Underfloor Flushing Cart User Manual

This flushing cart is for flushing the pipe loops and connecting pipework of an underfloor system.

Technical Specification	
Weight:	24 Kg
Dimensions:	1000 x 450 x 500 mm
Max Pressure:	8 bar
Max water temperature	80°C
Tank capacity:	50 L
Hose length	3m
Tension:	230 V
Current:	3A
RPM:	2800 rpm
Power:	1100 W
Sound pressure:	60 dba
Protection:	IP 55
Max environmental temperature	50°C
Minimum pH	7 (no acid allowed)
Noise	60 dBa at 1m

Safety

This unit should be constantly attended to prevent accidental water spillage.

Do not use the system if:

- Nearby there is exposed electrical equipment or damaged electrical cable: Risk of electrical shock
- Liquid with less than 55°C flash point is present: explosion or fire risk
- The system water is greater than 80°C: risk of skin burns
- There are leaking pipes: skin burn risk
- There is no water in the system as the pump will become very hot and be damaged.
- There are blocked filters: electrical risk for workers and risk of fire
- There is inadequate ventilation: overheating of the pump
- The floor surface is uneven: risk of spillage of very hot water

Machine safety

The machine must be regularly serviced to make sure the pump doesn't become blocked.

Do not work on the machine when it is connected to electricity.

Use an RCD protector.

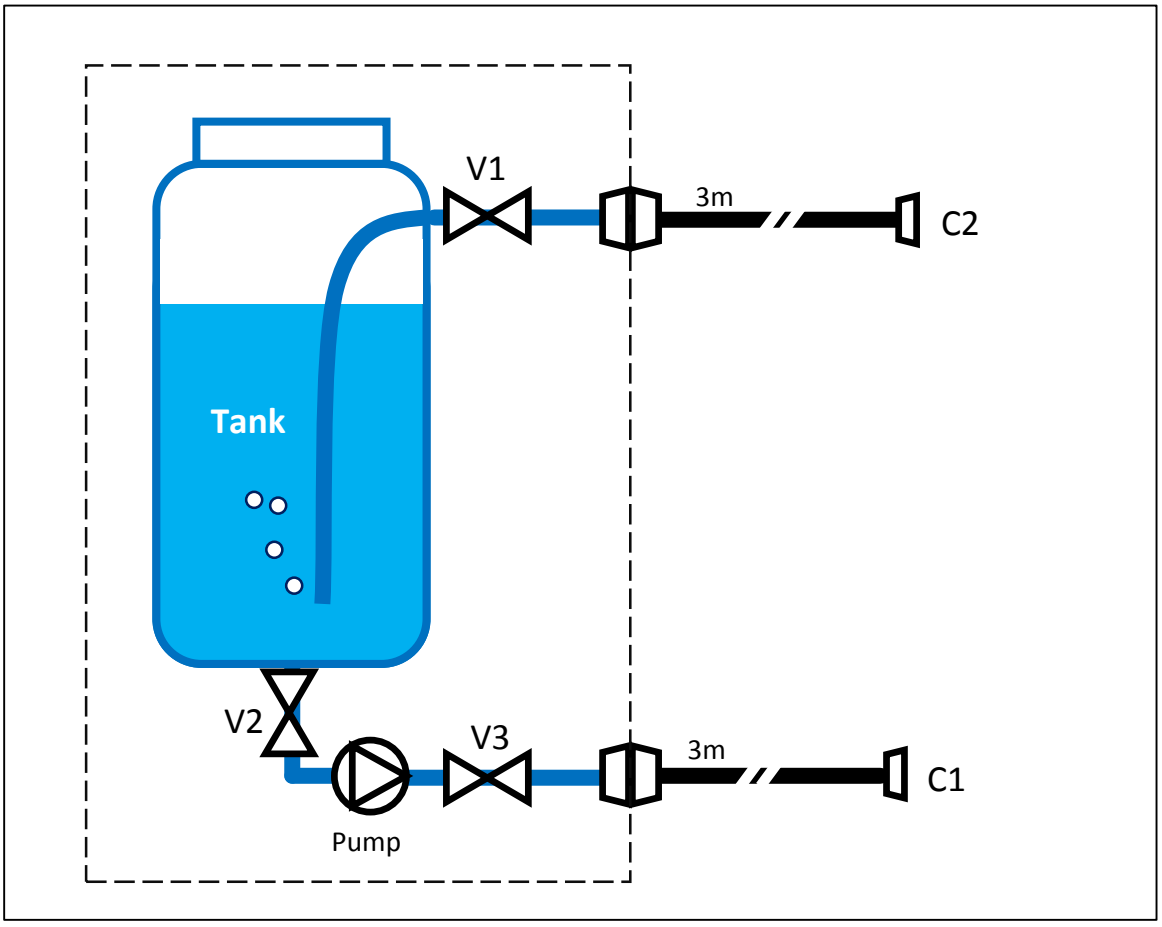
Personal protection

No additional safety equipment is needed if the machine is operated in accordance with instructions.

Technical Description

Used for the installation, maintenance and testing of any closed loop system.

Can be used to fill and bleed systems and flushing with cleaner.



1. P1 – Pump
2. S1 – Tank
3. V1 – Return valve. (to close partially if there are bubbles in the pipes)
4. V2 – Tank discharge valve
5. V3 – Flow valve (outlet)
6. C1 – Flow connector (outlet)
7. C2 – Return connector

Using the System

Before operating the system ensure there is sufficient liquid in the tank to ensure the pump won't run dry.

If filling a system this may mean being able to top up the tank during use should all the liquid be used up by the system.

Never leave there system unattended is there is a risk the tank may run dry.

Prepare the flushing cart

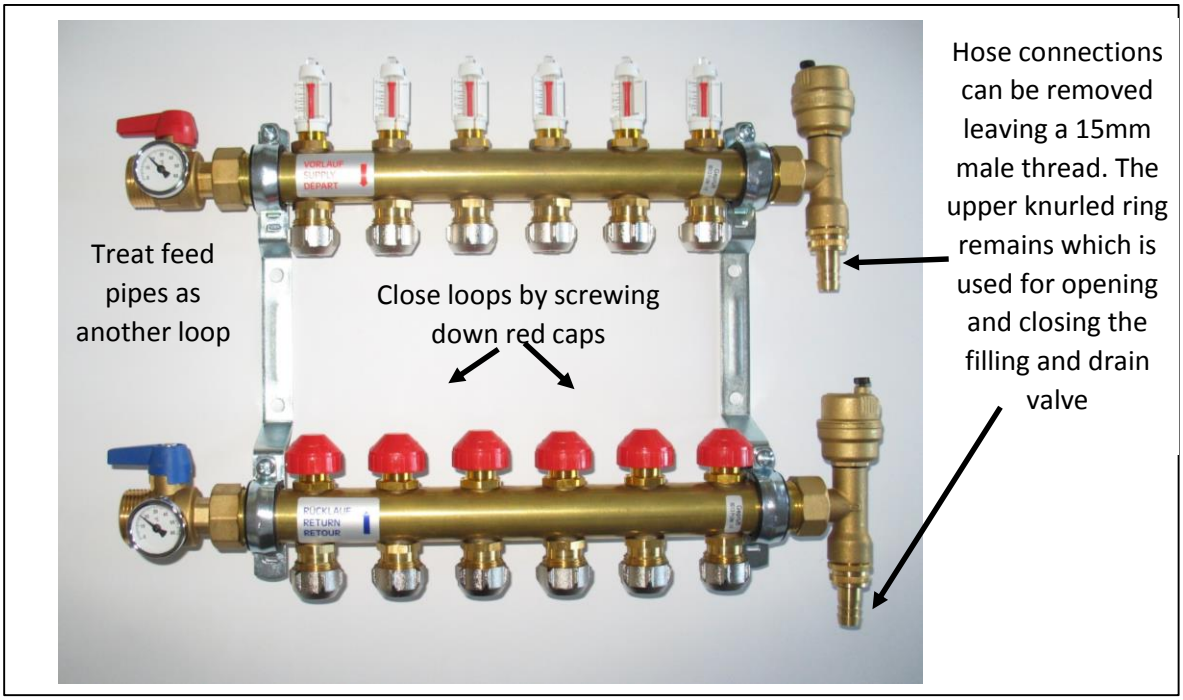
1. Connect one of the flexible pipes to the outlet of the pump (the V2 valve).
2. Connect the other flexible pipe to the tank (V1, return valve)
3. Fill the tank with enough liquid for the system to work
4. Open the discharging valve of the tank
5. Connect the unit to electrical power.
6. Open the cap of the tank, so that excess air can escape

Filling and bleeding an underfloor heating system

The most important aspect of filling and bleeding an underfloor heating system is to fill and bleed one loop at a time until there are no more air bubbles coming out of the submerged return pipe.

The primary pipework between the heat source and the manifold should be treated as a separate loop and can be isolated with the manifold isolation valves.

Only one loop should be open at one time and each loop should be closed before the next is opened to prevent any air getting from the next one to the one that has already been bled.



Procedure

1. Connect the flow pipe from the pump to the flow side of the manifold. That is the side with the flow meters on.
2. A Watts manifold should be connected with fill/drain fittings with AAVs at one end.
3. This fitting has a hose connector that can be removed to access a 15mm male thread connection.
4. The flushing cart has a standard ¾“ hose connector with rubber washer so a 15mm/20mm bush may be used to connect the two parts or another custom fitting made up for convenience.
5. Once connected start filling the tank. (100m of 16mm pipe can hold 11.3L of water.)
6. Once the tank contains sufficient water start the pump using the red button on the top of the pump
7. The water level should be maintained so that there is sufficient depth to prevent and vented air from going back into the system.
8. When bubbles have stopped coming out of the submerged return tube for a minute, isolate that loop and then open the next.
9. Continue until all loops including the primary and heat distribution pipe work has been filled and bled.

Storage

Must be stored between -20°C and 60°C. If there is a risk of freezing it is best to flush the pump with anti-freeze before draining the pump.

Warranty Conditions

The warranty does not include:

- Ordinary wear and tear on pipes, gaskets and bearings
- If parts have been used incorrectly
- Parts that have been modified
- If necessary maintenance is not carried out