

Series 12-REA

∅25, ∅32, ∅40, ∅50, ∅63
Sine Rodless Cylinder

How to Order



● Clean series
12 — Special treatment on sliding part

● Bore size (mm)

12 - REA 25 - 300

● Cylinder stroke (mm)

● Port type

Symbol	Type
Nil	Rc
TN	NPT
TF	G

Model

Model	Bore size (mm)	Port size	Lubrication	Standard stroke (mm)	Maximum manufacturable stroke (mm)
12-REA25	25	Rc1/8	Non-lube	200, 250, 300, 350, 400, 450, 500, 600, 700, 800	1300
12-REA32	32	NPT1/8 G1/8			
12-REA40	40	Rc1/4		200, 250, 300, 350, 400, 450, 500, 600, 700, 800, 900, 1000	
12-REA50	50	NPT1/4			
12-REA63	63	G1/4			

Note 1) Stroke exceeding the standard stroke but below the maximum manufacturable stroke is available as special orders.

Note 2) Intermediate stroke is available in 1 mm increments.

Note 3) Please contact SMC if the maximum manufacturable stroke is exceeded.

Specifications

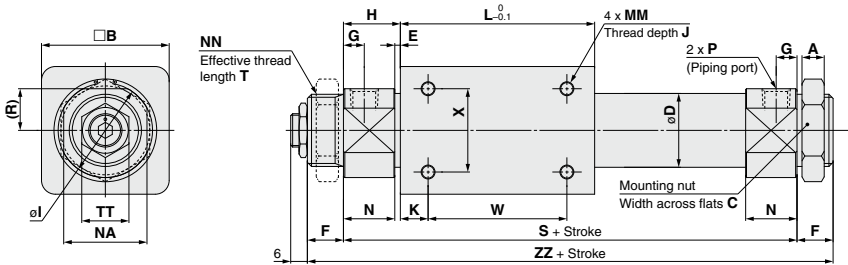
Item	Bore size (mm)	
	25/32/40/50/63	
Proof pressure		1.05 MPa
Maximum operating pressure		0.7 MPa
Minimum operating pressure		0.18 MPa
Ambient and fluid temperature		-10 to 60°C (With no freezing)
Piston speed		50 to 300 mm/s
Stroke length tolerance		0 to 250 st: $^{+1.0}_0$, 251 to 1000 st: $^{+1.4}_0$, Over 1001 st: $^{+1.8}_0$
Grease		Fluorine grease
Cleanliness class (ISO class)		Class 5

Magnetic Holding Force

Bore size (mm)	25	32	40	50	63
Holding force (N)	363	588	922	1471	2256

Dimensions

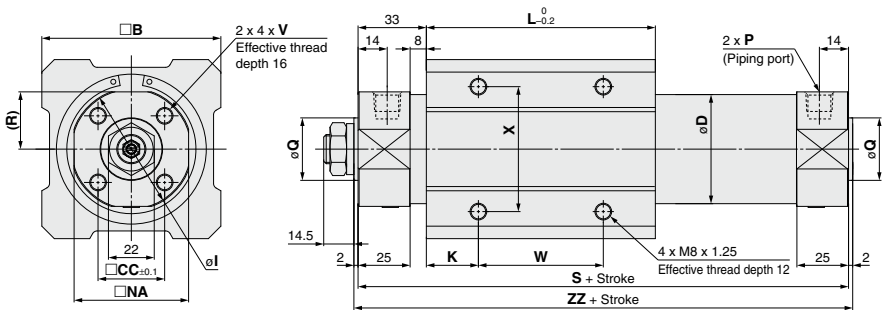
12-REA25/32/40



Model	A	B	C	D	E	F	G	H	I	J	K	L	MM	N	NA	NN	R	S	T
12-REA25	8	46	32	26.4	2	13	7.5	20.5	34	8	10	70	M5 x 0.8	18.5	30	M26 x 1.5	15	111	10
12-REA32	8	60	32	33.6	2	16	8	22	40	8	15	80	M6 x 1	20	36	M26 x 1.5	18	124	13
12-REA40	10	70	41	41.6	3	16	11	29	50	10	16	92	M6 x 1	26	46	M32 x 2	23	150	13

Model	W	X	ZZ	TT	P (Piping port)		
					Nil	TN	TF
12-REA25	50	30	137	17	Rc1/8	NPT1/8	G1/8
12-REA32	50	40	156	19	Rc1/8	NPT1/8	G1/8
12-REA40	60	40	182	22	Rc1/4	NPT1/4	G1/4

12-REA50/63



Model	B	CC	D	I	K	L	NA	Q	R	S	V	W	X	ZZ	P (Piping port)		
															Nil	TN	TF
12-REA50	86	32	52.4	58	25	110	55	30 ^{+0.007} _{-0.037}	27.5	176	M8 x 1.25	60	60	180	Rc1/4	NPT1/4	G1/4
12-REA63	100	38	65.4	72	26	122	69	32 ^{+0.007} _{-0.043}	34.5	188	M10 x 1.5	70	70	192	Rc1/4	NPT1/4	G1/4

Directional Control Valves
Air Cylinders
Rotary Actuators
Air Grippers
Air Preparation Equipment
Modular F. R.
Pressure Control Equipment
Fittings & Tubing
Flow Control Equipment
Pressure Switches/ Pressure Sensors

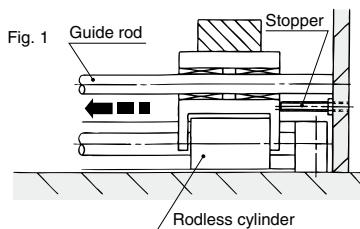
⚠ Specific Product Precautions

Be sure to read this before handling.

Handling

⚠ Caution

1. **Use caution to the rotation of the external slider.**
Rotation should be controlled by connecting the external slider to another shaft (linear guide, etc.).
2. **Do not operate with the magnetic coupling out of position.**
If the magnetic coupling is out of position, push the external slider by hand (or the piston slider with air pressure) back to the proper position at the stroke end.
3. **Do not apply a lateral load to the external slider.**
When a load is mounted directly to the cylinder, variations in the alignment of each shaft center cannot be offset, which results in the generation of a lateral load that can cause malfunction. The cylinder should be operated using a connection method which allows for shaft alignment variations and deflection due to the cylinder's own weight. A drawing of a recommended mounting method is shown in Fig. 1.



4. When used vertically for applications, use caution regarding allowable load.

When used vertically for applications, use caution as there is a possibility of dropping due to separation of the magnetic coupling if a load greater than the allowable value is added. Please contact SMC for the operating conditions (pressure, load, speed, stroke, frequency, etc.) before use.

5. Do not scratch or gouge the external surface of the cylinder.

It can damage the wear ring, increase particle generation and cause malfunction.

6. Do not use the cylinder with its body fixed.

Be sure to secure both head covers before using the cylinder. Operation of the cylinder with its body fixed will damage the wear ring, resulting in increase of particle generation or malfunction.

Disassembly and Maintenance

⚠ Warning

1. **Do not disassemble the product because it may damage the air cushion mechanism.**
Contact SMC when disassembly or maintenance is necessary.

Adjustment

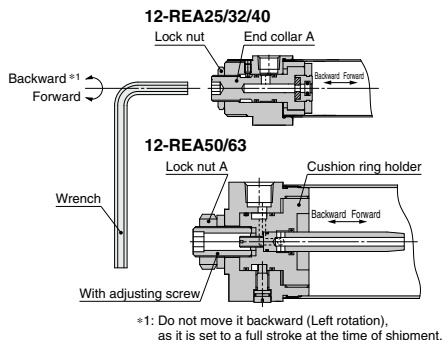
⚠ Caution

1. **Stroke adjustment is provided for position adjustment.**
This mechanism is not intended for adjustment of the cushion effect (smooth start-up, soft stop). This mechanism is for matching of the cylinder's stroke end position to the mechanical stopper, etc., of a machine.

Adjustment

⚠ Caution

2. **Stroke adjustment should be conducted with no pressure supply.**
To ensure safety, stroke adjustment should be conducted with no pressure supply. Before adjustment is performed, shut off the drive air, release any residual pressure and implement measures to prevent dropping of workpieces, etc. Adjustment procedure is shown below.
 - 1) Loosen lock nut (A).
 - 2) Insert a wrench into the hexagon socket of the end collar A or adjusting screw, and turn it to the left or right, matching the cushion ring holder (stroke end) with the position of the external stopper by moving it backward or forward.
 - 3) After the stroke end adjustment is completed, retighten lock nut A, and apply high strength Loctite® no. 262 or another comparable locking agent.



*Adjusting screw width across flats		*Lock nut A tightening torque	
Model	Width across flats (mm)	Model	Tightening torque (N·m)
12-REA25	5	12-REA25	1.2
12-REA32	5	12-REA32	1.2
12-REA40	6	12-REA40	2.1
12-REA50	8	12-REA50	3.4
12-REA63	8	12-REA63	3.4

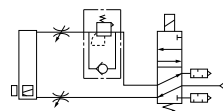
3. Throttle type speed controllers are recommended for speed adjustment, as shown in the table below.

*Recommended speed controller

Model	Model		
	Elbow type	Straight type	In-line type
12-REA25	10-AS2201F-01-06-X214	10-AS2301F-01-06-X214	10-AS2001F-06-X214
12-REA32	10-AS2201F-02-06-X214	10-AS2301F-02-06-X214	10-AS2001F-06-X214
12-REA40	10-AS2201F-02-06-X214	10-AS2301F-02-06-X214	10-AS2001F-06-X214
12-REA50	10-AS3201F-02-08-X214	10-AS3301F-02-08-X214	10-AS3001F-08-X214
12-REA63	10-AS3201F-02-08-X214	10-AS3301F-02-08-X214	10-AS3001F-08-X214

Although speed adjustment is possible with meter-in and meter-out speed controllers, smooth start-up and soft stop may not be achieved.

In case the mounting orientation is not horizontal, a system with a pressure regulating circuit on the lower side is recommended. (It is also effective to shorten start-up delay in rising and for air conservation.)



Lower-side reduced pressure supply circuit

4. Cushion adjustment is not necessary.

The fixed cushion mechanism does not require the conventional cushion adjustment.