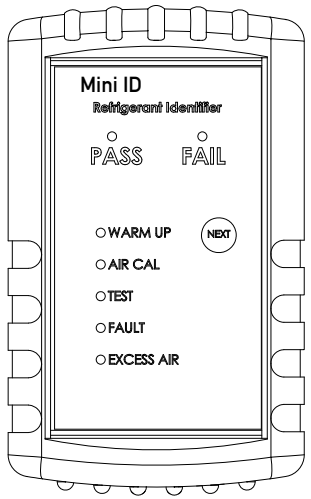
NEUTRONICS
REFRIGERANT ANALYSIS

MINI ID

R22 REFRIGERANT ANALYZER
OPERATION MANUAL

Manual Part Number: 5-06-4900-66-0
Manual File MN-A-0182 Rev. A



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It shall be the responsibility of the buyer to read carefully and abide by all instructions provided to the buyer in the instruction manual or elsewhere. If the buyer, or the employees of the buyer, did not abide by such instructions, then the alleged defect shall not be deemed to have arisen under circumstances of proper use.

The Mini ID utilizes a disposable oil filter that can not be cleaned.

Be sure to have spare filters available as the instrument cannot be operated with a contaminated filter.

P/N 6-01-6001-23-1

When properly used, this filter will protect the instrument from oil and sealant contamination.

See Page 10 for additional information.

Table of Contents

SPECIFICATIONS

Refrigerant Detected:	R22
Pass/Fail Purity:	95%
Power:	9 VDC @ 0.2 amp
Sample Source:	Oil Free Vapor Refrigerant
Minimum Input Pressure:	20 Psig
Maximum Input Pressure:	300 Psig
Operating Temperature :	50°— 113°F
Approvals:	UL, CE
Replacement Oil Filter P/N:	6-01-6001-23-1
Optional Auxiliary Power Supply:	6-01-6000-74-0

HELP / TROUBLESHOOTING

Unit Fails to Power On - Check the battery and replace with a fresh one. If using the optional auxiliary power supply, ensure that the power plug is fully inserted into the power socket on the unit.

Excess Air / Fail—The Mini ID is equipped with a unique filter located between the coupler and hose. This is a disposable filter designed to trap oil and sealant to prevent damage to the unit. Remove and inspect the filter for oil etc. and replace if necessary. Remove any oil in the connector with compressed air and a dry cloth. Replacement Filter P/N 6-01-6001-23-1

The Mini ID is equipped with internal fault codes for assistance with troubleshooting. When the "FAULT" light is illuminated, the code is determined by counting the number of flashes.

Solid = Low Battery (replace with a fresh one)
Code 1 = Unstable detectors
Code 3 = Calibration Error
Code 4 = Temperature Error
Code 5 = Calibration Compensation Error

Should one of these codes appear, take the following action prior to contacting you Neutronics Service Representative.

1. Turn off the unit.
2. Place the unit in a climate controlled area between 60°F and 80°F.
3. Turn on and operate the unit with no refrigerant attached.
4. Allow the unit to remain in the climate controlled room for 30 minutes.
5. Reconnect the unit and re-test.

If these steps fail to restore the unit to good working order, contact:

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For Your Safety:

PLEASE READ THIS MANUAL IN ITS ENTIRETY BEFORE ATTEMPTING INSTALLATION OR OPERATION! Attempting to operate the Mini ID without fully understanding its features and functions may result in unsafe conditions.

Always use protective eye wear and observe proper safety procedures when working with pressurized gases.

Identifier Warnings

Sample Filter Warning: The Mini ID contains a unique filter designed to significantly reduce the probability of oil contamination. Replace the brass oil filter of the instrument AS SOON AS OIL IS DETECTED IN THE SAMPLE HOSE. Failure to properly maintain and replace the oil filter may result in severe damage.

Sample Input Warning: The instrument requires connection of the supplied sample hose to the LOW SIDE OR VAPOUR port of refrigerant storage cylinders or air conditioning system. DO NOT attempt to introduce liquid or samples heavily laden with oil into the instrument. DO NOT connect the sample hose to the HIGH SIDE or LIQUID port! Liquid or oil laden samples may cause severe damage to the instrument that will not be covered under warranty repairs.

General Cautions

- Always inspect the sample hose before each use. Replace the hose if it appears cracked, frayed, obstructed or fouled with oil.
- Always turn the AC system off before connecting the instrument to an air conditioning system.

- Always wear eye and skin protection when working with refrigerants. Escaping refrigerant vapors will present a freezing danger.
- To reduce the risk of electrical shock, do not disassemble the instrument; do not use the instrument in wet or damp areas.
- DO NOT direct refrigerant vapors venting from hoses towards the skin.
- DO NOT disassemble the instrument. There are no serviceable components internal to the instrument and disassembly will void the warranty.
- Always place the Identifier on a flat and sturdy surface.
- DO NOT utilize any other hose other than those supplied with the instrument. The use of other hose types will introduce errors into the refrigerant analysis and instrument calibration.
- Always verify that the refrigerant to be tested does not contain or will not emit heavy loads of oil or liquid.
- NEVER admit any sample into the instrument at pressures in excess of 300 psig.
- DO NOT utilize the connection fitting supplied on the service end of the Sample Hose for any application other than with the instrument.
- NEVER obstruct the air intake, sample exhaust or case vent ports of the instrument during use.
- WARNING – This Identifier must not be operated in flammable atmospheres.
- CAUTION – Should be operated by certified personnel.
- Avoid breathing A/C refrigerant and lubricant vapor or mist. Exposure may irritate eyes, nose and throat. To remove refrigerant from the A/C system, use service equipment design certified for the application. Additional health and safety information may be obtained from refrigerant and lubricant manufacturers.
- CAUTION – Do not pressure test or leak test A/C service equipment and/or air conditioning systems with compressed air. Some mixtures of air and refrigerant have been shown to be combustible at elevated pressures. These mixtures, if ignited, may cause injury or property damage. Additional health and safety information may be obtained from refrigerant manufacturers.

INSTRUCTIONS FOR USE

WARNING: Be sure to turn off the System and let it rest for 3 minutes.

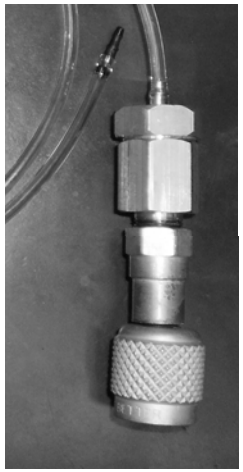
1) Remove the rubber protective boot and insert the 9V battery. (Note the a Lithium battery is recommended for longest life).
2) Turn on the power switch located on the top of the unit. For battery operation, press the switch to "BAT". For auxiliary power operation, connect the optional auxiliary power supply to the bottom of the unit and press the switch to "AUX".
3) The lights will sequence, press "NEXT" to begin the "WARM UP".
4) After approximately 90 seconds, the "CALIBRATING" light will flash.
5) Press "NEXT".
6) The "CALIBRATING' light will illuminate for approximately 60 seconds.
7) When the Analyzing light begin to flash, connect hose to the system or cylinder's low side service port and then press "NEXT".
8) The Analyzing light will illuminate for approximately 45 seconds while the test is in progress.
9) The "PASS"/"FAIL" light will then provide the test results (See Below)
10) Disconnect the sample hose from the vehicle, press the "NEXT" button and allow the unit to complete a calibration cycle before powering off the unit. The instrument may now be stowed.

THE TEST RESULTS

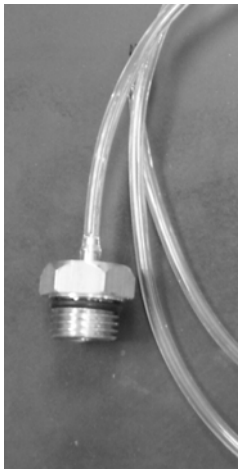
1) After the Analysis is complete, the "PASS" or "FAIL" light will flash.
   a) "PASS" indicates the refrigerant tested is 95% or greater R22.
   b) "FAIL" indicates the refrigerant tested is less than 95% R22 and should not be recovered without special equipment.
   c) The EXCESS AIR" light will illuminate in conjunction with the "PASS" or "FAIL" if the instrument determines that a significant amount of air is present. (See Help/Troubleshooting) .

PRODUCT COMPONENTS

Base Module



Connector with Filter



Spare Filter

WELCOME

Thank you for purchasing the MINI ID R22 Refrigerant Analyzer.

The Mini ID is the most economical refrigerant identifier ever designed for analyzing the purity of gaseous R22 refrigerant. It has many features to offer the user, which will be described in this manual. We recommend that all personnel who use this instrument read this manual to become more familiar with its proper operation.

For further information regarding the application, operation or spare parts, please contact the Neutronics Inc. Customer Service Department. If you have questions or comments, we would like to hear from you.

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INTRODUCTION AND OVERVIEW

Contamination of refrigerants in air conditioning systems can lead to component corrosion, elevated head pressures and system failures when utilized by unsuspecting technicians. The ability of the technician to determine refrigerant type and purity is severely hampered by the presence of air when attempting to utilize temperature-pressure relations. The development of various substitute refrigerants further complicates the ability of a technician to identify refrigerant purity based upon temperature-pressure relationships. The substitute refrigerant blends can also introduce a flammability hazard to the technician and the ultimate end user of the air conditioning system.

The Neutronics Mini ID Refrigerant Identifier will provide an easy and accurate means to determine if the R22 refrigerant in air conditioning systems is of suitable purity. The instrument utilizes non-dispersive infrared (NDIR) technology to determine the weight concentrations of refrigerant type R22, as well as, hydrocarbons and air. Refrigerant purity is automatically determined for refrigerant R22 by the instrument to eliminate human error.

The instrument is supplied complete with a R22 sample hose, and all required plumbing housed within a rugged, portable instrument. A 9V battery or option external power supply is required for operation.

PRODUCT DESCRIPTION

The Neutronics Mini ID is an economical instrument designed to provide a "PASS" or "FAIL" indication for R22 Purity. The product will also indicate if an excess amount of non-condensable gas (air) is present in the system. Excess "air" will cause poor cooling performance and can be easily corrected by simply recovering the refrigerant, evacuating and recharging the system. The Mini ID uses an internal electric pump to purge refrigerant from the sample cell in order to calibrate the instrument. LED's provide the user with easy to understand status indicators. Flashing LED's require user action while solid LED's indicate the instrument is performing a task.

The unique brass filter, located between the Service Connector and Sample Hose, provides excellent protection from oil contamination by trapping the oil at the coupler and preventing it from entering the instrument. If the instrument continually gives excess air messages, this is an indication that the filter has been compromised by oil and the filter must be changed.