

## DATA SHEET

### RegulusHBOX 112 CTC 3/3 Indoor Unit with DHW Heating



#### Main Features

Application	Space heating and continuous DHW heating by a CTC three-phase inverter heat pump (600 series) HSK combination thermal store. The unit is designed for heating systems with one unmixed heating circuit without own circulation pump. This heating circuit shall meet all conditions for the operation of the connected heat pump that are listed in its Data Sheet.
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	The unit is designed for installation with a CTC inverter heat pump (600 series). The unit is designed for heating systems with one unmixed heating circuit without own circulation pump. This heating circuit shall meet all conditions for the operation of the connected heat pump that are listed in its Data Sheet. RegulusHBOX is designed for indoor installation only.
Code	<b>20050</b>

## DATA SHEET

### RegulusHBOX 112 CTC 3/3 Indoor Unit with DHW Heating

Accessories (not included in supply)	
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

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

## DATA SHEET

### RegulusHBOX 112 CTC 3/3 Indoor Unit with DHW Heating

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*)	measurement range –90 to 400 °C (A/DI0–A/DI13 and A/DI20)

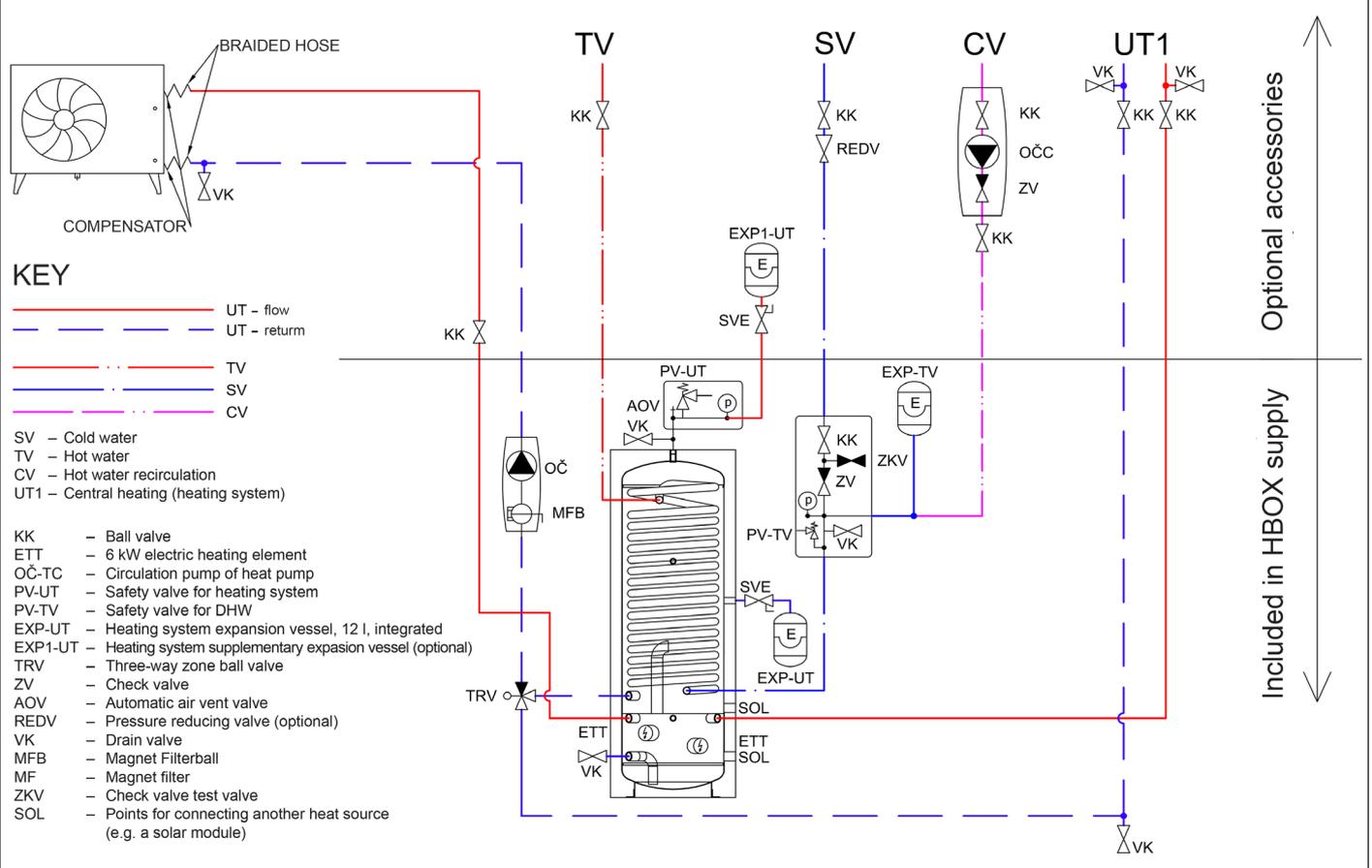
\*) The inputs can be also used as binary potential-free inputs for connecting e.g. immediate recirculation switch or a HRV boost switch etc.

Volume of supplied DHW (heated from 10 °C to 40 °C)						
Heated volume	entire			entire		
Backup heating	10 kW			no backup heating		
Flow rate [l/min]	8	12	20	8	12	20
Temperature in tank	60 °C			60 °C		
Hot water volume [l]	362	250	185	170	163	110
Temperature in tank	50 °C			50 °C		
Hot water volume [l]	156	128	87	114	82	64

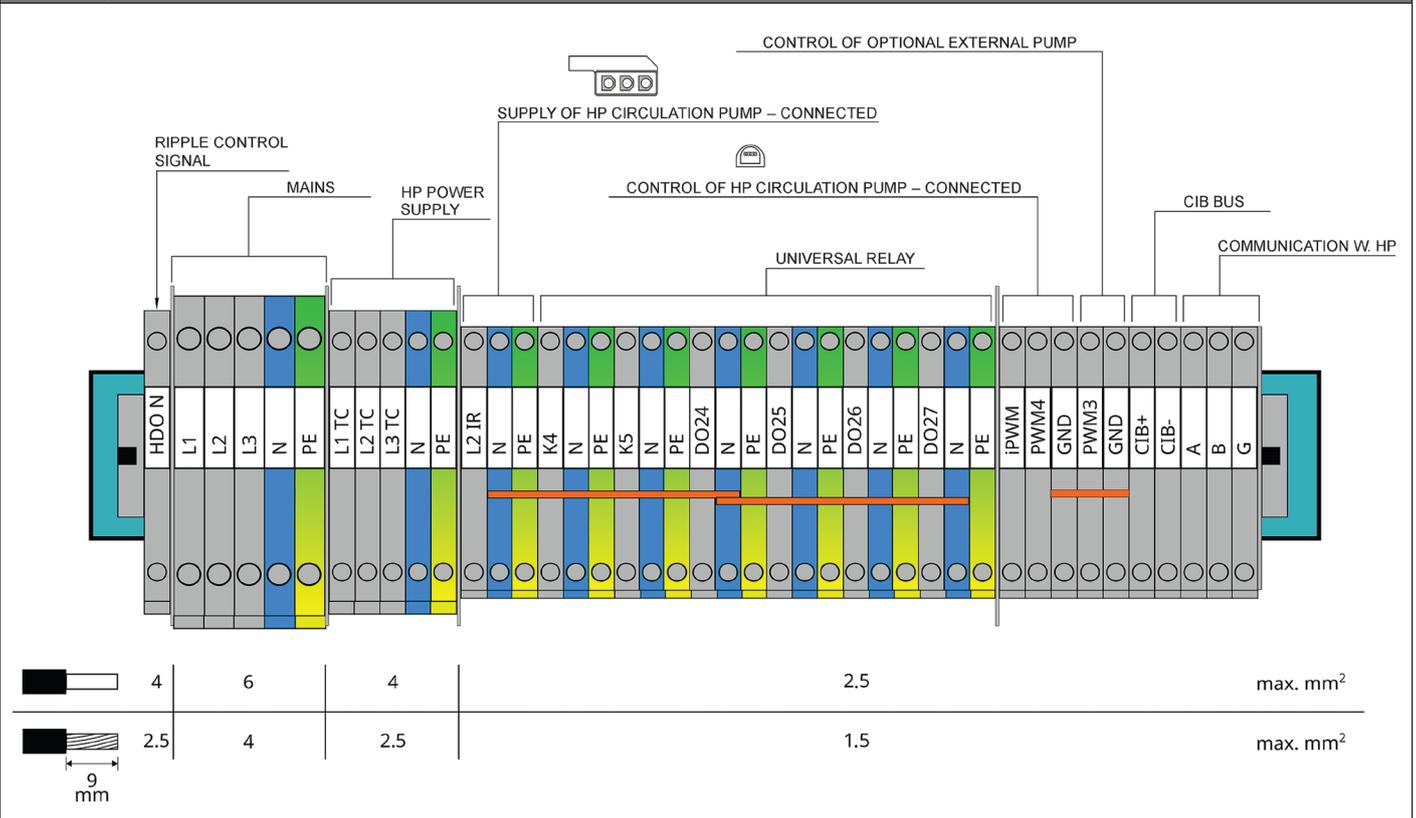
# DATA SHEET

## RegulusHBOX 112 CTC 3/3 Indoor Unit with DHW Heating

### Hydraulic Layout



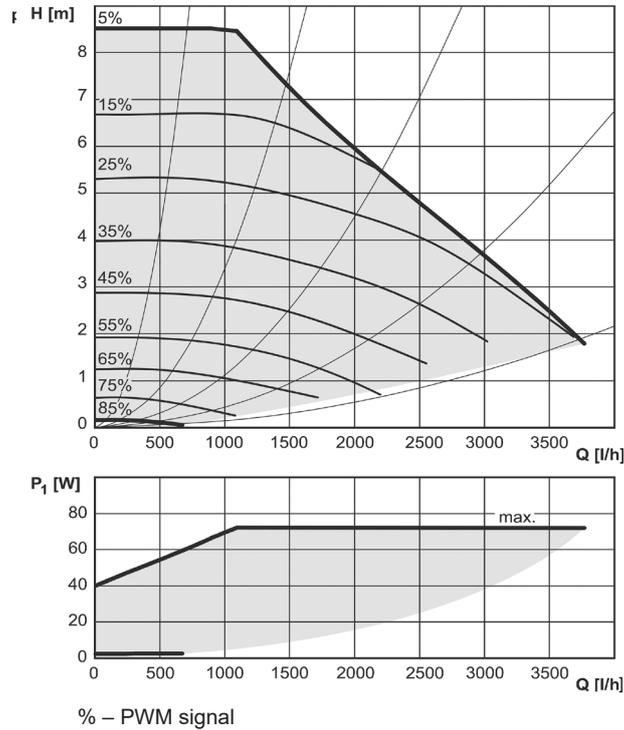
### El. wiring



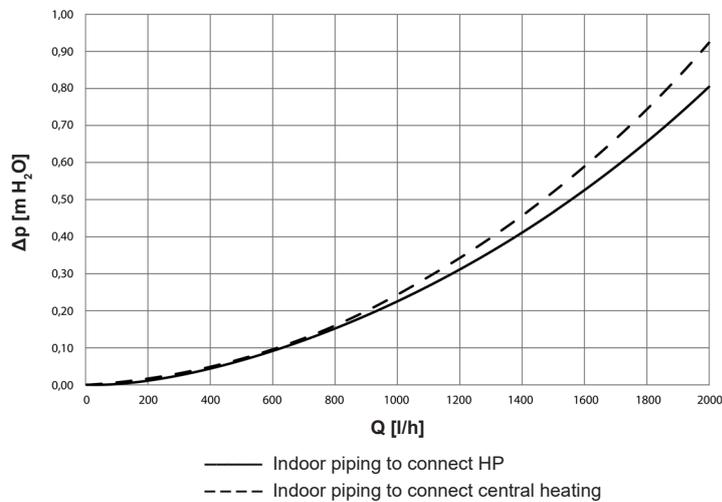
# DATA SHEET

## RegulusHBOX 112 CTC 3/3 Indoor Unit with DHW Heating

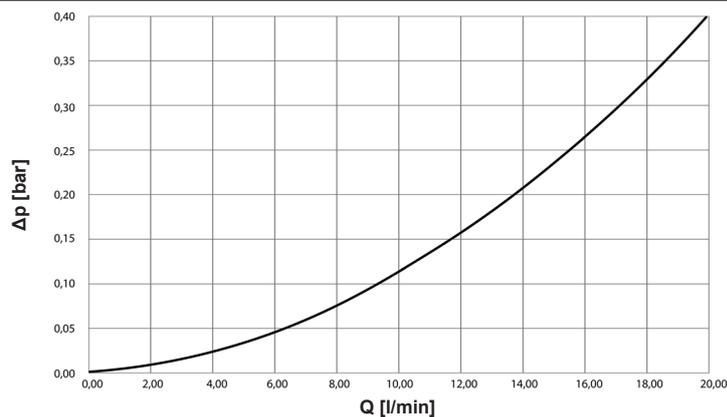
### Performance curves for Wilo Para 25/8 iPWM1 pump of the heat pump



### Pressure Drop Graph – heating



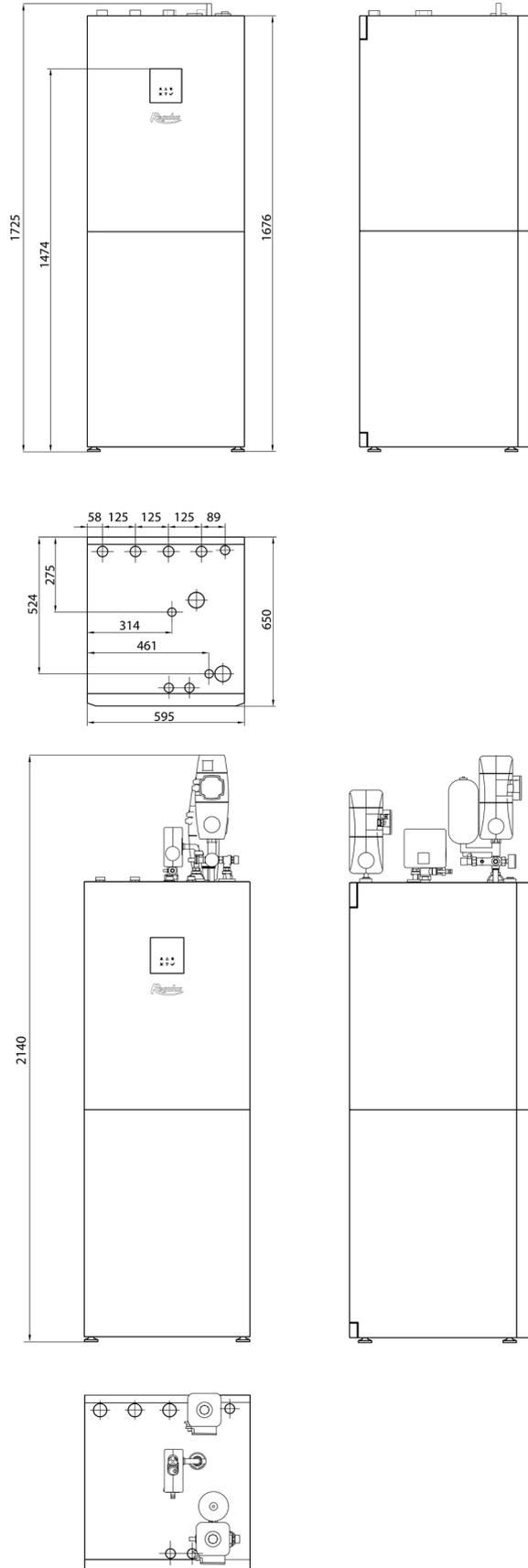
### Pressure Drop Graph – DHW



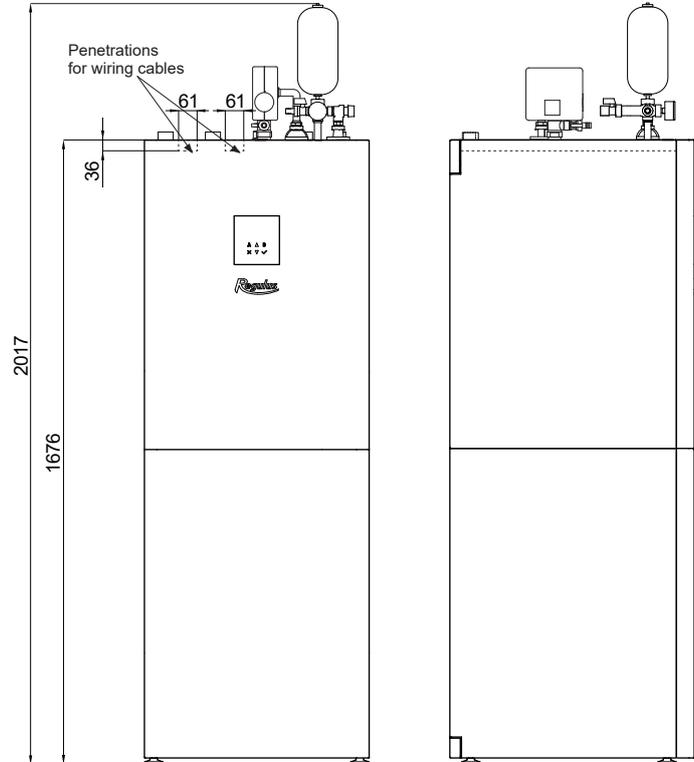
# DATA SHEET

## RegulusHBOX 112 CTC 3/3 Indoor Unit with DHW Heating

### 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