Roll Force Measurement Systems Increase Productivity

- Increases roll life
- Prevents mill overloads
- Improves product quality
- Reduces mill downtime
- Simplifies retrofit

Designed for High Accuracy and Easy Installation

The RFS-4 is a dedicated roll force measurement system specifically designed for use on both new and existing rolling mills. The RFS-4 System provides the mill operator continuous monitoring and display of roll separating force and differential forces balance. The system eliminates temperature-induced drift during the period that the mill is empty and provides local and remote indications that metal is in the mill or that the mill is overloaded.

RFS-4 System Features

- Total and differential measurement
- Metal-in-the-mill and overload alarms
- Analog output signals representing total, differential, work, and drive forces
- Digital data output over fieldbus (TCP/IP, Modbus, Modbus TCP, Profinet, DeviceNet, Ethernet/IP)
- Modern G4 instrument user interface
- Advanced digital filtering
- Synchronized sampling of all channels

RFS-4 with Extensometers for Hot Rolling Mills

Extensometers are designed to measure the strain in the mill posts rather than the rolling loads. Although similar in operating principal to a load cell, they are calibrated in strain (or stretch) instead of load.

Actually, while maximum roll force can vary considerably from mill to mill, post strain remains within a range of 33 to 130 microinches per inch at rolling mill nominal capacity. Our extensometers are designed for optimum performance over this range.

With extensometers installed, the mill posts become an active part of the measuring system. The entire mill housing with the attached extensometer can be considered the “load cell.” Installing extensometers on both the work and drive sides of the mill enables the user to achieve a balanced force at all times.

RFS-4 System with extensometers allows easy upgrade and renovation of existing mills that lack the rolling force measurements. Installation of extensometers can be done during normal periodical maintenance, which minimizes downtime.

Custom Made Load Cells for RFS-4

The load cell solution is for use in hot and cold rolling mills and offers high accuracy and repeatability. Our custom-made load cells are designed into the rolling mill or replace existing load cells and offer the best solution in the industry in terms of accuracy and durability.

Instrumentation

The RFS-4 System uses the state-of-the-art G4 instrument with special software designed for roll force measurement. Each extensometer or load cell is connected to a measurement channel of the instrument, enabling accurate reading of the force on both sides of the mill, sum and difference.
Configuration

**Extensometers:**
- 2 or 4 mounted on the mill posts

**Custom Load Cells:**
- 2 or 4 load cells
- Disc
- Slab
- T-Block
- Others

**Power:**
- 110/240 VAC
- or
- 24 VDC

**Ethernet:**
- Field Busses

**Option:**
- Sum
- Differences
- Option

**Option:**
- System OK
- Overload
- Metal in the mill

**HS WF2 Card**
SMART SOLUTIONS FOR DEMANDING INDUSTRIES

BLH NOBEL
A VPG Brand

Contact
blhnobel.usa@vpgsensors.com
blhnobel.eur@vpgsensors.com
blhnobel.asia@vpgsensors.com

blhnobel.com

DISCLAIMER: ALL PRODUCTS, PRODUCT SPECIFICATIONS AND DATA ARE SUBJECT TO CHANGE WITHOUT NOTICE. Vishay Precision Group, Inc., its affiliates, agents, and employees, and all persons acting on its or their behalf (collectively, “VPG”), disclaim any and all liability for any errors, inaccuracies or incompleteness contained herein or in any other disclosure relating to any product. The product specifications do not expand or otherwise modify VPG’s terms and conditions of purchase, including but not limited to, the warranty expressed therein. VPG makes no warranty, representation or guarantee other than as set forth in the terms and conditions of purchase. To the maximum extent permitted by applicable law, VPG disclaims (i) any and all liability arising out of the application or use of any product, (ii) any and all liability, including without limitation special, consequential or incidental damages, and (iii) any and all implied warranties, including warranties of fitness for particular purpose, non-infringement and merchantability. Information provided in datasheets and/or specifications may vary from actual results in different applications and performance may vary over time. Statements regarding the suitability of products for certain types of applications are based on VPG’s knowledge of typical requirements that are often placed on VPG products. It is the customer’s responsibility to validate that a particular product with the properties described in the product specification is suitable for use in a particular application. You should ensure you have the current version of the relevant information by contacting VPG prior to performing installation or use of the product, such as on our website at vpgsensors.com. No license, express, implied, or otherwise, to any intellectual property rights is granted by this document, or by any conduct of VPG. The products shown herein are not designed for use in life-saving or life-sustaining applications unless otherwise expressly indicated. Customers using or selling VPG products not expressly indicated for use in such applications do so entirely at their own risk and agree to fully indemnify VPG for any damages arising or resulting from such use or sale. Please contact authorized VPG personnel to obtain written terms and conditions regarding products designed for such applications. Product names and markings noted herein may be trademarks of their respective owners.