



PURETRONICS


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LOAD CELL


Installing Instruction

M/S PURETRONICS

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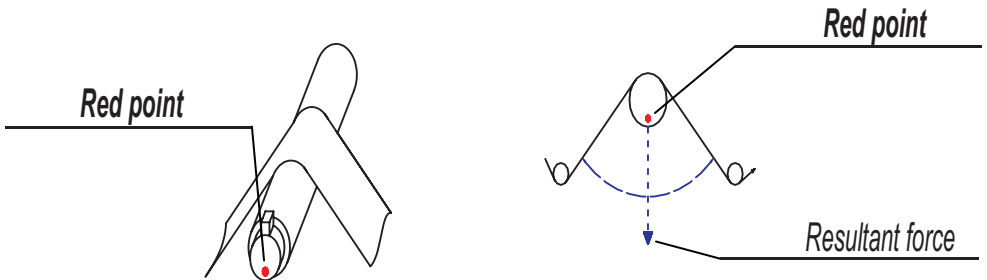
Warnings

The present manual is for device filter and operators. It provides direction for the intended use of the device, technical specification and instruction for installation, adjustment and use. The manual is an integral part of the device and must be kept until the device is decommissioned. It reflects the technical state of the device at the time of its sale. The device must be fitted and adjusted by qualified technical personnel. It may be moved manually

Mounting Guideline For Load Cell On Web Machine

The load cells must be mounted in such a way that the red point is precisely in the direction of the resultant force that was defined during analysis of the application.

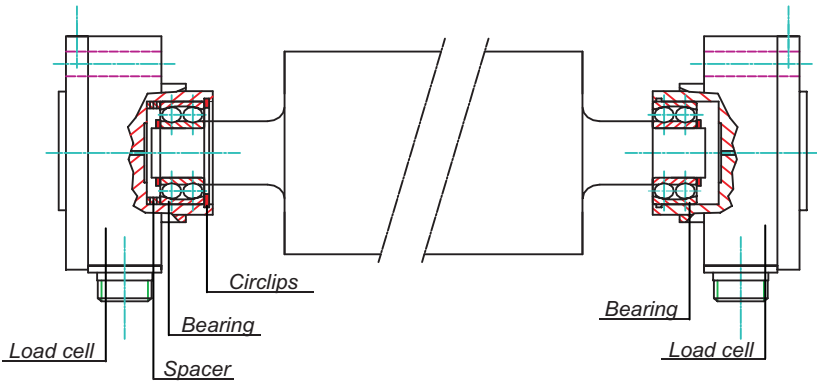
For a general idea of the mounting position, the following diagram illustrates a desirable position for the red point relative to the material infeed and outfeed angles on the roller



Mounting With Rollers Instruction

Always observe the following rules when mounting with load cell and rollers:

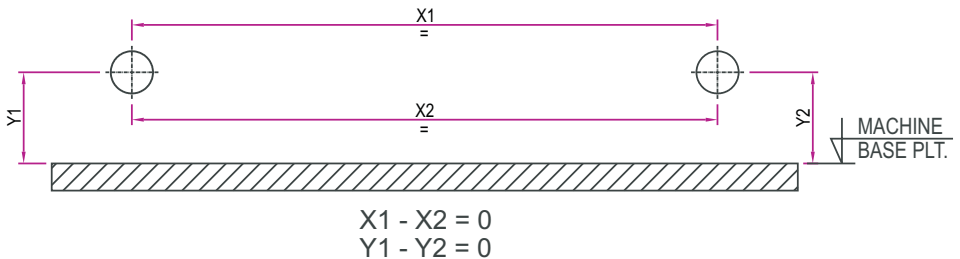
- use a dead roller (without internal bearings or lock the movement of the load cell bearing).
- a dynamic and static balancing of the roller is necessary.
- avoid machine vibrations, they could affect the load cell's reading.
- use self-aligning ball or roller bearing .



Precaution should be taken while mounting Load cell on Web Path to measure web tension accurately.

a) Parallelity of load cell Mounting is required to be perfect as unbalance reading out of parallel in both directions makes the false on load cell.

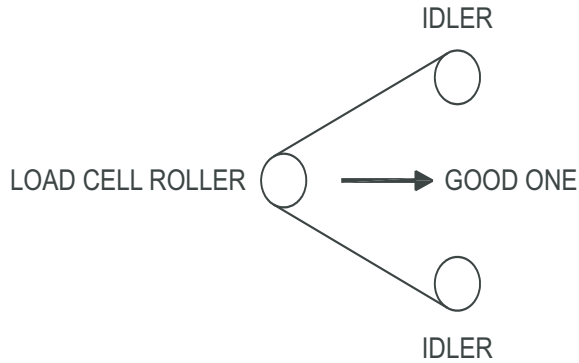
Example :-



Means Mounting Should be Equal to `X` axis & `Y` axis

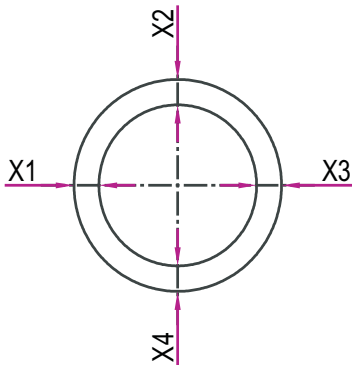
a) It is always advisable to use (mount) Load Cell in such a way that tension should act horizontally ground.

Example :-

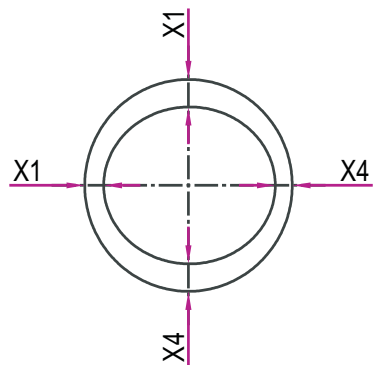


b) Whenever the Load Cell Roller is out of balance it causes different readings to Load Cell because of wall thickness variation so care should be taken that the uniformity in all directions is maintained on the sensing roller.

Example :-



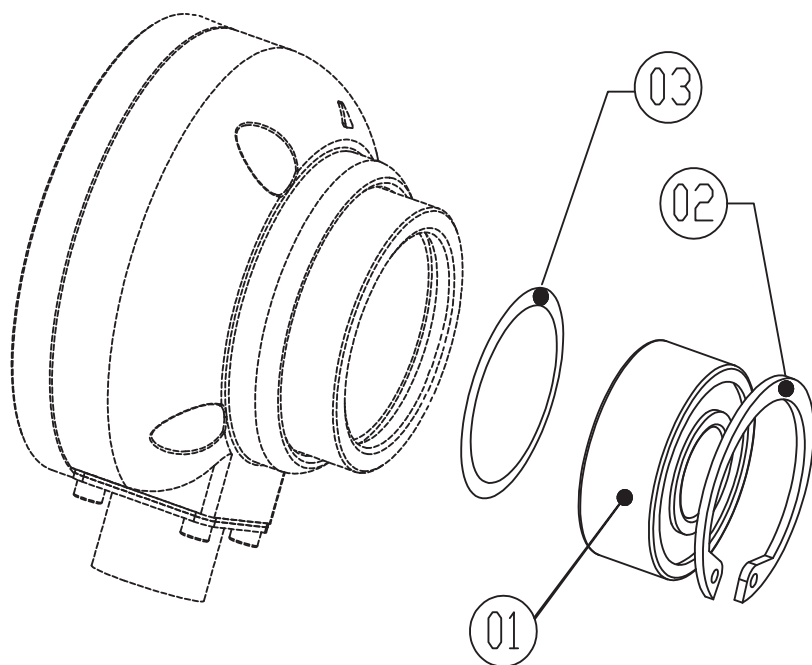
$X1 = X2 = X3 = X4$
GOOD ONE



$X1 = X2 = X3 = X4$
NOT GOOD

Load Cell Model No. - AR-85-20-17 AR-85-50-17

The flange mounted load cells are installed on to the ends of the tension measuring roll.



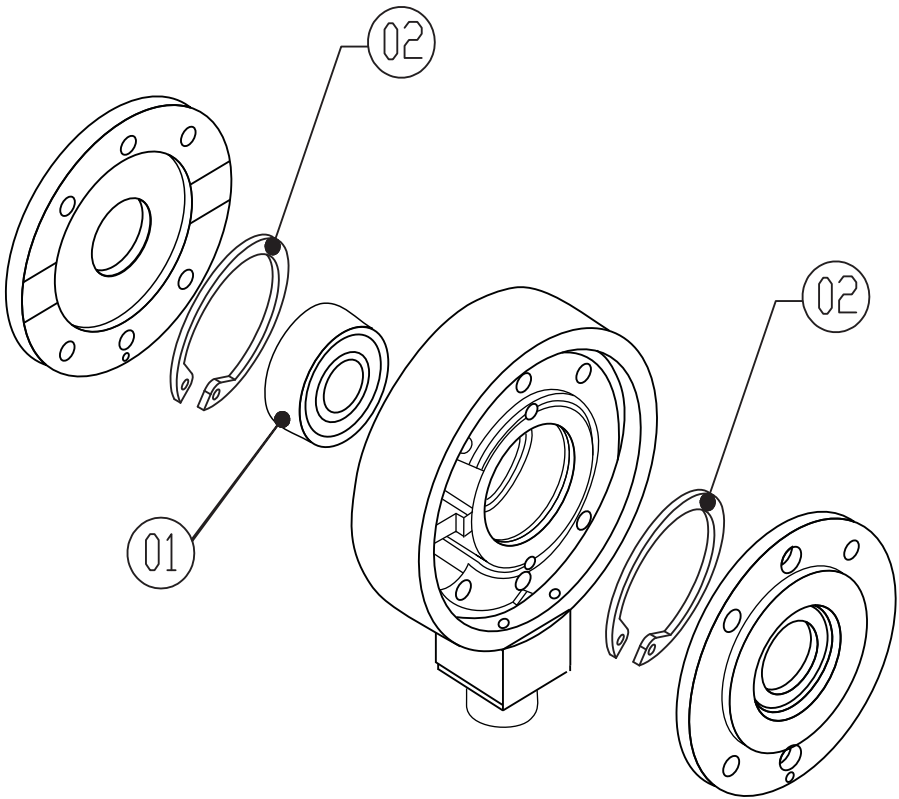
01. Self aligning bearing - 2203 - 2RS.

02. Circlips - B40.

03. Spacer Ring - 0.5 mm.

Load Cell Model No. - AR-125-100-25

AR-125-100 load cell can be used for through shaft assembly application.
Mounting kit data are indicated in the table below.



- 01. Self aligning bearing - 62205 - 2RS OR 62205 - 2RS Moving Bearing.
- 02. Circlips - B52.
- 03. Spacer Ring - 4.8 X 27 mm

Installing

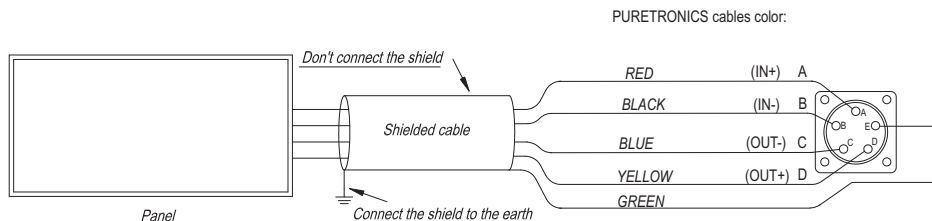
Important ! To ensure that the load cells are correctly installed, we strongly recommend that you **implement the electrical connections as indicated** in the following section and consult the electrical connection diagrams contained in the user's manual of the adjustment system you have.

It's also very important to follow the instructions about **connection cables** written below.

- if you have mV output load cells, the maximum cable length is 10 meters [32.8 feet] (there is no limit for cable length of mA output cells).
- the cell's cable entrance in the electrical panel must be independent.
- the cell's cable must be directly connected to the instrument terminal board, don't use other terminal boards as support for the connection. .
- used earthed metal cable trunking.
- avoid external sources of interference (e.g. motors, inverter, etc....)
- If the wiring harness is carried out by the customer, use a shielded cable and earth it in the opposite side of the cell.

To guarantee the cell's life and the correct functioning, **avoid acidic work environments, vapours, high temperatures and placement on treatments** (special load cells can be provided for this kind of applications on customer request).

Electrical Connections



Technical Characteristics

Precision class	0.50%
Principle of measurement	strain gages full bridge
Resistance	350 OHM
Total error	<0.05% end scale value
Non-repeatability	<0.05% end scale value
Histeresis	<0.05% end scale value
Non-linearity	<0.05% end scale value
Max. overload	300%
Sensitivity (out voltage)	
Normal	2.0mV/V
Max.(at mechanical stop)	20mV/V totals
Nominal Supply	10V
Max. supply tension	15V
Isolation resistance	>10 GOHM
Temperature range for standard models	+10/+50°C
Elastic elements material	aluminum / steel
Electrical connections	5 x 0.75 mm ²

Troubleshooting

This section describes the possible problems you could have in the applications with load cells.

After installing load cell and the control device, two operations are the “cell zeroing” and “Calibration of cell gain” is required. these both functions are not proper, you will see the following Instructions.

Problem : Load cell amplifier zero calibration not proper

Possible Causes	Remedies
<ul style="list-style-type: none">• The cells are not connected or the connections are not correct• A positive load changes the cells (in the direction to the red point); e.g. the roller pushes heavily• Load cell & load cell roller is not properly fit.	<ul style="list-style-type: none">• Check the electrical connections as indicated in the previous sections.• Change the red point angle to lighten the load on the cell.• Check load cell & load cell roller fitting

Problem : Load cell amplifier gain calibration not proper.

Possible Causes	Remedies
<ul style="list-style-type: none">• The load cell output is either to low or to high.	<ul style="list-style-type: none">• change the red point angle to increase & decrease the output.

Problem : After calibrations rolling the load cell roll amplifier output is fluctuate.

Possible Causes	Remedies
<ul style="list-style-type: none">• Load cell & load cell roller is not properly fit.• Earthing is not proper.• Signal & power wiring is mixed.	<ul style="list-style-type: none">• Check load cell & load cell roller fitting• Make the strong earthing for load cell & amplifier.• The signal wire & power wires move the separately with minimum 100mm gap.

Range Of Our Product

- Auto Web Tension Controller
- Tension Indicator
- Web Guide
- Web Video
- ARC
- Servo system for wire accumulator for online coiler
- Scada, data system for multi line system
- Control Panel For Wire & Cable Industries
Extruder Pay-Off, Dual Take-up Winder & Coiler Machine
- Inline Induction Wire Preheater
- PLC Based Control System
- Corona Treater
- DC Spark Tester
- High Frequency Spark Tester
- Mains Frequency Spark Tester
- Laser Diameter Gauge