

# PRODUCT-INFO



Measuring - Controlling - Regulating  
All from the same source

*Suitable for all types  
of milking systems*

## UNIVERSAL- REPLACEMENT CONTROL FOR MILKING SYSTEMS

for replacing mechanical switching mechanisms  
or electronic controls  
in automatic cleaning machines

### RM-30



Programmable via  
configuration software  
WELBA „KONSOFT“

[www.welba.de](http://www.welba.de)

## Device description

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The RM-30 control is intended as a replacement control for automatic cleaning machines in milking systems. The cleaning process can be adapted to different milking systems through appropriate parameterization.

The control is also suitable for replacing time relays, level controllers and mechanical thermostats. When replacing the mechanical thermostats, the optional temperature sensor "TF-4A" must be ordered.

Installing the RM-30 is extremely easy thanks to the documentation provided.

Depending on the version, the RM-30 can be mounted and operated in different ways. Depending on the variant used, the start button included in the scope of delivery or the separate control panel must be installed to start cleaning. In both cases you have the advantage of the electronic display.

**Replaced:**

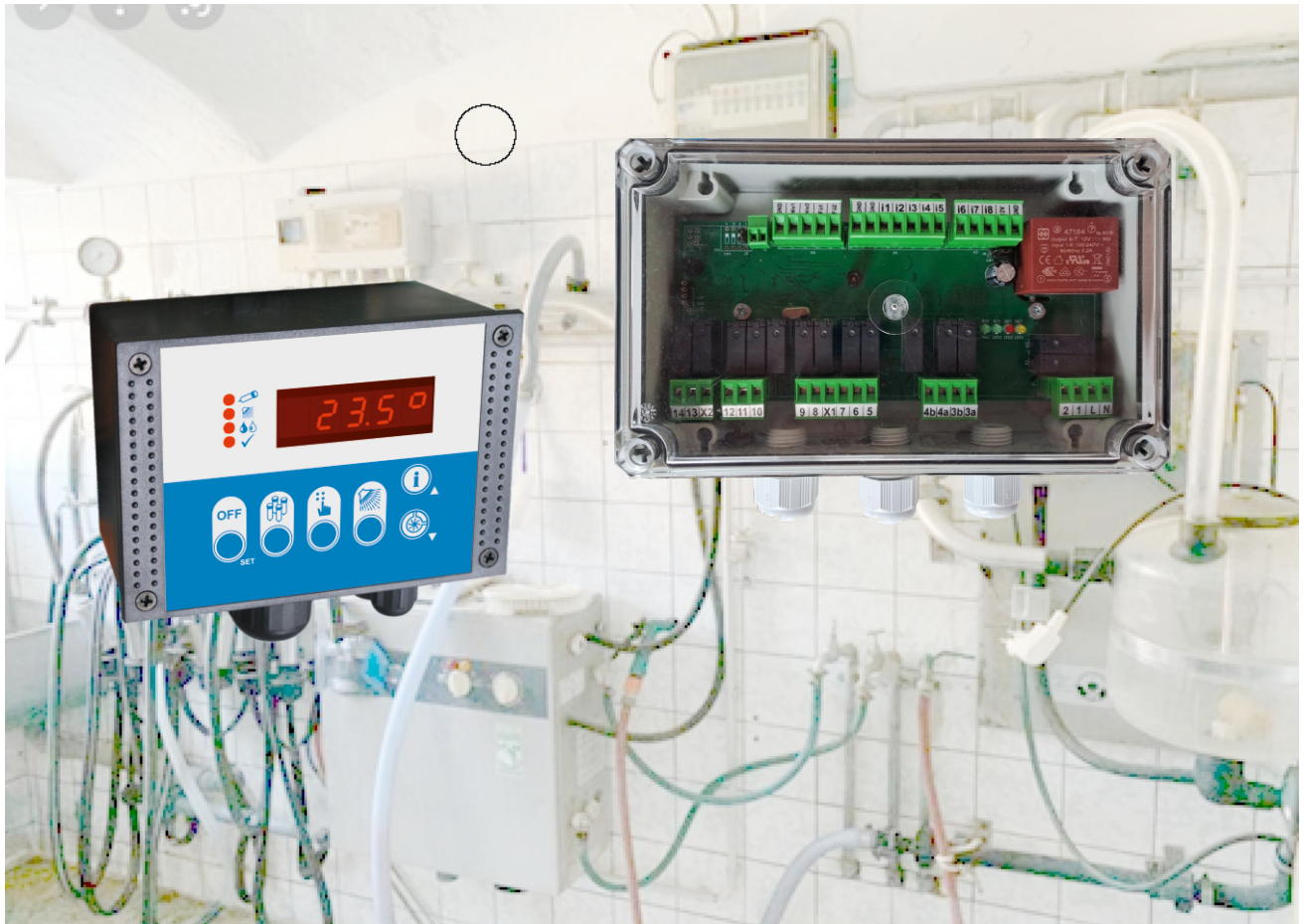
- Rear derailleur / electrical control
- Time relays
- Mechanical thermostats
- Level controller
- 'Cleaning/Milking' selector switch

Successfully installed in automatic cleaning machines of the following brands:

**Westfalia - GEA | Flaco | Etscheid | DeLaval | GM etc.**

**If your brand is not listed:  
Give us a call!  
We will find a suitable solution for you.**

# Features



## Milking functions

- Controlling the vacuum pump and the vacuum increase valve
- Manual start of the breast pump to empty the collection container

## Cleaning functions

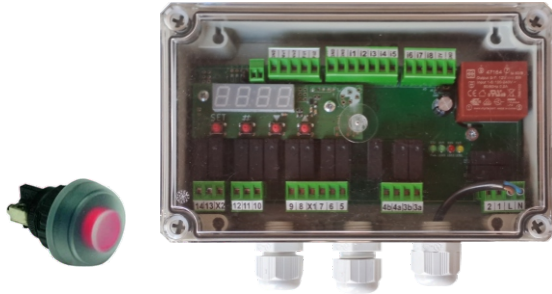
- Integrated, fully automatic washing timer
- Fetching water can be regulated either by time or level
- Different washing programs
- All running times (heating, pump, detergent) can be set separately
- Heating temperature adjustable
- Detergent switching between 'acidic/alkaline' can be set
- Automatic control of up to two drain valves
- Rinsing boosts can be adjusted to increase the cleaning effect
- Disinfect
- Pausing cleaning after pre-rinsing

## Numerous monitoring functions

- Washing temperature
- Hose position (cleaning or milking position) via safety switch
- Sensor monitoring
- Level monitoring
- Display of active processes via LEDs



## RM-30 P



- For conventional systems with selector switch. The existing selector switch will continue to be used.
- The control is screwed to the wall next to the system.
- The remote control can be used optionally.

### Scope of delivery

- Replacement control RM-30 P
- Start button with protective cap
- Installation and operating instructions



The RM-30 P has a transparent plexiglass lid. This means that the progress of the cleaning and the cleaning temperature can be read on the display at any time.

The replacement control can be programmed either using the 4 pushbuttons on the control or conveniently using the free software 'Welba-Konsoft' \*.

Cleaning is started using the included button with a waterproof protective cap.

## RM-30 F



*Remote control for wall mounting*

- Protection against splash water
- Protection against pollution
- Saving of a separate control box

- For invisible installation in the cleaning machine (moisture-protected)
- The remote control will
  - screwed to the wall next to the system
  - or installed in the housing of the cleaning machine

### Scope of delivery

- Replacement control RM-30 F
- Remote control unit
- Splash guard cover
- Installation and operating instructions



The RM-30 F is installed in a closed plastic housing. It is intended for invisible installation in the cleaning machine. The start of cleaning and further operation of the machine is carried out using the remote control provided. The display shows the progress of the cleaning and the cleaning temperature.

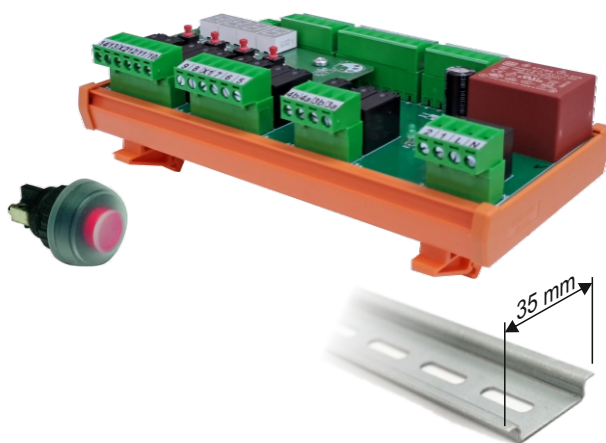
The replacement control can be programmed either using the 4 pushbuttons on the control or conveniently using the free software 'Welba-Konsoft' \*.

*Alternatively, the remote control can be installed in a front panel cutout. The lower part of the housing serves as a splash protection cover.*



\* see page 6

### RM-30 R



#### Scope of delivery

- Replacement control RM-30 R
- Start button with protective cap
- Installation and operating instructions



The RM-30 R is technically the same as the RM-30 P variant - but it is designed for mounting on a 35 mm top-hat rail.

The replacement control can be programmed either using the 4 pushbuttons on the control or conveniently using the free software 'Welba-Konsoft' \*.

Cleaning is started using the included button with a waterproof protective cap.

- *For conventional systems with selector switches. The existing selector switch will continue to be used.*
- *For invisible installation in the cleaning machine (NOT protected from moisture).*
- *The remote control can be used optionally.*

### RM-30 G



#### Scope of delivery

- Replacement control RM-30 G in the control box
- Installation and operating instructions



The RM-30 G is pre-assembled in a large IP-65 switch box for wall mounting. The control box offers enough space for installing additional components such as contactors or motor protection switches.

The start of cleaning and further operation of the machine takes place via the built-in control panel. The display shows the progress of the cleaning and the cleaning temperature.

The replacement control can be programmed either using the 4 pushbuttons on the control or conveniently using the free software 'Welba-Konsoft' \*.

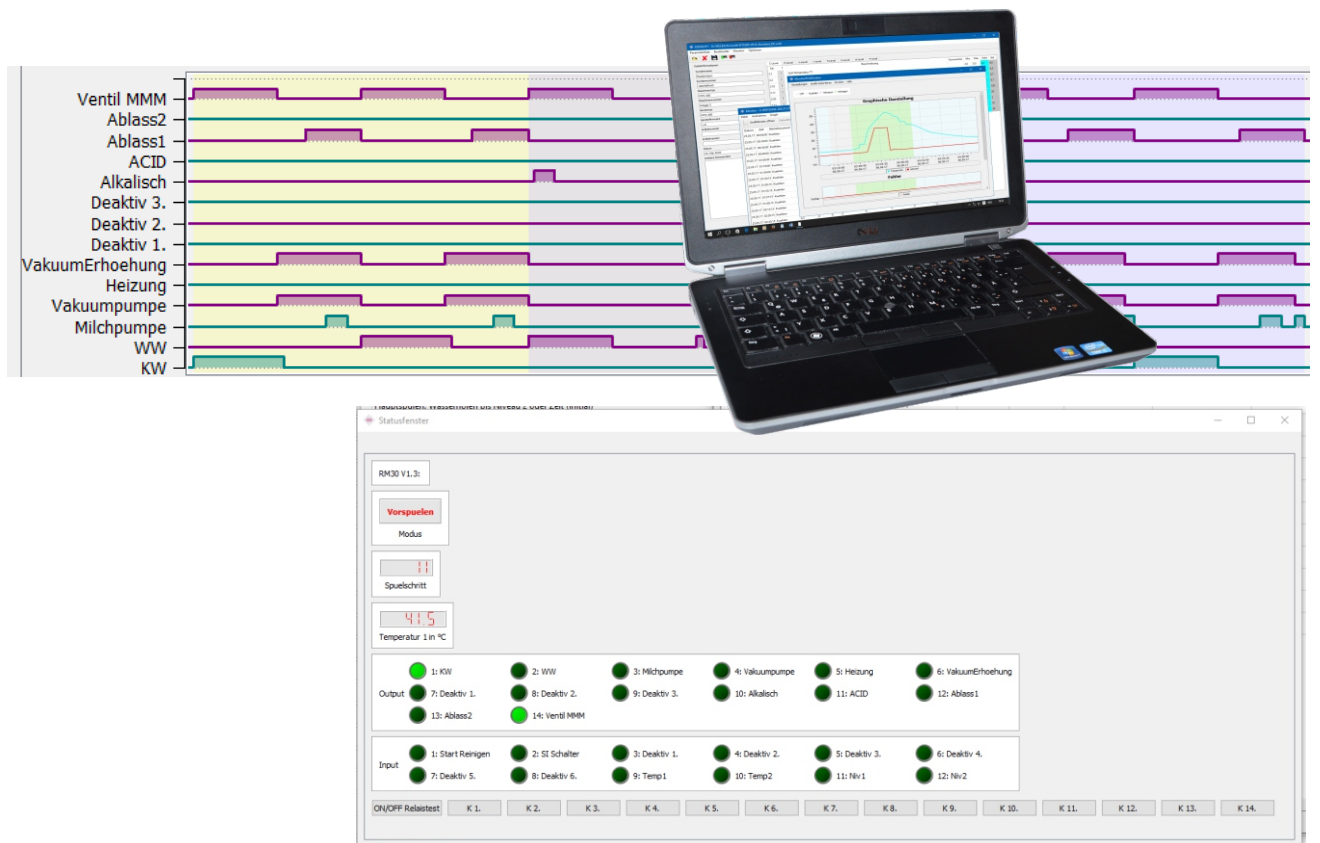
### Cable set 3 m long (optional)



A suitable cable set with pre-assembled wire end sleeves is optionally available for the RM-30. With the cable set, the wiring of the replacement control is significantly simplified and the installation time is reduced enormously.

\* see page 6

# The programming



Configuration  
Parameterization  
Visualization  
Put into operation  
Updating

With the WELBA configuration software "KONSOFT" you can conveniently configure the replacement control and clearly visualize the cleaning process.

## Parameterizing

All setting parameters can be entered and stored on a level-related basis on your PC in a clear operation mask. For each parameter a "description text" is deposited.

Once all parameters have been entered, the complete configuration can be transferred to the replacement control.

## Visualization

Measured values and status or error messages can be read from the exchange control and displayed graphically or in tables on the screen and saved. In this way, a quick analysis is possible in the event of a fault.

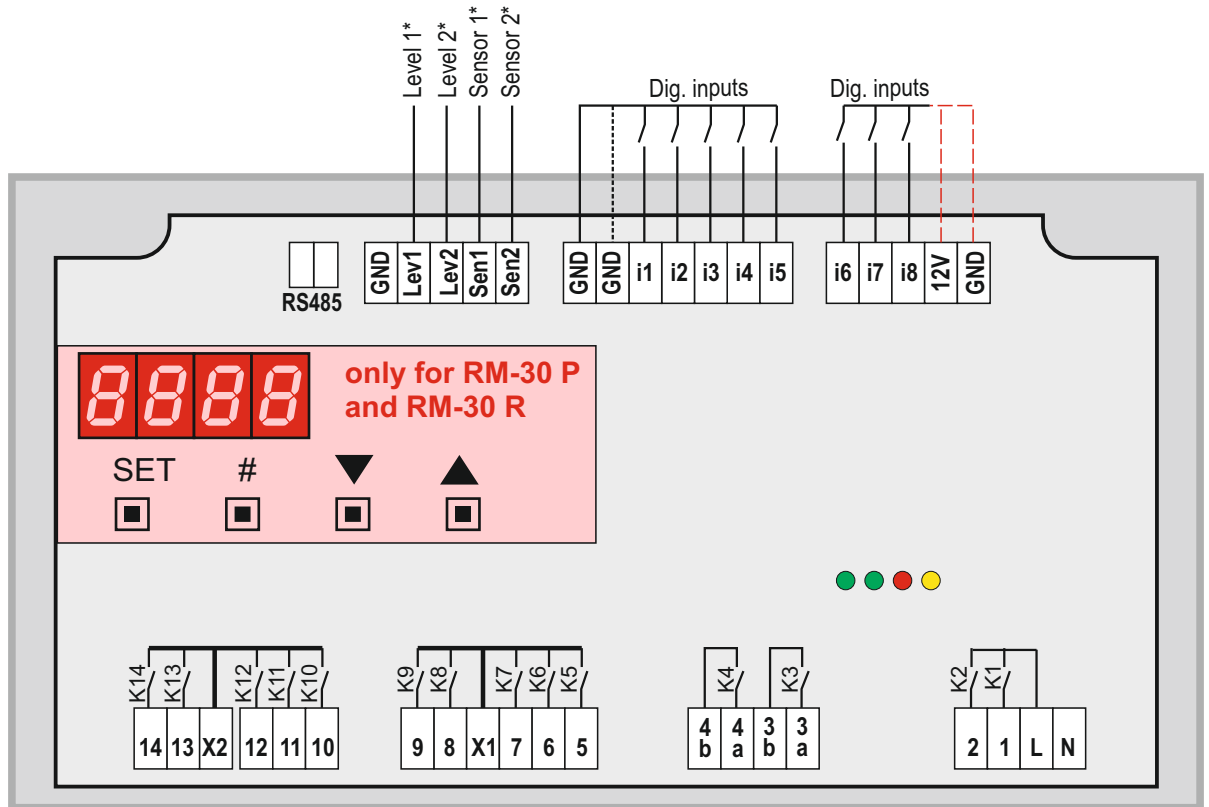
## Bootloading function

With this function, the replacement control can be updated to the new operating software at the push of a button and thus kept up to date.



Optional accessories are required to use the Welba-Konsoft software.

# Connection drawing and technical data



## Technical Data

Operating voltage	110..240V AC, 50/60 Hz
Relay contacts	14 power relays (closer) divided into 4 potential groups
max. switching current	14 x 5AAC1 at 250V AC
max. switching voltage	250V AC - 50..60 Hz
Display	4-digit display, 13 mm
Display range	-999 to 9999
Sensor inputs	2x PT-1000
Measuring range	-10° to +110°C
Temperature resolution	0.1°C
Water detection	via electrode or switch
Digital inputs	8 (via optocoupler)
Connection	pluggable screw terminals for cables up to 2.5 mm <sup>2</sup>
Interface	RS-485
Protection class	
- RM-30P	IP 54
- RM-30 F	IP 54
- RM-30 R	open design
- RM-30G	IP 54
- Control panel	IP 54
Ambient temperature	
- Operating temperature	0° to +50°C
- Storage temperature	-20° to +70°C
- max. humidity	75% (no condensation)

### RS-485 Interface

for connection to a PC with Welba-Konsoft via a USB-RS485 adapter cable

### Level inputs \*

Existing encoders can be connected here:

- level electrodes
- external float switches
- level pressure switches

### Sensor inputs \*

can be connected here:

- existing thermostats
- new temperature sensors (available from Welba)

### Digital inputs

for example usable for

- safety switch
- start button
- 'milking' selector switch input
- 'cleaning' selector switch input
- etc.

### Relay K1 - 14 (divided into 4 potential groups)

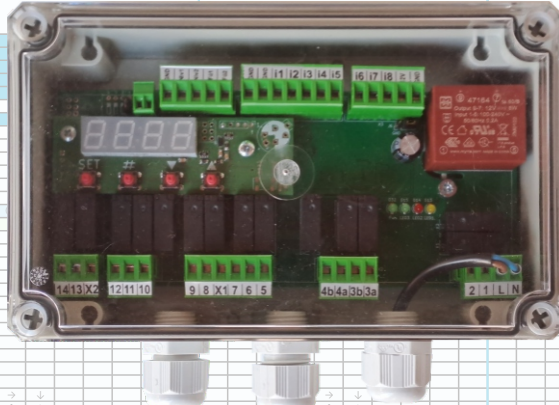
for example usable for

- cold water
- warm water
- alkaline cleaning agent
- acidic cleaning agent
- heater
- drain valve
- etc.

\* Level and sensor inputs can be used either analog or digital (switchable via parameters)

# Universally adaptable

	Vorspülen								Hauptspülen								Nachspülen												
	Zeit	Niv.2	Zeit	Niv.2	Zeit	Niv.1	Zeit	Zeit	Zeit	Niv.2	Zeit	T1	Niv.2	Niv.1	Zeit	Zeit	Zeit	Zeit	Zeit	Niv.2	Zeit	Niv.2	Niv.1	Zeit	Zeit	Zeit	Zeit		
Niv1 = unteres Niveau unterschritten Niv2 = oberes Niveau erreicht																													
Vortauf beinahe																													
Einstellung:																													
Beachte Parameter:																													
Vakuumerhöhung																													
Vakuumpumpe A (1)																													
Vakuumpumpe B																													
Vakuumpumpe C																													
Vakuumpumpe D																													
Wasserholen (2)(3)																													
Dosierung (4)																													
Heizung																													
Zirkulation																													
Absaugen (6)																													
Belüftung (5)																													
Airinjektor																													
Ablasventil 1																													
Ablasventil 2																													
Milchpumpe (7)																													
Ventil MMM																													
Schwammventil (8)																													
Benutzerdefiniert 1 (9)																													
Benutzerdefiniert 2																													
Benutzerdefiniert 3																													
Benutzerdefiniert 4																													
Programmschritt	P10	P11	P12	P13	P14	P15	P16	P17	P18	P20	P21	P22	P23	P24	P25	P26	P27	P28	P29	P30	P31	P32	P33	P34	P35	P36	P37	P38	P39



The program sequence of the RM-30 can be adapted to all common cleaning machines using appropriate parameterization. The parameterization can be done either via the PC or the programming buttons on the control or remote control.

Predefined parameter sets, which are available for download on the Welba homepage, help you quickly adapt your cleaning machine. Smaller adjustments can be made later, on site, directly using the control buttons.

An output function can be individually assigned to the total of 14 relays. The following settings are available as output functions:

- 1: Cold water
- 2: Warm water
- 3: Milk pump
- 4: Vacuum pump
- 5: Heater
- 6: Circulation valve
- 7: Drain valve
- 8: Ventilation valve
- 9: Dosage (alkaline)
- 10: Sponge valve
- 11: Air injector 1
- 12: Drain valve 1
- 13: Fault lamp
- 14: Cleaning active
- 15: Dosage optional (ACID)
- 16: Air injector 2
- 17: Drain valve 2
- 18: Vacuum increase
- 19: Stop active
- 20: Milking active
- 21: OFF active
- 22: Valve MM23
- 23: User defined

In addition to the above functions, there is also the option to freely define a sequence function.

The digital inputs can also be used for different tasks. Here you can assign the following functions, among others:

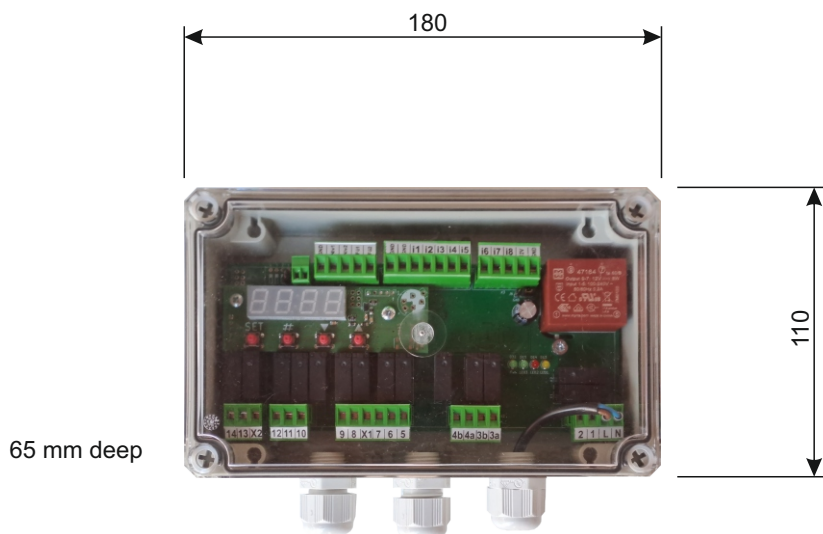
- 1: Start button
- 2: Selector switch 'Milking'
- 3: Selector switch 'Cleaning'
- 4: Safety switch
- 5: Start sponge
- 6: Start from Stop
- 7: Milking parlor switch
- 8: Dry protection heater

Elements that are still present, such as the milking/cleaning selector switch, can still be used or can be replaced with the optional control panel. Different versions of safety switches are also supported.

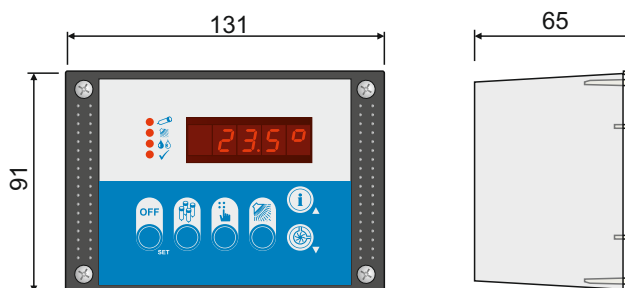
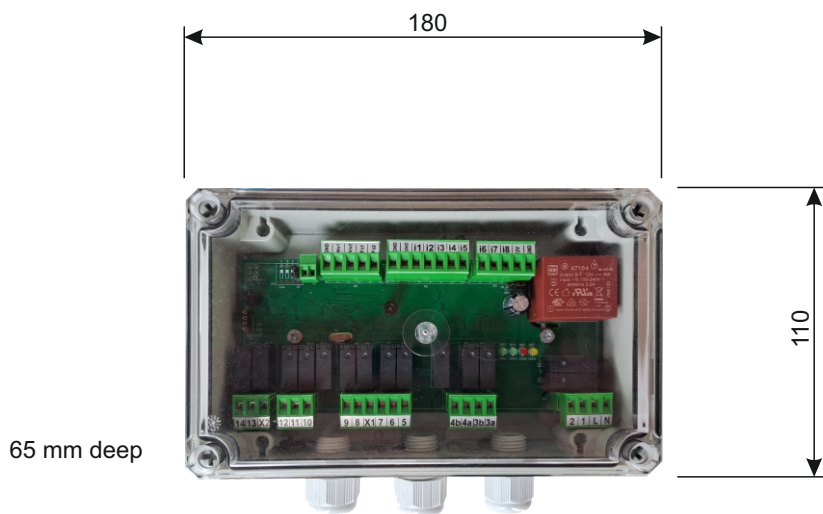
Special inputs for temperature and level can also be used optionally. This means that any defective external thermostats can be replaced with a modern control system. Temperature sensors for flow and return temperatures are optionally available. Levels in the cleaning container can be regulated either via electrodes or external sensors.



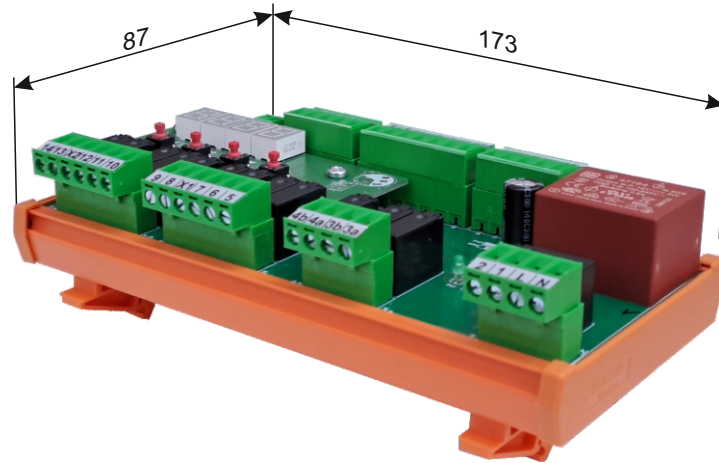
## RM-30 P



## RM-30 F

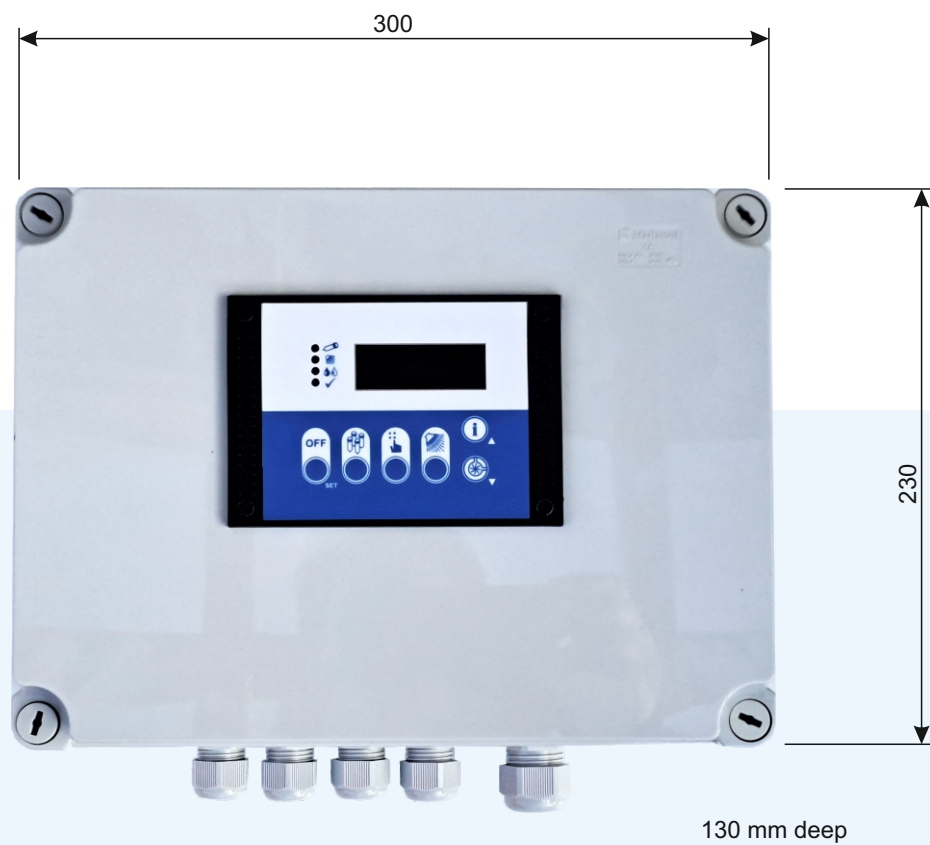


## RM-30 R

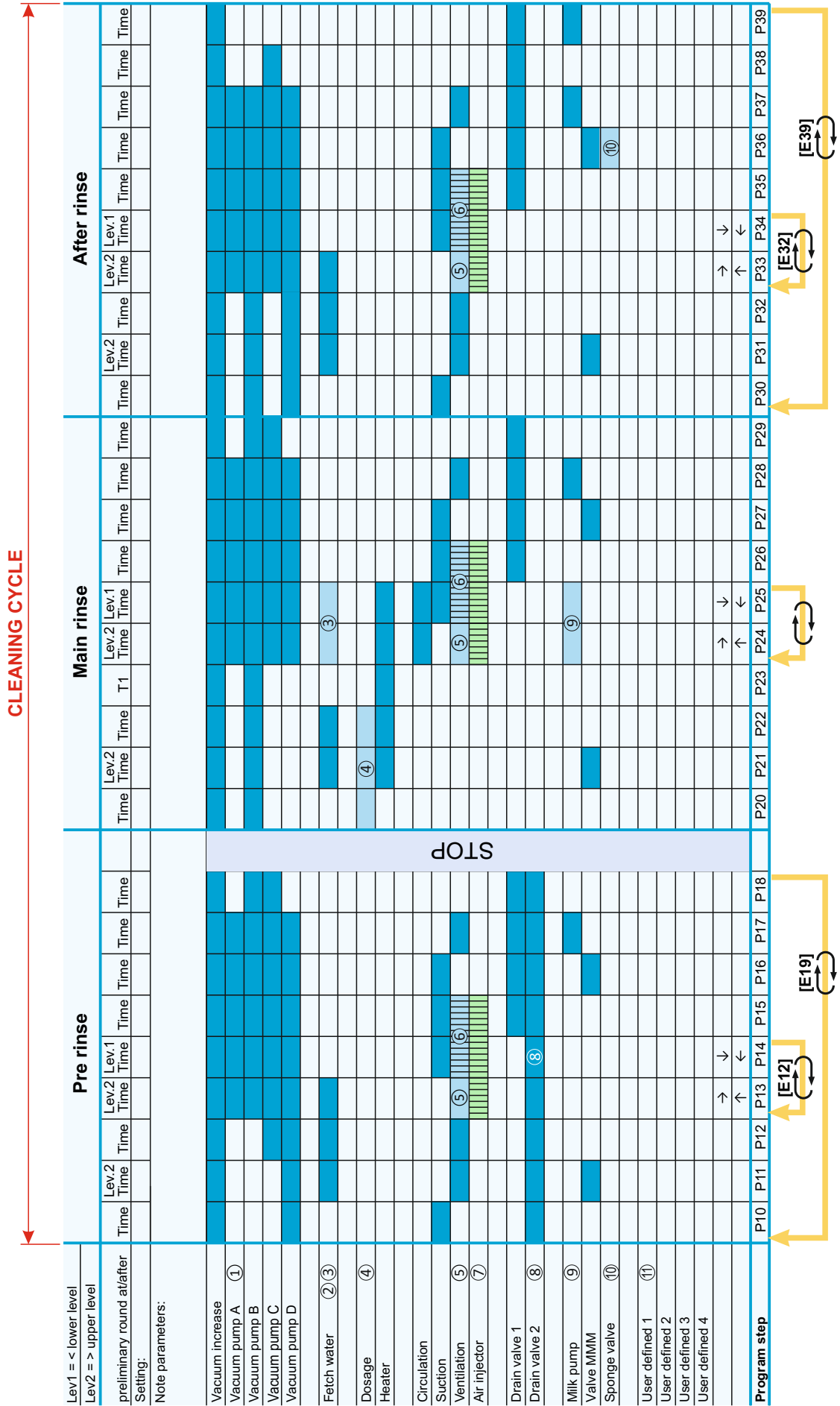


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## RM-30 G



# Cleaning diagram



# Customized developments

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The development of solutions tailored to solve our clients' specific problems is one of Welba's major strengths. Here we can offer extensive experience, as well as excellent references.

On the basis of many previous development projects we are in a position to devise a solution to meet your specific needs. Nor is our know-how not restricted to temperature measurement technology; we can also develop solutions in completely different areas of measurement and regulation technology. We can often achieve the necessary simply by modifying our standard products.

In any event, we will always recommend the best solution for you.

## A full service

In many cases we offer more than just development work.

At Welba we also understand service to include the development of concepts for the use of the new product by your own customers, the design and production of frontal foils or even housings, or the provision of operating instructions with your own corporate design.

## Not always major developments...

For many of our clients we also develop and manufacture simple electronic systems for straightforward applications.

