

**GERB**  
Vibration Control Systems

## **Applications**

# GERB

Vibrations can be controlled. Wherever they happen.

Over 100 years ago, the history of GERB begun when its founder, William Gerb, became fascinated with an idea of using steel springs combined with Viscodamper to protect work areas and surrounding neighborhoods from machinery vibrations.

Since then, the GERB group of companies have continued to develop this idea, solving vibration problems in many new fields of application.

Machinery and equipment in power generation and metal forming plants now employ an active vibration isolation system (source isolation) to reduce vibrations, foundation size and cost. Sensitive measurement and test equipment, and even entire buildings, employ a passive isolation system (receiver isolation) to protect against disturbing vibrations from nearby machines and traffic. Both active and passive isolation systems permit easy realignment of the foundation when poor soil conditions cause the foundation to settle. At Gerb, we know that innovation is the only way to secure future. Vibration isolation of railway trackbeds, seismic protection of sensitive buildings & use of tuned mass damper for building & structures are just some of our exciting new applications.

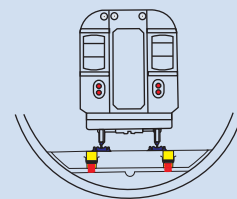
GERB Research and development center located at Berlin, Germany, cooperates with world's highly regarded research institutions on a regular basis.

Today, new equipment is often supplied with a vibration isolation system. Equipment suppliers to the automotive industry, for example, cannot accept excessive tolerances and imprecise control of their production systems. GERB's elastic foundation provides a competitive technical advantage, as well as maintenance-free operation.

GERB-India started operations in 1985 and subsequently established the factory at Bangalore in 1992. In such a short span of time we have vibration isolated several thousands of vital machines using our system.

## Advantages

- Very high vibration transmission controls upto 95%.
- Reduced foundation size, leading to savings in cost, time&space.
- Possibility to install the machine on higher floors – saving space.
- Design for high life–nearly no maintenance.
- Reduced stresses in machine, leading to maximum uptime, lower maintenance & increased life of machine.
- Leveling done at spring level, which is much easier than at machine level.
- No harm to the building & you can install sophisticated machines in the vicinity.
- Freedom from foundation cracks or soil settlement.
- Insurance from troubles of future pollution norms & neighbors.



## Diesel Generator Sets

Vibration isolation of DG-sets using spring support has been a great success in the world market in competition to the standard rubber support systems.

Our system with very low natural frequency offers high vibration isolation efficiency in the range of 95%. Life of the GERB mounts is high, hence no replacement or maintenance – only one time cost. The mounts do not react with the leaked oil of your DG-set. Bolting to the machine or to the foundation is not necessary.

Several machines can be put on the same floor without separating foundations. Substantial reduction in foundation size that compensates the cost of spring mounts. The only effective solution for installation of DG-sets on higher floors.



## Power Plants



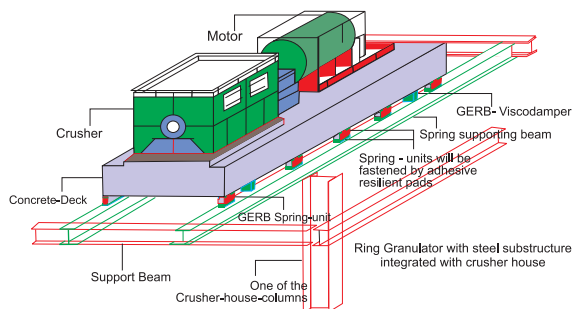
### Turbogenerators

A very low vibration levels in the foundation, which ensures smooth running of the machine & safety of structure against vibrations.

Protection of turbine foundation against soil settlement. Turbine foundation level can be adjusted over spring level.

Upto 60% savings is possible in RCC quantity of the base-mat leading to cost & time reduction. They are also easier to cast & a much better quality of RCC is achieved.

TG column below spring unit can be used to support the building structure providing in this way a better layout by eliminating auxilliary columns below the TG top deck.

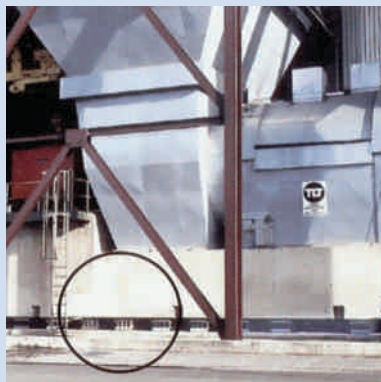


### Crushers/Boiler Feed Pumps

Complete elimination of the tall table foundation. The machine with it's spring supported RCC top deck is integrated with the building structure providing advantages of high cost & time saving and giving a lot of space below the machine for the chute and other auxiliary equipment. In India alone we have over 700 crushers & 1000 BFPs supported on our system.

### Coal Mills

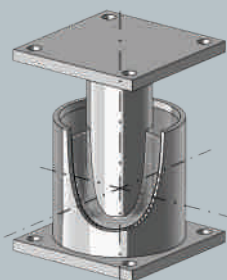
Coal Mills are machines, which creates high vibrations that has certain effect on boiler, switchgear, control instruments, etc. even if such negative effects are not right away apparent and disappears in the general range of maintenance. Spring support of the mills will not only lower such maintenance cost as a result of less wear & tear but also much smaller foundation eliminating layout constraint in the bunker area.



### Fans

Complete elimination from the block foundation, that usually remains at several meters below the ground level. Instead the fan with its small spring supported RCC top deck and spring support system can rest at much higher levels, providing a very economical foundation in addition to vibration control.

In most cases, fans need to be spring supported in order to avoid resonance in the fan foundation due to medium & variable speed of the fan.



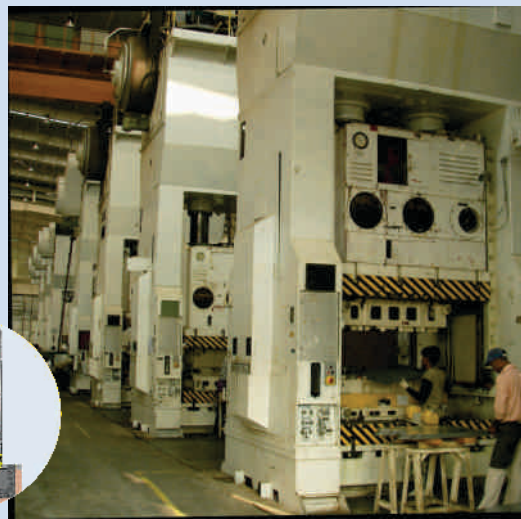
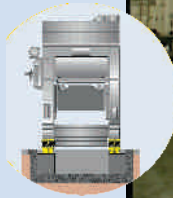
### Pipework Dampers

Pipework damper is a standard device commonly used in various types of plant in order to absorb the shocks and operational vibrations in piping system, which can not be fixed rigidly due to temperature fluctuations and has to be supported by spring hangers. Our dampers have very effectively been replacing snubbers over the years, as it results as technically & commercially very effective solution. Needs nearly no maintenance & works in all 3-directions, unlike snubbers.

## Metal Forming

### Presses In Sheet Metal Industry

An excellent solution to support all kind of presses. World renowned companies like Schuler, Komatsu, Lasco & Weingarten approve our system & use regularly. In India we have installations for all makes of Indian & imported presses in wide range of capacity & types. High vibration control, reduction in foundation size & lower machine maintenance are a few reasons of supporting all types & size of presses using GERB system. Low vibration on the shopfloor opens up a possibility to put up a machining center in the vicinity, solving a lot of logistics & space issues.



### Forging Hammers

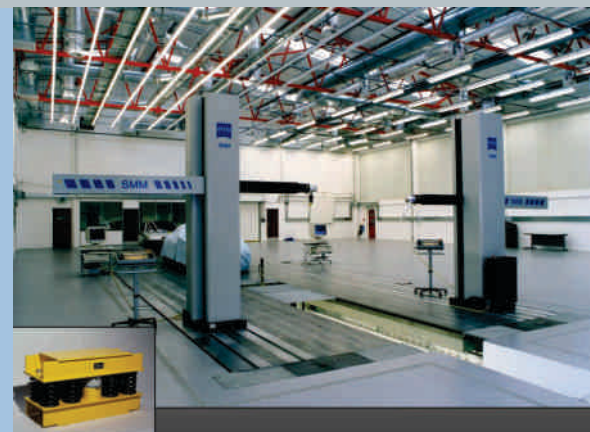
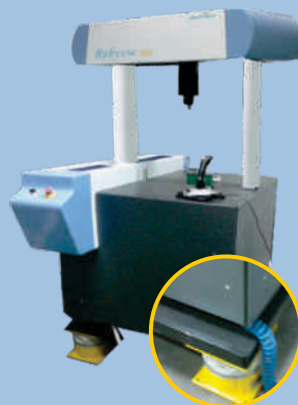
Hammers create tremendous vibration on each stroke & is a serious applicant for vibration isolation. European standards have strict guidelines for such industries & time is not far, when in India too we will have tough regulations. Many forging companies in India had to either close down or shift to outskirts, just because of Vibrations. Use of our system is an insurance against problem related to future regulations & neighbour complaints.

Using specially designed & rugged GERB Spring-Viscodamper combination system, you get high isolation efficiency as well as reduction in foundation cost. Maintenance of our system is limited, as you do it for any mechanical product.



### Measurement Machines and CMM

Machines like CMM are prone to even smallest of vibrations. The accuracy demand is so high, that small vibrations from stamping, crane, forklifts or even traffic, can lead to wrong results. As the main disturbance for such a system is from frequencies higher than 10Hz, instead of going for an expensive solution, our budget solutions are good enough for such machines with high isolation efficiency. All types & sizes of such machines have been effectively isolated by us worldwide.



### Forging Presses

All types of Forging presses whether mechanical or screw, create vibrations enough to disturb the neighbourhood. These vibrations damage the building as well as other machines installed nearby. GERB has experience in isolating all types of machines ranging various capacities. The biggest & most complicated forging presses in the word have been isolated effectively & successfully. Normally such machines need a steel frame or inertia block for the best performance - we offer our services for complete design & static + dynamic analysis for such a system.



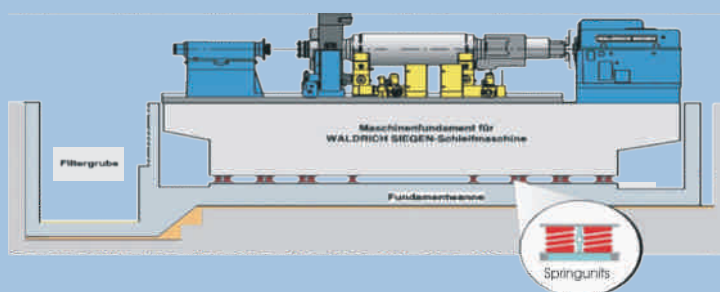




### Centrifuges

Centrifuges create very high dynamic force & is isolated very effectively with our rightly designed 4 point suspension system. Our technology has been very successful round the globe & replaced 3 point suspension system that has now been obsolete worldwide.

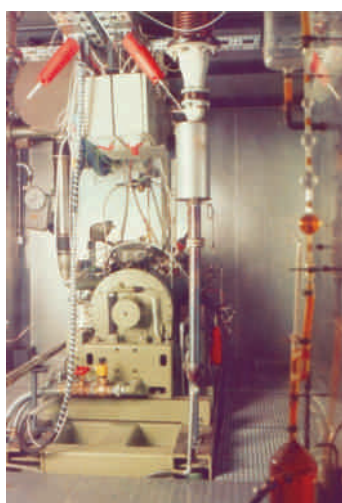
Offers very high vibration isolation efficiency and correct system damping with our Visco/Sordino Dampers leading to reduction in foundation size - best technical solution to place the machine on high level. The design involves detailed calculations & dynamic analysis.



### Roll Grinders

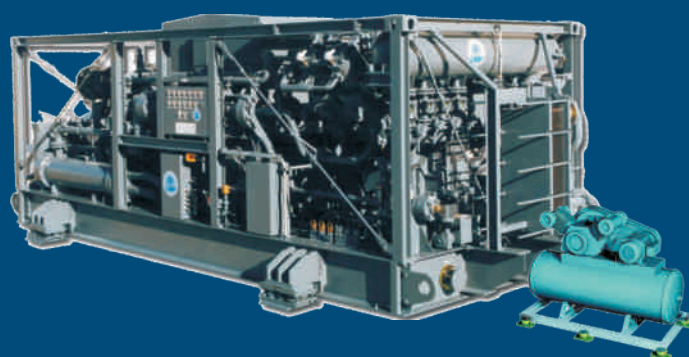
The accuracy required of roll grinders has increased rapidly over the years. Even very low vibration levels may lead to unacceptable chatter marks or shadows on the surface of rolls. Nearby equipments, cranes, traffic or even forklifts may cause such vibrations. Today vibration isolation of roll grinders has become a necessity.

Not just the design of proper isolation system is important, but also sizing of the spring supported block. We provide complete solution including design of concrete block for such a requirement. With a low natural frequency of Gerb system, we offer a very high vibration protection.



### Engine Dynamometers & Test Machines

Dynamometers coupled with engines are used for testing of various types of engines. The imbalance created at high machine speeds, transmit vibrations to surroundings. We support the combination of dynamometer & the engine on a common foundation/ steel plate to effectively control any vibrations transmissions. Major companies like AVL, FEV & SAJ have appreciated our technology & propose our system at many places. We have numerous such installations at companies like Escorts, Mico, Ashok Leyland & HM etc. Similarly, various types of test machines can be effectively isolated using our low frequency spring system.



### Compressors

All types of compressors, screw or reciprocating, small or big, create vibrations. Our very simple mounting systems effectively control vibrations that enables users to install compressors on higher floors without worrying of vibrations, that is normally transmitted to the building, making working or living difficult.

# GERB

## worldwide

### Noida

Gerb Vibration Control Systems Pvt. Ltd.  
2403, 4th floor, Express Trade Tower-2,  
B-36, Noida Expressway, Sector 132,  
Noida - 201 301 (U.P.)  
Phone : 0120-4751600-99  
Fax : 0120-4751666  
E-mail : gerbindia@vsnl.com

### Bangalore

Gerb Vibration Control Systems Pvt. Ltd.  
27A, 2nd Phase, Peenya Industrial Area  
Bangalore - 560 058  
Phone : 080-49023000-99  
Fax : 080-49023000  
E-mail : gerb@vsnl.com

### Germany

GERB Schwingungsisolierungen GmbH & Co. KG  
Roedernallee 174-176  
13407 Berlin (Reinickendorf), Germany  
Phone : +49-30-4191-0  
Fax : +49-30-4191-199  
E-mail : info-de@gerb.com



[www.gerb.in](http://www.gerb.in)

