



MasterTherm

HEAT PUMPS

Catalogue

2020/2021

www.mastertherm.co.uk



Box**Air** Inverter

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

Inverter Split Combi

AquaMaster **Aqua**Master

Inverter **Aqua**Master

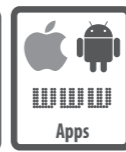
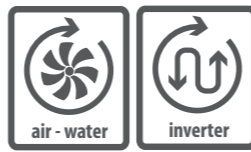
Inverter Combi HP **for**

large buildings AQZHX



BoxAir Inverter

NEW DESIGN



air to water, compact, inverter

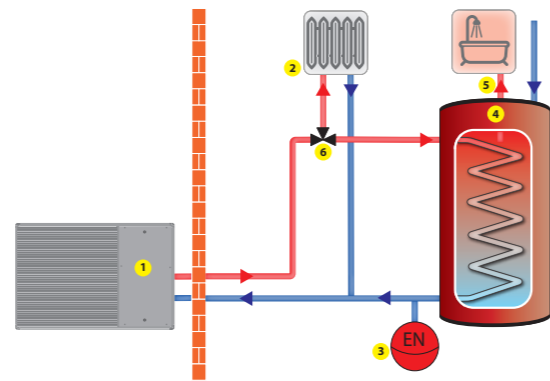
Model	A7W35	Heat loss Qz (kW)	A7W35 60Hz ¹⁾		A2W35 60Hz		A-7W35 80Hz		A-15W35 90Hz		Seasonal heating energy efficiency - low-temperature operation 35°C				Seasonal heating energy efficiency - medium-temperature operation 55°C				Circuit breaker ²⁾		Compressor, supply voltage 3ph/1ph	Weight (kg)	Leakage 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) ³⁾	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	4,47	169	A+++	13	3,42	130	A++	32A"B"	32A"B"	3x400/1x230 V~	165	no

¹⁾ 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
²⁾ 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).
³⁾ Design power at outdoor temperature -10 °C according to ČSN EN 14 825.

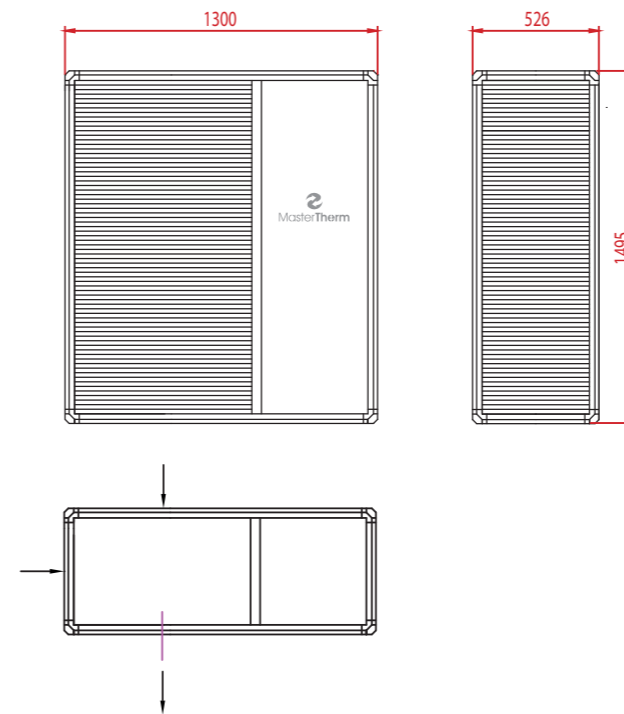
Heat pump connected directly to the heating system with 3wv for domestic hot water (dhw) preparation.

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

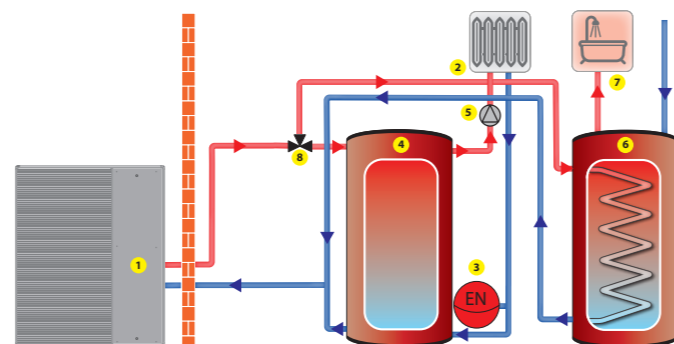
▶ Very easy installation, quiet operation

▶ Control up to 6 heating circuits

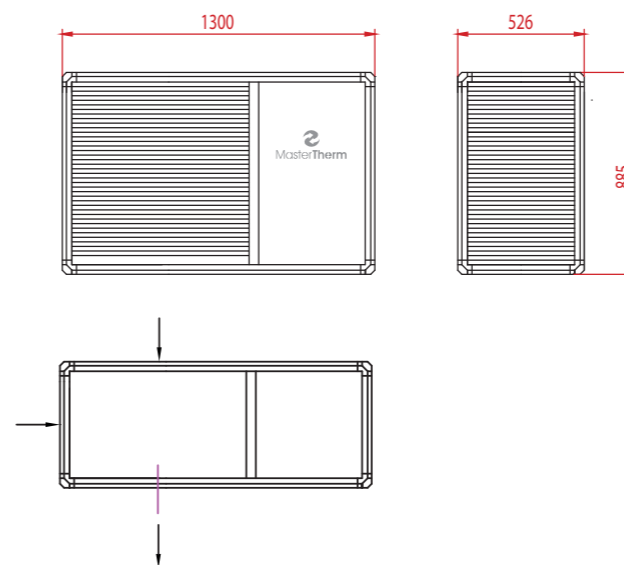
Heat pump connected to a buffer tank and 3wv to the domestic hot water cylinder (dhw)

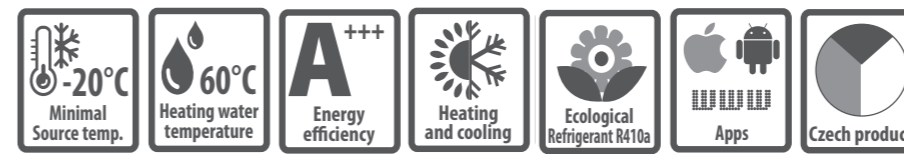
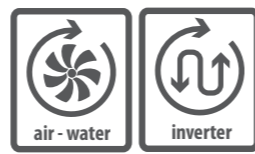
1-heat pump, 2-heating system, 3-expansion vessel, 4-buffer tank, 5-heating circulator pump, 6-dhw tank with coil, 7- dhw outlet, 8-3way valve

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 ¹⁾		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 ²⁾		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			
BoxAir-22IS	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
BoxAir-26IS	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																							
BoxAir-37IS	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
BoxAir-45IS	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																							

¹⁾ 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
²⁾ 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).
³⁾ 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

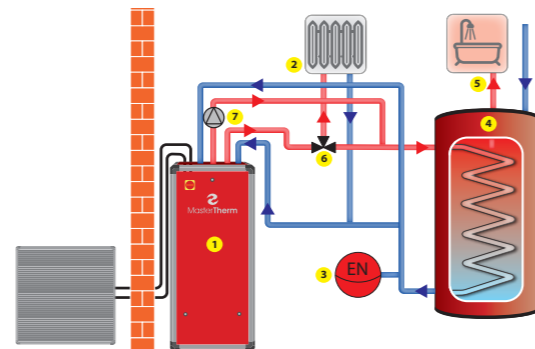
Features

- ▶ 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

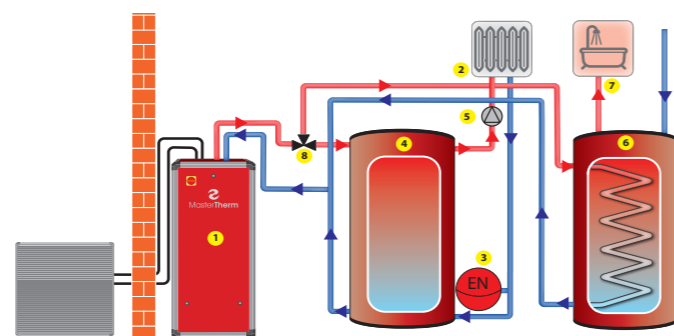
The heat pump (1) is directly connected to heating system. Heating water temperature is controlled according to a weather compensation curve. Production of hot water is a priority over the heating system by switching the 3wv (6) to the dhw tank (4). The heat pump increases the outlet water temperature 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).



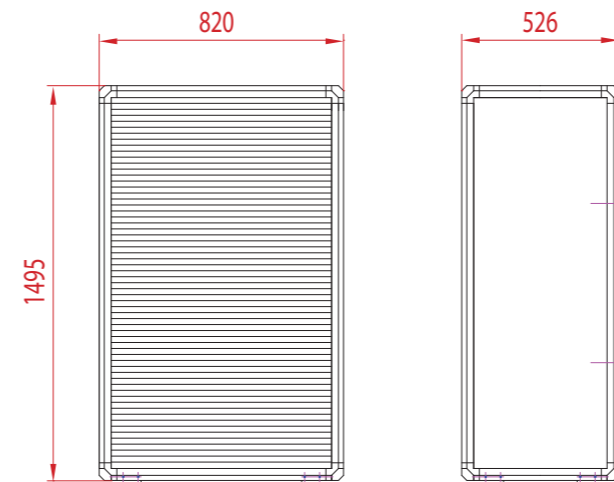
Heat pump connected to a buffer tank and 3wv to the domestic hot water cylinder (dhw)

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

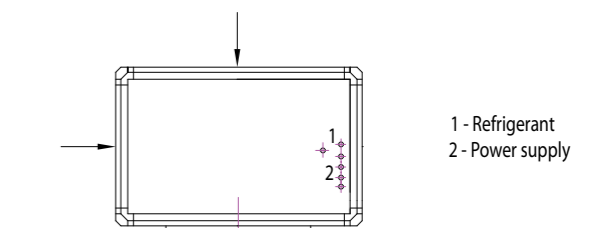
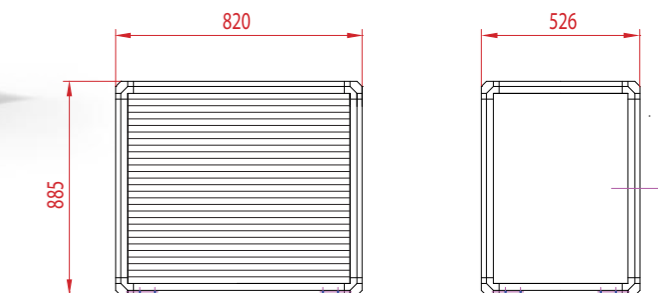
The heat pump (1) is directly connected to heating system. Heating water temperature is controlled according to a weather compensation curve. Production of hot water is a priority over the heating system by switching the 3wv (6) to the dhw tank (4). The heat pump increases the outlet water temperature 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.



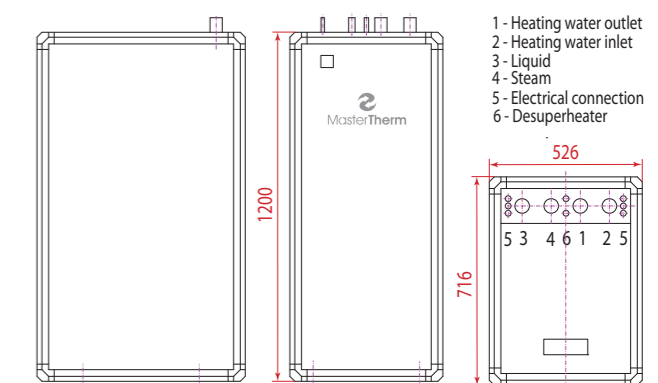
External unit BA37IS and 45IS:



External unit BA22IS and 26IS:



Internal unit:

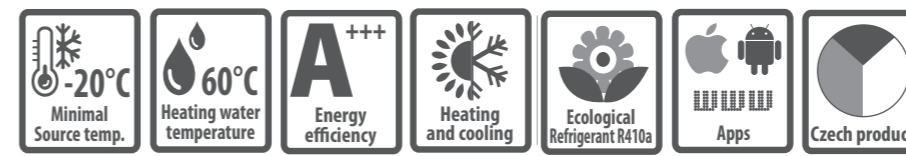
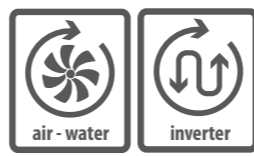


Heating circuits control	PLUS (pCO5)
Intended for	multi-circuit heating systems
Main heating circuit	Yes
Secondary heating circuit	2 independent including mixing
Room temperature	In 2 zones
SHW	Yes
Optional	Up to 6 heating circuits

1 - Refrigerant
2 - Power supply

1 - Refrigerant
2 - Power supply

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



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

Model	A7W35		A7W35 60Hz ¹⁾		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 ²⁾		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) ³⁾	SCOP	ηs %	Class	3 phase units	1 phase units				
BoxAir-22ISC	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	
BoxAir-26ISC	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	
BoxAir-37ISC	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	

¹⁾ 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
²⁾ 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).
³⁾ 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

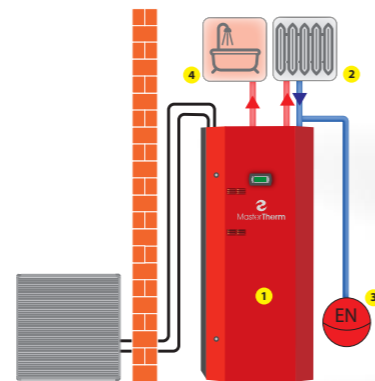
Features

- ▶ 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

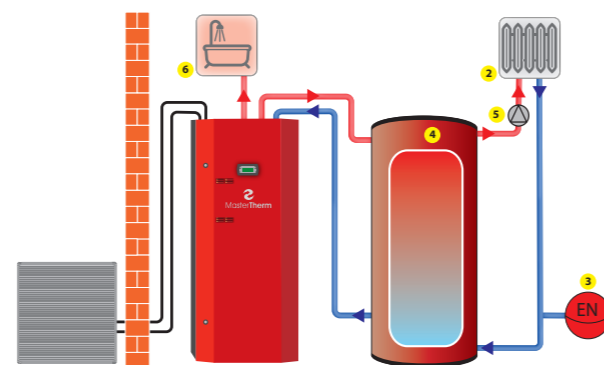
The heat pump (1) is directly connected to heating system. Heating water temperature is controlled according to a weather compensation curve. Production of hot water is a priority over the heating system and is prepared via the internal cylinder. This type of system is ideally suited to underfloor heating 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).



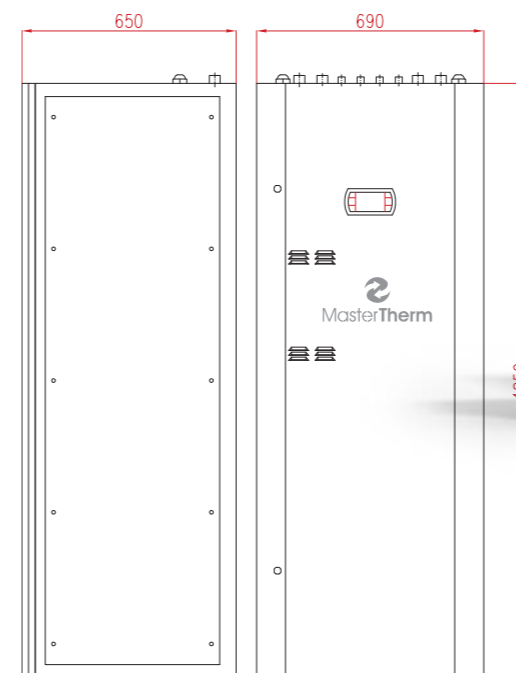
Heat pump connected to a buffer tank with in-built 170l dhw cylinder

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

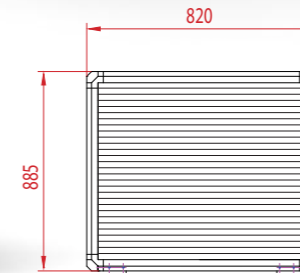
Heat pump (1) connected to the heating system through a buffer tank (4) which has the function of thermal buffer and a low loss header. Heating water temperature is controlled according to a weather compensation curve. The flow to the heating system is controlled by the main heating circulation pump. 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.



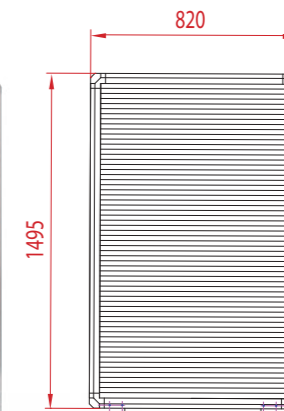
Internal unit:



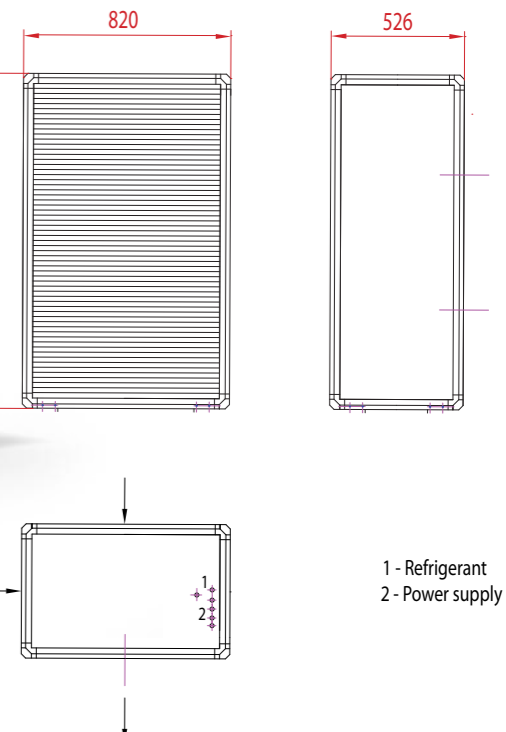
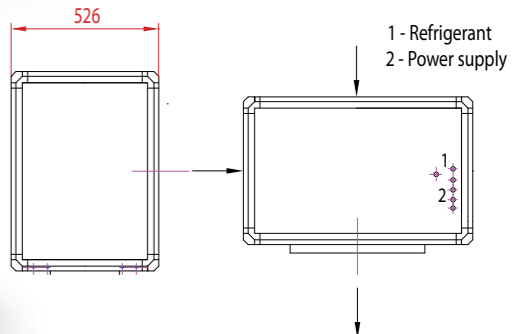
External unit: BA22ISC and BA26ISC



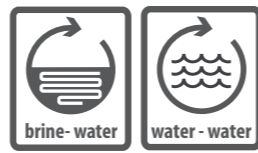
External unit: BA37ISC



Heating circuits control	PLUS (pCO5)
Intended for	multi-circuit heating systems
Main heating circuit	Yes
Secondary heating circuit	2 independent including mixing
Room temperature	In 2 zones
SHW	Yes
Optional	Up to 6 heating circuits



AquaMaster



brine to water, water to water, on-off

Model	B0W35 ¹⁾		W10W35		Seasonal heating energy efficiency - low-temperature operation 35°C				Seasonal heating energy efficiency - medium-temperature operation 55°C				Circuit breaker ²⁾		Compressor, supply voltage 3ph/1ph	Weight (kg)	Leakage control of refrigerant circuit EP 517/2014
	Power (kW)	COP	Power (kW)	COP	Power (kW) ³⁾	SCOP	ηs %	Class	Power (kW) ³⁾	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

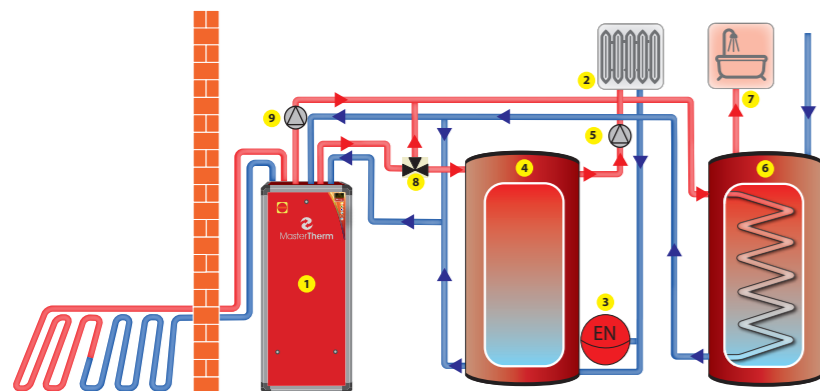
Features

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

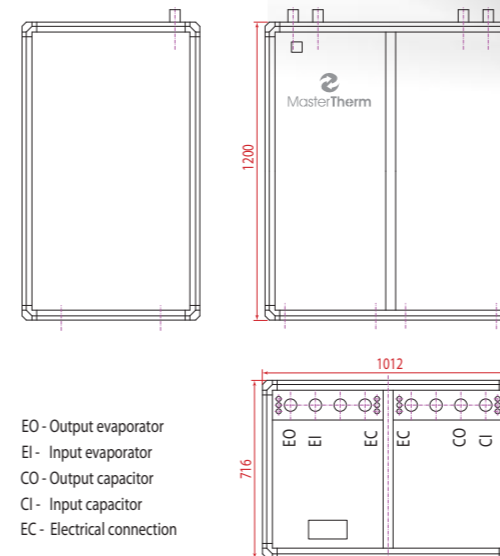
Heat pump connected to a buffer tank and 3wv to the domestic hot water cylinder (dhw) with desuperheater.

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.



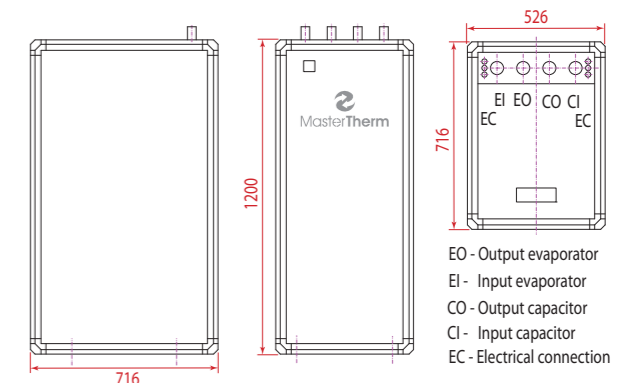
Dimensions and connections: 120.2Z – 180.2Z



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



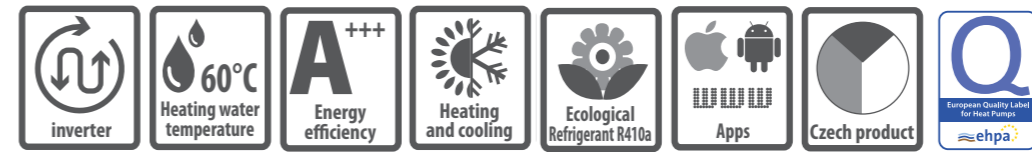
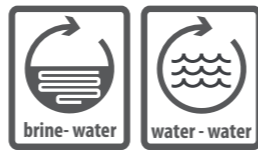
Dimensions and connections: 22Z – 90Z



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

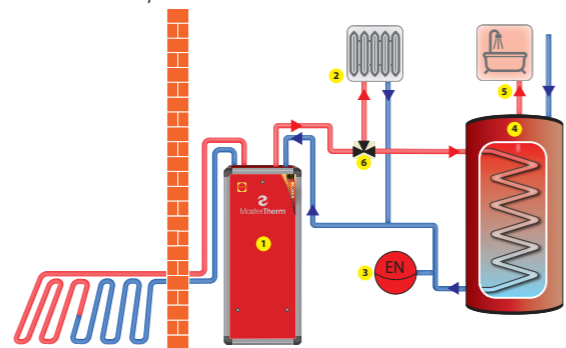
Model	B0W35		B0W35 ¹⁾		W10W35		Seasonal heating energy efficiency - low-temperature operation 35°C				Seasonal heating energy efficiency - medium-temperature operation 55°C				Circuit breaker ²⁾		Compressor, supply voltage 3ph/1ph	Weight (kg)	Leakage control of refrigerant circuit EP 517/2014
	Power kW	Power kW	COP	Power kW	COP	Power kW ⁴⁾	SCOP	ηs %	Class	Power kW ⁴⁾	SCOP	ηs %	Class	3 phase units	1 phase units				
AquaMaster Inverter-17I	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	
AquaMaster Inverter-22I	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	
AquaMaster Inverter-26I	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	
AquaMaster Inverter-30I	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	
AquaMaster Inverter-37I	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	
AquaMaster Inverter-45I	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	
AquaMaster Inverter-60I	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	
AquaMaster Inverter-90I	10-48	31,3 ³⁾	4,6	41,2 ³⁾	5,9	44	4,87	187	A+++	43	3,87	147	A++	3x 40 A"B"	-	3x400 V~	200	no	

¹⁾ 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
²⁾ Recommended value of el. Safety in basic equipment, without auxiliary electric boiler
³⁾ Data for 90I at 90 Hz
⁴⁾ 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

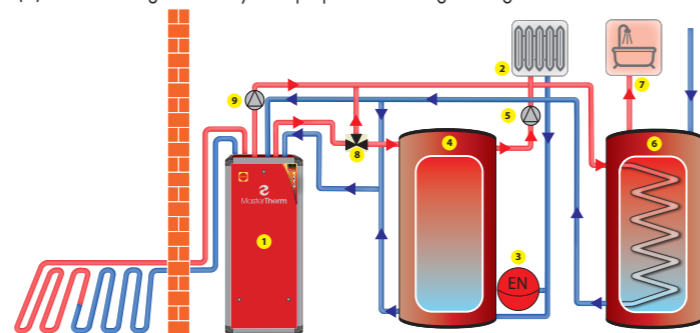
The heat pump (1) is directly connected to heating system. Heating water temperature is controlled according to a weather compensation curve. Production of hot water is a priority over the heating system by switching the 3wv (6) to the dhw tank (4). The heat pump increases the outlet water temperature 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).



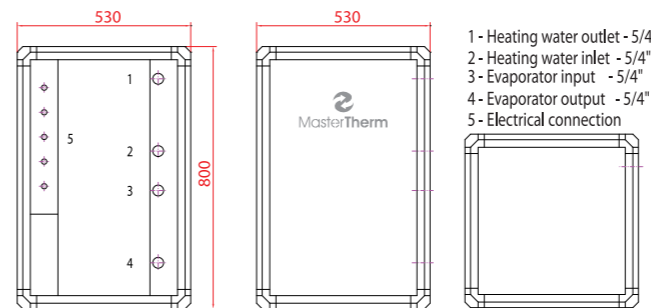
Heat pump connected to a buffer tank and 3wv to the domestic hot water cylinder (dhw) with desuperheater.

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 AQ17I



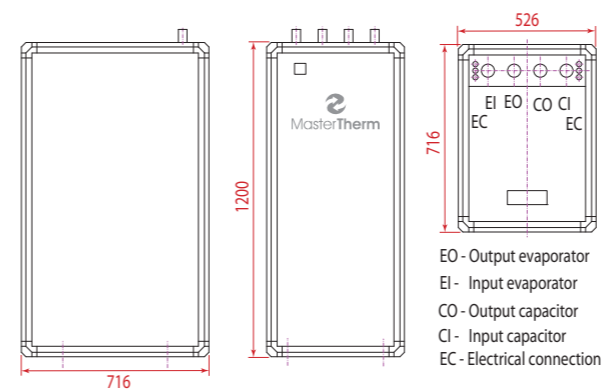
Model AQ22I to AQ60I



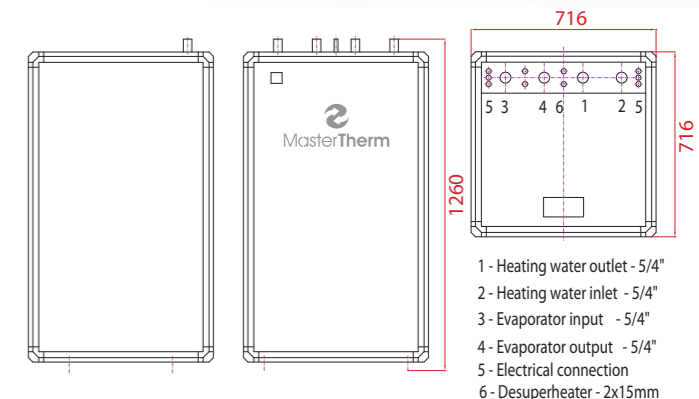
Model AQ90I



Dimensions and connections: AQ22I – AQ60I:



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

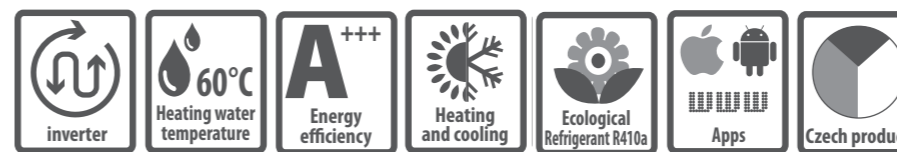
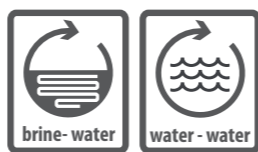
▶ The temperature of heating water to 60 °C

▶ 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

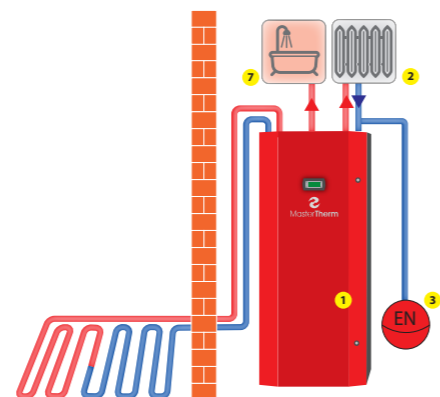
Model	B0W35		B0W35 ¹⁾		W10W35		Seasonal heating energy efficiency - low-temperature operation 35°C				Seasonal heating energy efficiency - medium-temperature operation 55°C				Circuit breaker ²⁾		Compressor, supply voltage 3ph/1ph	Weight (kg)	Leakage control of refrigerant circuit EP 517/2014
	Power kW	Power kW	COP	Power kW ³⁾	COP	Power kW	SCOP	ηs %	Class	Power kW ³⁾	SCOP	ηs %	Class	3 phase units	1 phase units				
AquaMaster Inverter 17IC	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	
AquaMaster Inverter 22IC	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	
AquaMaster Inverter 26IC	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	
AquaMaster Inverter 30IC	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	
AquaMaster Inverter 37IC	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	

¹⁾ 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
²⁾ 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]
³⁾ 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

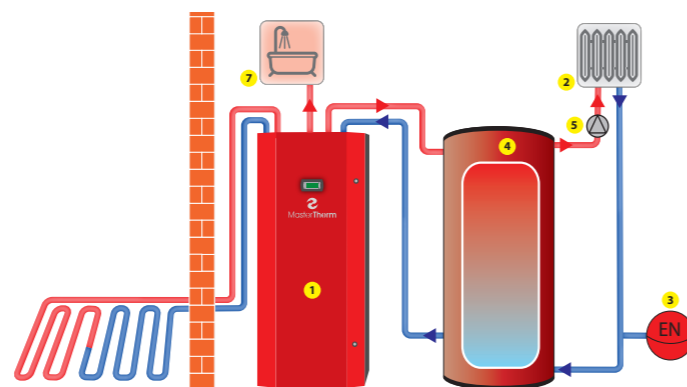
The heat pump (1) is directly connected to heating system. Heating water temperature is controlled according to a weather compensation curve. Production of hot water is a priority over the heating system and is prepared via the internal cylinder. This type of system is ideally suited to underfloor heating 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).



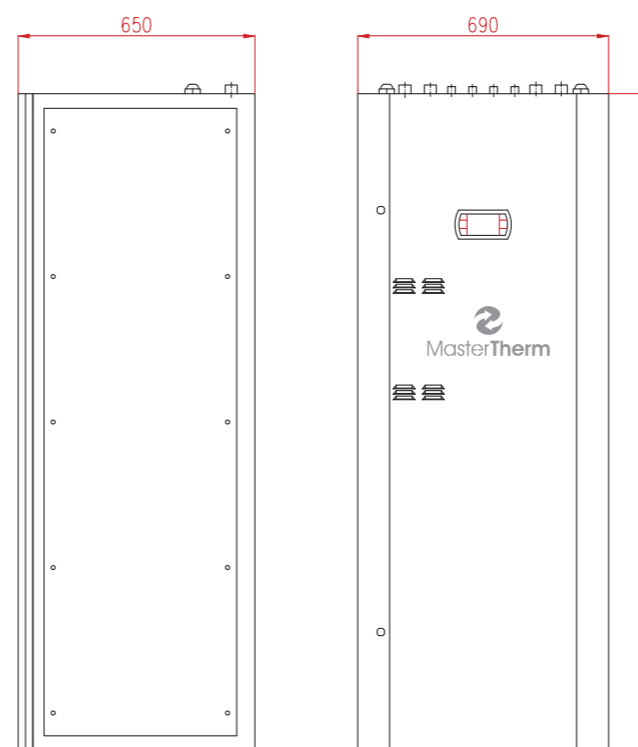
Heat pump connected to a buffer tank with in-built 170l dhw cylinder .

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

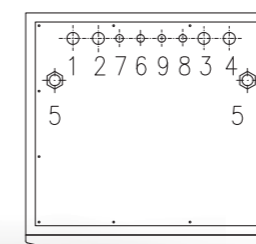
Heat pump (1) connected to the heating system through a buffer tank (4) which has the function of thermal buffer and a low loss header. Heating water temperature is controlled according to a weather compensation curve. The flow to the heating system is controlled by the main heating circulation pump. 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

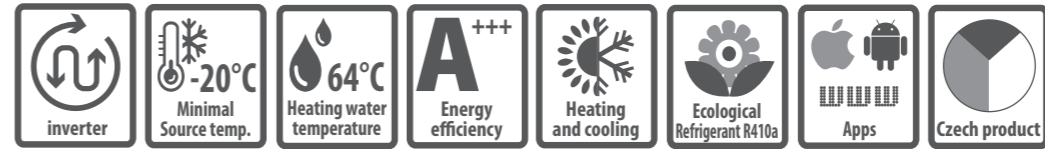
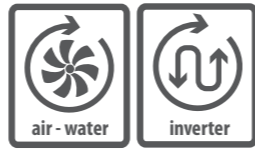
Features

- ▶ 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 m²
- ▶ 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 ²⁾	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 ³⁾	SCOP	ηs %	Class	Power kW ³⁾	SCOP	ηs %	Class						
BoxAir Inverter (compact, inverter)			60 Hz		60 Hz		80 Hz		90 Hz															
BA60I	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	
BoxAir Inverter Split (split, inverter)			60 Hz		60 Hz		80 Hz		90 Hz															
BA60IS	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	
BoxAir (compact, on-off)																								
BA75Z	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	
EasyMaster (split, on-off)																								
EM60Z	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	
EM75Z	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	

¹⁾ 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

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

³⁾ 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

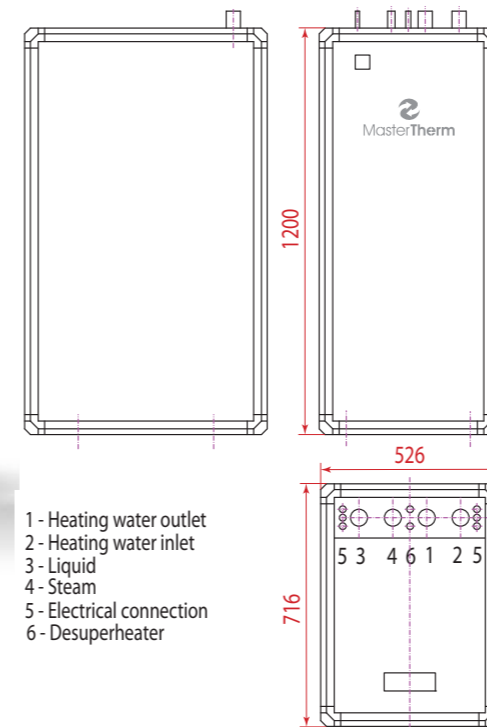


BA60IS, EM60Z-75Z (split)

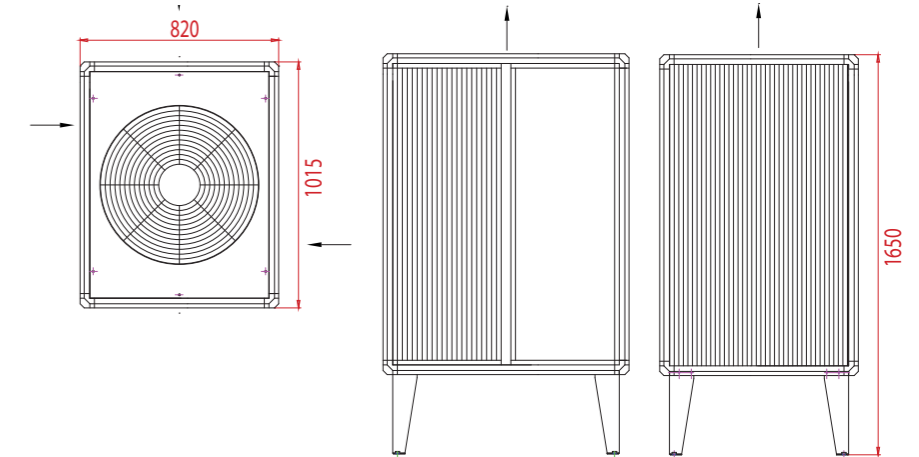


BA60I, BA75Z (compact)

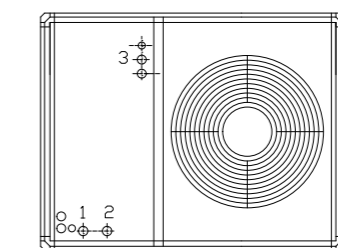
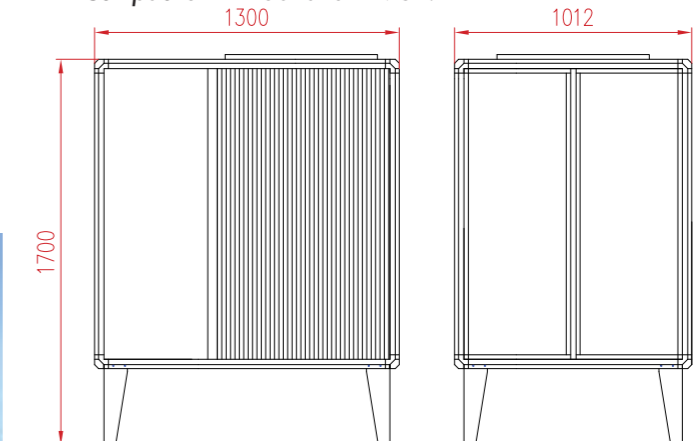
Internal unit BA60IS, EM60Z and EM75Z:



External unit BA60IS, EM60Z and EM75Z:

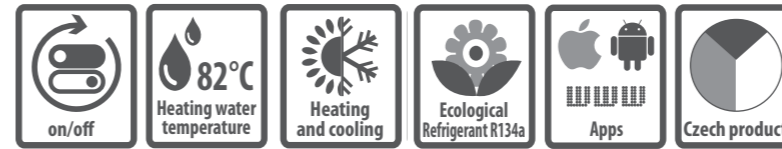
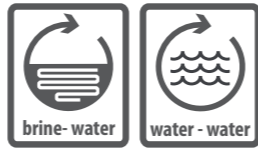


Compact unit BA60I and BA75Z:



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						
AQ40ZHX	13,80	3,94	19,62	5,57	38,56	5,92	82	3x20A"C"	scroll 3x400V	R134a 4,2kg	230	no
AQ50ZHX	18,59	4,19	26,1	5,82	51,30	6,19	82	3x25A"C"	scroll 3x400V	R134a 4,4kg	230	no
AQ60ZHX	23,39	4,09	32,91	5,61	63,58	5,76	82	3x32A"C"	scroll 3x400V	R134a 4,4kg	230	no
AQ75ZHX	28,24	4,13	39,47	5,67	76,31	5,86	82	3x40A"C"	scroll 3x400V	R134a 6,0kg	400	no
AQ100.ZZHX	37,18	4,09	52,21	5,69	96,78	5,78	82	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

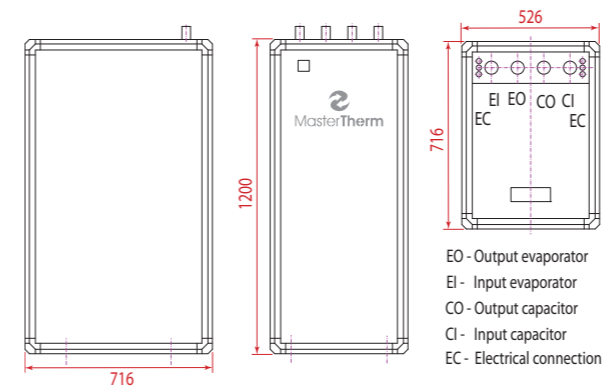
- ✓ Built-in immersion heater and circulation pump
- ✓ Cascade control Master Lan
- ✓ Graphic terminal PGD
- ✓ Electronically controlled coolant injection
- ✓ Communication protocol ModBUS RTU

Features

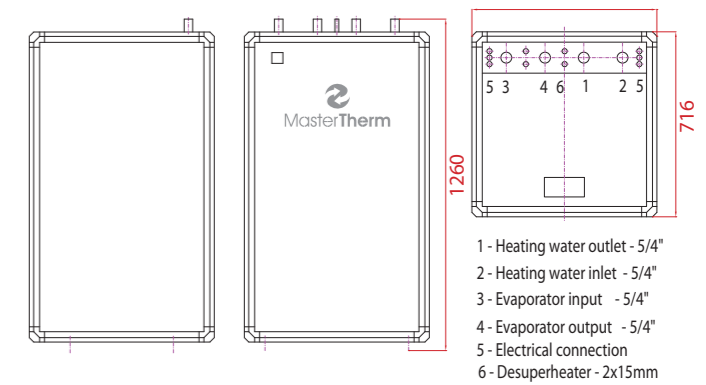
- ▶ The temperature of heating water to 82 °C
- ▶ The temperature of source water 45 °C
- ▶ Very easy installation
- ▶ Quiet operation



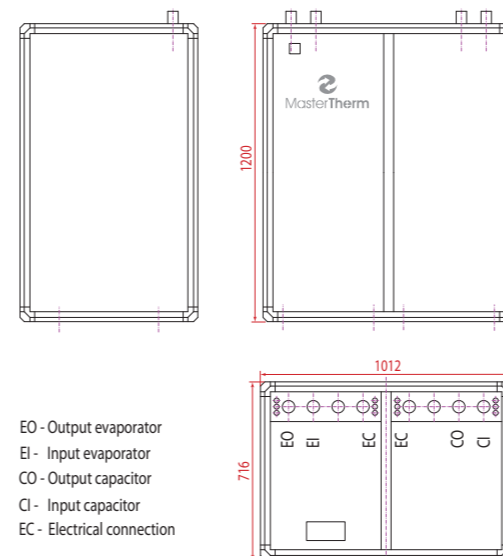
Dimensions and connections: AQ40ZHX – AQ50ZHX



Dimensions and connections: AQ60ZHX



Dimensions and connections: AQ75ZHX – AQ100ZHX



IndoorSplit

EVAPORATOR FOR INDOOR INSTALLATION
(AIR TO WATER)

Heat Pumps overview 2020/2021



Modification to IndoorSplit	
Designed for heat pumps	Suction / Discharge
BA22IS - 45IS, BA22ISC - 37ISC	1 x Ø 400 / 1 x Ø 400 mm
EM60Z a EM75Z	2 x Ø 400 / 2 x Ø 400 mm

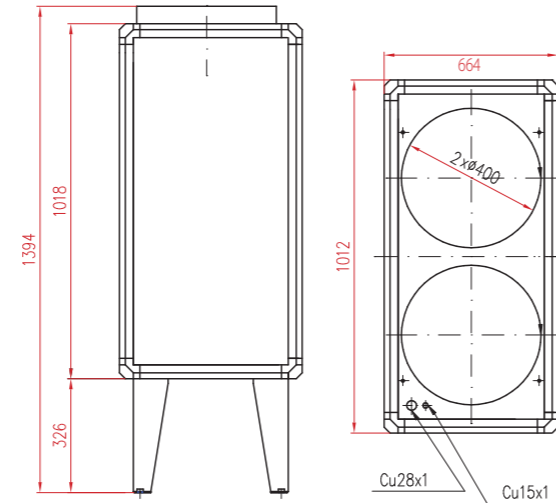
Options

- Grille outside the building, discharge
- Grille outside the building, suction
- Flexi pipe with vapor barrier 10 m, Ø 406 mm
- Metal sleeve to the pipe

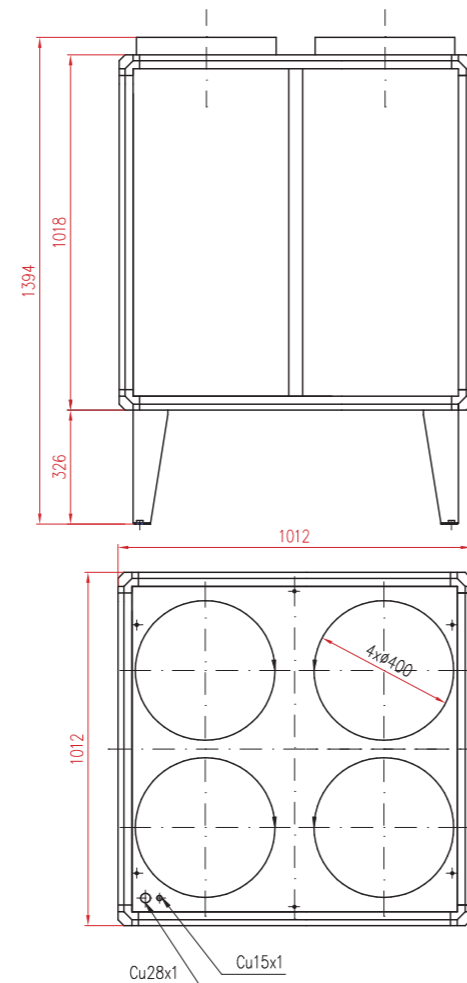
Features

- ▶ Split construction
- ▶ Very easy installation, quiet operation
- ▶ Rigid frame from anodized aluminum profile
- ▶ Distance between units up to 15 m
- ▶ Efficient use of space in smaller boiler rooms
- ▶ Doesn't affect the external appearance of the building
- ▶ Absolute elimination of outside noise

Evaporator unit dimensions 1O2645VK



Evaporator unit dimensions 1O6075VK



Master Therm Heat Pump Model	Seasonal heating energy efficiency - low-temperature operation 35°C				Seasonal heating energy efficiency - medium-temperature operation 55°C				Leakage control of cooling circuits EP517/2014	Max. heating water temp. °C	Acoustic power level (Lw) dB"A"	Acoustic pressure level (Lp) external unit dB"A"		
	power (kW)	SCOP	ηs %	class	power (kW)	SCOP	ηs %	class				1m	5m	10m
BoxAir (air to water, compact, on-off)														
BA22Z	8	3,66	144	A+	8	3,00	117	A+	no	55	63	54	42	36
BA26Z	11	3,63	142	A+	10	2,84	111	A+	no	55	65	56	44	38
BA30Z	12	3,64	143	A+	12	2,86	111	A+	no	55	65	56	44	38
BA37Z	16	3,71	145	A+	15	2,97	116	A+	no	55	65	56	44	38
BA45Z	19	3,89	153	A++	18	3,08	120	A+	no	55	65	56	44	38
BA75Z	31	3,61	141	A+	30	2,92	114	A+	yes	55	69	60	48	42

BoxAir Inverter - models BA22I - BA45I WITH NEW DESIGN!!! (air to water, compact, inverter)														
BA22I	5	4,18	164	A++	4	3,22	126	A++	no	60	63	54	42	36
BA26I	7,5	4,4	173	A++	7	3,36	132	A++	no	60	65	56	44	38
BA30I	8,5	4,49	177	A+++	8	3,45	135	A++	no	60	65	56	44	38
BA37I	11	4,48	176	A+++	10	3,50	137	A++	no	60	65	56	44	38
BA45I	14	4,3	169	A++	13	3,32	130	A++	no	60	65	56	44	38
BA60I	22	4,47	176	A+++	24	3,42	134	A++	yes	64	69	60	48	42

BoxAir Inverter - models BA22I - BA45I WITH EXISTING DESIGN - DISCOUNTED PRICE (air to water, compact, inverter)														
BA22I	5	4,18	164	A++	4	3,22	126	A++	no	60	63	54	42	36
BA26I	7,5	4,4	173	A++	7	3,36	132	A++	no	60	65	56	44	38
BA30I	8,5	4,49	177	A+++	8	3,45	135	A++	no	60	65	56	44	38
BA37I	11	4,48	176	A+++	10	3,50	137	A++	no	60	65	56	44	38
BA45I	14	4,3	169	A++	13	3,32	130	A++	no	60	65	56	44	38

BoxAir Inverter Split (air to water, split, inverter, also indoor installation)														
BA22IS	5	4,18	164	A++	4	3,22	126	A++	no	60	62	53	41	35
BA26IS	7,5	4,4	173	A++	7	3,36	132	A++	no	60	62	53	41	35
BA37IS	11	4,48	176	A+++	10	3,50	137	A++	no	60	65	56	44	38
BA45IS	14	4,3	169	A++	13	3,32	130	A++	no	60	65	56	44	38
BA60IS	22	4,47	176	A+++	24	3,42	134	A++	yes	64	69	60	48	42

BoxAir Inverter Split Combi (air to water, split, inverter, stainless steel tray 170l, also indoor installation)														
BA22ISC	5	4,18	164	A++	4	3,22	126	A++	no	60	62	53	41	35
BA26ISC	7,5	4,4	173	A++	7	3,36	132	A++	no	60	62	53	41	35
BA37ISC	11	4,48	176	A+++	10	3,50	137	A++	no	60	65	56	44	38

EasyMaster (air to water, split, on-off, also indoor installation)														
EM60Z	25	3,56	140	A+	24	2,86	111	A+	yes	55	69	60	48	42
EM75Z	31	3,61	141	A+	30	2,92	114	A+	yes	55	69	60	48	42

AquaMaster (brine to water, water to water, on-off)														
AQ22Z	8	4,5	172	A++	7	3,17	117	A+	no	60	48			
AQ26Z	10	4,34	166	A++	9	3,11	116	A+	no	60	48			
AQ30Z	11	4,29	164	A++	11	3,10	116	A+	no	60	48			
AQ37Z	14	4,46	170	A++	13	3,16	118	A+	no	60	49			
AQ45Z	17	4,61	176	A+++	16	3,19	120	A+	no	60	49			
AQ60Z	23	4,27	163	A++	22	3,14	118	A+	no	60	51			
AQ75Z	28	4,25	162	A++	26	3,11	116	A+	no	60	51			
AQ90Z	33	4,42	169	A++	30	3,10	116	A+	no	60	51			
AQ120.2Z	47	4,51	172	A++	43	3,22	121	A+	yes	60	60			
AQ150.2Z	57	4,38	167	A++	52	3,19	119	A+	yes	60	60			
AQ180.2Z	64	4,5	172	A++	61	3,35	126	A++	yes	60	60			
AQ240.2Z	93	5,44	210	A+++	75	3,81	145	A++	yes	60	60			

AquaMaster Inverter (brine to water, water to water, inverter)														
AQ17I	5	4,65	179	A+++	4	3,53	133	A++	no	60	48			
AQ22I	7	4,61	177	A+++	6	3,53	133	A++	no	60	48			
AQ26I	9	4,83	185	A+++	9	3,74	141	A++	no	60	48			
AQ30I	11	4,85	186	A+++	11	3,78	143	A++	no	60	48			
AQ37I	15	5	193	A+++	14	3,94	149	A++	no	60	48			
AQ45I	21	4,8	184	A+++	19	3,70	140	A++	no	60	48			
AQ60I	33	5,02	193	A+++	33	3,97	151	A+++	no	60	58			
AQ90I	44	4,87	187	A+++	43	3,87	147	A++	no	60	58			

AquaMaster Inverter Combi (brine to water, water to water, inverter, stainless steel tray 170l)														
AQ17IC	5	4,65	179	A+++	4	3,53	133	A++	no	60	47			
AQ22IC	7	4,61	177	A+++	6	3,53	133	A++	no	60	47			
AQ26IC	9	4,83	185	A+++	9	3,74	141	A++	no	60	48			
AQ30IC	11	4,85	186	A+++	11	3,78	143	A++	no	60	48			
AQ37IC	15	5	193	A+++	14	3,94	149	A++	no	60	48			

AquaMaster ZHX (brine to water, water to water, for industrial heat recovery systems)												
Heat pump model	B0W35		W10W35		W40W65		HWT max	Weight	EP517/2014	Circuit breaker	Refrigerant	
	kW	COP	kW	COP	kW	COP						
AQ40ZHX	13,8	3,94	19,62	5,57	38,56	5,92	82°C	230 kg	no	3x20A"C"	R134a 4,2 kg	
AQ50ZHX	18,59	4,19	26,1	5,82	51,3	6,19	82°C	230 kg	no	3x25A"C"	R134a 4,4 kg	
AQ60ZHX	23,39	4,09	32,91	5,61	63,58	5,76	82°C	230 kg	no	3x32A"C"	R134a 4,4 kg	
AQ75ZHX	28,24	4,13	39,47	5,67	76,31	5,86	82°C	400 kg	no	3x40A"C"	R134a 6,0 kg	
AQ100.2ZHX	37,18	4,09	52,21	5,69	96,78	5,78	82°C	400 kg	yes	3x50A"C"	R134a 10 kg	



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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