

Thermostatic/Pressure balanced concealed mixer FMM 5190



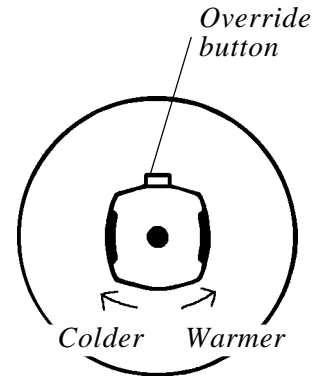
Engelska

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Operating instructions

The knob controls the temperature. When the temperature knob is turned clockwise to the stop only cold water is provided. The more it is turned anti-clockwise, the warmer water is supplied. After one complete turn, the override button must be pressed in order to obtain warmer water. The knob can then be turned another 1/2 turn. **The mixed water temperature now supplied is warmer than what is normally required for shower or bath.**

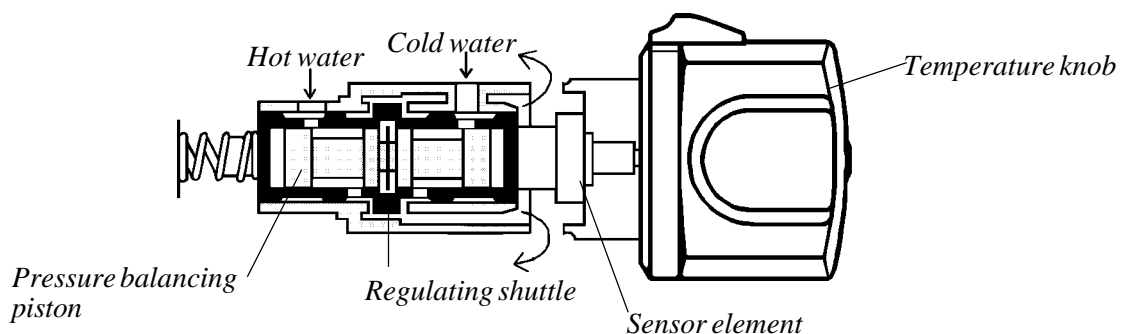
The mixer is also available with knob without override button (for limited temperature regulation) and with a cover instead of a knob (for fixed temperature setting).



Function

The temperature is regulated in the mixer by a pressure balancing and temperature control interplay. The pressure balancing piston, operating inside the temperature regulation shuttle, is first handling the cold and hot water. The piston continuously finds the position where cold and hot water gets equal pressures when entering the temperature regulating function.

The position of the regulating shuttle is controlled by the temperature knob. The sensor element is located between the shuttle and the knob, and compensates for the temperature fluctuations of entering cold and hot water from the supply. The outgoing mixed water is delivered with an even, stable temperature.



Tested and approved by FM Mattsson.

Every mixer is tested and approved.

The mixers are subjected to the following test in production.

- Tightness test of hot and cold water seat.
- Fail safe test.
- Cold water pressure 100 kPa > hot water pressure - Checking the mixed water temperature.
- Hot water pressure 100 kPa > cold water pressure - Checking the mixed water temperature.

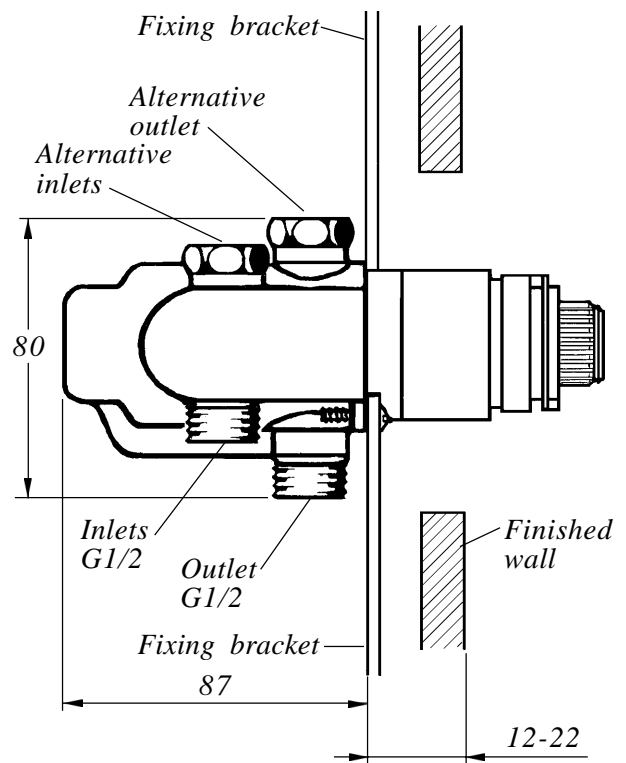
Installation

The mixer body is installed in the wall, with "HOT" to the left, and "COLD" to the right, as seen from the front. The inlets and outlet can then be connected up- or downwards. The alternative not used are covered with the enclosed caps.

The mixer body can also be installed vertically (the guidance ring is then adjusted 90° accordingly, to position the override button uppermost). If required, use the two enclosed brackets for attachment. Please note the distance from finished wall **12 to max. 22 mm**.

The hole in the wall is finally concealed by the Ø130 mm cover plate.

- Rinsing the supply pipework before attaching the mixer eliminates the risk of getting the filters clogged up by unwanted particles and impurities from the tubes.
- Connect the pipes. Note that the inlets on the body are marked with "HOT" and "COLD".
- Attach the cover plate over the mixer neck, against the wall.
- Assemble the knob. The temperature knob is applied with the override button upwards. Fit the lug inside the knob to the right of the stop guidance (see illustration).
- Open the main supply valve and check the provided temperature.



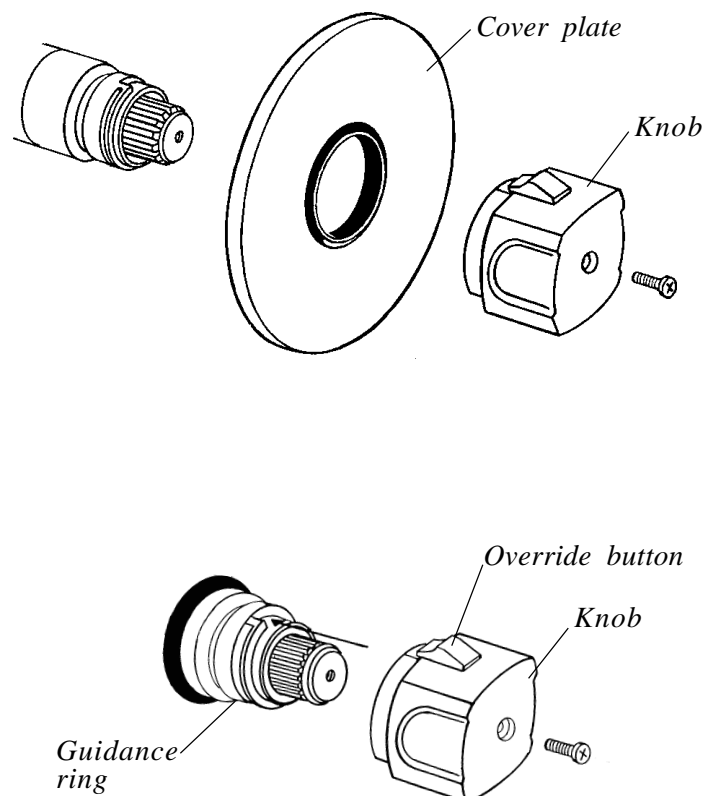
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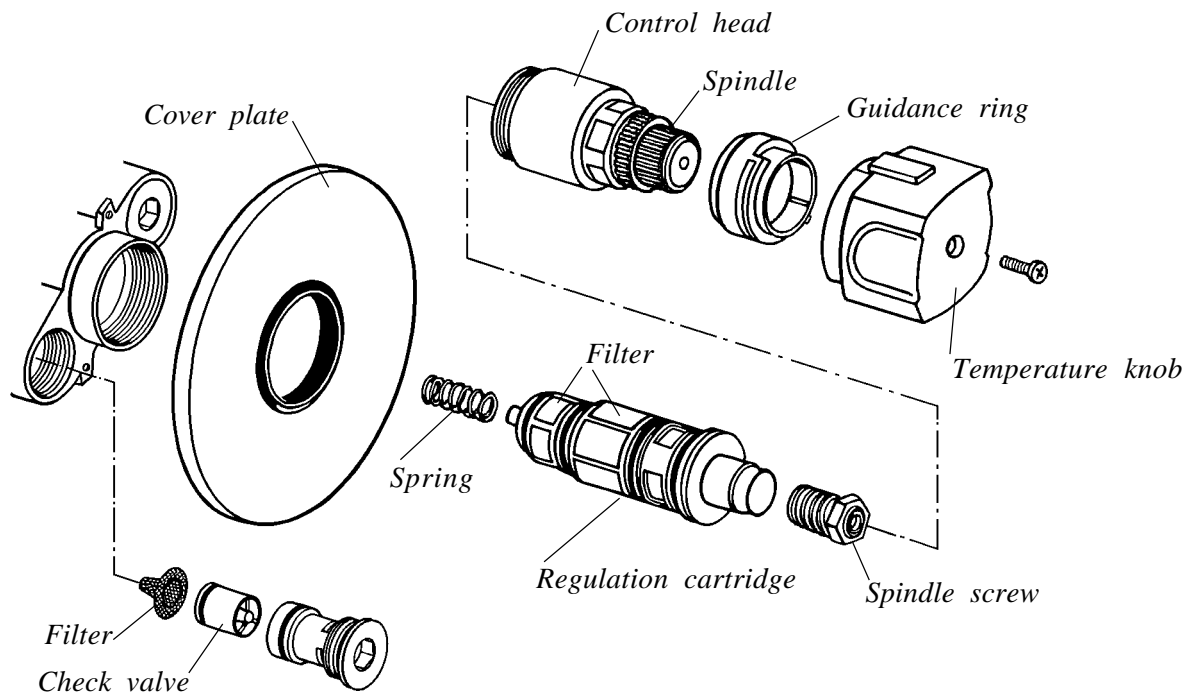
Inlet centre distance: 70

Checking the delivered water temperature

With the temperature knob turned to the override limit (as far as possible without activating the override button) the water temperature should be just about suitable for shower and bath (appr. 38°C). The mixers are delivered with the calibration setting to provide +38°C with a hot water supply temperature of 60-65°C and a cold water temperature of 10-15°C. If the water after installation is found to be either too hot or too cold with the temperature knob in the inactivated button position, a recalibration of the temperature knob is necessary. This is carried out as follows:

- Open the valve with the flow control and set the desired temperature. (Pressing the override button may be necessary).
- Close the water flow on the mixer. (The main supply is still under pressure).
- Remove the center screw on the temperature knob. Pull the knob straight out without moving the spindle setting.
- Reassemble the knob with the inside lug to the right of the stop guidance (see illustration).
- Reassemble and tighten the center screw.
- Check the delivered water temperature.





Function defect remedy

If the mixer does not provide sufficient amount of water or if the temperature regulation/stability is disturbed, the first measure is to clean the filters. If this action is not effective, replace the regulation cartridge.

Cleaning the filters

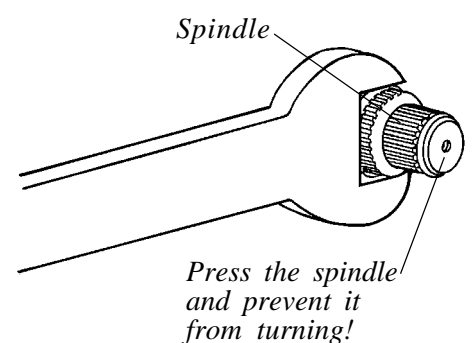
The inlet filters are attached to the check valves and are located on two plugs/inserts on the mixer body front. Two other filters are fitted around the regulation cartridge inlets in the mixer.

- Shut off the main water supply.
- Dismount the knob. Pull straight out.
- Remove the cover plate.
- Dismount the check-valve inserts (10 mm internal hexagon), and pull off the filters from the cartridges.
- Dismount the T/P regulation cartridge (see "Regulation cartridge replacement").
- Pull off the filters from the cartridge. The O-ring must be removed to allow the large filter to come off.
- Clean all the filters (replace if necessary) and reassemble the parts.
- Reopen the main supply valve.
- Adjust the temperature override limit (see "Checking the delivered water temperature").

Regulation cartridge replacement

- Shut off the main water supply.
- Dismount the knob. Pull straight out.
- Remove the cover plate.
- Mark the positioning of the guidance ring (in relation to the body) and pull it off.

- Unscrew the control head as follows:
- Press the spindle and prevent it from turning with the control head when dismantled (see illustration).
- Dismount the regulation cartridge.
- Remove the spindle screw and the spring from the cartridge.
- Fit the spring and the spindle screw to the new regulation cartridge.
- Reassemble all parts. Press in the spindle when the control head is attached (see illustration).
- Reopen the main supply valve and set the override temperature limit (see "Checking the delivered water temperature").



Mounting and dismantling the control head.

Check-valves replacement

The check-valves are located inside the two plugs/inserts on the mixer body front. If replacement is necessary, see "Cleaning the filters".

Freezing damage risks

If the mixer is exposed to temperatures below 0°C (as in unheated leisure houses during winter time), the risk of damage, caused by freezing is apparent.

Preventive action

- Shut off the main water supply.
- Dismount the regulation cartridge and the check-valves.
- Dry the water out from the mixer body.
- Reassemble when the risk of freezing is over.

Technical data

Installation requirements

Cold water supply temperature	5 - 25°C.
Hot water supply temperature	50-80°C.
Water supply pressure	50-1000 kPa.

Cleaning

The finish of the mixer is best preserved by regular cleaning with a soft rag and a soap diluted solution, or with pure water and polishing with a dry rag. Do not ever use lime dissolvents, acidic or grinding detergents. Use household vinegar to remove lime spots and wash with water. The powder coated surfaces may not be exposed to acetone or caustic solution.

No aluminum chloride, hydrochloric acid or phosphoric acid on chrome

The chrome plated surface on the mixers is not resistant to aluminum chloride. Dark spots will be formed. Aluminum chloride is used against perspiration. When cleaning the tiles with hydrochloric acid, the mixers must be protected. Hydrochloric acid dissolves chromium. Phosphoric acid can be an ingredient in very concentrated detergents and may damage the chromium surface layer.

Safety regulations

- Injurious risk!** Do not ever remove the guidance ring (inside the temperature knob). It is a protection against too hot water.
- Injurious risk!** Do not ever calibrate the mixing valve with too low temperature on hot water supply. As the hot water temperature perhaps later is increased, the provided mixed water will also be warmer than desired.
- Injurious risk!** If the temperature knob override limit is exceeded (after pressing the override button) the delivered mixed water temperature is warmer than what is required for bath or shower.
- Injurious risk!** Do not ever untighten a plug or connection on the mixer without closing the main stop valve.

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