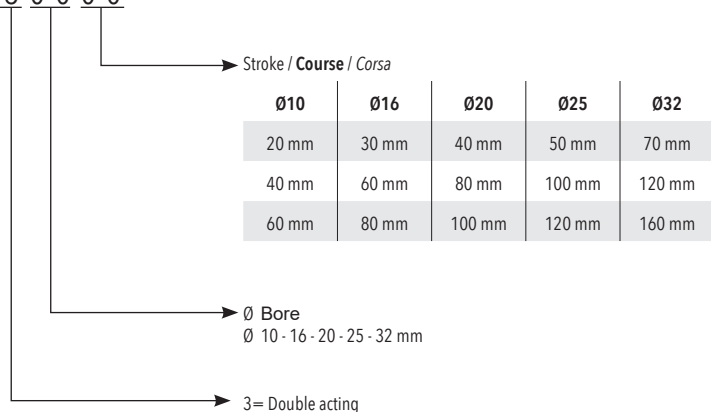
Grippers of PH Series are used to move big components and thanks to the possibility to choose between three different strokes for each size, it's possible to cover several areas of application. The opening and closing movement of gripping jaws is always synchronized thanks to an inside system with rack and pinion, which allows the centring of the item. Several slots have been machined on the main body, to allow the positioning of a magnetic switch.



CAD Files Available

ORDERING CODE

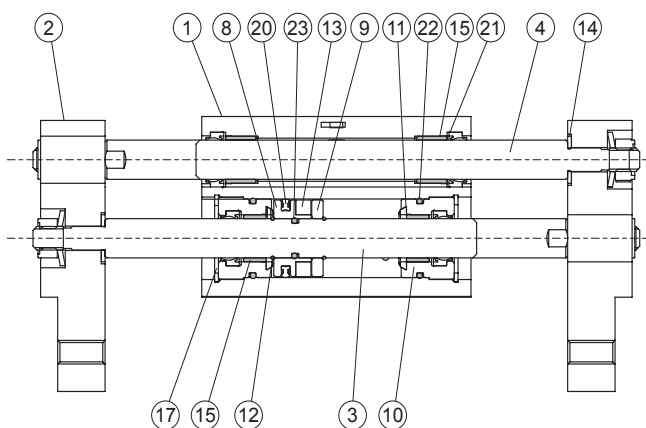
PH 3 0 0 0 0



TECHNICAL DATA

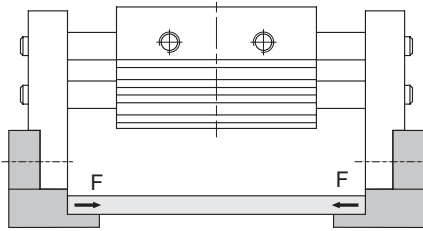
Fluid / Fluide	Lubricated or non lubricated air
Operating temperature range	-10°C / +60°C
Pressure range	2 - 7 bar
Action tolerance	± 0.2 mm

COMPONENTS

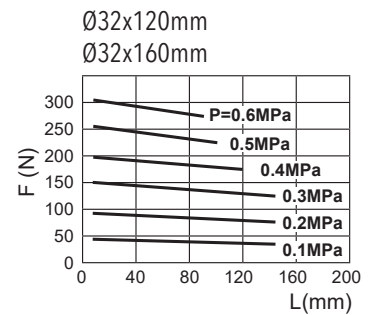
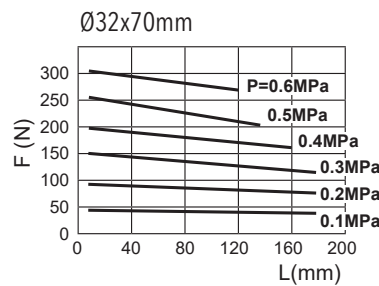
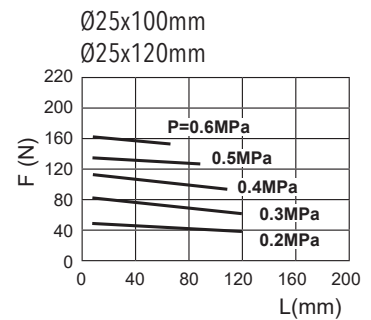
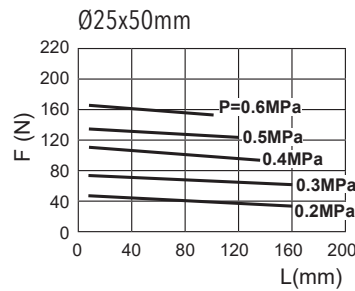
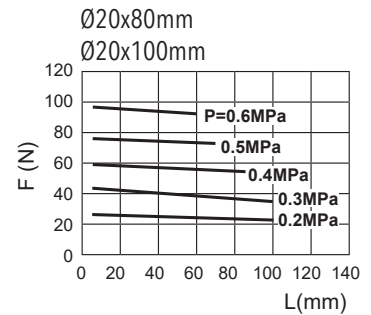
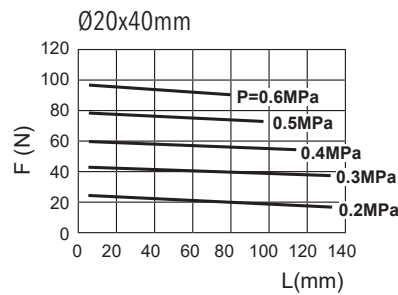
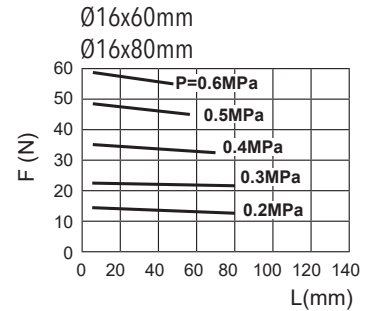
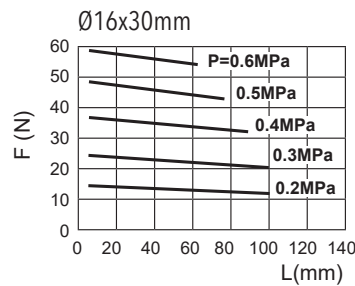
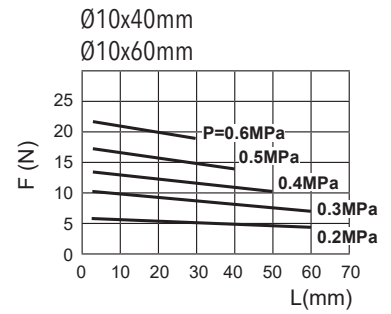
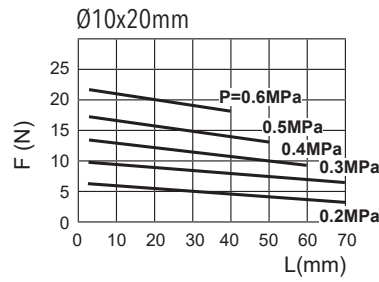
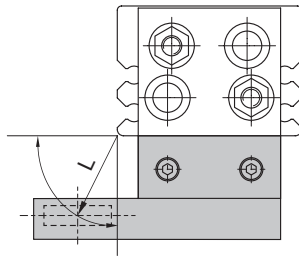


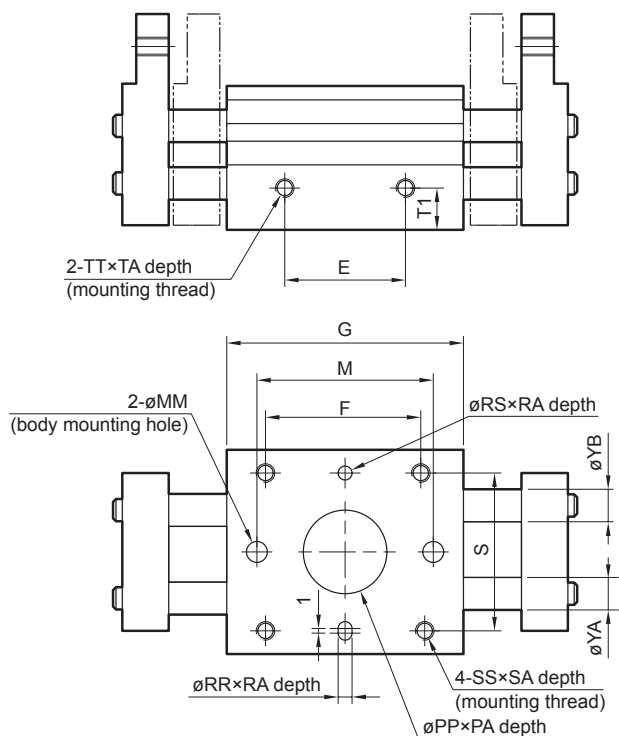
N.	DESCRIPTION	MATERIAL
1	body	aluminium
2	finger	aluminium
3	rod	stainless steel
4	rack 8 piston / piston / piston	stainless steel
9	piston	brass
10	cap	brass
		aluminium / aluminium / alluminio
11	bumper	NBR
12	snap ring /	steel
13	magnet	synthetic rubber
14	washer	steel
15	guide	PTFE
17	snap ring	steel
20	seal piston	NBR
21	seal	NBR
22	seal	NBR

GRIPPING FORCE

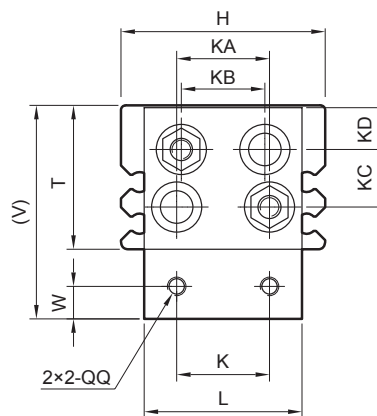
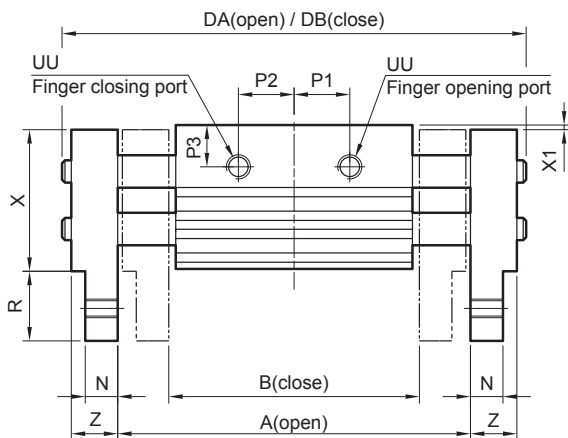


1N=0.102 kgf
1MPa=10.2 kgf/cm²





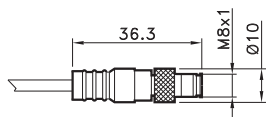
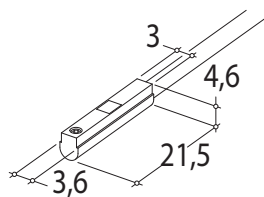
\emptyset	Stroke	A	B	DA	DB	E	F	G	M	P1	P2
		10	20	76	56	100	80	26	36	51	38
	40	118	78	142	108	42	52	67	54	19.5	19.5
	60	156	96	180	146	60	70	85	72	28.5	28.5
16	30	98	68	128	98	28	45	60	40	13	13
	60	179	110	200	152	58	75	90	70	25	25
	80	210	130	240	192	78	95	110	90	35	35
20	40	122	82	160	120	38	58	71	54	16	16
	80	222	142	260	194	80	100	113	96	34	34
	100	262	162	300	234	100	120	133	116	44	44
25	50	150	100	196	146	48	70	88	66	19	19
	100	282	182	328	244	102	124	142	120	43	43
	120	320	200	366	282	120	142	160	138	52	52
32	70	220	150	272	202	60	86	110	-	28	28
	120	318	198	370	282	108	134	158	-	52	52
	160	402	242	454	366	152	178	202	-	74	74



\emptyset	H	K	KA	KB	KC	KD	L	N	MM	PA	PP	P3	QQ	R	RA	RR	RS	S	SA	SS
10	44	20	20	18.2	12.5	8	34	7	4.5	1.5	18	9	M4x0.7	15	3	3	3	34	8	M4x0.7
16	55	25	25	22.6	16.5	9	43	9	5.5	1.5	23	10	M5x0.8	19	3	3	3	42	10	M5x0.8
20	65	30	30	28.2	20	10	54	12.5	6.6	1.5	24	11	M6x1.0	24	4	4	4	52	12	M6x1.0
25	76	40	38	33.2	23.5	11.5	64	14	9	1.5	32	16	M8x1.25	29	4.5	4	4	62	16	M8x1.25
32	82	50	40	32.2	30	14.5	70	15	-	2.5	35	16	M10x1.5	32	8	6	6	64	16	M8x1.25

\emptyset	T	T1	TA	TT	UU	V	W	X	X1	YA	YB	Z
10	31	9	5	M4x0.7	M5x0.8	46	7	30.5	0.5	6	6	10
16	39	10	7	M5x0.8	M5x0.8	58	8	38.5	0.5	8	8	13
20	46	11	7	M6x1.0	M5x0.8	70	10	45	1	10	10	17
25	52	12.5	7	M8x1.25	M5x0.8	81	12	51	1	12	12	21
32	68	22	11	M8x1.25	1/8	100	15	67	1	14	16	24

ROUND SWITCH



4= black / **noire** / *nero*
1= brown / **brun** / *marrone*
3= blue / **bleu** / *azzurro*

CODE

AR4018010	REED (MT.2,5) / REED (MT.2,5) / <i>REED (MT.2,5)</i>
AR4018020	HALL (MT.2,5) / HALL (MT.2,5) / <i>HALL (MT.2,5)</i>
AR4018110	REED + M8 (CM 30) / REED + M8 / <i>REED + M8 (CM 30)</i>
AR4018120	HALL + M8 (CM 30) / HALL + M8 / <i>HALL + M8 (CM 30)</i>

For technical data see page 1.75



Used to manipulate round components, these grippers guarantee an high precision thanks to the synchronizes closure of the three gripping jaws and to the prismatic guides system. Ideal for specific sectors like pick-and-place (P&Ps), machines tools interlocking and many other fields, grippers of PX series cover all different exigencies of modern industrial automation, thanks to their compact dimensions.

CAD Files Available

ORDERING CODE

P X 3 0 0

Ø Bore
16 - 20 - 25 - 32 - 40 - 50 - 63 mm

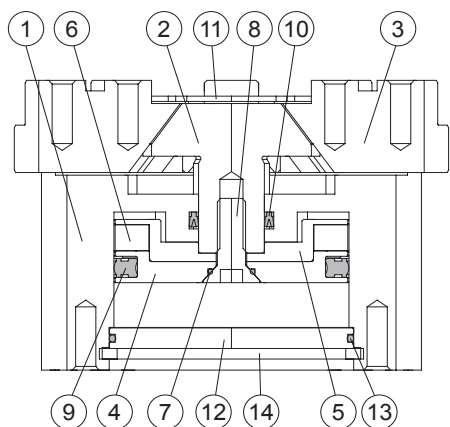
3= Double acting

TECHNICAL DATA

Ø	External gripping force (5 bar)	Internal gripping force (5 bar)	Weight
Ø16	14 (N)	16 (N)	80 gr
Ø20	25 (N)	28 (N)	110 gr
Ø25	42 (N)	47 (N)	140 gr
Ø32	74 (N)	82 (N)	237 gr
Ø40	118 (N)	130 (N)	351 gr
Ø50	187 (N)	204 (N)	541 gr
Ø63	335 (N)	359 (N)	1020 gr

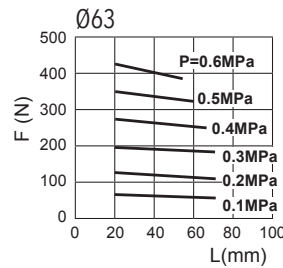
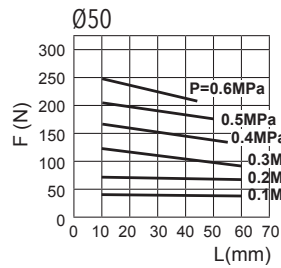
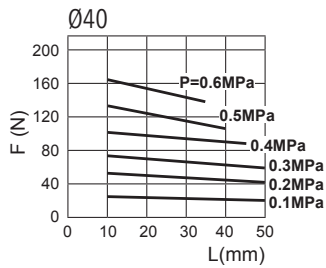
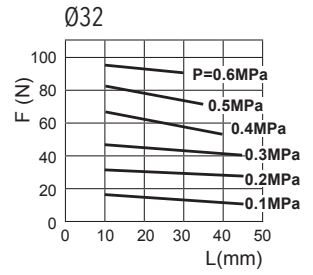
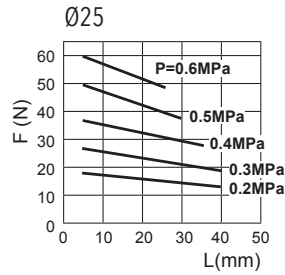
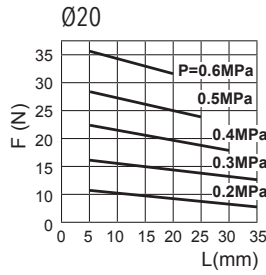
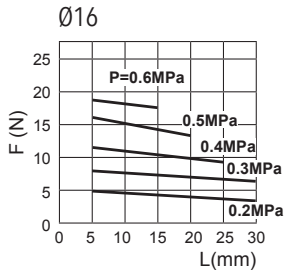
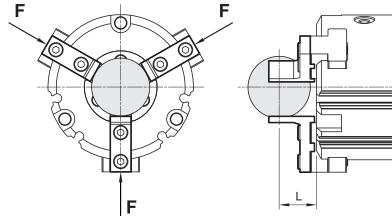
Fluid	Lubricated or non lubricated air
Operating temperature range	-10°C / +60°C
Pressure range	2 - 7 bar
Action tolerance	± 0.01 mm
Max operating frequency	Ø16 - Ø20 - Ø25=120 c.p.m. / Ø32-Ø40 Ø50 Ø63=60 c.p.m

COMPONENTS

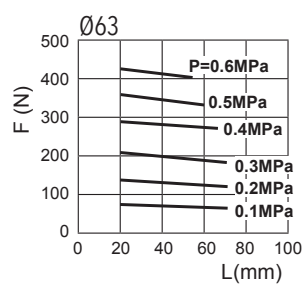
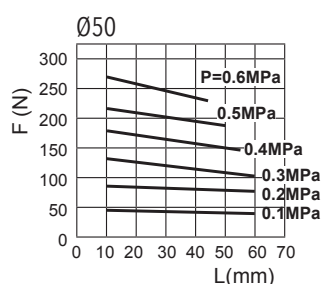
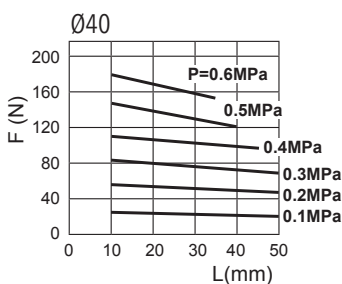
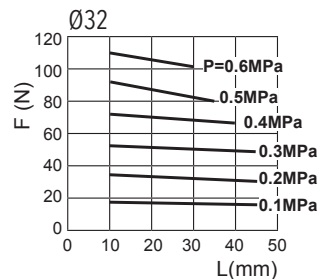
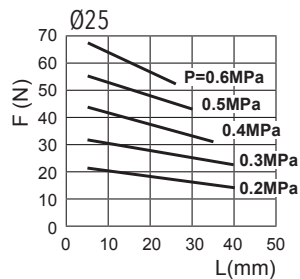
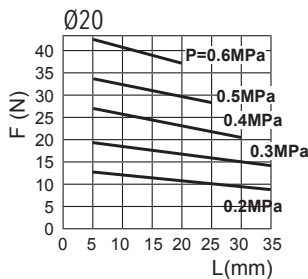
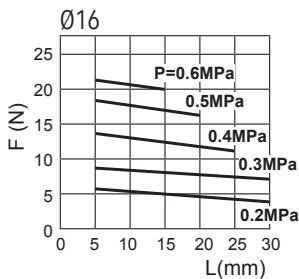
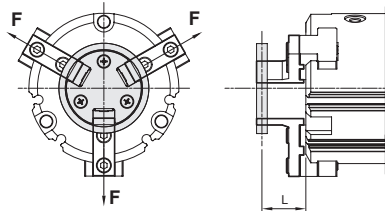


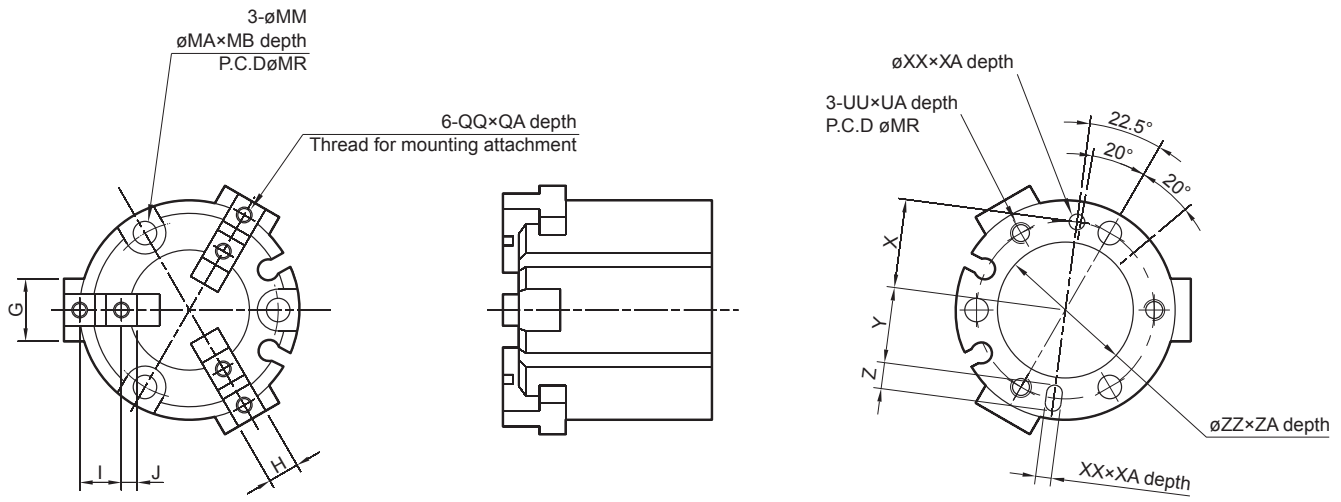
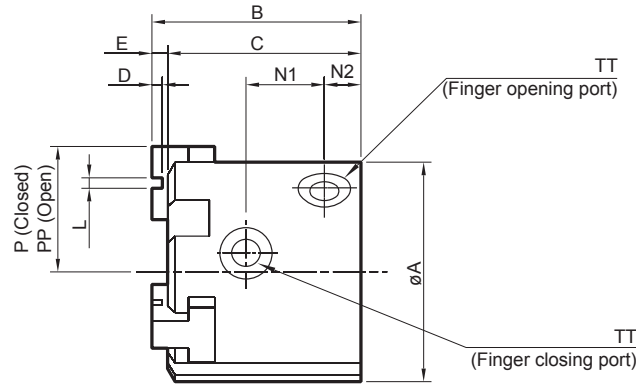
N.	DESCRIPTION	MATERIAL
1	body	aluminium
2	lever	steel
3	guide	steel
4	piston	aluminium
5	piston	aluminium
6	magnet	magnetic material
7	O-ring	NBR
8	screw	steel
9	seal	NBR
10	seal	NBR
11	cover	stainless steel
12	rear cap	aluminium
13	O-ring	NBR
14	snap ring	steel

EXTERNAL GRIPPING FORCE



INTERNAL GRIPPING FORCE

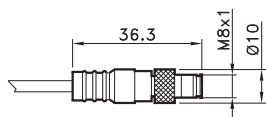
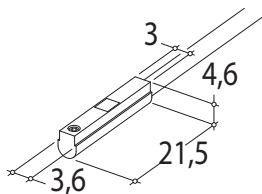




Ø	A	B	C	D	E	G	H	I	J	L	MA	MB	MM	MR	N1	N2	P	PP	QA	QQ	TT	UA
16	30	35	32	2 ^{+0.2} ₀	3	8	5 ^{-0.01} _{-0.03}	6	2	2 ^{+0.04} _{+0.01}	6	6	3.4	25	10	7	5	7	5	M3x0.5	M3x0.5	6
20	36	39	36	2 ^{+0.2} ₀	3	10	6 ^{-0.01} _{-0.03}	7	2.5	2 ^{+0.04} _{+0.01}	6	6	3.4	29	13	7	6	8	5	M3x0.5	M5x0.8	6
25	42	41	38	2 ^{+0.2} ₀	3	12	6 ^{-0.01} _{-0.03}	8	3	2 ^{+0.04} _{+0.01}	8	9	4.5	34	14.5	7.5	7	10	5	M3x0.5	M5x0.8	8
32	52	45	42	2 ^{+0.2} ₀	3	14	8 ^{-0.01} _{-0.03}	11	4.5	2 ^{+0.04} _{+0.01}	8	9	4.5	44	16	8.5	8	12	8	M4x0.7	M5x0.8	8
40	62	49	46	2 ^{+0.2} ₀	3	16	8 ^{-0.01} _{-0.03}	12	4.5	3 ^{+0.04} _{+0.01}	9.5	9	5.5	53	17.5	9.5	10	14	8	M4x0.7	M5x0.8	10
50	70	57	54	2 ^{+0.2} ₀	3	18	10 ^{-0.01} _{-0.03}	14	5	4 ^{+0.04} _{+0.01}	9.5	12	5.5	62	21	9.5	11	17	9	M5x0.8	M5x0.8	10
63	86	68	64	3 ^{+0.2} ₀	4	24	12 ^{-0.01} _{-0.03}	17	5.5	6 ^{+0.04} _{+0.01}	11	14	6.6	76	24	12	15	23	9	M5x0.8	M5x0.8	12

Ø	UU	X	XA	XX	Y	Z	ZA	ZZ
16	M3x0.5	12.5	2	2 ^{+0.04} _{+0.01}	11	3	1.5	17 ^{+0.05} ₀
20	M3x0.5	14.5	2	2 ^{+0.04} _{+0.01}	13	3	1.5	21 ^{+0.05} ₀
25	M4x0.7	17	3	3 ^{+0.04} _{+0.01}	14.5	5	1.5	26 ^{+0.05} ₀
32	M4x0.7	22	3	3 ^{+0.04} _{+0.01}	19.5	5	2	34 ^{+0.05} ₀
40	M5x0.8	26.5	4	4 ^{+0.04} _{+0.01}	23.5	6	2	42 ^{+0.05} ₀
50	M5x0.8	31	4	4 ^{+0.04} _{+0.01}	28	6	2	52 ^{+0.05} ₀
63	M6x1.0	38	5	5 ^{+0.04} _{+0.01}	34.5	7	2.5	65 ^{+0.05} ₀

ROUND SWITCH



4= black / **noire** / nero
1= brown / **brun** / marrone
3= blue / **bleu** / azzurro

CODE

AR4018010	REED (MT.2,5) / REED (MT.2,5) / REED (MT.2,5)
AR4018020	HALL (MT.2,5) / HALL (MT.2,5) / HALL (MT.2,5)
AR4018110	REED + M8 (CM 30) / REED + M8 / REED + M8 (CM 30)
AR4018120	HALL + M8 (CM 30) / HALL + M8 / HALL + M8 (CM 30)

For technical data see page 1.75