

MACKLOW-SMITH MST430 SERIES LOAD COLUMNS Standard & Squat Height

Applications

Calibration of testing machines and Load Cells.
Load measurement for geophysical work such as plate bearing tests.
Measuring the load applied in presses.

Design Features

Measuring Strain

The distance by which the Column is compressed is quite small, in the order of 0.5mm. Its accurate measurement is fundamental to the measurement of the load. Our standard and squat height devices can be fitted with a mechanical analogue dial gauge or digital indicator. A lever mechanism magnifies the compression, the high accuracy gauge/indicator is used to read the enhanced movement.

Providing for axial load

The Column is machined with a pair of transverse slots. The load is in effect carried on four symmetrical pillars. The strain is measured between two free faces in the centre of the Column, and it is between these faces that the lever mechanism is located.

Avoiding end-effects

Two circumferential grooves are machined into the top and bottom of the Column to minimise end-effects.

Squat Columns

Columns that are approximately one third less in height than that of the Standard Height Column are available. They overcome restrictions of space and provide improved stability. There is inevitably a little loss of accuracy, as end effects are not so well isolated.

Digital Indicators

Where there is a requirement for a digital indicator, whether it is for the ease of reading, they have a high contrast 6.5mm liquid crystal display or perhaps to download data from the dial gauge to a PC or data logger. (data cable required) They can be fitted to either standard or squat height Load Columns. Battery life is approximately 2 years.

Protection of the equipment

The Load Column is supplied in a purpose made steel carrying box complete with handle. The top and bottom covers of the box are removed before use to expose the Load Column top and bottom faces. The dial gauge or digital indicator, which are the most delicate part of the equipment, are thus protected at all times.

Servicing and calibration

Macklow-Smith Load Columns are rugged and durable, but they will, like all measuring instruments, need periodic servicing and calibration. Indeed, their re-calibration may well be required as a provision of a quality assurance scheme such as BS EN ISO 9001:2008. Macklow-Smith are specialists in this type of work.

A copy of our works calibration certificate, traceable to national and international standards. Additionally Macklow-Smith can arrange for any piece of equipment to be calibrated by the NPL or an independent UKAS approved laboratory in the UK, we also deal with laboratories in Europe. The current standard for calibration of proving devices are given in BS EN ISO 376:2004.



Squat load columns with analogue dial gauge in carrying box



Squat load column fitted with digital indicator.

Close up view of digital indicator, resolution is to four decimal places.



SPECIFICATIONS

Standard Height Load Columns

Capacity	Height	Box width	Box depth	Weight
500kN	260mm	115mm	275mm	15kg
1000kN	260mm	115mm	275mm	16kg
1500kN	260mm	115mm	275mm	17kg
2000kN	286mm	140mm	275mm	23kg
3000kN	286mm	150mm	275mm	28kg
5000kN	305mm	185mm	285mm	46kg
10000kN	305mm	185mm	345mm	113kg

Squat Height Load Columns

Capacity	Height	Box width	Box depth	Weight
500kN	162mm	115mm	275mm	10kg
1000kN	162mm	115mm	275mm	11.5kg
2000kN	162mm	140mm	275mm	13.5kg
3000kN	200mm	150mm	280mm	22kg
5000kN	200mm	185mm	280mm	30kg

Packed dimensions in heavy duty carton	460mm deep x 310mm wide Height as above + 115mm
Packed weight - heavy duty carton	Weight as above + 3 kg
Packed dimensions in wooden case	550mm deep x 420mm wide x 620mm high
Packed weight - case	Weight as above + 15 kg

In the interests of product development we reserve the right to alter specifications without prior notice

MACKLOW-SMITH
TEST EQUIPMENT

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