CONTROLLER
SERIES CRS210



CRS211

ESBE Series CRS210 are combined actuators with controllers and offers constant flow temperature control for PHW (Potable Hot Water applications). The Series CRS210 is dedicated to valves series VRx.

INTRODUCTION CRS230

Series CRS210 is built on the same platform and with the same smart software as CRx200, which makes it possible to upgrade the controller, just by adding components. Thanks to ESBE Smart Software, the controllers series CRS210 and CRx200 is a flexible platform with minimum handling time.

THE SMART SOFTWARE

Thanks to updated software the controller is more accurate while controlling the temperatures and delivers a higher standard. The software of the controller makes it possible to add components such as a room unit to the actuator, recognize it and open the correct interface and unlock additional options. This means that it is possible to start with CRS210 and later add components e.g. room unit and unlock remote control, alternative temperature, and clock function. The feature is a part of the Smart Software and is included in whole CRx200 series range, which makes it possible to upgrade any controller to a version that fulfil the system and comfort requirements.

THE SELF-ADAPTIVE SYSTEM BEHIND THE SMART SOFTWARE

The smart software makes it possible to upgrade the controller, use the room unit as a remote control or setting device, delivers the highest comfort. This makes CRx200 a Plug&Play controller.

However, Plug&Play includes a lot more for ESBE. That is why we have created a self-adaptive system behind the software with the purpose of fixing all issues connected to reaction time and unbalanced performance. The ESBE Self-Adaptive System is taking care of PI factors (Proportional gain and Integral response) by learning the system behaviours and fixing the issues which in the past needed to be taken care of by an installer at the controller installation site. The self-adaptive system provides for smooth operation of the controller, eliminates issues connected to delays or controller response times and deliver a high control standard and comfort. This makes the CRx200 Series into controllers which are suited to work in any system setup or environment.

QUICK GUIDE

Function	CRS210
Constant temperature control	●
Working with room unit	○
Auxiliary switch control	●
T/T2 via relay	●
T/T2 via room unit	○
Flushing schedule via room unit	○

● feature is available and can be set on the device

○ a room unit is required to unlock the features - see accessories

For more controllers and functions, please seee series CRx200

OPERATION CRS210

The CRS210 is a constant temperature controller dedicated to potable water applications where a constant flow temperature is required. The controller is integrated with an actuator and should be used with rotating mixing valves series VRx.

The Series CRS210 consist of two main components; an actuator and a flow temperature sensor. The flow temperature sensor is a highly sensitive and responsive sensor of immersion type. The settings are done via joystick and presented on a display.

The primary function of the controller is to keep a constant set temperature at the sensor. The series comes with the T/T2 (main temperature and alternative temperature) setting, which in this case can be used for legionella flushing and thermal disinfection of the potable water system. The T/T2 feature is available by using a relay but additional equipment, e.g. a clock, is needed to release the relay.

If a remote control is needed, the CRS210 can be upgraded with a room unit. An alternative target temperature can be activated by an external signal (T/T2 relay) controlled via an ESBE room unit dedicated for CRx controllers. Beyond this, the room unit can be used to create a schedule for legionella flushing and thermal disinfection.

An additional relay, an auxiliary switch, can be installed in the CRS210, which gives the possibility to control another device, for example a pump, from the actuator/valve position.

The ESBE Room Unit and the auxiliary switch are available as accessory.

The CRS210 upgrade options can be found in the quick guide.

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INSTALLATION

Power supply by 230 V AC adapter (complete with transformer, cable and plug).

Flow temperature sensor comes with 1m cable and mounting set for assembling the flow temperature sensor into the water stream. Flow temperature sensor should be mounted with direct contact to the liquid.

Thanks to the special interface between the controller series CRS210 and the ESBE series VRx, the unit as a whole has a unique stability and precision when regulating.

SUITABLE MIXING VALVES

- Series VRG100
- Series VRG200
- Series VRG300
- Series VRH100
- Series VRB100
- Series F ≤ DN50
- Series T
- Series HG

ADAPTOR KITS

Required adaptor kits for easy fitting onto an ESBE rotary mixing valve series VRx is supplied with each controller. Adaptor kits can also be ordered separately.

Art. No.	
16000500	ESBE valve series VRG, VRH, VRB, G, MG, F, BIV, T, TM, H, HG

Adaptor kits for other mixing valves are available as follows:

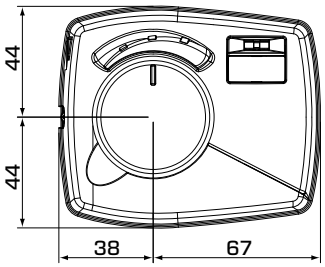
Art. No.	
16000600	Meibes
16000700	Watts
16000800	Honeywell Corona
16000900	Lovato
16001000	PAW
16001100	Wita Minimix, Maximix

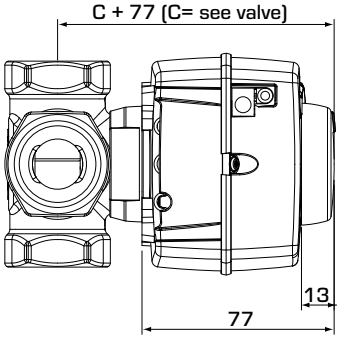
OPTIONAL EQUIPMENT

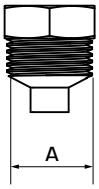
Art. No.	
16200700	ARA801 Auxiliary switch kit
17052000	CRS911 Flow pipe sensor
17055300	CRB912 Room unit for cable communication, without communication cable
17055500	CRB913 Room unit, wireless
17055700	CRB914 Communication cable, 20m
17056400	CRB916 Communication radio modul, wireless
17056200	CRA915 UK plug

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Mounting set

SERIES CRS210

Art. No.	Reference	Voltage [VAC]	Temp. range	Torque [Nm]	Connection A	Weight [kg]	Note	Replaces
12727100	CRS211	230	5–95°C	6	R ½"	0,5		12723100

TECHNICAL DATA

Ambient temperature: _____ max. +55°C
_____ min. –5°C
Sensor type: _____ NTC
Temperature range:
Flow temperature sensor (S1, S2):_____ +5 to +95°C
Outdoor sensor: _____ -50 to +70°C
Enclosure rating, Actuator unit:_____ IP41
Protection class:_____ II
Power supply, Actuator unit: _____ 230 ± 10% V AC, 50 Hz
Power consumption (230 V AC):_____ 10 VA
Torque (Actuator): _____ 6 Nm
Running time at max. speed (Actuator): _____ 30s
ErP Temperature control class:_____ N/A
Energy efficiency contribution:_____ N/A
Connection, mounting set: ___ External thread (R), EN 10226-1

Material
Flow temperature sensor: _____ Stainless steel
Mounting set flow temperature sensor:
_____ Dezincification resistant brass DZR*

* Suitable for drinking water applications

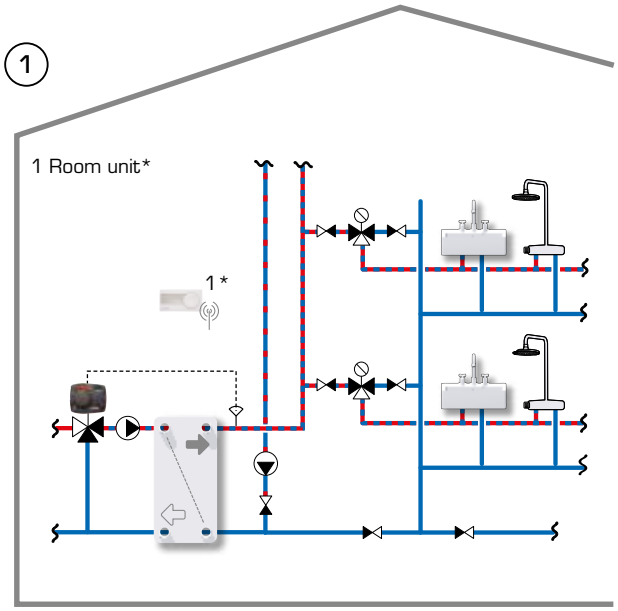
CE LVD 2014/35/EU
EMC 2014/30/EU
RoHS3 2015/863/EU

WIRING

Please see the Installation Instruction

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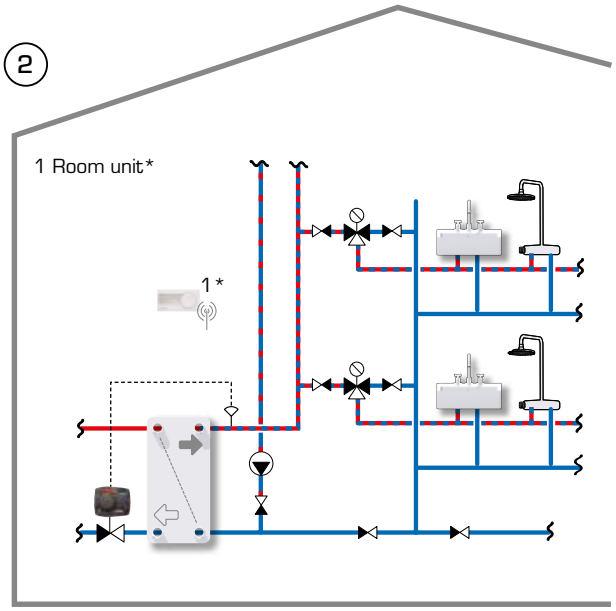
CRS210 with additional accessory, CRB912 room unit as a remote control

This application shows how to control the potable water temperature indirect.

The Controller CRS210 is controlling the temperature of the potable water by controlling the amount of heating water supplied to the plate heat exchanger. The controller can work in systems with circulation of potable water.

In case of Legionella flushing, an alternative temperature can be released on CRS210 via relay. This can also be done via CRB912 Room unit (accessory), which has a clock function. The clock allows to plan for regular legionella flushing, e.g. every Sunday at 00:00 for 30min with T2 = 80°C; normal mode T = 50°C.

* Cable or wireless connection depending on requirements.



CRS210 with additional accessory, CRB912 room unit as a remote control

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The shown applications are only examples of product use!
Before using the product in any application, the regional and national regulations need to be checked.

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