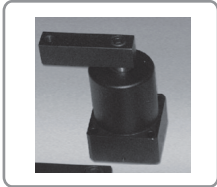


Swivel & Clamp Pneumatic Cylinders

SERIES Products Content

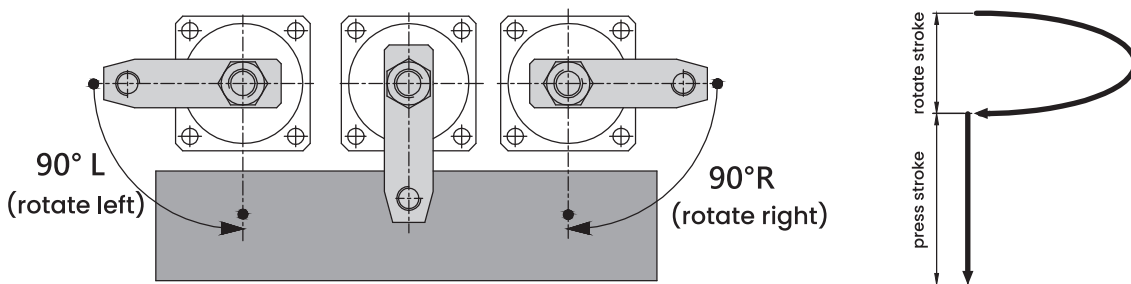


AS4 Lever clamp cylinders $\varnothing 25 \sim \varnothing 63$ P.232

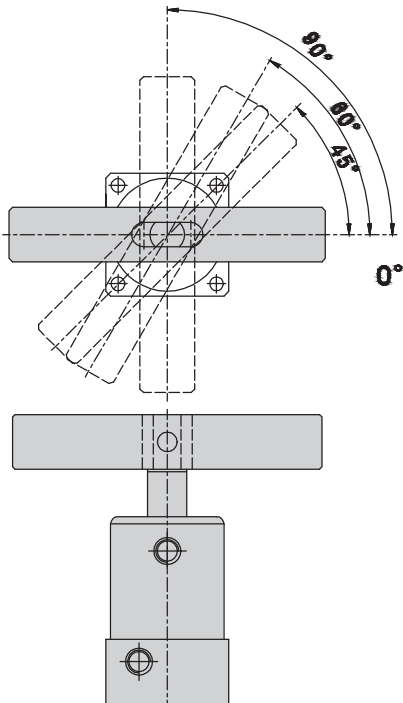


NAS2 New swivel & clamp cylinders $\varnothing 25 \sim \varnothing 63$ P.235

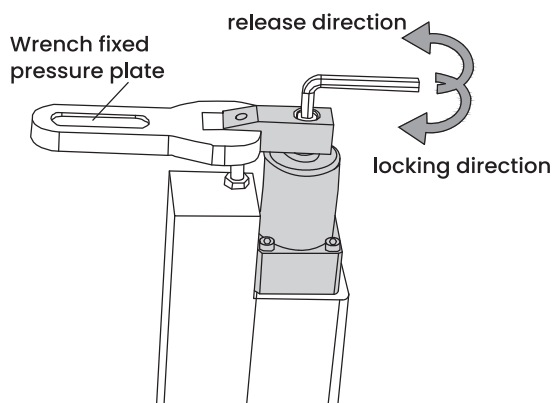
Single side swivel clamp (direction)



Double side swivel clamp (direction)



Swivel clamp-locking/ release method



Theoretical force

bore	screw size	locking force(N · m)
12, 16	M4x0.7	1.4~2.6
20~40	M6x1.0	9.0~12.0
50	M8x1.25	11.4~22.4
63	M10x1.25	25~44.9

AS4 Lever clamp cylinders



- Uses a standard compact cylinder and is equipped with a lever mechanism to clamp the workpiece in a straight line without any axial angle.
- Magnetic sensor can be installed.

Order indication

AS4	SD	40	T×n	
series	installation type	bore	magnetic sensor	magnetic sensor series
Lever clamp cylinders	SD: basic FB: rear flange	25:25mm 32:32mm 40:40mm 50:50mm 63:63mm	blank: no sensor T: 2 outgoing lines, standard line is 2 m P:PNP 3 outgoing lines, standard line is 2 m N:NPN 3 outgoing lines, standard line is 2 m n: qty *The order with G mark but no T x n mark indicates that only induction magnet is attached without magnetic sensor	blank: no sensor JFS-02

! blank = indicates standard, no need to specify when order

Parts order indication

AS4	SD	40	piston rod
series	type	bore	part name
			refer to internal structure and part name

Feature

bore (mm)	25	32	40	50	63
fluid	Filter compressed air				
working pressure area (kgf/cm ²)	0.5~9.9				
clamping method	up and down				
type	double acting				
swivel angle	0°				
stroke (mm)	20	20	25	30	35

Air Preparation (FRL)

Pneumatic Valves

Pneumatic Cylinders

Pneumatic Connectors

Sensors

Pneumatic Accessories

Clamping Force

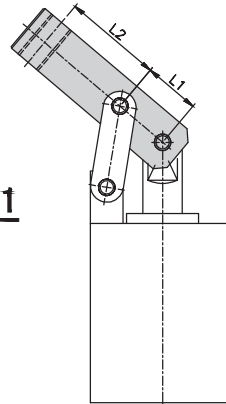
F : clamp force (Kgf)

f : cylinder theoretical force (Kgf)

L1 : distance between output force & support (mm)

L2 : distance between clamping force & support (mm)

$$F = \frac{f \times L1}{L2}$$



Theoretical output table

units:kg

bore (mm)	shaft diameter (mm)	piston pressure area (cm ²)	theoretical force (kgf)						clamp force (kgf)					
			working pressure area (kgf/cm ²)											
			3	4	5	6	7	8	3	4	5	6	7	8
25	10	4.9	14.7	19.6	24.5	29.4	34.3	39.2	5.4	7.1	8.9	10.7	12.5	14.2
32	12	8.0	24.3	32.5	40.6	48.7	56.8	64.9	11.1	14.8	18.7	22.4	26.1	29.8
40	16	12.6	38.4	50.4	63.6	75.6	88.8	100.8	21.4	28.4	35.5	42.7	49.8	56.9
50	20	19.6	59.4	78.4	98.6	117.6	137.8	156.8	37.5	50	62.5	75	87.6	100
63	20	31.2	93.4	124.8	156	187.2	218.3	249.5	61.8	81.6	101.4	121.2	141	160.8

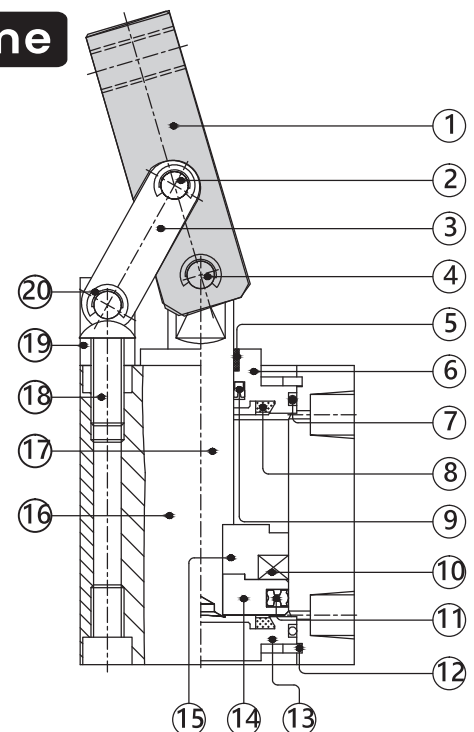
Weight

units:g

	25	32	40	50	63
SD: basic	360	600	850	1550	2100
FB: rear flange	400	640	890	1600	2600

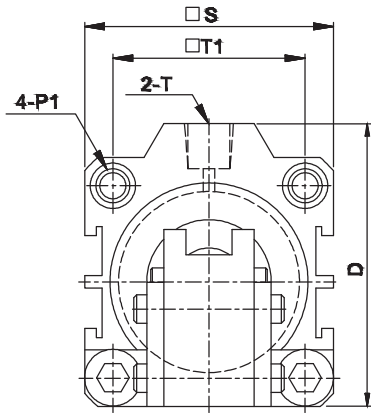
Internal structure and parts name

item	part name	qty	item	part name	qty
①	platen	1	⑪	piston seal	1
②	connector fix pin	2	⑫	C snap ring	2
③	connector	2	⑬	head cover	1
④	rod fix pin	1	⑭	back piston	1
⑤	rod cover seal	1	⑮	front piston	1
⑥	rod cover	1	⑯	body	1
⑦	cover O-ring	2	⑰	rod	1
⑧	cushion gasket	2	⑱	round head screw	2
⑨	rod cover seal	1	⑲	connector socket	1
⑩	magnet	1	⑳	E snap ring	6

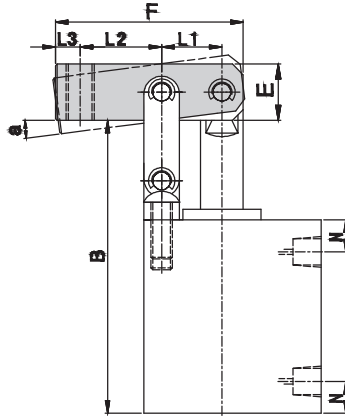


External Dimensions

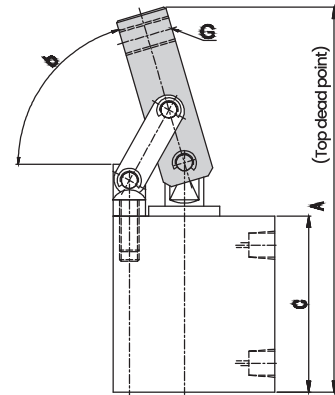
• SD-S basic



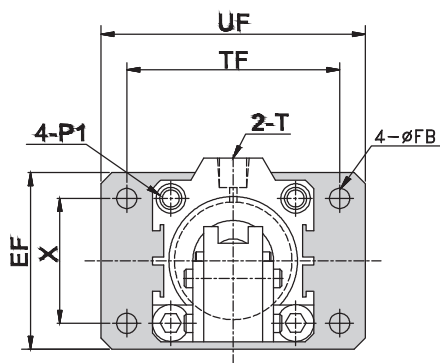
• locking



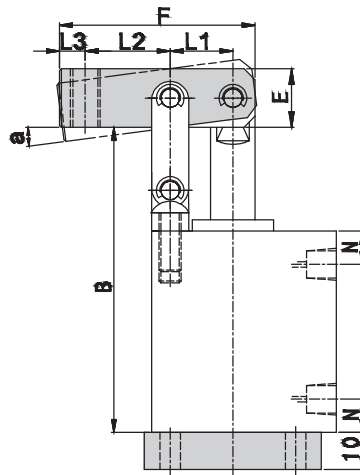
• release



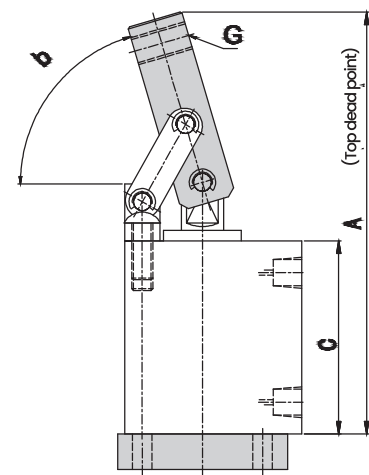
• FB head flange



• locking



• release



symbol bore	stroke	A	B	C	D	E	F	FB	S	P1	T1	N	X	EF	TF
25	20	114	73	51	42	13	57	5.5	40	M6XP1.0	28	8.5	28	42	54
32	20	125	82.5	54.5	50	16	60	5.5	44	M6XP1.0	34	9	34	48	58
40	25	132	92	61	58.5	16	63	6.6	52	M8XP1.25	40	10	40	58	68
50	30	149	104	68	71.5	22	70	9	62	M8XP1.25	48	10	40	66	82
63	35	158	119	77	84.5	22	70	9	75	M8XP1.25	60	11	50	78	96

symbol bore	UF	a°	b°	L1	L2	T	L3	G
25	68	4	81	14	33.5	M5XP0.8	5	M6XP1.0
32	72	1.7	73.7	17	30	RC 1/8"	7	M8XP1.25
40	84	1.4	73.7	20	29	RC 1/8"	7	M8XP1.25
50	102	2.4	72.4	24	30	RC 1/4"	8	M10XP1.5
63	116	1.9	67.3	30	24	RC 1/4"	8	M10XP1.5

Air Preparation (FRL)

Pneumatic Valves

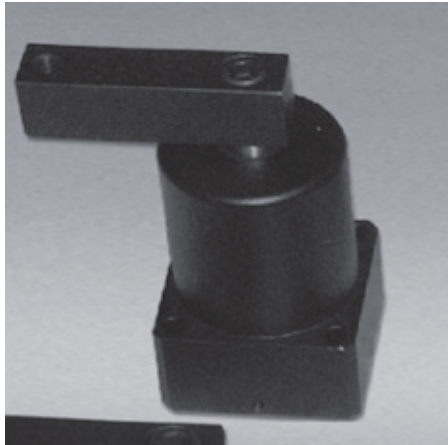
Pneumatic Cylinders

Pneumatic Connectors

Sensors

Pneumatic Accessories

NAS2 New swivel and clamp cylinders



- This product is suitable for mass production parts machines and MC accessories which help to improve production efficiency
- Main function: When the cylinder is activated, the pressure plate will rotate to the designed angle during the piston's pressing downward and continue press down in a straight line until the pressure plate clamps the workpiece

Order indication

NAS2	SD	SR	40	90
series	installation type	turn form	bore	swivel angle
new swivel & clamp cylinders	SD: basic MF: manifold block (with speed regulation) MS: sensor FA: flange TB: full teeth	SR: single right SL: single left DR: double right DL: double left	25:25mm 32:32mm 40:40mm 50:50mm 63:63mm	standard 90° special 45° special 60°

Feature

bore (mm)	25	32	40	50	63
shaft diameter (mm)	14	16	16	20	20
fluid	Filter compressed air				
type	double acting				
max. working pressure (kgf/cm ²)	10				
working pressure area (kgf/cm ²)	1~7				
swivel angle	90° (0°, 45°, 60°)				
swivel direction	L (left)/ R (right)				
swivel stroke (mm)	9	11		13	
pressure stroke (mm)	13	15/30		17/34	

Theoretical output table

units:kg

bore (mm)	shaft diameter (mm)	piston pressure area (cm ²)	working pressure area (kgf/cm ²)							
			2	3	4	5	6	7	8	9
25	14	3.4	6.8	10.2	13.6	17	20.4	23.8	27.2	30.6
32	16	6	12	18	24	30	36	42	48	54
40	16	10.5	21	31.5	42	52.5	63	73.5	84	94.5
50	20	16.5	33	49.5	66	82.5	99	115.5	132	148.5
63	20	28	56	84	112	140	168	196	224	252

Weight

units:g

type bore	basic	manifold block (with speed regulation)	sensor	flange	full teeth
25S	0.3	-	0.4	-	-
32S	0.7	0.6	0.7	0.6	0.9
32D	0.9	0.8	0.9	0.8	1.1
40S	0.9	0.8	0.9	0.8	1.1
40D	1.1	1	1.1	1	1.3
50S	1.6	1.4	1.6	1.4	1.7
50D	1.8	1.6	1.8	1.6	1.9
63S	2.1	1.8	2.3	1.8	-
63D	2.3	2.0	2.5	2.0	-

Air Preparation (FRL)

Pneumatic Valves

Pneumatic Cylinders

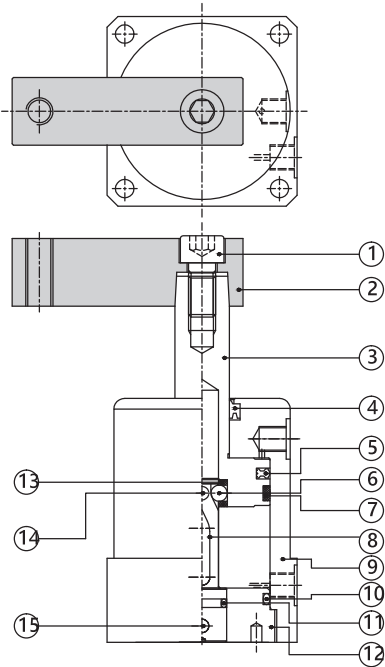
Pneumatic Connectors

Sensors

Pneumatic Accessories

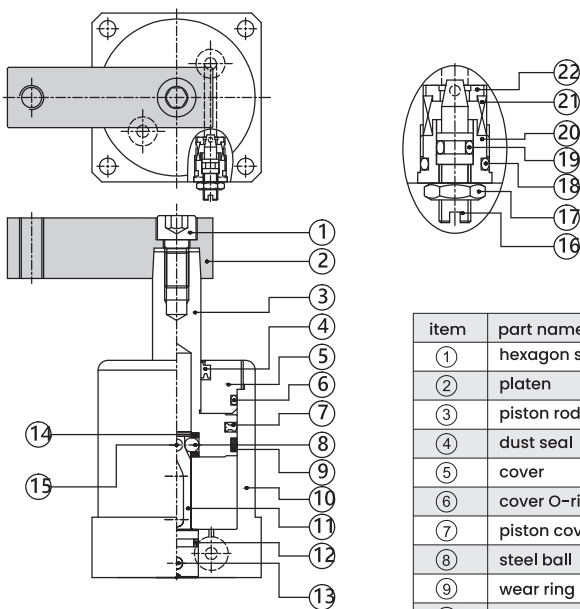
Internal structure and parts name

- SD basic



item	part name	qty	item	part name	qty
①	hexagon steel screw	1	⑨	body	1
②	platen	1	⑩	cover O-ring	1
③	piston rod	1	⑪	pilot pin O-ring	1
④	dust seal	1	⑫	head cover	1
⑤	piston cover	1	⑬	retaining ring	1
⑥	steel ball	2	⑭	cylindrical pin	2
⑦	wear ring	1	⑮	spring pin	1
⑧	pilot pin rod	1			

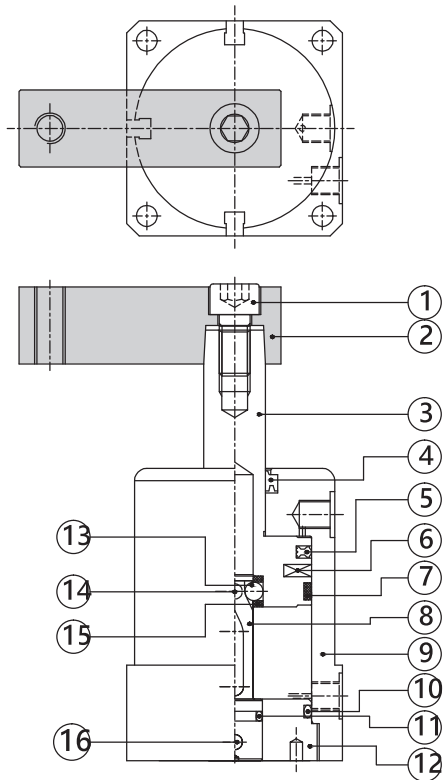
- MF manifold block (with down pressure speed regulation)



item	part name	qty	item	part name	qty
①	hexagon steel screw	1	⑫	pilot pin O-ring	1
②	platen	1	⑬	spring pin	1
③	piston rod	1	⑭	retaining ring	1
④	dust seal	1	⑮	cylindrical pin	2
⑤	cover	1	⑯	cushion screw	1
⑥	cover O-ring	1	⑰	cushion nut	1
⑦	piston cover	1	⑱	cushion O-ring	1
⑧	steel ball	2	⑲	cushion O-ring	1
⑨	wear ring	1	⑳	cushion socket	1
⑩	body	1	㉑	spring	1
⑪	pilot pin rod	1	㉒	check valve	1

Internal structure and parts name

• MS sensor



item	part name	qty	item	part name	qty
①	hexagon steel screw	1	⑨	body	1
②	platen	1	⑩	cover O-ring	1
③	piston rod	1	⑪	pilot pin O-ring	1
④	dust seal	1	⑫	head cover	1
⑤	piston cover	1	⑬	steel ball	2
⑥	sensor	1	⑭	cylindrical pin	2
⑦	wear ring	1	⑮	retaining ring	1
⑧	pilot pin rod	1	⑯	spring pin	1

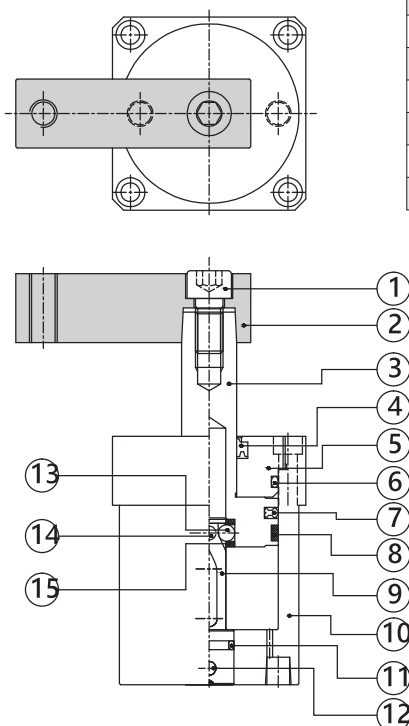
Air Preparation (FRL)

Pneumatic Valves

Pneumatic Cylinders

Pneumatic Connectors

• FA flange



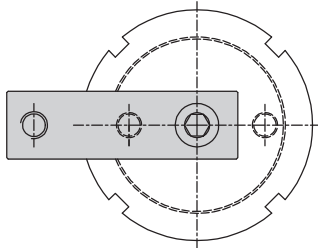
item	part name	qty	item	part name	qty
①	hexagon steel screw	1	⑨	pilot pin rod	1
②	platen	1	⑩	body	1
③	piston rod	1	⑪	pilot pin O-ring	1
④	dust seal	1	⑫	spring pin	1
⑤	cover	1	⑬	steel ball	2
⑥	cover O-ring	1	⑭	cylindrical pin	2
⑦	piston seal	1	⑮	retaining ring	1
⑧	wear ring	1			

Sensors

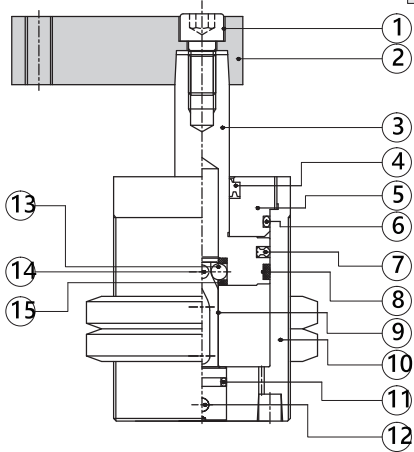
Pneumatic Accessories

Internal structure and parts name

- TB full teeth



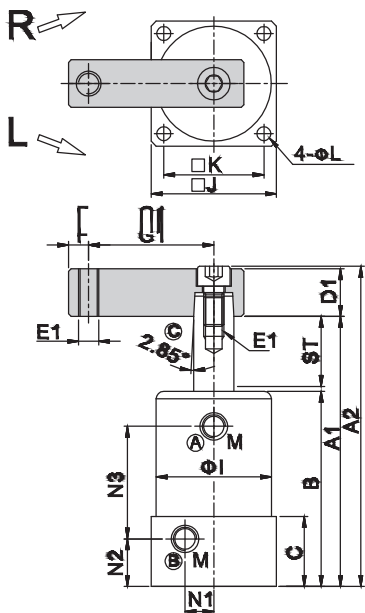
item	part name	qty	item	part name	qty
①	hexagon steel screw	1	⑨	body	1
②	platen	1	⑩	cover O-ring	1
③	piston rod	1	⑪	pilot pin O-ring	1
④	dust seal	1	⑫	head cover	1
⑤	piston cover	1	⑬	retaining ring	2
⑥	steel ball	1	⑭	cylindrical pin	2
⑦	wear ring	1	⑮	spring pin	1
⑧	pilot pin rod	1			



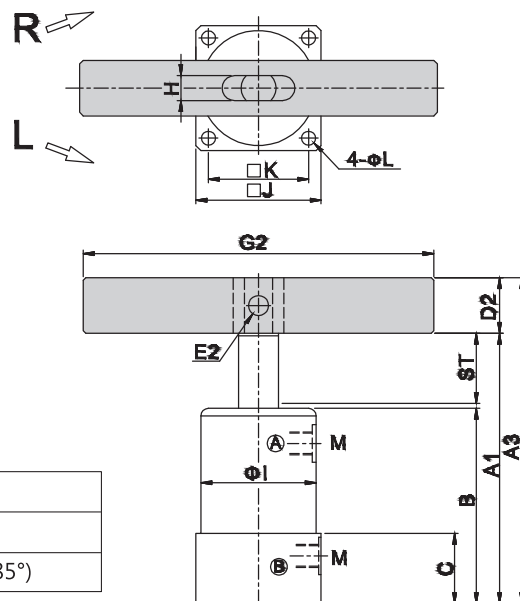
External Dimensions

- SD basic

- S (single side)



- D (double side)



(A)	Clamping
(B)	Unclamping
(C)	Taper 1 : 10 (2.85°)

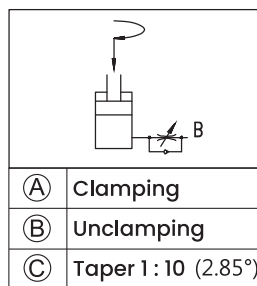
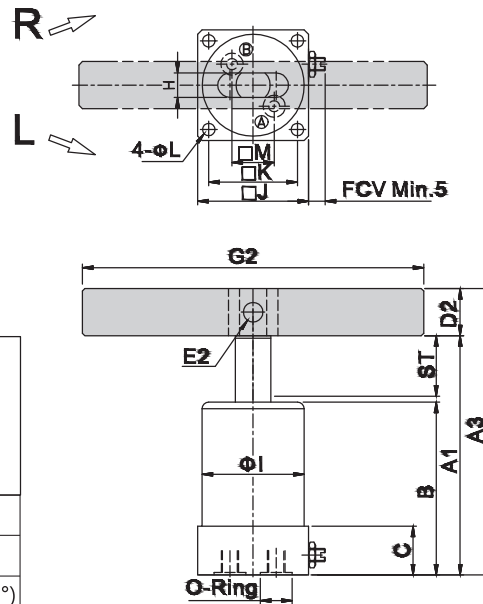
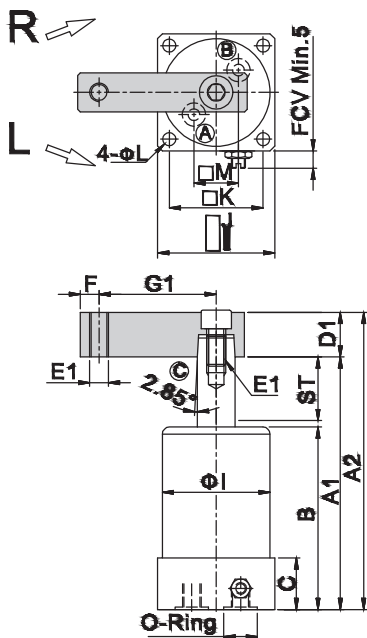
Symbol bore	Swivel stroke	Down stroke	A1	A2	A3	B	N3	C	D1	D2	E1	ØE2	F	G1	G2	H	ØI	J	K	ØL	M	N1	N2
25	9	13	89	(105.9)	-	65	39.5	23	15.9	-	M6x1.0	-	6	35	-	-	35	38	30	4.6	M5x0.8	8	16.5
32	11	15	108	(128)	127	78	45	28	19	19	M8x1.25	8	8	50	140	9	46	50	40	5.6	G1/8	11.5	19
		30	138	(158)	157	93	60																
40	11	15	108	(128)	127	78	45	28	19	19	M8x1.25	8	8	55	140	9	55	60	48	6.8	G1/8	14	19
		30	138	(158)	157	93	60																
50	13	17	124	(150.4)	146.2	90	54	31	25.4	22.2	M10x1.5	8	10	60	160	10	65	70	57	6.8	G1/8	17	21
		34	158	(184.4)	180.2	107	71																
63	13	17	124	(150.4)	146.2	90	54	31	25.4	22.2	M10x1.5	8	10	70	160	10	78	83	67	9	G1/8	20	21
		34	158	(184.4)	180.2	107	71																

Symbol bore	ØI	J	K	ØL	M	N1	N2
25	35	38	30	4.6	M5x0.8	8	16.5
32	46	50	40	5.6	G1/8	11.5	19
40	55	60	48	6.8	G1/8	14	19
50	65	70	57	6.8	G1/8	17	21
63	78	83	67	9	G1/8	20	21

• MF manifold block (with down pressure speed regulation)

• S (single side)

• D (double side)



Symbol bore	Swivel stroke	Down stroke	A1	A2	A3	B	C	D1	D2	E1	ØE2	F	G1	G2	H
32	11	15	108	(128)	127	78	22	19	19	M8x1.25	8	8	50	140	9
40	11	15	108	(128)	127	78	22	19	19	M8x1.25	8	8	55	140	9
50	13	17	124	(150.4)	146.2	90	25	25.4	22.2	M10x1.5	8	10	60	160	10
63	13	17	124	(150.4)	146.2	90	25	25.4	22.2	M10x1.5	8	10	70	160	10

Symbol bore	ØI	J	K	ØL	M	O-Ring
32	46	50	40	5.6	19	P7
40	55	60	48	6.8	23	P7
50	65	70	57	6.8	28	P9
63	78	83	67	9	32	P9

Air
Preparation
(FRL)

Pneumatic
Valves

Pneumatic
Cylinders

Pneumatic
Connectors

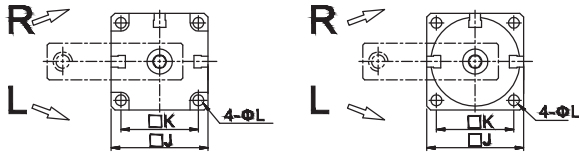
Sensors

Pneumatic
Accessories

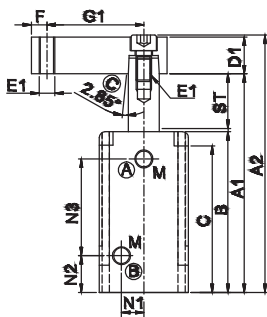
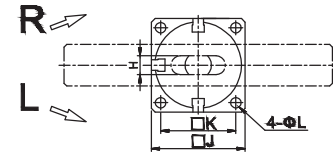
External Dimensions

- MS sensor

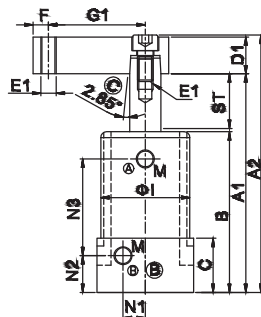
- S (single side)



- D (double side)

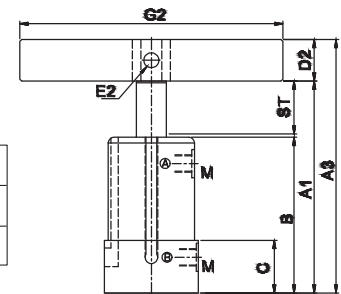


Ø25



Ø32~Ø63

(A)	Clamping
(B)	Unclamping
(C)	Taper 1 : 10 (2.85°)



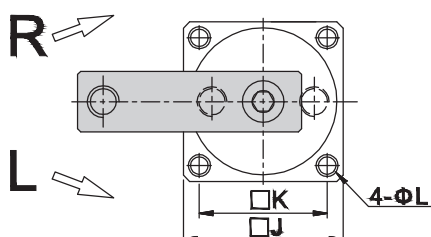
Ø32~Ø63

symbol bore	Swivel stroke	Down stroke	A1	A2	A3	B	C	D1	D2	E1	ØE2	F	G1	G2	H
25	9	13	94	(110.9)	-	70	60	15.9	-	M6x1.0	-	6	35	-	-
32	11	15	113	(133)	132	83	28	19	19	M8x1.25	8	8	50	140	9
40	11	15	113	(133)	132	83	28	19	19	M8x1.25	8	8	55	140	9
50	13	17	129	(155.4)	151.2	95	31	25.4	22.2	M10x1.5	8	10	60	160	10
63	13	17	129	(155.4)	151.2	95	31	25.4	22.2	M10x1.5	8	10	70	160	10

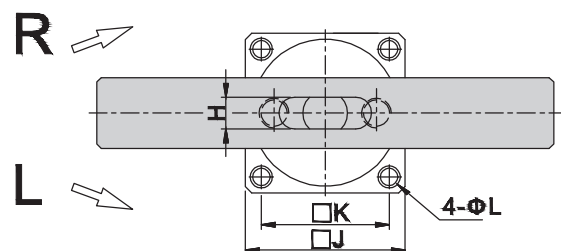
symbol bore	ØI	J	K	ØL	M	N1	N2	N3
25	35	38	30	4.6	M5x0.8	8	16.5	44.5
32	46	50	40	5.6	G1/8	11.5	19	50
40	55	60	48	6.8	G1/8	14	19	50
50	65	70	57	6.8	G1/8	17	21	59
63	78	83	67	9	G1/8	20	21	59

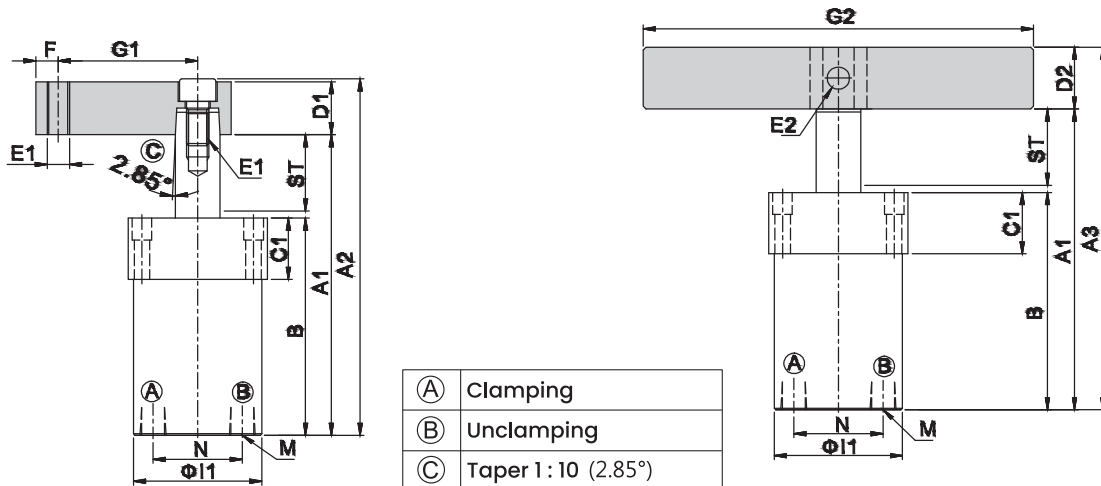
- FA flange

- S (single side)



- D (double side)



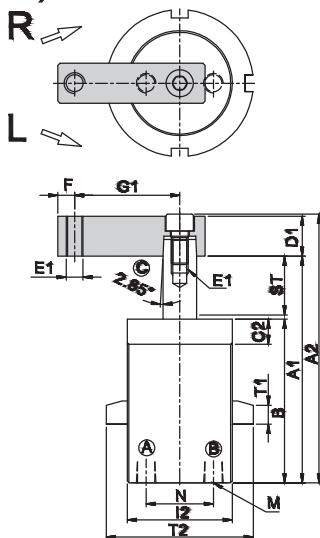


symbol bore	Swivel stroke	Down stroke	A1	A2	A3	B	C1	D1	D2	E1	ØE2	F	G1	G2	H
32	11	15	108	128	127	78	22	19	19	M8x1.25	8	8	50	140	9
40	11	15	108	128	127	78	22	19	19	M8x1.25	8	8	55	140	9
50	13	17	124	150.4	146.2	90	25	25.4	22.2	M10x1.5	8	10	60	160	10
63	13	17	124	150.4	146.2	90	25	25.4	22.2	M10x1.5	8	10	70	160	10

symbol bore	ØI1	J	K	ØL	M	N	N3
32	46	50	40	Ø5.6-Ø9x5.5dp	PT1/8	32	50
40	55	60	48	Ø6.8-Ø10.5x6.5dp	PT1/8	40	50
50	65	70	57	Ø6.8-Ø10.5x6.5dp	PT1/8	50	59
63	78	83	67	Ø9-Ø14x9dp	PT1/8	63	59

• TB full teeth

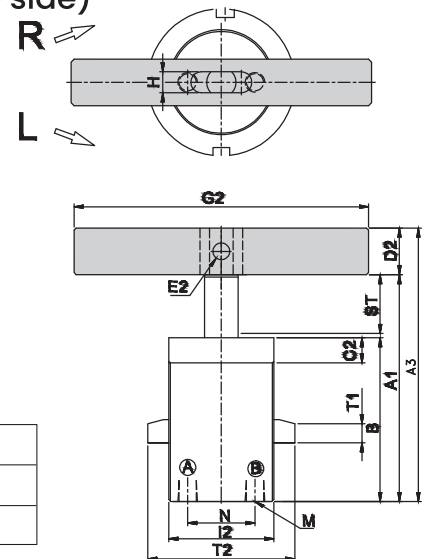
• S (single side)



symbol bore	Swivel stroke	Down stroke	A1	A2	A3	B	C2	D1	D2	E1	ØE2	F	G1	G2	H
32	11	15	108	128	127	78	12	19	19	M8x1.25	8	8	50	140	9
40	11	15	108	128	127	78	12	19	19	M8x1.25	8	8	55	140	9
50	13	17	124	150.4	146.2	90	15	25.4	22.2	M10x1.5	8	10	60	160	10

symbol bore	I2	M	N	T1x2PCS	ØT2
32	M50x1.5	PT1/8	32	11	70
40	M55x1.5	PT1/8	40	11	75
50	M65x1.5	PT1/8	50	12	85

• D (double side)



(A)	Clamping
(B)	Unclamping
(C)	Taper 1:10 (2.85°)

Air
Preparation
(FRL)

Pneumatic
Valves

Pneumatic
Cylinders

Pneumatic
Connectors

Sensors

Pneumatic
Accessories