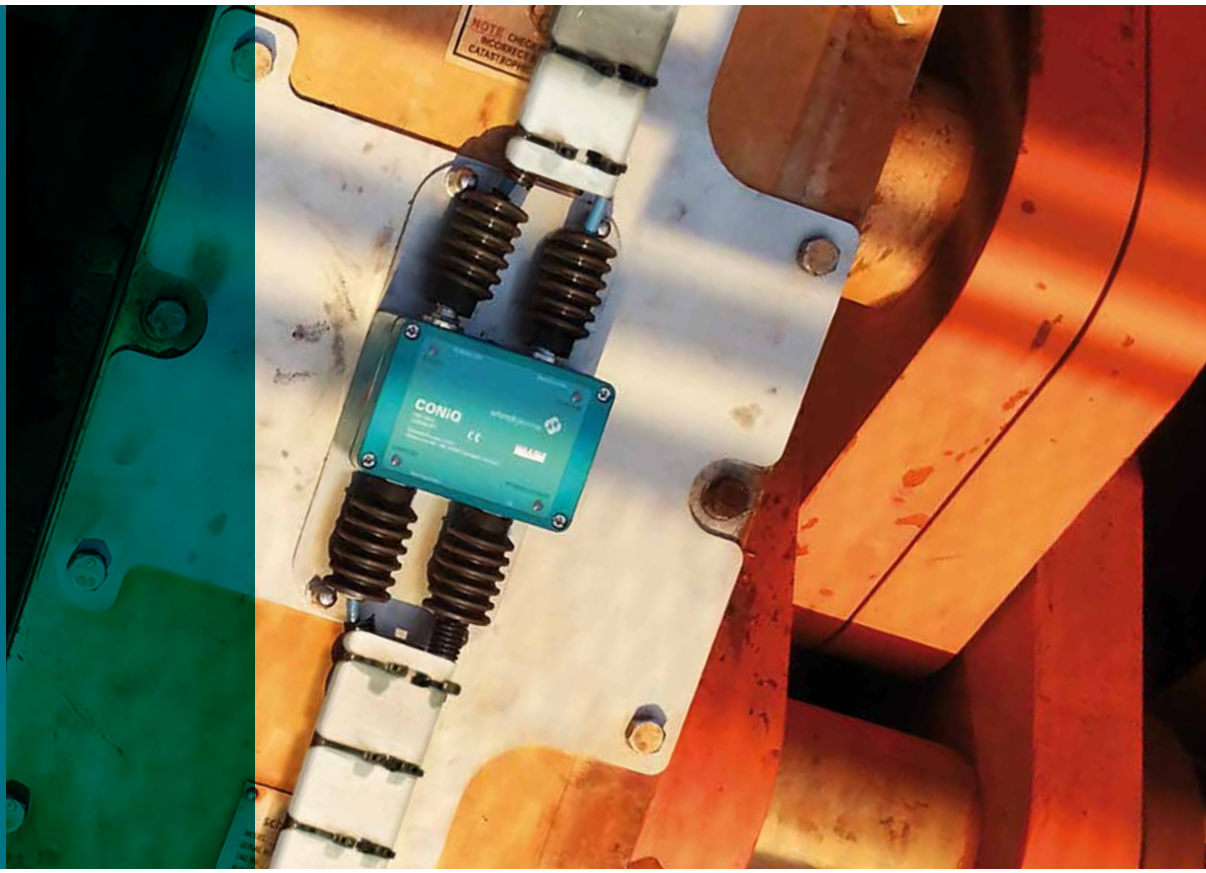
schenckprocess

The power to predict!



CONiQ® condition monitoring in mineral processing: Maximum uptime. For a lifetime.

CONiQ® detects machine faults before they become a failure.

» Maximize machine life

» Prevent breakdowns

» Immediate detection in case of failure

» Optimize machine operation (inspection)

CONiQ®

Inspection and maintenance account for up to a third of indirect costs in production plants. Condition monitoring systems enable companies to realign their maintenance strategies around fault detection, prevention and saving costs.

CONiQ® from Schenck Process offers distinct advantages as a CM system specially designed for vibrating machines, with a unique six-dimensional vibration measurement.

With CONiQ®, Schenck Process consolidates its position as a provider of intelligent Industry 4.0 applications.

CONiQ® pays for itself immediately if just one unplanned downtime is avoided.

Maximizing uptime and the service life of vibrating machines.

Vibrating equipment is critical to continuous production in the mineral extraction industries – downtime means lost revenue. The heavy load demands on vibrating machines mean that sooner or later bearings, exciters, springs, shafts and other components will require maintenance or replacement.

Effective condition monitoring makes it possible to detect potential future faults and failures before they happen and allows you to undertake maintenance interventions at precisely the right moment, **maximizing the service life of your equipment.**

Developed by Schenck Process, the global experts in vibrating equipment, **CONiQ® is the condition monitoring solution that is specifically designed for vibrating machines** and is based on the latest sensor technology and analytical software.

This makes CONiQ® particularly suitable for mineral processing plants in remote locations, where expert maintenance support may not always be immediately available.

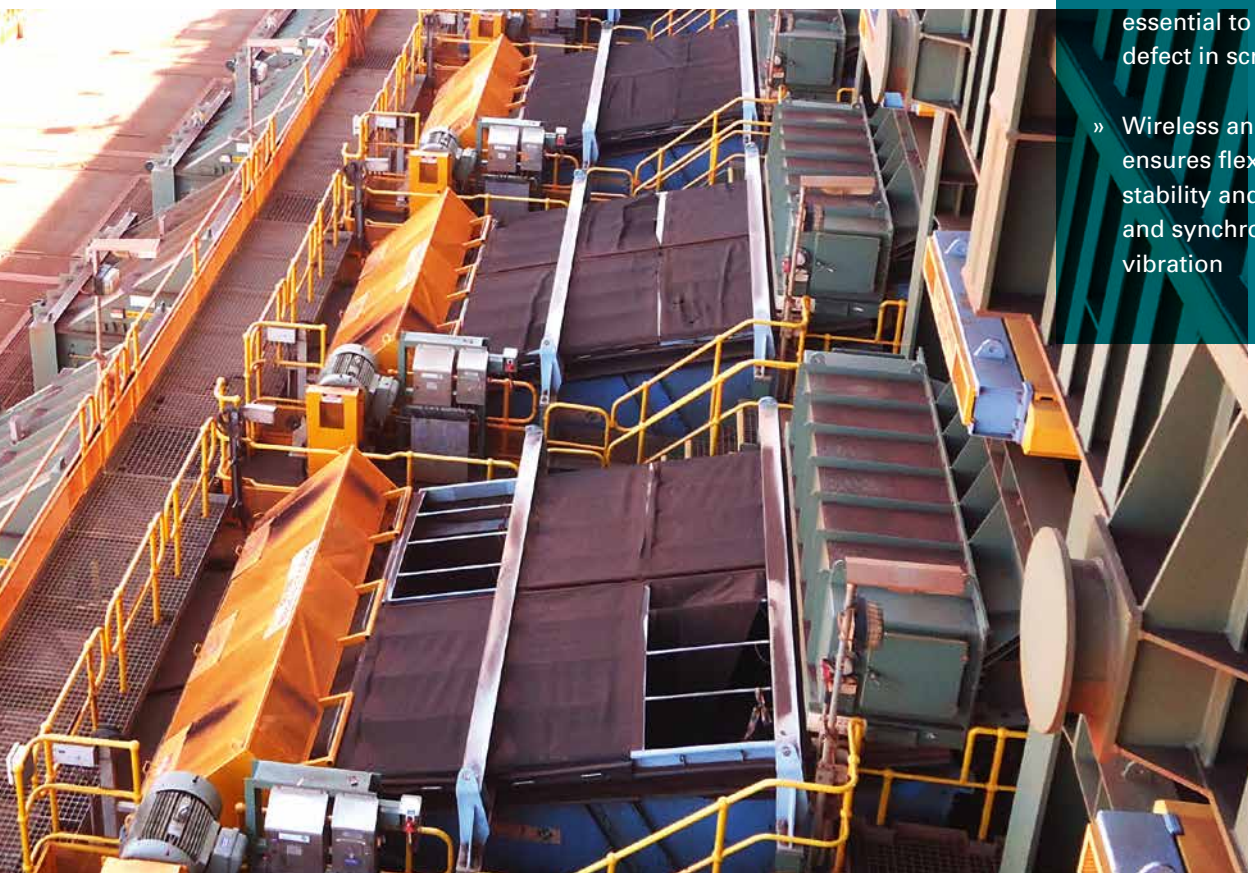
CONiQ®

Predict!

Advantages of condition monitoring with CONiQ®
CONiQ® brings significant benefits to mineral processing plant operators. Predicting potential faults will proactively reduce the impact of unscheduled downtime and lost production. If it prevents a single breakdown, the lost production that you avoid will almost certainly pay for the system immediately.

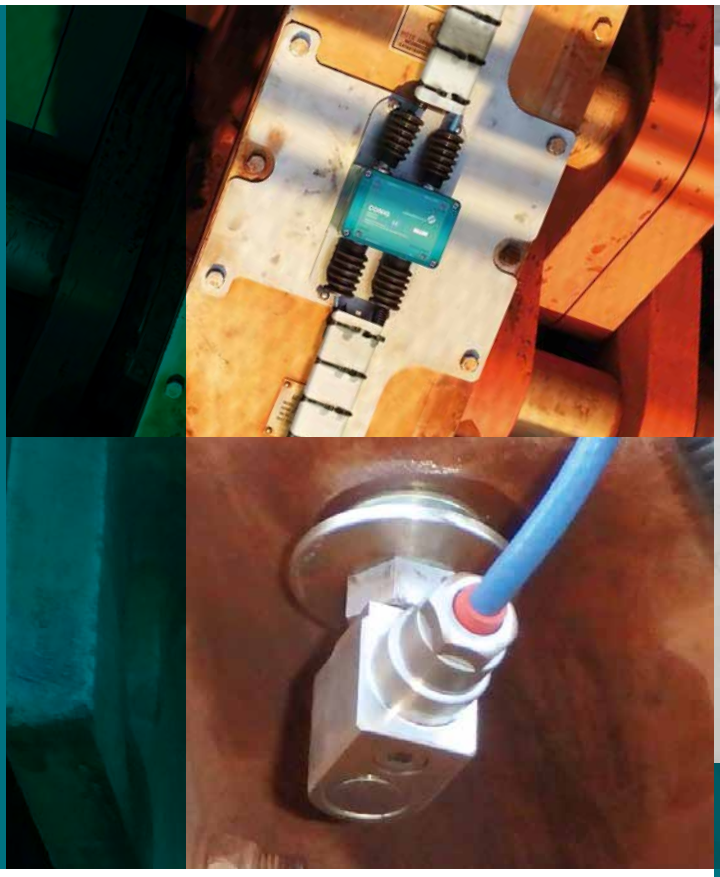
CONiQ® is suitable for all Schenck Process linear vibrating equipment and other vibrating machines. It requires minimal cabling, making it more robust than other condition monitoring systems – an essential requirement for heavy load bearing vibrating machines, while providing greater flexibility, stability and reliability than wireless-only equipment.

CONiQ® has been independently tested by the German technical control board (TÜV) and in field operations.



- Worn parts (e.g. bearings, gears) can be replaced before other parts become damaged
- Significant cracks or defects in the screen body can be detected
- Unforeseen downtime for corrective maintenance can be avoided
- Maintenance and repair work can be planned more effectively
- CONiQ® will help you to ensure that equipment runs to maximum efficiency
- CONiQ® protects one of your most valuable asset
- You will gain machine-specific experience and know-how
- 6D MEMS – unique to CONiQ® and essential to ensure that any possible defect in screen movement is detected
- Wireless and non-wireless set-up: ensures flexibility of sensor mounting, stability and security in data transmission and synchronicity to detect out-of-phase vibration

CONiQ®



» Efficient measurement is the essential first step in the control of any dynamic system

» The first sign of many problems is a change in the magnitude or direction of the vibrating screen's motion

» CONiQ® a "hands-on" expert monitoring your screen all day, every day

Measure!

CONiQ® consists of three main elements to measure, analyze and interpret condition monitoring data more effectively than any other system on the market.

» Machine measurement **with 6-dimensional MEMS** (microelectromechanical system)
» Exciter measurement **using piezoelectric accelerometers**
» Oil temperature **with Pt100**

The 6-dimensional MEMS (three-dimensional acceleration and linear and three-dimensional rotation and velocity) are a unique feature of CONiQ® and are essential to detect any motion change. Measuring **mechanical** vibration (piezoelectric sensors to monitor bearings, gears etc.) and machine movement separately (6D MEMS to monitor load, springs, intermediate shaft etc.) enables **more accurate detection of actual or potential faults**.

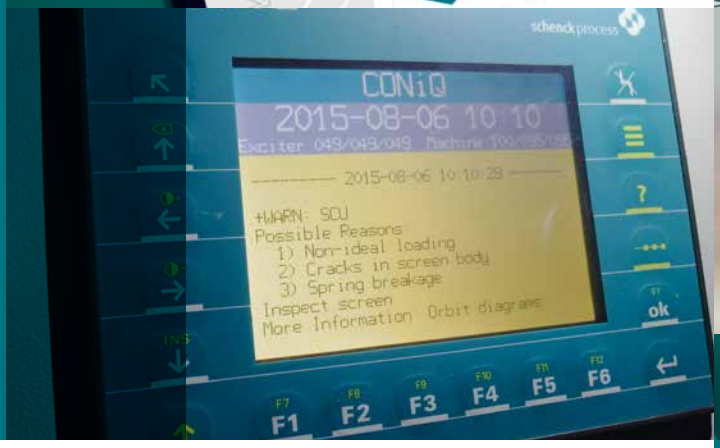
The sensors and other measurement devices send data to the processing unit located beside each machine, which **calculates state variables and measures these** against preconfigured initial and limit values.

These variables **can be easily monitored** on the display panel. Data is stored on the processing unit and can be downloaded to a PC for historical **trend analysis** across multiple variables (orbit displacement and acceleration, amplitude and envelope spectrum etc.) using CONiQ® View software.

Analyze!

- » Analysis turns numbers into information
- » Trends analysis and performance patterns show changes over time
- » Service history: a valuable aid to predicting the future

→CONiQ®



- Remote access to fault trends means a faster expert response to evaluate performance or potential problems
- Centralized monitoring: a plant-wide view minimizes demands on operational and maintenance staff
- Quality performance data means faster understanding and optimization of machine performance

Interpret!

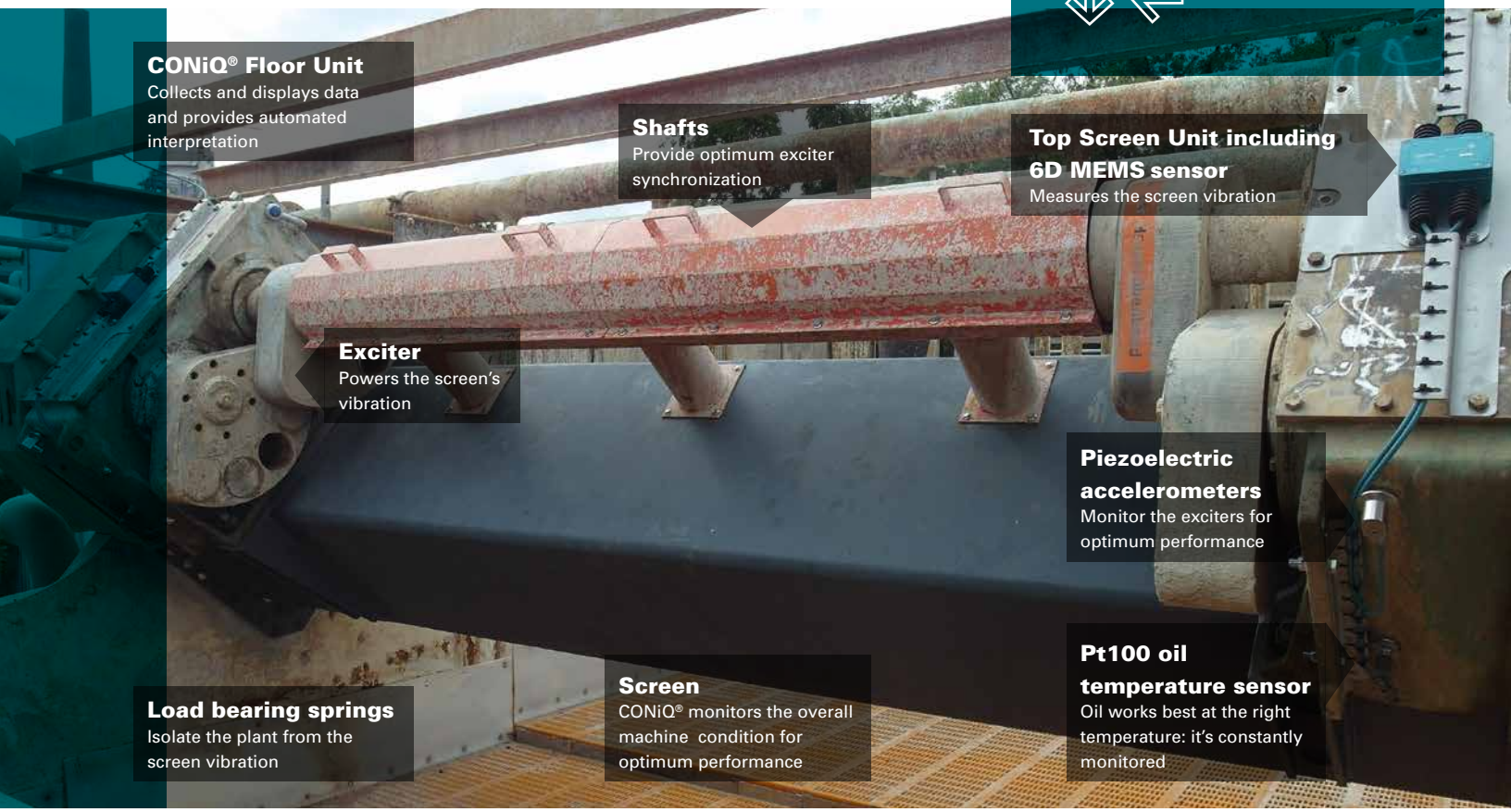
CONiQ® automatically interprets the state variables, determining possible reasons for a potential future break-down and advising operators on what action to take.

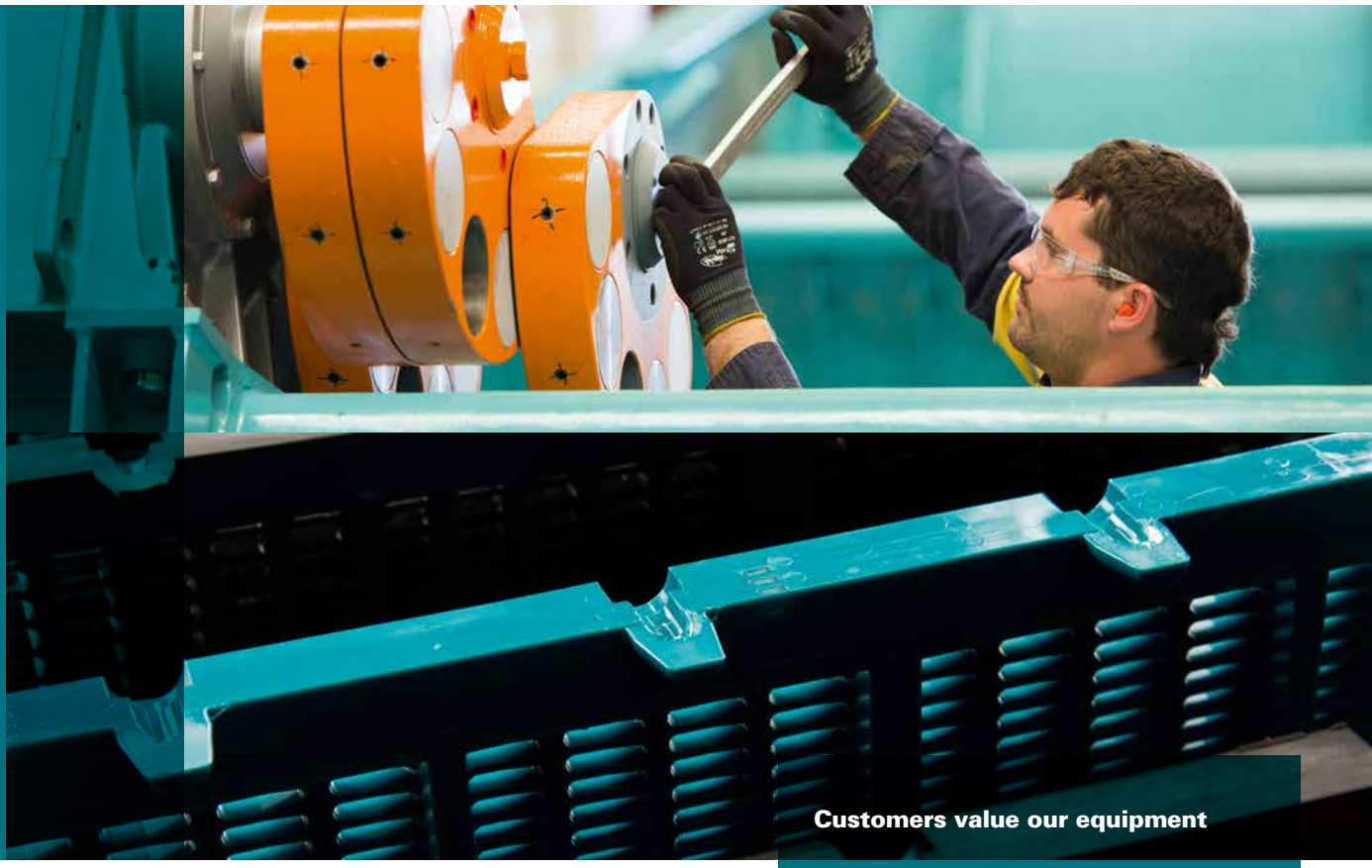
Furthermore, CONiQ® View enables a **complete plant overview**, consolidating information about all monitored vibrating machines. Data is sent to CONiQ® View software on a PC or other device for interpretation of long-term trends, enabling early identification of any potential risks. This also means that trend **data can be analyzed remotely**, for example at your corporate or regional head quarters, reducing the demands on local operational staff.

The system can be connected to the site control system via various communication options such as PROFIBUS, DeviceNet, PROFINET, Modbus, digital feedback signals and analog outputs.

Contact your Schenck Process representative for a free initial assessment of your requirements for condition monitoring and a demonstration of the CONiQ® solution.

Setup!





Customers value our equipment

- » Ease of maintenance
- » Long working life
- » Maximum availability
- » Consistent quality

Experience.

Schenck Process is synonymous with dynamic development and manufacture of vibrating equipment. Around 90 years of experience, superlative quality, outstanding technology and extensive customer service make Schenck Process a leading supplier to the mineral processing sector.

Accurate bulk material separation is essential for a high-quality end product. Our screen panel system offers superior quality, custom manufacturing and maximum dimensional accuracy.

Screen panels from Schenck Process provide individual solutions for your specific screening tasks, achieving minimum wear and maximum service life.

Schenck Process vibratory screening equipment can handle the bulk materials used in mineral processing – whether large lumps or fine particles, wet or dry, for iron ore, coal, precious metal ores and all types of base metal ores.

Solving technological problems is our speciality.
Our application-specific solutions include heavy-duty weighing technology as well as static weighing technology – from conveying, screening, drying and cooling to de-watering. We assist in all processes from planning through to the construction of plant sections and reliable controls for the connection to data systems.

Exploration and preparatory work in mines requires outstanding technology and materials. Schenck Process solutions are used where others fail.

Quality.

Schenck Process offers applications and solutions including:

» Modular coal preparation plants

» Screening and separating systems

» Filter and train loading systems

» Scales and exploration systems for the coal, iron ore and precious & base metals industries

BV-P 2135 US

Mineral processing excellence.

Drawing on a wealth of experience and technical know-how in the mineral processing industry, Schenck Process will quickly help you resolve any issues identified. Our **refurbishment service** for screens, exciters and other vibrating equipment completes comprehensive offering that provides you with total peace of mind.

Get in touch with your Schenck Process representative for advice on condition monitoring, fault resolution and refurbishment.

Resolve!

schenckprocess

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we make processes work