Series 10-/11-REC

ø20, ø25, ø32, ø40
Sine Cylinder

How to Order

10 - R E C L 25 ☐ - 150 - M9BW ☐ - C

Clean series

10	Relief type
11	Vacuum suction type

Mounting

B	Basic
L	Axial foot
F	Rod flange
G	Head flange

Bore size (mm)

Port type

Nil	Rc
TN	NPT
TF	G

Cylinder stroke (mm)

Auto switch

Nil	Without auto switch (Built-in magnet)

∗ The minimum stroke for auto switch mounting, operating range and auto switch mounting brackets/part no. are the same as standard products.

Number of auto switches

Nil	2 pcs.
S	1 pc.
n	n pcs.

Auto switch mounting bracket Note)

Note) This symbol is indicated when the D-A9□ or M9□ type auto switch is specified.
This mounting bracket does not apply to other auto switches (D-C7□ and H7□ , etc.) (Nil)

Model

	Model	Bore size (mm)	Port size	Lubrication	Action	Standard stroke (mm)	Auto switch mounting	Cushion	Effective cushioning stroke (mm)
Relief type	**10-REC□20**	20	1/8	Non-lube	Double acting Single rod	150 to 700	○	Air cushion (Both sides)	45
	10-REC□25	25							
	10-REC□32	32				150 to 1000			50
	10-REC□40	40	1/4			200 to 1000			60
Vacuum suction type	**11-REC□20**	20	1/8			150 to 700			45
	11-REC□25	25							
	11-REC□32	32				150 to 1000			50
	11-REC□40	40	1/4			200 to 1000			60

Specifications

Item \ Bore size (mm)	20/25/32/40
Proof pressure	1.5 MPa
Maximum operating pressure	1.0 MPa
Minimum operating pressure	0.2 MPa
Ambient and fluid temperature	–10°C to 60°C (With no freezing)
Piston speed	50 to 400 mm/s
Cushion	Air cushion
Stroke length tolerance	Up to 250 ST: $^{+1.0}_{0}$, 251 to 1000 ST: $^{+1.4}_{0}$
Mounting	Basic/Axial foot/Rod flange/Head flange
Grease	Fluorine grease
Cleanliness class (ISO class)	10-: Class 4
	11-: Class 3

Suction Flow Rate of Vacuum Suction Type (Reference values)

Size	Suction flow rate L/min (ANR)
20	1
25/32/40	2

Auto Switch Specifications (Refer to the **WEB catalog** for detailed specifications and auto switches not in the following table.)

Type	Electrical entry	Indicator light	Wiring (Output)	Load voltage			Auto switch model	Lead wire length (m)				Applicable load	
				DC		AC	Band mounting	0.5 (Nil)	1 (M)	3 (L)	5 (Z)		
Solid state auto switch	Grommet	Yes	2-wire	24 V	5 V 12 V	—	**M9B**	●	●	●	○	—	Relay, PLC
							M9BW	●	●	●	○		
Reed auto switch	Grommet	Yes	2-wire	24 V	12 V	100 V	**A93**	●	—	●	●		

Note 1) Lead wire length symbols: 0.5 m ····· Nil (M9BW)
1 m ····· M (M9BWM)
3 m ····· L (M9BWL)
5 m ····· Z (M9BWZ)

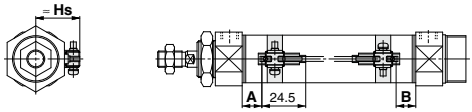
Note 2) Auto switches marked with "○" are produced upon receipt of order.
Note 3) PLC: Programmable Logic Controller

Refer to page 889 for the applicable auto switch list.

Auto Switch Proper Mounting Position (Detection at Stroke End)

Solid state auto switch

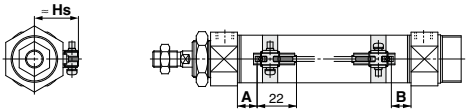
D-M9□
D-M9□W



A and B are the dimensions from the end of the head cover/rod cover to the end of the auto switch.

Reed auto switch

D-A9□



A and B are the dimensions from the end of the head cover/rod cover to the end of the auto switch.

Auto Switch Proper Mounting Position (mm)

Auto switch model / Bore size	D-M9□ D-M9□W		D-A9□	
	A	B	A	B
20	59.5	34	55.5	30.5
25	59.5	34	55.5	30.5
32	63	40	59	36
40	73.5	42.5	69.5	38.5

Note) The above values are a guide in the stroke end detection of the mounting positions of the auto switch.
Please adjust in an actual setting after confirming the operating state of the auto switch.

Auto Switch Mounting Height (mm)

Auto switch model / Bore size	D-M9□ D-M9□W D-A9□
	Hs
20	24.5
25	27
32	30.5
40	35

⚠ Specific Product Precautions

Be sure to read this before handling.

Speed Adjustment

⚠ Caution

1. The 10-AS series throttle type speed controllers are recommended for speed adjustment.

Recommended speed controllers

Model	Model		
	Elbow type	Straight type	In-line type
10-/11-REC20	10-AS2201F-01-06-X214	10-AS2301F-01-06-X214	10-AS2001F-06-X214
10-/11-REC25	10-AS2201F-01-06-X214	10-AS2301F-01-06-X214	10-AS2001F-06-X214
10-/11-REC32	10-AS2201F-01-06-X214	10-AS2301F-01-06-X214	10-AS3001F-08-X214
10-/11-REC40	10-AS3201F-02-08-X214	10-AS3301F-02-08-X214	10-AS3001F-08-X214

2. Speed control is possible with meter-in and meter-out types of speed controllers. However, smooth acceleration and deceleration may not be obtained by these speed controllers.

3. For installation other than horizontal mounting, it is recommended to use a system with reduced pressure supply circuit on the downward side. (This system is also effective for a start delay at rise and air reduction.)

Cushion Adjustment

⚠ Caution

1. Cushion adjustment mechanism is not provided.
Cushion adjustment is not necessary because the model can perform smooth acceleration and deceleration in a wide range of strokes without an adjusting cushion.

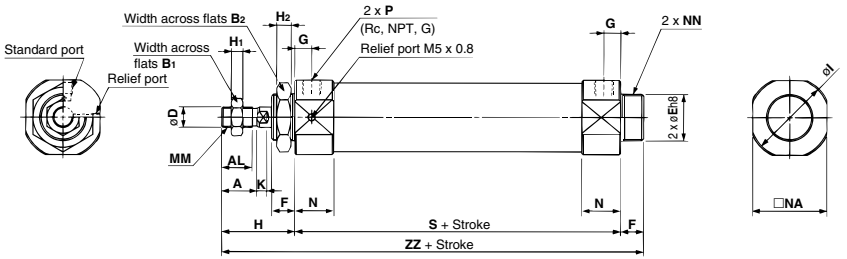
Relief Port

⚠ Caution

1. Hexagon socket set screw is not prepared for clean room specifications, and use it as relief port accordingly.

Dimensions

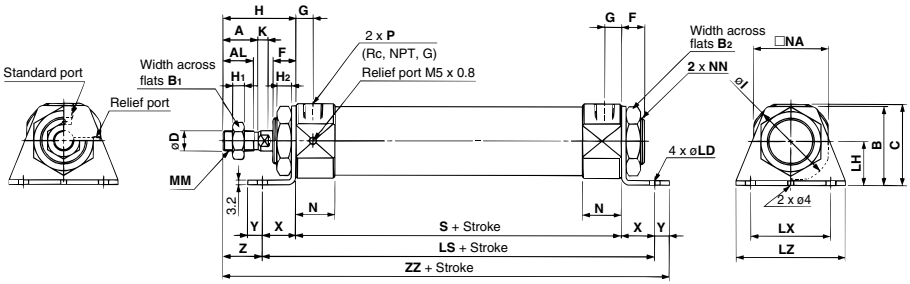
Basic (B): 10-/11-RECB



(mm)

Bore size	Stroke range	A	AL	B1	B2	D	E	F	G	H	H1	H2	I	K	MM	N	NA	NN	P	S	ZZ
20	150 to 700	18	15.5	13	26	8	$20^{0}_{-0.033}$	13	10	41	5	8	33.5	5	M8 x 1.25	20	30	M20 x 1.5	1/8	146	200
25	150 to 700	22	19.5	17	32	10	$26^{0}_{-0.033}$	13	10	45	6	8	37.5	5.5	M10 x 1.25	20	34.5	M26 x 1.5	1/8	146	204
32	150 to 1000	22	19.5	17	32	12	$26^{0}_{-0.033}$	13	11	45	6	8	46.5	5.5	M10 x 1.25	22	42.5	M26 x 1.5	1/8	159	217
40	200 to 1000	24	21	22	41	14	$32^{0}_{-0.039}$	16	12.5	50	8	10	56.2	7	M14 x 1.5	26.5	51	M32 x 2	1/4	181	247

Axial foot (L): 10-/11-RECL

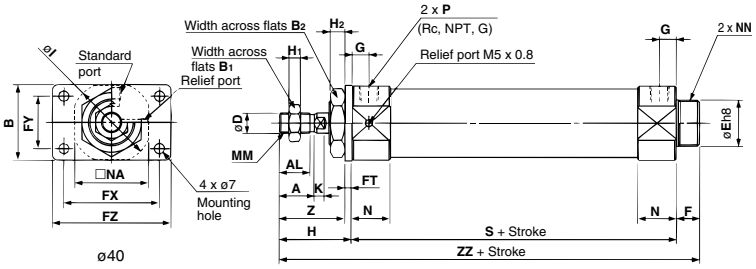


(mm)

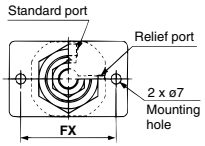
Bore size	Stroke range	A	AL	B	B1	B2	C	D	F	G	H	H1	H2	I	K	LD	LH	LS	LX	LZ	MM	N	NA
20	150 to 700	18	15.5	40	13	26	40	8	13	10	41	5	8	33.5	5	6.8	25	186	40	55	M8 x 1.25	20	30
25	150 to 700	22	19.5	47	17	32	45.5	10	13	10	45	6	8	37.5	5.5	6.8	28	186	40	55	M10 x 1.25	20	34.5
32	150 to 1000	22	19.5	47	17	32	49.5	12	13	11	45	6	8	46.5	5.5	6.8	28	199	40	55	M10 x 1.25	22	42.5
40	200 to 1000	24	21	54	22	41	55.5	14	16	12.5	50	8	10	56.2	7	7	30	227	55	75	M14 x 1.5	26.5	51

Bore size	Stroke range	NN	P	S	X	Y	Z	ZZ
20	150 to 700	M20 x 1.5	1/8	146	20	8	21	215
25	150 to 700	M26 x 1.5	1/8	146	20	8	25	219
32	150 to 1000	M26 x 1.5	1/8	159	20	8	25	232
40	200 to 1000	M32 x 2	1/4	181	23	10	27	264

Rod flange (F): 10-/11-RECF



ø40



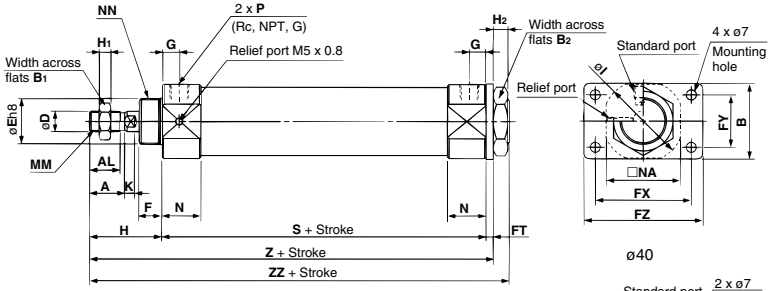
ø20, ø25 and ø32

(mm)

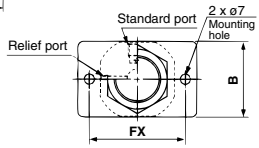
Bore size	Stroke range	A	AL	B	B1	B2	D	E	F	FT	FX	FY	FZ	G	H
20	150 to 700	18	15.5	34	13	26	8	$20^{0}_{-0.033}$	13	4	60	—	75	10	41
25	150 to 700	22	19.5	40	17	32	10	$26^{0}_{-0.033}$	13	4	60	—	75	10	45
32	150 to 1000	22	19.5	40	17	32	12	$26^{0}_{-0.033}$	13	4	60	—	75	11	45
40	200 to 1000	24	21	52	22	41	14	$32^{0}_{-0.039}$	16	5	66	36	82	12.5	50

Bore size	Stroke range	H1	H2	I	K	MM	N	NA	NN	P	S	Z	ZZ
20	150 to 700	5	8	33.5	5	M8 x 1.25	20	30	M20 x 1.5	1/8	146	37	200
25	150 to 700	6	8	37.5	5.5	M10 x 1.25	20	34.5	M26 x 1.5	1/8	146	41	204
32	150 to 1000	6	8	46.5	5.5	M10 x 1.25	22	42.5	M26 x 1.5	1/8	159	41	217
40	200 to 1000	8	10	56.2	7	M14 x 1.5	26.5	51	M32 x 2	1/4	181	45	247

Head flange (G): 10-/11-RECG



ø40



ø20, ø25 and ø32

(mm)

Bore size	Stroke range	A	AL	B	B1	B2	D	E	F	FT	FX	FY	FZ	G	H
20	150 to 700	18	15.5	34	13	26	8	$20^{0}_{-0.033}$	13	4	60	—	75	10	41
25	150 to 700	22	19.5	40	17	32	10	$26^{0}_{-0.033}$	13	4	60	—	75	10	45
32	150 to 1000	22	19.5	40	17	32	12	$26^{0}_{-0.033}$	13	4	60	—	75	11	45
40	200 to 1000	24	21	52	22	41	14	$32^{0}_{-0.039}$	16	5	66	36	82	12.5	50

Bore size	Stroke range	H1	H2	I	K	MM	N	NA	NN	P	S	Z	ZZ
20	150 to 700	5	8	33.5	5	M8 x 1.25	20	30	M20 x 1.5	1/8	146	191	200
25	150 to 700	6	8	37.5	5.5	M10 x 1.25	20	34.5	M26 x 1.5	1/8	146	195	204
32	150 to 1000	6	8	46.5	5.5	M10 x 1.25	22	42.5	M26 x 1.5	1/8	159	208	217
40	200 to 1000	8	10	56.2	7	M14 x 1.5	26.5	51	M32 x 2	1/4	181	236	247