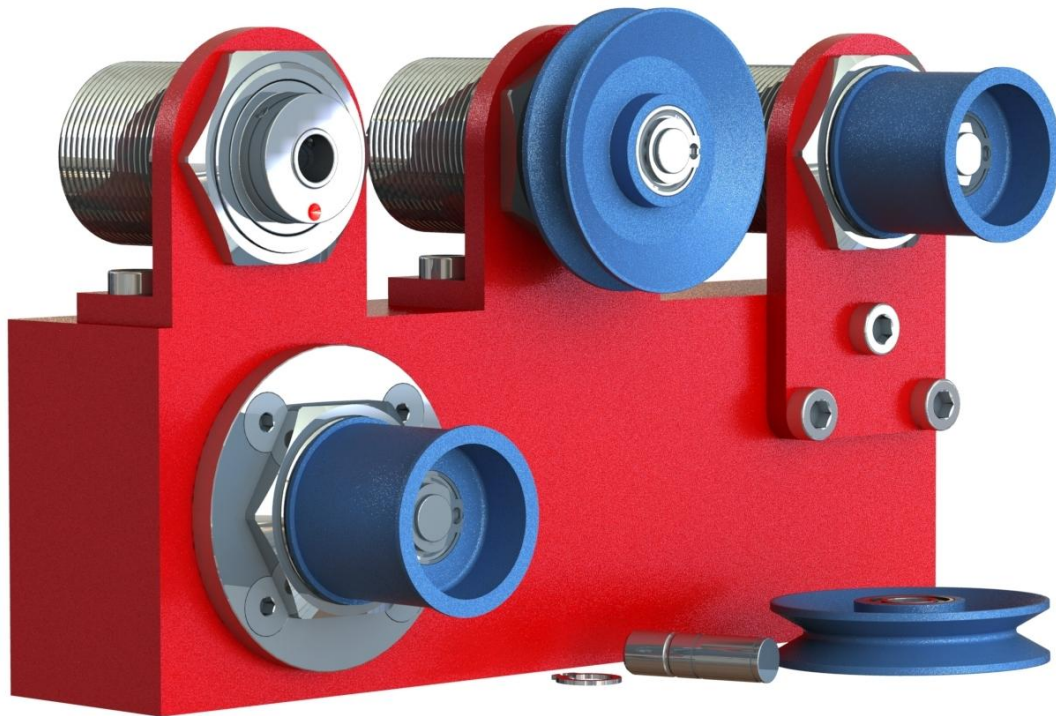


OWECON OWL205 Series Load Cell for Wire and Ribbon



The OWECON OWL205 Series wire and ribbon Load Cell is a dual beam tension load cell designed to maximize performance and reliability. The unique dual beam design minimizes deflection. Lower deflection means fewer tracking and steering problems on your machine and greater accuracy in the control.

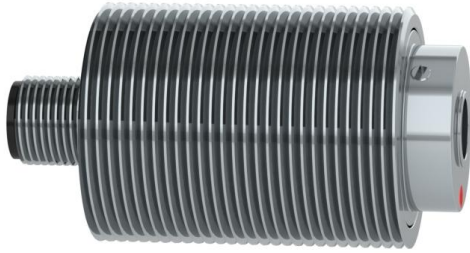
The unique and very compact design makes this load cell fit into all types of application, and has especially an advantage in narrow spaces where multiple measuring points are necessary, like in the carbon fiber or wire manufacturing.

The load cell comes as a base unit with an 8 mm bore for the shaft either from OWECON or other source.

The shaft from OWECON combined with the standard spring plungers provides a quick pulley exchange system.

Advantages:

- ✓ Compact design for installation in narrow spaces
- ✓ Twin Parallel Beam design ensuring high output at a minimum deflection
- ✓ Dual beam giving lowest possible deflection
- ✓ Quick pulley exchange system
- ✓ Industry standard M12x1 connector. With turn able socket for L-plug
- ✓ Connector axial positioned for through wall installation
- ✓ Overload ratings up to 10 times nominal load rating
- ✓ Ideal for installations with multiple measuring points



OWL205 base unit with 8 mm bore and 2 spring plungers. The connector M12x1 is axial oriented

Standard M32 nut for mounting on bracket.

Part no.: 90005668



Stainless steel shaft diameter 8 mm for quick pulley exchange.

Part no.: 90005693

Aluminum bracket for mounting on the side of machine frame.

Part no.: 90005695



Aluminum bracket for mounting on top of machine frame.

Part no.: 90005694

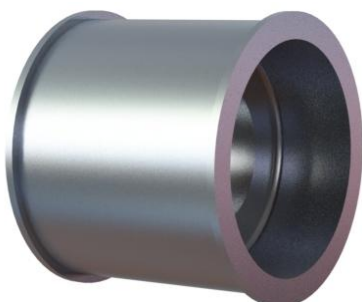
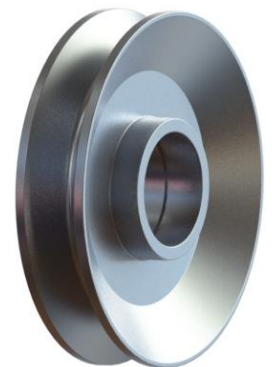


Stainless steel flange for through wall mounting of load cell

Part no.: 90005698

Standard aluminum wire pulley diameter 38 mm with radius R1.

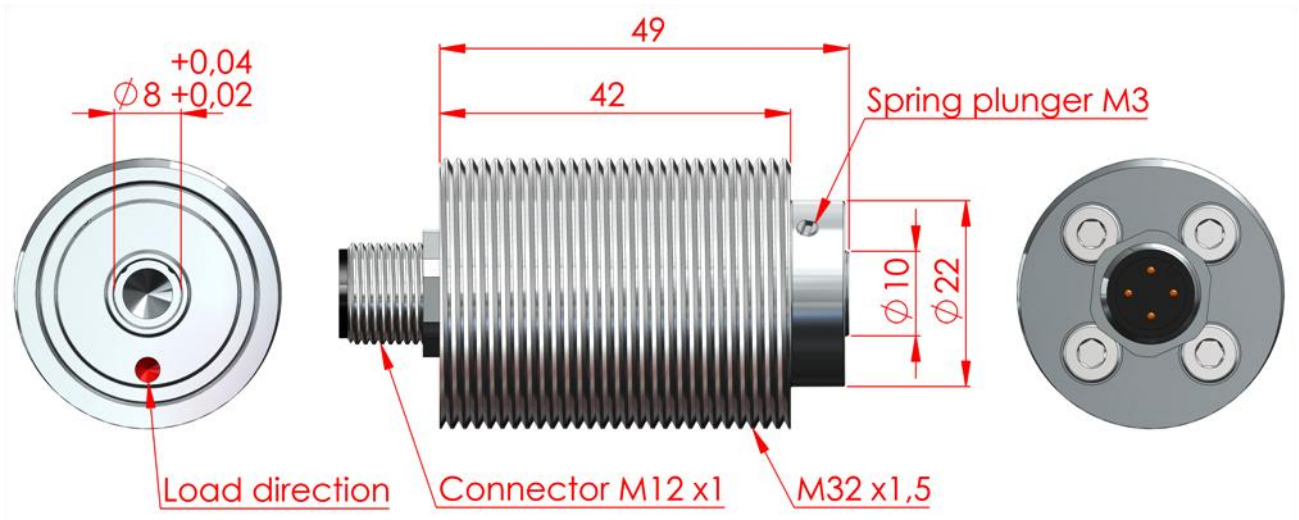
Part no.: 90005671



Standard aluminum ribbon pulley diameter 30 mm and width 26 mm.

Part no.: 90005696

Dimensions for OWL205 base unit



Load rating N		
OWL205	50N	125N

Calculating the sizing force for OWL200 Load Cell:

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

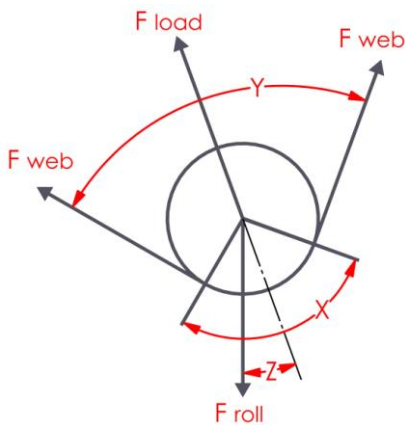
$$F_{(roll)} = m_{(roll)} \times 9.82 \text{ (N)} \quad (9,82 = \text{mass acceleration } m/s^2)$$

The force $F_{(Load)}$, from the web tension $F_{(web)}$, is determined as

$$F_{(Load)} = 2 \times F_{(web)} \times \sin(X/2)$$

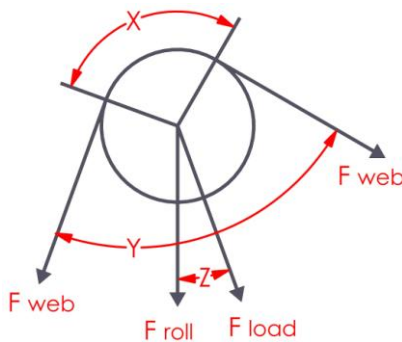
To determine the load cell size the 2 forces must be added together

Load direction upwards:



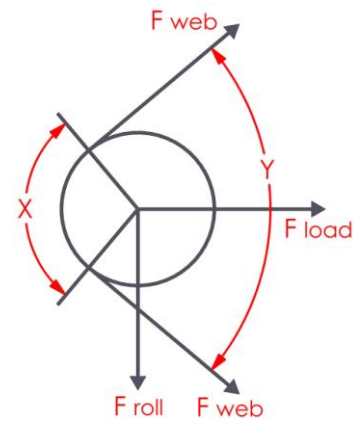
$$((F_{(Load)} \times 1,5) - (F_{(roll)} \times \cos(Z)))$$

Load direction downwards:



$$((F_{(Load)} \times 1,5) + (F_{(roll)} \times \cos(Z)))$$

Load direction Sideways:



$$(F_{(Load)} \times 1,5)$$

(1,5 = Safety factor)

Note:

The minimum load cell size has to be $> F_{(roll)}$

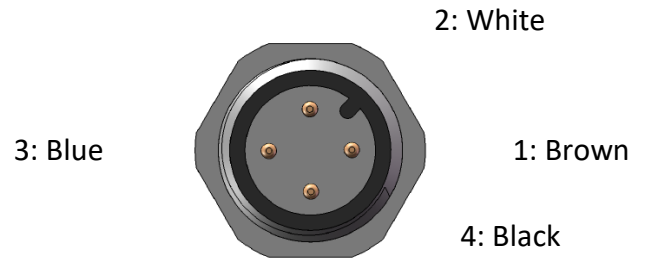
$m_{(roll)}$ = The mass of the roller in kg, $F_{(web)}$ = Maximum web tension, Z = Angle between $F_{(Load)}$ and vertical, X = Web wrap angle = $180^\circ - Y^\circ$

Specifications full bridge:

- Max operating force relative to F_n 150%
- Force limit relative to F_n 300%
- Foil gauge resistance.....350 ohm
- Foil gauge configuration.....full bridge
- Supply10 VDC
- Nominal output1mV/V
- Combined error relative to F_n < 0.5%
- Temperature coefficient<0.4% / 10K
- Operating temperature range to 185°F) -20 to +85°C
- Deflection at F_n (< 0.0039") < 0.1 mm

Foil gauge Full Bridge:

M12 - 4 pin male, Code A, IEC61076-2-101



One Full Bridge Foil Gauge (350 Ohm)



Connector type and orientation:

All Load Cells comes with an M12x1 standard connector axial oriented and with a turn able socket for better positioning when using L-plugs.



Installation examples:

