Linear Orifice® Shock Absorbers
KSHJ Series

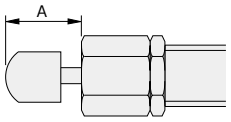
General precautions

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

1. Keep the angle of eccentricity, resulting from the load direction and the axis of the shock absorber, under the specified values on pages ⓱ to ⓳. 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.
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, 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.

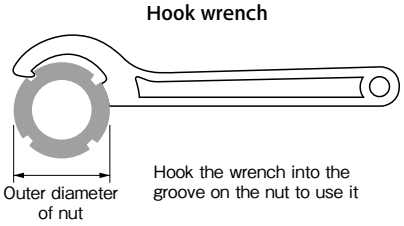
Model	A	
	mm	in
KSHJ4×3C-01,-02 (-F11)	3	0.12
KSHJ6×4C-01,-02 (-F11)	4	0.16
KSHJ6×6C-01,-02 (-F11)	6	0.24
KSHJ8×4C-01,-02,-11,-12 (-F11)	4	0.16
KSHJ8×5C-01,-11 (-F11)	5	0.20
KSHJ8×8C-01,-02,-11,-12 (-F11)	8	0.31
KSHJ10×6C-01,-02 (-F11)	6	0.24
KSHJ11×6C-F11-01,-02	—	0.24
KSHJ10×10C-01,-02 (-F11)	10	0.40
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	—



5. 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.
6. 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.



7. Ensure that the hardness of the surface directly impacting the piston rod of the shock absorber is over HRc40 hardness (excluding models with cap).
8. 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 ⓭. 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 ⓮ to ⓰ 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 [cylinder stroke] ÷ s [operating time] × 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 :

Maximum impact speed ≧ v Impact speed (operating condition)

Horizontal axis range :

Shock absorber's maximum absorption capacity at the impact speed (v = m/s) ≧ E 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]

①Bore size of the cylinder being used: ϕ16

②Cylinder stroke: 100 mm = 0.1 m

③Pressure applied to the cylinder: 0.6 MPa

④Cylinder's operating time: 0.4 s

⑤Impact object mass: 7 kg

1. Confirm the thrust

Either calculate or find the thrust in the cylinder thrust table on page ⓭.

The cylinder thrust based on ① and ③ is about 121 N.

Cylinder thrust	100.5N	<	120.6N	<	126N
Cylinder bore size	ϕ16		ϕ16		ϕ20
Applied pressure	0.5MPa		0.6MPa		0.4MPa

As mentioned above, although the cylinder being used is ϕ16, the pressure applied to the cylinder exceeds 0.5 MPa, so consider the ϕ20 cylinder (lower than 0.4 MPa) and check the table of recommended cylinder bore sizes on page ⓭.

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

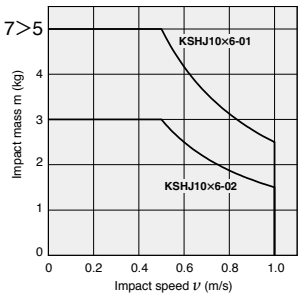
Ⅰ The impact object mass m = 7 kg from ⑤

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

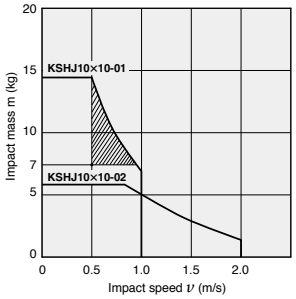
v = ② 0.1 m ÷ ④ 0.4 s × 2
= 0.5 m/s

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

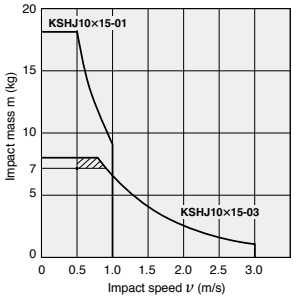
● KSHJ10×6 (with hexagon socket)



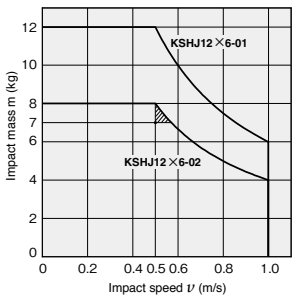
● KSHJ10×10



● 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.

■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.]

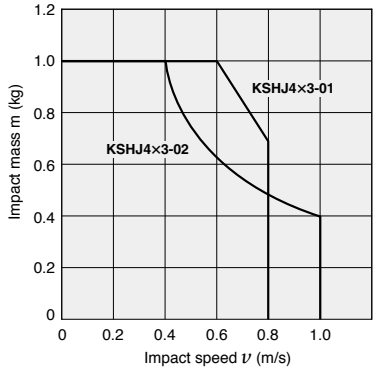
Bore size mm [in.]	Pressure area mm² [in.²]	Air pressure MPa [psi.]								
		0.1 [15]	0.2 [29]	0.3 [44]	0.4 [58]	0.5 [73]	0.6 [87]	0.7 [102]	0.8 [116]	0.9 [131]
φ4	12.9 [0.01]	1.3 [0.2]	2.5 [0.6]	3.8 [0.9]	5 [1.1]	6.3 [1.4]	7.5 [1.7]	8.8 [2.0]	10.1 [2.3]	11.3 [2.5]
φ6	28.3 [0.04]	2.8 [0.6]	5.7 [1.3]	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]

Cautions for using the selection graphs

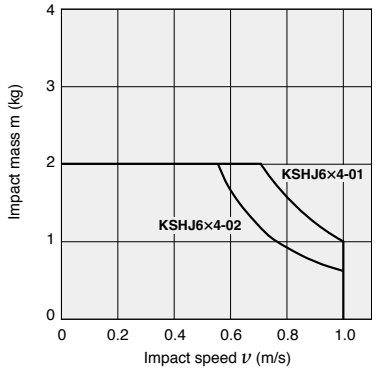
1. The selection graphs are calculated with a cylinder operating air pressure of 0.5 MPa.
2. The values in the selection graphs are for room temperature (20 to 25°). Be aware that performance and characteristics change depending on the operating temperature.
3. Select a shock absorber that is as close 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

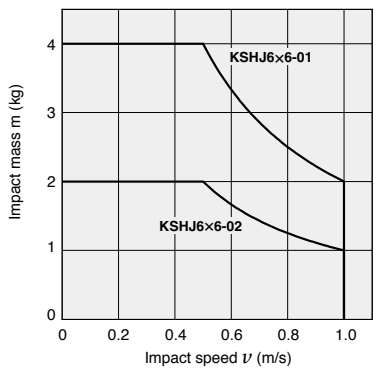
● KSHJ4×3(-F11)



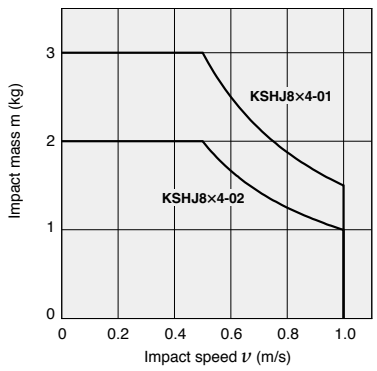
● KSHJ6×4(-F11)



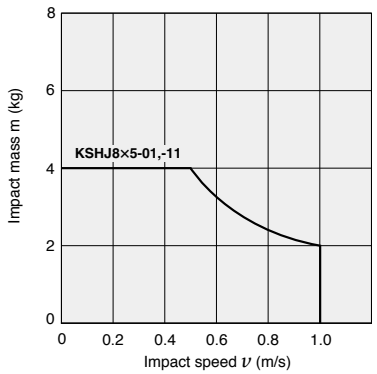
● KSHJ6×6(-F11)



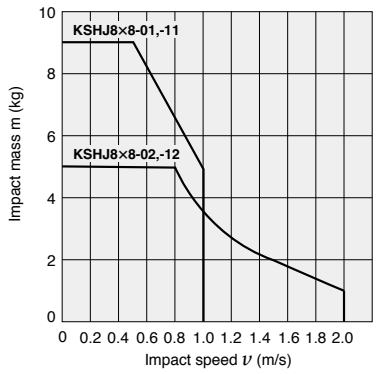
● KSHJ8×4(-F11)



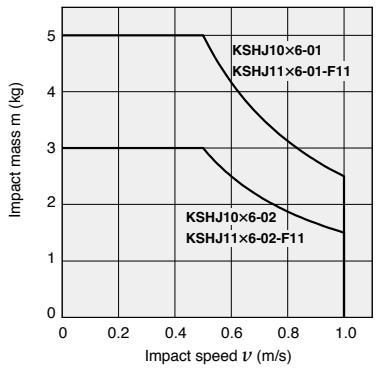
● KSHJ8×5(-F11)



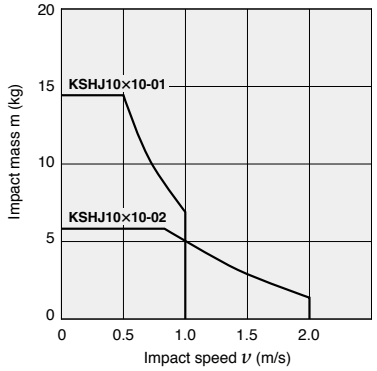
● KSHJ8×8(-F11)



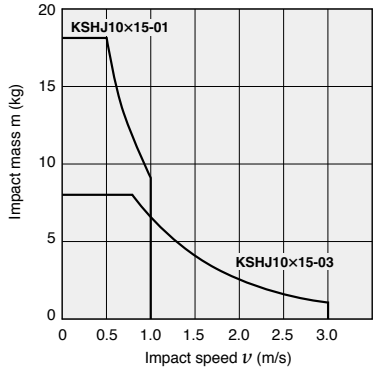
● KSHJ10×6(-F11)
● KSHJ11×6-F11



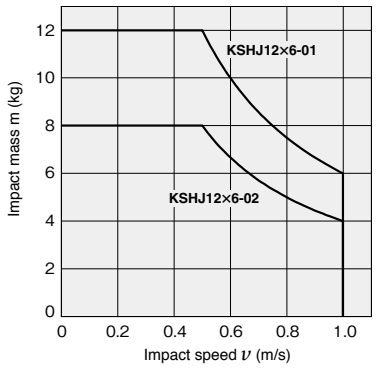
● KSHJ10×10(-F11)
● KSHJ11×10-F11



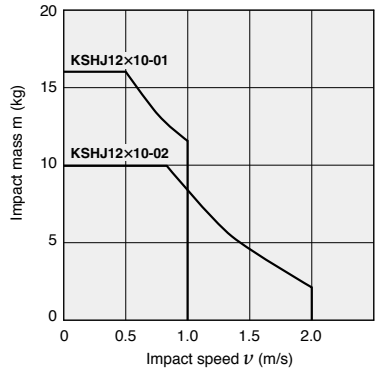
● KSHJ10×15(-F11)
● KSHJ11×15-F11



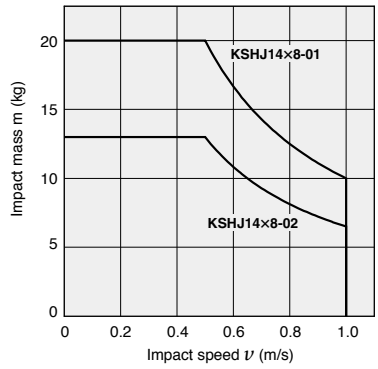
● **KSHJ12×6(-F11)**



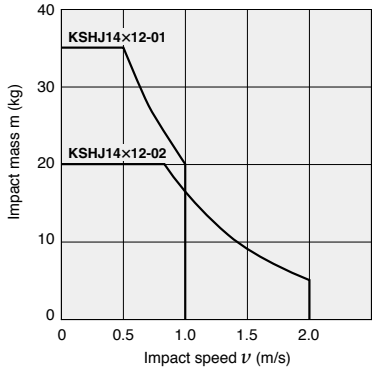
● **KSHJ12×10(-F11)**



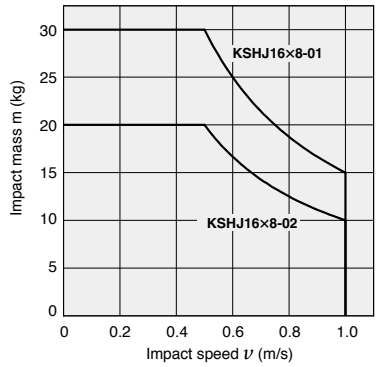
● **KSHJ14×8(-F11)**



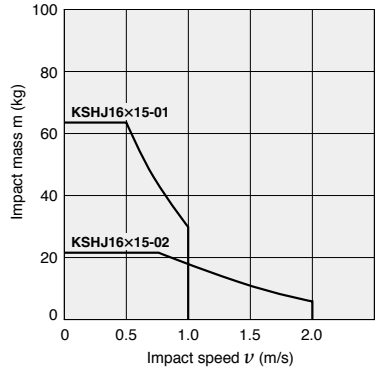
● **KSHJ14×12(-F11)**



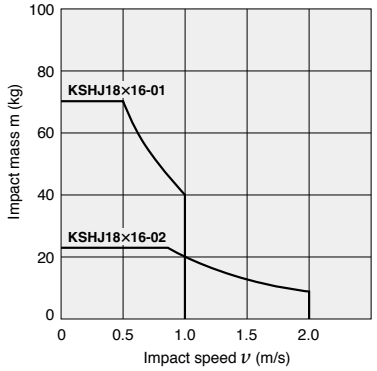
● **KSHJ16×8**



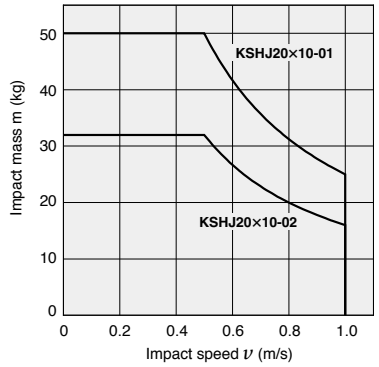
● **KSHJ16×15**



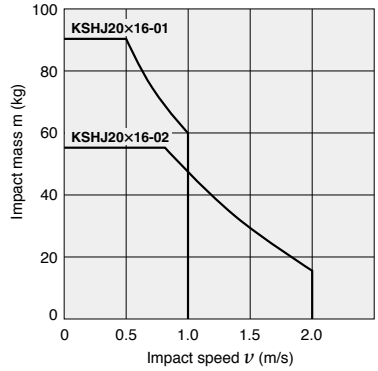
● **KSHJ18×16(-F11)**



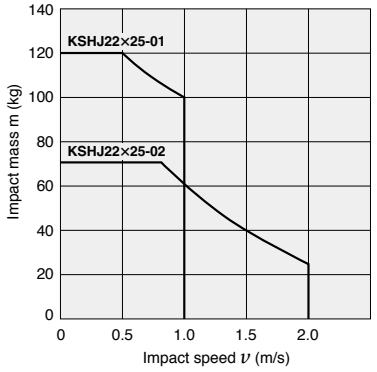
● **KSHJ20×10**



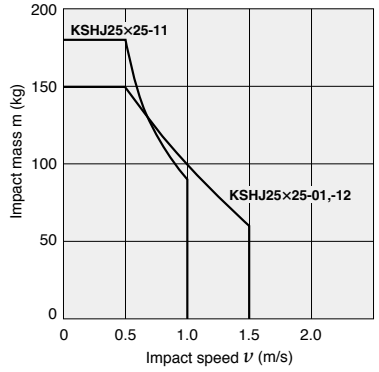
● **KSHJ20×16**



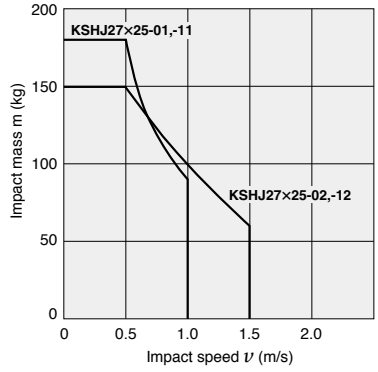
● **KSHJ22×25**



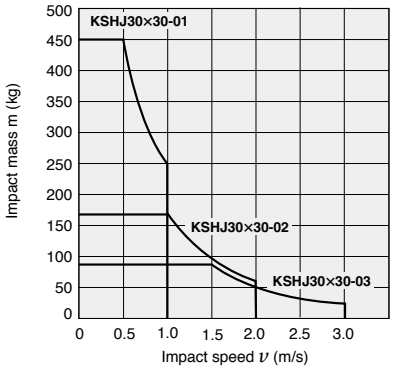
● **KSHJ25×25(-F11)**



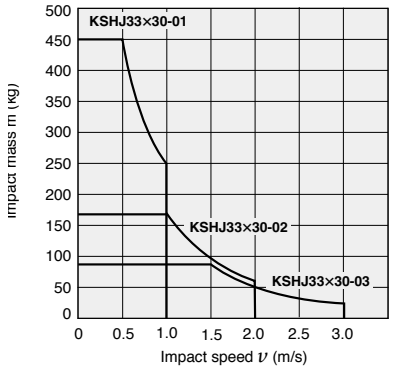
● **KSHJ27×25**



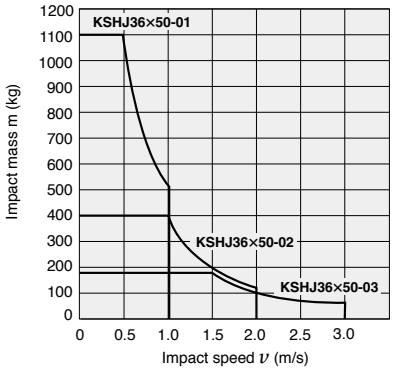
● **KSHJ30×30(-F11)**



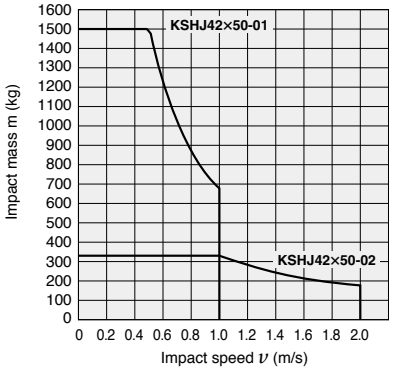
● **KSHJ33×30**



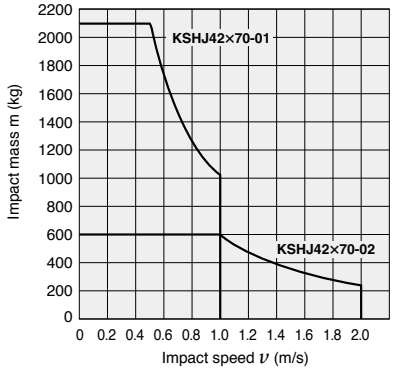
● **KSHJ36×50(-F11)**



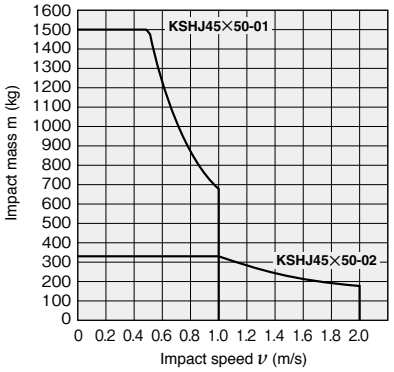
● **KSHJ42×50(-F11)**



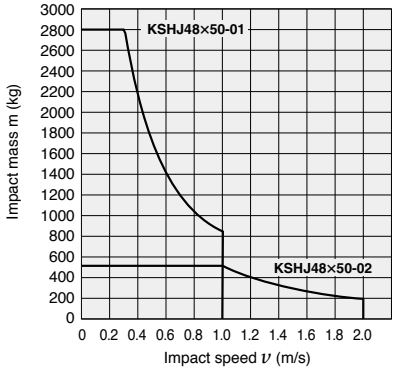
● **KSHJ42×70(-F11)**



● **KSHJ45×50**



● **KSHJ48×50**



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)		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] ℃(°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] ℃(°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] ℃(°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] ℃(°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 ⓮ to ⓰.

Note3: KSHJ11 has only inch specifications.

* The maximum tightening torque of KSHJ11 is different from that of KSHJ10. See page ⓫ 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] ℃(℉)	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] ℃(℉)	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] ℃(℉)	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] ℃(℉)	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 ⓮ to ⓰.

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] ℃(℉)	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] ℃(℉)	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] ℃(℉)	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 ⓮ to ⓰.

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, -02 -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

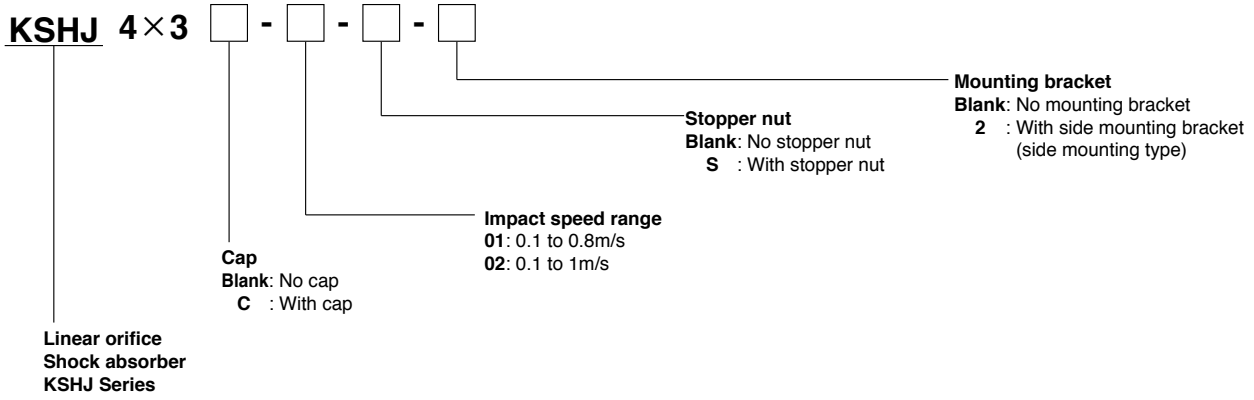
0.8 + 0.02 + 0.4 = 1.58oz

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

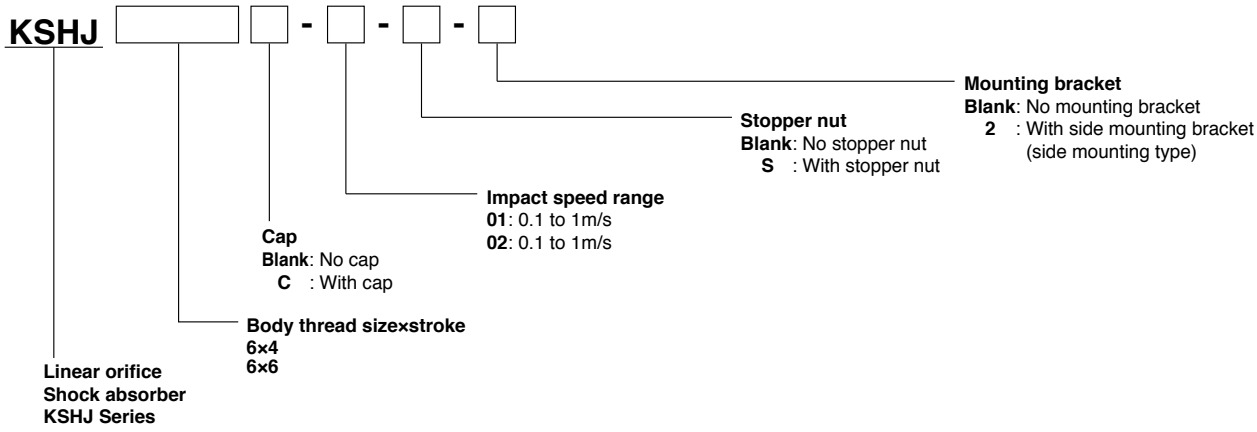
Note2: KSHJ11 has only inch specifications.

Order Codes (specifications in mm)

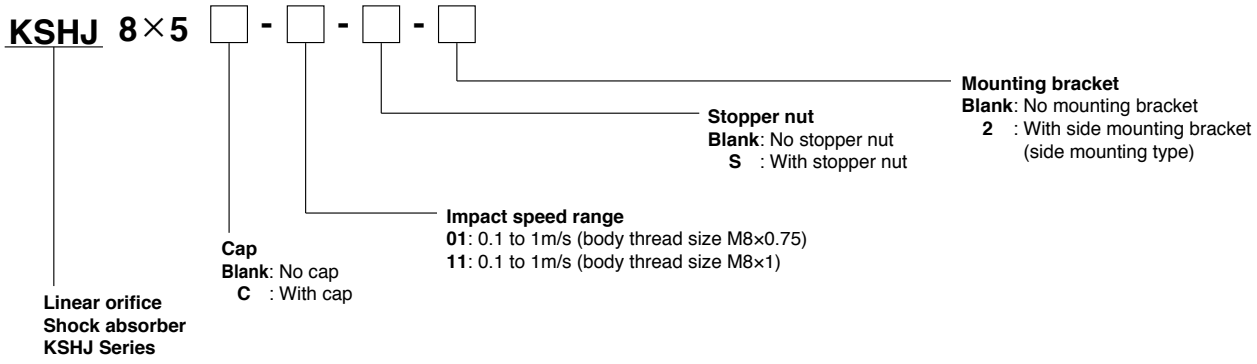
● 4×3



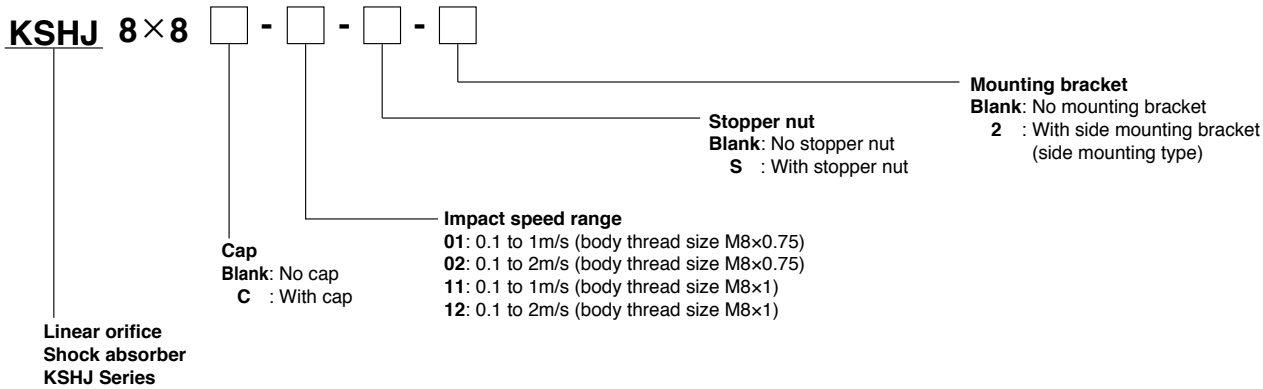
● 6×4
6×6



● 8×5



● 8×8



Order Codes (specifications in mm)

● **10×15**

KSHJ 10×15 □ - □ - □ - □

Linear orifice Shock absorber KSHJ Series

Cap
Blank: No cap
C : With cap

Impact speed range
01: 0.1 to 1m/s
03: 0.1 to 3m/s

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

KSHJ □ □ - □ - □ - □

Linear orifice Shock absorber KSHJ Series

Body thread size×stroke
10×10
12×10
14×12
16×15
18×16
20×16
22×25

Cap
Blank: No cap
C : With cap

Impact speed range
01: 0.1 to 1m/s
02: 0.1 to 2m/s

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

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

● **25×25**

KSHJ 25×25 □ - □ - □ - □

Linear orifice Shock absorber KSHJ Series

Cap
Blank: No cap
C : With cap

Impact speed range
01: 0.1 to 1.5m/s (body thread size M25×1.5)
11: 0.1 to 1m/s (body thread size M25×2)
12: 0.1 to 1.5m/s (body thread size M25×2)

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

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

● **27×25**

KSHJ 27×25 □ - □ - □ - □

Linear orifice Shock absorber KSHJ Series

Cap
Blank: No cap
C : With cap

Impact speed range
01: 0.1 to 1m/s (body thread size M27×1.5)
02: 0.1 to 1.5m/s (body thread size M27×1.5)
11: 0.1 to 1m/s (body thread size M27×3)
12: 0.1 to 1.5m/s (body thread size M27×3)

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

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

Order Codes (specifications in mm)

- **30×30**
  33×30
  36×50

KSHJ □ - □ - □ - □

Linear orifice
Shock absorber
KSHJ Series

Body thread size×stroke
30×30
33×30
36×50

Cap
Blank: No cap
C : With cap

Impact speed range
01: 0.1 to 1m/s
02: 0.1 to 2m/s
03: 0.1 to 3m/s

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

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

- **42×50**
  42×70
  45×50
  48×50

KSHJ □ - □ - □ - □

Linear orifice
Shock absorber
KSHJ Series

Body thread size×stroke
42×50
42×70
45×50
48×50

Cap
Blank: No cap
C : With cap

Impact speed range
01: 0.1 to 1m/s
02: 0.1 to 2m/s

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

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

Short stroke type (with hexagon socket)

- **8×4**
  10×6
  12×6
  14×8
  16×8
  20×10

KSHJ □ - □ - □ - □

Linear orifice
Shock absorber
KSHJ Series

Body thread size×stroke
8×4
10×6
12×6
14×8
16×8
20×10

Cap
Blank: No cap
C : With cap

Impact speed range
01: 0.1 to 1m/s
02: 0.1 to 1m/s
11: 0.1 to 1m/s (body thread size M8×1) only KSHJ8×4 supported
12: 0.1 to 1m/s (body thread size M8×1) only KSHJ8×4 supported

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

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

Order Codes (specifications in mm)

Additional Parts (no specifications in inches)

●Mounting nut (M4 to M20: 1 pack has 10 units / M22 to M48: 1 pack has 2 units) Note

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

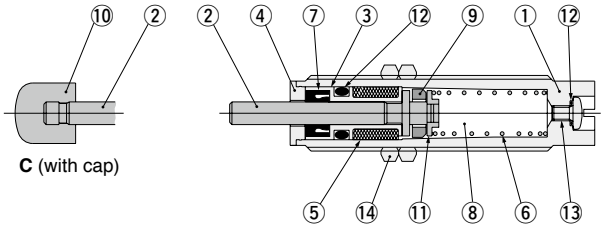
2 - KSH - M□

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 ⓬ to ⓭.
* 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 ( ).



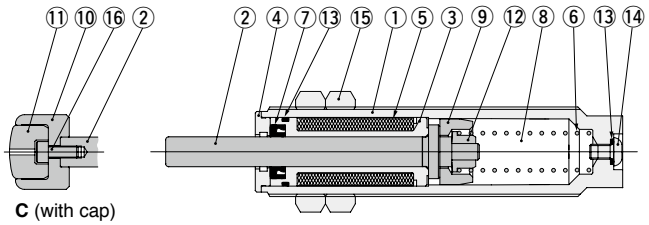
C (with cap)

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 ( ).



C (with cap)

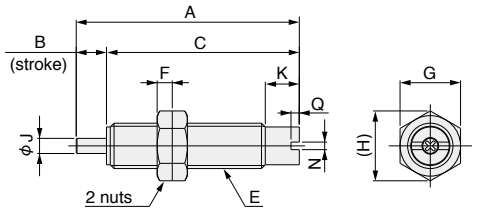
Note: Some parts and interior shapes may vary depending on size.

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)

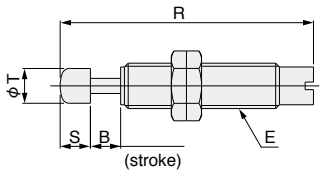
Note: KSHJ42, 45, and 48 are stainless steel

Dimensions (mm)

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

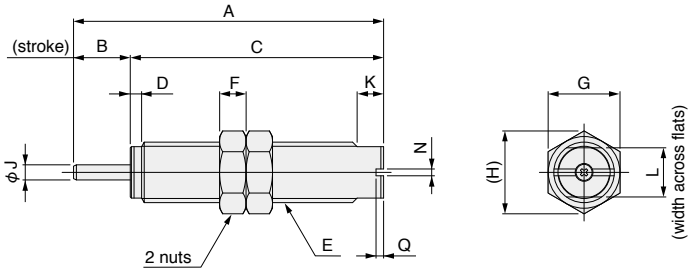


●**With rod end cap: KSHJ4×3C, KSHJ6×4C KSHJ6×6C**

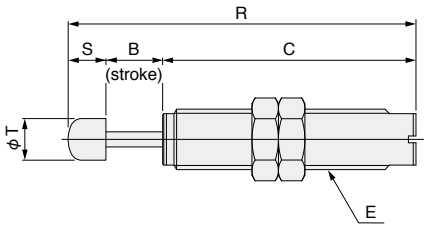


Model \ Symbol	A	B	C	E	F	G	H	J	K	N	Q	R	S	T
KSHJ4×3 (C)-01,-02	25	3	22	M4×0.5	2	5.5	6.4	1.2	3	1	1.1	28.5	3.5	3.2
KSHJ6×4 (C)-01,-02	29.5	4	25.5	M6×0.75	2	8	9.2	2	4.5	1	1	33.5	4	4.6
KSHJ6×6 (C)-01,-02	35.5	6	29.5	M6×0.75	2	8	9.2	2	5.5	1	1	39.5	4	4.6

●**No rod end cap: KSHJ□×□-□**

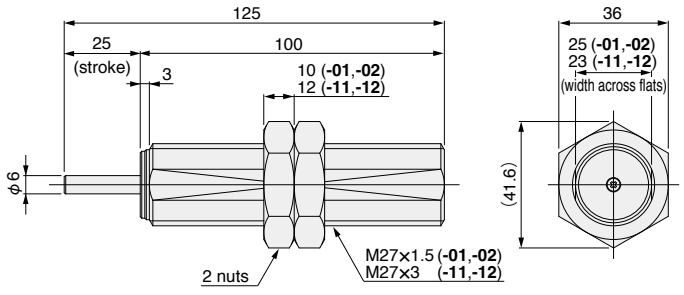


●**With rod end cap: KSHJ□×□C-□**

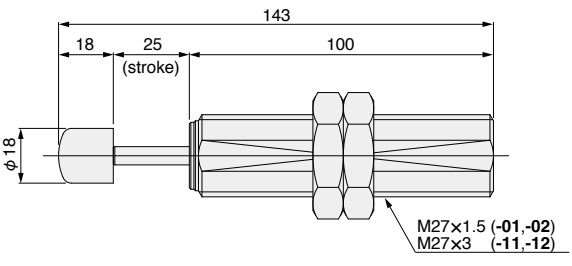


Model \ Symbol	A	B	C	D	E	F	G	H	J	K	L	N	Q	R	S	T
KSHJ8×5 (C)-01	37	5	32	1.2	M8×0.75	2	10	11.5	2.5	3	7	1.3	1.5	42	5	6.5
KSHJ8×5 (C)-11	37	5	32	1.2	M8×1	3	10	11.5	2.5	3	7	1.3	1.5	42	5	6.5
KSHJ8×8 (C)-01,-02	46	8	38	1.2	M8×0.75	2	10	11.5	2.5	3	7	1.3	1.5	51	5	6.5
KSHJ8×8 (C)-11,-12	46	8	38	1.2	M8×1	3	10	11.5	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-□**

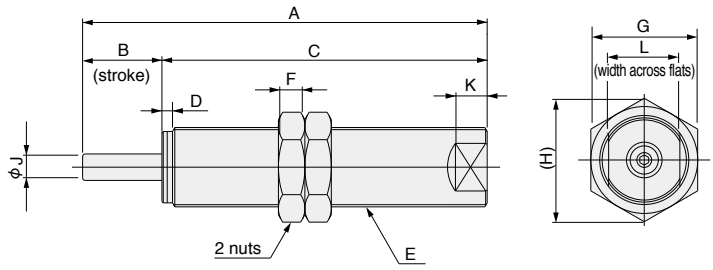


●**With rod end cap: KSHJ27×25C-□**

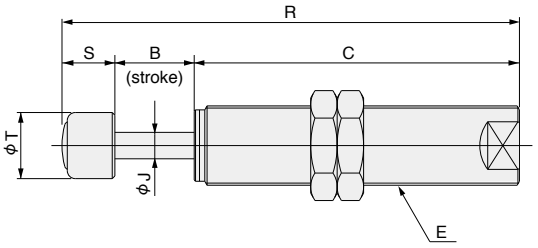


Dimensions (mm)

●**No rod end cap: KSHJ□×□-□**

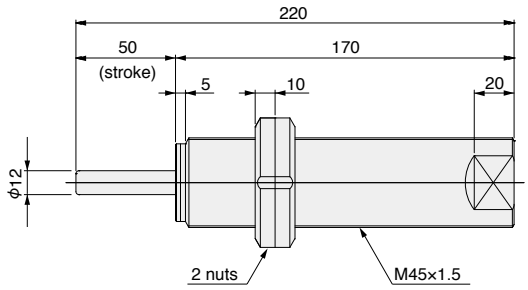


●**With rod end cap: KSHJ□×□C-□**

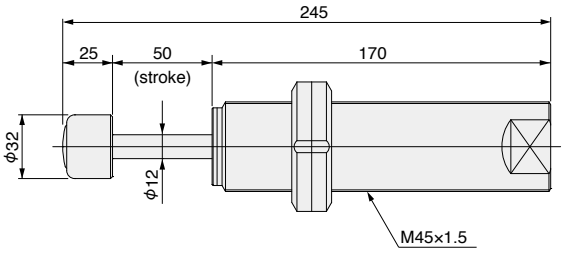


Model / Symbol	A	B	C	D	E	F	G	H	J	K	L	R	S	T
KSHJ30×30 (C)-01,-02,-03	153	30	123	4	M30×1.5	10	36	41.6	10	12	24	173	20	25
KSHJ33×30 (C)-01,-02,-03	153	30	123	4	M33×1.5	10	41	47.3	10	12	27	173	20	25
KSHJ36×50 (C)-01,-02,-03	218	50	168	5	M36×1.5	15	46	53.1	12	15	30	243	25	32
KSHJ42×50 (C)-01,-02	220	50	170	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**

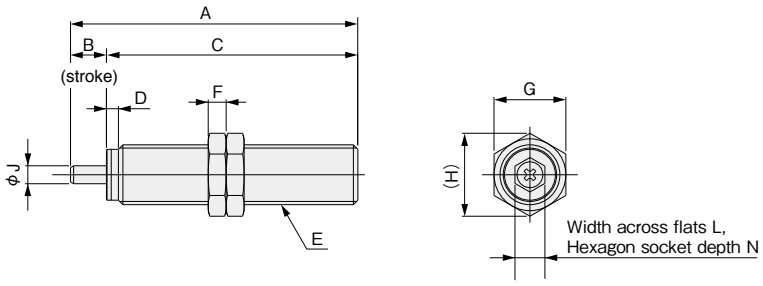


●**With rod end cap: KSHJ45×50C-01, -02**

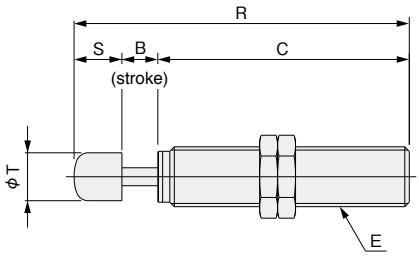


Short stroke type (with hexagon socket)

●**No rod end cap: KSHJ□×□-□**



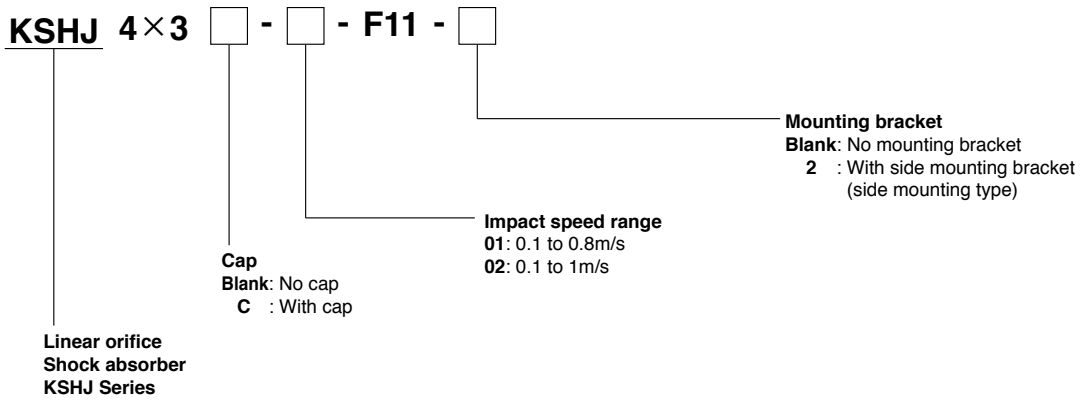
●**With rod end cap: KSHJ□×□C-□**



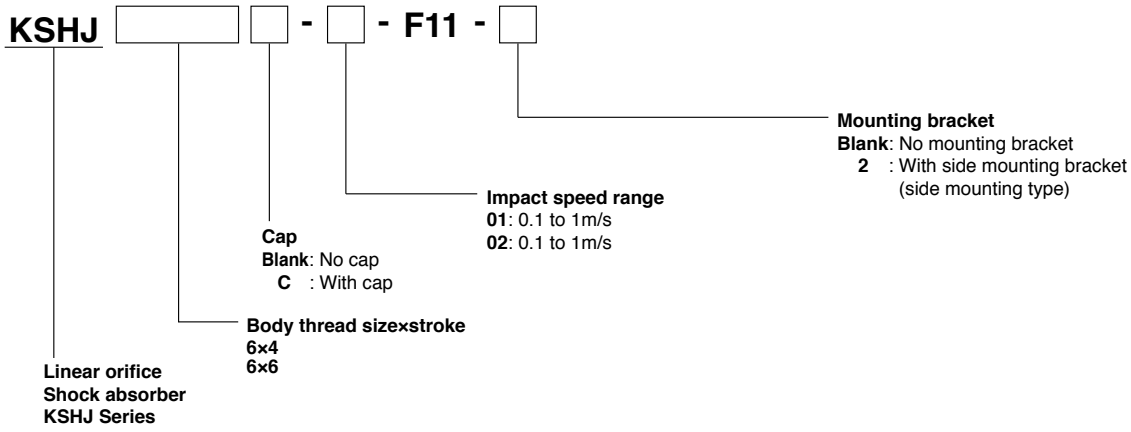
Model / Symbol	A	B	C	D	E	F	G	H	J	L	N	R	S	T
KSHJ8×4 (C)-01,-02	37	4	33	2.2	M8×0.75	2	10	11.5	2.5	4	2	42	5	6.5
KSHJ8×4 (C)-11,-12	37	4	33	2.2	M8×1.0	3	10	11.5	2.5	4	2	42	5	6.5
KSHJ10×6 (C)-01,-02	48	6	42	2	M10×1	3	12	13.9	3	5	3	56	8	8
KSHJ12×6 (C)-01,-02	48	6	42	2	M12×1	4	14	16.2	3	6	3	58	10	10
KSHJ14×8 (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)

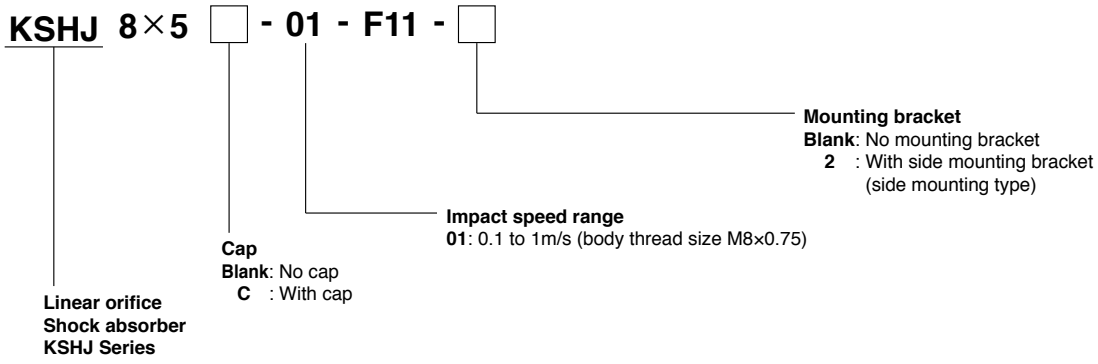
● 4×3



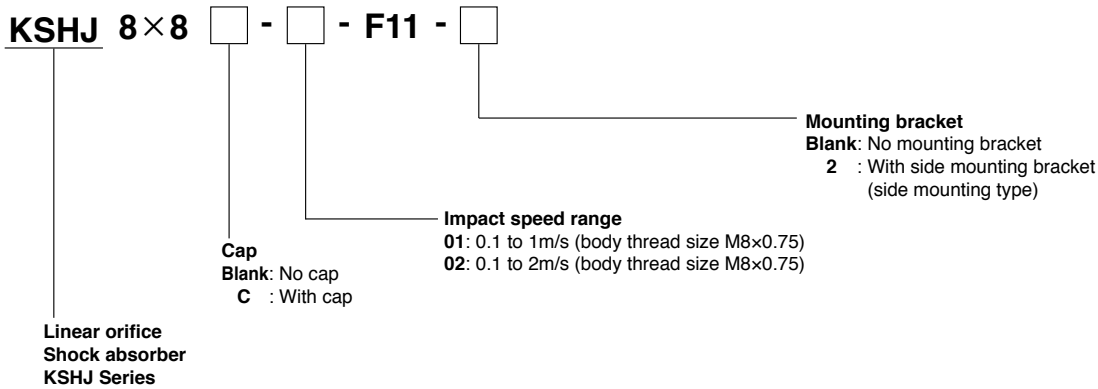
● 6×4
6×6



● 8×5



● 8×8



Order Codes (specifications in inches)

● **10×15**

KSHJ 10×15 □ - □ - F11 - □

Linear orifice
Shock absorber
KSHJ Series

Cap
Blank: No cap
C : With cap

Impact speed range
01: 0.1 to 1m/s
03: 0.1 to 3m/s

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

● **10×10**
12×10
14×12
18×16

KSHJ □ □ - □ - F11 - □

Linear orifice
Shock absorber
KSHJ Series

Body thread size×stroke
10×10
12×10
14×12
18×16

Cap
Blank: No cap
C : With cap

Impact speed range
01: 0.1 to 1m/s
02: 0.1 to 2m/s

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

● **25×25**

KSHJ 25×25 □ - □ - F11 - □

Linear orifice
Shock absorber
KSHJ Series

Cap
Blank: No cap
C : With cap

Impact speed range
01: 0.1 to 1.5m/s (body thread size M25×1.5)

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

● **30×30**
36×50

KSHJ □ □ - □ - F11 - □

Linear orifice
Shock absorber
KSHJ Series

Body thread size×stroke
30×30
36×50

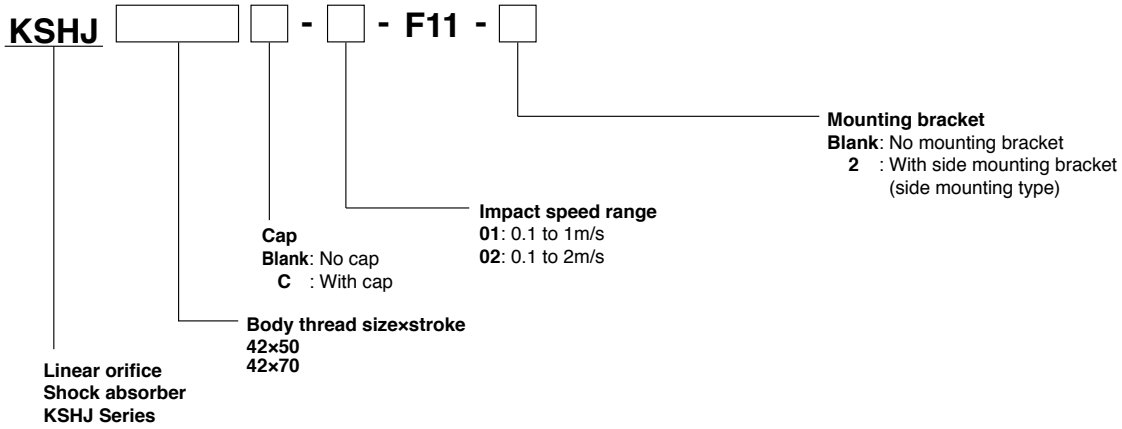
Cap
Blank: No cap
C : With cap

Impact speed range
01: 0.1 to 1m/s
02: 0.1 to 2m/s
03: 0.1 to 3m/s

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

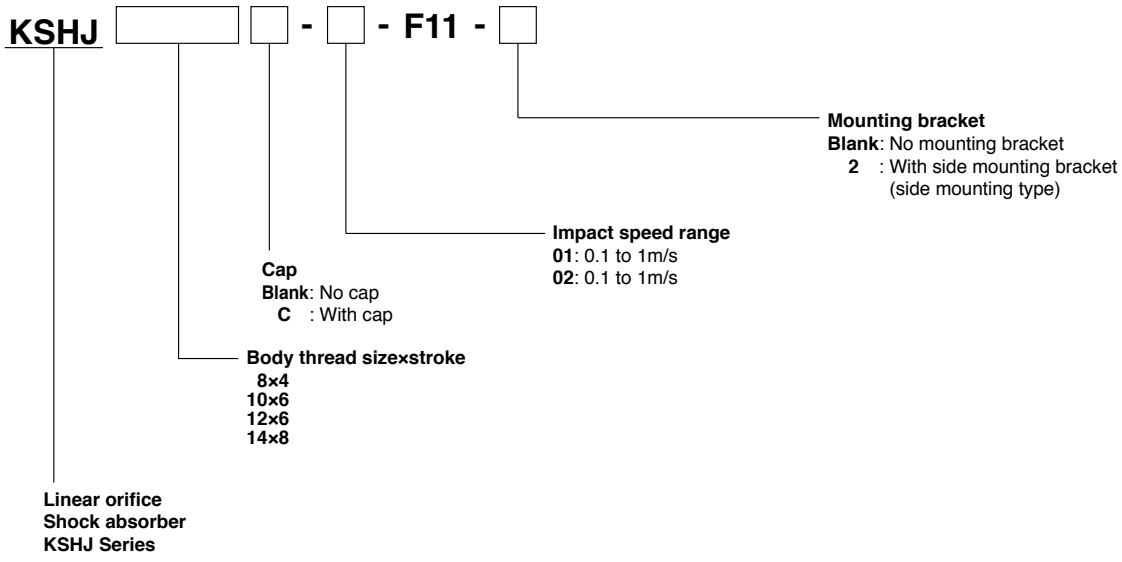
Order Codes (specifications in inches)

- **42×50**
  42×70



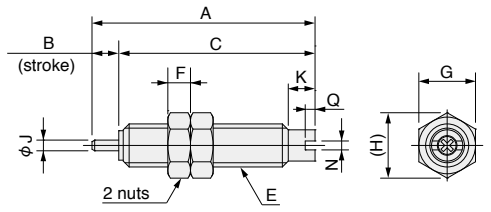
Short stroke type (with hexagon socket)

- **8×4**
  10×6
  12×6
  14×8

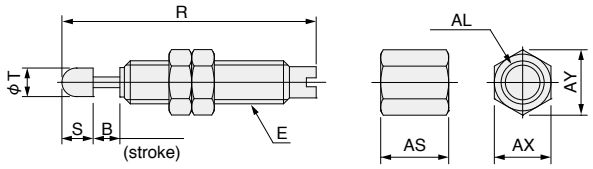


Dimensions (in)

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



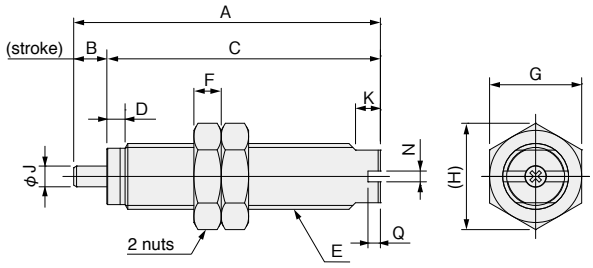
●**With rod end cap: KSHJ4×3C, KSHJ6×4C KSHJ6×6C**



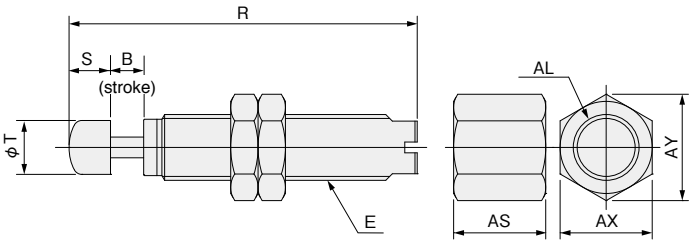
Model \ Symbol	A	B	C	E	F	G	H	J	K	N	Q	R	S
KSHJ4×3 (C)-01,-02-F11	0.984	0.118	0.866	#10-32 UNF	0.1	1/4	0.289	0.047	0.118	0.039	0.043	1.122	0.138
KSHJ6×4 (C)-01,-02-F11	1.161	0.157	1.004	1/4-32 UNEF	0.1	3/8	0.433	0.079	0.177	0.039	0.039	1.319	0.157
KSHJ6×6 (C)-01,-02-F11	1.398	0.236	1.161	1/4-32 UNEF	0.1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

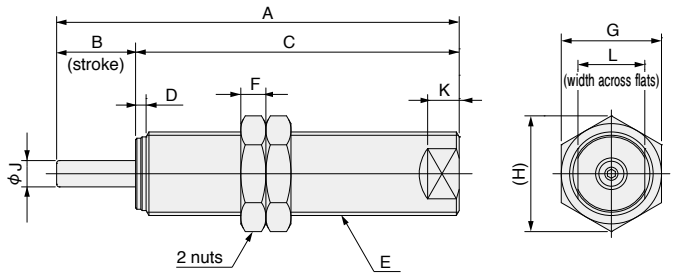


Model \ Symbol	A	B	C	D	E	F	G	H	J	K	N	Q	R
KSHJ8×4 (C)-01,-02-F11	1.457	0.157	1.299	0.087	5/16-32 UNEF	0.13	7/16	0.505	0.098	0.118	0.051	0.059	1.654
KSHJ8×5 (C)-01-F11	1.457	0.197	1.26	0.047	5/16-32 UNEF	0.13	7/16	0.505	0.098	0.118	0.051	0.059	1.654
KSHJ8×8 (C)-01,-02-F11	1.811	0.315	1.496	0.047	5/16-32 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

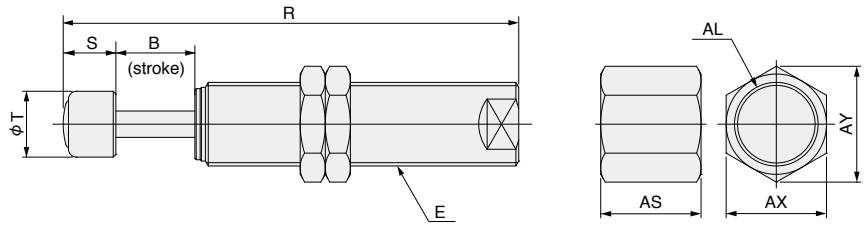
Model \ Symbol	S	T	AL	AS	AX	AY
KSHJ8×4 (C)-01,-02-F11	0.197	0.256	5/16-32 UNEF	7/16	7/16	0.505
KSHJ8×5 (C)-01-F11	0.197	0.256	5/16-32 UNEF	7/16	7/16	0.505
KSHJ8×8 (C)-01,-02-F11	0.197	0.256	5/16-32 UNEF	7/16	7/16	0.505
KSHJ10×6 (C)-01,-02-F11	0.315	0.315	3/8-32 UNEF	11/16	1/2	0.577
KSHJ10×10 (C)-01,-02-F11	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