

# Global Presence

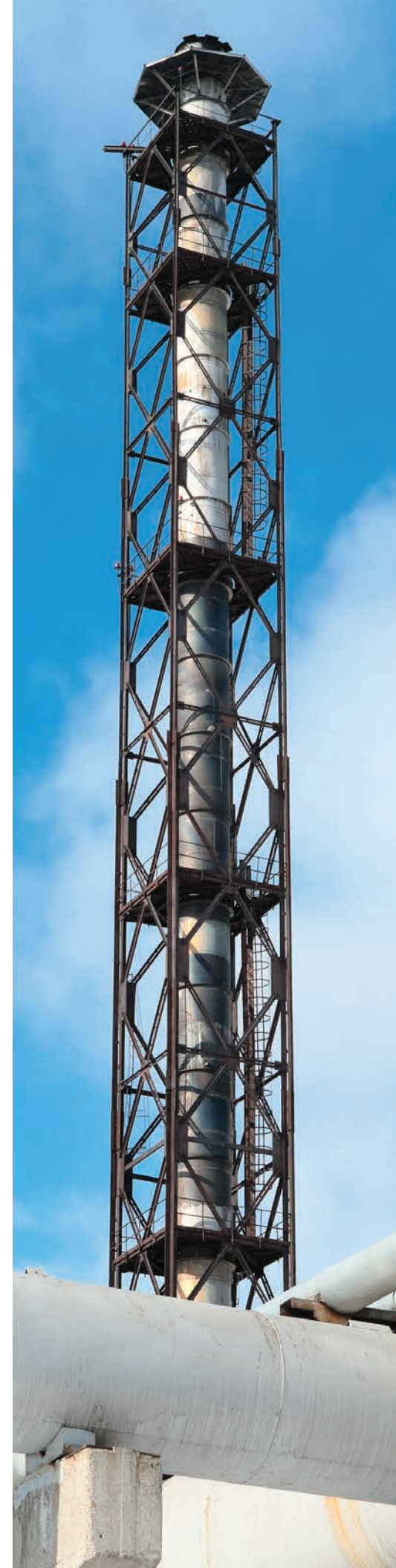
Enidine is a diversified leading manufacturer of highly engineered critical components and customized technology solutions for growing industrial end-markets in energy infrastructure, electronics, aerospace and transportation. Building on its heritage of innovation, we partner with our customers to deliver enduring solutions to the key industries that underpin our modern way of life.

**Enidine provides custom seismic isolation and protection products for unique infrastructure applications worldwide.**

Enidine's engineering staff and technical sales personnel are available to assist you with all of your application needs.

- With a proven track record of operating with lean manufacturing, Enidine produces higher quality custom products with greater efficiency and within shorter lead times.
- Enidine manufacture's all of our products in-house, giving you fast reliable service to meet your critical application needs with on-time delivery.
- Here at Enidine we have a proven track record in the infrastructure market with cutting edge technologies and engineering support, we can provide a custom solution to meet any need globally..

Our website features a worldwide representative lookup to help facilitate fast, localized service at [www.enidine.com](http://www.enidine.com). For application assistance call our help line at 1.800.852.8508.



# Seismic Control and Infrastructure Solutions



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**An ITT Company**

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**ENIDINE**

# Damper Technologies

## SHORT STROKE DAMPERS

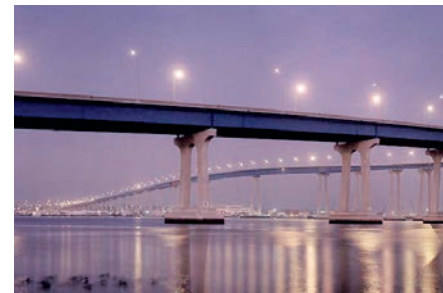
### High-Rise Buildings, Stadiums, City Centers and National Assets

- Viscous Dampers (Short Stroke) Buildings
- Forces up to 600 kip
- Strokes to 8 inches
- Diagonal or Chevron Brace mounts
- Alpha .2 to linear
- In line, self contained spring loaded reservoir
- Visual or electronic fluid monitoring system



## LONG STROKE DAMPERS

- Viscous Dampers (Long Stroke) Bridges
- Forces up to 2000 Kips
- Strokes up to 60 inches
- Alpha .2 to Linear, Lock up
- In line, self contained spring loaded reservoir
- Visual or electronic remote fluid monitoring system



## RESEARCH, DESIGN & ENGINEERING

- Static Testing – Including precision electromechanical machines with programmable controllers
- Drop Testing – Up to 4,000 lbs. and 600 in./sec.
- Vibration – Electromechanical shakers with digital controllers
- Dynamic Testing – Up to 500,000 lbs. at 80 in./sec.

- 3D CAD Software, Solidworks
- Finite Element Analysis, COSMOS
- Dynamic Software, Visual Nastran
- Structural Analysis, SAP 2000



# Custom Solutions



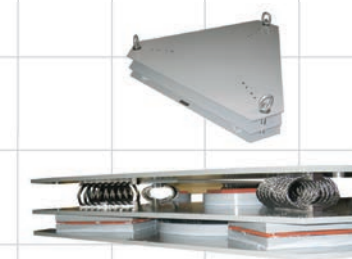
### Power & Utility Sub-Stations

- 6 degree of freedom Isolator Ring
- Stainless Steel construction
- Retrofits to most transformer bushings with little or no modification
- Dynamic tested to IEEE 693



### HVAC and Chiller Units

- Equipment Seismic Isolation stand
- Combined Isolation Bearing, Elastomeric damping and Wire Rope Isolator technologies
- Protects equipment from vertical and horizontal seismic inputs
- No maintenance
- Chillers, HVAC, Medical Equipment



### Power Plants

- WEAR™ Pipe Restraint/Vibration Isolator
- Nuclear, fossil generation plants, refineries and structural
- No oil, seals, greases or maintenance
- Compatible with most pipe attachment hardware



### Oil and Gas Offshore Platforms

- Rubber Isolation Bearings
- Tuned mass dampers, generators, chillers and high value assets
- High or low damping configurations
- Can be applied in parallel with viscous damper technology
- 6 to 21 inch diameter



### Refineries and Storage Facilities

- HERM (14 Hz Deck)
- Standard Product Selection
- Shipboard Design Expertise
- Electronics Isolation
- Systems Analysis and Integration
- Multi-Axis Isolation
- Minimum Sway Space



# Customer Focused Approach

At Enidine we will develop products, process and solutions for new applications that will generate excitement among our business partners while setting new industry standards as a premier components supplier.

- Conduct Fundamental Research to Develop Innovations
- Work with Customer to Fully Explore Application/Issues and Engage all Stake Holders
- Provide Solutions, Options and Trade-offs
- Deliver on our Promises

### Research and Development

Enidine is active in the fundamental research community and chairs/presents at technical conferences.

Research collaboration with:

- University of California (Irvine)
- University of Buffalo (US)
- Federal University of Santa Catarina (Brazil)
- University of Liverpool (UK)
- The Boeing Corporation (US)
- Bombardier

### Design and Development

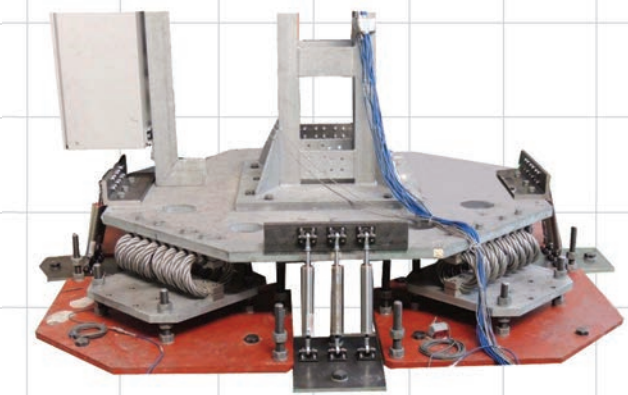
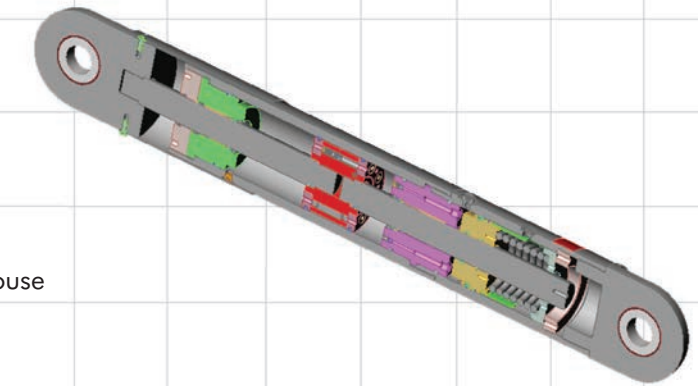
- All capabilities for design and development in house
- Assemble and test quickly
- Innovation in Technology
- Engineering Experience

### Market Focused Solutions

- 3-COM Data Center, Santa Clara, CA.
- Coronado Bridge, San Diego CA.
- Sakhlin Island, Tuned Mass Damper
- Trump Tower, New York, NY
- San Francisco Opera House
- Syncrude Oil Sands Project
- Major Chimney Suppliers in Japan
- Siemens Transformer Isolation

### Focused Product Applications

- Power Sub-Stations & Utility Base Isolation
- High-Rise Buildings
- Bridges & Highway Structures
- National Assets, City Centers & Stadiums



**We have the broadest set of implementation choices for structural isolation.**

**ENIDINE**