

**ACCURACY-PRESSURE MEASUREMENT**

0 to 110% of Range: **±(0.05% of Reading + Floor Term)**

Floor Term: **0.005% of FS or display resolution, whichever is greater**

Vacuum: **±(0.25% of Reading + Vacuum Floor Term)**

Vacuum Floor Term: **0.03 kPa for 100 and 200 kPa  
0.1 kPa for 2000 kPa**

*Includes all effects of linearity, hysteresis, repeatability, temperature, and stability for one year.*

*All models indicate vacuum, but vacuum specification applies to 100 kPa, 200 kPa, and 2000 kPa models only.*

*Not recommended for continuous use below -100 kPa. Refer to [XP2i-DP data sheet](#) for gauges that are intended for continuous high vacuum use.*

**ACCURACY-MILLIAMPERES**

Accuracy: **±(0.025% of Reading + 0.001 mA)**

Range: **0 to 55 mA**

Resolution: **0.001 mA**

Connection: **4 mm jacks, 19 mm (0.75") spacing**

*Includes all effects of linearity, hysteresis, repeatability, temperature, and stability for one year.*

*mA can be displayed as a percentage, where 0 to 100% corresponds to either 4 to 20 mA or 10 to 50 mA.*

*Jacks are compatible with safety sheathed banana plugs.*

**OPERATING TEMPERATURE**

Temperature Range: **0 to 50° C (32 to 122° F)**

*Non-condensing. No change in accuracy over operating temperature range. Gauge must be zeroed to achieve rated specification.*

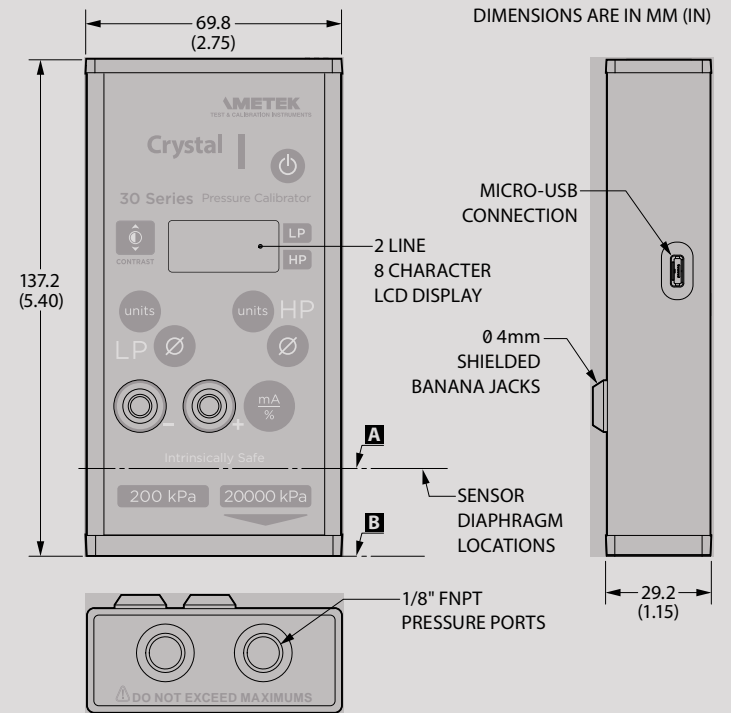
**DISPLAY**

Screen: **2 lines of up to 6 digits, 5 mm (0.2") high**

Display Rate: **2 readings/second (Adjustable to 1, 3, or 3.7 readings/second)**

*LCD readable in sunlight.*

*Changes to reading rate requires software: ConfigM30 is a free download from [ametekcalibration.com](http://ametekcalibration.com).*



**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)

**POWER**

The 30 Series is Intrinsically Safe only if powered by one of the following battery types.

ATEX/IECEX:	Approved Battery Type	Ta=	Marking
	Duracell Alkaline 9V, MN 1604	0 to 50° C	Ex ia IIC T4 Gb
	Energizer Alkaline 9V, 522		
	Energizer Lithium 9V, L522		
	Varta High Energy Alkaline 9V, 4922	0 to 45° C	

CSA:	Approved Battery Type	Marking
	Duracell Alkaline 9V, MN 1604	Class I, Division 1, A, B, C, D T4
	Energizer Alkaline 9V, 522	
	Energizer Lithium 9V, L522	
	Varta High Energy Alkaline 9V, 4922	Class I, Division 1, A, B, C, D T3C

1 x 9V: **90 hours, typical**

Uses one alkaline 9V battery. Use of USB interface reduces operating time.

For hazardous location product warnings, refer to the operation manual.

**DATA/COMMUNICATION**

Digital Interface: **micro-USB**

Free Labview drivers available online.

For hazardous location product warnings, refer to the operation manual.

**ENCLOSURE**

Model 31 ≤ 2000 kPa: **342 g (12.0 oz)**

Weight includes batteries.

\* Model 31 ≤ 2000 kPa: **428 g (15.0 oz)**

\*SPSS optional manifold.

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

Nylon carry case included.

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

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

Housing: **Extruded aluminum**

Keypad and Labels: **UV resistant polyester**

**CERTIFICATIONS**



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



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



Exia Intrinsically Safe and Non-incendive for Hazardous Locations: Class I, Division 1, Groups A, B, C and D, Temperature Code T4 or T3C. For hazardous location product warnings, refer to the operation manual.



30 Series complies with the Electromagnetic Compatibility and the Pressure Equipment Directives.



30 Series complies with the Australian Radiocommunications (Electromagnetic Compatibility) Standard 2008



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.

**SENSOR ≥ 10 000 kPa**

Wetted Materials: **316 stainless steel**

*All welded with a permanently filled diaphragm seal.*

Diaphragm Seal Fluid: **Silicone Oil**

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

**SENSOR ≤ 2000 kPa**

Wetted Materials: **316 stainless steel, Viton® (o-ring)**

*Viton o-ring is internal.*

**Anodized aluminum penetrated  
with PTFE (polytetrafluoroethylene)**

*All welded with a permanently filled diaphragm seal.*

Diaphragm Seal Fluid: **Silicone Oil**

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

**STORAGE TEMPERATURE**

Temperature Range: **-20 to 70° C (-4 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.**

**RANGE & RESOLUTION TABLE**

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	
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 this range.

**DUAL PRESSURE SENSORS**

Model 33 calibrators have dual pressure sensors. This chart shows all of the available sensor combinations. ■

First Pressure Ranges		Second Pressure Ranges			
		2000 kPa	10 000 kPa	20 000 kPa	30 000 kPa
100 kPa		■	■	■	■
200 kPa		■	■	■	■
2000 kPa			■	■	

**ORDERING INFORMATION\***

Intrinsic Safety	Model	1st Pressure Range P/N	2nd Pressure Range P/N	Pressure Unit	Pressure Manifold	CPF** Fitting Kits	Pump System**	Liquid (Systems C-H)	Carrying Case~
IS				PSI					
	Single Sensor...31				Standard.....(omit)	No.....(omit)	No Pump....(omit)		
	Dual Sensor....33				Stainless Steel...-SPSS	NPT Kit (4013)...-N	System A (pneumatic) 0 to 200 kPa.....-AXX	Full.....(omit)	Aluminum...(omit)
						BSP Kit (4015)...-B	System A (pneumatic) 0 to 4000 kPa.....-AHX	Drained.....-E	Waterproof.....-W
							System B (pneumatic) -91 to 200 kPa.....-BXX		
							System B (pneumatic) -91 to 4000 kPa.....-BHX		
							System C (oil) 0 to 20 000 kPa.....-CXX		
							System C (oil) 0 to 35 000 kPa.....-CHX		
							System D (oil) 0 to 35 000 kPa.....-DOX		
							System D (water) 0 to 35 000 kPa.....-DWX		
							System E (oil) 0 to 70 000 kPa.....-EOX		
							System F (oil) 0 to 100 000 kPa.....-FOV		
							System F (water) 0 to 100 000 kPa.....-FWV		
							System G (oil) 0 to 100 000 kPa.....-GOX		
							System G (water) 0 to 100 000 kPa.....-GWX		
							System H (oil/pneumatic) -91 to 4000 kPa and 0 to 35 000 kPa.....-HOX		

**SAMPLE PART NUMBERS**

- IS31-200KPA..... Calibrator with one sensor (200 kPa).
- IS33-200/20000KPA..... Calibrator with two sensors (200 kPa and 20 000 kPa).
- IS33-200/30000KPA-SPSS-N-HOX-W.. Calibrator with two sensors (200 kPa and 30 000 kPa) with two stainless steel manifolds; an NPT CPF fitting kit; a System H pump system; and a waterproof carrying case.

**► Ordering a Pump System Only**

Any pump system, carrying case, and connection fittings for a 30 Series calibrator may be ordered separately from the calibrator. Enter IS30-NONE followed by the Pump System part number and the Carrying Case option code.

**SAMPLE PART NUMBER**

- IS30-NONE-HOX-W..... System H pump system with a waterproof carrying case.

◆ U.S. Patent No. 8,794,677

\* CPF Fitting Kits can **only** be ordered as part of a Pump System. All fittings are rated to 70 000 kPa, with the exception of the MPF-1/2QTF rated to 35 000 kPa.

\*\* Refer to the following page for a more detailed description of each Pump System.

~ The Waterproof Case is an **option** for Systems A, B, and C only. The Waterproof Case is **the only option** for Systems G and H.

\* KPA versions available in USA direct from factory only.

**PUMP SYSTEMS**

All pump systems for the 30 Series include 1/4 NPT and BSP female fittings, (2) MPF-1/8MPT fittings, plus a carrying case with custom insert. For complete details, click on the systems below.

► [Systems A... AXX \(T-960\), AHX \(T-970\)](#)

[Systems B... BXX \(T-965\), BHX \(T-975-CPF\)](#)



► [Systems F... FOV and FWV \(T-1-CPF\)](#)



► [Systems G... GOX and GWX \(GaugeCalHP\)](#)



► [Systems C... CXX \(T-620\), CHX \(T-620H-CPF\)](#)



► [System H... HOX \(T-975-CPF and T-620H-CPF\)](#)



► [Systems D... DOX and DWX \(P-018-CPF\)](#)



► [System E... EOX \(P014\)](#)



**CPF FITTING KITS**

- [NPT Kit... -N \(4013\)](#)  
Includes MPF-1/8QTF, MPF-1/4QTF, and MPF-1/2QTF.
- [BSP Kit... -B \(4015\)](#)  
Includes MPF-1/8QTFB, MPF-1/4QTFB, MPF-3/8QTFB, and MPF-1/2QTFB.

**STANDARD DELIVERY**

- 30 Series Calibrator
- CD Manual
- ISO 17025 Accredited Calibration Certificate, NIST Traceable
- Carry Case and Strap (P/N 2490)

**ACCESSORIES**

**Magnetic Hanging Strap** [P/N 5203](#)

**Test Lead Kit** [P/N 1351](#)

**USB A to Micro USB Cable** [P/N 4431](#)

**Waterproof Carrying Case** [P/N 2888](#)

**COMPLEMENTARY 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](#)
- [Pneumatic hand pumps](#)
- [Hydraulic hand pumps](#)
- [Portable pressure comparators](#)
- [Software, for the quickest way to calibrate pressure transmitters and gauges](#)

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