

# Refrigerant pump

**System for manual recovery and transfer of refrigerants**

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 Operating instructions

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## Disclaimer



This manual was created with great care. However, if you notice any omissions or inaccuracies, please inform the service partner of your country in writing.

The manufacturer shall not be liable for technical or typographical errors and reserves the right at any time without prior notice to the product and the instruction manuals make.

The illustrations in this document may differ from the machine actually supplied with this manual.

## 1 Safety Precautions



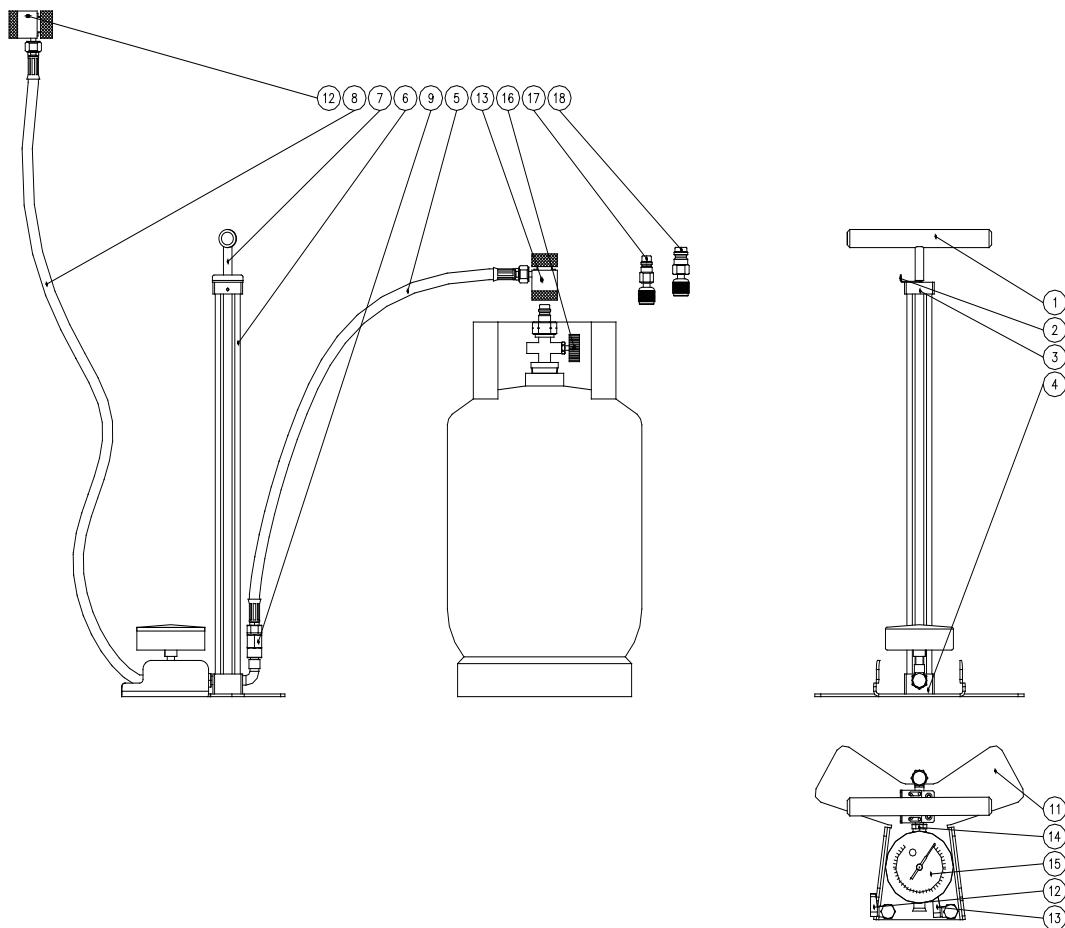
- This equipment is designed for trained personnel only, who must know the refrigeration fundamentals, cooling systems, refrigerants and possible damage that pressurized equipment may cause.
- **WARNING!** In case of use with flammable refrigerant (hydrocarbons) make sure that there are no gas leaks and that the environment where it operates is free of external sources of ignition.
- Carefully read the instructions contained in this manual; strict observance of the procedures described is fundamental to the operator's safety, the perfect state of the unit and constant performances as declared.
- Before performing any operation, make sure that the hoses used for connections have been previously evacuated and that they do not contain non-condensable gases.
- **WARNING!** Before connecting the pump, the correct engagement of the locking system must always be checked. When the pump is connected to a pressurized system, the handle tends to be pushed upwards. If the locking system is not properly engaged, you could create problems for the operator.
- **WARNING!** Avoid skin contact; the low boiling temperature of the refrigerant (about  $-30^{\circ}\text{C}$ ) can cause freezing.
- **WARNING!** Avoid breathing refrigerant vapors.
- It is recommended to wear suitable protections like safety glasses and gloves; contact with refrigerant may cause blindness and other personal injuries.
- **WARNING!** Do not operate near open flames and hot surfaces; the high temperatures decompose the refrigerant releasing toxic and caustic substances which are hazardous for the operator and the environment.
- During operations avoid release of refrigerant to the environment; this precaution is required by international environmental standards and is essential to avoid difficult leak detection in a refrigerant polluted environment.
- The equipment must always work under the operator's control.

## 2 Description of the product

The Refrigerant pump manual recovery system is equipped with n°2 1500mm flexible tubes directly connected to the main body. The check manometer allows you to check the pressure on the pump inlet (suction).

Thanks to the absence of electric organs, it is optimal for the recovery and transfer of highly inflammable refrigerants.

It is also useful for carrying out assistance interventions on recovery equipment (it allows the emptying of the internal cylinder in a simple and effective way).



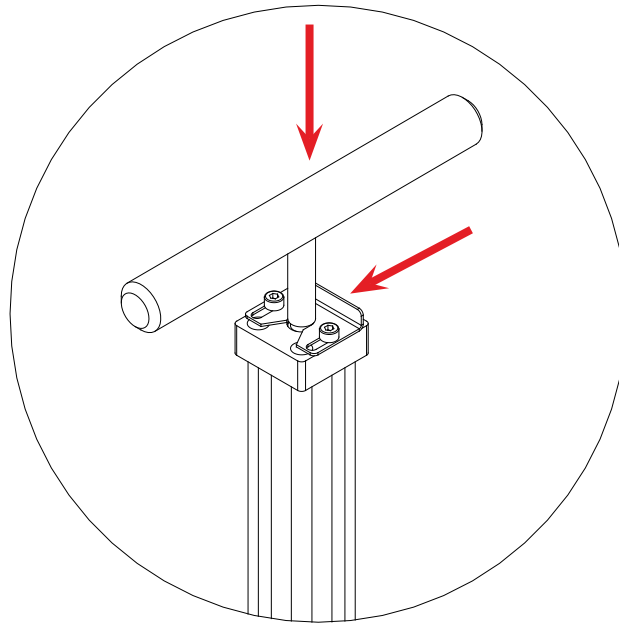
### 2.1 References

1	Push handle	10	Piston with seal
2	Handle locking system	11	Iron basement
3	Upper head	12	LOW quick coupler on suction hose
4	Lower head	13	HIGH quick coupler on delivery hose
5	Delivery red hose	14	Check valve on suction side
6	Cylinder	15	Pressure gauge on suction side
7	Operating rod	16	Recovery bottle
8	Suction blue hose	17	Adapter for LOW quick coupler
9	Check valve on delivery side	18	Adapter for HIGH quick coupler

### 3 Locking and preparation for use of Refrigerant pump

Before using the refrigerant pump recovery system, it is always necessary to check that the handle is in the locked position.

1. Push the handle down firmly so that it is in the lowest position (rest position)
2. Engage the locking system ② and make sure that it is well inserted inside the appropriate seat on the pump operating rod.
3. Try pulling the handle upwards in order to check that the locking system is correctly inserted.



#### WARNING!

Before connecting the pump to the system, the correct engagement of the locking system must always be checked. When the pump is connected to a pressurized system, the handle tends to be pushed upwards. If the locking system is not properly engaged, you could create problems for the operator

4. Please evacuate the inside of the recovery system so as to remove any not condensable gases trapped in the hoses.
5. Be sure that the LOW quick coupler ⑫ is closed; please connect the vacuum pump to the delivery red hose 5 and open the HIGH quick coupler ⑬.
6. Please perform a vacuum cycle of 5 minutes, so close the HIGH quick coupler ⑬.
7. Refrigerant pump is ready to use.



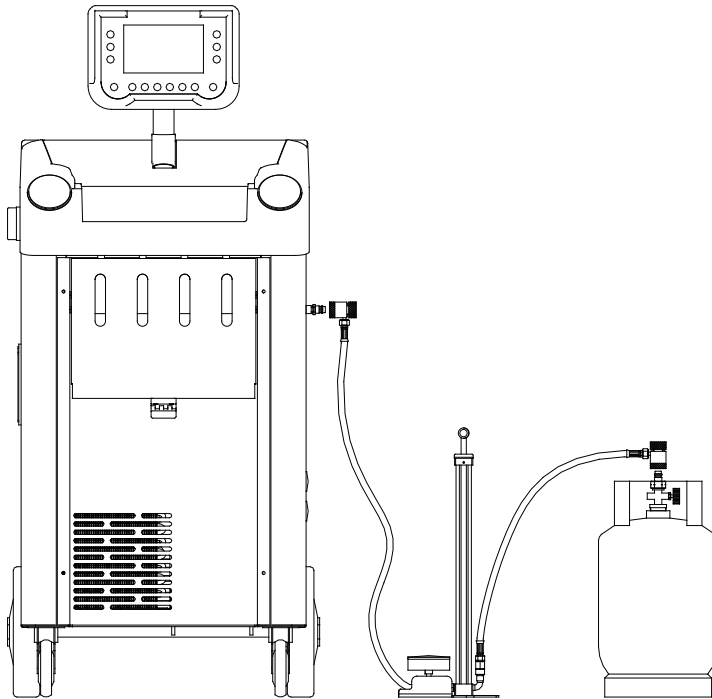
#### WARNING!

Whenever the pump is put to rest, it is necessary to make sure that the locking system 2 is inserted.

## 4 Removal of the contaminated refrigerant from the WAC-2000 unit

In the presence of contaminated refrigerant inside the WAC-2000 recovery station (the refrigerant analyzer gave this information), it is possible to apply the refrigerant pump system to the service connection located on the recovery station in order to remove the contaminated refrigerant

1. Make sure that Refrigerant pump is in the locked position and evacuated *See chapter 3 „Locking and preparation for use of Refrigerant pump“ page. 5“.*
2. Connect the suction blue hose (8) to the service connection on the WAC-2000 recovery station.



3. Connect the delivery red hose (5) to the bottle of recovery.
4. Turn the hand-wheel of the HIGH quick coupler (13) to the open position, then also the LOW quick coupler (12) connected to the recovery unit service connection.
5. Remove the locking system (2), firmly holding the handle in place.
6. Start pushing on the handle to remove all the refrigerant.
7. Stop when the pressure read on the gauge is below -0.3 bar, or however when the recovery unit indicates that the refrigerant is terminated.
8. Reposition the handle in the locked position *See chapter 3 „Locking and preparation for use of Refrigerant pump“ page. 5“.*
9. Close quick couplers (12) and (13).
10. Disconnect the suction and delivery hoses (8) and (5), then place them on the set-aside fittings.



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