

Linear Orifice Shock Absorbers

KSHJ Series



Koganei Brand

All Products Are **RoHS** Compliant



Absorbs impacts.
16 sizes and 90 models handling loads
in units ranging from grams to tons
Introducing the new M30, M36, M42, and M48 sizes

Linear Orifice Shock Absorbers

KSHJ Series



Environmentally Friendly **RoHS** Compliant Products!

New KSHJ4×3

New KSHJ6×4

KSHJ8×5

New KSHJ8×8

KSHJ10×10

New KSHJ10×15

KSHJ12×10

KSHJ14×12

KSHJ16×15

KSHJ18×16

KSHJ20×16

Long stroke

Long stroke

KSHJ22×25

New

KSHJ25×25

New

KSHJ27×25

New

KSHJ30×30

New

KSHJ36×50

New

KSHJ42×50

New

KSHJ42×70

World's smallest ^{Note}
New KSHJ4×3

Note: Based on a Koganei survey in April 2008.

Supports a wide range of impact masses

Supports a wide range, from grams (g) with the M4 size to tons (t) with the M48 size.

Note: For information on impact mass, see the selection graphs on pages 6 and 7.

Support for a wide range of speeds

Maximum impact speed of 0.8 m/s to 3 m/s [2.6 ft./sec. to 9.8 ft./sec.]

Note: The maximum impact speed changes depending on the model. Refer to the specifications on pages 9 and 10.

No Need for Stopper Nut ^{Note}

Since the load directly contacts the end of the body, there is no need for mounting a stopper nut. The simple mounting also saves space.

Note: For use with a cap type, mount either a stopper nut or an external stopper nut. 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.

Supports high tact time

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

Silent design

Reduction of the impact during shock absorption serves to lessen the sound of the impact of the load.

Fully threaded body

The body is completely threaded. This maximizes the mounting range that can be used.





CAUTION

Before use, be sure to read the safety precautions on page 3.

A wealth of variations

with sizes from M4 to M48

16 sizes and 90 models

List of KSHJ body thread sizes

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

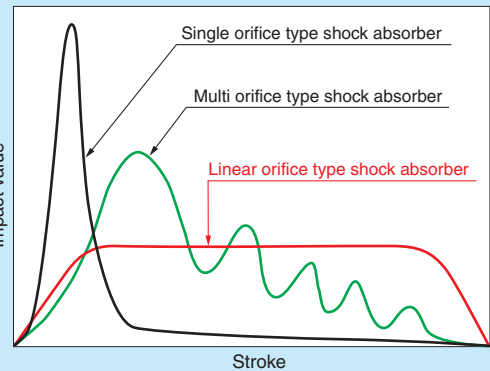
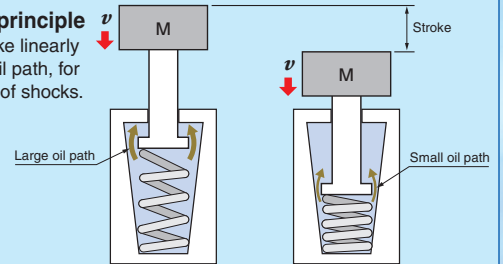
Linear orifice provides low impact and long life

Use of a linear orifice mechanism, in which the orifice changes linearly, ensures smooth shock absorption and long life.

Achieves the performance of shock absorbers with next-size-up stroke lengths, to reduce vibrations on mounting frames and equipment.

●Operation principle

The piston stroke linearly squeezes the oil path, for soft absorption of shocks.



Long stroke

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

Long stroke

Options

●With cap

●With stopper nut

●With side mounting bracket



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New

KSHJ48×50

Before selecting and using the products, please read all the Safety Precautions carefully to ensure proper product use. The Safety Precautions shown below are to help you use the product safely and correctly, and to prevent injury or damage to you, other people, and assets beforehand. Follow the Safety Precautions for: ISO4414 (Pneumatic fluid power—Recommendations for the application of equipment to transmission and control systems), JIS B 8370 (Pneumatic system regulations)

The directions are ranked according to degree of potential danger or damage: “DANGER!”, “WARNING!”, “CAUTION!”, and “ATTENTION!”

 DANGER	Expresses situations that can be clearly predicted as dangerous. If the noted danger is not avoided, it could result in death or serious injury. It could also result in damage or destruction of assets.
 WARNING	Expresses situations that, while not immediately dangerous, could become dangerous. If the noted danger is not avoided, it could result in death or serious injury. It could also result in damage or destruction of assets.
 CAUTION	Expresses situations that, while not immediately dangerous, could become dangerous. If the noted danger is not avoided, it could result in light or semi-serious injury. It could also result in damage or destruction of assets.
 ATTENTION	While there is little chance of injury, this content refers to points that should be observed for appropriate use of the product.

- **This product was designed and manufactured as parts for use in General Industrial Machinery.**
- In the selection and handling of the equipment, the system designer or other person with fully adequate knowledge and experience should always read the Safety Precautions, Catalog, Owner’s Manual and other literature before commencing operation. Making mistakes in handling is dangerous.
- After reading the Owner’s Manual, Catalog, etc., always place them where they can be easily available for reference to users of this product.
- If transferring or lending the product to another person, always attach the Owner’s Manual, Catalog, etc., to the product where they are easily visible, 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 cases. Read the Catalog and Owner’s 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 advanced levels of safety. Using it in this way, may result in 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 firmly support and secure them in place. Ensure the mounting location is strong enough. If the product falls over, drops off, or breaks, it may result in injury.
- Never attempt to modify the product. Abnormal operation can lead to injury, etc.
- Never attempt inappropriate disassembly, assembly, or repair of the product relating to basic construction, or to its performance or 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. Such use could result in product breakdowns, function stops, or damage. It could also drastically reduce the product’s operating life.
- The small screw on the rear 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 operations, such as maintenance, inspection, repair, or replacement on the product, 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 tight 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 loads or place objects on top of the product. Product damage could lead to reduced performances or to functional shutdown, 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 mounting the product, leave room for adequate working space around it. Failure to ensure adequate working space 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 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 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 breaks appear in the cap, replace it as quickly as possible.



ATTENTION

- When considering the possibility of using this product in situations or environments not specifically noted in the catalog or Owner's Manual, or in applications where safety is an important requirement such as in an airplane facility, combustion equipment, leisure equipment, safety equipment, and other places where human life or assets may be greatly affected, take adequate safety precautions such as the application with enough margins for ratings and performance or fail-safe measures. Be sure to consult us about such applications.
- When the product can no longer be used, or is no longer necessary, dispose of it appropriately, according to the "Waste Management and Public Cleansing Law" or other local governmental rules and regulations, as industrial waste.
- 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, etc. for protection.
- The maximum absorption in the specifications are for a normal temperature (20-25°C [68-77°F]). Be aware that performance and characteristics change depending on the operating temperature.
- For inquiries about the product, consult your nearest Koganei sales office or Koganei overseas department. The address and telephone number are shown on the back cover of this catalog.
- 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 (impact mass-impact speed diagram) on pages 6 and 7.



Other

- Always observe the following items.
 1. When using this product in pneumatic systems, always use genuine Koganei parts or compatible parts (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 inappropriate disassembly or assembly of the product relating to its basic configuration, performance, or functions.

Koganei is not responsible if these items are not properly observed.

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. Water, oil, or dust on the piston rod results in damage and decreases service life.

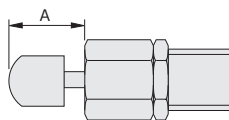


Mounting

1. Mount the shock absorber so that the load contacts at the center of the rod, and it is not subjected to off-centered loads. An off-centered load could result in breakage or defective rod returns. If there is concern that off-centered loads will occur, install a guide, etc.
2. 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.
3. To adjust the capacity with the stroke, adjust the stopper nut (-S) or add an external stopper.
4. If using with a cap type, 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 the shock absorber without a stopper nut or external stopper, but over the long-term, the stop location changes due to cap deformation and wear.

mm [in.]

Model	A
KSHJ4×3C-01, -02	3 [0.118]
KSHJ6×4C-01, -02	4 [0.157]
KSHJ8×5C-01, -11	5 [0.197]
KSHJ8×8C-01, -02, -11, -12	8 [0.315]
KSHJ10×10C-01, -02	10 [0.394]
KSHJ10×15C-01, -03	15 [0.591]
KSHJ12×10C-01, -02	10 [0.394]
KSHJ14×12C-01, -02	12 [0.472]
KSHJ16×15C-01, -02	15 [0.591]
KSHJ18×16C-01, -02	16 [0.630]
KSHJ20×16C-01, -02	16 [0.630]
KSHJ22×25C-01, -02	25 [0.984]
KSHJ25×25C-01, -11, -12	25 [0.984]
KSHJ27×25C-01, -02, -11, -12	25 [0.984]
KSHJ30×30C-01, -02, -03	30 [1.181]
KSHJ36×50C-01, -02, -03	50 [1.969]
KSHJ42×50C-01, -02	50 [1.969]
KSHJ42×70C-01, -02	70 [2.756]
KSHJ48×50C-01, -02	50 [1.969]



5. For swing impacts, ensure that the angle of eccentricity between the load direction and the center line of the shock absorber is at or below the specification values shown on pages 9 and 10.
6. The small screw on the rear 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.

7. When mounting the shock absorber, always use the following maximum tightening torque. Tightening using excessive torque may result in damage.

Model	Maximum tightening	N · m [ft. · lbf.]
KSHJ4×3 (C) -01, -02	0.5	[0.37]
KSHJ6×4 (C) -01, -02	0.85	[0.63]
KSHJ8×5 (C) -01, -11	2.5	[1.8]
KSHJ8×8 (C) -01, -02, -11, -12	2.5	[1.8]
KSHJ10×10 (C) -01, -02	6.5	[4.8]
KSHJ10×15 (C) -01, -03	6.5	[4.8]
KSHJ12×10 (C) -01, -02	8.0	[5.9]
KSHJ14×12 (C) -01, -02	12.0	[8.9]
KSHJ16×15 (C) -01, -02	20.0	[14.8]
KSHJ18×16 (C) -01, -02	25.0	[18.4]
KSHJ20×16 (C) -01, -02	30.0	[22.1]
KSHJ22×25 (C) -01, -02	35.0	[25.8]
KSHJ25×25 (C) -01, -11, -12	42.0	[31.0]
KSHJ27×25 (C) -01, -02, -11, -12	42.0	[31.0]
KSHJ30×30 (C) -01, -02, -03	60.0	[44.3]
KSHJ36×50 (C) -01, -02, -03	72.0	[53.1]
KSHJ42×50 (C) -01, -02	85.0	[62.7]
KSHJ42×70 (C) -01, -02	85.0	[62.7]
KSHJ48×50 (C) -01, -02	120.0	[88.5]

8. Ensure that the hardness of the surface directly impacting the piston rod of the shock absorber is HRC40 or over (excluding models with cap).

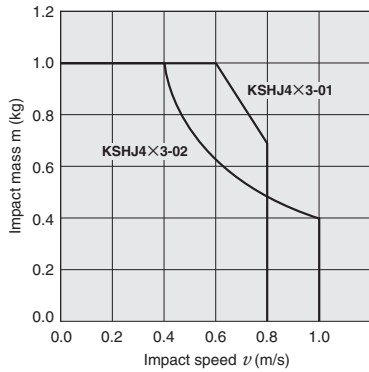
Selection Guidelines

Precautions for using the selection graphs

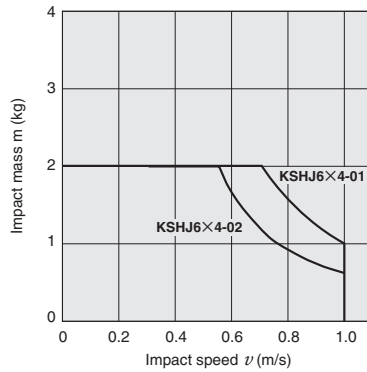
1. The selection graphs are calculated for a cylinder with an operating air pressure of 0.5 MPa [73 psi].
2. Select a shock absorber that is as close to yet within the capacity line(s).

■ Selection graphs

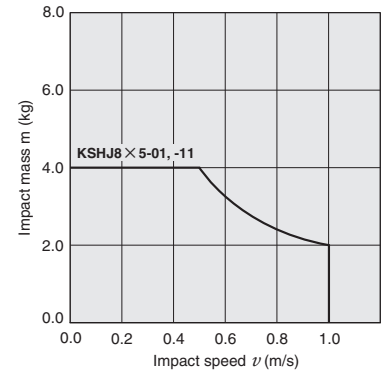
● KSHJ4 × 3



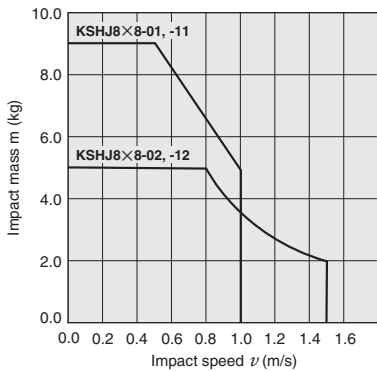
● KSHJ6 × 4



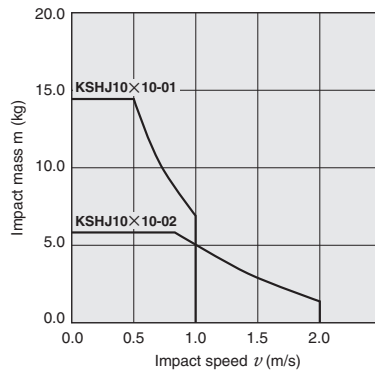
● KSHJ8 × 5



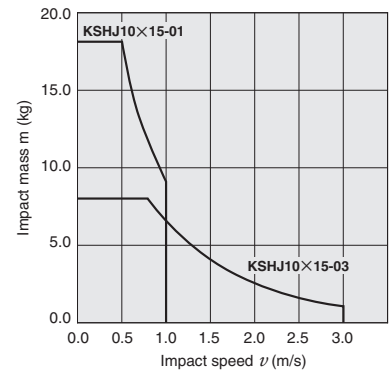
● KSHJ8 × 8



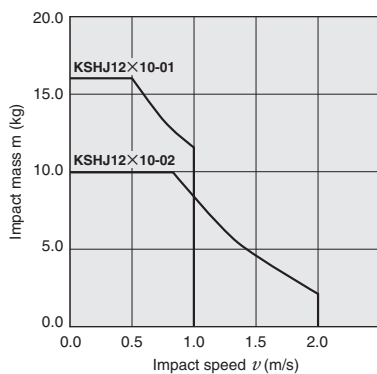
● KSHJ10 × 10



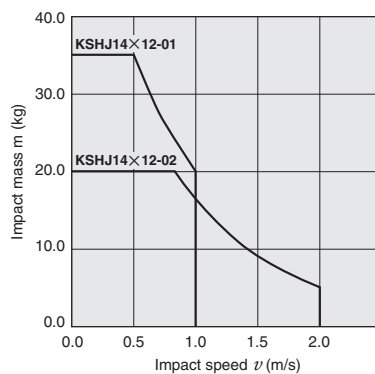
● KSHJ10 × 15



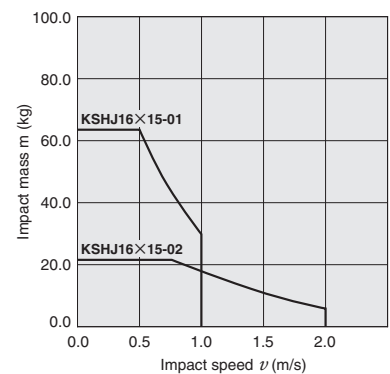
● KSHJ12 × 10



● KSHJ14 × 12



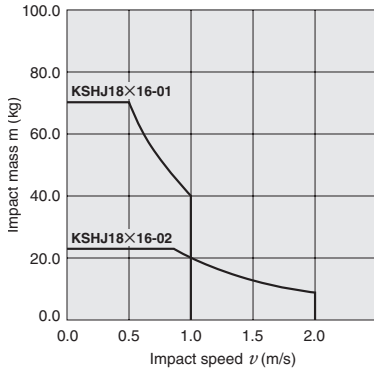
● KSHJ16 × 15



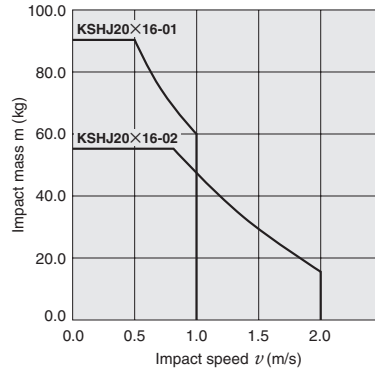
1 kg = 2.20 lb. 1 m/s = 3.28 ft./sec.

Selection Guidelines

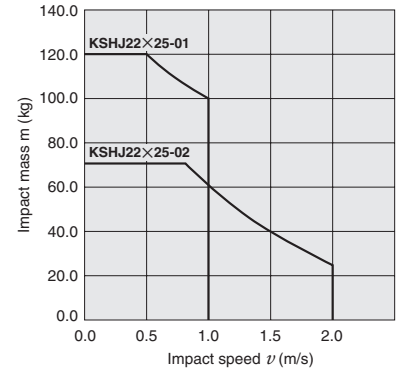
● KSHJ18 × 16



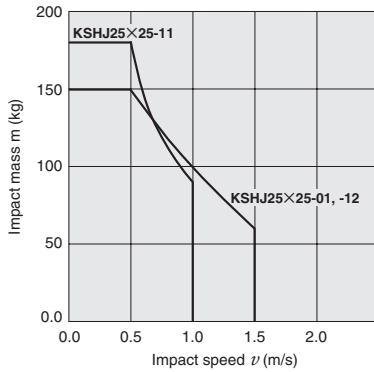
● KSHJ20 × 16



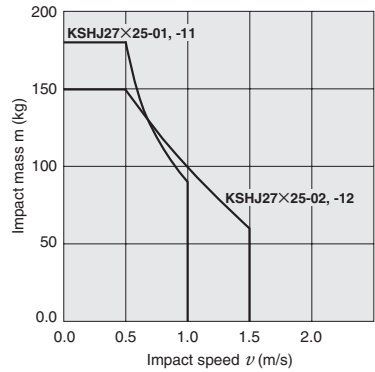
● KSHJ22 × 25



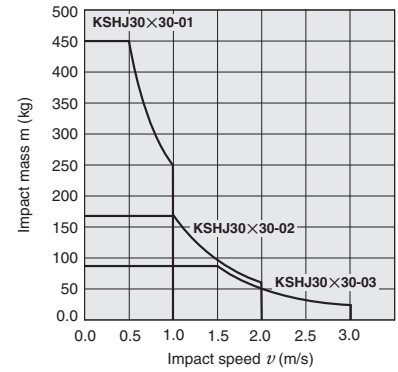
● KSHJ25 × 25



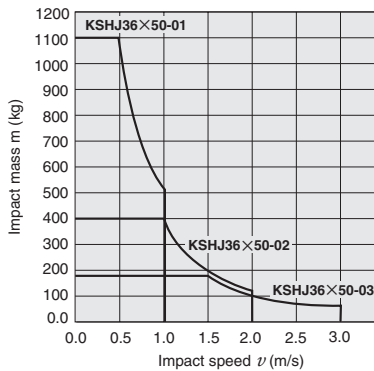
● KSHJ27 × 25



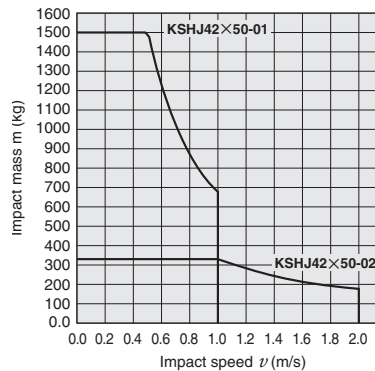
● KSHJ30 × 30



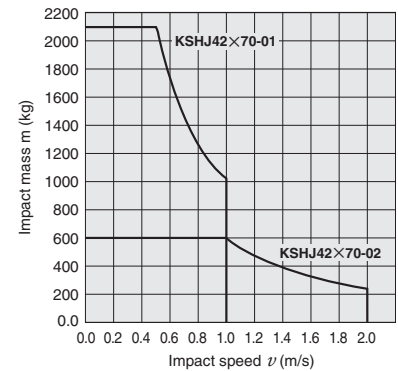
● KSHJ36 × 50



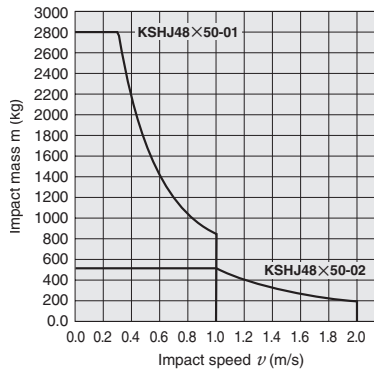
● KSHJ42 × 50



● KSHJ42 × 70



● KSHJ48 × 50



1 kg = 2.20 lb. 1 m/s = 3.28 ft./sec.

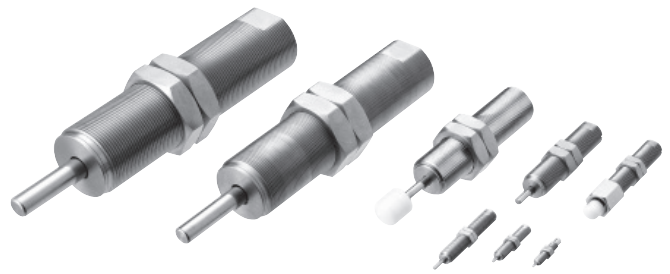
■ Recommended cylinder bore size

mm [in.]

Model	Cylinder bore size																			
	φ 4 [0.157]	φ 6 [0.236]	φ 8 [0.315]	φ 10 [0.394]	φ 12 [0.472]	φ 16 [0.630]	φ 20 [0.787]	φ 25 [0.984]	φ 32 [1.260]	φ 40 [1.575]	φ 50 [1.969]	φ 63 [2.480]	φ 80 [3.150]	φ 100 [3.937]	φ 125 [4.921]	φ 140 [5.512]	φ 160 [6.299]	φ 180 [7.087]	φ 200 [7.874]	
KSHJ4×3	●	●	●																	
KSHJ6×4		●	●	●																
KSHJ8×5			●	●	●	●														
KSHJ8×8			●	●	●	●														
KSHJ10×10				●	●	●	●													
KSHJ10×15				●	●	●	●													
KSHJ12×10					●	●	●	●												
KSHJ14×12						●	●	●	●											
KSHJ16×15							●	●	●	●										
KSHJ18×16								●	●	●										
KSHJ20×16									●	●	●									
KSHJ22×25										●	●	●								
KSHJ25×25										●	●	●	●							
KSHJ27×25										●	●	●	●							
KSHJ30×30											●	●	●	●						
KSHJ36×50												●	●	●	●	●	●			
KSHJ42×50												●	●	●	●	●	●	●		
KSHJ42×70												●	●	●	●	●	●	●		
KSHJ48×50													●	●	●	●	●	●	●	●

Linear Orifice Shock Absorbers

KSHJ Series



Specifications

Item	Model	KSHJ4×3-01	KSHJ4×3-02	KSHJ6×4-01	KSHJ6×4-02	KSHJ8×5-01, -11
Maximum absorption	J [ft. · lbf.]	0.3 [0.22]	0.2 [0.15]	0.5 [0.37]	0.3 [0.22]	1 [0.7]
Absorbing stroke	mm [in.]	3 [0.12]		4 [0.16]		5 [0.20]
Maximum impact speed	m/s [ft./sec.]	0.8 [2.62]	1 [3.28]	1 [3.28]		1 [3.28]
Maximum operating frequency	cycle/min	90				
Maximum absorption per unit of time	J/min [ft. · lbf./min.]	10 [7.4]		20 [14.8]		36 [26.6]
Spring return force	N [lbf.]	2 [0.4]		3 [0.7]		6 [1.3]
Angle variation		1° or less				
Operating temperature range ^{Note}	°C [°F]	0~60 [32~140]				

Item	Model	KSHJ8×8-01,-11	KSHJ8×8-02,-12	KSHJ10×10-01	KSHJ10×10-02	KSHJ10×15-01	KSHJ10×15-03
Maximum absorption	J [ft. · lbf.]	2 [1.5]		3 [2.2]		5 [3.7]	6.5 [4.8]
Absorbing stroke	mm [in.]	8 [0.31]		10 [0.39]		15 [0.59]	
Maximum impact speed	m/s [ft./sec.]	1 [3.28]	1.5 [4.92]	1 [3.28]	2 [6.56]	1 [3.28]	3 [9.84]
Maximum operating frequency	cycle/min	90					
Maximum absorption per unit of time	J/min [ft. · lbf./min.]	60 [44.3]		120 [88.5]		200 [148]	
Spring return force	N [lbf.]	8.6 [1.93]		8 [1.8]		9.8 [2.20]	
Angle variation		1° or less					
Operating temperature range ^{Note}	°C [°F]	0~60 [32~140]					

Item	Model	KSHJ12×10-01	KSHJ12×10-02	KSHJ14×12-01	KSHJ14×12-02	KSHJ16×15-01	KSHJ16×15-02
Maximum absorption	J [ft. · lbf.]	6 [4.4]		10 [7.4]		15 [11.1]	
Absorbing stroke	mm [in.]	10 [0.39]		12 [0.47]		15 [0.59]	
Maximum impact speed	m/s [ft./sec.]	1 [3.28]	2 [6.56]	1 [3.28]	2 [6.56]	1 [3.28]	2 [6.56]
Maximum operating frequency	cycle/min	60				40	
Maximum absorption per unit of time	J/min [ft. · lbf./min.]	220 [162]		240 [177]		280 [207]	
Spring return force	N [lbf.]	7.6 [1.71]		9.2 [2.07]		17.4 [3.91]	
Angle variation		1° or less				3° or less	
Operating temperature range ^{Note}	°C [°F]	0~60 [32~140]					

Item	Model	KSHJ18×16-01	KSHJ18×16-02	KSHJ20×16-01	KSHJ20×16-02	KSHJ22×25-01	KSHJ22×25-02
Maximum absorption	J [ft. · lbf.]	20 [14.8]		30 [22.1]		50 [36.9]	
Absorbing stroke	mm [in.]	16 [0.63]				25 [0.98]	
Maximum impact speed	m/s [ft./sec.]	1 [3.28]	2 [6.56]	1 [3.28]	2 [6.56]	1 [3.28]	2 [6.56]
Maximum operating frequency	cycle/min	40		30			
Maximum absorption per unit of time	J/min [ft. · lbf./min.]	320 [236]		450 [332]		500 [369]	
Spring return force	N [lbf.]	22 [4.9]				28.5 [6.41]	
Angle variation		3° or less					
Operating temperature range ^{Note}	°C [°F]	0~60 [32~140]					

Item	Model	KSHJ25×25-01	KSHJ25×25-11	KSHJ25×25-12	KSHJ27×25-01,-11	KSHJ27×25-02,-12
Maximum absorption	J [ft. · lbf.]	60 [44.3]				
Absorbing stroke	mm [in.]	25 [0.98]				
Maximum impact speed	m/s [ft./sec.]	1.5 [4.92]	1 [3.28]	1.5 [4.92]	1 [3.28]	1.5 [4.92]
Maximum operating frequency	cycle/min	30				
Maximum absorption per unit of time	J/min [ft. · lbf./min.]	700 [516]		800 [590]		
Spring return force	N [lbf.]	28.5 [6.41]		28.5 [6.41]		
Angle variation		3° or less				
Operating temperature range ^{Note}	°C [°F]	0~60 [32~140]				

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

Always use a shock absorber that is within the range of the capacity lines shown in the selection graphs on pages 6 and 7.

Specifications

Item	Model	KSHJ30 × 30-01	KSHJ30 × 30-02	KSHJ30 × 30-03	KSHJ36 × 50-01	KSHJ36 × 50-02	KSHJ36 × 50-03
Maximum absorption	J [ft. · lbf.]	140 [103.3]			300 [221.3]		
Absorbing stroke	mm [in.]	30 [1.18]			50 [1.97]		
Maximum impact speed	m/s [ft./sec.]	1 [3.28]	2 [6.56]	3 [9.84]	1 [3.28]	2 [6.56]	3 [9.84]
Maximum operating frequency	cycle/min	20			20		
Maximum absorption per unit of time	J/min [ft. · lbf./min.]	900 [664]			1800 [1328]		
Spring return force	N [lbf.]	41.5 [9.33]			66.5 [14.95]		
Angle variation		3° or less					
Operating temperature range ^{Note}	°C [°F]	0~60 [32~140]					

Item	Model	KSHJ42 × 50-01	KSHJ42 × 50-02	KSHJ42 × 70-01	KSHJ42 × 70-02	KSHJ48 × 50-01	KSHJ48 × 50-02
Maximum absorption	J [ft. · lbf.]	400 [295.0]		600 [442.6]		500 [368.8]	
Absorbing stroke	mm [in.]	50 [1.97]		70 [2.76]		50 [1.97]	
Maximum impact speed	m/s [ft./sec.]	1 [3.28]	2 [6.56]	1 [3.28]	2 [6.56]	1 [3.28]	2 [6.56]
Maximum operating frequency	cycle/min	15					
Maximum absorption per unit of time	J/min [ft. · lbf./min.]	2400 [1770]				3000 [2213]	
Spring return force	N [lbf.]	85.0 [19.11]		68.0 [15.29]		86.0 [19.33]	
Angle variation		3° or less		1° or less		3° or less	
Operating temperature range ^{Note}	°C [°F]	0~60 [32~140]					

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

Always use a shock absorber that is within the range of the capacity lines shown in the selection graphs on pages 6 and 7.

Mass

Model	Body	Additional mass (option)		
		Side mounting bracket	Stopper nut	Cap
KSHJ4 × 3-01, -02	1.8 [0.063]	7 [0.25]	1 [0.04]	0.1 [0.004]
KSHJ6 × 4-01, -02	4 [0.14]	8 [0.28]	2 [0.07]	0.2 [0.007]
KSHJ8 × 5-01, -11	10 [0.35]	12 [0.42]	4 [0.14]	0.5 [0.018]
KSHJ8 × 8-01, -02, -11, -12	11.5 [0.406]	12 [0.42]	4 [0.14]	0.5 [0.018]
KSHJ10 × 10-01, -02	22 [0.78]	15 [0.53]	7 [0.25]	0.6 [0.021]
KSHJ10 × 15-01, -03	28 [0.99]	15 [0.53]	7 [0.25]	0.6 [0.021]
KSHJ12 × 10-01, -02	37 [1.31]	22 [0.78]	8 [0.28]	1.2 [0.042]
KSHJ14 × 12-01, -02	58 [2.05]	41 [1.45]	15 [0.53]	1.4 [0.049]
KSHJ16 × 15-01, -02	83 [2.93]	65 [2.29]	28 [0.99]	1.4 [0.049]
KSHJ18 × 16-01, -02	113 [3.99]	100 [3.53]	37 [1.31]	3.0 [0.106]
KSHJ20 × 16-01, -02	156 [5.50]	110 [3.88]	55 [1.94]	3.0 [0.106]
KSHJ22 × 25-01, -02	233 [8.22]	390 [13.76]	82 [2.89]	7.0 [0.247]
KSHJ25 × 25-01	307 [10.83]	360 [12.70]	95 [3.35]	7.0 [0.247]
KSHJ25 × 25-11, -12	300 [10.58]	360 [12.70]	95 [3.35]	7.0 [0.247]
KSHJ27 × 25-01, -02	415 [14.64]	460 [16.23]	180 [6.35]	7.0 [0.247]
KSHJ27 × 25-11, -12	395 [13.93]	460 [16.23]	180 [6.35]	7.0 [0.247]
KSHJ30 × 30-01, -02, -03	520 [18.34]	455 [16.05]	140 [4.94]	50 [1.76]
KSHJ36 × 50-01, -02, -03	1070 [37.74]	2650 [93.47]	330 [11.64]	110 [3.88]
KSHJ42 × 50-01, -02	1310 [46.21]	2400 [84.66]	320 [11.29]	110 [3.88]
KSHJ42 × 70-01, -02	1500 [52.91]	2400 [84.66]	320 [11.29]	110 [3.88]
KSHJ48 × 50-01, -02	1830 [64.55]	3400 [119.93]	400 [14.11]	210 [7.41]

Example calculation: The mass of the KSHJ10 × 10C-01-S-2 (with cap, stopper nut, and side mounting bracket) is 22+0.6+7+15=44.6 g [1.573 oz.]

Order Codes

● 4×3

KSHJ 4×3

Linear orifice
shock absorber
KSHJ Series



Cap
Blank: No cap
C : With cap

Impact speed range
01: 0.1~0.8m/s [0.33~2.62 ft./sec.]
02: 0.1~1m/s [0.33~3.28 ft./sec.]

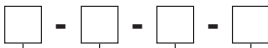
Stopper nut
Blank: No stopper nut
S : With stopper nut

Mounting bracket
Blank: No mounting bracket
2 : With side mounting bracket
(side mounting type)

● 6×4

KSHJ 6×4

Linear orifice
shock absorber
KSHJ Series



Cap
Blank: No cap
C : With cap

Impact speed range
01: 0.1~1m/s [0.33~3.28 ft./sec.]
(Maximum absorption 0.5J [0.37 ft.·lbf.])
02: 0.1~1m/s [0.33~3.28 ft./sec.]
(Maximum absorption 0.3J [0.22 ft.·lbf.])

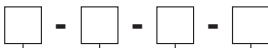
Stopper nut
Blank: No stopper nut
S : With stopper nut

Mounting bracket
Blank: No mounting bracket
2 : With side mounting bracket
(side mounting type)

● 8×5

KSHJ 8×5

Linear orifice
shock absorber
KSHJ Series



Cap
Blank: No cap
C : With cap

Impact speed range
01: 0.1~1m/s [0.33~3.28 ft./sec.]
11: 0.1~1m/s [0.33~3.28 ft./sec.] (Body thread size M8×1)

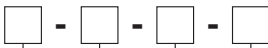
Stopper nut
Blank: No stopper nut
S : With stopper nut

Mounting bracket
Blank: No mounting bracket
2 : With side mounting bracket
(side mounting type)

● 8×8

KSHJ 8×8

Linear orifice
shock absorber
KSHJ Series



Cap
Blank: No cap
C : With cap

Impact speed range
01: 0.1~1m/s [0.33~3.28 ft./sec.]
02: 0.1~1.5m/s [0.33~4.92 ft./sec.]
11: 0.1~1m/s [0.33~3.28 ft./sec.] (Body thread size M8×1)
12: 0.1~1.5m/s [0.33~4.92 ft./sec.] (Body thread size M8×1)

Stopper nut
Blank: No stopper nut
S : With stopper nut

Mounting bracket
Blank: No mounting bracket
2 : With side mounting bracket
(side mounting type)

● 10×15

KSHJ 10×15

Linear orifice
shock absorber
KSHJ Series



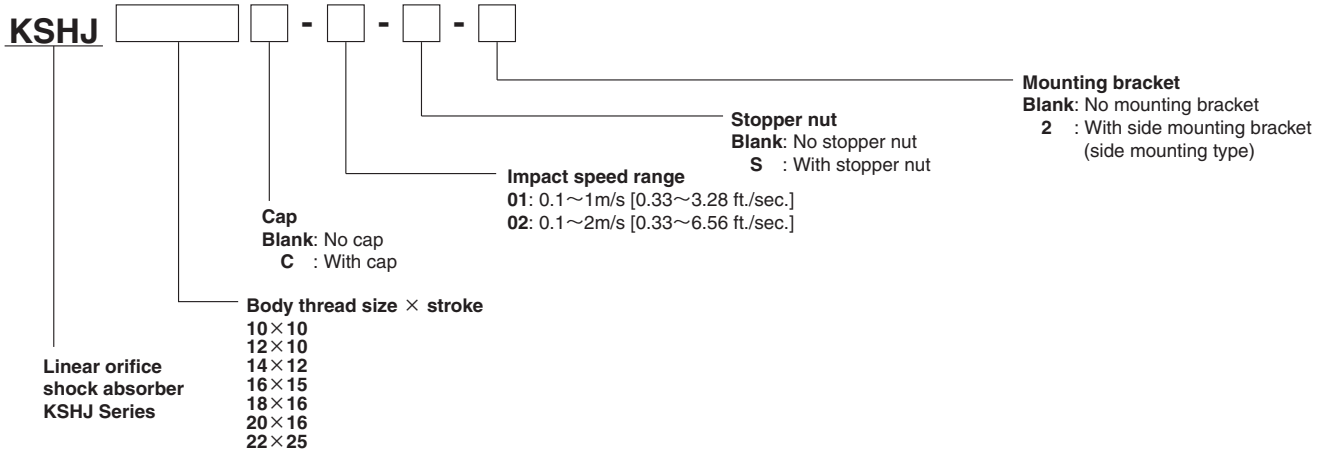
Cap
Blank: No cap
C : With cap

Impact speed range
01: 0.1~1m/s [0.33~3.28 ft./sec.]
03: 0.1~3m/s [0.33~9.84 ft./sec.]

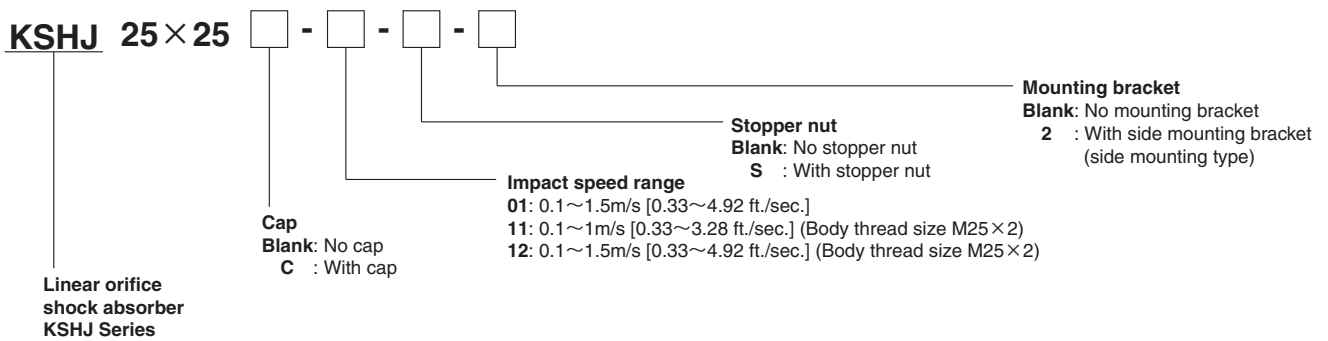
Stopper nut
Blank: No stopper nut
S : With stopper nut

Mounting bracket
Blank: No mounting bracket
2 : With side mounting bracket
(side mounting type)

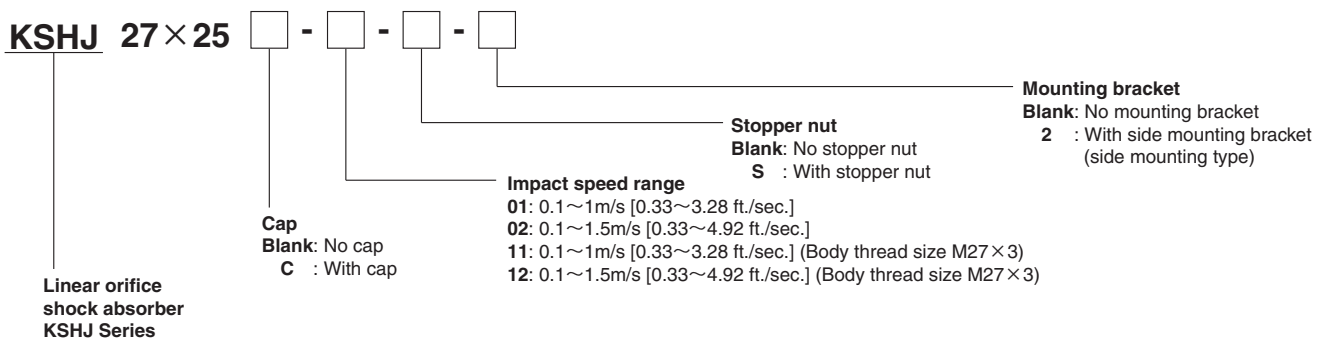
- 10×10
- 12×10
- 14×12
- 16×15
- 18×16
- 20×16
- 22×25



- 25×25

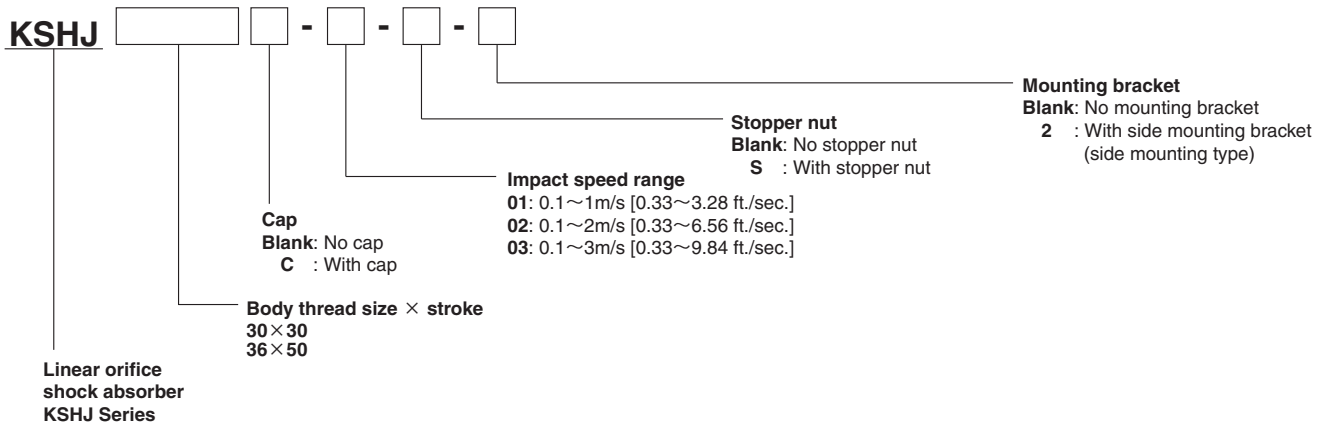


- 27×25

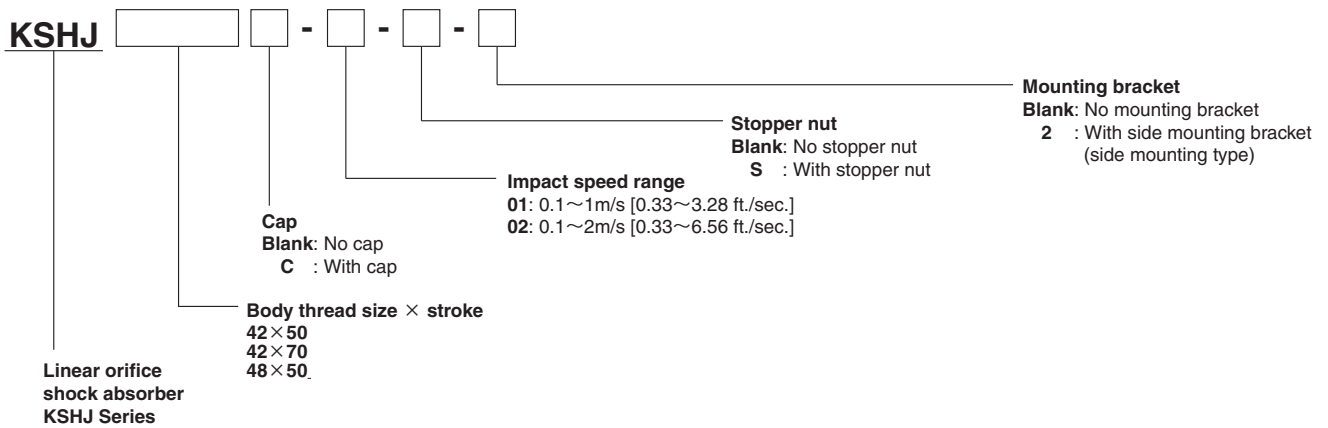


Order Codes

- 30×30
36×50



- 42×50
42×70
48×50



Additional Parts

●Side mounting bracket

2 - KSH - M []

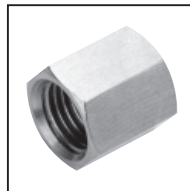


Thread size
4: M4×0.5
6: M6×0.75
8: M8×0.75
10: M10×1
12: M12×1
14: M14×1.5
16: M16×1.5
18: M18×1.5
20: M20×1.5
22: M22×1.5
25: M25×1.5
27: M27×1.5
30: M30×1.5
36: M36×1.5
42: M42×1.5
48: M48×2

2-KSH-M8-11 (Thread size: M8×1)
2-KSH-M25-11 (Thread size: M25×2)
2-KSH-M27-11 (Thread size: M27×3)

●Stopper nut

S - KSH - M []



Thread size
4: M4×0.5
6: M6×0.75
8: M8×0.75
10: M10×1
12: M12×1
14: M14×1.5
16: M16×1.5
18: M18×1.5
20: M20×1.5
22: M22×1.5
25: M25×1.5
27: M27×1.5
30: M30×1.5
36: M36×1.5
42: M42×1.5
48: M48×2

S-KSH-M8-11 (Thread size: M8×1)
S-KSH-M25-11 (Thread size: M25×2)
S-KSH-M27-11 (Thread size: M27×3)

●Hexagon nut (M4~M20: 1 pack has 10 nuts) (M22~M48: 1 pack has 2 nuts)

N - KSH - M []

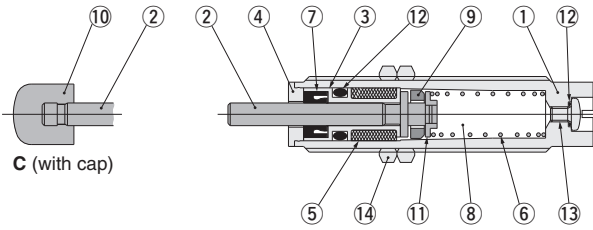


Thread size
4: M4×0.5
6: M6×0.75
8: M8×0.75
10: M10×1
12: M12×1
14: M14×1.5
16: M16×1.5
18: M18×1.5
20: M20×1.5
22: M22×1.5
25: M25×1.5
27: M27×1.5
30: M30×1.5
36: M36×1.5
42: M42×1.5
48: M48×2

N-KSH-M8-11 (Thread size: M8×1)
N-KSH-M25-11 (Thread size: M25×2)
N-KSH-M27-11 (Thread size: M27×3)

Inner Construction and Major Parts and Materials

●M4~M27 size

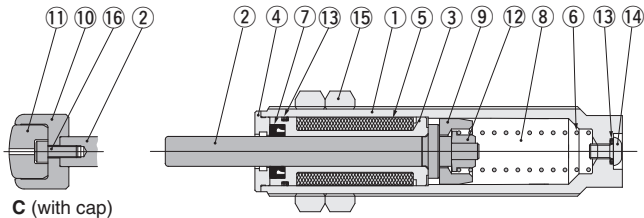


C (with cap)

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

No.	Parts	Materials
①	Body	Copper alloy (nickel plated) [KSHJ4 stainless steel]
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	Silicone oil
⑨	Piston ring	Copper alloy
⑩	Cap	Plastic (POM)
⑪	Collar	Stainless steel, copper alloy
⑫	O-ring	Synthetic rubber
⑬	Screw	Mild steel (zinc plated)
⑭	Hexagon nut	Mild steel (nickel plated)

●M30~M48 size



C (with cap)

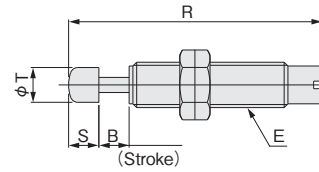
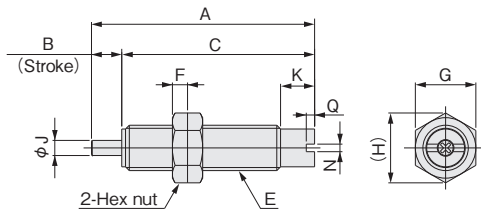
Note: Some parts and interior shapes may vary depending on size.

No.	Parts	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	Silicone oil
⑨	Piston ring	Copper alloy [KSHJ42, 48 stainless steel]
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	Hexagon nut	Mild steel (nickel plated)
⑯	Hexagon socket head screw	Mild steel (nickel plated)

Dimensions mm [in.]

●No rod end cap: KSHJ4×3, KSHJ6×4

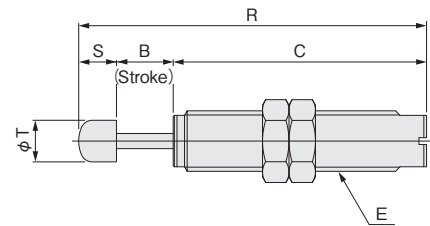
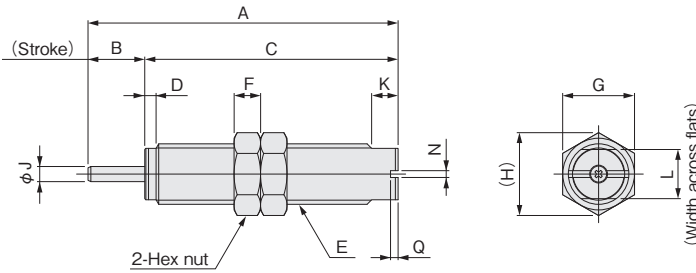
●With rod end cap: KSHJ4×3C, KSHJ6×4C



Model	Code	A	B	C	E	F	G	H	J	K	N	Q	R	S	T
KSHJ4×3 (C) -01, -02		25 [0.984]	3 [0.118]	22 [0.866]	M4×0.5	2 [0.079]	5.5 [0.217]	6.4 [0.252]	1.2 [0.047]	3 [0.118]	1 [0.039]	1.1 [0.043]	28.5 [1.122]	3.5 [0.138]	3.2 [0.126]
KSHJ6×4 (C) -01, -02		29.5 [1.161]	4 [0.157]	25.5 [1.004]	M6×0.75	2 [0.079]	8 [0.315]	9.2 [0.362]	2 [0.079]	4.5 [0.177]	1 [0.039]	1 [0.039]	33.5 [1.319]	4 [0.157]	4.6 [0.181]

●No rod end cap: KSHJ□×□-□

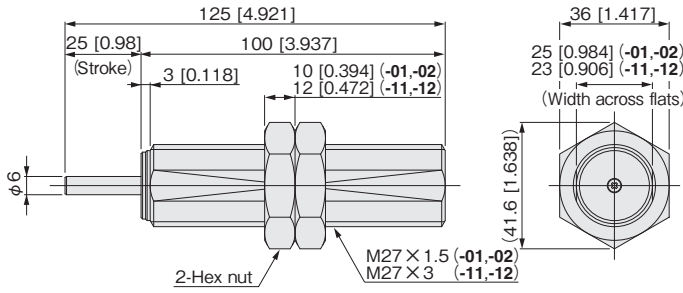
●With rod end cap: KSHJ□×□C-□



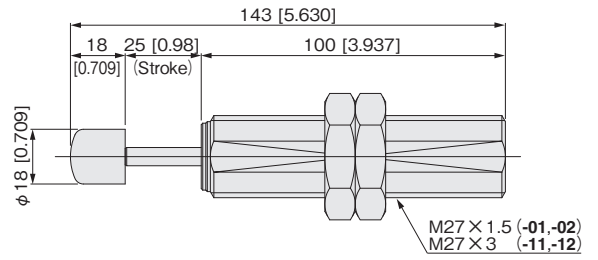
Model	Code	A	B	C	D	E	F	G	H	J	K	L	N	Q	R	S	T
KSHJ8×5 (C) -01		37 [1.457]	5 [0.197]	32 [1.260]	1.2 [0.047]	M8×0.75	2 [0.079]	10 [0.394]	11.5 [0.453]	2.5 [0.098]	3 [0.118]	7 [0.276]	1.3 [0.051]	1.5 [0.059]	42 [1.654]	5 [0.197]	6.5 [0.256]
KSHJ8×5 (C) -11		37 [1.457]	5 [0.197]	32 [1.260]	1.2 [0.047]	M8×1	3 [0.118]	10 [0.394]	11.5 [0.453]	2.5 [0.098]	3 [0.118]	7 [0.276]	1.3 [0.051]	1.5 [0.059]	42 [1.654]	5 [0.197]	6.5 [0.256]
KSHJ8×8 (C) -01, -02		46 [1.811]	8 [0.315]	38 [1.496]	1.2 [0.047]	M8×0.75	2 [0.079]	10 [0.394]	11.5 [0.453]	2.5 [0.098]	3 [0.118]	7 [0.276]	1.3 [0.051]	1.5 [0.059]	51 [2.008]	5 [0.197]	6.5 [0.256]
KSHJ8×8 (C) -11, -12		46 [1.811]	8 [0.315]	38 [1.496]	1.2 [0.047]	M8×1	3 [0.118]	10 [0.394]	11.5 [0.453]	2.5 [0.098]	3 [0.118]	7 [0.276]	1.3 [0.051]	1.5 [0.059]	51 [2.008]	5 [0.197]	6.5 [0.256]
KSHJ10×10 (C) -01, -02		60 [2.362]	10 [0.394]	50 [1.969]	2 [0.079]	M10×1	3 [0.118]	12 [0.472]	13.9 [0.547]	3 [0.118]	5 [0.197]	8.5 [0.335]	1.3 [0.051]	1.5 [0.059]	68 [2.677]	8 [0.315]	8 [0.315]
KSHJ10×15 (C) -01, -03		77 [3.031]	15 [0.591]	62 [2.441]	2.3 [0.091]	M10×1	3 [0.118]	12 [0.472]	13.9 [0.547]	3 [0.118]	5 [0.197]	8.5 [0.335]	1.3 [0.051]	1.5 [0.059]	85 [3.346]	8 [0.315]	8 [0.315]
KSHJ12×10 (C) -01, -02		66 [2.598]	10 [0.394]	56 [2.205]	2 [0.079]	M12×1	4 [0.157]	14 [0.551]	16.2 [0.638]	3 [0.118]	5 [0.197]	10.5 [0.413]	1.3 [0.051]	1.5 [0.059]	76 [2.992]	10 [0.394]	10 [0.394]
KSHJ14×12 (C) -01, -02		72 [2.835]	12 [0.472]	60 [2.362]	2 [0.079]	M14×1.5	5 [0.197]	17 [0.669]	19.6 [0.772]	4 [0.157]	5 [0.197]	12 [0.472]	1.3 [0.051]	1.5 [0.059]	82 [3.228]	10 [0.394]	11 [0.433]
KSHJ16×15 (C) -01, -02		82 [3.228]	15 [0.591]	67 [2.638]	3 [0.118]	M16×1.5	7 [0.276]	19 [0.748]	21.9 [0.862]	4 [0.157]	7 [0.276]	13 [0.512]	1.8 [0.071]	2 [0.079]	92 [3.622]	10 [0.394]	11 [0.433]
KSHJ18×16 (C) -01, -02		88 [3.465]	16 [0.630]	72 [2.835]	3 [0.118]	M18×1.5	8 [0.315]	21 [0.827]	24.2 [0.953]	5 [0.197]	7 [0.276]	15 [0.591]	1.8 [0.071]	2 [0.079]	103 [4.055]	15 [0.591]	15 [0.591]
KSHJ20×16 (C) -01, -02		93 [3.661]	16 [0.630]	77 [3.031]	3 [0.118]	M20×1.5	8 [0.315]	24 [0.945]	27.7 [1.091]	5 [0.197]	7 [0.276]	17 [0.669]	1.8 [0.071]	2 [0.079]	108 [4.252]	15 [0.591]	15 [0.591]
KSHJ22×25 (C) -01, -02		125 [4.921]	25 [0.984]	100 [3.937]	3 [0.118]	M22×1.5	9 [0.354]	27 [1.063]	31.2 [1.228]	6 [0.236]	10 [0.394]	19 [0.748]	1.8 [0.071]	2 [0.079]	143 [5.630]	18 [0.709]	18 [0.709]
KSHJ25×25 (C) -01		125 [4.921]	25 [0.984]	100 [3.937]	3 [0.118]	M25×1.5	10 [0.394]	30 [1.181]	34.6 [1.362]	6 [0.236]	10 [0.394]	22 [0.866]	1.8 [0.071]	2 [0.079]	143 [5.630]	18 [0.709]	18 [0.709]
KSHJ25×25 (C) -11, -12		125 [4.921]	25 [0.984]	100 [3.937]	3 [0.118]	M25×2	10 [0.394]	30 [1.181]	34.6 [1.362]	6 [0.236]	10 [0.394]	22 [0.866]	1.8 [0.071]	2 [0.079]	143 [5.630]	18 [0.709]	18 [0.709]

Dimensions mm [in.]

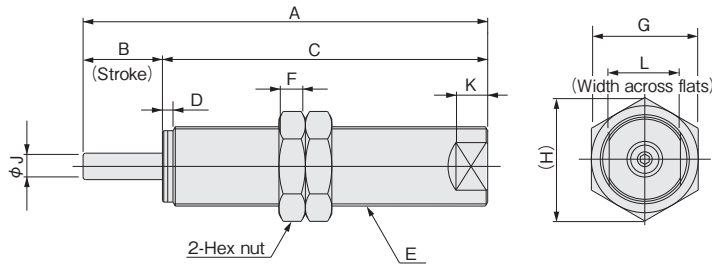
●No rod end cap: KSHJ27 × 25- □



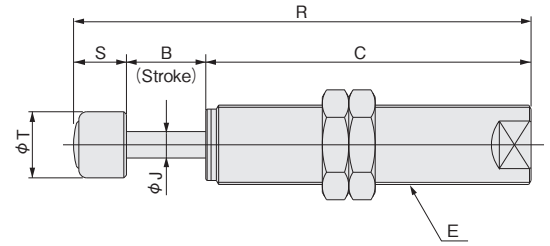
●With rod end cap: KSHJ27 × 25C- □



●No rod end cap: KSHJ□ × □ - □



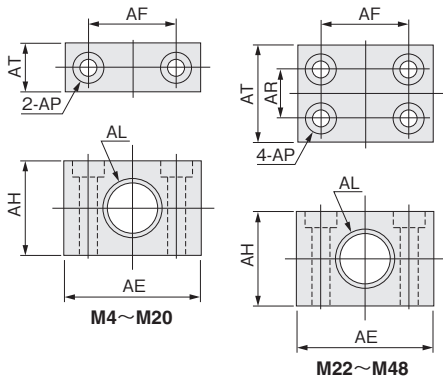
●With rod end cap: KSHJ□ × □C- □



Model	Code	A	B	C	D	E	F	G	H	J	K	L	R	S	T
KSHJ30 × 30 (C) -01, -02, -03		153 [6.024]	30 [1.181]	123 [4.843]	4 [0.157]	M30 × 1.5	10 [0.394]	36 [1.417]	41.6 [1.638]	10 [0.394]	12 [0.472]	24 [0.945]	173 [6.811]	20 [0.787]	25 [0.984]
KSHJ36 × 50 (C) -01, -02, -03		218 [8.583]	50 [1.969]	168 [6.614]	5 [0.197]	M36 × 1.5	15 [0.591]	46 [1.811]	53.1 [2.091]	12 [0.472]	15 [0.591]	30 [1.181]	243 [9.567]	25 [0.984]	32 [1.260]
KSHJ42 × 50 (C) -01, -02		220 [8.661]	50 [1.969]	170 [6.693]	5 [0.197]	M42 × 1.5	15 [0.591]	50 [1.969]	57.7 [2.272]	12 [0.472]	20 [0.787]	36 [1.417]	245 [9.646]	25 [0.984]	32 [1.260]
KSHJ42 × 70 (C) -01, -02		275 [10.827]	70 [2.756]	205 [8.071]	5 [0.197]	M42 × 1.5	15 [0.591]	50 [1.969]	57.7 [2.272]	12 [0.472]	20 [0.787]	36 [1.417]	300 [11.811]	25 [0.984]	32 [1.260]
KSHJ48 × 50 (C) -01, -02		230 [9.055]	50 [1.969]	180 [7.087]	6 [0.236]	M48 × 2	15 [0.591]	55 [2.165]	63.5 [2.500]	14 [0.551]	20 [0.787]	40 [1.575]	263 [10.354]	33 [1.299]	38 [1.496]

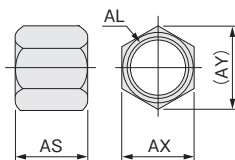
Dimensions of Additional Parts mm [in.]

●Side mounting bracket: 2-KSH-□ - □ (-2)



Model	Code	AE	AF	AH	AL	AP	AR	AT
2-KSH-M4		18 [0.709]	12 [0.472]	8 [0.315]	M4×0.5	φ3.4 [0.134], C'bore φ6.5 [0.256] Depth 3.3 [0.130]	—	8 [0.315]
2-KSH-M6		18 [0.709]	12 [0.472]	10 [0.394]	M6×0.75	φ3.4 [0.134], C'bore φ6.5 [0.256] Depth 3.3 [0.130]	—	8 [0.315]
2-KSH-M8		19 [0.748]	13 [0.512]	13 [0.512]	M8×0.75	φ3.4 [0.134], C'bore φ6.5 [0.256] Depth 3.3 [0.130]	—	9 [0.354]
2-KSH-M8-11		19 [0.748]	13 [0.512]	13 [0.512]	M8×1	φ3.4 [0.134], C'bore φ6.5 [0.256] Depth 3.3 [0.130]	—	9 [0.354]
2-KSH-M10		22 [0.866]	14 [0.551]	14 [0.551]	M10×1	φ3.4 [0.134], C'bore φ6.5 [0.256] Depth 3.3 [0.130]	—	9 [0.354]
2-KSH-M12		25 [0.984]	16 [0.630]	18 [0.709]	M12×1	φ3.4 [0.134], C'bore φ6.5 [0.256] Depth 3.3 [0.130]	—	9 [0.354]
2-KSH-M14		34 [1.339]	22 [0.866]	22 [0.866]	M14×1.5	φ4.5 [0.177], C'bore φ8 [0.315] Depth 4.5 [0.177]	—	10 [0.394]
2-KSH-M16		38 [1.496]	25 [0.984]	25 [0.984]	M16×1.5	φ4.5 [0.177], C'bore φ8 [0.315] Depth 4.5 [0.177]	—	12 [0.472]
2-KSH-M18		50 [1.969]	34 [1.339]	30 [1.181]	M18×1.5	φ6.5 [0.256], C'bore φ11 [0.433] Depth 6.5 [0.256]	—	12 [0.472]
2-KSH-M20		50 [1.969]	34 [1.339]	30 [1.181]	M20×1.5	φ9 [0.354], C'bore φ14 [0.551] Depth 8.5 [0.335]	—	16 [0.630]
2-KSH-M22		60 [2.362]	44 [1.732]	35 [1.378]	M22×1.5	φ9 [0.354], C'bore φ14 [0.551] Depth 8.5 [0.335]	19 [0.748]	35 [1.378]
2-KSH-M25		60 [2.362]	44 [1.732]	35 [1.378]	M25×1.5	φ9 [0.354], C'bore φ14 [0.551] Depth 8.5 [0.335]	19 [0.748]	35 [1.378]
2-KSH-M25-11		60 [2.362]	44 [1.732]	35 [1.378]	M25×2	φ9 [0.354], C'bore φ14 [0.551] Depth 8.5 [0.335]	19 [0.748]	35 [1.378]
2-KSH-M27		60 [2.362]	44 [1.732]	44 [1.732]	M27×1.5	φ9 [0.354], C'bore φ14 [0.551] Depth 8.5 [0.335]	19 [0.748]	35 [1.378]
2-KSH-M27-11		60 [2.362]	44 [1.732]	44 [1.732]	M27×3	φ9 [0.354], C'bore φ14 [0.551] Depth 8.5 [0.335]	19 [0.748]	35 [1.378]
2-KSH-M30		60 [2.362]	44 [1.732]	46 [1.811]	M30×1.5	φ9 [0.354], C'bore φ14 [0.551] Depth 8.5 [0.335]	19 [0.748]	35 [1.378]
2-KSH-M36		100 [3.937]	70 [2.756]	62 [2.441]	M36×1.5	φ18 [0.709], C'bore φ26 [1.024] Depth 18 [0.709]	50 [1.969]	80 [3.150]
2-KSH-M42		100 [3.937]	70 [2.756]	62 [2.441]	M42×1.5	φ18 [0.709], C'bore φ26 [1.024] Depth 18 [0.709]	50 [1.969]	80 [3.150]
2-KSH-M48		120 [4.724]	85 [3.346]	70 [2.756]	M48×2	φ22 [0.866], C'bore φ30 [1.181] Depth 22 [0.866]	45 [1.772]	80 [3.150]

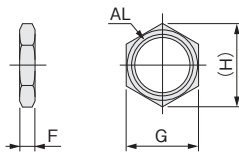
●Stopper nut: S-KSH-□ - □ (-S)



Model	Code	AL	AS	AX	AY
S-KSH-M4		M4×0.5	7.5 [0.295]	5.5 [0.217]	6.4 [0.252]
S-KSH-M6		M6×0.75	7 [0.276]	8 [0.315]	9.2 [0.362]
S-KSH-M8		M8×0.75	11 [0.433]	10 [0.394]	11.5 [0.453]
S-KSH-M8-11		M8×1	11 [0.433]	10 [0.394]	11.5 [0.453]
S-KSH-M10		M10×1	17 [0.669]	12 [0.472]	13.9 [0.547]
S-KSH-M12		M12×1	17 [0.669]	14 [0.551]	16.2 [0.638]
S-KSH-M14		M14×1.5	18 [0.709]	17 [0.669]	19.6 [0.772]
S-KSH-M16		M16×1.5	30 [1.181]	19 [0.748]	21.9 [0.862]
S-KSH-M18		M18×1.5	35 [1.378]	21 [0.827]	24.2 [0.953]
S-KSH-M20		M20×1.5	35 [1.378]	24 [0.945]	27.7 [1.091]
S-KSH-M22		M22×1.5	40 [1.575]	27 [1.063]	31.2 [1.228]
S-KSH-M25		M25×1.5	40 [1.575]	30 [1.181]	34.6 [1.362]
S-KSH-M25-11		M25×2	40 [1.575]	30 [1.181]	34.6 [1.362]
S-KSH-M27		M27×1.5	40 [1.575]	36 [1.417]	41.6 [1.638]
S-KSH-M27-11		M27×3	40 [1.575]	36 [1.417]	41.6 [1.638]
S-KSH-M30		M30×1.5	40 [1.575]	36 [1.417]	41.6 [1.638]
S-KSH-M36		M36×1.5	50 [1.969]	46 [1.811]	53.1 [2.091]
S-KSH-M42		M42×1.5	50 [1.969]	50 [1.969]	57.7 [2.272]
S-KSH-M48		M48×2	60 [2.362]	55 [2.165]	63.5 [2.500]

Dimensions of Additional Parts mm [in.]

●Hexagon nut: N-KSH-□ - □



Model	Code	AL	F	G	H
N-KSH-M4		M4×0.5	2 [0.079]	5.5 [0.217]	6.4 [0.252]
N-KSH-M6		M6×0.75	2 [0.079]	8 [0.315]	9.2 [0.362]
N-KSH-M8		M8×0.75	2 [0.079]	10 [0.394]	11.5 [0.453]
N-KSH-M8-11		M8×1	3 [0.118]	10 [0.394]	11.5 [0.453]
N-KSH-M10		M10×1	3 [0.118]	12 [0.472]	13.9 [0.547]
N-KSH-M12		M12×1	4 [0.157]	14 [0.551]	16.2 [0.638]
N-KSH-M14		M14×1.5	5 [0.197]	17 [0.669]	19.6 [0.772]
N-KSH-M16		M16×1.5	7 [0.276]	19 [0.748]	21.9 [0.862]
N-KSH-M18		M18×1.5	8 [0.315]	21 [0.827]	24.2 [0.953]
N-KSH-M20		M20×1.5	8 [0.315]	24 [0.945]	27.7 [1.091]
N-KSH-M22		M22×1.5	9 [0.354]	27 [1.063]	31.2 [1.228]
N-KSH-M25		M25×1.5	10 [0.394]	30 [1.181]	34.6 [1.362]
N-KSH-M25-11		M25×2	10 [0.394]	30 [1.181]	34.6 [1.362]
N-KSH-M27		M27×1.5	10 [0.394]	36 [1.417]	41.6 [1.638]
N-KSH-M27-11		M27×3	12 [0.472]	36 [1.417]	41.6 [1.638]
N-KSH-M30		M30×1.5	10 [0.394]	36 [1.417]	41.6 [1.638]
N-KSH-M36		M36×1.5	15 [0.591]	46 [1.811]	53.1 [2.091]
N-KSH-M42		M42×1.5	15 [0.591]	50 [1.969]	57.7 [2.272]
N-KSH-M48		M48×2	15 [0.591]	55 [2.165]	63.5 [2.500]

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.

ISO9001
ISO14001



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- ISO 14001 certified offices are Main Office, Tokyo Plant, and Komagane Plant.

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