

1 Control unit case. A modern, light-grey aluminium case, with an integral three-position support that doubles as a carrying handle. The natural silver coloured front and rear panels have abrasion-resistant markings, anodised under the final coating. The "c-m2" control unit is 320 mm wide (including support), 350 mm deep and 210 mm high.

2 The AC758 controller is a cascade controller and programmable controller combined. A cascade controller is able to regulate the internal temperature and shell temperature simultaneously, thereby preventing the internal temperature rising above the set value. The software-based "programmable controller" can be used to implement small and large scale temperature programs, with gradual temperature changes, holding times and sequential operations. And there is more – the AC758 controller includes a digital motor speed indicator at the bottom right of the display.

3 SA3 security switch. This safety cut-out monitors the internal temperature and/or shell temperature, checking it against an adjustable maximum setting. If the temperature exceeds the maximum setting, the heating is cut off with no override possible. The cooling remains unaffected. The upper display of the security switch also shows the pressure inside the reactor.

4 Main switch. The green illuminated pushbutton is used to switch on the power to all components in the control system.

5 Heating switch. The red illuminated pushbutton can be used to switch the heating on and off independently of the controller.

6 Cooling switch. Pressing the blue illuminated pushbutton activates cooling immediately, independently of the controller. To activate "controller cooling", this function must be switched off.

7 Stirrer switch. The yellow illuminated pushbutton switches the stirrer on and off.

8 Stirrer motor speed control. The central component in controlling the stirrer motor is the potentiometer (rotary knob). The speed is shown in rpm at the bottom right of the AC758 controller display. The fuses are at the rear of the control unit, with electrical plug-type connections for attaching the autoclave.

9 Connection to stirrer motor. A seven-pin plug is used to connect to the stirrer motor. The stirrer motor is controlled by the built-in frequency converter, which has a maximum load of 370 W.

10 Connection to heating. A four-pin, two-phase plug is used as the main heating connection. Maximum heating output: 3000 W.

11 Connection to cooling valve. A three-pin plug is used as the connection to the cooling valve integrated into the autoclave frame. It is controlled automatically via the programmable controller, or manually by pressing the illuminated pushbutton.

12 Connection to temperature sensor 1. This connection is used to attach the 2 x Pt100 temperature sensor (three leads) of type K or type N, and allows the temperature inside the medium to be measured (product temperature).

13 Connection to temperature sensor 2. This is the connection for the 2 x Pt100 temperature sensor (three leads) used for monitoring the heating control and security switch. If type K or type N sensors are used, it only performs the function of heating monitoring – an additional connection is required for the security switch.

14 Connection to temperature sensor 3. A connection for a type K or type N sensor carrying out the security switch function.



Premex Reactor AG offers a fully-integrated concept, encompassing the high-pressure autoclave, the control unit, and the online visualisation software. The "c-m2" control unit described here was designed specifically to regulate and control high-pressure autoclaves.

15 Connection to motor speed display. A two-pin plug is used to transmit the measured speed of the stirrer to the AC758 controller, where it is shown in the lower display.

16 Connection to emergency cooling valve. This connection is used to control an emergency cooling valve which is regulated by an adjustable alarm signal at the temperature controller. This optional extra is required for strongly exothermal reactions.

17 Analogue output to printer. The analogue printer output means that data – such as product temperature readings, heating readings, medium temperature settings or the speed of the stirrer motor – can be permanently recorded.

18 Connection to pressure indicator. This socket is used to transmit the pressure reading from the pressure measuring transducer to the SA3 – security switch, where the pressure is shown in bar at the top of the display.

19 RS485 interface. When used in combination with the specially developed software suite, the RS485 data logging and PC connection interface opens up a wealth of applications. The two sockets, one above the other, make it possible to interconnect a number of control units, or connect auxiliary equipment via the software.

20 Socket for mains power 230 V/A.

21 Fuses for heating, one for each phase, 2 x 10 A.

22 Fuse for electronic system, 2.5 A.