

SEISMIC PROTECTION / VIBRATION CONTROL

EDDY CURRENT DAMPING

A versatile damping toolbox for structural and mechanical engineers.



1~400 MT

AXIAL DAMPING FORCE

Ball-screw axial damper shown. Other configurations available.



5g~1000 MT

DAMPING FORCE*

TMD axial damper shown. Other configurations available.

**Better performance
Longer life
Lower cost.**

**No working fluid.
No fluid-seal leakage.**

Permanent magnets.
No external power.
Axial, Torsional, TMD

Why engineers consider eddy current damping

Long life oil-free energy dissipation

Eliminates fluid leakage. Designed for long service life and reduced maintenance.

Sensitive to small movements

The non-contact damping element has no frictional breakaway force (10% of VFD).

Temperature performance

Manufacturer estimate: about 0.5%/°C change in damping coefficient. (-80~230°C)

TMD damping adjustable on site

Continuously adjust the magnetic gap to suit measured structural dynamics.

Independent TMD tuning

The damping element adds negligible elastic stiffness. Springs set the tuning frequency.

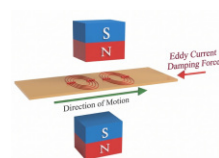
Built for engineering applications

Axial, cable, torsional and tuned mass systems for structures and industrial equipment.

HOW IT WORKS

Relative motion induces eddy currents in a metal conductor. Their reaction opposes motion and converts vibration energy into heat. Proprietary technology used to significantly increase the energy dissipation density.

*Indicative manufacturer estimate, not a guaranteed operating envelope. Non-contact refers to the damping element. Mechanical guides and transmissions may require service.



$$F = -cV$$

Linear approximation
at low velocity

Engineered for the application

Optimized magnetic circuits and mechanical amplification bring passive eddy current damping to large engineering structures.



PRODUCT FAMILY	PERFORMANCE / CONFIGURATION	TYPICAL APPLICATIONS
Axial ECD (AECD)	Approx. 10-4,000 kN (1-400 MT) damping force	Bridge tower-to-deck connections Building damping and retrofits
Cable / hanger ECD (SC-ECD / SH-ECD)	Two-direction cable control Low-inertia hanger configurations	Stay cables and suspension hangers Wind and rain-induced vibration
Torsional ECD (TECD)	Linkage and rotary configurations Project-specific force and stroke	Bridge deck vibration Industrial/machine vibration and impact
Vertical / horizontal TMD (V-ETMD / H-ETMD)	Mass: 5 g to 1,000 MT* Continuous damping adjustment	Footbridges, floors and long spans Building and tower vibration
Wind turbine TMD (WT-ETMD)	Adjustable frequency and damping Designed for confined tower spaces	Wind turbine towers Reduction of vibration and fatigue



*TMD values are mass, not force. Range spans the technology family. Product force, stroke, frequency and temperature limits are model-specific.

Selected applications

More than 200 engineering projects.



Jiangyin Yangtze River Bridge
AECD / Tower-to-deck longitudinal damping



Haixin Bridge, Guangzhou
ETMD / Pedestrian vibration control



Zangmu Railway Bridge
AECD / Bridge structural damping



Shishou Yangtze River Bridge
AECD / Bridge structural damping



Wuxue Yangtze River Bridge
AECD / Bridge structural damping



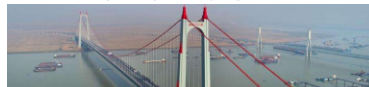
Beijing Fengtai Railway Station
AECD / Building structural damping



Zhangjiajie Glass Bridge
ETMD / Pedestrian vibration control



Quanzhou Bay Railway Bridge
ECD / Railway bridge damping



Dongting Lake Bridge
AECD / Bridge structural damping



Qinglongzhou Bridge
AECD / Bridge structural damping



Mingyuexia Yangtze River Bridge
SC-ECD / Stay-cable vibration control



TECD Large Excavator Arm



Zengjiang Railway Bridge
SC-ECD / Cable vibration control



Qipanzhou Yangtze River Bridge
AECD / Bridge structural damping



Pingnan Third Bridge
AECD / Bridge structural damping



ETMD Shanghai Tower

Factory testing and traceable documentation



Each unit supplied with a factory test report: its performance "birth certificate". Third-party reports for selected 50 tf and 150 tf models. In-house factory test capability up to 220 tf and 1 m/s, subject to the machine operating envelope. The manufacturing is ISO9001 certified.