



HYDROTECHNIK UK
TEST ENGINEERING LTD

Nitrogen Gas Charging & Testing Kit PCFPU280/70

- Safe & easy to use Minimesse[®] charging & testing connections
- Safely test, charge or bleed
- Connects to most types of bladder, diaphragm & piston accumulator valves
- Minimesse test points offer excellent system access versatility
- Simple hand tightening hose connection on to charging valves
- Low cost solution for testing & charging of a wide range of accumulators



Gas charging kit for bladder, diaphragm or piston accumulators with Nitrogen or to check or reduce existing precharge pressure in accumulators.

Nitrogen accumulators
Fire suppression systems
Mobile hydraulics
Industrial hydraulics



Discover more at www.hydrotechnik.co.uk



MINIMESS®**Gas Charging Kits & Accessories**

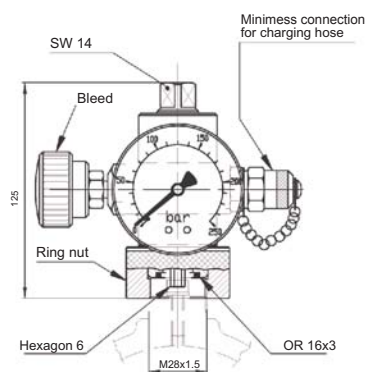
PCFPU280/70

Accumulator Gas Charging & Testing Kit PCFPU280/70

Accumulator charging and testing kit used for charging bladder accumulators with Nitrogen as well as pressure checking and pressure adjustment.



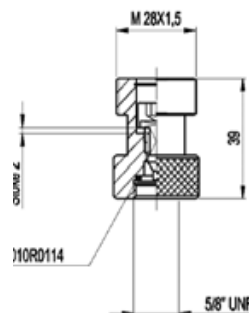
**PCFPU Charging Device
(M28x1.5 Female)**



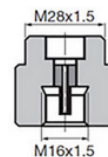
Important note: Accumulator connection to be specified (refer to ordering codes)

**M28x1.5 master
valve adaptors**

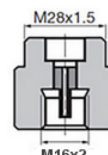
HT2431 (M28x1.5 male
to 5/8"-18 UNF female)



HT-A1 (M28x1.5 male to
Minimess 1615 female)

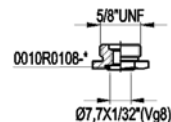


HT-A12 (M28x1.5 male
to Minimess 1620 female)

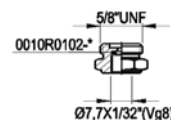


**Additional valve
adaptors (requires
HT2431 Adaptor)**

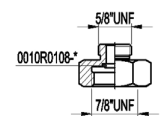
HT2510 (VG8 Schrader
style short thread)



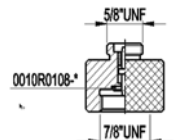
HT2513 (VG8 Schrader
style long thread)



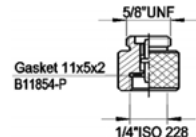
HT2511 (7/8"-14 UNF
Female short thread)



HT2514 (7/8"-14 UNF
Female long thread & pin)



HT2512 (1/4" BSP Female
Parker style with pin)



Features

- Test or charge using Hydrotechnik Minimess® connections up to 630 bar
- Simple hand tightening hose connection on to accumulator charging device
- Connection options for most popular accumulator charging valves
- Economically priced

Kit Contents

- Charging device complete with M28x1.5 female ring nut connection to accumulator gas valve, with bleed valve, gauge port and Minimess 1620 charging hose connection.
- Optional accumulator charging valve adaptors to 7/8"-14 UNF female, (short & long thread), 5/16"-32 UNEF (VG8) female (short & long thread) and 1/4" BSP female (with pin), Minimess 16x1.5 and 16x2 female
- 2.5m, 5m or 10m long high pressure Minimess microbore flexible charging hose
- Two pressure gauges (60 bar and 250 bar) or optional from 10 to 400 bar on request
- 5/8" BSP male bullnose adaptor to connect to UK nitrogen bottle with Minimess charging hose connection, European, USA or Nevoc connection optional
- Set of spare gaskets & Carry case with foam cutouts for all the above

Ordering Codes

PCFPU	280/70	-	(X, A, B, C, D, E, F, G, H or U)	-	(X, W, M, A or N)	-	(2.5, 5, 10)
(Pre-loading & checking set)	Pressure Gauges (full scale range in Bar)		Connection to Accumulator		Connection to Nitrogen Bottle		Charging Hose (length in meters)
	280/70 - 250 & 60 bar (standard) 400 - 400 bar 100 - 100 bar 40 - 40 bar 10 - 10 bar Other ranges on request		X = M28x1.5 female (standard) A = 5/8"-18 UNF female B = 5/16"-32 UNEF / VG8 female (short) C = 5/16"-32 UNEF / VG8 female (long) D = 7/8"-14 UNF female (short) E = 7/8"-14 UNF female (long with pin) F = 1/4" BSP female (with pin) G = Minimess 1615 H = Minimess 1620 U = Universal (all of the above)		X - 5/8" BSP male (standard) W - W24,32x1/14" female M - W21,7x1/14" female A - CGA580 male N - W30x2 Nevoc female Other country Nitrogen bottle adaptors on request		2.5 - 2.5 m (standard) 5 - 5 m 10 - 10 m Other lengths available on request

Operational and Maintenance Instructions

Use of charging device PCFPU280/70 only to fill a Nitrogen gas accumulator from a Nitrogen gas bottle or to drain or measure the pressure of a Nitrogen filled accumulator. It is important to keep gas pressure in the accumulator constant and it should therefore be checked periodically by means of **Pre-loading & Checking Unit (PCFPU)**. The same equipment is used for re-inflating the bladder after serving or replacement. Connection is made by a special Minimesse hose to the dry nitrogen bottle adaptor.

General

When charging, the nitrogen bottles must be capable of delivering pressure higher than the desired accumulator gas pressure.

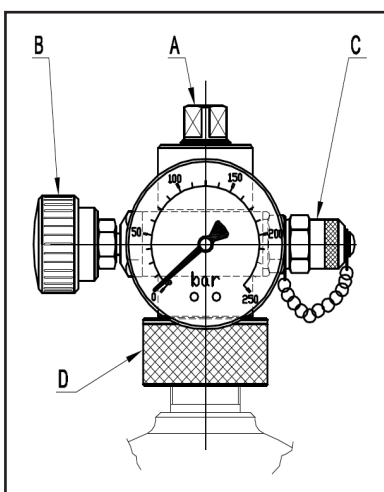
Pressure checks

This is a simple operation, the correct procedure is as follows:

- **Isolate** the Accumulator from the system and reduce the liquid under pressure **to zero**
- Remove the protective and sealing caps from the gas valve.
- Prior to mounting the PCFPU unit ensure that Valve knob **"A"** is unscrewed, Bleed Valve **"B"** is closed and Minimesse Valve **"C"** is screwed tight. Make sure that mounted pressure gauge has a full scale appropriate to the pressure being measured (normally max pressure should not exceed 3/4 of full scale)
- Attach PCFPU unit to the accumulator gas valve by means of Ring Nut **"D"**.
- Screw Valve Knob **"A"** to a point where pressure is registered.

If the pressure is OK remove the PCFPU Kit as follows:

- Unscrew the Valve Knob **"A"**
- Open the Bleed Valve **"B"** and unscrew the Ring Nut **"D"**



Connection Diagram



Connection Example

**** Recommended max tightening / untightening torque 20Nm to avoid damage to PCFPU pin or accumulator valve.**

Pressure reduction

- Fit PCFPU Unit as described in the previous Pressure Checks section
- Reduce the nitrogen pressure by opening Bleed Valve **"B"** slowly while Valve Knob **"A"** is screwed in until the correct pressure is registered on the gauge.

Increase or reset precharge pressure

- Fit the PCFPU unit as described above.
- Fit the gas bottle adaptor to the nitrogen cylinder
- Connect the Minimesse hose between the cylinder and the Minimesse valve **"C"**
- Slowly open the valve on the cylinder until the gauge registers a pressure slightly higher than the one desired, then close off cylinder valve.
- Unscrew Knob **"A"** and reduce the pressure on PCFPU Kit to Zero by means of the Bleed Valve **"B"**
- Disconnect the hose from the Minimesse valve **"C"** and replace cap.
- Close the Bleed Valve **"B"** and wait approximately 15 minutes for the temperature to stabilise.
- Screw Valve Knob **"A"** until the pressure can be read. This should be slightly higher than the desired pressure.
- Adjust by means of the Bleed Valve **"B"**

If pressure is OK remove the PCFPU Kit as follows:

- Unscrew the Valve Knob **"A"**
- Open the Bleed Valve **"B"** and unscrew the Ring Nut **"D"**
- Use soapy water test for leaks
- Replace the valve cover and protection caps.
The Accumulator is now precharged as per the requirement

Warning

It is recommended that the gas line is fitted with a safety relief valve when charging accumulators with shell ratings of less than Nitrogen Cylinder pressure.

Note

Standard equipment PCFPU280/70 is supplied with two pressure gauges: the high pressure gauge (250 bar) is used for charging and for checking precharge pressures higher than 50 bar. The low pressure gauge (60 bar) is used for precharge pressures lower than 50 bar.

ONLY NITROGEN MUST BE USED FOR CHARGING. AIR OR OXYGEN COULD CAUSE AN EXPLOSION

