

LUX-B-ID

● Compact ● 50 N to 20 kN

Compact Tension/Compression Load Cell



*For TEDS, see page 9-17.
Note: For transducers providing both positive and negative output values an average of both values are written as the rated output.

Suitable for measuring and controlling loads applied to small-scale presses and press-fitting devices

- High sensitivity
- Waterproof connector
- Stainless steel
- Easy installation

Compact & lightweight design with a screw-shape load receiving portion facilitates easy installation to equipment. Furthermore, the cable is connected using a connector, therefore there are no wiring problems, and cable replacement is easy. Work is also possible if the cable is replaced with one resistant to repeated bending (Flexible cable). Please attach a suffix of M1Z3K to the model name.

Specifications

Performance

Rated Capacity	See table below.
Nonlinearity	Within $\pm 0.1\%$ RO (2KN or less: Within $\pm 0.15\%$ RO)
Hysteresis	Within $\pm 0.1\%$ RO (2KN or less: Within $\pm 0.15\%$ RO)
Repeatability	0.05% RO or less
Rated Output	1.3 mV/V or more 100 N to 1 kN: 0.9 mV/V or more 50 N: 0.85 mV/V or more

Environmental Characteristics

Safe Temperature	-20 to 80°C
Compensated Temperature	-10 to 70°C
Temperature Effect on Zero	Within $\pm 0.005\%$ RO/°C (50N to 200N: Within $\pm 0.03\%$ RO/°C)
Temperature Effect on Output	Within $\pm 0.005\%$ /°C

Electrical Characteristics

Safe Excitation	15 V AC or DC (50N to 200N: 10 V AC or DC)
Recommended Excitation	1 to 10 V AC or DC (50N to 200N: 1 to 5 V AC or DC)
Input Resistance	375 Ω $\pm 1.5\%$
Output Resistance	350 Ω $\pm 1\%$
Cable	Model: TE-45 6-conductor (0.08 mm ²) chloroprene shielded cable, 4.4 mm diameter by 3 m long Sensor side: Terminated with a connector plug 213FCW-8P Measuring instrument side: Bared at the tip (Shield wire is not connected to the case.)

Mechanical Properties

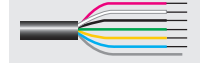
Safe Overloads	150%
Natural Frequencies	See table below.
Material	SUS (Metallic finish)
Weight	Approx. 260 g (5 to 20KN) Approx. 90 g (500N to 2KN) Approx. 50 g (200N or less) (Excluding cable)
Degree of Protection	IP67 (IEC 60529)

Models	Rated Capacity	Natural Frequencies (Approx.)	Recommended Tightening Torque
LUX-B-50N-ID	± 50 N	8 kHz	3 N·m
LUX-B-100N-ID	± 100 N	11 kHz	
LUX-B-200N-ID	± 200 N	14 kHz	
LUX-B-500N-ID	± 500 N	16 kHz	10 N·m
LUX-B-1KN-ID	± 1 kN	21 kHz	
LUX-B-2KN-ID	± 2 kN	27 kHz	
LUX-B-5KN-ID	± 5 kN	18 kHz	80 N·m
LUX-B-10KN-ID	± 10 kN	21 kHz	
LUX-B-20KN-ID	± 20 kN	25 kHz	

Optional Accessories

- Mount base CX (Page 2-48)
- Ball joint TU (Page 2-75)
- Whirl-stop coupling TSC (Page 2-48)
- Whirl-stop brackets TS (Page 2-48)

Bared at the tip
(For TEDS installation)

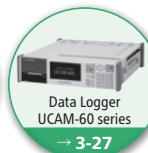


To Ensure Safe Usage

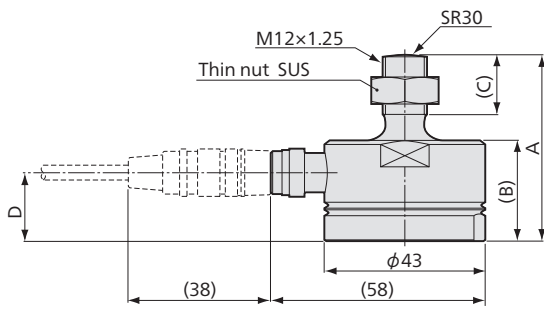
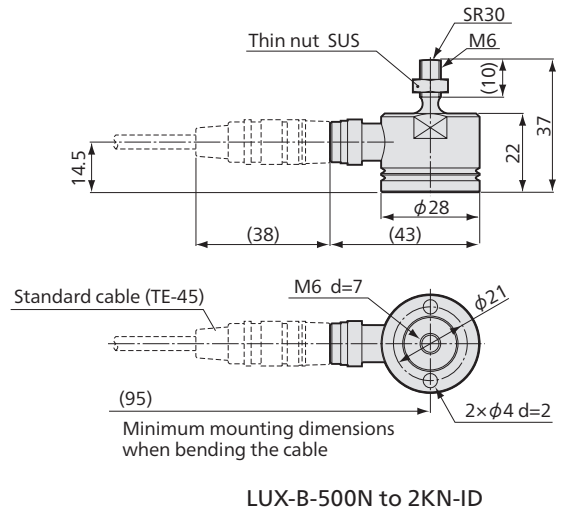
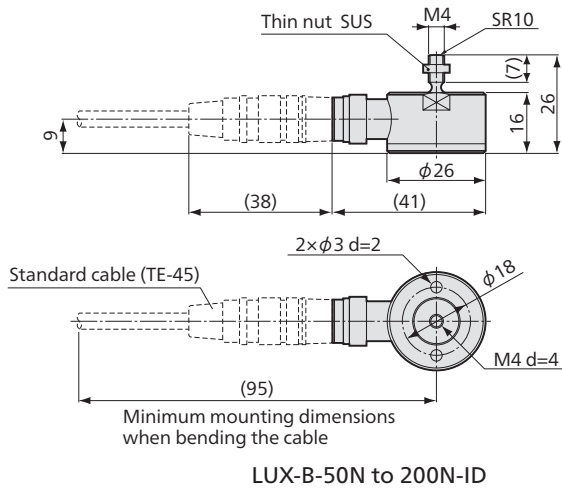
If impact is expected in receiving tensile loads, select a load cell with the rated capacity higher by one rank than the operating load.

● Physical quantity indication

● Static measurement ● Dynamic measurement



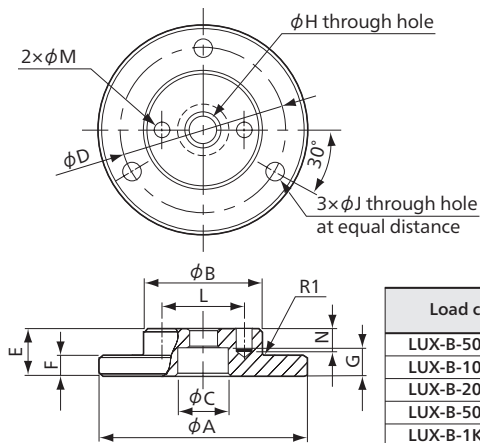
■ Dimensions



Models	A	B	C	D
LUX-B-5KN-ID	49	26.5	15	19.5
LUX-B-10KN-ID	51	27.5	16	18
LUX-B-20KN-ID	53	27	16	18

■ Dimensions of mount base

● Mount base CX



Load cells	Mount Bases	φA	φB	φC	φD	E	F	G	φH	φJ	L	φM	N	Weight (Approx.)	
LUX-B-50N-ID	CX-2	43	26	9	35	7	2.5	4.5	4.5	5	18±0.1	3 ^{0.20} _{0.06}	4.5	40 g	
LUX-B-100N-ID															
LUX-B-200N-ID															
LUX-B-500N-ID															
LUX-B-1KN-ID	CX-4	48	29	13	39	12	5	7	7	5	21±0.1	4 ^{0.2} _{0.1}	6	100 g	
LUX-B-2KN-ID															
LUX-B-5KN-ID															
LUX-B-10KN-ID	CX-6	68	44	20	57	20	10	13	13	7	33±0.1	5 ^{0.2} _{0.1}	6	350 g	
LUX-B-20KN-ID															

Hexagon socket head bolts for connection among load cells, mount bases, and locking pins are attached to the mount base.



Load Cells
(Load Transducers)

Outline

Compressive

Tensile

Tensile & compressive

Component

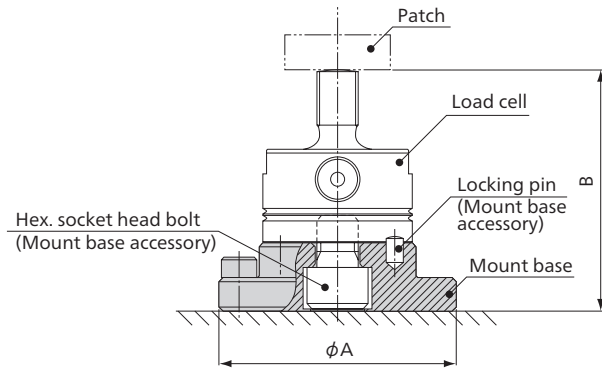
Special

Other

■ Dimensions in combination with special accessories

● In combination with mount base (CX)

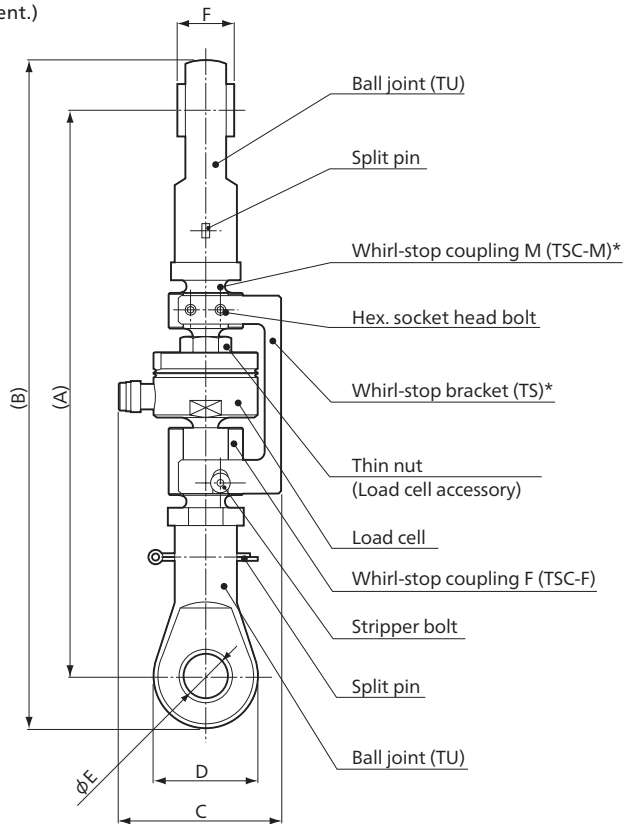
(The patch should be prepared by user or CA-2F or the equivalent should be used.)
 (This combination does not apply to tensile load measurement.)



Load Cells	Mount Bases	ϕA	B
LUX-B-50N-ID	CX-2	43	33
LUX-B-100N-ID			
LUX-B-200N-ID			
LUX-B-500N-ID	CX-4	48	49
LUX-B-1KN-ID			
LUX-B-2KN-ID			
LUX-B-5KN-ID	CX-6	68	69
LUX-B-10KN-ID			71
LUX-B-20KN-ID			73

● In combination with ball joint (TU), whirl-stop coupling (TSC) and whirl-stop bracket (TS)

(This combination does not apply to compressive load measurement.)



*Note that the Whirl-stop Bracket TS is not a safety device to be used when a load exceeding the safe overload is applied. If exceeding safe overload is applied, install a safety device on customer side before use.

Load Cells	Whirl-stop Couplings	Whirl-stop Brackets	Ball Joints	(A)	(B)	C	D	ϕE	F
LUX-B-50N-ID	TSC-2M TSC-2F	TS-2	TU-6B	102	120	44.7	18	6	9
LUX-B-100N-ID									
LUX-B-200N-ID									
LUX-B-500N-ID	TSC-4MB TSC-4FB	TS-4B	TU-12B	165	195	50.5	30	12	16
LUX-B-1KN-ID									
LUX-B-2KN-ID									
LUX-B-5KN-ID	TSC-6MB TSC-6FB	TS-6B	TU-18B	237	279	67	42	18	23
LUX-B-10KN-ID				239	281				
LUX-B-20KN-ID				241	283				

To Ensure Safe Usage

● Pay attention to strength of fastened parts which is screwed into the LUX-B. When using the LUX-B with rated capacity more than 2 kN or more, use the fastened parts made of a material with tension strength more than 800 N/mm²
 Typical recommended material: SUS630 (H900) HRC40 to 47
 SCM435 HRC30 to 38

● For tensile load measurement, take care never to exceed the safe overload rating.



- Outline
- Compressive
- Tensile
- Tensile & compressive
- Component
- Special
- Other

■ LUX-B safe bending moments (N·mm)

● Figures below show the safe bending moments against lateral loads with a load applied in sensitivity direction (Vertical direction)

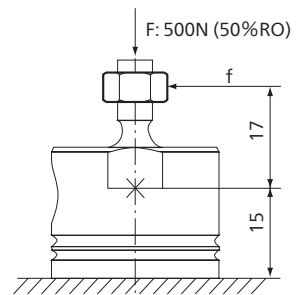
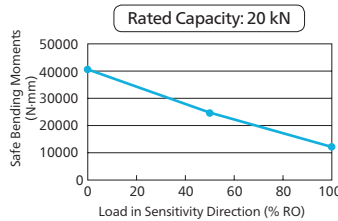
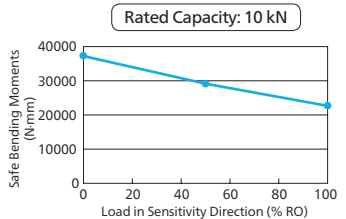
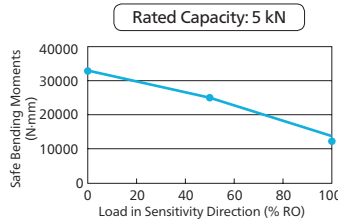
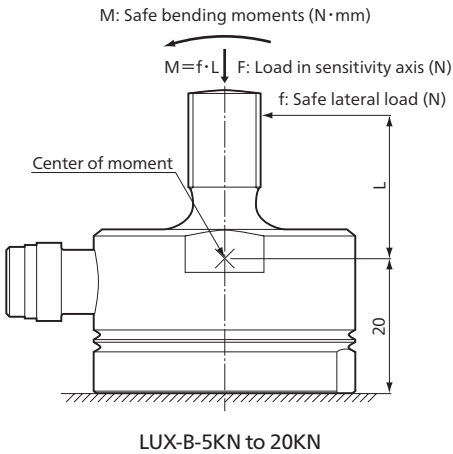
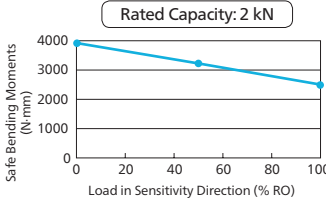
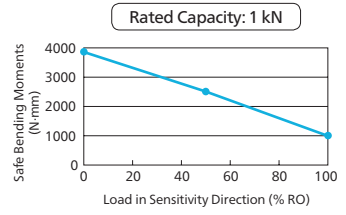
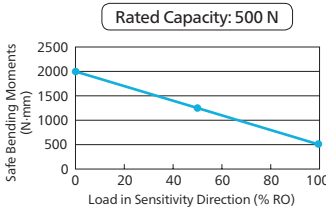
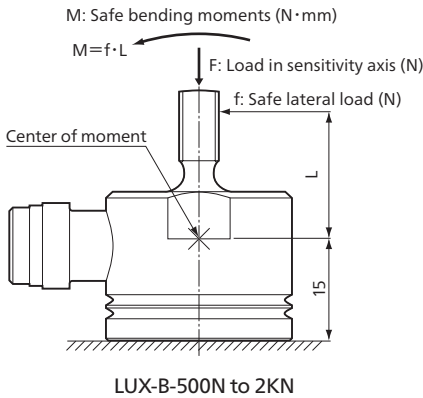
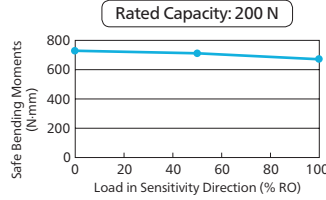
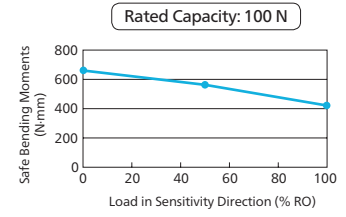
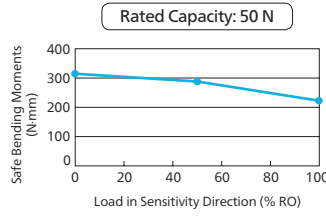
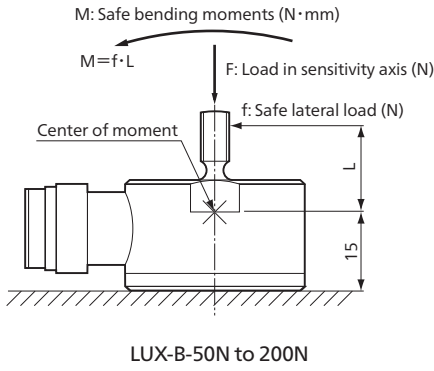


Fig. 1

How to obtain safe lateral loads

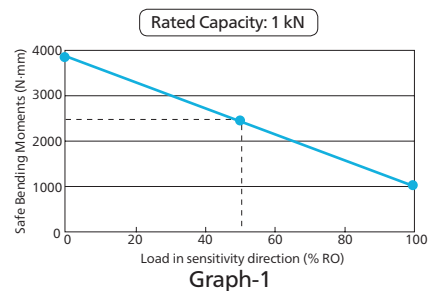
Shown here is an example calculating the safe lateral load when the LUX-B-1KN-ID receives a load in sensitivity direction (Vertical direction). (See Fig. 1.)

The safe lateral load f (N) which is applied to the screw at the distance of 17 mm from the center of the moment when a load of 500 N (50% the rated capacity) is applied in sensitivity direction and is obtained as follows:

According to Graph-1, safe bending moment, M, is approximately 2500 N·m when a load of 50% the rated capacity is applied in sensitivity direction. Since the relation between safe lateral load f, and safe bending moment M is $M = f \cdot L$,

$$f = \frac{M}{L} = \frac{2500}{17} = 147.1 \text{ N}$$

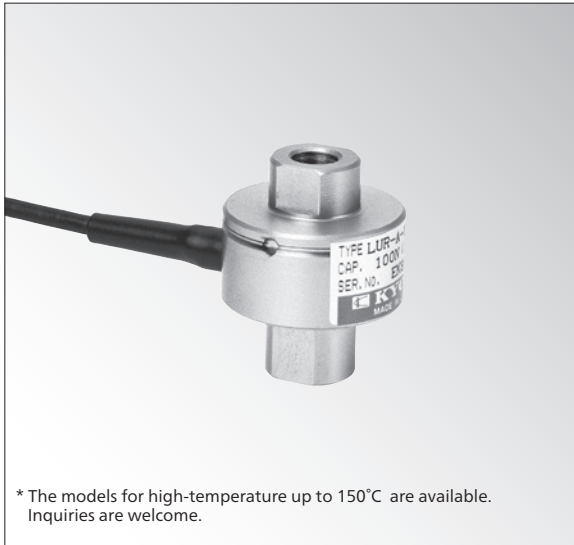
Therefore, the safe lateral load f is 147.1 N.



LUR-A-SA1

● $\phi 28$ mm ● 50 N to 2 kN

Compact Tension/Compression Load Cell



* The models for high-temperature up to 150°C are available. Inquiries are welcome.

Compact & lightweight Tension/Compression load cells

Compact & lightweight LUR-A-S1 series are easy to use tension/compression load cells. They are used in various fields ranging from production lines to experiments.

To Ensure Safe Usage

- Consult with our sales engineer when using in combination with special accessories.
- Special accessories for tensile loads should be mounted to the load cell at our factory.
- When using for tensile loads, be sure to fix the load cell with accessory hexagon socket head setscrews (M3, L=4).

*The connector plug at the cable tip may be replaced with R05-PB5M, when ordering, suffix "-R" to the model number.

Specifications

Performance

Rated Capacity	See table below.
Nonlinearity	Within $\pm 0.5\%$ RO
Hysteresis	Within $\pm 0.5\%$ RO
Rated Output	0.5 mV/V or more 50NSA1: Approx. 0.4 mV/V

Environmental Characteristics

Safe Temperature	-10 to 70°C
Compensated Temperature	0 to 70°C
Temperature Effect on Zero	Within $\pm 0.05\%$ RO/°C (50NSA1: Within $\pm 0.1\%$ RO/°C)
Temperature Effect on Output	Within $\pm 0.05\%$ /°C (50NSA1: Within $\pm 0.1\%$ /°C)

Electrical Characteristics

Safe Excitation	7 V AC or DC
Recommended Excitation	1 to 2 V AC or DC
Input Resistance	350 Ω $\pm 2\%$
Output Resistance	350 Ω $\pm 2\%$
Cable	4-conductor (0.05 mm ²) chloroprene shielded cable, 3 mm diameter by 5 m long, terminated with a connector plug PRC03-12A10-7M (Shield wire is connected to the case.)

Mechanical Properties

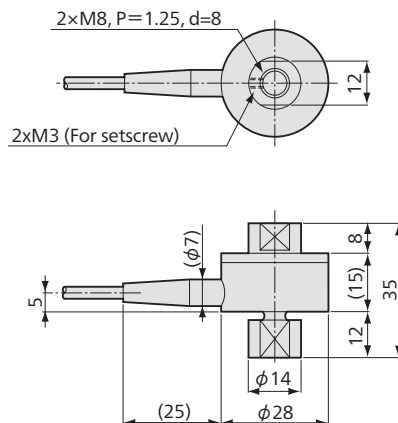
Safe Overloads	150%
Natural Frequencies	See table below.
Weight	Approx. 70 g (Excluding cable)

Standard Accessories Hexagon socket head setscrew M3, L=4

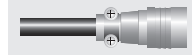
Optional Accessories Ball joint TU (Page 2-75)

Models	Rated Capacity	Natural Frequencies (Approx.)
LUR-A-50NSA1	± 50 N	2 kHz
LUR-A-100NSA1	± 100 N	4 kHz
LUR-A-200NSA1	± 200 N	5 kHz
LUR-A-500NSA1	± 500 N	9 kHz
LUR-A-1KNSA1	± 1 kN	14 kHz
LUR-A-2KNSA1	± 2 kN	20 kHz

Dimensions

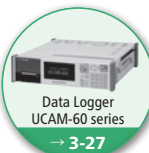


Connector plug
PRC03-12A10-7M



- Physical quantity indication
- Static measurement
- Dynamic measurement

LUR-A-SA1
Recommended
products for
combination



Load Cells
(Load Transducers)

Outline

Compressive

Tensile

Tensile &
compressive

Component

Special

Other

Tension/Compression Load Cell



* TEDS-installed models are available. Inquiries are welcome.

Hermetically-sealed structure with inert gas filled in. Tension/Compression load cells

The detection portion is hermetically sealed with inert gas filled in to prevent aging deterioration and to ensure reliability and stability for a long period of time.

Specifications

Performance

Rated Capacity	See table below.
Nonlinearity	Within $\pm 0.2\%$ RO
Hysteresis	Within $\pm 0.1\%$ RO
Repeatability	0.1% RO or less
Rated Output	2 mV/V $\pm 0.2\%$

Environmental Characteristics

Safe Temperature	-30 to 85°C
Compensated Temperature	-10 to 70°C
Temperature Effect on Zero	Within $\pm 0.005\%$ RO/°C
Temperature Effect on Output	Within $\pm 0.005\%$ /°C

Electrical Characteristics

Safe Excitation	20 V AC or DC
Recommended Excitation	1 to 10 V AC or DC
Input Resistance	350 Ω $\pm 0.5\%$
Output Resistance	350 Ω $\pm 0.5\%$
Cable	4-conductor (0.3 mm ²) chloroprene shielded cable, 7.6 mm diameter by 5 m long, terminated with a connector plug PRC03-12A10-7M (Shield wire is connected to the case.)

Mechanical Properties

Safe Overloads	150%
Natural Frequencies	See table below.
Weight	See table below.

Optional Accessories

- Saddle CA-B (Page 2-72)
- Mount base CF (Page 2-72)
- Rotating attachment RJ (Page 2-74)
- Ball joint TU (Page 2-75)
- Hook THC (Page 2-75)
- Shackle TRC (Page 2-76)



Load Cells
(Load Transducers)

Outline

Compressive

Tensile

Tensile & compressive

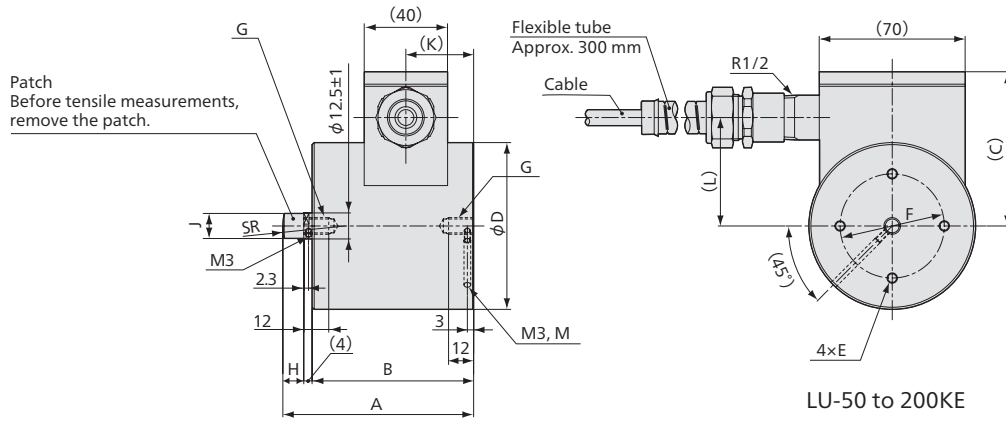
Component

Special

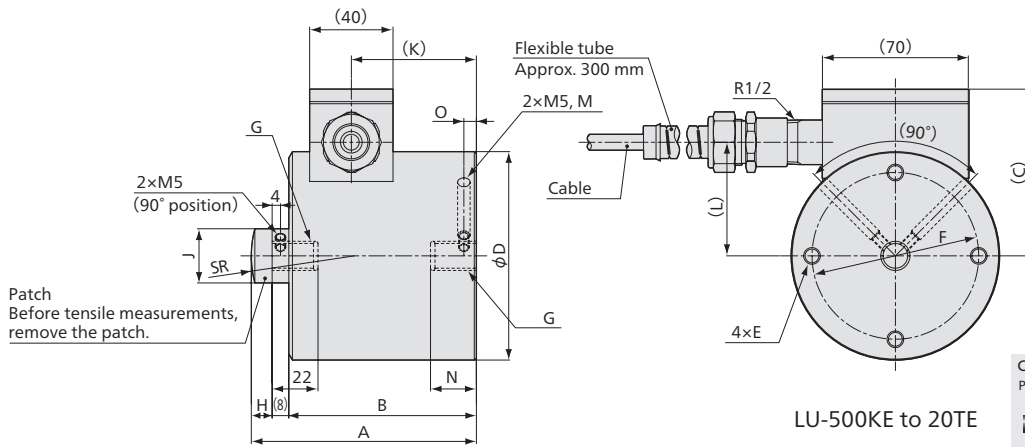
Other

Models	Rated Capacity	Natural Frequencies (Approx.)	Weight* (Approx.)	Saddles	Mount Bases
LU-50KE	± 500 N	1.54 kHz	2.8 kg	CA-1B	CF-50
LU-100KE	± 1 kN	2.16 kHz			
LU-200KE	± 2 kN	3.28 kHz			
LU-500KE	± 5 kN	2.66 kHz			CF-80
LU-1TE	± 10 kN	4.2 kHz			
LU-2TE	± 20 kN	4.97 kHz	-	-	
LU-5TE	± 50 kN	3.5 kHz			
LU-10TE	± 100 kN	3.14 kHz			
LU-20TE	± 200 kN	2.5 kHz			

*Excluding cable

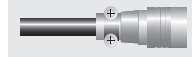


LU-50 to 200KE



LU-500KE to 20TE

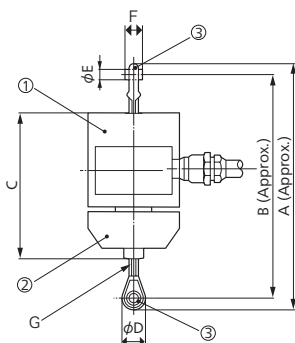
Connector plug
PRC03-12A10-7M



Models	A	B	(C)	ϕD	E	F	G	H	ϕJ	(K)	(L)	ϕM	O	SR	
LU-50KE	91.5	77.5	74	80	M5×8	50	M8×1.25	10	12	32.5	52	3.2 d=30	3	30	
LU-100KE					M8×12	80	M14×2	10	26	60	54.5	6	d=36	6	50
LU-200KE					M8×12	80	M18×1.5	10	26	60	54.5	6	d=36	6	70
LU-500KE	105	90	134	100	M8×8	80	M12×1.75	10	19	40	62	3.5 d=38	7	30	
LU-1TE	108	90	130	100	M8×12	80	M14×2	10	26	60	54.5	6 d=36	6	50	
LU-2TE	108	90	130	100	M8×12	80	M18×1.5	10	26	60	54.5	6 d=36	6	70	
LU-5TE	167	140	144	112	M8×15	95	M26×2	17	36	100	62.5	9 d=37	10	70	
LU-10TE	220	190	172.5	138	M8×15	120	M36×2	20	50	145	78	9 d=43	10	70	
LU-20TE	277	235	221	186	M8×15	160	M50×3	27	64	190	102.5	9 d=58	15	100	

■ Dimensions in combination with special accessories

● In combination with rotating attachment (RJ) and ball joint (TU)



① Load Cells	② Rotating Attachments	③ Ball Joints	A (Approx.)	B (Approx.)	C	ϕD	ϕE	F	G	Static Breaking Loads (Approx.)
LU-50KE	RJ-02	TU-8	217	195	125	22	8	11	M8, P=1.25	1.4 kN
LU-100KE										2.9 kN
LU-200KE										5.8 kN
LU-500KE	RJ-05	TU-12	262	232	140	30	12	16	M12, P=1.75	14.7 kN
LU-1TE	RJ-1	TU-14	283	246	160	37	14	17	M14, P=2	29.4 kN
LU-2TE	RJ-2	TU-18	304	262	160	42	18	23	M18, P=1.5	58.8 kN
LU-5TE	RJ-5	TU-26	463	393	235	70	25	37	M26, P=2	136.3 kN
LU-10TE	RJ-10	—	678	573	315	105	40	60	M36, P=2	—
LU-20TE	RJ-20	—	842	706	414	136	50	75	M50, P=3	—

*Rotation attachment RJ is not applicable for compressive load measurement.

*Special accessories for tensile loads should be mounted at our factory.

*Dimensions A and B are approximate, since the ball joint is screw-in type.

- Physical quantity indication
- Static measurement
- Dynamic measurement

LU-E Recommended products for combination

- Instrumentation Amplifier WGA-910A → 3-91
- Data Logger UCAM-60 series → 3-27
- Strain Amplifier DPM-900 series → 3-5
- Universal Recorder EDX-200A → 3-55
- Universal Recorder EDX-100A → 3-63
- Sensor Interface PCD-400A/430A → 3-78

LUH-F

●Nonlinearity: Within ±0.02% RO ●500 N to 200 kN

High-accuracy Tension/Compression Load Cell



Excellent zero float characteristics Tension/Compression load cells

●Remote sensing available* (See page 9-14.)

LUH-F series are tension/compression load cells featuring within ±0.02% RO nonlinearity. The hermetically-sealed structure with inert gas filled in ensures stable performance.

*To use the remote sensing function, use the recommended products for combination.

Specifications

Performance

Rated Capacity	See table below.
Nonlinearity	Within ±0.02% RO
Hysteresis	Within ±0.02% RO
Repeatability	0.02% RO or less
Zero Float	0.02% RO or less (LUF-50KF to 500KF)
Rated Output	2 mV/V ±0.1%

Environmental Characteristics

Safe Temperature	-35 to 80°C
Compensated Temperature	-10 to 60°C
Temperature Effect on Zero	Within ±0.0015% RO/°C
Temperature Effect on Output	Within ±0.001%/°C

Electrical Characteristics

Safe Excitation	20 V AC or DC
Recommended Excitation	1 to 10 V AC or DC
Input Resistance	350 Ω ±0.5%
Output Resistance	350 Ω ±0.5%
Cable	6-conductor (0.5 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	Drop prevention stopper mountable *Customers have to prepare anti-dropping stoppers by themselves.
Compliance	Directive 2011/65/EU (RoHS)

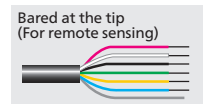
Standard Accessories 4 hexagon socket head bolts M5, L=10 mm (30 mm with LUH-10TF and 20TF)
1 hexagon bar (Opposite side 2.5 mm)

Optional Accessories Saddle CA-B (Page 2-72)
Mount base CF (Page 2-72)
Movable saddle ER-B (Page 2-73)
Ball joint TU (Page 2-75)

Models	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 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

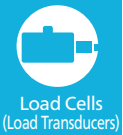
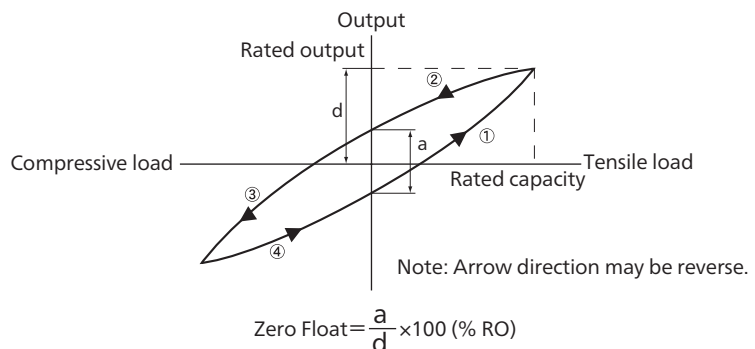
*Customers have to prepare anti-dropping stoppers by themselves.

*Excluding cable

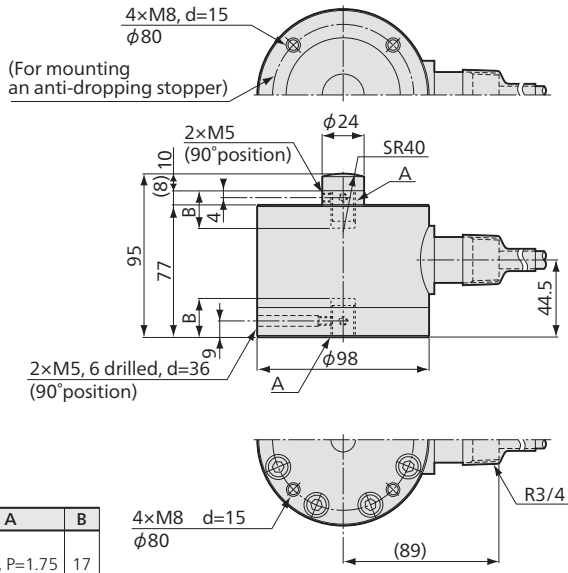


ZERO FLOAT

Zero float means such a phenomenon that a cycle of continuously applied tensile & compressive loads causes the zero to float. The value is expressed in percentage of the rated output. It is also called cyclic zero shift.

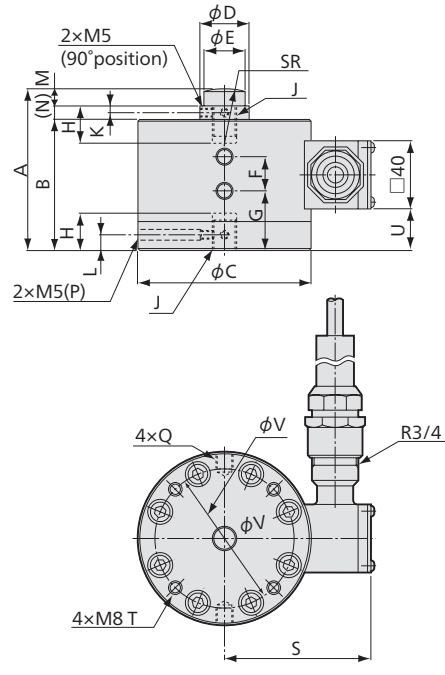


- Outline
- Compressive
- Tensile
- Tensile & compressive
- Component
- Special
- Other



Models	A	B
LUH-50KF	M12, P=1.75	17
LUH-100KF		
LUH-200KF		
LUH-500KF	M18, P=1.5	22

LUH-50KF to 500KF



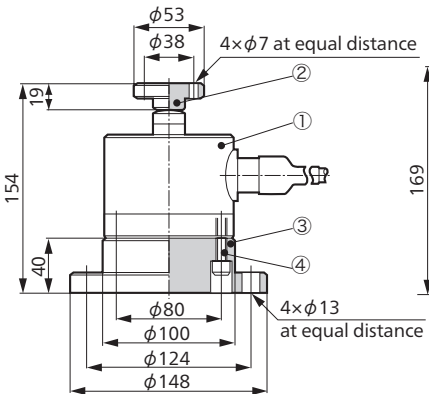
LUH-1TF to 20TF

Models	A	B	φC	φD	φE	F	G	H	J	K	L	M	(N)	(P)	Q	SR	S	T	U	φV
LUH-1TF	95	77	100	24	24	20	35	22	M14, P=2	4	9	10	8	6 drilled, d=36	M8, d=10	40	84.5	d=12	24.5	80
LUH-2TF	95	77	100	24	24	20	35	22	M18, P=1.5	4	9	10	8	6 drilled, d=36	M10, d=10	40	84.5	d=12	24.5	80
LUH-5TF	127	100	130	36	36	30	50	30	M26, P=2	5	13	17	10	9 drilled, d=42	M16, d=16	60	99.5	d=15	40	95
LUH-10TF	170	135	160	50	50	40	60	45	M36, P=2	8	17	20	15	9 drilled, d=54	M20, d=15	70	115.5	d=15	60	120
LUH-20TF	228	175	200	68	64	50	80	65	M50, P=3	12	23	28	25	9 drilled, d=65	M24, d=20	100	135.5	d=15	80	160

■ Dimensions in combination with mount base

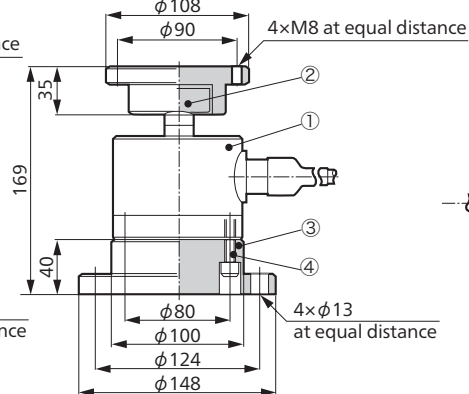
When using in combination with special accessories, consult with our sales engineer.

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



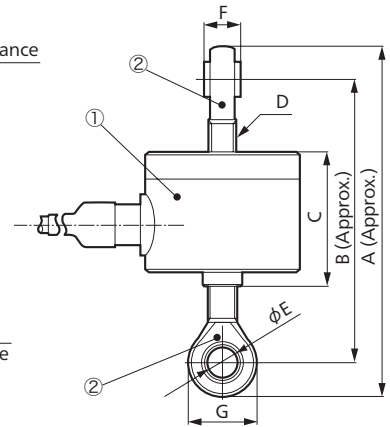
- ① Load cell LUH-F
- ② Saddle CA-2B
- ③ Mount base CF-80
- ④ Hexagon socket head bolt 4xM8, L=25 (Standard accessories of mount base)

● In combination with movable saddle (ER) and mount base (CF) (LUH-50KF to 2TF)



- ① Load cell LUH-F
- ② Movable saddle ER-2B
- ③ Mount base CF-80 (1T, 2T)
- ④ Hexagon socket head bolt 4xM8, L=25 (Standard accessories of mount base)

● In combination with ball joint (TU)



① Load Cells	② Ball Joints	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	TU-18	231	189		M18 P=1.5	18	23	42
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

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

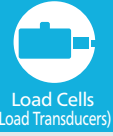
*From the viewpoint of guaranteed accuracy, allows neither a hook nor a shackle to be combined.

- Physical quantity indication
- Dynamic measurement

LUH-F Recommended products for combination

Instrumentation Amplifier WGA-710C → 3-97

Signal Conditioner CDV-900A → 3-9



- Outline
- Compressive
- Tensile
- Tensile & compressive
- Component
- Special
- Other

Tension/Compression Load Cell

Compact & lightweight
Tension/Compression load cells

The thin structure is suitable for installation where the height is limited. The service life will be extended by using with one-half the rated capacity if repetitive loads are applied continuously.

*When used for tension, make sure not to use special accessories such as ball-joint and rotating attachment. The LUK-A is not applicable to setscrews.

To Ensure Safe Usage

Be sure to prevent the shaft from turning when using for hanging load measurement.

Specifications

Performance

Rated Capacity	See table below.
Nonlinearity	Within $\pm 0.1\%$ RO (500kN or larger: Within $\pm 0.2\%$ RO)
Hysteresis	Within $\pm 0.1\%$ RO (500kN or larger: Within $\pm 0.2\%$ RO)
Repeatability	0.05% RO or less (500kN or larger: 0.1% RO or less)
Rated Output	2 mV/V $\pm 1\%$ 5 to 20kN: 2.4 mV/V $\pm 10\%$

Environmental Characteristics

Safe Temperature	-35 to 80°C
Compensated Temperature	-10 to 70°C
Temperature Effect on Zero	Within $\pm 0.005\%$ RO/°C
Temperature Effect on Output	Within $\pm 0.005\%$ /°C

Electrical Characteristics

Safe Excitation	15 V AC or DC
Recommended Excitation	1 to 10 V AC or DC
Input Resistance	350 Ω $\pm 1\%$
Output Resistance	350 Ω $\pm 1\%$
Cable	4-conductor (0.3 mm ²) chloroprene shielded cable, 7.6 mm diameter by 5 m long, terminated with a connector plug PRC03-12A10-7M (Shield wire is not connected to the case.)

Mechanical Properties

Safe Overloads	150%
Natural Frequencies	See table.
Weight	See table.
Safe Lateral Force Component	See table.
Safe Moments	See table.
Degree of Protection	IP64 (IEC 60529)
Compliance	Directive 2011/65/EU (RoHS)

Load Cells
(Load Transducers)

Outline

Compressive

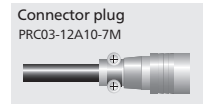
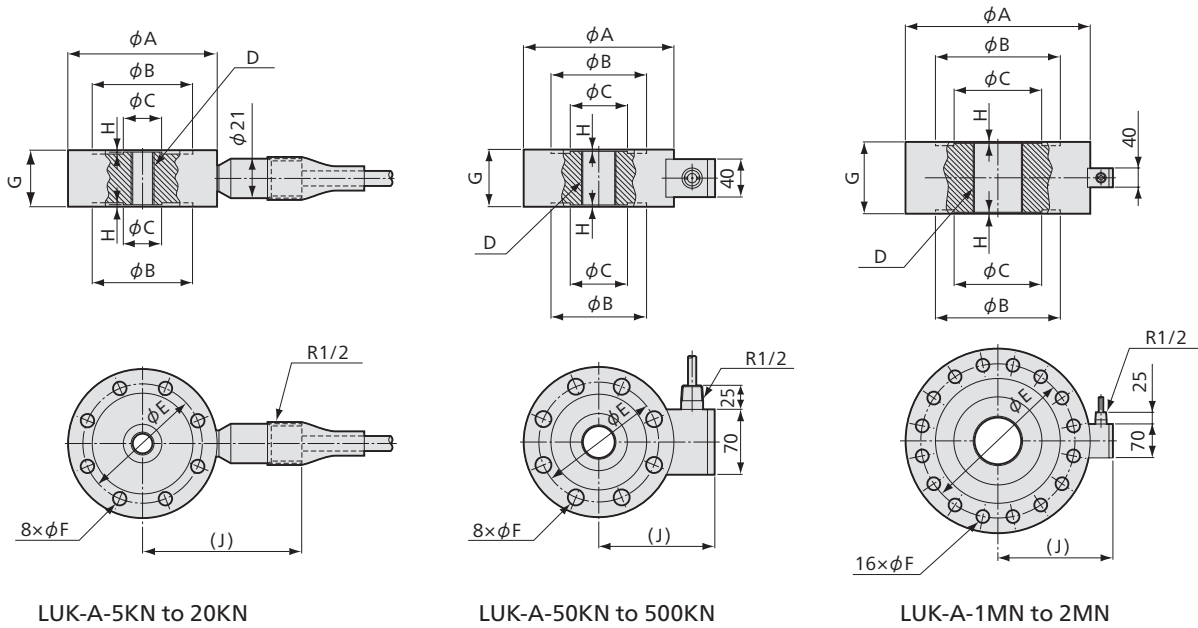
Tensile

Tensile &
compressive

Component

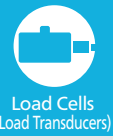
Special

Other



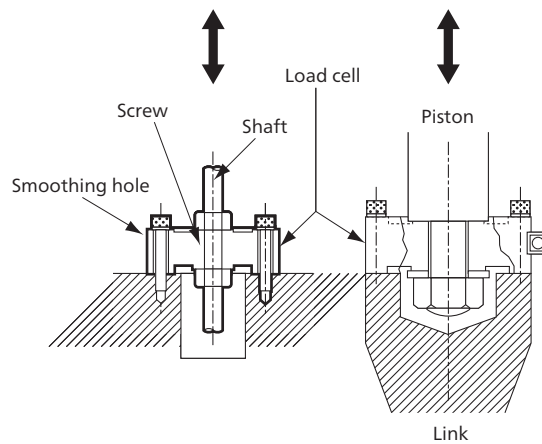
Models	Rated Capacity	Natural Frequencies (Approx.)	Safe Moments	Safe Lateral Force Component	φA	φB	φC	D	φE	φF	G	H	(J)	Weight* (Approx.)
LUK-A-5KN	±5 kN	7.4 kHz	15 N·m	250 N	77	52	20	M12, P=1.75	62	7	30	1	82	900 g
LUK-A-10KN	±10 kN	10.8 kHz	30 N·m	500 N										
LUK-A-20KN	±20 kN	8.5 kHz	60 N·m	1 kN	107	70	34	M18, P=1.5	85	9	40	1	97	2 kg
LUK-A-50KN	±50 kN	11 kHz	150 N·m	2.5 kN	127	77	40	M24, P=1.5	95	13	50	2	102	4 kg
LUK-A-100KN	±100 kN	9 kHz	500 N·m	5 kN	157	100	60	M36, P=2	125	17	60	2	119	7 kg
LUK-A-200KN	±200 kN	7.5 kHz	1 kN·m	10 kN	227	136	90	M50, P=2	180	22	70	2	157	18 kg
LUK-A-500KN	±500 kN	5.2 kHz	2.5 kN·m	25 kN	307	200	138	M76, P=3	256	26	105	3	198	50 kg
LUK-A-1MN	±1 MN	5 kHz	5 kN·m	50 kN	375	254	180	M100, P=3	314	26	150	3	233	90 kg
LUK-A-2MN	±2 MN	3.9 kHz	10 kN·m	100 kN	560	410	260	M150, P=4	485	36	200	3	326	245 kg

*Excluding cable



- Outline
- Compressive
- Tensile
- Tensile & compressive
- Component
- Special
- Other

■ Installation Example



● Physical quantity indication ● Static measurement ● Dynamic measurement

LUK-A Recommended products for combination

- Instrumentation Amplifier
WGA-910A
→ 3-91
- Data Logger
UCAM-60 series
→ 3-27
- Strain Amplifier
DPM-900 series
→ 3-5
- Universal Recorder
EDX-200A
→ 3-55
- Universal Recorder
EDX-100A
→ 3-63
- Sensor Interface
PCD-400A/430A
→ 3-78

Small-capacity Tension/Compression Load Cell



*TEDS-installed models are available. Inquiries are welcome.

Small capacity High sensitivity Tension/Compression load cells

A straight beam is used as the diaphragm to enable highly accurate measurement of small loads.

Specifications

Performance

Rated Capacity	See table below.
Nonlinearity	Within $\pm 0.3\%$ RO
Hysteresis	Within $\pm 0.2\%$ RO
Repeatability	0.2% RO or less
Rated Output	1.5 mV/V $\pm 0.5\%$

Environmental Characteristics

Safe Temperature	-20 to 75°C
Compensated Temperature	-10 to 65°C
Temperature Effect on Zero	Within $\pm 0.01\%$ RO/°C
Temperature Effect on Output	Within $\pm 0.01\%$ /°C

Electrical Characteristics

Safe Excitation	15 V AC or DC
Recommended Excitation	1 to 10 V AC or DC
Input Resistance	350 Ω $\pm 0.5\%$
Output Resistance	350 Ω $\pm 0.5\%$
Cable	4-conductor (0.3 mm ²) chloroprene shielded cable, 7.6 mm diameter by 5 m long, terminated with a connector plug PRC03-12A10-7M (Shield wire is connected to the case.)

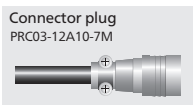
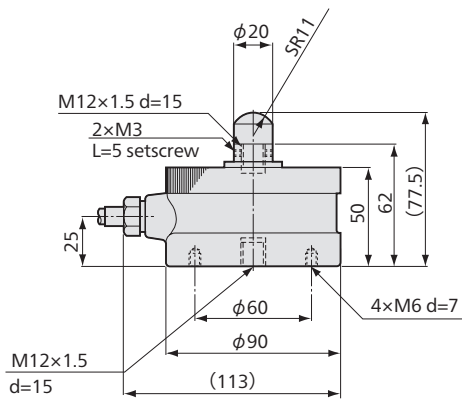
Mechanical Properties

Safe Overloads	120%
Natural Frequencies	See table below.
Weight	Approx. 2.3 kg (Excluding cable)

Optional Accessories Mount base CF (Page 2-72)

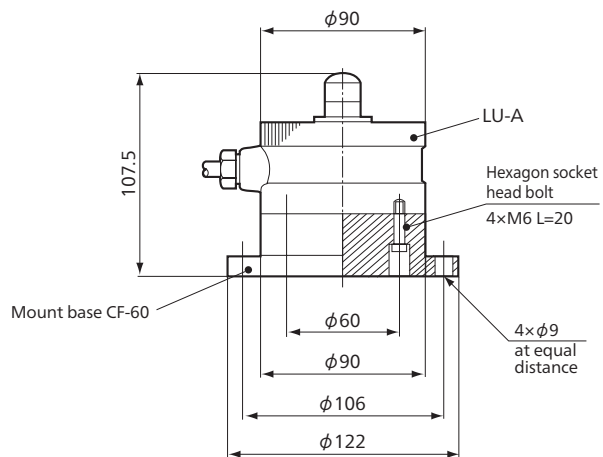
Models	Rated Capacity	Natural Frequencies (Approx.)
LU-5KA	± 50 N	200 Hz
LU-10KA	± 100 N	330 Hz
LU-20KA	± 200 N	500 Hz

■ Dimensions



■ Dimensions in combination with mount base

● In combination with mount base (CF-60)



Hexagon socket head bolts for connection between load cells and mount bases are standard accessories of mount bases.

- Physical quantity indication
- Static measurement
- Dynamic measurement

LU-A Recommended products for combination

- Instrumentation Amplifier WGA-910A → 3-91
- Data Logger UCAM-60 series → 3-27
- Strain Amplifier DPM-900 series → 3-5
- Universal Recorder EDX-200A → 3-55
- Universal Recorder EDX-100A → 3-63
- Sensor Interface PCD-400A/430A → 3-78

LUR-B-SA1

Jack Load Cell

● 10 kN to 2 MN

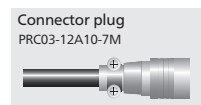
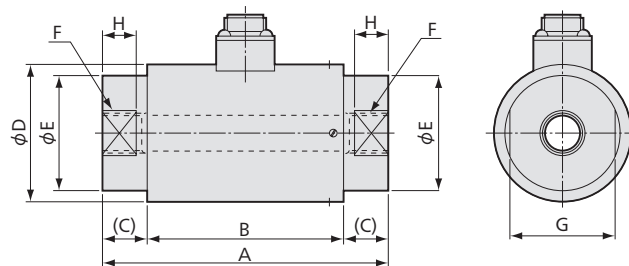
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-66



Special design for jacks Moderate price Variety of capacity range

LUR-B-SA1 series load cells are designed to measure loads applied to jacks when lifting up or moving a large machinery or structure in civil engineering and construction fields. These load cells enable the operators to prevent overloads, unbalanced loads, or movement of the center of gravity.

■ Dimensions



Models	Rated Capacity	A	B	(C)	ϕD	ϕE	F	G	H	Weight (Approx.)
LUR-B-10KNSA1	±10 kN	100	70	15	55	25	M12 P=1.75 d=15	20	10	1.4 kg
LUR-B-20KNSA1	±20 kN	110	70	20	60	50	M18 P=1.5 d=20	46	15	2.1 kg
LUR-B-30KNSA1	±30 kN	125	85	20	60	50	M24 P=2 d=30	46	15	2.2 kg
LUR-B-50KNSA1	±50 kN									
LUR-B-100KNSA1	±100 kN	175	105	35	65	55	M39 P=2 d=45	50	25	2.5 kg
LUR-B-200KNSA1	±200 kN	255	125	65	80	70	M50 P=2 d=65	65	40	5.2 kg
LUR-B-300KNSA1	±300 kN	255	125	65	100	90	M65 P=3 d=65	-	-	8 kg
LUR-B-500KNSA1	±500 kN	330	170	80	130	120	M85 P=3 d=85	-	-	15 kg
LUR-B-1MNSA1	±1 MN	430	210	110	188	158	M110 P=3 d=118	-	-	55 kg
LUR-B-1.5MNSA1	±1.5 MN	530	250	140	220	200	M140 P=4 d=140	-	-	85 kg
LUR-B-2MNSA1	±2 MN	590	270	160	260	228	M160 P=4 d=170	-	-	100 kg

● Physical quantity indication ● Static measurement ● Dynamic measurement

LUR-B-SA1
Recommended
products for
combination

Instrumentation Amplifier
WGA-910A
→ 3-91

Data Logger
UCAM-60 series
→ 3-27

Strain Amplifier
DPM-900 series
→ 3-5

Universal Recorder
EDX-200A
→ 3-55

Universal Recorder
EDX-100A
→ 3-63

Sensor Interface
PCD-400A/430A
→ 3-78

Specifications

Performance

Rated Capacity	See table below.
Nonlinearity	Within ±0.2% RO (300KNSA1 or larger: Within ±0.5% RO)
Hysteresis	Within ±0.1% RO (300KNSA1 or larger: Within ±0.5% RO)
Rated Output	1 mV/V ±1%

Environmental Characteristics

Safe Temperature	-10 to 60°C
Compensated Temperature	0 to 60°C
Temperature Effect on Zero	Within ±0.01% RO/°C
Temperature Effect on Output	Within ±0.01%/°C

Electrical Characteristics

Safe Excitation	15 V AC or DC
Recommended Excitation	1 to 12 V AC or DC
Input Resistance	350 Ω ±2%
Output Resistance	350 Ω ±2%
Cable	4-conductor (0.3 mm ²) chloroprene shielded cable, 7.6 mm diameter by 10 m long Sensor side: 1108-12A-10-7M Measuring instrument side: PRC03-12A10-7M

Mechanical Properties

Safe Overloads	200%
Weight	See table below. (Excluding cable)

(Note) If the capacity is more than 200 kN, the calibration is performed for compressive load only.

TRANSDUCERS



Load Cells
(Load Transducers)

Outline

Compressive

Tensile

Tensile & compressive

Component

Special

Other