

# Reflex Variomat control unit VS 2-2/60, for pressurisation, degassing and makeup, 10 bar

**reflex**

Thinking solutions.



## Features

Type	VS 2-2/60
max. perm. operating temperature	70 °C
Perm. operating temperature generator	105 °C
max. perm. operating pressure	10 bar
Max. p <sub>0</sub> setting	4.8 bar
Max. sound pressure level	55 dB(A)
Degree of protection	IP 54
Electric connection	230V/50Hz
Expansion line connection	G 1 1/4"
Make-up connection	Rp 1/2"
Max. electrical rated power	2.20 kW
Height	921 mm
Width	704 mm
Depth	825 mm
Weight	61.10 kg

## Description

Reflex Variomat control unit, the Reflex Variomat is a pump control-led pressurisation module with incorporated automatic water make-up and system deaeration for sealed heating and chilled water systems. Constructed in compliance with DIN EN 12828 and the requirements of VDI 4708, with CE marking. Suitable for use in noise-sensitive areas.

Functional unit comprising a hydraulic part and a Control Touch operating unit. Both are ergonomically combined in an easy-to-maintain modular floor-standing framework system made of EV 1 anodized aluminium precision sections with CE marking.

### Hydraulic part:

Pressurisation is implemented using two independently operating stainless steel circulation pumps in conjunction with two rugged dirt-insensitive motorised ball valves with upstream dirt trap as an overflow device. A safety relief valve is included to act as a pressure safeguard for the Variomat VG primary vessel and/or VF secondary vessel that are to be connected. The system pressure is measured with an electronic sensor. Pressure-side system connections are implemented as backed up shut-off valves. All fittings are located on a rotatable base plate to enable a variable hydraulic system arrangement.

The Control Touch operating unit with TFT colour display inclusive of communications electronics is integrated in a panel-type rugged plastic housing and mounted directly on the control unit with a horizon-

tal alignment. An optional separate and vertical wall mounting plate at maximum three metres distance from the power electronics is possible. Communication electronics comprising:

- 4,3" resistive colour touchscreen for programming, operating documentation and monitoring as well as provision of help texts for all functions
- Two RS485 serial interfaces as data and/or communication interfaces
- Serial TTL-interface with two connection terminals for connection of 2 IO-boards
- Potential-free output for forwarding of the collective message
- Two electrically isolated analogue outputs e.g. for system pressure
- Input for the evaluation of contact water meters
- Slot for a compact bus module, one SD card, e.g. for data read-out, software updates, etc.
- 230V output for connection of level-dependent makeup/degassing stations

The power electronics are installed in a dedicated plastic control cabinet which is mounted directly below the operating unit. Power supply is via a main switch. Featuring in detail:

- Main switch on housing exterior
- Pump control

- Cable management for external connections
  - Mounting slot for optional modules
- Control unit completely piped and wired ready for connection according to VDE regulations. System connections by means of integrated shut-off valves.

Control Touch is a fully automatic and freely programmable microprocessor control with touchscreen operation, real-time clock, differentiating error and parameter memory, combined graphical and clear-text display of system pressure, tank level and all relevant operating and fault messages, functional diagram, signalling of the active operating mode, collective fault message, low water level, functioning of pump, overflow valve and make-up valve.

Functioning of the pressurisation in the limits  $\pm 0.2$  bar including pump monitoring. Optimised system water degassing due to patented, fully-automatic overflow control with cycles for continuous, interval and run-on degassing. Controlled make-up, automatic interruption and fault message upon exceeding of the runtime and/or the number of cycles. Processing of the signal of a contact water meter for maximum volume limit and/or capacity evaluation of ion exchangers located in the make-up line. Documentation and control of the entire system in respect of the above mentioned parameters.

