



Stainless steel construction

Sensitive to high & low tension

360° beam overload stop protection

Wide load range from 25 to 1000 pounds*

High output, excellent linearity, low hysteresis

Supplied with industry standard ER (Extended Race) bearings

Unique design compensates for shaft expansion, misalignment & bending

IP54

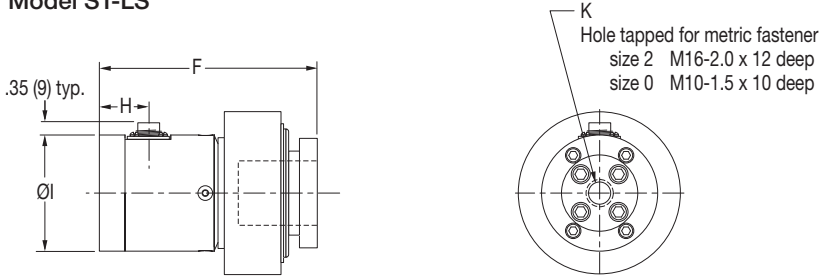
Montalvo Load Cells

T-Series Live Shaft Load Cells

Montalvo has expanded the capabilities of its T-Series load cells to include the handling of *live shaft rollers*. Whether you're looking to retrofit an existing machine or are designing a new one, the Montalvo T-LS is the cost effective solution you need. Offered in a wide range of load ratings, this rugged and dependable design is just another example of Montalvo's ingenuity. Backed by an internationally-renowned reputation for excellent service and support - Montalvo is the obvious choice for better web control.

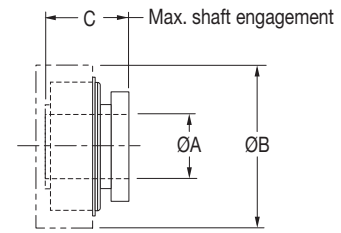
T-Series Live Shaft Load Cells

Model ST-LS



Model	F	H	I	K
ST2-LS	5.33 (135)	1.22 (31)	2.85 (72.50)	M16-2.0x12
ST0-LS	4.13 (105)	1.12(28.50)	2.26 (57)	M10-1.5x10

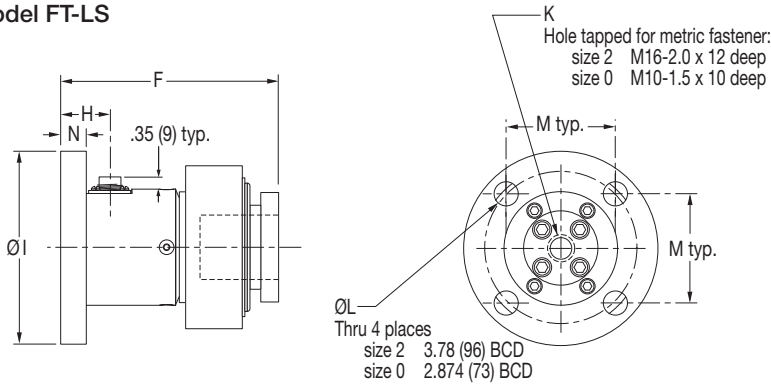
Available bearings



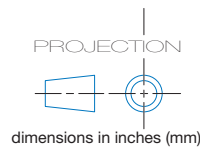
Model	Bearing #	ØA	ØB	C
ST0-LS	ER14	7/8	2-7/8 (73)	
ST0-LS	ER-15	15/16	27/8 (73)	
ST0-LS	ER-16	1 (25)	2-7/8 (73)	
ST0-LS	ER-205	25mm	2-7/8 (73)	
ST0-LS	ER-17	1-1/16	3-1/4 (83)	
ST0-LS	ER-18*	1-1/8	3-1/4 (83)	1-9/16 (40)
ST0-LS	ER-19	1-3/16	3-1/4 (83)	
ST2-LS	ER-20R	1-1/4	3-5/8 (92)	
ST2-LS	ER-206	30mm	3-5/8 (92)	
ST2-LS	ER-20	1-1/4	3-5/8 (92)	
ST2-LS	ER-21	1-5/16	3-5/8 (92)	
ST2-LS	ER-22	1-3/8	3-5/8 (92)	
ST2-LS	ER-23	1-7/16	3-5/8 (92)	
ST2-LS	ER-207	35mm	3-5/8 (92)	
ST2-LS	ER-24*	1-1/2	4 (102)	2 (51)
ST2-LS	ER-25	1-9/16	4 (102)	
ST2-LS	ER-208	40mm	4 (102)	

* Standard bearing supplied by Montalvo

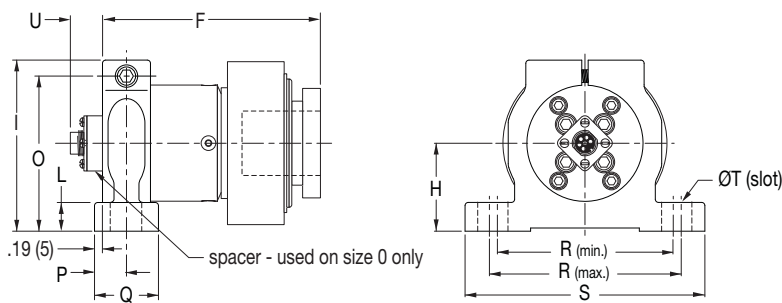
Model FT-LS



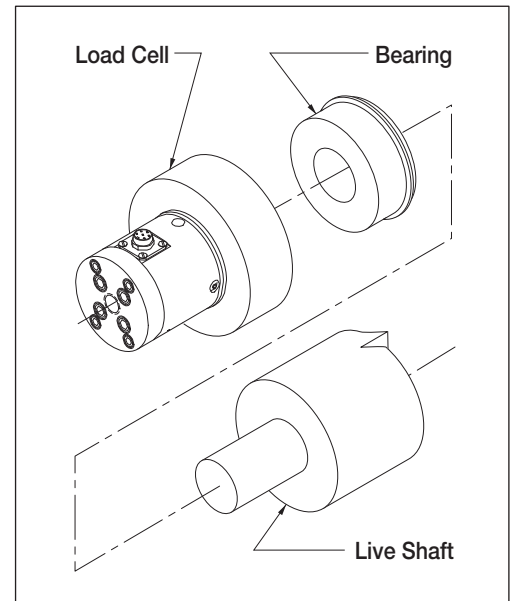
Model	F	H	I	K	L	M	N
FT2-LS	5.33 (135)	1.22 (31)	4.72 (121)	M16-2.0x12	.53 (13.50)	2.69 (68)	.63 (16)
FT0-LS	4.13 (105)	1.12 (28.50)	3.50 (89)	M10-1.4x10	.35 (9)	2.03 (52)	.59 (15)



Model PBT-LS



Model	F	H	I	L	O	P	Q	R (min.)	R (max.)	S	T	U
PBT2-LS	5.33 (135)	2.17 (55)	4.21 (107)	.71 (18)	3.82 (97)	.79 (20)	1.57 (40)	4.33 (110)	4.73 (120)	5.91 (150)	.55 (14)	.47 (12)
PBT0-LS	4.13 (105)	1.65 (42)	3.27 (83)	.47 (12)	2.99 (76)	.59 (15)	1.18 (30)	3.39 (86)	3.71 (94)	4.57 (116)	.35 (9)	.83 (21)

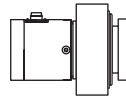


How to specify a Montalvo LIVE SHAFT load cell

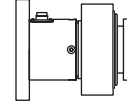
Mount

S, F, or PB

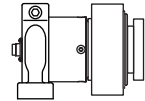
S (standard)



F (flange)

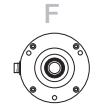
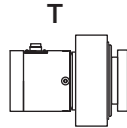


PB (split pillow block)



Series

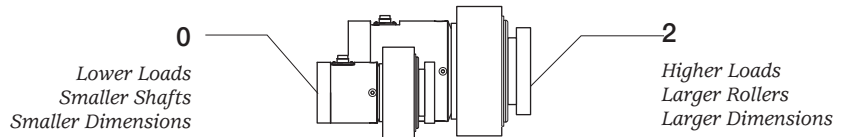
T, N, U or F



Size

0 or 2

Consider the following:
Load rating, shaft size
& dimensions

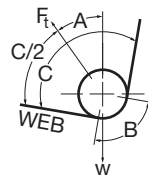


Load Rating

Size 0 25, 50, 75, 100 or 150
Size 2 75, 150, 250 or 500

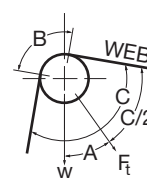
LR = load rating
P = maximum tension (pull) on web
B = wrap angle
W = weight of roller in pounds
A = angle between Ft and verticle axis
C = angle between entering and exiting web
F = resultant force

F_t points **ABOVE** horizon



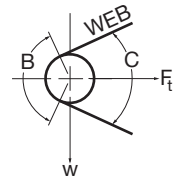
$$LR = \frac{4P \sin(B/2) - W \cos(A)}{2}$$

F_t points **BELOW** horizon



$$LR = \frac{4P \sin(B/2) + W \cos(A)}{2}$$

F_t is **HORIZONTAL**



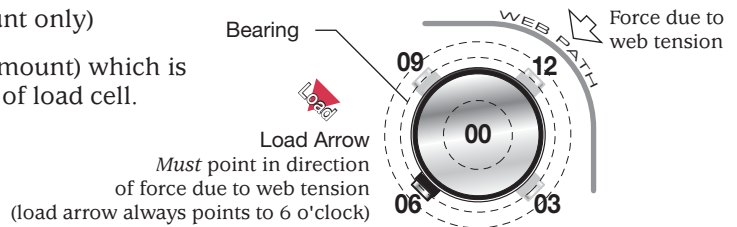
$$LR = \frac{4P \sin(B/2)}{2}$$

Connector Position

03, 06, 09 or 12 o'clock (specify 00 for PB mount only)

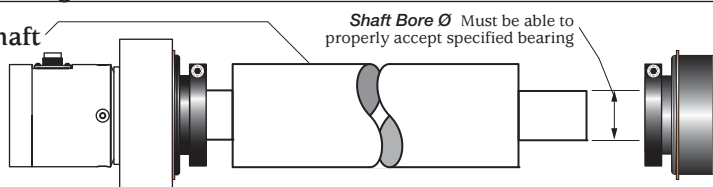
Position is relative to **LOAD ARROW** (except PB mount) which is always 6 o'clock, as observed from bearing end of load cell.

Standard position:
6 o'clock for S & F mounts
00 for PB mount (only position available)



Roller Type / Bearing Size

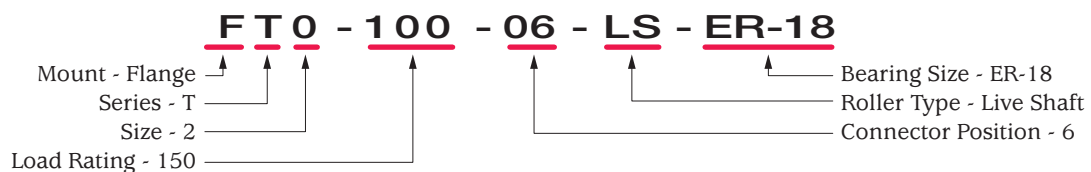
LS = Live Shaft



Size 0 ER-18 Ø1-1/8 (28.575) standard
Size 2 ER-24 Ø1-1/2 (38) standard

Non-standard bearings available by request.
IMPORTANT - Shaft preparation to accept specified bearing is critical. Shaft preparation drawings are available by request.

Example

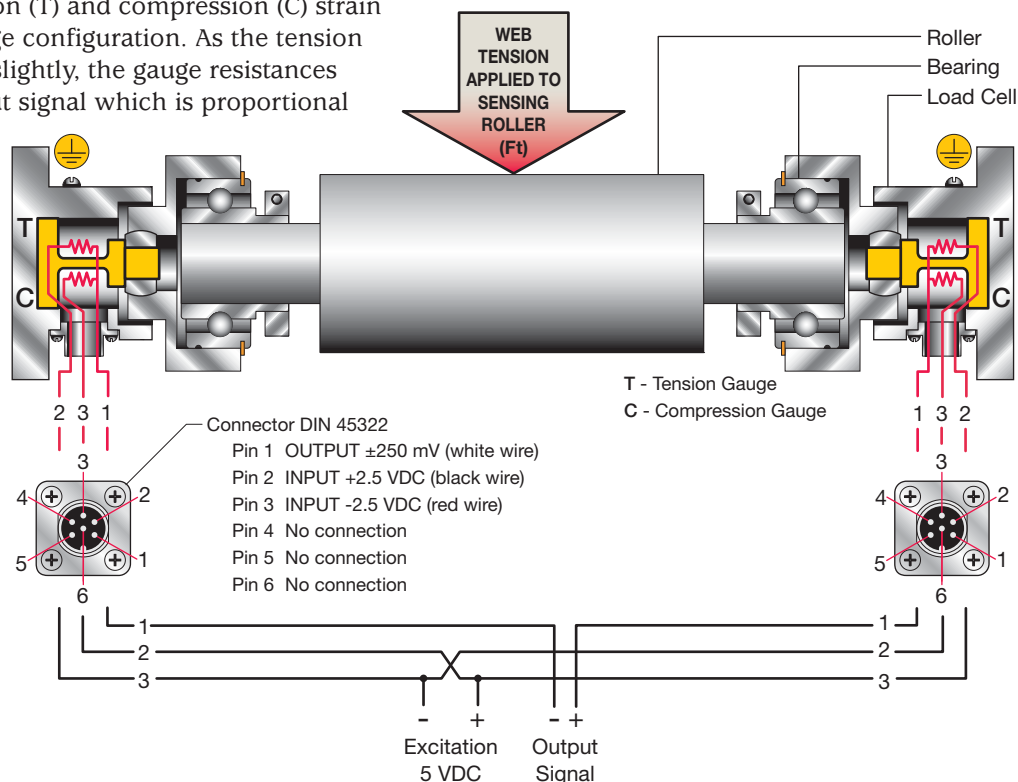


How it works...

Montalvo T-Series use tension (T) and compression (C) strain gauges connected in a bridge configuration. As the tension forces (Ft) bend the beams slightly, the gauge resistances change, producing an output signal which is proportional to web tension.

The unique joint design of the T-Series load cell incorporates the use of an integral, high performance spherical bearing assembly. This allows for misalignment, roller deflection, and changes in roller length due to temperature variation.

The live shaft load cell utilizes ER (Extended Inner Ring) deep groove ball bearings which are available in a wide range of sizes to match most standard shaft ends.



Specifications

Electrical	
Excitation	5 VDC
Output	250 mV, nominal @ full load
Gauge Resistance	80 - 130 Ω
Type	semi-conductor
Non-Repeatability	± 1/4% full span
Non-Linearity and hysteresis (combined)	± 1/2% full span

Connector	
Type	DIN 45322 (6 pin)
Pin 1	± 250 mV output
Pin 2	+ 2.5 VDC input
Pin 3	- 2.5 VDC input
Pin 4	no connection
Pin 5	no connection
Pin 6	no connection

Loading lb (kg)	
Rated Size 0	25 (125), 50 (250), 75 (375), 100 (500), 150 (750)
Size 2	75 (375), 150 (750), 250 (1250), 500 (2500), 1000*(5000)
Overload	tested @ 300% max. rated
Overload Stops	110% of full load

* 1000 pounds available with Montalvo factory approval

Important - For optimum performance and safety, we highly recommend that you contact a Montalvo Application Specialist to assist you in selecting the correct product for your particular application.

Environmental	
Classification	IP54
Temperature Operating range	-4° to 150°F (-20° to 70°C)
Coefficient	0.02% per °F typ.

Mechanical	
Deflection	0.008 to 0.015 (0.203 to 0.381)
Alignment	1° max.
Standard Bearing (shown in drawings) Size 0	ER-18
Size 2	ER-24

Finish	stainless steel
Dimensions ¹ (WxDxH) inch (mm)	
ST0-LS	4.13 x 2.88 x 2.88 (105 x 73 x 73)
ST2-LS	5.33 x 4.00 x 4.00 (135 x 102 x 102)
FT0-LS	4.13 x 3.50 x 3.50 (105 x 89 x 89)
FT2-LS	5.33 x 4.75 x 4.75 (135 x 121 x 121)
PBT0-LS	4.90 x 4.57 x 3.27 (124 x 116 x 83)
PBT2-LS	5.73 x 5.91 x 4.21 (146 x 150 x 107)
Weight ¹ lb (kg)	
ST0-LS	~ 3.00 (1.37)
ST2-LS	~ 7.67 (3.47)
FT0-LS	~ 3.86 (1.76)
FT2-LS	~ 9.49 (4.31)
PBT0-LS	~ 4.14 (1.88)
PBT2-LS	~ 10.53 (4.79)

¹ Including standard bearing