



N

ALF318

F318 Pancake Loadcell

Standard Ranges 1, 2, 5, 10, 20, 50,
100, 200 and 500kN (100kgf to 50tonnef)

FEATURES

- Tension / compression / bi-directional calibration
- Low profile with recessed centre boss
- Fatigue rated on ranges 10kN and above
- Sealed to IP65
- Hardened stainless steel construction
- Traceable calibration with certificate included in the standard price

SPECIFICATIONS

PARAMETER	VALUE	UNIT
Non-linearity - Terminal	±0.1	% RL
Hysteresis	±0.1	% RL
Creep - 20 minutes	±0.05	% AL
Repeatability	±0.02	% RL
Rated output - Nominal	2.1	mV/V
Rated output - Rationalised	2	mV/V
Rationalisation tolerance (applies to single direction calibrations)	±0.1	% RL
Output symmetry	±0.5	% AO
Fatigue life (ranges 10kN and above)	108	RL cycles
Zero load output	±4	% RL
Temperature effect on rated output per °C	±0.005	% 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
Fixing bolt torque	See outline drawings	Nm
Overload - Safe	50	% RL
Overload - Ultimate	200	% RL
Sealing	IP65	

All standard ranges are manufactured in stainless steel.





Geometry: Shear web structure with high axial and lateral mechanical stiffness.

The loadcell has good output symmetry between compression and tension operation. All standard bi-directional loadcells are calibrated in both modes. Ranges up to 20kN have counter bored and tapped outer fixing holes enabling versatile fixing options without loss of the low height advantage.

The ALF318 pancake loadcell has a recessed boss. If you require a raised boss the ALF254 may be more suitable. The ALF254 has standard ranges from 25 to 200kN. 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.

ORDER CODES

CODE	DESCRIPTION
ALF318CFR0K0	Compression, IP65, unrationalised
ALF318TFR0K0	Tension, IP65, unrationalised
ALF318UFR0K0	Bi-directional, IP65, unrationalised
ALF318CFR0KN	Compression, IP65, rationalised
ALF318TFR0KN	Tension, IP65, rationalised
ALF318UFR0KN	Bi-directional, IP65, rationalised

Change the F to a P for the connector version.

STRUCTURAL STIFFNESS - NOMINAL

RANGE (kN)	STIFFNESS (N/m)
1	1.6×10^7
2	1.1×10^8
5	3.8×10^8
10	1.6×10^9
20	1.3×10^9
50	1.9×10^9
100	4.5×10^9
200	9.5×10^9
500	1.3×10^{10}

NOTES

AL = Applied load.

RL = Rated load.

AO = Average of tension and compression outputs for full load.

Temperature coefficients apply over the compensated range.



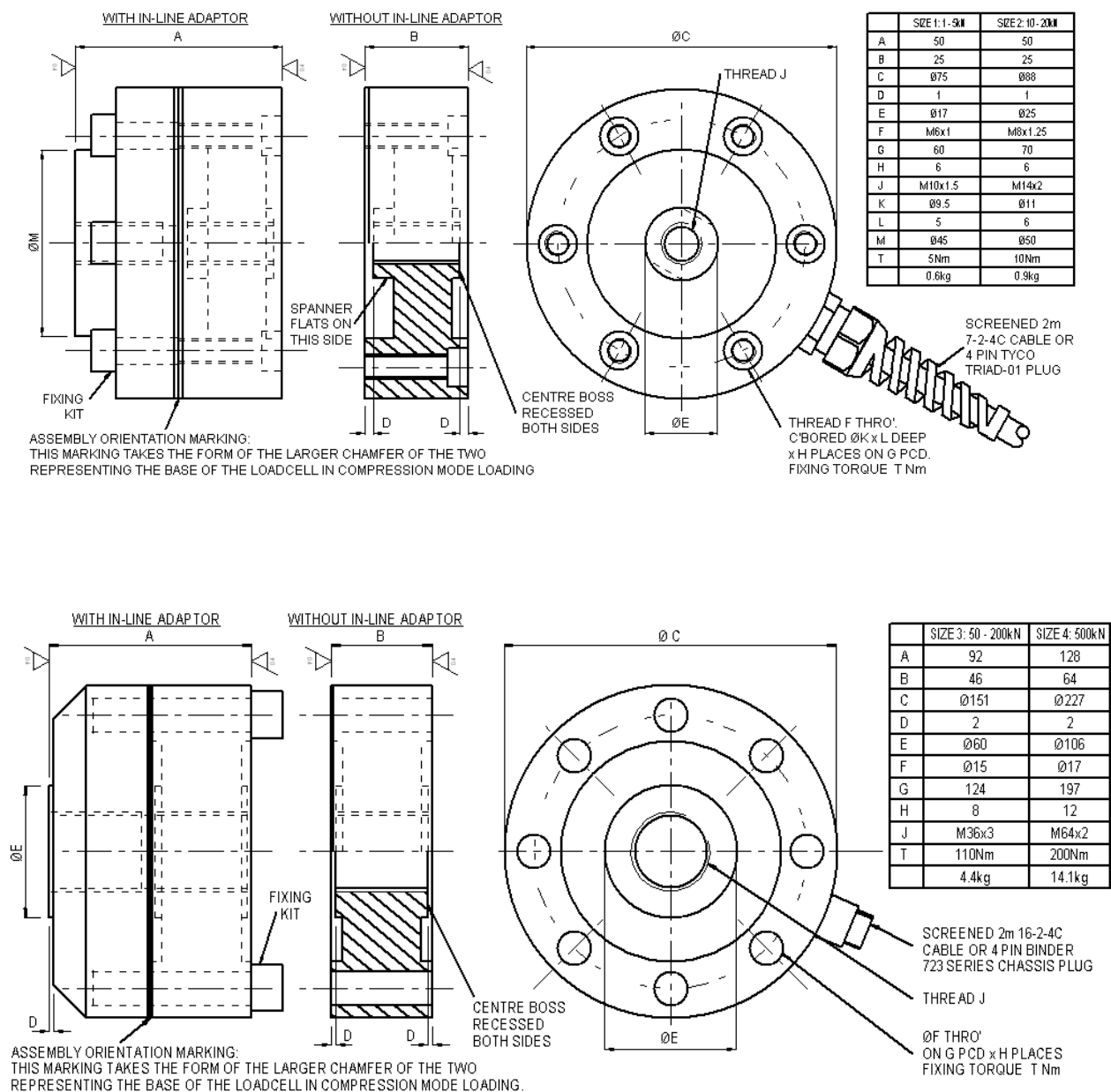
CONNECTIONS

The loadcell is fitted with 2 metres of PVC insulated 4 core screened cable type 7-2-4C for ranges up to 20kN. Ranges above 20kN are fitted with 16-2-4C cable. A 4 pin Binder chassis plug option is available instead of the cable. For the ranges up to 20kN the plugs are 712 series, for 50kN and above 723 series are used.

Excitation + = Red or pin 1, Excitation - = Blue or pin 2, Signal + = Yellow or pin 3, Signal - = Green or pin 4, Screen = Orange.

Reverse the signal connections to obtain a positive signal in tension mode. The screen is not connected to the loadcell body.

OUTLINE





FITTINGS

