



# MasterTherm

**HEAT PUMPS**

## Catalogue

2020/2021

[www.mastertherm.co.uk](http://www.mastertherm.co.uk)



Box**Air** Inverter

Box**Air** Inverter Split Box**Air**

Inverter Split Combi

**Aqua**Master **Aqua**Master

Inverter **Aqua**Master

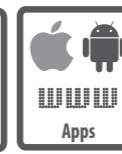
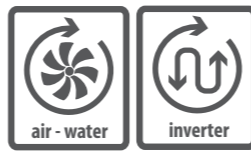
Inverter Combi HP **for**

**large buildings AQZHX**



# BoxAir Inverter

NEW DESIGN



air to water, compact, inverter

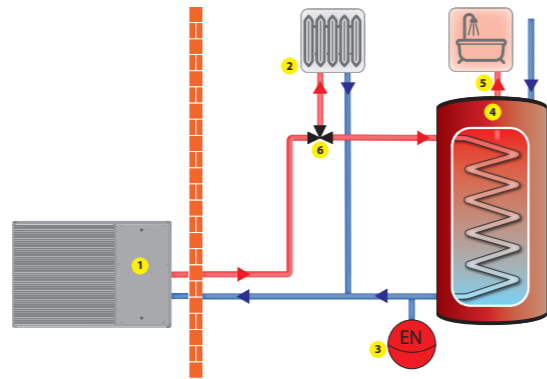
Model	A7W35	Heat loss Qz (kW)	A7W35 60Hz <sup>1)</sup>		A2W35 60Hz		A-7W35 80Hz		A-15W35 90Hz		Seasonal heating energy efficiency - low-temperature operation 35°C				Seasonal heating energy efficiency - medium-temperature operation 55°C				Circuit breaker <sup>2)</sup>		Compressor, supply voltage 3ph/1ph	Weight (kg)	Leakage control of refrigerant circuit EP 517/2014
	Power (kW)		Power (kW)	COP	Power (kW)	COP	Power (kW)	COP	Power (kW)	COP	Power (kW)	SCOP	ηs %	Class	Power (kW) <sup>3)</sup>	SCOP	ηs %	Class	3 phase units	1 phase units			
BoxAir 221	2-7	to 5,5	4,9	4,7	3,6	3,5	3,6	2,8	3,2	2,6	5	4,51	164	A+++	4	3,38	126	A++	16A"B"	20A"B"	1x230/1x230 V~	115	no
BoxAir 261	3-9	to 8,5	8,1	4,8	5,8	3,5	5,5	2,8	5,1	2,5	7,5	4,66	173	A+++	7	3,45	132	A++	20A"B"	20A"B"	1x230/1x230 V~	120	no
BoxAir 301	5-12	to 10	8,65	5,2	6,25	3,8	6,0	2,9	5,3	2,4	8,5	4,95	177	A+++	8	3,89	135	A+++	25A"B"	25A"B"	1x230/1x230 V~	155	no
BoxAir 371	5-17	to 13	11,5	4,7	8,8	3,7	8,7	2,8	8,2	2,3	11	4,92	176	A+++	10	3,72	137	A++	25A"B"	25A"B"	3x400/1x230 V~	165	no
BoxAir 451	7-22	to 16	15,3	4,7	10,6	3,5	11,1	2,75	9,8	2,2	14	4,30	169	A++	13	3,32	130	A++	32A"B"	32A"B"	3x400/1x230 V~	165	no

<sup>1)</sup> Performance data according to ČSN EN 14 511, in accordance with the EHPA requirements for quality mark Q. A7W35 60 Hz - air 7 °C, water 35 °C, compressor frequency 60 Hz  
<sup>2)</sup> Recommended value of el. 3x400V fuse, incl. Auxiliary integrated electric boiler. The units 221, 261 and 301 can also be connected to a 1x230V network with 40A"B"(221), resp. 50A"B"(261, 301).  
<sup>3)</sup> Design power at outdoor temperature -10 °C according to ČSN EN 14 825.

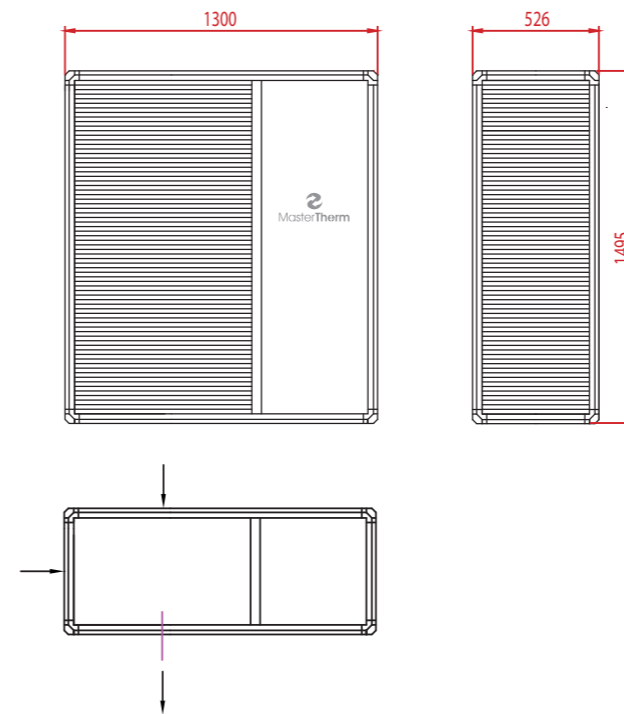
Heat pump connected directly to the heating system with 3wv for domestic hot water (dhw) preparation.

1-heat pump, 2-heating system, 3-expansion vessel, 4-dhw tank with coil, 5-dhw outlet, 6-3way valve

The heat pump (1) is directly connected to heating system. Heating water temperature is controlled according to a weather compensation curve. Production of hot water is a priority over the heating system by switching the 3wv (6) to the dhw tank (4). The heat pump increases the outlet water temperature until the requested dhw temperature is achieved, once achieved the heat pump switches the 3wv back to heating operation. This type of system is ideally suited to underfloor heating systems (ufh) but also systems with radiators with a large volume of heating water utilising our pAD room terminal. This solution limits the possibility of local zone control (independent loop ufh, thermostatic valves on radiators).



Dimensions and connections: BA301 and BA451:



Heating circuits control	STANDARD (μPC)	PLUS (pCO5)
Intended for	single-circuit heating systems	multi-circuit heating systems
Main heating circuit	Yes	Yes
Secondary heating circuit	No	2 independent including mixing
Room temperature	In 1 zone	In 2 zones
SHW	Yes	Yes
Optional	No	Up to 6 heating circuits

## Options

Internet HP control Master

Full Cooling reversing

Terminal pAD temperature compensation

Terminal pADh floor cooling

Expanded control module for PLUS version

Evap. with Corrosion Resistant Coating (single fan)

Evap. with Corrosion Resistant Coating (2 fans)

External unit colour on demand RAL code

Silver colour

RAL 9006

## Standard equipment

✓ Graphic terminal PGD

✓ Variable output Inverter Compressor

✓ New low-noise fan

✓ Equitherm control system MaR

✓ Built-in immersion heater and circulation pump

✓ Electronically controlled coolant injection

## Features

▶ Outdoor compact

▶ Use for heating and cooling

▶ The temperature of heating water to 60 °C

▶ Temperatures range from +35 °C to -20 °C

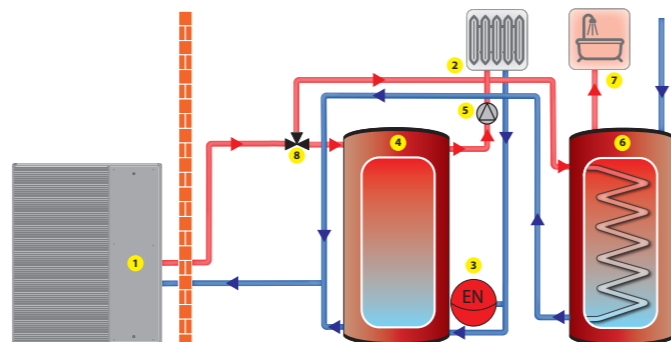
▶ Very easy installation, quiet operation

▶ Control up to 6 heating circuits

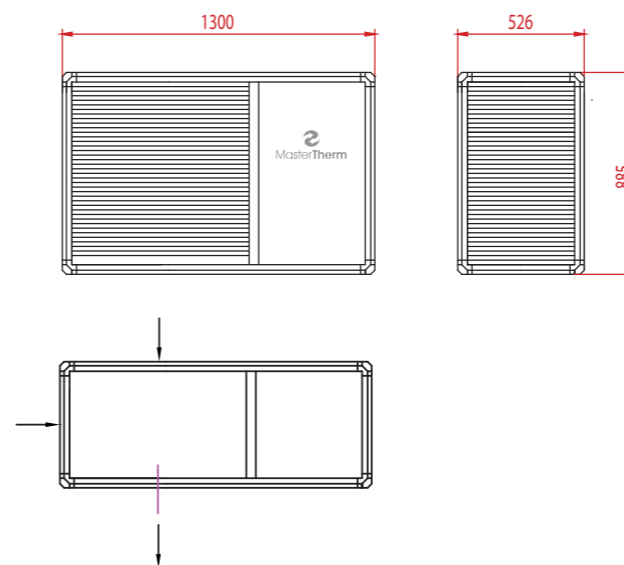
Heat pump connected to a buffer tank and 3wv to the domestic hot water cylinder (dhw)

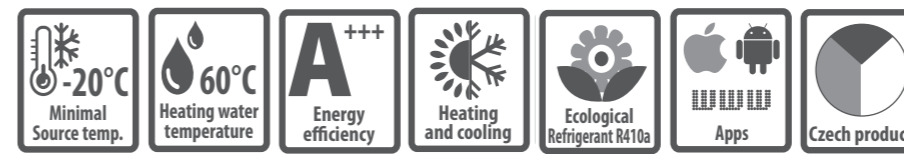
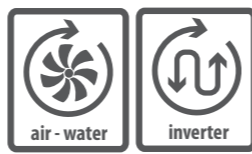
1-heat pump, 2-heating system, 3-expansion vessel, 4-buffer tank, 5-heating circulator pump, 6-dhw tank with coil, 7-dhw outlet, 8-3way valve

Heat pump (1) connected to the heating system through a buffer tank (4) which has the function of thermal buffer and a low loss header. Heating water temperature is controlled according to a weather compensation curve. The flow to the heating system is controlled by the main heating circulation pump. Production of hot water is a priority over the heating system by switching the 3wv (8) to the dhw tank (6). The heat pump increases the outlet water temperature until the requested dhw temperature is achieved, once achieved the heat pump switches the 3wv back to heating operation. This solution is ideally suited to systems with low heat buffering capacity and systems that require independent room zone control. Additionally, this type of system has the ability to integrate a secondary source of heat into the buffer tank (4) such as a wood stove with back boiler.



Dimensions and connections: BA221 and BA261





air to water, split, inverter, outdoor or indoor installation

Model	A7W35		A7W35 60Hz <sup>1)</sup>		A2W35 60Hz		A-7W35 80Hz		A-15W35 90Hz		Seasonal heating energy efficiency - low-temperature operation 35°C				Seasonal heating energy efficiency - medium-temperature operation 55°C				Circuit breaker <sup>2)</sup>		Compressor, supply voltage 3ph/1ph	Weight (kg)	Leakage control of refrigerant circuit EP 517/2014	
	Power (kW)	Heat loss Qz (kW)	Power (kW)	COP	Power (kW)	COP	Power (kW)	COP	Power (kW)	COP	Power (kW)	SCOP	ηs %	Class	Power (kW)	SCOP	ηs %	Class	3 phase units	1 phase units				
<b>BoxAir-22IS</b>	2-7	to 5,5	4,9	4,7	3,6	3,5	3,6	2,8	3,2	2,6	5	4,18	164	A++	4	3,22	126	A++	16A"B"	20A"B"	1x230/1x230 V~	160	no	
<b>BoxAir-26IS</b>	3-9	to 8,5	8,1	4,6	5,6	3,5	5,5	2,8	5,1	2,4	6,5	4,28	168	A++	6,3	3,24	126	A++	20A"B"	20A"B"	1x230/1x230 V~	165	no	
external unit - single fan																							50	
<b>BoxAir-37IS</b>	5-17	to 13	11,5	4,7	8,8	3,7	8,7	2,8	8,2	2,3	11	4,48	176	A+++	10	3,50	137	A++	25A"B"		3x400 V~	170	no	
<b>BoxAir-45IS</b>	7-22	to 16	15,3	4,7	10,6	3,5	11,1	2,75	9,8	2,2	14	4,30	169	A++	13	3,32	130	A++	32A"B"		3x400 V~	180	no	
external unit - 2 fans																							70	

<sup>1)</sup> Performance data according to ČSN EN 14 511, in accordance with the EHPA requirements for quality mark Q. A7W35 60 Hz - air 7 °C, water 35 °C, compressor frequency 60 Hz  
<sup>2)</sup> Recommended value of el. 3x400V fuse, incl. Auxiliary integrated electric boiler. The units can also be connected to a 1x230V network with 40A"B"(22I), resp. 50A"B"(26I).  
<sup>3)</sup> Design power at outdoor temperature -10 °C according to ČSN EN 14 825.

### Options

- Internet HP control Master
  - Full Cooling reversing
  - Desuperheater
  - Terminal pAD temperature compensation
  - Terminal pADh floor cooling
  - Expanded control module
  - Evap. with Corrosion Resistant Coating (single fan)
  - Evap. with Corrosion Resistant Coating (2 fans)
  - Modification to IndoorSplit
  - External unit colour on demand RAL code
  - External unit 4legs vertical or console
  - External unit (silver colour)
  - Internal unit (silver or red colour)
- RAL 9006 RAL 3020

### Standard equipment

- ✓ Graphic terminal PGD
- ✓ Variable output Inverter Compressor
- ✓ New low-noise fan
- ✓ Equitherm control system MaR
- ✓ Built-in immersion heater and circulation pump
- ✓ Main power supply switch
- ✓ Electronically controlled coolant injection

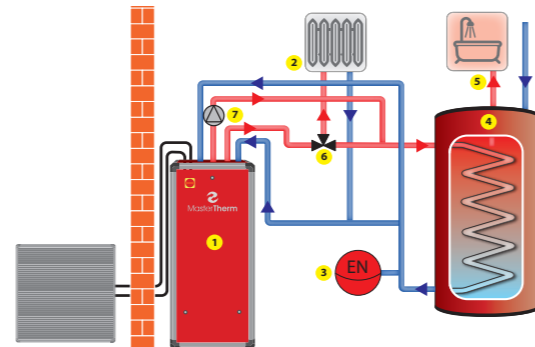
### Features

- ▶ Split construction
- ▶ Use for heating and cooling
- ▶ The temperature of heating water to 60 °C
- ▶ Temperatures range from +35 °C to -20 °C
- ▶ Very easy installation, quiet operation
- ▶ No buffer tank required
- ▶ Control up to 6 heating circuits

### Heat pump connected directly to the heating system with 3wv for domestic hot water (dhw) preparation.

1-heat pump, 2-heating system, 3-expansion vessel, 4-dhw tank with coil, 5-dhw outlet, 6-3way valve, 7-desuperheater circulator pump

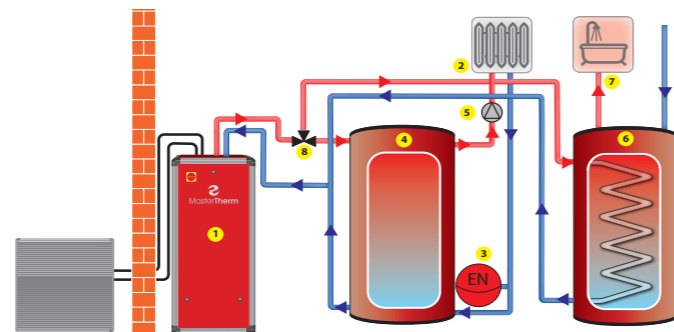
The heat pump (1) is directly connected to heating system. Heating water temperature is controlled according to a weather compensation curve. Production of hot water is a priority over the heating system by switching the 3wv (6) to the dhw tank (4). The heat pump increases the outlet water temperature until the requested dhw temperature is achieved, once achieved the heat pump switches the 3wv back to heating operation. This type of system is ideally suited to underfloor heating systems (ufh) but also systems with radiators with a large volume of heating water utilising our pAD room terminal. The desuperheater (optional equipment) is an additional exchanger which harvests high potential energy from compressor outlet. An independent circuit with circulator pump (9) is used for high efficiency dhw preparation during heating mode. This solution limits the possibility of local zone control (independent loop ufh, thermostatic valves on radiators).



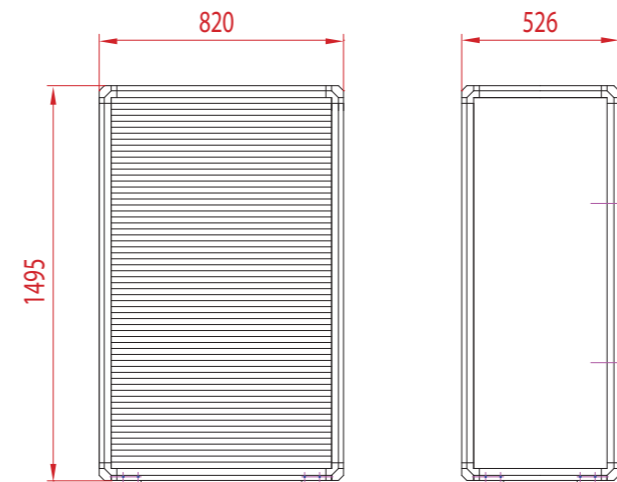
### Heat pump connected to a buffer tank and 3wv to the domestic hot water cylinder (dhw)

1-heat pump, 2-heating system, 3-expansion vessel, 4-buffer tank, 5-heating circulator pump, 6-dhw tank with coil, 7- dhw outlet, 8-3way valve

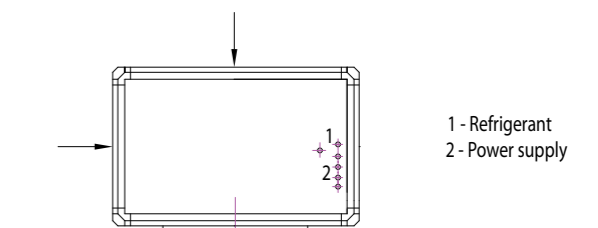
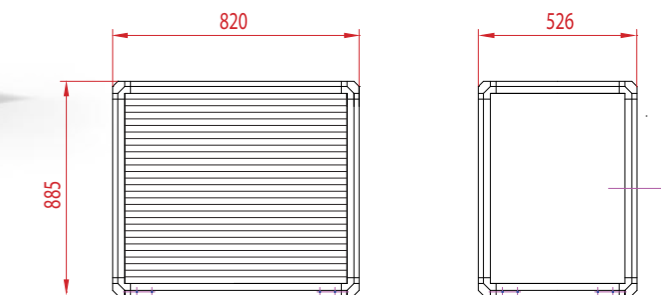
The heat pump (1) is directly connected to heating system. Heating water temperature is controlled according to a weather compensation curve. Production of hot water is a priority over the heating system by switching the 3wv (6) to the dhw tank (4). The heat pump increases the outlet water temperature until the requested dhw temperature is achieved, once achieved the heat pump switches the 3wv back to heating operation. This type of system is ideally suited to underfloor heating systems (ufh) but also systems with radiators with a large volume of heating water utilising our pAD room terminal. This solution limits the possibility of local zone control (independent loop ufh, thermostatic valves on radiators). The desuperheater (optional equipment) is an additional exchanger which harvests high potential energy from compressor outlet. An independent circuit with circulator pump (9) is used for high efficiency dhw preparation during heating mode.



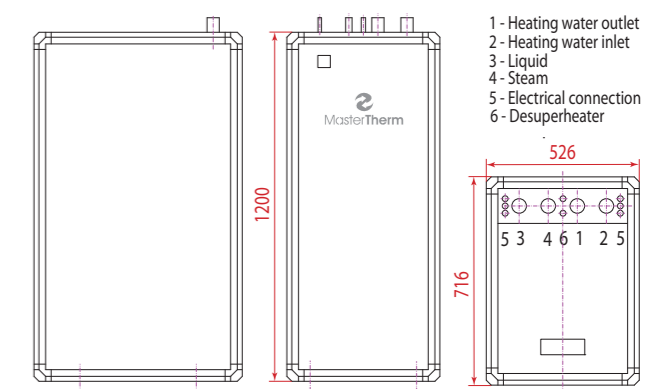
External unit BA37IS and 45IS:

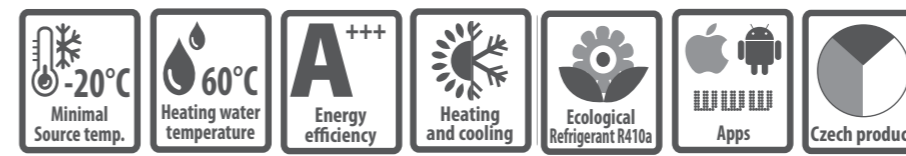
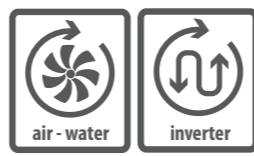


External unit BA22IS and 26IS:



Internal unit:





air to water, split, inverter, built-in stainless steel tray 170 l outdoor or indoor installation

Model	A7W35		A7W35 60Hz <sup>1)</sup>		A2W35 60Hz		A-7W35 80Hz		A-15W35 90Hz		Seasonal heating energy efficiency - low-temperature operation 35°C				Seasonal heating energy efficiency - medium-temperature operation 55°C				Circuit breaker <sup>2)</sup>		Compressor, supply voltage 3ph/1ph	Weight (kg)	Leakage control of refrigerant circuit EP 517/2014	
	Power (kW)	Heat loss Qz (kW)	Power (kW)	COP	Power (kW)	COP	Power (kW)	COP	Power (kW)	COP	Power (kW)	SCOP	ηs %	Class	Power (kW) <sup>3)</sup>	SCOP	ηs %	Class	3 phase units	1 phase units				
<b>BoxAir-22ISC</b>	2-7	to 5,5	4,9	4,7	3,6	3,5	3,6	2,8	3,2	2,6	5	4,18	164	A++	4	3,22	126	A++	16A"B"	20A"B"	1x230/1x230 V~	260	no	
<b>BoxAir-26ISC</b>	3-9	to 8,5	8,1	4,6	5,6	3,5	5,5	2,8	5,1	2,4	6,5	4,28	168	A++	6,3	3,24	126	A++	20A"B"	20A"B"	1x230/1x230 V~	265	no	
external unit - single fan																							50	
<b>BoxAir-37ISC</b>	5-17	to 13	11,5	4,7	8,8	3,7	8,7	2,8	8,2	2,3	11	4,48	176	A+++	10	3,50	137	A++	25A"B"		3x400 V~		no	
external unit - 2 fans																							70	

<sup>1)</sup> Performance data according to ČSN EN 14 511, in accordance with the EHPA requirements for quality mark Q. A7W35 60 Hz - air 7 °C, water 35 °C, compressor frequency 60 Hz  
<sup>2)</sup> Recommended value of el. 3x400V fuse, incl. Auxiliary integrated electric boiler. The units can also be connected to a 1x230V network with 40A"B"(22I), resp. 50A"B"(26I).  
<sup>3)</sup> Design power at outdoor temperature -10 °C according to ČSN EN 14 825.

### Options

- Internet HP control Master
  - Full Cooling reversing
  - Terminal pAD temperature compensation
  - Terminal pADh floor cooling
  - Expanded control module
  - Evap. with Corrosion Resistant Coating (single fan)
  - Evap. with Corrosion Resistant Coating (2 fans)
  - Modification to IndoorSplit
  - External unit colour on demand RAL code
  - External unit 4legs vertical or console
  - External unit (silver, red or green colour)
  - Internal unit (silver or red colour)
- RAL 9006      RAL 3020

### Standard equipment

- ✓ Stainless steel tray with a capacity of 170 l with integrated solar exchanger
- ✓ Graphic terminal PGD
- ✓ Variable output Inverter Compressor
- ✓ New low-noise fan
- ✓ Equitherm control system MaR
- ✓ Built-in immersion heater and circulation pump
- ✓ Main power supply switch
- ✓ Electronically controlled coolant injection

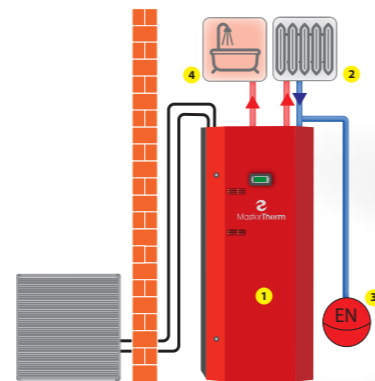
### Features

- ▶ Split construction
- ▶ Use for heating and cooling
- ▶ The temperature of heating water to 60 °C
- ▶ Temperatures range from +35 °C to -20 °C
- ▶ Very easy installation, quiet operation
- ▶ No buffer tank required
- ▶ Control up to 6 heating circuits

### Heat pump connected directly to the heating system with in-built 170l dhw cylinder

1-heat pump, 2-heating system, 3-expansion vessel, 7-dhw outlet

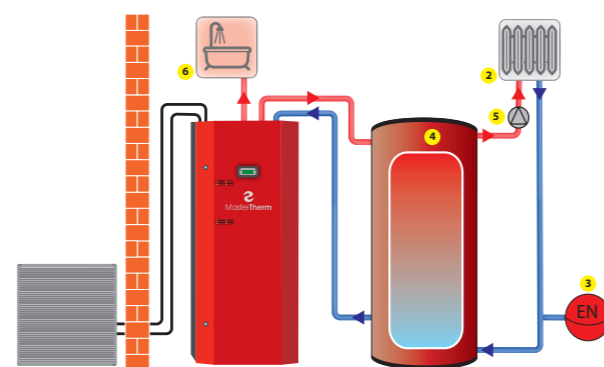
The heat pump (1) is directly connected to heating system. Heating water temperature is controlled according to a weather compensation curve. Production of hot water is a priority over the heating system and is prepared via the internal cylinder. This type of system is ideally suited to underfloor heating systems (ufh) but also systems with radiators with a large volume of heating water utilising our pAD room terminal. This solution limits the possibility of local zone control (independent loop ufh, thermostatic valves on radiators).



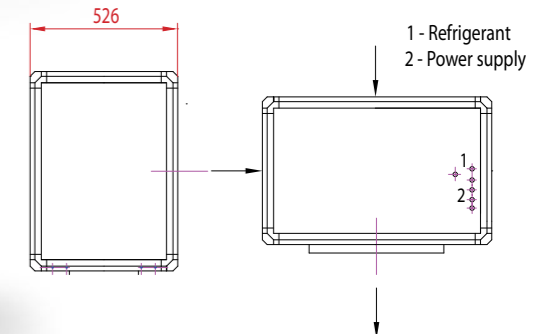
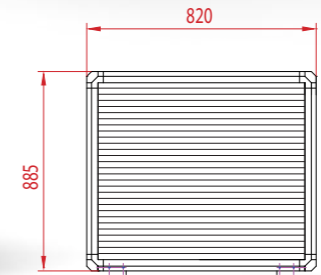
### Heat pump connected to a buffer tank with in-built 170l dhw cylinder

1-heat pump, 2-heating system, 3-expansion vessel, 4- buffer tank, 5- heating circulation pump, 7-dhw outlet

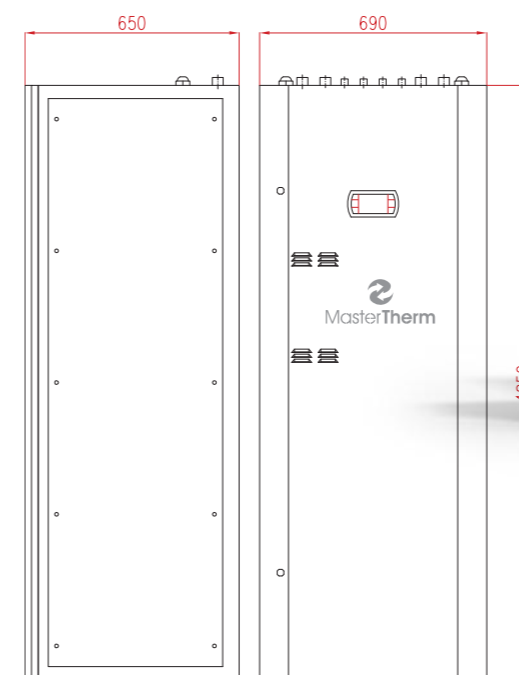
Heat pump (1) connected to the heating system through a buffer tank (4) which has the function of thermal buffer and a low loss header. Heating water temperature is controlled according to a weather compensation curve. The flow to the heating system is controlled by the main heating circulation pump. Production of hot water is a priority over the heating system and is prepared via the internal cylinder. This solution is ideally suited to systems with low heat buffering capacity and systems that require independent room zone control. Additionally, this type of system has the ability to integrate a secondary source of heat into the buffer tank (4) such as a wood stove with back boiler.



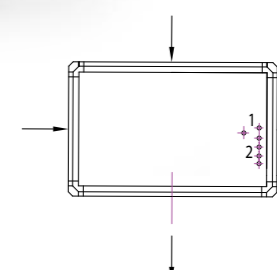
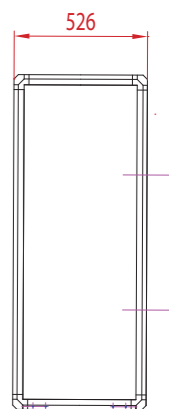
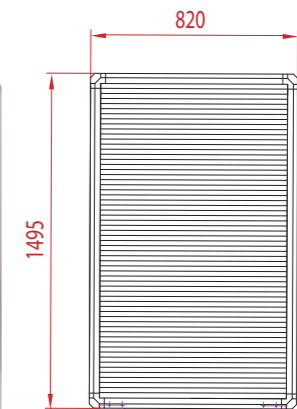
External unit: BA22ISC and BA26ISC



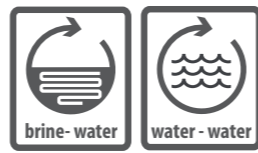
Internal unit:



External unit: BA37ISC



# AquaMaster



brine to water, water to water, on-off

Model	B0W35 <sup>1)</sup>		W10W35		Seasonal heating energy efficiency - low-temperature operation 35°C				Seasonal heating energy efficiency - medium-temperature operation 55°C				Circuit breaker <sup>2)</sup>		Compressor, supply voltage 3ph/1ph	Weight (kg)	Leakage control of refrigerant circuit EP 517/2014
	Power (kW)	COP	Power (kW)	COP	Power (kW) <sup>3)</sup>	SCOP	ηs %	Class	Power (kW) <sup>3)</sup>	SCOP	ηs %	Class	3 phase units	1 phase units			
AquaMaster_22Z	7,8	4,5	10,4	5,9	8	4,50	172	A++	7	3,17	117	A+	3x 9A"C"	20A"C"	3x400/1x230 V~	140	no
AquaMaster_26Z	10,1	4,4	13,3	5,7	10	4,34	166	A++	9	3,11	116	A+	3x 13A"C"	25A"C"	3x400/1x230 V~	160	no
AquaMaster_30Z	11,4	4,4	14,9	5,5	11	4,29	164	A++	11	3,10	116	A+	3x 13A"C"	32A"C"	3x400/1x230 V~	165	no
AquaMaster_37Z	14,1	4,3	18,4	5,4	14	4,46	170	A++	13	3,16	118	A+	3x 16A"C"	32A"C"	3x400/1x230 V~	180	no
AquaMaster_45Z	17,2	4,4	22,5	5,5	17	4,61	176	A+++	16	3,19	120	A+	3x 16A"C"	-	3x400 V~	190	no
AquaMaster_60Z	23,1	4,2	31,2	5,4	23	4,27	163	A++	22	3,14	118	A+	3x 25A"C"	-	3x400 V~	245	no
AquaMaster_75Z	28,2	4,1	37,7	5,2	28	4,25	162	A++	26	3,11	116	A+	3x 25A"C"	-	3x400 V~	255	no
AquaMaster_90Z	33,2	4,3	45,0	5,4	33	4,42	169	A++	30	3,10	116	A+	3x 32A"C"	-	3x400 V~	275	no
AquaMaster_120.2Z	46,8	4,2	64,6	5,6	47	4,51	172	A++	43	3,22	121	A+	3x 50A"C"	-	3x400 V~	420	yes
AquaMaster_150.2Z	57,7	4,2	79,3	5,6	57	4,38	167	A++	52	3,19	119	A+	3x 50A"C"	-	3x400 V~	420	yes
AquaMaster_180.2Z	64,4	4,1	90,9	5,5	64	4,50	172	A++	61	3,35	126	A++	3x 64A"C"	-	3x400 V~	420	yes
AquaMaster_240.2Z	91,5	4,7	121,6	6,1	93	5,44	210	A+++	75	3,81	145	A++	3x 63A"C"	-	3x400 V~	420	yes

- 1) Performance data according to ČSN EN 14 511. B0W35 - antifreeze mixture 0 °C, water 35 °C.
- 2) Recommended value of el. 3x 400 V fuse as standard, without auxiliary electric boiler
- 3) Design power at outdoor temperature -10 °C according to ČSN EN 14 825.

## Options

- Internet HP control Master
- Full Cooling reversing (for models: 22Z-90Z)
- Passive Cooling module (for models: 22Z-37Z)
- Terminal pAD temperature compensation
- Terminal pADh floor cooling
- Desuperheater
- Three phase relay
- Softstart
- AQ Electric heater 4,5 kW / 6,0 kW / 7,5 kW
- Expanded control module for PLUS version
- Refrigerant 134a high temperature
- Water to water version
- Internal unit (silver or red colour)

RAL 9006 RAL 3020

## Standard equipment

- ✓ Integrated graphic terminal PGD
- ✓ Electronically controlled coolant injection
- ✓ Equitherm control system MaR
- ✓ Built-in circulator pumps for primary and secondary circuits
- ✓ Main power supply switch

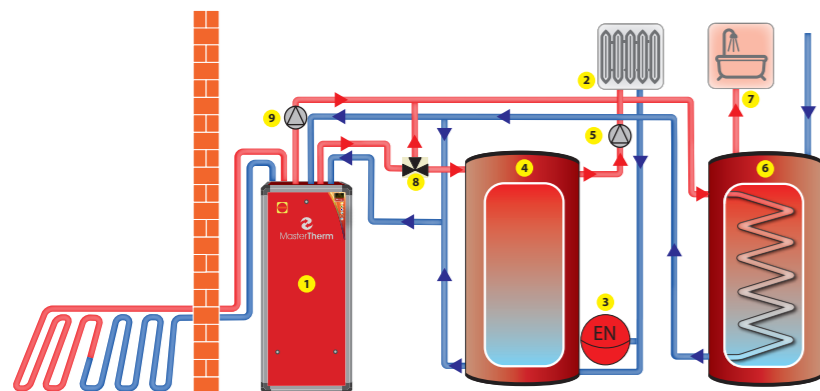
## Features

- ▶ Use for heating and cooling
- ▶ The temperature of heating water to 60°C
- ▶ Quiet operation
- ▶ Control up to 6 heating circuits

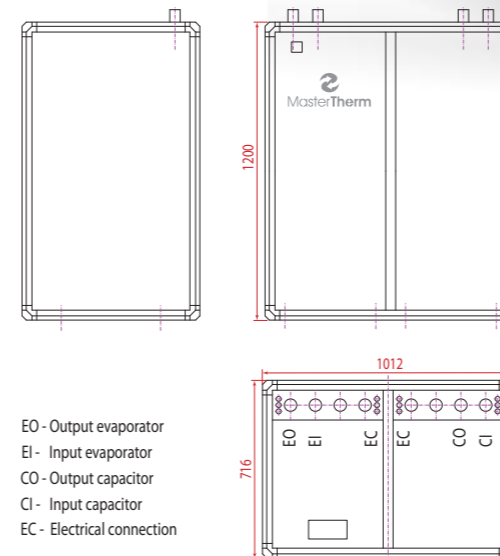
## Heat pump connected to a buffer tank and 3wv to the domestic hot water cylinder (dhw) with desuperheater.

1-heat pump, 2-heating system, 3-expansion vessel, 4-buffer tank, 5-heating circulation pump, 6-dhw tank with coil, 7- dhw outlet, 8-3way valve, 9-desuperheater circulation pump

Heat pump (1) connected to the heating system through a buffer tank (4) which has the function of thermal buffer and a low loss header. Heating water temperature is controlled according to a weather compensation curve. The flow to the heating system is controlled by the main heating circulation pump. Production of hot water is a priority over the heating system by switching the 3wv (8) to the dhw tank (6). The heat pump increases the outlet water temperature until the requested dhw temperature is achieved, once achieved the heat pump switches the 3wv back to heating operation. When dhw requested temperature is achieved the heat pump controller moves 3wv back to heating operation. The desuperheater (optional equipment) is an additional exchanger which harvests high potential energy from compressor outlet. An independent circuit with circulator pump (9) is used for high efficiency dhw preparation during heating mode.



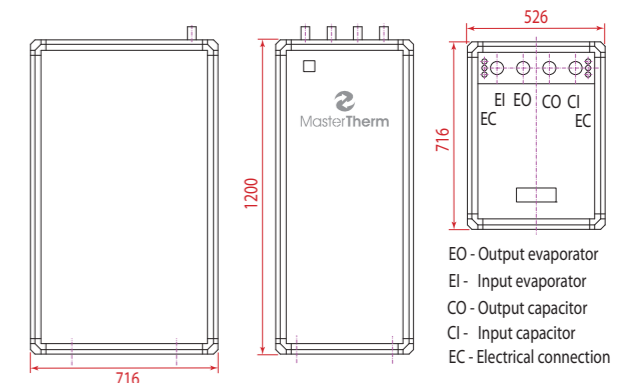
Dimensions and connections: 120.2Z – 180.2Z



- EO - Output evaporator
- EI - Input evaporator
- CO - Output capacitor
- CI - Input capacitor
- EC - Electrical connection



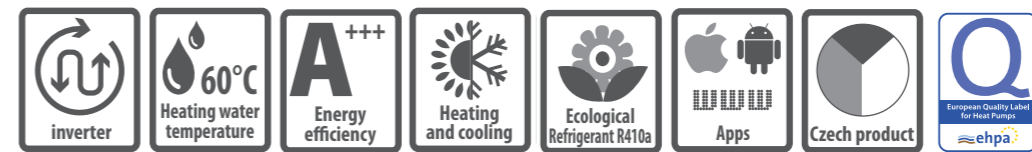
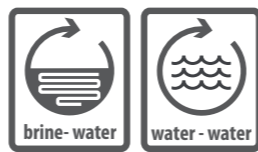
Dimensions and connections: 22Z – 90Z



- EO - Output evaporator
- EI - Input evaporator
- CO - Output capacitor
- CI - Input capacitor
- EC - Electrical connection

Heating circuits control	STANDARD (μPC)	PLUS (pCO5)
Intended for	single-circuit heating systems	multi-circuit heating systems
Main heating circuit	Yes	Yes
Secondary heating circuit	No	2 independent including mixing
Room temperature	In 1 zone	In 2 zones
SHW	Yes	Yes
Optional	No	Up to 6 heating circuits

# AquaMaster Inverter



brine to water, water to water, inverter

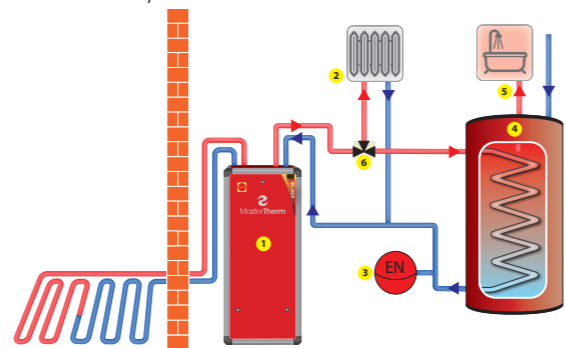
Model	B0W35		B0W35 <sup>1)</sup>		W10W35		Seasonal heating energy efficiency - low-temperature operation 35°C				Seasonal heating energy efficiency - medium-temperature operation 55°C				Circuit breaker <sup>2)</sup>		Compressor, supply voltage 3ph/1ph	Weight (kg)	Leakage control of refrigerant circuit EP 517/2014
	Power kW	Power kW	COP	Power kW	COP	Power kW <sup>4)</sup>	SCOP	ηs %	Class	Power kW <sup>4)</sup>	SCOP	ηs %	Class	3 phase units	1 phase units				
<b>AquaMaster Inverter-17I</b>	1-5	2,95	4,3	3,79	5,51	5	5,32	179	A+++	4	3,89	133	A++	1x 20 A"B"	20A"B"	1x230/1x230 V~	60	no	
<b>AquaMaster Inverter-22I</b>	2-7	4,4	4,5	5,8	5,9	7	5,39	177	A+++	6	4,01	133	A+++	1x 20 A"B"	20A"B"	1x230/1x230 V~	160	no	
<b>AquaMaster Inverter-26I</b>	3-9	7,6	4,5	10,2	6,0	9	4,83	185	A+++	9	3,74	141	A++	1x 20 A"B"	20A"B"	1x230/1x230 V~	160	no	
<b>AquaMaster Inverter-30I</b>	4-12	7,9	4,6	10,3	6,1	11	4,85	186	A+++	11	3,78	143	A++	1x 25 A"B"	25A"B"	1x230/1x230 V~	160	no	
<b>AquaMaster Inverter-37I</b>	5-15	10,5	4,7	14,2	6,3	15	5,00	193	A+++	14	3,94	149	A++	3x 20 A"B"	32A"B"	3x400/1x230 V~	165	no	
<b>AquaMaster Inverter-45I</b>	7-22	14,0	4,6	19,2	6,3	21	4,80	184	A+++	19	3,70	140	A++	3x 20 A"B"	32A"B"	3x400/1x230 V~	170	no	
<b>AquaMaster Inverter-60I</b>	7-35	20,2	4,7	26,6	6,2	33	5,02	193	A+++	33	3,97	151	A+++	3x 32 A"B"	-	3x400 V~	180	no	
<b>AquaMaster Inverter-90I</b>	10-48	31,3 <sup>3)</sup>	4,6	41,2 <sup>3)</sup>	5,9	44	4,87	187	A+++	43	3,87	147	A++	3x 40 A"B"	-	3x400 V~	200	no	

<sup>1)</sup> Performance data according to ČSN EN 14 511, in accordance with the EHPA requirements for quality mark Q. B0W35 60 Hz - antifreeze mixture 0 °C, water 35 °C, compressor frequency 60 Hz  
<sup>2)</sup> Recommended value of el. Safety in basic equipment, without auxiliary electric boiler  
<sup>3)</sup> Data for 90I at 90 Hz  
<sup>4)</sup> Design power at outdoor temperature -10 °C according to ČSN EN 14 825.

### Heat pump connected directly to the heating system with 3wv for domestic hot water (dhw) preparation.

1-heat pump, 2-heating system, 3-expansion vessel, 4-dhw tank with coil, 5-dhw outlet, 6-3way valve

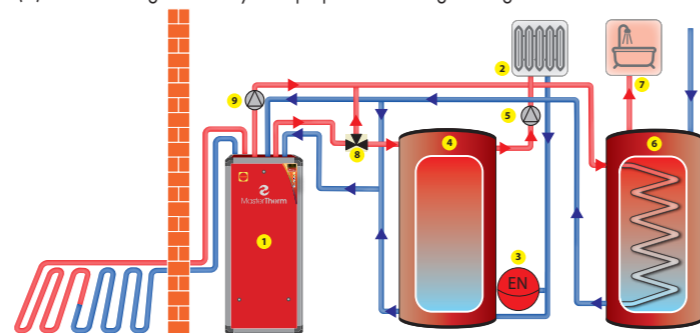
The heat pump (1) is directly connected to heating system. Heating water temperature is controlled according to a weather compensation curve. Production of hot water is a priority over the heating system by switching the 3wv (6) to the dhw tank (4). The heat pump increases the outlet water temperature until the requested dhw temperature is achieved, once achieved the heat pump switches the 3wv back to heating operation. This type of system is ideally suited to underfloor heating systems (ufh) but also systems with radiators with a large volume of heating water utilising our pAD room terminal. This solution limits the possibility of local zone control (independent loop ufh, thermostatic valves on radiators).



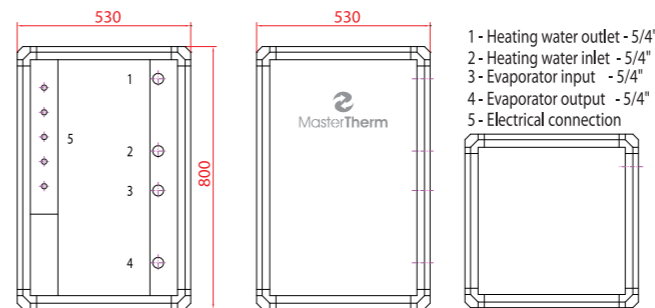
### Heat pump connected to a buffer tank and 3wv to the domestic hot water cylinder (dhw) with desuperheater.

1-heat pump, 2-heating system, 3-expansion vessel, 4-buffer tank, 5-heating circulation pump, 6-dhw tank with coil, 7- dhw outlet, 8-3way valve, 9-desuperheater circulation pump

Heat pump (1) connected to the heating system through a buffer tank (4) which has the function of thermal buffer and a low loss header. Heating water temperature is controlled according to a weather compensation curve. The flow to the heating system is controlled by the main heating circulation pump. Production of hot water is a priority over the heating system by switching the 3wv (8) to the dhw tank (6). The heat pump increases the outlet water temperature until the requested dhw temperature is achieved, once achieved the heat pump switches the 3wv back to heating operation. When dhw requested temperature is achieved the heat pump controller moves 3wv back to heating operation. The desuperheater (optional equipment) is an additional exchanger which harvests high potential energy from compressor outlet. An independent circuit with circulator pump (9) is used for high efficiency dhw preparation during heating mode.



### Dimensions and connections: AQ17I

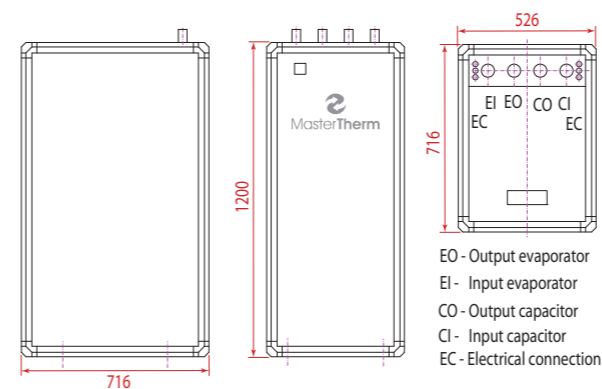


Model AQ22I to AQ60I

Model AQ17I



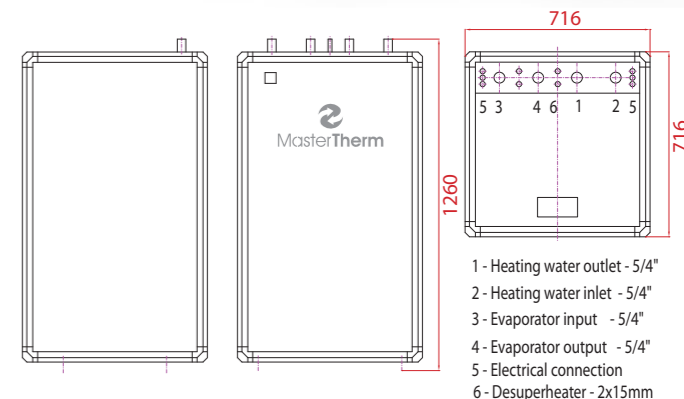
### Dimensions and connections: AQ22I – AQ60I:



Model AQ90I



### Dimensions and connections: AQ90I



### Options

Internet HP control Master

Full Cooling reversing

Passive Cooling module (for models: 22I-45I)

Terminal pAD temperature compensation

Terminal pADh floor cooling

Desuperheater

AQ Electric heater 4,5 kW / 6,0 kW / 7,5 kW

Expanded control module for PLUS version

Water to water version

Internal unit (silver or red colour)

RAL 9006

RAL 3020

### Standard equipment

✓ Integrated graphic terminal PGD

✓ Variable output Inverter Compressor

✓ Equitherm control system MaR

✓ Electronically controlled coolant injection

✓ Main power supply switch

✓ Built-in circulator pumps for primary and secondary circuits

### Features

▶ Use for heating and cooling

▶ Continuous control of heating power

▶ Brine pump speed control

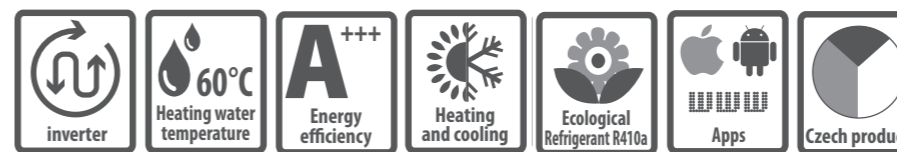
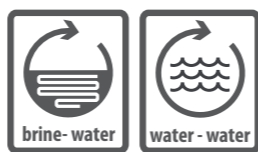
▶ The temperature of heating water to 60 °C

▶ Water / water version on request

▶ Quiet operation, No buffer tank required

▶ Control up to 6 heating circuits

# AquaMaster Inverter Combi



brine to water, water to water, inverter, built-in stainless steel tray 170 l

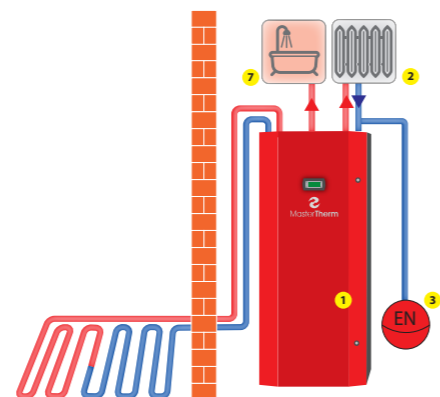
Model	B0W35		B0W35 <sup>1)</sup>		W10W35		Seasonal heating energy efficiency - low-temperature operation 35°C				Seasonal heating energy efficiency - medium-temperature operation 55°C				Circuit breaker <sup>2)</sup>		Compressor, supply voltage 3ph/1ph	Weight (kg)	Leakage control of refrigerant circuit EP 517/2014
	Power kW	Power kW	COP	Power kW <sup>3)</sup>	COP	Power kW	SCOP	ηs %	Class	Power kW <sup>3)</sup>	SCOP	ηs %	Class	3 phase units	1 phase units				
<b>AquaMaster Inverter 17IC</b>	1-5	2,95	4,3	3,79	5,51	5	4,65	179	A+++	4	3,53	133	A++	1x20 A"B"	20A"B"	1x230/1x230 V~	270	no	
<b>AquaMaster Inverter 22IC</b>	2-7	4,4	4,5	5,8	5,9	7	4,61	177	A+++	6	3,53	133	A++	1x20 A"B"	20A"B"	1x230/1x230 V~	270	no	
<b>AquaMaster Inverter 26IC</b>	3-9	7,6	4,5	10,2	6,0	9	4,63	185	A+++	9	3,74	141	A++	1x20 A"B"	20A"B"	1x230/1x230 V~	270	no	
<b>AquaMaster Inverter 30IC</b>	4-12	7,9	4,6	10,3	6,1	11	4,85	186	A+++	11	3,78	143	A++	1x25 A"B"	25A"B"	1x230/1x230 V~	275	no	
<b>AquaMaster Inverter 37IC</b>	5-15	10,5	4,7	14,2	6,3	15	5,00	193	A+++	14	3,94	149	A++	3x20 A"B"	32A"B"	3x400/1x230 V~	280	no	

<sup>1)</sup> Performance data according to ČSN EN 14 511, in accordance with the EHPA requirements for quality mark Q. B0W35 60Hz - antifreeze mixture 0 °C, water 35 °C, compressor frequency 60Hz  
<sup>2)</sup> Recommended value of el. 3x400V fuse with basic equipment incl. Electric boiler. The 22IC and 30 ICs can also be connected to a 1x230V grid with 40A "B" [22IC] 50A "B" [30IC]  
<sup>3)</sup> Design power at outdoor temperature -10 °C according to ČSN EN 14 825.

## Heat pump connected directly to the heating system with in-built 170l dhw cylinder.

1-heat pump, 2-heating system, 3-expansion vessel, 7-dhw outlet

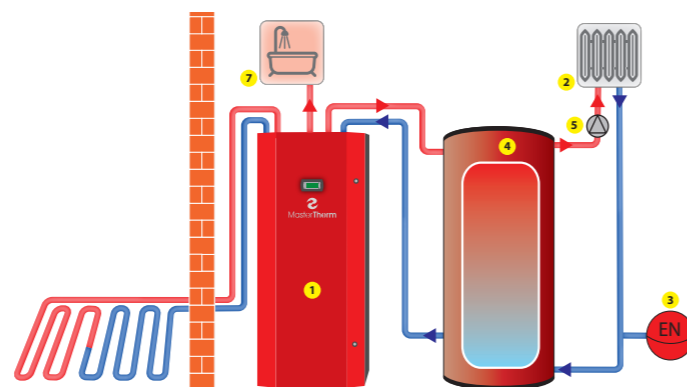
The heat pump (1) is directly connected to heating system. Heating water temperature is controlled according to a weather compensation curve. Production of hot water is a priority over the heating system and is prepared via the internal cylinder. This type of system is ideally suited to underfloor heating systems (ufh) but also systems with radiators with a large volume of heating water utilising our pAD room terminal. This solution limits the possibility of local zone control (independent loop ufh, thermostatic valves on radiators).



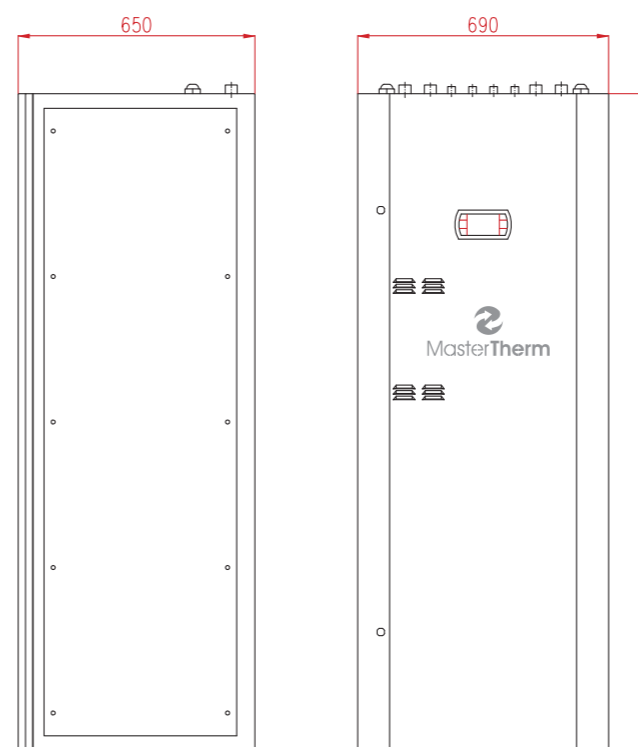
## Heat pump connected to a buffer tank with in-built 170l dhw cylinder .

1-heat pump, 2-heating system, 3-expansion vessel, 4- buffer tank, 5- heating circulation pump, 7-dhw outlet

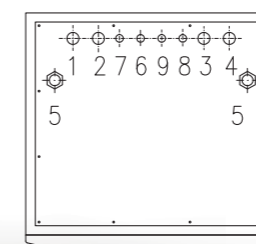
Heat pump (1) connected to the heating system through a buffer tank (4) which has the function of thermal buffer and a low loss header. Heating water temperature is controlled according to a weather compensation curve. The flow to the heating system is controlled by the main heating circulation pump. Production of hot water is a priority over the heating system and is prepared via the internal cylinder. This solution is ideally suited to systems with low heat buffering capacity and systems that require independent room zone control. Additionally, this type of system has the ability to integrate a secondary source of heat into the buffer tank (4) such as a wood stove with back boiler.



## Dimensions and connections:



- 1 - Water / Mix Input
- 2 - Water / Mix Output
- 3 - Heating water outlet
- 4 - Heating water inlet
- 5 - Electrical connection
- 6 - HW Input
- 7 - HW Output
- 8 - CW Input
- 9 - CW Output



Heating circuits control	STANDARD (μPC)	PLUS (pCO5)
Intended for	single-circuit heating systems	multi-circuit heating systems
Main heating circuit	Yes	Yes
Secondary heating circuit	No	2 independent including mixing
Room temperature	In 1 zone	In 2 zones
SHW	Yes	Yes
Optional	No	Up to 6 heating circuits

## Options

Internet HP control Master

Passive Cooling module

Terminal pAD temperature compensation

Terminal pADh floor cooling

Expanded control module for PLUS version

Internal unit (silver or red colour)

RAL 9006

RAL 3020

## Standard equipment

- ✓ Stainless steel tray with a capacity of 170 l with integrated solar exchanger
- ✓ Integrated graphic terminal PGD
- ✓ Special compressor with variable speed control
- ✓ Equitherm control system MaR
- ✓ Electronically controlled coolant injection
- ✓ Electric boiler 4,5 kW
- ✓ Main power supply switch

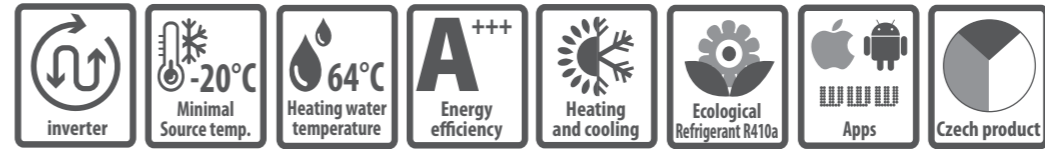
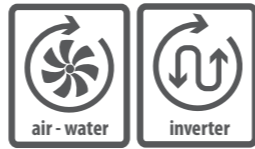
## Features

- ▶ Use for heating and cooling
- ▶ Continuous control of heating power
- ▶ High efficiency hot water heating, heating water temperature up to 60 °C
- ▶ Heating system on 0,5 m<sup>2</sup>
- ▶ Quiet operation
- ▶ No buffer tank required
- ▶ Control up to 6 heating circuits



# HEAT PUMPS

## FOR LARGE OBJECTS



Model	A7W35		A7W35		A2W35		A-7W35		A-15W35		Seasonal heating energy efficiency - low-temperature operation 35°C				Seasonal heating energy efficiency - medium-temperature operation 55°C				Max. heating water temperature (°C)	Circuit breaker <sup>2)</sup>	Compressor, supply voltage 3ph/1ph	Weight (kg)	Leakage control of refrigerant circuit EP 517/2014		
	Power kW	Heat loss Qz (kW)	Power kW	COP	Power kW	COP	Power kW	COP	Power kW	COP	Power kW <sup>3)</sup>	SCOP	ηs %	Class	Power kW <sup>3)</sup>	SCOP	ηs %	Class							
<b>BoxAir Inverter (compact, inverter)</b>			60 Hz		60 Hz		80 Hz		90 Hz																
<b>BA60I</b>	10-35	to 28	22,3	4,84	15,8	3,65	18,1	2,98	19,2	2,65	22	4,47	176	A+++	24	3,42	134	A++	64	40"A"	3x400 V~	275	yes		
<b>BoxAir Inverter Split (split, inverter)</b>			60 Hz		60 Hz		80 Hz		90 Hz																
<b>BA60IS</b>	10-35	to 28	22,3	4,84	15,8	3,65	18,1	2,98	19,2	2,65	22	4,47	176	A+++	24	3,42	134	A++	64	40"A"	3x400 V~	200+80	yes		
<b>BoxAir (compact, on-off)</b>																									
<b>BA75Z</b>	30,8	to 31	30,8	4,0	23,2	3,2	18,5	2,6			31	3,61	141	A+	30	2,92	114	A+	55	25"A"	3x400 V~	275	yes		
<b>EasyMaster (split, on-off)</b>																									
<b>EM60Z</b>	24,6	to 25	24,6	4,1	18,8	3,2	15,0	2,7			25	3,56	140	A+	24	2,86	111	A+	55	25"A"	3x400 V~	200+80	yes		
<b>EM75Z</b>	30,8	to 31	30,8	4,0	23,2	3,2	18,5	2,6			31	3,61	141	A+	30	2,92	114	A+	55	25"A"	3x400 V~	200+80	yes		

<sup>1)</sup> Performance data according to ČSN EN 14 511, in accordance with the EHPA requirements for quality mark Q. A7W35 60 Hz - air 7 °C, water 35 °C, compressor frequency 60 Hz

<sup>2)</sup> Recommended value of el. 3x400V fuse, incl. Auxiliary integrated electric boiler.

<sup>3)</sup> Design power at outdoor temperature -10 °C according to ČSN EN 14 825.

### Options

- Internet HP control Master
- Full Cooling reversing
- Terminal pAD temperature compensation
- Terminal pADh floor cooling
- Expanded control module
- Cascade control Master Lan
- Communication protocol ModBUS RTU
- Internal unit (silver or red colour)
- External unit (silver)
- External unit colour on demand RAL code
- for models EM60Z, EM75Z and BA60IS:**
- Ext.electric heater 7,5+7,5 kW
- Ext.electric heater 12+18 kW
- Desuperheater
- Modification to IndoorSplit

### Standard equipment

- ✓ Electric boiler 6+6 kW (for model BA60I and BA75Z)
- ✓ Integrated graphic terminal PGD
- ✓ Electronically controlled coolant injection
- ✓ Equitherm control system MaR
- ✓ New low-noise fan
- ✓ Built-in circulator pumps for primary and secondary circuits
- ✓ Main power supply switch

### Features

- ▶ Use for heating and cooling
- ▶ The temperature of heating water to 55 °C (64 °C)
- ▶ Temperatures range from +40 °C do -20 °C
- ▶ Very easy installation, quiet operation
- ▶ Control up to 6 heating circuits

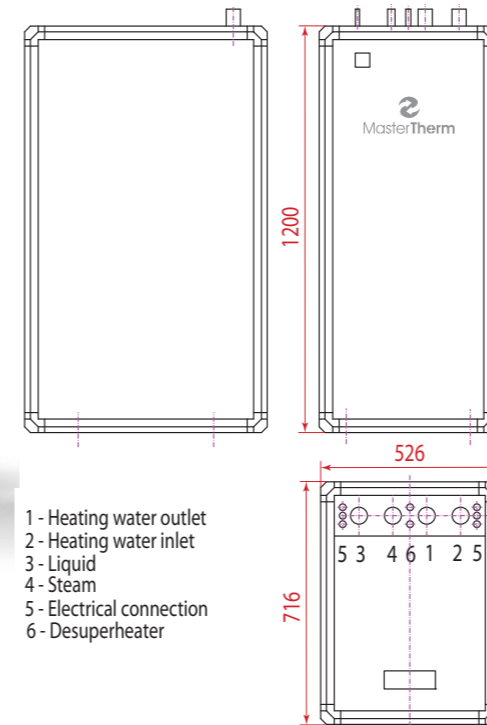


BA60IS, EM60Z-75Z (split)



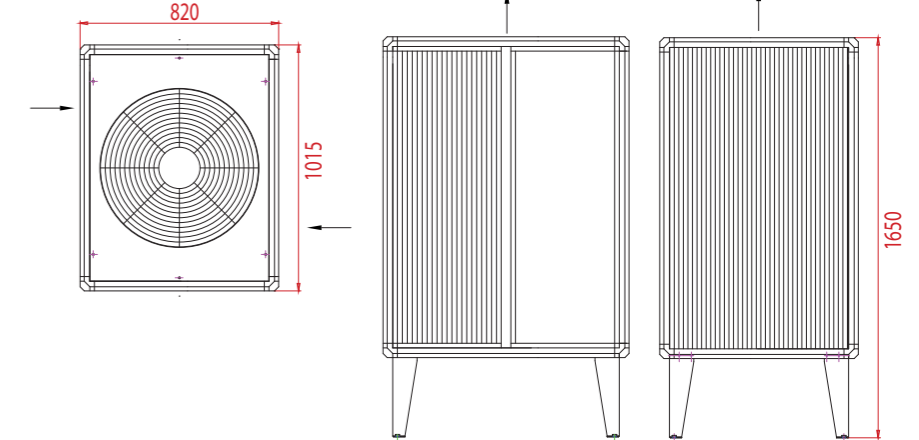
BA60I, BA75Z (compact)

Internal unit BA60IS, EM60Z and EM75Z:

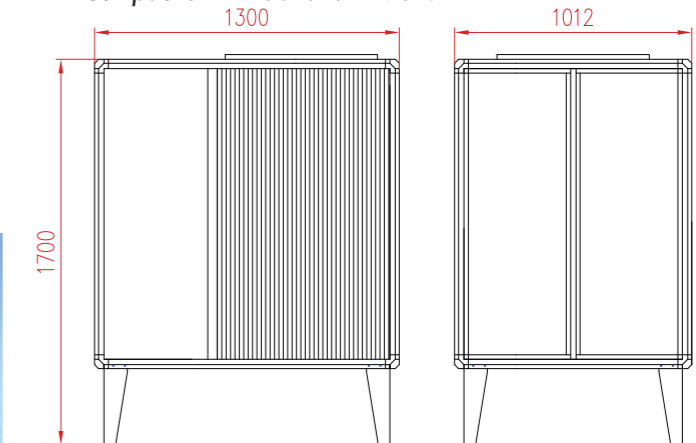


- 1 - Heating water outlet
- 2 - Heating water inlet
- 3 - Liquid
- 4 - Steam
- 5 - Electrical connection
- 6 - Desuperheater

External unit BA60IS, EM60Z and EM75Z:



Compact unit BA60I and BA75Z:



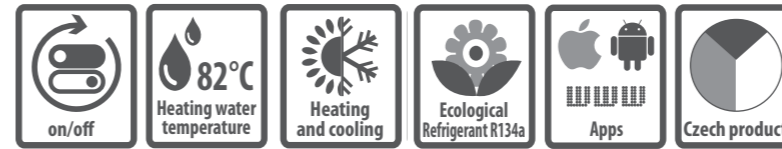
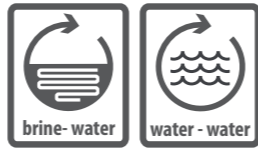
- 1 - Heating water outlet
- 2 - Heating water inlet
- 3 - Electrical connection





# AQ ZHX

FOR COOLING AND HEAT RECOVERY



Model	B0W35		W10/W35		W40/W65		Max. heating water temperature (°C)	Circuit breaker	Compressor	Refrigerant	Weight (kg)	Leakage control of refrigerant circuit EP 517/2014
	Power kW	COP	Power kW	COP	Power kW	COP						
<b>AQ40ZHX</b>	13,80	3,94	<b>19,62</b>	<b>5,57</b>	38,56	5,92	<b>82</b>	3x20A"C"	scroll 3x400V	R134a 4,2kg	230	no
<b>AQ50ZHX</b>	18,59	4,19	<b>26,1</b>	<b>5,82</b>	51,30	6,19	<b>82</b>	3x25A"C"	scroll 3x400V	R134a 4,4kg	230	no
<b>AQ60ZHX</b>	23,39	4,09	<b>32,91</b>	<b>5,61</b>	63,58	5,76	<b>82</b>	3x32A"C"	scroll 3x400V	R134a 4,4kg	230	no
<b>AQ75ZHX</b>	28,24	4,13	<b>39,47</b>	<b>5,67</b>	76,31	5,86	<b>82</b>	3x40A"C"	scroll 3x400V	R134a 6,0kg	400	no
<b>AQ100.ZZHX</b>	37,18	4,09	<b>52,21</b>	<b>5,69</b>	96,78	5,78	<b>82</b>	3x50A"C"	scroll 3x400V	R134a 10kg	400	yes

## Options

- Internet HP control Master
- Desuperheater
- Expanded control module
- Silver or red colour

RAL 9006

RAL 3020

## Standard equipment

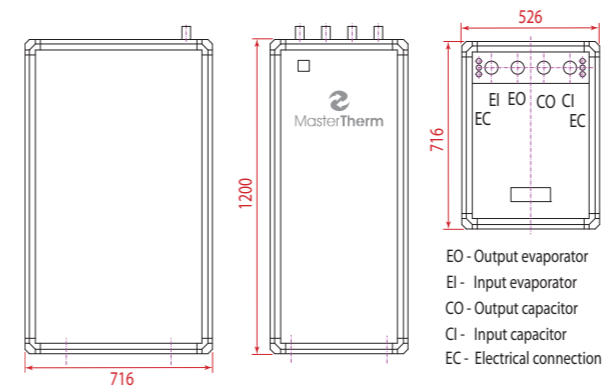
- ✓ Built-in immersion heater and circulation pump
- ✓ Cascade control Master Lan
- ✓ Graphic terminal PGD
- ✓ Electronically controlled coolant injection
- ✓ Communication protocol ModBUS RTU

## Features

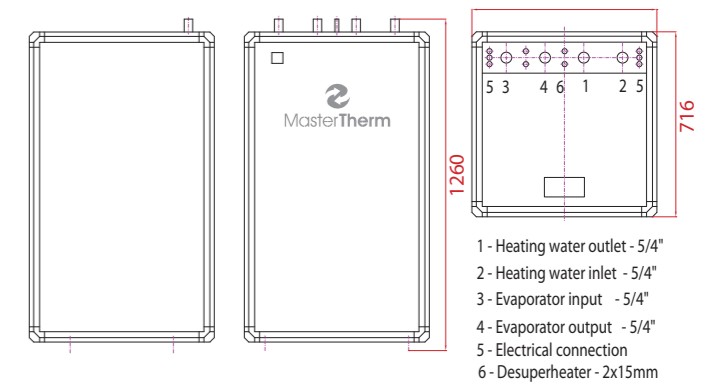
- ▶ The temperature of heating water to 82 °C
- ▶ The temperature of source water 45 °C
- ▶ Very easy installation
- ▶ Quiet operation



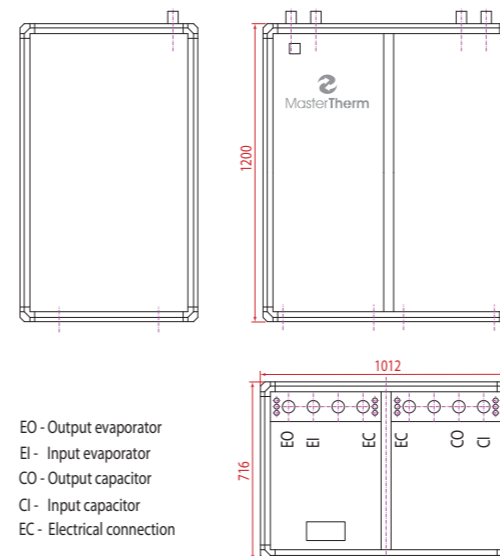
Dimensions and connections: AQ40ZHX – AQ50ZHX



Dimensions and connections: AQ60ZHX



Dimensions and connections: AQ75ZHX – AQ100ZHX





# Why MasterTherm

## Tradition - since 1994

- traditional and largest Czech producer
- more than 10,000 heat pumps sold in more than 20 European countries
- in-house research, development and production

## Innovation for future

- progressive electronic coolant injection technologies (EEV)
- inverter compressors, "desuperheater" for heating of hot water
- active and passive cooling
- control and monitoring via the internet
- application for iOS and Android

**Download app from the App Store or Google Play (Android Market).**  
Enter the following information in the Connection tab. Name: demo | Password: mt-demo

## Durability of design

- high reliability and long lifespan thanks to the robust and practical design
- components from renowned suppliers: Copeland, LG, Sanyo, Carel, SWEP, Lloyd, Ziehl-Abegg, EBM Papst, Halm etc.
- decreased operational stress: superior design of exchangers, high quality regulation and protection system

## System solutions

- designed and equipped as a heating system, not merely as a heat source
- regulation allows for control of spatial heat in individual zones
- everything needed is included in the price of the equipment,
- simple and reliable installation

## Seriousness

- truthful and complete information
- responsible approach to customers
- long-term company strategy based on quality of services



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HEAT PUMPS

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