



ROLLMAX WASHER LOAD CELL

1 DESCRIPTION

KELK Washer Load Cells are electromechanical sensors used to measure force or load in harsh environments. Their long service life in metals rolling mills has proven them reliable and accurate under severe operating conditions and high overloads.

Strain gages, as measuring elements within the load cell, permit the use of DC excitation to provide exceptionally fast response to changes in force or load.

2 APPLICATIONS

The shape and millworthy construction of KELK ROLLMAX Washer Load Cells make them particularly well-suited for use in metals rolling mills, where they are fitted for measurement and control of roll separating forces and, ultimately, Automatic Gage Control (AGC). In this application, they are usually mounted between the nut and the mill housing and do not require removal during back-up roll change. They can also be mounted between the thrust bearing and the top back-up chock.

As well as in rolling mills, KELK Washer Load Cells can be used in continuous casting machines, ladle cars, roller levellers, and other load measuring application in demanding environments.

ROLLMAX 5 YEAR WARRANTY

ROLLMAX Load Cells are warranted not only against defects in workmanship or material, but against failure of any kind, however caused, for a period of FIVE YEARS.

(For details contact KELK)

3 FEATURES

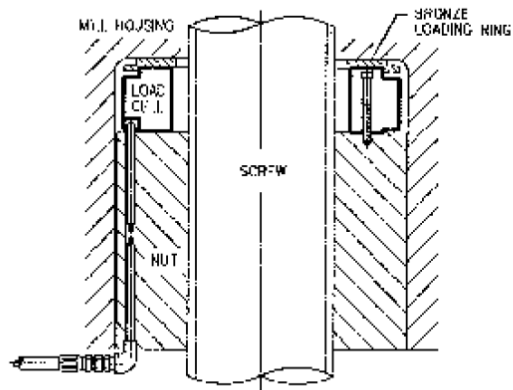
- Special ring shape allows the load cell to be used for measuring load or force in structural members such as posts, screws, or columns.
- Easy to install into existing mills.
- Manufactured from a single high strength alloy steel or Stainless Steel forging.
- Hermetically sealed, welded construction, filled with dry inert gas for long term stability.
- Excellent accuracy.
- Durable and accurate over a wide range of temperatures.

4 SPECIFICATIONS

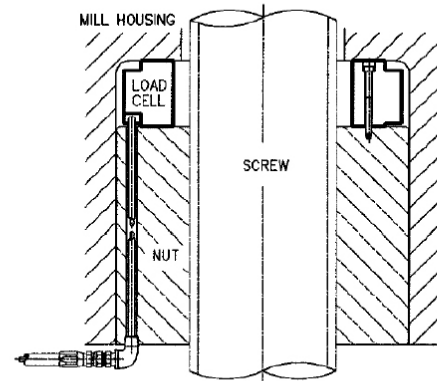
Model:	WLCXXXX-YY, where XXXX is the capacity in tonnes (a four-digit number) and YY is the 'style' number identifying a unique set of dimensions
Capacity Range:	Up to 7,500 MT
Bridge Resistance:	120 ohms minimum
Excitation Voltage:	20 VDC maximum
Output:	1.0 to 1.8 mV per volt of excitation at rated load
Response Time:	Less than 0.1 mS
Combined Error ¹:	Within ± 0.5 % of full scale output.
Thermal Zero Shift:	± 0.005 % (50 parts per million) of full scale output per °C change over the compensated range of 20°C to 100°C (68°F to 212°F). Optional Range: 20°C to 150°C (68°F to 302°F).
Load Limits:	300% of rated load without zero shift. 500% of rated load without change in characteristics. 700% of rated load without mechanical damage.
Operating Temperature Range:	-20°C to 150°C (-4°F to 302°F)
Storage Temperature Range:	-40°C to +180°C (-40°F to +356°F)
Compression:	0.1% of cell height at rated load
Calibration:	Traceable to the National Institute of Standards and Technology (formerly the National Bureau of Standards)

¹) Combined Error is defined as the maximum deviation, which includes Linearity, Hysteresis and Repetability.

5 TYPICAL INSTALLATION



WITH BRONZE LOAD DISTRIBUTION RING



WITHOUT BRONZE LOAD DISTRIBUTION RING

NOTE: In the application shown, if sufficient room is available, a bronze load distribution ring is typically recommended to compensate for any surface irregularities on, or out of flatness of, the mill housing interface.