

## DATA SHEET

### RegulusHBOX 212 CTC 3/3 Indoor Unit with DHW Heating



#### Main Features

Application	Space heating and continuous DHW heating by a CTC inverter heat pump (600 series) with hydraulic flow balancing in a HSK combination thermal store. The unit is intended for heating systems with one or multiple heating circuits fitted with own circulation pump(s). A solar thermal system or another heat source can be connected to the unit using optional accessories.
Description	<p><b>Basic elements of RegulusHBOX indoor unit</b></p> <ul style="list-style-type: none"> <li>■ IR RegulusHBOX Controller with remote access from a computer or a mobile app.</li> <li>■ Control unit with graphical display, English menu, that can be used as a room unit (two-wire connection).</li> <li>■ HSK combination thermal store of 210 l total volume, divided by a tight separating partition in the ratio 49 l (heating), 140 l (DHW heating), 21 l (stainless-steel heat exchanger).</li> <li>■ DHW heating in a stainless-steel heat exchanger, 6 sqm.</li> <li>■ 12 kW heating elements, switched in 2 kW steps (max. output can be limited in the controller menu).</li> <li>■ Three-way zone ball valve for heat pump switching between space and DHW heating.</li> <li>■ 12 l expansion vessel for heating system.</li> <li>■ Waste pipe from safety valves incl. siphon.</li> <li>■ Electric wiring incl. terminal block for easy connection of a heat pump and other accessories incl. basic element protection.</li> <li>■ Heating water temperature and pressure sensor, DHW temperature sensor.</li> </ul> <p><b>Enclosed accessories</b></p> <ul style="list-style-type: none"> <li>■ Heating system safety group incl. air vent valve, 3 bar safety valve, pressure gauge and T-piece for topping up heating water / connecting a supplementary expansion vessel for case when the integrated 12 l expansion vessel is not sufficient.</li> <li>■ Safety kit for a cold water pipe incl. check valve, 8 bar safety valve, pressure gauge, T-piece for connecting an expansion vessel/recirculation and T-piece for topping up heating water.</li> <li>■ Outdoor temperature sensor.</li> <li>■ Pump station for heat pump circuit with Wilo Para 25/8 iPWM1 circulation pump.</li> <li>■ Ball valve w. filter &amp; magnet.</li> <li>■ 2 l DHW expansion vessel.</li> </ul>
Interface	<p><b>Integrated web server</b> for remote management, accessible either via LAN, or remotely via Internet over Regulusroute service; website is optimized for mobile devices.</p> <p><b>Integrated control unit</b> with display and 6 keys, with a temperature&amp;humidity sensor; the unit can be moved to interior and used as a room control unit.</p>
Working fluid	Water, antifreeze fluid for heat pumps and heating systems (heat pump circuit), water (DHW heat exchanger).
Installation	<p>The unit is designed for installation with a CTC inverter heat pump (600 series). When installed with one heating circuit, the pump station installs directly on RegulusHBOX. For installations with multiple heating circuits, a manifold shall be used. When used with a CTC EcoPart ground-source heat pump, it is necessary to remove the circulation pump from the heat pump and replace it by a pump replacement piece (code 17391).</p> <p>RegulusHBOX is designed for indoor installation only.</p>
Code	<b>20026</b>

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Accessories (not included in supply)	
CSE2 F MIX pump station for a mixed heating circuit	for codes see the Catalogue
CSE2 F pump station for an unmixed heating circuit	for codes see the Catalogue
CSE TV pump station for DHW recirculation, with a connection kit for RegulusHBOX indoor unit	code 20276
Expansion vessel for larger heating systems where the 12 l expansion vessel integrated in RegulusHBOX is not sufficient	for codes see the Catalogue
Blind plug and frame for RegulusHBOX, for installations where the control unit is used as a room unit	code 18248
Solar module for connection of a solar thermal system (kit with a plate heat exchanger, circulation pump, and connecting piping)	code 20031

Technical Data	
Total tank volume	210 l
Total fluid volume in tank	189 l
Fluid volume above the separating metal sheet	140 l
Fluid volume below the separating metal sheet	49 l
Fluid volume in DHW heat exchanger	21 l
DHW heat exchanger surface area	6 m <sup>2</sup>
Fluid working temperature	5–90 °C
Max. working pressure – heating system	3 bar
Min. working pressure – heating system	0.5 bar
Max. working pressure – DHW	8 bar
Ambient temperature	5–40 °C
Max. relative humidity	80 %, non condensing
Safety valve set pressure – heating system	3 bar
Safety valve set pressure – DHW	8 bar
Safety valves seat cross section	132 mm <sup>2</sup>
Safety valve discharge coefficient	0.3
3-way valve actuator run time	15 s
Heat loss	160 W
Total weight without water	148 kg
Total weight with water	360 kg
Overall dimensions (W x H x D)	595 x 1725 x 650 mm
Tipping height (without pump stations and safety groups connected)	1790 mm

Electric Data	
Power supply	3/N/PE ~ 400 / 230 V 50 Hz
Max. cross section of power cable	4 mm <sup>2</sup> (stranded) / 6 mm <sup>2</sup> (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
Circuit breaker for heat pump	B16A 3p
Circuit breaker for measurement and control	B6A 1p

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#### Connectivity, Memory Card

Ethernet 100 Mbit/s	2 x
USB for connecting an optional WiFi USB adapter	1 x
RS485 for connecting a heat pump	1 x
CIB	1 x
TCL2	1 x
Micro SD memory card	1 x

#### Inputs & Outputs for Optional Accessories

6x relay output	230 V/5A (K4, K5, DO24–DO27)
3x PWM output	24 V DC (AO0, AO1, PWM3)
4x analog output	0–10 V (AO2–AO5)
1x input for Ripple control	230–400 V AC (HDO)
1x input for reverse iPWM signal from circulation pumps	A/DI16
13x input for Pt1000 temperature sensors <sup>*)</sup>	measurement range –90 to 400 °C (A/DI0–A/DI13 a A/DI20)

<sup>\*)</sup> The inputs can be also used as binary potential-free inputs for connecting e.g. immediate recirculation switch or a HRV boost switch etc.

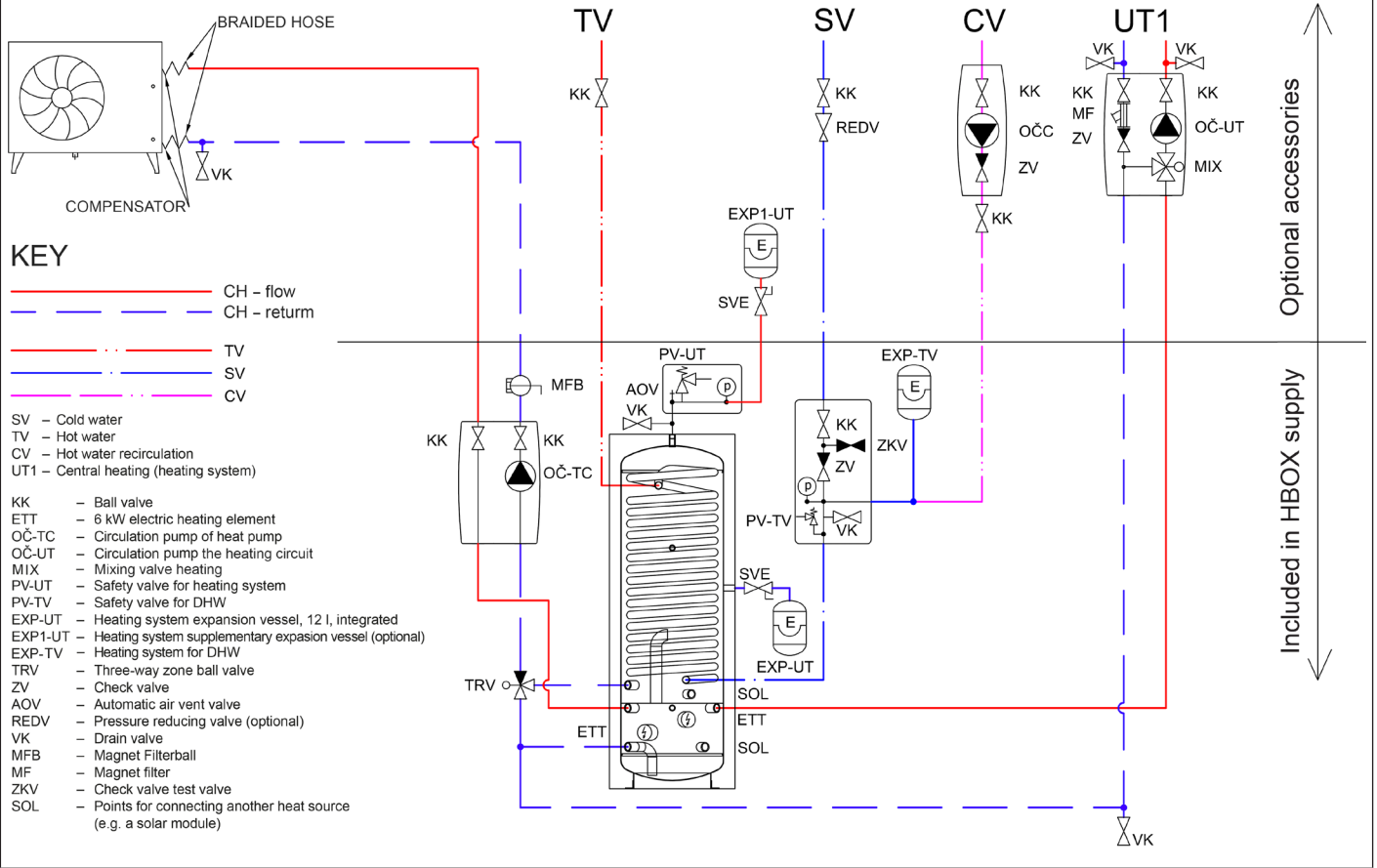
#### Volume of supplied DHW (heated from 10 °C to 40 °C)

Heated volume	entire			entire		
	no backup heating					
Backup heating	10 kW					
Flow rate [l/min]	8	12	20	8	12	20
Temperature in tank	<b>60 °C</b>			<b>60 °C</b>		
Hot water volume [l]	362	250	185	170	163	110
Temperature in tank	<b>50 °C</b>			<b>50 °C</b>		
Hot water volume [l]	156	128	87	114	82	64

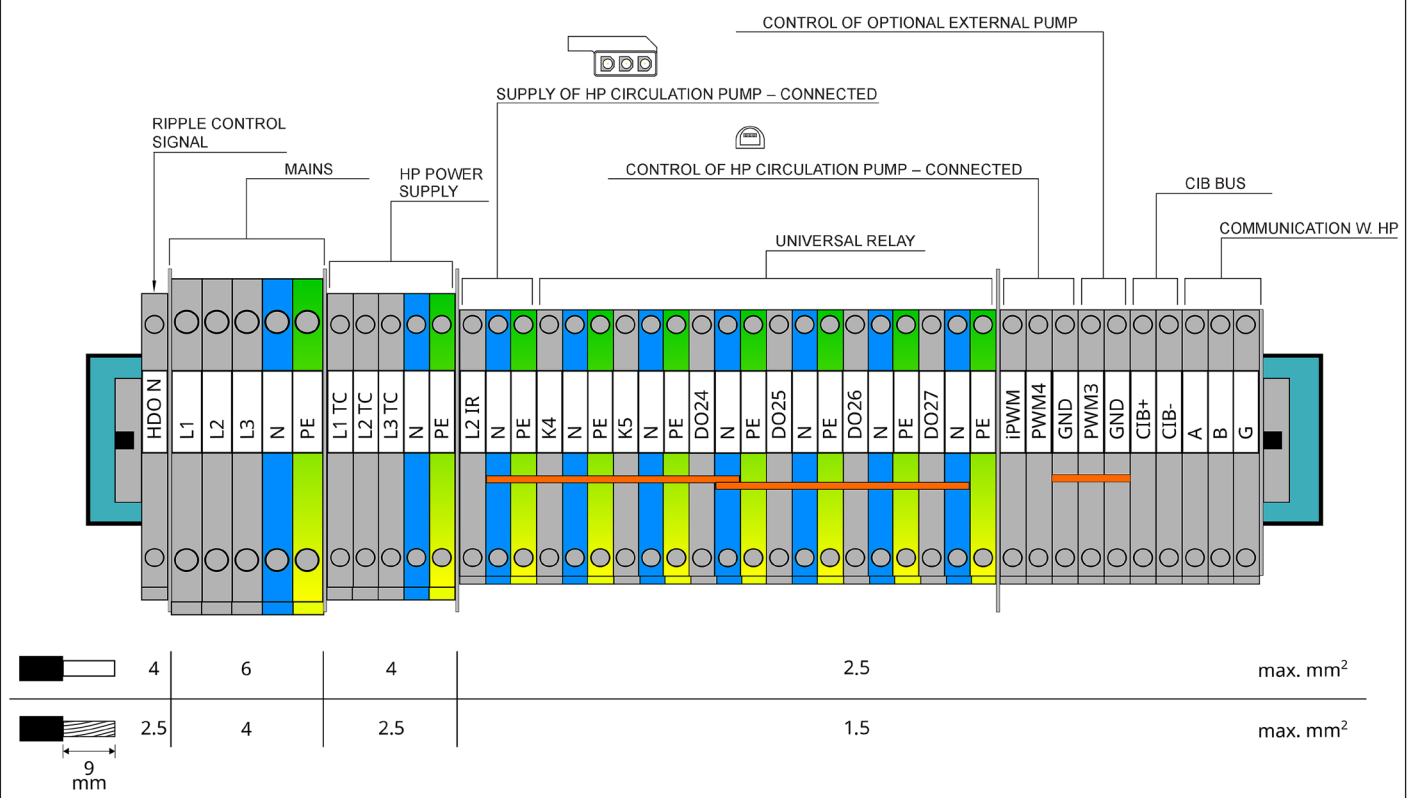
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### Hydraulic Layout



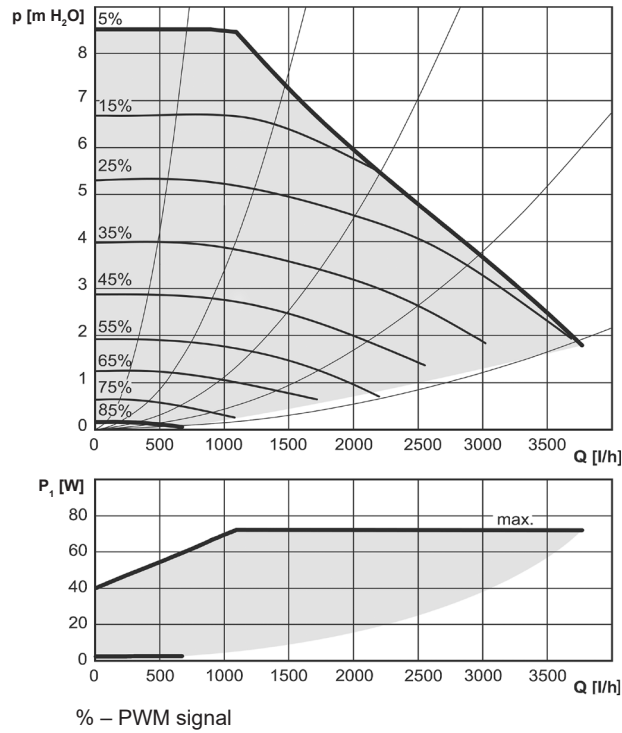
### El. wiring



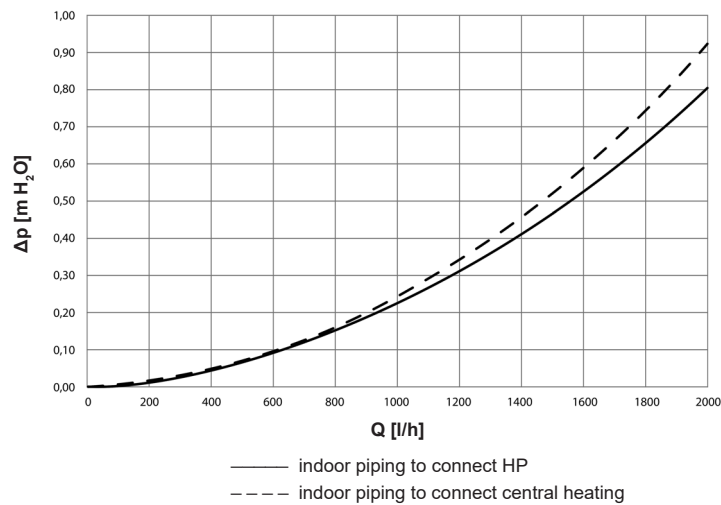
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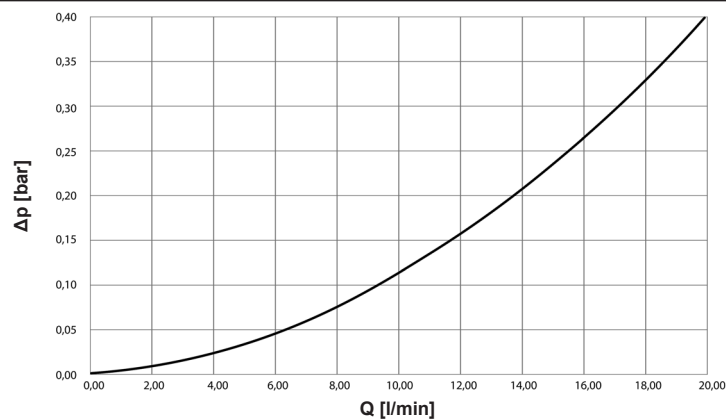
#### Performance curves for Wilo Para 25/8 iPWM1 pump of the heat pump



#### Pressure Drop Graph – heating



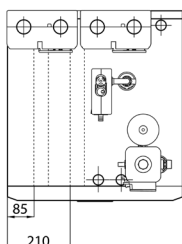
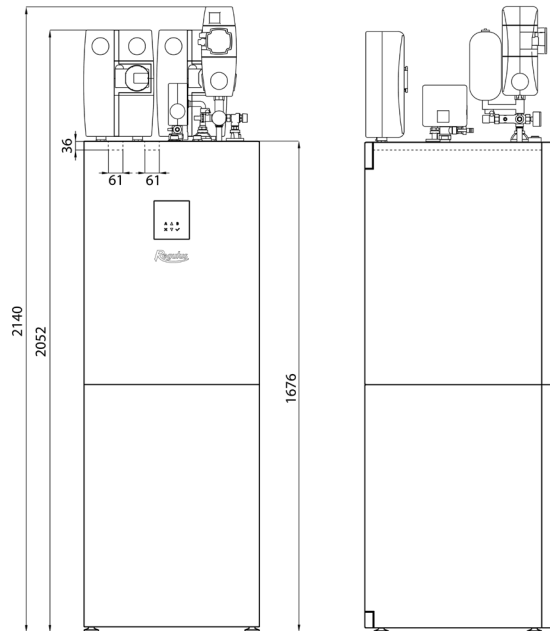
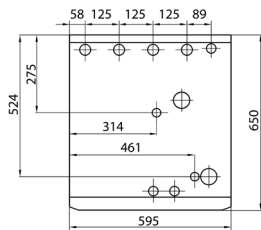
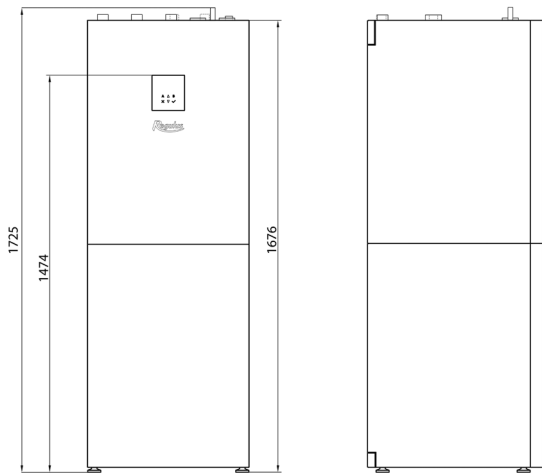
#### Pressure Drop Graph – DHW



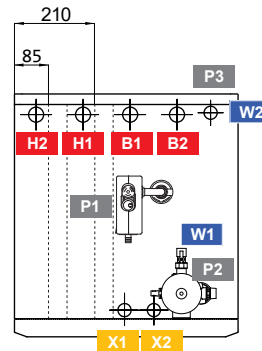
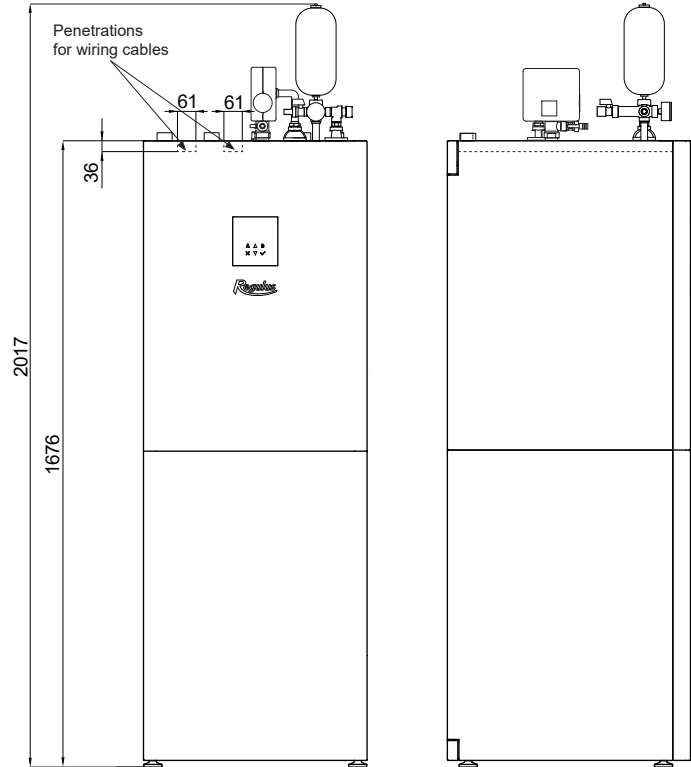
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### Dimensions



**Tipping height 1790 mm**  
(without pump stations groups connected)



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
P4	DHW expansion vessel	G 3/4" M	1780
X1	Incoming from solar thermal system (optional)	G 3/4" M	1700
X2	Return to solar thermal system (optional)	G 3/4" M	1700