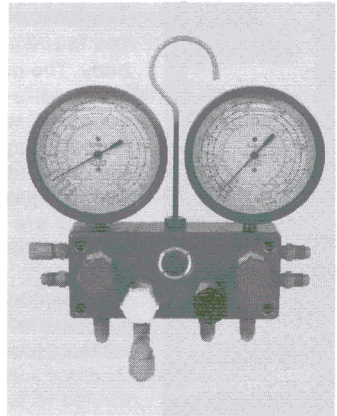
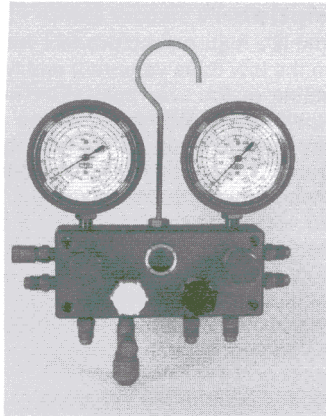
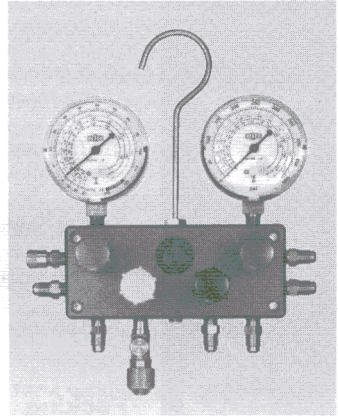
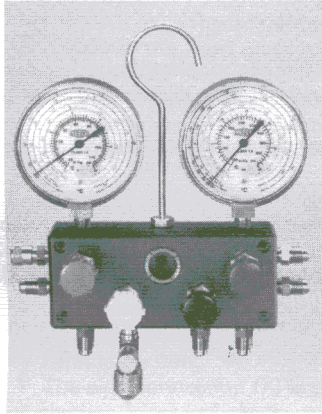


# INSTRUCTIONS

## Manual for REFCO 4-way manifolds

SM4    BM4    M4    M4-Deluxe



Refrigeration  
Service Products  
and Components



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## Attention

⚠ Before you start to use the manifold, please read carefully the instruction manual. The manual gives important information about functions, use, maintenance and recycling of the manifold.

## Application

The manifold is developed for measuring refrigerant of pressure and temperature in mobile and fix mounted climate and cooling systems. The use of a manifold is only for trained people.

- ⚠ It is forbidden to use the manifold for other purpose than for measuring of refrigerant in climate and cooling systems.
- ⚠ The use for higher pressure than printed on the gauge is not allowed.
- ⚠ The manifold is **not** useable as a pressure reduction valve.
- ⚠ The manifold is not useable for ammonia (NH<sub>3</sub>).
- ⚠ The goggles and gloves must be carried during operation.

## Packing

The manifolds are shipped in a carton box or in a special case. It depends on the customer needs.

## Technical description

The four way manifold is a high-graded product with a compact body. The gauges on the low (blue coloured) and high side (red coloured) are adjustable to the zero point. The manifolds are equipped with temperature scales for different refrigerants. Some 4-way versions have a "snap on" temperature scale for the different refrigerants. The changeable piston valve together with the gasket is a warranty for a perfect sealing. The oil filled gauges are provided with a protection valve on the backside against internal overpressure.

The manifolds are equipped with three additional "blind" connections for the connected hoses after use. It protects the hose connections after use against dust and damages.

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## Product range

The product range is shown on a separate REFCO catalogue or on the web [www.refco.ch](http://www.refco.ch).

## Use of the manifold

### Preparing

The refrigerant scale of the gauges must correspond to the refrigerant in the system. If not, the manifold has to be changed or take the correct "snap on" scale for the gauges.

If it is necessary adjust the gauges to zero. The manifolds M4 and M4-Deluxe have the adjustment screw placed on the top and the SM4 and BM4 in the front glass of the gauges. A small button in the front glass has to be removed before you have access to the screw for the adjustment. With a small screwdriver move the screw to the right or left carefully. After the adjustment, close the whole in the front glass with the button again (SM4 and BM4).

### Connecting the manifold onto a refrigeration system

- Close all valves from the manifold (8, 9, 10, 11).
- Connect compound side (4) → blue hose.
- Connect pressure side (5) → red hose.
- Connect vacuum side (6) → yellow hose (3/8") on vacuum pump.
- Connect vacuum side (7) → yellow hose (1/4") on refrigerant cylinder or can.
- The side connection (X) is prepared for a vacuum gauge (vacuum gauges is not included).

### Evacuation of a system

- Switch on vacuum pump.
- Open all valves (8, 9, 10 + 11).
- Check vacuum shown on vacuum gauge if connected.
- Close all valves (8, 9, 10 + 11) when the vacuum is reached.

**Please note: The time for the evacuation is different because it is depending on the size of the system.**

### Filling of a system

- Remove the yellow hose from the vacuum pump and manifold (6).
- Open black valve (11).
- Open the valve on refrigerant cylinder or can.
- Open blue valve (9).
- Fill the needed quantity of refrigerant from cylinder or can into the system. If the refrigerant flow into the system is not sufficient, switch on the compressor of the cooling appliance.
- After the filling process close the black valve (11) immediately.
- Close the valve of refrigerant cylinder or can too.
- Open red valve (10) and check the pressure and temperature of the system.
- If the pressure is ok, close all valves.
- Remove all hoses and open all valves.

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## Maintenance

- The charging lines have always to be checked of damages before use. The manifold has to be controlled of damages, leaking valves and sight glass from time to time.
- If there is a leaking valve, replace it complete.
- The sight glass can be removed with a special REFCO tool. Other tools can damage the sight glass or doesn't correct fit the holding ring of the sight glass.
- **After a change of a gasket, check always the correct function of the manifold before use.**

The complete range of spare parts listed in the REFCO catalogue or on the web [www.refco.ch](http://www.refco.ch).

## Recycling

For disposal, please take it to an official recycling place.

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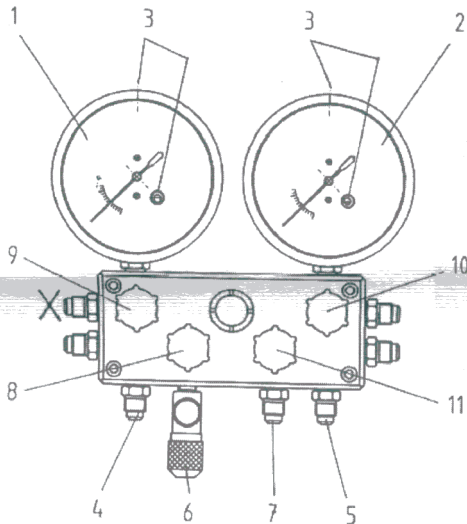
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## Spare parts for manifolds

Knob blue	M4-6-09-B	Part no. 4490976
Knob red	M4-6-09-R	Part no. 4490992
Knob black	M4-6-09-N	Part no. 4490984
Knob yellow	M4-6-09-Y	Part no. 4491000
Complete valve set (10 pcs.)	M2-10-95/10	Part no. 9884818
Piston incl. Gasket (10 pcs.)	M4-6-04/10	Part no. 9884161
Assembly of sight glass	M4-6-11	Part no. 4491018
Tool for sight glass	M4-6-11-T	Part no. 4493169
Plastic case with Rubber foam inset	M4-6-13	Part no. 9885065
Plastic case Multi case	M4-6-15	Part no. 4666106



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- 3 adjusting screw
- 4 compound connection
- 5 pressure connection
- 6 vacuum connection
- 7 refrigerant connection
- 8 vacuum valve
- 9 compound valve
- 10 pressure valve
- 11 refrigerant valve



Possible connection for vacuum gauge

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