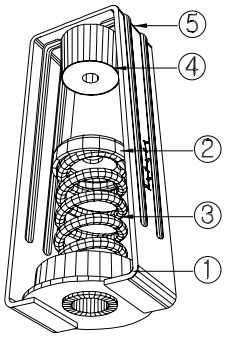
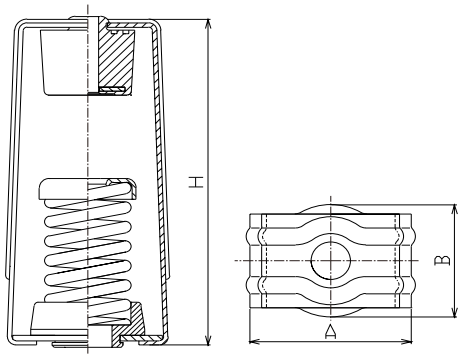
SH Spring Hanger (Deflection: 25mm)





■ Features

The SH type anti-vibration spring hanger ensures that vibration generated from the equipment and/or stress by thermal expansion in the pipe and duct while the equipment is running are not transferred to the structure through pipe and duct. The housing needs to be strong enough to stand the weight of the equipment without causing resonance from its own vibration. With the coil spring having a static deflection of 25 mm, the product can maintain the system's natural frequency down to 3~5 Hz and the CR type housing fixture is mounted on top of the housing to prevent high frequency that is passed through pipe and duct from getting into the structure on top of the hanger. Plus, the CR type spring sheet is attached at the bottom to block the high frequency resulting from the vibration that the spring generates itself.

■ Usage

- For high-efficient vibration control of axial, in-line fan, machine room, pipes in air-conditioning room and ducts
- For high-efficient vibration control of suspended ceiling desk system in, for example, studios and acoustical laboratories

■ Specification

No.	Name of Components	Material	Standard
1	Spring Seat	CR	KS M 6617
2	Spring Cap	SS400	KS D 3503
3	Coil Spring	SUP9	KS B 2402
		HSW3	KS B 2403
4	Housing Fixture	CR	KS M 6617
5	Hanger Housing	SS400	KS D 3503

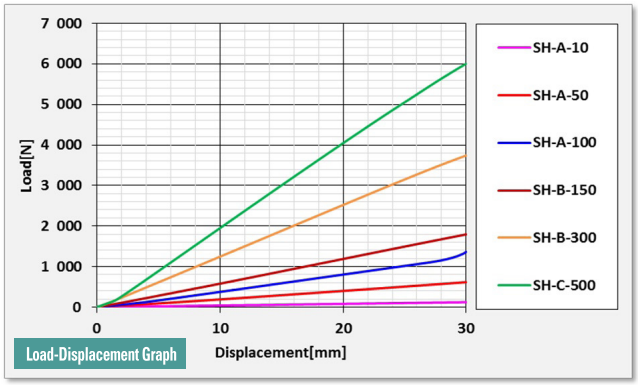
■ Dimension & Selection Guide

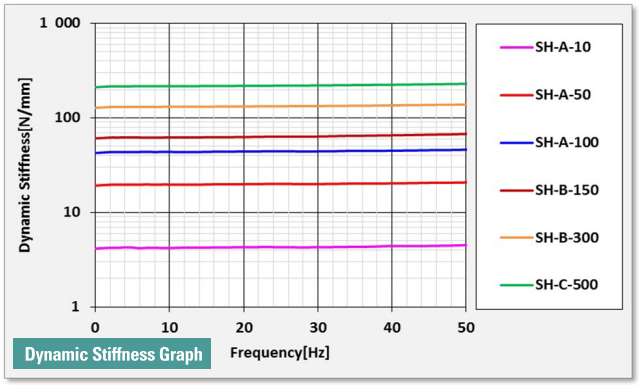
Type	Capacity (kgf)	Spring Constant (kgf/mm)	Weight (kg)	Color	Dimension(mm)			
					A	B	H	Level Blot
SH-A-10	10	0.4	0.7	Pink	82	60	172	M10
SH-A-25	25	1.0	0.74	Yellow				
SH-A-50	50	2.0	0.76	Red				
SH-A-75	75	3.0	0.80	Black				
SH-A-100	100	4.0	0.84	Blue				
SH-B-150	150	6.0	1.80	Brown	103	79	215	M12
SH-B-200	200	8.0	1.84	White				
SH-B-300	300	12.0	1.98	Orange				
SH-B-400	400	16.0	2.02	Pink				
SH-C-500	500	20.0	3.52	Green	118	100	243	M16
SH-C-600	600	24.0	3.56	Blue				
SH-C-750	750	30.0	3.89	Black				
SH-C-1000	1000	40.0	4.3	Yellow				

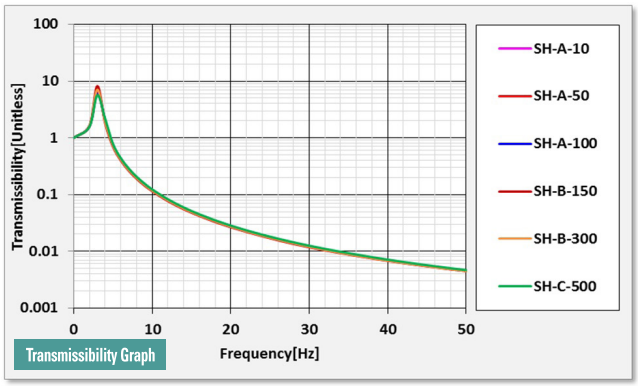
(NOTE) The mentioned size and scale can be altered to improve the quality performance and capacity of the product without any notice.

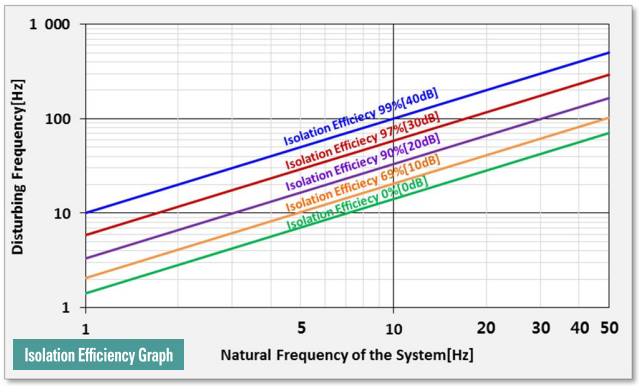
SH Spring Hanger (Deflection: 25mm)

■ SH Test Data









■ Explanation(Commonness)

1. Vibration Transmissibility(T_r)
   Vibration Transmissibility is the amplitude ratio of Output to Input.

$$T_r = \frac{Output\ Amplitude}{Input\ Amplitude} = \sqrt{\left(\frac{1}{1-\eta^2}\right)^2}, \eta = \frac{Disturbing\ Frequency\ of\ the\ equipment}{Natural\ Frequency\ of\ the\ Isolator(\ Damping(c) = 0\ )}$$

2. Natural Frequency(F_n) of Vibration Isolation System
   The mass and spring stiffness dictate a natural frequency of the system.

$$F_n = \frac{1}{2\pi}\sqrt{\frac{k}{m}}$$

3. Isolation Efficency(E)
   Isolation Efficiency in percent transmission is related to Vibration Transmissibility $E = 100(1 - T_r)$
   ex) Disturbing Frequency of the equipment=100 Hz,
   Natural Frequency of the isolator=10Hz

$$T_r = \sqrt{\left(\frac{1}{1-\eta^2}\right)^2} = \sqrt{\left(\frac{1}{1-\left(\frac{100}{10}\right)^2}\right)^2} = 0.101 \qquad E = 100(1 - T_r) = 100(1-0.101)=99(\%)$$

■ Installation Features