

VIBRO $\oplus$ L

VIBRATION IN CONTROL

OFFERING

# Resonance Killer - ReKi

## Broadband mass damper with benefits

- ReKi works without input energy or control
  - Low-cost solution
  - Reduces disturbing vibrations in broad frequency band
  - All-steel structure
  - Works in 3 directions
- ReKi is used in **machines, engines, generators, compressors, pumps, pipes and structures**
  - Used in applications from 0.1 kg to 100 ton
  - Frequencies in different applications from 4 to 1000 Hz

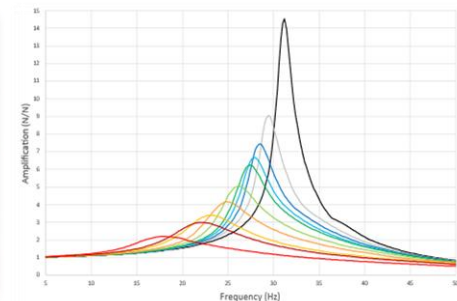
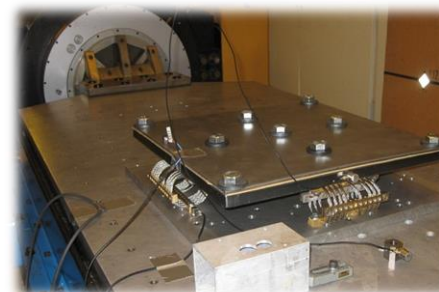


**ROBUST • AFFORDABLE • RELIABLE**

# Wire Rope Isolators

## Robust vibration and shock isolation

- Wire rope isolator is a **robust solution for mechanical isolation**
  - Works in challenging environments
  - Reduces disturbing high frequency vibrations while being ready to isolate extreme shock-like excitations caused by transportation, transients and explosions
  - All-metal structure - Works in 3 directions - High temperature range
- Wire rope isolator is used in **industry and military applications**
  - Used in machines and structures to the smallest of electronics
  - Isolator payload can be varied from 0.1 kg to more than 1 000 kg
  - Manufactured in EU
  - Tailored made solutions for special cases
  - Standard stock isolators for mass products

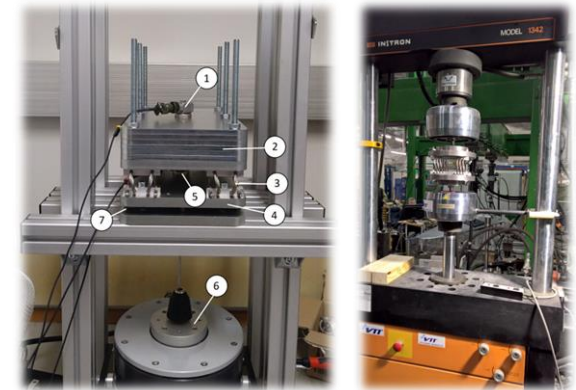


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# Vibration - Noise – Strain Measurements at your service

## Vibrol offers vibration, noise and strain measurement services:

- Vibration – noise – strain measurements in-situ
- Dynamic laboratory tests for components (DNV-GL, ISO ...)
- **Modal analysis**
  - Experimental modal analysis (EMA)
  - Operational deflection shapes (ODS)
- **Long term measurements**
- Over 30 years experience from wide range of applications
- Measurements are typically conducted in-situ
  - Vibrol personnel have conducted measurements more than 30 countries



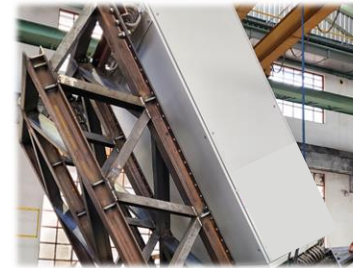
# Shock and Transient Measurements at your service

## Vibrol offers shock and transient loading measurement services:

- Shock and transient laboratory tests for components (BV-0230, MIL- ...)

- **Shock phenomenon in-situ tests**

- Transient loading
- Military applications
- UNDEX



MIL-901



MIL-STD-167

- **Drop test method for navy qualifications and pre-tests**

- Drop test method is an alternative to shock test machines
- Drop test can be done in Vibrol premises in Tuusula or at supplier's own facility
- Drop test can be done also for critical component(s) instead of entire product
- Suppliers without experience in shock isolation will be assisted
- Vibrol provides shock isolators



Shock mattress

# Troubleshooting

Fast response

## Vibrol offers troubleshooting services:

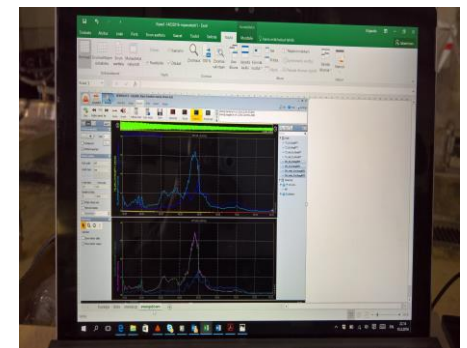
- Fast response to customer needs
- Vibration phenomenon analysis in-situ
- Quick analysis
- Vibration / noise control solutions

# Measurement Monitoring

Automated cloud service

**Vibrol offers measurement monitoring using cloud service**

- Condition based maintenance can be conducted using continuous measurement analysis
- Vibration, strain gauge etc...
- Affordable solution using automated analysis



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# Finite Element Analysis

Design phase or troubleshooting

## Vibrol offers Finite Element Analysis:

- **Structural durability**
- **Vibration and shock phenomenon analysis**
- **Non-linear analysis**
- **Fast response to customer needs**

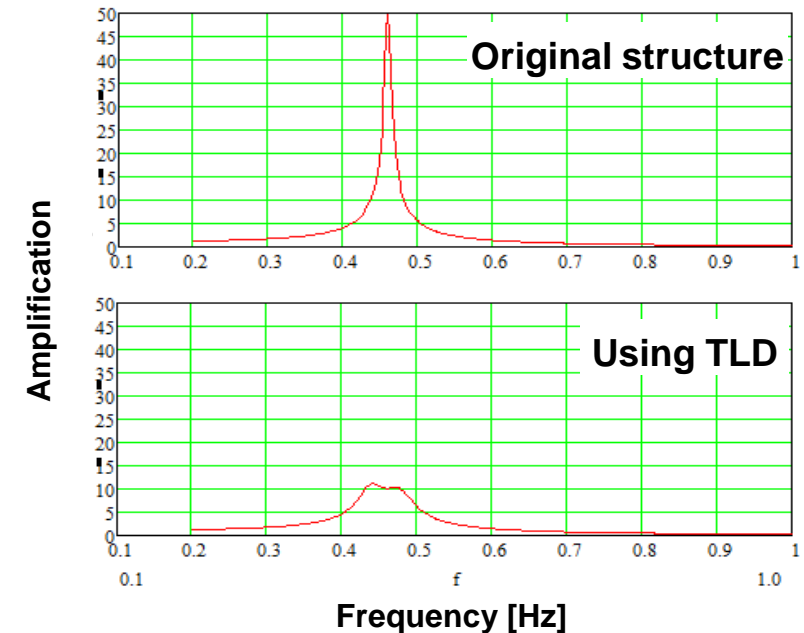
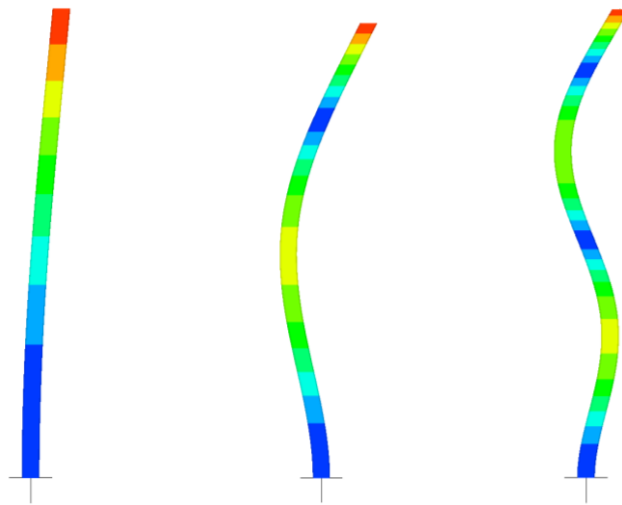


# Tuned Liquid Dampers

## for low frequency applications

Vibrol offers tuned liquid dampers for low frequency applications

- Chimney, mast, high rise building
- Typically excitation is wind – causing resonance in tall structure
- Liquid damper is simple and effective solution



# Vibration in Control

## Science-based solutions

### Vibrol is your partner in vibration and shock control

- More than 20 years of experience working with wire rope isolator
  - Tested using ISO-10846 standard / MIL901 / BV0230 ...
- State of the art solutions
  - ReKi™ broadband mass damper
  - ADDI for wire rope isolators
- Dynamic measurements and FEA
  - Structures, laboratory studies for components
  - Strain gauge, modal analysis
  - Drop test method for navy qualifications and pre-tests



Premises in Tuusula, Finland  
15 minutes from the airport  
Founded 2015, Turnover 1.5 M€  
[www.vibrol.fi](http://www.vibrol.fi)

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### Interested?

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