

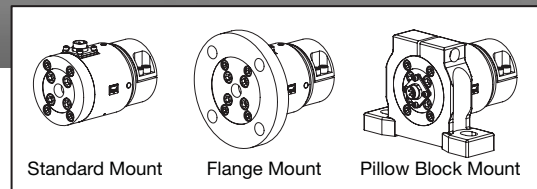
DR-C Series

Drop In Replacement Full Bridge Dead Shaft Load Cells

**available in half bridge upon request*



IP54



Montalvo DR-C Series - Drop In Replacement Full Bridge Dead Shaft Load Cells

As **alternatives to CMC Ultra and Legacy dead shaft style load cells**, Montalvo's DR-C Series are available in full bridge (or half bridge upon request) configurations, and meet CMC product dimension specifications. In addition to being direct, drop-in replacements, Montalvo's DR-C load cells feature mechanical variance compensation while a stainless steel construction gives you maximum performance with a long service life. DR-C load cells are available in multiple load ratings, three mounting configurations, two bridge options, and four different body sizes to meet the specific requirements of your application and are backed by Montalvo's excellent quality, service, and support.

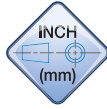
Features & Benefits

- ▶ **Industry Leading Resolution** - and sensitivity for superior accuracy and response
- ▶ **Drop In Replacement Design** - in four sizes to meet the dimensional requirements of your machine
- ▶ **Full Bridge Technology** - to match existing wiring configurations
- ▶ **Multiple Mounting Options** - standard, flange or pillow block to fit most any machine frame
- ▶ **Stainless Steel Construction** - and dust proof (IP54) rating for durability and extended, dependable service life
- ▶ **Mechanical Variance Compensation** - for shaft expansion and misalignment from installation variables
- ▶ **360° Overload Protection**

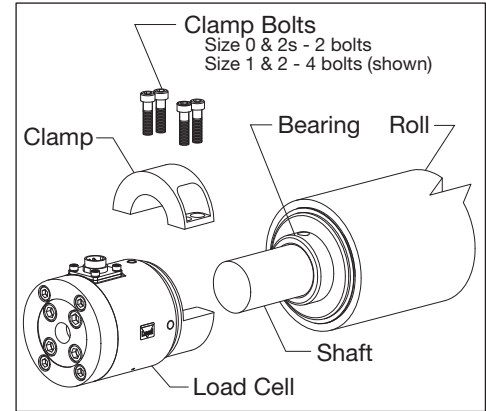
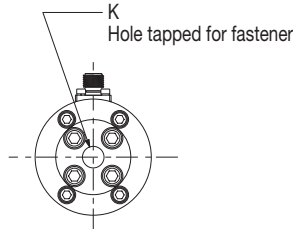
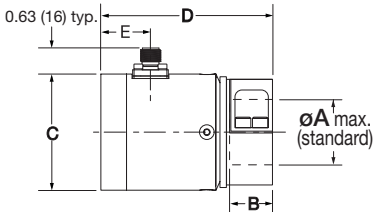
DR-C Series

Drop In Replacement Full Bridge Idler Roll Load Cells

Dimensions

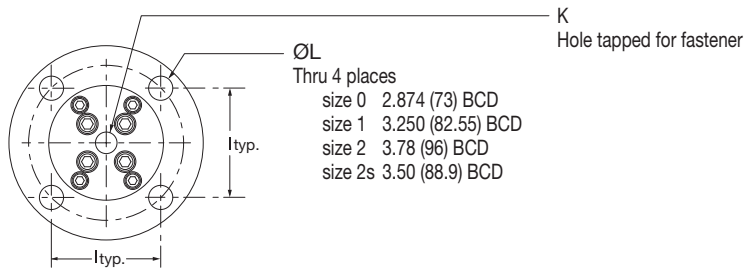
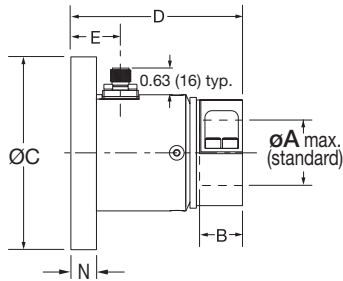


Standard Mount (S)



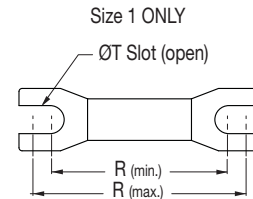
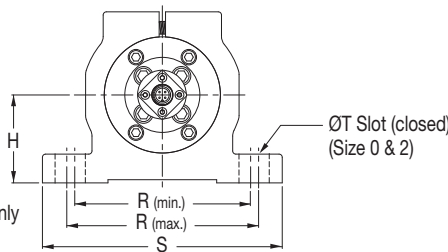
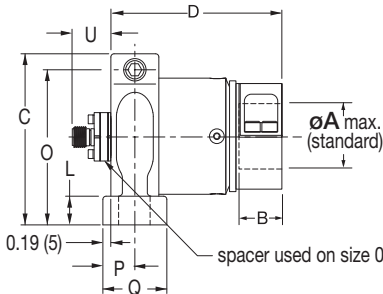
Model	A	A(metric option)	B	C	D	E	K	K(metric option)
DRC-I-S0	1.125	25mm	0.53 (13)	2.26 (57.5)	3.00 (76)	1.12 (28.5)	-	M10-1.5x10
DRC-I-S1	1.50	40mm	1.03 (26.2)	2.26 (57.5)	3.63 (92.2)	1.12 (28.5)	1/2"-13 x13/32"	M12-1.5x10
DRC-I-S2	1.50	40mm	1.10 (28.0)	2.85 (72.5)	4.28 (108.8)	1.22 (31)	-	M16-2.0x12
DRC-I-S2s	1.50	40mm	0.86 (21.8)	2.85 (72.5)	3.86 (98.1)	1.05 (26.6)	5/8"-11x1/2"	M16-2.0x12

Flange Mount (F)



Model	A	A(metric option)	B	C	D	E	I typ.	K	K(metric option)	L	N
DRC-I-F0	1.125	25mm	0.53 (13)	3.50 (89)	3.00 (76)	1.12 (28.5)	2.03 (51.6)	-	M10-1.5x10	0.35 (9)	0.59 (15)
DRC-I-F1	1.50	40mm	1.03 (26.2)	4.00 (101.6)	3.63 (92.2)	1.12 (28.5)	2.298 (58.4)	1/2"-13 x 13/32"	M12-1.5x10	0.354 (9)	0.59 (15)
DRC-I-F2	1.50	40mm	1.10 (28.0)	4.72 (120)	4.28 (108.8)	1.22 (31)	2.67 (67.88)	-	M16-2.0x12	0.53 (13.5)	0.63 (16)
DRC-I-F2s	1.50	40mm	0.86 (21.8)	4.48 (114)	3.86 (98.1)	1.05 (26.6)	2.47 (62.9)	5/8"-11x1/2"	M16-2.0x12	0.53 (13.5)	0.45 (11.6)

Pillow Block Mount (P)



Model	A	A(metric)	B	C	D	H	L	O	P	Q	R (min.)	R (max.)	S	T	U
DRC-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)
DRC-I-P1	1.50	40mm	1.03 (26.2)	3.24 (82.3)	3.63 (92.2)	1.626 (41.3)	0.445 (11.3)	2.96 (75.2)	0.59 (15)	1.18 (30)	3.39 (86.1)	4.00 (101.6)	4.57 (116)	-	1.08 (28)
DRC-I-P2	1.50	40mm	1.10 (28.0)	4.21 (107)	4.28 (108.8)	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

DR-C, ES, N, or U

DR-C



ES



N

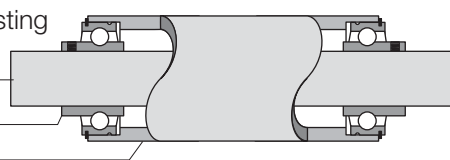


U



Shaft / Shaft Size in (mm)

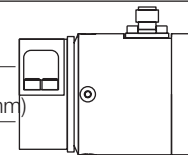
- I- Dead Shaft Idler Roller consisting of the following components:
 - Shaft
 - Bearing
 - Roller



Maximum shaft size

- Size 0 1.125" (25mm)
- Size 1, 2 & 2s 1.500" (40mm)

Bushings available for other size shafts at no charge.



Mount

S, F, or P

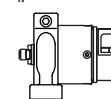
S (standard)



F (flange)



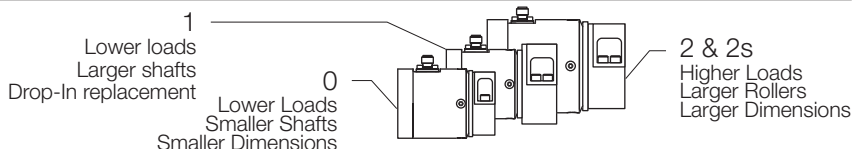
P (pillow block)



Size

0, 1, 2 or 2s

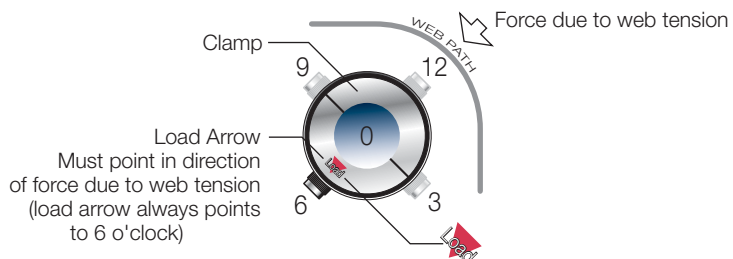
Consider the following:
Load rating, shaft size, dimensions and replacement mounting



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.

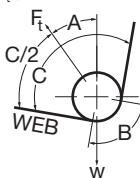


Load Rating lb (N)

- Size 0 10(50), 25(125), 50(250), 75(375), 100(500), 150(750)
- Size 1 100(500), 150(750), 250(1250)
- Size 2 75(375), 100(500), 150(750), 250(1250), 500(2500), 1000*(5000)*
- Size 2s 75(375), 100(500), 150(750), 250(1250), 500(2500)

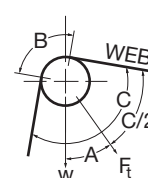
- LR load rating
- P maximum tension (pull) on web
- B wrap angle
- W weight of roller in pounds
- A angle between F_t and vertical axis
- C angle between entering and exiting web
- F resultant force

F_t points ABOVE horizon



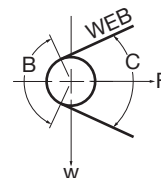
$$LR = \frac{4P \sin(B/2) - W \cos(A)}{2}$$

F_t points BELOW horizon



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

F_t is HORIZONTAL



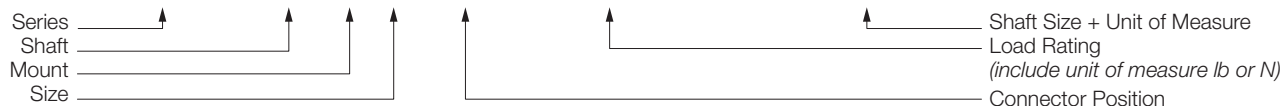
$$LR = \frac{4P \sin(B/2)}{2}$$

* For F and P mounts only.

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

Example

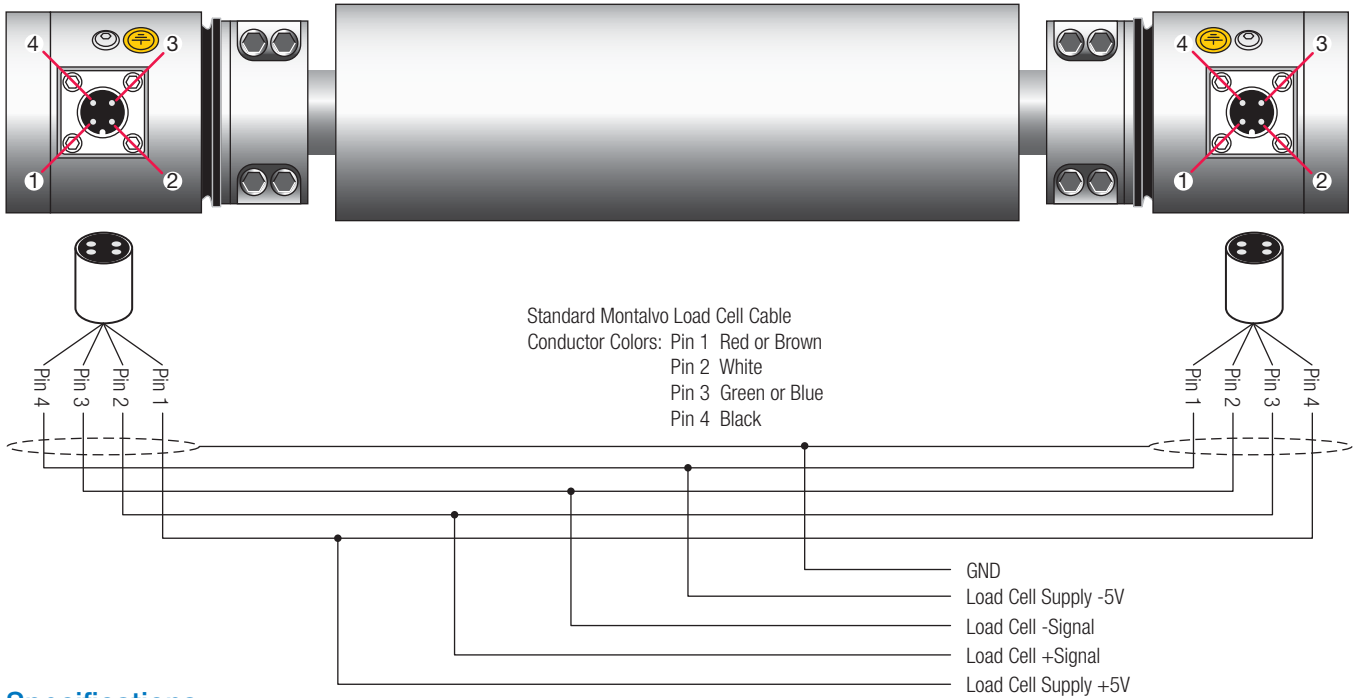
DR-C - I - F 2 - 6 - 500lb - 1.500 in



DR-C Series

Drop In Replacement Full Bridge Idler Roll Load Cells

Wiring



Specifications

Electrical

Excitation..... 10 VDC
 Output..... 500 mV, nominal @ full load
 Gauge Resistance..... 80 - 130 Ω
 Type full bridge 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..... Signal
 Pin 4..... Excitation

Load Ratings - lb (N)

Size 0 10(50), 25(125), 50(250), 75(375), 100(500), 150(750)
 Size 1 100(500), 150(750), 250(1250)
 Size 2 75(375), 100(500), 150(750), 250(1250), 500(2500), 1000*(5000)*
 Size 2s 75(375), 100(500), 150(750), 250(1250), 500(2500)
 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 °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 0 1-1/8" or (25 mm) std.
 Size 1 1-1/2" or (40 mm) std.
 Size 2 1-1/2" or (40 mm) std.
 Size 2s 1-1/2" or (40 mm) std.

*Bushings available for smaller shaft sizes.

Finish stainless steel

Common Replacement Units

DRC-I-S-1 replaces CMC 1T
 DRC-I-S-2s replaces CMC 2T

Related Montalvo Products

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

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