

## F256

### Axial Compensated Loadcell

Standard Ranges 20, 40, 80, 125, 250 and 500kg 1, 2, 4 and 6tonne (0.2 to 60kN)

- ◆ High accuracy
- ◆ Misalignment error compensation
- ◆ Highly adaptable inert end fixings
- ◆ Standard 2 year warranty
- ◆ Output rationalised to 2mV/V



Geometry: Beam and diaphragm combination. Tension, compression and bi-directional options are available. All standard bi-directional loadcells are calibrated in both modes. The loadcell's unique strain system compensates for typical force misalignment in force measurement rigs and industrial weighing systems. Maximum error in axial force component measurement is limited to 0.25% within a 3° angle swept through 360° around the loadcell axis. Its various end-fixing options are all inert and easily modified for direct inclusion in mechanical assemblies.

The basic versions of the F256 are all sealed to IP65. IP67 is available as an option. Integral 4 to 20mA or ±10V output amplifiers can be fitted as an option. Additional information can be found in Engineering Application Sheet E032 and the ICA6H data-sheet.

We are happy to design variants of this loadcell to meet your specific requirements. Versions can be manufactured for fully compensated operation up to +250°C. Please consult our engineering department.

Details of our other loadcell families can be found in the Loadcell Specifier Guide. If you require a copy please contact our sales department or look on our web site at [www.novatechloadcells.co.uk](http://www.novatechloadcells.co.uk).

<b>Ordering Codes:</b>		See the loadcell ordering code sheet for more details. Add range in the required units.	
F256CFR0KN	Compression, flat base, IP65	F256DFR0KN	Compression, stud base, IP65
F256LFR0KN	Compression, convex base, IP65	F256UFR0KN	Bi-directional, stud base, IP65
F256TFR0KN	Tension, stud base, IP65	F256EFR0KN	Tension, eye base, IP65
All F256s are rationalised as standard. Change R to an S for IP67. Integral amplifiers are available with all options.			

## F256 Specification

Parameter	Value	Unit
Non-linearity - Terminal	±0.05	% RL
Hysteresis	±0.05	% RL
Creep - 20 minutes	±0.05	% AL
Repeatability	±0.02	% RL
Rated output - Rationalised	2.0	mV/V
Rationalisation tolerance (applies to single direction calibrations)	±0.1	% RL
Output symmetry	±0.3	% AO
Zero load output	±4	% RL
Temperature effect on rated output per °C	±0.002	% AL
Temperature effect on zero load output per °C	±0.005	% RL
Temperature range - Compensated	-10 to +50	°C
Temperature range - Safe	-10 to +80	°C
Excitation voltage - Recommended	10	V
Excitation voltage - Maximum	20	V
Bridge resistance	700	Ω
Insulation resistance - Minimum at 50Vdc	500	MΩ
Inclined load error - concentric at 3°	±0.25	% RL
Overload - Safe	50	% RL
Overload - Ultimate	100	% RL
Sealing - R option	IP65	-S option
Weight - Nominal (T version excluding cable)	20-80kg 0.1	125-500kg 0.3
	1-6tonne 1.0	kg

Ranges up to 80kg are manufactured in aluminium; all other ranges are manufactured in stainless steel.

Structural stiffness - Nominal					
Range (N)	Stiffness (N/m)	Range (kN)	Stiffness (N/m)	Range (kN)	Stiffness (N/m)
200	$7.8 \times 10^6$	2.5	$3.9 \times 10^7$	40	$4.0 \times 10^8$
400	$2.3 \times 10^7$	5	$7.8 \times 10^7$	60	$6.0 \times 10^8$
800	$1.2 \times 10^7$	10	$1.0 \times 10^8$		
1250	$1.9 \times 10^7$	20	$2.0 \times 10^8$		

### Notes

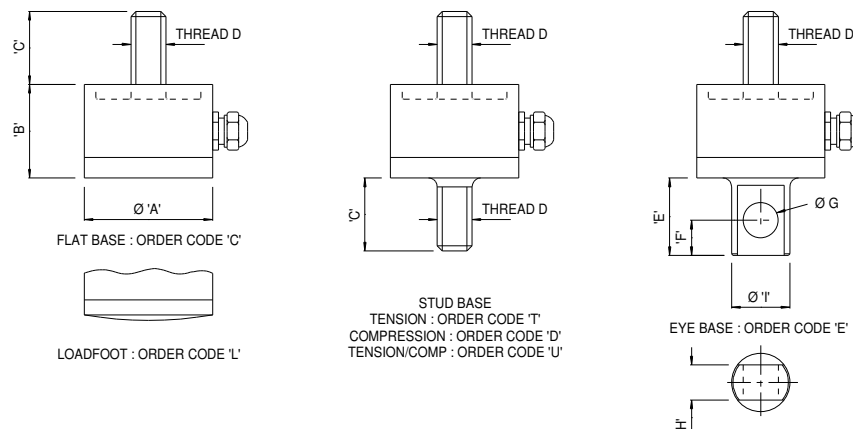
- AL = Applied load.
- RL = Rated load.
- Temperature coefficients apply over the compensated range.
- AO = Average of tension and compression outputs for full load.

### Connections

For ranges up to 500kg the loadcell is fitted with 2 metres of PVC insulated 4 core screened cable type 7-2-4C. Ranges above 500kg are fitted with 16-2-4C cable.

Excitation + = Red    Excitation - = Blue    Signal + = Yellow    Signal - = Green    Screen = Orange  
Reverse the signal connections to obtain a positive signal in tension mode. The screen is not connected to the loadcell body.

LOADCELL SIZE	Ø 'A'	'B'	'C'	THREAD 'D'	'E'	'F'	Ø 'G'	'H'	'I'
SIZE 1 20-500kg	44	32	25	M12 x 1.75	26.5	12	12	12	20
SIZE 2 1-6 TONNE	66	45	35	M24 x 2	51.5	24	24	24	40



Novatech reserves the right to vary the foregoing details without prior notice

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