

## DTC Tension & Compression Cell



- Simple Installation
- Temp compensated
- Very high accuracy
- Rationalised
- Highest reliability
- Insensitive to side load
- Maintenance free
- Fully welded protection

Series DTC tension / compression loadcells are part of the extensive range of force transducers available from IMES, tailor made for weighing force measurement applications in industry and research.

These transducers convert changes in applied force to linear proportional electrical signals.

The electrical signals are normally processed by a signal converter enabling a display of force directly in engineering units.

IMES series DTC bonded strain gauge loadcells are all of similar design, dimensions varying with capacity. They are available in four preferred force ratings between 500kg (5kN) and 5 tonne (50kN), with rationalised outputs providing a high degree of standardisation.

# DTC Tension & Compression Cell

## Load cell Performance

Every load cell supplied by IMES must meet stringent electrical and mechanical performance tests prior to despatch. These categorise series DTC load cells in three grades, corresponding to accuracy classes 0.02%, 0.05% and 0.075%, according to OIML R60.

## Load cell Construction

All load cells in the DTC series are manufactured from corrosion resistant stainless steel with stainless steel diaphragms, welded over the gauged area to give total protection, and are carefully sealed (IP68) against the ingress of moisture and contaminants. Electrical connection is by flying lead.

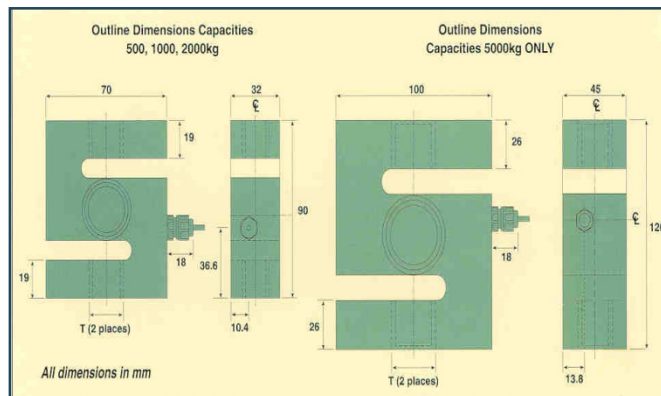
## Hazardous Area Application

Hermetically sealed against moisture, the construction of the series DTC, combined with polyurethane shielded cable, enables the load cell to function in event the harshest types of environments, while maintaining its operating specification.

## Design Principle

All temperature-sensitive components are positioned close to the gauges to minimise errors due to temperature gradients.

Thread Type By Capacity	
Capacity	Thread Size (T)
500Kg	M12 x 1.75
1000Kg	M16 x 2.0
2000Kg	M16 x 2.0
5000Kg	M24 x 2.0



Capacity:		DTC5, DTC10, DTC20, DTC50		
Nominal**	500, 1000, 2000, 5000			kg
Safe load limit	150%			of nominal capacity
Maximum load limit	300%			
Total error*	0.05	0.02		% of applied load
Creep (30 mins)	0.05	0.017		
Temperature:				
Temp effect on zero	0.007	0.0023		% / °C
Temp effect on span	0.004	0.0012		% / °C
Compensated range	-10 to +40			°C
Safe operating range	-30 to +80			°C
Electrical:				
Input Impedance (B-B)	400 ± 20			Ω
Output Impedance (W-R)	950 ± 3			Ω
Zero balance	5.0	3.0	2.0	±% of full load output
Excitation voltage	10 to 15 max			V dc or ac
Rated output	2.0 ± 0.1%			mV/V
Insulation Impedance	>1000			MΩ
Cable colour code	Blue (+) Input			
	Green (+) sense			
	Black (-) Input			
	Grey (-) sense			
	White (+) output			
	Red (-) output			
IS certification	II 1 GD EExia IIc T6			
Mechanical:				
Sealing	IP68			
Barometric compensation: DDB series is unaffected by atmospheric pressure				

\*Includes non-linearity hysteresis and non-repeatability according to OIML R60.

\*\* C1 + C2 grades are also available

Note: Loadcell types - Other beam loadcells in higher capacities as well as loadcells for different loadings such as compression, tension and tension/compression, are available from the comprehensive range. Custom loadcells can be designed to suit particular applications.

**For more information or to discuss your requirements please contact:**

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