

# Instruction Manual for NitroTrace™ Nitrogen Leak Test Kit

## BNTLTK01

Pressure testing equipment for detecting and locating leaks in closed systems, such as air conditioning and refrigeration equipment, heat exchangers, small tanks and cylinders using an electronically detectable NitroTrace™ tracer gas.

The content of this kit is designed for leak testing of mobile air conditioners with SAE standard R134a service ports or with R1234yf service ports (AC2314B version)

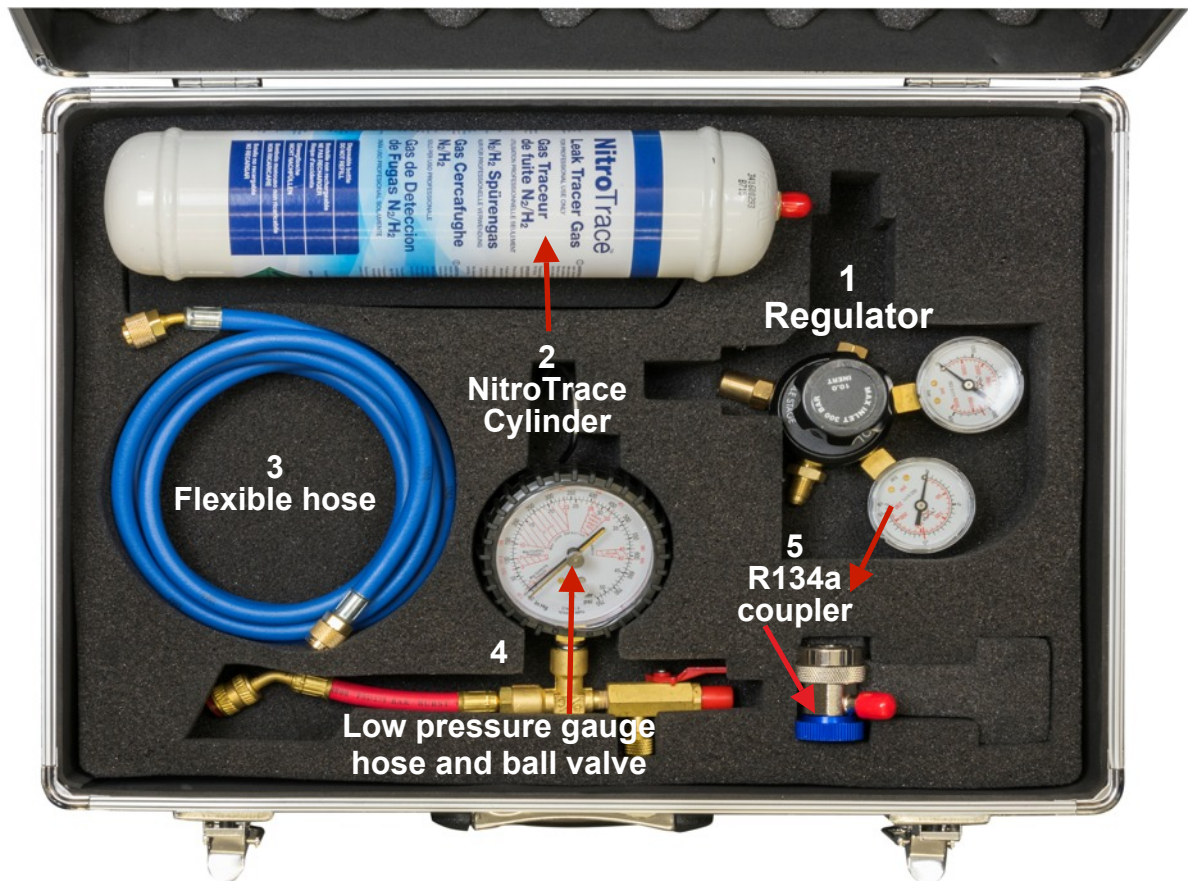


# Nitro-Trace Leak Test Instruction Manual

Please read this user manual carefully prior to using this equipment. It gives the user all the information required for the safe and correct use of this kit, for best results and to avoid possible personal risk and damage to equipment .

## Kit Components:

1. Pressure regulator with pressure relief valve
2. Portable 1 litre Nitro-Trace Disposable Cylinder
3. Flexible 1/4" SAE Charge line 60 BAR/870 PSI Hose
4. Low pressure gauge with hose fittings and ball valve
5. R134a lowside Valve coupler (not shown)
6. Primalec Aluminium Case 4



7  
(optional)  
**LEAKTRONIC-3**  
leak locator  
BLNTLO



Leaktronic-3's electronic sensors are tuned to detect the hydrogen content in NitroTrace and other similar tracer gases, enabling you to locate the leak's source.

8  
**R1234yf service coupler**



## Important:

Please treat the pressure regulator as a precision instrument and protect it from accidental knocks, dust, oil and other impurities. The regulator reduces and stabilises the gas pressure, from the pressure in the cylinder to the pressure required for the job (up to 10 bar/150 psi). The regulator is supplied for use with Nitrogen and NitroTrace™. Use with some other gases may be extremely dangerous and could cause injury.

### Connecting the pressure regulator to the portable Nitro-Trace cylinder

1. Insert the o'ring into the internal thread of the regulator connection pipe (5). Replace if damage is visible. Prior to connecting the cylinder, ensure the pressure regulator valve is fully closed by rotating the pressure knob anti-clockwise.
2. Connect the Nitro-Trace cylinder (2) by screwing the regulator to the cylinder via the internal thread (5).
3. The High pressure Gauge will indicate the pressure contained in the cylinder.
4. Connect one end of the flexible hose to the low pressure gauge hose (4) ensuring the ball valve is closed
5. Connect the other end of the flexible hose to the Pressure regulator (6)
6. Choose the correct adaptor (5 or 8) for the system being tested.

### Opening the pressure

1. Make sure all connections have been made correctly and securely.
2. Slowly open the Regulating knob to release the nitrogen from the cylinder. Do this by slowly rotating clockwise until the desired output pressure is attained, this will be measured on the output pressure gauge. N.B. Opening of the regulator knob too fast may cause damage to the gauges. The output pressure must not exceed the pressure required for the operation in force and must never exceed the respective red area on the low pressure gauge (4).

### Regulating the pressure

1. To increase the pressure, slowly rotate the regulator knob clockwise
2. To decrease the pressure, Slowly rotate the regulator knob anti-clockwise.

### Disconnecting the cylinder from the pressure regulator.

Before disconnecting the cylinder, ensure all valves are closed from the operating system being tested.

1. Rotate the regulating knob anti-clockwise until completely closed
2. Ensure all nitrogen has been discharged with a zero setting on the pressure gauges
3. Remove the cylinder by unscrewing from the pressure regulator.
4. Restore all equipment to the protective case supplied with the kit.





## Leak testing procedure

- a) Verify that the system or component under test is empty with no refrigerant inside.
- b) Identify the system type and choose the correct connection. For Mobile A/Cs (MACs) this means fitting either the R134a or the R1234yf service coupler to the female 1/4" SAE flare fitting on the end of the low pressure gauge hose. Pre-1993 classic vehicles and static commercial systems will usually have a male 1/4 SAE flare fitting which mates directly with the hose fitting.
- c) It is important to use the correct gas pressure when carrying out the test. The regulator supplied with this kit is rated at 10 bar, following the guidelines contained in SAE Standard J2790 cl.3.2.4. for vehicle air conditioners. If you are testing a high pressure system, a 50 bar regulator is available.
- d) Having assembled the kit as described on the previous page, connect it to the system to be tested, open the ball valve on the low pressure gauge set, and open the valve on the service coupler.
- e) Rotate the regulator knob clockwise to bring the pressure on the gauge to the desired pressure up to the maximum of 10 bar.
- f) When the pressure is set, turn the pointer on the low pressure gauge set to line up with the pressure reading (black pointer). At this point it is a good idea to check that all connections on the kit are tight and leak free, using the SprayTest solution or the Leaktronic-3H. Leave all in place for at least 10 minutes, periodically checking to see if the pressure reading has dropped. A drop in pressure indicates the presence of a leak in the system under test.
- g) To locate any leakage, use the Leaktronic-3H or the Spray Test leak locator or both.
- h) When the leak testing is complete, close the ball valve, close the regulator valve by rotating fully anti-clockwise, and disconnect the kit from the system.

If the pressure in the cylinder is insufficient for your test, use a new cylinder to reach the correct pressure tests. Any residual content in the cylinder may then be used for low pressure operations.

**NOTE** To ensure safe and effective leak testing, use the correct pressure test. Too high a pressure can cause serious harm to persons and equipment. Too low a pressure is unlikely to provide accurate leak testing results.

## Component or system flushing procedure

This equipment may also be used to provide the necessary pressure for liquid flushing of systems and/or components of harmful residues and impurities. These can include excess oil, gummy deposits, and small metallic or carbon debris which often gets trapped after a catastrophic failure, such as a blown compressor. Follow the instructions on your flushing equipment for using this kit.



Optional adaptor  
BLNADT1: converts the regulator  
for use on 18 KG cylinders.  
Different versions are available for  
different countries

