

# Minerva Portable High Pressure Case

## MNR 300 - CAXP2(Ex)

*AUTONOMOUS HIGH PRESSURE SUPPLY AND ADJUSTMENT SYSTEM  
FOR CRYSTAL/AMETEK XP2i(Ex) AND M1 SERIE DIGITAL PRESSURE GAUGES*

This case offers improved efficiency to quickly and safely perform clean, high pressure calibrations at your own location.

- Supports pressure ranges with full scale from 20 MPa down to 0.7 MPa in a single system
- Simple, compact and easy to operate
- Built-in refillable 28 MPa storage tanks for pressure supply
- Precise test pressure control using a pressure balanced volume controller
- Protected against overpressure
- Three analogue pressure gauges for monitoring pressure in storage system, regulated supply pressure and pressure at test ports
- Two test ports
- 316 SS high pressure tubing and fittings
- *Additional option:* ATEX certified version available for use in potentially explosive atmospheres



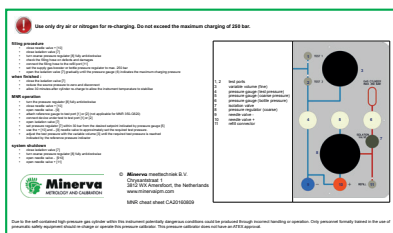
Self contained unit provides pneumatic pressure for calibration and testing up to 250 bar using a CRYSTAL/AMETEK XP2i (Ex) or M1 digital pressure gauge.

The unit is designed as an additional tool for your CRYSTAL/AMETEK XP2i and M1 series digital gauge allowing fast and safe generation of high pneumatic pressure up to max 20 MPa.

# OPERATION

The built-in high pressure gas storage system is filled through the appropriate connection. Three separate monitor gauges are mounted to indicate storage system pressure, regulated pressure and pressure at test ports. The maximum test pressure is set using the supply regulator. The test pressure at the two test connections is precisely controlled by two fine metering needle valves and the pressure balanced volume adjuster.

The installed Crystal/Ametek digital pressure gauge displays the test pressure. Externally generated pressures can also be measured via the test connections. The instrument is supplied with quick-connect test and filling hose, a 1/4" NPT male adaptor for the test connection and filling and a refill connector.



*Quick reference guide for safety and ease of use (not in ATEX version)*



*The Minerva MNR 90 precision volume adjuster allows very fine pressure control to within 100 Pa*

## IEC/ATEX certified IS version

*Are you using the High Pressure Case in situations that require an IS calibrator? Then choose the IEC/ATEX certified case, especially designed and certified for controlling conditions in an explosive atmosphere.*



*The three pressure gauges indicate:*  
1. pressure in bottle  
2. pressure set by pressure regulator  
3. pressure at test port

*Space to store extra pressure gauge*



*A high pressure swivel connection with quick connector allows the XP2i and M1 gauge to be connected and positioned at whichever angle is most convenient for the operator.*



*The Minerva MNR 180 pressure regulator is designed specifically for use in calibration and test applications*



## DIGITAL PRESSURE GAUGE MODELS \*

This Minerva Portable High Pressure Case fits these XP2i(Ex) and M1 Digital Pressure Models:



Specifications XP2i Gauge Pressure				
P/N	Pressure Range (bar)	Media (2)	Accuracy	Over Pressure
7 bar	7.0	G	0.1% of reading*	2x
20 bar	20	G	0.1% of reading*	2x
30 bar	30	G	0.1% of reading*	2x
70 bar	70	G	0.1% of reading*	2x
140 bar	140	G	0.1% of reading*	2x
200 bar	200	G	0.1% of reading*	1.5x
* note: improved accuracy options available, see data sheet				



Specifications M1 Gauge Pressure				
P/N	Pressure Range (bar)	Media (2)	Accuracy	Over Pressure
10 bar	10	G	0.04% of FS	2x
20 bar	20	G	0.04% of FS	2x
100 bar	100	G	0.04% of FS	2x
200 bar	200	G	0.04% of FS	2x

Model	Model XP2i pressure gauge and M1 pressure gauge
Accuracy	XP2i(ES): 0-20% of range: $\pm 0.02\%$ of full scale. 20-110% of range: $\pm 0.1\%$ of Reading. Better specifications, options available. M1: 0-20% of range: $\pm 0.04\%$ of full scale. 20-110% of range: $\pm 0.2\%$ of Reading.
Display	XP2i: 5.5 digits LCD readable with bright backlight. Single Line display: 16.9 mm high Dual-line display; 13.9 mm and 5.5 mm high. M1: 5 digits: 16.8 mm high.
Pressure Units	kPa, MPa, psi, bar, mbar, kgf/cm <sup>2</sup> , inH <sub>2</sub> O 4°C mmH <sub>2</sub> O 4°C, inHg 0°C, mmHg 0°C.
Environmental	Temperature range: 14°F to 122°F (-10°C to 50°C), Humidity: <95% non condensing.
Pressure Port	1/4 NPT male, 1/4 BSP male, M20 x 1.5 male ( $\leq 15,000$ PSI).
Power	XP2i: battery, 3 x AA (LR6) alkaline battery. M1: 2x AA (LR6) alkaline battery.
Enclosure	XP2i: Case material: Diecast aluminum. Wetted parts: 316 SS. Dimension: Ø114mm X 36mm depth. Weight: 562 gr. IP67.
Intrinsic Safety and CE	CE marked, ATEX/IECEx: Ex ia IIC T4 Ga or Ex ia IIC T3 Ga. CSA: Class I, Division 1, A, B, C, D T4 or Class I, Division 1, A, B, C, D T4. Depending on battery, see XP2i datasheet for more details.

\* For updated and more detailed information on the Crystal/Ametek XP2i and M1 and options please check the latest brochure of the manufacturer. Ametek is a registered trademark of AMETEK Corporation.



## TECHNICAL SPECIFICATIONS

Pressure ranges	See Ametek XP2i or M1 series digital pressure gauges supported table page 3
Pressure measurement specs	See Ametek XP2i or M1 series digital pressure gauges supported table page 3
MNR 300 control range	0 - 20 MPa gauge pressure
Gas storage system	2 x 1 litre capacity, filling pressure limited to 28 MPa, tested to 45 MPa
Monitor gauges	40 mm, analogue, all stainless steel: gas bottle pressure, regulated supply pressure, pressure at test port
Pressure regulator	Minerva Model 180 high pressure regulator, Range 0 - 25 MPa
Volume adjuster	Minerva Model 90, pressure balanced volume adjuster, displacement 11 cm <sup>3</sup> max 67 turn, precise pressure setting to within 100 Pa, stainless steel interior
Needle valves	Fine control valve for test pressure inlet and exhaust
Connections	Low volume Minimess 1215, quick connect couplings with internal check valve
Test / filling hose	Minimess 1215, length 2 meter, including 1/4" NPT male connector
Refill connection	For connection to nitrogen bottle, standard RU-3
Quick lock system in lid	Quick lock system for storing test hose and test connector
Housing	Pelicase. Material: ultra high impact copolymer
Dimensions	405 x 295 x 255 mm (L x W x H)
Weight	Approx. 19 kg
Certification	Pressure Equipment Directive (PED), Transportable Pressure Equipment Directive (TPED), CE conformity declaration
Accessories included	2 meter test / filling hose, 1/4" NPT male test adaptor, RU-3 refill connection
ATEX zone	II 3G Ex ic IIB T6 Gc (-10°C ≤ Ta ≤ +50°C)
Documentation included	Manual, PED conformity declaration, TPED conformity declaration, CE declaration
Ordering code	MNR-300-CAXP2
Ordering code Atex version	MNR-300-CAXP2-ex

All specifications are subject to change for product improvement and without notice.

Pelicase is a trademark of Pelican Products, Inc.

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