MECHANICAL STOCKLINE RECORDER
MECHANICAL BURDEN MEASUREMENT

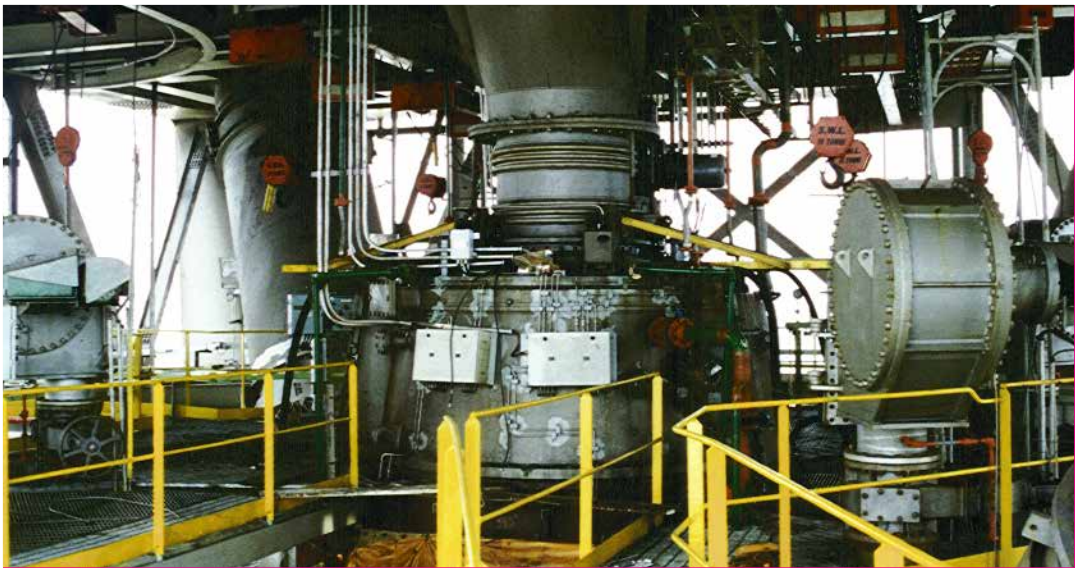
BENEFITS
The Mechanical Stockline Recorder is a self-contained gas tight unit with electric VVVF drive and off-shelf gearbox with emergency hand wheel operation. The unit is designed to provide accurate positioning via a cam switch directly connected to the furnace charging system. An easily replaceable weight provides for quick maintenance and shortened downtime periods.

FIELD OF APPLICATION
Blast furnace – burden measurement

FUNCTION
The burden level of a blast furnace can be measured using a mechanical stockline winch. The mechanical stockline recorder is specifically designed for high top-pressure operation, with the winch as a complete unit comprising a grooved drum, a transmission gear, an electric motor and electric instruments. The cable drum itself is located inside a gas-tight casing, with the shaft coupled via a special grease labyrinth to a reduction gear and motor. The instrumentation is connected to the stockline device via an intermediate gearbox.

The stockline winch device complete with a manually-operated isolation valve is connected via a flanged arrangement to the blast furnace top cone. The unit consists of a weight on a winch drum, with the drive to the winch drum being provided by a VVVF drive (variable voltage, variable frequency). The output torque from the motor is carefully controlled to provide just enough torque to hold the weight. The weight is allowed to descend until it sits on the surface of the burden. As the burden falls, the weight falls with it, until a low level cam switch tells the unit, and hence the control system, to raise the weight, and also tells the operator to allow another charge to be fed into the furnace.

PRODUCT STRUCTURE
- Cable drum in gas-tight casing
- Transmission gear
- VVVF drive
- Measuring weight
- Low level cam switch
- Control system



1 | Mechanical recorder 2 | Weight change 3 | Drive unit

Technical data	
Operating range	3,300 mm above max. burden level
Operating range	28,000 mm below max. burden level
Recorder weight	125 kg
Electric motor	Primetals Technologies 8-pole VVVF drive, manual brake release lever, 5.5 kW – 710 rpm, frame size 160 M
Lifting speed	1,000 mm / second
Lowering speed	600 mm / second
Isolation valve	400 mm manual gate valve

SERVICES

- Integration engineering
- Erection advisory
- Commissioning advisory
- Logistics
- Spare parts

OTHER CUSTOMERS BOUGHT ADDITIONALLY

- Radar Stockline Recorder
- Above Burden Temperature Probe
- Profilemeter
- Ignition Lance

Primetals Technologies Ltd
A joint venture of Mitsubishi Heavy Industries and partners

Ashmore house | 7 Fudan Way |
Thornaby Stockton-on-Tees | TS17 6ER
primetals.com

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