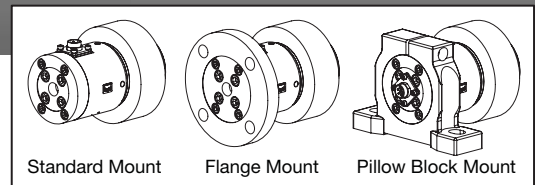


## ES-Series

Extended Sensitivity Live Shaft Load Cells



IP54



### Montalvo ES-Series Extended Sensitivity Live Shaft Load Cells

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

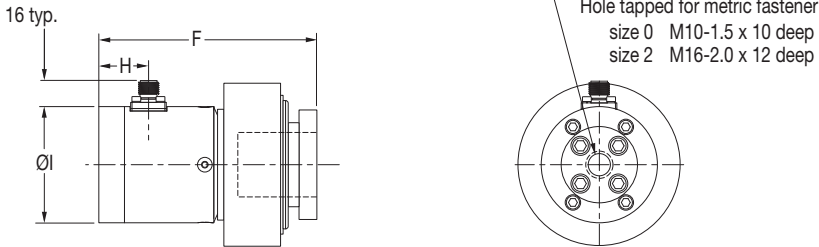
#### Features & Benefits

- ▶ **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**



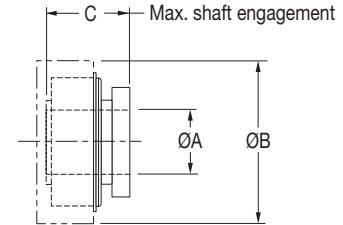
## Dimensions

### Standard Mount (S)



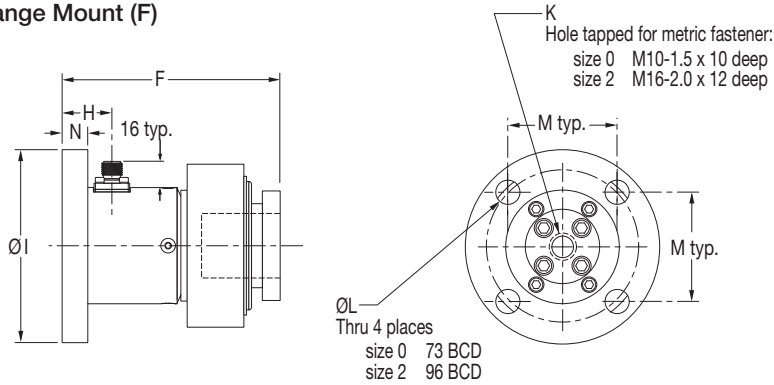
Model	F	H	I	K
ES-L/S-S0	105	28.50	57	M10-1.5x10
ES-L/S-S2	135	31	72.50	M16-2.0x12

### Available bearings



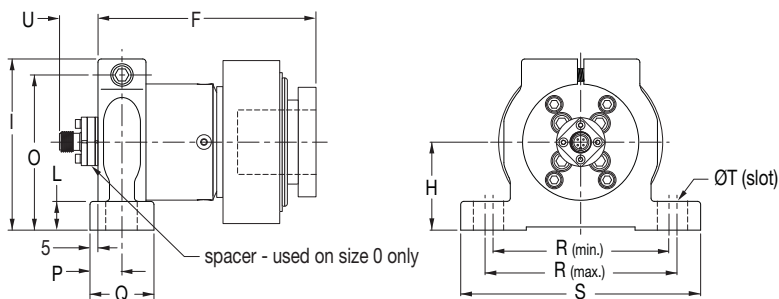
Size	Bearing #	ØA	ØB
0	ER-205	25mm	73
2	ER-206	30mm	92
2	ER-207	35mm	92
2	ER-208	40mm	102

### Flange Mount (F)

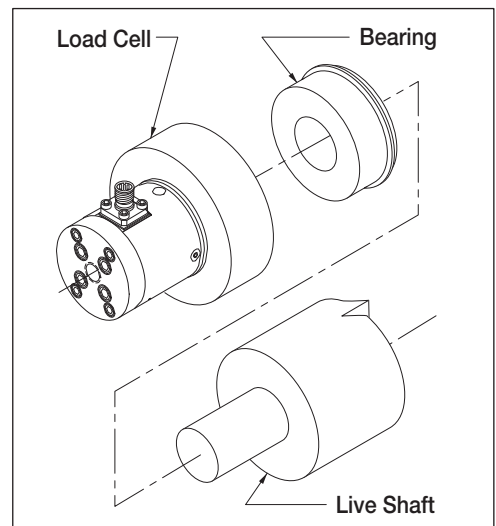


Model	F	H	I	K	L	M	N
ES-L/S-F0	105	28.50	89	M10-1.4x10	9	52	15
ES-L/S-F2	135	31	121	M16-2.0x12	13.50	68	16

### Pillow Block Mount (P)



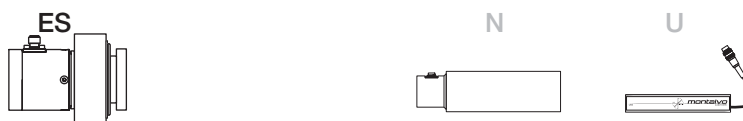
Model	F	H	I	L	O	P	Q	R (min.)	R (max.)	S	T	U
ES-L/S-P0	105	42	83	12	76	15	30	86	94	116	9	28
ES-L/S-P2	135	55	107	18	97	20	40	110	120	150	14	19



## How To Specify

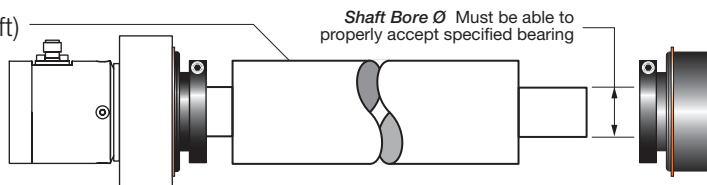
### Series

ES, N, U or F



### Shaft / Bearing Size (ER#)

L/S (Live Shaft)



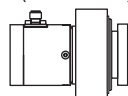
Size 0 ER-18 (Ø 18mm) Standard  
Size 2 ER-24 (Ø 38mm) Standard

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

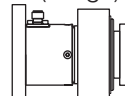
### Mount

S, F, or P

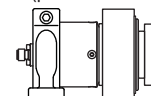
**S** (standard)



**F** (flange)



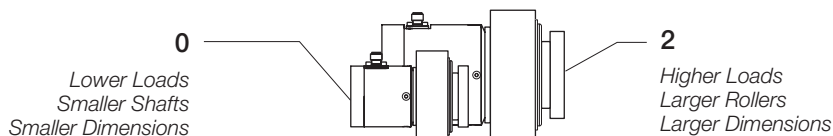
**P** (pillow block)



### Size

0 or 2

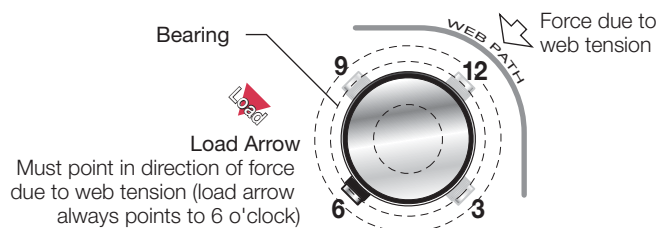
Consider the following:  
Load rating, shaft size  
& dimensions



### 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.



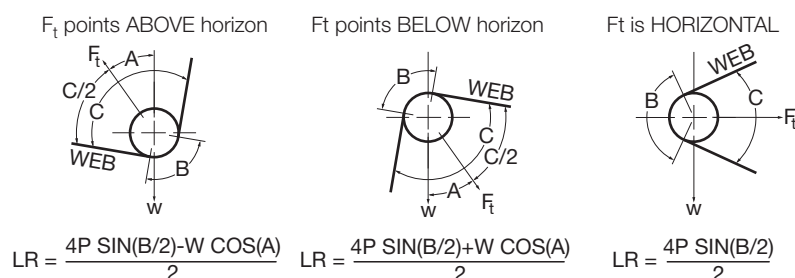
### Load Rating (N)

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/s<sup>2</sup>)
- A angle between Ft and vertical axis
- C angle between entering and exiting web
- F resultant force

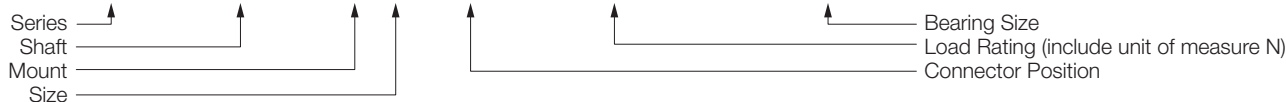
\* For F and P mounts only.

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



### Example

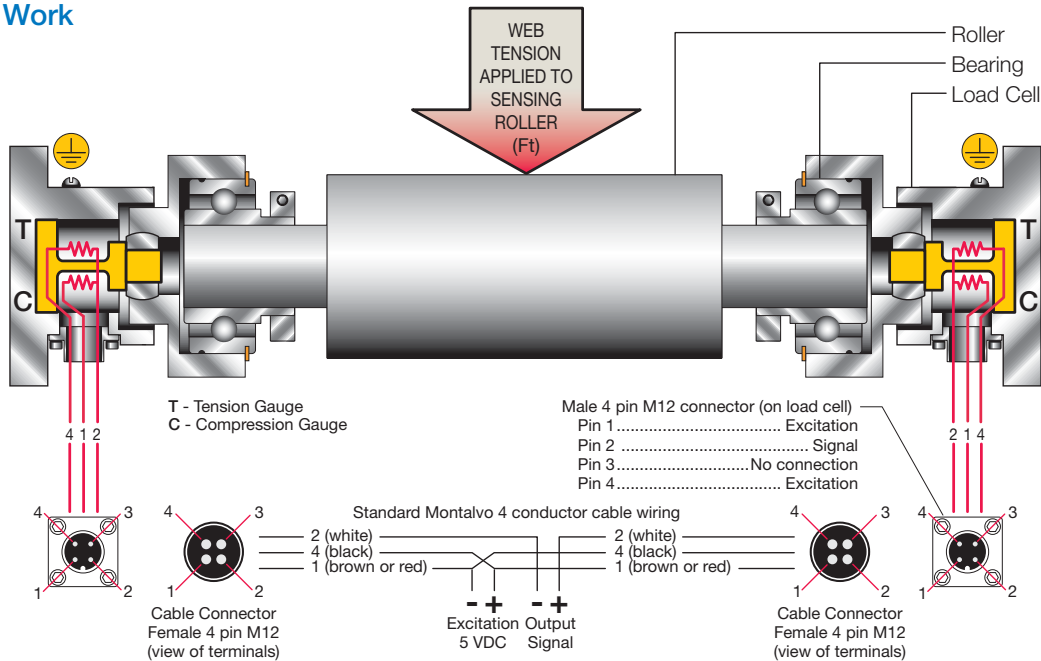
ES - L/S - F 2 - 6 - 5000 N - ER - 24



# ES-Series

Extended Sensitivity Live Shaft 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-18  
 Size 2..... ER-24  
 Finish.....stainless steel

Weight<sup>1</sup> (kg) approximately  
 ES-L/S-S0 ..... 1.37  
 ES-L/S-S2 ..... 3.47  
 ES-L/S-F0 ..... 1.76  
 ES-L/S-F2 ..... 4.31  
 ES-L/S-P0 ..... 1.88  
 ES-L/S-P2 ..... 4.79

<sup>1</sup> Including standard bearing

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	+45 75 57 27 11
	+49 (0)511 760 691 41



## Related Montalvo Products

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 Tension Indicators  
 and... Cables

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EST. 1947



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