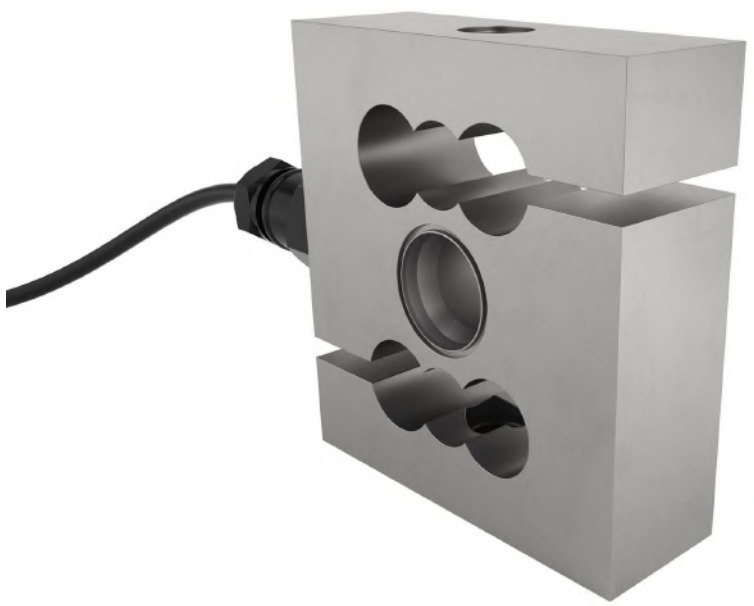
UB1 tension load cell



product description

A fully welded, stainless steel tension and compression load cell – the UB1 is ideal for very harsh environments. Available in a wide range of capacities from 1000kg thru to 10,000kg it is particularly suited for higher capacity Process Weighing applications. Certified by both OIML and NTEP for trade approved weighing.

applications

Suspended tanks and hoppers, crane scales.

key features

- Stainless steel construction
- Hermetically sealed to IP68
- High capacity range
- Tension and compression loading (bi-directional)
- High accuracy, high input resistance
- Capacities from 10kN to 100kN (1,020kg to 10,197kg)
- Calibration in mV/V/Ω

approvals

- OIML approval to C3 (Y = 5,700)
- NTEP approval to 5 000 intervals, Class III and 10 000 intervals, Class III L
- ATEX hazardous area approval for zones 0, 1, 2, 20, 21 and 22
- FM hazardous area approval

accessories

- Compatible range of hardware
- Compatible range of electronics

options

- Stainless steel cable gland

RoHS compliant

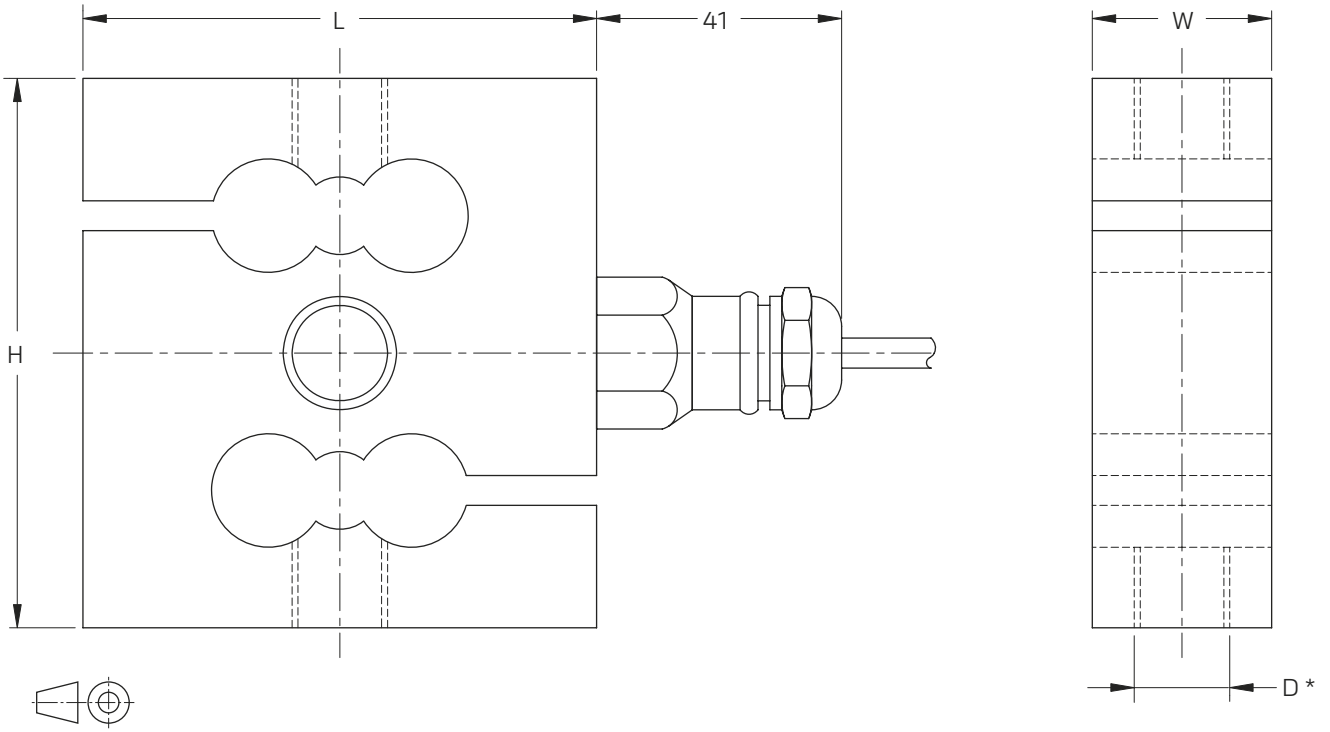
flintec quality + precision

specifications

Maximum capacity (E_{max})	kN	10 / 20 / 50 / 100	10 / 20 / 50		100
Metric equivalents (1 N=0.10197 kg)	kg	1,020 / 2,039 / 5,099 / 10,197	1,020 / 2,039 / 5,099		10,197
Minimum capacity (E_{min})	%*E_{max}	0			
Accuracy class according to OIML R60		(GP)	C1	C3	G3*
Maximum number of verification intervals (n_{max})		n.a.	1,000	3,000	3,000
Minimum load cell verification interval (v_{min})		n.a.	E_{max} /5,700	E_{max} /5,700	E_{max} /5,700
Temperature effect on minimum dead load output (TC_0)	%*RO/10°C	± 0.0400	± 0.0280	± 0.0246	± 0.0246
Temperature effect on sensitivity (TC_{RO})	%*RO/10°C	± 0.0200	± 0.0160	± 0.0100	± 0.0100
Combined error	%*RO	± 0.0500	± 0.0300	± 0.0200	± 0.0200
Non-linearity	%*RO	± 0.0400	± 0.0300	± 0.0166	± 0.0166
Hysteresis	%*RO	± 0.0400	± 0.0300	± 0.0166	± 0.0166
Creep error (30 minutes) / DR	%*RO	± 0.0600	± 0.0490	± 0.0166	± 0.0166
Rated Output (RO)	mV/V	2 ± 0.1%			
Calibration in mV/V/Ω (A...I classified)	%	± 0.05 (± 0.005)			
Zero balance	%*RO	± 5			
Excitation voltage	V	5...15			
Input resistance (R_{LC})	Ω	1,100 ± 50			
Output resistance (R_{out})	Ω	1,000 ± 2			
Insulation resistance (100 V DC)	MΩ	≥ 5,000			
Safe load limit (E_{lim})	%*E_{max}	200			
Ultimate load	%*E_{max}	300			
Compensated temperature range	°C	–10...+40			
Operating temperature range	°C	–40...+80 (ATEX –40...+60)			
Load cell material		stainless steel 17-4 PH (1.4548)			
Sealing		complete hermetic sealing; cable entry sealed by glass to metal header			
Protection according EN 60 529		IP68 (up to 2 m water depth) / IP69K			
Packet weight	kg	1.8 (10kN, 20kN), 5.9 (50kN), 8.4 (100kN)			

* corresponds to C3 quality, currently no OIML R60 Test Certificate available
The limits for Non-Linearity, Hysteresis, and TC_{RO} are typical values.
The sum of Non-linearity, Hysteresis and TC_{RO} meets the requirements according to OIML R60 with p_{LC}=0.7.

product dimensions (mm)



Type	H	L	W	Thread D
UB1-10 kN / UB1-20 kN	92	86	30	M16
UB1-50 kN	136	143	43	M24 x 2
UB1-100 kN	120	120	60	M24 x 3

* Unified thread 5/8-18 UNF (10...20 kN) and 1-12 UNF (50 kN) is available.

wiring

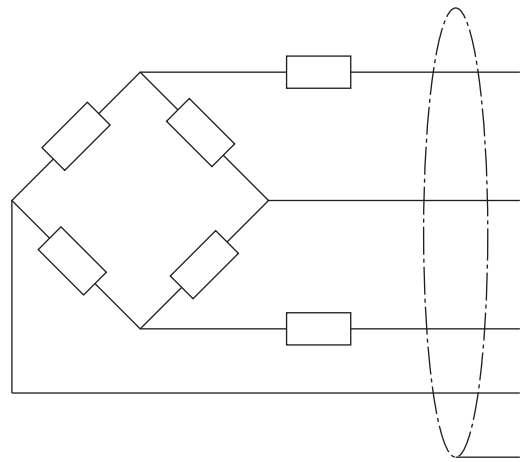
The load cell is provided with a shielded, 4 conductor cable (AWG 24).

Cable jacket: polyurethane

Cable length: 6 m

Cable diameter: 5 mm

The shield is floating
(On request the shield can be connected to the load cell body)



+ Excitation (green)

+ Signal (white)

- Excitation (black)

- Signal (red)

Shield (yellow)

Specifications and dimensions are subject to change without notice.