Nouveautés

CROD 8 Bluetooth

•PRESENTATION PRODUITS

Des nouveautés dans la continuité

Manifold électronique 4 voies avec Voyant

. Haut de gamme avec sonde de vide intégrée

. 2 sondes de température type K à pince

. Filtre interne pour capteur de vide

. Filtre amovible et remplaçable

. Paramétrage seuil de vide à atteindre

. Mode contrôle et détection de fuites

. Connection Bluetooth avec Application

. Calcul de la surchauffe et du sous refroidissement

. Mémoire de stockage des tables de réfrigérant

. 55 Fluides en mémoire (et mise à jour possible)

. Large écran LCD rétro éclairé

. Taille important des boutons de manipulation

. Livré avec une grande mallette permettant le rajout d'un jeu de flexibles à l'intérieur

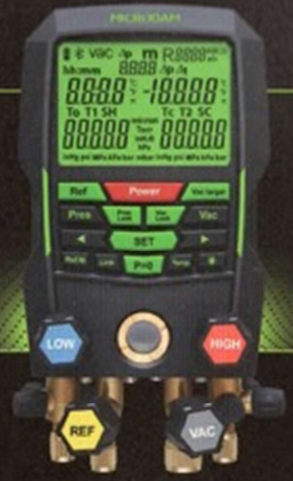
Galaxair 30 ANS

CROD 8 Bluetooth

MICRODAM

New Digital Manifold
MDM008A

www.microdam.co.kr



MICRODAM 04/2020

SUNGSHIN MASCO

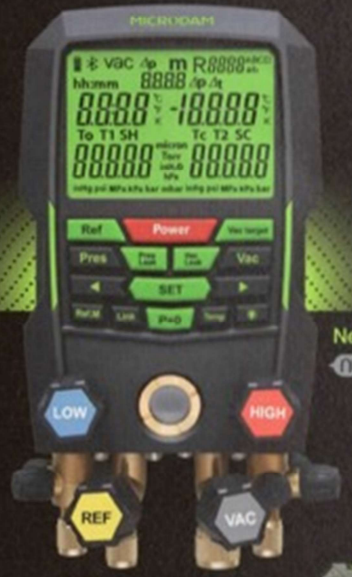
Head Office
Gyeongsan Factory : 65, Gongdan 7-ro, Jillyang-eup, Gyeongsan-si, Gyeongbuk, Korea, 38465
Gimpo Factory : 21, Hagunsandan 2-ro, Yangchon-eup, Gimpo-si, Gyeonggi-do, 10049
Tel. +82-53-853-8826, 8827 **Fax.** +82-53-853-8828

www.microdam.co.kr

MICRODAM

New Digital Manifold
MDM008A | User Instruction Manual

■ Please read and fully understand the User Instruction Manual before installation, operation and maintenance



New Digital Manifold
NEW MDM008A

New Digital Manifold Case

SUNGSHIN MASCO ISO 9001:2015 CE Certified

CROD 8 Bluetooth

New Digital Manifold
MDM008A

Contents of the User Instruction Manual


K-type temperature sensor clamp

2. Product Specifications

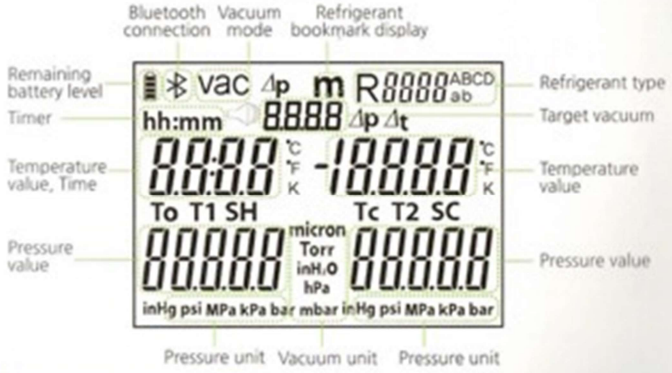
2.1 Technical data

Item	Descriptions
Unit of measure	• Pressure : Kpa/Mpa/bar/psi • Temperature : °C/°F/K • Vacuum : hpa/ Torr/inH20/Micron/mbar/inHg
Sensor	• Pressure : Pressure sensor × 2 • Temperature : K-type × 2 • Vacuum : Vacuum sensor × 1
Pressure media	• FCKW, FKW, N, H2O
Measuring cycle	• 0.75 second
Measuring channel	• 4 channels
Interface	• Pressure : 7/16" UNF × 3, 5/8" UNF × 1 • Temperature : K-type socket
Measuring range	• Pressure measuring range HP/LP(rel) : -1~50 bar(rel) / -14.7~730 psi(rel) 100~5000 Kpa(rel) / 0.1~5Mpa(rel) • Temperature measuring range : -50 ~ 150°C
Accuracy (at 22°C/71.6°F)	• Pressure : ±0.75%fs (±1 digit) • Vacuum : ±1%fs (±1 digit) • Temperature : ±0.5K (±1 digit)
Ambient conditions	• Operating temperature : -10 ~ 50°C • Storage temperature : -20 ~ 60°C
Power supply	• 1.5V AA batteries × 4 units • Battery life: about 100 hours (without display light)
Display	• Type : illuminated LCD • Response time : 0.1 second
Selectable refrigerants	R11, R12, R21, R22, R23, R32, R113, R114, R123, R124 R134A, R152A, R290, R401A, R401B, R402A, R402B, R403B R404A, R406A, R407A, R407B, R407C, R407F, R407H, R408A R409A, R410A, R410B, R414B, R416A, R417A, R422A, R438A R442A, R448A, R449A, R450A, R452A, R454C, R455A, R500 R501, R502, R503, R504, R507, R507A, R513A, R600, R600A R717, R718, R744, R1234
Warranty period	1year

CROD 8 Bluetooth

3.1 Overview (Display and control elements)

1. K-type temperature probe socket
2. Foldable fixing device
3. Marked content on the display



Name		Description
Δt	SH	Degree of superheat, Evaporation pressure
	SC	Degree of subcooling, condensation pressure
To	Ev	Refrigerant evaporation temperature
Tc	Co	Refrigerant condensation temperature
T1	T1	Measured temperature of evaporator (Exterior Probe)
T2	T2	Measured temperature of condensor (Exterior Probe)

9. Battery compartment: 1.5V battery × 4 units (AA type)
10. Operation keys

Button configuration

Power	Power on/off	◀ I ▶	Moving unit, Moving between menus
Ref	Setting refrigerant	Set	Setting unit, Setting auto-on/off
Pres	Pressure measuring mode	Ref. M	Registering & selecting frequently used refrigerant
Pres Leak	Testing pressure tightness	Link	Pairing Bluetooth with smartphone
Vac Target	Setting the target vacuum level	P=0	Setting the zero-point
Vac	Vacuum measuring mode	Temp	Temperature measuring mode
Vac Leak	Testing the vacuum tightness	☀	LCD backlight on/off

11. Sight glass: Checking the refrigerant flow and condition
12. Valve handle × 4
13. Refrigerant hose hanger × 6
14. Connections 7/16" UNF × 3, Connections part 5/8" UNF × 1 left/right, low/high pressure refrigerant hose
15. Filter replacement bolt

CROD 8 Bluetooth

Inserting the battery / rechargeable battery

1. Unfold the foldable fixing device and open the battery cover.
2. Insert the batteries (included in this product) or rechargeable batteries (4×1.5V, AA type)
3. Close the battery compartment.

! When not using for a long time, remove the batteries / rechargeable batteries.
! Fully charge the rechargeable batteries before using the gauge.

Power on

- Press and hold **Power** for about 2 seconds.
  - Initial setup phase : All display segments are displayed. (For 1 second)
  - Measurement view opens.

Performing setup

1. Press the **Set** button.
   - Each time setting button is pressed, the setting screen of (Pressure Unit)- (Vacuum Unit)- (Temperature Unit)- (Auto Off/On) is changed sequentially.
2. Setting parameters

Key function	Description
◀ ▶	Changing the unit or value within each setting screen
Set	When the selection value of each setting screen is confirmed, press the [Setting] button to confirm and move to the next setting screen.

Performing unit setup & auto off setup

Display	Description	Button
Kpa/Mpa/Bar/psi	Setting the pressure unit	[Set] 1 time + Arrow
Hpa/Torr/inH2O Micron/mbar	Setting the vacuum unit	[Set] 2 times + Arrow
℃/℉/K	Setting the temperature unit	[Set] 3 times + Arrow
"Auto Off" on or "Auto Off" off	Turning on/off the auto-off function When the auto-off function is turned on, the equipment is automatically turned off after 30 minutes of operation.	[Set] 4 times + Arrow
The screen returns to the pressure measuring screen.		[Set] 5 times + Arrow

※ The final selection value is applied to the setting.

Selecting refrigerant

1. Press the **Ref** button.
2. After selecting the refrigerant to be used with the arrow buttons, press the [Ref] button again.

How to register refrigerant as a bookmark

1. Press the [Ref] button.
2. After selecting the refrigerant to be used with the arrow button, press the **Ref. M** button
3. Check that the character "m" is displayed next to the refrigerant name.
   (When canceling the bookmark, press the [Ref. M] button to make the character "m" disappear.)
4. Press the **Ref** button.

※ Totally 5 refrigerant bookmarks can be registered.

How to directly select the refrigerant registered in bookmark

1. Press the **Ref. M** button
2. Whenever pressing [Ref. M] button, registered refrigerants are displayed sequentially.

This New Digital Manifold Gauge is the same as the conventional 2-way Manifold Gauge for the refrigerant path. The passage opens when the valve is opened. Adjacent pressure is measured even in case that the valve is either closed or open.

▶ Opening the valve: Turn the valve handle counterclockwise.
▶ Closing the valve: Turn the valve handle clockwise.

Warning Be sure to close the valve handle by hand!
If you use other tools when turning to close, the threads could be damaged.

CROD 8 Bluetooth

5.2.3 Vacuum measurement

1. Press the Vac button to enter the vacuum measurement mode.
2. Check the hose connection and read the measured vacuum value being displayed.

5.2.4 Setting the target vacuum

1. Press the Vac target button.
2. Select the target vacuum value using the [Arrow] button.
   Ex) In case of Torr unit, the following value changes sequentially each time the arrow button is pressed.(OFF)-(0.200)-(0.300)-(0.400)-(0.500)-(0.750)-(1.000)
3. Press the Vac target button to confirm the value and exit to the previous screen.
4. At the time of the vacuum operation, if the vacuum level reaches the target vacuum value, the machine beeps and sounds an alarm.
5. When the alarm is sounding, press the left/right arrow button to stop the alarm.

5.2.5 Pressure Leak Test & Vacuum Leak Test

1. Press the Pres Leak or Vac Leak button to enter the leak test mode.
   - Test timer and ΔP are displayed.
2. Press either the left or the right arrow button to start the leak test.
   - Time is measured in minutes while ":" of the timer blinks.
   - The initial pressure value is displayed on the left side of the screen, and the real-time measured value is displayed on the right side.
   - The difference (ΔP) between the initial pressure and the real-time measured value is displayed on the upper right of the screen.
   - Press the left or right arrow button during measurement, and then ":" of the timer stops blinking and measurement is paused. Press the arrow button again to resume measurement.
3. Press the [Pres] or other function button to end the leak test mode and enter the function screen of the relevant button.

6. How to Use Bluetooth

Connection to the smartphone

This equipment can be connected to the smartphone which makes the measured value checked, saved and sent to the outside.
For this, you need to install an application (the app) on your smartphone.
(Android smartphone: Google Play Store, Apple iPhone: App Store)

6.1 Installation of smartphone application (app)

Install the **MICRODAM** MDi app on Google Play Store of the Android phone and App Store of Apple iPhone
(Store search term : **MICRODAM MDi**)

MICRODAM MDi

6.2 Connection of manifold gauge to the smartphone

6.2.1 Prepare for the Bluetooth connection by pressing the Link button on the manifold gauge.

1. If you press the Link button, the Bluetooth mark on the top of the LCD blinks, making the equipment ready to be connected to the smartphone.
2. When the equipment is connected to a smartphone, the Bluetooth mark stops blinking.

Display	Description	Button
[Bluetooth mark] blinking	Ready for getting connected to the smartphone	[Link] button (Bluetooth function ON/OFF)
[Bluetooth mark] ON	Connected to the smartphone	
[Bluetooth mark] OFF	Connection to the smartphone ended	[Link] button (Bluetooth function ON/OFF)

CROD 8 Bluetooth

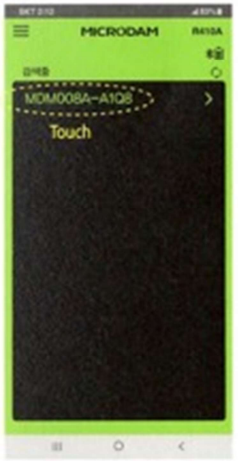
6.2.2 Turn on the Bluetooth function of the smartphone.

6.2.3 Implement the MICRODAM MDi app on your smartphone.

6.2.4 Connecting the manifold gauge to the smartphone.

1. When you implement the app, the list of manifold gauges that can be connected automatically is displayed on the screen in green.
2. Touch the manifold gauge marked in green on the device list, and then the manifold gauge will be connected to the app.

- Selecting the manifold gauge to connect



- When connected, the pressure measurement screen is displayed.

7.1 Replacing the sensor protection filter

This apparatus is equipped with a sensor protection filter for preventing contamination of the sensor caused by residual refrigerant or oil during use. As the sensor protection filter is a consumable, it should be replaced periodically. If contamination is cumulated in the sensor protection filter, the precision of the measured value decreases and the sensor can be damaged.

Therefore, for the sake of prevention, it is recommended to replace the sensor protection filter regularly.

7.1.2 How to replace the sensor protection filter (Patented Technology)

1. Remove the filter replacement bolt at the bottom of the back of the equipment using a hexagon wrench.
2. rasp the endpiece of filter cartridge with your fingertips or tweezers and pull it out.
3. Insert a new filter. (Please pay attention to the insertion direction.)
   - Make the sharp part of the filter cartridge facing downward.
   - Insert the filter cartridge with the square hole facing upward and the round hole facing downward.
   - Insert the filter cartridge to the end so that there is no protruding part.

4. Tighten the filter replacement bolt using a hexagon wrench.
   - Tighten the bolt to be matched with the rear case without any protruding surface.

7.2 Cleaning

If the housing of the gauge is dirty, wipe it cleanly with a damp cloth.
Never use permeable cleaning agent such as acetone and volatile solvents!
Use regular household detergent, water, or soapy water.

7.3 Cleaning the connection area

To Keep the screw connection area clean to prevent grease or other contaminants, wipe it cleanly with a damp cloth.

7.4 Replacing refrigerant hoses regularly

Warning

If the gauge has been dropped or a serious machine problem has occurred, it is possible that the pipe area of the refrigerant hose has been damaged.
The valve positioner can also be damaged, and it is difficult to identify in appearance the inside damage of the gauge.

- To check the technical problem of the gauge, please send it to the Customer Center of Sungshin Hasco or local agent.
- Whenever the gauge is broken or damaged, the refrigerant hose should be replaced with a new one.

7.5 Removing oil residues

Carefully remove the oil residue on the valve block using the compressed air.

7.6 Securing measurement accuracy

Please contact **Sungshin Hasco Ltd.** to periodically check the followings.
- Periodic gauge calibration (recommended on annual basis)

7.7 Battery/ Rechargeable Battery Replacement

● Turn of the equipment.
1. Open the battery compartment cover.
2. Remove the used batteries/rechargeable batteries and insert new batteries / rechargeable batteries (4 × 1.5V, AA type) into the battery compartment. Pay attention to the polarity.
3. Close the battery cover.
4. Turn on the gauge.

7.8 Changing the valve or valve handle

Warning

It is strongly recommended that the user do not replace the valve or the valve handle by himself/herself.
- Please send the gauge to Sungshin Hasco Ltd.

8.1 Q & A

Details of display	Possible causes and solutions
Blinking, Lo blinking	The battery power level is low. • Replace the battery.
Gauge turns off by itself	The battery power level is low. • Replace the battery. The Auto Off function is turned ON in [Setting]. • Set the Auto Off function to OFF.
HHHH blinking	Pressure is higher than the measurable pressure. • Maintain the allowed measuring range. Check for any leakage in the vacuum measurement mode. • After removing the cause of the leakage, measure the pressure again.
LLLL blinking	Pressure is lower than the measurable pressure. • Maintain the allowed measuring range.
Err blinking	Pressure sensor is damaged. • Please contact the sales agent or Sungshin Hasco Ltd.

8.2 Measuring parameters

Name		Description
Δt	SH	Degree of superheat, Evaporation pressure
	SC	Degree of subcooling, Condensation pressure
To	Ev	Refrigerant evaporation temperature
Tc	Co	Refrigerant condensation temperature
T1	T1	Measured temperature of evaporator (Exterior Probe)
T2	T2	Measured temperature of condensor (Exterior Probe)

CROD 8 Bluetooth

•PRESENTATION PRODUITS

Des nouveautés dans la continuité

CROD 8 Bluetooth

Nouveautés