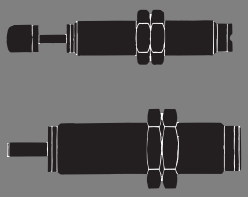


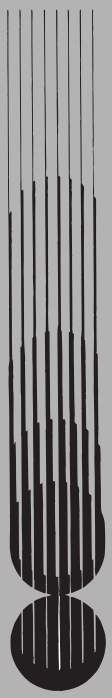
Shock Absorber
Series RB/RBL/RBQ

Absorbing impact and noise

Dampening to meet the high speed requirements of the modern world.

Shock absorber: Series RB
Coolant resistant type: Series RBL

Usable without a stopper nut
The strong body can be positioned directly.



Short type: Series RBQ

A compact style that has been shortened lengthwise

Allowable eccentric angle is 5°
Suitable for absorption of rotation energy.

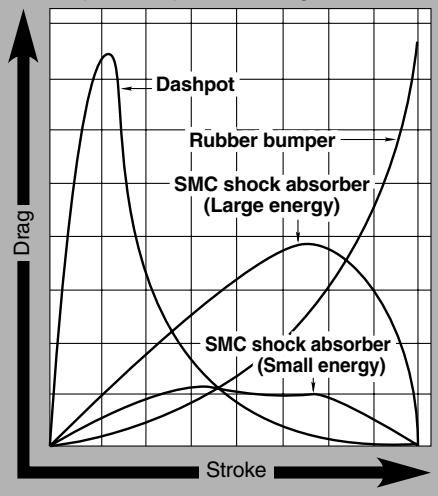
Usable without a stopper nut
The strong body can be positioned directly.

Shock absorber

Automatic adjustment to the most appropriate absorption performance

Specially designed orifice can absorb energy comprehensively and most appropriately in many different applications. This ranges from high speed low loads, to load speed high loads; without requiring additional adjustment of the shock absorber.

Example of comparison for drag characteristics



∗ Drag waveform will vary depending on the operating conditions.

Series Variations

Series	Basic type	With cap or bumper (Option)	Hexagon nut ∗	Stopper nut (Option)	Foot bracket	Page
Series RB 	Series RB	●	●	●	●	18-10-2
	Coolant resistant Series RBL (Except 08 type)	●	●	●	●	18-10-8
Series RBQ 	Series RBQ	●	●	●	●	18-10-10

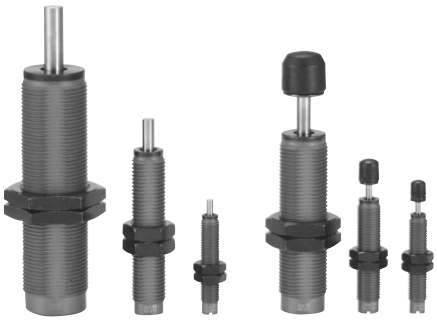
∗ 2 Hexagon nuts are attached for Series RB and standard models RBQ.

Shock Absorber
Series RB

Specifications

Model / Specifications		RB0805	RB0806	RB1006	RB1007	RB1411	RB1412	RB2015	RB2725
	Basic type	RB0805	RB0806	RB1006	RB1007	RB1411	RB1412	RB2015	RB2725
	With cap	RBC0805	RBC0806	RBC1006	RBC1007	RBC1411	RBC1412	RBC2015	RBC2725
Max. energy absorption (J)		0.98	2.94	3.92	5.88	14.7	19.6	58.8	147
Stroke absorption (mm)		5	6	6	7	11	12	15	25
Collision speed (m/s)		0.05 to 5.0							
Max. operating frequency * (cycle/min)		80	80	70	70	45	45	25	10
Max. allowable thrust (N)		245	245	422	422	814	814	1961	2942
Ambient temperature range (°C)		–10 to 80 (No freezing)							
Spring force (N)	Extended	1.96	1.96	4.22	4.22	6.86	6.86	8.34	8.83
	Retracted	3.83	4.22	6.18	6.86	15.30	15.98	20.50	20.01
Weight (g)	Basic type	15	15	23	23	65	65	150	350
	With cap	16	16	25	25	70	70	165	400

* It denotes the values at the maximum energy absorption per one cycle.
Max. operation cycle/min can increase in proportion to energy absorption.



Basic type With cap

How to Order

RB C 14 12 [ ]

Cushion

Nil	Basic type
C	With cap

O.D thread—Stroke absorption

Option

Nil	None
S	With stopper nut
J	Add'l 1 hex. nut (Total: 3 pcs.*)

* 2 mounting hexagon nuts are attached as standard.

Replacement part no./Cap (Resin part only)

RBC 08 C

Applicable model

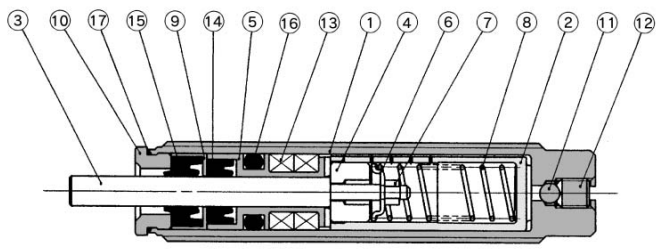
08	RBC0805, 0806	20	RBC2015
10	RBC1006, 1007	27	RBC2725
14	RBC1411, 1412		

Cap

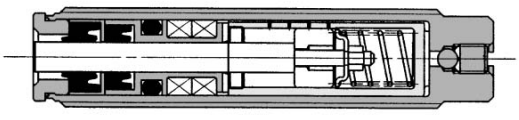
Cap cannot be mounted for basic type. Please place an order with cap type from the beginning.

Construction

Extended



Compressed

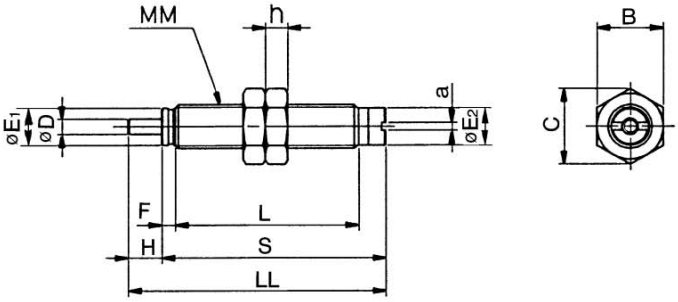


Component Parts

No.	Description	Material	Treatment
①	Outer tube	Rolled steel	Gray coated
②	Inner tube	Special steel	Heat treated
③	Piston rod	Special steel	Electroless nickel plated
④	Piston	Special steel	Heat treated
⑤	Bearing	Special bearing material	
⑥	Spring guide	Carbon steel	Zinc chromated
⑦	Lock ring	Copper	
⑧	Return spring	Piano wire	Zinc chromated
⑨	Seal holder	Copper alloy	
⑩	Stopper	Carbon steel	Zinc chromated
⑪	Steel ball	Bearing steel	
⑫	Set screw	Special steel	
⑬	Accumulator	NBR	Foam rubber
⑭	Rod seal	NBR	
⑮	Scraper	NBR	
⑯	Gasket	NBR	
⑰	Gasket	NBR	Only RB(C)2015, 2725

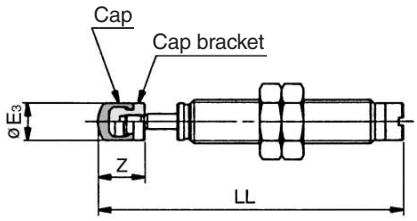
Dimensions

Basic type: RB0805, RB0806, RB1006, RB1007



With cap: RBC0805, RBC0806 RBC1006, RBC1007

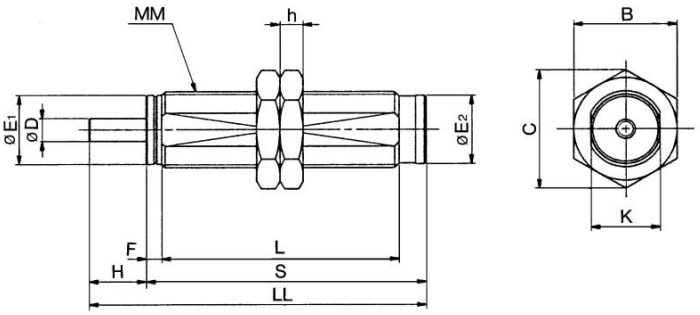
∗ Other dimensions are the same as the basic type.



(mm)

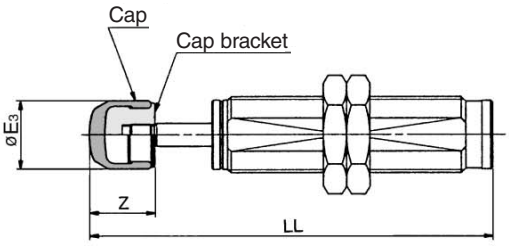
Model		Basic type dimensions										With cap*			Hexagon nut		
Basic type	With cap	D	E_1	E_2	F	H	a	L	LL	MM	S	E_3	LL	Z	B	C	h
RB0805	**RBC0805**	2.8	6.8	6.8	2.4	5	1.4	33.4	45.8	M8 x 1.0	40.8	6.8	54.3	8.5	12	13.9	4
RB0806	**RBC0806**	2.8	6.8	6.8	2.4	6	1.4	33.4	46.8	M8 x 1.0	40.8	6.8	55.3	8.5	12	13.9	4
RB1006	**RBC1006**	3	8.8	8.6	2.7	6	1.4	39	52.7	M10 x 1.0	46.7	8.7	62.7	10	14	16.2	4
RB1007	**RBC1007**	3	8.8	8.6	2.7	7	1.4	39	53.7	M10 x 1.0	46.7	8.7	63.7	10	14	16.2	4

Basic type: RB1411, RB1412, RB2015, RB2725



With cap: RBC1411, RBC1412 RBC2015, RBC2725

∗ Other dimensions are the same as the basic type.

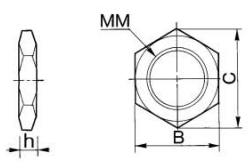


(mm)

Model		Basic type dimensions										With cap*			Hexagon nut		
Basic type	With cap	D	E_1	E_2	F	H	K	L	LL	MM	S	E_3	LL	Z	B	C	h
RB1411	**RBC1411**	5	12.2	12	3.5	11	12	58.8	78.3	M14 x 1.5	67.3	12	91.8	13.5	19	21.9	6
RB1412	**RBC1412**	5	12.2	12	3.5	12	12	58.8	79.3	M14 x 1.5	67.3	12	92.8	13.5	19	21.9	6
RB2015	**RBC2015**	6	18.2	18	4	15	18	62.2	88.2	M20 x 1.5	73.2	18	105.2	17	27	31.2	6
RB2725	**RBC2725**	8	25.2	25	5	25	25	86	124	M27 x 1.5	99	25	147	23	36	41.6	6

Hexagon Nut

(2 pcs. standard equipment)



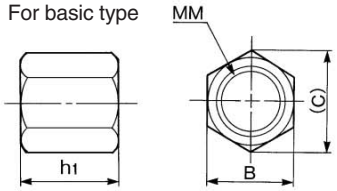
(mm)

Part no.	Dimensions			
	MM	h	B	C
RB08J	M8 x 1.0	4	12	13.9
RB10J	M10 x 1.0	4	14	16.2
RB14J	M14 x 1.5	6	19	21.9
RB20J	M20 x 1.5	6	27	31.2
RB27J	M27 x 1.5	6	36	41.6

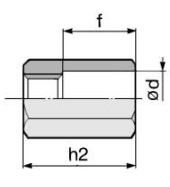
Option

Stopper nut

For basic type



For cap type

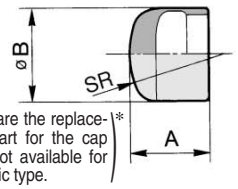


(mm)

Part no.		Dimensions						
Basic type	With cap	B	C	h1	h2	MM	d	f
RB08S	**RBC08S**	12	13.9	6.5	23	M8 x 1.0	9	15
RB10S	**RBC10S**	14	16.2	8	23	M10 x 1.0	11	15
RB14S	**RBC14S**	19	21.9	11	31	M14 x 1.5	15	20
RB20S	**RBC20S**	27	31.2	16	40	M20 x 1.5	23	25
RB27S	**RBC27S**	36	41.6	22	51	M27 x 1.5	32	33

Replacement Parts

Cap



These are the replacement part for the cap type. Not available for the basic type. *

Material: Polyurethane

(mm)

Part no.	Dimensions		
	A	B	SR
RBC08C	6.5	6.8	6
RBC10C	9	8.7	7.5
RBC14C	12.5	12	10
RBC20C	16	18	20
RBC27C	21	25	25

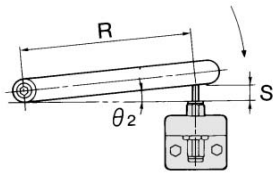
⚠ Precautions

Be sure to read before handling. Refer to pages 10-24-3 to 10-24-6 for Safety Instructions and Actuator Precautions.

Mounting

3. Rotating angle

If rotating impacts are involved, the installation must be designed so that the direction in which the load is applied is perpendicular to the shock absorber's axial center. The allowable rotating angle until the stroke end must be $\theta_2 < 3°$.



Allowable rotating eccentric angle $\theta_2 < 3°$

Installation Conditions for Rotating Impact

(mm)

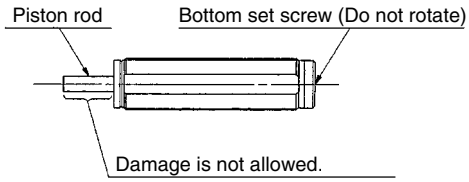
Model	S (Stroke)	θ_2 (Allowable rotating angle)	R (Min. installation radius)
RB□□0805	5	3°	96
RB□□0806	6		115
RB□□1006	6		115
RB□□1007	7		134
RB□□1411	11		210
RB□□1412	12		229
RB□□2015	15		287
RB□□2725	25		478

4. Do not scratch the sliding portion of the piston rod or the outside threads of the outer tube.

Failure to observe this precaution could scratch or gouge the sliding potion of the piston rod, or damage the seals, which could lead to oil leakage and malfunction. Furthermore, damage to outside threaded portion of the outer tube could prevent the shock absorber from being mounted onto the frame, or its internal components could deform, leading to a malfunction.

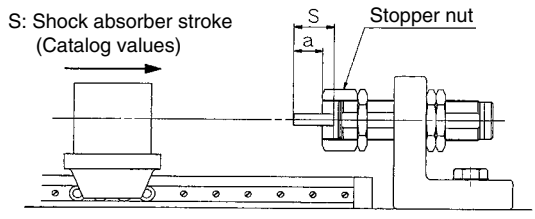
5. Never turn the screw on the bottom of the body.

This is not an adjusting screw. Turning it could result in oil leakage.



6. Adjust the stopping time through the use of the stopper nut, as follows:

Control the stopping time of the impact object by turning the stopper nut in or out (thus changing length "a"). After establishing the stopper nut position, use a hexagon nut to secure the stopper nut in place.



Maintenance

⚠ Caution

1. Check the mounting nut is not loosen.

The shock absorber could become damaged if it is used in a loose state.

2. Pay attention to any abnormal impact sounds or vibrations.

If the impact sounds or vibrations have become abnormally high, the shock absorber may have reached the end of its service life. If this is the case, replace the shock absorber. If use is continued in this state, it could lead to equipment damage.

3. Confirm that abnormality, oil leakage, etc. in the outward surface.

When a large amount of oil is leaking, replace the product, because it is believed to be happening something wrong with it. If it keeps on using, it may cause to break the equipment which is mounted by this product.

4. Inspect the cap for any cracks or wear.

If the shock absorber comes with a cap, the cap could wear first. To prevent damage to the impact object, replace the cap often.

Series RB, RBL
Made to Order Specifications:

Foot Bracket for Shock Absorber

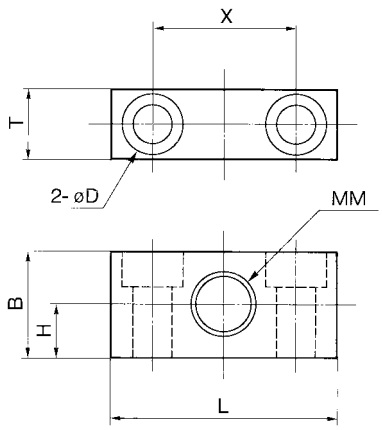
Available for the foot mounting bracket of Series RB.

Part No.

Part no.	Applicable absorber
RB08-X331	**RB□0805, 0806**
RB10-X331	**RB□1006, 1007**
RB14-X331	**RB□1411, 1412**
RB20-X331	**RB□2015**
RB27-X331	**RB□2725**

∗ Order the foot bracket separately.

Dimensions



Part no.	B	D	H	L	MM	T	X	Mounting bolt
RB08-X331	15	4.5 drill, 8 counterbore depth 4.4	7.5	32	M8 x 1.0	10	20	M4
RB10-X331	19	5.5 drill, 9.5 counterbore depth 5.4	9.5	40	M10 x 1.0	12	25	M5
RB14-X331	25	9 drill, 14 counterbore depth 8.6	12.5	54	M14 x 1.5	16	34	M8
RB20-X331	38	11 drill, 17.5 counterbore depth 10.8	19	70	M20 x 1.5	22	44	M10
RB27-X331	50	13.5 drill, 20 counterbore depth 13	25	80	M27 x 1.5	34	52	M12