Apex M2 SM2 BM2 MK-2 Star Jumbo-Star

Instruction manual
for REFCO 2-way manifolds

Bedienungs- und Wartungsanleitung
für 2-Weg Monteurhilfen

Mode d’emploi
pour by-pass REFCO 2 voies

Istruzioni d’uso
per i gruppi manometrici REFCO a 2 vie

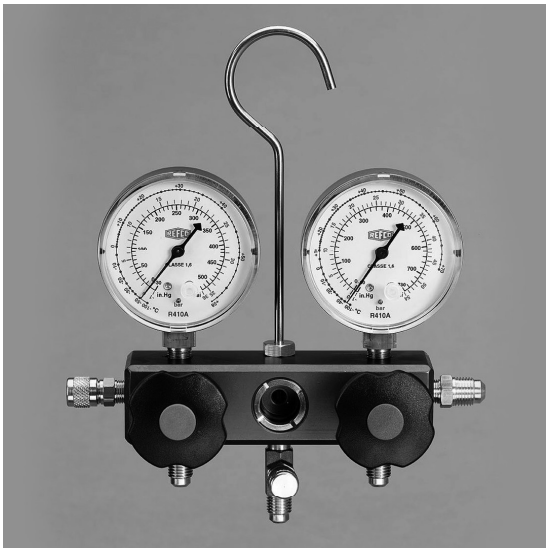
Instrucciones de uso
para grupos manométricos REFCO de dos vías

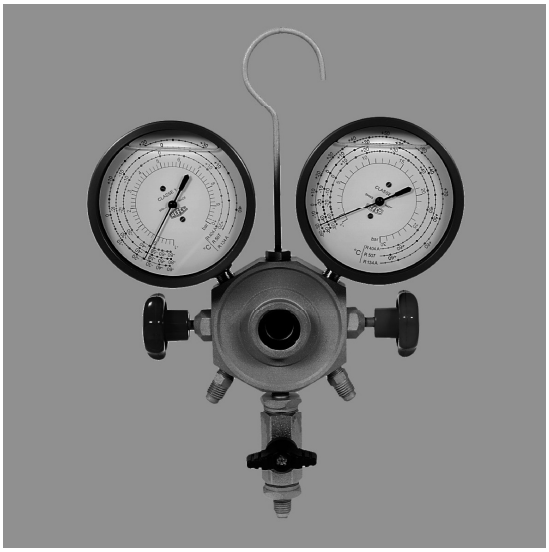
Acknowledged globally

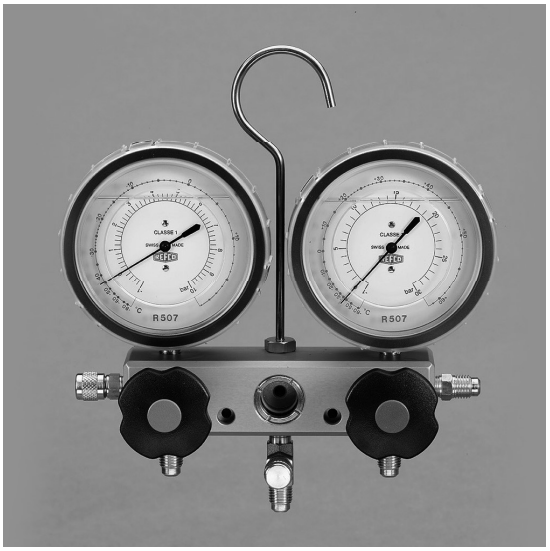
REFCO

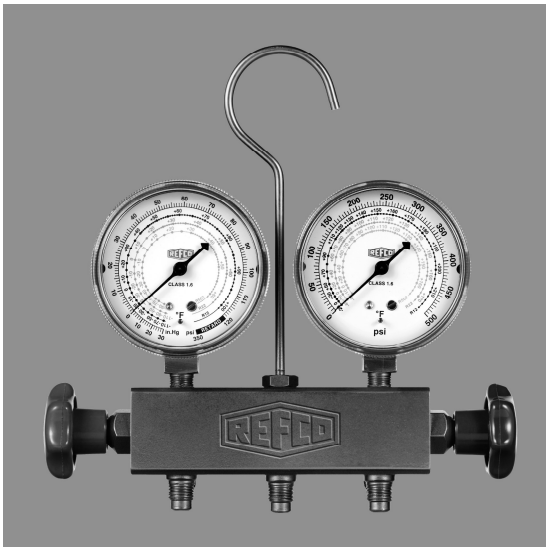
Instruction manual
for REFCO 2-way manifolds:

Apex **M2** **SM2**
BM2 **MK-2** **Star**
Jumbo-Star









Important

⚠ **Read this manual carefully and familiarise yourself with the specifications and operation of REFCO manifolds prior to use. These instructions provide important information regarding the operation and service of this manifold.**

Purpose and use:

The manifolds have been designed especially to measure pressure in refrigeration equipment. For use only by trained technicians.

⚠ The manifold **must not be used** for anything other than refrigeration applications in connection with refrigerants. The manifold is not suitable for liquids or gases other than those indicated on the gauge.

⚠ The manifold **must not be used** with pressures higher than the pressure scale indicated on the high pressure gauge of the manifold.

⚠ The manifold **can not be used** as a pressure regulator, especially not in use with nitrogen N_2.

⚠ The manifold **can not be used** with ammonia (NH_3 / R717).

⚠ Safety goggles and gloves **must be worn** during the use of the manifold.

REFCO-products are designed and manufactured for use by technically trained air conditioning and refrigeration service engineers only. Due to the high pressures, and the physical and chemical nature of refrigerants and oils used in the systems, incorrect application could result in serious accidents, injuries or death.

Extent of delivery:

Details about the variations and contents of the manifold are described in the REFCO catalogue as well as on the web www.refco.ch.

Storage:

Manifolds are high precision measuring instruments. After use store the manifold in a protected environment.

Note: Do not store the manifold with refrigerant in the unit or hoses.

Technical description:

The 2-way manifold is a high precision instrument. Both gauges, high and low pressure can be readjusted to the zero point. The manifold gauges are marked with temperature and pressure scales or are equipped with interchangeable refrigerant scales.

Changeable piston type valves ensure perfect sealing. Glycerine-oil filled gauges are equipped with a safety pressure relief in case of a pressure build up inside the gauge due to a defect. The hoses can be hooked up to the hose anchors on the side and at the front of the t-style for storage. This protects the hoses against contamination or damage.

Use of manifold:

Preparing

Before use ensure that the temperature scales on the manifold gauges match the refrigerants used in the system.
Adjust the gauge with the zero adjusting screw to zero. Position of the hand may vary and might not point to zero depending on the atmospheric pressure. Readjusting the gauge might therefore be necessary before each use of the manifold. The zero adjusting screw is positioned either at the top or through the front lens depending on the type of manifold.

The different types of available manifolds are:

BM2, SM2, STAR, JUMBO-STAR → lift plastic plug on lens → screw on dial.

M2 , STAR, MK-2 → screw on top of gauge (outside –“12-o-clock“)

After adjusting replace the lens or the plastic plug.

Connecting the manifold to a system

- Connect blue hose (4) → compound side of system
- Connect red hose (5) → pressure side of system
- Connect yellow hose (8) → vacuum pump
- Close both valves (6+7)

Evacuation of a system

- Turn on the vacuum pump
- Open both valves (6+7)
- Check pressure on compound gauge
- If vacuum reached close both valves (6+7)

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

Filling of a system after evacuation

- Keep all valves closed. Disconnect the yellow hose from the vacuum pump and connect this hose to a refrigerant container.
- Open blue valve (compound side)
- Open valve on refrigerant container. The system is now being filled with refrigerant. Check the correct quantity of refrigerant with a charging scale like REFCO REF-METER-OCTA and observe the pressure on the compound gauge. If the flow of refrigerant is too slow or insufficient the compressor of the unit can be turned on to speed up the process. Ensure that you fill vapour refrigerant only. Filling with full liquid may lead to damaged components in the system.

• If the correct filling quantity has been reached close all valves.
• After the filling process check the pressure on the pressure and compound side of the unit. You may use the flare cap provided.

Finishing
• Disconnect all hoses from the system
• Open valves (6+7)

Service of manifold:

• The charging hoses must be checked and clean of oil residue before each use. A visible control 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 therefore be replaced from time to time. The manifold must be tested regularly to ensure the valves are tight.
• If a manifold shows to be leaking, the pistons of the valves can easily be changed and are available as a spare part. Please refer to the manifold accessory section of the REFCO catalogue.
• 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, Part No. 4493169) which is also available from REFCO. Replace and tighten the new sight glass carefully in order to prevent damaging the glass.
• To change the valve core on models with t-style or vacuum gauge connection, use a valve core screw driver A-32000 from REFCO.

• After changing spare parts on the manifold it is absolutely necessary to test the manifold for tightness before the next use.

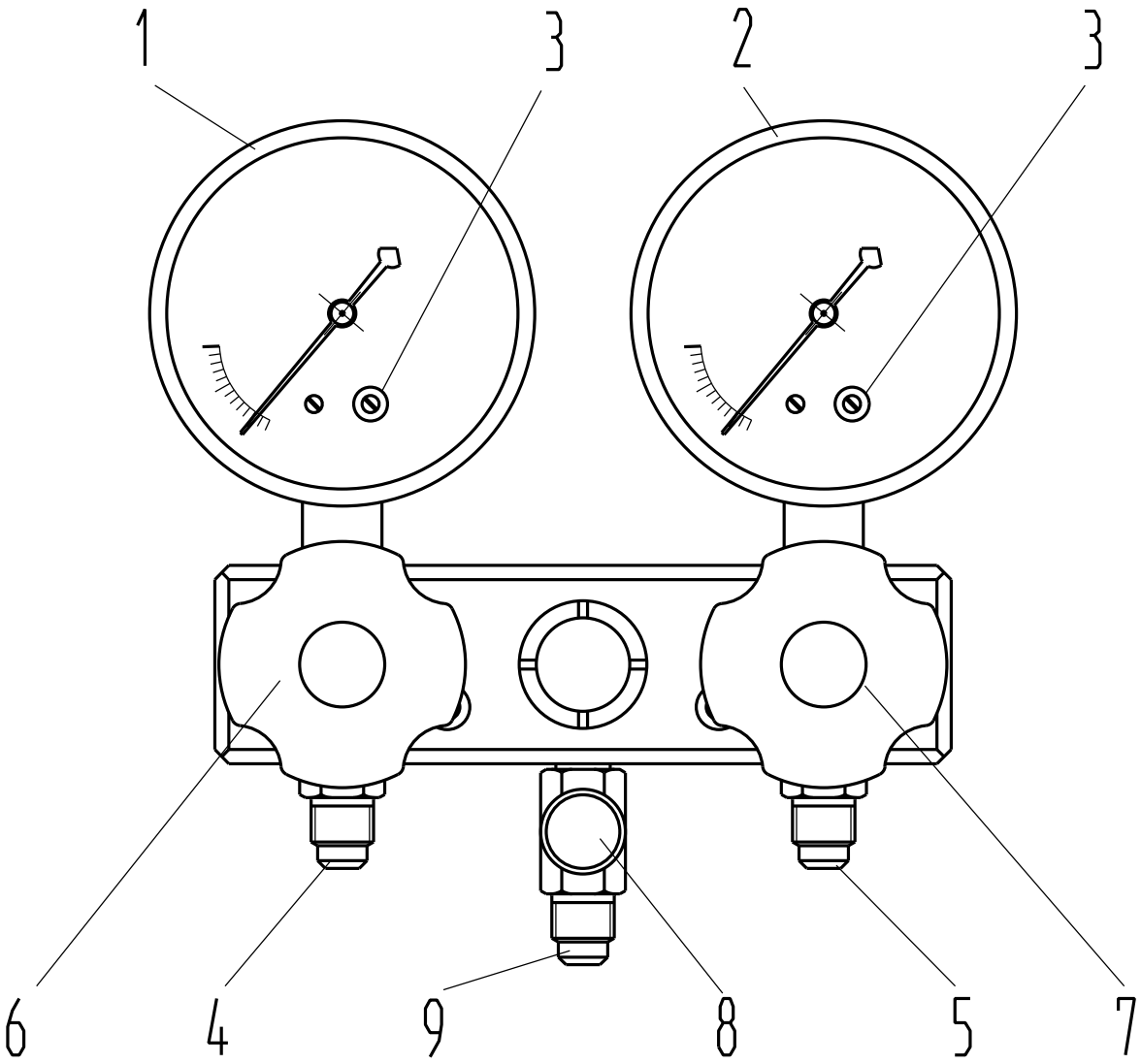
Further accessories and charging hoses for REFCO manifolds can be found in the REFCO catalogue or on the web www.refco.ch.

Disposal of manifold:

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

Spare Parts for manifolds:

Knob blue + red	M2-7-SET-B+R	Part No 4687079
Replacement valves / 2 pieces	M2-10-95-R/2	Part No 4687104
Valve seat assemblies / 4 pieces	M4-6-04-R/4	Part No 4687093
Sight glass set	M4-6-11	Part No 4491018
Key for manifold Sight glass	M4-6-11-T	Part No 4493169
Multi Case	M4-6-15	Part No 4666106



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