WIPCOOL®

DIGITAL MANIFOLD GAUGE
数显冷媒单表
MDG-1

— OPERATION MANUAL —
— 使用说明书 —

1. Notice for Use

■ Thank you for buying WIPCOOL MASTER Series Manifold gauges, we are dedicatedto providing you with high quality products.
■ Please check if your ordered product is in good shipment condition，with the correct accessories，any damage during transportation，please contact us or the local distributors in time if you find any problems.
■ This manual gives instructions on the correct operation,it's important that you follow this instructions carefully.
■ If there is any change of the product (including the specification), we won't informany more.

2. Safety Instruction

⚠The gauges are for technical professionals only.

2.1 Do not contact the gauges with harmful or corrosive liquid, especially ammonia refrigerant.
2.2 Never face the fittings directly to human body because the remaining refrigerant in the gauges and hoses may cause injury.
2.3 Wear protective clothing, protective gloves and safety goggles when working with refrigerants, which can cause cold injury, etc. Disconnect hoses with extreme caution.
2.4 Do not inhale refrigerant vapor, lubricant and oil mist. Inhalation of refrigerant with high concentration may cause arrhythmia, anesthesia or even death by suffocation.
2.5 If your eyes are in direct contact with the refrigerant, rinse immediately with water and see a doctor.
2.6 Built-in rechargeable Li-ion battery, please charge it timely.
2.7 Please dispose of the refrigerant in compliance with local environmental regulations.




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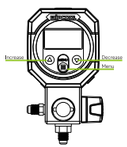
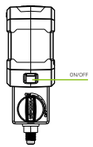
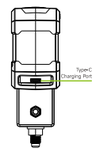
3. Product Overview

MDG-1 is a professional digital gauge used for maintaining, monitoring and evacuating refrigeration systems and charging refrigerant. The gauges can measure system pressure and display various parameters such as the evaporation temperature of corresponding refrigerant. They have back light, auto off, unit switch, over range alarm and other functions.







Supportive Unit	Pressure display: bar, psi, Kpa, Mpa, kgf/cm²
	Temperature display: °C，°F
	Vacuum display: inHg
Sensor	Pressure sensor (Built in)
Refresh rate	1s
Testing medium	R22、R32、R134a、R290、R404A、R407A、R407C、R410A、R427A、R434A、R442A、R600a、R1234yf，R448 A 、R450 A R454 B
Connection	2*1/4"SAE
Pressure scale	0~50 bar, 0~720 psi,0~5000 KPa,0~5 Mpa,0~51 kgf/cm²
Vacuum scale	-29.5~0 inHg
Battery Capacity	Built-in Rechargeable Li-ion Battery(1500mAh)
Environment humidity	10-90%RH
Maximum overload pressure	75 bar, 7500 Kpa,7.5 Mpa,1087 psi,76.5 kgf/cm²
Resolution	0.1 psi,0.1 bar,1 Kpa, 0.001 Mpa,0.1 kgf/cm²
	Vacuum resolution: 0.1 inHg
Measure precision (At 22°C/72°F)	Pressure:±2 psi,±0.2 bar,±20 Kpa, ±0.02 Mpa, ±0.2 kgf/cm²
	Vacuum: ±1 inHg

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4. Operation Instructions

4.1.ON/OFF

ON: Press ON/OFF and the gauge will display current pressure. Short press ▣ to turn the backlight on or off. The backlight will automatically turn off after 3 minutes of no action.
OFF: Press ON/OFF and the screen will off.

4.2.SETTINGS

a,Press and hold ▣ button for 3 seconds to start setting process.
b,Short press ▣ by choosing the type of refrigerant, pressure unit and temperature unit. It's a rotation switch,Press △ and ▽ keys to switch the refrigerant, pressure and temperature unit when display zone flashes.
c,Press and hold ▣ button for 3 seconds will save the current settings and end setting process. It will automatically save and quit current setting after 20 seconds of no action.
d,It will automatically power off after 15minutes of no action(not under pressure testing)

4.3.ZEROING OPERATION

Due to temperature and pressure changes, the digital gauge could require zeroing prior to operation.
a.Open all input ports to ensure that the air pressure outside and inside the gauge is the same.
b.Press △ and ▽ at the same time. Display should show 0.0.

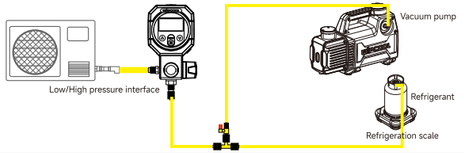
4.4.CHARGING OPERATION

Built-in Li-ion battery, the symbol ▭ will twinkle when in low power, please charge it timely.

4.5.CONTROL VALVE OPERATION

Two connection 1/4" SAE, The left connection is for refrigerant hose to be connected to the HVAC system, The bottom connection is to connect with refrigerant container,vacuum pump or recovery equipment.
The control valve of the digital gauge is the same as the traditional mechanical gauge. Once connected to the HVAC system with the refrigerant hoses, open the control valve, the refrigerant will get through the valve and the gauge will measure the refrigerant pressure. Open the control valve: turn the knob 90 degrees anti clockwise, accordingly to label on the gauge. Close the control valve: turn the knob 90 degrees clockwise.

5. Connecting to an A/C system



6. Maintenance

6.1.Gauge Cleaning
Use a wet cloth to clean the surface of the gauge if necessary.
Attention:
You can use mild detergent to clean the surface, but do not use strong alkaline or acid detergents.
6.2.Copper Connections Cleaning
A wet cloth can be used to clean the connections.
6.3.Hose Condition
Check hoses condition every time prior to use and change it if necessary.
6.4. Valve Cleaning
Open the valve and blow out dirt and impurities by compressed air.

7. Service

7.1.Trouble Shooting

Problems	Possible reasons
twinkle	Low power and charge it
Display E1	Exceeds maximum range
Display E2	The pressure sensor is damaged or the interior wiring is blocked

7.2.Warranty
7.2.1.The warranty period is 1 year from the date of sales.
7.2.2.Consumables such as refrigerant hoses are not covered by this warranty.
7.2.3. Damages caused by human factors are not covered by warranty.
7.2.4.Defective product during the warranty period will be repaired or replaced for free.

1. 用前须知

■尊敬的用户,感谢您对本公司的信赖与支持,欢迎您使用维朋公司匠心系列冷媒表,我们将竭诚为您提供优质的的产品。
■请您仔细检查收到的产品是否与订购产品一致,备附件、使用说明等是否齐全,运输过程中是否有损坏,如果发现上述情形请及时与本公司或当地经销商联系。
■在使用本产品前,请您务必仔细阅读此说明书,按产品操作规程进行操作。
■产品(包括说明书)以后若有任何改动,请恕不另行通知。

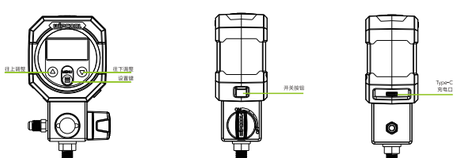
2. 安全须知

⚠ 此压力表仅供专业技术人员使用。

2.1 使用前，检查表组所适用的冷媒与系统的冷媒是否一致。
2.2 正确接入高低压管，确保测量的系统压力不超过表组的量程。
2.3 使用前清理连接接口部位，防止系统漏气及进入异物。
2.4 使用中需穿戴防护手套和护目镜，防止冷媒接触皮肤和眼睛，造成人体伤害。
2.5 本产品不适用于有防爆要求的区域，不适用于含氨的冷媒。
2.6 本产品属于精密测量设备，在使用存放过程中，需注意轻拿轻放，如不小心跌落冲撞，需特别小心检查是否损坏，如有必要寄回本公司进行检修。
2.7 冷媒会污染环境，请注意当地的环境法规。
2.8 本产品内置锂电池，长时间不用时，请每隔一段时间充电一次。

3. 产品简介

MDG-1是一款专业数显冷媒单表，应用于制冷系统安装和维护，在对制冷系统的抽真空、冷媒加注、冷媒回收等操作中起到辅助开关的作用。该仪表可测量系统压力并显示各种参数，如相应制冷剂的蒸发温度。具有背光、自动关闭、单元切换、超限报警，内置可充电锂电池等功能。



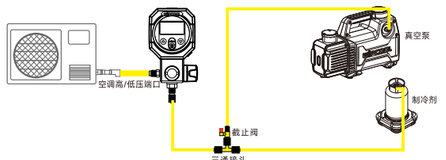
单位	压力单位: bar, psi, Kpa, Mpa, kgf/cm²
	温度单位: °C，°F
	真空度单位: inHg
传感器	内置压力传感器
探测频率	1秒
冷媒种类	R22、R32、R134a、R290、R404A、R407A、R407C、R410A、R427A、R434A、R442A、、R600a、R1234yf、R 448 A 、R450 A 、R 454 B
接口	2*1/4"SAE
电池容量	内置可充电锂电池（3.7V/1500mAh）
压力量程	0~55 bar, 0~800 psi,0~5500 KPa,0~5.5 Mpa,0~60 kgf/cm²
	真空量程: -29.5~0 inHg
环境湿度	10~90%RH
最大过载压力	75 bar, 7500 Kpa,7.5 Mpa,1087 psi,76.5 kgf/cm²
分辨率	压力:0.1 psi,0.1 bar,1 Kpa, 0.001 Mpa,0.1 kgf/cm²
	真空度:0.1 inHg
测量精度	压力: ±2 psi, ±0.2 bar, ±20 Kpa, ±0.02 Mpa, ±0.2 kgf/cm²
	真空度: ±1 inHg

4. 操作说明

4.1.开关键
开: 按开关键开机，开机后进入工作模式，此时屏幕显示上次保存的参数，在工作模式下短按设置键㊂开启背光，再短按设置键㊂关闭背光。无任何按键操作3分钟后自动关闭背光。
关: 按开关键关机，屏幕关闭。
4.2.设置
在工作模式下长按(3秒)设置键㊂则进入设置模式，此时冷媒显示区闪烁，按△、▽键切换冷媒，再短按设置键㊂则切换至压力单位区闪烁，此时按△、▽键切换压力单位；再短按设置键㊂则切换至温度单位区闪烁，按△、▽键切换温度单位；依次循环切换冷媒种类、压力单位、温度单位；在设置模式下长按设置键㊂则保存当前设置并退出设置模式；在设置模式下无操作20秒后自动保存设置并退出设置模式。无任何按键操作15分钟后自动关机（不包括在检测压力状态，即表显示有压力时不自动关机）。
4.3.置零校准
在压力传感器连通外界大气压，开机状态下同时按下△、▽键完成置零校准
4.4.充电
本产品内置锂电池，电量不足时，电量标识 会闪烁，请及时充电。

4.5.控制阀操作
本产品有两个1/4"SAE接口，左侧接口用于连接制冷剂软管暖风、通风与空调系统，底部接口连接制冷剂、真空泵或回收设备。此数显冷媒表的控制阀与维朋的机械单表控制阀相同。
打开控制阀：逆时针旋转旋钮90°。
关闭控制阀：顺时针旋转旋钮90°。

5. 连接空调系统



6. 保养

1、请按操作指南的要求或专业人员的指导下操作。
2、压力表属于易损件，应定期送计量部门校验，以确保其精度。
3、使用时应轻拿轻放，防震防摔。
4、使用完毕后请把旋钮旋至OFF位置，提高阀芯的使用寿命。
5、使用弱碱性的外壳清洁剂或肥皂水清洗外壳、铜接头。

7. 故障处理

故障	可能原因	解决方案
闪烁	电池低电量	及时充电
屏显E1	超出允许的量程	在规定的量程内使用
屏显E2	1.传感器损坏 2.内部线路损坏	返厂检修