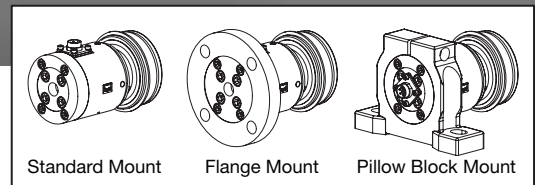


ES-Series

Extended Sensitivity Live Roller Load Cells



IP54



Standard Mount

Flange Mount

Pillow Block Mount

Montalvo ES-Series Extended Sensitivity Live Roller Load Cells

Montalvo's ES-Series has evolved from intelligent design to delivering the finest sensitivity in the industry. The **live roller** version provides safe, secure support of a Live Roller. All ES-Series offer multiple load ranges, three mounts and two body sizes.

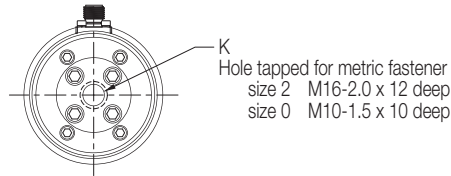
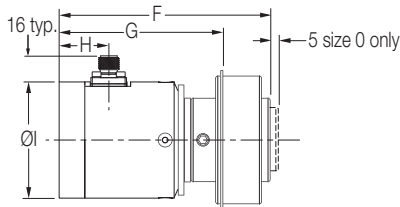
Features & Benefits

- ▶ **Industry Leading Resolution** - and sensitivity for superior accuracy and response
- ▶ **M12 Connector** - industry standard for wide cable selection
- ▶ **Multiple Mounting Options** - standard, flange or pillow block to fit most any machine frame
- ▶ **Stainless Steel Construction** - & dust proof (IP54) rating for durability & extended, dependable service life
- ▶ **Mechanical Variance Compensation** - for shaft expansion & misalignment from installation variables
- ▶ **360° Overload Protection**

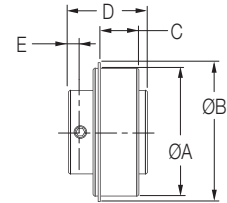


Dimensions

Standard Mount (S)



Standard ER bearing (supplied with load cells)

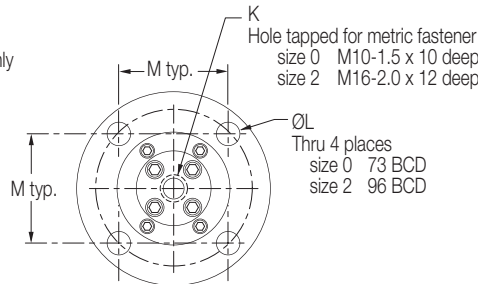
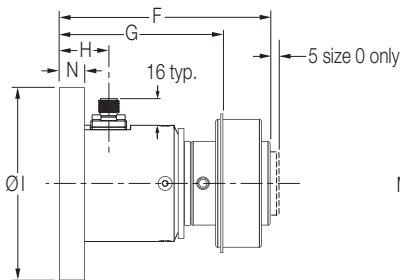


Model	F	G	H	I	K
ES-L-S0	107	80	28.50	57.50	M10-1.5x10 deep
ES-L-S2	133	105	31	72.50	M16-2.0x12 deep

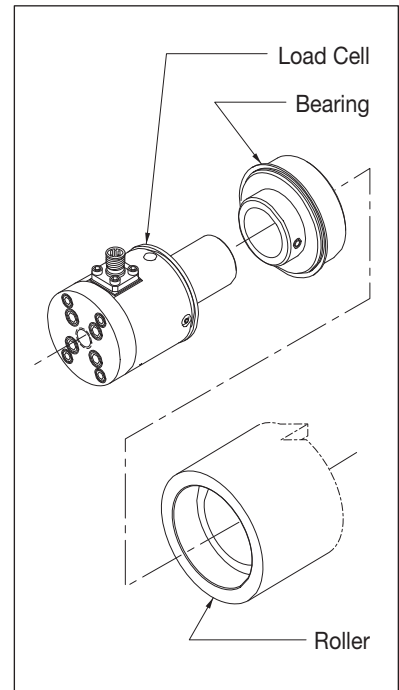
Size/Bearing	A	B	C	D	E
0 / ER-19	62	67	17	38	6
2 / ER-24	80	87	23	49	8

Bearing dimensions are for standard sizes supplied by Montalvo

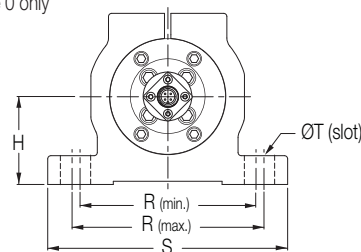
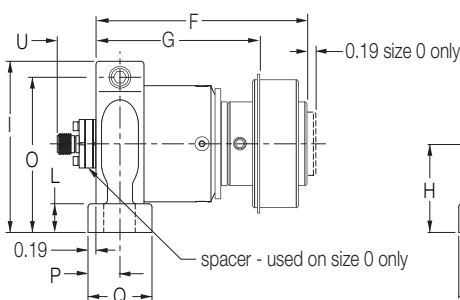
Flange Mount (F)



Model	F	G	H	I	K	L	M	N
ES-L-F0	107	80	28.50	89	M18-1.5x10	9	51.62	15
ES-L-F2	133	105	31	120	M16-2.0x12	13.50	67.88	16



Pillow Block Mount (P)

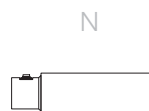
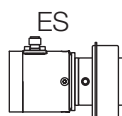


Model	F	G	H	I	L	O	P	Q	R (min.)	R (max.)	S	ØT	U
ES-L-P0	107	80	42	83	12	76	15	30	86	94	116	9	28
ES-L-P2	133	105	55	107	18	97	20	40	110	120	150	14	19

How To Specify

Series

ES, N, U or F



Shaft / Bearing Size (ER#)

L (LIVE roller)



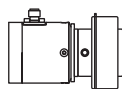
Size 0 ER-19 (Ø 62 mm) Standard
Size 2 ER-24 (Ø 80 mm) Standard

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

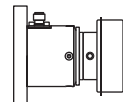
Mount

S, F, or P

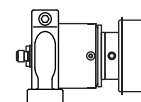
S (standard)



F (flange)



P (pillow block)

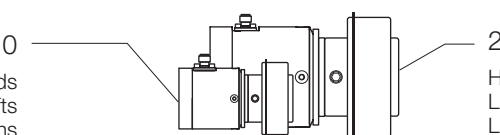


Size

0 or 2

Consider the following:
Load rating, shaft size
& dimensions

0
Lower Loads
Smaller Shafts
Smaller Dimensions

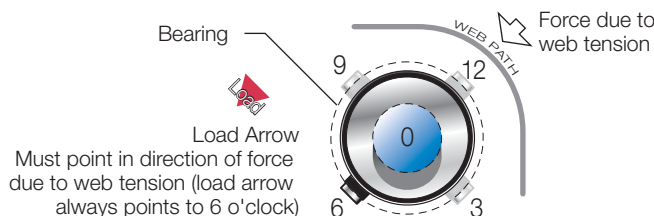


2
Higher Loads
Larger Rollers
Larger Dimensions

Connector Position

6 (standard on S and F mounts)
3, 9 or 12 (available upon request)
0 (only position available for P mount)

Position is relative to LOAD ARROW
(except P mount), which is always 6,
as observed from clamp end of load cell.



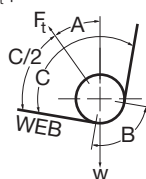
Load Rating (N)

Size 0 50 / 125 / 250 / 375 / 500 / 750

Size 2 375 / 500 / 750 / 1250 / 2500 / 5000*

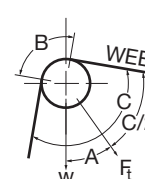
- LR load rating
- P maximum tension (pull) on web
- B wrap angle
- W weight of roller (kg x 9,82m/s²)
- A angle between F_t and vertical axis
- C angle between entering and exiting web
- F resultant force

F_t points ABOVE horizon



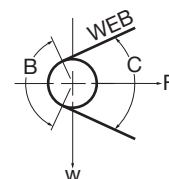
$$LR = \frac{4P \sin(B/2) - W \cos(A)}{2}$$

F_t points BELOW horizon



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

F_t is HORIZONTAL



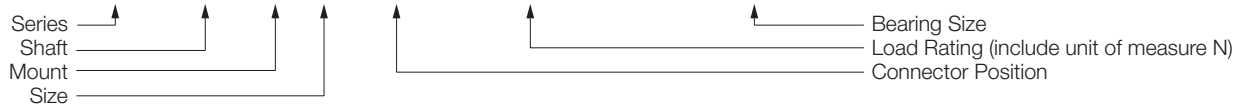
$$LR = \frac{4P \sin(B/2)}{2}$$

* For F and P mounts only.

Note: It is recommended that Montalvo be contacted to ensure proper sizing.

Example

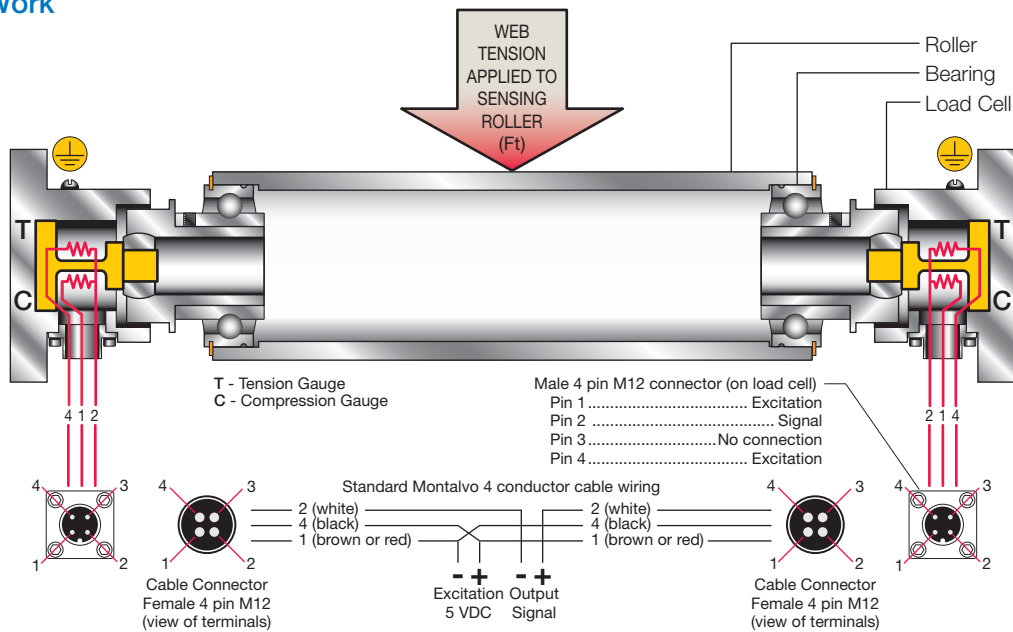
ES - L - F 2 - 6 - 750 N - ER - 24



ES-Series

Extended Sensitivity Live Roller Load Cells

How They Work



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	Male 4 pin M12
Pin 1.....	Excitation
Pin 2.....	Signal
Pin 3.....	No connection
Pin 4.....	Excitation

Load Ratings - lb (N)

Size 0.....	50 / 125 / 250 / 375 / 500 / 750
Size 2.....	375 / 500 / 750 / 1250 / 2500 / 5000*
Overload Stops	110% of Load Rating
Overload Rating.....	300% of Load Rating

* For F and P mounts only.

Note: It is recommended that Montalvo be contacted to ensure proper sizing.

Environmental

Classification	IP54
Temperature	
Operating range.....	-20 to +70°C
Coefficient (% per degree).....	0.01 typ.

Mechanical

Deflection	0.203 to 0.381(mm)
Alignment	1° max.
Standard Bearing (shown in drawings)	
Size 0	ER-19
Size 2	ER-24
Finish	stainless steel

Weight** (kg) approximately

ES-L-S0	1.37
ES-L-S2	2.69
ES-L-F0.....	1.76
ES-L-F2.....	3.52
ES-L-P0	1.88
ES-L-P2	3.99

** Including standard bearing

Related Montalvo Products

Tension Controllers
Load Cell Amplifiers
Tension Indicators
and... Cables

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	+86-21-52188010
	+45 75 57 27 11
	+49 (0)511 760 691 41



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EST. 1947



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