

# **ariazone 601HD**

**Refrigerant Recovery & Recycling Unit**

## **User's manual**



Model: Ariazone 601 HD

Serial No: \_\_\_\_\_

## 1. SAFETY FIRST! Important safety information's

- Read this user manual carefully before operating the unit.
- **ONLY A QUALIFIED TECHNICIAN SHOULD OPERATE THIS RECOVERY UNIT.** Users must have basic knowledge of air-conditioning and refrigeration systems, including potential hazards associated with the handling of refrigerants and A/C systems under high pressure.
- Handle refrigerant with care as injury may occur. Always wear appropriate protective clothing and glasses. Contact with refrigerant may cause injury.



- **PRESSURISED CYLINDER CONTAINS LIQUID REFRIGERANT. NEVER OVERFILL STORAGE CYLINDER. OVERFILLING OF THE CYLINDER MAY CAUSE AN EXPLOSION AND POSSIBLE FATAL INJURY.**
- Do not exceed the working pressure of the recovery cylinder. Your 601 is not supplied with a recovery cylinder, it requires the use of cylinders with a minimum of 350psi working pressure.
- Use **ONLY** authorised recovery cylinders. **NEVER** use a standard disposable 13.6kg (30lb) cylinder to recover the refrigerant.
- A scale must be used to avoid overfilling the storage cylinder. Cylinder is full at 80% of volume.
- Avoid inhalation of the refrigerant. Use only in well ventilated work areas.
- Do not expose the machine to direct artificial heat or rain.
- The power cable may be connected only to a socket with nominal voltage stated on the rating plate.
- **RISK OF ELECTRICAL SHOCK.** Before removing any protective cover from unit, always disconnect power lead from power point.
- Power plug to be connected only to power point with an earth.
- Do not cover ventilation openings when unit is operating.
- Maintenance is to be carried out as per the manufacturer recommendation shown in this manual. Only approved parts are to be used for maintenance and repairs.
- Only authorized technician can maintenance the unit.

## 2. Introduction

The Ariazone 601 is a lightweight refrigerant recovery & recycling system for the onsite mobile technician or small workshop operator.

This system has been designed to be very user friendly and efficient for every user. Simply connect the Ariazone to the air conditioning system, switch on and walk away. The 601 will take care of the rest.

The unit is designed to be:

- User friendly (fully automatic operation)
- Safe (built in high pressure and liquid control protection)
- Efficient (capacity app.200gr/min - liquid state)
- Durable (compressor with thermal protection)
- Universal (recovers vapor or liquid)
- Simple for maintenance (easy accessible filter)

## 3. Refrigerant Recovery & Recycling - Helpful Hints

The purpose of the Recovery & Recycling process is to take out refrigerant from the system, condense, purify and putting it into a storage cylinder ready for re-use.

First task is to identify the refrigerant type and quantity in the system. Use a recovery storage cylinder that has the same refrigerant in it. Must own at least one tank for every refrigerant type serviced, plus extra for burnouts (if the system is "burnout" you need special burnout cylinder and extra "burnout" filter prior to recovery). Do not mix refrigerants in a system, a storage cylinder or anywhere else. Each type of refrigerant must have its own recovery cylinder.

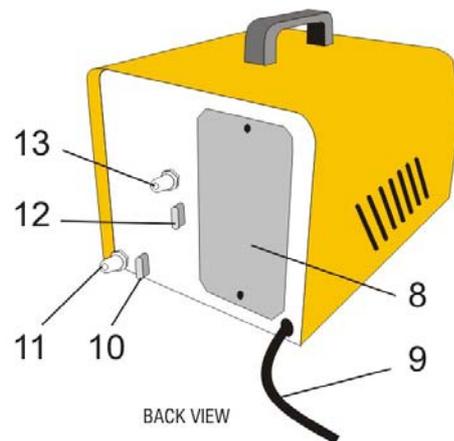
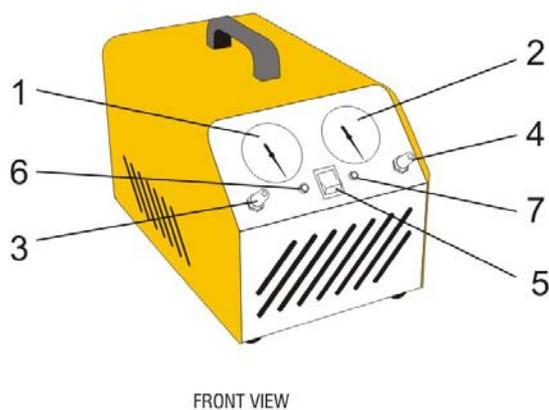
The key to a quick recovery is to get the liquid refrigerant out first, and then get the remaining vapour out. Many systems don't have access ports on their lowest points where the liquid is likely to accumulate. Also, trapped liquid refrigerant in a system causes the recovery process to slow down, regardless of the size and the type of the machine. To increase the recovery speed sometimes you need to boil off the trapped liquid with a heat gun. If possible, remove Schraeder valves from system connections and core depressor from the end of the hose. Deformed rubber grommet at the end of the hose can restrict the flow of refrigerant.

To get the liquid out from large systems use push/pull method by using the pressure created by the recovery machine. This method is mostly used on systems with a receiver tank larger than 10kg (20lb) of refrigerant or when transferring from on cylinder to another.

Another trick is to cool the storage cylinder. This will lower the pressure in the cylinder and speed up the recovery process. This operation can be performed prior or during the recovery.

#### 4. Main parts of the unit

1. Suction pressure gauge (Bar & PSI)
2. Discharge pressure gauge (Bar & PSI)
3. Suction port (inlet)
4. Discharge port (outlet)
5. Main power switch
6. Led announcer for recovery completion (recovery complete)
7. Led announcer of high-pressure occurrence (high pressure)
8. Filter cover
9. Power lead
10. Oil drain ball valve
11. Oil drain port
12. Self discharge ball valve
13. Self discharge port

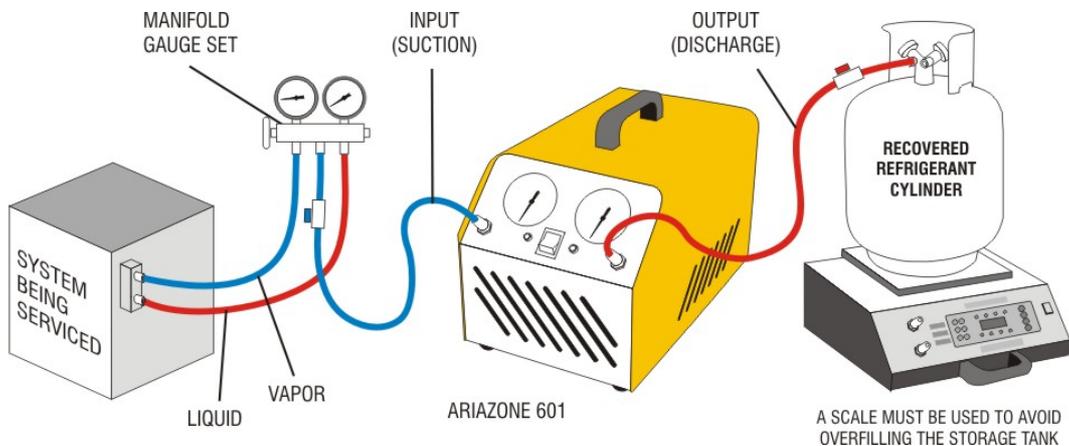


#### Accessories:

- Inlet (suction) hose with ball valve.
- Outlet (discharge hose with ball valve.
- Self discharge hose with ball valve.
- Self discharge adapter.
- User manual.

## 5. Procedure for normal system recovery

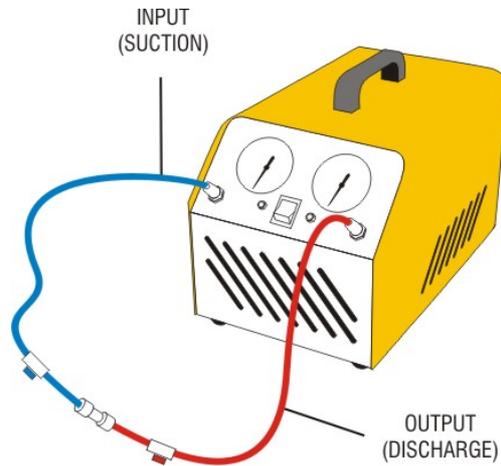
1. Inspect the unit to insure that it is in good operating condition.
2. Connect the unit to the system and recovery cylinder as per diagram below.



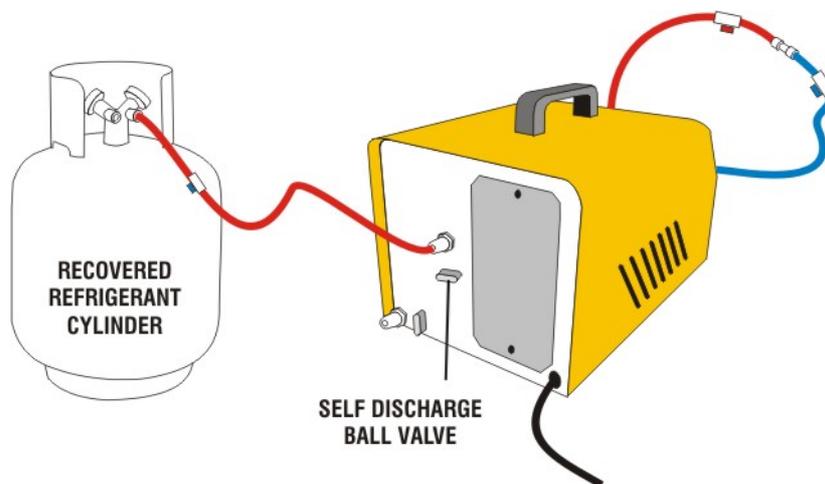
3. Connect suction (inlet) hose to the suction port from the longer hose side (special 1/4" SAE fitting with valve core depressor close to the ball valve side to be connected to the system you intend to service).
4. Connect discharge (outlet) hose to the Ariazone 601 discharge port. Connect the fitting close to the ball valve side to the storage cylinder valve. Check all connections and open the valve of the recovery cylinder and ball valve on a discharge hose. Always open valves slowly to check hoses and connections for leaks. The pressure gauge will indicate the pressure of the refrigerant in the storage cylinder.
5. Plug the power lead to an earthed power point.
6. Connect the suction hose (1/4" SAE hose fitting with core depressor) to the system you are servicing. Ariazone 601 will recover vapor & liquid by using hand manifold. (when recovering from both sides of the system, recovery time is decreased).
7. OPEN the ball valve on suction hose (blue). The pressure gauge will indicate the pressure in the system on low side in the case there is refrigerant in the system.
8. Turn on the power on the main switch. The unit will recover all the refrigerant from the system till it reaches the vacuum of  $-0.4$  bar in which stage all refrigerant from the system is transferred into the storage cylinder. The machine will stop automatically and green led will indicate "recovery complete".
9. Close the ball valves on both hoses (suction & discharge), disconnect the hoses from system and cylinder and recover the remaining refrigerant (see Self Purge procedure) inside the unit.

## 6. Self Purge Procedure

1. Connect the inlet and outlet hoses with adapter provided. Open both ball valves on the hoses. The pressure from discharge side will shown to suction gauge (input).



2. Connect the self-discharge hose provided to the recovery cylinder as per diagram below.



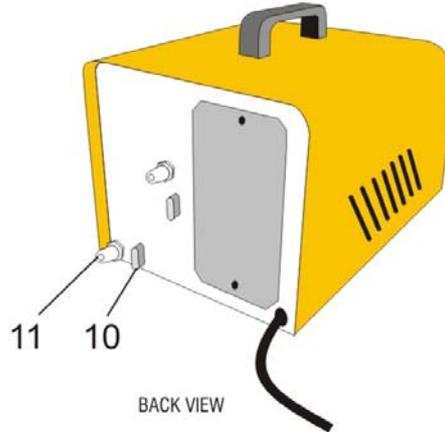
3. Put the self discharge ball valve on position OFF, open the cylinder valve, all 3 hoses ball valves and start the unit ON.

4. The unit will recover remaining refrigerant inside into the recovery storage cylinder and stop automatically. Green led will indicate "recovery complete".

5. Disconnect empty service hoses and store. Close cylinder valve and carefully disconnect self discharge hose.

## 7. Oil Draining Procedure

At the completion of recovery function, removed the cap from the oil draining port (11) and open the ball valve (10) to allow oil (if any) to drain.



## 8. Important Information's

- It is recommended that the recovery cylinders are filled to 80% of their capacity. We are recommending using Ariazone 501 electronic scale & charging unit to prevent the storage cylinder from being overfilled.

- This unit will NOT operate if there is no refrigerant in the system. With this protection the unit will protect eventual cylinder contamination with moisture and non-condensable gases.

- If the pressure on the discharge side of the Ariazone 601 will exceed 24 bar, the unit will automatically stop and the red led announcer will indicate "high pressure". Immediately SWITCH OFF the power from the main switch and check the reason of such occurrence.

The most common cause for the above is closed valves on discharge hose, or refrigerant cylinder. Open the closed valve the pressure will be reduced, connect power lead to mains supply and switch the power ON.

If the problem persists contact your nearest Ariazone distributor.

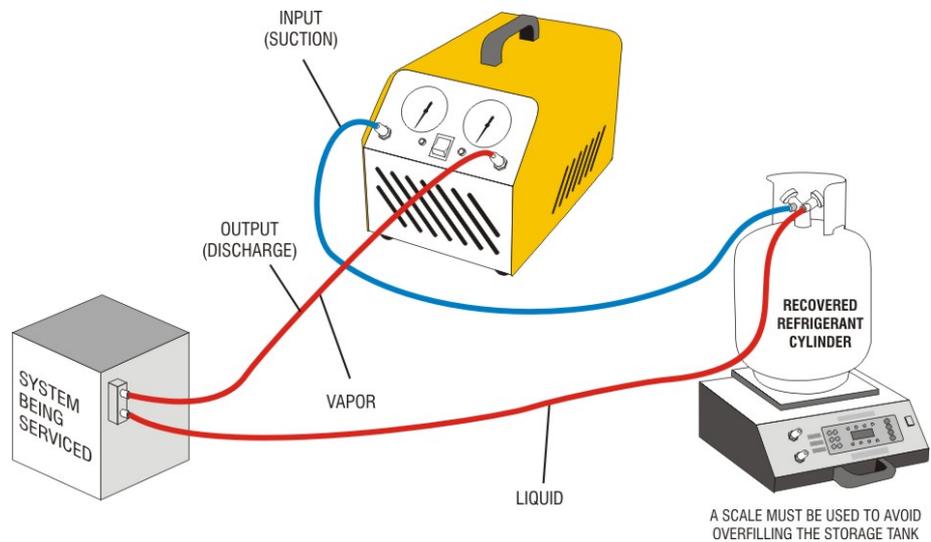
**WARNING:** The internal pressure shut off switch do not prevent cylinder overfilling. If your system shuts off on high pressure and is connected to the cylinder, you may have overfilled the cylinder and created a very dangerous situation. Immediately relieve any high pressure.

- Ariazone 601 is equipped with large capacity filter which trap moisture, hard particles and low acid concentrate which may occurs in some refrigeration systems.

In the case of high concentrate of the acid occurrence (burn out motors), use "burn out" filters. This filter should be fitted in series with the suction hose, before entering the unit.

## 9. Diagram for Push/Pull Method

Push/Pull method only works with large system where the liquid is readily accessible. Do not use this method on systems that contain less than 10kg (20lb) as it may not work.



1. Open Input and Output valves and start the machine.
2. When scale stops rising close all ports and switch off the machine.

## 10. Care and Maintenance of the unit

Ariazone 601 requires minimum maintenance as per this chart:

Interval	Component	Procedure
Every 50-60 kg refrigerant recovered	Filter drier	Replace with new
~ 400 working hours	Oil separator	Replace with new
~ 100 working hours	Gauges	Test calibration

The filter drier in Ariazone 601 should be replaced every 50- 60kg of refrigerant recovered.

To replace filter dryer, remove cover (8). Carefully, by using two spanners, remove filter and replace with new filter. Pay attention on "Flow direction" of the filter and the arrow on the sticker located on chassis behind the filter.

NOTE: Remove protective caps from the filter just before installing, in order to avoid contamination.

WARNING: Whenever you perform any type of maintenance, insure that the unit is disconnected from the power supply.

If the unit is to be stored or not used, we recommend that it be completely evacuated of any residual refrigerant and purged with dry nitrogen.

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