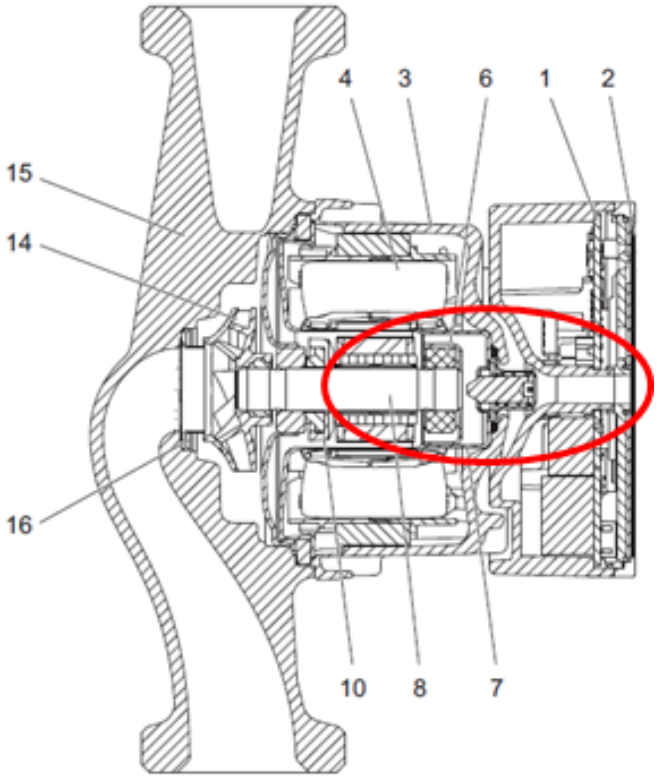
GRUNDFOS UPM3 Anti Blocking Concept

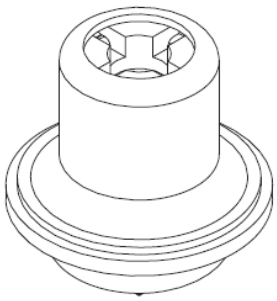
UPM3 features a double safety de-blocking system:

- Deblocking software
  - Continuously restarting after 1.33 seconds with max. torque of 24.8 Ncm
- Deblocking device
  - Manual deblocking device, access from front side without demounting the control box.

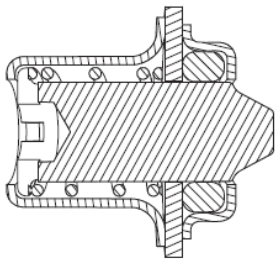
Deblocking device

The deblocking device consists of an axial moving plunger tightened by an O-ring and pulled back by a spring inside a stainless steel housing that is welded to the rotor can. The deblocking device is designed for circulators integrated in appliances to give access to the shaft from the front of the circulator without demounting the control box.
By pushing and turning a screw driver, Phillips No. 2, the plunger pushes the shaft in axial direction into the circulator, while it can be turned as well. The force is high enough to deblock circulators which are seized by lime e.g. if an appliance is stored for months after being wet tested. Before, during and after the deblocking, the device is tight and must not release any water.





Deblocking device



Sectional drawing of deblocking device

GRUNDFOS UPM3

De-blocking with double-safety solution

In case of de-blocking functionality the UPM3 is equipped with a *double-safety* solution:

- **Electronic de-blocking functionality** maintaining the maximum starting torque up to 25 Ncm

backed up by the

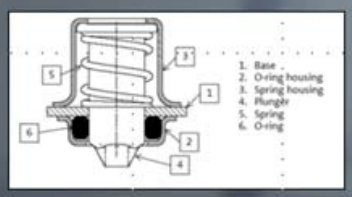
- **Manual de-blocking device** accessible from the front without demounting the control box.

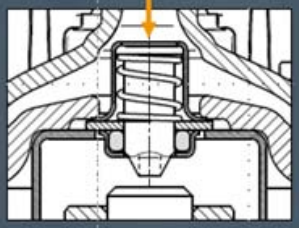
GRUNDFOS UPM3

De-blocking manual function

The manual de-blocking device consists of a plunger that axially moves and is sealed by an O-ring.

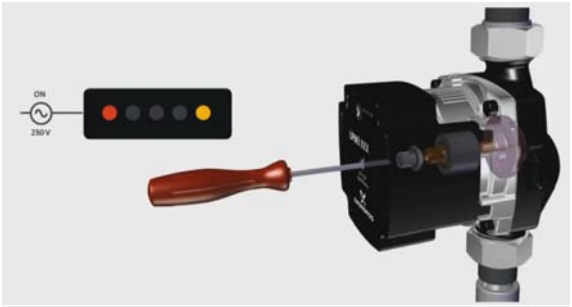
The plunger is retracted by a spring which is covered with a stainless steel housing that is welded on top of the rotor can.

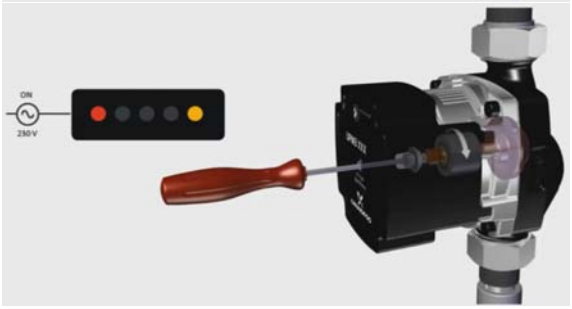




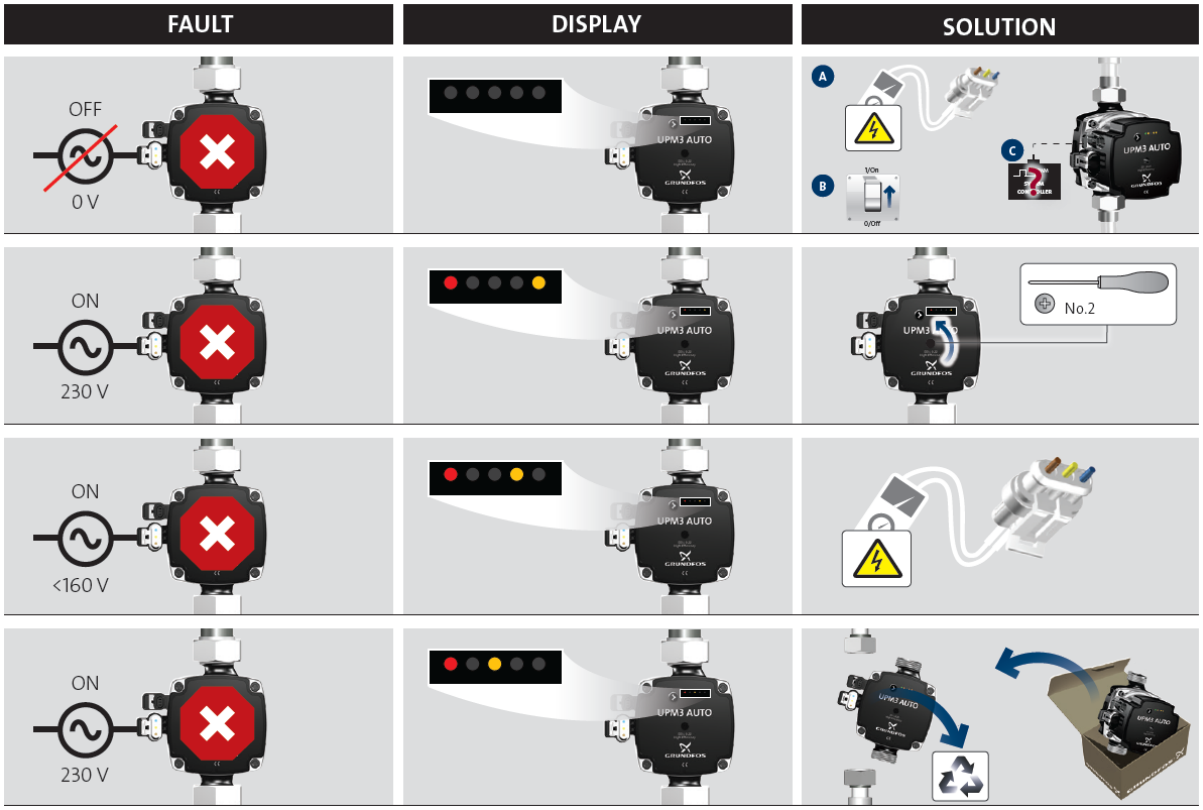
Counteraction in case the pump is blocked

If the pump or system is filled up with water for the first time and the pump is stopped for a longer period of some weeks or months, it might happen that the pump is not able to start. The pump tries to start with a cycle time of 1.33 seconds and the display shows LED 1 = red and LED 5 = yellow.
In this case, please use a Phillips screwdriver No.2 and put it in the hole in the middle of the front plate. Push it towards the pump and move it counter clockwise. With high probability, the pump will start.





Fault Findings



Warning: Before starting any work at the pump, switch off the power supply. Make sure that the power supply cannot be switched on accidentally.

Be aware that capacitors will be live up to 30 seconds after the power supply has been switched off.

Fault	Cause	Remedy
1. Pump is not running. No power supply.	• System is switched off.	Check the system controller.
	• A fuse in the installation is blown.	Replace the fuse.
	• The circuit breaker has tripped.	Check the power connection and switch on the circuit breaker.
	• Power supply failure.	Check the power supply.
2. Pump is not running. Normal power supply.	• Controller is switched off.	Check the controller and its settings.
	• Pump is blocked by impurities.	Remove impurities. Deblock the pump from the front of the control box with a screwdriver.
	• Pump is defective.	Replace the pump.
3. Pump runs at maximum speed and cannot be controlled.	• No signal from signal cable.	Check if the cable is connected to the controller. If it is, replace the cable.
4. Noise in the system.	• Air in the system.	Vent the system.
	• Differential pressure is too high.	Reduce the pump performance at the pump or external controller.
5. Noise in the pump.	• Air in the pump.	Let the pump run. The pump vents itself over time.
	• Inlet pressure is too low.	Increase the system pressure or check the air volume in the expansion tank, if installed.
6. Insufficient flow.	• Pump performance is too low.	Check the external controller and the pump settings.
	• Hydraulic system is closed or system pressure is insufficient.	Check the non-return valve and filter. Increase the system pressure.
7. Pump LED5 is on. Pump tries to restart every 1.5 sec.	• Rotor shaft is blocked.	Deblock the rotor shaft by pushing it with a screwdriver from the front of the pump.
8. Pump LED4 is on. Pump is running.	• Supply voltage is too low.	Check the supply voltage.
9. Pump LED3 is on. Pump stops.	• Supply voltage is too low. • Serious failure.	• Check the supply voltage. • Exchange the pump.

Warning

This appliance can be used by children aged from 8 years and above and persons with reduced physical, sensory or mental capabilities or lack of experience and knowledge if they have been given supervision or instruction concerning use of the appliance in a safe way and understand the hazards involved. Children shall not play with the appliance. Cleaning and user maintenance shall not be made by children without Supervision