Construction readiness

for CTC heat pump indoor unit

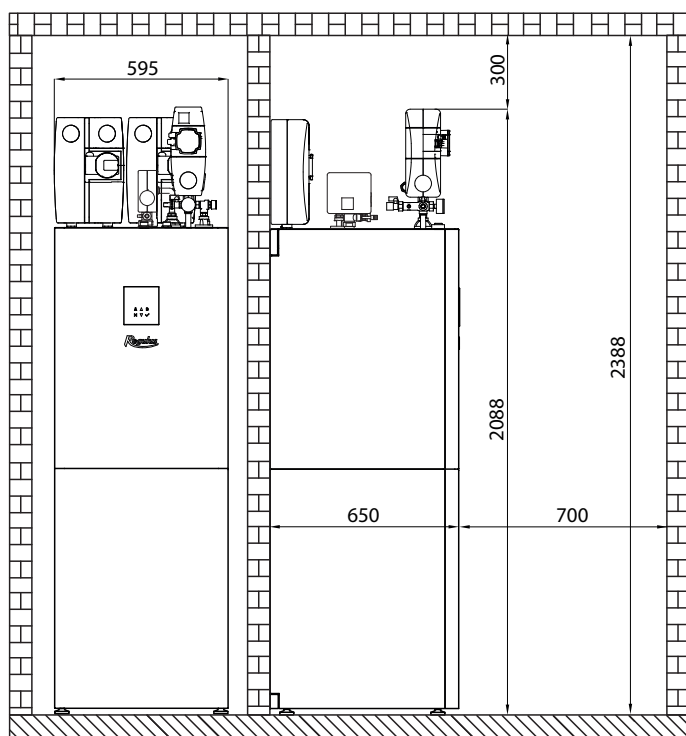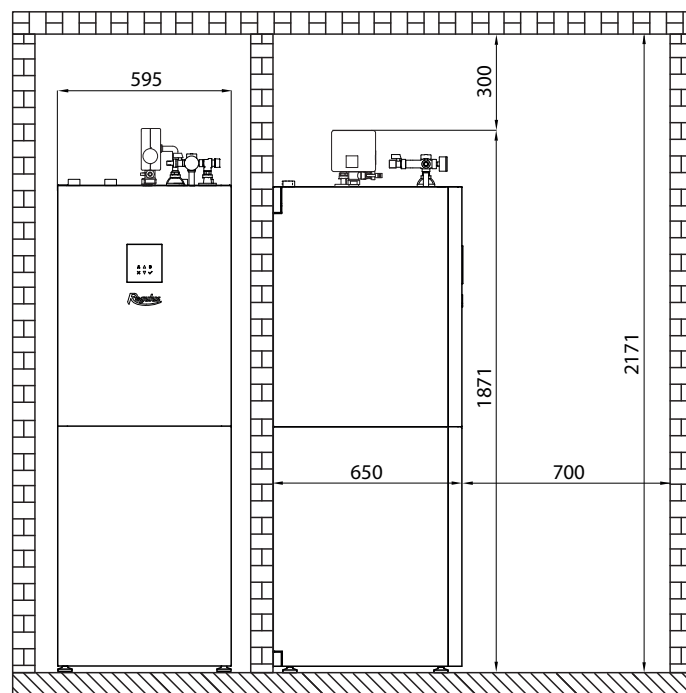# RegulusHBOX

EN

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■ Installation Site Requirements

- ● RegulusHBOX shall be installed indoor only.
- ● Ensure that no water can enter RegulusHBOX at the installation site.
- ● Do not install the device in areas with a bath or shower in zones 0, 1 and 2.
- ● Do not install RegulusHBOX at places with a risk of freezing.
- ● Do not install the device near aggressive, explosive or flammable gases, objects or substances.
- ● Observe the minimum required clearances from the constructions according to the picture - RegulusHBOX is designed to be installed also in a narrow space.

Installation with pump stations

Installation without pump stations and expansion vessel (low ceiling)
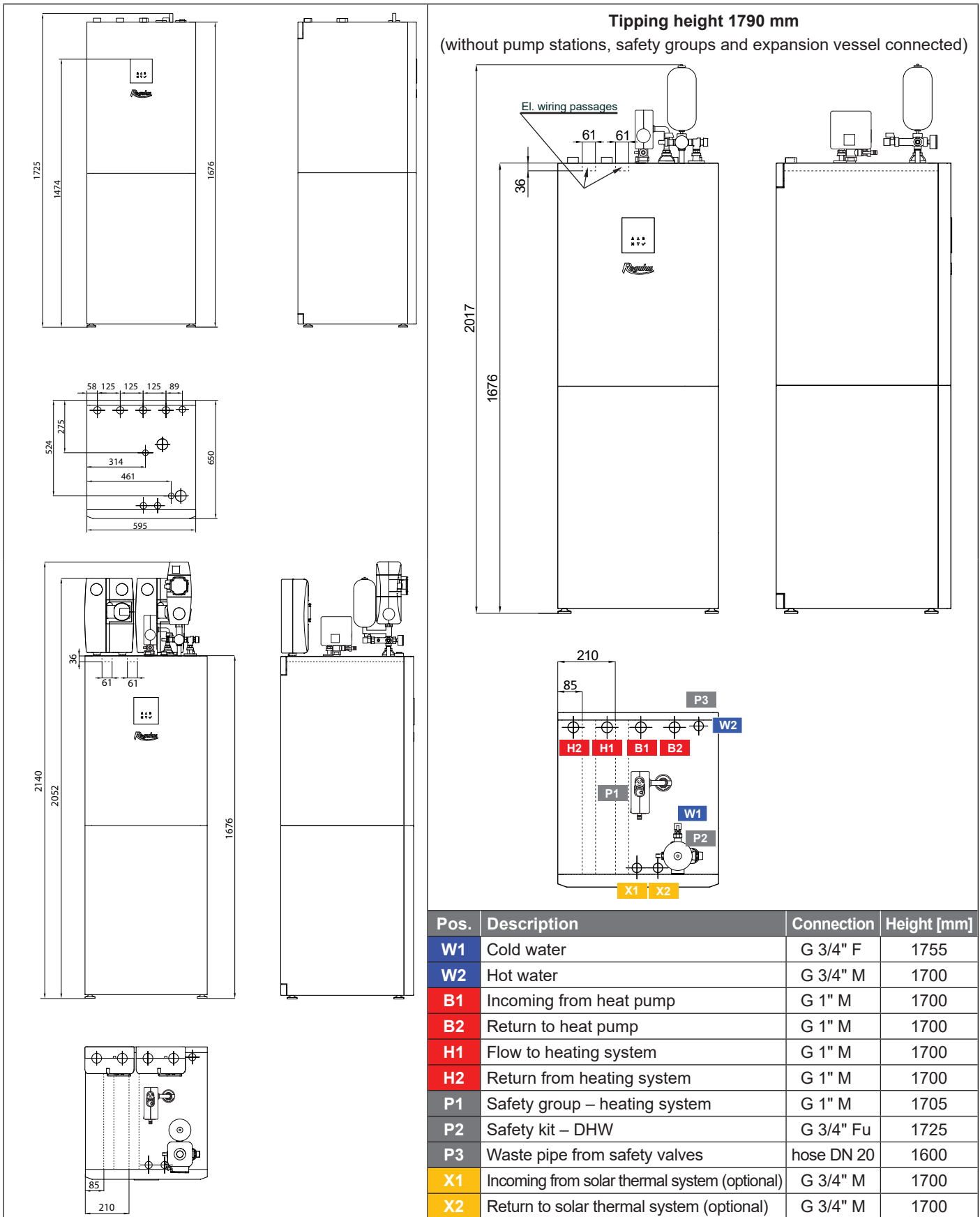

■ Installation

Transport RegulusHBOX to the installation site in a vertical position. **It is not permitted to transport RegulusHBOX in a horizontal position.**

Install RegulusHBOX on a level floor with sufficient floor loading capacity - the weight of RegulusHBOX without heating water is 148 kg, with water it is 360 kg.

Level RegulusHBOX vertically using its adjustable feet.

Dimensions

Tipping height 1790 mm
(without pump stations, safety groups and expansion vessel connected)

El. wiring passages

Pos.	Description	Connection	Height [mm]
W1	Cold water	G 3/4" F	1755
W2	Hot water	G 3/4" M	1700
B1	Incoming from heat pump	G 1" M	1700
B2	Return to heat pump	G 1" M	1700
H1	Flow to heating system	G 1" M	1700
H2	Return from heating system	G 1" M	1700
P1	Safety group – heating system	G 1" M	1705
P2	Safety kit – DHW	G 3/4" Fu	1725
P3	Waste pipe from safety valves	hose DN 20	1600
X1	Incoming from solar thermal system (optional)	G 3/4" M	1700
X2	Return to solar thermal system (optional)	G 3/4" M	1700

RegulusHBOX CTC

indoor unit for heat pump w. DHW heating

■ Hydraulic Connection

The pipe connection outlets are marked with the respective pictograms on the upper side of RegulusHBOX.

1 - G 1" M return from heating system

2 - G 1"M flow to heating system

3 - G 1" M incoming from heat pump

4 - G 1" M return to heat pump

5 - G 3/4" M hot water

6 - G 1" M heating system safety group

7 - G 3/4" F cold water safety cold water connection

8 - Waste pipe from safety valves, DN 20 hose (from the rear)

9 - Passages for connecting an optional solar module

■ Electrical Wiring

RegulusHBOX contains two heating elements with a total output of 12 kW (2x6 kW), switched in 2kW steps.

| Electric Data	
Power supply	3/N/PE ~ 400 / 230 V 50 Hz
Max. cross section of power cable	4 mm^2 (stranded) / 6 mm^2 (solid)
Nominal power input	12,2 kW (without a heat pump connected)
Heating elements	2 x 6 kW (3 x 2 kW – each 230 V)
IP rating	IP20
Min. upstream circuit breaker for RegulusHBOX	3 x 20 A char. B
Circuit breaker for heat pump	B16A 3p
Circuit breaker for measurement and control	B6A 1p

Cable feed

For the electrical connection of the RegulusHBOX, it is necessary to remove the upper front cover and the wiring cover located below it.

Two passages under the lid of the RegulusHBOX are used to connect cables.

Note: The power supply cable is used not only to supply RegulusHBOX, but also to supply the heat pump! Under normal conditions, it is recommended to prefer the cross-section of the copper conductors of the power supply cable 4 mm^2.

We do not recommend the use of wire ferrules when connecting the maximum cross-section of the stranded wire to the connection terminal block. Wire ferrules are suitable for wires with a smaller cross-section (typically sensors, PWM, etc.).

Minimum stripping length 9 mm.
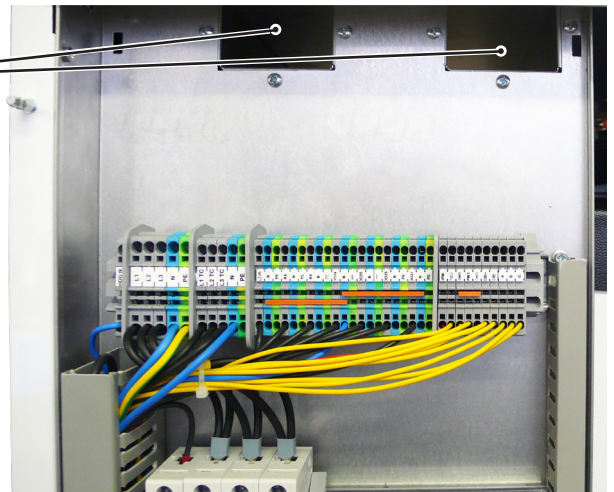
■ Wiring Specifications

Application	Cable
Power supply for RegulusBOX	CYKY 5Jx4
Power supply of CTC heat pump from RegulusBOX	CYKY 5Jx2,5
Ripple control signal from the main fuseboard, zone valves or other appliances w. 2+N connection	CYKY 3Jx1,5
Circulation pumps or other appliances with 1+PE+N connection	CYKY 3Jx1,5
Outdoor and room temperature sensors	JYTY 4Dx1 (1 pair as spare)
CIB bus (room unit, electricity meter, modules etc.)	JYSTY 1x2x0,8
Communication with heat pump (15m cable included in HP supply)	LiYCY TP 4x2x0,5
Connection of RegulusBOX to LAN	UTP Cat5e (or higher)

Warning: The above wiring is suitable for use in most common installations, but it does not replace a qualified design by an expert who will assess the conditions of the specific installation (such as ambient temperature, length and method of laying cables, etc.).

Wiring Diagram of M&R Peripherals to RegulusHBOX

ROOM TEMPERATURE SENSOR

OUTDOOR TEMPERATURE SENSOR

CIB ROOM UNIT

HP CIRCULATION PUMP

MAIN DISTRIBU-TION BOARD OF BUILDING

CTC HEAT PUMP

HEATING TECHNOLOGY CIRCUIT BREAKER

CIB

GND | AI

GND | AI

CI- | CI+

PE | N | L

PWM | iPWM | GND

B | A | G | Sch
brown | white | green

PE | N | L3 | L2 | L1

CABLES FOR HP CIRCULATION PUMP ARE FACTORY-CONNECTED TO THE TERMINAL BLOCK.

WIRING OF ONLY NEW EXTERNAL DEVICES IS SHOWN. WIRING OF EXISTING DEVICES THAT ARE ALREADY FACTORY-CONNECTED INSIDE REGULUSHBOX IS MAINTAINED!

JTY 4Dx1
JTY 4Dx1
JYSTY 1x2x0,8
CYKY 3Jx1,5
JTY 4Dx1
CYKY 5Jx6
CYKY 3Dx1,5
LIYCY TP 2x2x0,75
CYKY 5Jx2,5

UTP CAT5E
LAN

HDO N — RIPPLE CONTROL SIGNAL INPUT

L1
L2
L3
N
PE
POWER SUPPLY INPUT FOR HBOX

L1 TC
L2 TC
L3 TC
N
PE
POWER SUPPLY OUTPUT FOR HP

230V OUTPUT PERMANENT

L2 IR
N
PE
POWER SUPPLY OF HP CIRCULATION PUMP

K4
N
PE
K5
N
PE
DO24
N
PE
DO25
N
PE
DO26
N
PE
DO27
N
PE
6x OUTPUT 230V SWITCHED, OPTIONAL

ETH2

A/DI11
GND
A/DI10
GND
A/DI9
GND
A/DI8
GND
A/DI7
GND
A/DI6
GND

A/DI5
GND
A/DI4
GND
A/DI3
GND
A/DI2
GND
A/DI1
GND
A/DI0
GND

TERMINAL BLOCK FOR CONNECTING TEMPERATURE SENSORS

BOARD W. CONTROL TERMINALS

iPWM
PWM4
GND
PWM3
GND
CONTROL OF HP CIRCULATION PUMP

PWM OUTPUT OPTIONAL

CIB+
CIB-
CIB DEVICE

A | white
B | brown
G | green
HP COMMUNICATION

REGULUSHBOX CTC

10/2024 - HBOX 12 CTC 3/3 - v1.3