



## TYPE: BBL-1



# BBL-1 Stainless Steel Beam Load Cell

## Description

The BBL-1 series of beam load cells are available in a wide range of capacities from 10kg through to 500kg. They are manufactured entirely from stainless steel and have a fully welded construction, providing a high level of environmental and hermetic sealing to IP68. The design makes them ideal for use in harsh weighing environments where wash down of the application is required.

The BBL-1 can be supplied complete with a vessel/tank weighing assembly, which is designed to make installation easier and to provide a means of realising the best accuracy from the product when installed, by eliminating the effects for vessel/tank thermal expansion. More details on the assembly are available on a separate datasheet (BBL-1-WMOUNT).

We offer a wide range of additional instrumentation products to further enhance the product within a complete system. For vessel weighing applications, there are several displays and signal conditioners that can be offered to provide a complete weighing solution.

## Specification

Rated load (kg)	10, 20, 50, 100, 200, 250, 500
Accuracy class	C3
Maximum number of verification intervals	3000
Minimum number of verification intervals	$E_{max}/10,000$
Temperature effect on minimum dead load output	$\pm 0.0014\%$ of rated load/ $^{\circ}C$
Temperature effect on sensitivity	$\pm 0.001\%$ of rated load/ $^{\circ}C$
Safe load limit	200% of rated load
Ultimate load	300% of rated load
Safe side load	100% of rated load
Output	2mV/V ( $\pm 0.1\%$ ) at rated load
Zero balance	$\pm 5\%$ of rated load
Combined error	$\pm 0.02\%$ of rated load
Non-linearity	$\pm 0.0166\%$ of rated load
Hysteresis	$\pm 0.0166\%$ of rated load
Creep error (30 minutes)	$\pm 0.0166\%$ of rated load
Excitation voltage	5 to 15V
Input resistance	$380\Omega \pm 10$
Output resistance	$350\Omega \pm 3$
Insulation resistance	$>5000M\Omega @ 100Vdc$
Operating temperature range	$-40$ to $+80^{\circ}C$ ( $-40$ to $+60^{\circ}C$ for ATEX version)
Compensated temperature range	$-10$ to $+40^{\circ}C$
Environmental protection level	IP68 (up to 2m water depth)
Connection type	3 metres PUR screened cable, via cable gland
Wiring connections	+ve supply: Green    -ve supply: Black +ve signal: White    -ve signal: Red + sense: Blue        -sense: Brown Shield: Yellow

## Available Options/Accessories

- Hazardous Area certified - Intrinsically Safe (Ex i)
- Vessel mounting assembly
- Shock mounting assembly

ATEX approval pending

Ex i



## Features

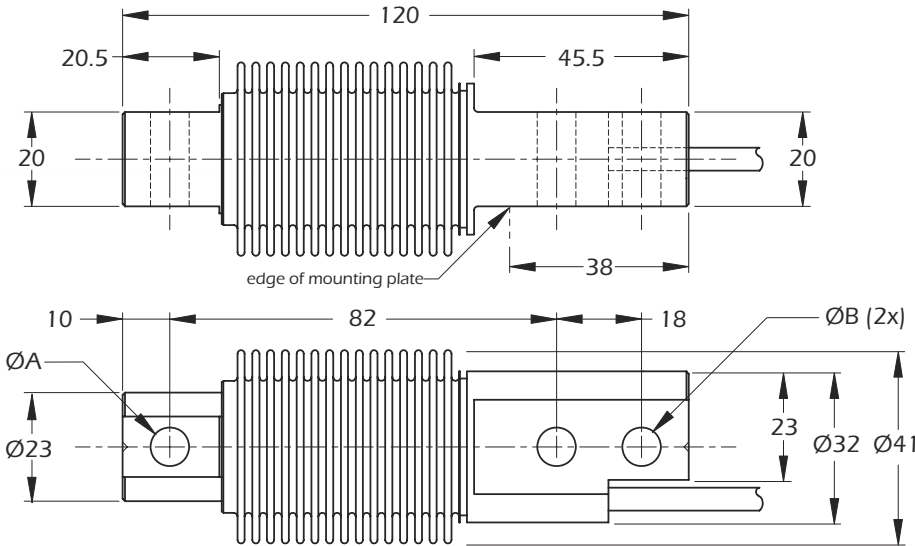
- Ranges from 10kg to 500kg
- Stainless steel (17-4PH) fully welded construction
- Environmentally sealed to IP68
- Can be supplied with vessel mounting assembly or shock mounts
- High accuracy

## Typical Applications

- Vessel weighing
- Hanging scales
- Tensile test machines
- Conveyor scales
- Small hopper/tank weighing
- Bagging machinery

# BBL-1 Stainless Steel Beam Load Cell

## Dimensions

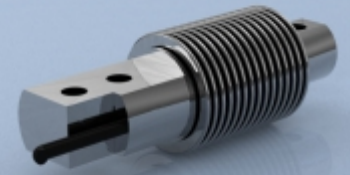


All dimensions are in mm

Rating (kg)	ØA	ØB	Mounting Bolts	Torque (oiled thread)
10 to 250	8.2	8.2	M8 8.8	25 Nm
500	10.5	8.2	M8 10.9	35Nm

Rating (kg)	Part Number	Weight (kg)	Resolution (kg)
10	BBL-1-10	0.62	0.002
20	BBL-1-20	0.62	0.005
50	BBL-1-50	0.64	0.01
100	BBL-1-100	0.64	0.02
200	BBL-1-200	0.64	0.05
250	BBL-1-250	0.64	0.05
500	BBL-1-500	0.80	0.1

Note: Part numbers for ATEX versions will be suffixed with -ATEX e.g. BBL-1-10-ATEX.



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Due to continual product development, LCM Systems Ltd reserves the right to alter product specifications without prior notice.

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APPROVED

(unapproved if printed)