



MasterTherm

HEAT PUMPS

Heat Pumps

Master premium series

2016/2017

www.mastertherm.eu



air to water *praised* modern
reliable Czech *advantageous*
traditional silent **ecological**
quality **brine to water** *silent*
modern reliable *ecological* *practical*
praised *quality* *advantageous* Czech
economical *easy* **silent** *reliable* *practical*
traditional **water to water**
practical *modern* Czech *ecological* *praised*
on-line monitoring Czech
economical *quality* **silent** *reliable* *practical*
quality *advantageous* *modern*
silent *quality* *praised* *practical* *advantageous*
reliable Czech **ecological**
air to water *praised* *modern*





MODERN COMPACT UNIT WITH ELECTRONICALLY CONTROLLED COOLANT INJECTION AND INTERNET CONTROL.



The BoxAir heat pump is a highly efficient and cost effective source of providing heating, cooling and domestic hot water. The compact construction and use of anti-corrosive materials are designed for outdoor installation saving space inside the property. The use of scroll compressors and low-noise fans allow complaint free installation in high density built-up areas. The entire power range is newly fitted with EC fans with variable speed control. The low cost of the installation ensures a quick return on investment even in low heat loss houses. Heat pump BoxAir is the holder of Grand Prix For Arch award and Aqua Therm Certificate of Merit.

BoxAir – AIR – WATER

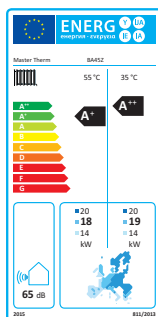
model	A7W35 ¹⁾		A2W35		3 phase units		1 phase units	
	power	COP	power	COP	circuit breaker ²⁾	order number	circuit breaker ²⁾	order number
BoxAir-22Z	8,2 kW	4,4	6,1 kW	3,3	16A"C"	BA22Z-1	20A"C"	BA22Z1-1
BoxAir-26Z	10,6 kW	4,2	7,9 kW	3,2	25A"B"	BA26Z-1	25A"C"	BA26Z1-1
BoxAir-30Z	12,2 kW	4,3	9,1 kW	3,2	25A"B"	BA30Z-1	32A"C"	BA30Z1-1
BoxAir-37Z	15,4 kW	4,5	11,5 kW	3,4	25A"C"	BA37Z-1	32A"C"	BA37Z1-1
BoxAir-45Z	18,2 kW	4,5	13,7 kW	3,5	25A"C"	BA45Z-1	-	-

Standard equipment - BoxAir

- ✓ Graphic terminal PGD
- ✓ Low-noise EC fan
- ✓ Equitherm control system MaR Carel
- ✓ Built-in immersion heater and circulation pump
- ✓ Electronically controlled coolant injection
- ✓ Control of three heating circuits (1x hot water +2x heating water)

Features - BoxAir

- ▶ Use for heating and cooling
- ▶ The temperature of heating water to 55 °C
- ▶ Ecological refrigerant R407C
- ▶ Temperatures range from +30 °C to -20 °C
- ▶ Outdoor compact
- ▶ Very easy installation, quiet operation
- ▶ Control up to 6 heating circuits



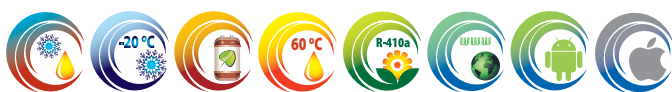
Options - BoxAir

type	order number
Internet HP control	1OINT
Full Cooling reversing	1OCH
Terminal pAD temperature compensation	1OPAD
Terminal pADh floor cooling	1OPADH
Three phase relay	1OSF
Softstart	1OSS
Expanded control module	1OEK
RAL code colours on demand	1OCO
Red, grey, green or silver colour	

BoxAir	compressor	dimensions (mm)	weight (kg)
BoxAir-22Z	LG	1040x1300x530	120
BoxAir-26Z	Sanyo	1650x1300x530	150
BoxAir-30Z	Sanyo	1650x1300x530	176
BoxAir-37Z	Sanyo	1650x1300x530	178
BoxAir-45Z	Sanyo	1650x1300x530	180

¹⁾ Performance data acc. to EN14511. A7W35 - air inlet 7 °C, water outlet 35 °C, defrost energy considered.

²⁾ The recommended value of el. protection 3x400 V, including an integrated auxiliary electric heater 1x230 V without auxiliary electric heater



CUTTING EDGE TECHNOLOGY

IN A PROVEN COMPACT PACKAGE.

COMPACT INVERTER HEAT PUMPS AIR–WATER

BoxAir Inverter

The BoxAir Inverter won two major awards - the Grand Prix at Arch and the Gold Medal for the best exhibit at Aqua Therm. The proven and desirable compact design, electronic control of the expansion valve, inverter Brush Less DC compressor offers many advantages compared to standard compressors. The ability to modulate the compressor based on actual heat demand considerably impacts on consumption and life-span of the equipment reducing the operating costs by up to 20%. In most cases there is no need for a buffer tank, which saves space in the plantroom and reduces installation costs. The unit is fitted with variable speed control fans and circulation pumps. Built-in controller, electric backup immersion heater and equithermal regulation are standard with the option of internet control.



models 30I and 45I

models 22I and 26I

BoxAir Inverter – AIR – WATER

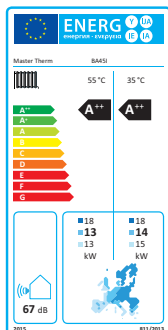
	model	A7W35 power	Heat loss	A7W35 60Hz ¹⁾ power	COP	A2W35 60Hz power	COP	A-7W35 80Hz power	COP	A-15W35 90Hz power	COP	circuit breaker ²⁾	order number
3 phase units	BoxAir 22I	2-8 kW	to 6 kW	4,9 kW	4,7	3,6 kW	3,5	3,6 kW	2,8	3,2 kW	2,6	16A"B"	1BA22I-1
	BoxAir 26I	3-9 kW	to 8,5 kW	8,1 kW	4,8	5,8 kW	3,5	5,5 kW	2,8	5,1 kW	2,5	20A"B"	1BA26I-1
	BoxAir 30I	5-13 kW	to 10 kW	8,65 kW	5,2	6,25 kW	3,8	6,0 kW	2,9	5,3 kW	2,4	25A"B"	1BA30I-1
	BoxAir 45I	7-22 kW	to 16 kW	15,3 kW	4,7	10,6 kW	3,5	11,1 kW	2,75	9,8 kW	2,2	32A"B"	1BA45I-1
	BoxAir 60I	10-35 kW	to 28 kW	22,3 kW	4,84	15,8 kW	3,65	18,1 kW	2,98	19,2 kW	2,62	40A"B"	1BA60I-1
1 phase units	BoxAir 22I	3-8 kW	to 6 kW	4,9 kW	4,7	3,6 kW	3,5	3,6 kW	2,8	3,2 kW	2,6	20A"B"	1BA22I-1
	BoxAir 26I	3-9 kW	to 8,5 kW	8,1 kW	4,8	5,8 kW	3,5	5,5 kW	2,8	5,1 kW	2,5	20A"B"	1BA26I-1
	BoxAir 30I	5-13 kW	to 10 kW	8,65 kW	5,2	6,25 kW	3,8	6,0 kW	2,9	5,3 kW	2,4	25A"B"	1BA30I-1
	BoxAir 45I	7-22 kW	to 16 kW	15,3 kW	4,7	10,6 kW	3,5	11,1 kW	2,75	9,8 kW	2,2	32A"B"	1BA45I-1

Standard equipment - BoxAir Inverter

- ✓ Graphic terminal PGD
- ✓ Variable output Inverter Compressor
- ✓ Low-noise EC fan
- ✓ Equitherm control system MaR Carel
- ✓ Built-in immersion heater and circulation pump
- ✓ Electronically controlled coolant injection
- ✓ Control of three heating circuits (1x hot water +2x heating water)

Features - BoxAir Inverter

- ▶ Use for heating and cooling
- ▶ The temperature of heating water to 60 °C
- ▶ Ecological refrigerant R410a
- ▶ Temperatures range from +30 °C to -20 °C
- ▶ Outdoor compact
- ▶ Very easy installation, quiet operation
- ▶ No buffer tank required
- ▶ Control up to 6 heating circuits



Options - BoxAir Inverter

type	order n.
Internet HP control	1OINT
Full Cooling reversing	1OCH
Terminal pAD temp. compensation	1OPAD
Terminal pADh floor cooling	1OPADH
Expanded control module	1OEK
RAL code colours on demand	1OCO
Red, grey, green or silver colour	

BoxAir Inverter	com- pres- sor	dimensions (mm)	weight (kg)
BoxAir 22I	LG	1036x1300x526	115
BoxAir 26I	LG	1036x1300x526	120
BoxAir 30I	LG	1650x1300x530	155
BoxAir 45I	LG	1650x1300x530	165
BoxAir 60I	LG	1650x1300x1052	275

model 60I



¹⁾ Performance data acc. to EN14511, in accordance with the EHPA requirements to assign quality label Q. A7W35 - air inlet 7°C, water outlet 35°C, defrost energy considered. Compressor frequency 60 Hz

²⁾ The recommended value of el. protection 3x400 V, including an integrated auxiliary electric heater 1x230 V without auxiliary electric heater

More information:

www.mastertherm.eu

BoxAir Inverter Split Combi



INVERTER SPLIT UNIT WITH BUILT-IN 170L STAINLESS STEEL HOT WATER TANK AND INTEGRAL SOLAR COIL



Introducing the all-new **BoxAir Inverter Split Combi** unit with built-in 170l stainless steel hot water tank and integral solar coil. The BOXAIR Combi Inverter Split is the newest addition to the MasterTherm range, following the popular "all in one" concept. A split heat pump featuring the latest BLDC compressor for continuous regulation of the output power, super silent EC fan and hot water circulation pump control. Thanks to the advanced hot water control, this new unit offers exceptional performance with the capacity to provide hot water to temperatures in excess of 50 °C. In true split design form, the compressor is located within the indoor unit. This solution shields the main components from the effects of weathering as well as simplifying the overall installation. With the absence of the compressor the footprint, weight and sound power levels of the outdoor unit are significantly reduced making it suitable for mounting on external walls without the risk of vibration. The BOXAIR Combi Inverter Split encompasses all the usual refinements of a MasterTherm heat pump in incorporating the latest technology to offer high efficiency operation with unparalleled performance characteristics.

BoxAir Inverter Split Combi – AIR – WATER

	model	A7W35 power	Heat loss	A7W35 60Hz ¹⁾ power COP	A2W35 60Hz power COP	A-7W35 80Hz power COP	A-15W35 90Hz power COP	circuit breaker ²⁾	order number
3 phase units	BoxAir 22ISC	2-8 kW	to 6 kW	4,9 kW 4,7	3,6 kW 3,5	3,6 kW 2,8	3,2 kW 2,6	16A"B"	1BA22ISC-1
	BoxAir 26ISC	3-9 kW	to 8,5 kW	8,1 kW 4,8	5,8 kW 3,5	5,5 kW 2,8	5,1 kW 2,5	20A"B"	1BA26ISC-1
1 phase units	BoxAir 22ISC	2-8 kW	to 6 kW	4,9 kW 4,7	3,6 kW 3,5	3,6 kW 2,8	3,2 kW 2,6	20A"B"	1BA22ISC-1
	BoxAir 26ISC	3-9 kW	to 8,5 kW	8,1 kW 4,8	5,8 kW 3,5	5,5 kW 2,8	5,1 kW 2,5	20A"B"	1BA26ISC-1

Standard equipment - BoxAir Inverter

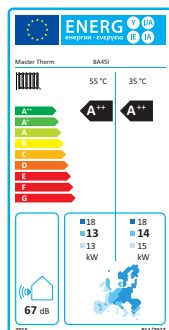
- ✓ Integrated DHW storage tank 170 l, solar heat exchanger
- ✓ Graphic terminal PGD
- ✓ Variable output Inverter Compressor
- ✓ Low-noise EC fan
- ✓ Equitherm control system MaR Carel
- ✓ Built-in immersion heater and circulation pump
- ✓ Electronically controlled coolant injection
- ✓ Control of three heating circuits (1x hot water +2x heating water)

Options - BoxAir Inverter

type	order n.
Internet HP control	1OINT
Full Cooling reversing	1OCH
Terminal pAD temp. compensation	1OPAD
Terminal pADh floor cooling	1OPADH
Expanded control module	1OEK
RAL code colours on demand	1OCO
Red, grey colour	

Features - BoxAir Inverter

- ▶ Use for heating and cooling
- ▶ The temperature of heating water to 60 °C
- ▶ Ecological refrigerant R410a
- ▶ Temperatures range from +30 °C to -20 °C
- ▶ Outdoor compact
- ▶ Very easy installation, quiet operation
- ▶ No buffer tank required
- ▶ Control up to 6 heating circuits



BoxAir Inverter	compressor	dimensions (mm)	weight (kg)
BoxAir 22ISC	LG	1850x690x650	265
BoxAir 26ISC	LG	1850x690x650	265
External unit		1036x820x526	35

¹⁾ Performance data acc. to EN14511, in accordance with the EHPA requirements to assign quality label Q. A7W35 - air inlet 7 °C, water outlet 35 °C, defrost energy considered. Compressor frequency 60 Hz

²⁾ The recommended value of el. protection 3x400 V, including an integrated auxiliary electric heater 1x230 V without auxiliary electric heater



POPULAR ON-OFF SPLIT UNIT WITH ELECTRONICALLY CONTROLLED COOLANT INJECTION AND INTERNET CONTROL

SPLIT ON-OFF HEAT PUMPS AIR-WATER

EasyMaster

The EasyMaster heat pump is an excellent choice for heating / cooling and DHW (Domestic Hot Water) supply as it is cost-effective and environment friendly with an excellent price-performance ratio. The split construction brings its traditional advantages in the form of ultra-quiet outdoor unit and the protection of the main parts of the heat pump inside the building. Although this is the most cost effective split type heat pump on the domestic market, is equipped with high quality, quiet and durable Sanyo compressor. It also includes technology for electronic control of the refrigerant injection, equithermal regulation and in the spirit of the tradition of the brand-name all components from reputable manufacturers in the world. A wide range of optional accessories allows retrofit according to the specific requirement, including the desuperheater for high efficiency DHW supply heating with internet connection.



Easy Master – AIR – WATER

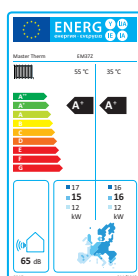
model	A7W35 ¹⁾		A2W35		3 phase units		1 phase units	
	power	COP	power	COP	circuit breaker ²⁾	order number	circuit breaker ²⁾	order number
EasyMaster-26Z	10,6 kW	4,2	8,1 kW	3,2	20 A"B"	1EM26Z-1	25A"C"	3EM26Z1-1
EasyMaster-30Z	12,2 kW	4,3	9,4 kW	3,3	20 A"B"	1EM30Z-1	32A"C"	3EM30Z1-1
EasyMaster-37Z	15,4 kW	4,5	11,8 kW	3,5	25 A"B"	1EM37Z-1	32A"C"	3EM37Z1-1
EasyMaster-45Z	18 kW	4,4	13,9 kW	3,5	25 A"B"	1EM45Z-1	-	-
External unit								
EasyMaster-60Z	24,6 kW	4,1	18,8	3,2	25 A"C"	1EM60Z-1	-	-
EasyMaster-75Z	30,8 kW	4,0	23,2	3,2	25 A"C"	1EM75Z-1	-	-
External unit								

Standard equipment - EasyMaster

- ✓ Integrated graphic terminal PGD
- ✓ Electronically controlled coolant injection
- ✓ Equitherm control system MaR Carel
- ✓ Built-in immersion heater (models 1EM26Z-1 to 1EM45Z-1)
- ✓ Built-in circulation pump
- ✓ Control of three heating circuits (1x hot water + 2x heating water)

Features - EasyMaster

- Use for heating and cooling
- The temperature of heating water to 55 °C
- Ecological refrigerant R407c
- Temperatures range from +30°C to -20°C
- Split design
- Quiet operation
- Control up to 6 heating circuits



Options - EasyMaster

type	order num.
Internet HP control	1OINT
Full Cooling reversing	1OCH
Terminal pAD temperature compensation	1OPAD
Terminal pADh floor cooling	1OPADH
Desuperheater	1ODESUP
Softstart	1OSS
Three phase relay	1OSF
Ext.electric heater 7,5+7,5kW (60-75Z)	1OETA1M15
Ext.electric heater 12+18kW (60-75Z)	1OETA1M30
Expanded control module	1OEK
RAL code colours on demand (ext. unit)	1OCO
External unit (grey, green or silver colour)	
External unit 4legs vertical, horizontal or console mod.26Z to 37Z	
Internal unit (red, grey colour)	

More information: www.mastertherm.eu

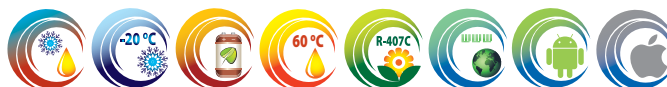
EasyMaster	compressor	dimensions (mm)	weight (kg)
EasyMaster-26Z	Sanyo	1200x530x720	160
EasyMaster-30Z	Sanyo	1200x530x720	160
EasyMaster-37Z	Sanyo	1200x530x720	170
external unit		1234x1246x460	70
EasyMaster-60Z	Sanyo	1200x530x720	200
EasyMaster-75Z	Sanyo	1200x530x720	200
external unit		1646x1012x817	80

¹⁾ Performance data acc. to EN14511. A7W35 - air inlet 7°C, water outlet 35°C, defrost energy considered.

²⁾ The recommended value of el. protection
3x400 V, including an integrated auxiliary electric heater
1x230 V without auxiliary electric heater

Units 60Z and 75Z has no integrated auxiliary electric heater.

AirMaster Mini



HIGH-QUALITY SPLIT TYPE HEAT PUMP

FOR THE MOST DEMANDING CONDITIONS



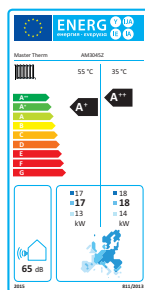
The AirMaster MINI unit is an extremely good source of heat or cooling featuring excellent efficiency and advanced technology. It is equipped with a special compressor Copeland ZH series developed for use in high-powered types of heat pumps running under extreme operating conditions. The result is a very high COP (Coefficient of Performance) value of the heat pump, which differs from the more common types by performing better at low outdoor air temperatures and by meeting better the demand for higher output temperature of the heating water. The AirMaster MINI unit is an excellent product intended for the widest possible use, with the latest model featuring a desuperheater for high efficiency of DHW as standard. A design incorporating two compressors covers heat loss of a building up to 36 kW.

AirMaster mini – AIR – WATER

model	A7W35 ¹⁾		A2W35		3 phase units		1 phase units	
	power	COP	power	COP	circuit breaker ²⁾	order number	circuit breaker ²⁾	order number
AirMaster_3015M	6,8 kW	4,4	5,1 kW	3,4	16A"B"	1AM3015M-1	16A"C"	3AM3015M1-1
AirMaster_3021M	8,7 kW	4,5	6,5 kW	3,5	16A"B"	1AM3021M-1	20A"C"	3AM3021M1-1
AirMaster_3030M	12,3 kW	4,5	9,2 kW	3,5	20A"B"	1AM3030M-1	32A"C"	3AM3030M1-1
AirMaster_3038M	15,0 kW	4,5	10,9 kW	3,5	25A"B"	1AM3038M-1	32A"C"	3AM3038M1-1
AirMaster_3045M	17,9 kW	4,6	12,7 kW	3,5	25A"B"	1AM3045M-1	-	-
External unit								
AirMaster_3060.2M	24,5 kW	4,5	18,3 kW	3,5	40A"B"	1AM3060.2M-1	63A"C"	3AM3060.2M1-1
AirMaster_3076.2M	30,0 kW	4,5	21,0 kW	3,4	50A"B"	1AM3076.2M-1	-	-
AirMaster_3090.2M	35,7 kW	4,6	25,3 kW	3,5	50A"B"	1AM3090.2M-1	-	-
External unit								

Features- AirMaster Mini

- Use for heating and cooling
- The temperature of heating water to 60 °C
- Ecological refrigerant R407c
- Temperatures range from +30 °C to -20 °C
- Split design
- Quiet operation
- Spiral compressor Copeland ZH
- Control up to 6 heating circuits



Standard equipment - AirMaster Mini

- ✓ Integrated graphic terminal PGD
- ✓ Electronically controlled coolant injection
- ✓ Equitherm control system MaR Carel
- ✓ Built-in immersion heater and circulation pump
- ✓ Control of three heating circuits (1 x hot water + 2 x heating water)

Options - AirMaster Mini

type	order num.
Internet HP control	1OINT
Desuperheater	10DESUP
Full Cooling reversing	1OCH
Terminal pAD temperature compensation	1OPAD
Terminal pADh floor cooling	1OPADH
Three phase relay	1OSF
Softstart	1OSS
Expanded control module	1OEK
RAL code colours on demand	1OCO
External unit (grey, green or silver colour)	
External unit 4legs vertical, horizontal or console	
Internal unit (red, grey colour)	

AirMaster mini	compressor	dimensions (mm)	weight (kg)
AirMaster_3015M	Copeland	1200x526x716	160
AirMaster_3021M	Copeland	1200x526x716	160
AirMaster_3030M	Copeland	1200x526x716	165
AirMaster_3038M	Copeland	1200x526x716	170
AirMaster_3045M	Copeland	1200x526x716	175
External unit		1234x1246x460	70
AirMaster_3060.2M	Copeland	1200x526x716	350
AirMaster_3076.2M	Copeland	1200x526x716	360
AirMaster_3090.2M	Copeland	1200x526x716	370
2x External unit		1234x1246x460	2x 70

¹⁾ Performance data acc. to EN14511. A7W35 - air inlet 7 °C, water outlet 35 °C, defrost energy considered.

²⁾ The recommended value of el. protection 3x400 V, including an integrated auxiliary electric heater 1x230 V without auxiliary electric heater



**EXTREMELY FLEXIBLE SOLUTION FOR INDOOR INSTALLATION
IN SELF-CONTAINED HOUSES AND BLOCKS OF FLATS**

SPLIT ON-OFF HEAT PUMPS AIR–WATER

Indoor Split

for **EasyMaster** and **AirMaster**

The standard evaporators of the EasyMaster and AirMaster heat pumps are designed for outdoor installation.

MasterTherm **Indoor Split** is specifically designed for indoor installation. The evaporators are connected to intake and exhaust ducts. The split design of the unit allows easy handling and great flexibility of the plantroom's spatial layout. Unlike the competing mono-blocks the EasyMaster Indoor Split unit's spatial requirements are significantly lower while offering greater adaptability in terms of the plantroom layout. The evaporator can be mounted up to 15 meters from the main unit and the two parts can be, for example, installed in two separate premises. The Indoor Split concept is very suitable for a cascade connection of up to 500 kW in residential and prefabricated buildings, where the outdoor installation is usually not possible and the limited size of the existing plantrooms has to be made use of. All the advantages of the Easy Master and AirMaster heat pump are retained: a robust design, top quality rated product, electronic refrigerant injection and state-of-the-art control are all in place.



Modification - IndoorSplit

model	for heat pumps:	order number	price EXW CZ
2645IS 18 kW	EasyMaster 26Z, 30Z,37Z, AirMaster 3030M, 3038M,3045M	1O2645VK	660,- EUR
2645IS 18 kW (2 pcs)	AirMaster 3060.2M, 3076.2M a 3090.2M	1O2645VK	1 460,- EUR
6075IS 31kW	EasyMaster 60Z a 75Z	1O6075VK	1 560,- EUR



Options - Modification IndoorSplit

typ	order num.	price
Back draft louvre shutter (air discharge)	PER 400 W	90,- EUR
External weather louvre (air intake)	PRG 400 W	170,- EUR
Insulated flexible hose SONOFLEX 10 m, Ø 406 mm	406.010	380,- EUR
Color version red, grey		FOC
Optional HP EasyMaster and AirMaster identical to the standard version		



More information: www.mastertherm.eu

DirectMaster



EXCEPTIONAL TECHNOLOGY CONCEPT

WITH DIRECT EVAPORATION OF REFRIGERANT



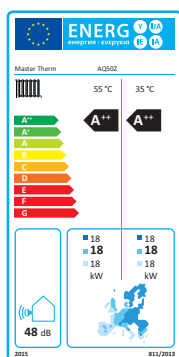
The DirectMaster heat pump brings the innovative concept of direct evaporation of the refrigerant in the ground collector, representing the most efficient way presently known in capturing and transferring ground heat to the heated building. In comparison to other systems the advantage is that it does not require the primary circuit circulation pump or ground collector heat exchanger. The reduction of heat loss and improved thermal conductivity of the ground loop results in the refrigerant temperature at the inlet to the compressor always 4-5 °C higher than that of conventional systems. This ground-water system achieves a very high COP factor. The conceptual simplicity is also a guarantee of exceptional reliability, maximum durability and low maintenance costs. The DirectMaster system received the Grand Prix For Arch main prize.

DirectMaster – BRINE – WATER

model	B0W35 ¹⁾		E4W35 ¹⁾		3 phase units		1 phase units	
	power	COP	power	COP	circuit breaker ²⁾	order number	circuit breaker ²⁾	order number
DirectMaster-9ZD1	3,2	4,4	3,5	5	1x 10A°C"	1AQ9ZD-1	10A°C"	3AQ9ZD1-1
DirectMaster-22ZD	7,8	4,5	8,6	5,1	3x 9A°C"	1AQ22ZD-1	20A°C"	3AQ22ZD1-1
DirectMaster-26ZD	10,1	4,4	11,2	4,9	3x 13A°C"	1AQ26ZD-1	25A°C"	3AQ26ZD1-1
DirectMaster-30ZD	11,4	4,4	12,7	4,9	3x 13A°C"	1AQ30ZD-1	32A°C"	3AQ30ZD1-1
DirectMaster-37ZD	14,1	4,3	15,9	4,8	3x 16A°C"	1AQ37ZD-1	-	-
DirectMaster-45ZD	17,2	4,4	19,5	5,0	3x 16A°C"	1AQ45ZD-1	-	-
DirectMaster-50ZD	18,5	4,3	20,6	4,8	3x 20A°C"	1AQ50ZD-1	-	-
DirectMaster-60ZD	23,1	4,2	26,1	4,7	3x 25A°C"	1AQ60ZD-1	-	-

Standard equipment - DirectMaster

- ✓ Integrated graphic terminal PGD
- ✓ Special compressor
- ✓ Equitherm control system MaR Carel
- ✓ Electronically controlled coolant injection
- ✓ Built-in circulation pump
- ✓ Control of three heating circuits (1x hot water + 2x heating water)



Features - DirectMaster

- The temperature of heating water to 60 °C
- Ecological refrigerant R407c
- Quiet operation
- Control up to 6 heating circuits

DirectMaster	compressor	dimensions (mm)	weight (kg)
Direct Master 9ZD1	LG	1200x526x526	130
Direct Master 17ZD	LG	1200x526x716	140
Direct Master 22ZD	LG	1200x526x716	140
Direct Master 26ZD	Sanyo	1200x526x716	160
Direct Master 30ZD	Sanyo	1200x526x716	165
Direct Master 37ZD	Sanyo	1200x526x716	180
Direct Master 45ZD	Sanyo	1200x526x716	190
Direct Master 50ZD	Sanyo	1200x526x716	200
Direct Master 60ZD	Sanyo	1200x526x716	245

Options - DirectMaster

type	order num.
Internet HP control	1OINT
Terminal pAD temperature compensation	1OPAD
Electric heater 4,5 kW	1OEKOT45
Electric heater 6,0 kW	1OEKOT60
Expanded control module	1OEK
Desuperheater	1ODESUP
Softstart	1OSS
Distributor_4_circuits (17Z)	1ODM04
Distributor_8_circuits (30Z)	1ODM06
Distributor_10_circuits (37Z)	1ODM08
Distributor_10_circuits (37Z)	1ODM10
Distributor_12_circuits (45-60Z)	1ODM12
Internal unit (red, grey colour)	

¹⁾ Performance data acc. to EN14511. B0W35 - brine inlet 0 °C, water outlet 35 °C. E4W35 - brine inlet 4 °C, water outlet 35 °C.

²⁾ The recommended value of el. protection as a standard equipment, without auxiliary electric heater.



**MODERN AND PROVEN SOLUTION FOLLOWED
THROUGH TO PERFECTION**

**HEAT PUMPS BRINE – WATER
WATER – WATER**

AquaMaster



1 compressor unit

2 compressor unit

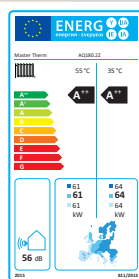
Upgraded version of the very successful ground-water (water-water) system, particularly suitable for applications with the ground collector. The performance range is graded over a wide range from about 7 to 64 kW, which covers a wide spectrum of applications. The AquaMaster heat pump operates with high efficiency and extreme reliability. With the output water temperature up to 60 °C it is also suitable for renovation of older residential houses. The unit can be retrofitted with a desuperheater to achieve high efficiency and higher temperature of the DHW supply system. Another advantage is the exceptionally low noise compressor, mounted on an anti-vibration frame, the unit can be safely placed anywhere without being bothered by noise. The AquaMaster unit is a proven product offering quality components, modern technology and controls, a wide basic and additional equipment and above all an excellent price-performance ratio.

AquaMaster – BRINE – WATER, WATER – WATER								
model	B0W35 ¹⁾		W10W35		3 phase units		1 phase units	
	power	COP	power	COP	circuit breaker ²⁾	order number	circuit breaker ²⁾	order number
AquaMaster_22Z	7,8 kW	4,5	10,4 kW	5,9	3x 9A°C	1AQ22Z-1	20A°C	3AQ22Z1-1
AquaMaster_26Z	10,1 kW	4,4	13,3 kW	5,7	3x 13A°C	1AQ26Z-1	25A°C	3AQ26Z1-1
AquaMaster_30Z	11,4 kW	4,4	14,9 kW	5,5	3x 13A°C	1AQ30Z-1	32A°C	3AQ30Z1-1
AquaMaster_37Z	14,1 kW	4,3	18,4 kW	5,4	3x 16A°C	1AQ37Z-1	32A°C	3AQ37Z1-1
AquaMaster_45Z	17,2 kW	4,4	22,5 kW	5,5	3x 16A°C	1AQ45Z-1	-	-
AquaMaster_50Z	18,5 kW	4,3	24,1 kW	5,4	3x 20A°C	1AQ50Z-1	-	-
AquaMaster_60Z	23,1 kW	4,2	31,2 kW	5,4	3x 25A°C	1AQ60Z-1	-	-
AquaMaster_75Z	28,2 kW	4,1	37,7 kW	5,2	3x 25A°C	1AQ75Z-1	-	-
AquaMaster_90Z	33,2 kW	4,3	45,0 kW	5,4	3x 32A°C	1AQ90Z-1	-	-
Two compressors unit								
AquaMaster_120.2Z	46,8 kW	4,2	64,6	5,6	3x 50A°C	1AQ120.2Z-1	-	-
AquaMaster_150.2Z	57,7 kW	4,2	79,3	5,6	3x 50A°C	1AQ150.2Z-1	-	-
AquaMaster_180.2Z	64,4 kW	4,1	90,9	5,5	3x 64A°C	1AQ180.2Z-1	-	-

Standard equipment - AquaMaster

- ✓ Integrated graphic terminal PGD
- ✓ Equitherm control system MaR Care
- ✓ Electronically controlled coolant injection
- ✓ Built-in circulation pump
- ✓ Control of three heating circuits (1x hot water +2x heating water)

More information:
www.mastertherm.eu



AquaMaster	compressor	dimensions (mm)	weight (kg)
AquaMaster_22Z	LG	1200x526x716	140
AquaMaster_26Z	Sanyo	1200x526x716	160
AquaMaster_30Z	Sanyo	1200x526x716	165
AquaMaster_37Z	Sanyo	1200x526x716	180
AquaMaster_45Z	Sanyo	1200x526x716	190
AquaMaster_50Z	Sanyo	1200x526x716	200
AquaMaster_60Z	Sanyo	1200x526x716	245
AquaMaster_75Z	Sanyo	1200x526x716	255
AquaMaster_90Z	Sanyo	1200x526x716	275
AquaMaster_120.2Z	Sanyo	1200x1012x716	420
AquaMaster_150.2Z	Sanyo	1200x1012x716	420
AquaMaster_180.2Z	Sanyo	1200x1012x716	420

Options - AquaMaster

type	order num.
Internet HP control	1OINT
Full Cooling reversin	1AQZR
Passive Cooling module (from 17Z to 37Z)	1OPC
Terminal pAD temperature compensation	1OPAD
Terminal pADh floor cooling	1OPADH
Desuperheater	1ODESUP
Electric heater 4,5 kW	1OEKOT45
Electric heater 6,0 kW	1OEKOT60
Electric heater 7,5 kW	1OEKOT75
Softstart	1OSS
Three phase relay	1OSF
Refrigerant R134a	1O134a
Type of water / water on demand	1OAQWW
Expanded control module	1OEK
Internal unit (red, grey colour)	

Features - AquaMaster

- Use for heating and cooling
- The temperature of heating water to 60 °C
- Ecological refrigerant R407c
- Quiet operation
- Control up to 6 heating circuits

HEAT PUMPS BRINE – WATER WATER – WATER

AquaMaster Inverter



ADVANCED TECHNOLOGY WITH EXCELLENT
OPERATING PARAMETERS



Models 22l to 60l

Model 90l

The ground-water (water-water) heat pump of the inverter type with extremely high heating or cooling efficiency. The compressor with frequency converter adjusts its output to the current heat demand of the building and because of this the heating system does not require a storage tank. A combination of the inverter technology, electronic expansion valve and equithermal control system, newly supplemented with the possibility of on-line compensation of the heating curve temperature delivers exceptionally high COP (Coefficient of Performance) factors in all operational modes, significant savings in operating costs, reduced burden on the compressor, thus extending its service life while increasing its reliability. The top features of the AquaMaster Inverter heat pump have won the Grand Prix For Arch award. The product is the holder of a European quality label for heat pumps according to the methodology of the European Association of heat pumps - EHPA quality label.

AquaMaster Inverter – BRINE – WATER, WATER – WATER

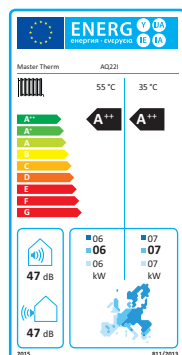
model	B0W35		COP	B0W35, 60Hz ¹⁾		COP	W10W35, 60Hz		3 phase units		1 phase units	
	power	power		power	power		power	power	circuit breaker ²⁾	order number	circuit breaker ²⁾	order number
AquaMaster Inverter-22l	3–8 kW	4,4 kW	4,5	5,8 kW	5,9		1x 20 A"B"	1AQ22l-1	20A"B"	3AQ22l1-1		
AquaMaster Inverter-30l	5–12 kW	7,9 kW	4,6	10,3 kW	6,1		1x 25 A"B"	1AQ30l-1	25A"B"	3AQ30l1-1		
AquaMaster Inverter-45l	7–22 kW	14,0 kW	4,6	19,2 kW	6,3		3x 20 A"B"	1AQ45l-1	32A"B"	3AQ45l1-1		
AquaMaster Inverter-60l	7–35 kW	20,2 kW	4,7	26,6 kW	6,2		3x 32 A"B"	1AQ60l-1	-	-		
AquaMaster Inverter-90l	7–48 kW	32,2 kW³⁾	4,7	40,4 kW ³⁾	5,8		3x 40 A"B"	1AQ90l-1	-	-		

Standard equipment - AquaMaster Inverter

- ✓ Integrated graphic terminal PGD
- ✓ Variable output Inverter Compressor
- ✓ Equitherm control system MaR Carel
- ✓ Electronically controlled coolant injection¹⁾
- ✓ Built-in circulation pump
- ✓ Control of three heating circuits (1x hot water +2x heating water)

Features - AquaMaster Inverter

- ▶ Continuous control of heating power
- ▶ Flow control by primary circuit
- ▶ Special compressor LG BLDC inverter
- ▶ Use for heating and cooling
- ▶ The temperature of heating water to 60 °C
- ▶ Ecological refrigerant R410A
- ▶ No buffer tank required
- ▶ Quiet operation
- ▶ Control up to 6 heating circuits



¹⁾ Performance data acc. to EN14511, in accordance with the EHPA requirements to assign quality label Q. B0W35 - brine inlet 0 °C, water outlet 35 °C. Compressor frequency 60 Hz.

²⁾ The recommended value of el. protection as a standard equipment, without auxiliary electric heater.

³⁾ Unit 90l, compressor frequency 90 Hz.



Options - AquaMaster AquaMaster Inverter

type	order num.
Internet HP control	1OINT
Full Cooling reversin	1AQZR
Passive Cooling module (from 17Z to 37Z)	1OPC
Terminal pAD temperature compensation	1OPAD
Terminal pADh floor cooling	1OPADH
Desuperheater	1ODESUP
Electric heater 4,5 kW	1OEKOT45
Electric heater 6,0 kW	1OEKOT60
Electric heater 7,5 kW	1OEKOT75
Type of water / water on demand	1OAQWW
Expanded control module	1OEK
Internal unit (red, grey colour)	

AquaMaster Inverter	compressor	dimensions (mm)	weight (kg)
AquaMaster-22l	LG	1200x526x716	160
AquaMaster-30l	LG	1200x526x716	160
AquaMaster-45l	LG	1200x526x716	170
AquaMaster-60l	LG	1200x526x716	180
AquaMaster-90l	LG	1200x716x716	200

More information: www.mastertherm.eu



"ALL IN ONE" - HI-TECH HEATING SYSTEM
ON LESS THAN 0,5 m²

HEAT PUMPS BRINE – WATER
WATER – WATER

AquaMaster Inverter Combi



The ground-water (water-water) heat pump with integrated stainless steel DHW storage tank, solar heat exchanger and inverter compressor. Modulated heating power is optimally controlled for heating or cooling the building, and also for DHW supply for the entire household. The latest technology combined with modern BLDC compressor, variable speed of the primary and secondary circulation pump and a unique control system represent the highest attainable level of technology and guarantee highly efficient, quiet and reliable operation. Passive cooling module (optional) allows the direct use of the cooling effect of the ground (free cooling), without any energy consumption. Due to the construction of the "all in one" type unit the complexity of the wiring and mechanical installation is significantly reduced only to the basic connection of the unit.

AquaMaster Inverter Combi – BRINE – WATER, WATER – WATER

model	B0W35	B0W35, 60Hz ¹⁾		W10W35, 60Hz		3 phase units		1 phase units	
	power	power	COP	power	COP	circuit breaker ²⁾	order number	circuit breaker ²⁾	order number
AquaMaster Inverter-22IC	3–8 kW	4,4 kW	4,5	5,8 kW	5,9	20 A"B"	1AQ22IC-1	20A"B"	3AQ22I1-1
AquaMaster Inverter-30IC	5–12 kW	7,9 kW	4,6	10,3 kW	6,1	25 A"B"	1AQ30IC-1	25A"B"	3AQ30I1-1
AquaMaster Inverter-45IC	7–22 kW	14 kW	4,6	19,2 kW	6,3	25 A"B"	1AQ45IC-1	32A"B"	3AQ45I1-1

Standard equipment - AquaMaster Inverter Combi

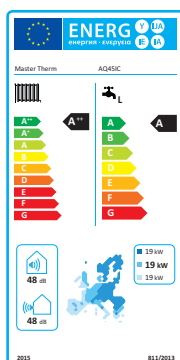
- ✓ Integrated DHW storage tank 170 l, solar heat exchanger
- ✓ Integrated graphic terminal PGD
- ✓ Variable output Inverter Compressor
- ✓ Equitherm control system MaR Carel
- ✓ Electronically controlled coolant injection
- ✓ Built-in circulation pump
- ✓ Electric heater
- ✓ Control of three heating circuits (1x hot water +2x heating water)

Options - AquaMaster Inverter Combi

type	order num.
Internet HP control	1OINT
Passive Cooling module	1OPC
Terminal pAD temperature compensation	1OPAD
Terminal pADh floor cooling	1OPADH
Expanded control module	1OEK
Internal unit (red or grey colour)	

Features - AquaMaster Inverter Combi

- ▶ Continuous control of heating power
- ▶ No buffer tank required
- ▶ Use for heating and cooling
- ▶ The temperature of heating water to 60 °C
- ▶ Ecological refrigerant R410A
- ▶ Quiet operation
- ▶ Control up to 6 heating circuits



AquaMaster Inverter Combi	compressor	dimensions (mm)	weight (kg)
AquaMaster-22IC	LG	1800x690x640	270
AquaMaster-30IC	LG	1800x690x640	275
AquaMaster-45IC	LG	1800x690x640	295

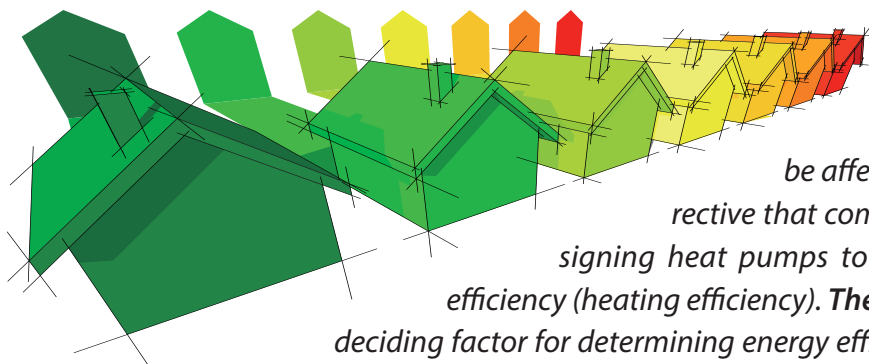
¹⁾ Performance data acc. to EN14511, B0W35 - brine inlet 0 °C, water outlet 35 °C. Compressor frequency 60 Hz.

²⁾ The recommended value of el. protection 3x400 V, including an integrated auxiliary electric heater 1x230 V without auxiliary electric heater

More information: www.mastertherm.eu



Energy Related Products (ErP) Directive – Heat Pump Efficiency



From 26th September 2015 all heating and hot water products, with an output equal to or less than 400kW will be affected by the Energy related Products (ErP) directive that comes into force. Energy labels are used for assigning heat pumps to individual classes based on their energy efficiency (heating efficiency). **The best class is marked A++, the worst G.** The deciding factor for determining energy efficiency is the seasonal SCOP heating factor. Methodology for determining energy efficiency is defined in BS EN 14 825.

What is the heat pump seasonal energy efficiency?

Seasonal energy efficiency η_s represents a degree of utilisation efficiency of unrenovable primary energy by a particular heat pump. It is calculated as a ratio between the given heat pump seasonal heating factor and the electricity production and distribution coefficient, stated in %. For example, shall the seasonal energy efficiency amount to 150%, the heat pump will, during the entire heating season, supply energy that is by 50% greater than its primary energy consumption (i.e. the consumption of unrenovable energy necessary for the production of electricity for driving the heat pump).

For assessment purposes, 2 types of applications are recognised: medium-temperature applications, when the heat pump provides an output temperature of 55 °C, and low-temperature applications with an output temperature of 35 °C.

What is SCOP?

The seasonal heating factor represents the ratio between the total produced heat and the total electricity consumption. In contrast to the COP heating factor, which is specified for particular temperature conditions (for example, COP=3.2 at A2W35 – air temperature of 2 °C and heating water temperature of 35 °C), SCOP is calculated for the entire heating season. The SCOP factor thus characterises the real efficiency of heat pumps much more accurately conditions than the COP factor.

How efficient are Master Therm heat pumps?

As a result of the advanced technology and inverter drive, the MasterTherm heat pumps are positioned among the most efficient and effective heat pumps on European and International markets. This is reflected in their class classification and achieved heating efficiency (η_s). The majority of Inverter driven Master Therm heat pumps already comply with the future highest class of A+++ (coming into effect in 2019).

Seasonal heating energy efficiency class	Seasonal heating energy efficiency η_s v %	
	Low-temperature operation 35°C	Medium-temperature operation 55°C
A++	$\eta_s > 150$	$\eta_s > 125$
A+	$\eta_s = 123-150$	$\eta_s = 98-125$
A	$\eta_s = 115-123$	$\eta_s = 90-98$
B	$\eta_s = 107-115$	$\eta_s = 82-90$
C	$\eta_s = 100-107$	$\eta_s = 75-82$
D	$\eta_s = 61-100$	$\eta_s = 36-75$

	Low-temperature operation 35°C				Medium-temperature operation 55°C			
BoxAir	Power*	SCOP	η_s %	Class	Power*	SCOP	η_s %	Class
BA 22Z	8 kW	3,66	144	A+	8 kW	3,00	117	A+
BA 26Z	11 kW	3,63	142	A+	10 kW	2,84	111	A+
BA 30Z	12 kW	3,64	143	A+	12 kW	2,86	111	A+
BA 37Z	16 kW	3,71	145	A+	15 kW	2,97	116	A+
BA 45Z	19 kW	3,89	153	A++	18 kW	3,08	120	A+
BoxAir Inverter	Power*	SCOP	η_s %	Class	Power*	SCOP	η_s %	Class
BA 22I	5 kW	4,18	164	A+++	4 kW	3,22	126	A+++
BA 26I	7,5 kW	4,40	173	A+++	7 kW	3,36	132	A+++
BA 30I	8,5 kW	4,49	177	A+++(+)	8 kW	3,45	135	A+++
BA 45I	14 kW	4,30	169	A+++	13 kW	3,32	130	A+++
BA 60I	22 kW	4,47	176	A+++(+)	24 kW	3,42	134	A+++
BoxAir Inverter SC	Power*	SCOP	η_s %	Class	Power*	SCOP	η_s %	Class
BA 22ISC	5 kW	4,18	164	A+++	4 kW	3,22	126	A+++
BA 26ISC	7,5 kW	4,40	173	A+++	7 kW	3,36	132	A+++
AirMaster	Power*	SCOP	η_s %	Class	Power*	SCOP	η_s %	Class
AM3015Z	6 kW	3,60	141	A+	6 kW	2,90	113	A+
AM3021Z	8 kW	3,73	146	A+	8 kW	3,00	117	A+
AM3030Z	12 kW	3,87	152	A+++	12 kW	3,08	120	A+
AM3038Z	15 kW	3,90	153	A+++	15 kW	3,10	121	A+
AM3045Z	18 kW	3,93	154	A+++	17 kW	3,13	122	A+
EasyMaster	Power*	SCOP	η_s %	Class	Power*	SCOP	η_s %	Class
EM26Z	11 kW	3,62	142	A+	10 kW	2,84	111	A+
EM30Z	12 kW	3,67	144	A+	12 kW	2,88	112	A+
EM37Z	16 kW	3,74	147	A+	15 kW	3,00	117	A+
EM45Z	19 kW	3,87	152	A+++	18 kW	3,04	119	A+
EM60Z	25 kW	3,56	140	A+	24 kW	2,86	111	A+
EM75Z	31 kW	3,61	141	A+	30 kW	2,92	114	A+
AquaMaster Inverter	Power*	SCOP	η_s %	Class	Power*	SCOP	η_s %	Class
AQ 22I	7 kW	4,61	177	A+++(+)	6 kW	3,53	133	A+++(+)
AQ 30I	11 kW	4,85	186	A+++(+)	11 kW	3,78	143	A+++(+)
AQ 45I	21 kW	4,80	184	A+++(+)	19 kW	3,70	140	A+++(+)
AQ 60I	33 kW	5,02	193	A+++(+)	33 kW	3,97	151	A+++(+)
AQ 90I	44 kW	4,87	187	A+++(+)	43 kW	3,87	147	A+++(+)
AquaMaster	Power*	SCOP	η_s %	Class	Power*	SCOP	η_s %	Class
AQ22Z	8 kW	4,50	172	A+++	7 kW	3,17	117	A+
AQ26Z	10 kW	4,34	166	A+++	9 kW	3,11	116	A+
AQ30Z	11 kW	4,29	164	A+++	11 kW	3,10	116	A+
AQ37Z	14 kW	4,46	170	A+++	13 kW	3,16	118	A+
AQ45Z	17 kW	4,61	176	A+++(+)	16 kW	3,19	120	A+
AQ50Z	18 kW	4,42	169	A+++	18 kW	3,37	127	A+++
AQ60Z	23 kW	4,27	163	A+++	22 kW	3,14	118	A+
AQ75Z	28 kW	4,25	162	A+++	26 kW	3,11	116	A+
AQ90Z	33 kW	4,42	169	A+++	30 kW	3,10	116	A+
AQ120.2Z	47 kW	4,51	172	A+++	43 kW	3,22	121	A+
AQ150.2Z	57 kW	4,38	167	A+++	52 kW	3,19	119	A+
AQ180.2Z	64 kW	4,50	172	A+++	61 kW	3,35	126	A+++

*Power output – for the proposal outdoor temperature of -10 °C