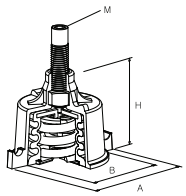
JUM-10000/20000/30000/40000 Jack Up Mount

■ Features

The jack-up system absorbs and insulates noise, impulsive vibration, as well as impulsive noise generated in problematic areas, such as air conditioning rooms, machine rooms and bowling alleys. It has at least a 50 mm-deep air layer and a 100mm-thick ferroconcrete slab using the neoprene mount on top of the slab. It increases transmission loss of noise in the double slab (floating floor) and prevents the transfer of vibration and primary structure-borne nose in the neoprene mount. the jack screw bolt should be on the top to lift the slab after installation and the support fixture should be on both sides for the distribution of steel reinforcements. Plus, the neoprene mount must have a steel plate within in order to handle a dynamic load.

JUM-10000 (Deflection : 17mm)

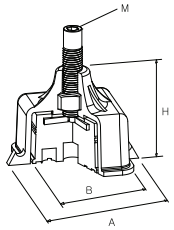


■ Dimension & Selection Guide

Model	Capacity (kgf)	Deflection (mm)	Hardness (Hs)	Dimension				Others	
				A	B	H	M	Air Gap(mm)	Slab Thickness(mm)
JUM-10200	200	17	65±5	130	94	100	M20	50~100	100~150
JUM-10300	300								
JUM-10400	400								
JUM-10500	500								
JUM-10600	600								
JUM-10700	700								
JUM-10800	800								

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

JUM-20000 (Deflection : 8mm)

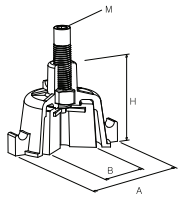


■ Dimension & Selection Guide

Model	Capacity (kgf)	Deflection (mm)	Hardness (Hs)	Dimension				Others	
				A	B	H	M	Air Gap(mm)	Slab Thickness(mm)
JUM-20200	200	8	65±5	136	86	100	M20	50~100	100~150
JUM-20300	300								
JUM-20400	400								
JUM-20500	500								
JUM-20650	650								
JUM-20800	800								

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

JUM-30000 (Deflection : 8mm)

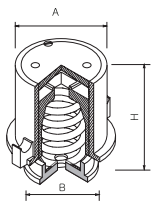


■ Dimension & Selection Guide

Model	Capacity (kgf)	Deflection (mm)	Hardness (Hs)	Dimension				Others	
				A	B	H	M	Air Gap(mm)	Slab Thickness(mm)
JUM-30200	200	8	65±5	154	116	100	M20	50~100	100~150
JUM-30300	300								
JUM-30500	500								
JUM-30650	650								
JUM-30800	800								

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

JUM-40000 (Deflection : 50mm)



■ Features

t is mostly applied when vibration is a bigger problem than the noise (for example, air conditioning rooms and machine rooms where the vibration frequency is less than 20Hz or the vibration is less than 30Hz with broad amplitude is generated). When the spring jack up system is used to form the double bottom, it is best to maintain the natural frequency of the whole system between 3.6Hz and 4.0Hz using an anti-vibration spring mount with a static deflection of 20~50mm. At this point, the diameter of the spring should be about 80% of the spring height under static loading. (With a reserve more than 50% of the static load)

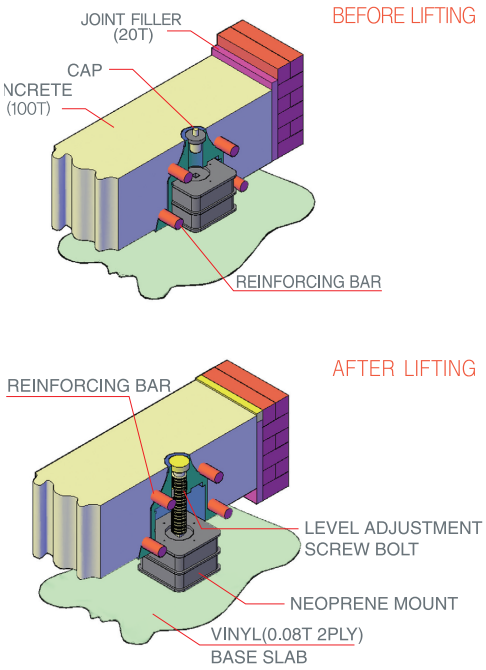
■ Dimension & Selection Guide

Model	Color	Capacity(kgf)	Deflection(mm)	Dimension			Others	
				A	B	H	Air Gap(mm)	Slab Thickness(mm)
JUM-40200	White	200	50	180	95	100	50	150
JUM-40300	Orange	300						
JUM-40400	Pink	400						
JUM-40500	Green	500						
JUM-40600	Blue	600						
JUM-40750	Black	750						

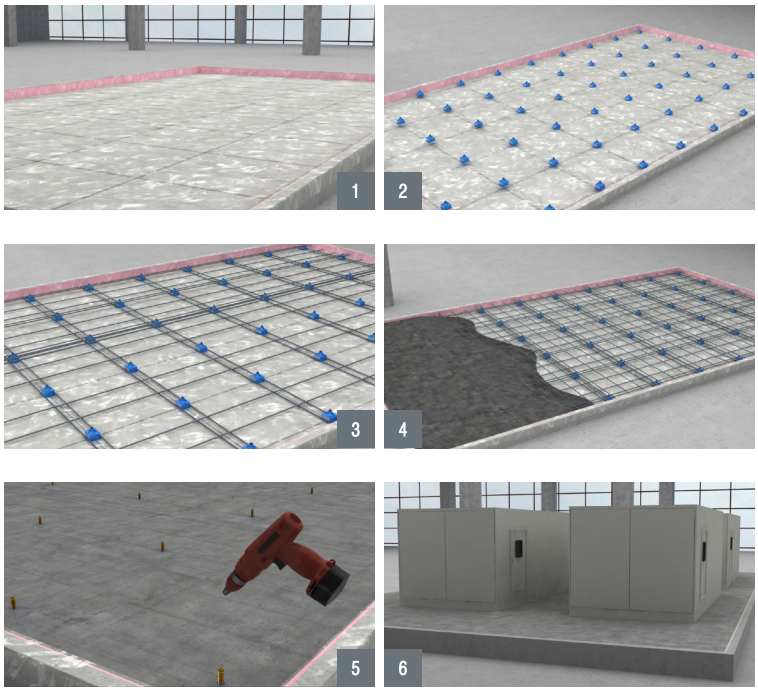
(NOTE) The mentioned size and scale can be altered to improve the quality performance and capacity of the product without any notice.

JUM-10000/20000/30000/40000 Jack Up Mount

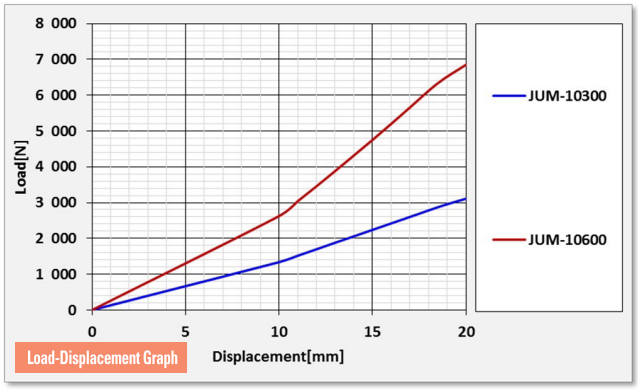
■ Jack-up system before/after lifting

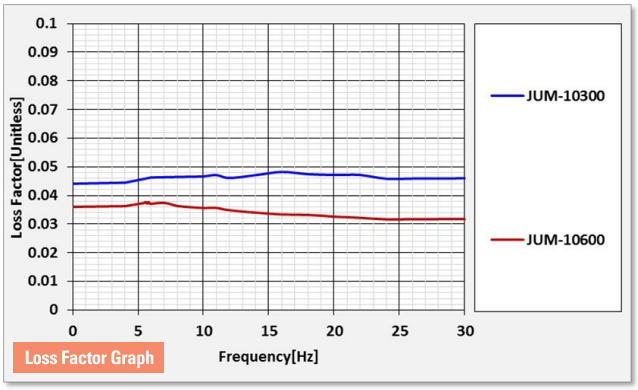


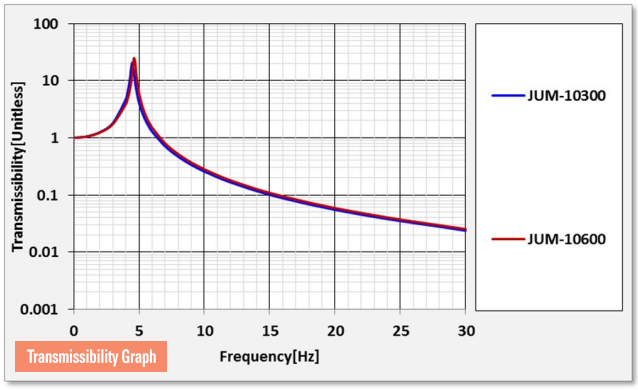
■ Jack-up system Installation Order

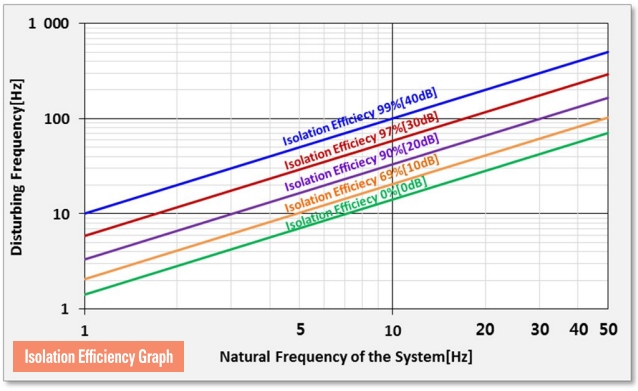


■ JUM-10000 Test Data



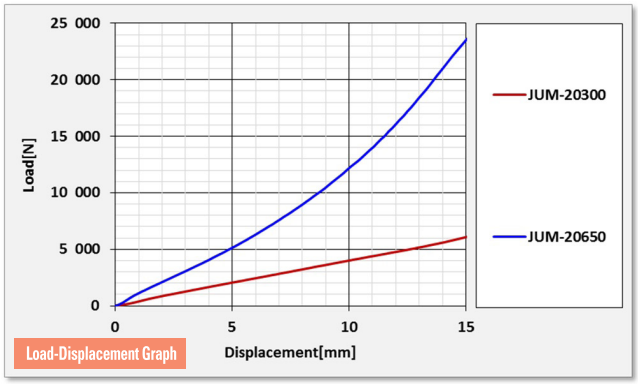


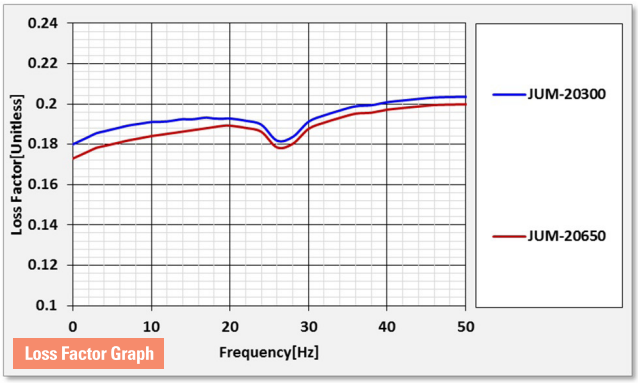


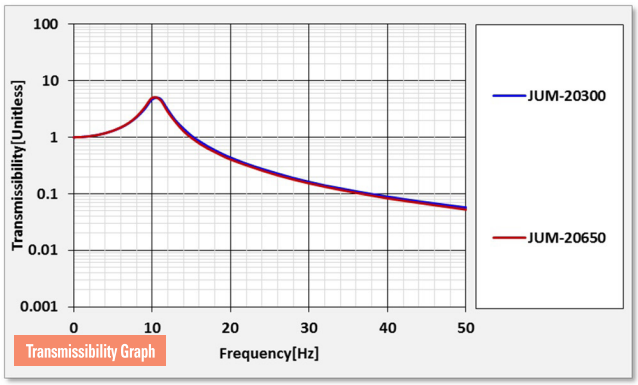


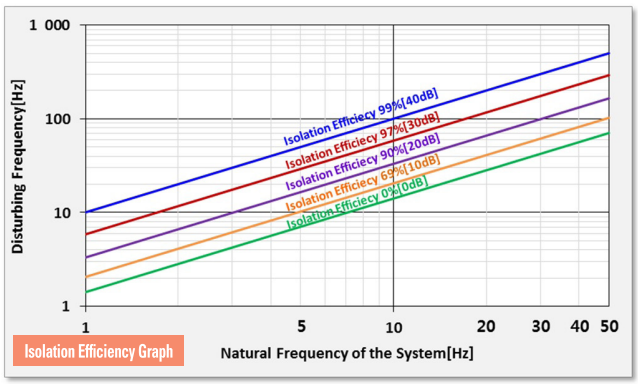
JUM-10000/20000/30000/40000 Jack Up Mount

■ JUM-20000 Test Data

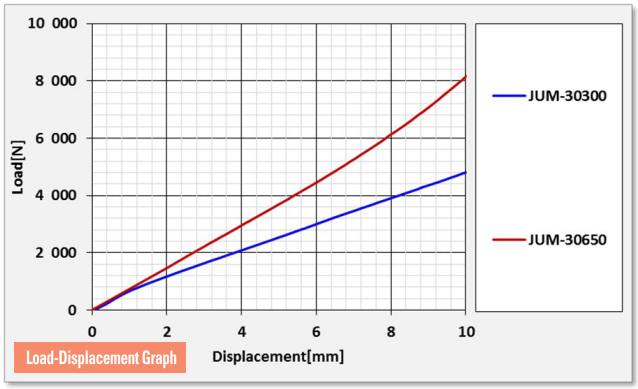


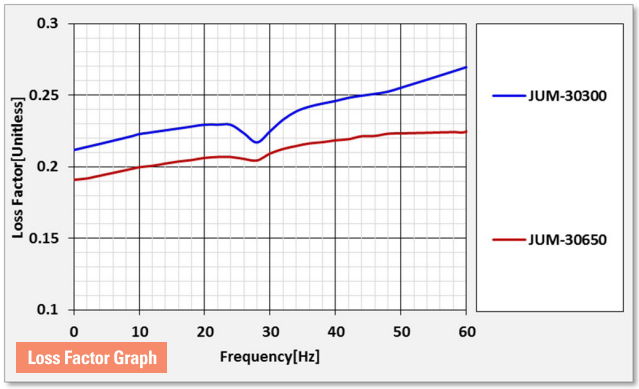


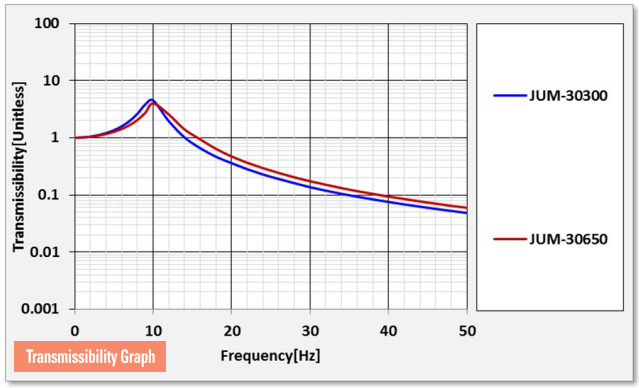


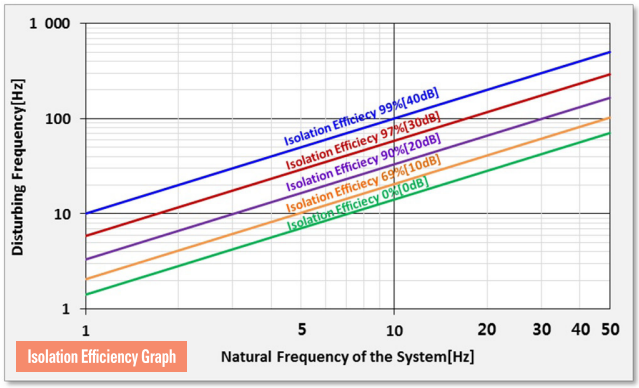


■ JUM-30000 Test Data



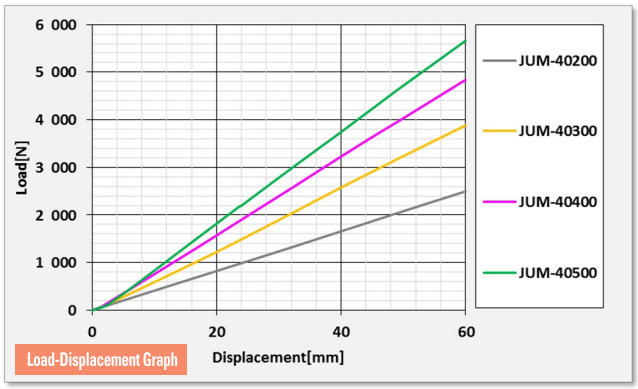


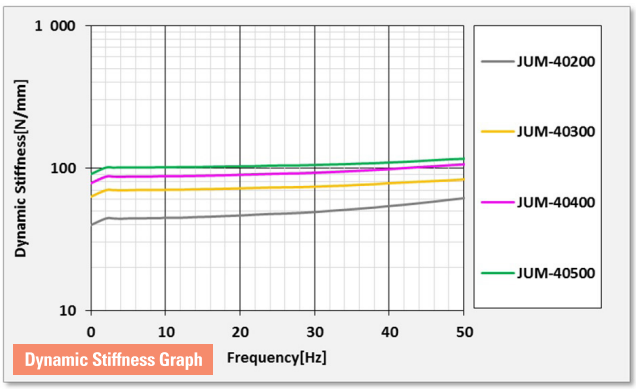


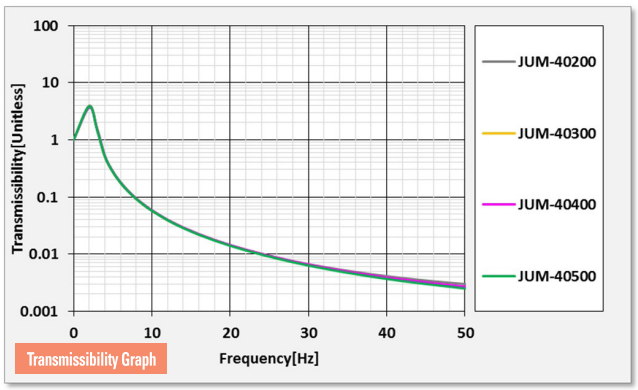


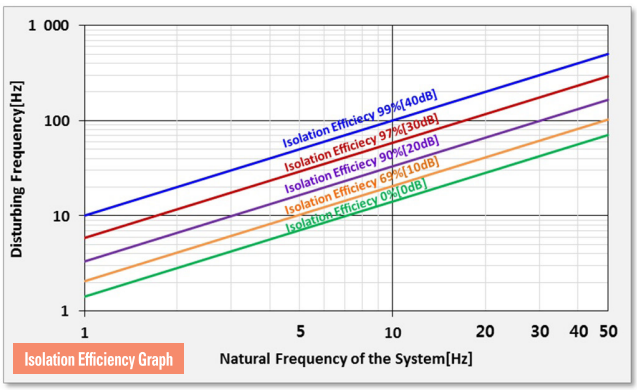
JUM-10000/20000/30000/40000 Jack Up Mount

■ JUM-40000 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

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

4. Loss Factor(ζ)
   ① Loss Factor is the double damping ratio on natural frequency of Vibration Isolation System $\eta = 2 \times \zeta(Damping\ Ratio)$
   ② The damping ratio is a dimensionless measure describing how oscillations in a system decay after a disturbance. $\zeta = \frac{Actural\ Damping}{Critical\ Damping}$

5. Dynamic Stiffness(k_d)
   The dynamic stiffness is the frequency dependant ratio between a dynamic force and the resulting dynamic displacement. $k_d = \frac{Force(Frequency)}{Vibration\ Response}$