

Automatic Control Unit

Controlmatic E

Type Series Booklet



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Type Series Booklet Controlmatic E

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Building Services: Water Supply

Automatic control units

Controlmatic E



Main applications

- Water supply systems

Fluids handled

- Drinking water
- Service water
- Stormwater
- Fire-fighting water
- Cooling water

Operating data

Table 1: Operating properties

Characteristic		Value
Flow rate	Q [m ³ /h]	≤ 10
	Q [l/s]	≤ 2,77
Minimum flow rate	Q _{min} [m ³ /h]	0,1
Start-up pressure (adjustable)	p [bar]	1,5 - 2,6

Designation

Example: Controlmatic E

Table 2: Designation key

Code	Description
Controlmatic	Type series
E	Single-phase alternating current

Configuration and function



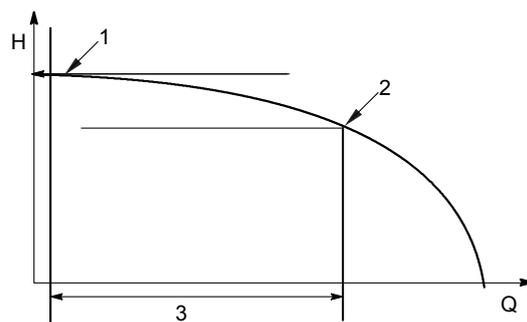
Fig. 1: Design of Controlmatic E

1	Housing	5	Green signal lamp - Ready for operation
2	Pressure gauge	6	Yellow signal lamp - Pump running
3	Plug socket (IP44)	7	Red signal lamp - Fault or lack of water
4	Power cable with shockproof plug		

Function

The pump can be connected via the socket (3) of the automatic control unit. Once the power cable with shockproof plug (4) has been connected to the power supply, the automatic control unit is ready for operation. The green signal lamp (5) is lit. When a shut-off valve in the piping is opened, the system pressure decreases and the pump is started up. The system pressure is indicated at the pressure gauge (2). The pump starts to deliver fluid and the yellow signal lamp (6) lights up. When the shut-off valve has been closed and the flow rate is zero, the pump is stopped after 5 seconds.

An integrated check valve prevents the built-up pressure in the discharge line from decreasing again.



1	Consumer installation closes (zero flow)
2	Consumer installation opens (start-up pressure) Factory-set to 1.5 bar Can be set at up to 2.5 bar
3	Operating range of pump

i The automatic control unit cannot be used for pressure boosting. The outlet pressure is identical to the pump discharge pressure.

Protective functions

- The pump is protected against dry running by simultaneous monitoring of pressure and flow rate. If there is a lack of water, the automatic control unit stops the pump and the red signal lamp (7) is lit.

Materials

Table 3: Overview of materials used

Component	Material
Housing	Polyamide
Membrane	Elastomer

Product benefits

- Easily connected to power supply by shockproof plug
- The pump is started and stopped automatically by simultaneous monitoring of pressure and flow rate.
- Variety of use due to user-definable start-up pressure (1.5 - 2.6 bar)
- Dry-running protection by stopping the motor
- User-friendly indication of operating pressure

Product information

Product information as per Regulation No. 1907/2006 (REACH)

For information as per chemicals Regulation (EC) No. 1907/2006 (REACH), see <https://www.ksb.com/ksb-en/About-KSB/Corporate-responsibility/reach/>.

Certifications

Table 4: Overview

Label	Effective in:	Comment
	France	Approved in accordance with the French drinking water regulation

Selection information

- System pressures ≥ 10 bar may damage the automatic control unit and must be avoided by all means.
- The start-up pressure of the automatic control unit must always be lower than the maximum pressure at zero flow.
- Minimum flow rate: 0.1 m³/h
- The start-up pressure has been set to 1.5 bar at the factory.

Maximum pressure capability:

- Pressure_{suction side} + pressure_{max. pump} (at zero flow) ≤ 10 bar
- If in doubt about the suction side pressure:
 - either add a safety margin of 3 bar to the nominal pressure (Pressure_{suction side} + 3 bar) + [Pressure_{max. pump} (at zero flow)] ≤ 10 bar
 - or fit a pressure reducer (stabiliser) between the pump and the automatic control unit or on the pump's suction side, to prevent excessive pressure.
- If pressure surges are to be expected in the system as a result of quick-closing valves (e.g. solenoid valves) please contact KSB to check the unit's suitability for the specific application.

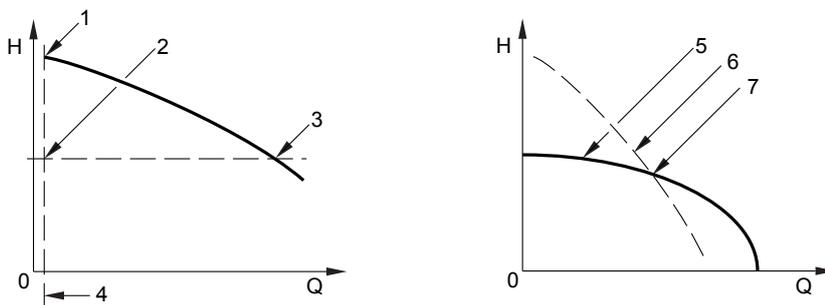


Fig. 2: H/Q diagrams

1	Minimum flow rate	5	Curve to be selected
2	Minimum start-up pressure	6	Curve to be avoided
3	Pump start-up point	7	Maximum operating point
4	Pump stop point		

Pressure curve

Unlike domestic water supply systems with accumulators, pumps operated with automatic control units maintain a characteristically constant pressure at any flow rate.

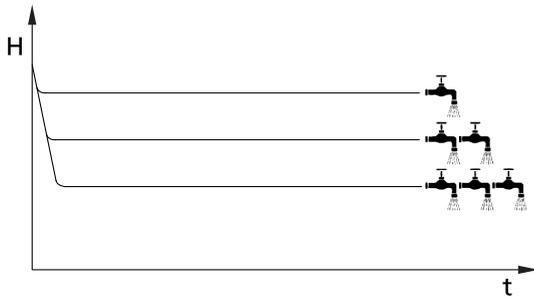


Fig. 3: Pressure curves

Technical data

Table 5: Selection table

Description	Value
Maximum operating pressure	10 bar ¹⁾
Flow rate	10 m ³ /h (2,77 l/s)
Enclosure	IP44
Maximum ambient temperature	0 to 60 °C
Maximum fluid temperature	0 to 60 °C
Mains voltage	1~230 V, 50/60 Hz
Maximum current requirement	10 A
Protection against lack of water	Yes
Re-start after lack of water	Manual
Weight	1.3 kg
Mat. No.	90053395

Dimensions

Controlmatic E

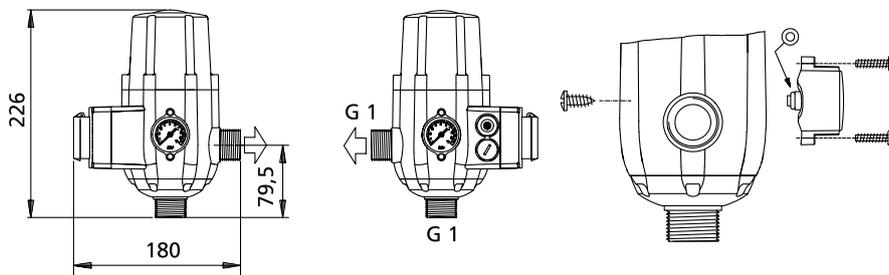


Fig. 4: Dimensions [mm] - The pressure gauge can be fitted in two different positions.

¹ The automatic control unit must be protected against any pressures exceeding the maximum operating pressure. Otherwise, the automatic control unit could be damaged!

Installation information

Controlmatic E

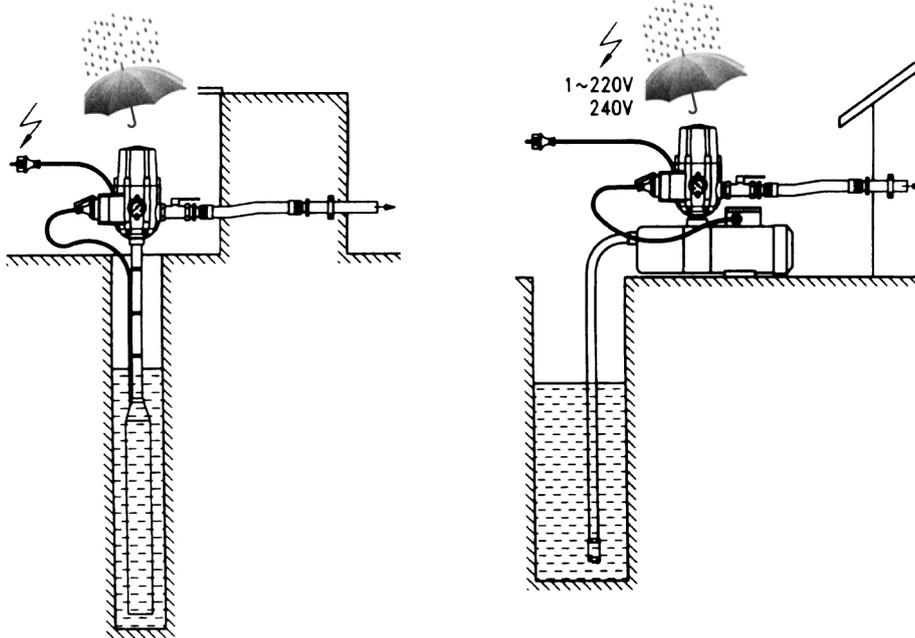


Fig. 5: Typical installation positions

NOTE! The automatic control unit is not suitable for outdoor installation and must be protected from weather.

Accessories

Accessories for automatic control units

Table 6: Connection parts

Description		Connection	Mat. No.	[kg]
Connection part made of brass for Controlmatic	Multi Eco (1 pc.)	Rp 1 / G 1	39019415	0.2
	For Ixo N (1 pc.)	Rp 1 1/4 / G 1	39019530	0.2



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