

**ACCURACY**

**Standard Accuracy Version (-10 to 50° C)**

- 0 to 20% of Range:  $\pm$  (0.02% of Full Scale\*)
- 20% to 110% of Range:  $\pm$  (0.1% of Reading)
- Vacuum:  $\pm$  (0.25% of Full Scale\*\*)

*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, 700 kPa, and 2000 kPa models only.**

**Not recommended for continuous use below -100.0 kPa. Refer to XP2i-DP data sheet for gauges that are intended for continuous high vacuum use.**

\*Full Scale is 100% of the range  
\*\*Full Scale = -100.0 kPa

**-S5 Accuracy Option (-10 to 50° C)**

- Vacuum to 110% of Range:  $\pm$  (0.05% of Full Scale\*)

**-S2 Accuracy Option**

- Vacuum to 110% of Range:  $\pm$  (0.02% of Full Scale\*) 15 to 25° C
- $\pm$  (0.05% of Full Scale\*) -10 to 15° C, 25 to 50° C, typical

**OPERATING TEMPERATURE**

Temperature Range: **-10 to 50° C (14 to 122° F)**

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

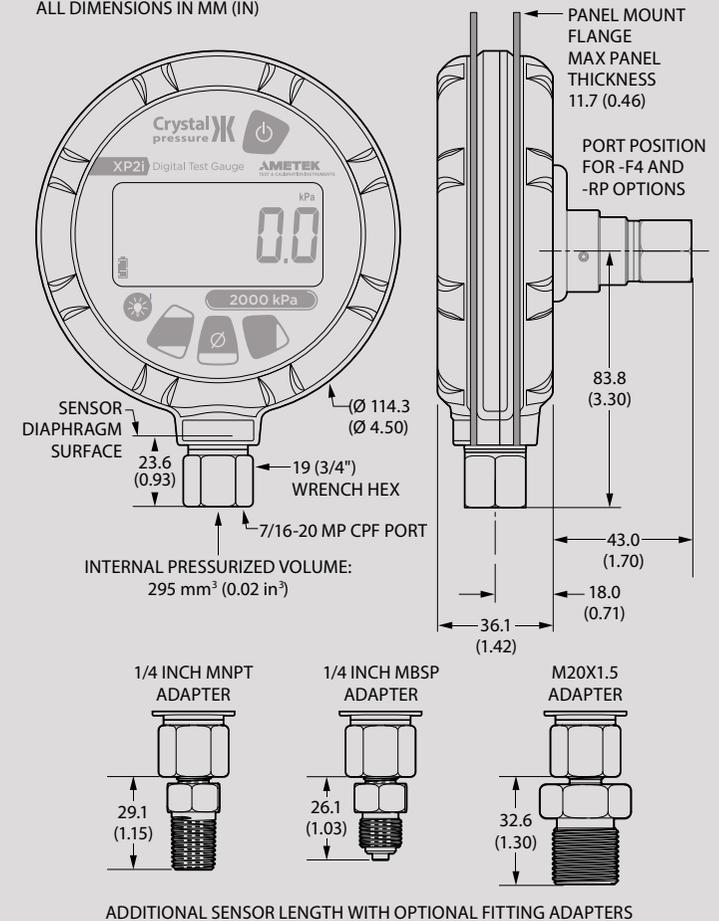
**DISPLAY**

- Screen: **5.5 digits**
- Single Line Display: **16.9 mm (0.67") high**
- Dual Line Display: **Main Display: 13.9 mm (0.55")**  
**Secondary Display: 5.3 mm (0.21")**
- Display Rate: **4 readings/second (standard)**  
**8 readings/second (PSV mode)**

*LCD readable in sunlight with bright backlight.*

*PSV mode is intended for Pressure Safety Valve testing, and requires software to enable. (ConfigXP is a free download from [ametekcalibration.com](http://ametekcalibration.com).)*

U.S. PATENT D612277  
ALL DIMENSIONS IN MM (IN)



**POWER**

The XP2i is Intrinsically Safe only if powered by one of the following battery types.

| ATEX/IECEX: | Approved Battery Type | Ta=          | Marking         |
|-------------|-----------------------|--------------|-----------------|
|             | Rayovac Max Plus 815  | -20 to 50° C | Ex ia IIC T4 Ga |
|             | Energizer E91         |              |                 |
|             | Energizer EN91        | -20 to 50° C | Ex ia IIC T3 Ga |
|             | Duracell MN1500       |              |                 |

| CSA: | Approved Battery Type | Ta=          | Marking                             |
|------|-----------------------|--------------|-------------------------------------|
|      | Rayovac Max Plus 815  | -20 to 45° C | Class I, Division 1, A, B, C, D T4  |
|      | Energizer E91         | -20 to 50° C | Class I, Division 1, A, B, C, D T3C |
|      | Energizer EN91        |              |                                     |
|      | Rayovac Max Plus 815  |              |                                     |

3 x AA: **1500 hours, typical**

Ultra Low Power: **> 1 year, typical\*\***

Uses 3 alkaline AA (LR6) batteries. Use of backlight and/or RS232 reduces operating time.

Optional AC power supply available.

\*\*20 minute recording interval or greater in LT5 mode.

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

**DATA/COMMUNICATION**

Digital Interface: **RS232, DB-9F**

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

**DATALOGGING**

Capacity: **32 000 data points**

Storage Type: **Non-volatile flash memory**

Minimum Interval: **1 second**

Maximum Interval: **18 hours**

Min. Event Duration: **250 mS\*\*\***

DataLoggerXP Firmware Update may be purchased at time of order, or an Upgrade Package may be purchased afterward.

Software available for download from our website. Produces csv files, or uses Excel template files (samples included) to automatically format and graph data.

\*\*\* Logging Type - Average with Peaks.

**CERTIFICATIONS**



**II 1G Ex ia IIC T4/T3 Ga**  
**FTZU 12 ATEX 0048X**



**Ex ia IIC T4/T3 Ga**  
**IECEX FTZU 12.0009X**



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.



XP2i complies with the Electromagnetic Compatibility and the Pressure Equipment Directives.



XP2i complies with the Australian Radiocommunications (Electromagnetic Compatibility) Standard 2008.



XP2i 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.

## ENCLOSURE

|  |  |
|--|--|
| Weight: <b>562 g (19.8 oz)</b>                   | <i>Weight includes batteries.</i>  |
| Rating: <b>IP66 and IP67</b>                     | <i>Submersible to 1 m for 30 minutes [IEC 60529].</i>  |
| Housing: <b>Diecast aluminum</b>                 | <i>Nickel plating over low copper, marine grade aluminum.</i>  |
| Keypad and Labels: <b>UV Resistant Polyester</b> | <i>LCD protected from impact damage by 1.5 mm (0.06") thick polycarbonate lens under polyester window.</i> |
|  | <i>Skydrol® compatible.</i>  |
|  | <i>For hazardous location product warnings, refer to the operation manual.</i>                             |

## SENSOR

|  |  |
|--|--|
| Wetted Materials: (WRENCH TIGHT) <b>316 stainless steel</b>            | <i>All welded, with a permanently filled diaphragm seal.</i>   |
| (FINGER TIGHT) <b>316 stainless steel and Viton® (internal o-ring)</b> | <i>Metal to metal cone seal; O-ring can be removed if necessary.</i>   |
| Diaphragm Seal Fluid: <b>Silicone Oil</b>                              | <i>Optional connection on back.</i>  |
| Connection: <b>Crystal CPF♦ Female</b>                                 | <i>1/4" male NPT adapter included unless BSP, M20, or 100KKPA is specified.</i>  |
|  | <i>1/4" medium pressure tube system compatible with HiP LM4 and LF4 Series, Autoclave Engr SF250CX Male and Female Series.</i> |
|  | <i>♦ U.S. Patent No. 8,794,677</i>   |

## STORAGE TEMPERATURE

|  |   |
|--|---|
| Temperature Range: <b>-40 to 75° C (-40 to 167° F)</b> | <i>Batteries should be removed if stored for more than one month.</i> |
|--|---|

## SPECIAL FEATURES

The following requires the use of our free [ConfigXP](#) 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.**
- PSV Mode: **Intended for pressure safety valve / burst disk testing. 8 readings per second. Captures point at which valve opens, as well as reseal pressure.**
- Averaging: **Smooths unsteady readings (1 to 10 samples).**
- Remove: **Unwanted pressure units from Units button.**
- Disable: **Peak pressure button.**
- Limit or Disable: **Zero button.**
- Password Protect: **Changes to configuration or calibration factor(s).**
- Save: **Configuration to a file.**
- Copy: **Configuration can be copied to other gauges.**

## STANDARD DELIVERY

- XP2i Gauge
- CD Manual
- ISO 17025 Accredited Calibration Certificate, NIST Traceable
- CPF Connection Fitting (ranges 10 000 psi and lower)

## ACCESSORIES

**Protective Boot P/N 3696**

**Magnetic Hanging Strap P/N 5203**

**AC Adapter Kit P/N 2984**

**USB B to RS232 DB9M Cable P/N 3313**

**Waterproof Carrying Case P/N 2888**

## COMPLEMENTARY PRODUCTS

Crystal Engineering offers a wide range of products that work with the XP2i:

- [Discounted three year calibration program](#)
- [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](#)

Autoclave Engineers Fluid Components is a division of Snap-tite, Inc.

HiP is High Pressure Equipment Company.

Viton is a registered trademark of DuPont Performance Elastomers.

**RANGE & RESOLUTION TABLE**

| P/N     | Range (kPa) | Over-pressure | Display Resolution |         |        |      |
|---------|-------------|---------------|--------------------|---------|--------|------|
|         |             |               | kPa                | MPa     | bar    | mbar |
| 100KPA  | 100         | 6.5 x         | 0.01               | 0.00001 | 0.0001 | 0.1  |
| 200KPA  | 200         | 3.0 x         | 0.01               | 0.00001 | 0.0001 | 0.1  |
| 700KPA  | 700         | 2.0 x         | 0.01               | 0.00001 | 0.0001 | 0.1  |
| 2KKPA   | 2000        | 2.0 x         | 0.1                | 0.0001  | 0.001  | 1    |
| 3KKPA   | 3000        | 2.0 x         | 0.1                | 0.0001  | 0.001  | 1    |
| 7KKPA   | 7000        | 2.0 x         | 0.1                | 0.0001  | 0.001  |      |
| 14KKPA  | 14 000      | 2.0 x         | 1                  | 0.001   | 0.01   |      |
| 20KKPA  | 20 000      | 1.5 x         | 1                  | 0.001   | 0.01   |      |
| 30KKPA  | 30 000      | 1.5 x         | 1                  | 0.001   | 0.01   |      |
| 70KKPA  | 70 000      | 1.5 x         | 1                  | 0.001   | 0.01   |      |
| 100KKPA | 100 000     | 1.3 x         | 1                  | 0.001   | 0.01   |      |

CPF Adapter Fitting is not included.

**ORDERING INFORMATION\***

| P/N       | Model       | Dual Display | Accuracy                | Adapter Type     | Connection Location | Data logging   |
|-----------|-------------|--------------|-------------------------|------------------|---------------------|----------------|
|           | XP2I        |              |                         |                  |                     |                |
| Standard: | No ..(omit) |              | 0.1% of reading..(omit) | NPT .....(omit)  | Bottom ....(omit)   | No .....(omit) |
| Optional: | Yes.....-DD |              | 0.02% of FS .....-S2    | G 1/4 B ....-BSP | Back .....-RP       | Yes.....-DL    |
|           |             |              | 0.05% of FS .....-S5    | M20x1.5...-M20   | Panel Mount ..-F4   |                |

**SAMPLE PART NUMBERS**

- 200KPAXP2I ..... 200 kPa standard gauge, with a 1/4" NPT pressure fitting.
- 30KKPAXP2I-S2-BSP-DL ..... 30 000 kPa gauge with 0.02% of FS accuracy, a 1/4" BSP pressure fitting, and Data logging.
- 70KKPAXP2I-DD-GWX-W ..... 70 000 kPa Dual Display gauge with a System G pump system and a waterproof carrying case.

**► Ordering a Pump System Only**

Any pump system, carrying case, and connection fittings for an XP2i pressure gauge may be ordered separately from the gauge. Enter XP2I-NONE followed by the Pump System part number and the Carrying Case option code.

**SAMPLE PART NUMBER**

XP2I-NONE-BHX-W ..... System B pump system with a waterproof carrying case.

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

| Pump System*       | Carrying Case~      |
|--------------------|---------------------|
| No Pump.... (omit) |                     |
| System A....-AXX   | Aluminum ... (omit) |
| System A....-AHX   | Waterproof.....-W   |
| System B....-BXX   |                     |
| System B....-BHX   |                     |
| System C....-CXX   |                     |
| System C....-CHX   |                     |
| System D....-DOX   |                     |
| System D....-DWX   |                     |
| System E....-EOX   |                     |
| System F....-FOX   |                     |
| System F....-FWV   |                     |
| System G....-GOX   |                     |
| System G....-GWX   |                     |
| System H....-HOX   |                     |

AMETEK offers a variety of solutions for pressure generation and measurement. Our line of products for pressure generation includes everything from small pneumatic hand pumps to a precision, hydraulic pressure comparator capable of generating up to 15 000 psi / 1000 bar / 100 MPa.

All of our pumps may be ordered as part of a Pump System, complete with an XP2i and delivered in a sturdy carrying case with custom insert.

\* 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.

**PUMP SYSTEMS OVERVIEW**

| Pump System | Part Number | Pressure Range                       | Pneumatic | Hydraulic | Hand Pump | Bench Top | Included Pump   | Case Options       |                           |   |
|-------------|-------------|--------------------------------------|-----------|-----------|-----------|-----------|---|--------------------|---------------------------|---|
|             |             |                                      |           |           |           |           |   | Aluminum           | Waterproof (Pelican Case) |   |
| System A    | AXX         | 0 to 30psi /2 bar                    | ■         |           | ■         |           |    | ■                  | (or)                      | ■ |
|             | AHX         | 0 to 580 psi /40 bar                 | ■         |           | ■         |           |   | T-970-CPF          |                           | ■ |
| System B    | BXX         | -25 inHg to 30 psi /-0.85 to 2 bar   | ■         |           | ■         |           |    | ■                  | (or)                      | ■ |
|             | BHX         | -27 inHg to 580 psi /-0.91 to 40 bar | ■         |           | ■         |           |   | T-975-CPF          |                           | ■ |
| System C    | CXX         | 0 to 3000 psi /200 bar               |           | ■ (Oil)   | ■         |           |    | ■                  | (or)                      | ■ |
|             | CHX         | 0 to 5000 psi /350 bar               |           | ■ (Oil)   | ■         |           |   | T-620H-CPF         |                           | ■ |
| System D    | DOX         | 0 to 5000 psi /350 bar               |           | ■ (Oil)   |           | ■         |    | ■                  |                           |   |
|             | DWX         | 0 to 5000 psi /350 bar               |           | ■ (Water) |           | ■         |   | P-018-CPF          | ■                         |   |
| System E    | EOX         | 0 to 10 000 psi /700 bar             |           | ■ (Oil)   |           | ■         |   | ■                  |                           |   |
| System F    | FOV         | 0 to 15 000 psi /1000 bar            |           | ■ (Oil)   |           | ■         |  | ■                  |                           |   |
|             | FWV         | 0 to 15 000 psi /1000 bar            |           | ■ (Water) |           | ■         |   | T-1-CPF            | ■                         |   |
| System G    | GOX         | 0 to 15 000 psi /1000 bar            |           | ■ (Oil)   |           | ■         |  |                    |                           | ■ |
|             | GWX         | 0 to 15 000 psi /1000 bar            |           | ■ (Water) |           | ■         |   | GaugeCalHP         |                           |   |
| System H    | HOX         | -27 inHg to 580 psi /-0.91 to 40 bar | ■         |           | ■         |           |  | T-975-CPF<br>(and) |                           | ■ |
|             |             | 0 to 5000 psi /350 bar               |           | ■ (Oil)   | ■         |           |   | T-620H-CPF         |                           | ■ |