

Which Refrigerant Analyzer do I have?

1. Neutronics has manufactured many different Refrigerant Analyzers over the past 25 years. They manufacture these analyzers as Neutronics branded products and also brand label for other companies. To identify which analyzer you are using please compare your analyzer to the analyzers below. Any handheld analyzer manufactured by Neutronics after 2004 uses the **Ultima** or **Mini ID** model design. The easiest way to differentiate between all **Ultima** models is either through the product label (see arrow below) or to observe the software version displayed on the screen when powered ON.



**Ultima ID Pro**  
[Model RI-700H](#)  
 Software: 453 (New Models) or 450 (Original Design)



**Ultima ID**  
[Model RI-2004HV Series](#)  
 Software: 352



[Mini ID R22](#)  
 Software not visible



**Ultima ID**  
[Model RI-2012yf VDA](#) or  
[RI-2012yf SAE](#)  
 Software: 510 (VDA) or 530 (SAE)



**Ultima ID**  
[Model RI-2004DX](#) or  
[RI-2012yfpc & RI-2012yfpm](#)  
 Software: 350 (DX) or 550 (R134a)



[Mini ID R134a](#)  
 Software not visible



Now that I know which Refrigerant Analyzer I have, what refrigerants does it analyze?



1. **Ultima ID Pro Model RI-700H** (Software version 453):
  - Analyzes purity of **R22, R32, R134a, R404A, R407C, R410A, HC** ( for Hydrocarbons) and **Air** (measuring Air independently from the refrigerant) with accuracy of +/- 2% or better
  - Identifies without purity **R12, R1234yf, R408A, R409A, R417A\*, R421A\*, R421B, R422A, R422B, R422C, R427A** and **HC** (for Hydrocarbon)

\*Due to similar formulas R417A and R421A may be identified as either R417A or R21A



2. **Ultima ID Pro Model RI-700H** (Software version 450):
  - Analyzes purity of **R22, R134a, R404A, R407C, R410A** and **R290**( for Hydrocarbons) with accuracy of +/- 2%
  - Identifies without purity **R12, R408A, R409A, R417A\*, R421A\*, R421B, R422A, R422B,R427A** and **R600** (for Hydrocarbon)

\*Due to similar formulas R417A and R421A may be identified as either R417A or R21A

Frequently Asked Ultima ID Pro RI-700H Questions?

**1. If I have a question not listed below, whom do I contact?**

A: All questions can be directed by email to [info@neutronicsinc.com](mailto:info@neutronicsinc.com) or by phone +1-610-524-8800. The Neutronics Refrigerant Analysis team welcomes all feedback on our equipment. We want the equipment to meet your expectations and will do our best to assist you. Don't hesitate to contact Neutronics U.S.A. if any questions arise.

**2. How long does the white sample filter last?**

A: The filter life varies for every machine. Some filters can last 50 tests with some lasting a couple hundred. We recommend changing the filter when you see little red dots in the filter and/or if you contaminate the machine with oil. If you prevent oil from entering the machine the filter should last longer than if oil contamination occurs. Neutronics generally recommends changing the filter annually.



**3. How long does the internal LiFE Battery last before requiring a recharge?**

A: Software version 453 has a built in battery that lasts approximately 100+ tests before requiring a recharge. Software version 450 does not come with a battery. If the spare battery is purchased for this machine it lasts for approximately 50 tests before requiring a recharge. The spare battery is NiMH type of battery.

**4. How many printouts does a roll of paper provide?**

A: Approximately 50 test prints

**5. Can I use any printer paper in the analyzer?**

A: Use ONLY the Original Neutronics thermal paper. It is a paper type specifically developed for this application. We have found that using non-original paper will cause irreparable damage to the printer.

**6. How do I install paper into the analyzers printer?**

A: Press the 'SET' button shortly after powering on the analyzer. Open the printer door and remove the old roll by tearing the paper as it enters the printer, then press the 'FEED' until the old roll exits the printer completely. Insert the new paper roll from the underside as shown below:

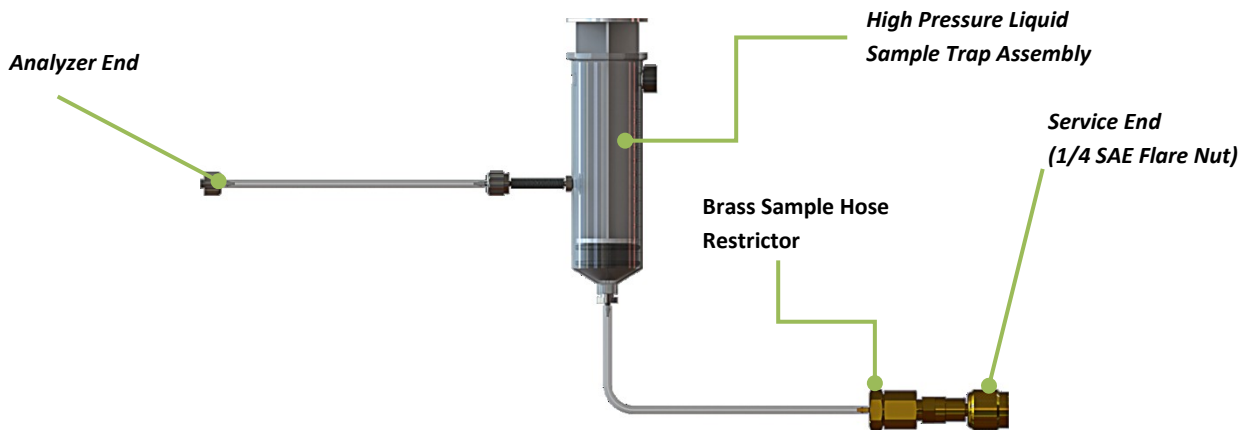


**7. Is the *Ultima ID Pro RI-700H* capable of testing both Liquid and Vapor samples?**

A: Yes, the *Ultima ID Pro RI-700H* can be configured by the user to test either Liquid or Vapor.

**8. How do I test a liquid sample?**

A: Liquid sampling is accomplished by first attaching the High Pressure Liquid Sample Trap Assembly in-line with the sample hose (see image below). Make sure the syringe is fully compressed and facing down as shown in the image. Next, connect the hose assembly to the High-Side liquid port of the cylinder. When the machine is ready, open the tank valve and initiate the test.



**9. What benefit is there to liquid sampling?**

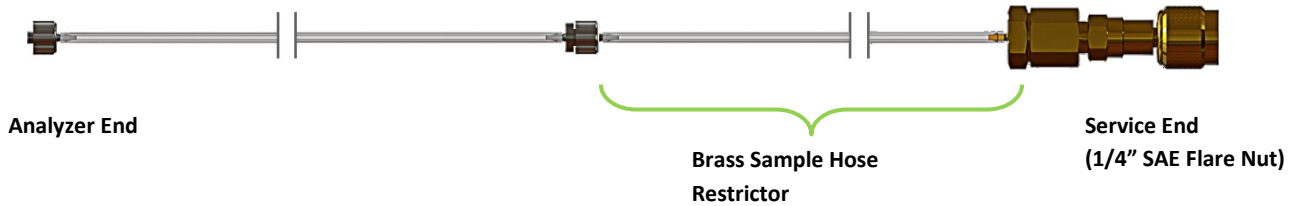
A: The benefit of liquid sampling is it allows the user to test blend refrigerants, such as R407C, without being concerned about fractionation that may occur in the vapor space. Liquid testing is slightly more accurate for tanks that have been at rest for long periods of time.

**10. I just completed a Liquid sample test and now my coupler and hose are frozen preventing me from running another test. Why did it freeze?**

A: After a liquid sample is taken the hose assembly and coupler may freeze due to the low temperature of the refrigerant. The entire hose assembly will eventually defrost after the liquid refrigerant flashes to vapor. Make sure you have a few hose assemblies on hand if you are completing liquid sampling to allow you to continue to test other cylinders while you wait for the liquid refrigerant to fully flash after a liquid sampling test.

**11. What does Neutronics do to prevent oil or liquid refrigerant contamination from entering the machine?**

A: This analyzer has a brass sample hose restrictor in-line on the hose assembly which slows the flow of oil or liquid refrigerant and prevents the unit from becoming contaminated. If you see oil in the hose near the brass restrictor and in the hose, replace the brass sample hose restrictor with a new one, clean out the coupler and any additional contamination with a recommended cleaner, such as Isopropyl Alcohol, and reattach the cleaned coupler to the new brass sample hose restrictor.



**12. What can I do to prevent oil or liquid refrigerant from entering the machine?**

A: Always sample the refrigerant vapor from the vapor port or Low-side vapor port on a system. The *Ultima ID Pro* is capable of testing liquid refrigerant, but if the proper adjustments (See #8) are not made to the hose assembly then liquid testing will damage the analyzer. To prevent the release of oil or liquid refrigerant from a HVAC system make sure the system is turned off and has not run for at least 5 minutes prior to sampling. This allows the liquid refrigerant to settle in the system, helping to reduce the likelihood of liquid refrigerant escape from the Low side vapor port.

**13. What do I do if I get oil or liquid refrigerant into the analyzer?**

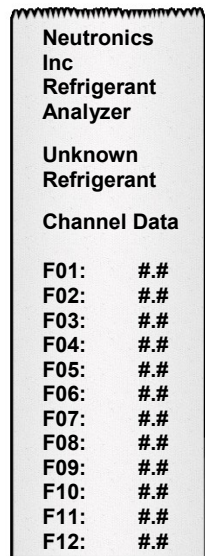
A: If for some reason oil or liquid refrigerant enters the analyzer, and it goes past the external plastic filter, the unit is then contaminated with oil and must be returned to the factory for service repair. In some cases, if the oil only makes it to the inlet end of the white filter and not out the exit end you can replace the white filter and attempt to operate the machine. If incorrect results or error codes appear, contact the U.S.A. factory for service.

**14. Why does “Unknown Refrigerant” or “Non-Condensable” appear after every test?**

A: The most likely reason “Unknown Refrigerant” or “Non-Condensable” appears after every test is due to an obstructed Brass Sample Hose Restrictor (See #11) or due to pressure in a system or cylinder below 2 Bar. Check both and change the Brass Sample Hose Restrictor as needed. Unknown refrigerant can also appear if the refrigerant is less than 90% pure.

**15. When I sample an Identified gas it indicates Purity Unknown. What does this mean?**

A: An example of a Purity Unknown refrigerant is “R1234yf Purity Unknown.” When purity unknown is displayed with a refrigerant, this indicates the predominant refrigerant in the cylinder or system is that particular refrigerant but exact percentages cannot be directly determined. This will allow the end user to verify the refrigerant. If you print identified refrigerants with Purity Unknown you can see the Channel Data Model for that refrigerant (See #16).



**16. What is Channel Data Modelling?**

A: Channel Data Modelling is a feature only available on software version 453 of the *Ultima ID Pro Model RI-700H*. This feature allows the user to profile or “Fingerprint” refrigerants the analyzer does not already analyze or identify. To use the Channel Data Modelling feature, a user needs to run a virgin cylinder of a refrigerant the analyzer does not already analyze or identify. Once the test is complete the analyzer should display “Unknown Refrigerant” on the screen. After this appears press PRINT and the analyzer will print a profile of the tested refrigerant.

**17. I used a Gas Chromatograph (GC) on a cylinder of refrigerant and the results were different from the *Ultima ID Pro Model RI-700H*. Why?**

A: Verify the refrigerant you tested with the *RI-700H* is a refrigerant the machine is manufactured to analyze. If it is not, then the analyzer should not be used to test this refrigerant or great caution has to be taken when testing this refrigerant. If it is, please contact the U.S.A. factory for additional assistance.

**18. The refrigerant is a refrigerant the analyzer is manufactured to test. Why were the results different then the Gas Chromatograph (GC)?**

A: The *RI-700H* is not a Gas Chromatograph. The Gas Chromatograph is capable of showing the smallest traces of contaminates which the analyzer may never detect. Furthermore, if there are multiple contaminates and they are all gases the *RI-700H* is not built to detect, the machine may never display any trace of these contaminates.

**19. Can I replace any of the internal parts?**

A: There are no replaceable parts internally in this machine. All component repairs need to occur at the Neutronics factory in the U.S.A.

**20. An error code or error occurred on the screen?**

A: If any error appears power off the analyzer, take it to a location outside of the shop environment, where fresh air is available, and turn the unit back on. If any error message still appears refer to the help screen or contact Neutronics U.S.A. service department.

**21. What could cause an Error Code?**

A: Error codes can occur because of component failure, thermal transient (taking the machine from one temperature extreme to another [example: machine is sitting in hot car and then taken into cold warehouse.]), uneven gas sample (which could occur when a cylinder is not opened all the way while testing or opened after the test started), poor sample flow into the analyzer or oil contamination.

**22. My *RI-700H* locked up during calibration and the pump stopped running. What should I do?**

A: When this occurs it is very likely the internal rechargeable LiFE battery is low. Typically the analyzer will display “Low Battery” when the unit requires a charge. If a low battery occurs during calibration the analyzer may stop operation and appear to lock up without displaying any messages. If this occurs we recommend powering down the analyzer and charging the battery for at least 2 hours or continue operation with the power supply connected.

**23. How will I know if software updates are available for my analyzer?**

A: If software updates become available for the *Ultima ID RI-700H* they will be sent to customers who activate and register their analyzers. If you did not activate or register your analyzer then you will need to contact Neutronics U.S.A. at [inf@neutronicsinc.com](mailto:inf@neutronicsinc.com) or by phone +1-610-524-8800 for software updates. For instructions on activating your analyzer refer to your products accompanying manual. Additional, upgrades may become available over time and notification of these upgrades may also be sent to users. Not all upgrades will be free and some may require sending the analyzer back to the Neutronics U.S.A. factory.

**24. When does my analyzer need to be sent in for recalibration?**

A: All refrigerant analyzers manufactured by Neutronics are self calibrating machines. If a calibration is completed and an error occurs the analyzer will prompt the user with an Error Code. If an Error Code occurs refer to (#20) above. If no errors occur during calibration and the analyzer tests a virgin known sample of refrigerant without error then the analyzer is within specifications. It is important to verify accuracy before each use. This can be done by testing a known virgin sample of refrigerant before any other cylinders or systems are tested.



### Now that I know which Refrigerant Analyzer I have, what refrigerants does it analyze?

3. **Ultima ID RI-2004HV Series** (Software version 352):
  - Analyzes purity of **R12, R22, R134a, HC** (for hydrocarbons) and **NON** (for Air which is measured independently from the refrigerant) with accuracy of +/- 2%
  - Provides **Probable R410a** indication which means the predominant refrigerant in the cylinder is R410a but the purity percentage is unknown.

### Frequently Asked Ultima ID RI-2004HV Series Questions?

#### **1. If I have a question not listed below, whom do I contact?**

A: All questions can be directed by email to [info@neutronicsinc.com](mailto:info@neutronicsinc.com) or by phone +1-610-524-8800. The Neutronics Refrigerant Analysis team welcomes all feedback on our equipment. We want the equipment to meet your expectations and will do our best to assist you. Don't hesitate to contact Neutronics U.S.A. if any questions arise.

#### **2. How long does the white sample filter last?**

A: The filter life varies for every machine. Some filters can last 50 tests with some lasting a couple hundred. We recommend changing the filter when you see little red dots in the filter and/or if you contaminate the machine with oil. If you prevent oil from entering the machine the filter should last longer than if oil contamination occurs. Neutronics generally recommends changing the filter annually.



#### **3. How long does the spare Battery last before requiring a recharge?**

A: If the spare battery was purchased for this machine, it lasts approximately 50 tests before requiring a recharge.

#### **4. How many printouts does a roll of paper provide?**

A: Approximately 50 test prints

#### **5. Can I use any printer paper in the analyzer?**

A: Use **ONLY** the Original Neutronics thermal paper. It is a paper type specifically developed for this application. We have found that using non-original paper will cause irreparable damage to the printer.

#### **6. How do I install paper into the analyzers printer?**

A: Press the 'SET' button shortly after powering on the analyzer. Open the printer door and remove the old roll by tearing the paper as it enters the printer, then press the 'FEED' until the old roll exits the printer completely. Insert the new paper roll from the underside as shown below:



**7. If I don't have a printer installed can I have a printer installed in my machine?**

A: Printer upgrades are available. The analyzer will need to be sent back to the factory to have the printer installed. Contact Neutronics U.S.A. for details about the printer upgrade.

**8. Is the *Ultima ID RI-2004HV* Series capable of testing both Liquid and Vapor samples?**

A: NO! This analyzer is only built for Vapor sampling.

**9. What can I do to prevent oil or liquid refrigerant from entering the machine?**

A: Always sample the refrigerant vapor from the vapor port or Low-side vapor port on a system. The *Ultima ID RI-2004HV Series* is not capable of testing liquid refrigerant. To prevent the release of oil or liquid refrigerant from a HVAC system, make sure the system is turned off and has not run for at least 5 minutes prior to sampling. This allows the liquid refrigerant to settle in the system, helping to reduce the likelihood of liquid refrigerant escape from the Low side vapor port.

**10. What do I do if I get oil or liquid refrigerant into the analyzer?**

A: If for some reason oil or liquid refrigerant enters the analyzer, and it goes past the external plastic filter, the unit is then contaminated with oil and must be returned to the factory for service repair. In some cases if the oil only makes it to the inlet end of the white filter and not out the exit end you can replace the white filter and attempt to operate the machine. If incorrect results or error codes appear, contact the U.S.A. factory for service.

**11. Is it important to set the elevation on the analyzer before use?**

A: Yes! This is especially important if you are located in a higher altitude region. If it is not set the accuracy of the analyzer will be affected.

**12. Why does "Non-Condensable" appear after every test?**

A: The most likely reason "Non-Condensable" appears after each test is due to low pressure in a system or cylinder. If the pressure in a cylinder or system is below 2 Bar there may be insufficient pressure to provide a usable sample. Also, If the hose becomes obstructed it can prevent refrigerant flow into the analyzer which will provided "Non-Condensable" readings. Verify both if "Non-Condensable" refrigerant appears on the screen.

**13. I used a Gas Chromatograph (GC) on a cylinder of refrigerant and the results were different from the *Ultima ID RI-2004HV Series*. Why?**

A: Verify the refrigerant you tested with the *RI-2004HV Series* is a refrigerant the machine is manufactured to analyze. If it is not, then the analyzer should not be used to test this refrigerant or great caution has to be taken when testing this refrigerant. If it is, please contact the U.S.A. factory for additional assistance.

**14. The refrigerant is a refrigerant the analyzer is manufactured to test. Why were the results different then the Gas Chromatograph (GC)?**

A: The *RI-2004HV Series* is not a Gas Chromatograph. The Gas Chromatograph is capable of showing the smallest traces of contaminates which the analyzer may never detect. Furthermore, if there are multiple contaminates and they are all gases the *RI-2004HV Series* is not built to detect, the machine may never display any trace of these contaminates.



**15. What does ‘Probable R410a’ mean?**

A: When ‘Probable R410a’ is displayed this indicates the predominant refrigerant in the cylinder or system is R410a but exact percentages cannot be directly determined. This allows the user to verify refrigerant. If you are looking for R410a analysis, the *Ultima ID Pro RI-700H* is the model you will need to upgrade to.

**16. Why do DET readings occur when I sample a refrigerant?**

A: This is an indication that the refrigerant you sampled is not a refrigerant directly analyzed by your refrigerant analyzer or the sample is less than 90% pure. The DET indicates analysis was completed on each detector but was not matched to a specific refrigerant.

**17. How can I use DET readings?**

A: DET readings can be used to “Fingerprint” the composition of non-programmed refrigerants. For instance, if a sample of virgin 401A is tested the analyzer will detect some mixture of DET readings on each detector. If the readings are consistent after three consecutive tests of the same virgin cylinder then the results can be saved and used as the fingerprint of that gas to compare to in the future.\*

\*It is important to note, results may vary between analyzers and this is not guaranteed to work with every refrigerant.

**18. An error code or error occurred on screen?**

A: If any error appears power off the analyzer, take it to a location outside of the shop environment, where fresh air is available, and turn the unit back on. If any error message still appears refer to the help screen or contact Neutronics U.S.A. service department.

**19. What could cause an Error Code?**

A: Error codes can occur because of component failure, thermal transient (taking the machine from one temperature extreme to another [example: machine is sitting in hot car and then taken into cold warehouse.]), uneven gas sample (which could occur when a cylinder is not opened all the way while testing or opened after the test started), poor sample flow into the analyzer or oil contamination.

**20. Can I replace any of the internal parts?**

A: There are no replaceable parts internally in this machine. All component repairs need to occur at Neutronics factory in the U.S.A.

**21. How will I know if software updates are available for my analyzer?**

A: Contact Neutronics U.S.A. at [info@refrigerantid.com](mailto:info@refrigerantid.com) or +1-610-524-8800 for software updates. If a software update is available the analyzer will need to be sent back to Neutronics U.S.A. service center.

**22. When does my analyzer need to be sent in for recalibration?**

A: All refrigerant analyzers manufactured by Neutronics are self calibrating machines. If a calibration is completed and an error occurs the analyzer will prompt the user with an Error Code. If an Error Code occurs refer to (#18) above. If no errors occur during calibration and the analyzer tests a virgin known sample of refrigerant without error then the analyzer is within specifications. It is important to verify accuracy before each use. This can be done by testing a known virgin sample of refrigerant before any other cylinders or systems are tested.



## Now that I know which Refrigerant Analyzer I have, what refrigerants does it analyze?

4. **Mini ID R22** (Software not visible):
  - Identifies R22 with a **Pass** or **Fail** LED illuminated. To **Pass** the refrigerant has to be 95% R22 or greater

## Frequently Asked Mini ID R22 Questions

### 1. If I have a question not listed below, whom do I contact?

A: All questions can be directed by email to [info@neutronicsinc.com](mailto:info@neutronicsinc.com) or by phone +1-610-524-8800. The Neutronics Refrigerant Analysis team welcomes all feedback on our equipment. We want the equipment to meet your expectations and will do our best to assist you. Don't hesitate to contact Neutronics U.S.A. if any questions arise.

### 2. How long does the battery last in the Mini ID R22?

A: The *Mini ID R22* is designed to be powered by a 9 volt battery. If you are using an Alkaline based battery we have shown they last for approximately 5-10 tests. If you are using Lithium based battery we have shown they last for 50+ tests. There is an optional Mini ID AC Power Adapter available for purchase if you don't wish to use a battery.

### 3. How accurate is this machine?

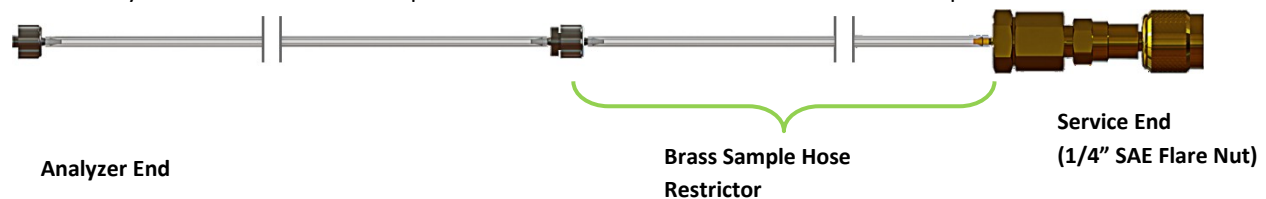
A: The *Mini ID R22* has an accuracy of +/- 3%.

### 4. What application is this machine designed for?

A: This machine is mainly made for HVAC/R Service Contractors. This machine will allow the contractor to determine if there is R22 in the system or virgin cylinder.

### 5. The Mini ID R22 is displaying excess air. Why?

A: The excess air light is an indication of air present in the cylinder or system. The excess air light will also illuminate if there is an obstructed Brass Sample Hose Restrictor (See image below) or due to low pressure in the system or cylinder below 2 Bar. If excess air is detected check the flow of the Brass Sample Hose Restrictor, replace if necessary and then retest. If it still persists then contact Neutronics U.S.A. Service department.



### 6. What do I do if I get oil or liquid refrigerant into the identifier?

A: If for some reason oil or liquid refrigerant enters the hose assembly, and it goes into the unit, then the identifier is contaminated with oil and must be returned to the factory for service repair. If incorrect results or error codes appear, contact the U.S.A. factory for service.

**7. What does Neutronics do to prevent oil or liquid refrigerant contamination from entering the machine?**

A: This identifier has a brass sample hose restrictor in-line on the hose assembly (see above image) which slows the flow of oil or liquid refrigerant and prevents the unit from becoming contaminated. If you see oil in the hose near the brass restrictor then replace the brass sample hose restrictor with a new one, clean out the coupler and any additional contamination with a recommended cleaner, such as Isopropyl Alcohol, and reattach the cleaned coupler to the new brass sample hose restrictor.

**8. A fault Light Illuminates?**

A: A solid light indicates the battery is low. For every other sequence of fault lights power off the unit, take it to a location outside of the shop environment, where fresh air is available, and turn the unit back on. If any fault lights still appear contact Neutronics U.S.A. service department.

**9. What could cause a Fault?**

A: Faults can occur due to component failure, thermal transient (taking the machine from one temperature extreme to another [example: machine is sitting in hot car and then taken into cold warehouse.]), uneven gas sample (which could occur when a cylinder is not opened all the way while testing or opened after the test started), poor sample flow into the machine or oil contamination.

**10. When does my analyzer need to be sent in for recalibration?**

A: All refrigerant analyzers and identifiers manufactured by Neutronics are self calibrating machines. If a calibration is completed and an error occurs the tool will prompt the user with and Fault Code. If a Fault Code occurs refer to (#8) above. If no faults occur during calibration and the identifier tests a virgin known sample of refrigerant without error then the identifier is within specifications. It is important to verify accuracy before each use. This can be done by testing a known virgin sample of refrigerant before any other cylinders or systems are tested.



## Now that I know which Refrigerant Analyzer I have, what refrigerants does it analyze?

5. **Ultima ID RI-2012yf VDA Series** (Software version 510):
  - Identifies R1234yf as pure or impure with a **PASS** or **FAIL** indication which is based on VDA specifications.

## Frequently Asked *Ultima ID RI-2012yf VDA Series* Questions?

### **1. If I have a question not listed below, whom do I contact?**

A: All questions can be directed by email to [info@neutronicsinc.com](mailto:info@neutronicsinc.com) or by phone +1-610-524-8800. The Neutronics Refrigerant Analysis team welcomes all feedback on our equipment. We want the equipment to meet your expectations and will do our best to assist you. Don't hesitate to contact Neutronics U.S.A. if any questions arise.

### **2. How long does the white sample filter last?**

A: The filter life varies for every machine. Some filters can last 50 tests with some lasting a couple hundred. We recommend changing the filter when you see little red dots in the filter and/or if you contaminate the machine with oil. If you prevent oil from entering the machine the filter should last longer than if oil contamination occurs. Neutronics generally recommends changing the filter annually.



### **3. How long does the internal LiFE Battery last before requiring a recharge?**

A: The battery lasts for approximately 100+ tests before requiring a recharge.

### **4. Can I have a printer added to this analyzer?**

A: No! This is a Pass or Fail analyzer which does not provide percentage purity of the refrigerant. The printer option was not developed for this machine.

### **5. Is the *Ultima ID RI-2012yf VDA Series* capable of testing both Liquid and Vapor samples?**

A: NO! This analyzer is only built for Vapor sampling.

### **6. What does Neutronics do to prevent oil or liquid refrigerant contamination from entering the machine?**

A: This analyzer has a brass sample hose restrictor in-line on the hose assembly which slows the flow of oil or liquid refrigerant and prevents the unit from becoming contaminated. If you see oil in the hose near the brass restrictor replace the brass sample hose restrictor with a new one, clean out the coupler and any additional contamination with a recommended cleaner, such as Isopropyl Alcohol, and reattach the cleaned coupler to the new brass sample hose restrictor.



**7. What can I do to prevent oil or liquid refrigerant from entering the machine?**

A: Always sample the refrigerant vapor from the vapor port or Low-side vapor port on a system. To prevent the release of oil or liquid refrigerant from a system make sure the system is turned off and has not run for at least 5 minutes prior to sampling. This allows the liquid refrigerant to settle in the system, helping to reduce the likelihood of liquid refrigerant escape from the Low side vapor port.

**8. What do I do if I get oil or liquid refrigerant into the analyzer?**

A: If for some reason oil or liquid refrigerant enters the analyzer, and it goes past the external plastic filter, the unit is then contaminated with oil and must be returned to the factory for service repair. In some cases if the oil only makes it to the inlet end of the white filter and not out the exit end you can replace the white filter and attempt to operate the machine. If incorrect results or error codes appear, contact the U.S.A. factory for service.

**9. Why does 'FAIL' appear after every test?**

A: The most likely reason the analyzer is displaying 'FAIL' is due to an obstructed Brass Sample Hose Restrictor (See #6) or due to pressure in a system or cylinder below 2 Bar. Check both and change the Brass Sample Hose Restrictor as needed.

**10. I used a Gas Chromatograph (GC) on a cylinder of refrigerant and the results were different from the *Ultima ID RI-2012yf VDA series*. Why?**

A: Verify the refrigerant you tested with the *RI-2012yf VDA series* is R1234yf. If it is not, then the analyzer should not be used to test this refrigerant. If it is, please contact the U.S.A. factory for additional assistance.

**11. The refrigerant is R1234yf. Why were the results different then the Gas Chromatograph (GC)?**

A: The *RI-2012yf VDA series* is only a Pass or Fail analyzer. This machine is only built to indicate Pass if the refrigerant is considered good R1234yf and fail everything else. The Gas Chromatograph is capable of showing the smallest traces of contaminates which the analyzer may never detect. Furthermore, if there are multiple contaminates and they are all gases the *RI-2012yf VDA series* is not built to detect, the machine may never consider them contaminates and Pass the sampled refrigerant.

**12 Can I replace any of the internal parts?**

A: There are no replaceable parts internally in this machine. All component repairs need to occur at the Neutronics factory in the U.S.A.

**13. An error code or error occurred on screen?**

A: If any error appears power off the analyzer, take it to a location outside of the shop environment, where fresh air is available, and turn the unit back on. If any error message still appears refer to the help screen or contact Neutronics U.S.A. service department.

**14. What could cause an Error Code?**

A: Error codes can occur because of component failure, thermal transient (taking the machine from one temperature extreme to another [example: machine is sitting in hot car and then taken into cold warehouse.]), uneven gas sample (which could occur when a cylinder is not opened all the way while testing or opened after the test started), poor sample flow into the analyzer or oil contamination.

**15. My RI-2012yf VDA Series locked up during calibration and the pump stopped running. What should I do?**

A: When this occurs it is very likely the internal rechargeable LiFE battery is low. Typically the analyzer will display “Low Battery” when the unit requires a charge. If a low battery occurs during calibration the analyzer may stop operation and appear to lock up without displaying any messages. If this occurs we recommend powering down the analyzer and charging the battery for at least 2 hours or continue operation with the power supply connected.

**16. How will I know if software updates are available for my analyzer?**

A: If software updates become available for the *Ultima ID RI-2012yf VDA Series* they will be sent to customers who activate and register their analyzers. If you did not activate or register your analyzer then you will need to contact Neutronics U.S.A. factory at [inf@neutronicsinc.com](mailto:inf@neutronicsinc.com) or by phone +1-610-524-8800 for software updates. For instructions on activating your analyzer refer to your products accompanying manual. Additional, upgrades may become available over time and notification of these upgrades may also be sent to users. Not all upgrades will be free and some may require sending the analyzer back to the Neutronics factory.

**17. When does my analyzer need to be sent in for recalibration?**

A: All refrigerant analyzers manufactured by Neutronics are self calibrating machines. If a calibration is completed and an error occurs the analyzer will prompt the user with an Error Code. If an Error Code occurs refer to (#13) above. If no errors occur during calibration and the analyzer tests a virgin known sample of refrigerant without error then the analyzer is within specifications. It is important to verify accuracy before each use. This can be done by testing a known virgin sample of refrigerant before any other cylinders or systems are tested.



Now that I know which Refrigerant Analyzer I have, what refrigerants does it analyze?



- 6. **Ultima ID RI-2012yf SAE Series** (Software version 530):
    - Analyzes purity of **R134a** and **R1234yf** with **R22**, **R134a**, **R1234yf**, **HC** (for hydrocarbons), **UNK** (for Unknown Refrigerant) and **Air** (measuring Air independently from the refrigerant) as contaminates.
- Accuracy of +/- 2%

Frequently Asked Ultima ID RI-2012yf SAE Series Questions?

**1. If I have a question not listed below, whom do I contact?**

A: All questions can be directed by email to [info@neutronicsinc.com](mailto:info@neutronicsinc.com) or by phone +1-610-524-8800. The Neutronics Refrigerant Analysis team welcomes all feedback on our equipment. We want the equipment to meet your expectations and will do our best to assist you. Don't hesitate to contact Neutronics U.S.A. if any questions arise.

**2. How long does the white sample filter last?**

A: The filter life varies for every machine. Some filters can last 50 tests with some lasting a couple hundred. We recommend changing the filter when you see little red dots in the filter and/or if you contaminate the machine with oil. If you prevent oil from entering the machine the filter should last longer than if oil contamination occurs. Neutronics generally recommends changing the filter annually.



**3. How long does the internal LiFE Battery last before requiring a recharge?**

A: The battery lasts for approximately 100+ tests before requiring a recharge.

**4. How many printouts does a roll of paper provide?**

A: Approximately 50 test prints

**5. Can I use any printer paper in the analyzer?**

A: Use ONLY the Original Neutronics thermal paper. It is a paper type specifically developed for this application. We have found that using non-original paper will cause irreparable damage to the printer.

**6. How do I install paper into the analyzers printer?**

A: Press the 'SET' button shortly after powering on the analyzer. Open the printer door and remove the old roll by tearing the paper as it enters the printer then, press the 'FEED' until the old roll exits the printer completely. Insert the new paper roll from the underside as shown below:



**7. If I don't have a printer installed can I have a printer installed in my machine?**

A: Printer upgrades are available. The analyzer will need to be sent back to the factory to have the printer installed. Contact Neutronics U.S.A. for details about the printer upgrade.

**8. Is the *Ultima ID RI-2012yf SAE Series* capable of testing both Liquid and Vapor samples?**

A: NO! This analyzer is only built for Vapor sampling.

**9. What does Neutronics do to prevent oil or liquid refrigerant contamination from entering the machine?**

A: This analyzer has a brass sample hose restrictor in-line on the hose assembly which slows the flow of oil or liquid refrigerant and prevents the unit from becoming contaminated. If you see oil in the hose near the brass restrictor replace the brass sample hose restrictor with a new one, clean out the coupler and any additional contamination with a recommended cleaner, such as Isopropyl Alcohol, and reattach the cleaned coupler to the new brass sample hose restrictor.



**10. What can I do to prevent oil or liquid refrigerant from entering the machine?**

A: Always sample the refrigerant vapor from the vapor port or Low-side vapor port on a system. To prevent the release of oil or liquid refrigerant from a system make sure the system is turned off and has not run for at least 5 minutes prior to sampling. This allows the liquid refrigerant to settle in the system, helping to reduce the likelihood of liquid refrigerant escape from the Low side vapor port.

**11. What do I do if I get oil or liquid refrigerant into the analyzer?**

A: If for some reason oil or liquid refrigerant enters the analyzer, and it goes past the external plastic filter, the unit is then contaminated with oil and must be returned to the factory for service repair. In some cases if the oil only makes it to the inlet end of the white filter and not out the exit end you can replace the white filter and attempt to operate the machine. If incorrect results or error codes appear, contact the U.S.A. factory for service.

**12. Why does "Unknown Refrigerant" or "Non-Condensable" appear after every test?**

A: The most likely reason the analyzer is displaying "Unknown Refrigerant" or "Non-Condensable" is due to an obstructed Brass Sample Hose Restrictor (See #9) or due to pressure in a system or cylinder below 2 Bar. Check both and change the Brass Sample Hose Restrictor as needed. Unknown refrigerant can also appear if the refrigerant is less than 90% pure.

**13. I used a Gas Chromatograph (GC) on a cylinder of refrigerant and the results were different from the *Ultima ID RI-2012yf SAE series*. Why?**

A: Verify the refrigerant you tested with the *RI-2012yf SAE series* is a refrigerant the machine is manufactured to analyze. If it is not, then the analyzer should not be used to test this refrigerant or great caution has to be taken when testing this refrigerant. If it is, please contact the U.S.A. factory for additional assistance.



**14. The refrigerant is a refrigerant the analyzer is manufactured to test. Why were the results different then the Gas Chromatograph (GC)?**

A: The *RI-2012yf SAE* is not a Gas Chromatograph. The Gas Chromatograph is capable of showing the smallest traces of contaminates which the analyzer may never detect. Furthermore, if there are multiple contaminates and they are all gases the *RI-2012yf SAE* is not built to detect, the machine may never display any trace of these contaminates.

**15 Can I replace any of the internal parts?**

A: There are no replaceable parts internally in this machine. All component repairs need to occur at the Neutronics factory in the U.S.A.

**16. An error code or error occurred on screen?**

A: If any error appears power off the analyzer, take it to a location outside of the shop environment, where fresh air is available, and turn the unit back on. If any error message still appears refer to the help screen or contact Neutronics U.S.A. service department.

**17. What could cause an Error Code?**

A: Error codes can occur because of component failure, thermal transient (taking the machine from one temperature extreme to another [example: machine is sitting in hot car and then taken into cold warehouse.]), uneven gas sample (which could occur when a cylinder is not opened all the way while testing or opened after the test started), poor sample flow into the analyzer or oil contamination.

**18. My *RI-2012yf SAE Series* locked up during calibration and the pump stopped running. What should I do?**

A: When this occurs it is very likely the internal rechargeable LiFE battery is low. Typically the analyzer will display "Low Battery" when the unit requires a charge. If a low battery occurs during calibration the analyzer may stop operation and appear to lock up without displaying any messages. If this occurs we recommend powering down the analyzer and charging the battery for at least 2 hours or continue operation with the power supply connected.

**19. How will I know if software updates are available for my analyzer?**

A: If software updates become available for the *Ultima ID RI-2012yf SAE Series* they will be sent to customers who activate and register their analyzers. If you did not activate or register your analyzer then you will need to contact Neutronics U.S.A. factory at [inf@neutronicsinc.com](mailto:inf@neutronicsinc.com) or by phone +1-610-524-8800 for software updates. For instructions on activating your analyzer refer to your products accompanying manual. Additional, upgrades may become available over time and notification of these upgrades may also be sent to users. Not all upgrades will be free and some may require sending the analyzer back to the Neutronics factory.

**20. When does my analyzer need to be sent in for recalibration?**

A: All refrigerant analyzers manufactured by Neutronics are self calibrating machines. If a calibration is completed and an error occurs the analyzer will prompt the user with and Error Code. If an Error Code occurs refer to (#16) above. If no errors occur during calibration and the analyzer tests a virgin known sample of refrigerant without error then the analyzer is within specifications. It is important to verify accuracy before each use. This can be done by testing a known virgin sample of refrigerant before any other cylinders or systems are tested.



Now that I know which Refrigerant Analyzer I have, what refrigerants does it analyze?

7. **Ultima ID RI-2004DX Series** (Software version 350):

- Analyzes purity of **R12** and **R134a** with **R12, R134a, R22, HC** (for hydrocarbons) and **NON** (for Air which is measured independently from the refrigerant but only detected in R134a) as contaminants.

Accuracy of +/- 2%

Frequently Asked Ultima ID RI-2004DX Series Questions?

**1. If I have a question not listed below, whom do I contact?**

A: All questions can be directed by email to [info@neutronicsinc.com](mailto:info@neutronicsinc.com) or by phone +1-610-524-8800. The Neutronics Refrigerant Analysis team welcomes all feedback on our equipment. We want the equipment to meet your expectations and will do our best to assist you. Don't hesitate to contact Neutronics U.S.A. if any questions arise.

**2. How long does the white sample filter last?**

A: The filter life varies for every machine. Some filters can last 50 tests with some lasting a couple hundred. We recommend changing the filter when you see little red dots in the filter and/or if you contaminate the machine with oil. If you prevent oil from entering the machine the filter should last longer than if oil contamination occurs. Neutronics generally recommends changing the filter annually.



**3. How long does the spare Battery last before requiring a recharge?**

A: If the spare battery was purchased for this machine, it lasts approximately 50 tests before requiring a recharge.

**4. How many printouts does a roll of paper provide?**

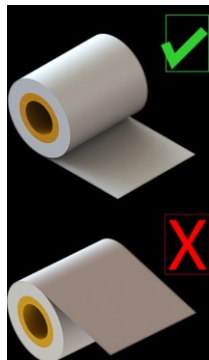
A: Approximately 50 test prints

**5. Can I use any printer paper in the analyzer?**

A: Use ONLY the Original Neutronics thermal paper. It is a paper type specifically developed for this application. We have found that using non-original paper will cause irreparable damage to the printer.

**6. How do I install paper into the analyzers printer?**

A: Press the 'SET' button shortly after powering on the analyzer. Open the printer door and remove the old roll by tearing the paper as it enters the printer, then press the 'FEED' until the old roll exits the printer completely. Insert the new paper roll from the underside as shown below:



**7. If I don't have a printer installed can I have a printer installed in my machine?**

A: Printer upgrades are available. The analyzer will need to be sent back to the factory to have the printer installed. Contact Neutronics U.S.A. for details about the printer upgrade.

**8. Is the *Ultima ID RI-2004DX* Series capable of testing both Liquid and Vapor samples?**

A: NO! This analyzer is only built for Vapor sampling.

**9. What can I do to prevent oil or liquid refrigerant from entering the machine?**

A: Always sample the refrigerant vapor from the vapor port or Low-side vapor port on a system. The *Ultima ID RI-2004DX Series* is not capable of testing liquid refrigerant. To prevent the release of oil or liquid refrigerant from a system make sure the system is turned off and has not run for at least 5 minutes prior to sampling. This allows the liquid refrigerant to settle in the system, helping to reduce the likelihood of liquid refrigerant escape from the Low side vapor port.

**10. What do I do if I get oil or liquid refrigerant into the analyzer?**

A: If for some reason oil or liquid refrigerant enters the analyzer, and it goes past the external plastic filter, the unit is then contaminated with oil and must be returned to the factory for service repair. In some cases if the oil only makes it to the inlet end of the white filter and not out the exit end you can replace the white filter and attempt to operate the machine. If incorrect results or error codes appear, contact the U.S.A. factory for service.

**11. Is it important to set the elevation on the analyzer before use?**

A: Yes! This is especially important if you are located in a higher altitude region. If it is not set the accuracy of the analyzer will be affected.

**12. Why does "Non-Condensable" appear after every test?**

A: The most likely reason "Non-Condensable" appears after each test is due to low pressure in a system or cylinder. If the pressure in a cylinder or system is below 2 Bar there may be insufficient pressure to provide a usable sample. Also, If the hose becomes obstructed it can prevent refrigerant flow into the analyzer which will provided "Non-Condensable" readings. Verify both if "Non-Condensable" refrigerant appears on the screen.

**13. I used a Gas Chromatograph (GC) on a cylinder of refrigerant and the results were different from the *Ultima ID RI-2004DX Series*. Why?**

A: Verify the refrigerant you tested with the *RI-2004DX Series* is a refrigerant the machine is manufactured to analyze. If it is not, then the analyzer should not be used to test this refrigerant or great caution has to be taken when testing this refrigerant. If it is, please contact the U.S.A. factory for additional assistance.

**14. The refrigerant is a refrigerant the analyzer is manufactured to test. Why were the results different then the Gas Chromatograph (GC)?**

A: The *RI-2004DX Series* is not a Gas Chromatograph. The Gas Chromatograph is capable of showing the smallest traces of contaminates which the analyzer may never detect. Furthermore, if there are multiple contaminates and they are all gases the *RI-2004DX Series* is not built to detect, the machine may never display any trace of these contaminates.

**15. An error code or error occurred on screen?**

A: If any error appears power off the analyzer, take it to a location outside of the shop environment, where fresh air is available, and turn the unit back on. If any error message still appears refer to the help screen or contact Neutronics U.S.A. service department.

**16. What could cause an Error Code?**

A: Error codes can occur because of component failure, thermal transient (taking the machine from one temperature extreme to another [example: machine is sitting in hot car and then taken into cold warehouse.]), uneven gas sample (which could occur when a cylinder is not opened all the way while testing or opened after the test started), poor sample flow into the analyzer or oil contamination.

**17. Can I replace any of the internal parts?**

A: There are no replaceable parts internally in this machine. All component repairs need to occur at Neutronics factory in the U.S.A.

**18. How will I know if software updates are available for my analyzer?**

A: Contact Neutronics U.S.A. at [info@refrigerantid.com](mailto:info@refrigerantid.com) or +1-610-524-8800 for software updates. If a software update is available the analyzer will need to be sent back to Neutronics U.S.A. service center.

**19. When does my analyzer need to be sent in for recalibration?**

A: All refrigerant analyzers manufactured by Neutronics are self calibrating machines. If a calibration is completed and an error occurs the analyzer will prompt the user with an Error Code. If an Error Code occurs refer to (#15) above. If no errors occur during calibration and the analyzer tests a virgin known sample of refrigerant without error then the analyzer is within specifications. It is important to verify accuracy before each use. This can be done by testing a known virgin sample of refrigerant before any other cylinders or systems are tested.



Now that I know which Refrigerant Analyzer I have, what refrigerants does it analyze?

- 8. **Ultima ID RI-2012yfpc or RI-2012yfpm** (Software version 550):
  - Analyzes purity of R134a with R12, R22, HC (for hydrocarbons) Air and UNK (for unknown refrigerants). Accuracy of +/- 2% or better.

Frequently Asked Ultima ID RI-2012yfpc or RI-2012yfpm Questions?

**1. If I have a question not listed below, whom do I contact?**

A: All questions can be directed by email to [info@neutronicsinc.com](mailto:info@neutronicsinc.com) or by phone +1-610-524-8800. The Neutronics Refrigerant Analysis team welcomes all feedback on our equipment. We want the equipment to meet your expectations and will do our best to assist you. Don't hesitate to contact Neutronics U.S.A. if any questions arise.

**2. How long does the white sample filter last?**

A: The filter life varies for every machine. Some filters can last 50 tests with some lasting a couple hundred. We recommend changing the filter when you see little red dots in the filter and/or if you contaminate the machine with oil. If you prevent oil from entering the machine the filter should last longer than if oil contamination occurs. Neutronics generally recommends changing the filter annually.



**3. How long does the internal LiFE Battery last before requiring a recharge?**

A: The battery lasts for approximately 100+ tests before requiring a recharge.

**4. How many printouts does a roll of paper provide?**

A: Approximately 50 test prints

**5. Can I use any printer paper in the analyzer?**

A: Use ONLY the Original Neutronics thermal paper. It is a paper type specifically developed for this application. We have found that using non-original paper will cause irreparable damage to the printer.

**6. How do I install paper into the analyzers printer?**

A: Press the 'SET' button shortly after powering on the analyzer. Open the printer door and remove the old roll by tearing the paper as it enters the printer, then press the 'FEED' until the old roll exits the printer completely. Insert the new paper roll from the underside as shown below:



**7. Are the *Ultima ID RI-2012yfpc* & *RI-2012yfpm* capable of testing both Liquid and Vapor samples?**

A: NO! These analyzers are only built for Vapor sampling.

**8. What does Neutronics do to prevent oil or liquid refrigerant contamination from entering the machine?**

A: These analyzers have a brass sample hose restrictor in-line on the hose assembly which slows the flow of oil or liquid refrigerant and prevents the unit from becoming contaminated. If you see oil in the hose near the brass restrictor replace the brass sample hose restrictor with a new one, clean out the coupler and any additional contamination with a recommended cleaner, such as Isopropyl Alcohol, and reattach the cleaned coupler to the new brass sample hose restrictor.



**9. What can I do to prevent oil or liquid refrigerant from entering the machine?**

A: Always sample the refrigerant vapor from the vapor port or Low-side vapor port on a system. To prevent the release of oil or liquid refrigerant from a system make sure the system is turned off and has not run for at least 5 minutes prior to sampling. This allows the liquid refrigerant to settle in the system, helping to reduce the likelihood of liquid refrigerant escape from the Low side vapor port.

**10. What do I do if I get oil or liquid refrigerant into the analyzer?**

A: If for some reason oil or liquid refrigerant enters the analyzer, and it goes past the external plastic filter, the unit is then contaminated with oil and must be returned to the factory for service repair. In some cases if the oil only makes it to the inlet end of the white filter and not out the exit end you can replace the white filter and attempt to operate the machine. If incorrect results or error codes appear, contact the U.S.A. factory for service.

**11. Why does “Unknown Refrigerant” or “Non-Condensable” appear after every test?**

A: The most likely reason the analyzer is displaying “Unknown Refrigerant” or “Non-Condensable” is due to an obstructed Brass Sample Hose Restrictor (See #8) or due to pressure in a system or cylinder below 2 Bar. Check both and change the Brass Sample Hose Restrictor as needed. Unknown refrigerant can also appear if the refrigerant is less than 90% pure.

**12. What should I do if anything besides R134a is detected in a cylinder or system?**

A: The user must determine the level of contamination that is acceptable. Neutronics strongly recommends that any result other than 100% R134a and X% Air be rejected as unacceptable refrigerant. Removal of contaminated refrigerant from a system may involve extreme risk and Neutronics provides no guidance as to methods of extraction.

**13. I used a Gas Chromatograph (GC) on a cylinder of refrigerant and the results were different from the *Ultima ID RI-2012yfpc* or *RI-2012yfpm*. Why?**

A: Verify the refrigerant you tested with the *RI-2012yfpc* or *RI-2012yfpm* is a refrigerant the machine is manufactured to analyze. If it is not, then the analyzer should not be used to test this refrigerant or great caution has to be taken when testing this refrigerant. If it is, please contact the U.S.A. factory for additional assistance.

**14. The refrigerant is a refrigerant the analyzer is manufactured to test. Why were the results different then the Gas Chromatograph (GC)?**

A: The *RI-2012yfpc* and *RI-2012yfpm* are not Gas Chromatographs. The Gas Chromatograph is capable of showing the smallest traces of contaminates which the analyzer may never detect. Furthermore, if there are multiple contaminates and they are all gases the *RI-2012yfpc* or *RI-2012yfpm* are not built to detect, these machines may never display any trace of these contaminates.

**15 Can I replace any of the internal parts?**

A: There are no replaceable parts internally in this machine. All component repairs need to occur at the Neutronics factory in the U.S.A.

**16. An error code or error occurred on screen?**

A: If any error appears power off the analyzer, take it to a location outside of the shop environment, where fresh air is available, and turn the unit back on. If any error message still appears refer to the help screen or contact Neutronics U.S.A. service department.

**17. What could cause an Error Code?**

A: Error codes can occur because of component failure, thermal transient (taking the machine from one temperature extreme to another [example: machine is sitting in hot car and then taken into cold warehouse.]), uneven gas sample (which could occur when a cylinder is not opened all the way while testing or opened after the test started), poor sample flow into the analyzer or oil contamination.

**18. My *RI-2012yfpc* or *RI-2012yfpm* locked up during calibration and the pump stopped running. What should I do?**

A: When this occurs it is very likely the internal rechargeable LiFE battery is low. Typically the analyzer will display "Low Battery" when the unit requires a charge. If a low battery occurs during calibration the analyzer may stop operation and appear to lock up without displaying any messages. If this occurs we recommend powering down the analyzer and charging the battery for at least 2 hours or continue operation with the power supply connected.

**19. How will I know if software updates are available for my analyzer?**

A: If software updates become available for the *Ultima ID RI-2012yfpc* or *RI-2012yfpm* they will be sent to customers who activate and register their analyzers. If you did not activate or register your analyzer then you will need to contact Neutronics U.S.A. factory at [inf@neutronicsinc.com](mailto:inf@neutronicsinc.com) or by phone +1-610-524-8800 for software updates. For instructions on activating your analyzer refer to your products accompanying manual. Additional, upgrades may become available over time and notification of these upgrades may also be sent to users. Not all upgrades will be free and some may require sending the analyzer back to the Neutronics factory.

**20. When does my analyzer need to be sent in for recalibration?**

A: All refrigerant analyzers manufactured by Neutronics are self calibrating machines. If a calibration is completed and an error occurs the analyzer will prompt the user with and Error Code. If an Error Code occurs refer to (#16) above. If no errors occur during calibration and the analyzer tests a virgin known sample of refrigerant without error then the analyzer is within specifications. It is important to verify accuracy before each use. This can be done by testing a known virgin sample of refrigerant before any other cylinders or systems are tested.



## Now that I know which Refrigerant Analyzer I have, what refrigerants does it analyze?

9. **Mini ID R134a** (Software not visible):
- Identifies R134a with a **Pass** or **Fail** LED illuminated. To **Pass** the refrigerant has to be 95% R134a or greater

## Frequently Asked Mini ID R134a Questions

### **1. If I have a question not listed below, whom do I contact?**

A: All questions can be directed by email to [info@neutronicsinc.com](mailto:info@neutronicsinc.com) or by phone +1-610-524-8800. The Neutronics Refrigerant Analysis team welcomes all feedback on our equipment. We want the equipment to meet your expectations and will do our best to assist you. Don't hesitate to contact Neutronics U.S.A. if any questions arise.

### **2. How accurate is this machine?**

A: The *Mini ID R134a* has an accuracy of +/- 3%.

### **3. What application is this machine designed for?**

A: This machine is designed for automotive A/C systems. This machine will allow a mechanic to determine if there is R134a in the system or virgin cylinder.

### **4. The Mini ID R134a is displaying excess air. Why?**

A: The excess air light is an indication of air present in the cylinder or system. The excess air light will also illuminate if there is an obstructed Brass Sample Hose Restrictor (See image below) or due to low pressure in the system or cylinder below 2 Bar. If excess air is detected check the flow of the Brass Sample Hose Restrictor, replace if necessary and then retest. If it still persists then contact Neutronics U.S.A. Service department.



### **5. What do I do if I get oil or liquid refrigerant into the identifier?**

A: If for some reason oil or liquid refrigerant enters the hose assembly, and it goes into the unit, then the identifier is contaminated with oil and must be returned to the factory for service repair. If incorrect results or error codes appear, contact the U.S.A. factory for service.

### **6. What does Neutronics do to prevent oil or liquid refrigerant contamination from entering the machine?**

A: This identifier has a brass sample hose restrictor in-line on the hose assembly (see above image) which slows the flow of oil or liquid refrigerant and prevents the unit from becoming contaminated. If you see oil in the hose near the brass restrictor replace the brass sample hose restrictor with a new one, clean out the coupler and any additional contamination with a recommended cleaner, such as Isopropyl Alcohol, and reattach the cleaned coupler to the new brass sample hose restrictor.



**7. A fault Light Illuminates?**

A: A solid light indicates the battery is low. For every other sequence of fault lights power off the unit, take it to a location outside of the shop environment, where fresh air is available, and turn the unit back on. If any fault lights still appear contact Neutronics U.S.A. service department.

**8. What could cause a Fault?**

A: Faults can occur due to component failure, thermal transient (taking the machine from one temperature extreme to another [example: machine is sitting in hot car and then taken into cold warehouse.]), uneven gas sample (which could occur when a cylinder is not opened all the way while testing or opened after the test started), poor sample flow into the analyzer or oil contamination.

**9. When does my analyzer need to be sent in for recalibration?**

A: All refrigerant analyzers and identifiers manufactured by Neutronics are self calibrating machines. If a calibration is completed and an error occurs the tool will prompt the user with and Fault Code. If a Fault Code occurs refer to (#7) above. If no faults occur during calibration and the identifier tests a virgin known sample of refrigerant without error then the identifier is within specifications. It is important to verify accuracy before each use. This can be done by testing a known virgin sample of refrigerant before any other cylinders or systems are tested.