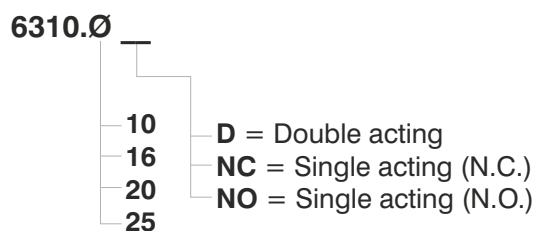


Ordering code

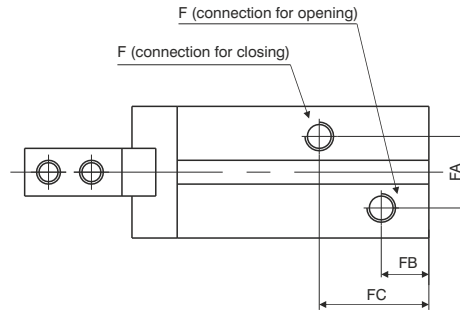
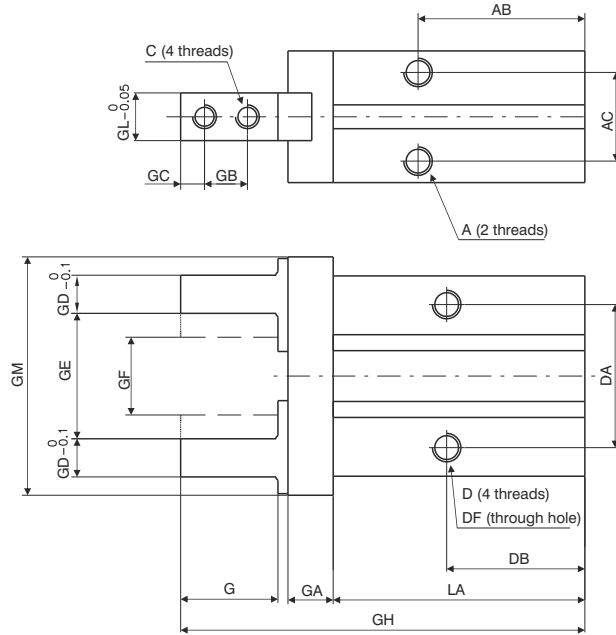
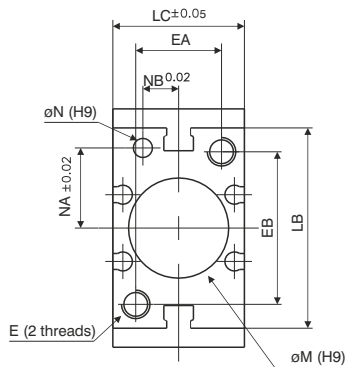


Construction characteristics

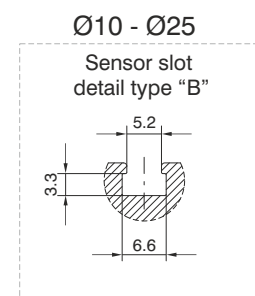
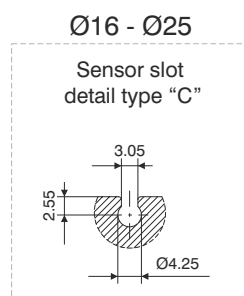
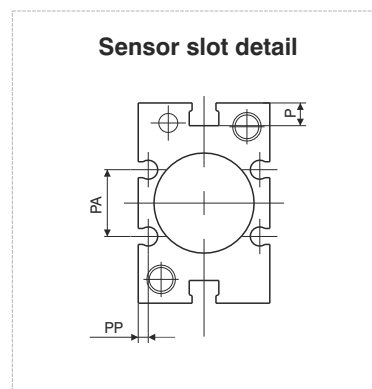
Body	anodised aluminium
Piston	aluminium or stainless steel (depending on the bore)
Fingers	steel
End cover	anodised aluminium
Seals	oil resistant NBR rubber

Technical characteristics

Fluid	filtered and preferably lubricated air or not (If lubricated the lubrication must be continuous)
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
Maximum operating frequency	from Ø10 to Ø25, 180 cycles/minute



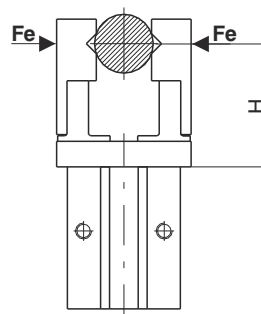
Bore	Ø10	Ø16	Ø20	Ø25
A	M3x0,5	M4x0,7	M5x0,8	M6x1
	Useful depth	6	4,5	8
AB	27	30	35	36,5
AC	11,4	16	18,6	22
C	M2,5x0,45	M3x0,5	M4x0,7	M5x0,8
D	M3x0,5	M4x0,7	M5x0,8	M6x1
	Useful depth	5,5	8	10
DA	16	24	30	36
DB	23	24,5	29	30
ØDF	2,6	3,4	4,3	5,1
E	M3x0,5	M4x0,7	M5x0,8	M6x1
	Useful depth	6	8	10
EA	12	15	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	15,5	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	67,5	84,8	102,7
GL	5	8	10	12
GM	29	38	50	63
LA	37,8	42,5	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
PP	/	2,1	2,1	3,5
Weight (gr.)	55	120	230	425



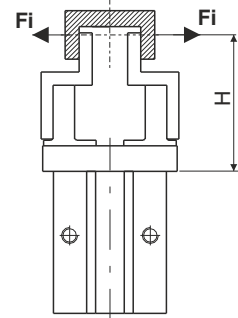
Holding force (N) (pressure 5 bar, holding point H=20 half stroke)

Version	Force	Bore			
		Ø10	Ø16	Ø20	Ø25
Double acting	Fe	9,8	30	42	65
	Fi	17	40	66	104
Single acting	N.O. Fe	6,3	24	28	45
	N.C. Fi	12	31	56	83

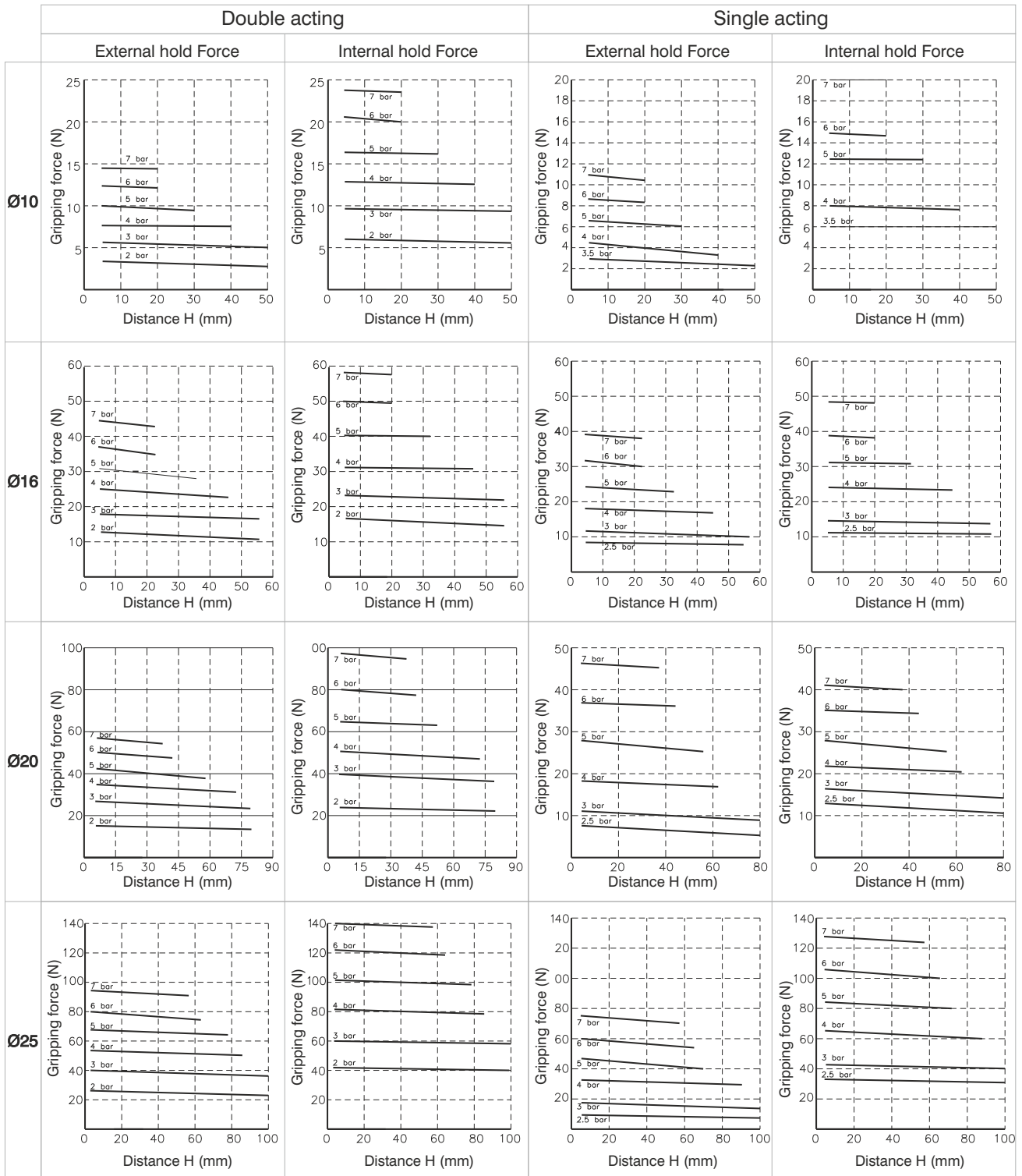
Fe = external holding force Fi = internal holding force



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					

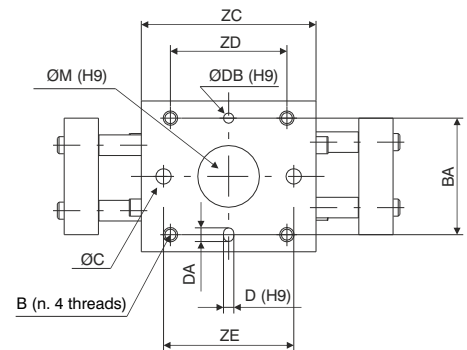
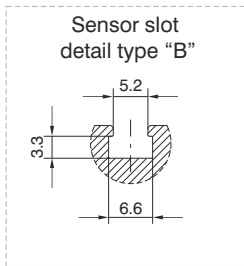
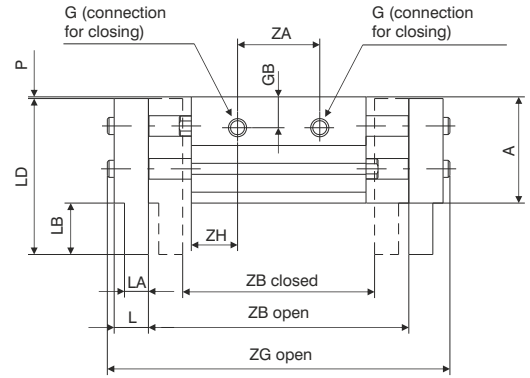
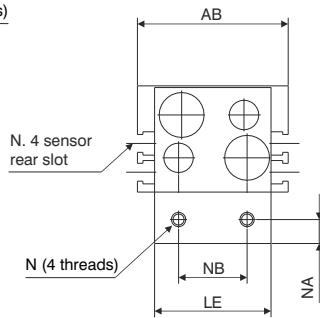
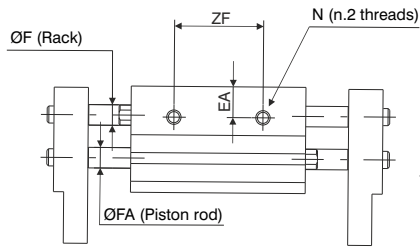
Construction characteristics

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

Technical characteristics

Function	double acting
Fluid	filtered and preferably lubricated air or not (If lubricated the lubrication must be continuous)
Working pressure	Ø10: 1.5 - 6 bar - Ø16 - 40: 1 - 6 bar
Working temperature	-5°C - +70°C

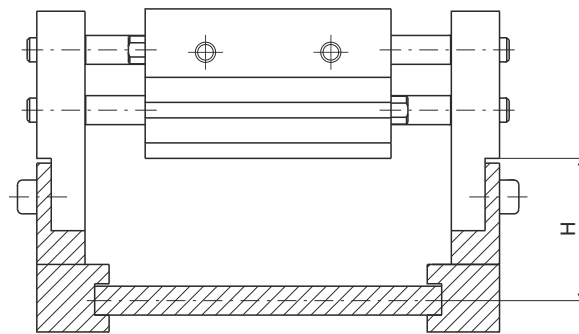
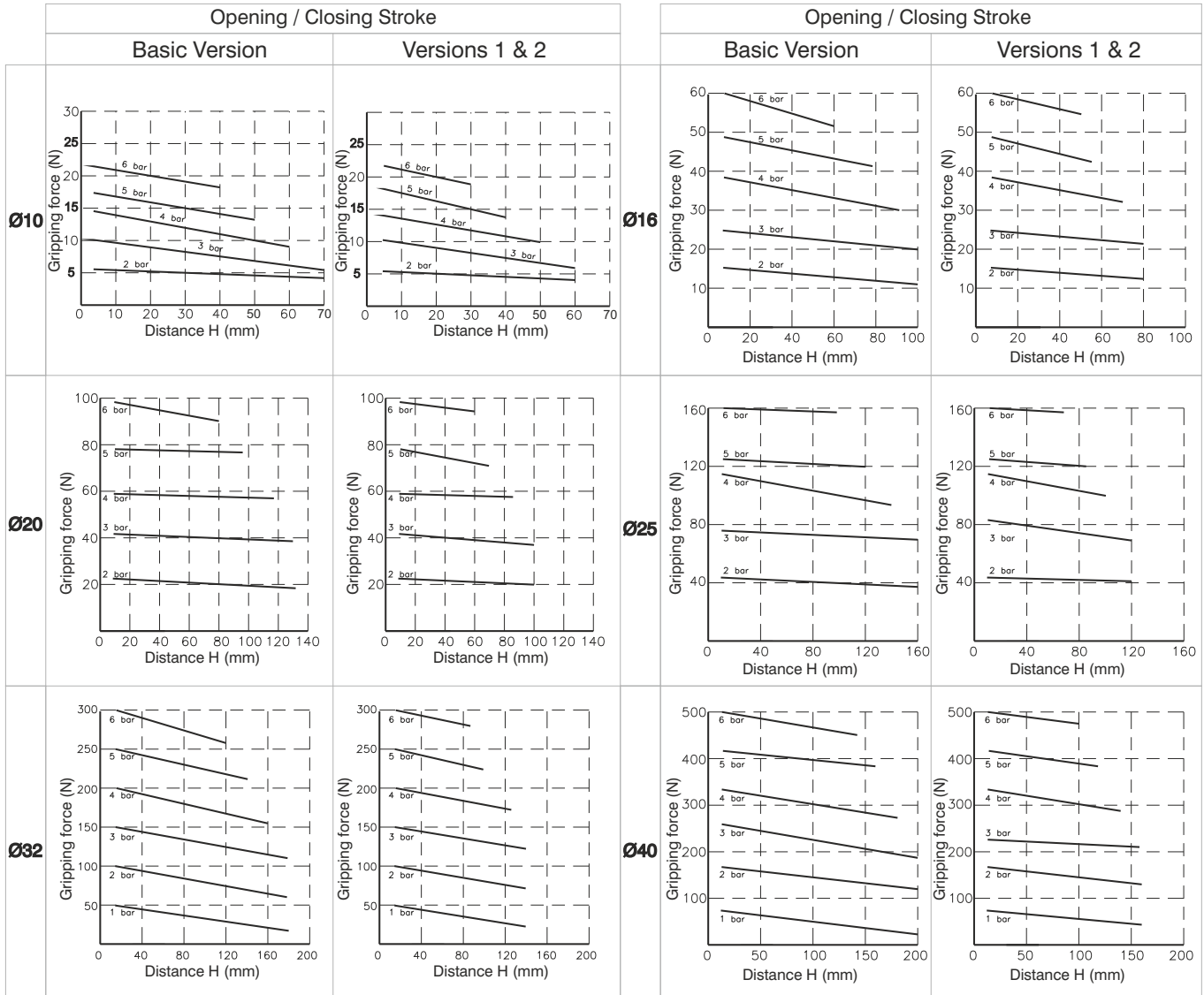
Model	Diameter (mm)	Max.operating frequency cycles/min.	Model	Diameter (mm)	Max.operating frequency cycles/min.
6311.10.D	10	60	6311.25.D	25	60
6311.10.D.1		40	6311.25.D.1		40
6311.10.D.2			6311.25.D.2		
6311.16.D	16	60	6311.32.D	32	30
6311.16.D.1		40	6311.32.D.1		20
6311.16.D.2			6311.32.D.2		
6311.20.D	20	60	6311.40.D	40	30
6311.20.D.1		40	6311.40.D.1		20
6311.20.D.2			6311.40.D.2		



Bore	Ø10	Ø16	Ø20	Ø25	Ø32	Ø40													
A	31	39	46	52	68	79													
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	20													
BA	34	42	52	62	64	76													
ØC	4,5	5,5	6,6	9	/	/													
D ^{H9}	3	3	4	4	6	6													
	Useful depth	3	3	4	4,5	8													
DA	4	4	5	5	7	7													
ØDB ^{H9}	3	3	4	4	6	6													
	Useful depth	3	3	4	4,5	8													
E	M4x0,7	M5x0,8	M6x1	M8x1.25	M8x1.25	M10x1.5													
	Useful depth	5	7	7	11	16													
EA	9	10	11	12,5	22	28													
ØF	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													
ØM ^{H9}	18	23	27	32	35	40													
	Useful depth	1,5	1,5	1,5	1,5	1,5													
N	M4x0,7	M5x0,8	M6x1	M8x1,25	M10x1,5	M10x1,5													
NA	7	8	10	12	15	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	54	104	148	72	130	170	
ZB	closed	56	78	96	68	110	130	82	142	162	100	182	200	150	198	242	188	246	286
	open	76	118	156	98	170	210	122	222	262	150	282	320	220	318	402	288	406	486
ZC	51	67	85	60	90	110	71	113	133	88	142	160	110	158	202	148	206	246	
ZD	36	52	70	45	75	95	58	100	120	70	124	142	86	134	178	116	174	214	
ZE	38	54	72	40	70	90	54	96	116	66	120	138	/	/	/	/	/	/	
ZF	26	42	60	28	58	78	38	80	100	48	102	120	60	108	152	80	138	178	
ZG	open	100	142	180	128	200	240	160	260	300	196	328	366	272	370	454	348	466	546
	ZH	13,5	14	14	17	20	20	19,5	22,5	22,5	25	28	28	28	27				38
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



Ordering code

6312.Ø.D

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



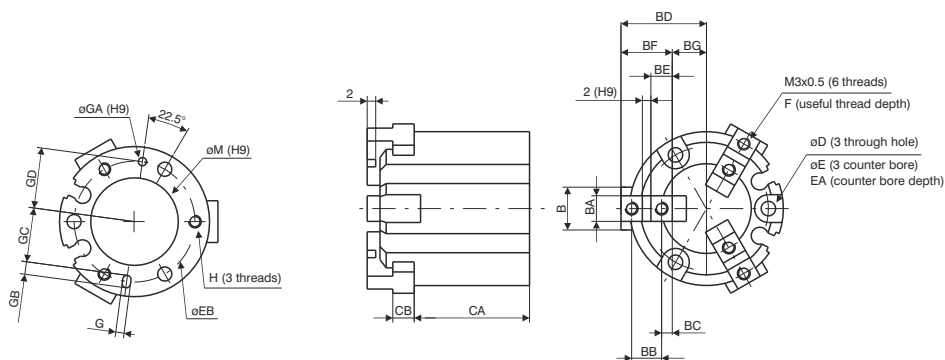
Construction characteristics

Body	aluminium
Piston	aluminium
Wedge	steel
Fingers	steel

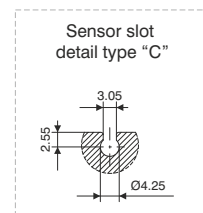
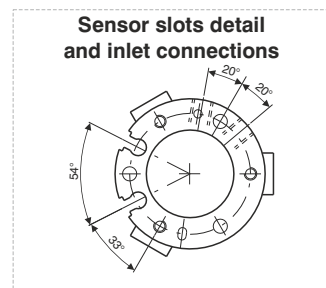
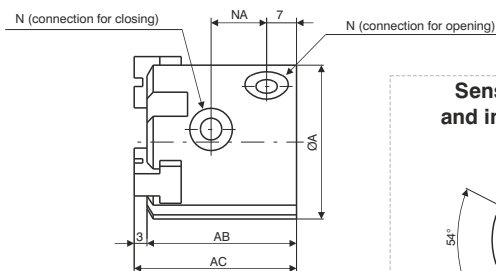
Technical characteristics

Function	double acting
Fluid	filtered and preferably lubricated air or not (If lubricated the lubrication must be continuous)
Working pressure	2 - 6 bar (Ø16 - Ø20 - Ø25) - 1 - 6 bar (Ø32 - Ø125)
Working temperature	-5°C - +70°C
Maximum operating frequency	from Ø 16 to Ø 25, 120 cycles/minute from Ø 32 to Ø 63, 60 cycles/minute from Ø 80 to Ø 125, 30 cycles/minute

Overall dimensions Ø16 - Ø25

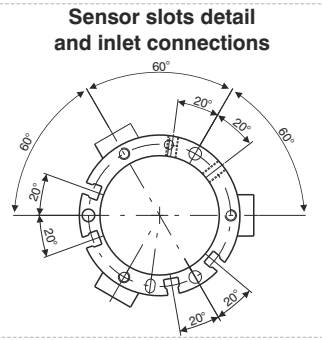
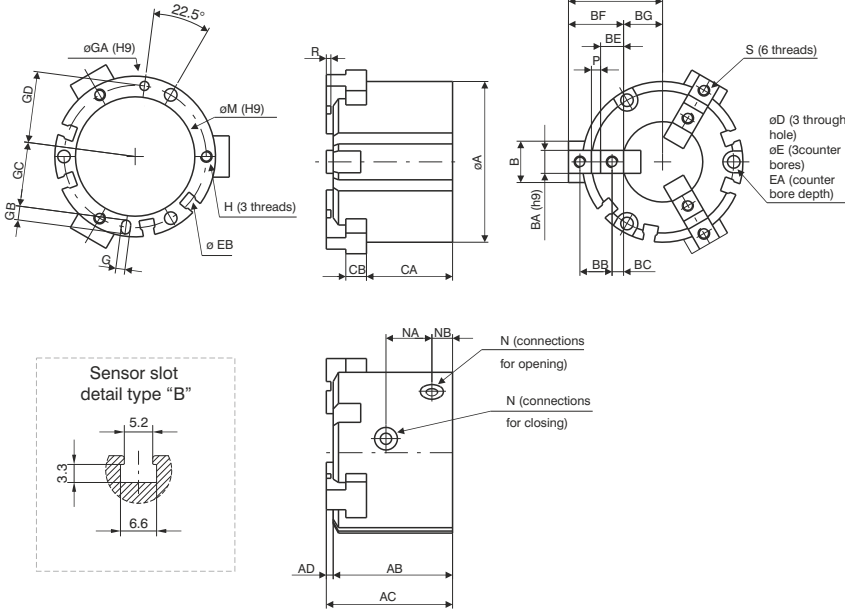


Bore	Ø16	Ø20	Ø25
ØA	30	36	42
AB	32	35	37
AC	35	38	40
B	8	10	12
BA ^{H9}	5	6	6
BB	6	7	8
BC	2	2,5	3
BD	open 17	20	24
	close 15	18	21
BE	4	5	6
BF	10	12	14
BG	open 7	8	10
	close 5	6	7
CA	25	27	28
CB	4	5	5
D	3,4	3,4	4,5
E	6,5	6,5	8
EA	8	9,5	10
EB	25	29	34
F	5	6	6
G ^{H9}	2	2	3
Useful depth	2	2	3
ØGA ^{H9}	2	2	3
Useful depth	2	2	3
GB	3	3	5
GC	11	13	14,5
GD	12,5	14,5	17
H	M3x0,5	M3x0,5	M4x0,7
Useful depth	4,5	6	6
ØM ^{H9}	17	21	26
Useful depth	1,5	1,5	1,5
N	M3x0,5	M5x0,8	M5x0,8
NA	11	13	15
Weight (gr.)	62	98	139



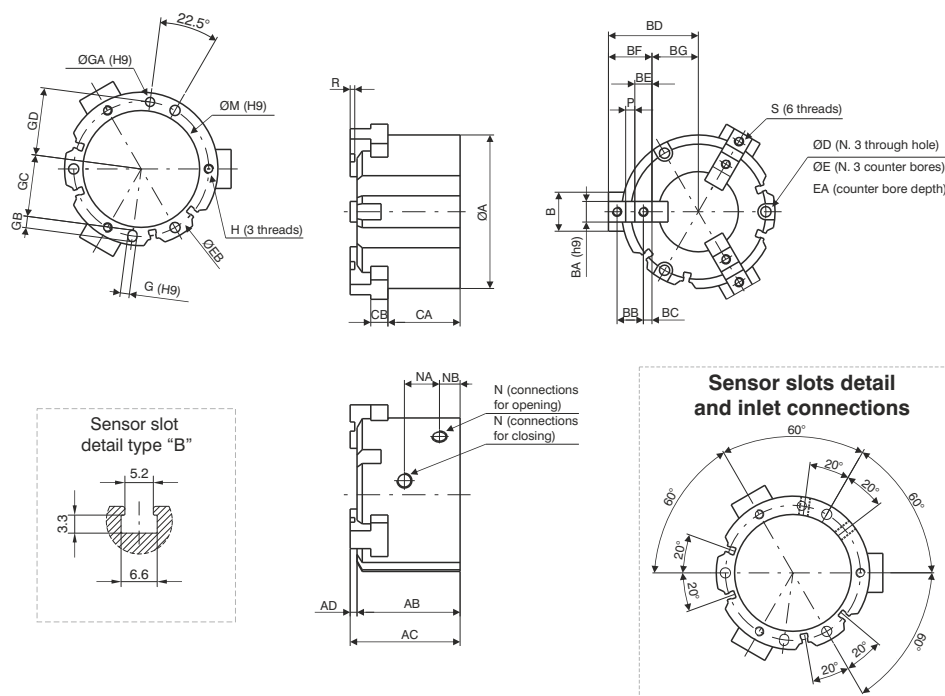
5

Overall dimensions Ø32 and Ø80



Bore	Ø32	Ø40	Ø50	Ø63	Ø80
ØA	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, close: 28	open: 35, close: 31	open: 41, close: 35	open: 51, close: 43	open: 63,5, close: 53,5
BE	9	9	10	11	12
BF	20	21	24	28	32
BG	open: 12, close: 8	open: 14, close: 10	open: 17, close: 11	open: 23, close: 15	open: 31,5, 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
Useful depth	6	7,5	10	9	12
G ^{H9}	3	4	4	5	6
Useful depth	3	4	4	5	6
ØGA ^{H9}	3	4	4	5	6
Useful depth	3	4	4	5	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
N	M5x0,8	M5x0,8	M5x0,8	M5x0,8	G1/8
ØM ^{H9}	34	42	52	65	82
Useful depth	2	2	2	2,5	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
Useful depth	8	8	10	10	12
Gewicht (gr.)	240	354	542	1000	1850

Overall dimensions Ø100 and Ø125



Bore	Ø100	Ø125
ØA	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, close: 66	open: 98, close: 82
BE	15	21
BF	38	52
BG	open: 40, close: 28	open: 46, close: 30
CA	63	84
CB	15	18
ØD	9	11
ØE	14	17,5
EA	21	34
EB	118	148
G ^{H9}	8	10
Useful depth	6	8
ØGA ^{H9}	8	10
Useful depth	6	8
GB	10	12
GC	54	68
GD	59	74
H	M8x1,25	M10x1,5
Useful depth	16	20
ØM ^{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
Gewicht (gr.)	3360	6430

Gripping force (N)

