WAT-P Series

Pillow block self contained Load Cell

Load cell Type WAT-P Series are offering a brand new design to meet today's demand of wide web, rotating live shaft applications in paper - and converting machines.

The WAT-P is a block type load cell to be used with a pillow block bearing top mounted for very high load applications.

Featuring a unique beam design, it is a very long life product.

Benefits

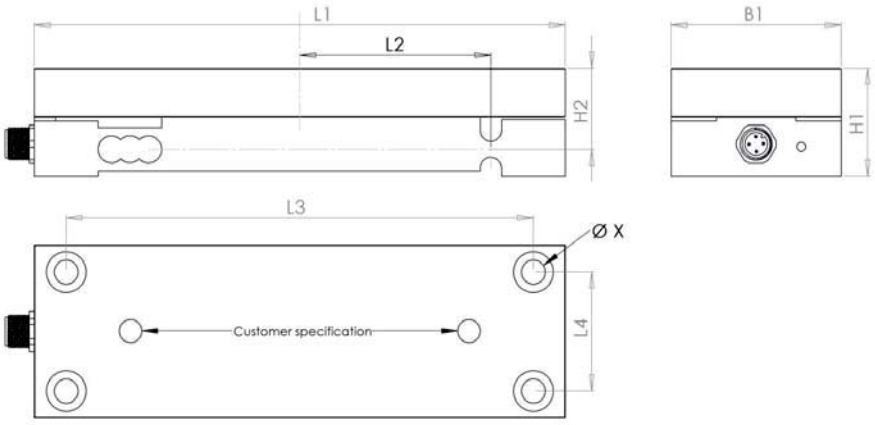
- Compact aluminum housing (stainless steel optional)
- Customs beam design ensures very precise, repetitive performance and long life
- All metric dimensions
- Wash down duty, corrosive and chemical resisting
- Industry standard M12 connector
- Easy to install
- Price / performance competitive
- Cable length 5 m included

Specifications

Max operating force relative to Fn	150%
Force limit relative to Fn	500%
Strain gauge resistance	350 ohm
Strain gauge configuration	full bridge
Supply	5 to 10 VDC
Nominal output	1mV/V
Combined error relative to Fn	< 0.5%
Temperature coefficient	<0.4% / 10K
Operating temperature range	-20 to +85 C
Deflection at Fn	< 0.1 mm

Reference	Load rating **Fn**(N)	Part N#
WAT-P 25	250	ME132636-10
WAT-P 50	500	ME132637-10
WAT-P 125	1250	ME132638-10
WAT-P 500	5000	ME132639-10

Dimensions



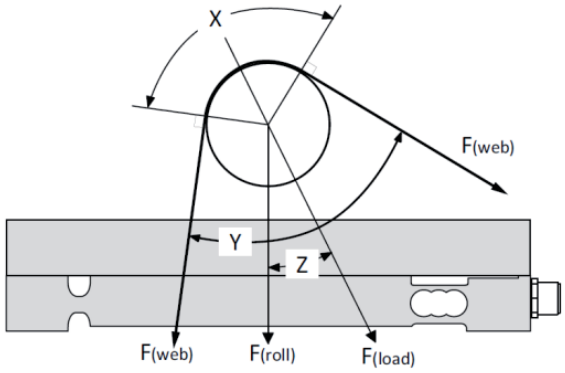
L1	L2	H1	H2	B1
200	72	40	30	64

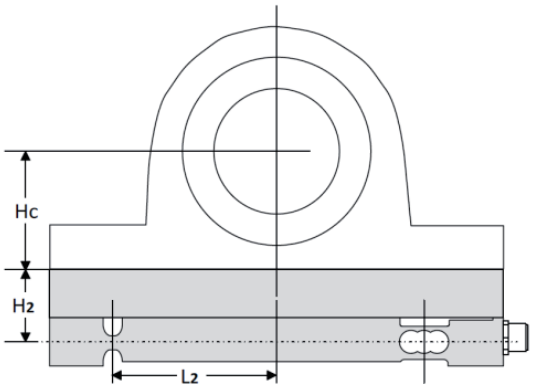
L3	L4	X	Connector
176	44	9	M12 x 1 integrated

Calculating the force sizing

The correct Load Cell load rating for an application is determined by maximum web tension, web wrap angle around the roller, and mass of the roll.

The force F(roll) from the mass m(roll) of the roll, is determined as F(roll) = m(roll) x 9.82 (N)
The force F(Load), from the web tension F(web), is determined as F(Load) = 2 x F(web) x Sin(X/2)
Force action arm H = H_c + H_2





$$F_{(dim)} = \frac{2KF(Load) \times H \, SinZ \, (\pm) \, F_{roll} \times L_2}{2 \, L_2}$$

The minimum load cell size has to be > ½ x F(roll)
For mounting different from Horizontal or vertical, please consult your local distributer

m(roll) = mass of the roller in kg
F(web) = maximum web tension
Z = angle between F(Load) and vertical
X = web wrap angle = 180° - Y°
H = H_2 + H_c (center height of bearing)
K = Transient safety factor (usually 1.5)
L_2 = Center-hinge distance

Wirings