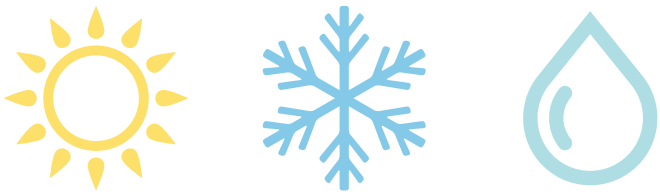


Air to Water Heat Pumps **Matrix**

Keymark Certified

Tomorrow’s technology in heating

Inventor’s air to water heat pumps Matrix, are the ideal solution for heating, cooling and domestic hot water (DHW). Combining both, comfort and energy efficiency, they are specifically designed to cover the needs of your household such as:

Floor heating and cooling
Space heating with radiators
Cooling and Heating with fan coils
Domestic hot water

The air to water heat pumps deliver high performance while **receiving over 3/4 of the required energy input directly from the environment** while only a small portion (1/4) from electricity. The heat exchanger, receives energy from the environment while the built-in compressor increases the temperature of the refrigerant (R32) providing you with ideal indoor conditions.

The heat pumps use 1kW of electrical energy and 3kW of thermal energy that is transfered through the air.

Keymark certification of **CEN** and **CENELEC** European Committees that demonstrates compliance with European Standards.

3 YEARS WARRANTY

R32

All DC Inverter

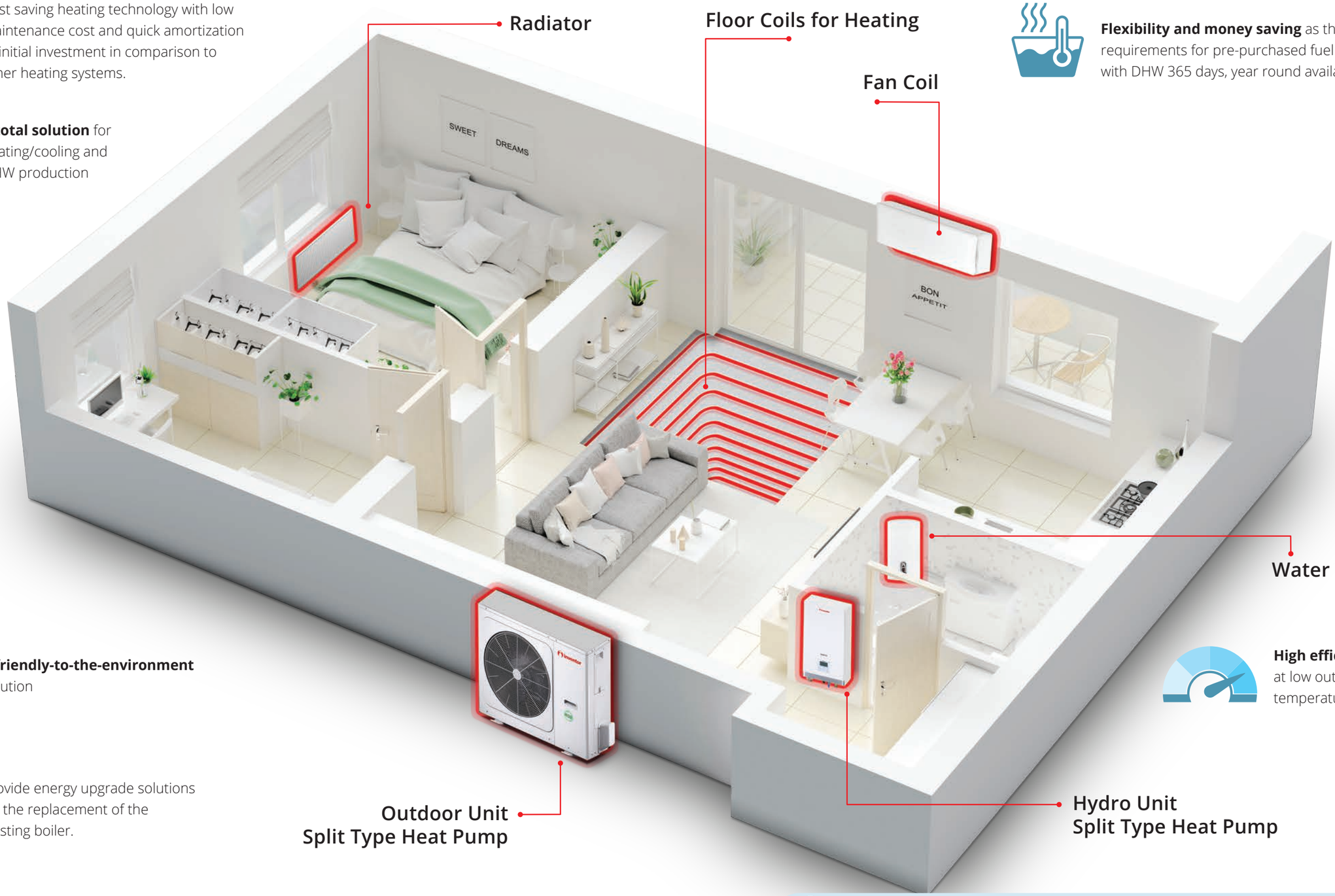
Monoblock Type									Split Type						
Matrix	6kW	8kW	10kW	12kW	14kW	16kW	22kW	30kW	4kW	6kW	8kW	10kW	12kW	14kW	16kW
220-240/50/1		•	•	•	•	•									
220-240/50/1*	•	•	•	•	•	•			•	•	•	•	•	•	•
380-415/50/3				•	•	•	•	•							
380-415/50/3**				•	•	•							•	•	•

* integrated electrical heater 3kW, ** integrated electrical heater 9kW

Benefits of Inventor's air to water heat pumps **Matrix**

Cost saving heating technology with low maintenance cost and quick amortization of initial investment in comparison to other heating systems.

A **total solution** for heating/cooling and DHW production



Flexibility and money saving as there are no requirements for pre-purchased fuel (oil, wood, pellet) with DHW 365 days, year round availability

High efficiency even at low outdoor ambient temperatures

A **friendly-to-the-environment** solution

Provide energy upgrade solutions via the replacement of the existing boiler.

Credibility and reassurance about product information

Comfort & Flexibility

Priority Function

You can select the operation priority of the heat pump. The heat pump will prioritize DHW production or space heating & cooling according to your needs.

2 Stage Silent Mode

Reduce the heat pump noise levels even further by selecting between the two different levels of silent operation.

Fast Domestic Hot Water Function

You can select the Fast DHW Function for the unit to produce DHW when there is a need for immediate hot water demand.

Zone Control

Energy efficiency, flexibility and comfort. Matrix heat pumps offer dual zone temperature control for heating and cooling, e.g. application with radiators and underfloor heating system.

**For more than 2 zones, AT-TCK-6 installation is required.*

Weather Dependent Operation

By activating one of the 32 weather temperature settings the heat pump will automatically adjust the leaving water temperature according to the current outdoor ambient temperature providing ideal comfortable conditions with increased energy savings.

Disinfection Function 65~70ºC

Maintain pristine quality of the water tank's DHW and eliminate germs and bacteria by increasing the temperature of the water* in it up to 70ºC.

*Unit can control domestic hot water tank electric heater.

Compressor and Chassis Heating Belt

The heat pump units are designed with pre-installed heating belts located on the chassis and the compressor to ensure their protected operation even at extreme weather conditions, a longer operation life, and provide high efficiency and stellar heating conditions quickly and effectively.

Touch Wired Controller

Eco function

Achieve greater energy savings by activating the Eco function.

Weekly Timer

Set the heat pump to operate according to your weekly schedule and enjoy ideal conditions in your space and availability of DHW when in need, saving energy and money on a daily basis.

Built-in Temperature Sensor

Achieve ideal conditions in your space by using the wired controller as an external thermostat. The built-in temperature sensor will provide accurate room temperature information to the heat pump, for increased comfort.

Holiday Mode

Reduce energy consumption while saving money even when away from home with the Holiday Away mode. You can additionally program the heat pump with different operation settings through the Holiday Home mode, to activate quick and easy when your home activity changes from your typical daily schedule.

Modbus RTU

Connect up to 16 heat pumps with your building management system through Modbus RTU protocol to fully incorporate to your smart house/building and achieve complete control of the environment of your space.

Wi-Fi Standard

Easily control your climate remotely from virtually anywhere with your Smartphone or tablet. Download for free the application via Google Play & App Store and achieve optimal temperature conditions with great energy savings.

Technology protecting the environment

Smart Grid Ready

Designed as environmental friendly, Inventor heat pumps can connect with a Smart City's Smart Grid. Through their connection with the Smart Grid, the heat pumps can automatically alter their operation to activate the DHW production when there is excess energy available or to restrict their operation when the electricity grid is overtaxed, saving energy and helping protect the environment.

All DC Inverter

With the inclusion of All DC Inverter technology, Inventor heat pumps operate at the ideal settings according to the constantly changing consumption needs, operating at the lowest possible noise levels while at the same time saving energy.

New Refrigerant

R32 refrigerant is environmental friendly and with thermodynamic characteristics that allow water temperatures up to 65°C.

Easy Installation

Single Fan Design

The special design of the units up to 16kW allows effective operation with a single fan in order to provide the ideal space conditions while operating at a low noise level.

Complete Hydraulic Set

Unit has all hydraulic components offering ease of installation.

Compact Design

Inventor heat pumps offer flexibility in covering the needs of every space (installation of split or monoblock type units). Their design has been specifically calibrated to ensure compact dimensions so that they can be installed even in areas of limited installation space.

Flexible Installation

Due to their unique design, Inventor split type heat pumps can be installed at a height difference of up to 20m (indoor to outdoor), with a maximum total piping length of 30m.

Automatic Underfloor Heating System Drying Operation

Protect your home floor by activating the Automatic Underfloor Heating System Drying Operation which slowly increases the heating temperature of the floor coils, avoiding possible floor damaging and transitioning smoothly to the heating function. The Automatic Underfloor Heating System Drying Operation removes any residual moisture from newly installed floor coils, further protecting the installation and ensuring the optimal and effective operation of the heat pump.

DC Inverter Water Pump

Equipped with a reliable high static pressure circulating pump, Inventor Heat Pumps provide higher efficiency and guarantee optimal operation.

Modular Connection of up to 6 Units in the same Water Circuit

Inventor monoblock type heat pumps are equipped with modular technology allowing to connect up to 6 units* to the same water circuit to be operated from a single wired controller, while the unit settings can be achieved easy and faster due to the easy addressing technology.

* Maximum modular capacity up to 96kW for connecting units 4kW to 16kW and up to 180kW for connecting units 22kW to 30kW

Split Type Heat Pumps


4-6kW


8-16kW


ATS12T/ATS14S/ATS16S

Model Name				ATS04S/HU060S3	ATS06S/HU060S3	ATS08S/HU100S3	ATS10S/HU100S3	ATS12S/HU160S3	ATS14S/HU160S3	ATS16S/HU160S3	ATS12T/HU160T9	ATS14T/HU160T9	ATS16T/HU160T9
Space Heating (Average Climate)	Water temperature 35°C	Capacity	kW	4.25	6.20	8.30	10.0	12.1	14.5	16.0	12.1	14.5	16.0
		Rated input	kW	0.82	1.24	1.60	2.00	2.44	3.09	3.56	2.44	3.09	3.56
		COP		5.20	5.00	5.20	5.00	4.95	4.70	4.50	4.95	4.70	4.50
	Water temperature 55°C	Capacity	kW	4.40	6.00	7.50	9.50	12.0	13.8	16.0	12.0	13.8	16.0
		Rated input	kW	1.49	2.00	2.36	3.06	3.87	4.60	5.52	3.87	4.60	5.52
		COP		2.95	3.00	3.18	3.10	3.10	3.00	2.90	3.10	3.00	2.90
Space Cooling	Water temperature 18°C	Capacity	kW	4.50	6.55	8.40	10.00	12.00	13.50	14.90	12.00	13.50	14.90
		Rated input	kW	0.81	1.34	1.66	2.08	3.00	3.75	4.38	3.00	3.75	4.38
		EER		5.55	4.90	5.05	4.80	4.00	3.60	3.40	4.00	3.60	3.40
	Water temperature 7°C	Capacity	kW	4.70	7.00	7.40	8.20	11.6	12.7	14.0	11.6	12.7	14.0
		Rated input	kW	1.36	2.33	2.19	2.48	4.22	4.98	5.71	4.22	4.98	5.71
		EER		3.45	3.00	3.38	3.30	2.75	2.55	2.45	2.75	2.55	2.45
Seasonal space heating energy efficiency class (Average)	Water outlet at 35ºC	ηs (%)		191	195	205	204	189	185	182	189	185	182
		class		A+++	A+++	A+++	A+++	A+++	A+++	A+++	A+++	A+++	A+++
	Water outlet at 55ºC	ηs (%)		129	138	131	136	135	135	133	135	135	133
		class		A++	A++	A++	A++	A++	A++	A++	A++	A++	A++
SCOP (Average)	Water outlet at 35ºC			4.85	4.95	5.21	5.19	4.81	4.72	4.62	4.81	4.72	4.62
	Water outlet at 55ºC			3.31	3.52	3.36	3.49	3.45	3.47	3.41	3.45	3.47	3.41
SEER	Water outlet at 7ºC			4.99	5.34	5.83	5.98	4.89	4.86	4.69	4.86	4.83	4.67
	Water outlet at 18ºC			7.77	8.21	8.95	8.78	7.1	6.9	6.75	7.04	6.85	6.71
Power supply			V/Hz/Ph	220-240/50/1				220-240/50/1			380-415/50/3		
Auxiliary Electric Heater			kW/Ph	3 / 1	3 / 1	3 / 1	3 / 1	3 / 1	3 / 1	3 / 1	9 / 3	9 / 3	9 / 3
MOP/MCA			A	18/12	18/14	19/16	19/17	30/25	30/26	30/27	14/10	14/11	14/12
Compressor	Type			Twin rotary Mitsubishi				Twin rotary Mitsubishi					
Refrigerant	Type / Charged volume (up to 15m)		kg	R32/1.50		R32/1.65		R32/1.84					
Water side heat exchanger				Plate type				Plate type					
Pipe size	Liquid | Gas | Water (inner dimension)		inch	1/4" | 5/8" | R1"		3/8"| 5/8" | R1"		3/8"| 5/8" | R1"				
Power Supply Wire Indoor			No. x mm² / No. x A	3x4.0 / 2x20 (bipolar fuse kinetic)	3x4.0 / 2x20 (bipolar fuse kinetic)	3x4.0 / 2x20 (bipolar fuse kinetic)	3x4.0 / 2x20 (bipolar fuse kinetic)	3x4.0 / 2x20 (bipolar fuse kinetic)	3x4.0 / 2x20 (bipolar fuse kinetic)	3x4.0 / 2x20 (bipolar fuse kinetic)	5x4.0 / 4x20 (bipolar fuse kinetic)	5x4.0 / 4x20 (bipolar fuse kinetic)	5x4.0 / 4x20 (bipolar fuse kinetic)
Power Supply Wire Outdoor			No. x mm² / No. x A	3x4.0 / 2x20 (bipolar fuse kinetic)	3x4.0 / 2x20 (bipolar fuse kinetic)	3x4.0 / 2x20 (bipolar fuse kinetic)	3x4.0 / 2x20 (bipolar fuse kinetic)	3x6.0 / 2x25 (bipolar fuse kinetic)	3x10.0 / 2x32 (bipolar fuse kinetic)	3x10.0 / 2x32 (bipolar fuse kinetic)	5x2.5 / 4x20 (quadpolar fuse kinetic)	5x2.5 / 4x20 (quadpolar fuse kinetic)	5x2.5 / 4x20 (quadpolar fuse kinetic)
Signal Wires			No. x mm² / No. x A	3x1.0 shielded	3x1.0 shielded	3x1.0 shielded	3x1.0 shielded	3x1.0 shielded	3x1.0 shielded	3x1.0 shielded	3x1.0 shielded	3x1.0 shielded	3x1.0 shielded
Sound (power/pressure/ pressure silent 2)	Outdoor		dB(A)	56/44/39	58/45/40	59/46/41	60/49/41	64/50/43	65/51/43	68/54/43	64/50/43	65/51/43	68/55/43
	Indoor			38/28		42/30		43/32	43/32	43/32	43/32	43/32	43/32
Unit dimension (W×H×D)	Outdoor		mm	1.008x712x426		1.118x865x523		1.118x865x523					
	Indoor			420x790x270				420x790x270					
Net weight ODU/IDU			kg	58/37		77/37		96/39			112/45		
Outdoor air temperature range	Cooling		ºC	-5~43		-5~43		-5~43					
	Heating		ºC	-25~35		-25~35		-25~35					
	DHW		ºC	-25~43		-25~43		-25~43					
Water outlet temperature range	Cooling		ºC	5~25		5~30		5~30					
	Heating		ºC	25~65		12~65		12~65					
	DHW (tank)		ºC	30~60		10~60		10~60					

According to EU standards and legislations:
EN14511:2013; EN14825:2013; EN50564:2011; EN12102:2011; (EU) No 811/2013; (EU) No 813/2013; OJ 2014/C 207/02.

Monoblock Type Heat Pumps

With integrated electrical heater

6kW

8-16kW

ATMH14S3

Model Name				ATMH06S3	ATMH08S3	ATMH10S3	ATMH12S3	ATMH14S3	ATMH16S3	ATMH12T9	ATMH14T9	ATMH16T9
Space Heating (Average Climate)	Water temperature 35°C	Capacity	kW	6.35	8.40	10.0	12.1	14.5	15.9	12.1	14.5	15.9
		Rated input	kW	1.28	1.63	2.02	2.44	3.15	3.53	2.44	3.15	3.53
		COP		4.95	5.15	4.95	4.95	4.60	4.50	4.95	4.60	4.50
	Water temperature 55°C	Capacity	kW	6.00	7.50	9.50	11.9	13.8	16.0	11.9	13.8	16.0
		Rated input	kW	2.03	2.36	3.06	3.90	4.68	5.61	3.90	4.68	5.61
		COP		2.95	3.18	3.10	3.05	2.95	2.85	3.05	2.95	2.85
Space Cooling	Water temperature 18°C	Capacity	kW	6.50	8.30	9.90	12.00	13.50	14.90	12.00	13.50	14.90
		Rated input	kW	1.35	1.64	2.18	3.04	3.75	4.38	3.04	3.75	4.38
		EER		4.80	5.05	4.55	3.95	3.60	3.40	3.95	3.60	3.40
	Water temperature 7°C	Capacity	kW	7.00	7.45	8.20	11.5	12.4	14.0	11.5	12.4	14.0
		Rated input	kW	2.33	2.22	2.52	4.18	4.96	5.60	4.18	4.96	5.60
		EER		3.00	3.35	3.25	2.75	2.50	2.50	2.75	2.50	2.50
Seasonal space heating energy efficiency class (Average)	Water outlet at 35ºC	ηs (%)		195	205	204	189	185	181.7	189	185	181.6
		class		A+++	A+++	A+++	A+++	A+++	A+++	A+++	A+++	A+++
	Water outlet at 55ºC	ηs (%)		138	131	136	135	135	133.3	135	135	133
		class		A++	A++	A++	A++	A++	A++	A++	A++	A++
SCOP (Average)	Water outlet at 35ºC			4.95	5.21	5.19	4.81	4.72	4.62	4.81	4.72	4.62
	Water outlet at 55ºC			3.52	3.36	3.49	3.45	3.47	3.41	3.45	3.47	3.41
SEER	Water outlet at 7ºC			5.34	5.83	5.98	4.89	4.86	4.69	4.86	4.83	4.67
	Water outlet at 18ºC			8.21	8.95	8.78	7.1	6.9	6.75	7.04	6.85	6.71
Power supply			V/Hz/Ph	220-240/50/1	220-240/50/1	220-240/50/1	220-240/50/1	220-240/50/1	220-240/50/1	380-415/50/3	380-415/50/3	380-415/50/3
Auxiliary Electric Heater			kW/Ph	3 / 1	3 / 1	3 / 1	3 / 1	3 / 1	3 / 1	9 / 3	9 / 3	9 / 3
MOP/MCA			A	18/14	19/16	19/17	30/25	30/26	30/27	14/10	14/11	14/12
Compressor	Type			Twin rotary Mitsubishi						Twin rotary Mitsubishi		
Refrigerant	Type / Charged volume		kg	R32/1.40	R32/1.40	R32/1.40	R32/1.75	R32/1.75	R32/1.75	R32/1.75	R32/1.75	R32/1.75
Water side heat exchanger				Plate type						Plate type		
Water side connection (inner dimension)			inch	R1"	R 1-1/4"					R 1-1/4"		
Power Supply Wire			No. x mm² / No. x A	3x10.0 / 2x32 (bipolar fuse kinetic)	3x10.0 / 2x32 (bipolar fuse kinetic)	3x10.0 / 2x32 (bipolar fuse kinetic)	3x16.0 / 2x50 (bipolar fuse kinetic)	3x16.0 / 2x50 (bipolar fuse kinetic)	3x16.0 / 2x50 (bipolar fuse kinetic)	5x6.0 / 4x25 (quadpolar fuse kinetic)	5x6.0 / 4x25 (quadpolar fuse kinetic)	5x6.0 / 4x25 (quadpolar fuse kinetic)
Sound (power/pressure/pressure silent 2)			dB(A)	58/47.5/40	59/48.5/41	60/50.5/41	65/53/43	65/53.5/43	69/57.5/43	65/53.5/43	65/54/43	69/58/43
Unit dimension (W×H×D)			mm	1.295x792x429	1.385x945x526					1.385x945x526		
Net weight			kg	103	126		149	134	149		165	
Outdoor air temperature range	Cooling		ºC	-5~43	-5~43	-5~43	-5~43	-5~43	-5~43	-5~43	-5~43	-5~43
	Heating		ºC	-25~35	-25~35	-25~35	-25~35	-25~35	-25~35	-25~35	-25~35	-25~35
	DHW		ºC	-25~43	-25~43	-25~43	-25~43	-25~43	-25~43	-25~43	-25~43	-25~43
Water outlet temperature range	Cooling		ºC	5~30	5~30	5~30	5~30	5~30	5~30	5~30	5~30	5~30
	Heating		ºC	12~65	12~65	12~65	12~65	12~65	12~65	12~65	12~65	12~65
	DHW (tank)		ºC	10~60	10~60	10~60	10~60	10~60	10~60	10~60	10~60	10~60

According to EU standards and legislations:
EN14511:2013; EN14825:2013; EN50564:2011; EN12102:2011; (EU) No 811/2013; (EU) No 813/2013; OJ 2014/C 207/02.

Monoblock Type Heat Pumps

Without integrated electrical heater

8-16kW

ATM14S

22-30kW

Model Name				ATM08S	ATM10S	ATM12S	ATM14S		ATM16S	ATM12T	ATM14T	ATM16T	ATM22T	ATM30T
Space Heating (Average Climate)	Water temperature 35°C	Capacity	kW	8.40	10.0	12.1	14.5		15.9	12.1	14.5	15.9	22.0	30.1
		Rated input	kW	1.63	2.02	2.44	3.15		3.53	2.44	3.15	3.53	5.00	7.70
		COP		5.15	4.95	4.95	4.60		4.50	4.95	4.60	4.50	4.40	3.91
	Water temperature 55°C	Capacity	kW	7.50	9.50	11.9	13.8		16.0	11.9	13.8	16.0	22.0	30.0
		Rated input	kW	2.36	3.06	3.90	4.68		5.61	3.90	4.68	5.61	8.30	13.04
		COP		3.18	3.10	3.05	2.95		2.85	3.05	2.95	2.85	2.65	2.30
Space Cooling	Water temperature 18°C	Capacity	kW	8.30	9.90	12.00	13.50		14.90	12.00	13.50	14.90	21.0	29.5
		Rated input	kW	1.64	2.18	3.04	3.75		4.38	3.04	3.75	4.38	7.12	11.57
		EER		5.05	4.55	3.95	3.60		3.40	3.95	3.60	3.40	2.95	2.55
	Water temperature 7°C	Capacity	kW	7.45	8.20	11.5	12.4		14.0	11.5	12.4	14.0	23.0	31.0
		Rated input	kW	2.22	2.52	4.18	4.96		5.60	4.18	4.96	5.60	5.00	7.75
		EER		3.35	3.25	2.75	2.50		2.50	2.75	2.50	2.50	4.60	4.00
Seasonal space heating energy efficiency class (Average)	Water outlet at 35ºC	ηs (%)		205	204	189	185		181.7	189	185	181.6	178.1	164.5
		class		A+++	A+++	A+++	A+++		A+++	A+++	A+++	A+++	A+++	A++
	Water outlet at 55ºC	ηs (%)		131	136	135	135		133.3	135	135	133	125.8	122.5
		class		A++	A++	A++	A++		A++	A++	A++	A++	A++	A+
SCOP (Average)	Water outlet at 35ºC			5.21	5.19	4.81	4.72		4.62	4.81	4.72	4.62	4.53	4.19
	Water outlet at 55ºC			3.36	3.49	3.45	3.47		3.41	3.45	3.47	3.41	3.22	3.14
SEER	Water outlet at 7ºC			5.83	5.98	4.89	4.86		4.69	4.86	4.83	4.67	4.70	4.49
	Water outlet at 18ºC			8.95	8.78	7.1	6.9		6.75	7.04	6.85	6.71	5.67	5.71
Power supply			V/Hz/Ph	220-240/50/1	220-240/50/1	220-240/50/1	220-240/50/1		220-240/50/1	380-415/50/3	380-415/50/3	380-415/50/3	380-415/50/3	380-415/50/3
Auxiliary Electric Heater			kW/Ph	-	-	-	-		-	-	-	-	-	-
MOP/MCA			A	19/16	19/17	30/25	30/26		30/27	14/10	14/11	14/12	21/24.5	28/28.5
Compressor	Type			Twin rotary Mitsubishi							Twin rotary Mitsubishi			
Refrigerant	Type / Charged volume		kg	R32/1.40	R32/1.40	R32/1.75	R32/1.75		R32/1.75	R32/1.75	R32/1.75	R32/1.75	R32/5.00	R32/5.00
Water side heat exchanger				Plate type					Plate type					
Water side connection (inner dimension)			inch	R 1-1/4"					R 1-1/4"					
Power Supply Wire			No. x mm² / No. x A	3x4.0 / 2x20 (bipolar fuse kinetic)	3x4.0 / 2x20 (bipolar fuse kinetic)	3x6.0 / 2x25 (bipolar fuse kinetic)	3x10.0 / 2x32 (bipolar fuse kinetic)		3x10.0 / 2x32 (bipolar fuse kinetic)	5x2.5 / 4x20 (quadpolar fuse kinetic)	5x2.5 / 4x20 (quadpolar fuse kinetic)	5x2.5 / 4x20 (quadpolar fuse kinetic)	5x6 / 4x25 (quadpolar fuse kinetic)	5x10 / 4x32 (quadpolar fuse kinetic)
Sound (power/pressure/pressure silent 2)			dB(A)	59/48.5/41	60/50.5/41	65/53/43	65/53.5/43		69/57.5/43	65/53.5/43	65/54/43	69/58/43	73/59.8/54	77/63.5/57
Unit dimension (W×H×D)			mm	1.385x945x526					1.385x945x526				1.129x1.558x440	
Net weight			kg	121		144	129		144	160			177	
Outdoor air temperature range	Cooling		ºC	-5~43	-5~43	-5~43	-5~43		-5~43	-5~43	-5~43	-5~43	-5~46	-5~46
	Heating		ºC	-25~35	-25~35	-25~35	-25~35		-25~35	-25~35	-25~35	-25~35	-25~35	-25~35
	DHW		ºC	-25~43	-25~43	-25~43	-25~43		-25~43	-25~43	-25~43	-25~43	-25~43	-25~43
Water outlet temperature range	Cooling		ºC	5~30	5~30	5~30	5~30		5~30	5~30	5~30	5~30	5~25	5~25
	Heating		ºC	12~65	12~65	12~65	12~65		12~65	12~65	12~65	12~65	25~60	25~60
	DHW (tank)		ºC	10~60	10~60	10~60	10~60		10~60	10~60	10~60	10~60	30~60	30~60

According to EU standards and legislations:
EN14511:2013; EN14825:2013; EN50564:2011; EN12102:2011; (EU) No 811/2013; (EU) No 813/2013; OJ 2014/C 207/02.

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