PURETRONICS

Purely Global

Load Cell

Tension Transducers



ABOUT **PURETRONICS**

Every product is the end result of an arduous and meticulous process. The assurance of consistent quality and relentless monitoring of processes to maintain an undeniable benchmark of quality is what brings Puretronics into its existence. At Puretronics, we believe that the true success of our quality processes is best measured by the quality our customers deliver. Quality at Puretronics is not only measured at the end but in every step that we take towards achieving that end. Quality is indeed, the lifeline of our business.

From a single handed borne company in 1990, initiated by Mr. Gopaldas Goyal as a small enterprise engaged in manufacturing of DC Drives & Control Panels, Puretronics, by the faith and feedback of the customer has reached a position of expertise, yet with a long way to go.

Global **Reach**



Importance of **Loadcell**

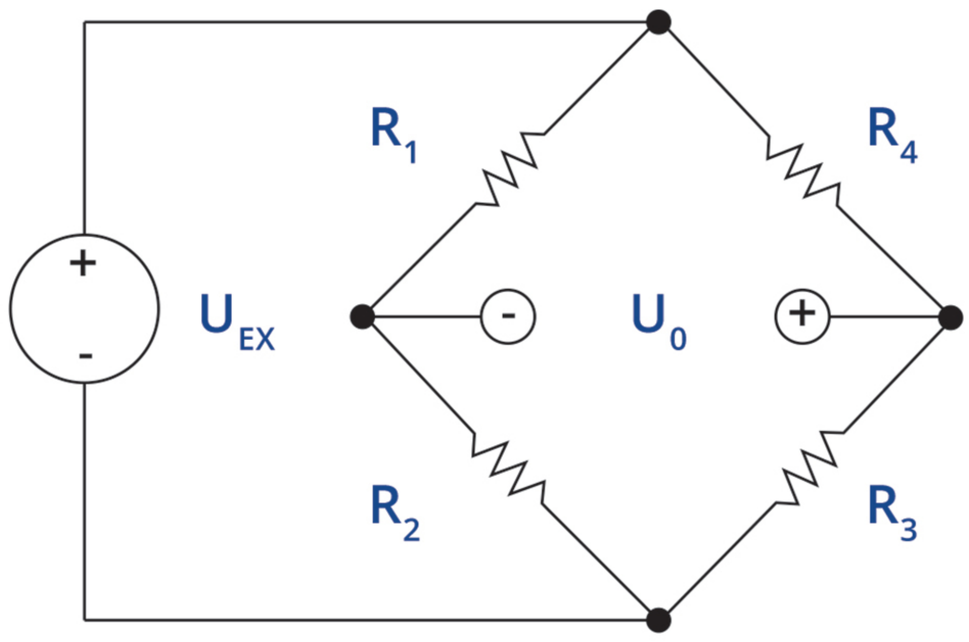
Precision Measurement of web tension is essential to ensure consistent product quality and maximise productivity. Puretronics presents Loadcells for various automation applications to cover most of automation in converting and process machines.
Measurement of tension value of all materials including paper, cardboard, films, foils, rubber, sheet metal, fabric, metal wire and can be installed in any zone of a web production process.



LOAD CELL FAMILY

Strain Gauge **Technology**

Wheatstone bridge illustrates the concept of a difference measurement, which is extremely accurate. The amplifier provides a stable excitation voltage of 10VDC to the force sensor. When load is applied the strain gauge is either elongated or compressed. This change in length leads to a change of overall resistance of the circuit. These changes are been calculated and readings are been displayed.

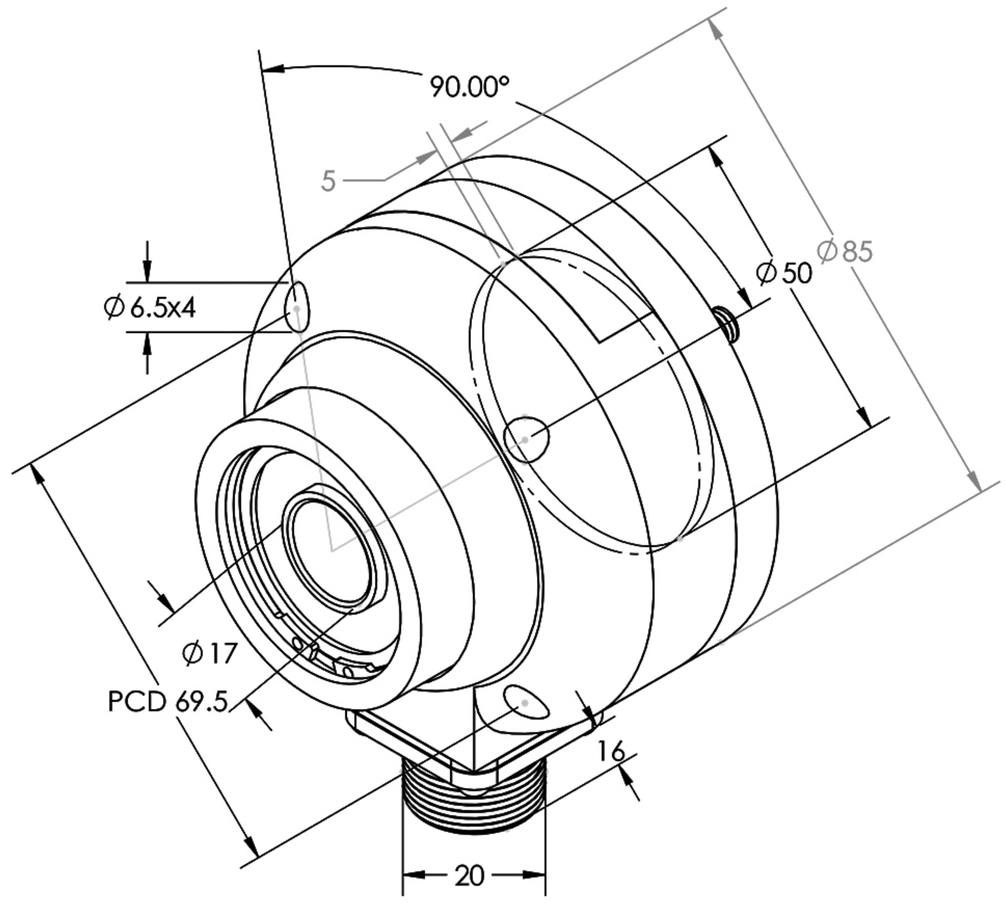


General **Specifications**

Strain Gauge resistance	350Ω
Excitation voltage	10VDC
Mating Electrical connector	Military grade
	L Type / 90° Type
	Standard Type
Working Temperature	0° to 50°C
Sensitivity	2mV/V
Certification	

AR-85 Series

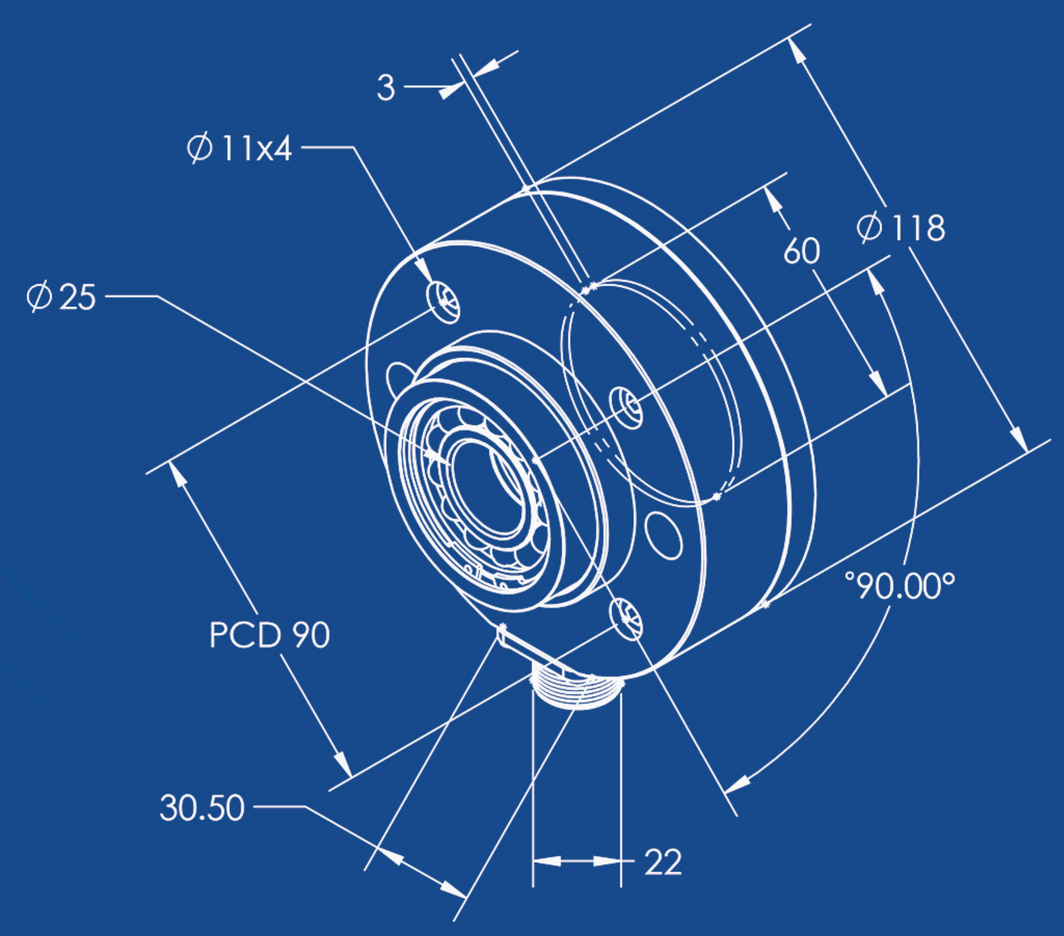




Mounting	Flange mount
Capacity	5kg, 10kg, 20kg, 50kg, 100kg, 200kg
Shaft OD	17mm
Signal Ouput	20mV/10V
Overall protection	Upto 300% of full scale value

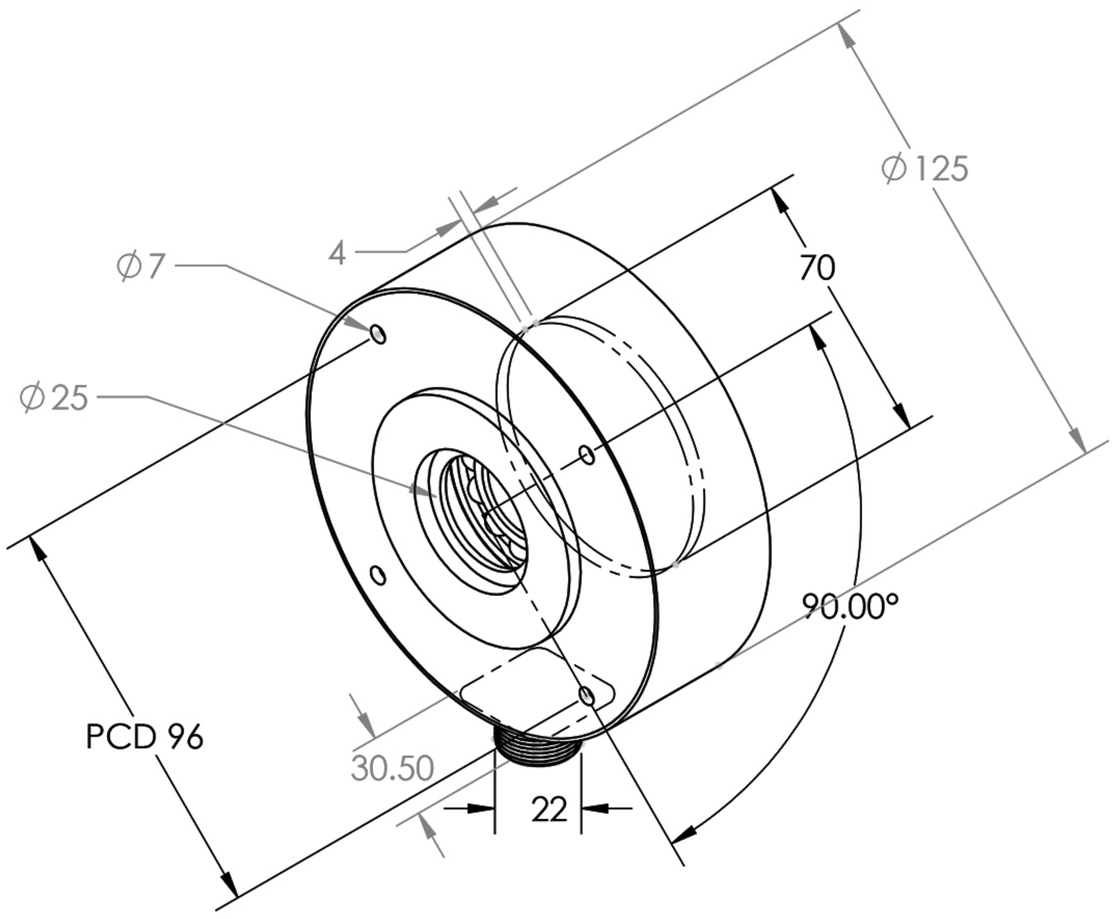
AR-118 Series





Mounting	Flange mount
Capacity	50kg, 100kg, 200kg, 500kg
Shaft OD	25mm
Signal Ouput	20mV/10V
Overall protection	Upto 300% of full scale value

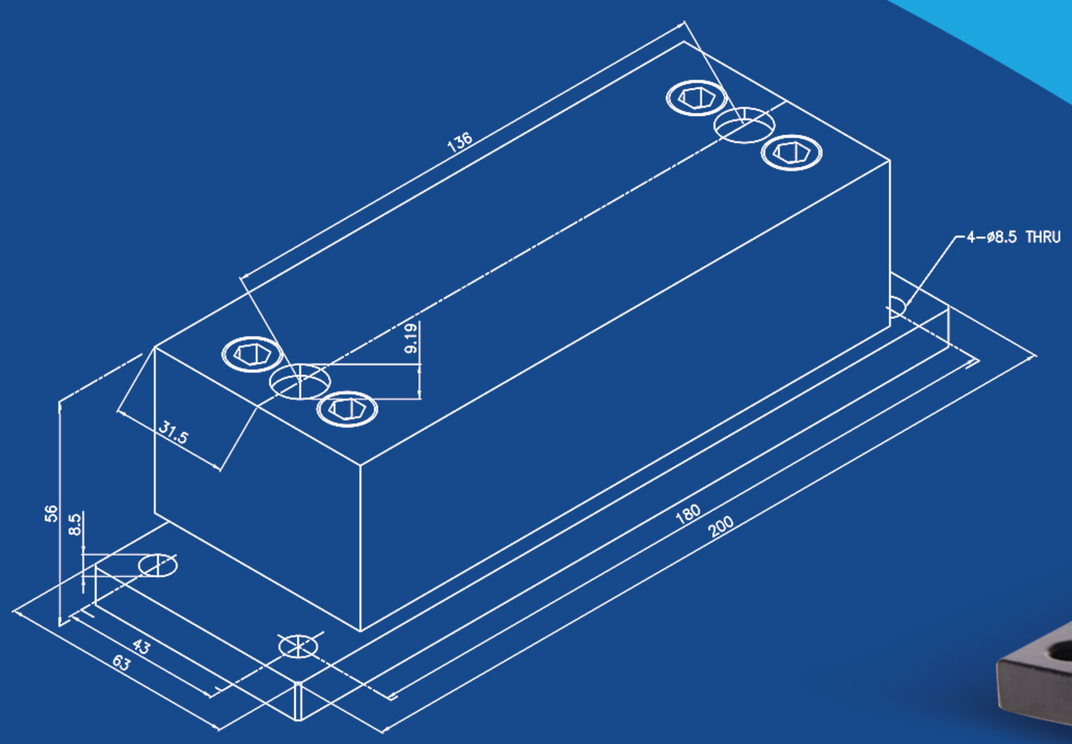
AR-125 Series





Mounting	Flange mount with pilot hole
Capacity	50kg, 100kg, 200kg, 500kg
Shaft OD	25mm
Signal Ouput	20mV/10V
Overall protection	Upto 300% of full scale value

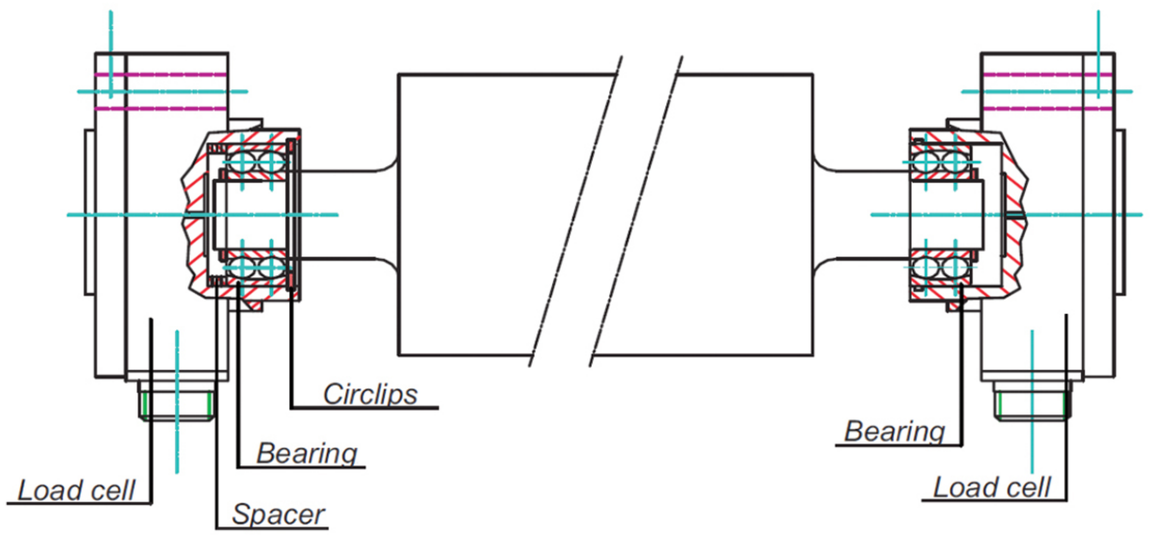
AR-ST Series





Mounting	Pillow Block
Capacity	100kg, 200kg, 500kg, 2000kg
Signal Ouput	20mV/10V
Overall protection	Upto 300% of full scale value

Guide for **Loadcell Selection**

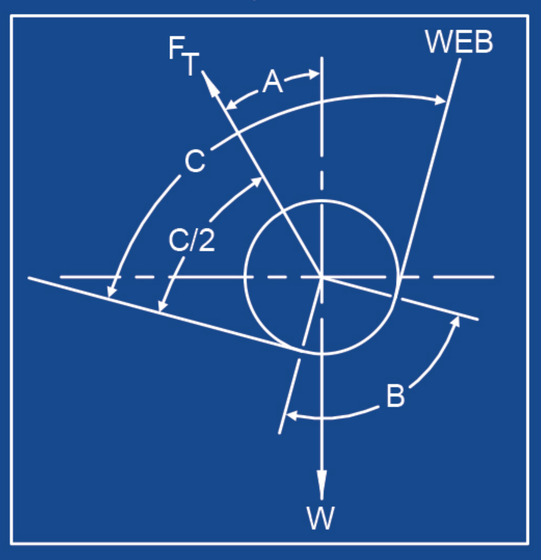


Either roller bearing or loadcell bearing should be used and the other bearing should be locked.

For accurate measurement and more precise output roller bearing should have a lock and it is recommended that roller bearing should be locked.

WRAP 1

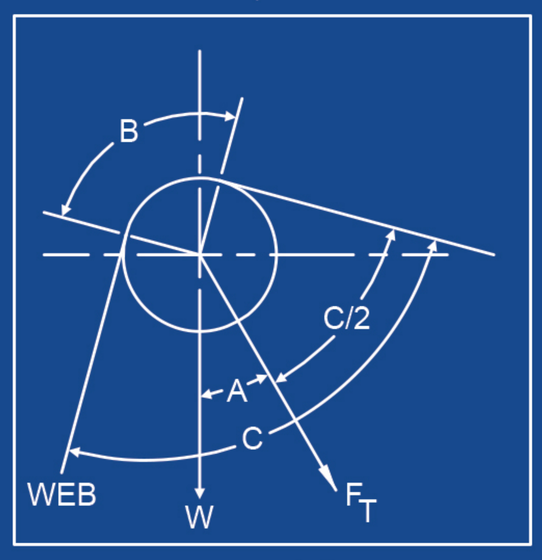
Tension Force F_T **above** horizontal



$$\text{NET FORCE} = \frac{4T \text{ SIN } \left(\frac{B}{2}\right) - W \text{ COS}(A)}{2}$$

WRAP 2

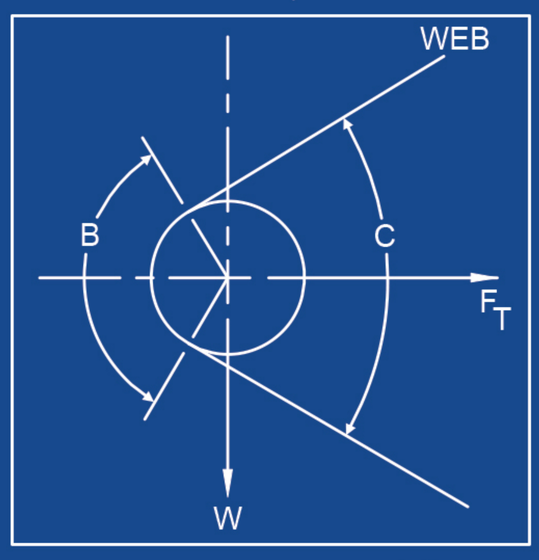
Tension Force F_T **below** horizontal



$$\text{NET FORCE} = \frac{4T \text{ SIN } \left(\frac{B}{2}\right) + W \text{ COS}(A)}{2}$$

WRAP 3

Tension Force F_T **is** horizontal



$$\text{NET FORCE} = \frac{4T \text{ SIN } \left(\frac{B}{2}\right)}{2}$$

It is important to select correct loadcell rating for an application. This can be determined by calculating the net force by choosing the wrap configuration diagram shown.

The selected load rating, may be 20% less than the computed Net Force. The actual force on the transducer will read 125% of the load rating before hitting the stops. This is acceptable because the Net Force formula contains an oversizing factor of 2, which means that the actual force exerted on the transducer will not exceed its rating. Sometimes, a roll is so heavy that its weight uses up most of the operating range of the transducer.

At this condition since the adjustment range of the electronic circuit has been exceeded it may not be possible to adjust the tension indicating meter to read zero when tension is zero.

To rectify if the load is too heavy to adjust the tension meter at zero

a. Compare the laod rating along with the effective weight of the roll

b. If Wcos(A) is more than 95% of the load rating chosen

If this case changes to be made to reduce Wcos(A) less than 95% of load rating

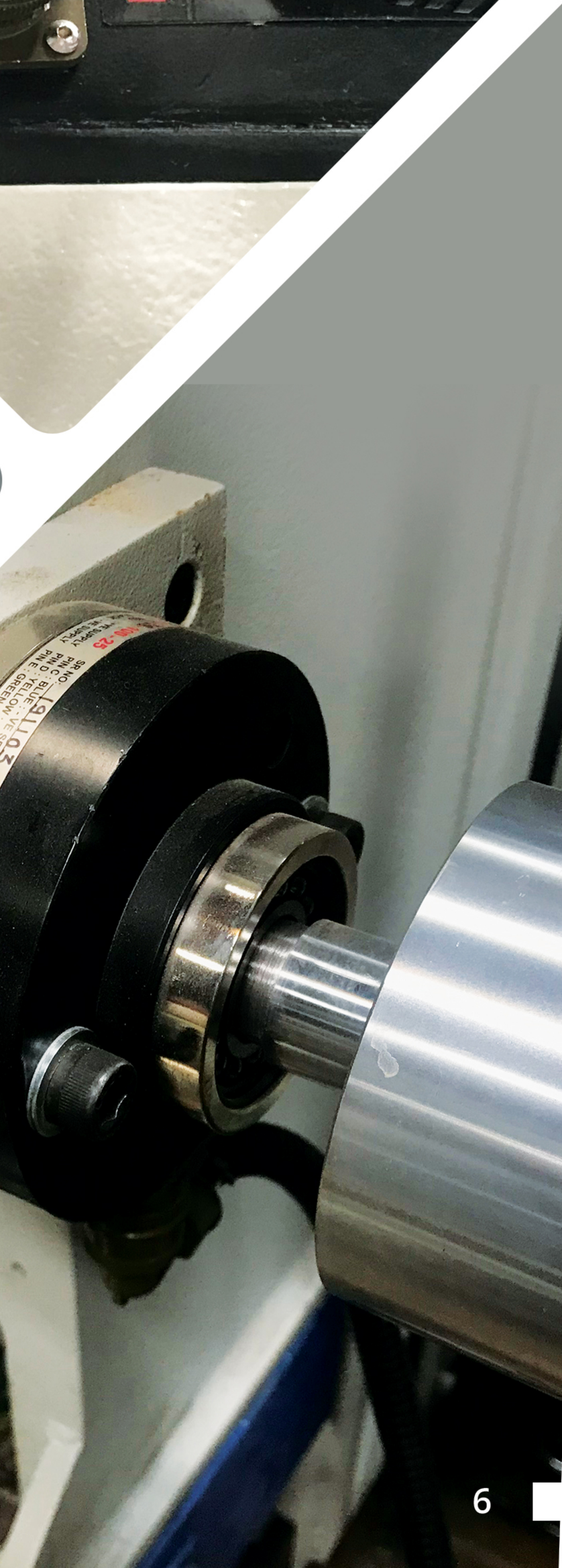
- Reduce the transducer roll weight
- Increase angle (A)
- Use the next higher load rating (This is the least desirable choice because it reduces transducer signal output).

Key **Features**

- Ruggedly constructed for long life and dependability
- Maximum mechanical overload protection for upto 10x times
- Full whear stone bridge designed for measurement accuracy and low temperature drift
- Certifications CE, ATEX (Explosion proof)
- Easy Installations







Applications

Accessories



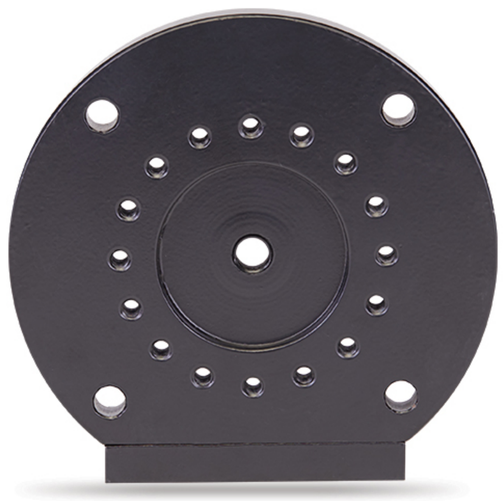
Small Round Bracket



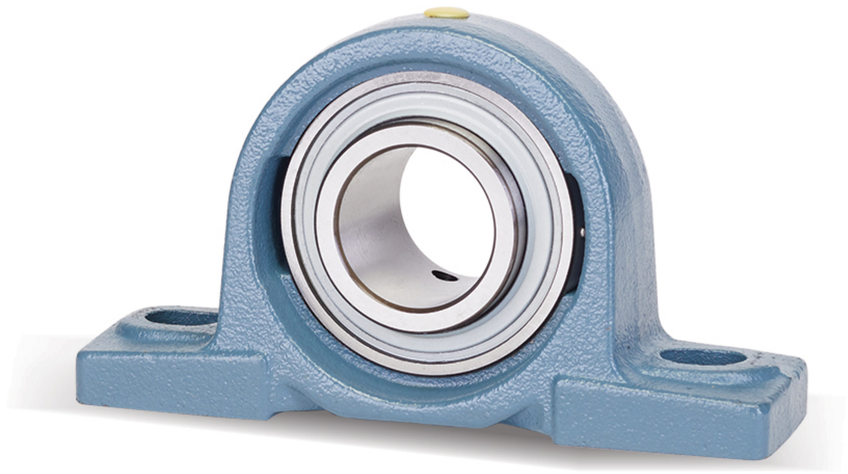
Big Round Bracket



Cable



L Type Bracket AR-85



Bearing Block

Recommended products



Load Cell Amplifier

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