VALUE

VALUE

Accurate Digital Gauge
Operating Manual
VDG-4-S1



Accurate

www.worldvalue.cn

Index

1 Safety instruction.....1

2 Product performance.....2

3 Description.....5

4 Initial setup.....6

5 Operation instructions.....9

6 Maintaining.....11

7 After service.....12

1. Safety instruction

1.1 Safety Guide

Please do not use the product in dangerous place.

Please do not test on a move object.

Don't mix with other solvent and this product don't need drier.

Only qualified service personnel should maintain and repair this product according to prescribed steps. It is recommended adopting genuine parts if needed. It should be avoid any external collision when using the product.

Please notice the risk of environment and object measured and take necessary measures.

If the product gets external collision or falls to the ground, it may cause the damage of refrigerant pipe. It is recommend to check up the product and change the refrigerant pipe.

Wear safety glasses and gloves to avoid dangerous refrigerant vapor or mist.

1.2 Environment protection

Take used batteries to the battery collection point.

The refrigerant will pollute the environment and please obey the local law.

2. Product performanc

2.1 Applied field

VDG-4-S1 digital gauge has been designed especially to maintain and repair the vacuum refrigeration system.
The product may only be used by trained technicians.
VDG-4-S1 is an integration of traditional manifold gauge, thermo detector, refrigerant gauge, measurable for pressure and temperature.
VDG-4-S1 is suitable for detecting most media like non-corrosive refrigerant, water, alcohols and so on.
But this is not suitable for ammonia refrigeration.
This product is not suitable to the place needed anti-explosion requirement.

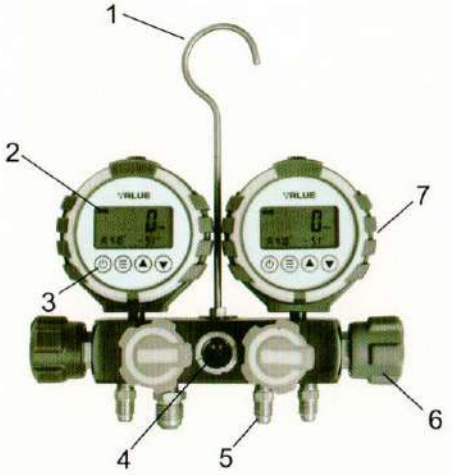
2.2 Specifications

Supportive Unit	Pressure display: psi bar Kpa Mpa kgf/cm²
	Temperature display: ℃ ℉
	Vacuum display:inHg
Sensor	Pressure: pressure sensor×2 (Built in)
Detection frequency	1S
Testing medium	9 Kinds:R22 / R134a / 1234yf / R290 / R404a / R407C / R410A / R32 / R507
Connection	3×1/4" SAE, 1×3/8" SAE
Pressure scale	Pressure scale(Relative pressure): 0~50 bar / 0~725 psi / 0~5000 kPa / 0~5 Mpa / 0~51 kgf/cm²
	Vacuum scale: -29.5~0 inHg
Environment humidity	10~90% RH
Maximum over pressure	75 bar / 7500 Kpa / 7.5 Mpa / 1087 psi / 76.5 kgf/cm²
Resolution	Pressure resolution:1 psi / 0.1 bar / 10 Kpa / 0.01 Mpa / 0.1 kgf/cm²
	Vacuum resolution: 0.5 inHg
Measure precision (At 22℃ / 72℉)	Pressure: ±2 psi / ±0.2 bar / ±20 Kpa / ±0.02 Mpa / ±0.2 kgf/cm²
	Vacuum: ±1 inHg

Built-in refrigerant	9 Kinds: R22 / R134a / 1234yf / R290 / R404a / R407C / R410A / R32 / R507
Unsuitable medium	Ammonia(R717)and ammoniac refrigerant.
Environment requirement	Operation temperature: -10~50℃ / 14~122℉
	Storage temperature: -20~60℃ / -4~140℉
Shell	Material: ABS /PC/ TPE
	Size: 210×232×96 mm
	Weight: about 1173g(without battery)
Power	2×9V LR dry battery(life of battery:≥20 hours)
Display	LCD display with backlight
	Refresh frequency:1S
	Response time:1S
Standard	JB/T 7392-2006

3 Description

3.1 Basic function



1—Foldable hook

2—LCD display, below is the design explanation.



Battery capacity: 100% | >75% | >50% | >25% | 0%

3—Control Keys

Button	Function	Button	Function
⏻	Power	▼	Up button
≡	Menu	▲	Down button

4—Sight glass:through which you can observe the flow trends of refrigerant

5—3×1/4" SAE, 1×3/8" SAE
From left to right connect blue, black, yellow, and red refrigerant pipe.

6—Control valve

7—Battery box is on the back of the digital gauge.

4 Initial Setup

Caution: the same set on both sides

①Place the battery into the cover
(Please put one piece 9V dry battery in each side)
Attention:please take the battery out of the cover for long-time no using.

②Starting
Press⏻ the digital gauge will initial itself, then goes into measuring interface.
Press⏻ on condition of boot state, the backlight is turned on, as the backlight automatically turned off, press⏻ turned on the backlight .
Press⏻ about four seconds on condition of boot state, shut down.

VALUE

③Settings
1.Press ≡
Select the type of refrigerant entering the state, this option will appear flashing.
Select the type of pressure unit entering the state, this option will appear flashing.
Select the temperature unit entering the state, this option will appear flashing.
Rotation switch
For example:
Press ≡ enter into the state of rotating the refrigerant type, press ≡ again, goes to the state of rotating the pressure unit, press ≡ the third time, rotating the temperature unit.

2.Setting the specification

Button Function	
Symbol	Instruction
▲ or ▼	Changing options
⏻	Determine the current selection

When enter into the switching mode, selecting by pressing the up button or down button, idle 20 seconds, switching mode automatically exit.

Adjustable specification	
Symbol	Instruction
R22 R134a 1234yf R290 R404a R407C R410A R32 R507	9 kinds of optional refrigerant
psi bar Kpa Mpa kgf/cm²	5 kinds of optional pressure unit
℃ ℉	2 kinds of optional temperature unit

Operation the control valve

The control valve system of the accurate digital gauge is fully qualified for the refrigerant system just as the traditional one. Open the control valve, connected the pipe, the refrigerant will get through the valve and test the pressure.

Open the control valve: turn the knob anticlockwise.

Close the control valve: turn the knob clockwise.

Warning: you cannot put much power to turn the knob to avoid damaging the valve. It is forbid to turn the knob by tools.

5 Operation instruction

5.1 Preparing

Caution: the same set on both sides

5.1.1 Starting the digital gauge

Press ◎ Connect the refrigerant pipe

Please close the control valve at first.

From left to right connect blue, black, yellow, and red refrigerant pipe.

Warning: the refrigerant pipe will be damaged if the digital gauge are dropped or by external collision during its using.

So as to the control valve, the inside damage for it may not visible.

Refrigerant Setting

1.Press◎

Refrigerant selection menu is activated, this optional will appear flashing.

2.Refrigerant setting:

Button Function	
Symbol	Instruction
▲ or ▼	Changing the type of refrigerant
◎	Determine the current selection

For example: "setting R32 refrigerant"
1.Press ▲ or ▼ button until R32 shows.
2.Press ◎ confirm setting, the option of selecting refrigerant automatically exit.
Attention: Refrigerant R1234yf will show R922B in menus.

5.2 Measuring

Warning: high temp, high pressure, low temp and poisonous refrigerant may cause injury to human.

Wear safety glasses and gloves.
Make sure the digital gauge is securely hung before using it to avoid falling or broken.
The pipes should be in good condition and connected correctly before using. It is forbidden to tighten the pipes by tools for avoid damaging the pipes with over power.
There exist risks when measuring the pressure of refrigerant.

5.2.1 Measuring
1.Finishing the above steps.
2.Open the valves and put in the refrigerant.
3.Read the figure.

Attention: the reading will appear flashing and shows OL when the pressure exceeds maximum 50bar.

5.3 Zeroing operation

Warning: Due to the influence of the temperature and pressure changes, the digital gauge will be a non-zero value at atmosphere pressure conditions under different circumstances in different regions.

5.3.1 Zero Operating.
1.The digital gauge enters into the starting state
2.Open the input ports to ensure that the air pressure outside the digital gauge consistent with the valve body.
3.Press ▲ and ▼ at the same time.
Attention: if improper operation zero value allowed pressure measurement can be performed for a zero operating environment.

6 Maintaining

6.1 shell clean

Using a damp cloth to clean the surface of the digital gauge if it was dirty.
Attention:you can use mild detergent or soapy to clean the surface, but not use strong basicity or strong acid detergent.

6.2 Copper connection clean

A wet cloth can be used to clean the connection and keep the screw thread clean without any impurities.

6.3 Change refrigerant pipes regularly.

The pipes maybe damaged or hidden troubles for using a period of time.Changing refrigerant pipes regularly can help to reduce the risk during testing .

6.4 Clean dirt and impurity in the valve

Open the valves and filled it with compressed air to blowing dirt and impurities inside the valve body.

6.5 Change the battery

1.Power off the digital gauge;
2.Open the battery box;

3.Remove the old battery and put a new battery(pay attention to the battery polarity!);
4.Open the digital gauge to check if the new battery works well or not.
5.Close the battery box.

7. After service

7.1 Trouble shooting

Fault	Possible reasons
blink	Battery goes dead and change it.
Digital gauge shut off automatically	1.Low battery. 2.No operation in 15 minutes, the digital gauge shut off automatically.
Displays OL	1. Exceeds maximum range 2. Damage of temp sensor or wrong connection
Displays ERP FAIL	Memory error Please contact local distributor or value sales
Fail to find R1234YF	Couldn't display R1234YF because of limits of the LCD display. Choose R922B

7.2 Maintain

1.This product from the date of sale, the warranty period is one year.
2.Warranty for the product category in the course of natural damage.
3.Consumables such as refrigerant pipes are not covered by the warranty.
4.Damage to human factors such as drop broke areas are not covered ny warranty.
5.The product in question during the warranty period for free repair or replace
6.The product in question over the warranty can also return to the factory for repair ,but to impose a fee.