

T302

super-precision load cell

Description

A hermetically sealed load bearing unit operating in compression to produce an analogue output which is proportional to the applied load.

Construction

100% stainless steel, natural finish.

Capacity

23 tonne (50,000 lb).

45 tonne (100,000 lb).

Accuracy 5000d as standard.

Examples of Use

- Road weighbridges
- Rail weighbridges
- Tank weighing
- Hopper weighing
- Process control

Special Features

- 100% stainless steel construction.
- Surge arresters fitted internally to provide protection against lightning damage (See application note on lightning protection).
- Special version, approved for use in hazardous areas to CENELEC standards. 40 metre cable length only.
- Supplied ready-assembled with gaiters and load buttons for simple installation.



- Unique, low torque, anti-rotation load button design.
- Fully compatible with 8701 for approved as well as non-approved applications.
- An electrically, mechanically and chemically tough polyurethane sheathed cable. Custom designed to obtain the optimum electrical balance properties required for high accuracy weighing applications in industrial environments.

Specification

Environment

Resistance to Dirt & Moisture
The load cell has been designed to exceed IP68 rating.

Electrical Disturbance
Immune to electrical disturbance including RFI as detailed in EN45501:1992.

Storage Temperature Range
- 30°C to + 85°C.

Operating Temperature Range
- 20°C to + 60°C.

Calibrated Temperature Range
- 10°C to + 40°C.

Avery Berkel

Specification

Excitation Electrical (Recommended)	10 - 12 v, AC or DC
Excitation Electrical (Maximum)	20 v, AC or DC
Terminal Resistance Input at 20° C	540 - 600 Ω
Terminal Resistance Output at 20° C	480 Ω Nominal
Rated Output	1.75 mV/V ± 0.1% (at 50 klb/100 klb)
Zero Balance	± 1% of Rated Output
Combined Error	±0.013% of Rated Output
Repeatability	0.01% of Rated Output
Hysteresis (Maximum)	± 0.012% of Rated Output
30 min Creep and Zero Return (OIML R60)	± 0.01% of Rated Output
Temperature Effect on Rated Output (-10° C to + 40° C)	± 0.0008%/° C
Temperature Effect on Zero Balance (-10° C to + 40° C)	± 0.0009%/° C
Overload Rating (without affecting Performance)	150% Rated Capacity
Overload Rating (Ultimate)	>225% Rated Capacity
Insulation Resistance (Minimum)	>5,000 MΩ

Electrical Termination

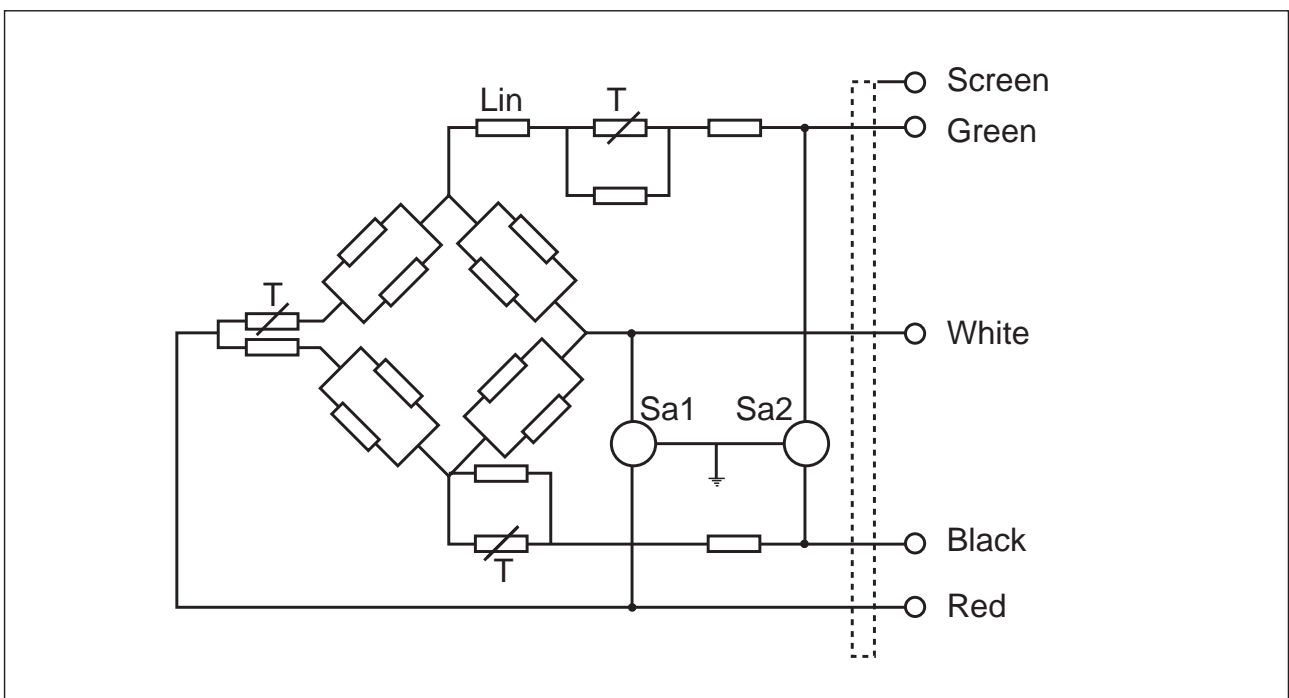
4 core 7 x 0.12 mm or equivalent.
 Standard length 25 metres.
 Hazardous area version, 40 metres.
 Outer tinned copper sheath.
 (floating)
 Overall sheath.
 Input: Black - Green +
 Output: Red - White +

Special version approved for use in hazardous areas to CENELEC standards.

DEMKO certificate No.
 Ex 00E. 127865X

$U_{max in}$ 24 V
 $I_{max in}$ 400 mA
 $W_{max in}$ 1.3 W
 L_{eq} 31 μH
 C_{eq} 6.8 nF

Hazardous Area Version



Circuit Diagram.

Applications

This transducer is designed to operate with loads applied through the central axis of the cell. For high accuracy weighing applications the load cell is protected from side forces and/or off centre loads by mounting it as a double pendle (strut) unit. Tie bars or bumper stops will be required to restrict horizontal movement of the load platform. The cell can be mounted either way up.

Typical Vehicle Weighing Applications

In the weighbridge application shown below, the strut unit provides the cell with the optimum loading conditions needed for high accuracy vehicle weighing.

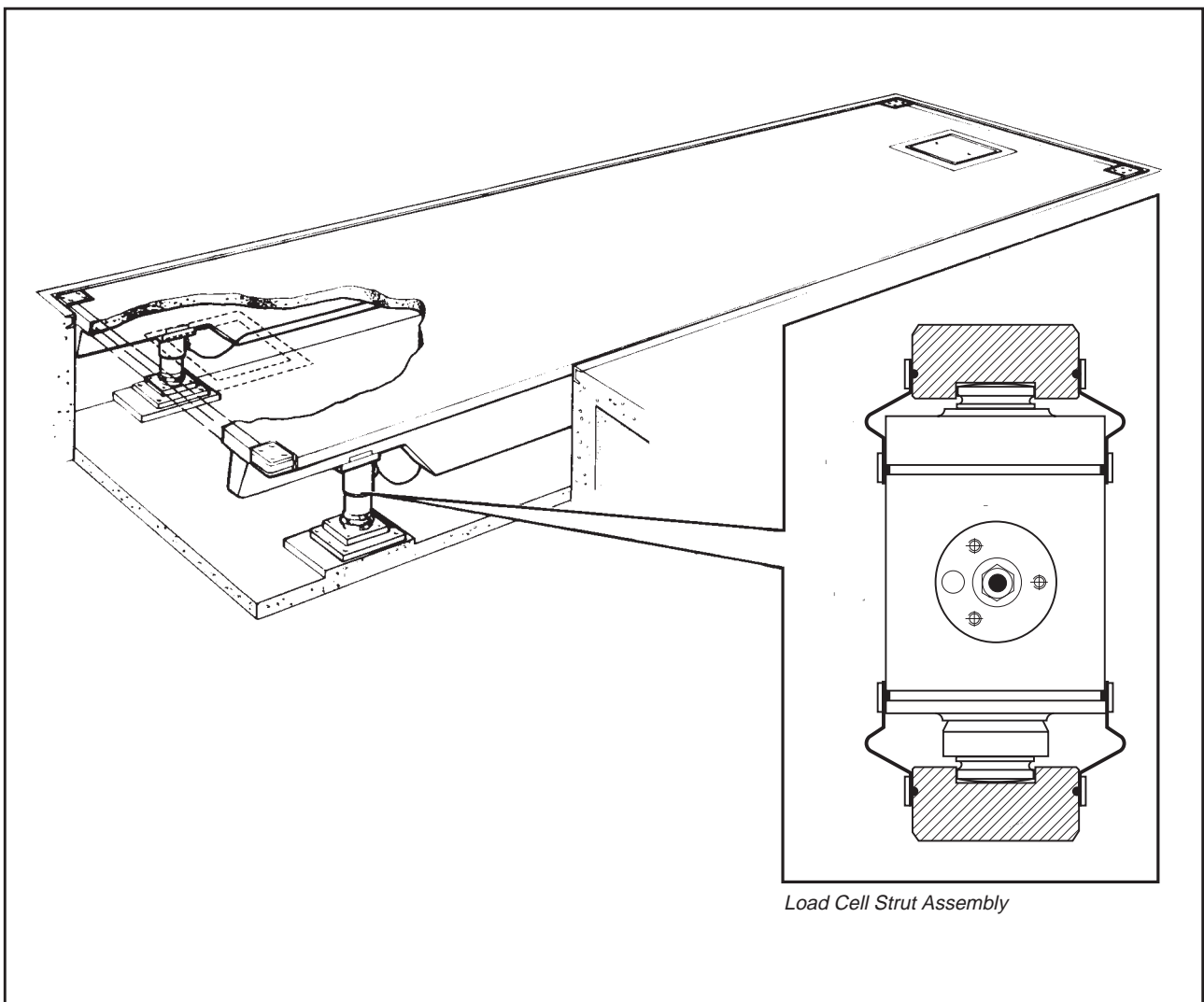
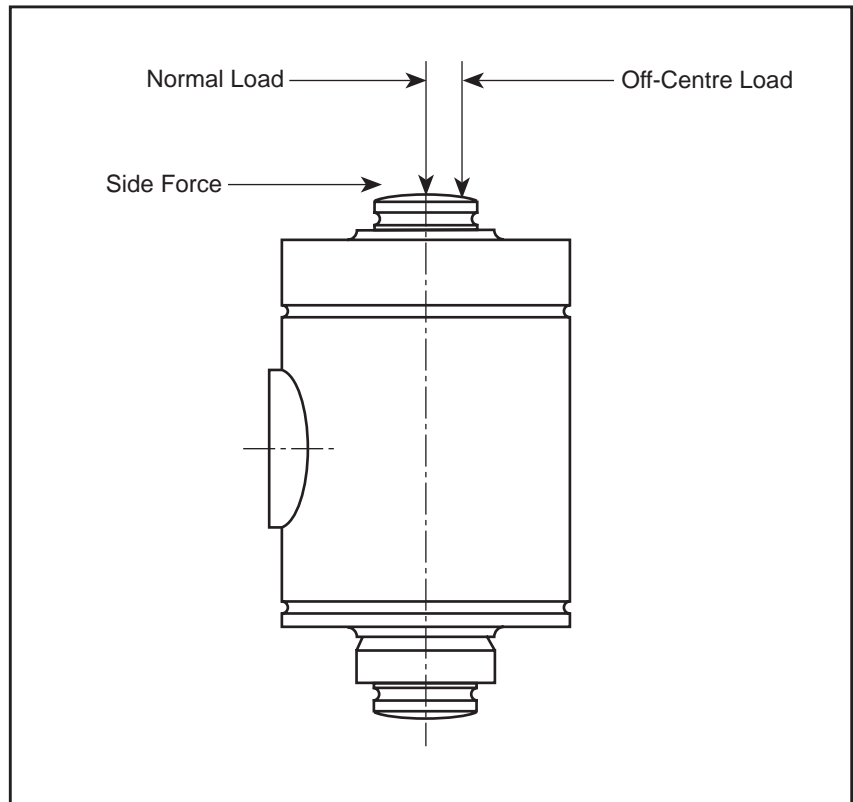
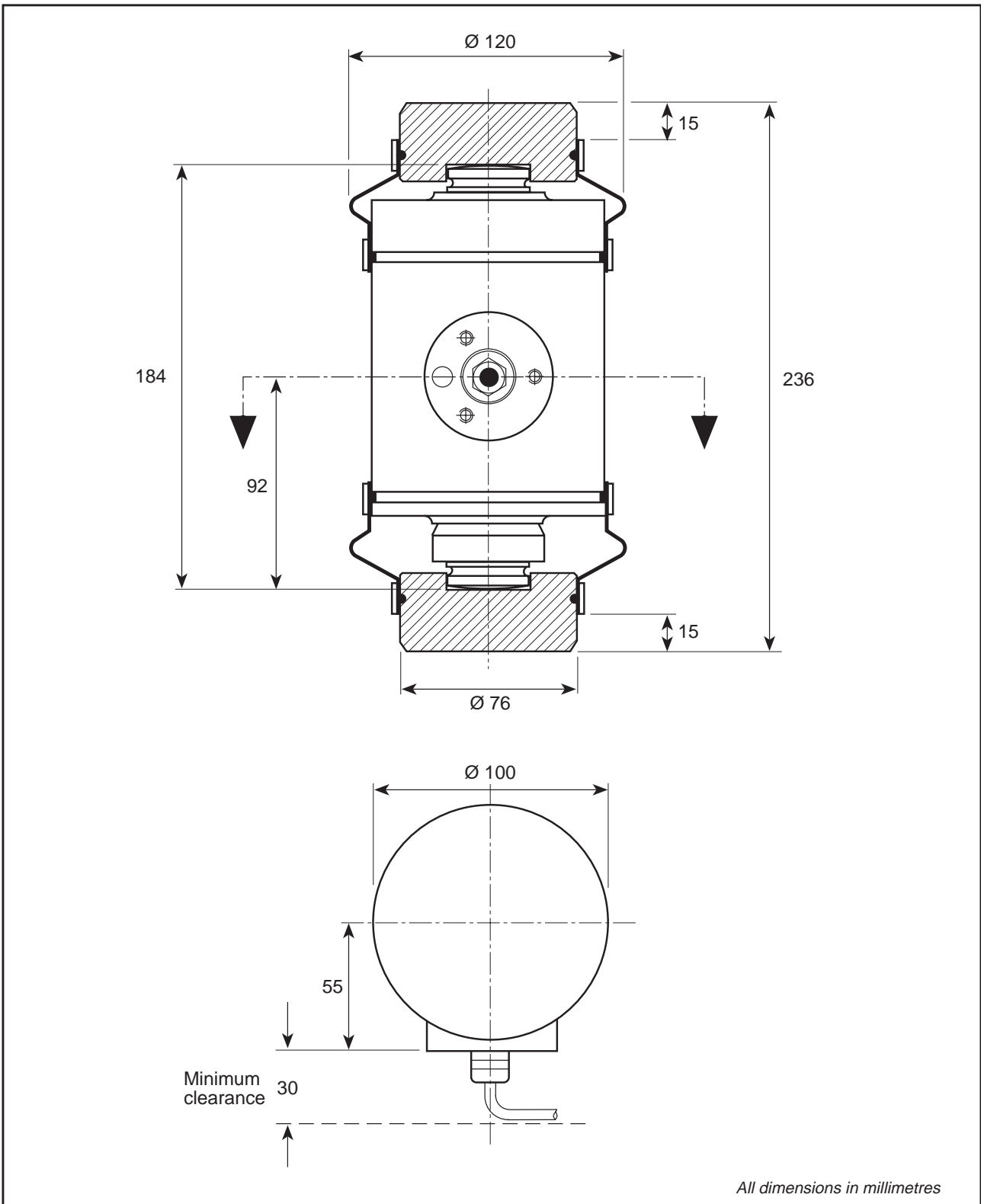


Illustration shows a typical Avery Berkel load cell concrete weighbridge.

Dimensions



This brochure contains a general guide only of the product and shall not form part of any contract unless specifically agreed by Avery Berkel in writing in each case on the Order Acknowledgement. The specification of the products described herein may vary from time to time and may be altered without notice.

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