

# **ARIAZONE 500-3**

## **Refrigerant Management System Operator Manual**

Thank you, for choosing the Ariazone refrigerant management system. We are certain the unit will be a great asset for your company, allowing you to generate more revenue in the years to come. With its durability, superior design and technology, the Ariazone Refrigerant management system will be a loyal employee.

Before using the equipment, please read the following instruction manual. Should you have any further questions, please contact you're nearest Ariazone dealer or manufacturer for further assistance.

### **PLEASE NOTE**

All the information in this manual was current when it was printed.

Because of continuous design updates and model improvements, it is not possible to guarantee that the information in this manual is current.

The manufacturer provides the following information in good faith and will not accept any liability because of omissions due to the passage of time.

All users should check with the manufacturer if they have any queries not covered in this manual.

### **IMPORTANT SAFETY NOTICE**

We strongly recommend that technicians read the manual before any attempt is made to repair or service any Ariazone system.

The correct service methods & repair procedures must be followed to ensure the reliability of the machine and the safety of technician.

The methods and procedures in this manual outline the manufacturer's general recommendations to ensure the reliability of the product.

As it is not possible to cover all procedures and handling instructions in the one manual - it is a technician guide only. Operators must use their own judgment and take responsibility for their own actions when carrying out general maintenance and repairs. If there are any queries about safety or the correct technique, contact the manufacturer or distributor.

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This manual has been prepared for experienced service personnel only. It is **NOT** designed for **non-technical** users.

# WARNING

## **HIGH VOLTAGE**

The Ariazone refrigerant processors operate with high voltage, which may be, 110, 220 or 240v.ac. Check label on machine. Use extreme care when carrying out tests or repairs.

**DO NOT** carry out tests or repairs in a wet environment, which can cause injury or death due to possible electric shock.

**DO NOT** use equipment with damaged power leads, which can cause injury or death.

## **FROSTBITE or BLINDNESS.**

Refrigerants can be extremely **dangerous if not handled correctly**. They can cause serious **frostbite** or **blindness**; therefore they **MUST** be handled with extreme care.

## **USE PROTECTIVE GEAR.**

**Always wear** protective **gloves & glasses**

**Do not keep** lubricating **oil on skin** for prolonged periods.

## **GOOD VENTILATION.**

**Always** work in a **well-ventilated** area when handling refrigerants and lubricating oils.

## **QUERIES? CHECK WITH MANUFACTURER FIRST.**

If you have any queries about the correct use, repairs or service procedures, always contact the manufacturer or nearest dealer before you carry out any testing or repairs on any Ariazone equipment.

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**Introduction**

101 The Ariazone 500-3 Electronic Refrigerant Management System, is a user friendly tool designed for the automotive air-conditioning technician and will perform the following functions:

- Electronically assists and guides technician, in performing all A/C system performance test's and evaluation function.
- Fully automatic or manual function selection.
- Programmable vehicle registration number.
- Electronically monitors and records suction and discharge pressures, refrigerant weight, ambient temperature, A/C vent temperatures and oil volumes, for future reference or down loading into an office PC or lap top for record keeping and/or printing reports.
- Recover and recycle refrigerant.
- Gauges amount of refrigerant recovered.
- Electronically monitor and display amount of oil removed from A/C system.
- Electronically displays pressure in system and recovery function is initiated, prior to allowing access to the evacuation function.
- Electronically flushes the A/C system with programmable time duration.
- Electronically evacuate A/C system with programmable time duration.
- Electronically monitors for any A/C system leaks and warns technician.
- Electronically charges lubrication oil by volume into air conditioning system.
- Electronically selectable dual oil grade.
- Electronically charges refrigerant by weight.
- Electronic A/C system performance test function.
- Self test function.
- Calibration function.
- Electronically monitor's and displays machine service interval.
- Record and display total amount of refrigerant charged and recovered.

**Features**

201 The Ariazone 500-3 Refrigerant Management System incorporates microprocessor controlled functions, whilst keeping the operator constantly informed and in full control.

- (a) **Digital Display** – Two large four digits seven-segment displays indicate suction and discharge pressures of the air conditioning system, which are mounted on the front panel for easy viewing by the technician. Pressures are displayed in metric or imperial system, depending on operator's selection.
- (b) **Liquid Crystal Display** – A twenty digit four line liquid crystal display (LCD) indicates refrigerant weight in kg. or lb., oil volume in oil 1 and oil 2, ambient and vent temperatures, including A/C system suction and discharge temperatures. These are displayed in metric or imperial system, depending upon the operators' selection. LED enunciators above and below the numeric display, inform the operator of the units of display and whether the display is indicating the pressure s in KPA or PSI.
- (c) **Mode Enunciator** – Liquid Crystal Display, indicate the mode and status of the unit.

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- (d) **Membrane Switches** – The membrane switches are used in conjunction with the LCD to select the Ariazone functions.
- (e) **Hand Valves** – The console hand valves allow the operator to control the flow of the refrigerant and lubricating oil.
- (f) **Discharge & Suction Service Hoses** – A pair of 1.8m (72”) hoses are connected to the console, which allows the operator to connect the Ariazone system to the vehicle air conditioner system service ports for testing system pressure, recovering and charging refrigerant and or oil (Longer hoses can be supplied on request).
- (g) **Oil Separator/Heat Exchanger** – Internally mounted heat exchanger allows improved separation of oil, at the end of each recovery or flushing function, the amount of oil that is removed from the A/C system will be electronically displayed on the LCD.
- (h) **Filter Dehydrator** – Two high capacity filter driers are vertically mounted for maximum efficiency of moisture and solid particle removal. (Acid trap filters available on request)
- (i) **Moisture Indicator** – The moisture indicator is conveniently mounted on the console to indicate the condition of refrigerant and filter change intervals, in the event that the filters may become contaminated prematurely, due to recovery extremely badly contaminated systems. The following colours correspond to following moisture content: **Green-Dry (filter ok) Yellow-Wet (replace filter)**
- (j) **Oil Storage Reservoir** – Two vessels of 650ml (22.88oz) are mounted on the left rear of the unit to allow the operator to electronically gauge amount of oil in vessels, and select amount of oil to be injected in to the A/C system.
- (k) **Recovered Oil Reservoir** – A vessel of 450ml (17.15oz) is mounted on the right rear of the unit, which will store and display to the operator, the amount of oil recovered from the A/C system, if any, and it will indicate to the technician when the vessel is to be drained.
- (l) **Non-Condensable Gauge** – The non-condensable gauge is conveniently located on the upper right hand side of the machine, in order to detect any air build up in the refrigerant cylinder.
- (m) **Air bleed valve** – The air bleed valve is used to expel non-condensable (air) from refrigerant cylinder.
- (n) **Vent Temperature Probe** – The temperature probe is used to measure the air conditioning system vent temperature.
- (o) **Ambient Temperature Sensor** – The ambient temperature sensor is used to help the technician evaluate the efficiency of the air conditioning system.
- (p) **Tool Storage Trays** – Two tool trays are provided, one on top of the console and one on the front cover, which allows the operator to place leak tester or any other hand tool.
- (q) **Service Hose Storage Ports** – Two storage ports are located on the upper section of the Ariazone unit to store service hoses when not in use. This provides added protection from damage or soil.

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- (r) **Wheels** – Two oil resistant, heavy-duty 200mm (8”) and two heavy-duty 75mm (2.5”) caster wheels are used for ease of maneuverability.

### **Preparing the Ariazone 500-3 for use**

301 Perform the following steps to prepare the Ariazone 500-3 System for use.

- (a) Check machine for any physical damage or oil stains when delivered.
- (b) Evacuate cylinder before filling with refrigerant.
- (c) Place the cylinder on the Ariazone platform. Secure it with the strap provided, and connect appropriate hoses to appropriate cylinder valves. (Liquid hose **red** to cylinder liquid valve **red** and vapour hose **blue** to vapour valve **blue** on cylinder).
- (d) Open both valves on cylinder and open liquid hose (**red**) ball valve.
- (e) Evacuate service hoses and internal components for **10 minutes**, before using machine by selecting **evacuation** function and opening both console hand valves.
- (f) Fill oil-charging reservoirs with appropriate refrigerant oil, and note the different grades of oil for reservoir 1 and reservoir 2. Note both oil reservoirs are filled with PAO 68 from factory. This oil may be drained and re-filled with your own oil.

#### **(g) Refrigerant cylinder filling procedure.**

The cylinder may be taken to your refrigerant supplier and filled (Making sure it is evacuated for a minimum of **(30 min before filling)**). We recommend that the cylinder is not filled to its maximum capacity (**15kg Max**) or the Ariazone system will not allow you to recover, due to the safety features incorporated, which will not allow the cylinder to be filled above 80% of its capacity (**20kg**).

### **The Ariazone is now ready for use.**

302 **Power up.** The unit will perform a lamp test, whereby all LED displays are illuminated and service interval in hours is displayed. This will enable the operator to determine if any displays have failed and remaining time before machine servicing is required. After the sequence has been completed, the display will indicate the amount of refrigerant in the cylinder, amount of oil in the vessels, ambient temperature (Ta) and vent temperature (Tv). These values will be displayed in metric or imperial system, dependent on operator's selection.

**Mode Selection.** To select a mode of operation, press start followed by either the 'up' or 'down' arrow switch until the cursor is beside the desired mode. Press 'start', which will allow the Ariazone to enter the selected mode, then follow instruction on LCD.

Any mode that has been selected can be exited by pressing the 'stop' switch. Note that if a valid switch was depressed, the Ariazone will beep. If an inappropriate selection has been made, i.e. attempting to select a mode whilst another mode is in operation, the Ariazone will ignore the switch pressed and not beep.

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**Recovery Mode**

401 The purpose of the Ariazone recovery mode is to recover refrigerant from the air conditioning system or transfer refrigerant from cylinder to cylinder, which will condense, purify and store the liquid refrigerant in the Ariazone storage cylinder ready for re-use. LCD display will be similar to the following:

```
HOST PC NOT READY

OIL 1: 210 ml  2: 175 ml
8.1 KG  Ta 21C  Tv 19C
```

All numbers illustrated here are for demonstrating purpose only. Machine will display real time Values. Same as boxes below

Ta – Ambient temperature  
Tv – Vent temperature

**Note:** If the machine is connected to a PC or Laptop, the LCD will display HOST PC READY.

402 To initiate the recovery mode press the start switch once, and the following will be displayed,

```
SELECT FUNCTION:
>AUTO  MANU  RECD
  PLAY  SETUP
  8.1KG  Ta 21C  Tv 19C
```

Use the up or down arrow switch to select the desired menu, followed by pressing the start switch.

403 **MANUAL selection.** If manual selection is made, the following will be displayed,

```
SELECT MANU FUNCT:
>RECOV  FLUSH  EVAC
  OIL_1  CHARG
  8.1KG  Ta 21C  Tv 19C
```

Use the up and down switch to select the desired functions, press start again and the LCD will change to the following:

```
RECOVERY SETUP
1: REG [-----]
>ACCEPT  EDIT
  8.1KG  Ta 21C  Tv 19C
```

You now have the choice to select “ACCEPT” by pressing the start switch once, for which the previous registration number is accepted. Or “EDIT” by pressing the down arrow switch once, followed by start switch. Then a different registration number can be selected. Detail of “EDIT” function is described in 406

404 **ACCEPT** selection. If accept is selected, the following will be displayed:

```
RECOVERY SETUP
2: RECOVERY TYPE?
>FULL PART
8.1KG Ta 21C Tv 19C
```

For “**Full**” recovery press start switch once and the recovery function will commence. Note the following will be displayed if there is no refrigerant in system:

```
RECOVERY
ERROR: NO REFRIG
IN SYSTEM
8.1KG Ta 21C Tv 19C
```

If this message is displayed, check that the blue (suction) and red (discharge) console manifold hand wheels are in the open position, and that proper connection is made by the quick couplers to the air conditioning system service ports. If “**PART**” recovery is selected, set amount of refrigerant to be recovered, by pressing **up switch** to **increase** or **down switch** to **decrease** amount, followed by pressing start switch once, the recovery function will now commence and the amount of refrigerant being recovered will be displayed on the LCD. Once the selected amount of refrigerant has been recovered or transferred, the Ariazone system will display “**RECOVERY COMPLETE**” and the amount of refrigerant recovered or transferred, the Ariazone system will also display, the amount of oil removed from the air conditioning system if any. LCD will display as follows:

```
RECOVERY COMPLETE
REC REFRIG: 0.85KG
REC OIL: 15ml
8.1KG Ta 21C Tv 19C
```

Press stop switch and the display will return to main menu

405 **AUTO selection.** If auto selection is made, you are given two options for registration selection, “**ACCEPT**” or “**EDIT**”.

```
AUTO MODE SETUP
1. REG [PREVIOUS SELECT]
>ACCEPT EDIT
8.1KG Ta 21C Tv 19C
```

Note: the registration number of the previous selection will be displayed in the second line (If the machine is used for the first time, it will display: 1. REG[-----]).

If “**ACCEPT**” is selected, press start. You are given two options; select “**YES**” or “**NO**”

```
AUTO MODE SETUP
2: RECOVERY?
>NO YES
8.1KG Ta 21C Tv 19C
```

If recovery is required, press up or down switch until the cursor is beside “**Yes**”. If “**YES**” is selected the full refrigerant charge will be recovered, once the selection has been made press start switch and the following will be displayed:

AUTO MODE SETUP  
**3: SET FLUSH TIME**  
30:00 MIN  
8.1KG Ta 21C Tv 19C

You are now given the option of selecting flush function and time duration, by pressing the up switch, time is increased, pressing the down switch, time is decreased, Ariazone International recommends that **flushing** is carried out for a minimum of **30 minutes**. If you do not wish to flush, set time to “0.00”. Once the desired flush time is set, press start switch and the following will be displayed.

AUTO MODE SETUP  
**4: SET EVAC TIME**  
30:00 MIN  
8.1KG Ta 21C Tv 19C

Evacuation duration may be set by using up arrow switch to increase or down arrow switch to decrease time, if you do not wish to evacuate, set time to “**0:00**”. Once the desired selection has been made, press start switch and the following will be displayed:

AUTO MODE SETUP  
**5: SET REFRIG CHG WT**  
0.85KG  
8.1KG Ta 21C Tv 19C

You are given the choice of increasing the charge weight by pressing the up switch or decreasing by pressing the down switch. *(Note the Ariazone system keeps memory of the last vehicle charge amount selection, so there is no need to upgrade the charge amount if the same make and model vehicle is being worked on).* The fully automatic setting is now completed, by pressing the start switch the full process will be carried out automatically as selected. Once the selected functions are completed by the Ariazone refrigerant management system will automatically stop and display the following:

**REFRIG CHG COMPLETE**  
CHARGE WT = 0.85KG  
7.25KG Ta 21C Tv 19C

Press stop switch and the display will return to the main menu

406 **EDIT** selection. If edit is selected, the following will be displayed:

AUTO MODE SETUP  
1: REG: [-----]  
^  
8.1KG Ta 21C Tv 19C

By pressing the up or down arrow switch, you will be able scroll through the alphabet, “**A to Z**” and numerically “**0 to 9**”, Once the correct syllable or number has been selected,



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press start switch and the cursor will go to the next segment. You may then repeat the same operation. Once the full registration number has been entered, continue pressing the start switch, until you have scrolled to the end of the segments and the following will be displayed:

AUTO MODE SETUP		
<b>2: RECOVERY?</b>		
>NO	YES	
8.1KG	Ta 21C	Tv 19C

Press the up or down arrow switch to make your selection, press start switch for the next operation. The rest of the processes are the same as described above.

**NOTE.** If a predetermined level of vacuum is not reached within 90 seconds, the Ariazone 500-3 will warn the technician to inspect air conditioning system for leaks. This warning will continue until the operator cancels it.

**407 Recovery Pause Function.** The Ariazone 500-3 will recover the entire refrigerant from the A/C system, and down to an initial vacuum of -30kpa (10In\_Hg) the Ariazone system will pause for period of three minutes. If after three minutes a vacuum is maintained the Ariazone 500-3 will display recovery complete, including the amount of refrigerant and oil recovered. If during the three minutes pause period, the air conditioning system pressure increases to a positive pressure, the Ariazone 500-3 senses the increase in pressure and will start up automatically and recover the remainder of refrigerant from the A/C system. At the end of this period the amount of refrigerant and oil recovered if any will be displayed.

Conditions that will halt the recovery mode

408 The above sequence assumes that neither the stop switch was pressed, or that no undesirable condition occurred. The following conditions will cause the Ariazone to halt the recovery function.

- (a) Refrigerant cylinder full. To protect the storage cylinder from being overfilled, the Ariazone will not allow the operator to recover refrigerant once it has reached 80% of its capacity.
- (b) Air conditioning system empty. If the system pressure is not above atmospheric pressure, the recovery function will not be activated. This will prevent air being delivered into the storage cylinder, thus contaminating refrigerant with non-condensables.
- (c) High Pressure. If the operating pressure of the Ariazone exceeds 2500kpa (362 psi), the Ariazone will stop and display '**H-PRES**'. This can be caused by the following:

- Cylinder valves or red cylinder hose shut off valve not open.
- Restricted cylinder hose or hose seals.
- Excessive high ambience temperatures, caused by unnatural heat source.
- Faulty pressure control.
- Recovery pump thermo control faulty.
- Excess non-condensable (Air) inside the cylinder

In all the above circumstances, press the 'stop' switch to return to the machines initial mode.

This function can be paused at any time by pressing stop once, or twice, which will cancel the function.

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**Evacuation Mode**

501 In this function the air and moisture in the air conditioning system is evacuated to the atmosphere. The evacuation pump in the Ariazone system is capable of developing a vacuum of -99.9kpa (29.99 in hg). The evacuation mode runs for a predetermined time selected by the operator. A warning will be given if a vacuum leak exists in the A/C system. At any time the evacuation time can be paused or cancelled by pressing the stop switch once to pause or twice to cancel the function.

502 To initial the evacuation mode, press start switch once follow by pressing “up” or “down” switch until the cursor is beside the manual mode. LCD will display:

SELECT FUNCTION:		
AUTO	>MANU	RECD
PLAY	SETUP	
8.1KG	Ta 21C	Tv 19C

Press start switch again and press “up” and “down” arrow switch until the cursor is beside “EVAC”, LCD will display:

SELECT MANU FUNCT:		
RECOV	FLUSH	>EVAC
OIL_1	CHARG	
8.1KG	Ta 21C	Tv 19C

Press start switch again LCD will display:

EVAC MODE SETUP		
1: REG:	[-----]	
> ACCEPT	EDIT	
8.1KG	Ta 21C	Tv 19C

If registration number is accept, press start switch to the next step, otherwise, edit the registration number as described above (paragraph 406). and enter to the next step, which will display as follows:

EVAC MODE SETUP		
<b>2. SET EVAC TIME</b>		
30:00 MIN		
8.1KG	Ta 21C	Tv 19C

Press “up” or “down” arrow switch to select the desired evacuation time, then press start switch to start the evacuation process. When evacuation process is completed, LCD will display the following:

<b>EVACUATE COMPLETE</b>		
TIME: 0:00 MIN		
8.1KG	Ta 21C	Tv 19C

Press stop switch display will return to the main menu.

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Conditions that will prevent the evacuation mode from commencing: 'pressure in system'

503 The Ariazone system has a unique function that if the evacuation function is selected and there is residual refrigerant in the air conditioning system, greater than 20kpa or 3p.s.i, the unit would detect this condition and would not allow the evacuation function to start. The LCD will display this message as follows:

EVACUATE <b>ERROR: PRESSURE IN SYSTEM. RECOVER</b> 8.1KG Ta 21C Tv 19C
--

Press stop switch and display will return to the main menu, and then you can select recovery function to recover the residual refrigerant before selecting evacuation function again.

### Oil Injection Mode

601. The purpose of the oil injection mode is to batch a user defined quantity of refrigerant oil from the oil reservoir on the Ariazone to the vehicle air conditioning system. The Ariazone requires that the air conditioning system has previously been evacuated to a maximum vacuum of no less that -90kpa (29 In hg) before this function can be carried out.

602. To initiate the oil injection mode evacuate the air conditioning system for the minimum duration recommended by vehicle manufacturer, once the evacuation function is completed. Close the discharge (Red) and suction (Blue) hand valves on the console. Make sure there is sufficient oil in the oil reservoirs. Press start switch once follow by "up" or "down" arrow switch until the cursor is beside the manual mode, LCD will display the following:

SELECT FUNCTION: AUTO >MANU RECD PLAY SETUP 8.1KG Ta 21C Tv 19C
--

Press start switch again follow by "up" or "down" arrow switch until cursor is beside "OIL\_I"

SELECT MANUAL FUNCT: RECOV FLUSCH EVAC >OIL_I CHARG 8.1KG Ta 21C Tv 19C
--

Press start switch again and select to accept or edit the registration number.

OIL INJECT SETUP 1: REG: [-----] >ACCEPT EDIT 8.1KG Ta 21C Tv 19C
--

After selecting the desired registration number, press start switch and LCD will display the following:

```
OIL INJECT SETUP
2: OIL SOURCE?
>OIL1    OIL2
8.1KG   Ta 21C   Tv 19C
```

Press “up” or “down” arrow switch to select the desired oil grades (Namely Oil\_1 or Oil\_2) to inject into the A/C system. The cursor indicates the oil grade selected. Press start switch again and LCD will display the following:

```
OIL INJECT SETUP
3: SET OIL VOL
    40ML
8.1KG   Ta 21C   Tv 19C
```

Press “up” or “down” arrow switch to set the desired oil volume to be injected into the A/C system. Press start switch again to commence the oil inject function. When the process is completed, the LCD will display the following:

```
OIL INJECT COMPLETE
OIL QTY = 40ML
8.1KG   Ta 21C   Tv 19C
```

Open the discharge hand valve, to complete the process. Press stop switch and the display will return to the main menu.

### Conditions that will prevent oil injection.

603. The Ariazone will not inject oil if the following conditions exist:

- Insufficient vacuum.
- Hand valves not closed on console.
- Schrader valve on service port not depressed
- Not sufficient oil in the reservoir.

### Refrigerant Charge Mode

701. The purpose of the refrigerant charge mode is to batch a user-defined weight of refrigerant into the air-conditioning system.

702. To initiate the refrigerant charge mode press start switch once follow by “up” or “down” arrow switch until the cursor is beside the manual mode, LCD will display the following:

```
SELECT FUNCTION:
AUTO  >MANU  RECD
PLAY  SETUP
8.1KG   Ta 21C   Tv 19C
```

Press start switch again follow by “up” or “down” arrow switch until cursor is beside “CHARG”

```
SELECT MANUAL FUNCT:
RECOV  FLUSCH  EVAC
OIL_I   >CHARG
8.1KG  Ta 21C  Tv 19C
```

Press start switch again and select to accept or edit the registration number.

```
CHARGE MODE SETUP
1: REG: [-----]
>ACCEPT  EDIT
8.1KG  Ta 21C  Tv 19C
```

After selecting the desired registration number, press start and LCD will display the following:

```
CHARGE MODE SETUP
2: SET REFRIG CHG WT
0.75 KG
8.1KG  Ta 21C  Tv 19C
```

Press “up” or “down” arrow switch to select the desired refrigerant charge weight. Press start switch again and the refrigerant charge process will start. After the designated refrigerant weight is charged in to the A/C system, the machine will stop and displays the following:

```
REFRIG CHG COMPLETE
CHARGE WT = 0.75 KG

7.35KG  Ta 21C  Tv 19C
```

Press stop switch and display will return to the main menu

**Note:**

- (a) If the unit of weight is set to kg. The smallest increment of charge weight is 0.02 kg (0.075oz).
- (b) If the unit of weight is set to lb. the smaller increments of refrigerant charge weight is 0.02 lb.
- (c) The maximum refrigerant weight that can be set at this point is determined by the actual refrigerant weight available in the cylinder.
- (d) Holding the ‘up’ or ‘down’ switch for longer than two seconds will cause the increments of weight change to increase or decrease rapidly.

703. This function can be paused at any time, by pressing the ‘stop’ switch once to pause or twice to cancel the function.

If the charge function has been paused, the amount of refrigerant that has been charged to that point will be displayed, to continue the charge function press the ‘start’ switch.

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704. Once the present refrigerant weight has been charged, the charge function will automatically stop and the display will indicate 'refrigerant charge complete'. The operator can return the machine to its initial state by pressing 'stop' switch on the console.

### Conditions that will prevent refrigerant charging

- (a) If there is little or no refrigerant in cylinder. The operator will not be able to select the desired amount of refrigerant required. (Change refrigerant cylinder or transfer refrigerant if the weight display in the LCD is less than 3kg)
- (b) If the cylinder and red hose shut off valves are closed.
- (c) If the hand manifold valve on console is closed.
- (d) If the service port schrader valve(s) on the A/C system is not depressed.

### Recording mode

801. The Ariazone 5003 is able to record and store the important technical data of a vehicle's air condition system, such as compressor suction and discharge pressures, vent temperature and ambient temperature. When recording mode is selected, it runs for the period of 5 minutes, and takes a set of the above data every 15 seconds, which is stored and displayed in the computer. Also such data is temporally stored in the machine and can be retrieved by using "PLAY" mode that is described in paragraph 901.

**Note:** Data that is stored in the machine will be deleted automatically after the machine is switched off. However, data will be stored in computer permanently unless they are deliberately remove from the computer file, providing machine was connected to PC when operating via cable of radio frequency device.

802. To enter this mode, press start, press up or down switch until the cursor is beside the "RECD", LCD will display the following:

SELECT FUNCTION:
AUTO    MANU    >RECD
PLAY    SETUP
8.1KG   Ta 21C   Tv 19C

Press start switch and LCD will display:

RECORDING SETUP
1: REG: [XXXX]
>ACCEPT    EDIT
8.1KG   Ta 21C   Tv 19C

[XXXX] Represents previous registration number.

To accept the vehicle registration number, Press start switch. Otherwise press up or down switch once follow by the start switch, you will be able to edit the registration number, and then follow the screen instruction. When finish recording, press stop switch and LCD will return to the main menu.

### Play back mode

901. Play back mode is used to display the suction and discharge pressures, ambient and vent temperatures over the duration of 5 minutes at 15 seconds intervals.

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902. To enter this mode, press start switch in the main menu after the recording phase, and use up or down switch until the cursor is beside "PLAY", LCD will display the following:

```
SELECT FUNCTION:
AUTO  MANU  RECD
>PLAY  SETUP
8.1KG  Ta 21C  Tv 19C
```

Press start switch, LCD will display the following:

```
PLAYBACK MODE
DSPL'S IN HIST MODE
TIME = 0:00 MIN
8.1KG  Ta 21C  Tv 19C
```

To view the recorded data, press up switch once, LCD will display the first set of pressures and temperatures, press up switch again and LCD will display the second set of data in 15 second interval, press up switch again and LCD will display the third set of data, and so on.

### Set up mode

1001. The LCD is able to display two set of measurement units: Metric (kg, ml, Kpa, and °C) and imperial (lb, oz, Psi, and °F). To change the unit's measurement, select set up mode.

1002. To enter into the set up mode, press start switch, press up or down switch until the cursor is beside the "SETUP", LCD will display the following:

```
SELECT FUNCTION:
AUTO  MANU  RECD
PLAY  >SETUP
8.1KG  Ta 21C  Tv 19C
```

Press start switch and LCD will display the following:

```
SELECT TYPE:
>WEIGH  VOLUM  TEMP
PRESS
8.1KG  Ta 21C  Tv 19C
```

Press start switch again, LCD will display the following:

```
SEL WEIGH UNITS:
>KG      LB
8.1KG  Ta 21C  Tv 19C
```

Press up or down switch until the cursor is beside the desired unit of measurement, press start switch and the selected unit will be locked in. Repeat the same procedure to set the volume, temperature, and pressure units.

### Total Refrigerant charged and recovered

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1101. The Ariazone 5003 unit has a unique function, which will record the total amount of refrigerant recovered and charged, for stock control.

To enter this function, press and hold up arrow switch when the machine is on. The LCD will display the total amount of refrigerant charged and recovered in kg. The amount displayed is the accumulation of total refrigerant charged and recovered in weight between last clearing and the point of access to this function.

1102. To clear the recorded weights, simply press up and down arrow switch, and stop switch simultaneously for two seconds, select “yes” or “No”, to delete then press start switch.

## Service Procedure

1201. The following table describes the service intervals for the Ariazone system.

<b>Interval</b>	<b>Component</b>	<b>Procedure</b>
75 Hours	Flush Filter	Replace
75 Hours	Main Filter	Replace
75 Hours	Vacuum Pump Oil	Drain and refill
75 Hours	Weight Platform	Test tare and span
75 Hours	Compressor Oil	Drain and re-fill
75 Hours	Vacuum Pump Bearings	Lubricate

Ariazone International recommends a record of each service be kept (75-Hour Service).

802. Once the machine has been recovering for 75 hours or has recovered 100 kg (240 lb), refrigerant, replace filter driers, drain and refill vacuum pump oil.

Please follow the following procedure to carry out the 75 Hour service.

- (a) Power up machine.
- (b) Select and run recovery function. If a positive pressure is indicated on displays.
- (c) Open oil recovery vessel drain valve to allow oil to drain. (Note: Dispose of used oil properly).
- (d) Switch off power on the Ariazone system and remove power lead from supply.
- (e) Remove front cover by removing 4 retainers and slide forward.
- (f) Hold filter unions with suitable spanner and remove connecting pipes from filters, remove main filter and flushing filter from mounting bracket.
- (g) Re-fit new filters by revisiting operation (f) and (g). Note: reinstall filters in the correct direction, arrow on filter pointing down.  
Note: (1) Re-fit new filters immediately after the old one has been removed. Do not allow internal contamination of the machine. (2) Uncap new filter drier when you are ready to install. Prolonged exposure to ambient will contaminate new filter drier.
- (h) Drain vacuum pump by turning the drain valve anti-clockwise and allow all the oil to drain into a suitable container. (Dispose of used oil properly). Close drain and refill pump with new oil (~800ml) to oil indicator on viewing glass. *Use Ariazone vacuum pump oil only.*
- (i) Lubricate Vacuum pump motor bearings by removing yellow dust covers and apply 10 drops of oil on each bearing (Use 5W 30 oil)
- (j) (1) Power up Ariazone unit.  
(2) Charge into service hoses for 10 seconds.  
(3) Select and enter recover function for 5 seconds.  
(4) Test filter connections and all other connections, for any possible leaks with suitable leak tester.



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(5) Disconnect power lead from power supply, clean machine and refit cover.

### Reset service hour

Service interval is every 75 hours, which are Factory pre-set. Ten hours before the service interval is reached, the machine will give extra warning when first switched on. When the 75 hour time is reached, the machine will shut down. To re-set the service interval, turn the machine off, and then turn it back on again with up arrow switch depressed. Machine beep once and display service hour, release the up arrow switch, when a second "beep" is heard, press start switch. LCD will display:

SELECT FUNCTION:		
AUTO	MANU	RECD
PLAY	SETUP	>CAL
8.1KG	Ta 21C	Tv 19C

Press up arrow switch to select "CAL", press start switch. Press up arrow switch again to select "SERV" as displayed below:

SELECT DEVICE:		
WEIGH	PRESS	OIL_V
RELAY	TEMPS	>SERVC
8.1KG	Ta 21C	Tv 19C

Press start switch to enter the service hours reset, LCD will display "yes" or "no", select "yes" and press start switch, and the machine will be reset to 75 hours.

### Calibration Procedures

- (a) Switch unit on with "up" key depressed.
- (b) Machine will beep follow by displaying service interval, After the second beep, press start switch, LCD will display:

SELECT FUNCTION:		
AUTO	MANU	RECD
PLAY	SETUP	>CAL
8.1KG	Ta 21C	Tv 19C

- (c) Press up arrow switch to move cursor beside "CAL", follow by pressing start switch, LCD will display items to be calibrated:

SELECT DEVICE:		
>WEIGH	PRESS	OIL_V
RELAY	TEMPS	SERV
8.1KG	Ta 21C	Tv 19C

### Weight

1. Select "WEIGH" by pressing start switch, LCD will display the following:

SELECT FUNCTION: > <b>TARE</b> SPAN 8.1KG Ta 21C Tv 19C
---

2. Select “Tare” by pressing start switch. Place a standard empty cylinder or a calibrated weight of 10kg (22lb), on the center of cylinder platform, select “Yes” to continue, press start switch, the load cell is tarred. Display will read 0.00kg
3. Select “Span” by pressing start key, LCD will display the following:

SET SPAN REF WT: <b>20.00 KG</b> 8.1KG Ta 21C Tv 19C
--

4. Place a known weight of 20kg (44lb) on top of the standard empty cylinder/calibrated weight, press start switch, span procedure is completed and LCD will display 20.00kg.
5. Set the maximum cylinder weight.

The purpose of this safety feature is to ensure the cylinder total weight will not exceed 80% of the cylinder filling capacity. During the recovery process, the cylinder weight is gradually increased, if the refrigerant total weight reaches the set weight the machine will stop the recovery process, and will display “cylinder full”, the operator can then replace the cylinder or transfer some refrigerant to another cylinder.

Depending on the type of cylinder used, the maximum cylinder weight can be set from 5kg to 60kg. To set the maximum cylinder weight, in the weight calibration mode, press up or down arrow switch until the cursor is beside “CYLWT”, the cursor will display the following:

SELECT FUNCTION: TARE SPAN > <b>CYLWT</b> 8.1KG Ta 21C Tv 19C
---

Press start switch and LCD will display the following:

SET MAX CYL WT: 20.00KG 8.1KG Ta 21C Tv 19C
---

Use up or down arrow switch to set the desired weight, then press start switch to lock in the set weight. Machine will cut out recovery function when the set weight is reached.

### Pressure

There are four pressure transducers to be calibrated. P1 is the suction pressure transducer, P2 is the discharge pressure, P3 is the recovery pump discharge pressure transducer, and P4 is the recovery pump suction pressure transducer.

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### 1. Tare

Recover refrigerant from service hoses if any, disconnect service hoses and close both hand valves, disconnect cables from pressure transducers on recovery pump suction and discharge pipeline, remove transducers, and re-connect cables to transducers. Press start switch and the main window, LCD will display the following:

SELECT FUNCTION:		
AUTO	MANU	RECD
PLAY	SETUP	>CAL
8.1KG	Ta 21C	Tv 19C

Use up or down switch until the cursor is beside "CAL", press start switch, LCD will display the following:

SELECT DEVICE:		
WEIGH	>PRESS	OIL_V
RELAY	TEMPS	SERVIC
7.3KG	Ta 21C	Tv 19C

Scroll up or down arrow switch until cursor is beside "PRESS", press start switch, LCD will display the following:

<b>WARNING: CLOSE ALL HAND VALVES</b>		
8.1KG	Ta 21C	Tv 19C

Make sure hand valves are closed, then press start switch, LCD will display the following:

SELECT FUNCTION:		
>TARE	SPAN	
8.1KG	Ta 21C	Tv 19C

Press start switch, LCD will display the following:

SELECT PRESS TX:		
>P1	P2	P3
P4		
7.3KG	Ta 21C	Tv 19C

Press start switch and follow the screen instruction. Repeat the above procedures to tare P2, P3, P4.

### 2. Span

After all four pressure transducers are tarred, press stop switch to return to the previous window:

```
SELECT DEVICE:
WEIGH >PRESS OIL_V
RELAY TEMPS SERVC
8.1KG Ta 21C Tv 19C
```

Select "PRESS", and press start switch twice, and select "SPAN", LCD will display the following:

```
SET SPAN REF PRES:
    2000 KPA
8.1KG Ta 21C Tv 19C
```

Press start switch to accept the 2000kpa pre-set value, then select P1 by pressing start switch, LCD will display the following:

```
CONTINUE?
>NO      YES
8.1KG Ta 21C Tv 19C
```

Apply a pressure of 20bar (290PSI) to the suction port using dry nitrogen via a calibrated digital gauge. Select "Yes" and press start switch to proceed. P1 span is now completed. Repeat the above procedure to span P2, P3, and P4.

### Oil volume

Three oil volume sensors are to be calibrated: two oil charge sensors OIL1 and 2, which are corresponding to oil charge tube 1 and tube 2, locating on the left hand rear of the machine. And one oil recovered volume sensor; OIL3 that is corresponding to oil recovered tube, located on the right hand rear of the machine.

#### 1. Tare

Place a suitable oil catch container under the oil charge vessels 1 and 2, remove oil 1 and oil 2 drain plugs, make sure both vessels are totally drained, re-fit the drain plugs. Open drain valve in the oil recovery vessel, making sure all the oil is completely drained, close drain valve.

In the calibration mode "CAL", Select "OIL\_V" as displayed in the LCD:

```
SELECT DEVICE:
WEIGH PRESS >OIL_V
RELAY TEMPS SERVC
8.1KG Ta 21C Tv 19C
```

Press start switch LCD will display the following:

```
SELECT FUNCTION:
>TARE SPAN
8.1KG Ta 21C Tv 19C
```

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Select "TARE" and LCD will display the following:

```
SELECT OIL TX:  
>OIL1 OIL2 OIL3  
  
8.1KG Ta 21C Tv 19C
```

Select OIL1 to tare, the machine requests to confirm the selection by giving prompt to "Yes" or "No", select "Yes" to proceed. Repeat the above procedure to tare OIL2, and OIL3.

2. Span

After finish tarring OIL3, LCD will display the following:

```
SELECT OIL TX:  
OIL1 OIL2 >OIL3  
  
8.1KG Ta 21C Tv 19C
```

Press stop switch to exit the oil volume tare function, LCD will display the following:

```
SELECT DEVICE:  
WEIGH PRESS OIL_V  
>RELAY TEMPS SERVC  
8.1KG Ta 21C Tv 19C
```

Press up arrow switch once and the cursor moves to OIL\_V, press start switch once and press up or down switch once, LCD will display the following:

```
SELECT FUNCTION:  
TARE >SPAN  
  
8.1KG Ta 21C Tv 19C
```

Select "Span" by pressing start switch, LCD will display the following:

```
SET REF OIL VOL:  
500 ML  
  
8.1KG Ta 21C Tv 19C
```

Press start switch to accept, LCD will display the following:

```
SELECT OIL TX:  
>OIL1 OIL2 OIL3  
  
8.1KG Ta 21C Tv 19C
```

Press start switch to select OIL1, LCD will request to confirm your selection by giving the following message:

CONTINUE? >NO            YES  8.1KG    Ta 21C    Tv 19C
--

Add 500ml of selected grade refrigerant oil into OIL1 vessel. Select “Yes” and press start switch to proceed. Add 500ml of selected grade refrigerant oil into OIL2 and repeat the same procedure.

Note: When span the OIL3 sensor, remove the air-bleed cap on top of the recovered oil vessel, add 500ml of used oil into the vessel, and drain the oil after finishing span procedure, re-fit air bleed cap.

**Temperature-pressure chart**

		R12		R134a		R22		R11		R500		R502		R717	
C	F	kPa	psi	kPa	psi	kPa	psi	kPa	psi	kPa	psi	kPa	psi	kPa	psi
-	-94	-89	26.3	-92.9	13.5	-81	23.9	-	-	-87	25.7	-74	21.9	-97	26.6
-66	-86.8	-85	25.1	-90.3	13.1	-75	22.2	-	-	-83	24.5	-67	19.8	-90	25.7
-62	-79.6	-81	23.9	-86.9	12.6	-68	20.1	-	-	-78	23.0	-57	16.8	-82	24.2
-58	-72.4	-76	22.4	-82.7	12.0	-60	17.7	-	-	-71	21.0	-46	13.6	-76	22.4
-54	-65.2	-69	20.4	-77.6	11.3	-48	14.2	-	-	-64	18.9	-34	10.0	-69	20.4
-50	-58	-64	18.3	-71.4	10.4	-37	10.9	-	-	-55	16.2	-19	5.6	-60	17.7
-46	-50.8	-62	16.0	-63.8	9.3	-22	6.5	-	-	-44	13.0	-2	0.6	-50	14.8
-42	-43.6	-43	12.7	-54.8	8.0	-6	1.8	-97	28.6	-33	9.7	16	2.3	-37	10.9
-38	-36.4	-32	9.5	-44	6.4	10	1.5	-95	28.1	-18	5.3	41	6.0	-22	6.5
-34	-29.2	-18	5.3	-31.3	4.6	32	4.6	-93	27.5	-3	0.9	70	10	-4	1.2
-30	-22	-10.	3	-16.5	2.4	63	9.1	-91	26.9	16	2.3	98	14	18	2.6
-28	-18.4	5	0.7	-8.2	1.2	80	12	-90	26.6	35	5.1	115	17	30	4.4
-26	-14.8	11	1.6	0.7	0.1	91	13	-89	26.3	45	6.5	132	19	46	6.7
-24	-11.2	21	3.0	10.4	1.5	108	16	-88	26	54	7.8	151	22	60	8.7
-22	-7.6	32	4.6	20.7	3.0	126	18	-87	25.7	65	9.4	171	25	76	11
-20	-4	44	6.4	31.7	4.6	145	21	-85	25.1	76	11	191	28	89	13
-18	-0.4	56	8.1	43.6	6.3	165	24	-83	24.5	87	13	214	31	105	15
-16	3.2	70	10	56.2	8.1	185	27	-8	23.9	100	14	235	34	124	18
-14	6.8	85	12	69.8	10.1	207	30	-79	23.3	118	17	260	38	145	21
-12	10.4	103	15	84.2	12.2	231	33	-77	23	134	22.5	284	41	165	24
-10	14	116	17	99.5	14.4	254	37	-75	22.1	156	23	313	45	190	28
-8	17.6	131	19	115.8	16.8	284	41	-73	21.6	174	25	340	49	215	31
-6	21.2	150	22	133.1	19.3	310	45	-71	21	193	28	369	54	242	35
-4	24.8	165	24	151.5	22.0	334	48	-68	20.1	215	31	400	58	269	39
-2	28.4	184	27	171	24.8	361	52	-65	19.2	239	35	435	63	299	43
0	32	207	30	191.6	27.8	398	58	-61	18	262	38	470	68	328	48
1	33.8	216	31	202.3	29.3	411	60	-59	17.4	275	40	488	71	345	50
2	35.6	224	32	213.4	30.9	430	62	-57	16.8	285	42	508	74	362	53
3	37.4	236	34	224.7	32.6	446	65	-55	16.2	300	44	526	76	379	55
4	39.2	248	36	236.4	34.3	465	67	-53	15.7	314	46	547	79	397	58
5	41	257	37	248.4	36	483	70	-51	15.1	325	47	567	82	415	60
6	42.8	270	39	260.7	37.8	504	73	-49	14.5	340	49	586	85	433	63
7	44.6	281	41	273.3	39.6	510	74	-47	13.9	352	51	597	87	452	66
8	46.4	292	42	286.3	41.5	542	79	-45	13.3	367	53	620	90	473	69
9	48.2	306	44	299.6	43.4	560	81	-43	12.7	381	55	643	93	491	71
10	50	323	47	313.3	45.4	584	85	-41	12.7	398	58	668	97	513	74
11	51.8	332	48	327.3	47.5	606	87	-36	11.2	410	59	695	101	535	78
12	53.6	344	50	341.7	49.5	622	90	-34	10.6	422	61	718	104	550	81
13	55.4	357	52	356.4	51.7	643	93	-33	9.7	436	63	745	108	580	84
14	57.2	372	54	371.6	53.9	668	97	-30	8.9	454	66	767	111	605	88
15	59	385	56	387	56.1	695	101	-27	8	470	68	789	114	630	91
16	60.8	402	58	402.9	58.4	716	104	-25	7.4	490	71	810	117	654	95

C	F	R12		R134a		R22		R11		R500		R502		R717	
		kPa	psi	kPa	psi	kPa	psi	kPa	psi	kPa	psi	kPa	psi	kPa	psi
17	62.6	416	60	419.2	60.8	743	108	-22	6.5	510	74	835	121	675	98
18	64.4	432	63	435.8	63.2	769	112	-19	5.6	530	77	860	125	704	102
19	66.2	448	65	452.9	65.7	790	115	-16	4.7	550	80	885	128	730	106
20	68	465	67	470.4	68.2	814	118	-13	3.8	569	83	910	132	755	110
21	69.8	479	69	488.2	70.8	835	121	-9	2.7	588	85	936	136	784	114
22	71.6	497	72	506.5	73.5	866	126	-6	1.8	610	88	967	140	811	118
23	73.4	513	74	525.3	76.2	890	129	-3	0.9	631	92	994	144	840	122
24	75.2	531	77	545.4	78.9	917	133	0	0	651	94	1020	148	868	126
25	77	550	80	564	81.8	945	137	5	0.7	672	97	1050	152	899	130
26	78.8	571	83	584.1	84.7	975	141	9	1.3	695	101	1080	157	930	135
27	80.6	589	85	604.6	87.7	1005	146	14	2	715	104	1110	161	960	139
28	82.4	605	88	625.1	90.7	1040	151	19	2.8	740	107	1145	166	995	144
29	84.2	625	91	646.9	93.8	1070	155	22	3.2	760	110	1173	170	1029	149
30	86	644	93	668.8	96.99	1107	161	30	4.4	785	114	1207	175	1065	154
32	89.6	683	99	714	103.5	1165	169	40	5.8	832	121	1270	184	1130	164
34	93.2	724	105	761.2	110.4	1230	178	50	7.3	875	127	1340	194	1203	174
36	96.8	765	111	810.4	117.5	1300	189	58	8.4	925	134	1410	204	1277	185
38	100.4	824	120	861.7	125	1378	200	62	9	980	142	1482	215	1369	199
40	104	860	125	915.2	132.7	1448	210	76	11	1038	151	1558	226	1449	210
42	107.6	912	132	970.8	140.8	1525	221	88	13	1098	159	1644	238	1543	224
44	111.2	962	140	1028.7	149.2	1610	233	99	14	1155	168	1725	250	1630	236
46	114.8	1010	146	1088.8	157.9	1688	245	111	16	1215	176	1807	262	1722	250
48	118.4	1060	154	1151.4	167	1770	257	142	18	1278	185	1887	274	1820	264
50	122	1118	162	1216.4	176.4	1855	269	140	20	1348	196	1977	287	1914	278
52	125.6	1172	170	1283.9	186.2	1950	283	152	22	1420	206	2070	300	2005	291
54	129.2	1236	179	1353.9	196.4	2050	297	170	25	1489	216	2165	314	2110	319
56	132.8	1300	189	1426.6	206.9	2140	310	182	26	1560	226	2265	328	2229	323
58	136.4	1362	198	1502	217.8	2245	326	200	29	1635	237	2378	345	2366	343
60	140	1428	207	1580.1	229.2	2345	340	212	31	1714	249	2475	359	2515	365

### Non-Condensables indicator

Gauge pressure should relate to ambient temperature on chart, in a stable ambient  
Refer to chart

#### Part list

PART#	DESCRIPTION
[1] AI5003001	Chassy
[2] AI5003002	Membrane panel
[3] AI5003003	Vacuum pump
[4] AI5003004	Vacuum pump motor drive coupling
[5] AI5003005	Recovery pump
[6] AI5003006	Cooling fan
[7] AI5003007	Load cell
[8] AI5003008	Main switch
[9] AI5003009	Fuse
[10] AI5003010	Fuse holder
[11] AI5003011	Power cable
[12] AI5003012	Power cable holder
[13] AI5003013	Non-condensable gauge



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[14]	AI5003014	Cylinder liquid hose
[15]	AI5003015	Cylinder vapour hose
[16]	AI5003016	Cylinder hose shut off valve
[17]	AI5003017	Cylinder strap
[18]	AI5003018	Suction service hose
[19]	AI5003019	Discharge service hose
[20]	AI5003020	Service hose barrel seal
[21]	AI5003021	Service hose barrel "O" ring
[22]	AI5003022	Suction quick coupler
[23]	AI5003023	Discharge quick coupler
[24]	AI5003024	Suction quick coupler storage
[25]	AI5003025	Discharge quick coupler storage
[26]	AI5003026	200mm wheel x2
[27]	AI5003027	75mm castor wheel x2
[28]	AI5003028	Wheel axial plastic cover x2
[29]	AI5003029	Wheel axial stop pin and washer x2
[30]	AI5003030	Caster wheel mounting screw x8
[31]	AI5003031	Load cell stop assembly x2
[32]	AI5003032	Hand manifold
[33]	AI5003033	spool valve x2
[34]	AI5003034	Hand wheel red
[35]	AI5003035	Hand wheel blue
[36]	AI5003036	3 way manifold block
[37]	AI5003037	2 way manifold block x2
[38]	AI5003038	Air purge manifold block
[39]	AI5003039	Air purge spool valve
[40]	AI5003040	Air purge hand wheel
[41]	AI5003041	Temperature/pressure co-related sticker
[42]	AI5003042	Rear instruction sticker
[43]	AI5003043	Main cover sticker
[44]	AI5003044	Vacuum solenoid
[45]	AI5003045	Charge solenoid
[46]	AI5003046	Recovery solenoid
[47]	AI5003047	Flush supply solenoid
[48]	AI5003048	Flush control solenoid
[49]	AI5003049	Recovery control solenoid
[50]	AI5003050	Oil 1 charge solenoid
[51]	AI5003051	Oil 2 charge solenoid
[52]	AI5003052	Air purge solenoid
[53]	AI5003053	Oil recovery solenoid
[54]	AI5003054	Pressure transducer suction
[55]	AI5003055	Pressure transducer discharge
[56]	AI5003056	Pressure transducer liquid control
[57]	AI5003057	Pressure transducer pressure control
[58]	AI5003058	Temperature sensor (Liquid control) with 60cm lead and 3 way plug
[59]	AI5003059	Vent temperature sensor assembly
[60]	AI5003060	Ambient temperature sensor assembly
[61]	AI5003061	Main board
[62]	AI5003062	Relay board
[63]	AI5003063	Display board
[64]	AI5003064	Oil volume sensor board x3
[65]	AI5003065	Main loom (For pumps and fan)
[66]	AI5003066	Sub loom (For solenoids)
[67]	AI5003067	Sub loom (From transformer secondary to main board)

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[68]	AI5003068	Short cable with terminals (From switch to fuse)
[69]	AI5003069	Short earth cable with terminals (Transformer)
[70]	AI5003070	Short earth cable with terminals (Link two earth stubs)
[71]	AI5003071	10 way ribbon cable 35cm (Relay board to main board)
[72]	AI5003072	26 way ribbon cable 40cm (Main board to display board)
[73]	AI5003073	10 way ribbon cable 20cm with communication port
[74]	AI5003074	R.F. unit assembly (Machine end)
[75]	AI5003075	R.F. unit (PC end)
[76]	AI5003076	R.F. unit power pack
[77]	AI5003077	R.F. unit mounting box with sticker
[78]	AI5003078	3 metre serial cable with female 9 pin plugs (For cable communication)
[79]	AI5003079	40cm rainbow type ribbon cable with plugs (Oil sensors)
[80]	AI5003080	Pressure transducer cable 40cm (Delphi connector to 4 way molex connector) x2
[81]	AI5003081	Pressure transducer cable 60cm (Delphi connector to 4 way molex connector)
[82]	AI5003082	Pressure transducer cable 100cm (Delphi connector to 4 way molex connector)
[83]	AI5003083	Beeper with 20cm lead and 3 way plug
[84]	AI5003084	Transformer
[85]	AI5003085	Oil separator and hose clamp 69 -96 mm
[86]	AI5003086	Main filter
[87]	AI5003087	Flushing filter and hose clamp 46-70mm
[88]	AI5003088	Danfoss check valve
[89]	AI5003089	Danfoss moisture indicator
[90]	AI5003090	Oil 1 pick up tube (Clear) 115cm
[91]	AI5003091	Oil 2 pick up tube (Clear) 110cm
[92]	AI5003092	Oil 1 black rubber air lock tube to oil sensor 170cm in length
[93]	AI5003093	Oil 2 black rubber air lock tube to oil sensor 268cm in length
[94]	AI5003094	Recovered oil black rubber air lock tube to recovery oil sensor 90cm in length
[95]	AI5003095	Air purge hose (90cm vacuum tube)
[96]	AI5003096	Oil dryer with clamp and 10cm vacuum tube
[97]	AI5003097	Vacuum hose assembly (Vacuum pump to vacuum solenoid)
[98]	AI5003098	Oil charge vessel assembly
[99]	AI5003099	Oil filler with plug x2
[100]	AI5003100	Oil sump plug x2
[101]	AI5003101	Oil recovery vessel assembly
[102]	AI5003102	Oil recovery drain tap
[103]	AI5003103	Oil recovery solenoid to oil recovery vessel extension fitting
[104]	AI5003104	J/B 1/8 BSP to barb x4
[105]	AI5003105	1/8 BSP to 1/4 compression elbow x4
[106]	AI5003106	Recovered oil air bleed
[107]	AI5003107	1/8 BSP to 1/4 compression straight (To fit temperature sensor)
[108]	AI5003108	10mm thread brass fitting x2 (To fit pressure transducers)
[109]	AI5003109	1/8 BSP to 1/4 flare straight x3 (To fit compressor ports)
[110]	AI5003110	1/8 BSP to 1/4 flare elbow x5 (To fit manifold blocks)
[111]	AI5003111	1/8 BSP to 1/4 flare T piece
[112]	AI5003112	1/4 BSP to 1/4 flare elbow (To fit vacuum solenoid)
[113]	AI5003113	1/4 BSP to 1/2 compression elbow (To fit vacuum solenoid)
[114]	AI5003114	3/8 BSP to 3/8 compression elbow (To fit vacuum pump exhaust)
[115]	AI5003115	1/2 BSP to 1/2 compression straight (To fit vacuum pump inlet)
[116]	AI5003116	30cm 3/8 nylon pipe (Vacuum pump exhaust)
[117]	AI5003117	Copper pipe kit
[118]	AI5003118	Copper fitting to suit oil separator x3
[119]	AI5003119	Chassy mounted cable tie x9

**Note:**

Follow the following procedures to install the A5003 Supervisory Software on your PC:

1. Insert the installation CD in the CD tray.
2. On "My computer" double click on "D" drive.
3. Double click on the folder of "A5003\_Target"
4. Double click on "setup.exe".
5. Follow the screen instruction to install the program.
6. When finishing installation, close all windows.
7. On the "start" menu, go to the program file, select the file "A5003\_rev03", then select "A5003\_rev03" icon, right click it, go to "Send to" Desktop to create shortcut.
8. Double click the "A5003\_rev03" icon on the Desktop to start the programme.
9. Select the Set up tab, and click on the "Select Location" button.
10. Create a folder to place the vehicle test results in. You may choose to call it C:/Ariazone Vehicles
11. Select the Communications port that the A5003 or its transceiver is connected to. The communication ports are referred to as ASRL1, ASRL2 etc. These are the same as COM1, COM2 etc.
12. If the machine is switched on, connected and communication is successful, the status indicator will contain a green tick.
13. If you need to change the communication port in the "Setup", you may need to exit the program and start it again in order to get the communication status activated.
14. If the Ariazone 5003 is the cable communication type, connect the cable between the machine and the PC and switch on the machine before launch the A5003\_rev03 program.
15. If the Ariazone 5003 is the R.F. communication type, and the PC end is supplied with the silver transceiver box, insert the plug of the silver transceiver box into the PC, use the supplied 6V DC output power pack to power the silver transceiver, then launch the A5003\_rev03

16. If the Ariazone 5003 is the R.F. communication type, and the PC end is supplied with the Bluetooth USB Adaptor, please see the next page.

The followings are the procedures to install the Bluetooth USB Adaptor:

1. Place the installation disk that is supplied with the Bluetooth USB Adaptor onto the "D" drive of the PC. **Do not** insert the USB Adaptor into the USB port of the PC at this point.
2. Double click on "My Computer" to locate the disk, and open the content of the disk. Select the preferred language.
3. Click on "USB adaptor for PC" and click on "Install now"
4. Click on "Next" when the pop up menus appear.
5. Select "I Accept for licence agreement" and click on "Next" .
6. Computer will pop up a window: "Bluetooth device not found" , insert the USB Adaptor into the USB port of the PC and click "OK" .
7. In the "Destination folder" menu, click on "Next" .
8. In "Ready to install the program" , click on "Next" .
9. In "Installing WIDCOMM Bluetooth software" , click on "OK" .
10. Restart the computer if you are asked to do so
11. Click on "Finish" to end the installation.
12. Close installation window.
13. Double click on "My Bluetooth Places" icon on the desktop.
14. In the "Initial Bluetooth Configuration wizard" , keep selecting "Next" until the wizard leads to "Bluetooth Service Selection" .
15. Uncheck all boxes except "Bluetooth Serial Port" (Leave only "Bluetooth Serial Port" ticked), and then click on "Next" .
16. Select "Skip" in the next window.
17. Click on "finish" to end the configuration.

To establish the connection between the Bluetooth USB Adaptor and the R.F. unit of the machine, follow the instruction below:

1. Switch on Ariazone 5003.
2. Double click on "My Bluetooth Places" icon on the desktop.
3. Double click on "Find Bluetooth Devices" .
4. Double click on "Bluewave" .
5. Double click on "Bluewave on Bluewave" and wait for it to find the Bluewave devices nearby.
6. If the connection is successful, a box will pop up and a message appear: "Bluetooth PIN Code Required" , click on the box and enter "1111" , then click on "OK" .

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7. The PC will suggest a communication port, take note on the type of port to use, for example "COM6" (equivalent to ASRL6), you will need to change the port in the set up of the A5003\_rev03 supervision program accordingly.
8. Close or minimise the window.
9. Start the A5003\_rev3 program, change the communication port in the Setup section, a green tick indicates the communication between the Bluetooth USB Adaptor and the R.F. unit of the Ariazone 5003 has been established.
10. If the communication is disconnected due to the machine being switched off, or out of the communication range, all you have to do is to re enter the PIN Code "1111" , and it will be connected again.