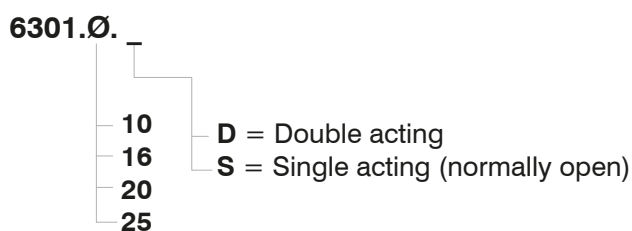


Pneumatic grippers, angular - Standard version



Ordering code



Construction characteristics

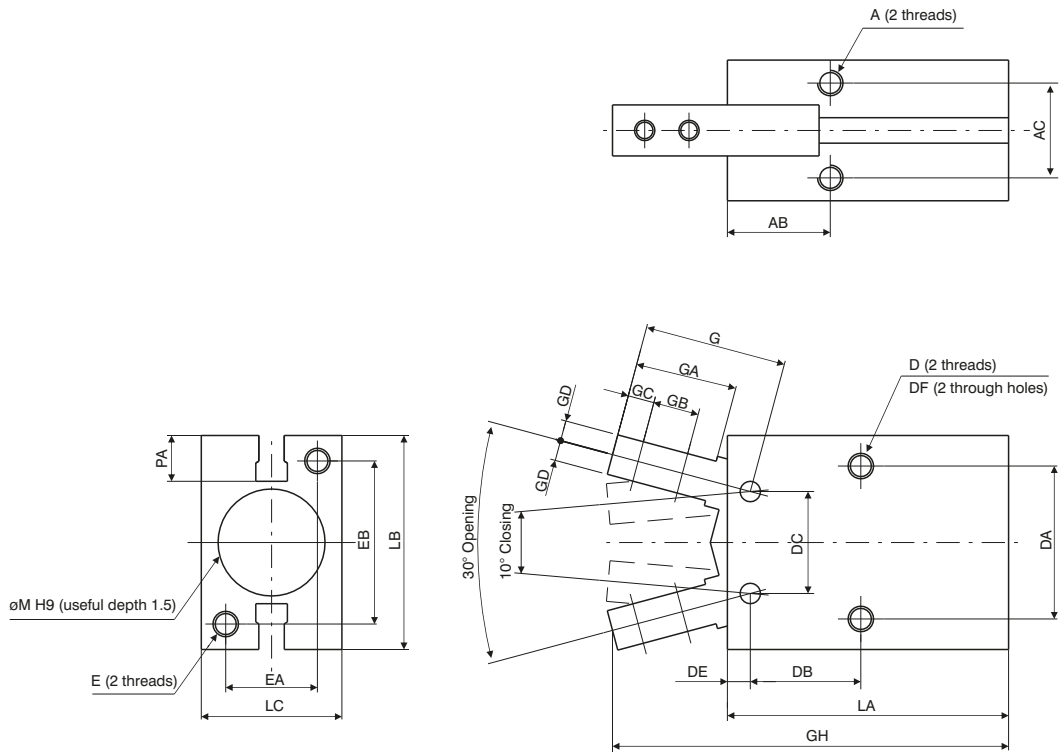
Body	anodised aluminium
Piston	AISI 303 stainless steel
Fingers	nitrate steel
End cap	anodised aluminium
Seals	oil resistant NBR rubber

Operational characteristics

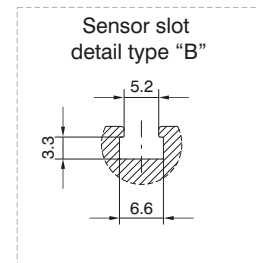
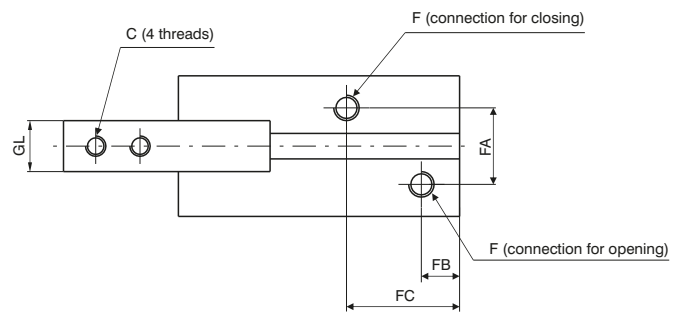
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous.		
Working pressure	1 - 6 bar (double acting) - 2.5 - 6 bar (single acting)		
Operating temperature	-5°C - +70°C		
Opening total stroke	-10° - 30°		
Holding force (Nm) at 5 bar	Bore - Double acting - Single acting		
	Ø10	0.1	0.07
	Ø16	0.4	0.30
	Ø20	0.7	0.55
	Ø25	1.35	1.08
Maximum operating frequency	from Ø10 to Ø25, 190 cycles/minute		

3 PNEUMATIC ACTUATION

Overall dimensions



Bore	Ø10	Ø16	Ø20	Ø25
A	M3x0,5	M4x0,7	M5x0,8	M6
Useful depth	6	6,5	8	10
AB	11,6	14,6	20,2	23,9
AC	11,4	16	18,6	22
C	M2,5x0,45	M3x0,5	M4x0,7	M5x0,8
D	M3x0,5	M4x0,7	M5x0,8	M6
Useful depth	5	8	10	12
DA	16	24	30	36
DB	12,8	16,2	21,7	25,8
DC	10	16	20	25
DE	2,8	3,9	4,5	4,6
DF	2,6	3,4	4,3	5,1
E	M3x0,5	M4x0,7	M5x0,8	M6
Useful depth	6	8	10	12
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	7,2	7	7,5	7,7
FC	18,8	18,3	22,2	23,5
G	17,2	22,6	28	37,5
GA	12	16	20	27
GB	5,7	7	9	12
GC	3	4	5,2	8
GD	2	3,5	4	5
GH	52,4	62,5	78,7	92
GL ^{0/-0,1}	6,4	8	10	12
LA	38,6	44,6	55,2	60,4
LB	23	30,6	42	52
LC	16,4	23,6	27,6	33,6
M ^{H9}	11	17	21	26
PA	5,4	5,8	9	11,5
Weight (g)	40	90	180	315



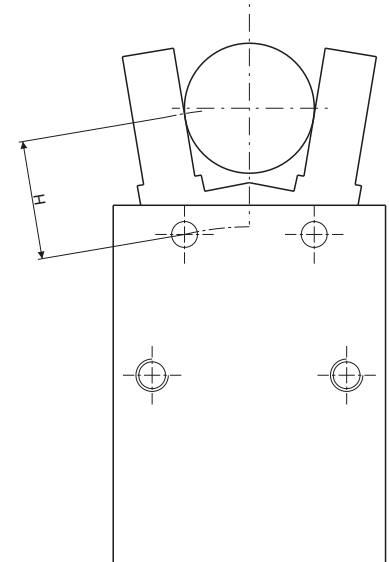
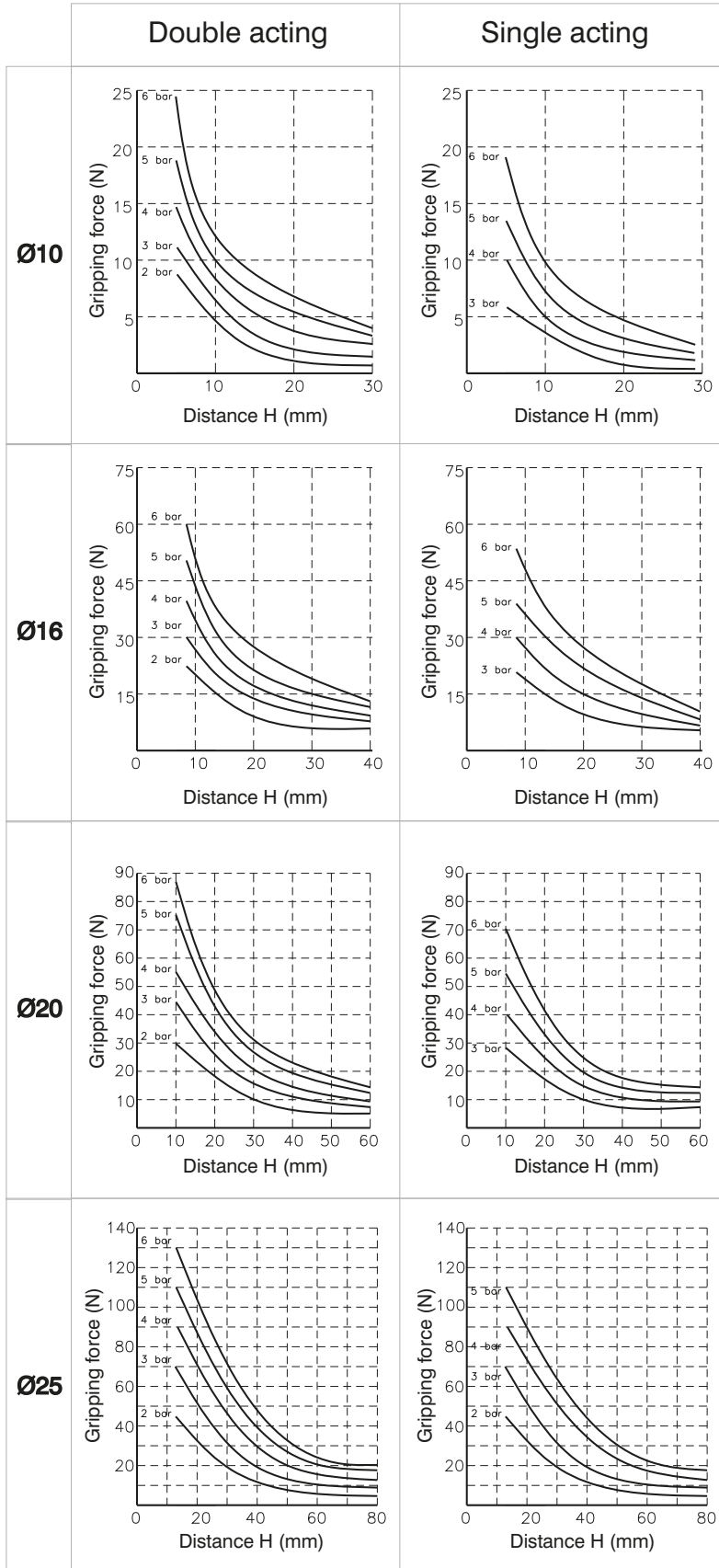


Gripping force 5 bar (Nm)

Bore	Ø10	Ø16	Ø20	Ø25
Double acting (Nm)	0,1	0,4	0,7	1,35
Single acting (Nm)	0,07	0,3	0,55	1,08

NOTE:

Bore selection should be made considering a holding force 10 to 20 times the component weight.
 In case of acceleration/deceleration a further margin of safety should be considered.



3 PNEUMATIC ACTUATION

► Pneumatic grippers, 180° angular



Ordering code

6302.Ø.D

10
16
20
25

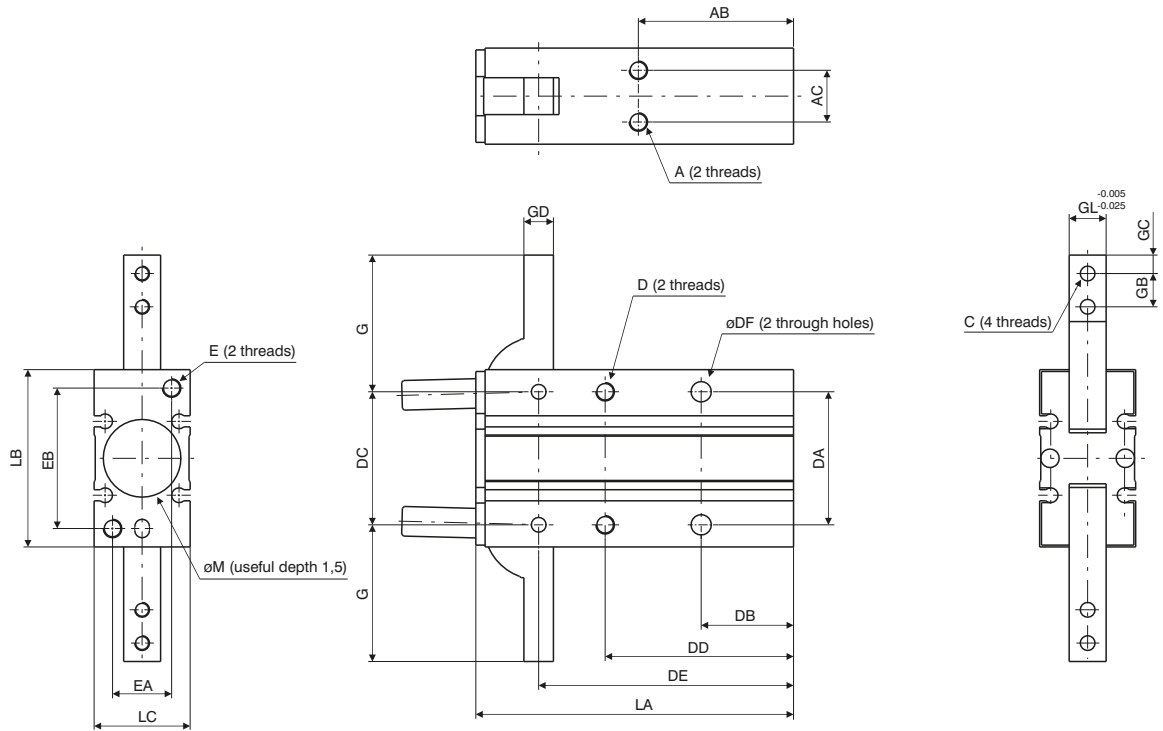
Construction characteristics

Body	anodised aluminium
Piston	aluminium
Fingers	steel
End cap	anodised aluminium

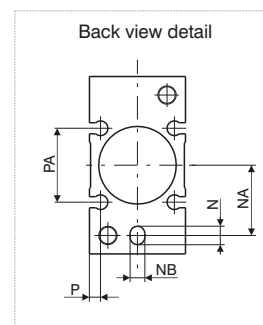
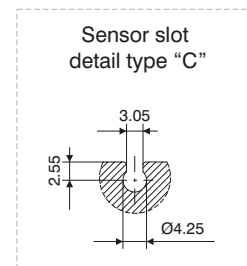
Operational characteristics

Function	double acting
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous.
Working pressure	1 - 6 bar
Working temperature	-5C° - +70C°
Opening total stroke	-3° - 180°
Maximum operating frequency	from Ø10 to Ø25, 60 cycles/minute

Overall dimensions



Bore	Ø10	Ø16	Ø20	Ø25
A	M3x0,5	M4x0,7	M5x0,8	M6x1
Useful depth	4	5	8	10
AB	30	33	42	50
AC	9	12	14	16
C	M3x0,5	M3x0,5	M4x0,7	M5x0,8
D	M3x0,5	M4x0,7	M5x0,8	M6x1
Useful depth	6	8	10	12
DA	24	30	36	42
DB	18	20	25	30
DC	22	28	36	45
DD	35	41	51	60
DE	47,5	55,5	69	86
DF	3,4	4,5	5,5	6,6
E	M3x0,5	M4x0,7	M5x0,8	M6x1
Useful depth	6	8	10	12
EA	9	12	16	18
EB	24	30	38	46
F	M5x0,8	M5x0,8	M5x0,8	M5x0,8
FA	3	8	2	14
FB	7	7	8	8
FC	23	25	32	42
G	23,5	28,5	37	45
GB	6	7	9	12
GC	3	4	5	6
GD	4	5	8	10
GL	6	8	10	12
LA	58	69	86	107
LB	30	38	48	58
LC	15	20	26	30
N	4	4	5	5
Useful depth	3	3	4	4
NA	9	15	19	23
ØM ^{H9}	11	17	21	26
ØNB ^{H9}	3	3	4	4
P	2	2,5	3	3
PA	13	18	20	24
Weight (g)	70	150	320	550

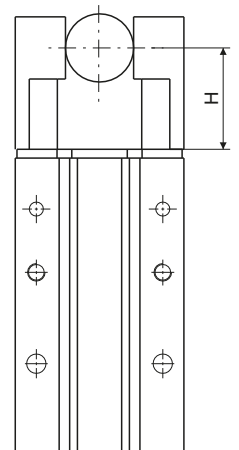
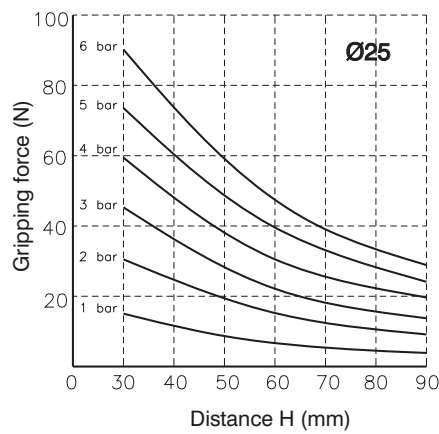
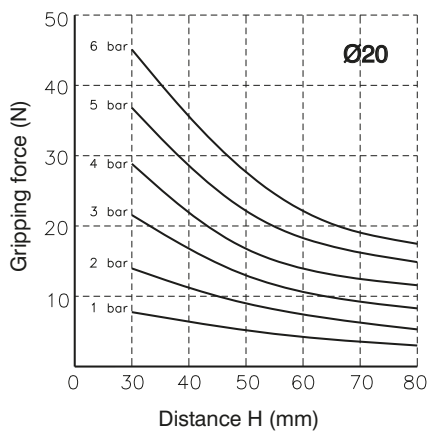
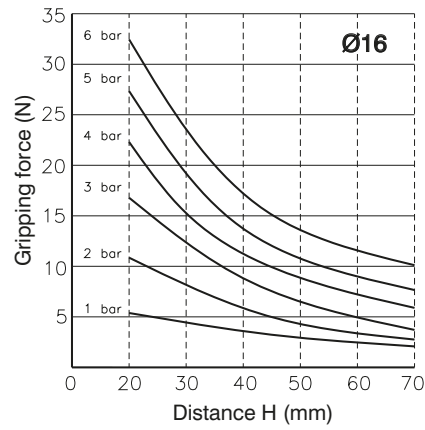
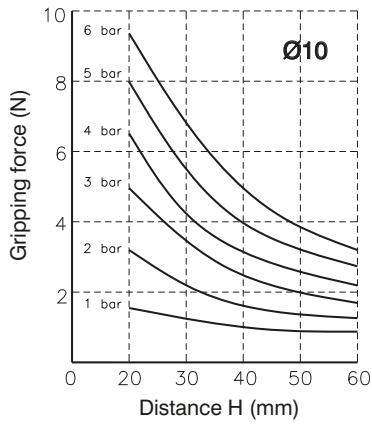


PNEUMATIC ACTUATION

Operating criteria

Gripping force 5 bar (Nm)

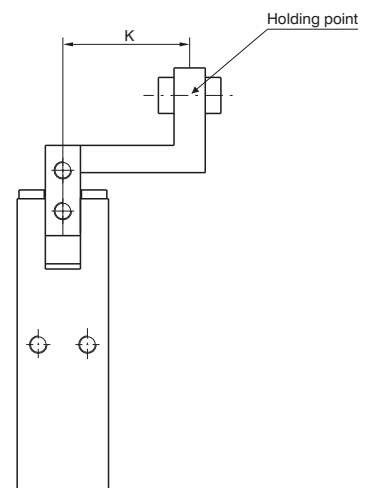
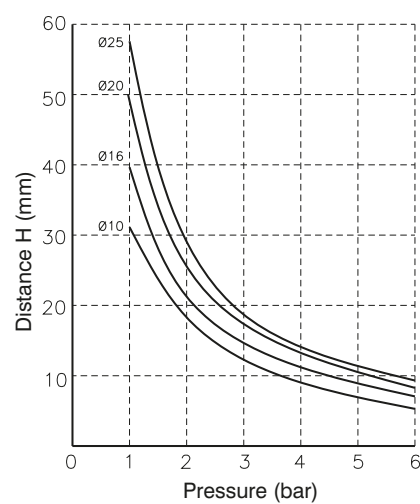
Bore	Ø10	Ø16	Ø20	Ø25
(Nm)	0,16	0,54	1,1	2,28



3

PNEUMATIC ACTUATION

Confirmation of Holding point



Applications where the holding point is outside the recommended parameters shown on the above graph might affect the product life.



► **180° angular gripper rack & pinion style**



Ordering code

6303.Ø.D

F = Fingers, end fixing
 L = Fingers, side fixing

- 20
- 25
- 32
- 40
- 50

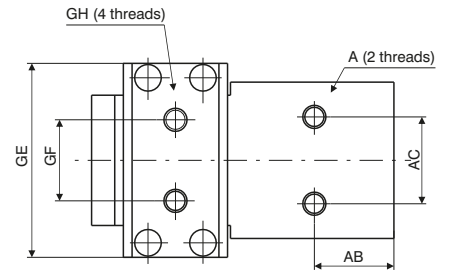
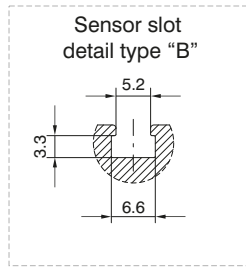
Construction characteristics

Body	anodised aluminium
Piston	aluminium
Fingers	steel
End cap	anodised aluminium

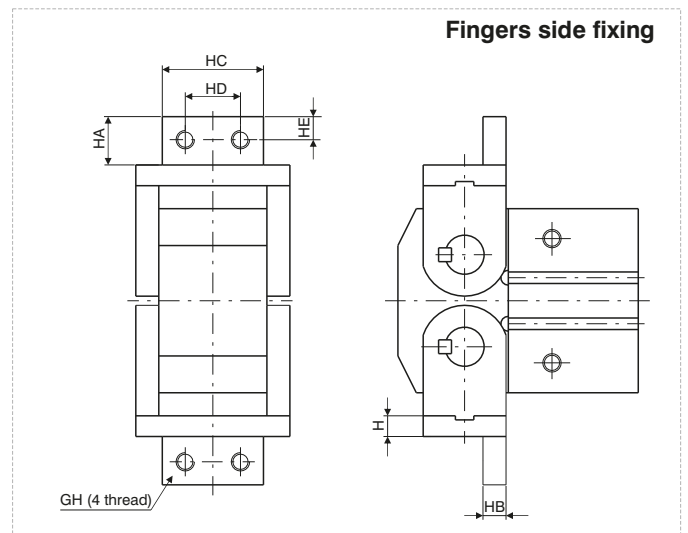
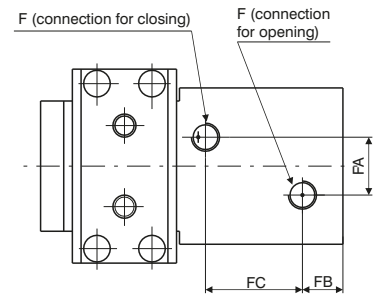
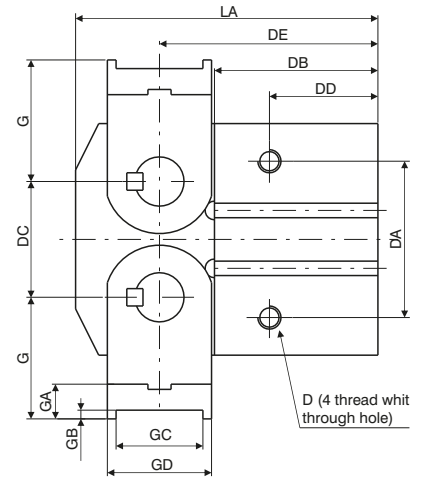
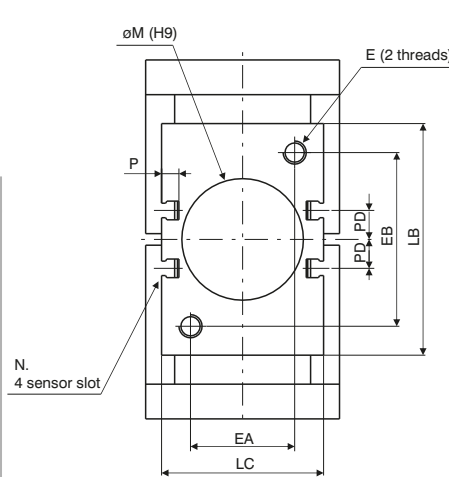
Operational characteristics

Function	double acting
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous.
Working pressure	1.5 - 7 bar
Working temperature	-5C° - +70C°
Opening total stroke	-5° - 180°
Maximum operating frequency	from Ø20 to Ø25, 60 cycles/minute from Ø32 to Ø50, 30 cycles/minute

Overall dimensions



Bore		Ø20	Ø25	Ø32	Ø40	Ø50
A		M5	M6	M6	M8	M10
	Useful depth	7	10	10	15	20
AB		17	20	21	27,5	36
AC		20	24	24	30	40
D		M5	M6	M6	M8	M10
	Useful depth	10	12	12	16	20
DA		27	34	42	54	70
DB		35	40	47	56,5	69
DC		18	24	30	40	56
DD		23	27	29	37,5	48
DE		45	51	61,5	75,5	96
E		M5	M6	M6	M8	M10
	Useful depth	10	12	12	15	20
EA		26	30	30	36	40
EB		26	30	45	60	80
F		M5	M5	G1/8	G1/8	G1/4
FA		12	16	20	20	30
FB		9	10	13	14	16
FC		20	23	25	33,5	44
G		23	27	32	42	58
GA		7	8	9	12	17
GB		2	2	2	3	4
GC		12	17	23	30	44
GD		16	21	27	36	52
GE		41	45	51	67	85
GF		18	20	20	28	38
GH		M4	M5	M6	M8	M10
H		5	6	7	9	13
HA		10	12	14	21	24
HB		5	6	7	10	13
HC		28	30	34	44	58
HD		14	16	18	24	30
LA		60	69	83,5	104,5	136
LB		36	45	58	80	112
LC		36	40	45	56	66
ØM ^{H9}		21	26	34	42	52
	Useful depth	3	3	4	4	5
P		6	5,5	5,5	6	6
PD		4	4,5	11	10	13
Weight (g)		300	500	900	2100	5000



3 PNEUMATIC ACTUATION



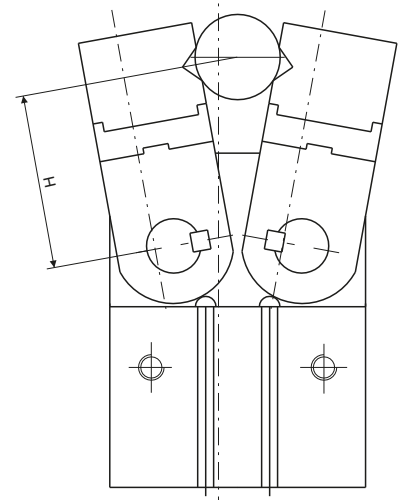
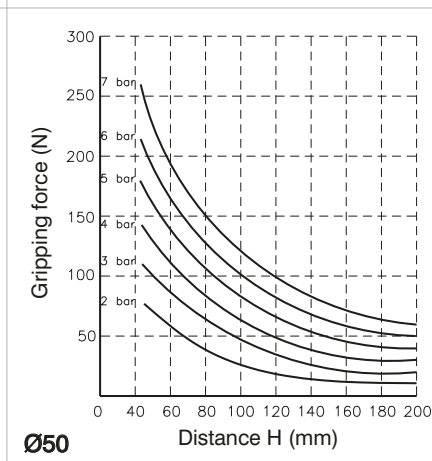
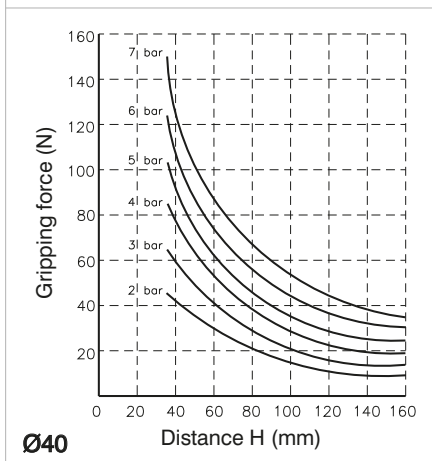
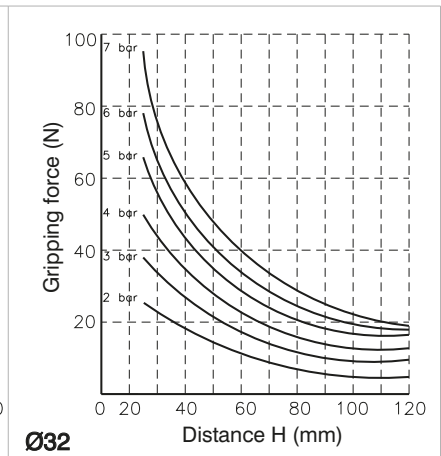
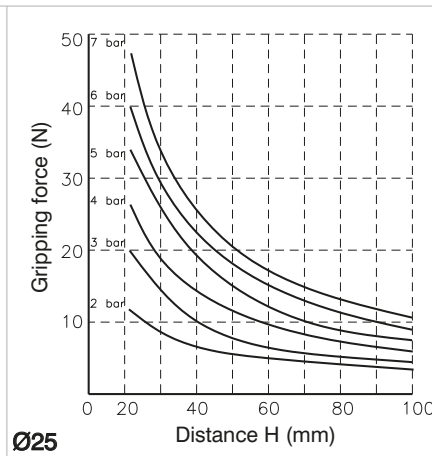
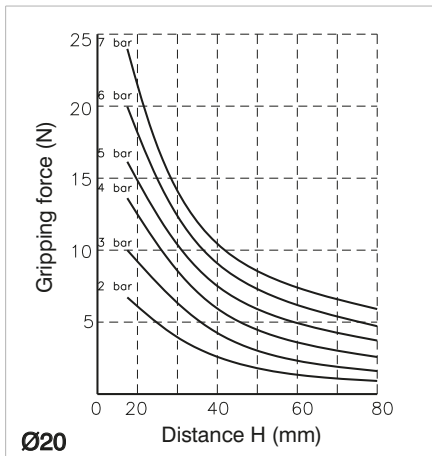
Operating criteria

Gripping force

NOTE:

Bore selection should be made considering a holding force 10 to 20 times the component weight.
 In case of acceleration/deceleration a further margin of safety should be considered.

Bore	Ø20	Ø25	Ø32	Ø40	Ø50
(Nm)	0,3	0,7	1,6	3,7	8,3



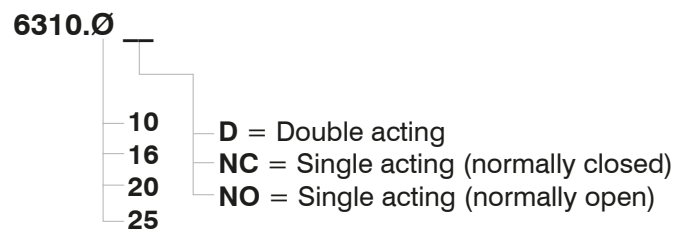
PNEUMATIC ACTUATION



▶ Parallel style pneumatic grippers - Standard version



Ordering code



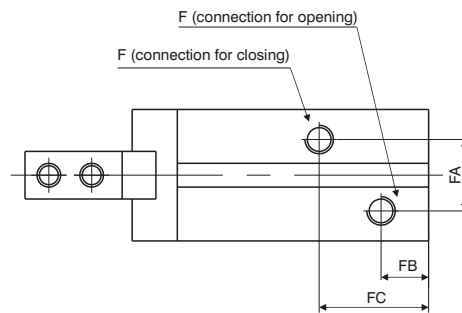
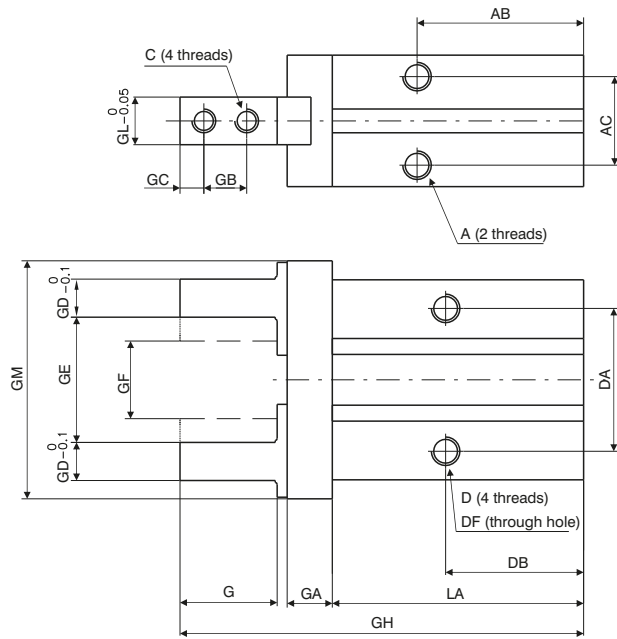
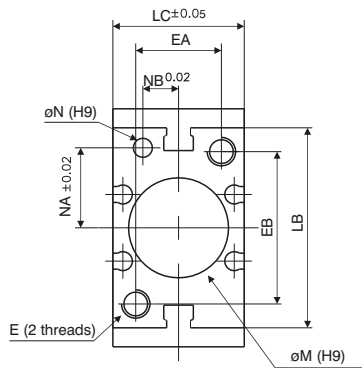
Construction characteristics

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

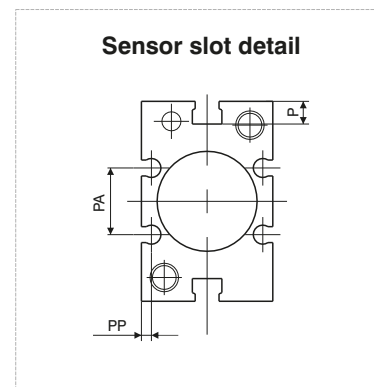
Operational characteristics

Fluid	Filtered air. No lubrication needed, if applied it shall be continuous.
Working pressure	double acting : 2 - 7 bar (for $\varnothing 10$) - 1 - 7 (for other bores) single acting : 3.5 - 7 bar (for $\varnothing 10$) - 2.5 - 7 (for other bores)
Operating temperature	-5°C - +70°C
Maximum operating frequency	from $\varnothing 10$ to $\varnothing 25$, 180 cycles/minute

Overall dimensions

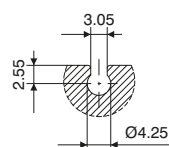


Bore		Ø10	Ø16	Ø20	Ø25
A		M3x0,5	M4x0,7	M5x0,8	M6x1
	Useful depth	6	4,5	8	10
AB		27	30	35	36,5
AC		11,4	16	18,6	22
C		M2,5x0,45	M3x0,5	M4x0,7	M5x0,8
D		M3x0,5	M4x0,7	M5x0,8	M6x1
	Useful depth	5,5	8	10	12
DA		16	24	30	36
DB		23	24,5	29	30
ØDF		2,6	3,4	4,3	5,1
E		M3x0,5	M4x0,7	M5x0,8	M6x1
	Useful depth	6	8	10	12
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	3,5
ØN ^{H9}		2	3	4	4
	Useful depth	3	3	4	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 (g)		55	120	230	425



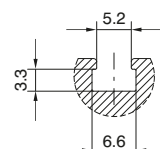
Ø16 - Ø25

Sensor slot detail type "C"



Ø10 - Ø25

Sensor slot detail type "B"



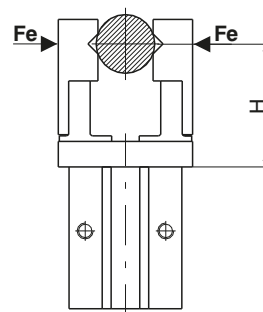
PNEUMATIC ACTUATION

Operating criteria

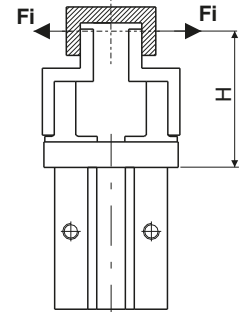
Holding force (N) (pressure 5 bar, holding point H=20 half stroke)

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

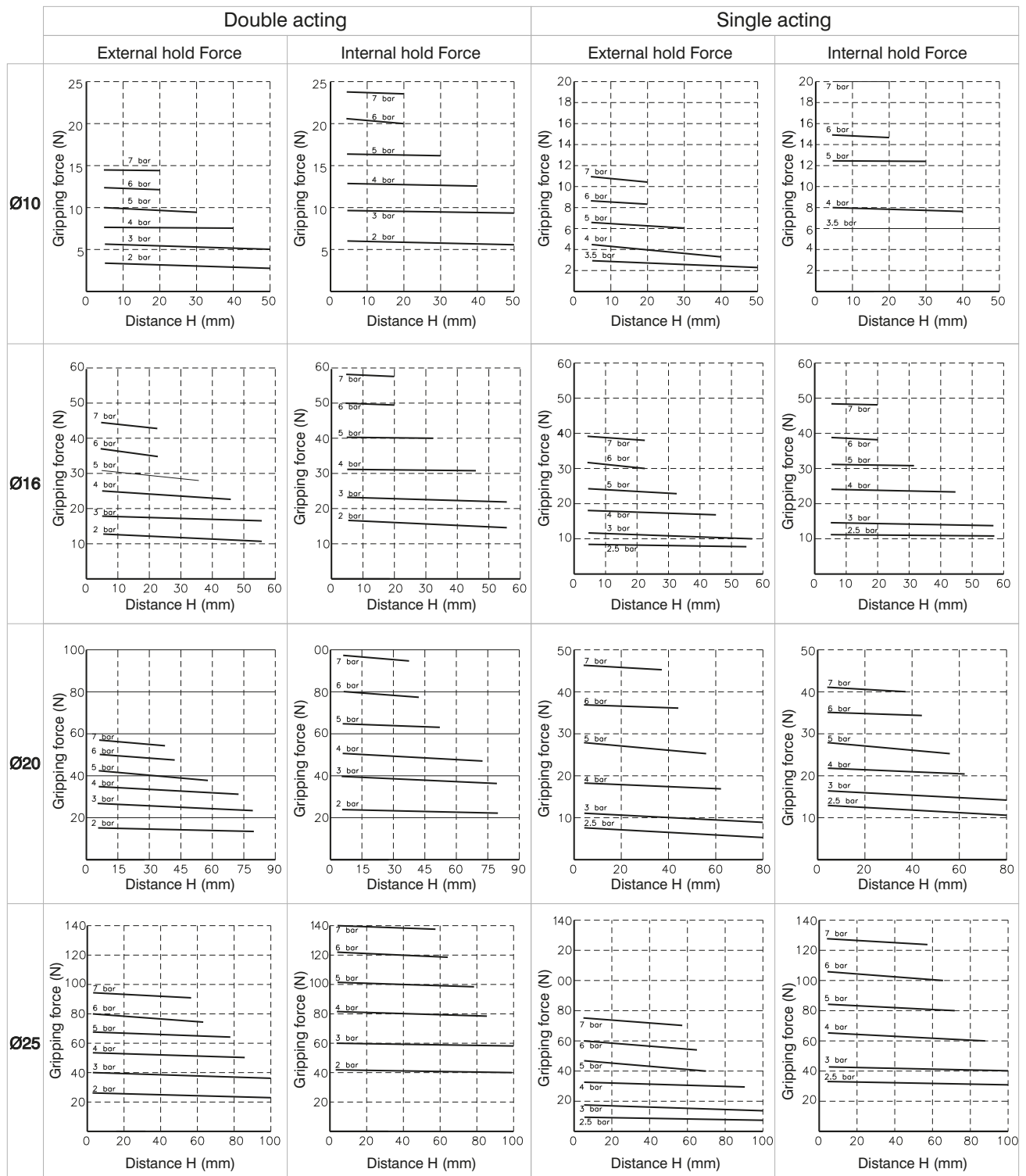
Fe = external holding force Fi = internal holding force



EXTERNAL HOLD



INTERNAL HOLD



3 PNEUMATIC ACTUATION



Parallel style pneumatic grippers - Wide opening



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

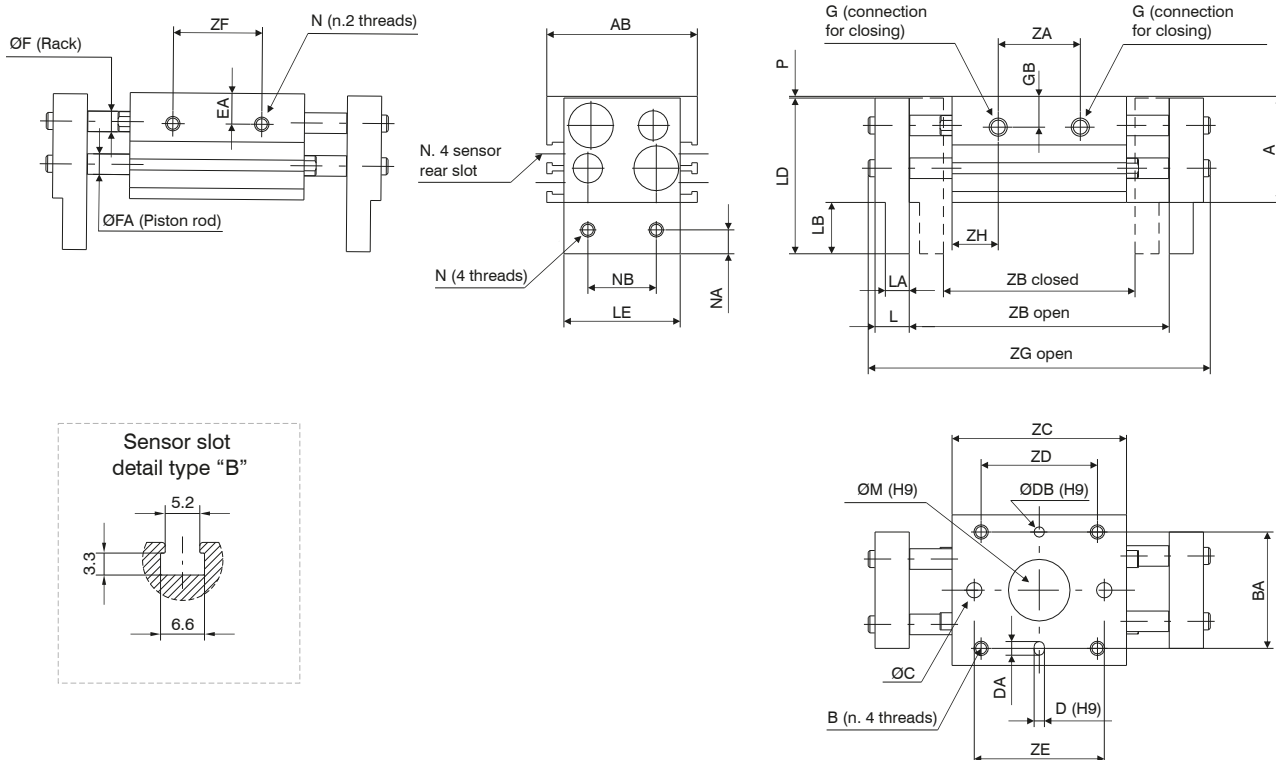
Operational characteristics

Function	double acting
Fluid	Filtered air. No lubrication needed, if applied it shall 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		

3 PNEUMATIC ACTUATION

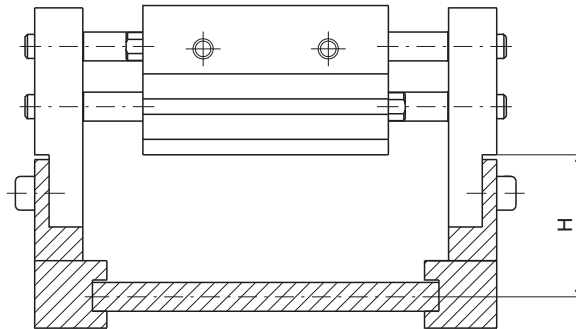
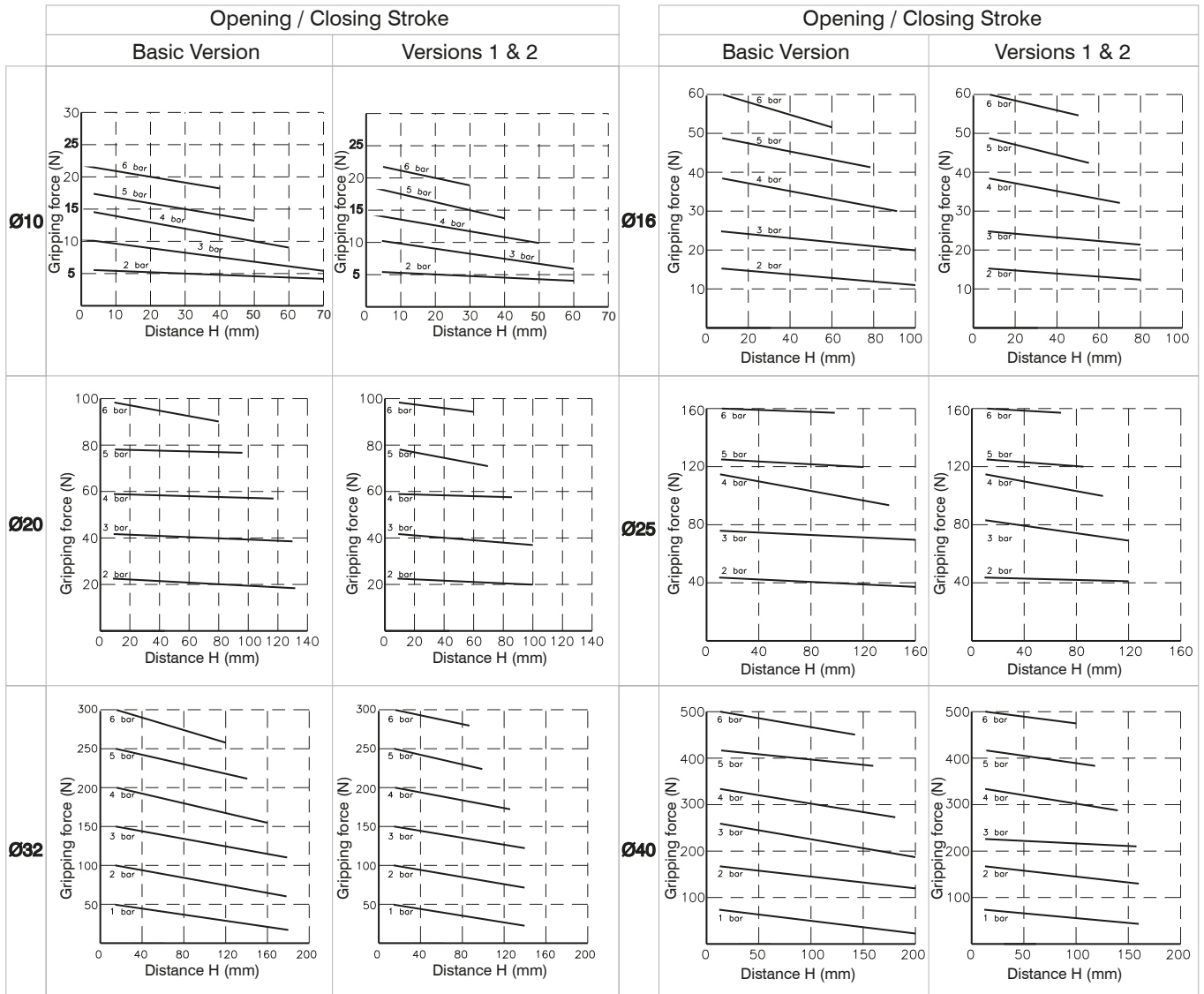
Overall dimensions



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	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	8													
DA	4	4	5	5	7	7													
ØDB ^{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	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	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	27	27	27	27	38
Weight (g)	280	350	430	600	800	950	1000	1500	1700	1700	2500	2800	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	200
	Stroke																		

Operating criteria

Holding force



PNEUMATIC ACTUATION

▶ 3 finger parallel style pneumatic grippers



Ordering code

6312.Ø.D

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

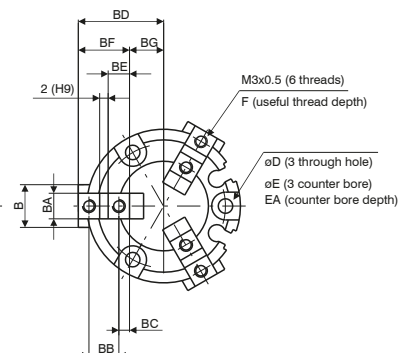
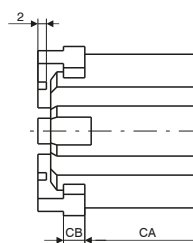
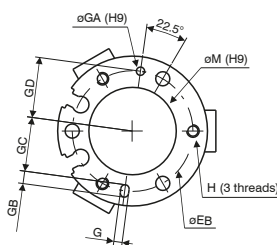
Construction characteristics

Body	aluminium
Piston	aluminium
Wedge	steel
Fingers	steel

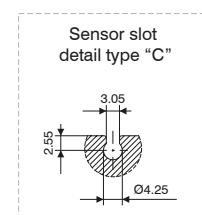
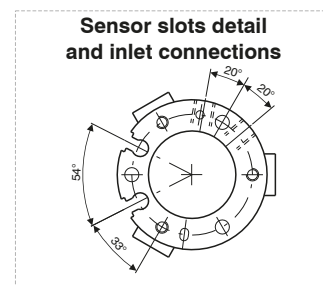
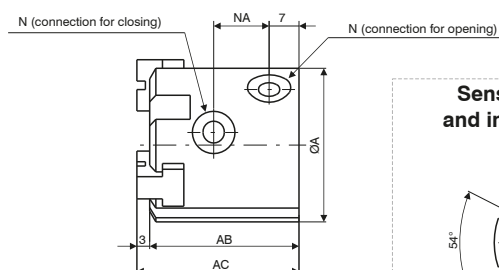
Operational characteristics

Function	double acting
Fluid	Filtered air.
	No lubrication needed, if applied it shall 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 (g)	62	98	139

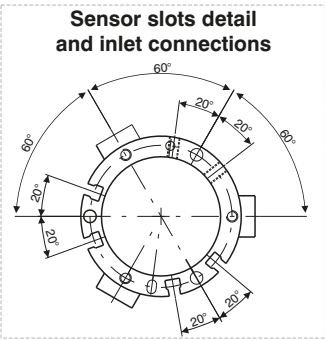
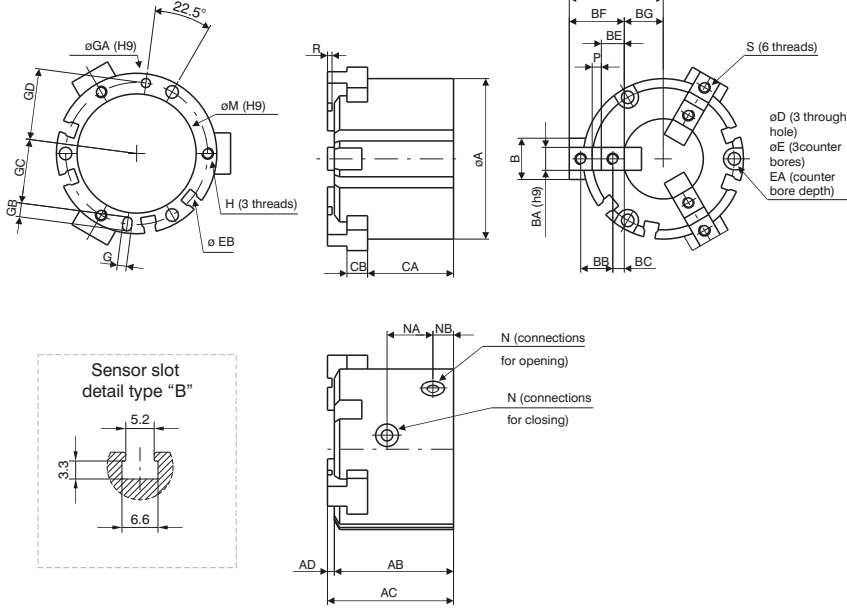




Pneumatic grippers

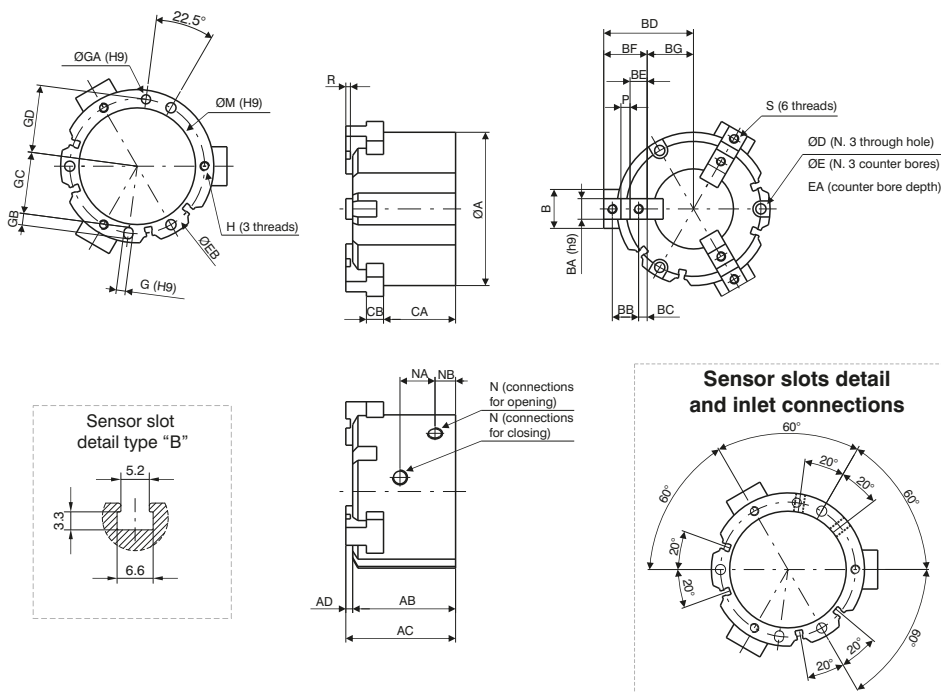
Series 6312 - 3 fingers parallel style pneumatic grippers (air chuck)

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	35	41	51
	close	28	31	35	43
BE	9	9	10	11	12
BF	20	21	24	28	32
BG	open	12	14	17	23
	close	8	10	11	15
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
G ^{H9}	3	4	4	5	6
	Useful depth	3	4	4	5
ØGA ^{H9}	3	4	4	5	6
	Useful depth	3	4	4	5
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
	Useful depth	34	42	52	65
ØM ^{H9}	2	2	2	2,5	3
	Useful depth	16	17	20	22
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	12
Weight (g)	240	354	542	1000	1850

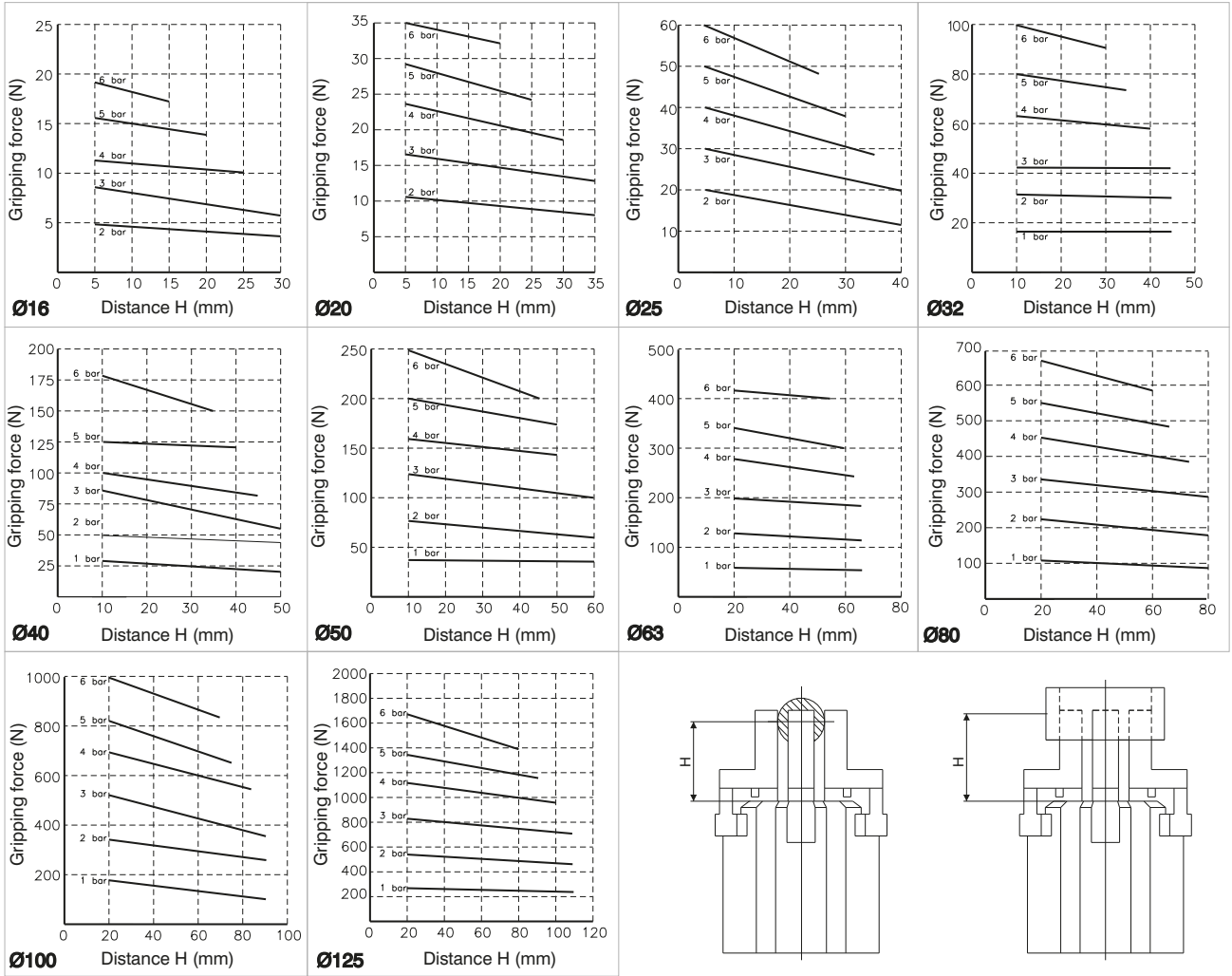
Overall dimensions Ø100 and Ø125



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
BE	15	21
BF	38	52
BG	open	40
	close	28
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
ØGA ^{H9}	8	10
	Useful depth	6
GB	10	12
GC	54	68
GD	59	74
H	M8x1,25	M10x1,5
	Useful depth	16
ØM ^{H9}	102	130
	Useful depth	4
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
Weight (g)	3360	6430

PNEUMATIC ACTUATION 3

Gripping force (N)



3 PNEUMATIC ACTUATION