Specification Sheet



Reflex Variomat VS 2-2 control unit:

The Reflex Variomat is a pump controlled pressurization unit with incorporated automatic water make-up and system de-aeration for heating and chilled water systems.

The device is built according to EN 12828 and is provided with the EC marking. Unit particularly suitable for use in surroundings where a low sound level is required.

Control unit: Unit existing of a hydraulic part and Reflex Control Touch operating unit.

The Reflex Variomat 2-2 control unit is provided with two stainless steel multistage pumps and two fail safe electrically actuated spill valves for maintaining pressure control. Due to the self-optimizing feature of the spill valves, operation function is not affected by dirt deposit in the inlet strainer. A safety relief valve is included to act as a pressure safeguard for the Variomat VG and/or VF vessels.

The unit may be mounted on skid (to request) for permitting an easy assembly on site and is provided with inlet strainer/ pump check valves and lockshield ball valves for the isolation of individual components and system connection piping. The Reflex Control Touch operating unit is designed as a control panel featuring a TFT colour display which is integrated in a sturdy plastic cabinet to IP 54 protection class. As standard directly mounted on the hydraulic unit but is offering the optional possibility for wall mounting.

Communication facilities consisting of:

-4.3" resistive colour touchscreen,

-two RS485 interface provisions for data exchange and BMS connection,

-TTL serial interface with two terminals for simultaneous operation of two Reflex IO-Modules,

-volt-free output for common fault signalling and low level

-two electrically isolated analogue outputs for system pressure and water content of the expansion vessel,

-slots for Bluetooth module, KNX bus module, HMS Network module and SD card e.g. for software updates, data saving etc.,

-input terminal for the evaluation of a contact water meter pulse.

The power electronics are installed in a dedicated cabinet which is mounted on the panel console.

Featuring in detail:

-Main power switch on the cabinet exterior,

-Adjustable pump soft start and sequence control,

-Facilities for wiring arrangement and easily made connection,

-Available space for additional modules.

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Control Touch is a fully automatic and freely programmable microprocessor control with touchscreen operation .Displayed on a functional diagram are the active operating mode, common alarm,low water level, functioning of pumps, spill valves and make-up valve.

Combined graphical and plain text indications for system pressure, content of the expansion vessel and all relevant operating and error messages. The control features a parameter and error memory. This way the last 20 error messages can be chronologically displayed with indication of date and time of occurrence.

Function:

The control is reading the system pressure via a pressure transducer and is keeping the pressure within close tolerance limits of +/- 0.2 bar.

The degassing of a partial flow of the installation water is processed according to an optimised time schedule with selectable degassing programmes. After a period of continuous degassing (adjustable and depending on the installation volume and depth of degassing relative to pressure) at the start up, the control switches automatically to an economic mode (interval degassing).
When the water make-up is activated, error message will be triggered if the water make-up cycle goes over a time limit and/or if the number of make-up cycles is exceeded over a given period. This will result in an error message in both cases and interruption. In case the water supply line is fitted with a contact water meter, also the total added water volume is indicated on the display and an error message is activated in the event of overshooting the maximum make-up volume (added up).

This is also the case when the established input make-up quantity is exceeded against an input volume in one filling cycle, or if the make-up system because of malfunction lets water through without being activated by the control.

Documentation and monitoring of the connected HVAC-system with respect to the above-mentioned parameters. These Hydraulic Units can also be supplied as 1 Pump units

Model Type	(2 pump type)	:	2-2/35	2-2/60	2-2/75	2-2/95	2-2/140
Pressure PO Max: Bar			2.5	4.8	6.5	8.0	13.5

SV set pressure exp. vessel: 5 bar

Perm. op. temperature : < 0..70 °C

Noise level : <55 dB(A)

Power supply : 230 V,50 Hz – Model 2-2/140 is 415V/50Hz/3 Phase

System connection : 2 x G 1¼

Water make-up : Rp ½ - can also be ball valve instead of solenoid valve (standard)

Installation Application:

Variomat Hydraulic Units can be used as single type installation or on Data Centre or Critical Installation as a Master – Slave Configuration (2 units) linked together with a RS485 cable – so cross communication of information software working configuration. In these cases the complete Pressurisation Systems (1 unit) is generally skid mounted for site installation so end user just has to put power via a consumer box and match pipe to respective inlet and outlet.

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Basic Vessel

Reflex Variomat Basic vessel VG, replaceable bladder expansion vessel for reflex Variomat 1 and 2 pressurisation systems, unpressurized, built and tested according to EN 13831 and EU Pressure Equipment Directive 97/23/EC.



Vessel manufactured of steel with grey external anti corrosion paint protection. The high quality of butyl bladder is preventing the vessel contents from permeation of oxygen.

Vessel supplied with 2 x connection hoses (to suit the hydraulic module),automatic air vent(deaeration), level transducer(tank volume) and swan neck(anti vacuum).

Vessels stand vertical with steel profile or tubular feet.

perm. op.temp. diaphragm : 70 °C (according EN 13831)

System connection : G 1

Colour : grey

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