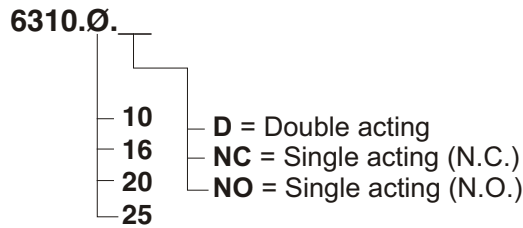


Pos.	Item	Qty.	Pos.	Item	Qty.
1	Fingers	1	6	Circlip	1
2	Pin	2	7	Body	1
3	Pin	2	8	Lever	2
4	Piston rod	1	9	Grain	2
5	End cover	1	10	Screw	4



Ordering code



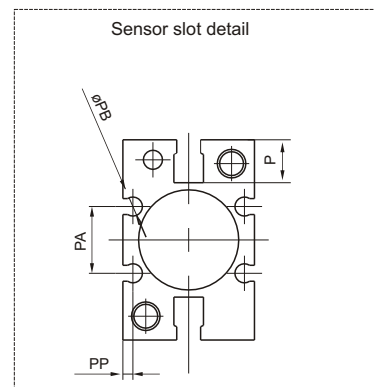
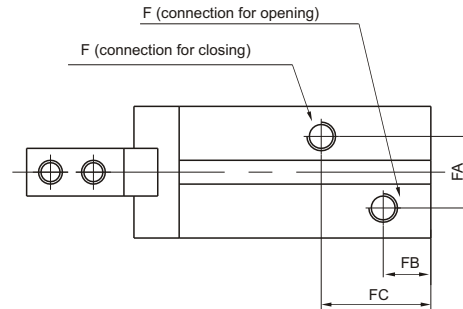
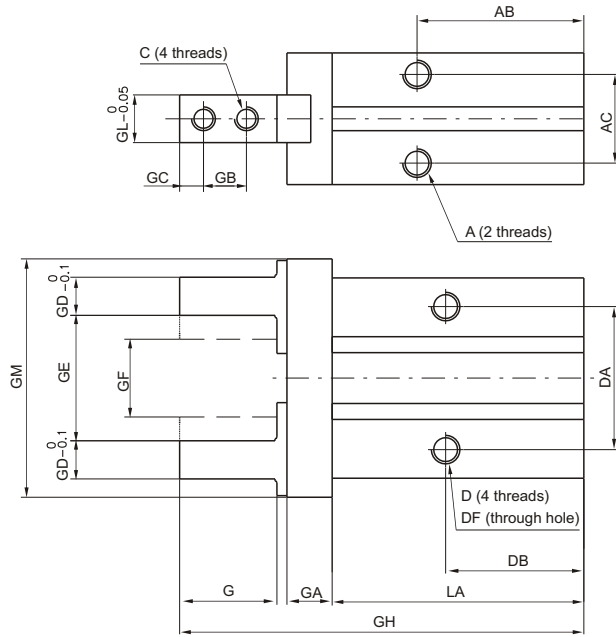
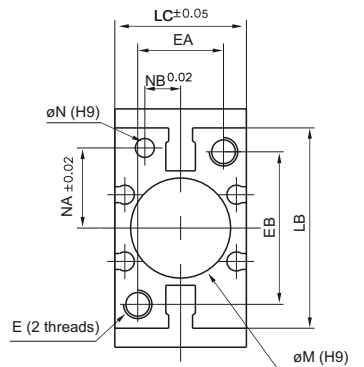
Magnetic sensors : see page 6.7 e 6.9

Construction characteristics

Body	aluminium
Piston	aluminium or stainless steel (depending on the bore)
Fingers	steel
End cover	aluminium
Seals	oil resistant NBR rubber

Construction characteristics

Fluid	filtered and non lubricated air
Working pressure	double acting : 2 ÷ 7 bar for ø10 - 1 ÷ 7 for other bores single acting : 3,5 ÷ 7 bar for ø10 - 2,5 ÷ 7 for other bores
Operating temperature	-5°C ÷ +70°C

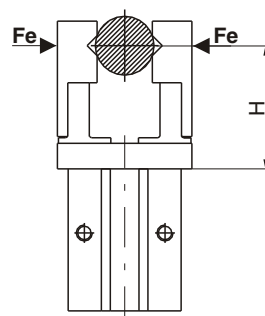


Bore	Ø10	Ø16	Ø20	Ø25
A	M3x0,5	M4x0,7	M5x0,8	M6x1
	Useful depth	6	4,5	8
AB	27	30	35	36,5
AC	11,4	16	18,6	22
C	M2,5x0,45	M3x0,5	M4x0,7	M5x0,8
D	M3x0,5	M4x0,7	M5x0,8	M6x1
	Useful depth	5,5	8	10
DA	16	24	30	36
DB	23	24,5	29	30
ØDF	2,6	3,4	4,3	5,1
E	M3x0,5	M4x0,7	M5x0,8	M6x1
	Useful depth	6	8	10
EA	12	15	18	22
EB	18	22	32	40
F	M3x0,5	M5x0,8	M5x0,8	M5x0,8
FA	11	13	15	20
FB	9	7,5	10	10,7
FC	19	19	23	23,5
G	12	15	20	25
GA	6	7,5	9,5	11
GB	5,7	7	9	12
GC	3	4	5	6
GD	4	5	8	10
GE	15,2	20,9	26,3	33,3
GF	11,2	14,9	16,3	19,3
GH	57	67,3	84,8	102,7
GL	5	8	10	12
GM	29	38	50	63
LA	37,8	45,5	52,8	63,6
LB	23	30,6	42	52
LC	16,4	23,6	27,6	33,6
ØM ^{H9}	11	17	21	26
	Useful depth	2	2	3
ØN ^{H9}	2	3	4	4
	Useful depth	3	3	4
NA	7,6	11	16,8	21,8
NB	5,2	6,5	7,5	10
P	5,4	5,8	9	11,5
PA	/	11,6	14	19
ØPB	/	4	4	4
PP	/	2,1	2,1	3,5

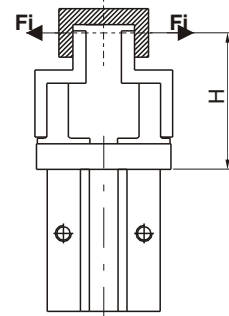
Holding force (N) (pressure 5 bar, holding point H=20 half stroke)

Version	Force	Bore			
		Ø10	Ø16	Ø20	Ø25
Double acting	Fe	9,8	30	42	65
	Fi	17	40	66	104
Single acting	NO Fe	6,3	24	28	45
	NC Fi	12	31	56	83

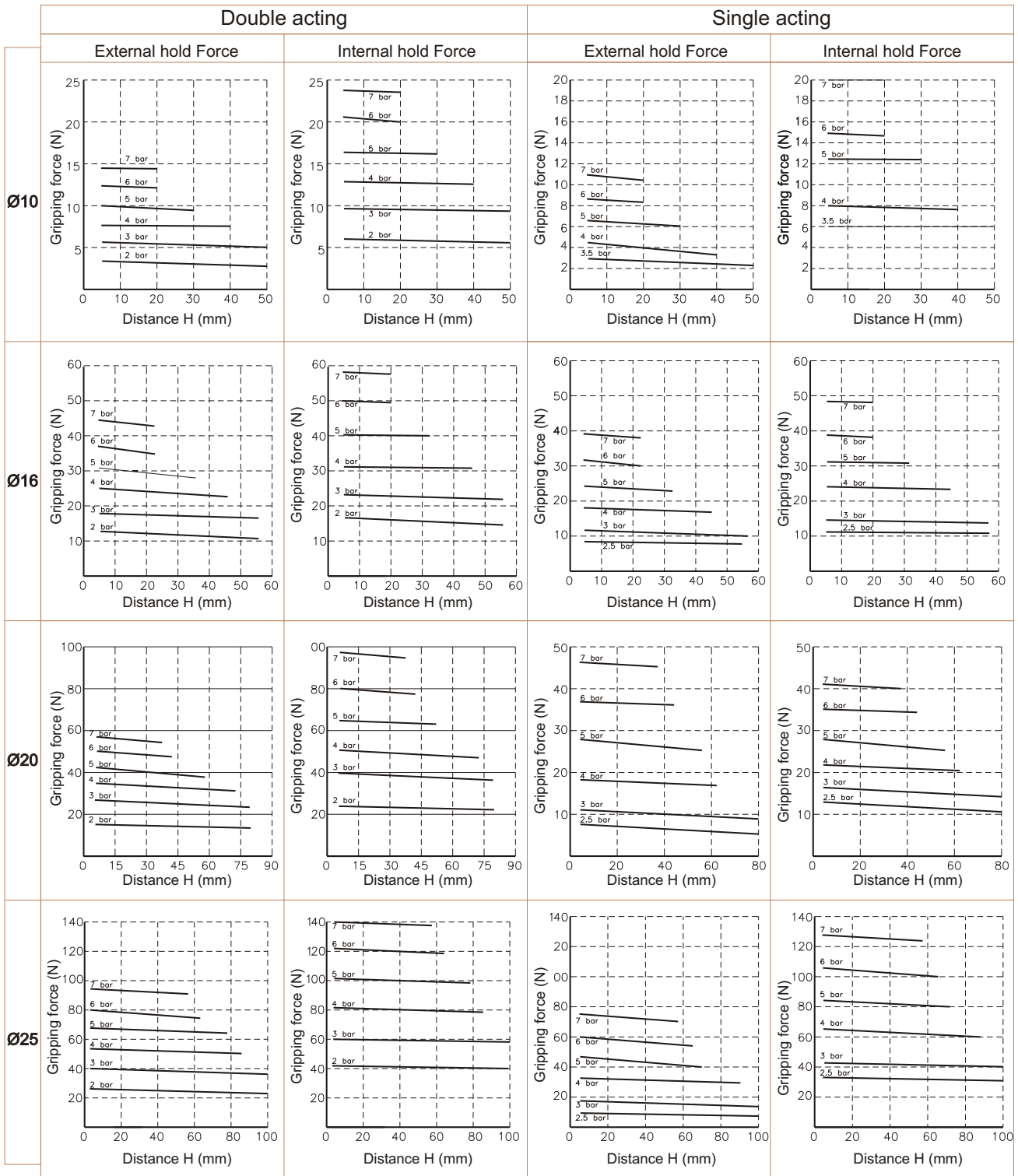
Fe = external holding force Fi = internal holding force



EXTERNAL HOLD



INTERNAL HOLD





Ordering Code

6311.Ø.D.	10 16 20 25 32 40	Ordering code options	Stroke					
			20	30	40	50	70	100
		1	40	60	80	100	120	160
		2	60	80	100	120	160	200
			Ø10	Ø16	Ø20	Ø25	Ø32	Ø40
			Bore					

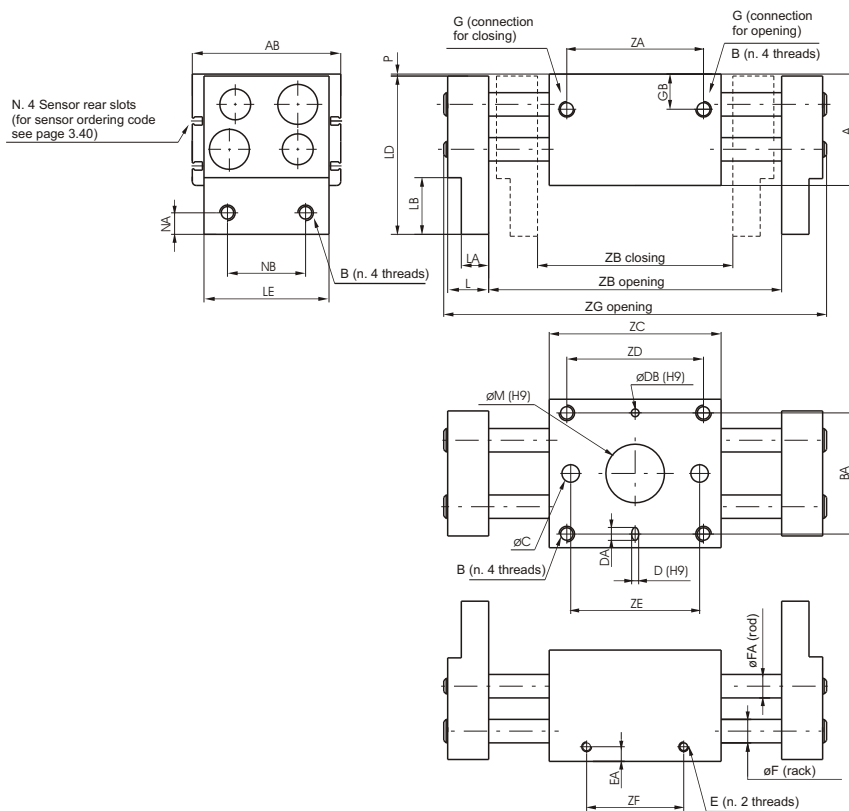
Magnet sensors: see page 6.7

Construction characteristics

Body	aluminium
Piston	brass
Fingers	aluminium
Rod	steel
Rack	steel
Pinion	steel

Technical characteristics

Fluid	filtered and non lubricated air
Function	double acting
Working pressure	1,6 bar
Working temperature	-5°C ÷ +70°C



Bore	Ø10	Ø16	Ø20	Ø25	Ø32	Ø40												
A	31	39	46	52	72	82												
AB	44	55	65	76	82	98												
B	M4x0,7	M5x0,8	M6x1	M8x1.25	M8x1.25	M10x1.5												
Useful depth	8	10	12	16	16	20												
BA	34	42	52	62	64	76												
∅C	4,5	5,5	6,6	9	/	/												
D^{H9}	3	3	4	4	6	6												
Useful depth	3	3	4	4,5	8	8												
DA	4	4	5	5	6	6												
∅DB^{H9}	3	3	4	4	6	6												
Useful depth	3	3	4	4,5	8	8												
E	M4x0,7	M5x0,8	M6x1	M8x1.25	M8x1.25	M10x1.5												
Useful depth	5	7	7	7	13	16												
EA	9	10	11	12,5	24	28												
∅F	6	8	10	12	14	16												
FA	6	8	10	12	16	20												
G	M5x0,8	M5x0,8	M5x0,8	M5x0,8	G1/8	G1/8												
GB	9	10	11	16	16	18												
L	10	13	17	21	24	28												
LA	7	9	12,5	14	15	18												
LB	15	19	24	29	32	38												
LD	45,5	57,5	69	80	100	117												
LE	34	43	54	64	70	86												
∅M^{H9}	18	23	27	32	35	40												
Useful depth	1,5	1,5	1,5	1,5	2,5	2,5												
N	M4x0,7	M5x0,8	M6x1	M8x1,25	M10x1,5	M12x1,75												
NA	7	8	10	12	16	18												
NB	20	25	30	40	50	60												
P	0,5	0,5	1	1	1	1												
ZA	24	39	57	26	50	70	32	68	88	38	86	104	56	104	148	72	130	170
ZB	56	78	96	68	110	130	82	142	162	100	182	200	150	198	242	188	246	286
close	76	118	156	98	170	210	122	222	262	150	282	320	220	318	402	288	406	486
open	51	67	85	60	90	110	71	113	133	88	142	160	110	158	202	148	206	246
ZC	34	52	70	45	75	95	58	100	120	70	124	142	86	134	178	116	174	214
ZD	38	54	72	40	70	90	54	96	116	66	120	138	/	/	/	/	/	/
ZE	26	42	60	28	58	78	38	80	100	48	102	120	60	108	152	80	138	178
ZF	100	142	180	128	200	240	160	260	300	196	328	366	272	370	454	348	466	546
ZG	13,5	14	14	17	20	20	19,5	22,5	22,5	25	28	28	31	31				42
ZH																		
Weight (gr.)	280	350	430	600	800	950	1000	1500	1700	1700	2500	2800	2900	3800	4700	5300	6850	7900
	20	40	60	30	60	80	40	80	100	50	100	120	70	120	160	100	160	200
	Stroke																	

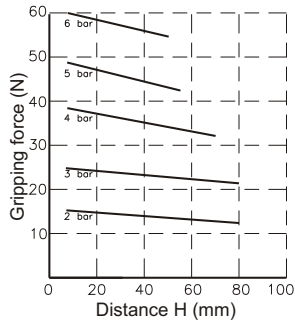
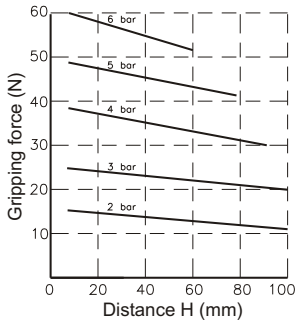
Holding force

Opening / Closing Stroke

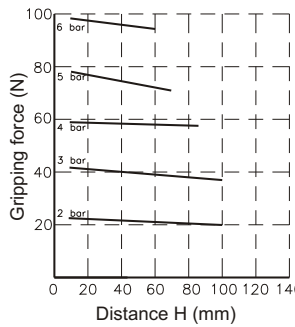
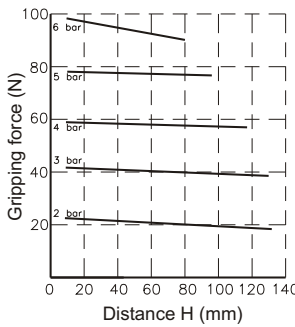
Basic Version

Versions 1 & 2

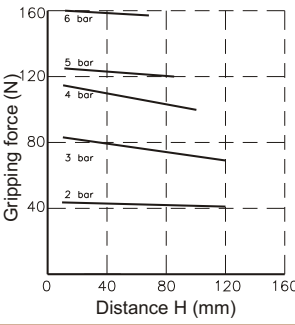
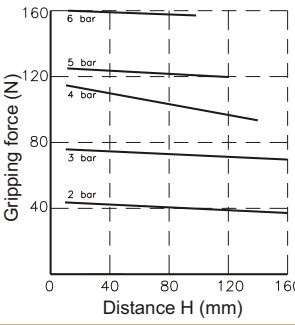
Ø16



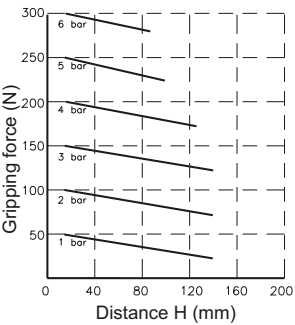
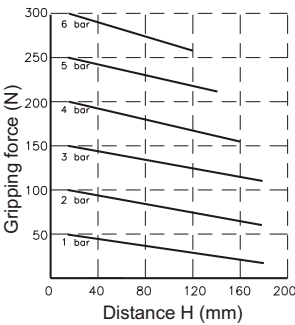
Ø20



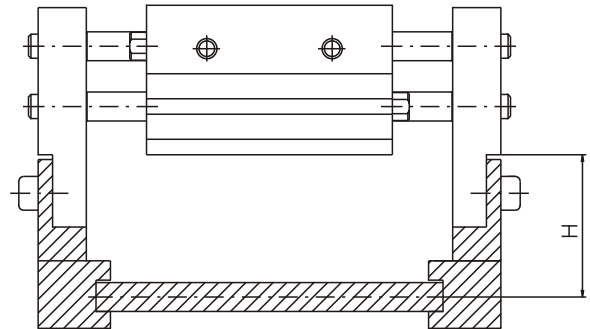
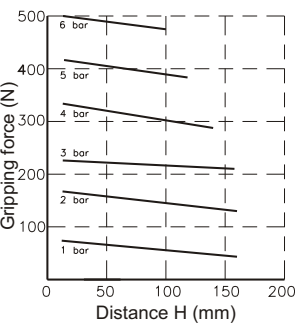
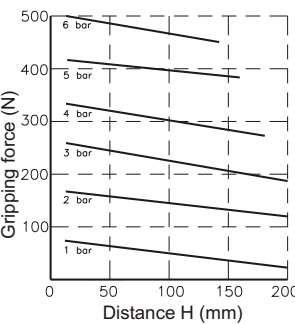
Ø25

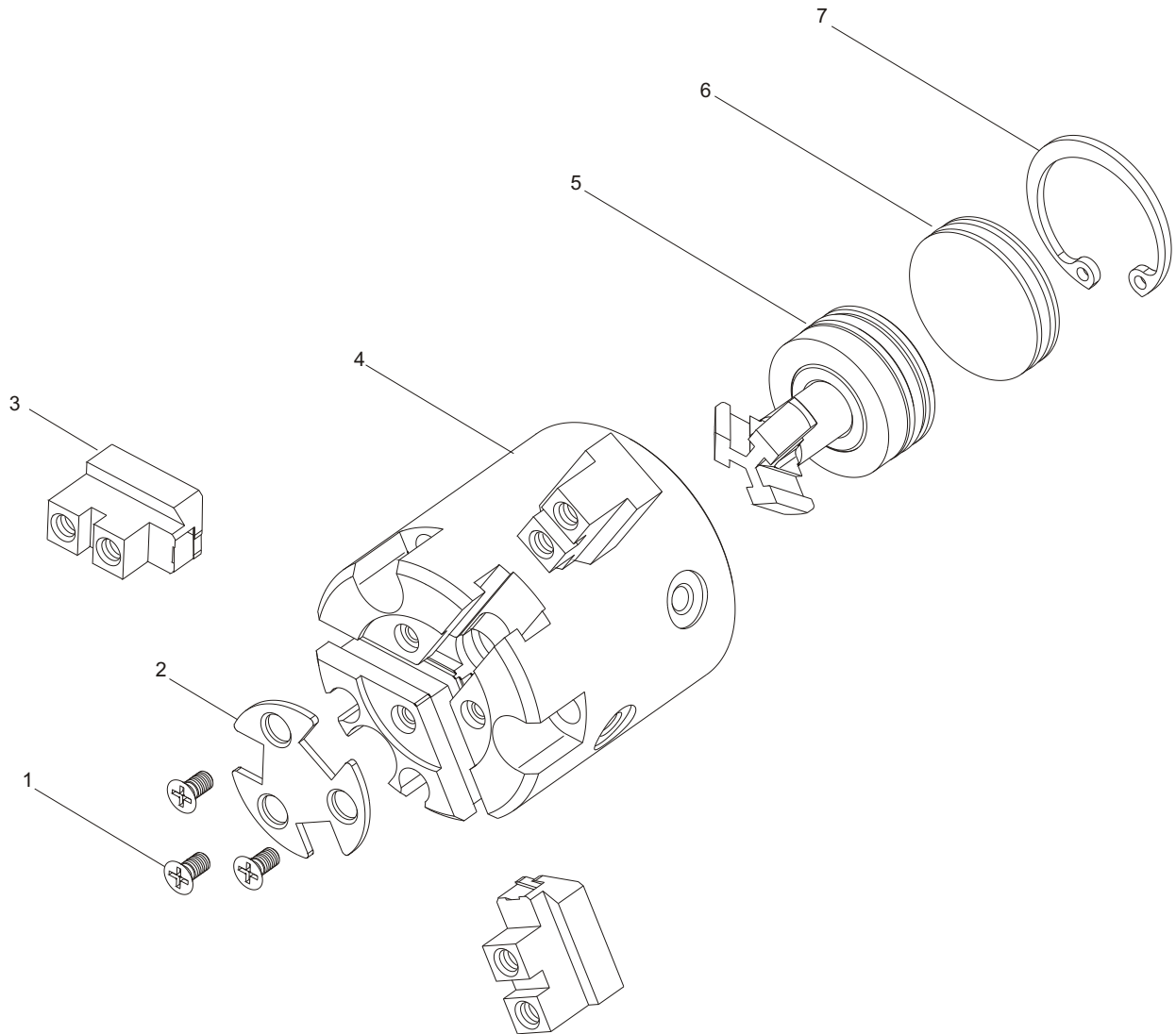


Ø32



Ø40





Pos.	Item	Qty.	Pos.	Item	Qty.
1	Screw	3	5	Piston	1
2	Plate finger	1	6	End plate	1
3	Finger	3	7	Circlip	1
4	Body	1			



Ordering code

6312.Ø.D

- 16
- 20
- 25
- 32
- 40
- 50
- 63
- 80
- 100
- 125

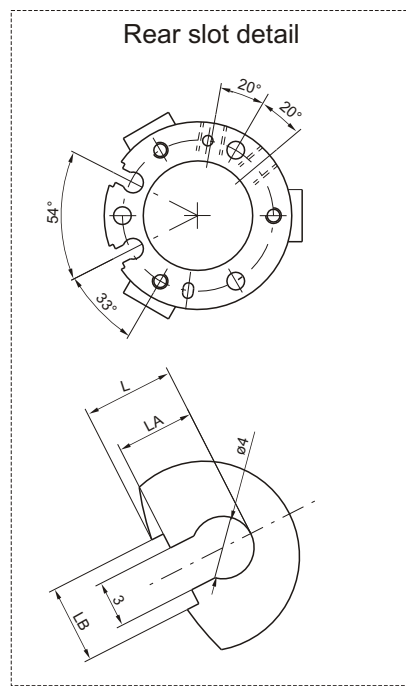
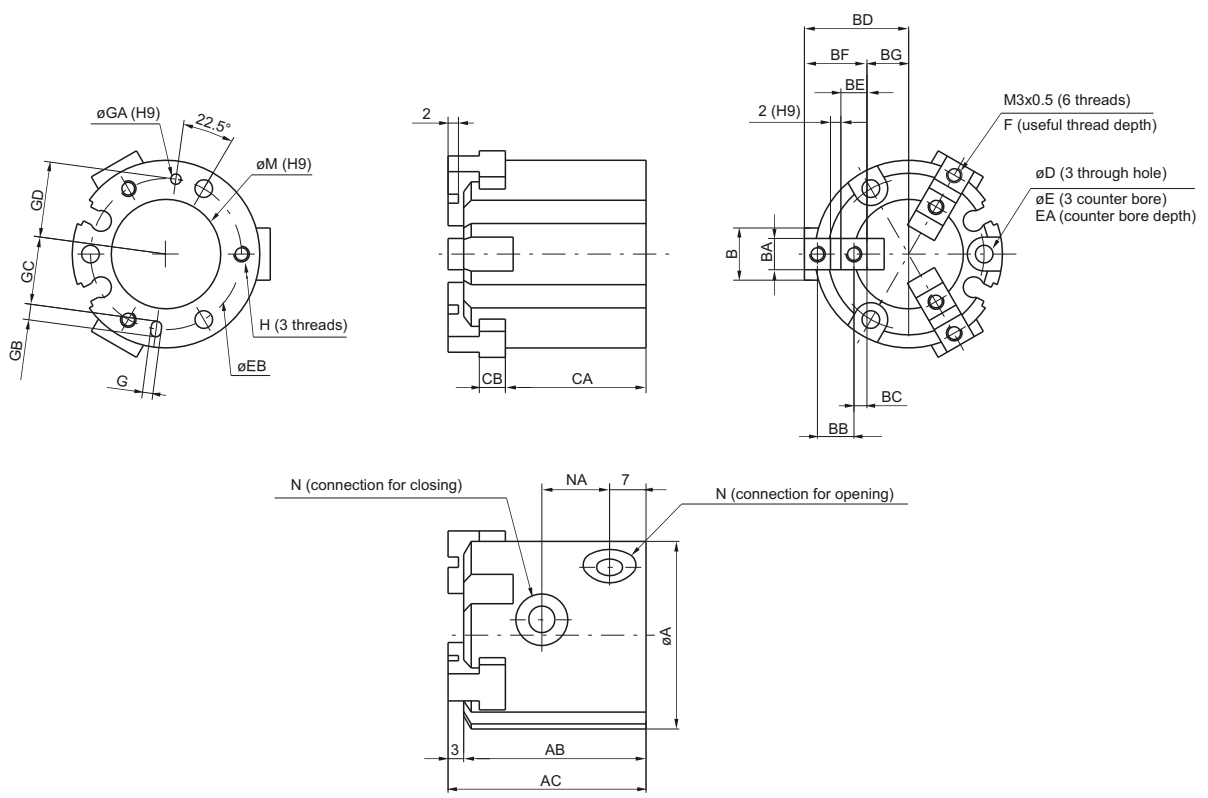
For sensors P/N see page. 6.9 (ø16 to ø25)
page. 6.7 (ø32 to ø100)

Construction characteristics

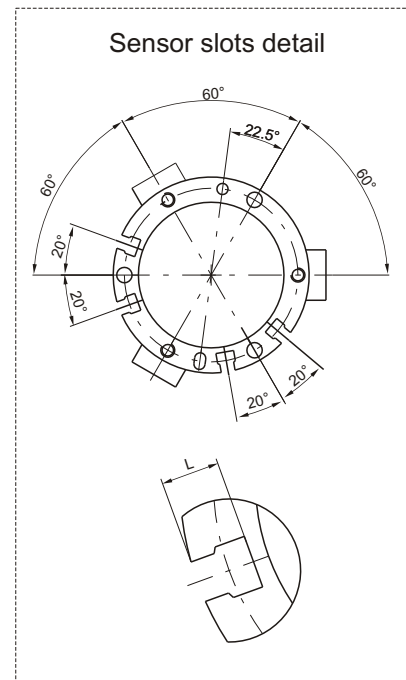
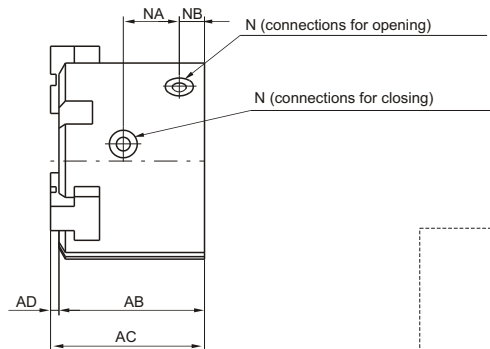
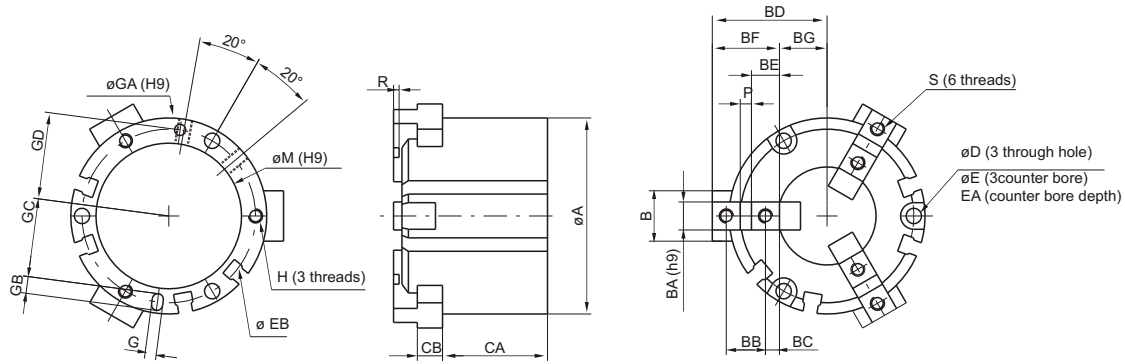
Body	aluminium
Piston	aluminium
Wedge	steel
Fingers	steel

Technical characteristics

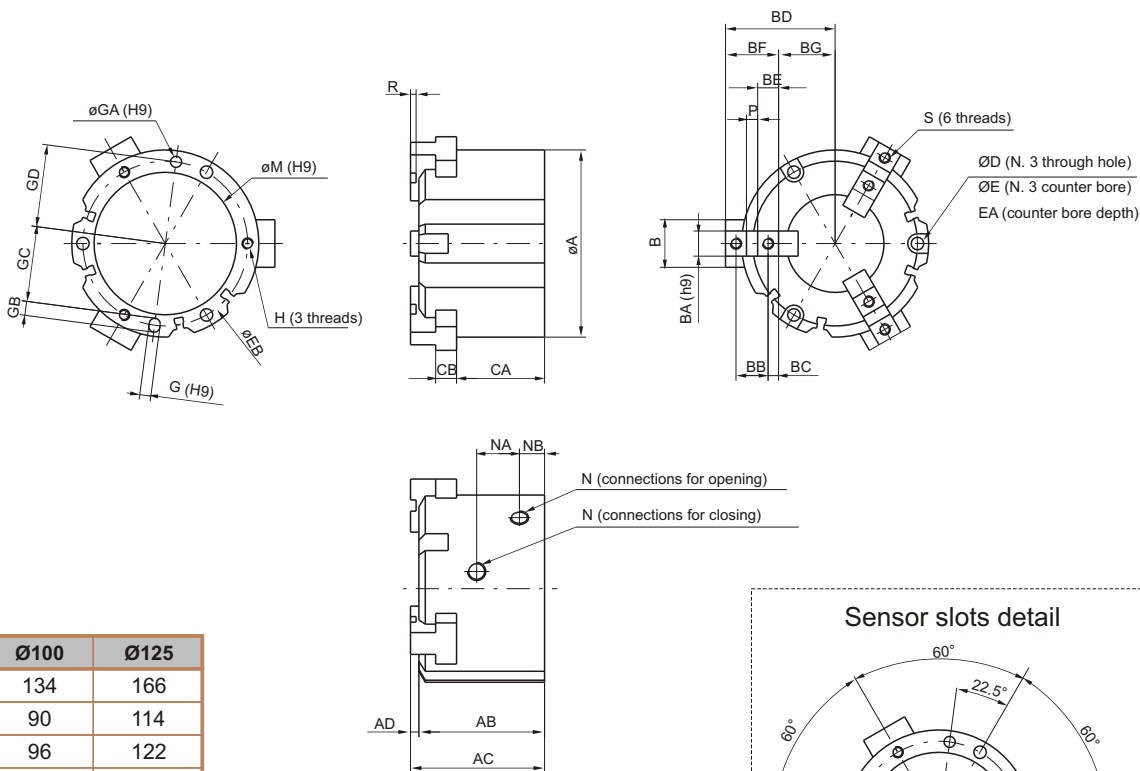
Fluid	filtered and non lubricated air
Function	double acting
Working pressure	2÷6 bar (ø16 - ø20 - ø25) - 1÷6 bar (ø32 ÷ ø125)
Working temperature	-5°C ÷ +70°C



Bore	Ø16	Ø20	Ø25
ØA	30	36	42
AB	32	35	37
AC	35	38	40
B	8	10	12
BA ^{H9}	5	6	6
BB	6	7	8
BC	2	2,5	3
BD	open	17	20
	close	15	18
BE	4	5	6
BF	10	12	14
BG	open	7	8
	close	5	6
CA	25	27	28
CB	4	5	5
D	3,4	3,4	4,5
E	6,5	6,5	8
EA	8	9,5	10
EB	25	29	34
F	5	6	6
G ^{H9}	open	2	2
	close	2	3
ØGA ^{H9}	Useful depth	2	3
	close	2	3
GB	3	3	5
GC	11	13	14,5
GD	12,5	14,5	17
H	Useful depth	M3x0,5	M3x0,5
	close	M4x0,7	M4x0,7
L	5	6	6,5
LA	-	5	5
LB	-	5	5
ØM ^{H9}	Useful depth	1,5	2,1
	close	1,5	2,6
N	M3x0,5	M5x0,8	M5x0,8
NA	11	13	15



Bore	$\varnothing 32$	$\varnothing 40$	$\varnothing 50$	$\varnothing 63$	$\varnothing 80$
$\varnothing A$	52	62	70	86	106
AB	41	44	52	62	77
AC	44	47	55	66	82
AD	3	3	3	4	5
B	14	16	18	24	28
BA ^{h9}	8	8	10	12	14
BB	11	12	14	17	20
BC	4,5	4,5	5	5,5	6
BD	open: 32	open: 35	open: 41	open: 51	open: 63,5
BD	close: 28	close: 31	close: 35	close: 43	close: 53,5
BE	9	9	10	11	12
BF	20	21	24	28	32
BG	open: 12	open: 14	open: 17	open: 23	open: 31,5
BG	close: 8	close: 10	close: 11	close: 15	close: 21,5
CA	30,5	32	37,5	44	56
CB	6	7	9	11	12
D	4,5	5,5	5,5	6,6	6,6
E	8	9,5	9,5	11	11
EA	9	9	12	14	19
EB	44	53	62	76	95
H	M4x0,7	M5x0,8	M5x0,8	M6x1	M6x1
H	Useful depth: 6	Useful depth: 7,5	Useful depth: 10	Useful depth: 9	Useful depth: 12
G ^{h9}	3	4	4	5	6
G ^{h9}	Useful depth: 3	Useful depth: 4	Useful depth: 4	Useful depth: 5	Useful depth: 6
$\varnothing GA$ ^{h9}	3	4	4	5	6
$\varnothing GA$ ^{h9}	Useful depth: 3	Useful depth: 4	Useful depth: 4	Useful depth: 5	Useful depth: 6
GB	5	6	6	7	8
GC	19,5	23,5	28	34,5	43,5
GD	22	26,5	31	38	47,5
L	6	8	7	7,5	9
N	M5x0,8	M5x0,8	M5x0,8	M5x0,8	G1/8
$\varnothing M$ ^{h9}	34	42	52	65	82
$\varnothing M$ ^{h9}	Useful depth: 2	Useful depth: 2	Useful depth: 2	Useful depth: 2,5	Useful depth: 3
NA	16	17	20	22	27
NB	8	9	9	12	13,5
P ^{h9}	2	3	4	6	8
R	2	2	2	3	4
S	M4x0,7	M4x0,7	M5x0,8	M5x0,8	M6x1
S	Useful depth: 8	Useful depth: 8	Useful depth: 10	Useful depth: 10	Useful depth: 12



Bore		$\varnothing 100$	$\varnothing 125$
$\varnothing A$		134	166
AB		90	114
AC		96	122
AD		6	8
B		34	40
BA ^{h9}		18	22
BB		23	31
BC		7,5	10,5
BD	open	78	98
	close	66	82
BE		15	21
BF		38	52
BG	open	40	46
	close	28	30
CA		63	84
CB		15	18
$\varnothing D$		9	11
$\varnothing E$		14	17,5
EA		21	34
EB		118	148
G ^{H9}	Useful depth	8	10
		6	8
$\varnothing GA$ ^{H9}	Useful depth	8	10
		6	8
GB		10	12
GC		54	68
GD		59	74
H		M8x1,25	M10x1,5
	Useful depth	16	20
L		13	15
$\varnothing M$ ^{H9}		102	130
	Useful depth	4	6
N		G1/4	G3/8
NA		30,6	38
NB		18	23,5
P ^{h9}		8	10
R		4	6
S		M8x1,25	M10x1,5
	Useful depth	16	20

GRIPPING FORCE (N)

