

HEAT PUMP SYSTEMS



HEAT PUMP SYSTEMS

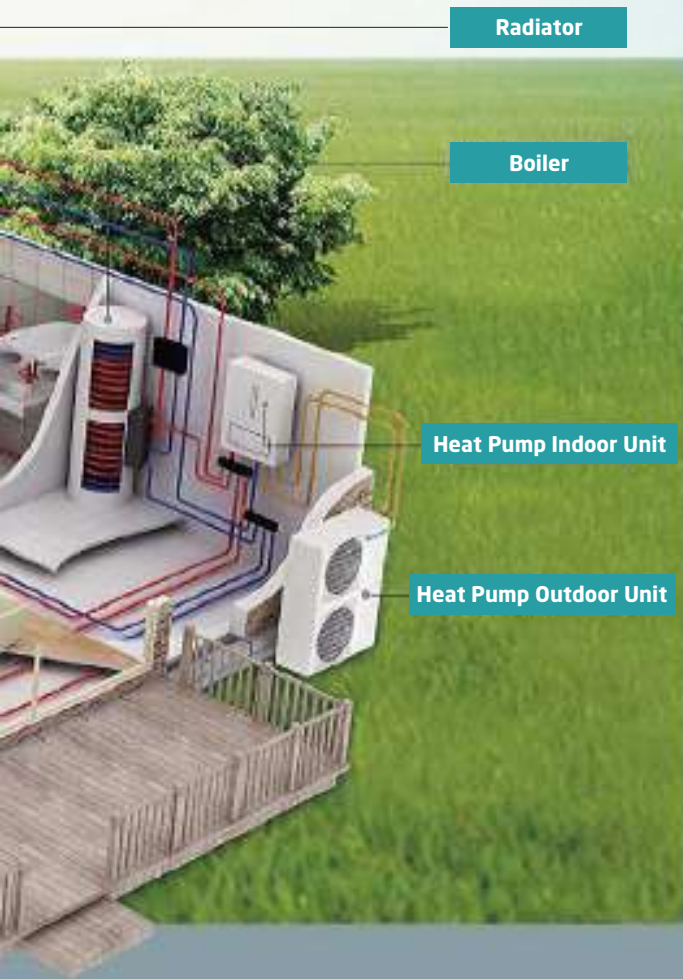


**ENVIRONMENT
AND SAVINGS
FRIENDLY
BAYMAK**

With increasing environmental pollution and global warming, the tendency towards alternative energy sources is increasing and the increase in energy costs today puts emphasis on the proper use of energy and savings.

We not only protect the world we live in but also provide advantages with low energy costs with our environmentally friendly product technologies that do not lead to any environmental pollution.

Description and Working Principle of the Heat Pump



What is a Heat Pump?

Heat pumps are devices that transfer the heat taken from the environment to another environment with the external energy supplied from outside.

With heat pump products, it is possible to provide space heating, space cooling and pool water heating or cooling and obtain domestic hot water. Since heat pumps operate on the principle of reverse cooling cycle, the amount of energy consumed in the system is minimal.

How Does a Heat Pump Operate?

It operates based on the cooling cycle principle, which is also used in products such as refrigerators and air conditioners in our households.

The refrigerant with low temperature and pressure in the evaporator is evaporated by the energy transferred from the air.

In the compressor, the gaseous refrigerant is compressed and its temperature is increased along with its pressure. The refrigerant passing through the compressor reaches the condenser, since the temperature of the water at the condenser is lower, it transfers its heat to the heating system cycle with the help of a plate heat exchanger (condenser). The refrigerant cooled by the heat transfer occurring at this point condenses and goes back to the liquid phase. Afterwards, the pressure is reduced in the expansion valve and the low temperature refrigerant thus completes the cycle.

Always pioneering in energy efficiency, Baymak enables consumers and investors to save energy and make profits with its products that use energy properly.

Baymak brings you environmentally friendly, high efficiency technology by providing up to 80% energy saving with air source heat pump products.

Advantages of Baymak Heat Pump



- Heating and cooling is performed with a heat pump, and it is also possible to obtain domestic hot water with the addition of a boiler or thermoboiler.
- Unlike conventional heating devices, it provides high efficiency with the energy it receives from the ambient air (IO-MM 80 P model COP=5.19).
- It is possible to install a considerably more efficient system by using a PV system and Solar Collector together.
- Since there is no fossil fuel consumption, it does not emit gas, smoke and odour. No chimney is required.
- Due to the fact that it is powered by electricity, the risks associated with gas appliances are eliminated.
- CO² emission is only as much as the emission in electricity generation from the grid. With a PV support, this value can be reduced to significantly lower or even down to zero.

Baymak Heat Pump Family

Inverter Product Series

IOTherm Monoblock Type

Capacity (kW)	8	10	12	14	16	22	26	30
Product Image								
220~240V-1Ph	●	●	●	●	●			
380~415V-3Ph					●	●	●	●

IOTherm Split Type

Capacity (kW)	8	12	16
Product Image			
220~240V-1Ph	●	●	●

BH-CM Hot Water Product Series

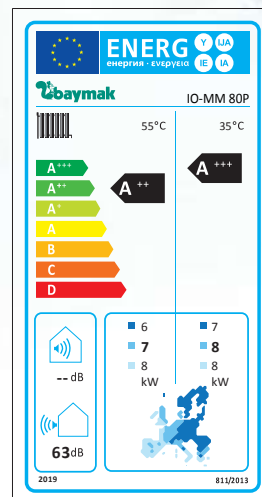
Capacity (kW)	20	38	45
Product Image			
380~415V-3Ph	●	●	●

POOLX Pool Product Series

Capacity (kW)	9	13,5	18	26	52
Product Image					
220~240V-1Ph	●	●	●		
380~415V-3Ph				●	●

IO THERM MONOBLOCK INVERTER

Heat Pump Systems



- High performance thanks to DC inverter technology and new R32 gas cooling efficiency
- High efficiency with A++++ energy efficiency class
- Compact design, 20% smaller* than its counterparts (based on IO-MM 90)
- Cascade up to 6 devices
- Remote access via the Comfort Home application
- Options for use as needed (based on outlet water temperature and room temperature and with external room thermostat)
- Wide range of capacity
- Touch control panel with cables that can be used as a Room Thermostat
- High convenience of hot water with 65°C outlet water temperature
- Healthy and hot domestic water with weekly legionella programme
- Special operating modes (holiday mode, eco mode, silent mode, comfort mode, etc.)
- Eurovent certified



Control Panel

- New generation cabled control device
- Ability to use with 50 m signal cable (shielded cable)
- Ability to use the control panel of the device as a room thermostat
- Modbus protocol
- Separate power adapter

Technical Data Table

MONOBLOCK TYPE MODELS			IO-MM 80 P	IO-MM 100 P	IO-MM 120 P	IO-MM 140 P	IO-MM 160 P	IO-MT 160 P
Heating	Nominal Capacity	kw	8,40	10,00	12,20	14,10	16,00	16,00
	Nominal Input Power	kw	1,66	2,13	2,49	3,00	3,56	3,56
	COP	kw/kw	5,06	4,69	4,90	4,70	4,49	4,49
Cooling	Nominal Capacity	kw	8,30	10,00	12,20	13,90	15,40	15,40
	Nominal Input Power	kw	1,71	2,33	2,65	3,16	3,67	3,67
	EER	kw/kw	4,85	4,29	4,60	4,40	4,20	4,20
Seasonal Energy Efficiency Level	Outlet Water Temp. 35°C		A+++	A+++	A+++	A+++	A+++	A+++
	Outlet Water Temp. 55°C		A++	A++	A++	A++	A++	A++
Compressor	Twin Rotary DC Inverter							
Expansion Valve	Electronic Expansion Valve							
Air Side Heat Exchanger	Fin Coil							
Ambient Air Operating Range	Heating	°C	-25 / 35	-25 / 35	-25 / 35	-25 / 35	-25 / 35	-25 / 35
	Cooling	°C	-5 / 43	-5 / 43	-5 / 43	-5 / 43	-5 / 43	-5 / 43
	Domestic Hot Water	°C	-25 / 43	-25 / 43	-25 / 43	-25 / 43	-25 / 43	-25 / 43
Outlet Water Temperature Range	Heating	°C	25 / 65	25 / 65	25 / 65	25 / 65	25 / 65	25 / 65
	Cooling	°C	5 / 25	5 / 25	5 / 25	5 / 25	5 / 25	5 / 25
	Domestic Hot Water	°C	20 / 60	20 / 60	20 / 60	20 / 60	20 / 60	20 / 60
Refrigerant	Refrigerant Type		R32	R32	R32	R32	R32	R32
	Charging Volume	kg	1,25	1,25	1,80	1,80	1,80	1,80
Air Flow Rate	m³/h		4500	4500	5200	5200	5200	5200
Power Supply	V/Ph/Hz		220-240 / 1 / 50	220-240 / 1 / 50	220-240 / 1 / 50	220-240 / 1 / 50	220-240 / 1 / 50	380-415 / 3 / 50 Hz
Electric Heater	kw		External	External	External	External	External	External
Device Dimensions Net / Packaged	Length	mm	1040 / 1190	1040 / 1190	1040 / 1190	1040 / 1190	1040 / 1190	1040 / 1190
	Width	mm	410 / 560	410 / 560	410 / 560	410 / 560	410 / 560	410 / 560
	Height	mm	865 / 970	865 / 970	865 / 970	865 / 970	865 / 970	865 / 970
Weight Net/Gross	kg		87 / 103	87 / 103	87 / 103	87 / 103	87 / 103	87 / 103
Water Pipe Connection (Inlet-outlet)	inch		1"	1"	1 1/4"	1 1/4"	1 1/4"	1 1/4"
Sound Power Level (EN12102-1)	dB(A)		63	65	70	72	72	72
Recommended Fuse	A		20	20	32	32	32	20
Expansion Tank Volume	L		5	5	5	5	5	5

Testing Conditions

1. Heating : Ambient temperature 7°C, Water outlet temperature 35°C Water inlet temperature 30°C
2. Cooling : Ambient temperature 35°C, Water outlet temperature 18°C Water inlet temperature 23°C

Built-in Accessories



Control Panel x1



Temperature Sensor x1



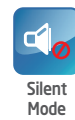
Strainer x1



Discharge Head x1

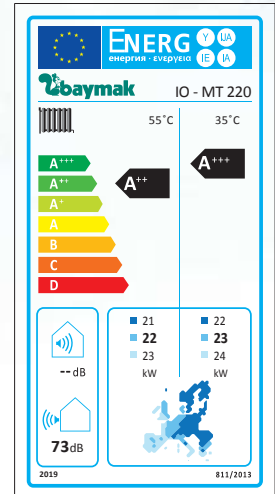


Bridge Cable x1



IO THERM PLUS MONOBLOCK INVERTER

Heat Pump Systems



- High performance thanks to DC inverter technology and new R32 gas cooling efficiency
- High efficiency with A++++ energy efficiency class
- Cascade up to 6 devices
- Remote access via the Comfort Home application
- Options for use as needed (based on outlet water temperature and room temperature and with external room thermostat)
- Wide range of capacity
- Touch control panel with cables that can be used as a Room Thermostat
- High convenience of hot water with 60°C outlet water temperature
- Healthy and hot domestic water with weekly legionella programme
- Special operating modes (holiday mode, eco mode, silent mode, comfort mode, etc.)
- Eurovent certified



Control Panel

- New generation cabled control device
- Ability to use with 50 m signal cable (shielded cable)
- Ability to use the control panel of the device as a room thermostat
- Modbus protocol
- Separate power adapter

Technical Data Table

MONOBLOCK TYPE MODELS			IO-MT 220	IO-MT 260	IO-MT 300
Heating	Nominal Capacity	kW	22,00	26,00	30,10
	Nominal Input Power	kW	5,0	6,37	8,03
	COP	kW/kW	4,40	4,08	3,75
Cooling	Nominal Capacity	kW	23,0	27,0	31,0
	Nominal Input Power	kW	5,0	6,28	7,75
	EER	kW/kW	4,60	4,30	4,0
Seasonal Energy Efficiency Level	Outlet Water Temperature 35°C		A+++	A+++	A++
	Outlet Water Temperature 55°C		A++	A+	A+
Compressor			Twin Rotary DC Inverter		
Expansion Valve			Electronic Expansion Valve		
Ambient Air Operating Range	Heating	°C	-25 / 35	-25 / 35	-25 / 35
	Cooling	°C	5 / 46	5 / 46	5 / 46
	Domestic Hot Water	°C	-25 / 43	-25 / 43	-25 / 43
Outlet Water Temperature Range	Heating	°C	25 / 60	25 / 60	25 / 60
	Cooling	°C	5 / 25	5 / 25	5 / 25
	Domestic Hot Water	°C	40 / 60	40 / 60	40 / 60
Refrigerant	Refrigerant Type		R32	R32	R32
	Charging Volume	kg	5,00	5,00	5,00
Air Flow Rate	m³/h	6150,0	6150,0	6150,0	
Power Supply	V/Ph/Hz	380 - 415 / 3 / 50 Hz	380 - 415 / 3 / 50 Hz	380 - 415 / 3 / 50 Hz	
Built-in Electric Heater	kW	-	-	-	
Device Dimensions (WxDxH)	mm	528 x 1129 x 1558	528 x 1129 x 1558	528 x 1129 x 1558	
Packaged Device Dimensions (WxDxH)	mm	565 x 1220 x 1725	565 x 1220 x 1725	565 x 1220 x 1725	
Weight Net/Gross	kg	177 / 206	177 / 206	177 / 206	
Water Pipe Connection (inlet-outlet)	inch	1 1/4"	1 1/4"	1 1/4"	
Sound power level	dB(A)	73,0	73,0	77,0	
Sound Pressure (for 1 m)	dB(A)	73,0	73,0	77,0	
Recommended Fuse	A	32	40	40	
Expansion Tank Volume	L	8,0	8,0	8,0	

Testing Conditions

1. Heating: Ambient temperature 7°C, Water outlet temperature 35°C Water inlet temperature 30°C 2. Cooling: Ambient temperature 35°C, Water outlet temperature 18°C Water inlet temperature 23°C

Built-in Accessories



Control Panel x1



Copper Adapter x1



Strainer x1



Temperature Sensor x1



Discharge Head x2



Bridge Cable x1

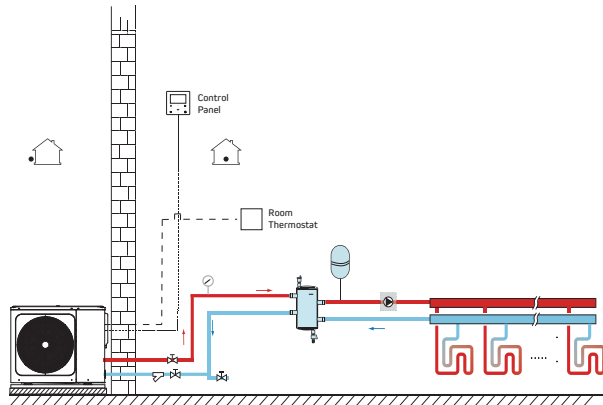


Extension Cable x1

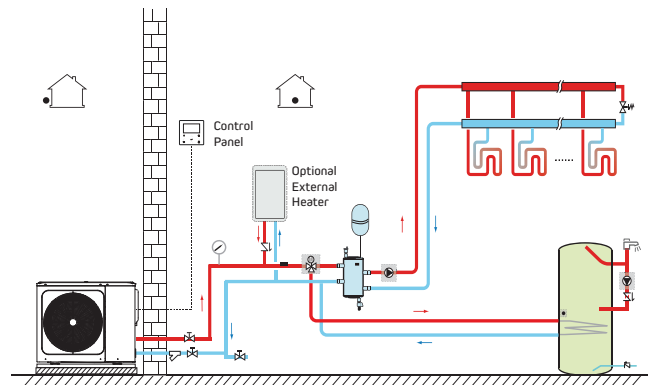


Installation Application Examples

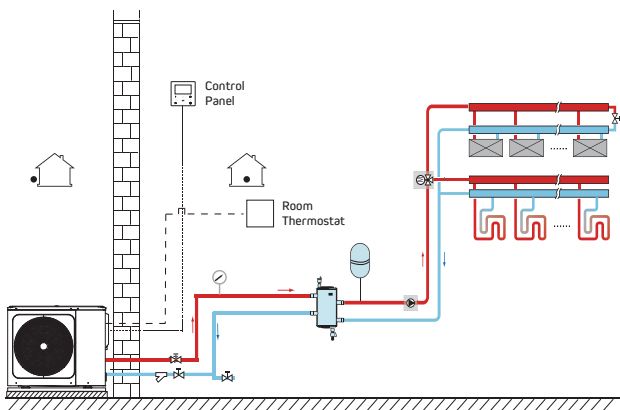
1 Heating



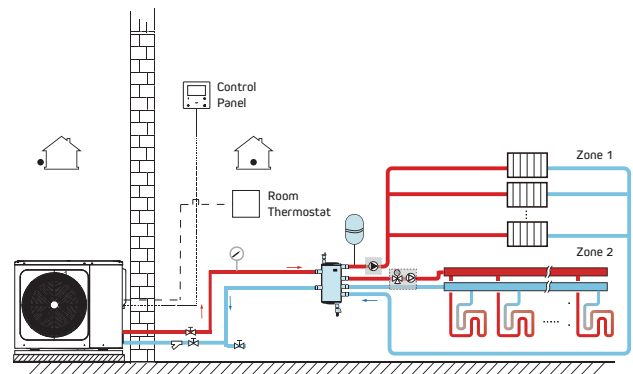
1 Heating + Boiler



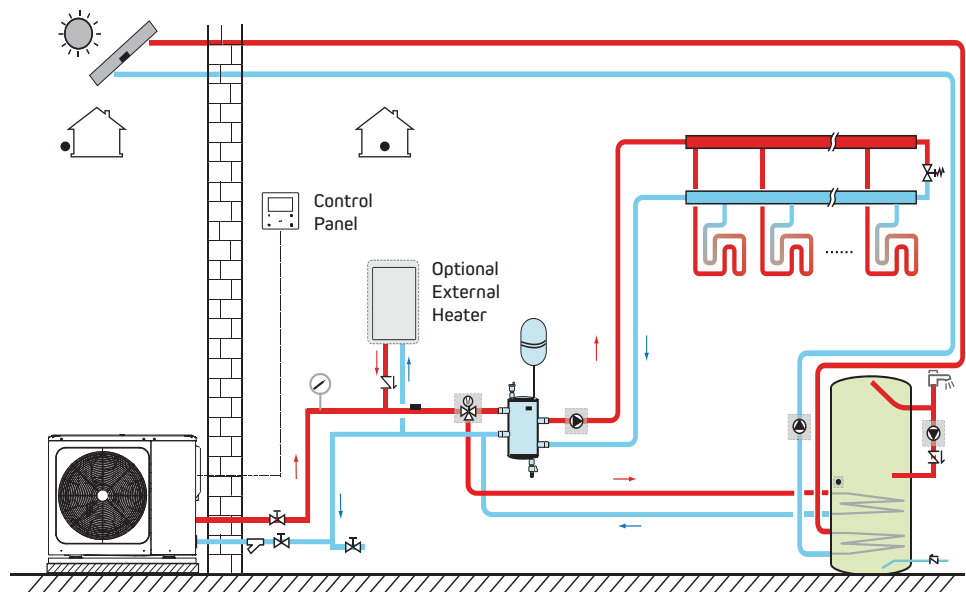
1 Heating + Cooling



1 Heating + 1 Heating / Cooling



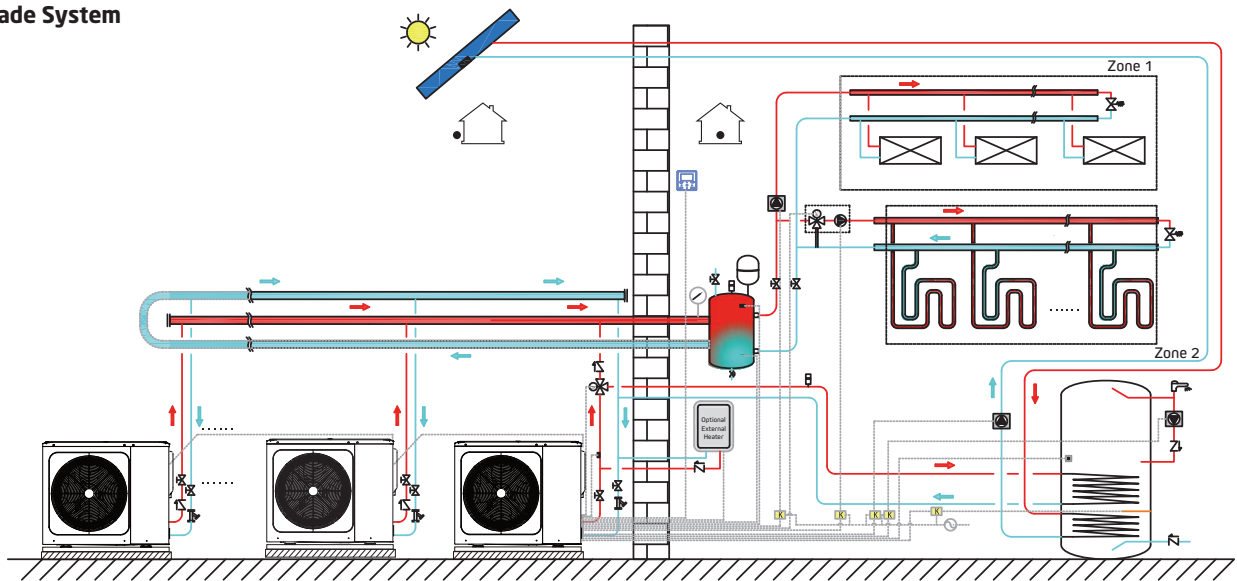
1 Heating + 1 Boiler + Solar Energy



* The drawings are exemplary and do not include all the components required for the installation.

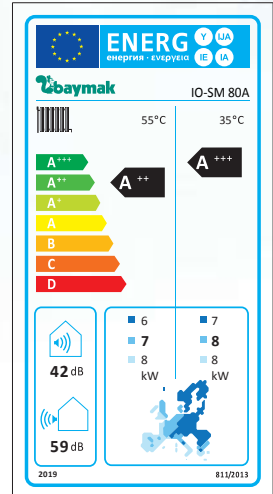


Cascade System



IO THERM MONOBLOCK SPLIT INVERTER

Heat Pump Systems



- High performance thanks to DC inverter technology and new R32 gas cooling efficiency
- High efficiency with A++++ energy efficiency class
- Protects the hydro block from the risk of frost in cold regions with its indoor unit
- Remote access via the Comfort Home application
- Options for use as needed (based on outlet water temperature and room temperature and with external room thermostat)
- Wide range of capacity
- Touch control panel with cables that can be used as a Room Thermostat
- High convenience of hot water with 65°C outlet water temperature
- Healthy and hot domestic water with weekly legionella programme
- Special operating modes (holiday mode, eco mode, silent mode, comfort mode, etc.)
- Eurovent certified



Control Panel

- New generation cabled control device
- Ability to use with 50 m signal cable (shielded cable)
- Ability to use the control panel of the device as a room thermostat
- Modbus protocol
- Separate power adapter

Technical Data Table

SPLIT TYPE MODELS			IO-MM 80 P	IO-MM 120 P	IO-MM 160 P
Heating	Nominal Capacity	kw	8,30	12,10	16,00
	Nominal Input Power	kw	1,60	2,44	3,56
	COP	kw/kw	5,19	4,96	4,49
Cooling	Nominal Capacity	kw	8,40	12,00	14,20
	Nominal Input Power	kw	1,66	3,00	3,94
	EER	kw/kw	5,06	4,00	3,60
Seasonal Energy Efficiency Level	Outlet Water Temp. 35°C		A+++	A+++	A+++
	Outlet Water Temp. 55°C		A++	A++	A++
OUTDOOR UNIT					
Compressor			Twin Rotary DC Inverter		
Expansion Valve			Electronic Expansion Valve		
Heat Exchanger			Fin Coil		
Ambient Air Operating Range	Heating	°C	-25 / 35	-25 / 35	-25 / 35
	Cooling	°C	-5 / 43	-5 / 43	-5 / 43
	Domestic Hot Water	°C	-25 / 43	-25 / 43	-25 / 43
Refrigerant	Pipe Diameter (Liquid)	mm	Φ9,52	Φ9,52	Φ9,52
	Pipe Diameter (Gas)	mm	Φ15,9	Φ15,9	Φ15,9
	Pipe Length (Min/max)	m	2 / 30	2 / 30	2 / 30
	Refrigerant Type		R32	R32	R32
	Charging Volume	kg	1,65	1,84	1,84
	Additional Charging Volume (for each m after 15 m)	gr	38	38	38
Sound Power Level (EN12102-1)		dB(A)	59	64	68
Power Supply		V/Ph/Hz	220-240 / 1 / 50	220-240 / 1 / 50	220-240 / 1 / 50
Recommended Fuse		A	20	32	32
Device Dimensions Net / Packaged	Length	mm	1118 / 1190	1118 / 1190	1118 / 1190
	Width	mm	523 / 560	523 / 560	523 / 560
	Height	mm	865 / 970	865 / 970	865 / 970
Weight Net / Gross		kg	75 / 89	97 / 110,5	97 / 110,5
INDOOR UNIT					
Outlet Water Temperature Range	Heating	°C	25 / 65	25 / 65	25 / 65
	Cooling	°C	5 / 25	5 / 25	5 / 25
	Domestic Hot Water	°C	20 / 60	20 / 60	20 / 60
Electric heater		kw	External	External	External
Sound Power Level (EN12102-1)		dB(A)	42	43	43
Water Pipe Connection (Inlet-Outlet)		inch	1"	1"	1"
Power Supply		V/Ph/Hz	220-240 / 1 / 50	220-240 / 1 / 50	220-240 / 1 / 50
Device Dimensions Net / Packaged	Heating	mm	420 / 525	420 / 525	420 / 525
	Cooling	mm	270 / 360	270 / 360	270 / 360
	Domestic Hot Water	mm	790 / 1050	790 / 1050	790 / 1050
Weight Net / Gross		kg	37 / 43	39 / 45	39 / 45
Expansion Tank Volume		L	8	8	8

Testing Conditions

1. Heating: Ambient temperature 7°C, Water outlet temperature 35°C Water inlet temperature 30°

2. Cooling: Ambient temperature 35°C, Water outlet temperature 18°C Water inlet temperature 23°C

Built-in Accessories



Strainer x1



Discharge Head x1



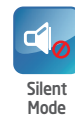
M16 Copper Nut x1



Temperature Sensor x1

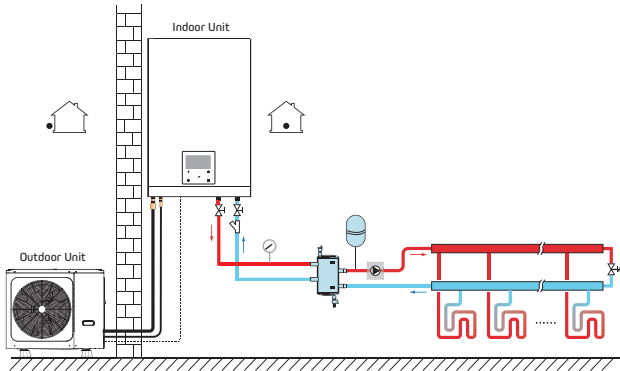


Indoor Unit Hanging Bracket x1

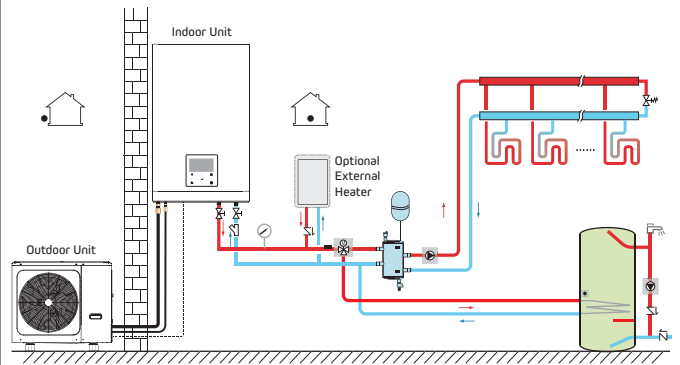


Installation Application Examples

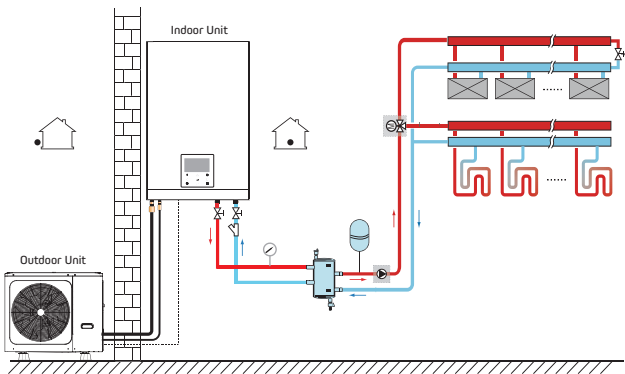
1 Heating



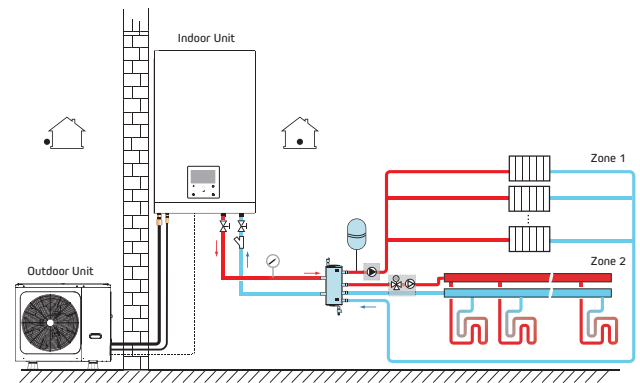
1 Heating + Boiler



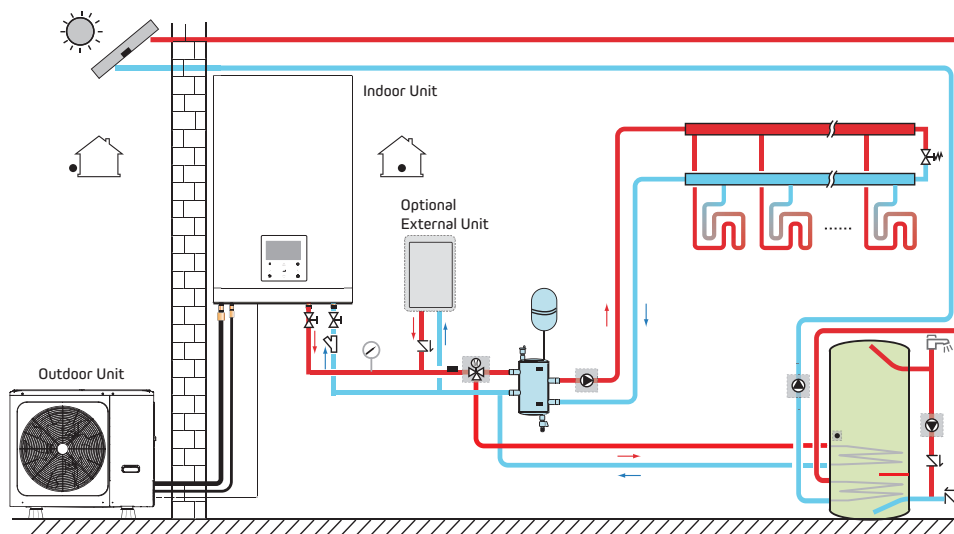
1 Heating + Cooling



1 Heating + 1 Heating / Cooling



1 Heating + 1 Boiler + Solar Energy



* The drawings are exemplary and do not include all the components required for the installation.

External Equipment



Buffer

Ensures more efficient operation of the system.



In-Tank Heater Kit

Supports the system when capacity is limited.



Boiler

Provides domestic hot water.



Circulation Pump

The external circulation pump ensures the circulation of water in the installation after the buffer.



BH 30A Heater Kit

Supports the system when capacity is limited.



Expansion Tank

Absorbs thermal expansion in the system.



Radiator



Room Thermostat

Google Play
Download on the App Store

Comfort Home

You can access your device anywhere* with the **Comfort Home** application available for download on **Google Play** or the **App Store**. Switching the device on/off, temperature setting, zone setting and many other features can be controlled via the application.

The device, which can be activated remotely beforehand, provides time saving and convenience to the users.

* The location of the control panel must have a 5G compatible modem, active Wi-Fi network and electricity.

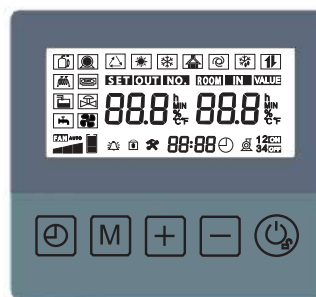
HOT WATER

Heat Pump Systems



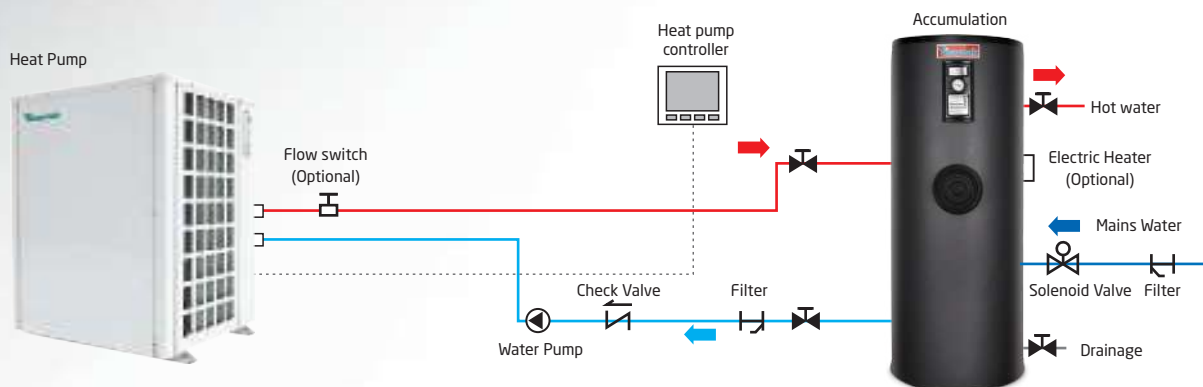
- Ability to use with mains water thanks to its specially designed heat exchanger
- Remote control with its Wi-Fi feature
- Ability to set 2 different programmes
- Hot water supply up to 60°C
- Easy operation
- LCD display screen
- Memory function against power outages
- Ability to display error codes on the screen, control of operation parameters

Cabled Control Panel

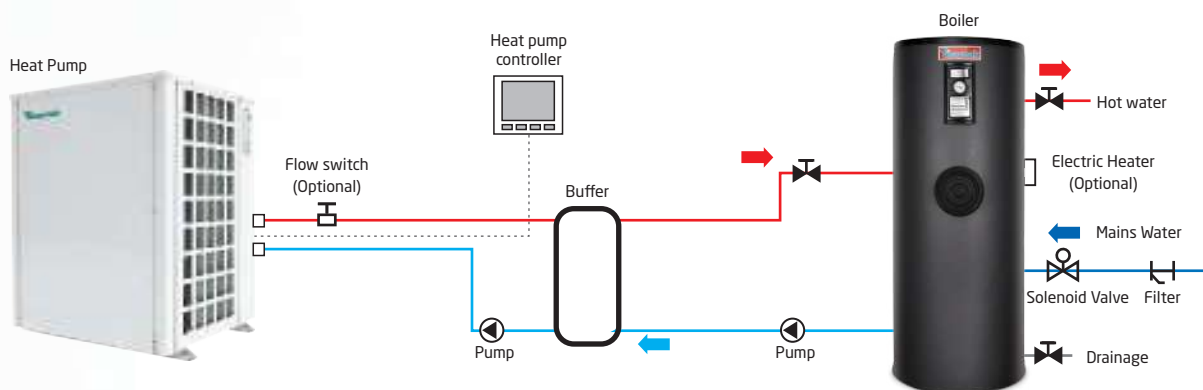


Installation Application Examples

Installation with Accumulation



Installation with Boiler



* The drawings are exemplary and do not include all the components required for the installation.

Technical Data Table

MODELS		BH-CM 200	BH-CM 380	BH-CM 450
Heating Capacity	kW	19	38	45
Power Supply	V/Ph/Hz	380/3/50	380/3/50	380/3/50
Input Power	kW	4.55	9.2	10.8
Operation Current	A	7.83	15.84	18.6
Max. Input Power	kW	6.37	12.88	16.2
Max. Operation Current	A	10.97	22.18	27.89
Cooler		R410a	R410a	R410a
Number of Compressors		1	2	2
Outlet Water Temperature	°C	55	55	55
Max. Outlet Water Temperature	°C	60	60	60
Hot Water Efficiency	L/h	408	817	967
Water Flow	m ³ /h	4.1	8.2	9.7
Water Pressure Loss	Kpa	50	55	55
Water Connection Pipe	mm	Dn25	Dn40	Dn40
Sound Level	dB(A)	<57	<60	<61
Electricity Protection		I	I	I
Mechanical Protection		IPX4	IPX4	IPX4
Net/Gross weight	kg	119/137	249/294	268/316
Dimension (Net)	mm	725x690x965	1450x702x1060	1450x702x1260
Dimension (Gross)	mm	840x750x1100	1525x805x1220	1525x805x1420
Circulation pump (optional)		DAB Evoplus 60/180 SAN M	DAB Evoplus B 120/220.32 SAN M	DAB Evoplus B 120/220.32 SAN M

Measurement: Dry/wet thermometer temperatures 20°C/15°C; Water inlet/outlet temperature 15°C/55°C.

POOLX POOL

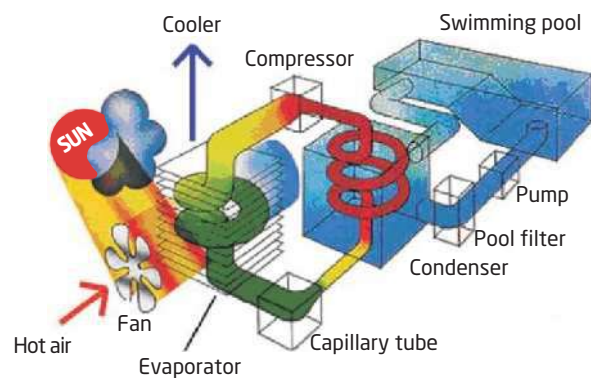
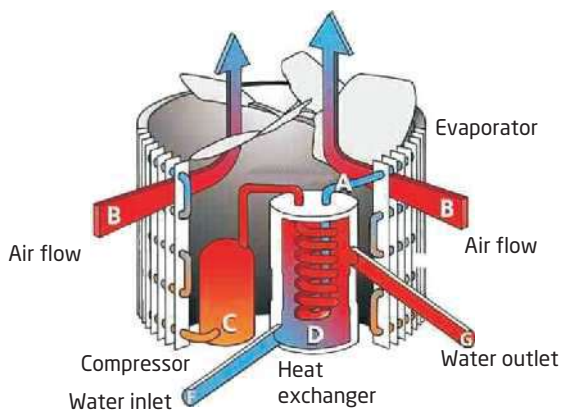
Heat Pump Systems



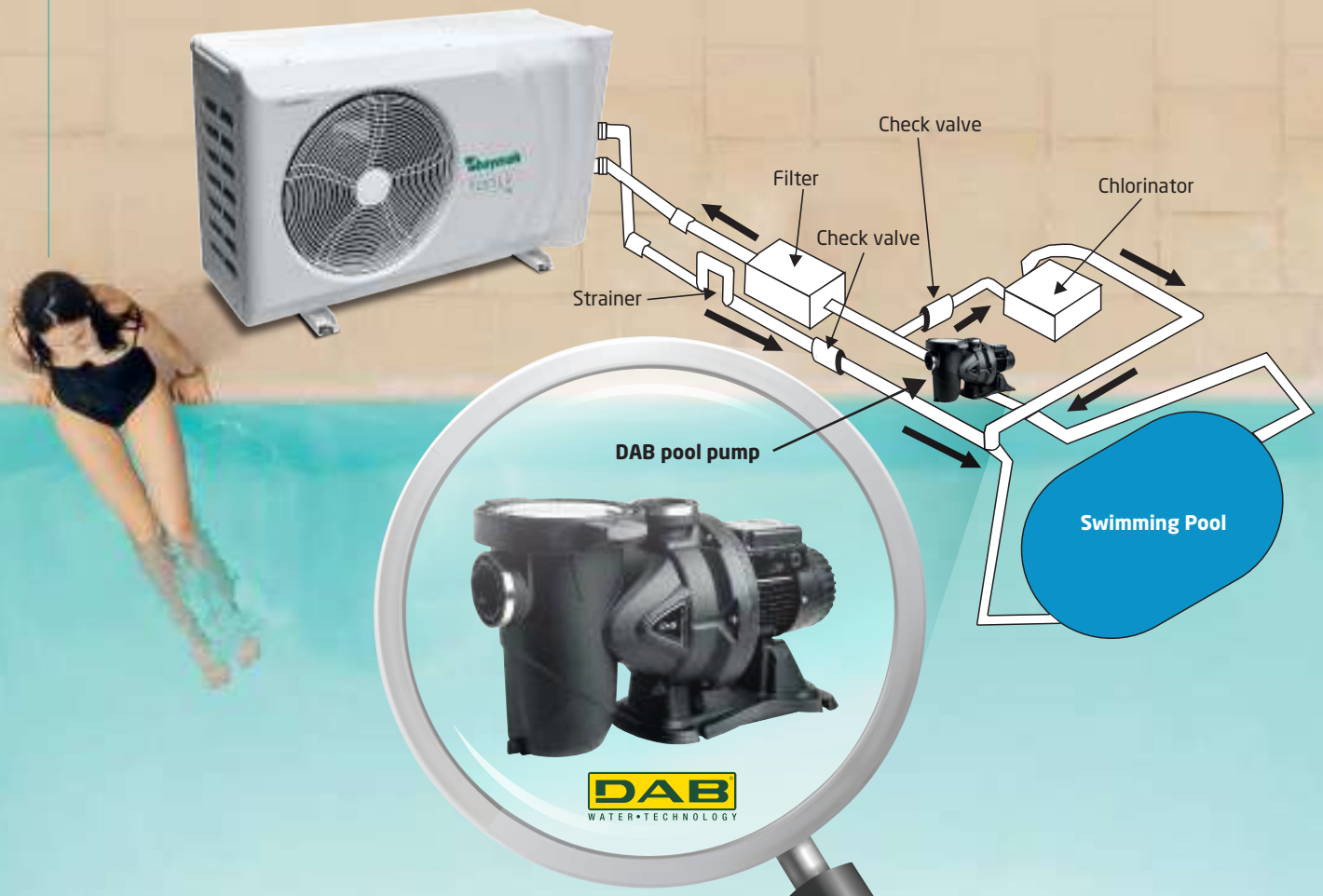
POOLX



- Ability to carry out heating-cooling of pool water
- Resistant to corrosion caused by chlorine ions with specially designed titanium heat exchanger
- LCD display screen
- Hydrophilic Fin-Tube evaporator water flux and high performance in defrosting
- High performance thanks to COP rates up to 5.7
- Outlet water temperature range 15-40°C



Installation Application Example



Technical Data Table

MODELS			POOLX 90	POOLX 135	POOLX 180	POOLX 260	POOLX 520
Air 24°C /Water 27°C*	Heating Capacity	W	9000	13500	18000	26300	52700
		BTU	30690	46035	61380	89600	179700
	Heating Input Power	W	1575	2180	2610	4962	10333
	Heating Operation Current	A	7.50	10.43	12.5	8.95	18.64
	COP		5.00	5.7	5.3	5.3	5.1
Max. Current		A	12	18	24	14	28
Power Supply		V/Ph/Hz	220v/1pH/50Hz	220v/1pH/50Hz	220v/1pH/50Hz	380v/3pH/50Hz	380-415v/3pH/50Hz
Outlet Temperature Range			15°C~ 40°C	15°C~ 40°C	15°C~ 40°C	15°C~ 40°C	15°C~ 40°C
Operating Temperature Range			-5°C~ 43°C	-5°C~ 43°C	-5°C~ 43°C	-5°C~ 43°C	-5°C~ 45°C
Refrigerant Gas			R410a	R410a	R410a	R410a	R410a
Heat Exchanger			Titanium & PVC	Titanium & PVC	Titanium & PVC	Titanium & PVC	Titanium & PVC
Refrigerant			R410a	R410a	R410a	R410a	R410a
Fan Motor	Consumption	W	70	80	140	320	320x2
	Fan Speed	D/dk.	820	900	800	800	800
Control Panel			LCD	LCD	LCD	LCD	LCD
Water Inlet / Outlet Dimensions		"	1.5"	1.5"	1.5"	1.5"	2"
Hydraulic Connection		mm	PVC 50	PVC 50	PVC 50	PVC 50	PVC 63
Water Flow Volume		m³/h	4.5	5.5	6	8	21,5
Sound Pressure Level 1M/4M/10M**		dB(A)	51/38/30	52/40/32	52/40/32	55/44/34	55/44/34
Dimensions	WxDxH	mm	935x282x550	1012x306x613	1116x425x686	752x691x959	1450x702x1260
Package Dimensions	WxDxH	mm	1060x380x690	1135x390x750	1250x505x825	840x750x1100	1528x805x1420
Weight	Net Weight	kg	54	105	115	124	268
	Gross Weight	kg	64	120	130	135	316
Pool Pump (Optional)			DAB EUROSWM 50	DAB EUROSWM 50	DAB EUROSWM 50	DAB EUROSWM 50	DAB EUROSWM 150

* Ambient temperature 24°C (DB)/19°C (WB), inlet water temperature 27°C

** Sound (dB(A)) at 1 metre, 4 metres or 10 metres (in accordance with EN ISO 3741 & EN ISO 354 Directives).



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