

# Thin Load Cells "Multiforce Sensor"

LCTD-A

100 to 300 kN

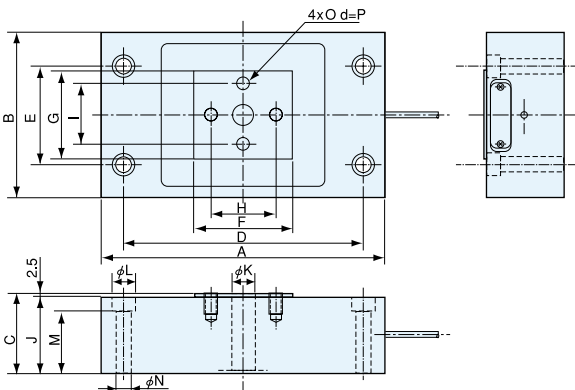
Thin



## Features

- Advanced thin design – When compared with conventional load cells, the height is 1/2 to 1/3. Space saving expands the application range.
- Usable with top and bottom fixed – Optional dedicated rubber attachment enables fixing the top and bottom with bolts, thereby making it possible to design the system with no tension rod or stay rod used.
- Strong against lateral load – Safety factor is 3 to 5 times higher than conventionals. Endures lateral loads up to 50% of the rated capacity.
- Excellent impact/vibration resistance – Rubber attachment attenuates impact energy and lessens the effects of thermal expansion of system and moment of fixed section.
- Easy installation – Rubber attachment facilitates installation with less care about parallelism.
- Wide variation in accuracy and reliability – Varieties of accuracies and outputs are available, enabling configuration of the most suitable system for each individual application.
- Compatibility with peripheral equipment – Since wirings are the same as conventional load cells, peripheral instruments such as amplifiers can easily be connected.

## Dimensions

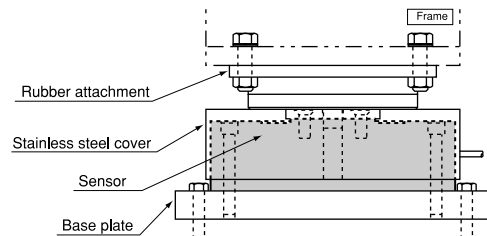


## Specifications

Performance	
Rated Capacity	See table below.
Nonlinearity	Within $\pm 0.03\%$ RO
Hysteresis	Within $\pm 0.03\%$ RO
Repeatability	0.02% RO or less
Rated Output	2 mV/V (4000 $\mu\text{m/m}$ ) $\pm 0.2\%$
Environmental Capability	
Safe Temp. Range	-20 to 70°C
Comp. Temp. Range	-10 to 60°C
Temp. Effect on Zero Bal.	Within $\pm 0.003\%$ RO/°C
Temp. Effect on Out.	Within $\pm 0.003\%$ /°C
Electrical Characteristics	
Safe Excit. Voltage	20 V DC
Recom. Excit. Voltage	1 to 10 V DC
Input Resistance	350 $\Omega \pm 1.5\%$
Output Resistance	350 $\Omega \pm 1.5\%$
Cable	4-conductor (0.3 mm <sup>2</sup> ) chloroprene shielded cable, 7.6 mm dia. by 10 m long, bared at the tip (Shield wire is not connected to the mainframe.)
Mechanical Properties	
Safe Overload Rating	150%
Critical Lateral Load	50% (Maximum load which does not cause any mechanical damage)
Weight	See table below.
Enclosure	Special steel

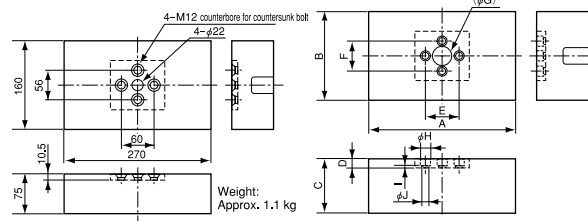
## Precautions

1. LCTD-A cannot be used for any onboard measurement.
2. LCTD-A cannot be used in an environment where it is frequently exposed to lateral load.
3. LCTD-A cannot be installed to any inclined or vertical surface.



## Applicable Accessories

Model	Stainless Steel Cover	Rubber Attachment	Base Plate
LCTD-A-100KN	COV02-10T	RA01-10T	BP02-10T
LCTD-A-200KN	COV02-20T	RA01-30T	BP02-20T
LCTD-A-300KN	COV02-30T		BP02-30T



Stainless Steel Cover (COV02-10T)

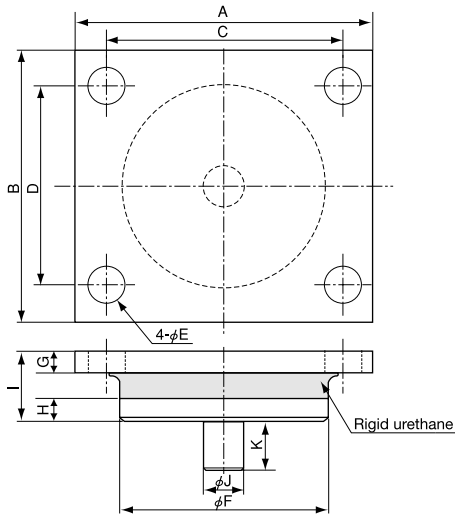
Stainless Steel Cover (COV02-20T, 30T)

Model	A	B	C	D	E	F	( $\phi$ G)	$\phi$ H	I	$\phi$ J	Weight (App.)
COV02-20T	270	160	100	10.5	60	56	35.5	18.5	3.5	13	1.6 kg
COV02-30T	316	216	100	19.5	70	80	38	26	9	18	2.6 kg

For rubber attachment and base plate, refer to page 41.

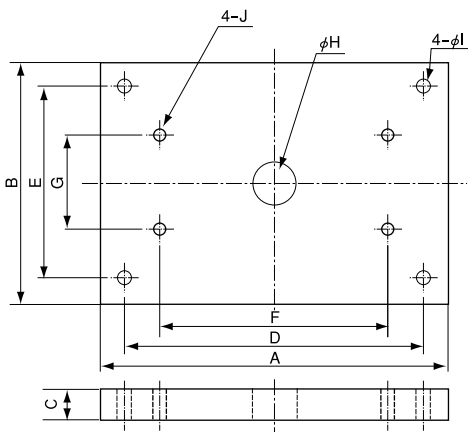
Model	Rated Capacity	A	B	C	D	E	F	G	H	I	J	$\phi$ K	$\phi$ L	M	$\phi$ N	O	P	Weight (App.)
LCTD-A-100KN	100 kN	260	150	74	220	90	90	80	60	56	71.5	20	20	58.5	14	M12	18.5	18 kg
LCTD-A-200KN	200 kN			93														
LCTD-A-300KN	300 kN	300	200	94	250	140	100	130	70	80	91.5	36	26	74	18	M16	28.5	33 kg

● Rubber Attachment



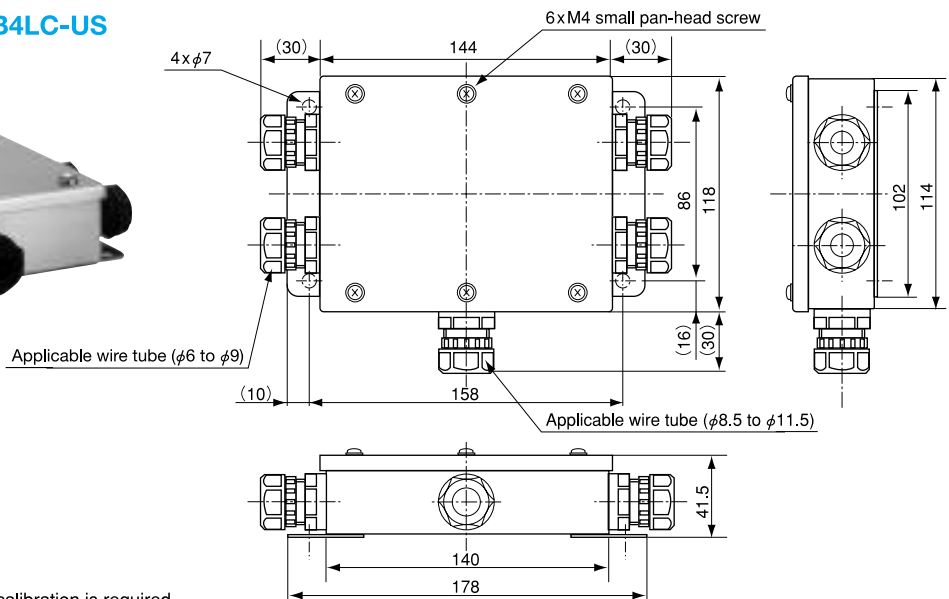
Model	A	B	C	D	ϕE	ϕF	G	H	I	ϕJ	K	Weight (App.)
RA01-2T	120	110	95	80	14	85	8.5	9.5	28	16	20	1.4 kg
RA01-5T	170	150	140	120		130		12.5	35			3.2 kg
RA01-10T	220	200	186	140	18	180	11.5	15.5	45			7.4 kg
RA01-30T	300	250	250	200	23	240	18.5	20.5	63	35	40	19.2 kg

● Base Plate



Applicable Load cell	Base Plate	A	B	C	D	E	F	G	ϕH	ϕI	J	
LCTA-A-500N LCTA-A-800N LCTA-A-1KN LCTA-A-2KN LCTA-A-3KN	BP03-300K	200	200	12	180	180	130	130	30	9	M8	
LCTB-A-5KN LCTB-A-10KN LCTB-A-20KN	BP01-2T	250	168	14	220	138	170	70	30	13	M10	
LCTB-A-30KN LCTB-A-50KN	BP01-5T	335	235	23	285	185	220	90	40		M12	
LCTE-A-10KN	BP04-1T BP04-1T01	170 200	170 200	14	140 175	140 175	90	90	30	11	M8	
LCTE-A-20KN	BP04-2T BP04-2T01	200 230	200 230		170 205	170 205						
LCTE-A-30KN	BP04-3T BP04-3T01	200 230	200 230	20	170 205	170 205	110	110	40	13	M10	
LCTE-A-50KN	BP04-5T BP04-5T01	220 260	220 260		180 230	180 230						
LCTE-A-100KN	BP04-10T02 BP04-10T03	220 260	220 260	30	180 230	180 230	124	124	40	18	M12	
LCTD-A-100KN	BP02-10T	335	235	30 38	285	185						220
LCTD-A-200KN	BP02-20T											
LCTD-A-300KN	BP02-30T	400	280	38	350	240	250	140	60	18	M16	

● 4-channel Junction Box JB4LC-US



Note: Adjustment through actual load calibration is required.