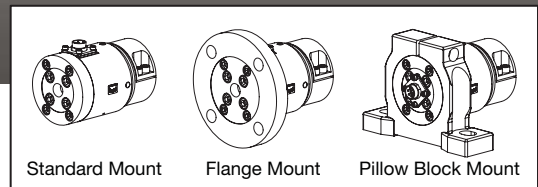


ES-Series

Extended Sensitivity Dead Shaft Idler Roller Load Cells



IP54



Montalvo ES-Series Extended Sensitivity Dead Shaft Idler Roller Load Cells

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

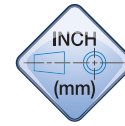
Features & Benefits

- ▶ **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**

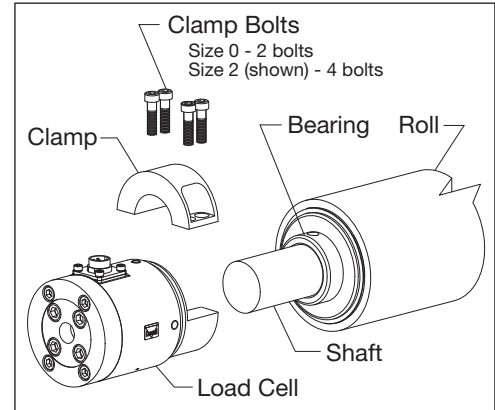
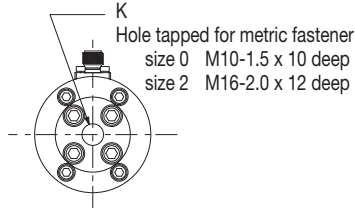
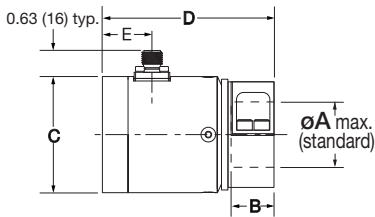
ES-Series

Extended Sensitivity Dead Shaft Idler Roller Load Cells

Dimensions

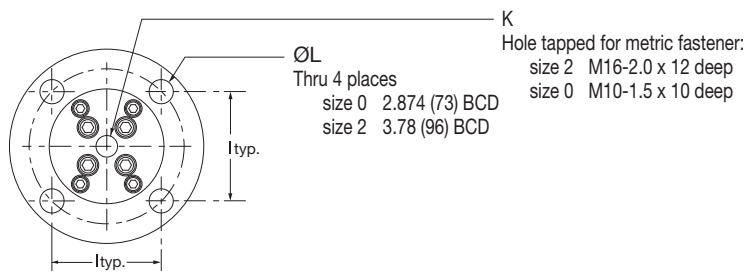
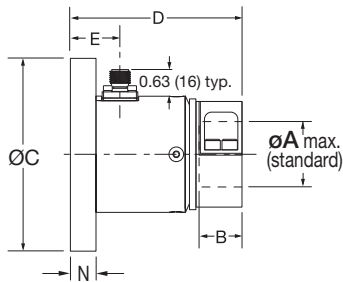


Standard Mount (S)



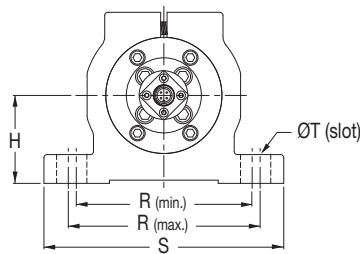
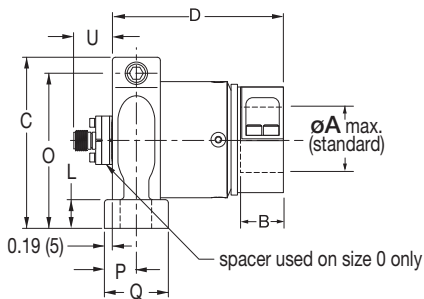
Model	A	A(metric)	B	C	D	E	K
ES-I-S0	1.125	25mm	0.53 (13)	2.26 (57.50)	3.00 (76)	1.12 (28.50)	M10-1.5x10
ES-I-S2	1.50	40mm	1.10 (28.07)	2.85 (72.50)	4.28 (108.79)	1.22 (31)	M16-2.0x12

Flange Mount (F)



Model	A	A(metric)	B	C	D	E	I typ.	K	L	N
ES-I-F0	1.125	25mm	0.53 (13)	3.50 (89)	3.00 (76)	1.12 (28.50)	2.03 (51.62)	M10-1.5x10	0.35 (9)	0.59 (15)
ES-I-F2	1.50	40mm	1.10 (28.07)	4.72 (120)	4.28 (108.79)	1.22 (31)	2.67 (67.88)	M16-2.0x12	0.53 (13.50)	0.63 (16)

Pillow Block Mount (P)

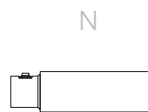
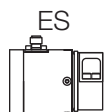


Model	A	A(metric)	B	C	D	H	L	O	P	Q	R (min.)	R (max.)	S	T	U
ES-I-P0	1.125	25mm	0.53 (13)	3.27 (83)	3.00 (76)	1.65 (42)	0.47 (12)	2.99 (76)	0.59 (15)	1.18 (30)	3.39 (86)	3.71 (94)	4.57 (116)	0.35(9)	1.08(28)
ES-I-P2	1.50	40mm	1.10 (28.07)	4.21 (107)	4.28 (108.79)	2.17 (55)	0.71 (18)	3.82 (97)	0.79 (20)	1.57 (40)	4.33 (110)	4.73(120)	5.91(150)	0.55(14)	0.75(19)

How To Specify

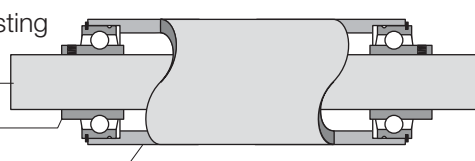
Series

ES, N, U or F



Shaft / Shaft Size in (mm)

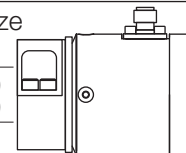
I - Dead Shaft Idler Roller consisting of the following components:
 Shaft
 Bearing
 Roller



Maximum shaft size

Size 0 1.125" (25mm)
 Size 2 1.500" (40mm)

Bushings available for other size shafts at no charge.



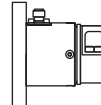
Mount

S, F, or P

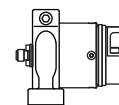
S (standard)



F (flange)



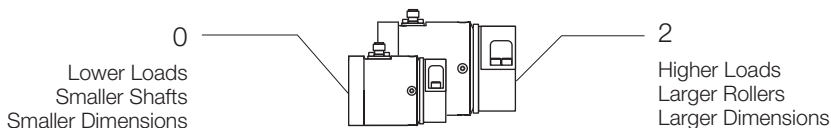
P (pillow block)



Size

0 or 2

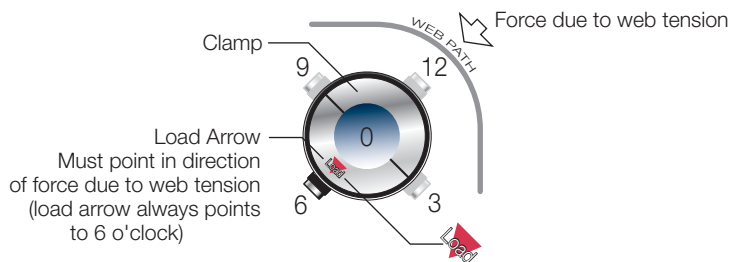
Consider the following:
 Load rating, shaft size & dimensions



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.

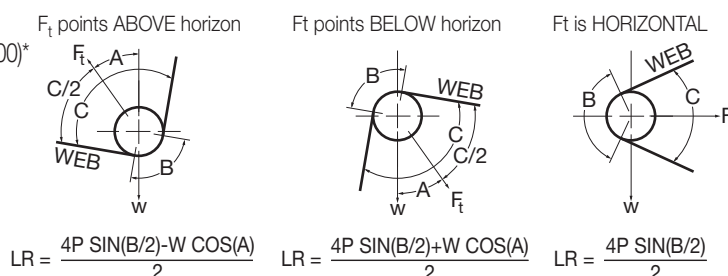


Load Rating lb (N)

Size 0 10(50), 25(125), 50(250), 75(375), 100(500), 150(750)

Size 2 75(375), 100(500), 150(750), 250(1250), 500(2500), 1000*(5000)*

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



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

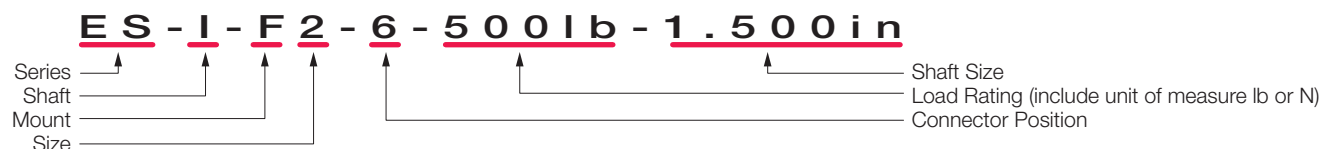
$$LR = \frac{4P \sin(B/2) + W \cos(A)}{2}$$

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

* For F and P mounts only.

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

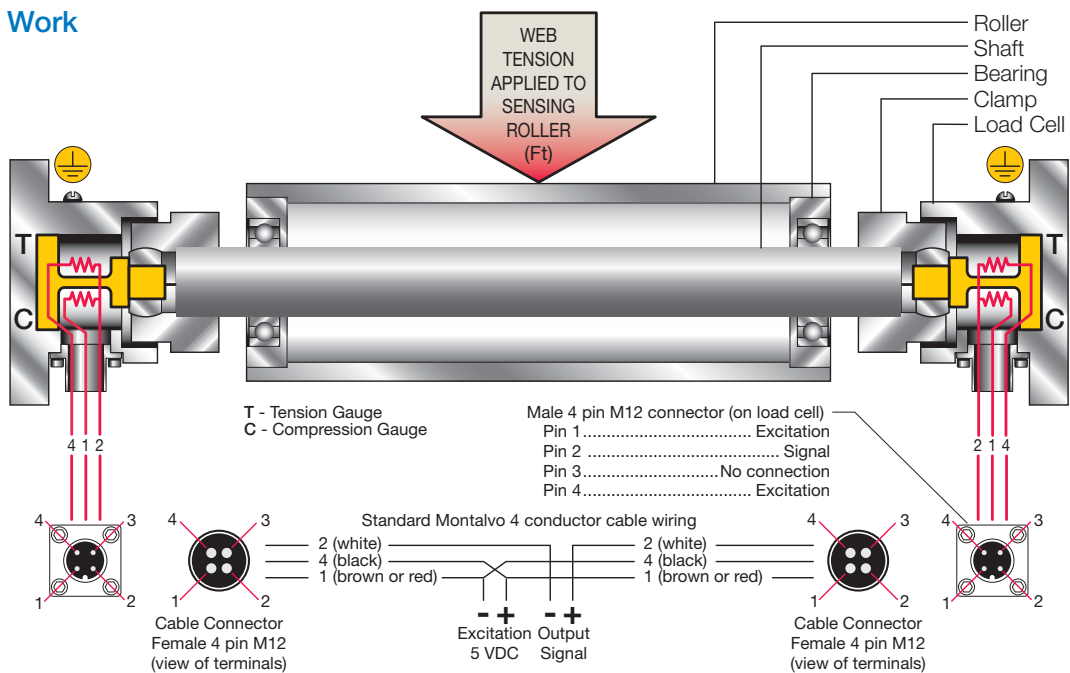
Example



ES-Series

Extended Sensitivity Dead Shaft Idler 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 10(50), 25(125), 50(250), 75(375), 100(500), 150(750)
Size 2 75(375), 100(500), 150(750), 250(1250), 500(2500), 1000*(5000)*

* For F and P mounts only.

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

Overload tested @ 300% max. of rated
Overload Stops 110% of full load

Environmental

ClassificationIP54
Temperature °F (°C)
Operating range -4 to +150 (-20 to +70)
Coefficient (% per degree)..... 0.02 (0.01) typ.

Mechanical

Deflection in (mm)..... 0.008 to 0.015 (0.203 to 0.381)
Alignment 1° max.
Bore** Size 2 1-1/2" or (40 mm) std.
Size 0 1-1/8" or (25 mm) std.

*Bushings available for smaller shaft sizes.

Finish stainless steel

Weight lb (kg) approximately

ES-I-S0 2.25 (1.02)
ES-I-S2 4.67 (2.12)
ES I-F0 3.11 (1.41)
ES-I-F2..... 6.48 (2.95)
ES-I-P0 3.39 (1.54)
ES-I-P2 7.52 (3.42)

Related Montalvo Products

The **NEW** S4 Digital Tension Controller
The **NEW** A4 Digital Load Cell Amplifier
The **NEW** i4HD Tension Indicator
and... Cables

	207-856-2501 / 800-226-8710
	+86-21-61401822
	+45 75 57 27 11