

# Minerva Portable High Pressure Case

## MNR 300 - FL2700(Ex)

*AUTONOMOUS HIGH PRESSURE SUPPLY AND ADJUSTMENT SYSTEM  
FOR FLUKE 2700G AND 700G(Ex) 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. Fits the 700G.



Self contained unit provides pneumatic pressure for calibration and testing using Fluke 2700G or 700G digital pressure gauges.

The unit is designed as an accessory tool for your Fluke 2700G or 700G allowing fast and safe storage, supply and adjustment of pressure up to 20 MPa.

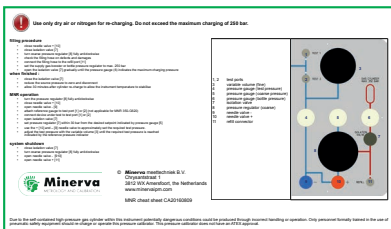
## OPERATION

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 Fluke 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 ¼" NPT male adaptor for the test connection and filling and a refill connector.

### 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.



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



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 Fluke 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

# FLUKE DIGITAL PRESSURE GAUGE MODELS \*

This Minerva Portable High Pressure Case fits these Fluke Digital Pressure Models:



Specifications Fluke 700G series, Precision Pressure Test Gauges				
Model	Range	Resolution	Accuracy	Burst pressure
700G04	-14 psi to 15 psi -0.97 bar to 1 bar	0.001 psi 0.0001 bar	Positive pressure ± 0.05 % FS	500 psi 34 bar
700G05	-14 psi to 30 psi -0.97 bar to 2 bar	0.001 psi 0.0001 bar		500 psi 34 bar
700G06	-12 psi to 100 psi -0.83 bar to 6,9 bar	0.01 psi 0.0001 bar		1,000 psi 69 bar
700G27	-12 psi to 300 psi -0.83 bar to 20 bar	0.01 psi 0.001 bar	Positive pressure ± 0.05 % FS	2,000 psi 138 bar
700G07	-12 psi to 500 psi -0.83 bar to 34 bar	0.01 psi 0.001 bar		2,000 psi 138 bar
700G08	-14 psi to 1,000 psi -0.97 bar to 69 bar	0.1 psi 0.001 bar	Vacuum ± 0.1 % FS	10,000 psi 690 bar
700G29	-14 psi to 3,000 psi -0.97 bar to 200 bar	0.1 psi 0.01 bar		10,000 psi 690 bar
700G30	-14 psi to 5,000 psi -0.97 bar to 340 bar	0.1 psi 0.01 bar		10,000 psi 690 bar
Temperature compensation: 15 °C to 35 °C (59 °F to 95 °F) to rated accuracy. For temperatures from -10 °C to 15 °C and 35 °C to 55 °C, add 0.003 % FS/°C.				
Battery life 1,500 hours without backlight (continuous on), 2,000 hours at slow sample rate.				
<i>New:</i> IS version of the case available to be used in combination with Fluke 700 Ex certified product.				



Specifications Fluke 2700G series, Reference Pressure Gauges				
Model	Range	Resolution	Accuracy	Burst pressure
2700G - BG100K	-15 psi to 15 psi -100 kPa to 1 kPa	0.001 psi 0.0001 bar	Positive pressure ± 0.02 % FS	45 psi 0.3 MPa
2700G - BG200K	-15 psi to 30 psi -100 kPa to 2 kPa	0.001 psi 0.0001 bar		90 psi 0.6 MPa
2700G - BG700K	-12 psi to 100 psi -80 kPa to 6,9 kPa	0.01 psi 0.0001 bar		1,000 psi 7 MPa
2700G - BG2M	-12 psi to 300 psi -80 kPa to 20 MPa	0.01 psi 0.001 bar	Positive pressure ± 0.02 % FS	2,000 psi 14 MPa
2700G - BG3.5M	-12 psi to 500 psi -80 kPa to 34 MPa	0.01 psi 0.001 bar		2,000 psi 14 MPa
2700G - BG7M	-12 psi to 1,000 psi -80 kPa to 69 MPa	0.1 psi 0.001 bar	Vacuum ± 0.05 % FS	10,000 psi 70 MPa
2700G - BG20M	0 psi to 3,000 psi 0 bar to 20 MPa	0.1 psi 0.01 bar		10,000 psi 70 MPa
2700G - BG35M	0 psi to 5,000 psi 0 to 35 MPa	0.1 psi 0.01 bar		10,000 psi 70 MPa
Uncertainty includes linearity, hysteresis, repeatability, resolution, reference uncertainty, 1 year long term stability, and temperature effects from 18 to 28 °C. For temperatures from 0 °C to 18 °C and 28 °C to 50 °C, add 0.003% FS/°C.				
Battery life 75 hours.				

## GENERAL SPECIFICATIONS

<b>Media compatibility</b> • 15, 30 psi: any clean dry non-corrosive gas • 100, 300, 1000 psi: any liquids or gasses compatible with 316 stainless steel • above 1000 psi: any non-flammable, non-toxic, non-explosive, non-oxidizing liquid or gas compatible with 316 stainless steel	
<b>Mechanical specifications</b>	
Dimensions (HxWxD)	12.7 cm x 11.4 cm x 3.7 cm (5" x 4.5" x 1.5")
Pressure connection	¼" NPT Male
Housing/Weight	Cast ZNAl/0,56 kg (1.22 lb) with holster
Display	5½ digits, 16.53 mm (0.65") high 20-segment bar graph, 0 to 100 %
Power	Three AA alkaline batteries

\* For updated and more detailed information on the Fluke 2700/700 and options please check the latest brochure of the manufacturer. Fluke is a registered trademark of Fluke Corporation.



## TECHNICAL SPECIFICATIONS

Pressure ranges	See Fluke 2700 or 700, digital pressure gauges supported table page 3
Pressure measurement specs	See Fluke 2700 or 700, digital pressure gauges supported table page 3
MNR 300 control range	0 - 25 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-FL2700
Ordering code ATEX version	MNR-300-FL700G 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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