Important

⚠️ Read this manual carefully and become familiar with the specifications and operation of the REFCO DIGIMON digital manifold prior to use. The instructions will give you important information in regards to the operation and service of the manifold.

Purpose and use

The manifold has been designed specifically to measure pressure and temperature in refrigeration equipment. The manifold may only be used by trained technicians.

⚠️ The manifold must not be used for other than refrigerant applications. The manifold is not suitable for other liquids or gases except those indicated on the display.

⚠️ The manifold must not be used with pressure higher than 55bar / 800psi / 5500kPa / 5.5MPa.

⚠️ The manifold can not be used as a pressure regulator.

⚠️ The manifold can not be used with ammonia (NH₃ / R717) and carbon dioxide (CO₂ / R744)

⚠️ Safety glasses and gloves must be worn during the use of the manifold.
Extent of delivery
Details about the variations and contents of the DIGIMON manifold are described in the REFCO catalog / flyer.

Storage
DIGIMON is a precision measuring instrument. After use store the manifold in a protected environment.

Technical description
DIGIMON can be used with the following refrigerants:

R11, R113, R114, R12, R123, R124, R13, R134a, R13B, R22, R227, R23, R290, R401A(Liq), R401A(Vap), R401B(Liq), R401B(Vap), R402A(Liq), R402A(Vap), R402B(Liq), R402B(Vap), R403B(Liq), R403B(Vap), R404A, R406A (Liq), R406A(Vap), R407A, R407C(Liq), R407C(Vap), R408A(Liq), R408A(Vap), R409A(Liq), R409A(Vap), R410A, R413A(Liq), R413A(Vap), R414B, R416A, R417A(Liq), R417A(Vap), R420A, R422A(Liq), R422A(Vap), R500, R502, R503, R507, R508A, R508B, R600a

Liq = Liquid, Vap = Vapor

Maximum working pressure:  Low side 34bar / 500psi / 3400kPa / 3.4MPa
High side 55bar / 800psi / 5500kPa / 5.5MPa

Pressure resolution: 0.01 bar / 0.5 psi / 0.001 MPa / 1 kPa
Pressure units: bar / psi / kPa / MPa
Temperature resolution: 0.5°C / 0.1°F
Vacuum units: mbar / Microns
Power supply: Battery 9Vdc (6F22)

Key function

**ON / OFF**
Power ON / OFF

**VAC**
Vacuum measuring

**LIGHT**
LCD back light
(switches itself off after 30 sec)

**R+**
Refrigerant selection up

**R-**
Refrigerant selection down

**SUPERHEAT/SUBCOOL**
Measuring of the Superheat and Subcool temperature

**ENTER**
Enter key function
Application

Preparation
1. Install the battery by removing the battery cover from the rear of the manifold.
2. Switch on the unit by pressing the ON / OFF button for 1 second.
3. Check the battery indicator on the display.

Calibration
1. Press LIGHT and ENTER button at the same time for at least 6 seconds. Release the buttons when “Zero” is shown on the display.
2. Press the ENTER button. All input and data - apart from the refrigerant and temperature – get reset. The display shows now the “normal” indications again.

Selection of the refrigerant
The refrigerant can be selected by pressing R+ or R-. The letter R on the top of the display is flashing during the selection. When the selected refrigerant is displayed press the ENTER button. The letter “R” on the top will stop flashing immediately.

Pressure unit
Hold the ENTER button and press the R+ button to select the pressure unit among bar / psi / kPa / MPa.

Temperature unit
Hold the ENTER button and press the R- button to select the desired temperature unit °C / °F.

Vacuum mode
Press the VAC button to measure the vacuum. Press the VAC button again to quit this function.

Vacuum unit
Hold the ENTER button and press the VAC (vacuum) button to select the unit measure to either “mbar” or “Microns”.

Unit memory
The chosen units will be stored until to the next manual change.

Back light function
Press the LIGHT button and the back light will switch on for approximately 30 seconds.

Superheat and Subcool function
SUPERHEAT/SUBCOOL shows the difference between the stored data of chosen refrigerant and the measured temperature of the external sensor (6).
Connecting the manifold to a system

- Connect blue hose (1) ➔ compound side of system
- Connect red hose (2) ➔ pressure side of system
- Connect yellow hose (5) ➔ vacuum pump
- Close both valves (3+4)

Evacuation

- Choose vacuum mode on digital manifold
- Switch on the vacuum pump
- Open both valves (3+4)
- Check pressure on vacuum display
- When the expected vacuum is reached close both valves (3+4)

Please note:

The evacuation time may vary depending on the size of a system. A minimal time of 20 minutes must be observed to evacuate a small to middle sized system.

Charging a system after evacuation

- Keep all valves closed (3+4).
- Disconnect the yellow hose from the vacuum pump and connect this hose to the refrigerant gas cylinder.
- Open valve from refrigerant gas cylinder.
- Open blue valve (compound side). The system is now being charged with refrigerant. Check the correct quantity of refrigerant with a charging scale (REF-METER from REFCO) and observe the pressure on the compound side.
- When the correct filling quantity has been reached close all valves.
- After the charging process check the pressure on the high pressure and compound side of the unit.
- Disconnect all hoses from the system.
- Open valves (3+4).

Measuring by using the Superheat-Subcool function

- See “connecting the manifold to a system.”
- Plug in the external temperature sensor (6) into the DIGIMON. (Jack on the left hand side of the shell.)
- Install temperature probe of the external sensor (6) on the liquid or suction line.
- Choose the applicable refrigerant. (See “Selection of the refrigerant.”)
- Activating display of temperature difference: Press SUPERHEAT/SUBCOOL and press ENTER.
- Switch between superheat/subcool (liquid/suction line): Hold ENTER and press SUPERHEAT/SUBCOOL.
Service of manifold

- The charging hoses must be checked and free of oil residue before each use. A visible inspection is also necessary to ensure that the hoses and the connection are undamaged and tight.
- The seals and gaskets of the manifold are parts of use and must be replaced from time to time. The manifold is to be tested regularly to ensure the valves are still tight.
- If a manifold shows to be leaking the pistons of the valves can easily be replaced and are available as a spare part. Please refer to the manifold accessory section of the REFCO catalog.
- If the sight glass is leaking a replacement kit is available. To change the sight glass a special tool is necessary (M4-6-11-T) which is available from REFCO. Replace and tighten the new sight glass carefully in order to prevent damage to the glass.
- After installing spare parts to the manifold it is necessary to test the manifold for leaks before the next use.

Auto shut-off

Approximately 10 minutes after the last measurement or keypress the DIGIMON shuts off itself.

Disposal of manifold

Dispose of the manifold according to the rules and regulations of the country of use.

Spare parts for DIGIMON manifold

<table>
<thead>
<tr>
<th>Description</th>
<th>Designation</th>
<th>Part number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Handwheel red</td>
<td>M2-7-SET-R</td>
<td>4677826</td>
</tr>
<tr>
<td>Handwheel blue</td>
<td>M2-7-SET-B</td>
<td>4677834</td>
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<tr>
<td>Complete valve set</td>
<td>M2-10-95-R/10</td>
<td>4662607</td>
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<tr>
<td>Piston incl. gaskets</td>
<td>M4-6-04-PA/10</td>
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<tr>
<td>Sight glass set</td>
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<td>External temperature sensor</td>
<td>DIGIMON-EXTERNAL-SENSOR</td>
<td>4677647</td>
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<tr>
<td>Battery compartment cover</td>
<td>DIGIMON-BATTERY-COVER</td>
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<tr>
<td>Tool for sight glass</td>
<td>M4-6-11-T</td>
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<tr>
<td>Tool for valve core</td>
<td>A-32000</td>
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<tr>
<td>Plastic case</td>
<td>DIGIMON-CASE</td>
<td>4676497</td>
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