



## DamperX™ Clamp

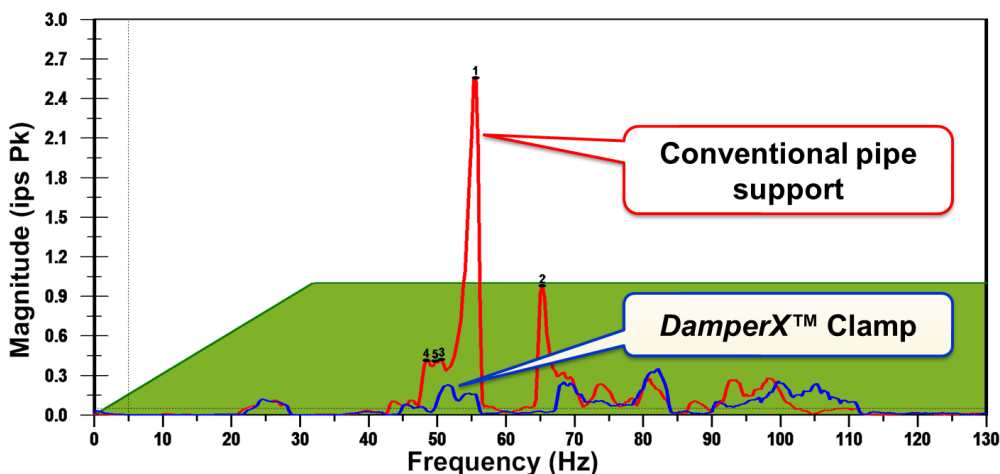
(superior performance)

Rugged vibration clamp combined with viscoelastic damping provides superior vibration reduction

Vibration is a leading cause of piping fatigue failures, resulting in hydrocarbon releases, safety risks, environmental damage and downtime.

Traditional clamps often do not produce a satisfactory solution for demanding machinery and vibratory applications. Vibration can be shifted elsewhere on the structure, or the clamp is not effective at all operating speeds or conditions.

Wood Group's *DamperX™* clamps have a proven track record of significantly reducing vibration compared to standard steel and other lined clamps. The robust design is made for demanding applications, and is superior to standard vibration clamps.



## Products

to control vibration on piping and machine systems

### DamperX™ Clamp

(superior performance)

Other products:

- ▶ *DamperX* Brace
- ▶ *DamperX* Cylinder Support
- ▶ Standard Vibration Clamp
- ▶ Vibration Absorber

### Advantages

- ▶ **Superior vibration reduction** compared to alternative pipe clamps that only add stiffness
- ▶ **40 to 90% lower vibration** compared to conventional clamps (based on field data)
- ▶ **Reduced likelihood of moving** vibration elsewhere
- ▶ **Cost-effective and reliable** method to control resonant and non-resonant vibration
- ▶ Ideal for **high-speed** and **variable-speed** machinery
- ▶ Engineered solution **based on FEA and damping modelling**
- ▶ Customized design for OEMs
- ▶ **Lower friction coefficient**
- ▶ Designed to **permit axial pipe movement** due to thermal expansion
- ▶ Standard, **high-temperature** and **thermal** version
- ▶ **Non-corrosive**
- ▶ **Threaded rod**, fastens easily to all structures
- ▶ **Vibration-proof washers** do not loosen in-situ
- ▶ **Test report** available

## Applications

### Facilities:

- ▶ Oil & gas facilities (onshore and offshore)
- ▶ Refineries
- ▶ Pipeline stations
- ▶ Water treatment plants
- ▶ Other applications subject to vibration

### Piping, vessels and machinery systems:

- ▶ Main process piping
- ▶ Compressor systems
- ▶ Pump systems
- ▶ Scrubbers
- ▶ Pulsation bottles
- ▶ Flare and fire water piping
- ▶ Other vibration applications

## Specifications

### Includes:

- ▶ Damping material liner
- ▶ Wear pad
- ▶ Bolts, washers and nuts

### Models:

- ▶ Available for piping diameters of 2 in (50 mm) and above
- ▶ *Imperial:*  
Model DCL-1-xx  
where xx refers to pipe diameter in inches: 2, 3, 4, 6, 8, 10, 12, 14, 16, 18, 20
- ▶ *Metric:*  
Model DCL-1-xxM  
where xx refers to pipe diameter in mm: 50, 80, 100, 150, 200, 250, 300, 350, 400, 450, 500



**Vibration, Dynamics & Noise**  
(formerly BETA Machinery Analysis & SVT Engineering Consultants)



There are many examples where traditional restraints are unable to control machinery and vibratory loads

## Benefits

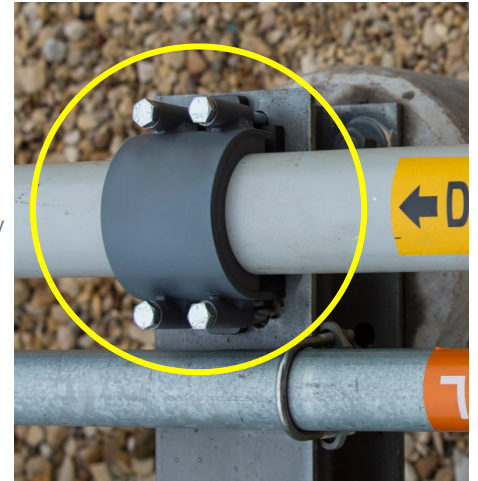
Damping is a proven solution to control vibration, and is used extensively in the automotive and aerospace industries (think of the shocks in your car). The benefits of damping are now applied to heavy-duty pipe clamp applications.

Wood Group's *DamperX*<sup>™</sup> clamps are ideal for piping, compressors, pumps, and related equipment. They absorb vibration energy and reduce stress, thereby preventing fatigue failures.

Development testing revealed that many commercially available clamp liners actually increase vibration amplitudes. The viscoelastic material used in Wood Group's *DamperX* clamp provides a unique combination of stiffness and damping, resulting in a significant reduction of overall piping vibration.

Vibration occurs at many frequencies. Another advantage of damping is the ability to absorb energy across a wide frequency range (up to 500 Hz).

Traditional steel braces are resonant at specific frequencies (eg, at their natural frequency) and result in excessive vibration. Damping has been proven to absorb energy across *all* frequencies.



**DamperX<sup>™</sup> clamp:** Field testing has proven a **40 to 90% vibration reduction** compared to conventional clamps

## Application (standard and high-temperature version)

*DamperX* clamps have a damping material liner, and require the provision for a damping material pad under the piping (dimensioned installation drawings are available on request).

- Standard temperature: DCL-1-**HD** from 1°F to 140°F (-17°C to 60°C)
- High temperature: DCL-1-**HT** from 15°F to 400°F (-9°C to 204°C)
- High temp + PTFE lined: DCL-1-**HT-T** from 15°F to 400°F (-9°C to 204°C)

## Technical support

Owners rely on Wood Group's experts to mitigate vibration, and stress issues.

If required, our specialist will:

- Provide troubleshooting and vibration assessments at your site
- Identify the best vibration solution
- Verify and document that the modifications are successful and meet your integrity and reliability specifications

## Contact us for ordering or support:

- ☎: 1 800 561 2382 (N. America)
- ☎: +1 403 245 5666 (international)
- ✉: [products.vdn@woodgroup.com](mailto:products.vdn@woodgroup.com)
- 🌐: [www.woodgroup.com/VDN](http://www.woodgroup.com/VDN)

