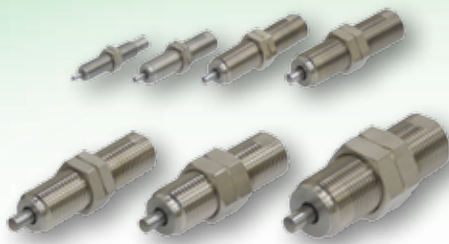


Linear Orifice® Shock Absorber Series

NEW

KSHY Series Side load resistant Linear Orifice® Shock Absorber



- ! No need for an angle of eccentricity adaptor
- ! Each size can withstand up to 10°
- ! Maximum of more than 2 million operation cycles!

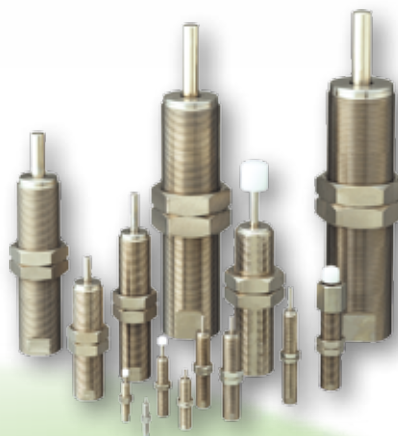
* Specifications in inches are not available.



KSHP Series

Adjustment Type Shock Absorber

- Shortened takt time
- Uses NSF certified H1 oil (non silicon)
- Maximum of more than 3million operation cycles!



KSHJ Series

Fixed type Shock Absorber

- 18 sizes and 132 models
- Supports a wide variety of impact masses
- Maximum of more than 2million operation cycles!
(800,000 operation cycles for M30 and higher)



KSHC Series

Clean Room Specification Shock Absorber

- Low dust emissions and Class 5 equivalent (FED-STD Class 100 equivalent)
- Non silicon
- Maximum of more than 2million operation cycles!

Linear Orifice® Shock Absorbers KSHJ Series



KSHJ

KSHY

KSHP

KSCH

Additional Parts

Shock absorbers designed by pneumatic cylinder engineers

Linear Orifice® Shock Absorber KSHJ Series (fixed type)



A wealth of variations
with sizes from M4 to M48
18 sizes and 132 models

A wealth of variations
with sizes from
10-32UNF to 1 3/4-12UN
12 sizes and 92 models



Supports a wide variety of impact masses
Supports a wide range of impacting objects, from grams (g) with the M4 size to tons (t) with the M48 size.

Supports a wide variety of impact speeds
Supports maximum impact speeds of 0.8 m/s to 3 m/s.

Stopper nut not needed
Workpieces directly contact the end of the body, so there is no need for mounting a stopper nut. Mounting is easy and saves space.

Body is entirely threaded
Entire body is threaded to maximize the range of installation positions and also improve heat dissipation.
Note: Except for M4 and M6 (10-32UNF, 1/4-32UNEF) sizes.



Supports high cycle times

Reduces the time from impact to end of operation. Even if the workpiece mass and speed changes, our original linear orifice construction automatically adjusts to prevent wasted operation time. Combined with reduced vibration, this contributes to improved productivity.

Silent design

Reducing the impact value at collision decreases the noise at workpiece impact.

Short stroke type

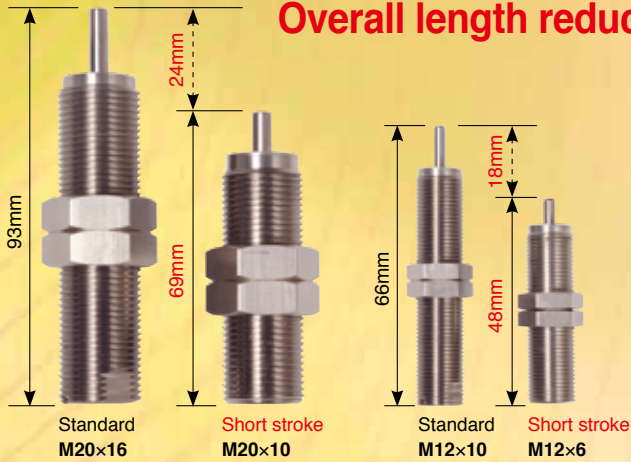
Perfect in low speed range for shock absorbing in limited spaces.

Long stroke type

Making the absorbing stroke longer allows for softer absorption of shocks.

short stroke type (with hexagon socket)!

Overall length reduced for shock absorbing in tight locations!



Up to 26% reduction in overall length compared to the same standard threaded body type (for M20). Excellent for absorbing shocks in tight locations as a stopper between 2 cylinder stroke ends because overall short length. Fine position adjustments are easy with more models available with hex sockets.



List of KSHJ body thread sizes

[Specifications in mm]




Size	Model			Body thread size × pitch	
	Short stroke	Standard	Long stroke		
M4	—	KSHJ4×3	—	M4×0.5	—
M6	—	KSHJ6×4	KSHJ6×6	M6×0.75	—
M8	KSHJ8×4	KSHJ8×5	KSHJ8×8	M8×0.75	M8×1
M10	KSHJ10×6	KSHJ10×10	KSHJ10×15	M10×1	—
M12	KSHJ12×6	KSHJ12×10	—	M12×1	—
M14	KSHJ14×8	KSHJ14×12	—	M14×1.5	—
M16	KSHJ16×8	KSHJ16×15	—	M16×1.5	—
M18	—	KSHJ18×16	—	M18×1.5	—
M20	KSHJ20×10	KSHJ20×16	—	M20×1.5	—
M22	—	KSHJ22×25	—	M22×1.5	—
M25	—	KSHJ25×25	—	M25×1.5	M25×2
M27	—	KSHJ27×25	—	M27×1.5	M27×3
M30	—	KSHJ30×30	—	M30×1.5	—
M33	—	KSHJ33×30	—	M33×1.5	—
M36	—	KSHJ36×50	—	M36×1.5	—
M42	—	KSHJ42×50	KSHJ42×70	M42×1.5	—
M45	—	KSHJ45×50	—	M45×1.5	—
M48	—	KSHJ48×50	—	M48×2	—

[Specifications in inches]

Size	Model		
	Short stroke	Standard	Long stroke
10-32 UNF	—	KSHJ4×3-F11	—
1/4-32 UNEF	—	KSHJ6×4-F11	KSHJ6×6-F11
5/16-32 UNEF	KSHJ8×4-F11	KSHJ8×5-F11	KSHJ8×8-F11
3/8-32 UNEF	KSHJ10×6-F11	KSHJ10×10-F11	KSHJ10×15-F11
7/16-28 UNEF	KSHJ11×6-F11	KSHJ11×10-F11	KSHJ11×15-F11
1/2-20 UNF	KSHJ12×6-F11	KSHJ12×10-F11	—
9/16-18 UNF	KSHJ14×8-F11	KSHJ14×12-F11	—
3/4-16 UNF	—	KSHJ18×16-F11	—
1-12 UNF	—	KSHJ25×25-F11	—
1 1/4-12 UNF	—	KSHJ30×30-F11	—
1 3/8-12 UNF	—	KSHJ36×50-F11	—
1 3/4-12 UN	KSHJ42×50-F11	KSHJ42×70-F11	—

List of linear orifice shock absorber products

[Specifications in mm]

Size	Basic mounting type	Durable angle of eccentricity	Adjustable type	Clean specification	Options		
	KSHJ	KSHY	KSHP	KSHC	Cap	Stopper nut	Side mount
M4x0.5	●			●	 Plastic cap		
M6x0.75	●	●	●	●			
M8x0.75	●	●	●	●			
M8x1	●	●	●	●			
M10x1	●	●	●	●			
M12x1	●	●	●	●			
M14x1.5	●	●	●	●			
M16x1.5	●	●	●	●			
M18x1.5	●		●	●			
M20x1.5	●	●	●	●			
M22x1.5	●						
M25x1.5	●		●	●			
M25x2	●						
M27x1.5	●						
M27x3	●						
M30x1.5	●		●				
M33x1.5	●						
M36x1.5	●		●				
M42x1.5	●		●				
M45x1.5	●						
M48x2	●						





Plastic cap



Rubber cap

* Only for KSHP 12 to 42

[Specifications in inches]

Size	Basic mounting type	Adjustable type	Clean specification	Options	
	KSHJ	KSHP	KSHC	Cap	Stopper nut
10-32 UNF	●		●	 Plastic cap	
1/4-32 UNEF	●	●	●		
5/16-32 UNEF	●	●	●		
3/8-32 UNEF	●	●	●		
7/16-28 UNEF	●	●	●		
1/2-20 UNF	●	●	●		
9/16-18 UNF	●	●	●		
3/4-16 UNF	●	●	●		
1-12 UNF	●	●	●		
1 1/4-12 UNF	●	●			
1 3/8-12 UNF	●	●			
1 3/4-12 UN	●	●			



Plastic cap







Rubber cap

* Only for KSHP 12 to 42

Before selecting and using the products, please read all the "Safety Precautions" carefully to ensure proper product use. The Safety Precautions described below are to help you use the product safely and correctly, and to prevent injury or damage to you, other people, and assets. Be sure to observe these safety precautions together with the following safety regulations of ISO4414 (Pneumatic fluid power - General rules and safety requirements for systems and their components), and JIS B 8370 (General rules relating to systems).

The directions are ranked according to degree of potential danger or damage: "DANGER", "WARNING", "CAUTION" and "ATTENTION."

 DANGER	Indicates situations that can be clearly predicted as dangerous. Death or serious injury may result if the situation is not avoided. It could also result in damage or destruction of assets.
 WARNING	Indicates situations that, while not immediately dangerous, could become dangerous. Death or serious injury may result if the situation is not avoided. It could also result in damage or destruction of assets.
 CAUTION	Indicates situations that, while not immediately dangerous, could become dangerous. Failure to avoid the situation creates the risk of minor or semi-serious injury. It could also result in damage or destruction of assets.
 ATTENTION	It could also result in damage or destruction of assets. appropriate use of the product.

■ This product was designed and manufactured for use in general industrial machinery.

- When selecting and handling equipment, the system designer or another person with sufficient knowledge and experience should always read the "Safety Precautions", "catalog", "instruction manual", and other literature before commencing operation. Improper handling is dangerous.
- After reading the instruction manual, catalog, and other documentation, always place them in a location that allows easy availability for reference to users of this product.
- Whenever transferring or lending the product to another person, always attach the catalog, instruction manual, and other information to the product where they are easily visible in order to ensure that the new user can use the product safely and properly.
- The danger, warning and caution items listed under these "Safety Precautions" do not cover all possible contingencies. Read the catalog and instruction manual carefully, and always keep safety first.

 **DANGER**

- Do not use the product for the purposes listed below:
 1. Medical equipment related to maintenance or management of human lives or bodies.
 2. Machines or equipment designed for the purpose of moving or transporting people.
 3. Critical safety components in mechanical devices.
 This product has not been planned or designed for purposes that require high levels of safety. Using the product in any of the ways described above creates the risk of loss of human life.
- Do not use the product in locations with or near dangerous substances such as flammable or ignitable substances. This product is not explosion-proof. It could ignite or burst into flames.
- When mounting the product and workpiece, always make sure they are firmly supported and secured in place. Ensure the mounting material is strong enough. If the product falls over, is dropped, or breaks, it may result in injury.
- Never attempt to modify the product in any way. Doing so can cause an abnormal operation and create the risk of injury, etc.
- Never attempt inappropriate disassembly, assembly or repair of the product relating to basic construction, or to its performance or to functions. This can lead to injury, etc.
- Do not splash water on the product. Spraying it with water, washing it, or using it under water could result in malfunction leading to injury, etc.
- While the product is in operation, avoid touching it with your hands or otherwise approaching too close. Also, do not mount shock absorbers or make adjustments while the equipment is in operation. The equipment may move suddenly, possibly resulting in injury.

 **WARNING**

- Do not use the product in excess of its specification range. Doing so creates the risk of product breakdown, loss of function, or damage. It could also drastically reduce operating life.
- The small screw on the back end of the shock absorber should never be loosened or removed. Oil may leak out of the shock absorber leading to a loss of functionality and resulting in injury.
- When conducting any kind of operation for the product, such as maintenance, inspection, repair, or replacement, always turn off the air supply and power to the equipment and make sure that the equipment is completely stopped.
- When mounting the product, always follow the handling instructions and precautions. Also when mounting the product, before operation, check that the mounting nut is tightened and not loose and then operate the product. If the mounting nut is loose, etc., this will result in damage to the equipment and accidents.
- Do not allow the product to be thrown into fire. The product could explode, ignite, and/or release toxic gases.

- Do not apply a load to the product, or place other objects on it. It could lead to damaged or broken products that result in degraded performance, function stops, etc.
- If the product has not been used for over 30 days, it is possible that the contacting parts may have become stuck, leading to abnormal operation at impact. Check for proper operation a minimum of once every 30 days.
- Do not use the product at the beach in direct sunlight, near mercury lamps, or near equipment that generates ozone. Ozone causes rubber components to deteriorate resulting in reduced performance, or a limitation or stop of functions.

 **CAUTION**

- Do not use in locations that are subject to direct sunlight (ultraviolet rays); locations with high humidity and temperature, dust, salt, or iron powder; or in locations with fluids and/or ambient atmosphere that include organic solvents, phosphate ester type hydraulic oil, sulfur dioxide, chlorine gas, acids, etc. It could lead to early shutdown of some functions, a sudden degradation of performance, and a reduced operating life. For information about materials, see Major Parts and Materials.
- When installing the product, be sure to allow adequate work space around it. Failure to do so will make it more difficult to conduct daily inspections or maintenance, which could eventually lead to system shutdown or damage to the product.
- When transporting or mounting a heavy product, firmly support the product using a lift or support, or use multiple people to ensure personal safety. Also, wear protective gloves and use safety shoes etc. for protection as necessary.
- Always post an "operations in progress" sign for installations, adjustments, or other operations, to avoid unintentional supplying of air or electrical power, etc. Unintentional supplying of air or electrical power can cause the equipment to operate and may result in injury.
- Never apply lubrication to the product sliding parts. This leads to changes in the physical properties and deterioration of the materials used, resulting in reduced functionality.
- Attempting to use the shock absorber with a cap over the specification range could result in damage to the cap or to its flying off and causing personal injury. Moreover, if cracks or fractures appear in the cap, replace it as quickly as possible.
- Always wash your hands thoroughly after touching the oil or grease used on the shock absorber. There is a danger that the grease or oil from your hands will get on the cigarette and burn, releasing toxic gases, as you smoke the cigarette.
- As a means to prevent vibration, do not use the product at a high frequency that exceeds the value in the catalog. It could drastically reduce the product's operating life.
- When using the shock absorber, gradually increase the speed of the impact object. Suddenly increasing the speed when using the shock absorber may damage the device or injure someone.

 **ATTENTION**

- Whenever considering use of this product in situations or environments not specifically noted in the catalog or instruction manual, or in applications where safety is an important requirement such as in aircraft equipment, combustion equipment, leisure equipment, safety equipment, and other places where human life or assets may be greatly affected, take adequate safety precautions such as allowing plenty of margin for ratings and performance, or fail-safe measures. Contact the sales department of Koganei regarding use in such applications.
- When the product can no longer be used, or is no longer necessary, dispose of it appropriately, according to the "Law Regarding the Disposal and Cleaning of Waste" or other local governmental rules and regulations, as industrial waste. Incinerating the special oil in the KSHC series (clean specification) or the KSHJ series (short stroke type) generates hazardous fluorine (HF), which is corrosive and toxic. Because of this, incineration must be done in an incinerator that has neutralizing equipment that can handle acids. For large amounts, ask a registered waste disposal company.
- The product can exhibit degraded performance and function over its operating life. Always conduct daily inspections and confirm that all requisite system functions are satisfied, to prevent accidents from happening.
- When handling the product, wear protective gloves, safety glasses, safety shoes, and other protective clothing.
- The maximum absorption in the specifications are for a normal temperature (20 to 25°C [68 to 77°F]). Be aware that performance and characteristics change depending on the operating temperature.
- The shock absorber's absorption capacity changes depending on the speed of the impacting object. Use the product within the ranges of the selection graphs.
- For inquiries about the product, consult your nearest Koganei sales office or Koganei Overseas Department. The addresses and telephone numbers are shown on the back cover of this catalog.

 **Other**

- Always observe the following items.
 1. When using this product in a system, use only genuine Koganei parts or equivalent (recommended) parts. When conducting maintenance and repairs, always use genuine Koganei parts or compatible parts (recommended parts). Always observe the prescribed methods and procedures.
 2. Never attempt unauthorized disassembly or assembly of the product relating to its basic construction, its performance, or its functions.

Koganei shall not be held responsible for any problems that occur as a result of these items not being properly observed.

Warranty and General Disclaimer

1. **Warranty Period**
Koganei warrants this product for a period of no more than 1 year from delivery.
* However, some products have a 2-year warranty; contact your nearest Koganei sales office or the Koganei Technical Service Center for details.
2. **Scope of Warranty and General Disclaimer**
 - (1) When a product purchased from Koganei or from an authorized Koganei distributor malfunctions during the warranty period in a way that is found to be attributable to Koganei responsibility, Koganei will repair or replace the product free of charge. Even if a product is still within the warranty period, its durability is determined by its operation cycles and other factors. Contact your nearest Koganei sales office or the Koganei overseas department for details.
 - (2) The Koganei product warranty covers only the product itself. Therefore, Koganei is not responsible for incidental losses (repair of the product, various expenses required for replacement, etc.) caused by breakdown, loss of function, or loss of performance of Koganei products.
 - (3) Koganei shall not be held responsible for any losses or for any damage to other machinery caused by breakdown, loss of function, or loss of performance of Koganei products.
 - (4) Koganei shall not be held responsible for any losses due to use or storage of the product in a way that is outside of the product specifications prescribed in Koganei catalogs and the instruction manual, and/or due to actions that violate the mounting, installation, adjustment, maintenance and other safety precautions.
 - (5) Koganei shall not be held responsible for any losses caused by breakdown of the product due to factors outside the responsibility of Koganei, including but not limited to fire, natural disaster, the actions of third parties, and intentional actions or errors by you.

Handling instructions and precautions



General precautions

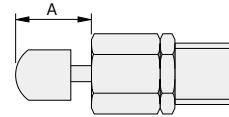
Cover the unit when mounting it in locations where it might be subject to excessive dust, dripping water, dripping oil, etc. Dents, scratches, water, oil, or dust on the piston rod results in damage and decreases service life.



Mounting

- Keep the angle of eccentricity, resulting from the load direction and the axis of the shock absorber, under the specified values on pages 17 to 19. If an eccentric load exceeding the specifications is applied, it could result in breakage or impaired returns. If there is concern that an eccentric load exceeding the specified values will be applied, install a guide, or similar mechanism.
- Two or more shock absorbers can be mounted in parallel, to boost absorption capacity. In such an arrangement, however, be careful to ensure that the load is evenly distributed to each shock absorber.
- To adjust the capacity with the stroke, adjust the stopper nut (-S) or add an external stopper.
- If using with a cap, always mount a stopper nut (-S) or an external stopper to ensure that the cap is not subjected to loads at the stroke end. The stopper nut mounting position must not exceed the distance shown in the table below. You can use it without a stopper nut or external stopper, but over the long-term, the stop location changes due to cap deformation and wear.

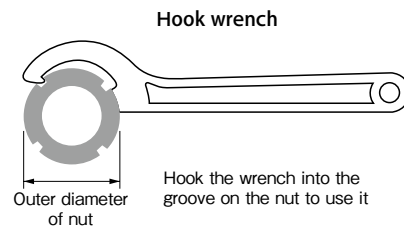
Model	A	
	mm	in
KSHJ4 × 3C-01,-02 (-F11)	3	0.12
KSHJ6 × 4C-01,-02 (-F11)	4	0.16
KSHJ6 × 6C-01,-02 (-F11)	6	0.24
KSHJ8 × 4C-01,-02,-11,-12 (-F11)	4	0.16
KSHJ8 × 5C-01,-11 (-F11)	5	0.20
KSHJ8 × 8C-01,-02,-11,-12 (-F11)	8	0.31
KSHJ10 × 6C-01,-02 (-F11)	6	0.24
KSHJ11 × 6C-F11-01,-02	—	0.24
KSHJ10 × 10C-01,-02 (-F11)	10	0.40
KSHJ11 × 10C-F11-01,-02	—	0.40
KSHJ10 × 15C-01,-03 (-F11)	15	0.60
KSHJ11 × 15C-F11-01,-03	—	0.60
KSHJ12 × 6C-01,02 (-F11)	6	0.24
KSHJ12 × 10C-01,-02 (-F11)	10	0.40
KSHJ14 × 8C-01,02 (-F11)	8	0.31
KSHJ14 × 12C-01,-02 (-F11)	12	0.47
KSHJ16 × 8C-01,-02	8	—
KSHJ16 × 15C-01,-02	15	—
KSHJ18 × 16C-01,-02 (-F11)	16	0.63
KSHJ20 × 10C-01,-02	10	—
KSHJ20 × 16C-01,-02	16	—
KSHJ22 × 25C-01,-02	25	—
KSHJ25 × 25C-01,-11,-12 (-F11)	25	0.98
KSHJ27 × 25C-01,-02,-11,-12	25	—
KSHJ30 × 30C-01,-02,-03 (-F11)	30	1.18
KSHJ33 × 30C-01,-02,-03	30	—
KSHJ36 × 50C-01,-02,-03 (-F11)	50	1.97
KSHJ42 × 50C-01,-02 (-F11)	50	1.97
KSHJ42 × 70C-01,-02 (-F11)	70	2.76
KSHJ45 × 50C-01,-02	50	—
KSHJ48 × 50C-01,-02	50	—



- The small screw on the back end of the shock absorber should never be loosened or removed. Oil may leak out of the shock absorber leading to a loss of functionality and resulting in damage to the equipment and accidents.
- When mounting the shock absorber, always use the following maximum tightening torque guidelines. Tightening using excessive force may result in damage.

Model	Maximum tightening torque	
	N · m	in · lbf
KSHJ4 × 3 (C)-01,-02 (-F11)	0.5	4.43
KSHJ6 × 4 (C)-01,-02 (-F11)	0.85	7.52
KSHJ6 × 6 (C)-01,-02 (-F11)	0.85	7.52
KSHJ8 × 4 (C)-01,-02,-11,-12 (-F11)	2.5	22.12
KSHJ8 × 5 (C)-01,-11 (-F11)	2.5	22.12
KSHJ8 × 8 (C)-01,-02,-11,-12 (-F11)	2.5	22.12
KSHJ10 × 6 (C)-01,-02 (-F11)	6.5	57.53
KSHJ11 × 6 (C)-01,-02	—	57.5
KSHJ10 × 10 (C)-01,-02 (-F11)	6.5	57.53
KSHJ11 × 10 (C)-01,-02	—	57.5
KSHJ10 × 15 (C)-01,-03 (-F11)	6.5	57.53
KSHJ11 × 15 (C)-01,-03	—	57.5
KSHJ12 × 6 (C)-01,02 (-F11)	8.0	70.80
KSHJ12 × 10 (C)-01,-02 (-F11)	8.0	70.80
KSHJ14 × 8 (C)-01,02 (-F11)	12.0	106.21
KSHJ14 × 12 (C)-01,-02 (-F11)	12.0	106.21
KSHJ16 × 8 (C)-01,-02	20.0	—
KSHJ16 × 15 (C)-01,-02	20.0	—
KSHJ18 × 16 (C)-01,-02 (-F11)	25.0	221.28
KSHJ20 × 10 (C)-01,-02	30.0	—
KSHJ20 × 16 (C)-01,-02	30.0	—
KSHJ22 × 25 (C)-01,-02	35.0	—
KSHJ25 × 25 (C)-01,-11,-12 (-F11)	42.0	371.74
KSHJ27 × 25 (C)-01,-02,-11,-12	42.0	—
KSHJ30 × 30 (C)-01,-02,-03 (-F11)	60.0	531.06
KSHJ33 × 30 (C)-01,-02,-03	60.0	—
KSHJ36 × 50 (C)-01,-02,-03 (-F11)	72.0	531.06
KSHJ42 × 50 (C)-01,-02 (-F11)	85.0	637.27
KSHJ42 × 70 (C)-01,-02 (-F11)	85.0	637.27
KSHJ45 × 50 (C)-01,-02	85.0	—
KSHJ48 × 50 (C)-01,-02	120.0	—

Note: The **KSHJ45 × 50(C)-01**, and **-02** use nominal number AN09 mounting nut prescribed in JIS B1554 (nuts for rolling bearings). Use a hook wrench (nominal 58 to 65 or 65 to 70) for tightening.



- Ensure that the hardness of the surface directly impacting the piston rod of the shock absorber is over HRC40 hardness (excluding models with cap).
- Be aware that performance and characteristics change depending on the operating temperature.

How to select shock absorbers

1. Confirm the thrust

Confirm the thrust that is used, and then check the prospective shock absorbers from the table of recommended cylinder bore sizes on page 16. If a shock absorber that is smaller than the recommended shock absorber is used, the shock absorber being used may be damaged in fewer operation cycles than is guaranteed.

2. Confirm the kinetic energy

Confirm I and II below, and then check pages 14 to 16 for the selection graphs for prospective shock absorbers from [1. Confirm the thrust]. (*)

I Impact object mass: m [kg]

II Impact speed: v [m/s]

Because "v" is the impact speed, not the average speed, when using a cylinder,

$$v = m [\text{cylinder stroke}] \div s [\text{operating time}] \times 2$$

Select a model in which I and II fit within the range enclosed by the capacity curves.

If multiple models are applicable, use the model that is closest to both the capacity curves and the operating conditions. The further the model you select is from the capacity curves and the operating conditions, the slower it will tend to be.

3. Confirm other specifications

Confirm that such specifications as the maximum operating frequency, maximum absorption capacity per unit of time, angle of eccentricity, and operating temperature range are within the range for the shock absorber that you selected.

* The value for the kinetic energy, E, can be found by doing the following calculation. However, the shock absorber's capacity for absorption changes depending on the impact speed. When the shock absorber is doing low-speed operations, it has less drag than when it is doing high-speed operations.

The maximum absorption capacity that is noted in the specifications is reached only at the maximum impact speed.

Therefore, do not choose a shock absorber by comparing E to the maximum absorption capacity; confirm the capacity using the selection graph.

$$E = \frac{1}{2} mv^2$$

E: Kinetic energy (J)

m: Impact object mass [kg]

v: Impact speed (m/s)

Range in the selection graph

Vertical axis range :

$$\text{Maximum impact speed} \geq v \text{ Impact speed (operating condition)}$$

Horizontal axis range :

$$\text{Shock absorber's maximum absorption capacity at the impact speed (v = m/s)} \geq \frac{E}{\text{Kinetic energy (operating condition)}}$$

Calculating the thrust energy is not necessary because the size of the shock absorber is limited by the thrust in step 1.

Koganei's selectable content

You can also select equipment from Koganei's homepage.

Visit <http://www.koganei.co.jp>.

The results of selections using the method above may differ from the results of selections for the selectable content on our homepage. If this happens, please contact us.

Example of selecting a shock absorber

[Operating conditions]

- ① Bore size of the cylinder being used: $\phi 16$
- ② Cylinder stroke: 100 mm = 0.1 m
- ③ Pressure applied to the cylinder: 0.6 MPa
- ④ Cylinder's operating time: 0.4 s
- ⑤ Impact object mass: 7 kg

1. Confirm the thrust

Either calculate or find the thrust in the cylinder thrust table on page 16. The cylinder thrust based on ① and ③ is about 121 N.

Cylinder thrust	100.5N	<	120.6N	<	126N
Cylinder bore size	$\phi 16$		$\phi 16$		$\phi 20$
Applied pressure	0.5MPa		0.6MPa		0.4MPa

As mentioned above, although the cylinder being used is $\phi 16$, the pressure applied to the cylinder exceeds 0.5 MPa, so consider the $\phi 20$ cylinder (lower than 0.4 MPa) and check the table of recommended cylinder bore sizes on page 16.

The following are prospective models.

- KSHJ10×6 • KSHJ10×10 • KSHJ10×15
- KSHJ12×6 • KSHJ12×10
- KSHJ14×8 • KSHJ14×12
- KSHJ16×15

2. Confirm the kinetic energy

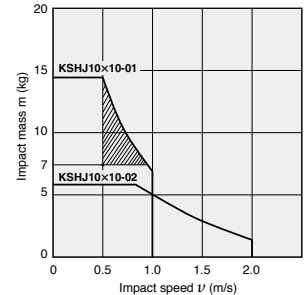
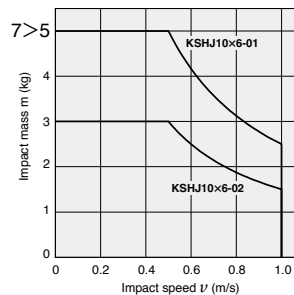
I The impact object mass m = 7 kg from ⑤

II Find the impact speed, v, from ② and ④.

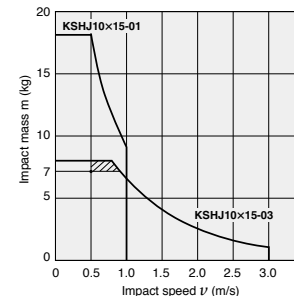
$$v = \frac{②}{④} = \frac{0.1 \text{ m}}{0.4 \text{ s}} \times 2 = 0.5 \text{ m/s}$$

According to the selection graphs on pages 14 to 16, the shock absorber with the optimum absorption capacity for operating conditions is KSHJ12×6-02.

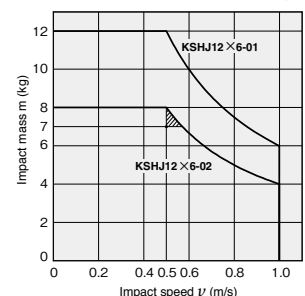
- KSHJ10×6 (with hexagon socket)
- KSHJ10×10



- KSHJ10×15



- KSHJ12×6 (with hexagon socket)



- KSHJ10×6 and 10×10-02 have an insufficient absorption capacity.
- KSHJ10×15-03, 12×6-01...KSHJ12×6-02 come closer to the operating conditions and capacity curves.
- The absorption capacities for all of the other shock absorbers are higher than that of KSHJ12×6-02, so they do not fall within the operating conditions and capacity curves.

3. Confirm other specifications

Verify that other operating conditions, such as the maximum operating frequency, maximum absorption capacity per unit of time, angle of eccentricity, and operating temperature range, are within the specified ranges for KSHJ12×6-02.

Selection Guidelines

Recommended cylinder bore size

Model	Cylinder bore																			
	φ4	φ6	φ8	φ10	φ12	φ16	φ20	φ25	φ32	φ40	φ50	φ63	φ80	φ100	φ125	φ140	φ160	φ180	φ200	
KSHJ4×3 (-F11)	◇	◎	○																	
KSHJ6×4 (-F11)		◇	◎	○																
KSHJ6×6 (-F11)		◇	◎	○																
KSHJ8×4 (-F11)(with hexagon socket)				◇	◎	◎	○													
KSHJ8×5 (-F11)			◇	◎	◎	○														
KSHJ8×8 (-F11)			◇	◎	◎	○														
KSHJ10×6 (-F11)(with hexagon socket)				◇	◎	◎	○													
KSHJ10×10 (-F11)				◇	◎	◎	○													
KSHJ10×15 (-F11)				◇	◎	◎	○													
KSHJ11×6-F11				◇	◎	◎	○													
KSHJ11×10-F11				◇	◎	◎	○													
KSHJ11×15-F11				◇	◎	◎	○													
KSHJ12×6 (-F11)(with hexagon socket)					◇	◎	◎	○												
KSHJ12×10 (-F11)					◇	◎	◎	○												
KSHJ14×8 (-F11)(with hexagon socket)						◇	◎	◎	○											
KSHJ14×12 (-F11)					◇	◎	◎	○												
KSHJ16×8 (with hexagon socket)							◇	◎	◎	○										
KSHJ16×15						◇	◎	◎	○											
KSHJ18×16 (-F11)							◇	◎	○											
KSHJ20×10 (with hexagon socket)								◇	◎	◎	○									
KSHJ20×16								◇	◎	○										
KSHJ22×25									◇	◎	○									
KSHJ25×25 (-F11)									◇	◎	◎	○								
KSHJ27×25									◇	◎	◎	○								
KSHJ30×30 (-F11)										◇	◎	◎	○							
KSHJ33×30										◇	◎	◎	○							
KSHJ36×50 (-F11)											◇	◎	◎	○	○					
KSHJ42×50 (-F11)												◇	◇	◎	◎	○	○			
KSHJ42×70 (-F11)													◇	◇	◎	◎	○	○		
KSHJ45×50													◇	◇	◎	◎	○	○		
KSHJ48×50														◇	◇	◎	◎	○	○	○

◇ : 0.3 MPa or higher ◎ : 0.5 MPa or lower ○ : 0.4 MPa or lower

Note 1: If a shock absorber that is smaller than the recommended shock absorber is used, the shock absorber being used may be damaged in fewer operation cycles than the value that is guaranteed.

Note 2: KSHJ11×6, KSHJ11×10, and KSHJ11×15 have only inch specifications.

Cylinder thrust

N [lbf.]

Bore size mm [in.]	Pressure area mm ² [in. ²]	Air pressure MPa [psi.]								
		0.1 [15]	0.2 [29]	0.3 [44]	0.4 [58]	0.5 [73]	0.6 [87]	0.7 [102]	0.8 [116]	0.9 [131]
φ4	12.9 [0.01]	1.3 [0.2]	2.5 [0.6]	3.8 [0.9]	5 [1.1]	6.3 [1.4]	7.5 [1.7]	8.8 [2.0]	10.1 [2.3]	11.3 [2.5]
φ6	28.3 [0.04]	2.8 [0.6]	5.7 [1.3]	8.5 [1.9]	11.3 [2.5]	14.1 [3.2]	17.0 [3.8]	19.8 [4.5]	22.6 [5.1]	25.4 [5.7]
φ8	50.3 [0.08]	5 [1.1]	10.1 [2.3]	15.1 [3.4]	20.1 [4.5]	25.1 [5.6]	30.2 [6.8]	35.2 [7.9]	40.2 [9.0]	45.2 [10.2]
φ10	78.5 [0.12]	7.9 [1.8]	15.7 [3.5]	23.6 [5.3]	31.4 [7.1]	39.3 [8.8]	47.1 [10.6]	55 [12.4]	62.8 [14.1]	70.7 [15.9]
φ12	113 [0.18]	11.3 [2.5]	22.6 [5.1]	33.9 [7.6]	45.2 [10.2]	56.5 [12.7]	67.9 [15.3]	79.2 [17.8]	90.5 [20.3]	101.8 [22.9]
φ16	201 [0.31]	20.1 [4.5]	40.2 [9.0]	60.3 [13.6]	80.4 [18.1]	100.5 [22.6]	121 [27.2]	141 [31.7]	161 [36.2]	181 [40.7]
φ20	314 [0.49]	31.4 [7.1]	62.8 [14.1]	94.2 [21.2]	126 [28.3]	157 [35.3]	188 [42.3]	220 [49.5]	251 [56.4]	283 [63.7]
φ25	491 [0.76]	49.1 [11.0]	98.2 [22.1]	147 [33.0]	196 [44.1]	245 [55.1]	295 [66.3]	344 [77.3]	393 [88.3]	442 [99.4]
φ32	804 [1.25]	80.4 [18.1]	161 [36.2]	241 [54.2]	322 [72.4]	402 [90.4]	483 [108.6]	563 [126.6]	643 [144.6]	724 [162.8]
φ40	1257 [1.95]	126 [28.3]	251 [56.4]	377 [84.8]	503 [113.1]	628 [141.2]	754 [169.5]	880 [197.8]	1005 [225.9]	1131 [254.3]
φ50	1963 [3.04]	196 [44.1]	393 [40.1]	589 [132.4]	785 [176.5]	982 [220.8]	1178 [264.8]	1374 [308.9]	1571 [353.2]	1767 [397.2]
φ63	3117 [4.83]	312 [70.1]	623 [63.5]	935 [210.2]	1247 [280.3]	1559 [350.5]	1870 [420.4]	2182 [490.5]	2494 [560.7]	2806 [630.8]
φ80	5027 [7.80]	503 [113.1]	1005 [102.5]	1508 [339.0]	2011 [452.1]	2513 [564.9]	3016 [678.0]	3519 [791.1]	4021 [904.0]	4524 [1017.0]
φ100	7854 [12.17]	785 [176.5]	1571 [160.2]	2356 [529.6]	3142 [706.3]	3927 [882.8]	4712 [1059.3]	5498 [1236.0]	6283 [1412.5]	7069 [1589.2]
φ125	12272 [19.02]	1227 [275.8]	2454 [250.2]	3682 [827.7]	4909 [1103.6]	6136 [1379.4]	7363 [1655.3]	8590 [1931.1]	9817 [2206.9]	11045 [2483.0]
φ140	15394 [23.86]	1539 [346.0]	3079 [314.0]	4618 [1038.2]	6158 [1384.4]	7697 [1730.4]	9236 [2076.3]	10776 [2422.5]	12315 [2768.5]	13854 [3114.5]
φ160	20106 [31.16]	2011 [452.1]	4021 [904.0]	6032 [1356.0]	8042 [1808.0]	10053 [2260.0]	12064 [2712.1]	14074 [3164.0]	16085 [3616.1]	18096 [4068.1]
φ180	25447 [39.44]	2545 [572.1]	5089 [1144.1]	7634 [1716.2]	10179 [2288.3]	12723 [2860.2]	15268 [3432.4]	17813 [4004.5]	20358 [4576.7]	22902 [5148.6]
φ200	31416 [48.69]	3142 [706.4]	6283 [1412.5]	9425 [2118.8]	12566 [2824.9]	15708 [3531.3]	18850 [4237.6]	21991 [4943.8]	25133 [5650.1]	28274 [6356.3]

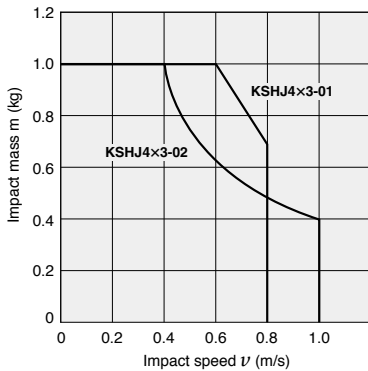
Selection Guidelines

Cautions for using the selection graphs

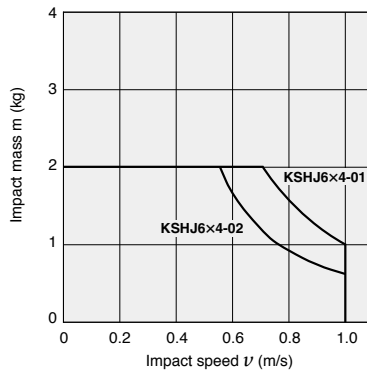
1. The selection graphs are calculated with a cylinder operating air pressure of 0.5 MPa.
2. The values in the selection graphs are for room temperature (20 to 25°). Be aware that performance and characteristics change depending on the operating temperature.
3. Select a shock absorber that is as close to, yet within, the capacity line(s).
4. You can select them on the Koganei home page. Go to <http://www.koganei.co.jp>
The results of selections using our catalog may differ from the results of selections on our homepage.

■ Selection graph

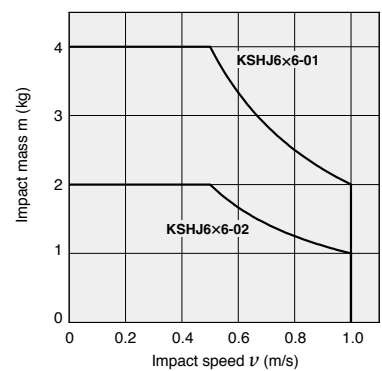
● KSHJ4 × 3(-F11)



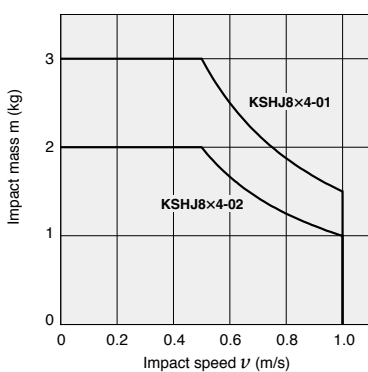
● KSHJ6 × 4(-F11)



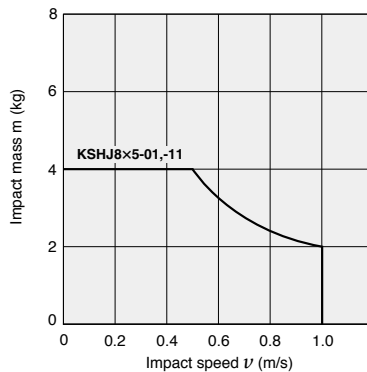
● KSHJ6 × 6(-F11)



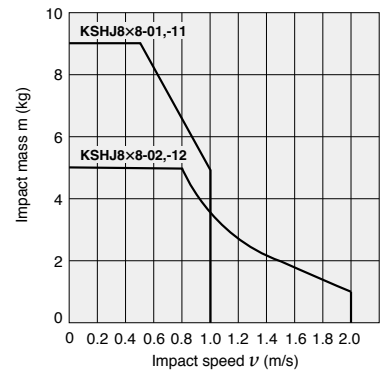
● KSHJ8 × 4(-F11)



● KSHJ8 × 5(-F11)

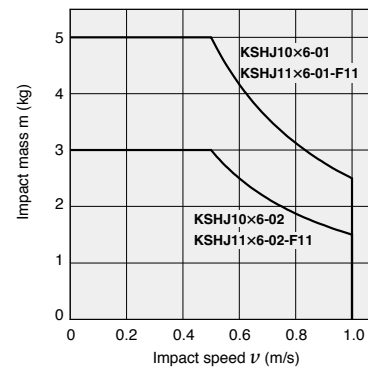


● KSHJ8 × 8(-F11)



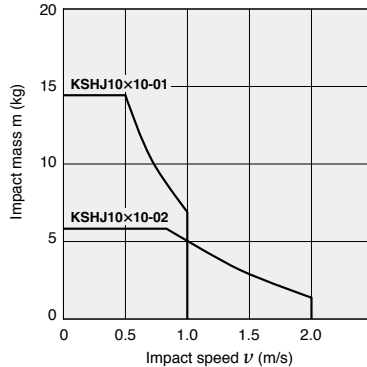
● KSHJ10 × 6(-F11)

● KSHJ11 × 6-F11



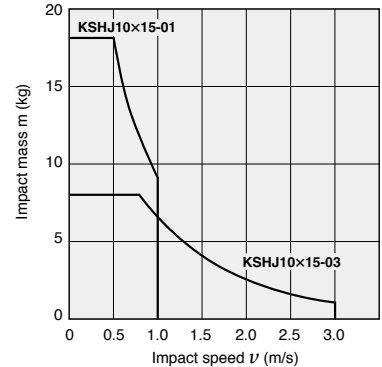
● KSHJ10 × 10(-F11)

● KSHJ11 × 10-F11



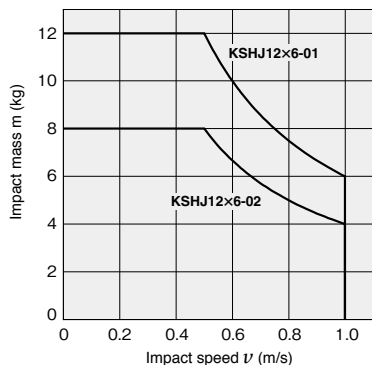
● KSHJ10 × 15(-F11)

● KSHJ11 × 15-F11

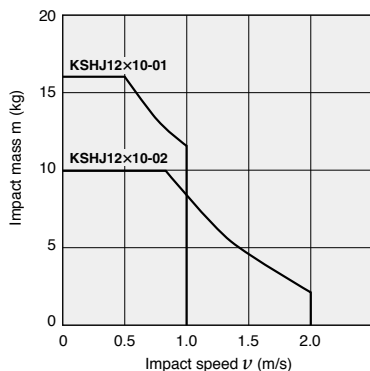


Selection Guidelines

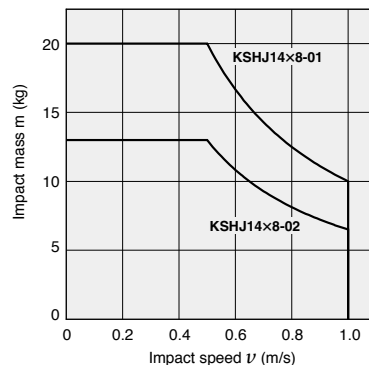
● KSHJ12×6(-F11)



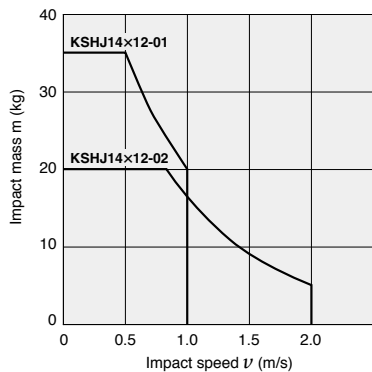
● KSHJ12×10(-F11)



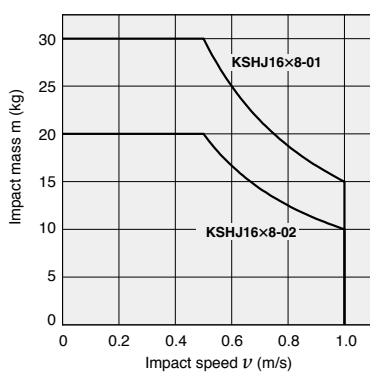
● KSHJ14×8(-F11)



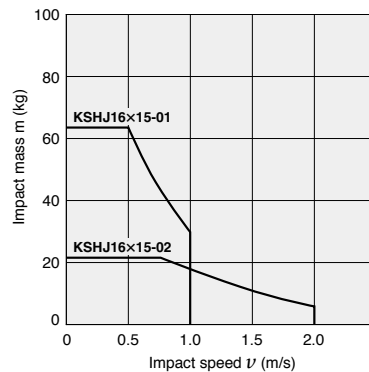
● KSHJ14×12(-F11)



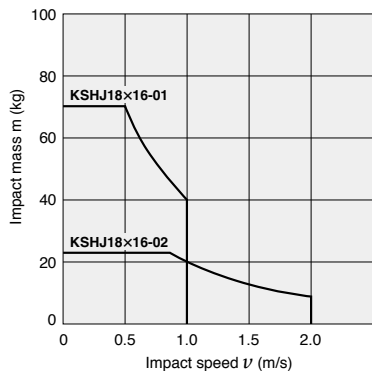
● KSHJ16×8



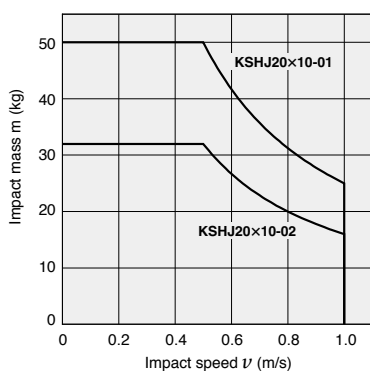
● KSHJ16×15



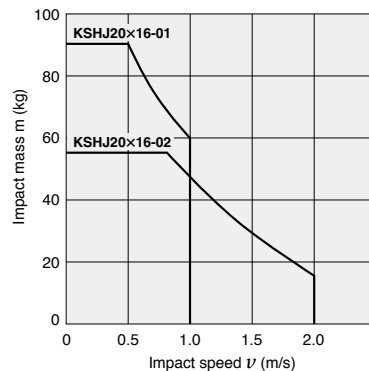
● KSHJ18×16(-F11)



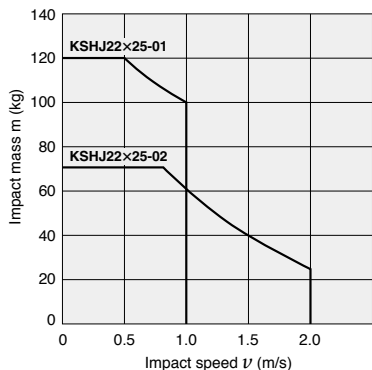
● KSHJ20×10



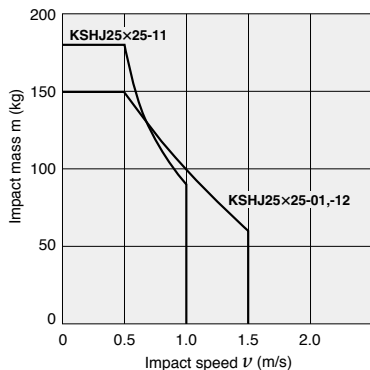
● KSHJ20×16



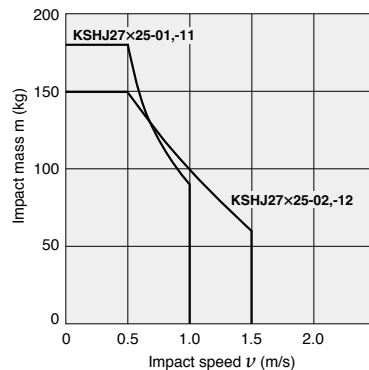
● KSHJ22×25



● KSHJ25×25(-F11)

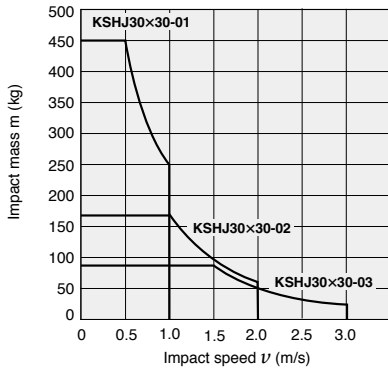


● KSHJ27×25

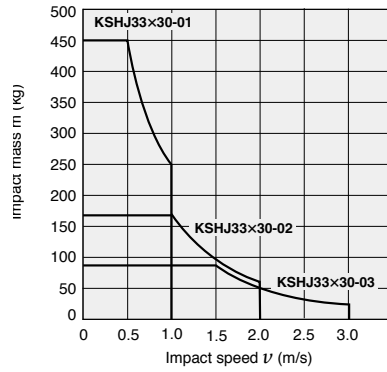


Selection Guidelines

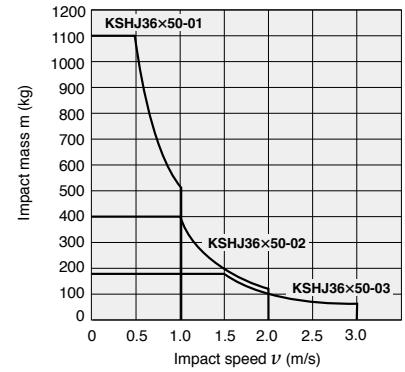
• KSHJ30 × 30(-F11)



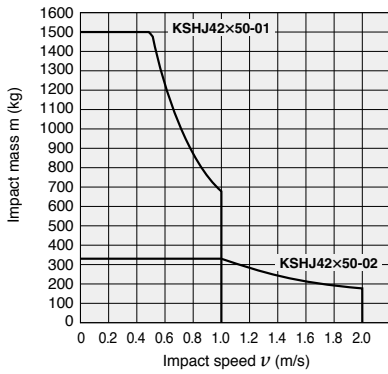
• KSHJ33 × 30



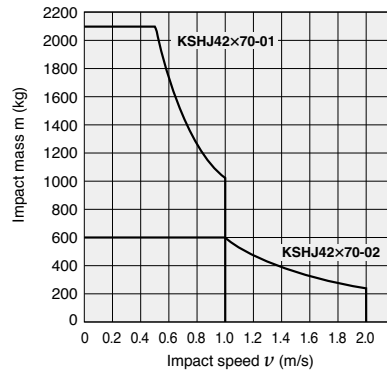
• KSHJ36 × 50(-F11)



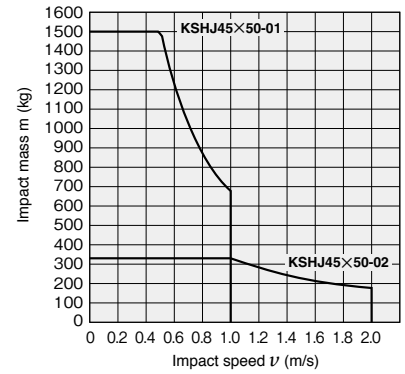
• KSHJ42 × 50(-F11)



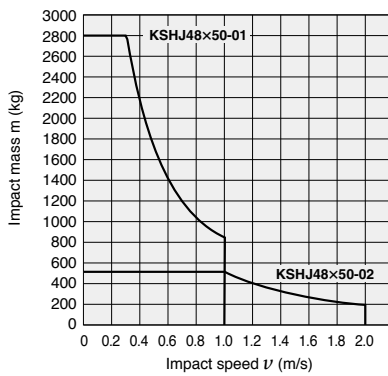
• KSHJ42 × 70(-F11)



• KSHJ45 × 50



• KSHJ48 × 50



KSHJ

KSHY

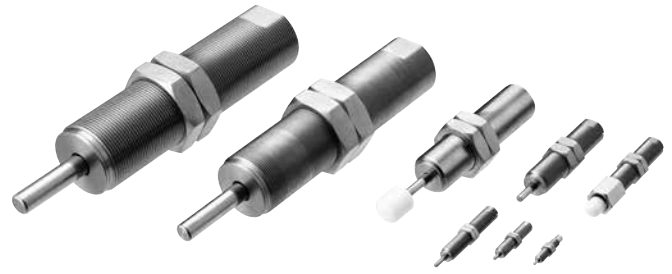
KSHP

KSHC

Additional Parts

Linear orifice shock absorber

KSHJ Series



Specifications

Item	Model (in inches)	KSHJ4×3-01 (KSHJ4×3-01-F11)	KSHJ4×3-02 (KSHJ4×3-02-F11)	KSHJ6×4-01 (KSHJ6×4-01-F11)	KSHJ6×4-02 (KSHJ6×4-02-F11)	KSHJ6×6-01 (KSHJ6×6-01-F11)	KSHJ6×6-02 (KSHJ6×6-02-F11)
Maximum absorption capacity	J(in.lbs)	0.3 (2.7)	0.2 (1.8)	0.5 (4.4)	0.3 (2.7)	1 (8.9)	0.5 (4.4)
Absorption stroke	mm(in.)	3 (0.118)		4 (0.157)		6 (0.236)	
Impact speed range	m/s(ft/s)	0.1 to 0.8 (0.33 to 2.62)		0.1 to 1 (0.33 to 3.28)		0.1 to 1 (0.33 to 3.28)	
Maximum operating cycle	cycle/min	90				30	
Maximum absorption capacity per unit of time	J/min (in.lbs/min)	10 (88.6)		20 (177.1)		15 (132.8)	
Spring return force ^{Note1}	N	2		3		4	
Deflection angle		1° or less					
Operating temperature range ^{Note2}	°C(°F)	0 to 60 (32 to 140)					

Item	Model (in inches)	KSHJ8×4-01, -11 (KSHJ8×4-01, -11-F11)	KSHJ8×4-02, -12 (KSHJ8×4-02, -12-F11)	KSHJ8×5-01, -11 (KSHJ8×5-01-F11)	KSHJ8×8-01, -11 (KSHJ8×8-01, -11-F11)	KSHJ8×8-02, -12 (KSHJ8×8-02, -12-F11)	
Maximum absorption capacity	J(in.lbs)	0.75 (6.6)	0.5 (4.4)	1 (8.9)	2 (17.7)		
Absorption stroke	mm(in.)	4 (0.157)		5 (0.197)	8 (0.315)		
Impact speed range	m/s(ft/s)	0.1 to 1 (0.33 to 3.28)		0.1 to 1 (0.33 to 3.28)	0.1 to 1 (0.33 to 3.28)	0.1 to 2 (0.33 to 6.56)	
Maximum operating cycle	cycle/min	60		90			
Maximum absorption capacity per unit of time	J/min (in.lbs/min)	15 (132.8)		36 (318.8)	60 (531.4)		
Spring return force ^{Note1}	N	6		6	8.6		
Deflection angle		1° or less					
Operating temperature range ^{Note2}	°C(°F)	0 to 60 (32 to 140)					

Item	Model (in inches)	KSHJ10×6-01 (KSHJ10×6-01-F11) (KSHJ11×6-01-F11)	KSHJ10×6-02 (KSHJ10×6-02-F11) (KSHJ11×6-02-F11)	KSHJ10×10-01 (KSHJ10×10-01-F11) (KSHJ11×10-01-F11)	KSHJ10×10-02 (KSHJ10×10-02-F11) (KSHJ11×10-02-F11)	KSHJ10×15-01 (KSHJ10×15-01-F11) (KSHJ11×15-01-F11)	KSHJ10×15-03 (KSHJ10×15-03-F11) (KSHJ11×15-02-F11)
Maximum absorption capacity	J(in.lbs)	1.25 (11.1)	0.75 (6.6)	3 (26.6)		5 (44.3)	6.5 (57.6)
Absorption stroke	mm(in.)	6 (0.236)		10 (0.394)		15 (0.591)	
Impact speed range	m/s(ft/s)	0.1 to 1 (0.33 to 3.28)		0.1 to 1 (0.33 to 3.28)	0.1 to 2 (0.33 to 6.56)	0.1 to 1 (0.33 to 3.28)	0.1 to 3 (0.33 to 9.84)
Maximum operating cycle	cycle/min	60		90			
Maximum absorption capacity per unit of time	J/min (in.lbs/min)	45 (398.5)		120 (1062.7)		200 (1771.2)	
Spring return force ^{Note1}	N	8		8		9.8	
Deflection angle		1° or less					
Operating temperature range ^{Note2}	°C(°F)	0 to 60 (32 to 140)					

Item	Model (in inches)	KSHJ12×6-01 (KSHJ12×6-01-F11)	KSHJ12×6-02 (KSHJ12×6-02-F11)	KSHJ12×10-01 (KSHJ12×10-01-F11)	KSHJ12×10-02 (KSHJ12×10-02-F11)	KSHJ14×8-01 (KSHJ14×8-01-F11)	KSHJ14×8-02 (KSHJ14×8-02-F11)
Maximum absorption capacity	J(in.lbs)	3 (26.6)	2 (17.7)	6 (53.1)		5 (44.3)	3.25 (28.8)
Absorption stroke	mm(in.)	6 (0.236)		10 (0.394)		8 (0.315)	
Impact speed range	m/s(ft/s)	0.1 to 1 (0.33 to 3.28)		0.1 to 1 (0.33 to 3.28)	0.1 to 2 (0.33 to 6.56)	0.1 to 1 (0.33 to 3.28)	
Maximum operating cycle	cycle/min	60					
Maximum absorption capacity per unit of time	J/min (in.lbs/min)	80 (708.5)		220 (1948.3)		100 (885.6)	
Spring return force ^{Note1}	N	8		7.6		12.5	
Deflection angle		1° or less					
Operating temperature range ^{Note2}	°C(°F)	0 to 60 (32 to 140)					

Note1: The spring return force is the force of the piston rod when it returns from a full stroke. It is not stable, so cannot be used as other than rod return.

Note2: The shock absorber's shock absorbing capacity fluctuates based on speed and ambient temperature.

Use the product within the ranges of the selection graphs (impact mass, impact speed diagram) on pages 14 to 16.

Note3: KSHJ11 has only inch specifications.

* The maximum tightening torque of KSHJ11 is different from that of KSHJ10. See page 11 for details on the maximum tightening torque.

Specifications

Item	Model (in inches)	KSHJ14×12-01 (KSHJ14×12-01-F11)	KSHJ14×12-02 (KSHJ14×12-02-F11)	KSHJ16×8-01	KSHJ16×8-02	KSHJ16×15-01	KSHJ16×15-02
Maximum absorption capacity	J(in.lbs)	10 (88.6)		7.5	5	15	
Absorption stroke	mm(in.)	12 (0.472)		8		15	
Impact speed range	m/s(ft/s)	0.1 to 1 (0.33 to 3.28)	0.1 to 2 (0.33 to 6.56)	0.1 to 1		0.1 to 1	0.1 to 2
Maximum operating cycle	cycle/min	60		40			
Maximum absorption capacity per unit of time	J/min (in.lbs/min)	240 (2125.4)		130		280	
Spring return force ^{Note1}	N	9.2		12.5		17.4	
Deflection angle		1° or less		3° or less			
Operating temperature range ^{Note2}	°C(°F)	0 to 60 (32 to 140)					

Item	Model (in inches)	KSHJ18×16-01 (KSHJ18×16-01-F11)	KSHJ18×16-02 (KSHJ18×16-02-F11)	KSHJ20×10-01	KSHJ20×10-02	KSHJ20×16-01	KSHJ20×16-02
Maximum absorption capacity	J(in.lbs)	20 (177.0)		12.5	8	30	
Absorption stroke	mm(in.)	16 (0.630)		10		16	
Impact speed range	m/s(ft/s)	0.1 to 1 (0.33 to 3.28)	0.1 to 2 (0.33 to 6.56)	0.1 to 1		0.1 to 1	0.1 to 2
Maximum operating cycle	cycle/min	40		30			
Maximum absorption capacity per unit of time	J/min (in.lbs/min)	320 (2833.9)		200		450	
Spring return force ^{Note1}	N	22		15		22	
Deflection angle		3° or less					
Operating temperature range ^{Note2}	°C(°F)	0 to 60 (32 to 140)					

Item	Model (in inches)	KSHJ22×25-01	KSHJ22×25-02	KSHJ25×25-01	KSHJ25×25-11 (KSHJ25×25-01-F11)	KSHJ25×25-12 (KSHJ25×25-02-F11)
Maximum absorption capacity	J(in.lbs)	50		60 (531.0)		
Absorption stroke	mm(in.)	25		25 (0.984)		
Impact speed range	m/s(ft/s)	0.1 to 1	0.1 to 1	0.1 to 1.5	0.1 to 1 (0.33 to 3.28)	0.1 to 1.5 (0.33 to 4.92)
Maximum operating cycle	cycle/min	30				
Maximum absorption capacity per unit of time	J/min (in.lbs/min)	500		700	800 (7084.8)	
Spring return force ^{Note1}	N	28.5				
Deflection angle		3° or less				
Operating temperature range ^{Note2}	°C(°F)	0 to 60 (32 to 140)				

Item	Model (in inches)	KSHJ27×25-01,- 11	KSHJ27×25-02,- 12	KSHJ30×30-01 (KSHJ30×30-01-F11)	KSHJ30×30-02 (KSHJ30×30-02-F11)	KSHJ30×30-03 (KSHJ30×30-03-F11)
Maximum absorption capacity	J(in.lbs)	60		140 (1239.1)		
Absorption stroke	mm(in.)	25		30 (1.181)		
Impact speed range	m/s(ft/s)	0.1 to 1	0.1 to 1.5	0.1 to 1 (0.33 to 3.28)	0.1 to 2 (0.33 to 6.56)	0.1 to 3 (0.33 to 9.84)
Maximum operating cycle	cycle/min	30		20		
Maximum absorption capacity per unit of time	J/min (in.lbs/min)	800		900 (7970.4)		
Spring return force ^{Note1}	N	28.5		41.5		
Deflection angle		3° or less				
Operating temperature range ^{Note2}	°C(°F)	0 to 60 (32 to 140)				

Note1: The spring return force is the force of the piston rod when it returns from a full stroke. It is not stable, so cannot be used as other than rod return.

Note2: The shock absorber's shock absorbing capacity fluctuates based on speed and ambient temperature.

Use the product within the ranges of the selection graphs (impact mass, impact speed diagram) on pages 14 to 16.

Note3: KSHJ16×8, KSHJ16×15, KSHJ20×10, KSHJ20×16, KSHJ22×25, KSHJ27×25, KSHJ33×30, KSHJ45×50, and KSHJ48×50 do not have inch specifications.

Specifications

Item	Model (in inches)	KSHJ33×30-01	KSHJ33×30-02	KSHJ33×30-03	KSHJ36×50-01 (KSHJ36×50-01-F11)	KSHJ36×50-02 (KSHJ36×50-02-F11)	KSHJ36×50-03 (KSHJ36×50-03-F11)
Maximum absorption capacity	J(in.lbs)	140			300 (2655.2)		
Absorption stroke	mm(in.)	30			50 (1.969)		
Impact speed range	m/s(ft/s)	0.1 to 1	0.1 to 2	0.1 to 3	0.1 to 1 (0.33 to 3.28)	0.1 to 2 (0.33 to 6.56)	0.1 to 3 (0.33 to 9.84)
Maximum operating cycle	cycle/min	20			20		
Maximum absorption capacity per unit of time	J/min (in.lbs/min)	900			1800 (15940.8)		
Spring return force ^{Note1}	N	41.5			66.5		
Deflection angle		3° or less					
Operating temperature range ^{Note2}	°C(°F)	0 to 60 (32 to 140)					

Item	Model (in inches)	KSHJ42×50-01 (KSHJ42×50-01-F11)	KSHJ42×50-02 (KSHJ42×50-02-F11)	KSHJ42×70-01 (KSHJ42×70-01-F11)	KSHJ42×70-02 (KSHJ42×70-02-F11)
Maximum absorption capacity	J(in.lbs)	400 (3540.3)		600 (5310.4)	
Absorption stroke	mm(in.)	50 (1.969)		70 (2.756)	
Impact speed range	m/s(ft/s)	0.1 to 1 (0.33 to 3.28)	0.1 to 2 (0.33 to 6.56)	0.1 to 1 (0.33 to 3.28)	0.1 to 2 (0.33 to 6.56)
Maximum operating cycle	cycle/min	15		15	
Maximum absorption capacity per unit of time	J/min (in.lbs/min)	2400 (21254.4)		2400 (21254.4)	
Spring return force ^{Note1}	N	85.0		68.0	
Deflection angle		3° or less		1° or less	
Operating temperature range ^{Note2}	°C(°F)	0 to 60 (32 to 140)			

Item	Model (in inches)	KSHJ45×50-01	KSHJ45×50-02	KSHJ48×50-01	KSHJ48×50-02
Maximum absorption capacity	J(in.lbs)	400		500	
Absorption stroke	mm(in.)	50		50	
Impact speed range	m/s(ft/s)	0.1 to 1	0.1 to 2	0.1 to 1	0.1 to 2
Maximum operating cycle	cycle/min	15		15	
Maximum absorption capacity per unit of time	J/min (in.lbs/min)	2400		3000	
Spring return force ^{Note1}	N	85.0		86.0	
Deflection angle		3° or less			
Operating temperature range ^{Note2}	°C(°F)	0 to 60			

Note1: The spring return force is the force of the piston rod when it returns from a full stroke. It is not stable, so cannot be used as other than rod return.

Note2: The shock absorber's shock absorbing capacity fluctuates based on speed and ambient temperature.

Use the product within the ranges of the selection graphs (impact mass, impact speed diagram) on pages 14 to 16.

Note3: KSHJ16×8, KSHJ16×15, KSHJ20×10, KSHJ20×16, KSHJ22×25, KSHJ27×25, KSHJ33×30, KSHJ45×50, KSHJ48×50 do not have inch specifications.

Mass

Specifications in mm

g

Model	Main unit ^{Note}	Additional mass	Additional parts' mass		
		With plastic cap	Mounting nut (1 ea.)	Stopper nut	Side mounting bracket
KSHJ4 × 3-01, -02	1.8	0.1	0.2	1	7
KSHJ6 × 4-01, -02	4	0.2	0.4	2	8
KSHJ6 × 6-01, -02	5	0.2	0.4	2	8
KSHJ8 × 4-01, -02, -11, -12 (with hexagon socket)	10	0.5	0.6(0.9)	4	12
KSHJ8 × 5-01, -11	10	0.5	0.6(0.9)	4	12
KSHJ8 × 8-01, -02, -11, -12	11.5	0.5	0.6(0.9)	4	12
KSHJ10 × 6-01, -02 (with hexagon socket)	21	0.6	1.2	7	15
KSHJ10 × 10-01, -02	22	0.6	1.2	7	15
KSHJ10 × 15-01, -03	28	0.6	1.2	7	15
KSHJ12 × 6-01, 02 (with hexagon socket)	31	1.2	1.9	8	22
KSHJ12 × 10-01, -02	37	1.2	1.9	8	22
KSHJ14 × 8-01, 02 (with hexagon socket)	55	1.4	4	15	41
KSHJ14 × 12-01, -02	58	1.4	4	15	41
KSHJ16 × 8-01, -02 (with hexagon socket)	73	1.4	6.6	28	65
KSHJ16 × 15-01, -02	83	1.4	6.6	28	65
KSHJ18 × 16-01, -02	113	3.0	8.8	37	100
KSHJ20 × 10-01, -02 (with hexagon socket)	131	3.0	12.2	55	110
KSHJ20 × 16-01, -02	156	3.0	12.2	55	110
KSHJ22 × 25-01, -02	233	7.0	18.2	82	390
KSHJ25 × 25-01	307	7.0	23	95	360
KSHJ25 × 25-11, -12	300	7.0	24.5	95	360
KSHJ27 × 25-01, -02	415	7.0	42	180	460
KSHJ27 × 25-11, -12	395	7.0	54	180	460
KSHJ30 × 30-01, -02, -03	520	50	32.5	140	455
KSHJ33 × 30-01, -02, -03	675	50	47.5	390	2800
KSHJ36 × 50-01, -02, -03	1070	110	95.5	330	2650
KSHJ42 × 50-01, -02	1310	110	93	320	2400
KSHJ42 × 70-01, -02	1500	110	93	320	2400
KSHJ45 × 50-01, -02	1610	110	123	420	3400
KSHJ48 × 50-01, -02	1830	210	100	400	3400

Calculation example: The mass of KSHJ10×10C-01-S-2 (with cap, stopper, and side mount) is
 $22 + 0.6 + 7 + 15 = 44.6g$

Note: The weight of the main unit includes the weight of 2 mounting nuts.

Specifications in inches

oz

Model	Main unit ^{Note1}	Additional mass	Additional parts' mass	
		With plastic cap	Mounting nut (1 ea.)	Stopper nut
KSHJ4 × 3-01, -0 -F11	0.1	0.004	0.01	0.04
KSHJ6 × 4-01, -02 -F11	0.2	0.007	0.04	0.1
KSHJ6 × 6-01, -02 -F11	0.2	0.007	0.04	0.1
KSHJ8 × 4-01, -02, -11, -12 -F11	0.4	0.02	0.06	0.2
KSHJ8 × 5-01 -F11	0.4	0.02	0.06	0.2
KSHJ8 × 8-01, -02, -11, -12 -F11	0.5	0.02	0.06	0.2
KSHJ10 × 6-01, -02 -F11	0.7	0.02	0.07	0.4
KSHJ10 × 10-01, -02 -F11	0.8	0.02	0.07	0.4
KSHJ10 × 15-01, -03 -F11	1.0	0.02	0.07	0.4
KSHJ11 × 6-01, -02 -F11 ^{Note2}	1.0	0.02	0.09	0.4
KSHJ11 × 10-01, -02 -F11 ^{Note2}	1.2	0.02	0.09	0.4
KSHJ11 × 15-01, -03 -F11 ^{Note2}	1.4	0.02	0.09	0.4
KSHJ12 × 6-01, 02 -F11	1.3	0.04	0.1	0.5
KSHJ12 × 10-01, -02 -F11	1.5	0.04	0.1	0.5
KSHJ14 × 8-01, 02 -F11	2.2	0.05	0.2	0.7
KSHJ14 × 12-01, -02 -F11	2.2	0.05	0.2	0.7
KSHJ18 × 16-01, -02 -F11	4.8	0.1	0.4	2.5
KSHJ25 × 25-11, -12 -F11	11.3	0.2	1.2	4.4
KSHJ30 × 30-01, -02, -03 -F11	20.6	1.8	1.3	5.5
KSHJ36 × 50-01, -02, -03 -F11	33.9	3.9	3.0	9.8
KSHJ42 × 50-01, -02 -F11	51.5	3.9	3.4	10.8
KSHJ42 × 70-01, -02 -F11	59.6	3.9	3.4	10.8

Calculation example: The mass of KSHJ10×10C-01-S-2 (with cap and stopper) is
 $0.8 + 0.02 + 0.4 = 1.58oz$

Note1: The weight of the main unit includes the weight of 2 mounting nuts.

Note2: KSHJ11 has only inch specifications.

KSHJ

KSHY

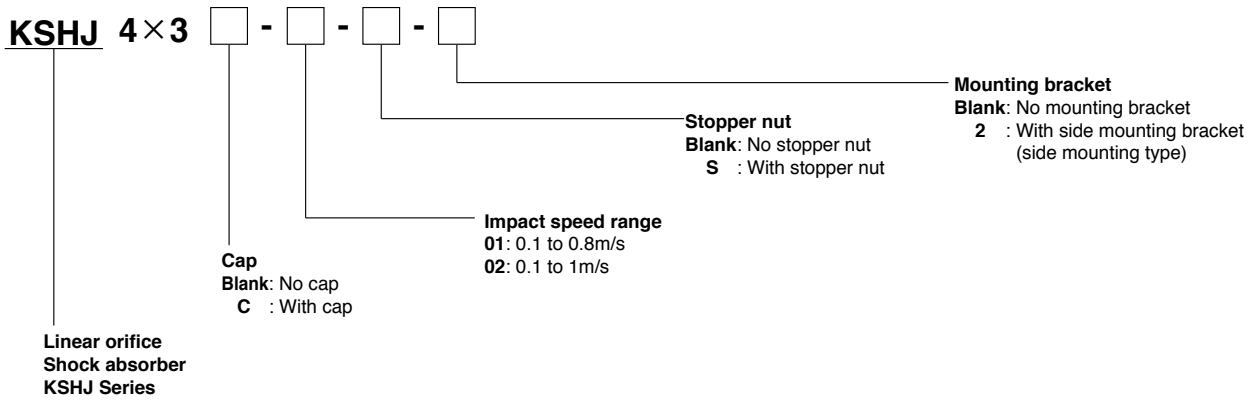
KSHP

KSHC

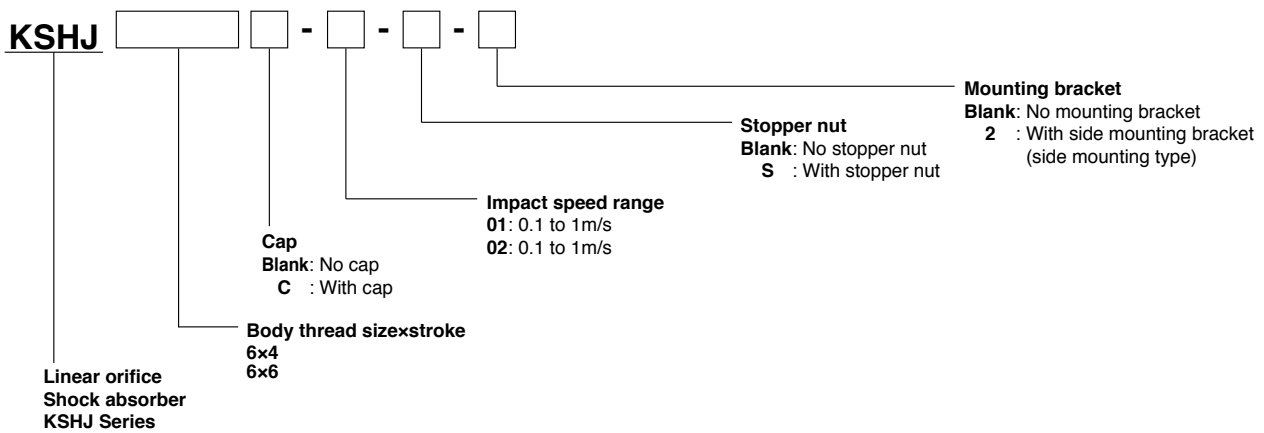
Additional Parts

Order Codes (specifications in mm)

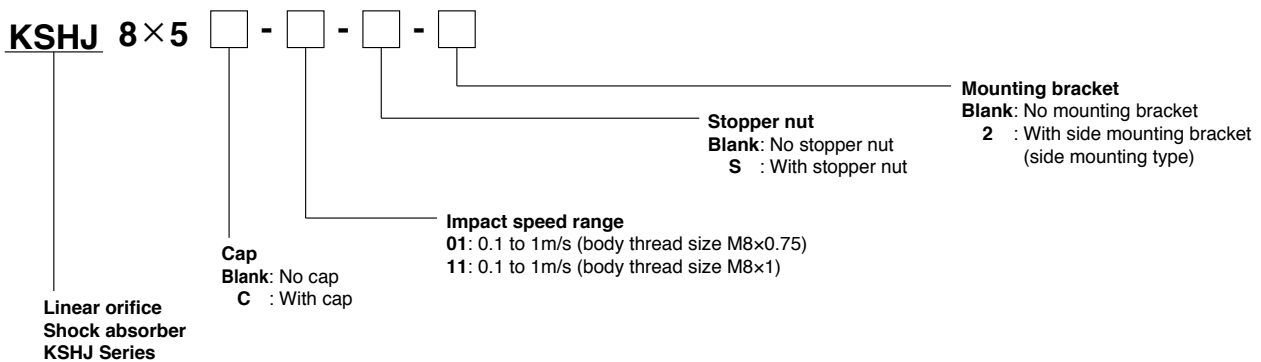
• 4×3



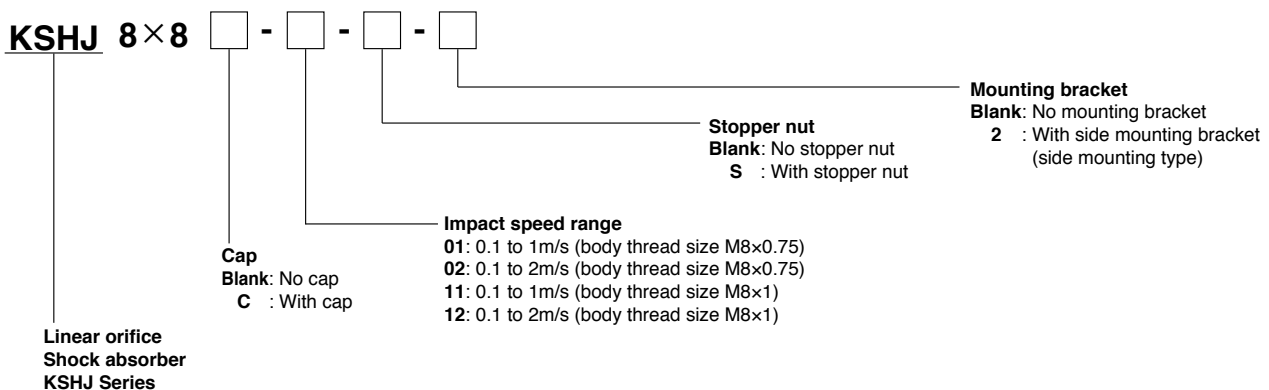
• 6×4 6×6



• 8×5

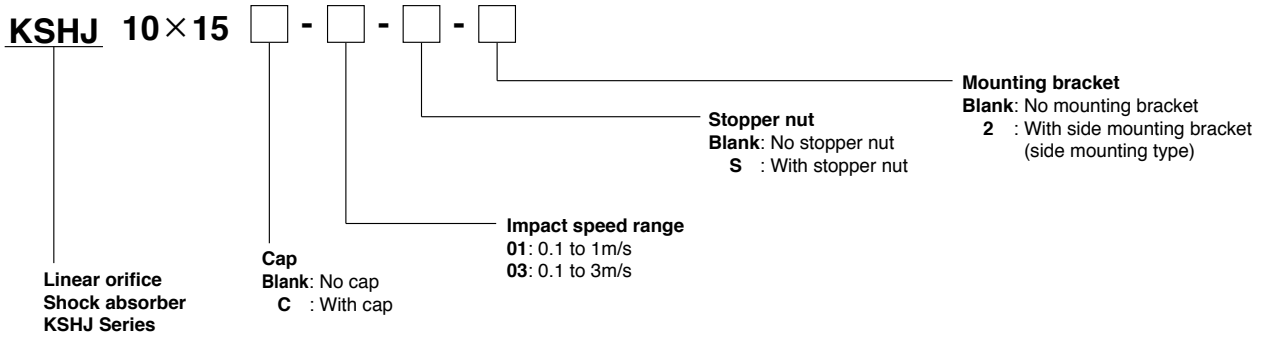


• 8×8

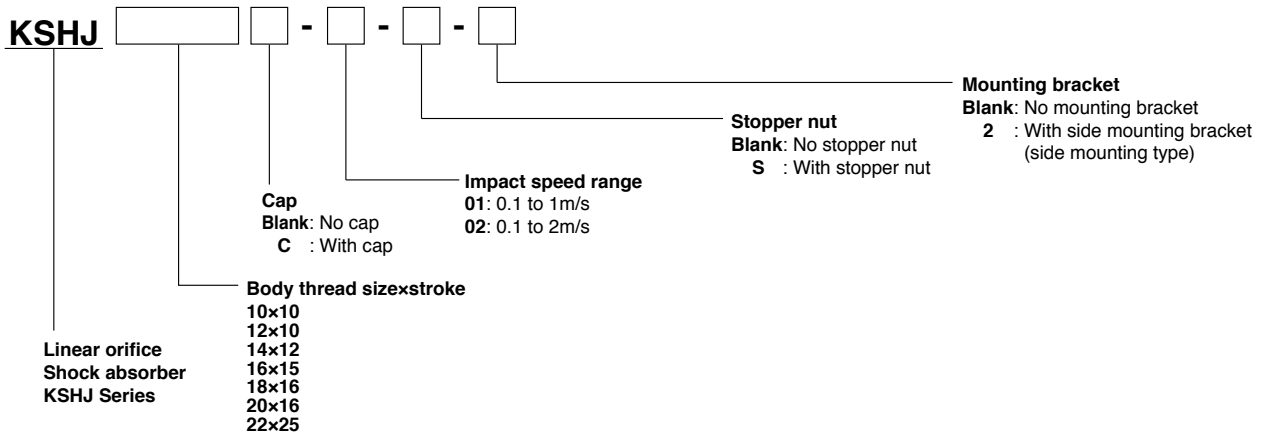


Order Codes (specifications in mm)

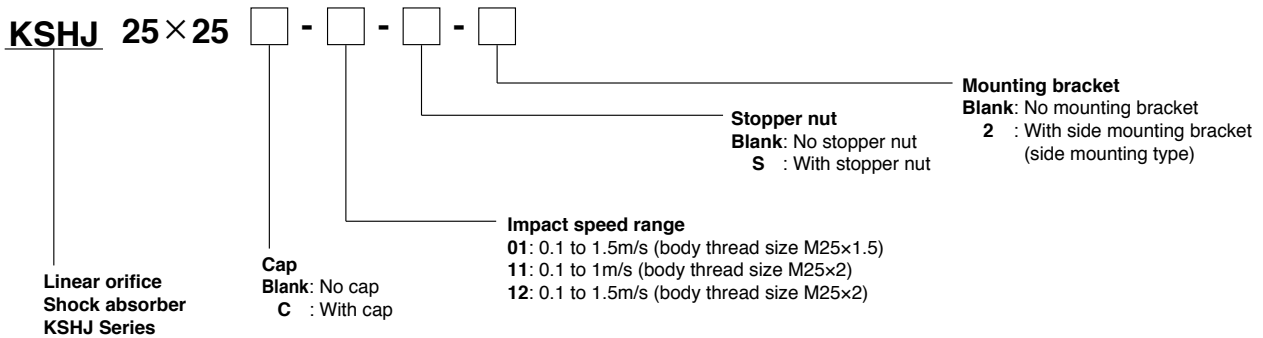
• 10x15



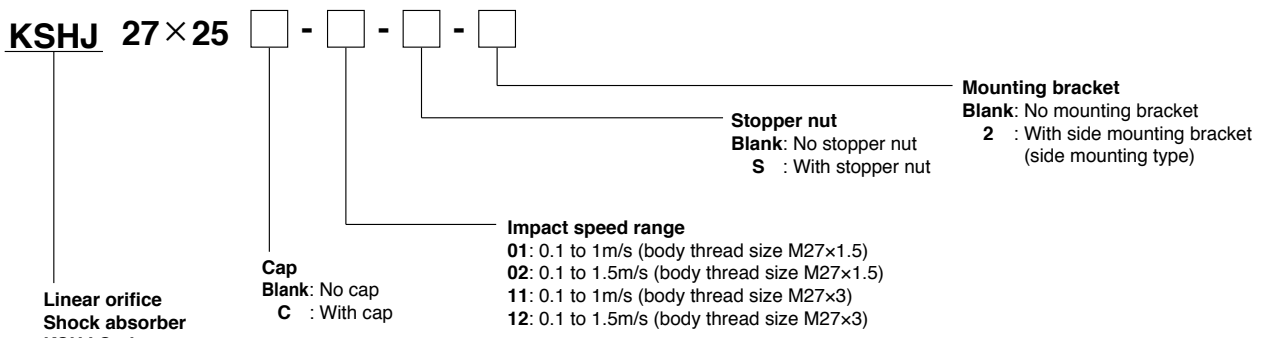
• 10x10 12x10 14x12 16x15 18x16 20x16 22x25



• 25x25



• 27x25



KSHJ

KSHY

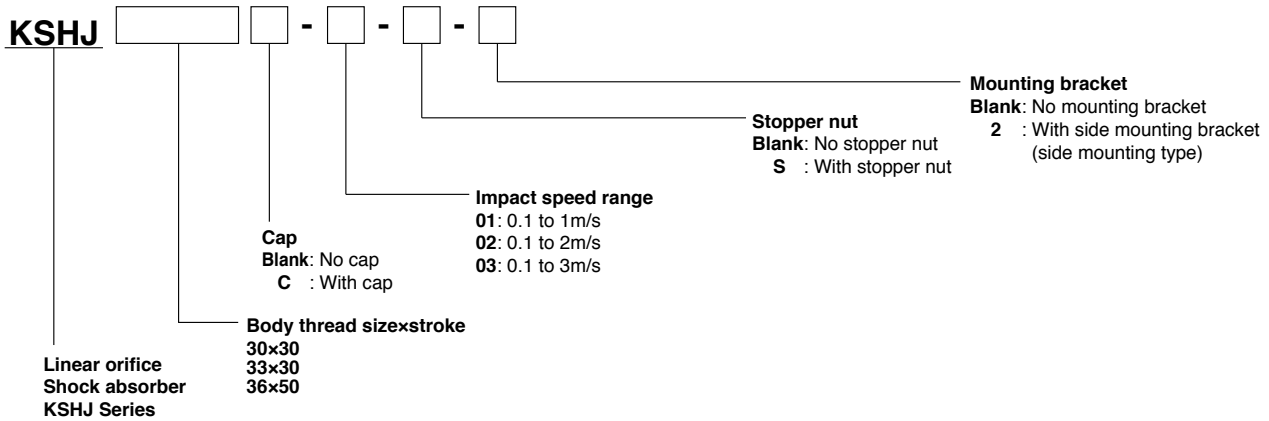
KSHP

KSCH

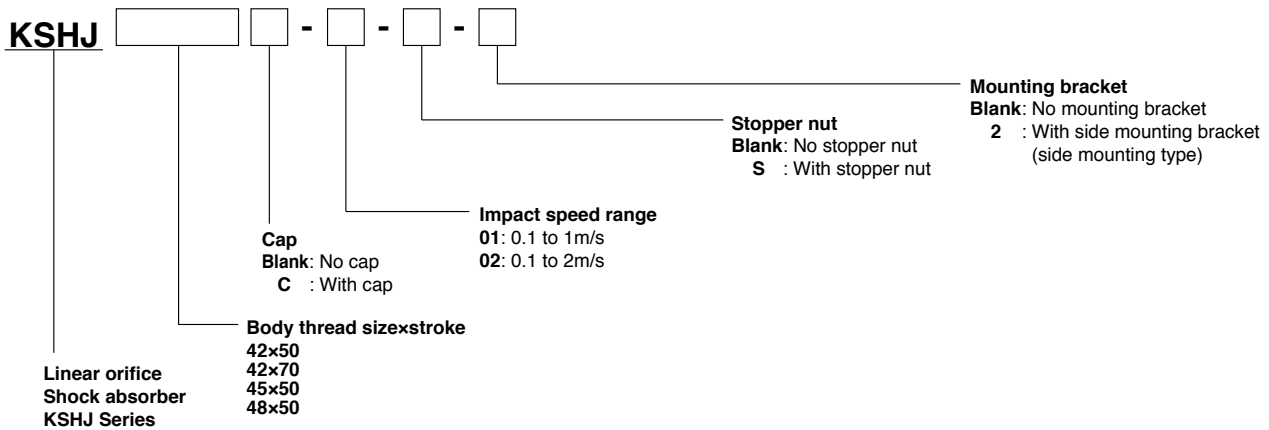
Additional Parts

Order Codes (specifications in mm)

- 30x30
33x30
36x50

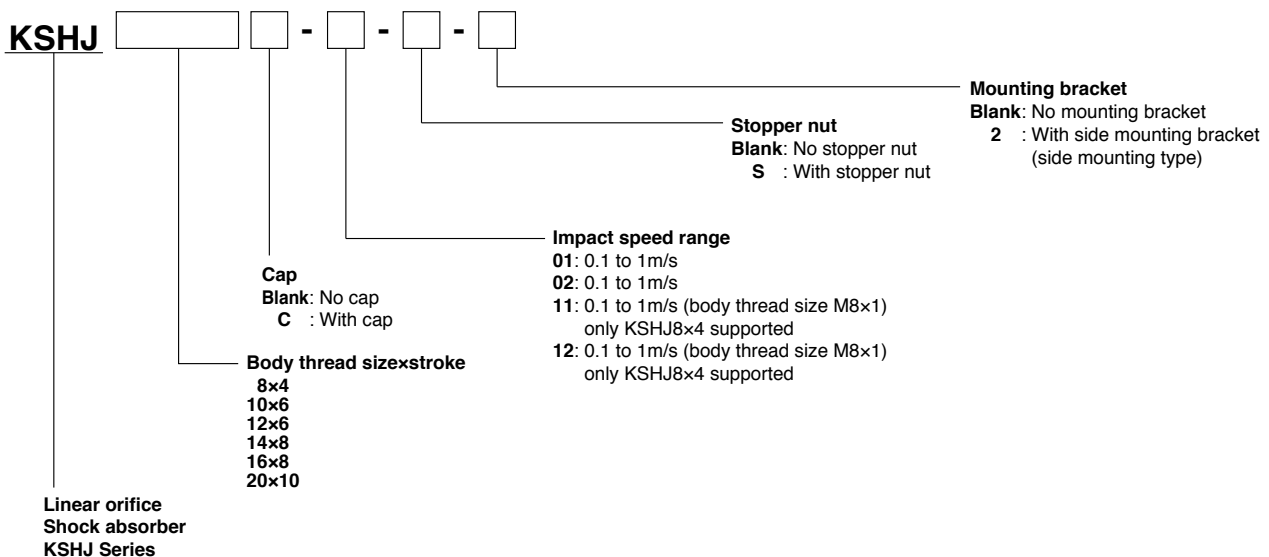


- 42x50
42x70
45x50
48x50



Short stroke type (with hexagon socket)

- 8x4
10x6
12x6
14x8
16x8
20x10



Order Codes (specifications in mm)

Additional Parts (no specifications in inches)

● **Mounting nut** (M4 to M20: 1 pack has 10 units)^{Note}
(M22 to M48: 1 pack has 2 units)

N - KSH - M

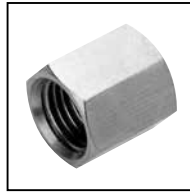


Thread size

- 4: For KSHJ4
- 6: For KSHJ6
- 8: For KSHJ8(-01,02)
- 8-11: For KSHJ8(-11,12)
- 10: For KSHJ10
- 12: For KSHJ12
- 14: For KSHJ14
- 16: For KSHJ16
- 18: For KSHJ18
- 20: For KSHJ20
- 22: For KSHJ22
- 25: For KSHJ25-01
- 25-11: For KSHJ25(-11,12)
- 27: For KSHJ27(-01,02)
- 27-11: For KSHJ27(-11,12)
- 30: For KSHJ30
- 33: For KSHJ33
- 36: For KSHJ36
- 42: For KSHJ42
- 45: For KSHJ45
- 48: For KSHJ48

● **Stopper nut**

S - KSH - M



Thread size

- 4: For KSHJ4
- 6: For KSHJ6
- 8: For KSHJ8(-01,02)
- 8-11: For KSHJ8(-11,12)
- 10: For KSHJ10
- 12: For KSHJ12
- 14: For KSHJ14
- 16: For KSHJ16
- 18: For KSHJ18
- 20: For KSHJ20
- 22: For KSHJ22
- 25: For KSHJ25-01
- 25-11: For KSHJ25(-11,12)
- 27: For KSHJ27(-01,02)
- 27-11: For KSHJ27(-11,12)
- 30: For KSHJ30
- 33: For KSHJ33
- 36: For KSHJ36
- 42: For KSHJ42
- 45: For KSHJ45
- 48: For KSHJ48

● **Side mounting bracket**

2 - KSH - M



Thread size

- 4: For KSHJ4
- 6: For KSHJ6
- 8: For KSHJ8(-01,02)
- 8-11: For KSHJ8(-11,12)
- 10: For KSHJ10
- 12: For KSHJ12
- 14: For KSHJ14
- 16: For KSHJ16
- 18: For KSHJ18
- 20: For KSHJ20
- 22: For KSHJ22
- 25: For KSHJ25-01
- 25-11: For KSHJ25(-11,12)
- 27: For KSHJ27(-01,02)
- 27-11: For KSHJ27(-11,12)
- 30: For KSHJ30
- 33: For KSHJ33
- 36: For KSHJ36
- 42: For KSHJ42
- 45: For KSHJ45
- 48: For KSHJ48

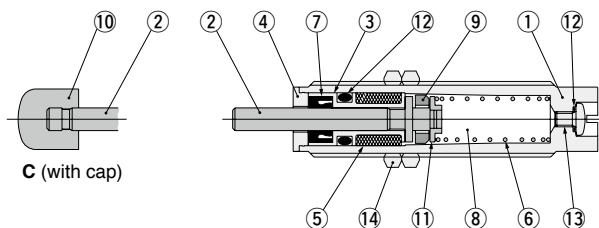
Note: The mounting nut for thread size M45 is nominal number AN09 prescribed in JIS B1554 (nuts for rolling bearings).

* For the dimension diagrams of the additional parts, see pages 72 to 76.

* The stopper nut and side mount are made from mild steel (nickel plated).

Inner Construction and Major Parts and Materials

● M4 to M27 size (10-32UNF to 1-12UNF) * The inch sizes are inside the ().



Note: Some parts and interior shapes may vary depending on size.

No.	Name	Materials
①	Body ^{Note1}	Copper alloy (nickel plated)
②	Piston rod ^{Note2}	Steel (nickel plated)
③	Sleeve	Copper alloy
④	Plug	Stainless steel
⑤	Accumulator	Synthetic rubber
⑥	Spring	Spring steel
⑦	Rod seal	Synthetic rubber
⑧	Oil	Special oil
⑨	Piston ring	Copper alloy
⑩	Cap	Plastic (POM)
⑪	Collar ^{Note3}	Stainless steel, copper alloy
⑫	O-ring	Synthetic rubber
⑬	Screw ^{Note4}	Mild steel (zinc plated)
⑭	Mounting nut	Mild steel (nickel plated)

Note1: KSHJ4, 6, and 8×4 are stainless steel

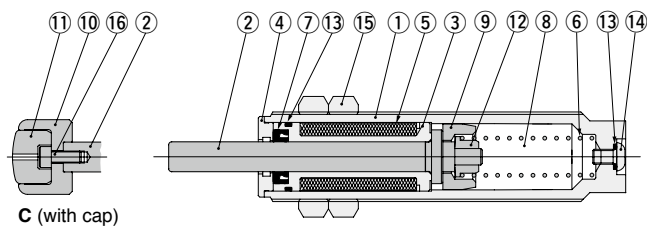
2: KSHJ8, 10×10, and 12×10 are stainless steel

3: KSHJ6 and 8 are copper alloy

KSHJ10 and 12, and 14×12 are sintered metal

4: KSHJ4, 6, and 8 are nickel plated

● M30 to M48 size (1 1/4-12UNF to 1 3/4-12UN) * The inch sizes are inside the ().



Note: Some parts and interior shapes may vary depending on size.

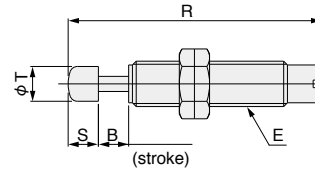
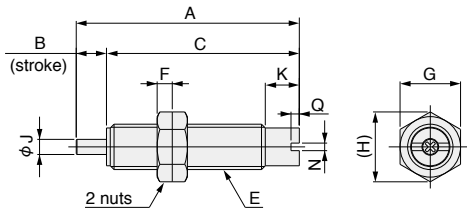
No.	Name	Materials
①	Body	Free-cutting steel (nickel plated)
②	Piston rod	Steel (nickel plated)
③	Sleeve	Copper alloy
④	Plug	Stainless steel
⑤	Accumulator	Synthetic rubber
⑥	Spring	Spring steel
⑦	Rod seal	Synthetic rubber
⑧	Oil	Special oil
⑨	Piston ring ^{Note}	Copper alloy
⑩	Metal cap	Stainless steel
⑪	Cap	Plastic (POM)
⑫	Collar	Stainless steel
⑬	O-ring	Synthetic rubber
⑭	Button head screw	Stainless steel
⑮	Mounting nut	Mild steel (nickel plated)
⑯	Hexagon socket head screw	Mild steel (nickel plated)

Note: KSHJ42, 45, and 48 are stainless steel

Dimensions (mm)

● No rod end cap: KSHJ4×3, KSHJ6×4, KSHJ6×6

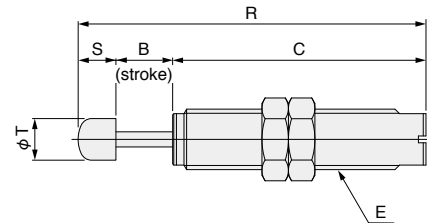
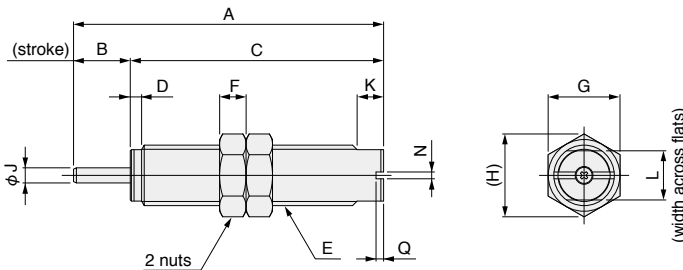
● With rod end cap: KSHJ4×3C, KSHJ6×4C, KSHJ6×6C



Model	Symbol	A	B	C	E	F	G	H	J	K	N	Q	R	S	T
KSHJ4×3 (C)-01,-02		25	3	22	M4×0.5	2	5.5	6.4	1.2	3	1	1.1	28.5	3.5	3.2
KSHJ6×4 (C)-01,-02		29.5	4	25.5	M6×0.75	2	8	9.2	2	4.5	1	1	33.5	4	4.6
KSHJ6×6 (C)-01,-02		35.5	6	29.5	M6×0.75	2	8	9.2	2	5.5	1	1	39.5	4	4.6

● No rod end cap: KSHJ□×□-□

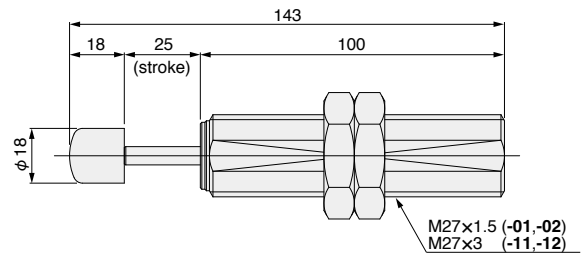
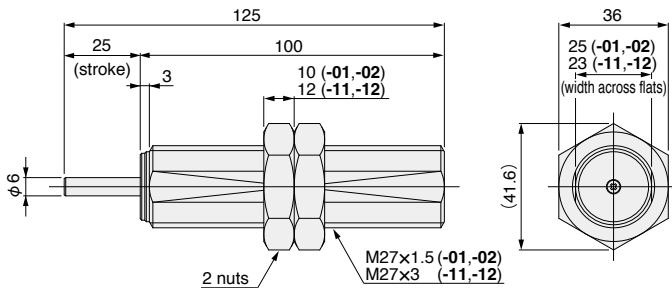
● With rod end cap: KSHJ□×□C-□



Model	Symbol	A	B	C	D	E	F	G	H	J	K	L	N	Q	R	S	T
KSHJ8×5 (C)-01		37	5	32	1.2	M8×0.75	2	10	11.5	2.5	3	7	1.3	1.5	42	5	6.5
KSHJ8×5 (C)-11		37	5	32	1.2	M8×1	3	10	11.5	2.5	3	7	1.3	1.5	42	5	6.5
KSHJ8×8 (C)-01,-02		46	8	38	1.2	M8×0.75	2	10	11.5	2.5	3	7	1.3	1.5	51	5	6.5
KSHJ8×8 (C)-11,-12		46	8	38	1.2	M8×1	3	10	11.5	2.5	3	7	1.3	1.5	51	5	6.5
KSHJ10×10 (C)-01,-02		60	10	50	2	M10×1	3	12	13.9	3	5	8.5	1.3	1.5	68	8	8
KSHJ10×15 (C)-01,-03		77	15	62	2.3	M10×1	3	12	13.9	3	5	8.5	1.3	1.5	85	8	8
KSHJ12×10 (C)-01,-02		66	10	56	2	M12×1	4	14	16.2	3	5	10.5	1.3	1.5	76	10	10
KSHJ14×12 (C)-01,-02		72	12	60	2	M14×1.5	5	17	19.6	4	5	12	1.3	1.5	82	10	11
KSHJ16×15 (C)-01,-02		82	15	67	3	M16×1.5	7	19	21.9	4	7	13	1.8	2	92	10	11
KSHJ18×16 (C)-01,-02		88	16	72	3	M18×1.5	8	21	24.2	5	7	15	1.8	2	103	15	15
KSHJ20×16 (C)-01,-02		93	16	77	3	M20×1.5	8	24	27.7	5	7	17	1.8	2	108	15	15
KSHJ22×25 (C)-01,-02		125	25	100	3	M22×1.5	9	27	31.2	6	10	19	1.8	2	143	18	18
KSHJ25×25 (C)-01		125	25	100	3	M25×1.5	10	30	34.6	6	10	22	1.8	2	143	18	18
KSHJ25×25 (C)-11,-12		125	25	100	3	M25×2	10	30	34.6	6	10	22	1.8	2	143	18	18

● No rod end cap: KSHJ27×25-□

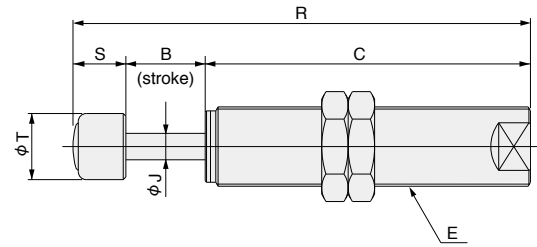
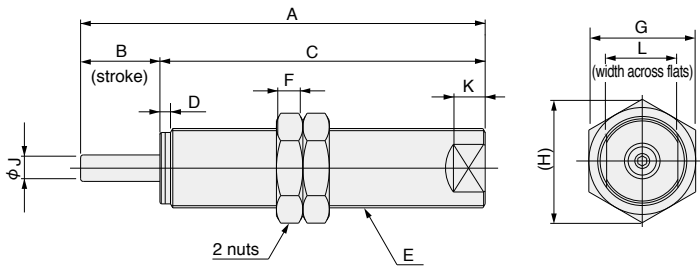
● With rod end cap: KSHJ27×25C-□



Dimensions (mm)

● No rod end cap: KSHJ□×□-□

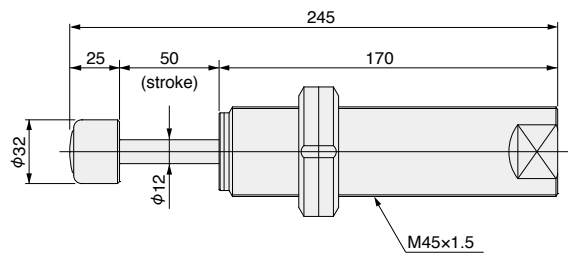
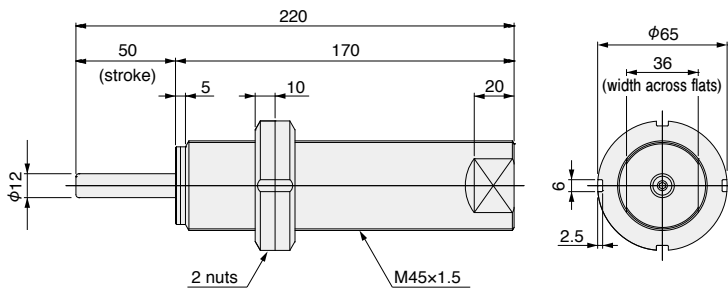
● With rod end cap: KSHJ□×□C-□



Model	Symbol	A	B	C	D	E	F	G	H	J	K	L	R	S	T
KSHJ30×30 (C)-01,-02,-03		153	30	123	4	M30×1.5	10	36	41.6	10	12	24	173	20	25
KSHJ33×30 (C)-01,-02,-03		153	30	123	4	M33×1.5	10	41	47.3	10	12	27	173	20	25
KSHJ36×50 (C)-01,-02,-03		218	50	168	5	M36×1.5	15	46	53.1	12	15	30	243	25	32
KSHJ42×50 (C)-01,-02		220	50	170	5	M42×1.5	15	50	57.7	12	20	36	245	25	32
KSHJ42×70 (C)-01,-02		275	70	205	5	M42×1.5	15	50	57.7	12	20	36	300	25	32
KSHJ48×50 (C)-01,-02		230	50	180	6	M48×2	15	55	63.5	14	20	40	263	33	38

● No rod end cap: KSHJ45×50-01, -02

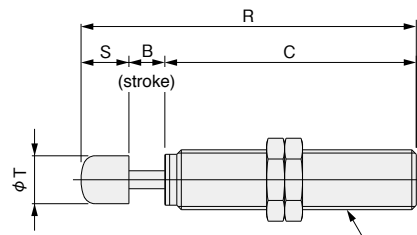
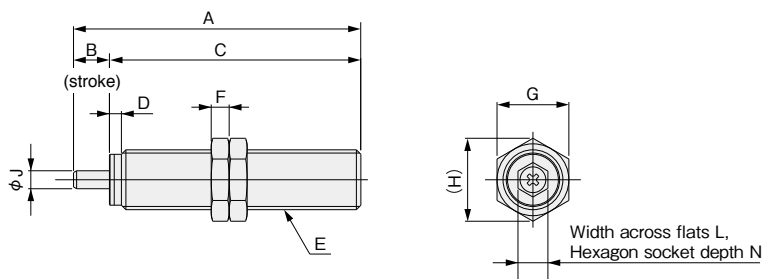
● With rod end cap: KSHJ45×50C-01, -02



Short stroke type (with hexagon socket)

● No rod end cap: KSHJ□×□-□

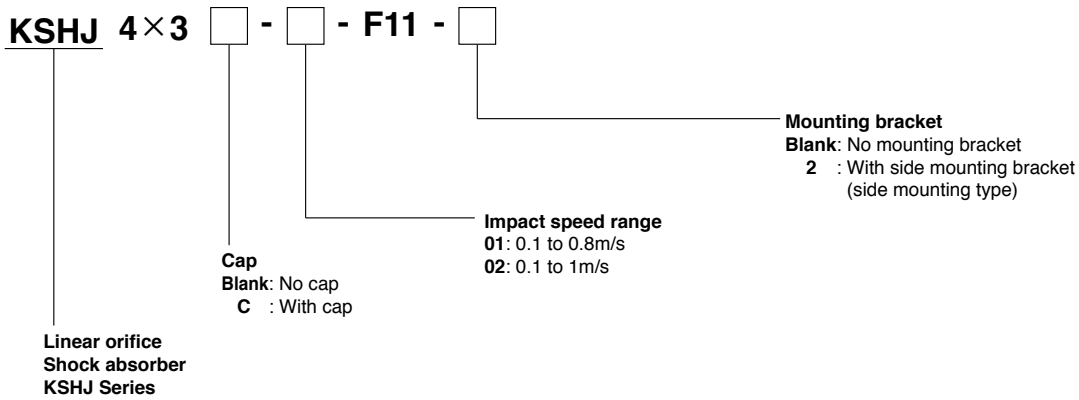
● With rod end cap: KSHJ□×□C-□



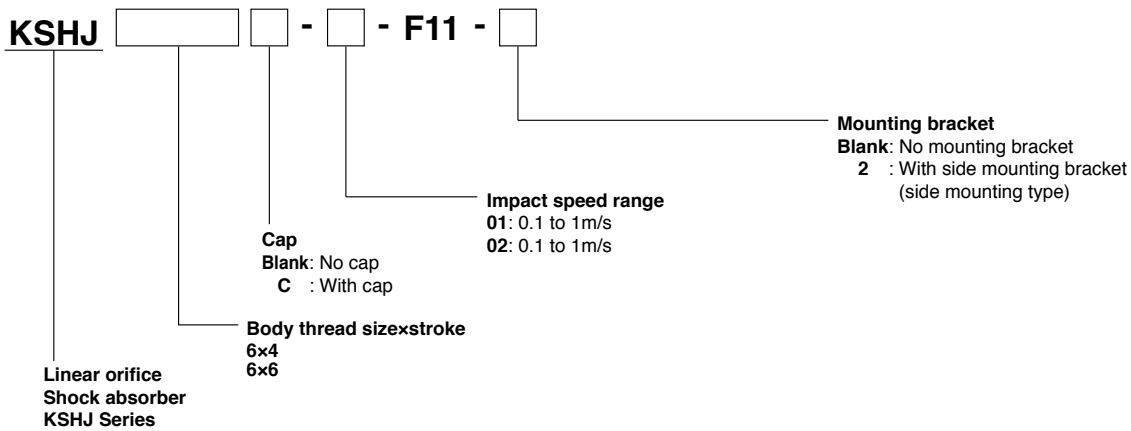
Model	Symbol	A	B	C	D	E	F	G	H	J	L	N	R	S	T
KSHJ8×4 (C)-01,-02		37	4	33	2.2	M8×0.75	2	10	11.5	2.5	4	2	42	5	6.5
KSHJ8×4 (C)-11,-12		37	4	33	2.2	M8×1.0	3	10	11.5	2.5	4	2	42	5	6.5
KSHJ10×6 (C)-01,-02		48	6	42	2	M10×1	3	12	13.9	3	5	3	56	8	8
KSHJ12×6 (C)-01,-02		48	6	42	2	M12×1	4	14	16.2	3	6	3	58	10	10
KSHJ14×8 (C)-01,-02		61	8	53	2	M14×1.5	5	17	19.6	4	6	3	71	10	11
KSHJ16×8 (C)-01,-02		61	8	53	3	M16×1.5	7	19	21.9	4	6	4	71	10	11
KSHJ20×10 (C)-01,-02		69	10	59	3	M20×1.5	8	24	27.7	5	6	4	84	15	15

Order Codes (specifications in inches)

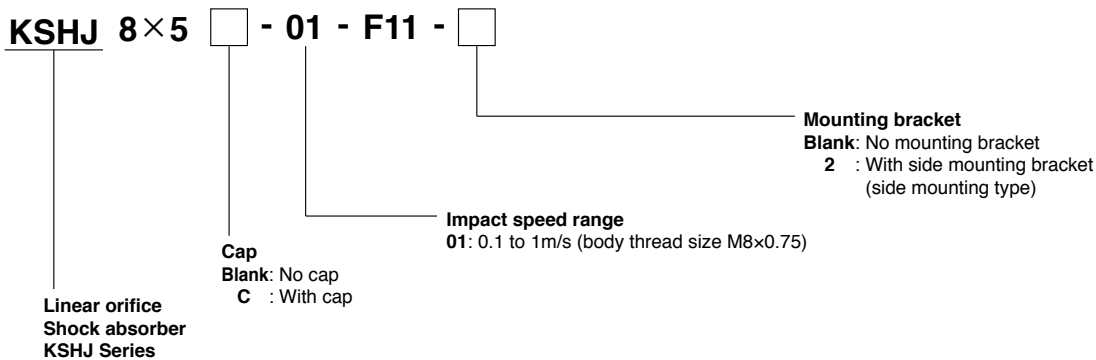
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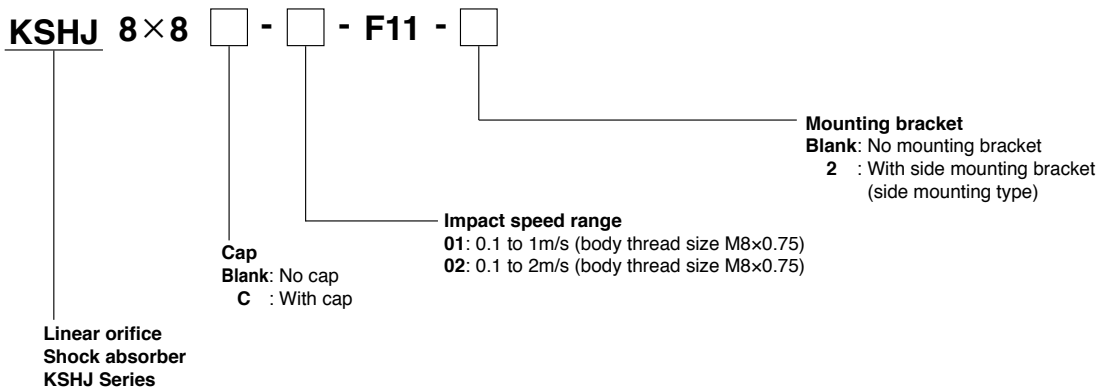
• 6x4 6x6



• 8x5



• 8x8



KSHJ

KSHY

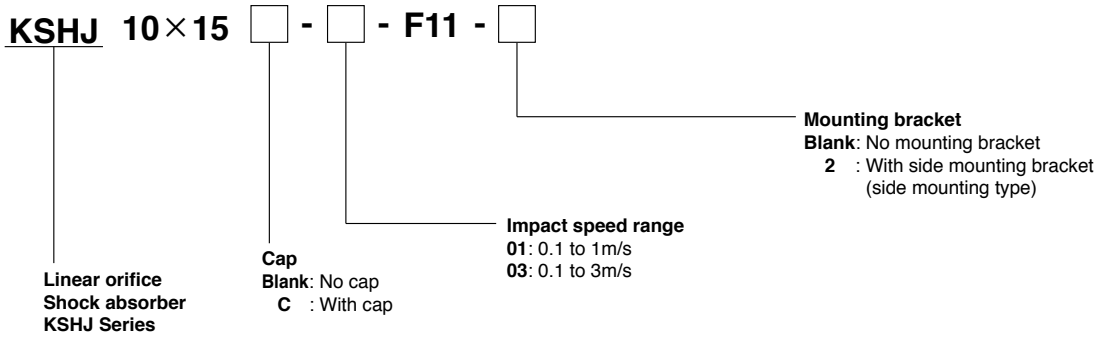
KSHP

KSHC

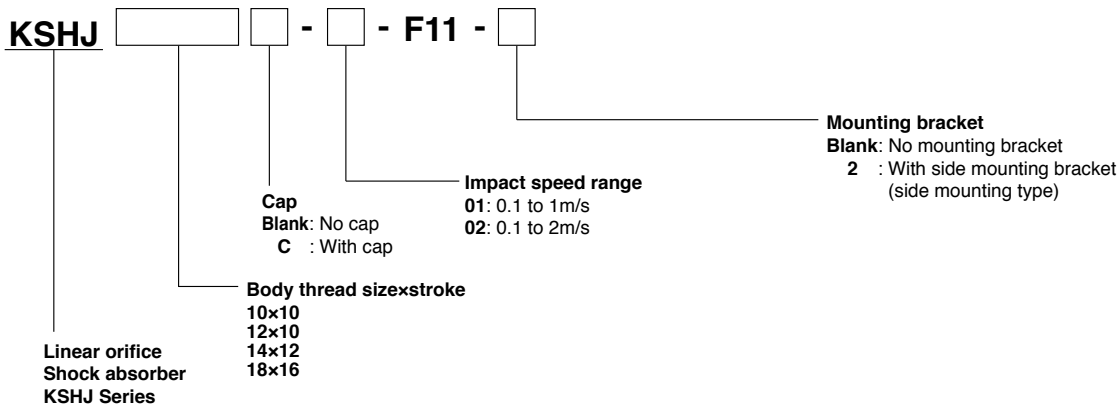
Additional Parts

Order Codes (specifications in inches)

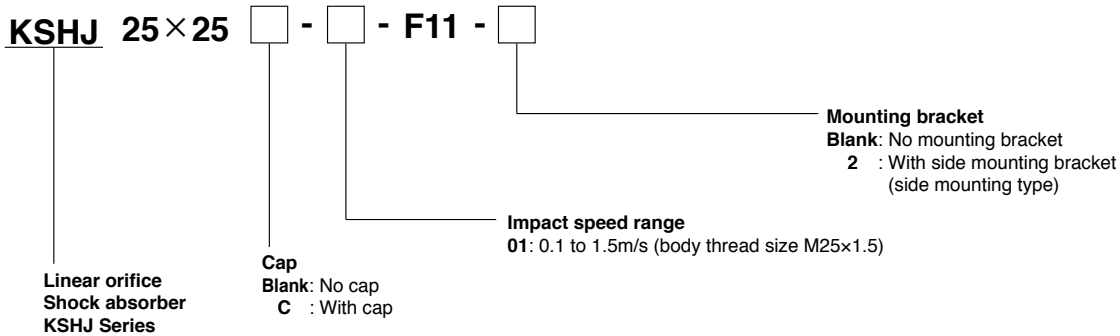
• 10x15



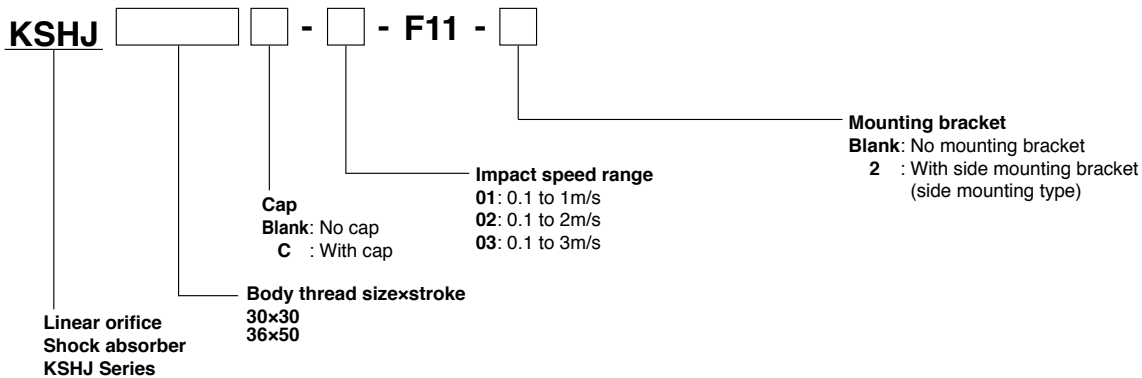
• 10x10 12x10 14x12 18x16



• 25x25

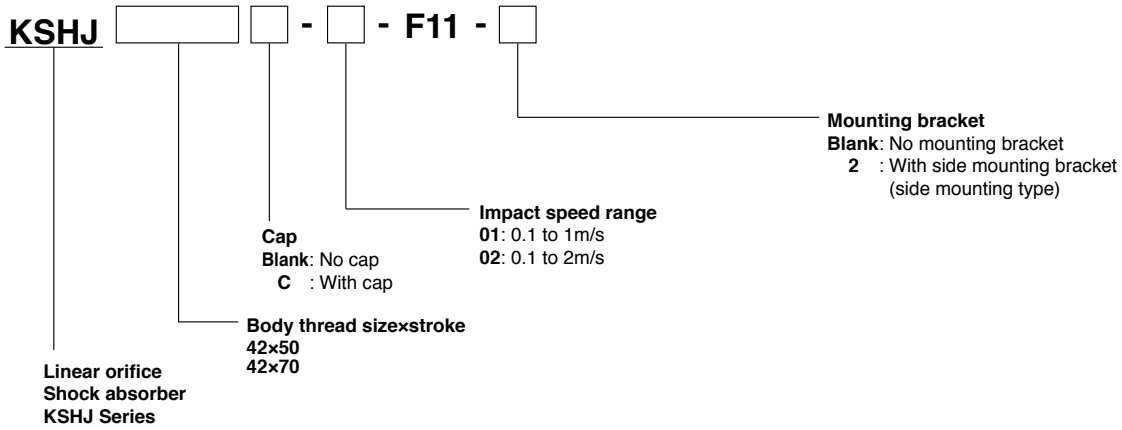


• 30x30 36x50



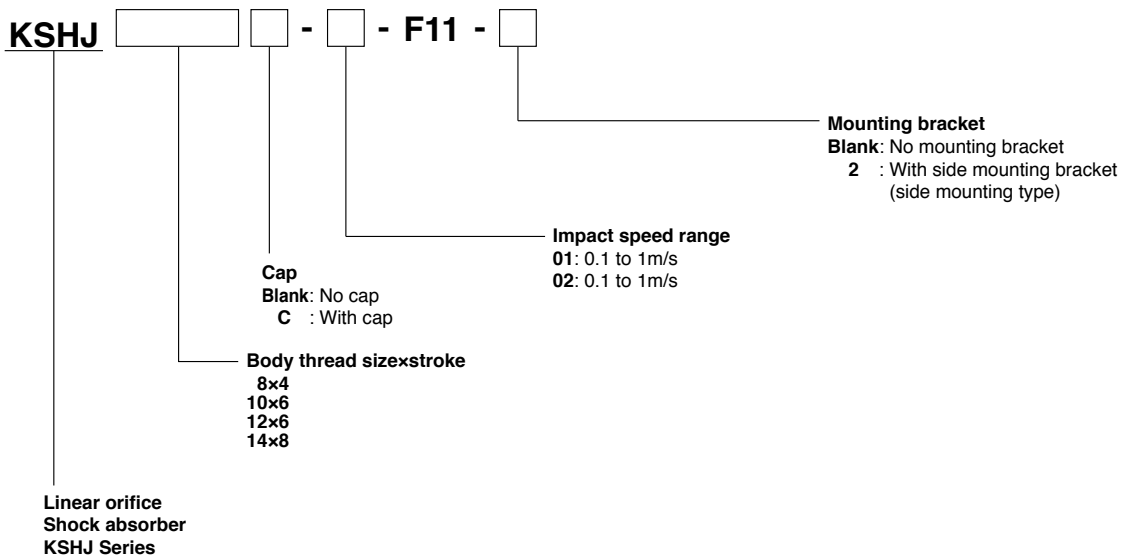
Order Codes (specifications in inches)

- 42x50
42x70



Short stroke type (with hexagon socket)

- 8x4
10x6
12x6
14x8



KSHJ

KSHY

KSHP

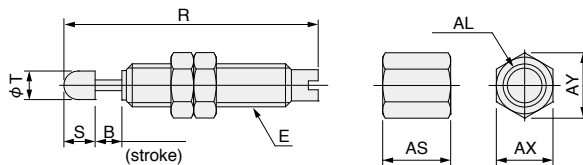
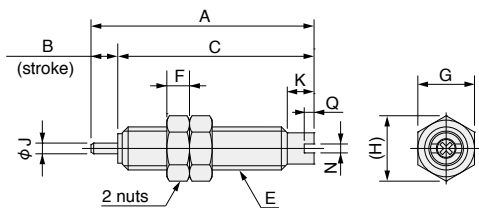
KSHC

Additional Parts

Dimensions (in)

● No rod end cap: KSHJ4×3, KSHJ6×4, KSHJ6×6

● With rod end cap: KSHJ4×3C, KSHJ6×4C, KSHJ6×6C

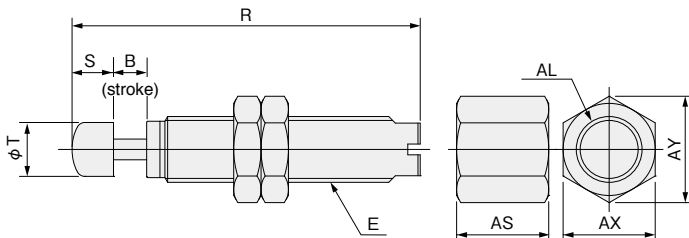
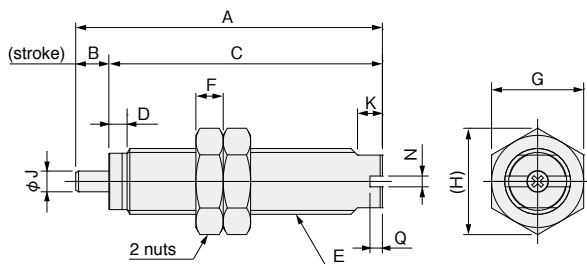


Model	Symbol	A	B	C	E	F	G	H	J	K	N	Q	R	S
KSHJ4×3 (C)-01,-02-F11		0.984	0.118	0.866	#10-32 UNF	0.1	1/4	0.289	0.047	0.118	0.039	0.043	1.122	0.138
KSHJ6×4 (C)-01,-02-F11		1.161	0.157	1.004	1/4-32 UNEF	0.1	3/8	0.433	0.079	0.177	0.039	0.039	1.319	0.157
KSHJ6×6 (C)-01,-02-F11		1.398	0.236	1.161	1/4-32 UNEF	0.1	3/8	0.433	0.079	0.217	0.039	0.039	1.555	0.157

Model	Symbol	T	AL	AS	AX	AY
KSHJ4×3 (C)-01,-02-F11		0.126	#10-32 UNF	0.3	1/4	0.289
KSHJ6×4 (C)-01,-02-F11		0.181	1/4-32 UNEF	0.4	3/8	0.433
KSHJ6×6 (C)-01,-02-F11		0.181	1/4-32 UNEF	0.4	3/8	0.433

● No rod end cap: KSHJ□×□-□

● With rod end cap: KSHJ□×□C-□

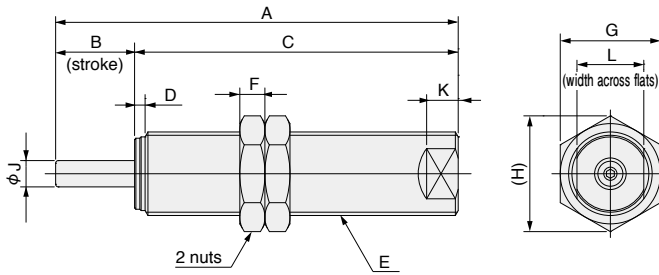


Model	Symbol	A	B	C	D	E	F	G	H	J	K	N	Q	R
KSHJ8×4 (C)-01,-02-F11		1.457	0.157	1.299	0.087	5/16-32 UNEF	0.13	7/16	0.505	0.098	0.118	0.051	0.059	1.654
KSHJ8×5 (C)-01-F11		1.457	0.197	1.26	0.047	5/16-32 UNEF	0.13	7/16	0.505	0.098	0.118	0.051	0.059	1.654
KSHJ8×8 (C)-01,-02-F11		1.811	0.315	1.496	0.047	5/16-32 UNEF	0.13	7/16	0.505	0.098	0.118	0.051	0.059	2.008
KSHJ10×6 (C)-01,-02-F11		1.89	0.236	1.654	0.079	3/8-32 UNEF	0.13	1/2	0.577	0.118	0.197	0.051	0.059	2.205
KSHJ10×10 (C)-01,-02-F11		2.362	0.394	1.969	0.079	3/8-32 UNEF	0.13	1/2	0.577	0.118	0.197	0.051	0.059	2.677
KSHJ10×15 (C)-01,-03-F11		3.031	0.591	2.441	0.079	3/8-32 UNEF	0.13	1/2	0.577	0.118	0.197	0.051	0.059	3.346
KSHJ11×6 (C)-01,-02-F11		1.89	0.236	1.654	0.079	7/16-28 UNEF	0.15	9/16	0.65	0.118	0.197	0.051	0.059	2.205
KSHJ11×10 (C)-01,-02-F11		2.362	0.394	1.969	0.079	7/16-28 UNEF	0.15	9/16	0.65	0.118	0.197	0.051	0.059	2.677
KSHJ11×15 (C)-01,-03-F11		3.031	0.591	2.441	0.079	7/16-28 UNEF	0.15	9/16	0.65	0.118	0.197	0.051	0.059	3.346
KSHJ12×6 (C)-01,02-F11		1.89	0.236	1.654	0.079	1/2-20 UNF	0.15	5/8	0.722	0.118	0.197	0.051	0.059	2.283
KSHJ12×10 (C)-01,-02-F11		2.598	0.394	2.205	0.079	1/2-20 UNF	0.15	5/8	0.722	0.118	0.197	0.051	0.059	2.992
KSHJ14×8 (C)-01,02-F11		2.402	0.315	2.087	0.079	9/16-18 UNF	7/32	11/16	0.794	0.157	0.197	0.051	0.059	2.795
KSHJ14×12 (C)-01,-02-F11		2.835	0.472	2.362	0.079	9/16-18 UNF	7/32	11/16	0.794	0.157	0.197	0.051	0.059	3.228
KSHJ18×16 (C)-01,-02-F11		3.465	0.63	2.835	0.118	3/4-16 UNF	1/4	15/16	1.082	0.197	0.276	0.071	0.079	4.055
KSHJ25×25 (C)-01,-02-F11		4.921	0.984	3.937	0.118	1-12 UNF	3/8	1 1/4	1.443	0.236	0.394	0.071	0.079	5.63

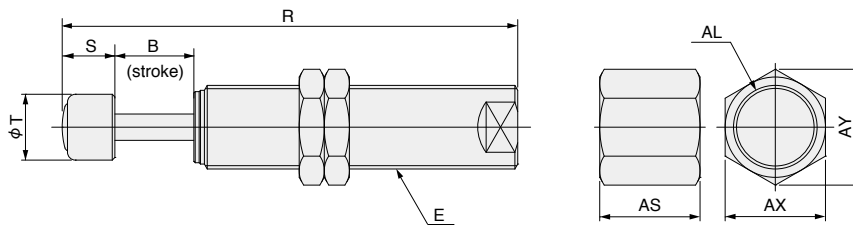
Model	Symbol	S	T	AL	AS	AX	AY
KSHJ8×4 (C)-01,-02-F11		0.197	0.256	5/16-32 UNEF	7/16	7/16	0.505
KSHJ8×5 (C)-01-F11		0.197	0.256	5/16-32 UNEF	7/16	7/16	0.505
KSHJ8×8 (C)-01,-02-F11		0.197	0.256	5/16-32 UNEF	7/16	7/16	0.505
KSHJ10×6 (C)-01,-02-F11		0.315	0.315	3/8-32 UNEF	11/16	1/2	0.577
KSHJ10×10 (C)-01,-02-F11		0.315	0.315	3/8-32 UNEF	11/16	1/2	0.577
KSHJ10×15 (C)-01,-03-F11		0.315	0.315	3/8-32 UNEF	11/16	1/2	0.577
KSHJ11×6 (C)-01,-02-F11		0.315	0.315	7/16-28 UNEF	11/16	9/16	0.65
KSHJ11×10 (C)-01,-02-F11		0.315	0.315	7/16-28 UNEF	11/16	9/16	0.65
KSHJ11×15 (C)-01,-03-F11		0.315	0.315	7/16-28 UNEF	11/16	9/16	0.65
KSHJ12×6 (C)-01,02-F11		0.394	0.394	1/2-20 UNF	11/16	5/8	0.722
KSHJ12×10 (C)-01,-02-F11		0.394	0.394	1/2-20 UNF	11/16	5/8	0.722
KSHJ14×8 (C)-01,02-F11		0.394	0.433	9/16-18 UNF	3/4	11/16	0.794
KSHJ14×12 (C)-01,-02-F11		0.394	0.433	9/16-18 UNF	3/4	11/16	0.794
KSHJ18×16 (C)-01,-02-F11		0.591	0.591	3/4-16 UNF	11/2	15/16	1.082
KSHJ25×25 (C)-01,-02-F11		0.709	0.709	1-12 UNF	11/2	1 1/4	1.443

Dimensions (in)

● No rod end cap: KSHJ□×□-□



● With rod end cap: KSHJ□×□C-□



Model	Symbol	A	B	C	D	E	F	G	H	J	K	L	R	S
KSHJ30×30 (C)-01,-02,-03-F11		6.024	1.181	4.843	0.157	1 1/4-12 UNF	3/8	1 1/2	1.732	0.394	0.472	1	6.811	0.787
KSHJ36×50 (C)-01,-02,-03-F11		8.583	1.969	6.614	0.197	1 3/8-12 UNF	5/8	1 11/16	1.948	0.472	0.591	1 1/8	9.567	0.984
KSHJ42×50 (C)-01,-02-F11		8.661	1.969	6.693	0.197	1 3/4-12 UN	5/8	2	2.309	0.472	0.787	1 1/2	9.646	0.984
KSHJ42×70 (C)-01,-02-F11		10.827	2.756	8.071	0.197	1 3/4-12 UN	5/8	2	2.309	0.472	0.787	1 1/2	11.811	0.984

Model	Symbol	T	AL	AS	AX	AY
KSHJ30×30 (C)-01,-02,-03-F11		0.984	1 1/4-12 UNF	1 1/2	1 1/2	1.732
KSHJ36×50 (C)-01,-02,-03-F11		1.26	1 3/8-12 UNF	2	1 11/16	1.948
KSHJ42×50 (C)-01,-02-F11		1.26	1 3/4-12 UN	2	2	2.309
KSHJ42×70 (C)-01,-02-F11		1.26	1 3/4-12 UN	2	2	2.309

KSHJ

KSHY

KSHP

KSHC

Additional Parts

Limited Warranty

KOGANEI CORP. warrants its products to be free from defects in material and workmanship subject to the following provisions.

Warranty Period The warranty period is 180 days from the date of delivery.

Koganei Responsibility If a defect in material or workmanship is found during the warranty period, KOGANEI CORP. will replace any part proved defective under normal use free of charge and will provide the service necessary to replace such a part.

Limitations

- This warranty is in lieu of all other warranties, expressed or implied, and is limited to the original cost of the product and shall not include any transportation fee, the cost of installation or any liability for direct, indirect or consequential damage or delay resulting from the defects.

- KOGANEI CORP. shall in no way be liable or responsible for injuries or damage to persons or property arising out of the use or operation of the manufacturer's product.

- This warranty shall be void if the engineered safety devices are removed, made inoperative or not periodically checked for proper functioning.

- Any operation beyond the rated capacity, any improper use or application, or any improper installation of the product, or any substitution upon it with parts not furnished or approved by KOGANEI CORP., shall void this warranty.

- This warranty covers only such items supplied by KOGANEI CORP. The products of other manufacturers are covered only by such warranties made by those original manufacturers, even though such items may have been included as the components.

The specifications are subject to change without notice.

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