

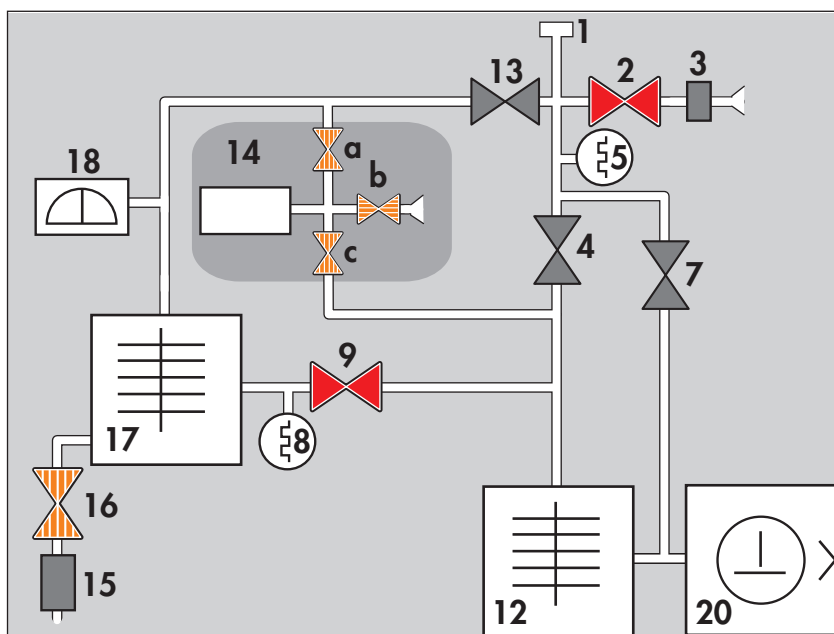
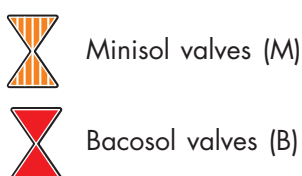
Minisol and Bacosol valve installation and maintenance

? DN 25/DN 40 VAT valves assembly and maintenance:
Contact customer service.
E 190 (MTR only)

Background The detector is equipped with Bacosol valves and Minisol valves without valve block.

Please refer **F 90** of the present manual for the identification of the valves used in the detector.

Valve localisation ASM 182 TD+



- | | |
|---|---|
| 1. Detector inlet port | 13. Detection valve |
| 2. Inlet vent valve (B) | 14. Calibrated leak module (M) |
| 3. Vent filter connector | 15. Connector for long distance sniffer |
| 4. Roughing valve | 16. Sniffer valve (M) |
| 5. Inlet pressure gauge (PI3C) | 17. Hybrid turbomolecular pump (TMP 5154) |
| 7. By-pass valve | 18. Analyzer cell |
| 8. Exhaust pressure gauge (PI1) | 20. Dry primary roughing pump (ACP 20/28) |
| 9. Exhaust valve (B) | |
| 12. Roughing molecular drag pump (MDP 5011) | |

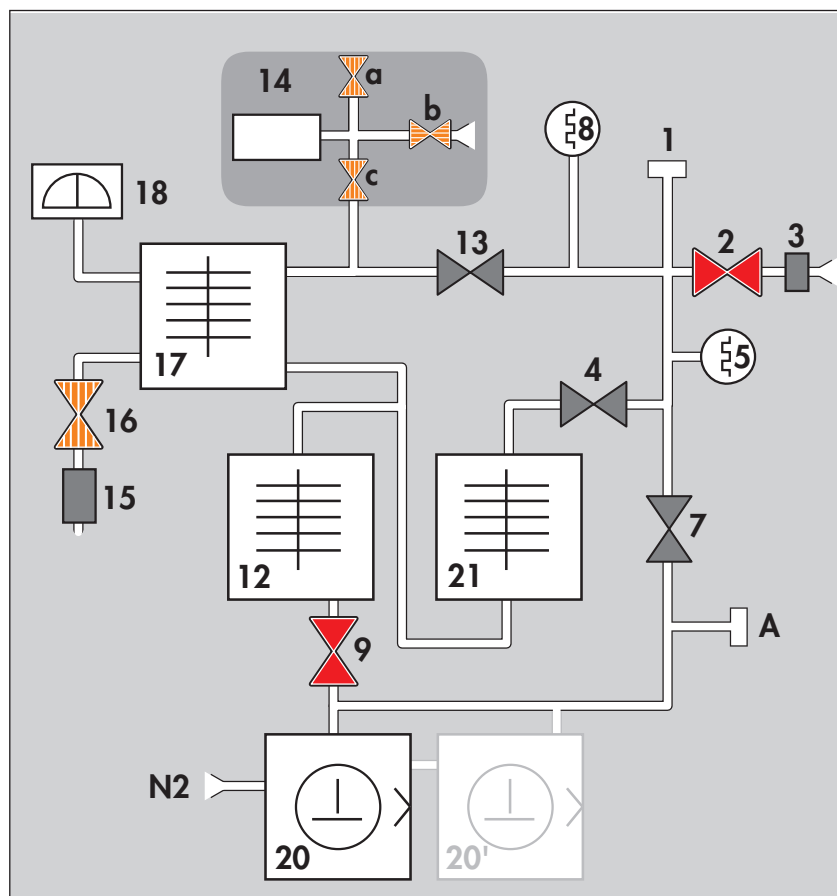
Minisol and Bacosol valve installation and maintenance

Valve localisation ASM 192 T2D+



Minisol valves (M)

Bacosol valves (B)



- | | |
|---|--|
| 1. Detector inlet port | 14. Calibrated leak module (M) |
| 2. Inlet vent valve (B) | 15. Connector for long distance sniffer |
| 3. Vent filter connector | 16. Sniffer valve (M) |
| 4. Roughing valve | 17. Hybrid turbomolecular pump (TMP 5154) |
| 5. Inlet pressure gauge (PI1) | 18. Analyzer cell |
| 7. By-pass valve | 20. Dry primary roughing pump (ACP 20/28) |
| 8. Detection pressure gauge (PI3) | 21. Roughing turbomolecular pump (ATP 100) |
| 9. Exhaust valve (B) | |
| 12. Roughing molecular drag pump (MDP 5006) | |
| 13. Detection valve | |

Minisol and Bacosol valve installation and maintenance

This sheet is intended to help you in the maintenance and installation of Bacosol and Minisol type valves.

Frequency

According to use, the maintenance of these valves has to be performed **at least** every 1 cycles million or 6 months.

Necessary materials

Denatured alcohol (non recycled)

Paper (clean room compatible)

Gasket extractor



Flat screwdriver 2 x 40



Phillips screwdriver Nr 1

For these kinds of valves, neither seal kit nor sub-assembly is available.

The complete valve must be changed  **F 90**.




“Bacosol” valves (Normally closed NC)



“Minisol” valves **without valve block**
(Normally open NO or normally closed NC)

Minisol and Bacosol valve installation and maintenance

Precautions Whenever handling valves, take the necessary precautions not to pollute the vacuum circuit ( **E 10**), to avoid impurities on the valve and the seat which create leaks.
The valve, particularly the sealing surfaces, should only be handled with clean, lint-free gloves.
It should only be installed in a clean system.

Disassembly For the valve assembly/disassembly, the unit must be stopped and disconnected from line power.
If "piston" O-rings are installed on the valve, use a gasket extractor to remove it. Take care not to damage the sealing surface.
Immediately protect the valve inlet if it is to stay open for a long time.

Cleaning




Clean the surfaces of the different parts with alcohol.

For the Normally Open type Minisol valves (NO), O-rings are present on both sides of the valve.

Improve the cleaning by blowing off the parts with dry filtered air, particularly the O-ring grooves.



Seal preparation

Install the "piston" O-rings.
A slight greasing of these rings is possible .
Vacuum silicon grease
(tube of 100 g  **F 90**).

Grease quantity should be limited to avoid helium retention and make assembly easier. Put a drop of grease on your fore-finger. Spread the grease out between your thumb and fore-finger. Apply the grease on the ring by turning it between your fingers. The ring should have a shiny aspect with no excess.

Minisol and Bacosol valve installation and maintenance

Reassembly

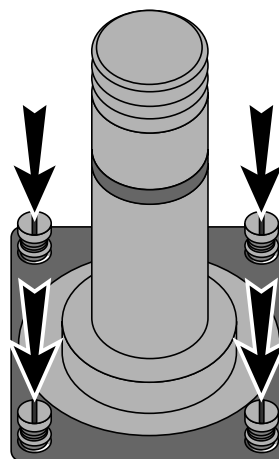
Screw tightening torque



For a Bacosol valve

Tighten the 4 screws diagonally.

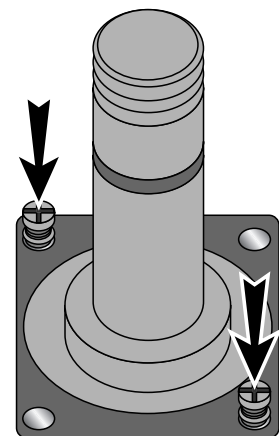
Tightening torque is 1.5 Nm.



For a Minisol valve

Tighten the 2 screws.

Tightening torque is 0.6 Nm.



Test after installation

After the valve installation, we recommend a helium leak test to check the vacuum tightness.



Take care with seal permeability. Do not expose the seals to helium for an extended time.