

Vibration Damping Casters

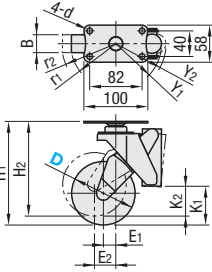
Features: Vibration Damper (Spring with Built-in Urethane) absorbs vibration generated when the caster is traveling over steps and grating surfaces. Able to protect conveyed workpiece and expected to improve yields because of a decrease in particulate generation volume in a clean room.



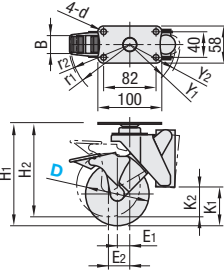
Main Body		Wheel		Bearing		
M	S	M	Material	Specific Volume Resistivity	Swiveling Part	Wheel
SUS304	Barrel Grinding	Antistatic Urethane	Between 10 ⁸ and 10 ¹⁰ Ω · cm	Incorporated	Incorporated	Incorporated

RoHS 10

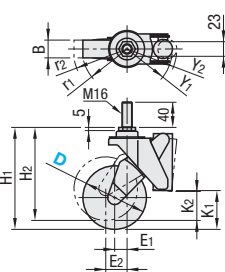
CMPR (Plate Type)



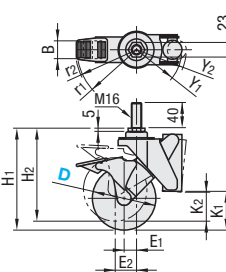
CMPRS (Plate Type)



CMPG (Screw-In Type)



CMPGS (Screw-In Type)



For dedicated wrenches, see P.1084.

For dedicated wrenches, see P.1084.

Main Body	Part Number		Wheel Material	H Stroke		d	E1	E2	r1	r2	Y1	Y2	K1	K2	B	* Nominal Load (N)	Mass (g)	Unit Price	Volume Discount Rate
	Type	D		H1(max)	H2(min)														
Swivel	CMPR	100	S (Antistatic Urethane)	162	148	8.8	20	34	71	85	71	78	61	46	28	150 ~ 300	1100	1 ~ 19 pc(s).	20~50
		125		180	166		25	39	89	103	77	83	77	62	32		1258		
Swivel with Stopper	CMPRS	100		162	148		20	34	95	94	71	78	61	46	28		1212		
		125		180	166		25	39	110	110	77	83	77	62	32		1381		

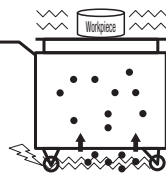
* Select the nominal load within the range of an applicable load corresponding to the total load (carriages + load). For use of 4 pcs: Applicable Load = Nominal Load x 4 pcs. x Safety Ratio (between 0.5 and 1.0)

Main Body	Part Number		Wheel Material	H Stroke		E1	E2	r1	r2	Y1	Y2	K1	K2	B	* Nominal Load (N)	Mass (g)	Unit Price	Volume Discount Rate									
	Type	D		H1(max)	H2(min)																						
Swivel Screw-In	CMPG	100	S (Antistatic Urethane)	160	146	20	34	71	85	71	78	61	46	28	150 ~ 300	1062	1 ~ 19 pc(s).	20~50									
		125		178	164											25			39	89	103	77	83	77	62	32	1218
Swivel Screw-In with Stopper	CMPGS	100		160	146											20			34	95	94	71	78	61	46	28	1174
		125		178	164											25			39	110	110	77	83	77	62	32	1341

Ordering Example Part Number - Wheel Material
CMPR100 - S

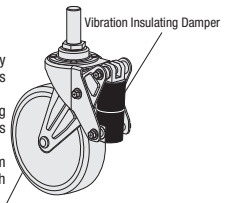
Yield problems expected with the conventional wheels.

- Particle Generation of a Conveyor Machine due to Vibration Transmission
 When a workpiece is being transported into a clean room, casters are traveling over steps or grating surfaces and vibrations from the floor are transmitted to a cart. Vibrations not only generate dust from casters and a cart but also may possibly transmit
- Generation of Particles due to Vibrations
 Vibrations by casters traveling lift dusts around the floor surface and down flow air system may not be able to control the particle amounts.
- Anti-static Countermeasures
 Dusts adhering to the rubber/urethane wheels of conventional casters, which accumulate static electricity generated by friction between wheels and the floor and may cause a spark discharge.



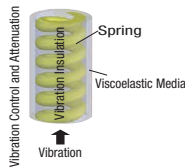
Features of Vibration Damping Casters

- Protects transported equipment by absorbing and damping vibrations from the floor.
- Controls particle scattering from vibrations and improves production yields.
- Prevents static electricity from being generated on the floor with antistatic wheels.



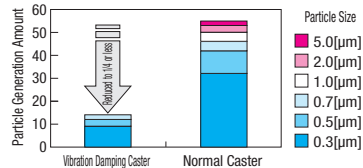
Basic Structure of Vibration Damper

The damper is of a double-layer structure of a spring within a viscoelastic member. Shocks received by a caster when going over a stepped terrain are absorbed by a spring, then damped by a viscoelastic member. A new mechanism has resolved the insufficient vibration damping in the conventional spring-loaded casters and durability losses induced by degradation in the urethane type. It also excels in safety with no damping gas leaks.



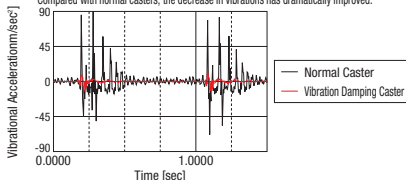
Particle Generation Comparison

Compared with normal casters, particle volume is reduced to 1/4.



Effect of Vibration Absorption

Compared with normal casters, the decrease in vibrations has dramatically improved.



Specific Volume Resistivity of Wheels

10 ⁰	10 ²	10 ⁴	10 ⁶	10 ⁸	10 ¹⁰	10 ¹²	10 ¹⁴
Electrical Conductivity			Antistatic Performance			Insulation	
			Antistatic Urethane			Rubber Wheel	
			10 ⁸ ~10 ⁹ Ω · cm			10 ¹⁵ ~ Ω · cm	

Functional Comparison by Damper Type

(Research by MISUMI)

Damper Type	Shock Absorption	Vibration Transmission Time	Allowable Load	Safety	Service Life
No Damper (Normal Caster)	×	×	○	○	○
Spring	○	×	△	○	△
Urethane Cushioned	○	△	△	△	×
Shock Absorber	○	△	△	×	△
* Vibration Damping Casters	○	○	○	○	○