Air to Water Heat Pumps

Inventor's air to water heat pumps, 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.

	Monoblock Type							Split Type				
	8kW	10kW	12kW	14kW	16kW	22kW	30kW	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

3 YEARS WARRANTY

R32

All DC Inverter

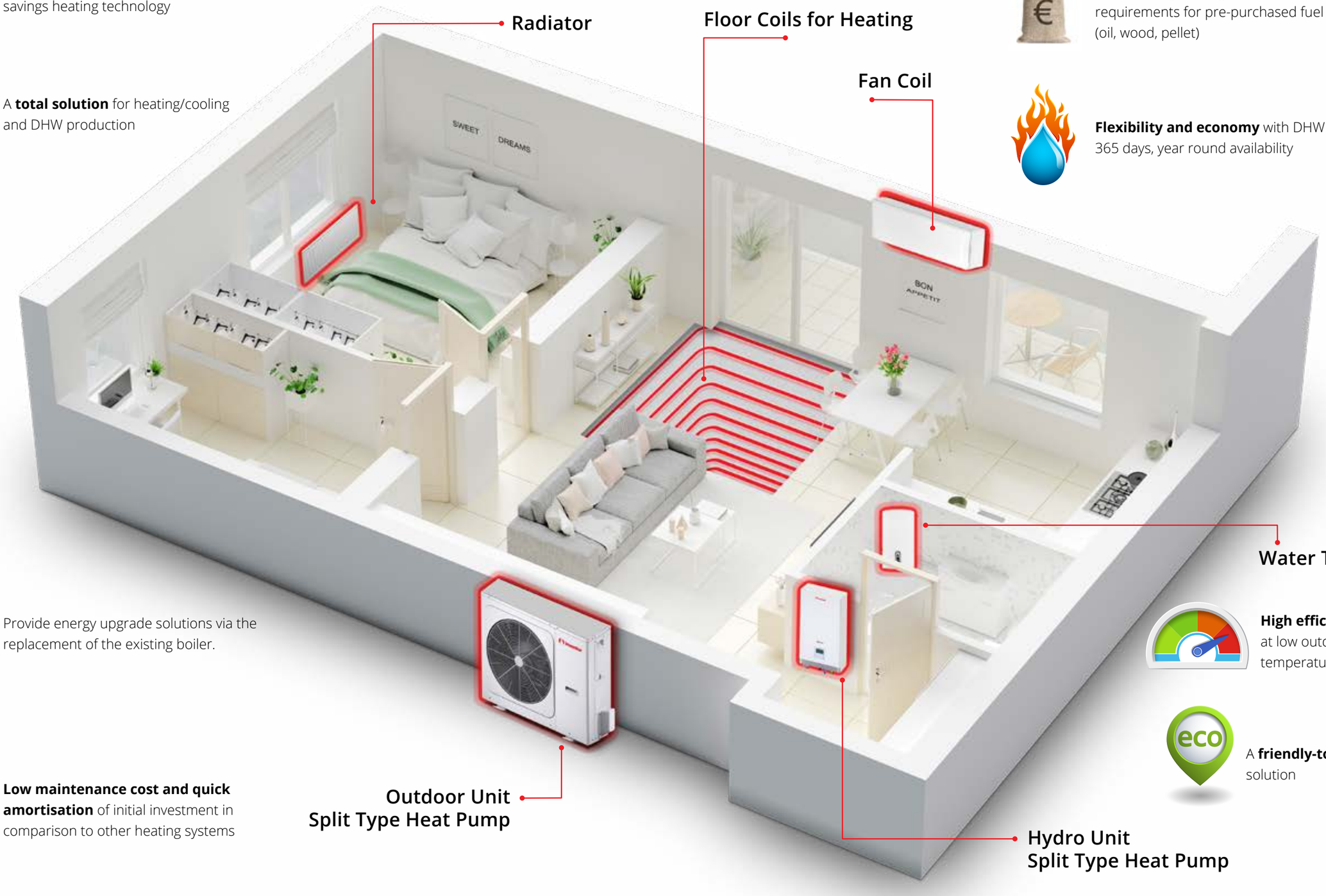
Benefits of Inventor's air to water heat pumps

Provide the highest energy and cost savings heating technology

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

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

Low maintenance cost and quick amortisation of initial investment in comparison to other heating systems



Extra **money savings** as there are no requirements for pre-purchased fuel (oil, wood, pellet)

Flexibility and economy with DHW 365 days, year round availability

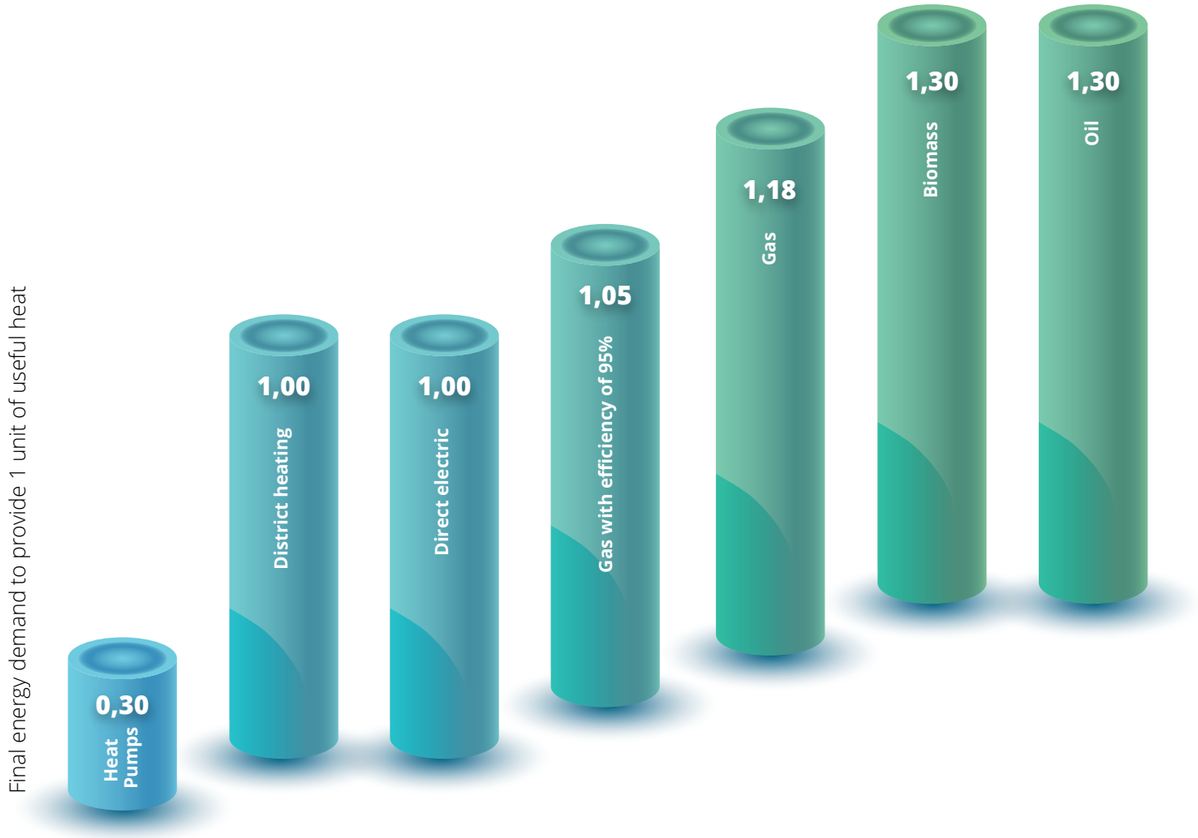
High efficiency even at low outdoor ambient temperatures

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

Energy and money saving

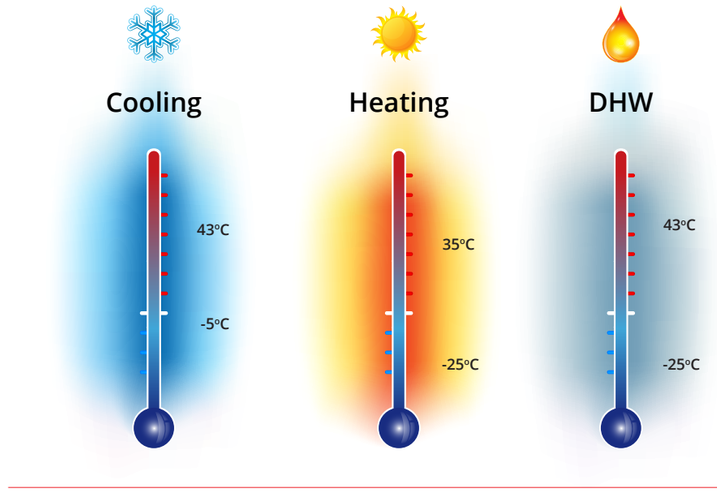
Air to water heat pumps constitute an eco-friendly solution and provide the highest energy and cost savings when compared with different heating systems, as only 25% of the required energy derives from electricity and the remaining 75% is procured directly from the environment.

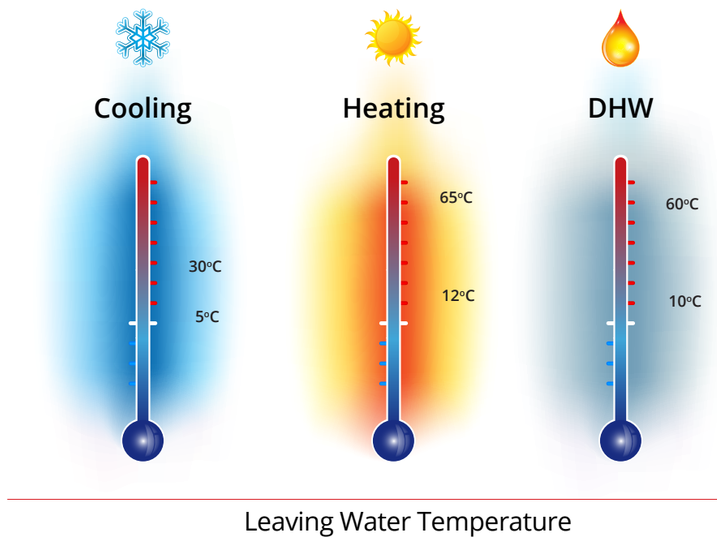
According to the European Heat Pump Association (EHPA), heat pumps exhibit the lowest energy demand compared to other heating systems, with approximately 73.5% lower than oil fueled heating systems and 70% lower than gas heating systems.



High efficiency at extreme outdoor ambient temperatures

Inventor heat pumps can meet the needs of a house by providing DHW of up to 65ºC, and heating & cooling even at **outdoor temperatures as low as -25ºC.**





- Outdoor Ambient Temperature range 22kW & 30kW: -5º to 46º Cooling, -25º to 35º Heating and -25º to 43º DHW
- Outdoor Ambient Temperature range 22kW & 30kW: 5º to 25º Cooling, 25º to 60º Heating and 30º to 60º DHW

Comfort & Flexibility

Weather Temperature Setting

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.

Zone Control

With the use of external thermostats you can set up to 8 different zones*, thus covering all the different thermal needs of the space and achieve maximum energy savings and comfort. The water circuit can be separated into 2 different zones.

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

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 production.

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.

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.

2 Stage Silent Mode

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

Touch Wired Controller

Eco function

Achieve greater energy savings by activating the Eco function.

WiFi 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.

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.

High Technology

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.

Electronic Expansion Valve

With the use of an electronic expansion valve, Inventor heat pumps achieve precise operation control and greater efficiency.

DC Inverter Water Pump

Equipped with a reliable water pump from Wilo or Grundfos, with lift up to 9m, Inventor Heat Pumps provide higher efficiency and guarantee optimal operation.

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.

Plate Heat Exchanger

Equipped with a resilient plate heat exchanger of high thermal transfer coefficient, Inventor heat pumps provide energy savings and ensure long and stellar operation.

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.

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.

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.

8kW to 16kW: Maximum modular capacity up to 96kW
22kW to 30kW: Maximum modular capacity up to 180kW

Single Fan Design

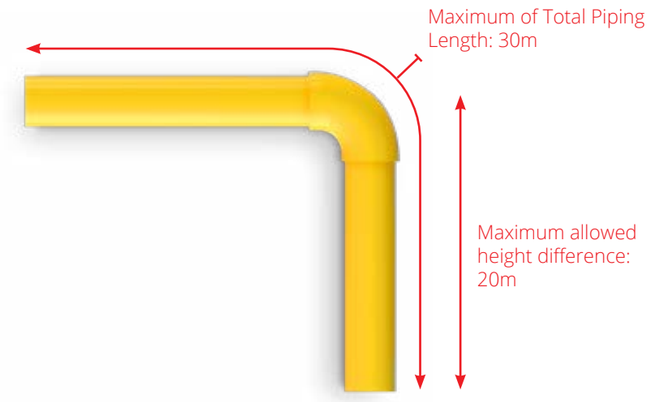
The special design of the units up to 16kW allows effective operation with a single fan in order to provide the ideal space conditions while operating at a low noise level.

Quick Setting through USB Function

Drastically reduce the installation time via the use of a built-in USB port, that allows you to copy and transfer the unit settings fast and easy across multiple units.

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.



Floor Protection

Protect your home floor by activating the Floor Preheating function which slowly increases the heating temperature of the floor coils, avoiding possible floor damaging and transitioning smoothly to the heating function. The Floor Drying Up function provides an additional solution to the installer as it helps remove any residual moisture from newly installed floor coils, further protecting the installation and ensuring the optimal and effective operation of the heat pump.

Split Type Heat Pumps

Model Name				ATS08S/HU100S3	ATS10S/HU100S3	ATS12S/HU160S3	ATS14T/HU160T9	ATS16T/HU160T9
Heating (Average) at Ambient Temperature 7°C	Water temperature 35°C	Capacity	kW	8,30	10,0	12,1	14,5	16,0
		Rated input	kW	1,60	2,00	2,44	3,09	3,56
		COP		5,20	5,00	4,95	4,70	4,50
	Water temperature 55°C	Capacity	kW	7,50	9,50	12,0	13,8	16,0
		Rated input	kW	2,36	3,06	3,87	4,60	5,52
		COP		3,18	3,10	3,10	3,00	2,90
Cooling at Ambient Temperature 35°C	Water temperature 18°C	Capacity	kW	8,40	10,00	12,00	13,50	14,90
		Rated input	kW	1,66	2,08	3,00	3,75	4,38
		EER		5,05	4,80	4,00	3,60	3,40
	Water temperature 7°C	Capacity	kW	7,40	8,20	11,6	12,7	14,0
		Rated input	kW	2,19	2,48	4,22	4,98	5,71
		EER		3,38	3,30	2,75	2,55	2,45
Seasonal space heating energy efficiency class (Average)		Water outlet at 35ºC	ηs (%)	205	204	189	185	182
			class	A+++	A+++	A+++	A+++	A+++
		Water outlet at 55ºC	ηs (%)	131	136	135	135	133
			class	A++	A++	A++	A++	A++
SCOP (Average)		Water outlet at 35ºC		5,21	5,19	4,81	4,72	4,62
		Water outlet at 55ºC		3,36	3,49	3,45	3,47	3,41
SEER		Water outlet at 7ºC		5,83	5,98	4,89	4,83	4,67
		Water outlet at 18ºC		8,95	8,78	7,1	6,85	6,71
Power supply			V/Ph/Hz	220-240/50/1		220-240/50/1	380-415/50/3	
Auxiliary Electric Heater			kW/Ph	3 / 1	3 / 1	3 / 1	9 / 3	9 / 3
MOP/MCA			A	19/16	19/17	30/25	14/11	14/12
Compressor		Type		Twin rotary Mitsubishi		Twin rotary Mitsubishi		
Refrigerant		Type / Charged volume (up to 15m)	kg	R32/1,65		R32/1,84		
Water side heat exchanger				Plate type		Plate type		
Pipe size		Liquid | Gas | Water (inner dimension)	inch	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)	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)	3x6.0 / 2x25 (bipolar 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
Sound (power/pressure/ pressure silent 2)		Outdoor	dB(A)	59/46/41	60/49/41	64/50/43	65/51/43	68/55/43
		Indoor		42/30	42/30	43/32	43/32	43/32
Unit dimension (W×H×D)		Outdoor	mm	1.118x865x523		1.118x865x523		
		Indoor		420x790x270		420x790x270		
Net weight ODU/IDU			kg	78.5/43		100/45	116/45	
Outdoor air temperature range		Cooling	ºC	-5~43		-5~43		
		Heating	ºC	-25~35		-25~35		
		DHW	ºC	-25~43		-25~43		
Water outlet temperature range		Cooling	ºC	5~30		5~30		
		Heating	ºC	12~65		12~65		
		DHW (tank)	ºC	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

Model Name				ATM08S	ATM10S	ATM12S	ATM16S	ATM12T	ATM14T	ATM16T	ATMH08S3	ATMH10S3	ATMH12S3	ATMH16S3	ATMH12T9	ATMH14T9	ATMH16T9	ATM22T	ATM30T
Heating (Average) at Ambient Temperature 7°C	Water temperature 35°C	Capacity	kW	8,40	10,0	12,1	15,9	12,1	14,5	15,9	8,40	10,0	12,1	15,9	12,1	14,5	15,9	22,0	30,1
		Rated input	kW	1,63	2,02	2,44	3,53	2,44	3,15	3,53	1,63	2,02	2,44	3,53	2,44	3,15	3,53	5,00	7,70
		COP		5,15	4,95	4,95	4,50	4,95	4,60	4,50	5,15	4,95	4,95	4,50	4,95	4,60	4,50	4,40	3,91
	Water temperature 55°C	Capacity	kW	7,50	9,50	11,9	16,0	11,9	13,8	16,0	7,50	9,50	11,9	16,0	11,9	13,8	16,0	22,0	30,0
		Rated input	kW	2,36	3,06	3,90	5,61	3,90	4,68	5,61	2,36	3,06	3,90	5,61	3,90	4,68	5,61	8,30	13,04
		COP		3,18	3,10	3,05	2,85	3,05	2,95	2,85	3,18	3,10	3,05	2,85	3,05	2,95	2,85	2,65	2,30
Cooling at Ambient Temperature 35°C	Water temperature 18°C	Capacity	kW	8,30	9,90	12,00	14,90	12,00	13,50	14,90	8,30	9,90	12,00	14,90	12,00	13,50	14,90	21,0	29,5
		Rated input	kW	1,64	2,18	3,04	4,38	3,04	3,75	4,38	1,64	2,18	3,04	4,38	3,04	3,75	4,38	7,12	11,57
		EER		5,05	4,55	3,95	3,40	3,95	3,60	3,40	5,05	4,55	3,95	3,40	3,95	3,60	3,40	2,95	2,55
	Water temperature 7°C	Capacity	kW	7,45	8,20	11,5	14,0	11,5	12,4	14,0	7,45	8,20	11,5	14,0	11,5	12,4	14,0	23,0	31,0
		Rated input	kW	2,22	2,52	4,18	5,60	4,18	4,96	5,60	2,22	2,52	4,18	5,60	4,18	4,96	5,60	5,00	7,75
		EER		3,35	3,25	2,75	2,50	2,75	2,50	2,50	3,35	3,25	2,75	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	181,7	189	185	181,6	205	204	189	181,7	189	185	181,6	178,1	164,5
		class		A+++	A+++	A+++	A+++	A+++	A+++	A+++	A+++	A+++	A+++	A+++	A+++	A+++	A+++	A+++	A++
	Water outlet at 55ºC	ηs (%)		131	136	135	133,3	135	135	133	131	136	135	133,3	135	135	133	125,8	122,5
		class		A++	A++	A++	A++	A++	A++	A++	A++	A++	A++	A++	A++	A++	A++	A++	A+
SCOP (Average)	Water outlet at 35ºC			5,21	5,19	4,81	4,62	4,81	4,72	4,62	5,21	5,19	4,81	4,62	4,81	4,72	4,62	4,53	4,19
	Water outlet at 55ºC			3,36	3,49	3,45	3,41	3,45	3,47	3,41	3,36	3,49	3,45	3,41	3,45	3,47	3,41	3,22	3,14
SEER	Water outlet at 7ºC			5,83	5,98	4,89	4,69	4,86	4,83	4,67	5,83	5,98	4,89	4,69	4,86	4,83	4,67	4,70	4,49
	Water outlet at 18ºC			8,95	8,78	7,1	6,75	7,04	6,85	6,71	8,95	8,78	7,1	6,75	7,04	6,85	6,71	5,67	5,71
Power supply			V/PhHz	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	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	-	-	-	-	-	-	-	3 / 1	3 / 1	3 / 1	3 / 1	9 / 3	9 / 3	9 / 3	-	-
MOP/MCA			A	19/16	19/17	30/25	30/27	14/10	14/11	14/12	19/16	19/17	30/25	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	R32/1,40	R32/1,40	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)	3x6.0 / 2x25 (bipolar fuse kinetic)	5x2.5 / 4x20 (quadpolar fuse kinetic)	5x2.5 / 4x20 (quadpolar fuse kinetic)	5x2.5 / 4x20 (quadpolar fuse kinetic)	3x10.0 / 2x32 (bipolar fuse kinetic)	3x10.0 / 2x32 (bipolar fuse kinetic)	3x10.0 / 2x32 (bipolar fuse kinetic)	3x10.0 / 2x32 (bipolar fuse kinetic)	5x4.0 / 4x20 (quadpolar fuse kinetic)	5x4.0 / 4x20 (quadpolar fuse kinetic)	5x4.0 / 4x20 (quadpolar fuse kinetic)	5x6 / 4x25 (quadpolar fuse kinetic)	5x6 / 4x25 (quadpolar fuse kinetic)
Sound (power/pressure/pressure silent 2)			dB(A)	59/48,5/41	60/50,5/41	65/53/43	69/57,5/43	65/53,5/43	65/54/43	69/58/43	59/48,5/41	60/50,5/41	65/53/43	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								1.129×1.558×440	
Net weight			kg	121		144		160		160	133		149		166			177	
Outdoor air temperature range	Cooling		ºC	-5~43	-5~43	-5~43	-5~43	-5~43	-5~43	-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	-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	-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	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	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	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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