

LUH-F

CE

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-98

High-accuracy Tension/Compression Load Cell



High-accuracy tension/compression models^{*1}

- Rated capacity: ± 500 N to 200 kN
- High accuracy (nonlinearity: within $\pm 0.02\%$ RO)
- Remote sensing compatible^{*2}

*1 Ball joint required for tension loading measurement.

*2 Use products compatible with remote sensing to use the remote-sensing function.

Highly accurate tension/compression load cells. They are filled with inert gas for stable characteristics.

They support remote sensing (P. 7-16) for highly accurate measurement even when extending cables.

Specifications

Performance

Rated Capacity	See table below.
Nonlinearity	Within $\pm 0.02\%$ RO
Hysteresis	Within $\pm 0.02\%$ RO
Repeatability	0.02% RO or less
Rated Output	Tension: $+2$ mV/V $\pm 0.1\%$ Compression: Approx. -2 mV/V
Sensitivity Difference due to Loading Directions	0.2% RO or less

Environmental Characteristics

Safe Temperature	-35 to 80°C
Compensated Temperature	-10 to 60°C
Temperature Effect on Zero	Within $\pm 0.003\%$ RO/ $^{\circ}\text{C}$
Temperature Effect on Output	Within $\pm 0.003\%$ / $^{\circ}\text{C}$

Electrical Characteristics

Safe Excitation	20 V AC or DC
Recommended Excitation	1 to 10 V AC or DC
Input Resistance	$350\ \Omega \pm 0.5\%$
Output Resistance	$350\ \Omega \pm 0.5\%$
Cable	6-conductor ($0.5\ \text{mm}^2$) chloroprene shielded cable, 9.5 mm diameter by 5 m long, bared at the tip (Shield wire is not connected to the case.)

Mechanical Properties

Safe Overloads	150%
Natural Frequencies	See table below.
Weight	See table below.
Others (50 to 500KF)	Drop prevention stopper mountable *Customers have to prepare anti-dropping stoppers by themselves.
Compliance	Directive 2011/65/EU, (EU)/2015/863 (10 restricted substances) (RoHS)

■ Standard Accessories	2 hexagon socket head bolts M5, L=10 mm 2 hexagon socket head bolts M5, L=30 mm 1 hexagon bar (Opposite side 2.5 mm)
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■ Optional Accessories	Saddle CA Mount base CF Movable saddle ER-B Ball joint TU
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Models

Model	Rated Capacity	Natural Frequencies (Approx.)	Weight (Approx.)*
LUH-50KF	± 500 N	1.4 kHz	2.1 kg
LUH-100KF	± 1 kN	2.2 kHz	
LUH-200KF	± 2 kN	3.1 kHz	
LUH-500KF	± 5 kN	4.6 kHz	
LUH-1TF	± 10 kN	4.2 kHz	4 kg
LUH-2TF	± 20 kN	6.0 kHz	
LUH-5TF	± 50 kN	5.2 kHz	9 kg
LUH-10TF	± 100 kN	4.5 kHz	18 kg
LUH-20TF	± 200 kN	3.7 kHz	38 kg

*Excluding cable

Sensor



Strain Gage

Load Cell

Pressure Sensor

Acceleration Sensor

Torque Sensor

Displacement Sensor

Component Force Sensor

Automotive Sensor

Civil Engineering Sensor

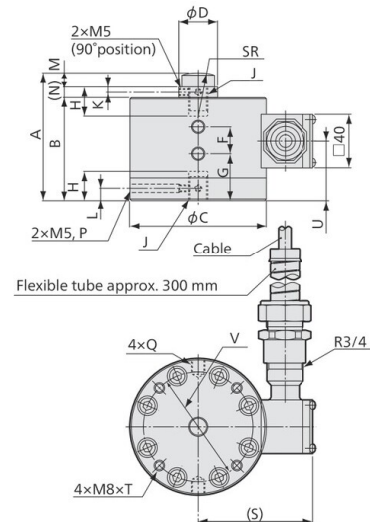
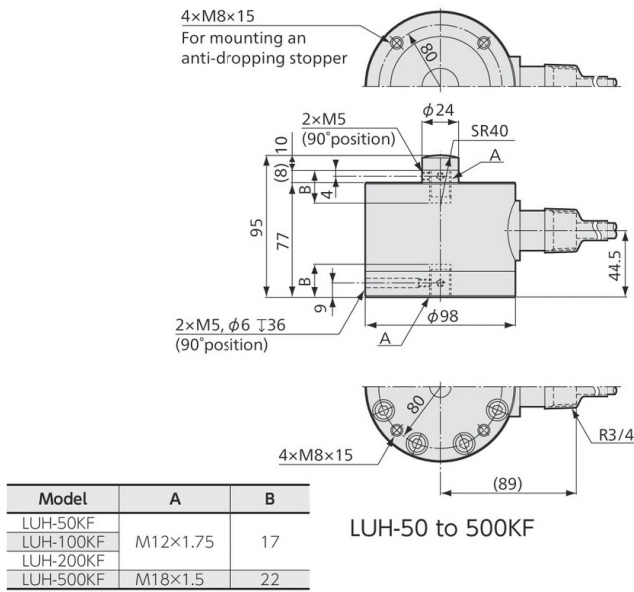


Strain Gage

Load Cell

Pressure
SensorAcceleration
SensorTorque
SensorDisplacement
SensorComponent
Force
SensorAutomotive
SensorCivil
Engineering
Sensor

■ Dimensions



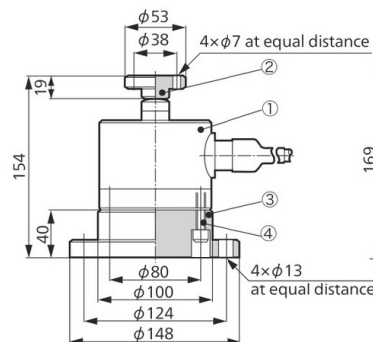
Model	A	B	φC	φD	F	G	H	J	K	L	M	(N)	P	Q	SR	(S)	T	U	V
LUH-1TF	95	77	100	24	20	35	22	M14×2	4	9	10	8	φ6136	M8 ×10	40	84	12	44.5	80
LUH-2TF								M18×1.5											
LUH-5TF	127	100	130	36	30	50	30	M26×2	5	13	17	10	φ9142	M16×16	60	99		60	95
LUH-10TF	170	135	160	50	40	60	45	M36×2	8	17	20	15	φ9154	M20×15	70	115	15	80	120
LUH-20TF	228	175	200	68	50	80	65	M50×3	12	23	28	25	φ9165	M24×20	100	135		100	160

Bared at the tip (standard)
(For remote sensing)

■ Configuration Diagram

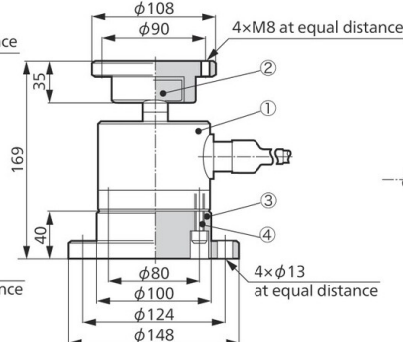
When using in combination with special accessories, consult with us.

- In combination with saddle (CA) and mount base (CF) (LUH-50KF to 500KF)



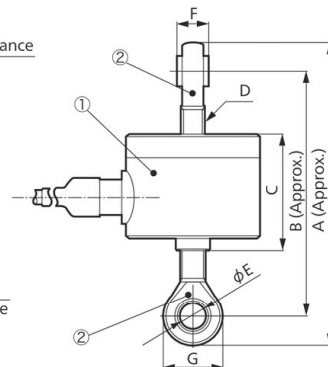
- ① Load cell LUH-F
② Saddle CA-2B
③ Mount base CF-80
④ Hexagon socket head bolt 4×M8, L=25 (Standard accessories of mount base)

- In combination with movable saddle (ER) and mount base (CF) (LUH-50KF to 500KF)



- ① Load cell LUH-F
② Movable saddle ER-2B
③ Mount base CF-80
④ Hexagon socket head bolt 4×M8, L=25 (Standard accessories of mount base)

- In combination with ball joint (TU)



①Load Cell	②Ball Joint	A	B	C	D	φE	F	G
LUH-50KF	TU-12	207	177	85	M12 P=1.75	12	16	30
LUH-100KF								
LUH-200KF								
LUH-500KF								
LUH-1TF	TU-14	210	173		M14 P=2	14	17	37
LUH-2TF	TU-18	231	189		M18 P=1.5	18	23	42
LUH-5TF	TU-26	350	280	110	M26 P=2	25	37	70

*Special accessories for tensile load measurement should be assembled at our factory.

*From the viewpoint of guaranteed accuracy, allows neither a hook nor a shackle to be combined.