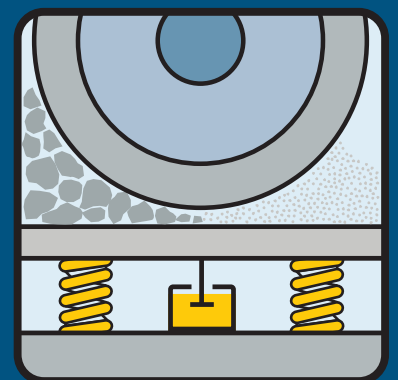


Spring Support of Mills and Crushers



Mills and crushers of all types cause significant vibrations in their nearby vicinity. This can lead to disturbances, damage and subsequently even the interruption of operations in power plants and other industries.

A major concern is unquestionably the damaging effect of vibrations in the control room of the power plant. Vibrations can affect the control instruments for the plant as well as individual instruments, control units and switch gears that are situated adjacent to the boiler.

Over the last 50 years, GERB has developed and introduced elastic foundation systems for vibration isolation of coal mills. These systems are not only used in almost all of Germany's power plants, but also in many other power stations and industries throughout the world.

Spring support enables much smaller and more compact mill foundations to be used than the conventional massive ones that were previously considered necessary.

Static loads are supported by the spring units, which are equipped with high quality, fatigue-free coil springs. Special velocity proportional GERB Viscodampers®



Typical Spring-Viscodamper® Combination

are arranged in parallel to the spring system to minimise the mass of the foundation while simultaneously stabilising the system.

Significant advantages provided by the GERB system include:

- **The mass of mill foundations equipped with the GERB system is just 40 % or even less than that of conventional foundations.**
- **Nowadays, certain types of mills may even be vibration isolated by so-called direct spring support that functions without any foundation mass.**
- Smaller foundations are more cost-effective and produce **savings in terms of erection time.**
- When the mill **foundations are separate from the boiler house building**, the erection of the mill foundations is independent of the erection of the main building. Mills may be erected either before or after the construction of the main building, which means that mills can be commissioned earlier if so desired.
- The installation of the elastic support system prevents the transmission of vibrations to surrounding buildings. Consequently, potential **damage to buildings, control instrumentation and sensitive equipment is completely eliminated.**



Typical Spring Unit

- The use of correctly designed elastic support systems will result in **lower stresses in the mill components. This will lead to increased lifetime, longer maintenance-free periods and therefore higher availability of the plant.**
- **Realignment of the foundation system in the event of soil settlement is possible.**
Shimming can be carried out without any interruption to the mill operation.
- The GERB system ensures the effective protection of the mill against seismic loads. Therefore, **the danger of earthquake damage to the mills is minimised.**
- The GERB system ensures **lower vibration levels which in turn will benefit the personnel**, the plant and the surrounding area.

Strict production methods in the manufacture of spring units and Viscodampers® combined with continuous quality control during production ensure that the lifetime of GERB vibration isolation systems will be at least compatible with that of the entire plant.

GERB vibration isolation systems are supplied ready for installation.

Upon request, **GERB mounting engineers are able to facilitate the installation and adjustment of the system on-site.**

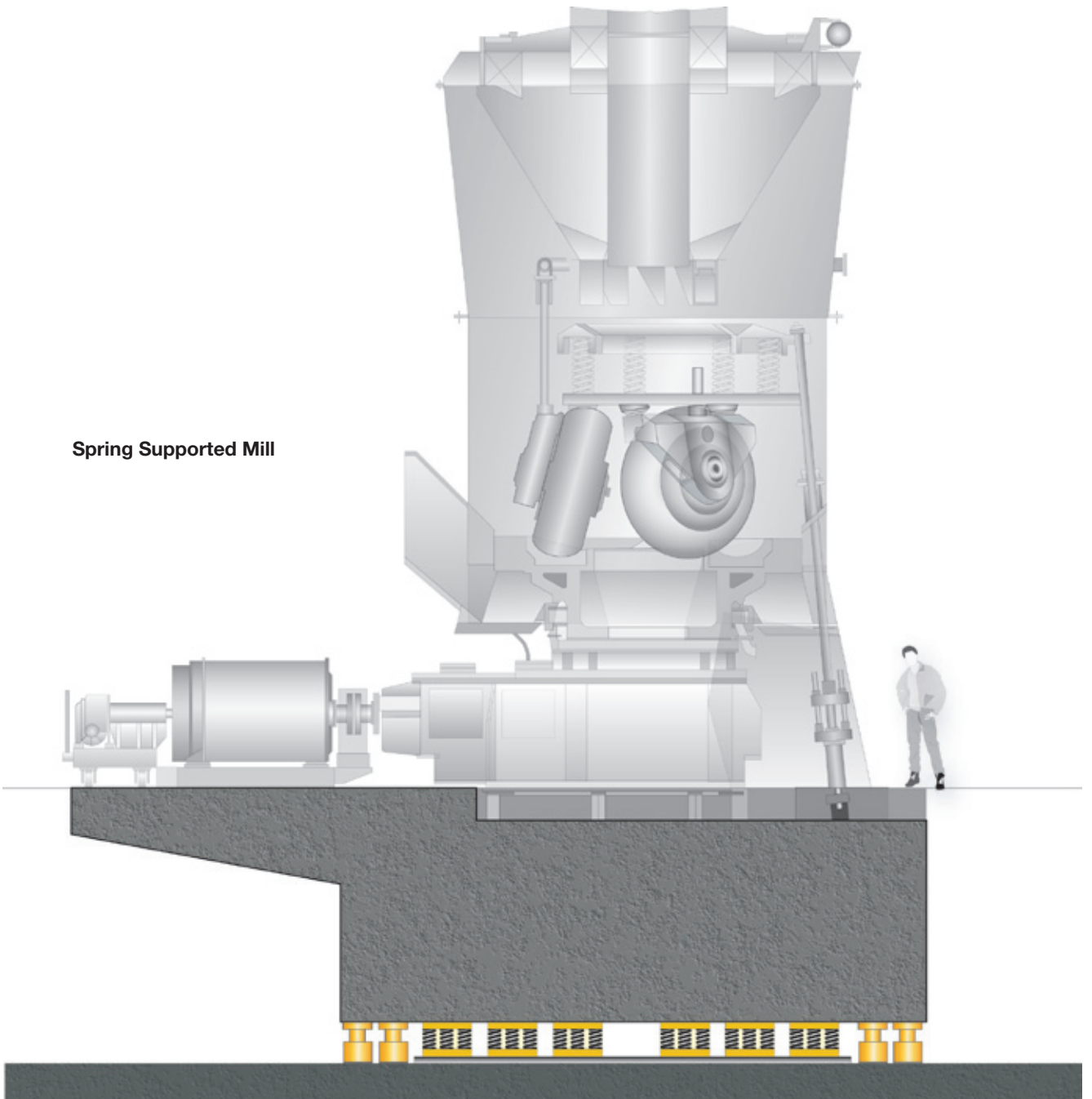


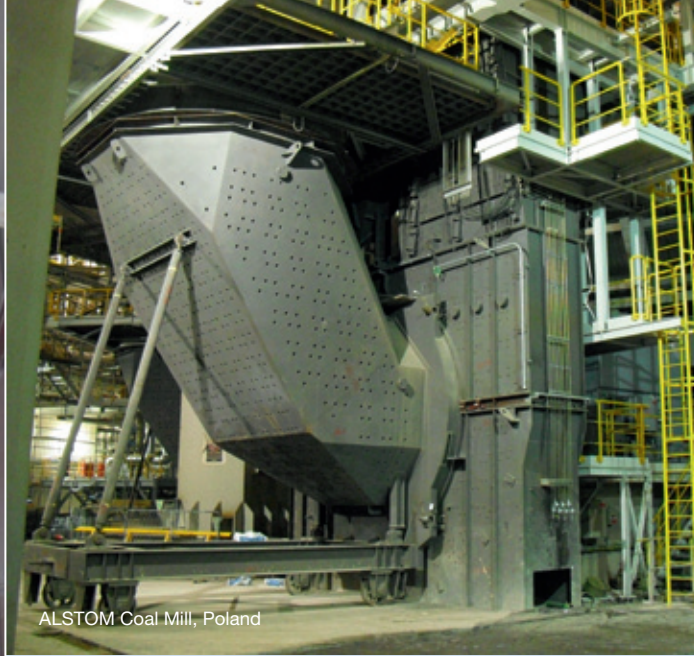
FUJICAR Crusher, Japan



MITSUI MIIKE Crusher, Japan

Spring Supported Mill





ALSTOM Coal Mill, Poland



Loesche Slag Mill, Germany

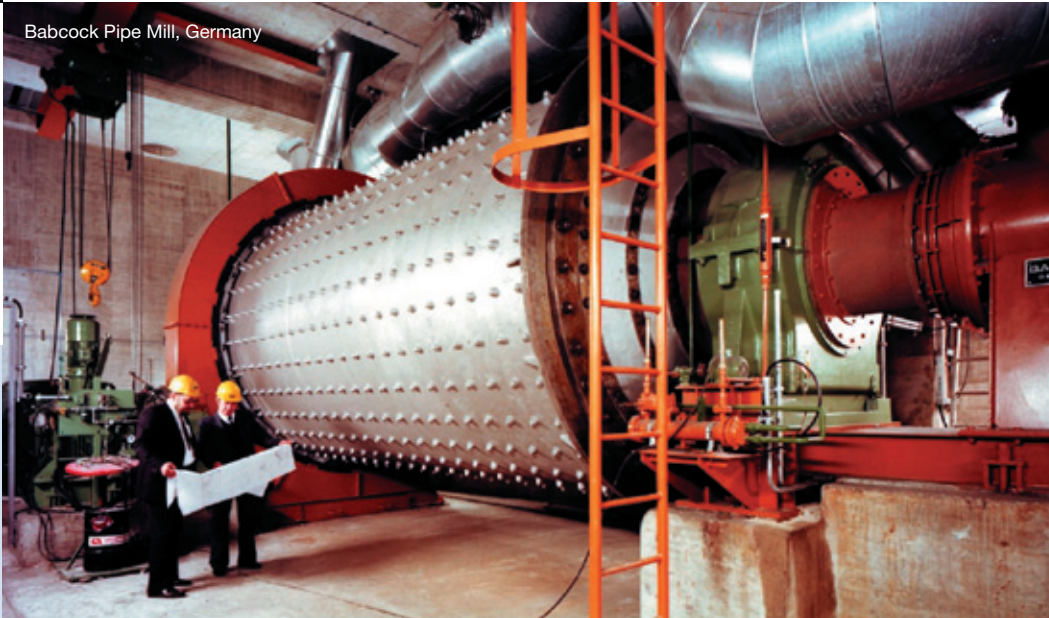
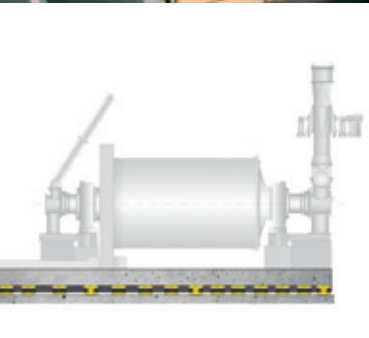


Loesche Mill for Slag Processing, Belgium

Spring Support of Mills and Crushers Reference List (Excerpt)

Country	Power Plant / Plant	Manufacturer
Australia	Loy Yang A and B Northern PS	EVT Babcock
Austria	Duernrohr Riedersbach Timelkam II	EVT Loesche EVT
Brazil	Sotelca	Babcock
Bulgaria	Maritza East	Alstom
China	Beijing Thermal P/S Castle Peak, Hong Kong Dingzhou Power Plant Huaneng XinDian Power Pl.	Babcock Babcock E Beijing Electr. Pow. Equip. Shenyang Heavy Mach. Pl.
Denmark	Asnaes Fynsvaerket	Babcock Loesche
Finland	Meri Pori	Babcock
France	Platres la Farge	Claudius Peters
Germany	Altbach Badenwerk Buschhaus Frimmersdorf Niederaussem Weisweiler	Babcock EVT Babcock Babcock Alstom Babcock
Greece	Aghios Dimitrios	Stein, EVT
India	Chandrapur-7 / MSEB Neyveli Neyveli Zero Unit	BHEL EVT Alstom
Ireland	Shannonbridge	Babcock
Italy	Brindisi	Babcock E
Japan	Hiroshima Ishikawa	Miike Crusher FUJICAR Crusher
Jordan	Aqaba	Babcock
Netherlands	Amer Gelderland Hemweg 8	Babcock Babcock E Babcock
Poland	Pomorzany Belchatow	Babcock Alstom
Spain	Mairama	Babcock
South Africa	Duvha	Babcock
Turkey	Catalagzi Elbistan	EVT Babcock
UAE	Emirates Aluminium	CEMTEC
USA	Bethlehem Steel (M.D.) Lafarge (N.Y.)	Claudius Peters Claudius Peters

CEMTEC Cement Pipe Mill, UAE





Spring Support of Mills and Crushers

If you would like to receive a quotation for a vibration isolation system of mills or crushers then simply send us the following data:

- ▶ Manufacturer, type and size of mill or crusher
- ▶ Total weight
- ▶ Normal speed or speed range
- ▶ Weight of the motor
- ▶ Layout drawing

If further data for the installation is available it would help us in terms of optimising our proposal and minimising the costs for the foundation system of your mill or crusher.

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