

Art. 939890
MAXI 1.2
Descaling Pump
User's Manual

rev. 1 dated 01/07/2020



Translation of the original manual, made according to 2006/42/EC Regulation

Introduction

Dear customer, thank you for choosing a power flushing / descaling pump.

This manual, supplied with the machine, provides important instructions for the correct installation, use and maintenance of the machine.

Reading this manual and complying with the provisions contained therein are necessary conditions for the validity of the warranty and for the correct and safe operation of the system.

It is the responsibility of the customer to keep this manual, to provide adequate instructions to any user for the correct use of the system.

The manual is available for download in its latest update at www.mgftools.eu

The manufacturer declines all responsibilities for damage caused by negligence and failure to observe the rules described in this manual.

General Information

PRELIMINARY INSPECTION

Upon receipt of the MAXI 1.2 pump, take it out from the carton and check it is in perfect condition. Also check that the data on the rating plate correspond to the required ones (see section "technical specifications"). Any anomaly must be advised immediately to the supplier specifying the kind of fault. In case of doubt about the safety of the machine, do not use it.

TECHNICAL DATA

Locate the identification plate on the machine and check that the plate data given in it are in conformity with the contents of the present table. The nameplate data must be respected during all the foreseen operations.

SERVICE

For any form of technical assistance you can contact us in one of the following ways:

telephone: +39 0521/818301

fax: +39 0521/818202

email: info@mgftools.eu

We will serve you as soon as possible.

The shipment of material under repair must be previously authorized by means of the RMA form (binding condition for the collection of any goods under repair).

WARRANTY TERMS

The product warranty covers any manufacturing defect for a period of time equal to one (1) year from the date of manufacture for products purchased with invoice, 2 years for products purchased by private individuals.

The following clauses expressly exclude the product from guarantee:

- Consumables such as pipes, impellers ..., to the extent that the malfunction is caused by normal wear and tear of the parts.
- Malfunctions caused by use not in accordance with the instructions provided
- Poor maintenance
- Tampering with or modifying the machine

The company excludes from its responsibility any indirect damage, damage caused to people and things from defects and downtime, incorrect use, lack of maintenance.

Warnings

Read all safety instructions, operating and maintenance instructions, and the technical data of this electric tool.

Failure to follow the instructions may cause electric shock, fire and / or serious injury.

Keep all safety warnings and instructions for future use.

1. Safety of the working environment

1. Keep the workplace clean and well lit. Disorder and a poorly lit workplace can cause accidents.
2. Do not work in explosive atmospheres (ATEX) where flammable liquids, gases or powders are found. The machine can generate sparks that can ignite dust or steam.
3. Keep children and other people away when using the machine. Hazardous situations can be created both under normal and unintended conditions.

2. Electrical safety

1. The electrical socket to which the machine is connected must be adapted to the machine plug. The plug must enter effortlessly.
2. The electric plug must not be changed in any way. Do not use adapters for grounded power tools. Unmodified plugs and adequate sockets reduce the risk of electric shock.
3. Avoid contact with grounded objects such as pipes, radiators, ovens and refrigerators. The risk of electric shock occurs if the user is in contact with conductive materials.
4. Keep the machine away from rain, moisture and liquid jets. Water infiltration increases the risk of electric shock.
5. Do not use the power cord for a purpose other than intended, to carry the machine, to hang it or to remove the plug from the socket. Keep the power cord away from heat, oil, sharp edges or moving objects. Damaged or entangled cables increase the risk of electric shock.
6. If you work outdoors, use only extension cords that are also suitable for outdoor use. The use of an extension cable suitable for outdoor use reduces the risk of electric shock.
7. Make sure that the socket is protected by a differential switch (circuit breaker). The use of a fault current safety switch reduces the risk of electric shock.

3. People safety

1. Working paying attention and with awareness.
2. Do not work when you are tired or under the influence of drugs, alcohol, medicines or psychotropics. Working exclusively in full psycho-physical capacity can avoid serious injuries.
3. Wear personal protective equipment as directed. Personal protective equipment, such as a dust mask, non-slippery safety shoes, protective helmet and hearing protection, depending on the type and use, reduces the risk of injury and permanent damage.
4. Be very careful when handling descaling liquids.
5. Avoid accidental starting. Check that the machine is switched off before connecting it to the power supply and / or the battery, and any operation that does not require ignition, such as transport and maintenance. Accidental starts can cause serious accidents.
6. Remove adjusting tools or keys before turning on the machine. Fix all the protections and moving parts correctly. Moving parts that are not properly protected can cause damage to people and property.
7. Avoid improper posture. Make sure you are in a stable position and always maintain balance. Avoid working on slippery floors. In this way it is possible to react better in case of unforeseen situations.
8. Dress appropriately. Do not wear loose clothing or jewelry. Keep hair and clothing away from moving parts. Anything that can get caught up in moving parts, even if partially protected, can cause serious damage and injury.

9. Comply with all applicable safety regulations and workplace safety regulations, especially when you feel more practical in using the instrument. Negligence or omissions can cause serious injury and permanent damage.
10. Cleaning and maintenance are intended to be performed by the user and must not be carried by children without supervision.

4. Use of the machine

1. Do not overload the machine. Do not exceed the indicated rating values. Use the machine only according to its intended use.
2. Do not use machines with a defective switch. A machine with a faulty operating system must be repaired immediately.
3. Unplug from the socket before making adjustments, changing accessories, carrying out maintenance or storing the appliance. This safety measure prevents accidental starting of the machine.
4. Do not leave the machine connected to the power supply unattended. Keep the machine out of reach of children, unskilled, untrained and untrained people about the use and maintenance of the machine. Use by experienced people is very dangerous.
5. Carefully maintain the machine and its accessories. Check that the moving parts work properly, are not blocked or damaged. All active and passive protection devices must be checked periodically and before each use. Before using the appliance, have the damaged parts repaired. Incorrect or unintended maintenance of the machine can cause serious damage and injury.
6. Use the machine and accessories in accordance with these instructions. Keep in mind the working conditions and the type of work to be performed. Using the machine for purposes other than those intended may lead to dangerous situations and damage.
7. Keep the handles and operating and control parts dry, clean and free of oil and grease. This is a necessary condition for safe use and a better reaction in case of unforeseen situations.

5. Service

1. Have the machine repaired only by specialized and qualified personnel and only with original spare parts. This ensures product safety even after repair.
2. Keep the machine in a correct state of maintenance, carrying out and carrying out calibrations and maintenance according to the scheduled maintenance plan. A non-maintained machine is more dangerous and is not protected by warranty.
3. Use original spare parts only.
4. Do not carry out any modifications to the pump if not authorized by technical Department (ask for written authorization).

Warnings for the use of the machine

1. Use chemicals only order to ensure good working and avoid damaging the equipments.
2. Once the lifetime of the pump has expired, do not dispose of it with household waste. The pump shall be recycled in authorized centers and can be assimilated to a household appliance.
3. During handling lift the pump and do not drag it in order to avoid damages to the tank.
4. Temperature of the descaling solution must never exceed 50°C.
5. Flexible hoses and fittings can damage in time; make sure to check the seal whenever using the pump, as indicated in the pump preparation instructions. **The motor must be reliably grounded to prevent the danger of electric shock! Cut off the power and promise the motor stop rotation before motor maintenance or repair.**
6. Avoid using the pump in places where there are flammable liquids, gases, powders or with risk of explosion.
7. Before plugging in the pump, make sure the switch is off.
8. Do not use non CE-marked and defective outlets.
9. Use (CE) approved extensions, only if necessary. **HINT** Do not use plug adapters. do not carry out any modifications to the plug or electrical cable.
10. Pump shall always be kept in perfect efficiency.

11. During servicing, make sure the switch is off and plug is not connected.
12. Servicing operations shall be carried out by the qualified personnel.
13. Hold or tighten the hoses firmly before operating the machine. The pressure waves inside the tube can create whip effects and hit people or things.
14. Make sure that the hoses are not subject to rubbing against abrasive, sharp or damaged surfaces. They could in fact explode if subjected to pressure.
15. Before making connections or disconnecting the pipes, make sure that there is no pressure inside. At the end of the work, disconnect all the hoses from the water system.
16. Before each use, check that the high-pressure hoses are not damaged. A damaged high-pressure hose can burst and cause injury.
17. Use only high-pressure hoses, valves and original couplings. This ensures the safety of the appliance even after the replacement of damaged components.
18. Only operate the machine if it is resting on a horizontal, stable, robust and dry surface. An inadequate support plan can result in damage and injury of various kinds.
19. Never use the machine on networks without a differential safety switch. Before use, make sure that the differential switch (circuit breaker) operates correctly. The use of a residual current safety circuit breaker reduces the risk of electric shock.
20. Do not direct jets of liquid onto the machine, not even to clean it. The infiltration of water into an electrical device increases the risk of electrocution.
21. Avoid making the machine work overloaded, with excessively intense cycles or in excessively high ambient conditions. It could overheat and become dangerous. In case of excessive overheating, stop the machine immediately and eliminate the cause of overheating.
22. Do not operate the machine if the hoses are not correctly installed.
23. Periodically empty the condensate from the tank. Replace the tank if it shows signs of oxidation or rust. Danger of explosion.
24. Do not leave the machine in operation without supervision. While working, keep strangers away from the work area. Electrical appliances may represent hazards that cause injury to persons and / or property damage if they are not supervised.
25. Do not use the machine if it is damaged. Danger of accidents.
26. The machine is not suitable for pumping flammable or explosive liquids. For example, petrol, oil, alcohol or solvents. Vapors or liquids may ignite or explode.
27. Do not operate the machine in potentially explosive atmospheres. Vapors or liquids may ignite or explode.
28. Protect the machine from frost. The appliance may be damaged. In case of risk of freezing, run the "empty the system" program
29. Never leave the machine switched on without supervision. In the event of prolonged or unattended shutdown, switch off the machine using the ON / OFF switch, remove the mains plug and disconnect the hoses from the system. Electrical appliances may represent hazards that cause injury to persons and / or property damage if they are not supervised.
30. Children and people who, due to their psycho-physical abilities, their inexperience or lack of training, are not able to safely use the machine, are not authorized to use this device. Otherwise damage to the machine, people and things is likely.
31. The machine is intended for professional use only, therefore for experienced, trained operators who are familiar with the technique and plant to be treated. Otherwise damage to the system, the machine and people is possible.
32. If power cord is damaged, it must be replaced by the manufacturer or by technical assistance service or a similarly qualified person, in order to avoid any hazard.

SIGNALS



It is forbidden to operate on moving mechanical parts



Danger of electric shock: live equipment



Avoid discharging hazardous wastes into drains

PROTECTION DEVICES



PPE such as gloves, shoes and goggles are necessary to reduce the risk of injury related to work at the construction site.

During the operation of the compressor it is mandatory to use ear protectors while standing near the machine

Description

MGF MAXI 1.2 Descaling Pump (Art. 939890) with tank and on-off valves for washing and flushing small systems or parts of big systems by using specific non-acid flushing chemicals.

The pump is equipped with flow reverser and special connections with valves to adjust flows and purge the sludge, built up by the operation, which is then rapidly removed.

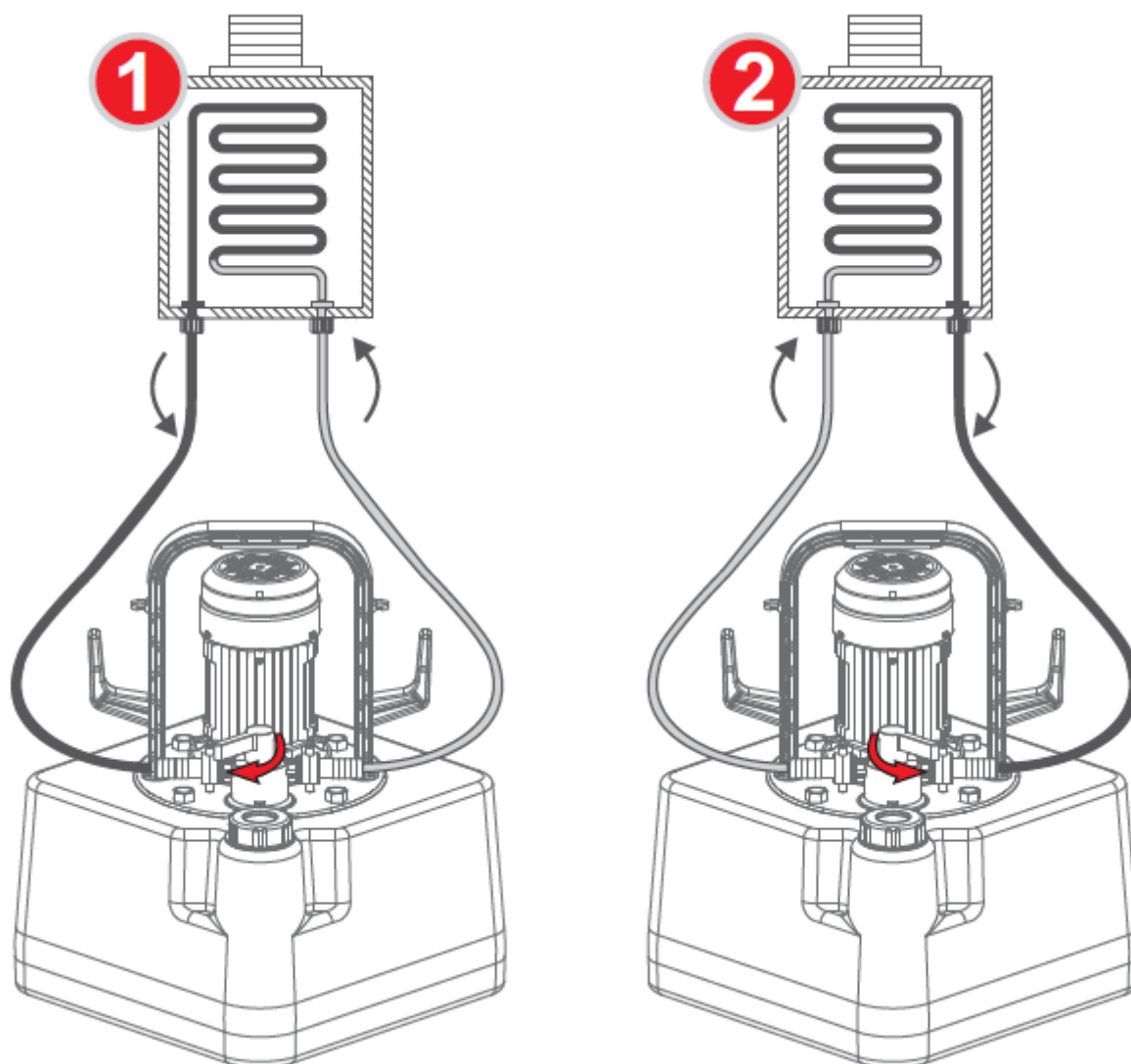
It allows to carry out interventions to remove limescale from boilers, boilers, heat exchangers and restore normal heat exchange efficiency and therefore save energy.

The distinctive feature is the large tank capacity, easy to clean and ideal for descaling large plants.

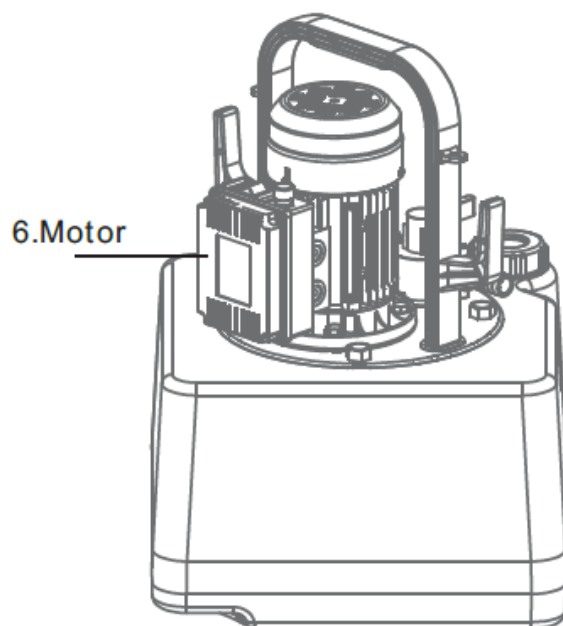
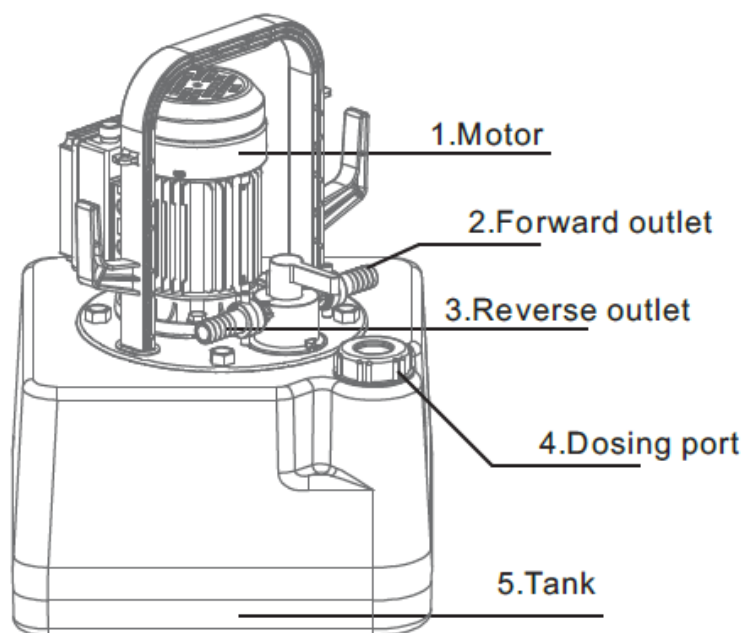
The descaling pump can only be used with **MGF** descaling acids.

Since descalers are acid-based products, the safety prescriptions contained in this manual and in the acid technical data must be strictly respected.

The manufacturer declines all responsibility for damage caused by improper use of the machine. The machine must not be tampered with under any circumstances. Otherwise the manufacturer declines all responsibility for the operation and safety of the machine.



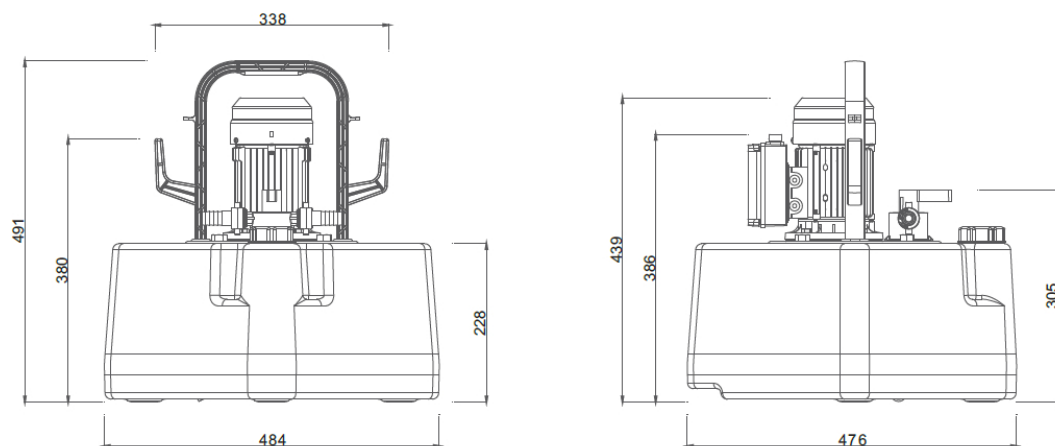
Take the MAXI 1.2 descaling pump out from the carton and check all the components according to below list:



TECHNICAL FEATURES

	Art. 939890
Weight	9 Kg
Dimensions	360 x 360 x 495 mm
Maximum capacity	40 L/min
Tank capacity	20 L
Max head	12 m
Pump pressure	1,2 bar
Power	135 W
Power supply	230 V ~ 50 Hz
Current	1 A
Sound pressure	70dBA
Max functioning temperature	50 °C
Service class	S1
Insulation class	IP54
Connections	3/4"

DIMENSIONS



ACCESSORIES

Art.	Description
939996	Descaling Acid - 10L
939997	Non Fuming Descaling Acid - 10L
939958	Descaler Acid 30% - 10L
939959	Non Fuming Descaler Acid 30% - 10L

Preliminary operations

Close the cap on the tank during each transport, to avoid the leakage of acid from the tank.

Arrange the pump to prevent it from overturning; the tank must be protected in order to avoid breakages and spills of acid.

Close the **pipes for connection** to the users with the appropriate caps so as not to disperse acid into the environment.

Before connecting to the mains, check that the system complies with the standards and is equipped with a differential magnetothermic switch. Put the switch in the OFF position.

Make sure that the pump is properly screwed onto the tank.

Instructions

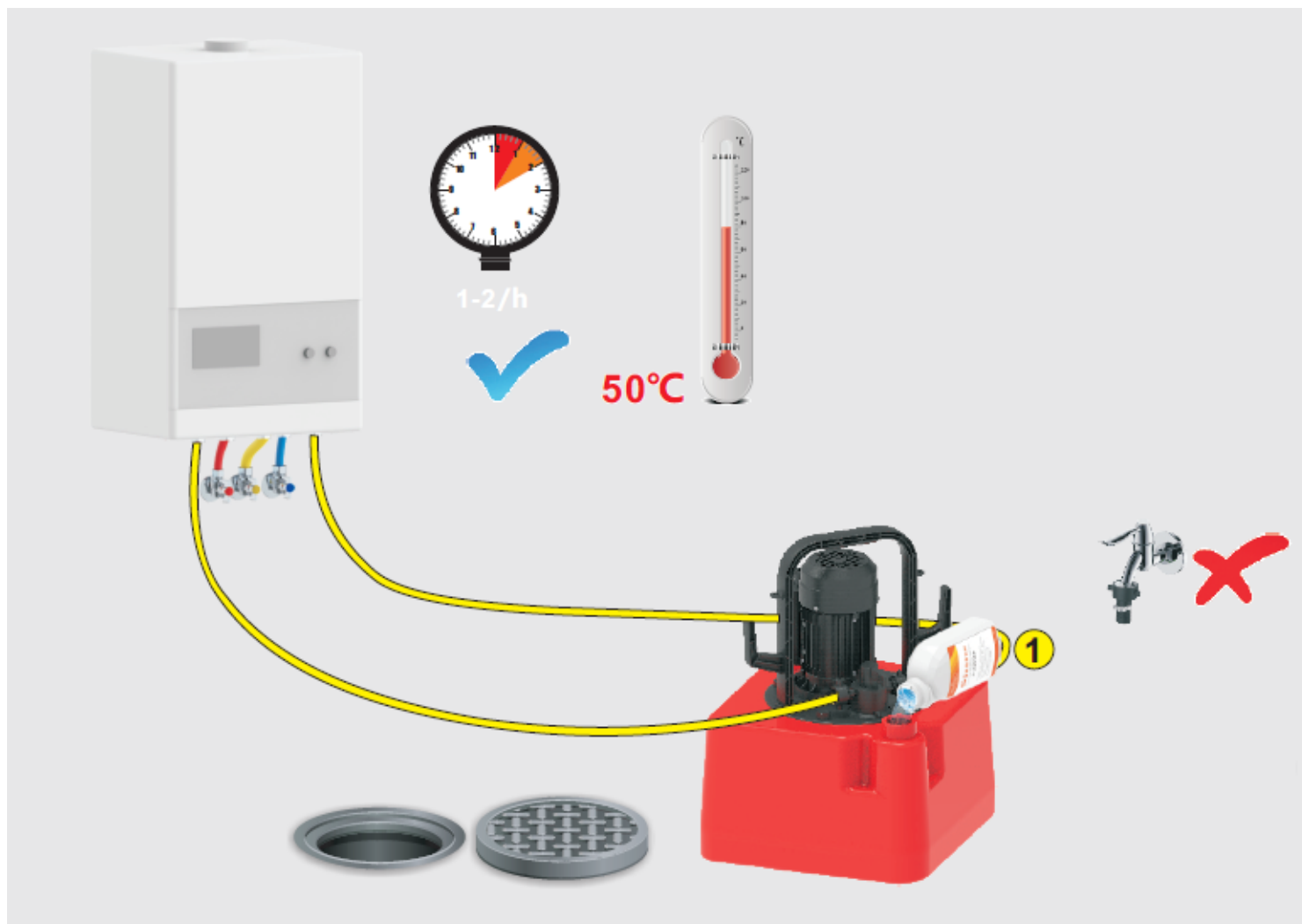


Prepare before flushing

- 1.
2. **Connect** the circulation hose to descaling pump.
3. **Disconnect** water inlet valve on boiler and connect the other side of circulation hose 1 to it.
4. **Disconnect** water inlet valve on boiler and connect the other side of circulation hose 2 to it.
5. When **Dump**, disconnect circulation hose 1 or 2, and put into drainage system.
6. **Open** the tank cover and fill water to the level between min to max.

Step 1

Add descaler to flush the whole system. The flushing time need 1-2 hours, it depend on the blocking of the system.

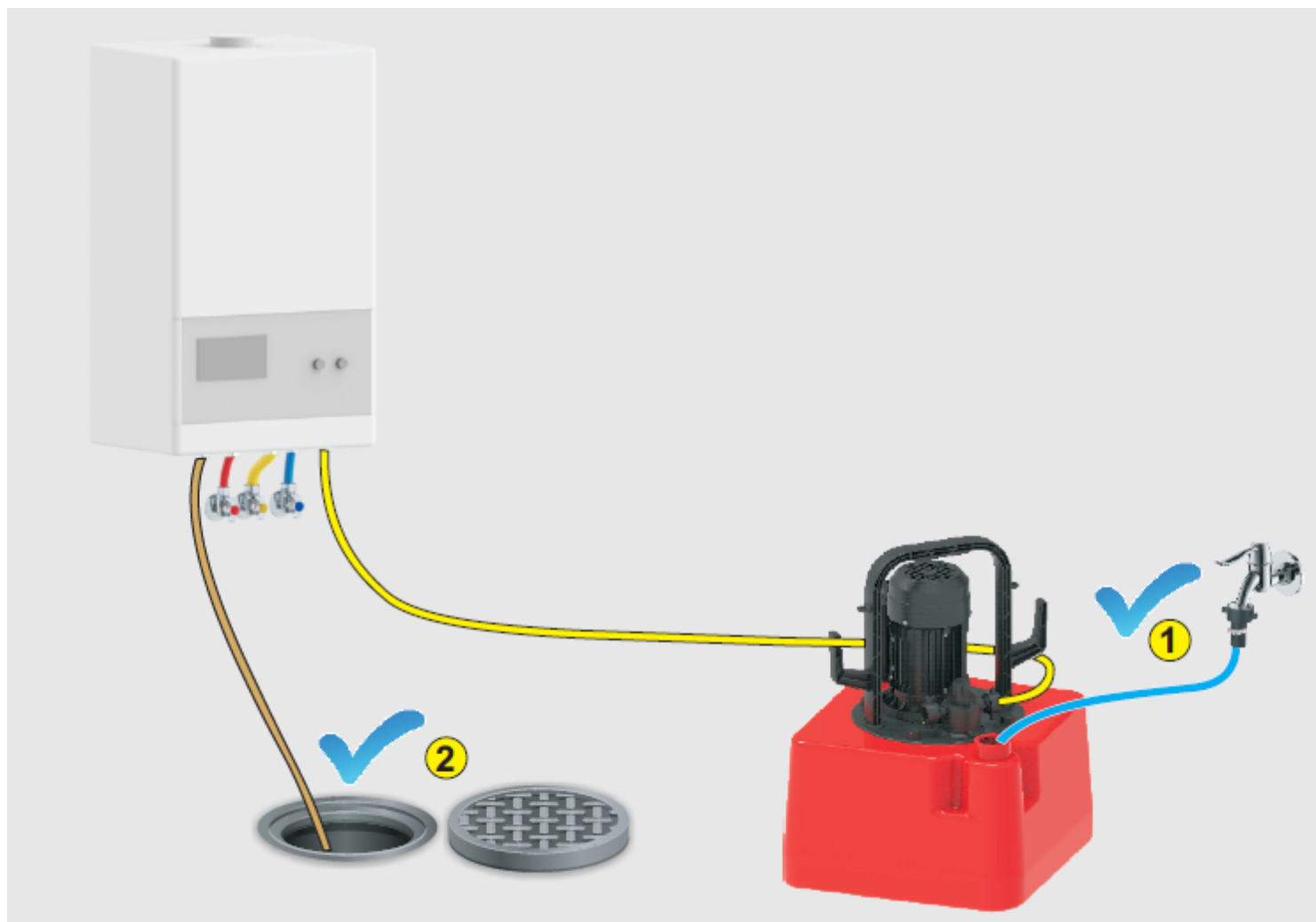


1. Open the tank lid and pour descaler acid into tank.
2. Turn the diverter handle to left or right; Open the power switch.

3. Change the direction of the diverter after flushed every 5-15minutes and recirculating 1-2 hours (the real-flushing time depend on blocking of the system).

Step 2

Replace **dirty water** with clear water in system, circulate about 20 minutes to drain out the dirt.

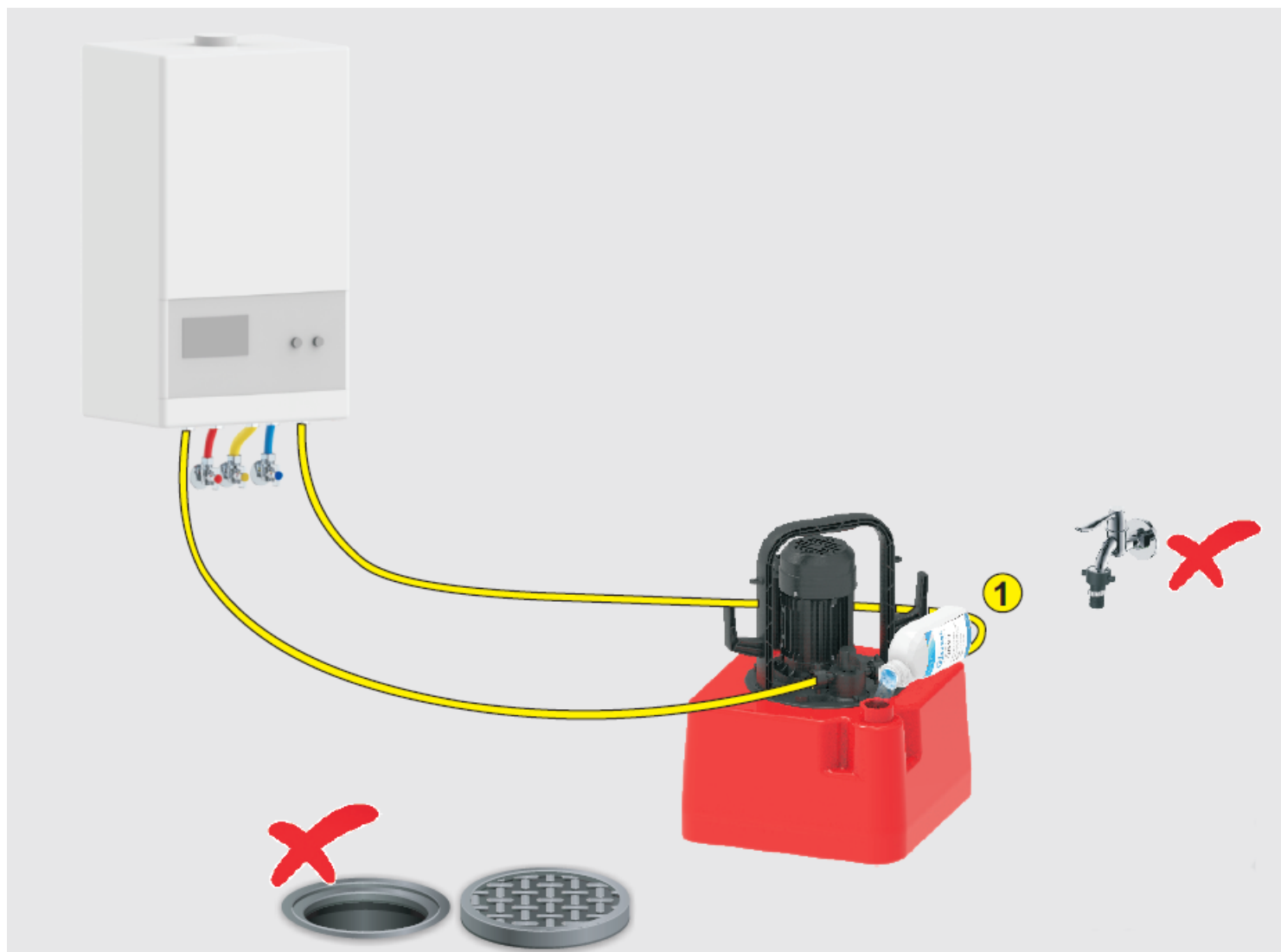


1. Turn on water supply.
2. Turn the diverter handle to right and disconnect circulation hose at the right side from descaling pump and put into drainage system (notice: when turn the diverter handle to left, disconnect circulation hose at the left side from descaling pump)
3. Dump

Step 3

Add Corrosion inhibitor art. 791028 (5L) and 791028.1 (1L) **MGF** to protect the pipes and devices in the system.

This corrosion inhibitor is a chemical for heating and cooling circuits, to be used in case of insufficient passivation on the metal parts, thus there is a real risk of corrosion.



1. Pour Corrosion inhibitor into tank (the dosage refer to the sticker on bottle)
2. Turn the diverter handle to left or right; Open the power switch
3. Change the direction of the diverter after flushed every 5 minutes and recirculating 20 minutes

Reconnect the system, and then clean the Descaling Pump



1. Turn on water supply.
2. Turn the diverter handle to left or right; Open the power switch.
3. Dump.

Clean the Descaling Pump



1. Turn off water supply
2. Check if the water is almost empty in the tank and then shut off the power switch. Pour out the left water from tank.

Maintenance

- Before cleaning, make sure that the machine is turned off and the power cord disconnected from the plug.
- At the end of each use, rinse both the container and the pump itself.
- Periodically check if the power cable is not damaged.
- If necessary, replace it only with original spare parts (see section "spare parts")

Troubleshooting

Problem	Cause	Solution
The pump does not work and the switch does not light.	Plug not inserted	Insert the plug
	Lack of power supply	Restore the power supply
	Damaged cable	Repair or have the cable repaired
The pump does not turn.	Thermal intervention	Wait for automatic reset

Spare parts

N°	Description
1	Handle
2	Motor Fixing Screw
3	Motor
4	Diverter Unit
5	O-Ring
6	Pump Body Flange
7	Upper Flange
8	Plastic Screw
9	O-Ring
10	Pump cap
11	Plastic Screw
12	O-Ring
13	Tank cap
14	Tank

Accessories

User manual	1 pc
Circulate hose	2m / 2pcs
Shoulder belt	1 pc

Declaration of Conformity

MGF srl – Via Chico Mendes, 8 – 43058 Sorbolo Mezzani (PR) - Italy declares under its responsibility that the Descaling Pump MAXI 1.2 art. 939890 with numbers freshman from 202079999, appear to be in conformity with the requirements of the following directives machinery:

- Directive 2006/42/EC;
- with regard to electromagnetic compatibility 2004/108/EC;
- with regard to the safety of electrical equipment with Directive 2006/95/EC;
- with regard to hazardous materials they are in compliance with 2011/65/EC;
- regarding the waste electrical conform to 2012/19 / EC.

MGF srl
Fusab

Waste Disposal

These electrical instruments must be disposed of as hazardous waste and therefore should be given to the collection and authorized disposal sites. WEEE contributions are paid when due.