

CRYSTAL

30 Series Calibrator kPa

ACCURACY—PRESSURE MEASUREMENT

0 to 110% of Full Scale: ±(0.05% of Reading + Floor Term)	<i>Includes all effects of operating temperature, linearity, hysteresis, repeatability and stability, for one year.</i>
Floor Term: 0.005% of FS or display resolution, whichever is greater	<i>All models indicate vacuum, but vacuum specification applies to 100 kPa, 200 kPa, and 2000 kPa models only.</i>
Vacuum: ±(0.25% of Reading + Vacuum Floor Term)	<i>Not recommended for continuous use at high vacuum.</i>
Vacuum Floor Term: 0.03 kPa for 100 and 200 kPa 0.1 kPa for 2000 kPa	

ACCURACY—MILLIAMPERES

Accuracy: ±(0.025% of Reading + 0.001 mA)	<i>Includes all effects of operating temperature, linearity, hysteresis, repeatability and stability, for one year.</i>
Range: 0 to 55 mA	<i>mA can be displayed as a percentage, where 0 to 100% corresponds to either 4 to 20 mA or 10 to 50 mA.</i>
Resolution: 0.001 mA	<i>Jacks are compatible with safety sheathed banana plugs.</i>
Connection: 4 mm jacks, 19 mm (0.75") spacing	

OPERATING TEMPERATURE

0°C to 50°C (32°F to 122°F)	<i>Non-condensing.</i>
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DISPLAY

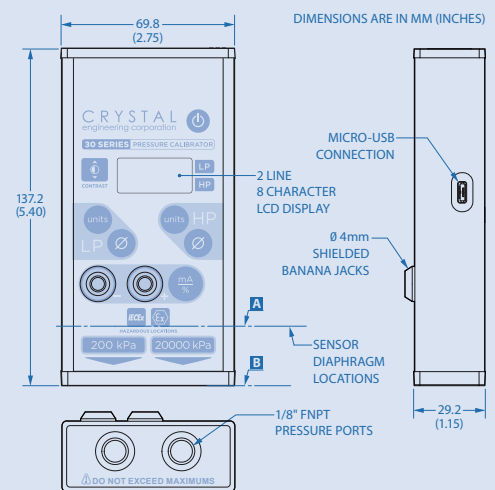
Screen: 2 lines of up to 6 digits, 5 mm (0.2") high	<i>LCD readable in sunlight.</i>
Display Rate: 2 readings/second (Adjustable to 1, 3, or 3.7 readings/second)	<i>Changes to reading rate requires software: ConfigM30 is a free download from crystalengineering.net.</i>

POWER

1 x 9V: 90 hours, typical	<i>Uses one alkaline 9V battery.</i>
	<i>Use of USB interface reduces operating time.</i>
	<i>Do not use USB in Hazardous locations.</i>

DATA/COMMUNICATION

Digital Interface: micro-USB	<i>Free Labview drivers available online.</i>
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PRESSURE PORT VOLUMETRIC DATA:

LP distance to diaphragm (A to B): 22.4 (0.88")
LP volume: 2 ml (0.13 cubic inches)
HP distance to diaphragm (A to B): 17.8 (0.70")
HP volume: 1 ml (0.06 cubic inches)

30 SERIES

30 Series kPa Data Sheet

4599.C | Page 1 of 3

CRYSTAL

30 Series Calibrator kPa

ENCLOSURE

All Models: **Extruded aluminum with polyester keypad and labels**

Model 31 ≤4000 kPa: **342 g (12.0 oz)**

*Model 31 ≤4000 kPa: **428 g (15.0 oz)**

Model 31 ≥10 000 kPa: **360 g (13.0 oz)**

Model 33: **400 g (14.0 oz)**

*Model 33: **485 g (17.0 oz)**

**SPSS optional manifold.
Nylon carry case included.*

SENSOR ≥ 10 000 kPa

Wetted Materials: **316 stainless steel**

All welded with a permanently filled diaphragm seal.

Diaphragm Seal Fluid: **Dow Corning® 200**

Connection: **Bottom, 1/8" female NPT**

SENSOR ≤ 4000 kPa

Wetted Materials: **316 stainless steel, Viton®**

All welded with a permanently filled diaphragm seal.

Anodized aluminum penetrated with PTFE (polytetrafluoroethylene)

Diaphragm Seal Fluid: **Dow Corning® 200**

Connection: **Bottom, 1/8" female NPT**

STORAGE TEMPERATURE

Temperature Range: **-20°C to 70°C (-4°F to 158°F)**

Batteries should be removed if stored for more than one month.

SPECIAL FEATURES

The following requires the use of ConfigM30 software

User defined unit: **Allows the user to define and display any pressure units not included, or to use the gauge to display force, level or other pressure related parameters. Reduce or increase displayed resolution.**

Remove: **Unwanted pressure units from Units button.**

Password protect: **Changes to configuration or userspan calibration factor(s).**

Save: **Configuration to a file.**

Copy: **Configuration to other calibrators.**

CERTIFICATIONS



**II 2G Ex ia IIC T4 Gb
FTZU 06 ATEX 0010 X**

This product conforms to:
**EN60079-0: 2006
EN60079-11: 2007**



**II 2G Ex ia IIC T4 Gb
IECEX FTZU 10.0018X**

This product conforms to:
**IEC 60079-0: 2007
IEC 60079-11: 2006**



30 Series complies with the Electromagnetic Compatibility and Pressure Equipment Directives. Refer to the EC Declaration of Conformity for specific details.



The instrument was tested against **AS/NZS 3584**, C-tick EMC/EMI requirements.



30 Series is approved for use as a portable test instrument for Marine use and complies with Det Norsjke Veritas' Rules for Classification of Ships, High Speed & Light Craft and Offshore Standards.

30 SERIES

30 Series kPa Data Sheet

4599 . C | Page 2 of 3

CRYSTAL

30 Series Calibrator kPa

RANGE & RESOLUTION TABLES

P/N	Range (kPa)	Over-Pressure	Display Resolution			
			kPa	MPa	bar	mbar
100	100	6.5 x	0.01		0.0001	0.1
200	200	3.0 x	0.01		0.0001	0.1
2000	2000	2.0 x	0.1		0.001	
4000	4000	2.0 x	0.1	0.0001	0.001	
10000	10000	2.0 x	1	0.001	0.01	
20000	20000	1.5 x	1	0.001	0.01	
30000	30000	1.5 x	1	0.001	0.01	

● Model 31 calibrators are not available in these ranges.

First Pressure Ranges	Second Pressure Ranges					Model 33 calibrators have dual pressure sensors. This chart shows all of the available sensor combinations ■
	2000 kPa	4000 kPa	10000 kPa	20000 kPa	30000 kPa	
100 kPa	■	■	■	■	■	
200 kPa	■	■	■	■	■	
2000 kPa			■	■		

ORDERING INFORMATION*

Intrinsic Safety	Model	Sensors	1st Pressure Range P/N	2nd Pressure Range P/N	Pressure Unit	Manifold
IS	3				KPA	
		Single Sensor: 1 Dual Sensor: 3				Standard (omit) Stainless Steel: SPSS

SAMPLE PART NUMBERS

- IS31-200KPA Calibrator with one sensor (200 kPa)
- IS33-200/20000KPA Calibrator with two sensors (200 kPa and 20 000 kPa)
- IS33-100/10000KPA-SPSS Calibrator with two sensors (100 kPa and 10 000 kPa) with two stainless steel manifolds

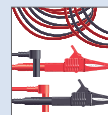
* kPa versions available in USA direct from factory, only.

ACCESSORIES



Carry Case and Strap

A clear plastic cover protects the keypad while allowing operation of all the buttons. (Included with every 30 Series Calibrator)



Test Leads P/N 1351

Our test lead kit features high quality banana to banana test leads with rugged, hard plastic insulated alligator clips.

COMPLIMENTARY PRODUCTS

Crystal Engineering offers a wide range of products that work with the 30 Series:

- Fittings that connect without tools, safely and without leaks
- Lightweight, super flexible high pressure hoses
- Fitting kits and adapters
- Pneumatic hand pumps
- Hydraulic hand pumps
- Portable pressure comparators
- Software, for the quickest way to calibrate pressure transmitters and gauges

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Viton is a registered trademark of DuPont Performance Elastomers.