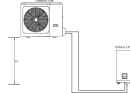


Technical characteristics	Ecoheat 8kW	Ecoheat 12kW, 230V	Ecoheat 12kW, 400V	Ecoheat 16kW
Product Romstal code	81PC1012	81PC1013	81PC1014	81PC1015
Type	Split	Split	Split	Split
Heating capacity A2/W35 [kW]	8.7	12.64	12.64	15
COP A2/W35	4.08	3.75	3.75	3.62
Heating capacity A-15/W35 [kW]	6.11	8.86	8.86	10.7
COP A-15/W35	2.43	2.45	2.45	2.17
Cooling capacity A35/W7 [kW]	7.94	11.16	11.16	12.88
EER A35/W7	3.48	2.38	2.38	2.27
Voltage [V]	230	230	400	400
Booster heater included 3kW	YES	YES	YES	YES

Recommended refrigerant pipes: 8/12/16kW – gas/liquid – Φ 15.9/9.52
IMPORTANT: Please respect the distances according to installation manual. If the length of the liquid pipe is less than 15m, no need of extra refrigerant to be charged. Please use only refrigerant pipes. 30m maximum refrigerant piping length and 20m height difference.

DHW tank sensor (included) – T5 – CN13 port on the PCB



Recommended pipes diameters in order to achieve $\Delta T=5^{\circ}C$

8-16kW heat pump – Copper35/PEX 40/PPR50
NOTE: If the pipes have longer lengths or if there are more bends that can increase the pressure losses inside the pipes, it may be necessary to use even higher diameters for 16kW. Pipes design is the responsibility of the authorized design engineer. The values above are only recommendations.

Electrical supply (recommended cables)

Characteristics	Ecoheat 8kW	Ecoheat 12kW, 230V	Ecoheat 12kW, 400V	Ecoheat 16kW
Outdoor unit recommended cable	3x4 mm ²	3x6 mm ²	5x2.5mm ²	5x2.5mm ²
Outdoor unit maximum current [A]	19	30	14	14
Indoor unit recommended cable 230V	3x4 mm ²	3x4 mm ²	3x4 mm ²	3x4 mm ²
Indoor unit maximum current 230V [A]	13	13	13	13
Indoor unit recommended cable 400V	5x2.5mm ²	5x2.5mm ²	5x2.5mm ²	5x2.5mm ²
Indoor unit maximum current 400V [A]	4.5	4.5	4.5	4.5

NOTE: Cable desing is the responsibility of the authorized engineer. The length and outdoor temperature is also important and must be considered (voltage losses). Values presented within the table are only recommendations, but an authorized project calculation is needed. In order to protect the system, a **voltage relay or phase sequence monitor is needed**. After supplying the unit with voltage, please wait more than 12 hours.

Communication between IU and OU: PQE ports (CN30), min. 3x0.75mm² shielded cable
 Communication between IU and controller (can be detached): ABXYE ports, min. 5x0.75mm² shielded cable (factory included)

The DHW tank must be a dedicated one for the heat pump, with extended coil.
 The DHW tank coil must be designed according to the following rule: 0.25m²/kW
 e.g.: 12kW heat pump => min. 3m² coil (Cordivarivi Bolly 1 XL, 300L, 3.4mp; Bolly 2 PDC)

Buffer/mixing tank needed in order to achieve minimum water volume within the installation and to achieve $\Delta T=5^{\circ}C$ (35/30 $^{\circ}C$, 40/35 $^{\circ}C$ etc.):

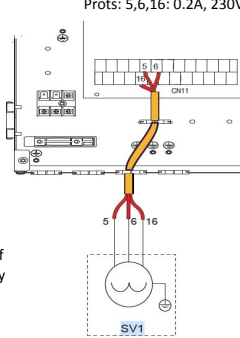
- for 8kW: > 20l
- for 12, 16kW > 40
- 50L recommended

Other recommendations:

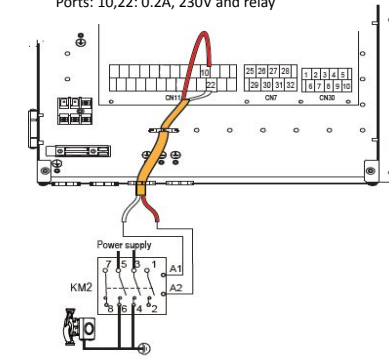
- Outdoor unit cannot be installed on the wind direction
- If there is the possibility to have large quantities of snow on the outdoor unit, please install a protection (small roof)
- It is recommended to use a room thermostat or a buffer thermostat in order to control the heat pump; it is recommended to use compensations curves (weather curves)
- It is recommended to avoid pumping/mixing groups on the undefloor heating modules (the flow temperature can be set on the main controller)
- It is recommended to use a flow temperature as minimum as possible in order to achieve high efficiency (e.g. 35 $^{\circ}C$, underfloor heating)
- It is recommended to have similar water flows before and after the mixing tank/buffer and $\Delta T=5^{\circ}C$



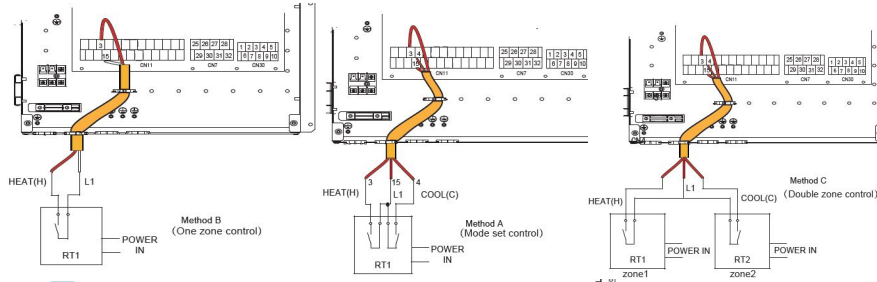
3-way valve connection
 Prots: 5,6,16: 0.2A, 230V



Circulation pump connection (after the buffer tank)
 Ports: 10,22: 0.2A, 230V and relay



Room thermostat connection (indications are available for high voltage thermostats; for low voltage thermostats CN31 port will be used – please check the installation manual)
 Prots: 3 (heating), 4 (cooling), 15(null)



DIP Switch positioning
 To be switched without power supply.

- S1: OFF/OFF/ON/OFF
- S2: OFF/OFF/ON/ON
- S4: OFF/OFF/OFF/OFF



IBH – Internal Booster Heater; AHS – Auxiliary Heating Source (gas boiler, electric boiler etc.; dedicated sensor needed), port 27-28;
 TBH – Tank booster heater (immersed), port 13-16

DIP switch	ON=1	OFF=0	Factory defaults	DIP switch	ON=1	OFF=0	Factory defaults	DIP switch	ON=1	OFF=0	Factory defaults
S1	0/0=3kW IBH(One-stage control)	0/1=6kW IBH(Two-stage control)	OFF/OFF	S2	1	Start pumpo after six hours will be invalid	OFF	S4	1	Reserved	Reserved
	1/2	1/1=9kW IBH(Three-stage control)	OFF/OFF		2	without TBH	with TBH		OFF	2	Reserved
S1	0/0=Without IBH and AHS	1/0=With IBH	OFF/OFF	S2	3/4	0/0=variable speed pump,Max head: 8.5m(GRUNDFOSS)	ON/ON	S4	3/4	Reserved	OFF/OFF
	3/4	0/1=With AHS for heat mode	OFF/OFF		1/0=constant speed pump(WLO)	1/0=variable speed pump,Max head: 10.5m(GRUNDFOSS)	1/1=variable speed pump,Max head: 9.0m(WLO)		OFF/OFF	1/1	Reserved

romstal
 ecoHEAT
 by Aidea

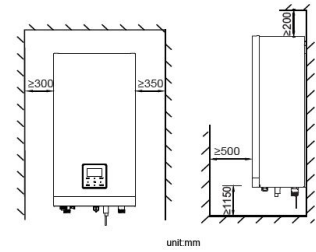
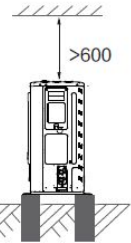
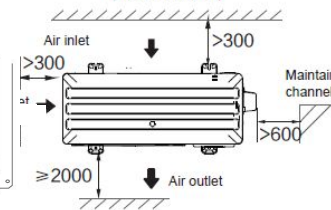


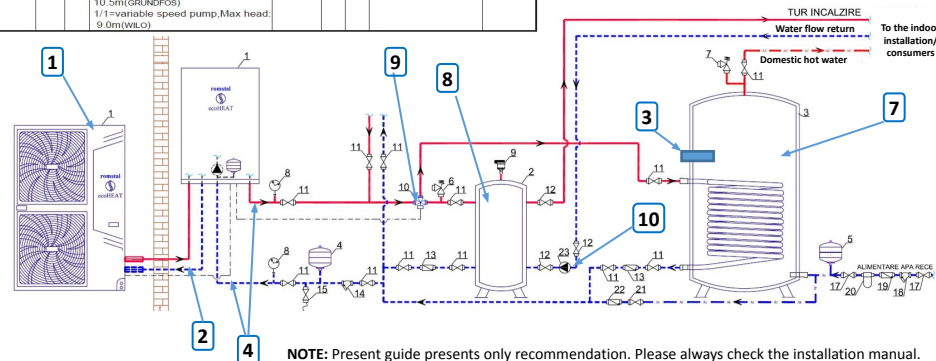
Fig.4-4

(wall or obstacle)



4/6/8/10/12/14/16 kW (unit: mm)

It is recommended that the OU be installed on a dedicated mounting frame at minimum 30cm from the ground level (for defrost). Under the equipment gravel sort can be used for good drainage. An electric wire can be controlled if needed.



NOTE: Present guide presents only recommendation. Please always check the installation manual.