

# **VALUE-500PLUS**

## **A/C System Maintenance Centre**



**NOTE:**

- 1) Carefully read the user manual before using, and keep it well for future reference.
- 2) Carefully check the device parts list before using. For any doubt, contact Launch distributor immediately.
- 3) Due to the product upgrade, tiny difference between the user manual and the device will not be further noticed. Take the device as standard.

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## **Safety**

- A. The machine is designed to be used and repaired by qualified personnel only.
- B. The machine is designed to be used for R134a or R1234yf refrigerant. But if you select using for R134a, you can't use for R1234yf anymore and vice versa.
- C. Fill the A/C system with the quantity of refrigerant recommended by the manufacturer.
- D. Check the vehicle user manual for the type of refrigerant. Do not mix different type of refrigerant otherwise it'll easily lead to malfunction of the machine.
- E. Keep away from moving parts and rotating elements such as cooling fans, alternators and heating components, etc to avoid harm.
- F. Wear protective clothing gloves and goggles.
- G. As automotive air conditioning pipe flushing, the operator must be fully familiar with automotive air conditioning system and operation of the machine. Check whenever the engine is turned off that the ignition key is turned to the full OFF position!
- H. Do not expose the machine to direct sunlight or rain. Use only in well-ventilated work areas.
- I. Never exceed 30 ° tilt in transit process upside down is strictly prohibited.
- J. Do not touch the machine high voltage power supply section, and do not maintain the machine as power on.
- K. Care of the manual.
- L. We reserve the right to modify the contents of this document without prior notice to our Customers

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# 1、 Introduction

## 1) Outline

A/C system maintenance equipment is with the latest design technique which uses the best control principle and the manufacturing process.

A/C System Maintenance Centre is intelligent equipment collecting of the A/C flushing, recovery, recycling, recharging and other functions in one. It's with the beautiful shape, humanized operation interface, and advanced manufacturing processes to make the A/C maintenance professional and simple.

## 2) Features

- A、 Fully automatic, easy to operate.
- B、 Internal pipeline of A/C system flushing, effectively cleared the internal greasy and fouling, to restore the A/C system performance.
- C、 With forward flushing, reverse flushing, and pulse flushing functions, which greatly improve the cleaning effect.
- D、 Using large-size glass tube with LED backlighting, can effectively observe the entire cleaning process.
- E、 Vertically installing the HP & LP gauges let the operator be able to observe the pressure parameters timely even in the car.
- F、 Unique design of the pipeline to achieve the high recycling rate no matter with the gas or the liquid.
- G、 Easy to operate with the concise operating interface.
- H、 Designed with large size LCD.
- I、 Database.
- J、 Program and database can be updated.
- K、 With printer.
- L、 Designed with auxiliary load cell for recharging by the external refrigerant tank. (Optional)

## 3) Specifications

- A、 Working conditions:
  - Ambient temperature: 0~50°C
  - Relative humidity: <85%
- B、 Voltage input: AC220V±10%~50/60Hz      AC110V±10%~60Hz
- C、 Compressor: 12.12cm<sup>3</sup>
- D、 Vacuum pump: 100L/Min, 2Pa
- E、 Load cell for tank: ±10g
- F、 Auxiliary load cell: ±10g (Optional)
- G、 Load cell for oil bottle: ±5g
- H、 Tank: 12L
- I、 New oil bottle: 280ml
- J、 Used oil bottle:500ml
- K、 LCD display: 240\*128
- L、 Working pressure: max. 20bar
- M、 HP/TP gauge: -1bar~35bar
- N、 LP gauge: -1bar~20bar
- O、 Backlighting: LED

## 2、 Functions

### 1) Primary functions

- A、 Automatic flushing

- B、 Automatic recovering/recycling
- C、 Automatic/manual used oil drain
- D、 Vacuum timing.
- E、 Automatic/manual new oil injection
- F、 Quantitative recharging
- G、 Quantitative recharging via the secondary recharging tank (Optional)
- H、 Auto mode
- I、 Database
- J、 Print

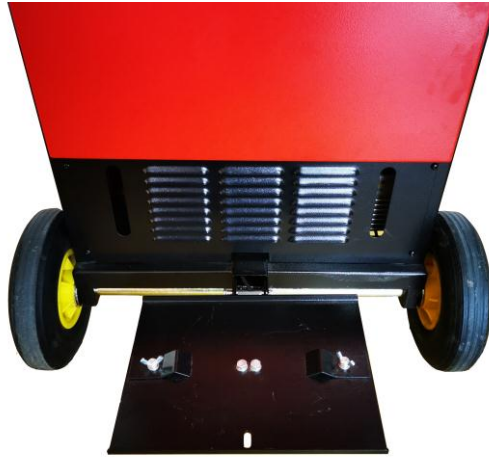
**2) Subsidiary functions**

- A、 System function
- B、 Discharge non-condensable gases
- C、 Machine maintenance procedures
- D、 Equipment info inquiry
- E、 Help

**3. Operation**

**1) Parts descriptions**





Auxiliary load cell (Optional)

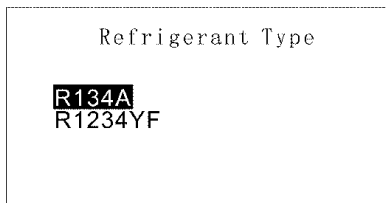
## 2) First use

- A、 Set the language: select one and press ENTER.

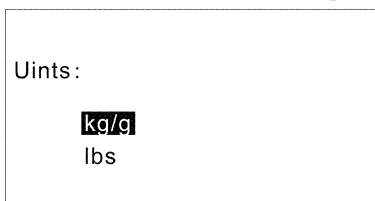


- B、 Set the refrigerant type: select one you will use.

**Warning: After you confirm one type, you'll not use for another type.**

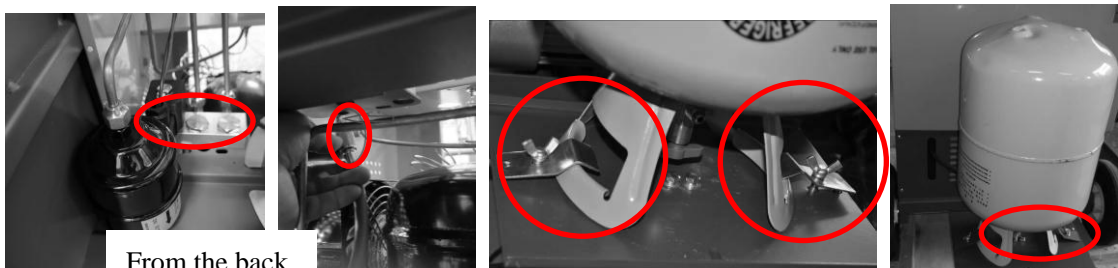


- C、 Set the units: select one and press ENTER



- D、 Please supply about 4 kg refrigerants into the tank of equipment so that all of the functions can be run normally. Please refer to the chapter of **"Refrigerant supply"**.

- E、 Fix the refrigerant tank (Recharging tank) on the load cell. (Optional)



From the back.

- 1<sup>st</sup> Connect the Recharging Tank port of the machine and the port of the refrigerant tank with the recharging refrigerant hose.  
2<sup>nd</sup> Open the valve of the refrigerant tank and place it upside down on the load cell pan.

3<sup>rd</sup> Fix it with the accessories.

Note: If you need not using the auxiliary load cell, please fix it as the manufactory.

Warning: Non-pedal the auxiliary load cell!

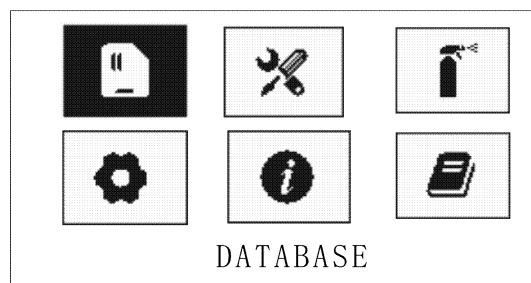
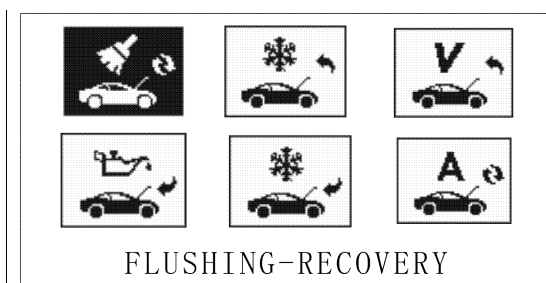
F、 Please read this user manual carefully before operating.

### 3) Preparations before Operation

- A、 To check if there has enough refrigerant in the tank. The volume should be 4~6 kg.
- B、 Empty the used oil bottle.
- C、 Check the automotive A/C system. If there has any leakage, it must be repaired firstly to avoid refrigerant leak during flushing process.
- D、 Check if the automotive air-conditioning can run normally.

**Warning: When the machine is running, never to run the A/C system!**

### 4) Power On



Description:

	<b>Flushing- Recovery</b> This function include flushing and recovery process.		<b>Database</b> Check the amount of Refrigerant & oil
	<b>Recovery</b> Recovery the refrigerant of A/C system.		<b>Equipment Maintenance</b> Exchange dry-filter, Pipe-line cleaning, Calibration load cell.
	<b>Vacuum</b> Timing vacuum.		<b>Discharge non-condensable gases</b> Avoid high-pressure alarm.
	<b>New oil adding</b> Fill the new oil into A/C system.		<b>System function</b> Supply,Parameter setting,Exchange filling tank,Change refrigerant type
	<b>Recharging</b> Recharge quantitative.		<b>Equipment info</b> System info,Service info, Equipment info.
	<b>Auto. Mode</b> Automatically all the process.		<b>Help</b> Descriptions of the alarming code.



## 5) Flushing-Recovery

- A、 By this function, it will be able to clean out the refrigerant oil and oil sludge to exchange the refrigerant entirely to improve the performance of compressor. And also it will recover the refrigerant remained in the A/C system.
- B、 Before flushing the pipeline of automotive A/C system, please turn on A/C system and run it for 5 to 10 minutes. And set it as the lowest temperature and medium wind.
- C、 Turn off the automotive air conditioning.

**Warning: do not start the air conditioning during the flushing process! Otherwise, it easily causes damages to the air-conditioning and risk of accident!**

- D、 In order to achieve good flushing performance, the flushing time should be more than 30 minutes.

**Note: The flushing time does not include the time of recovery process. Once the flushing is finished, the machine will run the recovery function automatically.**

- E、 Operations:



E-1: Select the Flushing Function and press the ENTER key.

E-2: Set the flushing time.

E-3: Press the ENTER key to start.

- F、 When finished, it'll stop automatically.

**Notice: it's normal for that there have action sound of the solenoid valve during the working process. Please do not stop it. The used oil can be drained out automatically.**

**Warning: Strictly prohibit to press the Button switch of new & used oil bottles.**

## 6) Recovery/Recycling

- A、 By this function, it will recover the refrigerant remained in the A/C system.

- B、 Operations:



B-1: Select the Recovery Function and press the ENTER key.

B-2: Press the ENTER key to start.

B-3: After recovery over, it'll drain the used oil automatically.

- C、 When finished, it'll stop automatically.

**Notice: After end, you can drain the used oil by manual.**

## 7) Vacuum

- A、 By this function, it will clean the water vapor out from the A/C system.

- B、 It should be more than 15 minutes. Generally, it needs 15 minutes at least for the air conditioning only with front wind and 20 minutes for with the front and rear wind.

- C、 Operations:



C-1: Select the Vacuum Function and press the ENTER key.

C-2: Set the vacuum time.

C-3: Press the ENTER key to start.

- D、 When finished, it'll stop automatically.

## 8) New oil adding

A、 It must be able to do after vacuum process.

**Warning: please do not press the switch of the new oil bottle anytime when the automotive air conditioning system is not in vacuum state, otherwise it have the risk of explosive bottles!**

B、 Pour new oil into the new oil bottle.

**Note: add new oil more 20ml than the used oil drained out to avoid the air into the air conditioning system.**

C、 Method 1: Control by manual.

After vacuum, press the button switch of the new oil bottle to fill the new oil.

D、 Method2: Control automatically.



D-1: Select the New oi adding Function and press the ENTER key.

D-2: Set the adding amount.

D-3: Press the ENTER key to start.

## 9) Recharging



A、 Select the Recharging Function and press the ENTER key.

B、 Set the recharge amount.

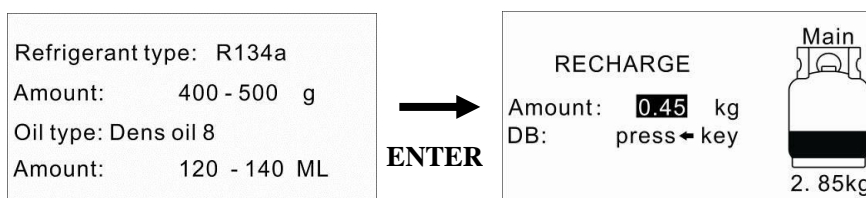
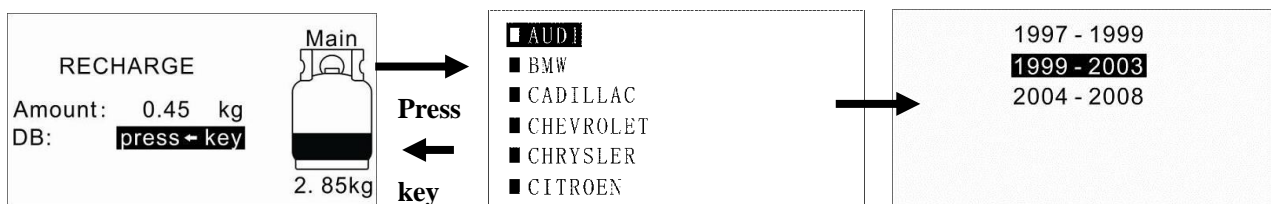
C、 Press the ENTER key to start.

D、 When finished, it'll stop automatically.

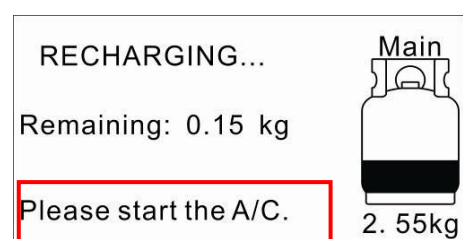
**Note: The recharging amount setting as following.**

Method 1: Set the amount directly.

Method 2: Set the amount by the database. Steps as following:



**Note: In the recharging process, if shows the menu, it means that you need to turn on the car air-conditioning to complete the recharging process. Later, you should supply new refrigerant into the tank.**



## 10) Auto. Mode

- A、 Under this mode, all of the functions can be run full automatically after setting the parameters.
- B、 Before running, must drain out the used oil entirely and fill enough new oil into the new bottle.
- C、 Operations:



C-1: Select the Auto. Mode Function and press the ENTER key.

C-2: Set the all parameters.

C-2: Press the ENTER key to start.

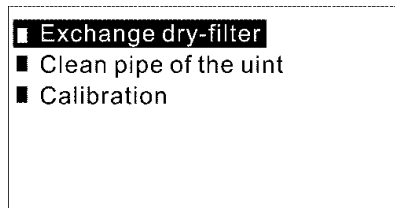
- D、 When finished, it'll stop automatically.

## 11) Database



Here you can read the refrigerant type and filling amount and the refrigerant oil type and filling amount of the automotive.

## 12) Equipment Maintenance



### 12-1) Exchange dry filter

- A、 The dry filter must be exchange when it reaches the life time. There will give a message.
- B、 If not exchange the dry-filter timely, it will not be able to run the recovery, flushing and supplying functions.
- C、 Operations:
  - C-1: Please check the ID of the dry-filter at the label. Which is the SN.
  - C-2: Select Exchange dry-filter Function and press ENTER key.
  - C-3: Input the ID.
  - C-4: And then do step by step as the information.

**Note: Please attention the mounting direction of the dry-filter.**

### 12-2) Clean pipe of the unit

- A、 After a period of use, such as 2months, it should be run this function.
- B、 It can clean up the pipe line of the machine.

**Note: Connect red refrigerant pipe and blue refrigerant pipe into one pipe with two-way connector.**

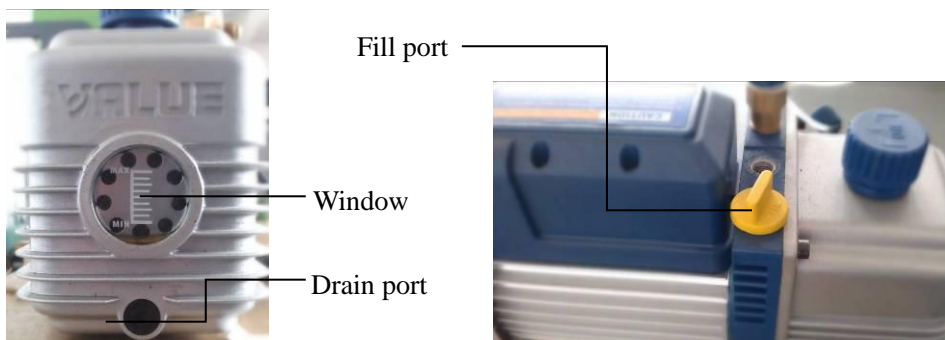
### 12-3) Calibration of load cell

- A、 When the load cell is not precise, it needs to be calibrated.
- B、 You need input the password 1510 before use this function.
- C、 If do the calibration of main tank load cell, please prepare a 10~20kg weight.  
If do the calibration of oil bottle load cell, please prepare a 1-3kg weight.  
If do the calibration of auxiliary tank load cell, please prepare a 10~20kg weight.
- D、 Follow the prompts step by step.

**Note: if here have some programs, please check according to the messages.**

#### 12-4) Change vacuum pump oil

- A、 When the pump oil became cream or machine display maintenance message, the vacuum pump oil must be changed.
- B、 If not change the pump oil in time, the vacuum pump will be easily damaged.
- C、 Steps:
  - C-1: Open the back-down cover.
  - C-2: Unscrew the block of the drain port to drain the old oil out entirely. Then re-back the block to the drain port.
  - C-3: Unscrew the cap of the fill port and then fill the new oil slowly into the vacuum pump until the oil level reach at the center site. Then re-back the cap to the fill port.



**Note: the new vacuum pump oil cannot be filled too much into the vacuum pump otherwise it will spray out when working.**

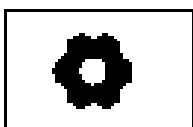
C-4: Re-back the cover.

#### 13) Discharge non-condensable gases



- A、 When the machine appear the High-pressure Alarm, it need do this function.
- B、 We advise that it should be done once a month.

#### 14) System function



- LANGUAGE
- **Parameter setting**
- Supply main tank
- Exchange auxiliary tank
- Change refrigerant type

##### 14-1) Language

Change the language

##### 14-2) Parameter setting

- **Units**
- Recharging tank select

14-2-1: Change the units.

14-2-2: Set the default recharging tank. It means that it'll recharge refrigerant by main tank or by Auxiliary Tank (fresh refrigerant tank). **This is optional function.**

#### 14-3) Supply main tank (internal tank)

A、 If the refrigerant amount in the main tank is less 4kg, the flushing function can't run any more until supply enough refrigerant into the machine.

B、 There have two ways to supply the refrigerant.

Method 1:

M1-1: Connect the port of fresh refrigerant tank to the LP port of equipment.

**Note: it should connect to the liquid port of fresh refrigerant tank. If has no liquid port, please place the fresh refrigerant tank upside down.**

M1-2: Block the HP port of equipment with a cap.

M1-3: Select supply main tank function and then set the supplying amount.

**Note: Amount of supplying: Setting the amount according to remain amount in the tank.**

**Suggestion: supplying amount = (4.5~5) - remained amount.**

M1-4: When alarming, please close the valve of the refrigerant tank and until finished automatically.

Method 2:



Use the supplying connector

M2-1: Fitting the supplying connector to the port of fresh refrigerant tank.

**Note: it should connect to the liquid port of fresh refrigerant tank. If has no liquid port, please place the fresh refrigerant tank upside down.**

M2-2: Connect the HP (or LP) coupler to the supplying connector.

M2-3: Select the Recovery function and run it.

M2-4: When you see the total amount more than 4.5kg, close the valve of the refrigerant tank and until finished automatically.

**Note:**

**Main Tank: the tank is installed in the machine which is used for the flushing, recovery, recharging functions.**

**Auxiliary Tank (fresh refrigerant tank): the refrigerant tank is installed by user which is just used for the recharging.**

#### 14-4) Exchange auxiliary tank

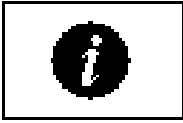
**This is optional function.**

When the auxiliary tank (fresh refrigerant tank) is empty, it'll change a new one. Please operate following the prompts step by step.

#### 14-5) Change refrigerant type

If you want to use another type refrigerant, you must do this function. Please operate following the prompts step by step.

## 15) Equipment info



- System inquiry
- Servicer info
- Equipment info

### 15-1) System inquiry

Here you can check the working status of the machine.



Running status		
Compressor:	<b>10</b>	h
V-pump total:	20	h
V-pump cycle:	10	h
Dry-filter:	10	kg
Machine total:	26	times



### 15-2) Servicer info


Here you can set and check the servicer and dealer information.

<b>Servicer:</b>
Phone:
Dealer:
Phone:

The way for setting:

Press  and  keys at same time into the setup state.

Use the  and  keys to select position

Use the  and  keys to set the content.

### 15-3) Equipment info

Here you can check the SN, hardware version, software version etc.

SN:	842501000001
Software version:	V3.0.0/V3.0
Hardware version:	V1.2
DATABASE:	V1.0
MFD:	2019-11 -13

## 16) Help



Here you can check all of the help messages.

**Warranty Clause** The warranty clause is only applicable to users and distributors who purchased Launch products via the regular process.

Within 1 year since the delivery, Launch guarantee the products damaged due to the material or craft defects. Any damage to the device or part due to abuse, unauthorized change, usage other than designed to, operation not following the user manual, etc. is out of the warranty compensation for the auto instrument damage due to the device defect is limited to repair or replacement, Launch is not responsible for any indirect or accidental loss. Launch will clarify the device damage according to the specified test method. Any distributor, employee and business representative of Launch are not entitled to do any confirmation, presentation or promise related to Launch products.

### **Statement of Disclaimer**

The above warranty clause can substitute for any other form of warranty clauses.

### **Purchase Order**

Replaceable parts and optional parts are available from Launch authorized suppliers. Purchase order should include:

Order quantity

Part number

Part name

### **Customer Service Center**

Any question during the operation, please call 0086-755-84557891

For maintenance and repair, please send back to Launch with Warranty Card, Product Qualified Card, Purchase Invoice and problem description. Launch will maintain and repair the device for free when it is within the warranty. Otherwise, Launch will charge the maintenance and repair and the shipping.

Launch address:

Shenzhen Launch Tech Co., Ltd,

Launch Industrial Park, North of Wuhe Avenue. Banxuegang, Longgang District, Shenzhen, P.R.China

Receiver: Customer Service Center    Postcode: 518129

Launch website: <http://www.cnlaunch.com>

<http://www.x431.com>

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Declare:

We reserve the right to modify the contents of this document without prior notice to our customers.