



**TOSHIBA**  
Leading Innovation >>>

CATALOGUE 2016

# INTEGRATED HEATING SYSTEMS

\* preliminary data

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\* preliminary data



Built on Willis Carrier's invention of modern air-conditioning in 1902, Carrier is the world leader in heating, air-conditioning and refrigeration solutions. Carrier constantly builds upon its history of proven innovation with new products and services that improve global comfort and efficiency.

### **The Invention That Changed the World**

In 1902, Willis Carrier solved one of mankind's most elusive challenges by controlling the indoor environment through modern air-conditioning. His invention enabled countless industries, promoting global productivity, health and personal comfort.

Today, Carrier innovations are found across the globe and in virtually every facet of daily life. Carrier creates comfortable and productive environments, regardless of the climate, safeguards the global food supply by preserving the quality and freshness of food and beverages, ensures health and well-being by enabling the proper transport and delivery of vital medical supplies under exacting conditions and provides solutions, services and education to lead the green building movement.

These mark just a handful of the ways that Carrier works to make the world a better place to live, work and play.



The background of the entire page is a dynamic, abstract graphic composed of numerous thin, light blue lines that radiate from the bottom left towards the top right, creating a sense of motion and energy.

# WEATHERMAKERS TO THE WORLD



**CARRIER DELIVERS GLOBAL SOLUTIONS ACROSS A BROAD RANGE OF APPLICATIONS IN HEATING, AIR-CONDITIONING, REFRIGERATION AND BEYOND.**

## Home Comfort

Millions of people trust Carrier's leadership and expertise in delivering efficient solutions for their home heating and cooling needs.

## Building Solutions

Setting the standard for performance, energy efficiency and sustainability, Carrier offers solutions in air-conditioning, building controls and energy services for the building lifecycle.

## Transport Refrigeration

Carrier transport refrigeration equipment, cold chain monitoring solutions and replacement components ensure the safe, reliable transport of food and beverages, medical supplies and other perishable cargo to people and businesses around the world.

## Commercial Refrigeration

Serving the beverage, food service and food retail industries, Carrier's refrigeration solutions are built on next-generation technologies to preserve freshness, ensure safety and enhance appearances of global food and beverage retail.

## Toshiba Carrier inverter IPDU

An ideal  
solution for  
each case...  
The heating  
and cooling  
systems of the  
future!



New Houses

Existing Houses

Appartement Blocks

Toshiba & Carrier heat pumps are specially designed to successfully meet the multivarious needs of the contemporary household. Both in the case of a new building and in a home with an existing heating system (under renovation or not) the heat pumps provide heating, cooling and supply sanitary hot water, guaranteeing great cost savings.

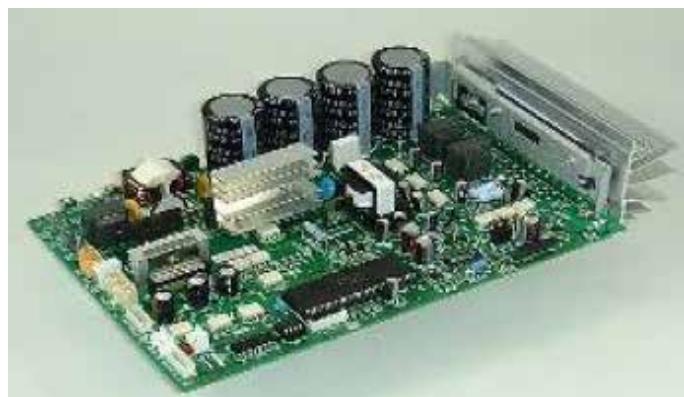
Can be used with different types of radiators such as low temperature radiators (panels), underfloor system and hydronic terminal units.

In existing homes, in which gas or oil boilers have already been installed, Carrier & Toshiba heat pumps can be used in conjunction with the existing heating system, to successfully meet heating and domestic hot water supply requirements all year long.

The boiler can only be used as a support source during times of extreme weather conditions in the winter.

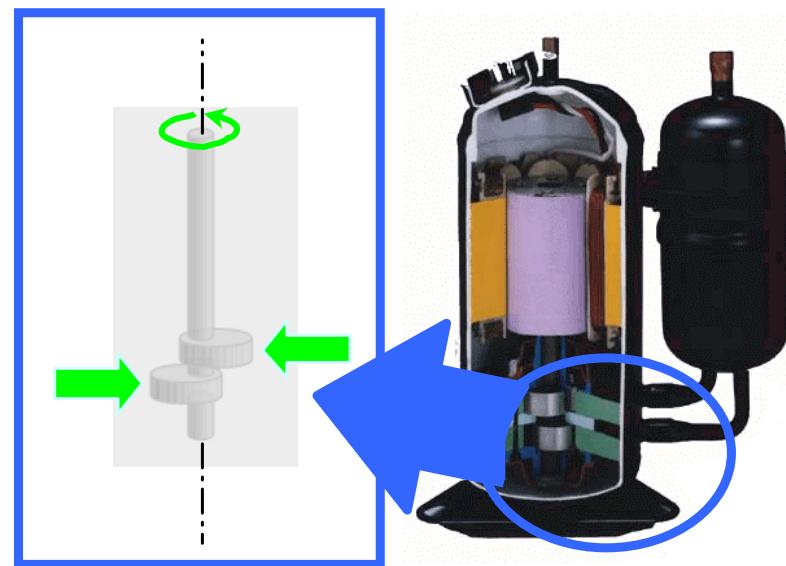
The Carrier & Toshiba heat pumps are managed by high tech electronic control in the most efficient way.

Our exclusive hybrid inverter technology, combining PAM + PWM for maximum power at high rpm and unmatched efficiency at low and mid rpm.



## Reliability

- Toshiba Carrier DC-inverter compressors, Twin-rotary for the larger sizes (all but size 4kW), for improved reliability, smooth and vibrations-free operation, from 20 up to 120% of their nominal capacity.



### Pressure blows

When the compressor starts or stops rotating, the refrigerant circuit records a sudden change in the refrigerant pressure. This undermines the long term reliability of the key components of the refrigerant circuit.

### Thermal shocks

When the compressor starts or stops rotating, the temperature of the refrigerant circuit components changes drastically. This undermines the long term reliability of the key components of the refrigerant circuit.

### Noise reduction

The compressor start up is the single noisiest event in the air-conditioning operation. The startup noise is caused by vibration transmitted to the unit chassis by the initial unbalanced compressor and fan-rotation, and by the pressurized flow of the refrigerant in the circuit.

## CDU DC Twin rotary inverter technology Inverter IPDU

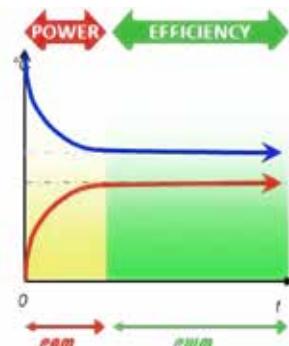


### PAM (Power Amplitude Modulation)

The PAM ensures maximum power for the prompt achievement of the set temperature.

### PWM (Power Width Modulation)

The PWM ensures maximum power efficiency, once the temperature has stabilized.



### PWM (Pulse Width Modulation)

The PWM driver generates a pseudo 3-phase alternate current by combining rectangular-shaped current pulses, having a fixed voltage of 325 Volts.

This driver accurately and efficiently controls the compressor revolution (rpm) by adjusting the frequency (Hertz) of the 325V waves and their power factor.

Although the PWM is the most efficient inverter-driver technology, its maximum power output reaches its limit, when the power factor ratio of the rectangular waves comes near to 100%.

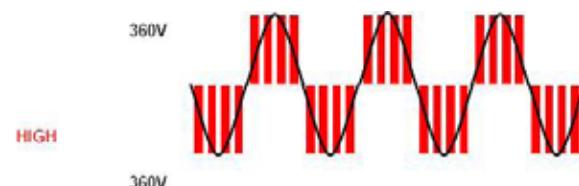
PWM is engaged when the unit operates at low and mid capacities. But when maximum capacity is required, Toshiba Carrier inverters have a second card to play.



### PAM (Pulse Amplitude Modulation)

To overcome the PWM output limitation, Toshiba Carrier inverter offers the PAM driver, which takes over the control of the compressor revolution when maximum capacity is required.

The PAM driver adjusts the compressor revolution by varying the voltage of the rectangular-shaped electric pulses, their frequency and power factor.



HEAT PUMP SYSTEMS



# AIR-TO-WATER HEAT PUMP SPLIT SYSTEM



• HWS -

55°C

• Made in Japan

The heating and  
cooling systems  
of the future!



## Features

•

### World-leading energy efficiency - COP up to 4,88\*

- Easy to install.
- Environment conscious.
- One system, multiple solutions.
- The right temperature at the right time.
- A class pump included.

#### Outdoor unit

Inverter technology and the DC twin rotary compressor. Estia heat pumps operate with the reliable and safe R-410A refrigerant.

#### Hydro unit

The high efficiency plate heat exchanger receives the optimum quantity of refrigerant to produce hot water at low or medium temperature (20-55°C), or cold water (7°C - 25°C). A back-up heater (3, 6 or 9 kW options) further supports the operation for extreme conditions.

#### Domestic hot water tank

The Estia tank is a compact stainless steel insulated tank producing domestic hot water for sanitary use. The performance of the overall system is also maximized thanks to the integrated coaxial heat exchanger which uses hot water produced by the heat pump (whenever energy efficient and possible).

\*11kW model

## SYSTEM CAPACITIES

HWS\_XWH / HWS\_H

Outdoor Unit	HWS-	Single Phase Units			Three Phase Units		
		804H-E	1104H-E	1404-E	1104H8-E	1404H8-E	1604H8-E
Hydro unit combination	HWS-	804XWH**E	1404XWH**E	1404XWH**E	1404XWH**E	1404XWH**E	1404XWH**E
Heating Power* - (Nominal / Maximum)		8.00 / 8.52	11.20 / 14.63	14.00 / 16.74	11.20 / 14.73	14.00 / 15.77	16.00 / 16.76
Power Input - (Nominal / Maximum)		1.79 / 2.01	2.30 / 3.24	3.11 / 3.95	2.34 / 3.14	3.16 / 3.55	3.72 / 3.89
COP		4.46 / 4.24	4.88 / 4.52	4.50 / 4.24	4.80 / 4.69	4.44 / 4.44	4.30 / 4.30
Cooling Power* - (Nominal / Maximum)		9.19	13.82	15.00	13.15	15.44	16.39
Power Input - (Nominal / Maximum)		2.59	3.49	4.07	3.34	4.39	4.98
EER		3.55	3.96	3.69	3.94	3.52	3.29
Heating Power** - (Maximum)	kW	8.13	13.62	14.26	13.93	15.07	15.77
Power Input - (Maximum)	kW	2.42	3.76	4.00	3.76	4.24	4.58
COP	W/W	3.36	3.62	3.56	3.70	3.56	3.44
Cooling Power** - (Nominal / Maximum)	kW	6.00 / 7.00	10.00 / 10.24	11.00 / 11.78	10.00 / 10.16	11.00 / 12.02	13.00 / 12.84
Power Input (Nominal / Maximum)	kW	1.94 / 2.42	3.26 / 3.29	3.81 / 4.07	3.26 / 3.17	3.81 / 4.13	4.80 / 4.63
EER	W/W	3.10 / 2.89	3.07 / 3.11	2.89 / 2.89	3.07 / 3.21	2.89 / 2.91	2.71 . 2.78
ns/SCOP/ENERGY CLASS (Average) - 30°/35° C ***	% / - / -	TBA	TBA	TBA	TBA	TBA	TBA
ns/SCOP/ENERGY CLASS (Average) - 47°/55° C ***	% / - / -	127/3,25/A++	130/3,33/A++	129/3,30/A++	130/3,33/A++	129/3,30/A++	130/3,33/A++
ns/SCOP/ENERGY CLASS (Warm) - 30°/35° C ***	% / - / -	TBA	TBA	TBA	TBA	TBA	TBA
ns/SCOP/ENERGY CLASS (Warm) - 47°/55° C ***	% / - / -	171/4,35/A+++	164/4,18/A+++	169/4,30/A+++	176/4,48/A+++	176/4,48/A+++	167/4,25/A+++

## OUTDOOR UNITS DATA

HWS\_H

Outdoor Unit	HWS-	Single Phase Units			Three Phase Units		
		804H-E	1104H-E	1404-E	1104H8-E	1404H8-E	1604H8-E
Dimensions (HxWxD)	mm	890x900x320	1340x900x320	1340x900x320	1340x900x320	1340x900x320	1340x900x320
Weight	Kg	63	92	92	93	93	93
Sound pressure Level	dB(A)	49	49	51	50	51	52
Power supply	V-ph-Hz	220/230-1-50			380/400-3N-50		
Operating Range	°C	-20 + 43					
Minimum pipe length	m	5					
Maximum pipe length	m	30					
Maximum height difference	m	± 30					
Chargeless pipe lenght	m	30					
Compressor Type	DC Twin rotary						
Refrigerant	R410A						
Flare connections (gas-liquid)	5/8" - 3/8"						

## HYDRO UNITS DATA

HWS\_XWH

Domestic hot water tank	HWS-	804xWHT6-E		804xWHT9-E		1404xWHT3-E		1404xWHT6-E		1404xWHT9-E	
		80	80	80	110-140-160	110-140-160	110-140-160	110-140-160	110-140-160	110-140-160	110-140-160
To be used with size											
Leaving water temperature	°C	H	20 ~ 55°C	20 ~ 55°C	20 ~ 55°C	20 ~ 55°C	20 ~ 55°C	20 ~ 55°C	20 ~ 55°C	20 ~ 55°C	20 ~ 55°C
	°C	C	7 ~ 25°C	7 ~ 25°C	7 ~ 25°C	7 ~ 25°C	7 ~ 25°C	7 ~ 25°C	7 ~ 25°C	7 ~ 25°C	7 ~ 25°C
Dimensions (HxWxD)	mm	925x525x355		925x525x355		925x525x355		925x525x355		925x525x355	
Weight	Kg	50		50		50		54		54	
Sound pressure level	dB(A)	27		27		27		29		29	
Electric back up heater capacity	kW	3		6		9		3		6	
Electric back up heater supply	V-ph-Hz	220/230-1-50		380/400-3N-50		380/400-3N-50		220-230-1-50		380/400-3N-50	
Maximum current	A	13		13(13Ax2P)		13(13Ax2P)		13		13(13Ax2P)	

## DOMESTIC HOT WATER TANKS DATA

HWS\_CSHM

	HWS-	1501CSHM3-E		2101CSHM3-E		3001CSHM3-E	
		150	210	210	300	210	300
Water volume	litres	150	210	210	300	210	300
Max water temperature	°C	75	75	75	75	75	75
Electric heater	kW	2.75	2.75	2.75	2.75	2.75	2.75
Power supply	V-ph-Hz	220/230-1-50		220/230-1-50		220/230-1-50	
Height	mm	1090		1474		2040	
Diameter	mm	550		550		550	
60Weight (empty)	kg	31		41		60	
Material		Stainless steel		Stainless steel		Stainless steel	

## ACCESSORIES

Model Name	Description	Functions
TCB-PCIN3E	Output signal PCB	Boiler operation output signal, Alarm output signal, Defrost output signal, Compressor operation output signal
TCB-PCM03E	Input signal PCB	Room thermostat input, Emergency stop input
HWS-AMS11E	Wired RC	Wired Remote controller for Room air temperature control

The capacities in this catalogue are calculated based on following conditions:

\* Heating Leaving hot water temperature: 35°C (ΔT 5°C). Outdoor air temperature: 7°C DB / 6°C WB.

Cooling Leaving cold water temperature: 18°C (ΔT 5°C). Outdoor air temperature: 35°C DB

\*\* Heating Leaving hot water temperature: 35°C (ΔT 5°C). Outdoor air temperature: 7°C DB / 6°C WB.

Cooling Leaving cold water temperature: 18°C (ΔT 5°C). Outdoor air temperature: 35°C DB

The sound pressure level is given at 1m distance from outdoor units, and 1,5m distance from hydro units.

C = Cooling mode H = Heating mode

\*\*\* In accordance with standard EN14825


  
Leading Innovation >>

# AIR-TO-WATER HEAT PUMP SPLIT SYSTEM



• HWS -

60°C

For low ambient area and / or for areas where require high water temperature!

## Features

- Operation range down to -25°C.
- Maintain the rated capacity down to -15°C.
- Leaving water temperature up to 60°C.



### Outdoor unit

Inverter technology and the DC twin rotary compressor. Estia heat pumps operate with the reliable and safe R-410A refrigerant.

### Hydro unit

The high efficiency plate heat exchanger receives the optimum quantity of refrigerant to produce hot water at low or medium temperature (20-55°C), or cold water (7°C - 25°C). A back-up heater (3, 6 or 9 kW options) further supports the operation for extreme conditions.

### Domestic hot water tank

The Estia tank is a compact stainless steel insulated tank producing domestic hot water for sanitary use. The performance of the overall system is also maximized thanks to the integrated coaxial heat exchanger which uses hot water produced by the heat pump (whenever energy efficient and possible).

**SYSTEM CAPACITIES****HWS\_XWH / HWS\_H**

		Single Phase Units	
Outdoor unit	HWS-	P804HR-E	P1104HR-E
Hydro unit combination	HWS-	P804XWH**-E	P1104XWH**-E
Heating Capacity-(LWT 35°C @OAT 7°C/-2°C/-15°C)	KW	15,23 / 12,36 / 8,43	18,05 / 14,39 / 11,23
Power Input	KW	3,68 / 3,71 / 3,39	4,29 / 4,35 / 4,34
COP		4,14 / 3,33 / 2,49	4,20 / 3,31 / 2,59
Cooling Capacity-(LWT 18°C @OAT 35°C)	KW	9,65	12,49
Power input	KW	2,10	3,28
EER		4,59	3,81
Heating Capacity-(LWT 45°C @OAT 7°C/-2°C/-15°C)	KW	12,60 / 10,41 / 7,24	14,74 / 11,95 / 8,13
Power input	KW	3,75 / 3,79 / 3,59	4,23 / 4,31 / 4,32
COP		3,36 / 2,75 / 2,01	3,49 / 2,77 / 1,88
Cooling Capacity-(LWT 7°C @OAT 35°C)	KW	7,20	9,66
Power input	KW	2,09	3,11
EER		3,44	3,10
ns/SCOP/ENERGY CLASS (Average)-30°/35° C **	% / - / -	TBA	TBA
ns/SCOP/ENERGY CLASS(Average)-47°/55° C **	% / - / -	125/3,20/A++	131/3,35/A++
ns/SCOP/ENERGY CLASS (Warm)-30°/35° C **	% / - / -	TBA	TBA
ns/SCOP/ENERGY CLASS (Warm)-47°/55° C **	% / - / -	158/4,03/A+++	150/3,83/A+++

**OUTDOOR UNITS SPECIFICATIONS****HWS\_H**

		Single Phase Units	
Outdoor unit	HWS-	P804HR-E	P1104HR-E
<b>Dimensions (HxWxD)</b>	<b>mm</b>	1340x900x320	1340x900x320
Net Weight	Kg	92	92
Sound pressure Level *	dB(A)	49	49
Power supply	V-ph-Hz	220/230-1-50	
Operating range	°C	-25 ÷ 43	
Minimum pipe length	m	5	
Maximum pipe length	m	30	
Maximum height difference	m	± 30	
Chargeless pipe length	m	30	
Compressor type		DC Twin rotary	
Refrigerant		R410A	
Flare connections (gas-liquid)		5/8" - 3/8"	

**HYDRO UNIT SPECIFICATIONS****HWS\_XWH**

Hydro unit	HWS-	P804XWHM3-E	P804XWHT6-E	P804XWHT9-E	P1104XWHM3-E	P1104XWHT6-E	P1104XWHT9-E
To be used with size		80	80	80	110	110	110
Electric back up heater capacity	kW	3	6	9	3	6	9
Leaving water temperature (heating)	°C	20 ~ 60°C	20 ~ 60°C	20 ~ 60°C	20 ~ 60°C	20 ~ 60°C	20 ~ 60°C
Leaving water temperature (cooling)	°C	7 ~ 25°C	7 ~ 25°C	7 ~ 25°C	7 ~ 25°C	7 ~ 25°C	7 ~ 25°C
Dimensions (HxWxD)	mm	925x525x355	925x525x355	925x525x355	925x525x355	925x525x355	925x525x355
Weight	Kg	49	49	49	52	52	52
Sound pressure level *	dB(A)	27	27	27	29	29	29
Electric back up heater supply	V-ph-Hz	220/230-1-50	380/400-3N-50	380/400-3N-50	220/230-1-50	380/400-3N-50	380/400-3N-50
Maximum current	A	13	13 (13A*2P)	13 (13A*3P)	13	13 (13A*2P)	13 (13A*3P)

**DOMESTIC HOT WATER TANKS DATA****HWS\_CSHM**

	HWS-	1501CSHM3-E	2101CSHM3-E	3001CSHM3-E
Water volume	litres	150	210	300
Max water temperature	°C	75	75	75
Electric heater	kW	2,75	2,75	2,75
Power supply	V-ph-Hz	220/230-1-50	220/230-1-50	220/230-1-50
Height	mm	1090	1474	2040
Diameter	mm	550	550	550
Net weight	Kg	31	41	59
Material	Kg	Stainless steel	Stainless steel	Stainless steel

**ACCESSORIES**

Model Name	Description	Functions
TCB-PCIN3E	Output signal PCB	Boiler operation output signal, Alarm output signal, Defrost output signal, Compressor operation output signal
TCB-PCM03E	Input signal PCB	Room thermostat input, Emergency stop input
HWS-AMS11E	Wired RC	Wired Remote controller for Room air temperature control

\* The outdoor unit operating noise is measured at the point of 1 m away from the unit back surface centre and 1.5 m high from the ground. The hydro unit operating noise is measured at the point of 1 m away from the unit front surface centre. The value of the operating noise varies depending on room structure where the unit is installed.

\*\* In accordance with standard EN14825

## AIR-TO-WATER HEAT PUMP SPLIT SYSTEM



• 38AW/80AW

60°C



**Hot water and comfortable ambient temperature all year round**

• The reversible XP Energy air-to-water split system heat pumps with built-in inverter technology were designed for residential and light commercial applications. They offer excellent energy efficiency rates, exceptionally quiet operation and meet the most stringent operating temperature demands.

The units integrate the latest technological innovations: ozone-friendly refrigerant R-410A, DC inverter twin-rotary compressors, low-noise fan and microprocessor control.

The 80AW/38AW systems were specifically designed for ease-of-installation and service and underline Carrier's reputation for highest product quality and reliability.

## Features

• DC inverter twin-rotary compressors with Pulse Amplitude Modulation (PAM) and Pulse Width Modulation (PWM) for enhanced reliability, low energy consumption and smooth vibration-free operation under all operating conditions.

Variable-speed fans with an innovative patented fan blade shape ensure improved air distribution at exceptionally low noise levels.

Able to control two independent comfort zones with a two-zone kit added to the main comfort module.

Leaving water temperature up to 60°C.

Temperature and humidity control.



# PHYSICAL DATA

38AW/80AW

Outdoor unit (heat pump)		38AW	38AW	38AW	38AW	38AW	38AW	
		050H7	065H7	090H7	115H7	120H9	150H9	
Indoor unit (comfort module)		80AWX	80AWX	80AWX	80AWX	80AWX	80AWX	
		065	065	115	115	150	150	
<b>Cooling</b>								
Full load performances*	C1 Nominal capacity	kW	3.6	4.7	6.0	6.8	10.3	12.6
	C1 EER	kW/kW	2.60	2.60	3.07	2.88	3.41	3.17
	C2 Nominal capacity	kW	5.1	6.6	7.9	9.0	13.5	15.8
	C2 EER	kW/kW	3.40	3.40	4.05	3.80	4.74	4.24
Seasonal Efficiency*	ESEER	kW/kW	3.71	3.71	4.45	4.37	4.56	4.79
<b>Heating</b>								
Full load performances*	H1 Capacity (nom/max)	kW	5.0/6.3	6.6/8.0	9.3/11.7	11.5/13.4	12.0/15.0	15.0/16.1
	H1 COP (nom/max)	kW/kW	4.15/4.0	4.15/3.53	4.48/4.18	4.10/3.91	4.65/4.57	4.30/4.25
	H2 Capacity (nom/max)	kW	4.4/5.9	5.7/7.2	8.7/15.53	11.3/13.52	11.2/13.9	14.0/15.76
	H2 COP (nom/max)	kW/kW	3.41/2.8	3.34/2.87	3.45/3.37	3.32/3.15	3.70/3.40	3.40/3.12
	H3 Nominal capacity	kW	4.2	5.5	7.9	11.0	11.5	11.9
	H3 COP	kW/kW	2.65	2.86	2.9	2.79	3.12	3.10
Seasonal Efficiency**	ns/SCOP/ENERGY CLASS (Average) -30°/35°C	% / - /	121/3,10/A	117/3,00/A	125/3,20/A+	125/3,19/A+	150/3,82/A++	144/3,67/A+
	ns/SCOP/ENERGY CLASS (Average) -47°/55°C	% / - /	117/3,00/A+	116/2,98/A+	117/2,99/A+	115/2,94/A+	135/3,45/A++	128/3,29/A++
	ns/SCOP/ENERGY CLASS(Warm) -30°/35°C	% / - /	167/4,25/A++	162/4,14/A++	176/4,47/A+++	174/4,41/A++	208/5,28/A+++	199/5,06/A+++
	ns/SCOP/ENERGY CLASS(Warm) -47°/55°C	% / - /	163/4,15/A++	163/4,16/A++	164/4,17/A++	160/4,08/A++	181/4,59/A++	179/4,55/A++
Sound Power Level Standard Unit (H3)	dB(A)	64	65	69	70	68	68	
Max. leaving water temperature	°C	60	60	60	60	60	60	

Outdoor unit (heat pump)		38AW	38AW	38AW	38AW	38AW	38AW
		050H7	065H7	090H7	115H7	120H9	150H9
Indoor unit (comfort module)		80AW	80AW	80AW	80AW	80AW	80AW
		065	065	115	115	150	150
Number of comfort zones		1	1	1	1	1	1
Nominal water flow rate	l/s (l/h)	0.24 (860)	0.31 (1118)	0.43 (1548)	0.55 (1978)	0.57 (2065)	0.72 (2580)
Minimum water flow rate	l/s (l/h)	0.19 (688)	0.25 (894)	0.34 (1238)	0.44 (1582)	0.29 (1030)	0.29 (1030)
Maximum water flow rate	l/s (l/h)	0.29 (1032)	0.37 (1342)	0.52 (1858)	0.66 (2374)	0.72 (2580)	0.76 (2750)
Nominal temperature difference	K	5	5	5	5	5	5
Sound power level, cooling	dB(A)	40.9	40.9	40.9	40.9	40.9	40.9
Sound power level, heating	dB(A)	40.9	40.9	40.9	40.9	40.9	40.9
Dimensions							
Height	mm	800	800	800	800	800	800
Length	mm	450	450	450	450	450	450
Depth	mm	320	320	320	320	320	320
Operating weight	kg	48	48	50	50	52	52
Outdoor unit		38AW	38AW	38AW	38AW	38AW	38AW
		050H7	065H7	090H7	115H7	120H9	150H9
Compressor type		DC twin-rotary					
Inverter type		PAM + PWM					
Refrigerant		R-410A					
Maximum pipe length	m	50	30	70	70	70	70
Maximum height difference	m	30	30	30	30	30	30
Pre-charged length	m	20	20	20	30	30	30
Air flow	l/s (m³/h)	728 (2620)	783 (2820)	1658 (5970)	1767 (6360)	1600 (5770)	1600 (5770)
Dimensions							
Height	mm	690	820	1360	1360	1360	1360
Length	mm	900	900	900	900	900	900
Depth	mm	320	320	320	320	320	320
Operating weight	kg	49	51	88	88	100	100
Pipe connections	in	1/4 - 1/2	3/8 - 5/8	3/8 - 5/8	3/8 - 5/8	3/8 - 5/8	3/8 - 5/8
Power supply	V-ph-Hz	230-1-50	230-1-50	230-1-50	230-1-50	400-3-50	400-3-50
Indoor unit for 38AW 120H9 and 150H9		80AWX	80AWX	80AWX	80AWX	80AWX	80AWX
		150M0	150T6	150T9	150M0	150T6	150T9
Number of comfort zones		1	1	1	1	1	1
Electric heater element	kW	0	9	9	0	6	9
Heating only		No	No	No	Yes	Yes	Yes
Heating and cooling		Yes	Yes	Yes	No	No	No
Connection of back-up boiler		Yes	No	No	Yes	No	Yes
Power supply	V-ph-Hz	230-1-50	400-3-50	400-3-50	230-1-50	400-3-50	400-3-50

# ELECTRICAL DATA

Outdoor unit		38AW	38AW	38AW	38AW	38AW	38AW
		050	065	090	115	120	150
Power supply/voltage range	V-ph-Hz/V	230-1-50/198-264				400-3-50/376-424	
Full load current/operating current	A	11/7.9	11.7/9.0	18.9/13.4	21.2/17.9	15.4/16	15.4/16
Fuse rating*	A	16	16	25	25	6.45	8.72
Power consumption	W	1473	1930	2887	3731	2580	3490
Main power wire size	mm²	2.5	2.5	2.5	2.5	2.5	2.5
Power factor	%	0.95	0.95	0.95	0.95	0.95	0.95
Indoor unit (Comfort module)		80AW 065	80AW 115				
		M0	M3	M6	T6	M0	M3
		38AW 050H7/ 38AW 065H7			38AW 090H7/ 38AW 115H7		
		230-1-50 ± 10%		400-3-50 ± 10%		230-1-50 ± 10%	
		kW	-	3	6	-	3
		A	-	13	26	L1: 13	26
					L2: 13	L1: 13	L2: 13
					N: 13	N: 13	N: 13

C1 Cooling mode conditions: Evaporator water entering/leaving temperature 12°C/7°C, outside air temperature 35°C, evaporator fouling factor 0 m2 K/W

C2 Cooling mode conditions: Evaporator water entering/leaving temperature 23°C/18°C, outside air temperature 35°C, evaporator fouling factor 0 m2 K/W

H1 Heating mode conditions: Water heat exchanger water entering/leaving temperature 30°C/35°C, outside air temperature 7°C db/6°C wb, evaporator fouling factor 0 m2 K/W.

H2 Heating mode conditions: Water heat exchanger water entering/leaving temperature 40°C/45°C, outside air temperature 7°C db/6°C wb, evaporator fouling factor 0 m2 K/W.

H3 Heating mode conditions: Water heat exchanger water entering/leaving temperature 47°C/55°C, outside air temperature 7°C db/6°C wb, evaporator fouling factor 0 m2 K/W.

\* In accordance with standard EN14511-3:2013

\*\* In accordance with standard EN14825:2013



Eurovent certified data

Eurovent certified data

## AIR-TO-WATER HEAT PUMP HEATING SYSTEM



• 38AW/80AW

60°C

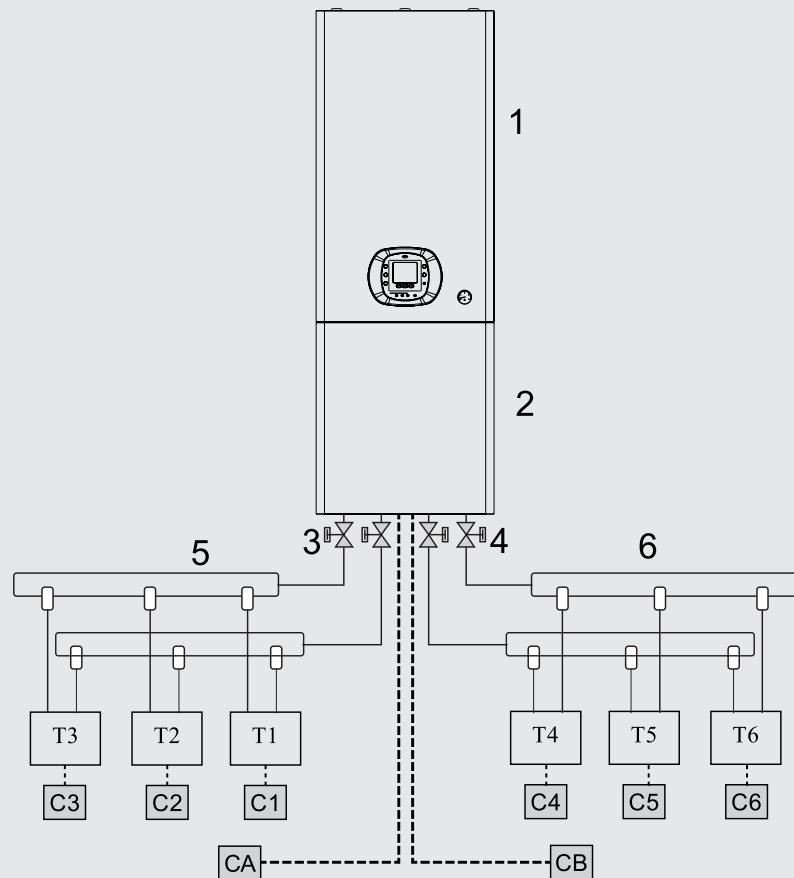
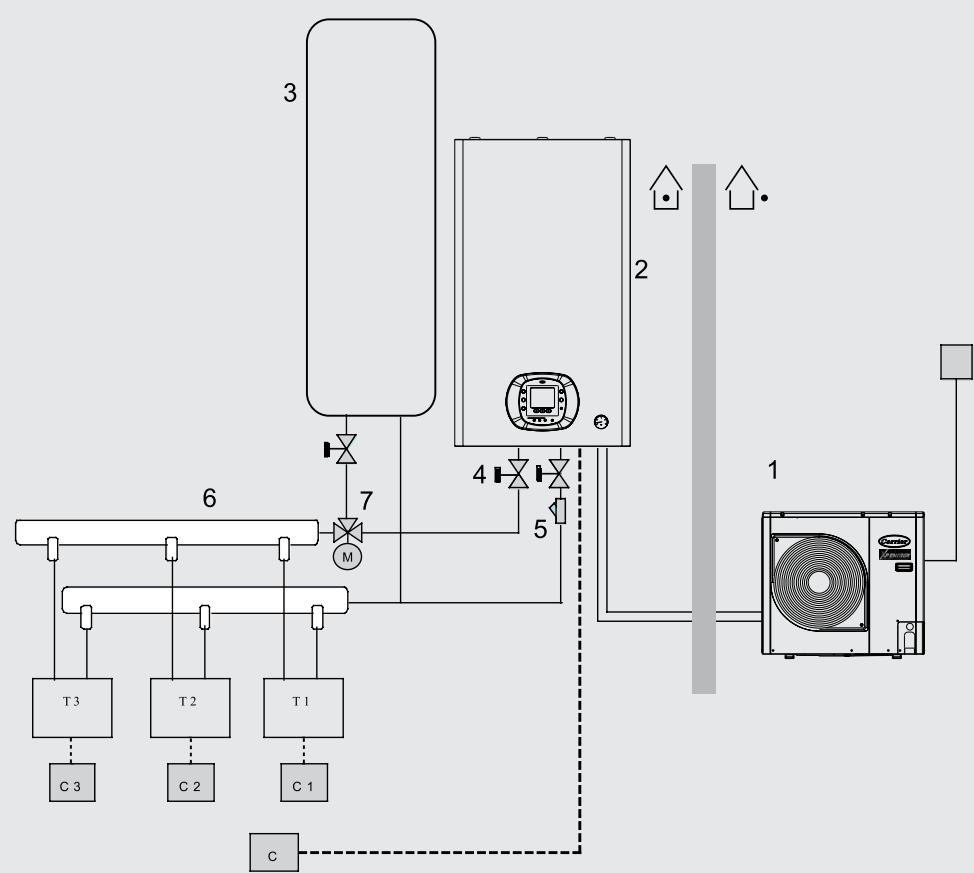


### Two-zone kit

The design facilitates the installation process and makes two independent comfort zones easy to control. This kit includes a hydronic disconnection collector, the necessary circulating pumps and modulating valves. Installed together with the domestic hot water tank, the two-zone kit can integrate all accessories, such as the diverting valve and T-connection.

## DOMESTIC HOT WATER TANK

		60STS 020E03	60STD 020E03	60STS 030E03	60STD 030E03
Water tank size	l	212	212	291	291
Number of coils		1	2	1	2
Electric heater back-up	kW	3,3, single phase	3,3, single phase	3,3, single phase	3,3, single phase
Voltage	V	230 ± 10%	230 ± 10%	230 ± 10%	230 ± 10%
Operating temperature range	°C	5 to 95	5 to 95	5 to 95	5 to 95
Operating pressure DHW module	bar	0 to 10	0 to 10	0 to 10	0 to 10
Operating pressure heat exchangers	bar	0 to 6	0 to 6	0 to 6	0 to 6
Ambient operating temperature range	°C	5 to 45 °C	5 to 45 °C	5 to 45 °C	5 to 45 °C
Storage temperature range	°C	-20 to +75 °C	-20 to +75 °C	-20 to +75 °C	-20 to +75 °C
Lower heat exchanger	m <sup>2</sup>	1,2	1,2	1,5	1,5
Upper heat exchanger	m <sup>2</sup>		0,5		1,1
Diameter	mm	600	600	600	600
Height	mm	1215	1215	1615	1615



## REVERSIBLE AIR-TO-WATER HEAT PUMPS

- 30AWH



60°C

**More than  
a heat pump.  
Compact, reliable  
and efficient**



- The reversible AquaSnap PLUS air-to-water heat pumps with built-in inverter technology were designed for residential and light commercial applications. They offer excellent energy efficiency values, exceptionally quiet operation and meet the most stringent operating temperature demands.

The units integrate the latest technological innovations: ozone-friendly refrigerant R410A, DC inverter twin-rotary compressors, low-noise fan and microprocessor control.

## Features

- Two versions with or without hydronic module in five sizes with nominal cooling capacities from 3 to 13 kW and nominal heating capacities from 4 to 15 kW.

AquaSnap PLUS air-to-water heat pumps with built-in inverter technology were designed for residential and light commercial applications. They offer excellent energy efficiency values, exceptionally quiet operation and meet the most stringent operating temperature demands.

Leaving water temperature up to 60°C for domestic hot water applications, making hot water readily available for temperature & humidity control.

Time scheduling.

## PHYSICAL DATA

30AWH		004	006	008	012	015	012-3Ph	015-3Ph
<b>Cooling</b>								
Full load performances*								
C1 Nominal capacity	kW	3.3	4.7	5.8	10.2	13.0	10.2	13.0
C1 EER	kW/kW	3.02	3.00	2.98	2.96	2.95	3	2.91
C2 Nominal capacity	kW	4.9	7.0	7.8	13.5	16.0	13.5	16.0
C2 EER	kW/kW	4.20	3.70	3.99	3.66	3.85	4.15	3.81
Seasonal Efficiency*	ESEER	kW/kW	4.36	4.51	4.15	4.22	4.31	4.40
<b>Heating</b>								
Full load performances*								
H1 Capacity (nom/max)	kW	4.07/4.73	5.76/6.14	7.16/8.00	11.86/13.45	14.46/16.25	12.0/15.0	15.0/17.41
H1 COP (nom/max)	kW/kW	4.15/3.97	4.28/3.97	3.97/3.44	3.95/3.86	4.09/4.01	4.3/4.2	4.2/4.18
H2 Capacity (nom/max)	kW	3.87/4.50	5.76/6.04	7.36/7.92	12.91/12.95	13.96/15.92	11.2/14.5	14.5/16.52
H2 COP (nom/max)	kW/kW	3.26/3.15	3.05/2.91	3.19/2.84	3.03/3.01	3.23/3.17	3.35/3.30	3.30/3.21
H3 Capacity (nom)	kW	4.27	5.43	7.25	10.89	12.36	11.43	12.17
H3 COP	kW/kW	2.92	2.77	2.81	2.79	3.02	3.12	2.98
ns/SCOP/ENERGY CLASS (Average) - 30°/35° C	% / - /	146/3,73/A+	141/3,60/A+	118/3,03/A	125/3,19/A+	141/3,61/A+	148/3,78/A+	144/3,68/A+
ns/SCOP/ENERGY CLASS (Average) - 47°/55° C	% / - /	138/3,53/A++	132/3,37/A++	111/2,84/A+	115/2,95/A+	127/3,25/A++	136/3,47/A++	130/3,33/A++
ns/SCOP/ENERGY CLASS (Warm) - 30°/35° C	% / - /	201/5,09/A+++	194/4,92/A+++	163/4,14/A++	171/4,36/A++	194/4,93/A+++	203/5,16/A+++	198/5,03/A+++
ns/SCOP/ENERGY CLASS (Warm) - 47°/55° C	% / - /	190/4,82/A+++	181/4,60/A+++	152/3,88/A+++	158/4,03/A+++	175/4,44/A+++	187/4,74/A+++	179/4,55/A+++
Sound Pressure Level at 4m (H3)	dB(A)	42	42	44	47	48	48	48
Operating weight <sup>†</sup>	kg	57/54	61/58	69/66	104/101	112/109	116/113	116/113
Refrigerant	R-410A							
Compressor	DC twin-rotary with PMV expansion valve							
Fans	Propeller fans							
Quantity/diameter	mm	1/495	1/495	1/495	2/495	2/495	2/495	2/495
Dimensions	mm	908	908	908	908	908	908	908
Length	mm	350	350	350	350	350	350	350
Depth	mm	821	821	821	1363	1363	1363	1363
Height	mm							

30AW		004	006	008	012	015	012-3Ph	015-3Ph
Power supply	V-ph-Hz	230-1-50	230-1-50	230-1-50	230-1-50	230-1-50	400-3-50	400-3-50
Voltage range	V	198-264	198-264	198-264	198-264	198-264	376-424	376-424
Full load current	A	7.2	11	14	23	20	16	16
Fuse rating	A	10	16	16	25	25	20	20

C1 Cooling mode conditions: Evaporator water entering/leaving temperature 12°C/7°C, outside air temperature 35°C, evaporator fouling factor 0 m<sup>2</sup> K/WC2 Cooling mode conditions: Evaporator water entering/leaving temperature 23°C/18°C, outside air temperature 35°C, evaporator fouling factor 0 m<sup>2</sup> K/WH1 Heating mode conditions: Water heat exchanger water entering/leaving temperature 30°C/35°C, outside air temperature 7°C db/6°C wb, evaporator fouling factor 0 m<sup>2</sup> K/WH2 Heating mode conditions: Water heat exchanger water entering/leaving temperature 40°C/45°C, outside air temperature 7°C db/6°C wb, evaporator fouling factor 0 m<sup>2</sup> K/WH3 Heating mode conditions: Water heat exchanger water entering/leaving temperature 47°C/55°C, outside air temperature 7°C db/6°C wb, evaporator fouling factor 0 m<sup>2</sup> K/W

\* In accordance with standard EN14511-3:2013

\*\* In accordance with standard EN14825:2013

† Weight shown is a guideline only.



Eurovent certified data

Eurovent certified data

## COMFORT MODULE FOR MONOBLOCK HEAT PUMPS

• 80HMA

Compatible with:  
30AWH\*\*\*C,  
61AF014-019,  
30RQ017-021



### Choose the easy heating solution

The new comfort module range monoblock inverter heat pumps offers a complete heating system that is easy to design and install. System controls ensure optimized energy efficiency, using auto-adaptive weather compensation control that constantly monitors the indoor and outdoor climate to optimize the heat pump energy efficiency and deliver perfect indoor climate.

### Features

- Reversible operation.
- Electric booster heater of boiler back up.
- Auto-adaptive weather compensation control.
- Dual comfort zone with independent control of two terminals unit types.
- Domestic hot water production control with possible interfacing with thermal solar panels.

### Options

- Two zone kit compatible with all model of comfort module.
- Intermediate heat exchanger to isolate brine water from heat pump from terminal unit fresh water.
- Three way valve for domestic hot water production.
- Pump kit.

## AIR TO WATER MONOBLOCK SYSTEM 30AWH + 80HMA

Part number	Heat pump Maximum heating capacity* 30°C LWT					Comfort module				
	-7°C OAT	-2°C OAT	0°C OAT	+2°C OAT	+7°C OAT	80HMA-M00	80HMA-M03	80HMA-M06	80HMA-T06	80HMA-T09
30AWH004HC	kW 2.9	3.1	3.3	3.5	4.7	•	•	•	•	•
30AWH006HC	kW 3.5	3.8	4.1	4.3	6.1	•	•	•	•	•
30AWH008HC	kW 4.3	4.8	5.2	5.5	8.0	•	•	•	•	•
30AWH012HC	kW 7.9	8.9	9.6	19.1	13.5	•	•	•	•	•
30AWH015HC	kW 9.1	10.2	11.1	12.1	16.5	•	•	•	•	•

## ONE ZONE KIT

Comfort module	80HMA-M00	80HMA-M03	80HMA-M06	80HMA-T06	80HMA-T09
Booster Electrical Heater	0 Boiler back up	3 1 stage	6 3 stages	6 3 stages	9 3 stages
Buffert tank volume	kW 10	10	10	10	10
Dimensions (H x L x D)	kW 800 x 450 x 320	800 x 450 x 320			
Operating weight	kW 34	35	35	35	35
Power supply	kW 230-1-50	230-1-50	230-1-50	230-1-50	230-1-50
Maximum leaving water temperature*	kW 80	80	80	80	80

## TWO ZONE KIT

### Dimensions

Unin (H x L x D) mm 485 x 450 x 330

Packaging (H x L x D) mm 565 x 530 x 410

### Unit weight

Gross weight kg 22

Gross weight kg 27

### Hydronic data

Water connections in 1" male

Operating water pressure kPa (bar) 100 (1)

Maximum pressure kPa (bar) 300 (3)

### Hydronic components

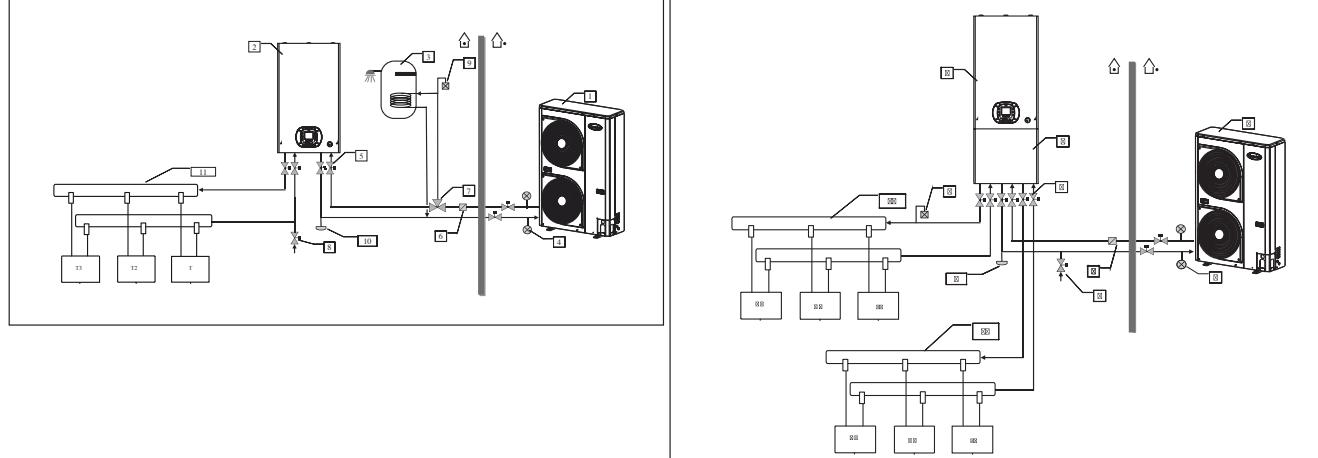
Pump two water-cooled pumps, three speeds, 70 kPa static pressure

Three-way valve One modulating valve, 6.3 Kv, switching time (90o) 240 seconds, 230-V, 3-point SPDT actuator

Collector volume 1

Draining valve √

Outside air operating range, heating and cooling See Comfort module



## INVERTER HYBRID BOILER SYSTEM

80°C

### • 30AWH - High Temperature



### Eco Friendly & High Efficiency Inverter Hybrid Boiler System

• The Inverter Hybrid Boiler System is suitable for sanitary hot water production and space heating, where up to 80°C water temperature is required, with the unique technologies of a dual cascade compression and of optimal plate heat transfer. Since it consumes lower electricity consumption and minimizes carbon dioxide emission, compared with a conventional fossil fuel boiler, it is an ultra-energy saving, eco-friendly, high efficiency solution for space heating and sanitary hot water production.

The unique inverter technology provides highly pleasant atmosphere to a building with lower energy consumption.

### Features

- High efficiency provides up to 65% saving versus a conventional boiler.
- Smart remote control and monitoring system (optional).
- Low noise level.
- Compact split system for easy installation and maintenance.
- Eco-Friendly & high efficiency Inverter Hybrid Boiler System.

## SPECIFICATIONS

Inverter Hybrid Boiler System (30AWH-025Q)				
Heating Capacity			KW	24.5
Electricity	Intergrated Efficiency	COP	W/W	3.31 <sup>(1)</sup>
	Max power consumption (System requiered)		KW	11.86
Hot Water	Inlet Temp.	Usage range	°C	15 ~ 80
	Outlet Temp.	Max.	°C	80
	Flow rate	Usage range	LPM	20 ~ 60

<sup>(1)</sup> Outdoor temperature 7/6°C DB/WB, EWT/LWT 40/45°C, Heating Capacity 16,7 KW.

Outdoor unit specification (30AWH-025QO)				
Power input		-	3Ph. with NEUTRAL, 400VAC/50Hz	
Compressor	Spec Refrigerant (charging)		-	DC Inverter Twin Rotary R410A (2,540g)
Size & weight	Dimensions Weight		[mm]	W900 x H1360 x D320
	[kg]		95	
Refrigerant piping	Liquid pipe (φ) Gas pipe (φ)		[mm]	9,52
	[mm]		15,88	
Ambient temp Range		[°C]	-20 ~ 40	

Indoor unit specification (30AWH-025QI)				
Power input		-	3Ph. with NEUTRAL, 400VAC/50Hz	
Compressor	Spec Refrigerant (charging)		-	DC Inverter Twin Rotary R134a (1,800g)
Heat exchanger 1 (refrigerant - refrigerant)	Spec		-	BPHE (Brazed Plate Heat Exchanger)
Heat exchange 2 (refrigerant - water)	Spec Pressure loss		[kPA]	BPHE (Brazed Plate Heat Exchanger)
Size & Weight	Dimension Weight		[mm]	W570 x H1030 x D330
	[kg]		93	
Outdoor unit connection piping (R410a)	Liquid pipe (φ) Gas pipe (φ)		[mm]	9,52
	[mm]		15,88	
Water pipe size (hot water)	Inlet pipe (φ)		[mm]	25
	Outlet pipe (φ)		[mm]	25
Ambient temp range		[°C]	5 ~ 40	

HYDRIA PLUS

• 30CWH030M  
30CWH050M  
30CWH070M

**HYDRIA**  
**PLUS**

60°C

For Sanitary  
Hot Water



## Features

- Max. water output temperature: 60°C.
- Double-wall heat exchanger is used to prevent refrigerant leakage.
- Automatic startup and shutdown, automatic defrost.
- R410A gas, environmentally friendly.
- Built-in water pump.
- New touch-style key wired controller is used for easy operation.
- Close refrigerant circuit, easy for plumber installation.

## SPECIFICATIONS

		30CWH030M	30CWH050M	30CWH070M
Heating capacity (condition 1) / (condition 2)	KW	3.00 / 3.45	4.30 / 5.00	6.50 / 7.20
Power input (condition 1) / (condition 2)	KW	0.81 / 0.99	1.11 / 1.31	1.80 / 2.02
COP (condition 1) / (condition 2)		3.70 / 3.48	3.87 / 3.82	3.61 / 3.56
Max. current	Amps	5.3	8.3	15.3
Leaving water temperature (heating)	°C		40°C ~ 60°C	
Ambient temperature	°C		-7°C ~ 43°C	
Power supply			220-240V / 1ph	
Refrigerant type			R410A	
Compressor			Rotary GMCC	
Water heat exchanger			Double-wall heat exchanger	
Dimensions (WxHxD)	mm	790 x 765 x 275	790 x 765 x 275	845 x 945 x 335
Net weight	Kg	56	62	81
Noise level	dB(A)	53	55	55
Water pipe connections	mm	DN20	DN20	DN20
Hot water yield	m³/h	0.074	0.107	0.155
Suggested storage tank size	lt	100 ~ 250	150 ~ 300	250 ~ 500

\* Test conditions:

Condition 1: Ambient temperature 7/6 °C (DB/WB), water temperature 30 °C - 35 °C (inlet/outlet).

Condition 2: Ambient temperature 20/15 °C (DB/WB), water temperature 15 °C - 55 °C (inlet/outlet).

\*\* Hot Water Yield: Outdoor temperature 20/15 °C (DB/WB), water inlet temperature 15 °C - water outlet temperature 55 °C.

**HYDRIA**

HYDRIA 190L • 30CWH200



**For Domestic  
Hot Water  
Production**

## **Features**

- Water output temperature: 38°C~70°C.
- No contamination potential, the condenser coil is wrapped around outside the tank.
- Multi protection: PTR valve, double high water temperature protection switches (Manual and Automatic).
- 15 Pa air outlet pressure enables a duct length up to 5 meters.
- User-friendly LCD display for easy interaction.
- Four-way valve for automatic defrosting.
- Automatic weekly disinfect function.
- Auto mode selection & Vacation mode.
- R134A gas, environmentally friendly.
- Close refrigerant circuit, easy for plumber installation.

HYDRIA 300 LT

• 30CWH300

**HYDRIA**



For Domestic  
Hot Water  
Production

## Features

- Water output temperature: 38°C~65°C.
- Enamel water tank is adopted. Water and metal are completely isolated.
- Multi protection: PTR valve, TCO&ATCO double high water temperature protection switches.
- No contamination potential, the condenser coil is wrapped around outside the tank.
- 25 Pa external static pressure enables air duct up to 10m.
- Close refrigerant circuit, easy for plumber installation.
- Auto mode selection & Vacation mode.
- Automatic defrost by reversing refrigerant cycle.
- Disinfect automatically every week.
- Environmental friendly refrigerant R134A is used.

HYDRIA 300 LT  
(with solar coil)

• 30CWH300SI

**HYDRIA**



For Domestic  
Hot Water  
Production

## Features

- Water output temperature: 38°C~60 °C.
- Multi protection: PTR valve, double high water temperature protection switches.(Manual/Automatic).
- Four-way valve for automatic defrosting.
- No contamination potential, the condenser coil is wrapped around outside the tank.
- Close Refrigerant circuit, easy for plumber installation.
- 25Pa air outlet pressure enables a duct length up to 10 meters.
- Auto mode selection & Vacation mode.
- Stainless steel water tank.
- Built-in heat exchanger, compatible to solar thermal or boilers.
- Automatic weekly disinfect function.
- R134A gas, environmentally friendly.

## SPECIFICATIONS

		30CWH200	30CWH300	30CWH300SI
Storage size	lt	190	300	300
Solar Coil		NO	NO	YES
Running ambient temperature	°C	-20°C ~ 45°C	-20°C ~ 43°C	-20°C ~ 43°C
Storage water temperature	°C	38°C ~ 70°C	38°C ~ 65°C	38°C ~ 60°C
Heat pump heating capacity	KW	1.45	3.0	3.0
COP		3.50	3.76	3.60
Refrigerant		R134a		
Power supply		220-240V / 1ph		
Max. current	Amps	17.0	18.7	18.7
E-heater	KW	3.0	3.0	3.0
Dimensions (DxH)	mm	Φ560 x 1680	Φ650 x 1920	Φ650 x 1920
Net weight	Kg	94	146	123
Sound pressure level	dB(A)	41	45	48
Water Inlet pipe	mm	DN20		
Water Outlet pipe	mm	DN20		
Drainage	mm	DN20		
Max. operating pressure	Mpa	1.0		
Solar Coil Water Inlet pipe	mm	-	-	DN20
Solar Coil Water Outlet pipe	mm	-	-	DN20
Solar Coil (material / dimensions)		-	-	316L / Φ22mm x 10,0m
Solar Coil max. pressure	Mpa	-	-	0.7
Hot Water Yield	m <sup>3</sup> /h	0.086	0.086	0.086
Applicable people		3 ~ 4	5 ~ 6	5 ~ 6
Energy Class (Average)		A	A	A

\* Test conditions: Ambient temperature 15/12 °C (DB/WB), initial water temperature 15 °C - terminate water temperature 45 °C.

\* Sound pressure level test conditions: Distance is 1m from the unit and height is 1m and half of the unit's height.



POSEIDON

• 30CWH080SWP  
30CWH140SWP

For Pool Heating  
(Residential and  
Light Commercial)  
applications



Titanium

Conventional material

## Features

- Heating and cooling mode.
- Automatic defrosting function.
- R410A gas, environmentally friendly.
- Titanium heat exchanger.
- LCD display.

## SPECIFICATIONS

		30CWH080SWP	30CWH140SWP
Heating capacity	KW	8.0	13.6
Power input	KW	1.52	2.55
COP		5.27	5.33
Cooling capacity	KW	5.8	10.35
Power input	KW	1.5	2.9
EER		3.87	3.57
Leaving water temperature (heating)	°C	20°C ~ 35°C	
Ambient temperature	°C	-7°C ~ 38°C	
Leaving water temperature (cooling)	°C	10°C ~ 30°C	
Ambient temperature	°C	15°C ~ 43°C	
Power Supply		220-240V / 1ph	
Max. current	Amps	8.0	16.0
Refrigerant type		R410A	
Water heat exchanger		Titanium	
Dimensions (WxHxD)	mm	1015 x 705 x 385	1050 x 855 x 315
Net weight	Kg	66	75
Noise level	dB(A)	58	58
Water pipe connections	mm	Ø50	
Max. pressure	Mpa	0.4	
Indicative applicable range	m³	50	75 ~ 100

Test conditions:

Heating: Ambient temperature 24/19 °C (DB/WB), water inlet / outlet temperature 27 °C / 29 °C.

Cooling: Ambient temperature 35/24 °C (DB/WB), water inlet 27 °C - water flow rate the same both in cooling and heating mode.

AIR-TO-WATER  
HEAT PUMPS

30RQ



50°C



## Fast installation enhanced performance

The AquaSnap heat pump was designed for commercial applications such as the air conditioning of offices, hotels etc.

## Features

The units are equipped with a hydronic module integrated into the unit chassis, limiting the installation to straight-forward operations like connection of the power supply and the return piping.

Non-ozone depleting refrigerants R410A.

Scroll compressors.

Low noise fans.

Auto-adaptive microprocessors control.

Superior reliability.

## PHYSICAL DATA

30RQ		017	021	026	033	040	
<b>Cooling</b>							
<b>Full load performances*</b>	C1 Nominal capacity	kW	16.0	20.2	26.7	32.7	39.8
	C1 EER	kW/kW	3.17	3.11	3.01	3.21	2.92
	C2 Nominal capacity	kW	22.2	27.4	34.3	43.6	55
	C2 EER	kW/kW	4.02	3.76	3.62	3.96	3.5
<b>Seasonal Efficiency*</b>	ESEER	kW/kW	3.61	3.44	3.36	3.58	3.25
<b>Heating</b>							
<b>Full load performances*</b>	H1 Nominal capacity	kW	17.6	22.2	31.0	34.7	39.2
	H1 COP	kW/kW	3.99	3.98	3.98	3.98	3.45
	H2 Nominal capacity	kW	17	21.6	29.9	33.3	40.9
	H2 COP	kW/kW	3.18	3.28	3.2	3.19	3.09
<b>Seasonal Efficiency**</b>	ns/SCOP/ENERGY CLASS (Average) - 30°/35° C	% / - / -	118/3,03/A	119/3,05/A	122/3,13/A	122/3,13/A	122/3,13/A
	ns/SCOP/ENERGY CLASS (Warm) - 30°/35° C	% / - / -	TBA	TBA	TBA	TBA	TBA
<b>Sound Power Level Standard Unit</b>		dB(A)	72	74	78	78	80
<b>Operating weight†</b>	Standard unit with/without hydronic module	kg	206/191	223/208	280/262	295/277	304/287
<b>Refrigerant</b>					R-410A		
<b>Compressor</b>					One hermetic scroll compressor		
<b>Control</b>					Pro-Dialog+		
<b>Fans</b>					Two twin-speed axial fans, 3 blades		One twin-speed axial fan, 7 blades
Air flow	I/s		2217	1978	3530	3530	3530
<b>Water heat exchanger</b>					Plate heat exchanger		
<b>Air heat exchanger</b>					Copper tubes and aluminium fins		
<b>Unit with hydronic module pump</b>					One single-speed pump, screen filter, expansion tank, flow switch, pressure gauge, automatic air purge valve, safety valve		
Entering water connection	in	1-1/4	1-1/4	1-1/4	1-1/4	1-1/4	
Leaving water connection	in	1	1	1-1/4	1-1/4	1-1/4	
Nominal operating current	A	1.30	1.4	2.4	2.6	2.8	
<b>Dimensions</b>							
Length	mm	1136	1136	1002	1002	1002	
Depth	mm	584	584	824	824	824	
Height	mm	1579	1579	1790	1790	1790	

C1 Cooling mode conditions: Water heat exchanger, entering/leaving temperature 12°C/7°C, fouling factor 0 m2 K/W. Outside air temperature 35°C

C2 Cooling mode conditions: Water heat exchanger, entering/leaving temperature 23°C/18°C, fouling factor 0 m2 K/W. Outside air temperature 35°C

H1 Heating mode conditions: Water heat exchanger water entering/leaving temperature 30°C/35°C, fouling factor 0 m2 K/W. Outside air temperature 7°C db/6°C wb,

H2 Heating mode conditions: Water heat exchanger water entering/leaving temperature 40°C/45°C, fouling factor 0 m2 K/W. Outside air temperature 7°C db/6°C wb,

\* In accordance with standard EN14511-3:2013

\*\* In accordance with standard EN14825:2013

† Weight shown is a guideline only.

## ELECTRICAL DATA

30RQ		017	021	026	033	040
<b>Power circuit</b>						
Nominal power supply	V-ph-Hz			400-3-50 ± 10%		
<b>Control circuit supply</b>				24 V via internal transformer		
<b>Maximum start-up current (Un)*</b>	A	75	95	118	118	176
<b>Maximum operating power input**</b>	kW	7.8	9.1	11	13.8	17.5
<b>Nominal unit operating current draw***</b>	A	8	12	16	17	25

\* Maximum instantaneous start-up current (locked rotor current of the compressor).

\*\* Power input, compressors and fans, at the unit operating limits (saturated suction temperature 10°C, saturated condensing temperature 65°C) and nominal voltage of 400 V (data given on the unit nameplate).

\*\*\* Standardised Eurovent conditions: water heat exchanger entering/leaving water temperature 12°C/7°C, outside air temperature 35°C.

REVERSIBLE  
AIR-TO-WATER  
HEAT PUMP

• 30RQV



60°C



- This new product offers excellent energy efficiency values, exceptionally quiet operation and meet the most stringent operating temperature demands.

## Features

- Monobloc Inverter.
- Non ozone depleting refrigerant R-410a.
- DC Inverter twin rotary compressors.
- Compact, reliable and efficient.
- Easy temperature control.
- New NHC Control + (WUI).

## PHYSICAL DATA

30RQV	017	021
<b>Data at Eurovent LCP/A/CHF conditions*</b>		
Nominal heating capacity	kW	17,3
Power input	kW	4,22
COP	kW/kW	4,10
Nominal cooling capacity	kW	TBA
Power input	kW	TBA
EER	kW/kW	TBA
Eurovent class, cooling		TBA
<b>Data at Eurovent LCP/A/CHF conditions**</b>		
Nominal heating capacity	kW	TBA
Power input	kW	TBA
COP	kW/kW	TBA
Eurovent class, heating		TBA
Nominal cooling capacity	kW	14,90
Power input	kW	4,97
EER	kW/kW	3,00
ESEER part-load performance	kW/kW	TBA
Nominal heating capacity, radiator applications***	kW	TBA
Power input	kW	TBA
COP	kW/kW	TBA
<b>Operating weight</b>		
Unit without hydronic module	kg	TBA
Unit with hydronic module		TBA
Refrigerant		R-410A
Compressor		
Expansion valve		TBA
<b>Fans</b>		
Quantity		2
<b>Ecodesign Performances****</b>		
ns/SCOP/ENERGY CLASS (Average) - 30°C/35°C	% / - / -	135/3,58/A+
ns/SCOP/ENERGY CLASS (Average) - 47°C/55°C		110/2,95/A+
ns/SCOP/ENERGY CLASS (Warm) - 30°C/35°C		TBA
ns/SCOP/ENERGY CLASS (Warm) - 47°C/55°C		TBA

## ELECTRICAL DATA

30RQV	017	021
Power supply	V-ph-Hz	400-3-50
Voltage range	V	TBA
Full load current	A	TBA
Fuse rating	A	TBA
Main power cable section	mm <sup>2</sup>	TBA

\* Standard Eurovent LCP/A/CHF conditions in heating mode: water heat exchanger entering/leaving water temperature 30°C/35°C, outside air temperature 7°Cdb/6°Cwb.

Standard Eurovent LCP/A/CHF conditions in cooling mode: water heat exchanger entering/leaving water temperature 23°C/18°C, outside air temperature 35°C.

\*\* Standard Eurovent LCP/A/AC conditions in heating mode: water heat exchanger entering/leaving water temperature 40°C/45°C, outside air temperature 7°Cdb/6°Cwb.

Standard Eurovent LCP/A/CHF conditions in cooling mode: water heat exchanger entering/leaving water temperature 23°C/18°C, outside air temperature 35°C.

\*\*\* Conditions in heating mode: entering/leaving water temperature 55°C/60°C, outside air temperature 7°Cdb/6°Cwb.  
Performance in accordance with EN14511

\*\*\*\* In accordance with standard EN14825

\*Preliminary Data

DUCTABLE  
AIR COLED SCROLL  
HEAT PUMPS

• 30PHC

55°C



Heating and cooling  
solutions  
you can count on

## Features

• The 30PH reversible heat pumps are compact outdoor air/water units. Available in two versions: STD (Standard) and HEE (High Energy Efficiency).

These units have been made for operation indoors in the production of hot and/or cold water, applicable to heating, cooling, and industry.

• Operation in negative outdoor temperatures (greater than -15°C WB) for water heating and cooling. Defrosting by reversing the cycle.

Packaged unit all in one.

Silent operation.

Configuration flexibility.

Ductable feature for indoor installation.

Equipped with centrifugal fan (STD version) or electronic plugfan (HEE version), plate exchanger, hermetic scroll compressor, and electronic control with microprocessor, components optimised for the R-410A refrigerant.

Electronic control.

## PHYSICAL DATA

30PHC		90STD	100STD	120STD	160STD	180STD
<b>Cooling applications as per EN-14511-2013*</b>						
Nominal cooling capacity	kW	17,70	21,10	25,20	32,7	36
Power input	kW	7,75	9,15	10,00	12,6	14,4
EER	kW/kW	2,29	2,31	2,51	2,6	2,49
ESEER		2,95	3,00	3,22	3,17	3,02
<b>Heating applications as per EN-14511-2013**</b>						
Nominal heating capacity	kW	21,80	26,10	29,70	38,3	42,6
Power input	kW	7,31	8,90	9,90	12,9	14,2
COP	kW/kW	2,97	2,94	3,00	2,97	3,01
<b>Operating weight</b>						
Unit with hydronic module (empty)	kg	310	370	386	469	476
Unit with hydronic module (in operation)	kg	327	390	408	497	503
Refrigerant		R-410A				
Compressor		One scroll compressor				
Fans		One centrifugal fan				
Nominal air flow	m <sup>3</sup> /h	6.500	7.000	10.000	12,200	12,200
Available static pressure	mm.w.c.	20	20	20	20	20
<b>Dimensions</b>						
Length x depth x height	mm	1117x860x1447	1117x860x1447	1398x860 x1727	1398x860x1727	1398x860x1727

\* Cooling capacity calculated in accordance with the EN-14511-2013 standard given for outlet temperature conditions of 7°C and 35°C outdoor temperature

\*\* Heating capacity calculated in accordance with the EN-14511-2013 standard given for outlet temperature conditions of 45°C and 60°C WB outdoor temperature

## ECODESIGN PERFORMANCES

30PHC		90STD	100STD	120STD	160STD	180STD
ns/SCOP/ENERGY CLASS (Average) - 30°C/35°C	% / - / -	126/3,24/A+	122/3,13/A	121/3,10/A	115/2,94/A+	119/3,06/A
ns/SCOP/ENERGY CLASS (Warm) - 30°C/35°C	% / - / -	143/3,64/A+	139/3,56/A+	148/3,77/A+	144/3,67/A+	141/3,60/A+

## ELECTRICAL DATA

30PHC		90STD	100STD	120STD	160STD	180STD
Electrical power supply	V-ph-Hz	400-3-50 (+10%)	400-3-50 (+10%)	400-3-50 (+10%)	400-3-50 (+10%)	400-3-50 (+10%)
Power supply		3 Wires + Ground + Neutral				
Maximum absorbed current	A	21.1	23.2	28.3	35.2	40.3

HIGH TEMPERATURE  
AIR-TO-WATER  
HEAT PUMPS

• 61AF



• 65°C



Exceptional energy  
efficiency level

• High temperature air to water heat pumps with integrated hydronic module for leaving water temperature up to 65°C.

## Features

• Scroll compressors with vapour injection.

Low-noise fans made of a composite material.

Auto-adaptative microprocessor control.

Electronic expansion valve.

Multi-speed pump.

## PHYSICAL DATA

	61AF	014-7	014-9	019
<b>Heating</b>				
<b>Full load performances*</b>	H1 Nominal capacity kW	13.9	13.5	20.2
	H1 COP kW/kW	3.90	4.17	4.28
	H2 Nominal capacity kW	14.1	13.7	19.8
	H2 COP kW/kW	3.34	3.52	3.49
	H3 Nominal capacity kW	14.2	13.8	19.8
	H3 COP kW/kW	2.93	3.03	2.96
	H4 Nominal capacity kW	14.0	13.7	20.1
	H4 COP kW/kW	2.44	2.5	2.43
<b>Seasonal Efficiency**</b>	ns/SCOP/ENERGY CLASS (Average) - 30°C/35°C % / - / -	TBA	TBA	TBA
	ns/SCOP/ENERGY CLASS (Average) - 47°C/55°C % / - / -	106/2,73/A+	111/2,85/A+	111/2,85/A+
	ns/SCOP/ENERGY CLASS (Warm) - 30°C/35°C % / - / -	TBA	TBA	TBA
	ns/SCOP/ENERGY CLASS (Warm) - 47°C/55°C % / - / -	TBA	TBA	TBA
<b>Sound Power Level Standard Unit</b>	dB(A)	71	71	72
<b>Max. leaving water temperature</b>	°C	65	65	65
<b>Operating weight†</b>	kg	159	159	206
Standard unit without hydronic module	kg	169	169	216
Standard unit with hydronic module option				
<b>Compressor</b>		One, hermetic scroll, 48.3 r/s		
<b>Refrigerant</b>		R-407C		
<b>Condenser</b>		Direct-expansion plate heat exchanger		
Fan		Axial		
Quantity		2	2	2
Air flow	l/s	2050	2050	2000
<b>Evaporator</b>		Grooved copper tubes and aluminium fins		
<b>Dimensions</b>				
Length	mm	1103	1103	1135
Depth	mm	333	333	559
Height	mm	1278	1278	1579

H1 Heating mode conditions: Water heat exchanger water entering/leaving temperature 30°C/35°C, fouling factor 0 m2 K/W. Outside air temperature 7°C db/6°C wb,  
H2 Heating mode conditions: Water heat exchanger water entering/leaving temperature 40°C/45°C, fouling factor 0 m2 K/W. Outside air temperature 7°C db/6°C wb,  
H3 Heating mode conditions: Water heat exchanger water entering/leaving temperature 47°C/55°C, fouling factor 0 m2 K/W. Outside air temperature 7°C db/6°C wb,  
H4 Heating mode conditions: Water heat exchanger water entering/leaving temperature 55°C/65°C, fouling factor 0 m2 K/W. Outside air temperature 7°C db/6°C wb,  
\* In accordance with standard EN14511-3:2013  
\*\* In accordance with standard EN14825:2013  
† Weight shown is a guideline only.

## ELECTRICAL DATA

61AF - Standard unit	Without pump			With pump		
	014-7	014-9	019	014-7	014-9	019
<b>Power circuit</b>						
Nominal power supply	V-ph-Hz	230-1-50 ± 10%	400-3-50 ± 10%	400-3-50 ± 10%	230-1-50 ± 10%	400-3-50 ± 10%
<b>Control circuit supply</b>		24 V, via internal transformer				
<b>Maximum start-up current (Un)*</b>	A	-	66	102	-	67
Standard unit	A	47	-	-	48	-
Unit with electronic starter option	A	0.82	0.82	0.82	0.82	0.82
<b>Unit power factor at maximum capacity**</b>	kW	6.41	5.90	8.80	6.41	6.10
<b>Maximum unit power input**</b>	kW	22.9	7.9	12.4	23.7	7.9
<b>Nominal unit current draw***</b>	A	30.7	10.8	16.0	31.5	10.8
<b>Maximum unit current draw (Un)****</b>	A	30.7	10.8	16.0	31.5	16.0

\* Maximum instantaneous start-up current at operating limit values (maximum operating current of the pump + fan current + locked rotor current of the compressor).

\*\* Power input, compressors and fan, at the unit operating limits (saturated suction temperature 10°C, saturated condensing temperature 65°C) and nominal voltage of 400 V (data given on the unit nameplate).

\*\*\* Standardised Eurovent conditions: condenser entering/leaving water temperature 40°C/45°C, outside air temperature 7°C.

\*\*\*\* Maximum unit operating current at maximum unit power input and 400 V (values given on the unit nameplate).

## HIGH TEMPERATURE AIR-TO-WATER HEAT PUMPS

61AF



65°C



### Application flexibility

High temperature heat pump range was designed for commercial applications, such as the heating of offices, apartments and hotels as well as domestic hot water production.

### Features

The operating range allows outside temperatures down to -20°C and leaving water temperatures up to 65°C. Intelligent unit control permits unit operation in extreme conditions, minimising unit shut-down times.

Scroll compressors with vapour injection.

Low-noise fans made of a composite material.

Auto-adaptative microprocessor control.

Electronic expansion valve.

Multi-speed pump.

## PHYSICAL DATA

61AF		022	030	035	045	055	075	105							
<b>Heating</b>															
<b>Full load performances*</b>	H1 Nominal capacity kW	20.9	26.3	32.6	44.3	52.2	64.9	101.9							
	H1 COP kW/kW	4.15	4.19	4.14	4.4	4.39	3.98	4.25							
	H2 Nominal capacity kW	20.8	25.8	32.4	43.9	52.4	66.8	102							
	H2 COP kW/kW	3.5	3.51	3.45	3.67	3.7	3.43	3.59							
	H3 Nominal capacity kW	20.9	25.3	32	43.5	52.8	68	102							
	H3 COP kW/kW	3.05	3.05	3	3.21	3.22	3.01	3.13							
	H4 Nominal capacity kW	21.2	24.8	31.7	43.4	54	68.1	103.4							
	H4 COP kW/kW	2.56	2.56	2.52	2.69	2.71	2.54	2.64							
<b>Seasonal Efficiency**</b>	ns/SCOP/ENERGY CLASS (Average) - 30°/35° C % / - / -	TBA	TBA	TBA	TBA	TBA	TBA	TBA							
	ns/SCOP/ENERGY CLASS (Average) - 47°/55° C % / - / -	104/2,68/A+	105/2,70/A+	108/2,77/A+	116/2,98/A+	117/3,01/A+	109/2,80/A+	115/2,96/A+							
	ns/SCOP/ENERGY CLASS (Warm) - 30°/35° C % / - / -	TBA	TBA	TBA	TBA	TBA	TBA	TBA							
	ns/SCOP/ENERGY CLASS (Warm) - 47°/55° C % / - / -	TBA	TBA	TBA	TBA	TBA	TBA	TBA							
<b>Sound Power Level Standard Unit</b>	dB(A)	77	78	83	82	84	84	85							
<b>Sound Pressure Level at 10 m</b>	dB(A)	46	46	51	51	53	52	53							
<b>Operating weight†</b>	kg	340	396	411	500	523	900	1020							
Standard unit without hydronic module	kg	352	408	425	564	588	950	1076							
<b>Compressor</b>		One, hermetic scroll 48.3 r/s				Two, hermetic scroll 48.3 r/s									
<b>Refrigerant</b>		R-407C													
<b>Condenser</b>		Direct-expansion plate heat exchanger Axial with rotating shroud, Flying Bird IV													
<b>Fan</b>		1	1	1	1	1	2	2							
Quantity		1	1	1	1	1	2	2							
Total air flow at high speed	l/s	3770	3748	3736	4035	4036	7479	8072							
<b>Evaporator</b>		Grooved copper tubes and aluminium fins													
<b>Refrigerant</b>		R-407C													
<b>Dimensions</b>															
Length	mm	1110				1114									
Depth	mm	1327				2100									
Height	mm	1330				1330									
H1	Heating mode conditions: Water heat exchanger water entering/leaving temperature 30°C/35°C, fouling factor 0 m2 K/W. Outside air temperature 7°C db/6°C wb,														
H2	Heating mode conditions: Water heat exchanger water entering/leaving temperature 40°C/45°C, fouling factor 0 m2 K/W. Outside air temperature 7°C db/6°C wb,														
H3	Heating mode conditions: Water heat exchanger water entering/leaving temperature 47°C/55°C, fouling factor 0 m2 K/W. Outside air temperature 7°C db/6°C wb,														
H4	Heating mode conditions: Water heat exchanger water entering/leaving temperature 55°C/65°C, fouling factor 0 m2 K/W. Outside air temperature 7°C db/6°C wb,														
*	In accordance with standard EN14511-3:2013														
**	In accordance with standard EN14825:2013														
†	Weight shown is a guideline only.														

## ELECTRICAL DATA

61AF - Standard unit (without hydronic module)	022	030	035	045	055	075	105	
<b>Power circuit</b>								
Nominal power supply	V-ph-Hz	400-3-50 ± 10%						
<b>Control circuit supply</b>								
<b>Maximum start-up current (Un)*</b>		24 V, via internal transformer						
Standard unit	A	104	102	130	170	190	157	229
Unit with electronic starter option	A	56	55	70	91	101	101	142
		0.82	0.82	0.82	0.82	0.82	0.82	0.82
<b>Unit power factor at maximum capacity**</b>	kW	8.7	11.6	12.9	14.6	16.8	25.8	33.7
<b>Maximum unit power input**</b>	A	13.6	16.4	20.1	23.2	27.7	40.2	55.4
<b>Nominal unit current draw***</b>	A	16.8	21.1	27.0	32.8	38.8	54.0	77.6
<b>Maximum unit current draw (Un)****</b>	A							

\* Maximum instantaneous start-up current at operating limit values (maximum operating current of the compressor + fan current + locked rotor current of the compressor).

\*\* Power input, compressors and fan, at the unit operating limits (saturated suction temperature 10°C, saturated condensing temperature 65°C) and nominal voltage of 400 V (data given on the unit nameplate).

\*\*\* Standardised Eurovent conditions: condenser entering/leaving water temperature 40°C/45°C, outside air temperature 7°C/6°C.

\*\*\*\* Maximum unit operating current at maximum unit power input and 400 V (values given on the unit nameplate).

WATER SOURCE  
HEAT PUMPS

61WG



65°C



### Optimized for heating

The 61WG units designed for commercial, residential and industrial applications. All units offer a unique combination of high performance and functionality in an exceptionally compact chassis.

### Features

Optimized for heating applications, leaving water temperature up to 65°C, evaporator temperature down to -5°C and a COP of above 5.

Latest generation R-410A scroll compressors, optimized for high performance.

Plug and play approach.

Weather compensation control and control for supplementary electric heating stages or a relief boiler.

## PHYSICAL DATA

61WG		020	025	030	035	040	045	050	060	070	080	090	
<b>Heating</b>													
<b>Full load performances*</b>	H1 Nominal capacity	kW	29.0	34.4	38.3	44.2	50.2	57.2	68.6	78.2	88.4	100.1	116.5
	H1 COP	kW/kW	5.42	5.29	5.21	5.29	5.34	5.32	5.49	5.36	5.46	5.28	5.33
	H2 Nominal capacity	kW	27.7	33.0	36.7	42.7	48.7	54.8	66.4	75.7	84.2	95.3	109.0
	H2 COP	kW/kW	4.35	4.34	4.20	4.27	4.32	4.36	4.51	4.32	4.35	4.27	4.31
	H3 Nominal capacity	kW	26.9	32.0	35.4	41.3	46.5	52.3	63.6	74.0	80.4	90.3	103.0
	H3 COP	kW/kW	3.65	3.68	3.52	3.59	3.56	3.66	3.75	3.64	3.63	3.56	3.60
	H4 Nominal capacity	kW	25.7	30.7	33.7	39.6	42.9	49.1	60.6	70.7	76.3	85.0	97.4
	H4 COP	kW/kW	2.96	2.96	2.86	2.93	2.88	2.96	2.98	3.04	2.99	2.94	2.97
<b>Seasonal Efficiency**</b>	H3 Energy Class		A+++										
	H3 SCOP	kW/kW	4.38	4.33	4.20	4.28	4.33	4.35	4.85	4.88	4.80	4.90	4.80
	ns heat	%	167	165	160	163	165	166	186	187	184	188	184
<b>Sound Power Level Standard Unit</b>		dB(A)	67	68	69	69	70	70	72	72	72	73	73
<b>Operating weight†</b>		kg	191	200	200	207	212	220	386	392	403	413	441
<b>Compressors</b>													
Quantity			1	1	1	1	1	1	2	2	2	2	
Number of capacity stages			1	1	1	1	1	1	2	2	2	2	
Minimum capacity	%	100	100	100	100	100	100	50	50	50	50	50	
<b>Dimensions, standard unit††</b>													
Width	mm	600	600	600	600	600	600	880	880	880	880	880	
Depth	mm	1044	1044	1044	1044	1044	1044	1474	1474	1474	1474	1474	
Height	mm	901	901	901	901	901	901	901	901	901	901	901	
<b>Refrigerant</b>													
<b>Control</b>												Pro-Dialog+	
<b>Evaporator</b>												Direct-expansion plate heat exchanger	
<b>Condenser</b>												Plate heat exchanger	

H1 Heating mode conditions: Condenser Water heat exchanger, entering/leaving temperature 30°C/35°C, fouling factor 0 m<sup>2</sup> K/W. Evaporator Water heat exchanger, entering/leaving temperature 10°C/7°C, fouling factor 0 m<sup>2</sup> K/W.

H2 Heating mode conditions: Condenser Water heat exchanger, entering/leaving temperature 40°C/45°C, fouling factor 0 m<sup>2</sup> K/W. Evaporator Water heat exchanger, entering/leaving temperature 10°C/7°C, fouling factor 0 m<sup>2</sup> K/W.

H3 Heating mode conditions: Condenser Water heat exchanger, entering/leaving temperature 47°C/55°C, fouling factor 0 m<sup>2</sup> K/W. Evaporator Water heat exchanger, entering/leaving temperature 10°C/7°C, fouling factor 0 m<sup>2</sup> K/W.

H4 Heating mode conditions: Condenser Water heat exchanger, entering/leaving temperature 55°C/65°C, fouling factor 0 m<sup>2</sup> K/W. Evaporator Water heat exchanger, entering/leaving temperature 10°C/7°C, fouling factor 0 m<sup>2</sup> K/W.

\* In accordance with standard EN14511-3:2013.

\*\* In accordance with standard EN14825:2013, average climate.

† Weight shown is a guideline only.

†† The dimensions shown are for the standard unit. For other unit types please refer to the dimensional drawings.

## ELECTRICAL DATA

61WG		020	025	030	035	040	045	050	060	070	080	090
<b>Power circuit</b>												
Nominal power supply		V-ph-Hz										400-3-50 ± 10%
<b>Control circuit supply</b>												24 V, via internal transformer
<b>Maximum start-up current draw (Un)*</b>												
Standard unit	A	98	142	142	147	158	197	162	163	171	185	228
Unit with electronic starter option	A	53.9	78.1	78.1	80.9	86.9	108.4	98	99	105	114	139
<b>Maximum operating power input**</b>	kW	9.7	11.4	12.7	14.6	16.5	18.6	22.8	25.4	29.2	33	37.2
<b>Maximum operating current draw (Un)***</b>	A	16.1	19.6	21.1	24.4	26.7	30.9	39.2	42.2	48.8	53.4	61.8

\* Maximum instantaneous start-up current at operating limit values (maximum operating current of the smallest compressor(s) + fan current + locked rotor current of the largest compressor).

\*\* Maximum power input at the unit operating limits.

\*\*\* Maximum unit operating current at maximum unit power input and 400 V.

## WATER TANKS FOR HEAT PUMPS

### HPC



#### Models

- HPC-1 | HPC-2 | HPCmax | HPCsolmax | HPCmini (buffer)

#### Features

##### HPC-1 & 2 (Enameled for DHW)

Available from 200L to 500L.

Anticorrosive protection by liquid enamel applicable to 850°C according to DIN 4573. Anodic protection by magnesium anode according to DIN 1243-2.

Capability for simultaneous connection of 3 different energy sources (solar panels, heat pump, electricity - optional).

Large heat exchanger (HP) from the top to the bottom and an inside coaxial exchanger for solar.

Upper coil of big capacity and cross -section suitable for H/P flows.

Eco friendly polyurethane foam of 52kg/m<sup>3</sup> density, 55mm thickness, according to DIN EN ISO 845:2009-10.

External cover of PVC fabric for in door storage.

#### Features

##### HPCmax & solmax (AISI 316L for DHW)

Available from 200L to 500L.

Manufactured completely from Stainless Steel AISI 316L. Anodic protection by magnesium anode according to DIN 1243-2.

Capability for simultaneous connection of 3 different energy sources (solar panels, heat pump, electricity - optional).

Optimal design with upper heat exchanger (HP) and bottom heat exchanger for solar.

Upper coil of big exchange surface suitable for H/P.

Eco friendly soft polyurethane jacket of 17,2kg/m<sup>3</sup> density, 100mm thickness, according to DIN EN ISO 845:2009-10.

External cover of PVC fabric for in door storage.

# Features

## HPCmini (small buffer tank)

2 models 60 litres & 80 litres of small dimensions.

Manufactured completely from Steel ST37-2 and can be Installed in series or create primary / secondary circuits.

2 holes on the front - 2 on the side (female thread 1 1/4"), 2 holes on the upper (female thread 1/2" airvent and sensor), 1 hole on the bottom (female thread 1 1/4" for heat element [optional] or drain).

Capability of horizontal or vertical installation on the wall or on the ground.

Increase of water volume in the installation, protection of evaporator during cooling period.

Optional 4 kW electrical resistanse for back up of heating during low winter temperatures.

Eco friendly polyurethane foam of 50kg/m<sup>3</sup> density and external cover of Prepainted Steel ST37-2, 0.50mm thickness for indoor storage.

## SPECIFICATIONS

	HPC - 1 & 2 (Enamelled for DHW)			HPCmax & solmax (AISI 316L for DHW)			HPCmini (small buffer tank)	
Usage	DHM	DHM	DHM	DHM	DHM	DHM	BUFFER	BUFFER
Tank Capacity	lt	200	300	500	200	300	500	60
Total Height	mm	1400	1650	1850	1310	1800	1800	840
Tank Diameter with ins.	mm	600	630	750	585	600	800	400
Max. Working Pressure	bar	10	10	10	8	8	8	6
Hot Water Outlet		1"	1"	1"	3/4"	1"	1 1/4"	-
Cold Water Inlet		1"	1"	1"	3/4"	1"	1 1/4"	-
Recirculation		YES (3/4")	YES (3/4")	YES (3/4")	YES (3/4")	YES (3/4")	YES (3/4")	-
Resistanse		YES (OPT.)	YES (OPT.)	YES (OPT.)	YES (OPT.)	YES (OPT.)	YES (OPT.)	YES (OPT.)
Length of Resistanse	mm	1160	1160	1160	430	430	430	430
Installation of Resistanse		ON TOP	ON TOP	ON TOP	SIDE	SIDE	SIDE	BOTTOM
Solar Coil Input/Output	in	3/4"	3/4"	3/4"	3/4"	3/4"	3/4"	-
Solar Coil Cross Section	in	3/4"	3/4"	3/4"	3/4"	3/4"	3/4"	-
Solar Coil Surface	m <sup>2</sup>	1.2	2.2	2.6	1.5	1.5	2.1	-
HP Coil Input/Output	in	1 1/2"	1 1/2"	1 1/2"	1"	1"	1"	-
HP Coil Cross Section	in	1/ 1/4"	1/ 1/4"	1/ 1/4"	1"	1"	1"	-
HP Coil Surface	m <sup>2</sup>	2.4	4.0	5.0	3.2	4.0	5.2	-
Input/Output	in	-	-	-	-	-	1 1/4"	1 1/4"
Input/Output Cross Section	in	-	-	-	-	-	1 1/4"	1 1/4"
Type of Insulation		POL. FOAM	POL. FOAM	POL. FOAM	JACKET	JACKET	JACKET	POL. FOAM
Insulation Density	kg/m <sup>3</sup>	52	52	52	17.3	17.3	17.3	40
Insulation Thickness	mm	55	55	55	100	100	100	30

\* For external storage: HPC 1 & 2 with external cooling of pre-painted steel, the HPC max & solmax & mini with hard polyurethane foam and inox AISI 304.



# AIR TREATMENT

A solution designed for optimized performance

An important aspect of any HVAC system is the correct supply of treated fresh air to the building occupants, improve indoor air quality (IAQ) levels.

Carrier offers a vast range of standard and customised air handling solutions to ensure the best match to the requirements.

Carrier also proposes a range of hybrid terminal cassette, cabines, concealed, ducted to match any application requirements and installation criteria: in the room, in the ceiling, above a false ceiling and any more.

## RESIDENTIAL APPLICATIONS

Heat pump systems are often considered as the most suitable solution, offering both air conditioning and heating. At European level, permanent research for economic and ecological comfort has already resulted in new hydronic solutions with under-floor heating and cooling.

In the most demanding applications fan coils complete the system to offer a true air-conditioning solution.

Today the most frequent solutions are:

- floor-mounted solutions for individual houses –easy to install in refurbishment projects, using existing central heating pipes.  
Enhanced comfort without a lot of work.
- ductable solutions for apartments, utilising false ceilings in the entrance hall.
- high-wall solutions, using the space above doors that is otherwise lost.

The ductable unit may well become the solution of the future, if the building concept takes the application limits of this solution into consideration.

# LODGING (HOTELS, HOSPITALS)

In hotels, customer comfort is increasingly important and air-conditioning is essential.

At the same time construction cost must be minimized to offer customers a favourable quality/price ratio.

The trend is towards modularity of the rooms, as well as the air-conditioning system installed.

The most frequent choices for this approach:

- ductable solutions, using false ceilings in entrance halls and room corridors for new buildings.
- floor-mounted solutions for refurbishment projects.

For either of these two systems, areas such as large open spaces, dining rooms, receptions and conference halls that have other requirements, often use the cassette solution.

The choice depends on many different criteria, and therefore Carrier has a variety of products in order to choose the best fan coil solution for your application.



## TERMINAL UNITS

42N\_S  
42N\_E



### Elegance, Performance and Comfort



The 42N\_S and 42N\_E product ranges combine aesthetic and attractive design with versatility to satisfy any application need, from large office buildings or hotels to shops and residential applications.

Variable-speed LEC motors reduce the fan coil unit power consumption by 50% to 70%. This option meets the building energy regulation objectives. LEC motors include autoadaptive control of the air flow from 0 to 100% to match individual comfort levels in both cooling and heating mode.

## Features

The range includes eleven sizes, with air flows from 35 to 422 l/s (126 to 1520 m<sup>3</sup>/h).

The Idrofan offers an ultra-low noise option for applications where a low noise level is the most important selection parameter.

The Idrofan is available with two types of fans, a tangential fan for the smallest sizes and a centrifugal fan for all other sizes.

The 42N\_S is available with a new-generation three- or five-speed AC motor.

The 42N\_E is available with a variable speed low energy consumption EC motor.

The flexibility of the plastic-moulded unit drain pan allows the same unit to be installed in a vertical or horizontal position without the need for a dedicated accessory.

## PHYSICAL &amp; ELECTRICAL DATA, units with AC monitors

42N_S																											
Fan type	15				20				26				30				42										
Fan speed	5	4	3	2	1	5	4	3	2	1	3	2	1	5	4	3	2	1	5	4	3	2	1				
Air Flow	l/s	35	56	69	84	97	59	80	92	107	128	93	149	196	97	126	153	182	207	147	222	268	146	185	224	277	333
	m3/h	125	200	250	300	350	215	285	330	385	460	335	536	706	350	455	550	655	745	531	798	965	525	665	805	995	1195

COIL TYPE		2-PIPE				2-PIPE				2-PIPE				2-PIPE				2-PIPE									
Total cooling capacity	kW	0,83	1,07	1,19	1,34	1,49	1,27	1,81	1,90	2,34	2,32	2,10	3,00	3,60	2,07	2,54	3,01	3,46	3,70	3,00	4,00	4,50	2,60	3,37	3,98	4,74	5,45
Sensible cooling capacity	kW	0,70	0,93	1,03	1,19	1,31	0,97	1,42	1,50	1,85	1,90	1,65	2,35	2,90	1,40	1,96	2,35	2,84	3,10	2,35	3,30	3,85	2,12	2,78	3,30	3,98	4,55
Heating capacity	kW	1,14	1,42	1,66	1,89	2,09	1,70	2,10	2,54	2,87	3,18	2,56	3,68	4,38	2,86	3,54	4,18	4,80	5,29	4,05	5,55	6,40	4,00	5,05	5,90	6,90	8,08
Power Input (fan)	W	16	17	19	23	30	29	30	31	34	36	45	55	65	42	44	46	50	57	45	75	100	69	77	83	92	128
Sound power	dB(A)	28	37	42	47	51	29	38	42	46	50	44	54	61	36	42	47	51	54	47	57	62	41	47	53	57	62
Sound pressure*	dB(A)	19	28	33	38	42	20	29	33	37	41	35	45	52	27	33	38	42	45	38	48	53	32	38	44	48	53
NR value*		15	24	28	34	39	14	23	29	33	36	31	40	48	22	29	33	37	40	31	44	49	28	34	40	43	48

42N_E																										
Fan type	19					29					39					49				69						
Fan speed	%	20	40	60	80	100	20	40	60	80	100	20	40	60	80	100	20	40	60	80	100	20	40	60	80	100
Air Flow	l/s	35	56	69	84	97	59	80	92	107	128	97	126	153	182	207	146	185	224	277	333	214	267	310	358	406
	m3/h	125	200	250	300	350	215	285	330	385	460	350	455	550	655	745	525	665	804	995	1195	770	960	1115	1290	1460

COIL TYPE		2-PIPE				2-PIPE				2-PIPE				2-PIPE				2-PIPE								
Total cooling capacity	kW	0,83	1,07	1,19	1,34	1,49	1,29	1,81	1,93	2,34	2,36	2,07	2,54	3,01	3,46	3,70	2,60	3,37	3,98	4,74	5,45	3,57	4,26	4,83	5,44	6,02
Sensible cooling capacity	kW	0,70	0,93	1,03	1,19	1,31	0,91	1,42	1,41	1,85	1,79	1,40	1,96	2,35	2,84	3,10	2,12	2,78	3,30	3,98	4,55	2,97	3,58	4,11	4,62	5,13
Heating capacity	kW	1,14	1,42	1,66	1,89	2,09	1,57	2,10	2,35	2,87	2,94	2,86	3,54	4,18	4,80	5,29	4,00	5,05	5,90	6,90	8,08	5,62	6,69	7,53	8,43	9,26
Power Input (fan)	W	3	4	7	10	14	3	5	7	10	15	5	9	15	23	35	8	14	25	39	65	22	37	59	90	130
Sound power	dB(A)	28	37	42	47	51	29	38	42	46	50	36	42	47	51	54	41	47	53	57	62	53	57	62	65	68
Sound pressure*	dB(A)	19	28	33	38	42	20	29	33	37	41	27	33	38	42	45	32	38	44	48	53	44	48	53	56	59
NR value*		15	24	28	34	39	14	24	29	33	36	22	29	33	37	40	28	34	40	43	48	40	43	48	51	54

## DIMENSIONS &amp; WEIGHT

	Vertical units with cabinet				Horizontal units with cabinet				Horizontal units with cabinet				Horizontal units with cabinet				
Fan type	S15	S20-26	S30-42	S45-65	S15	S20-26	S30-42	S45-65	S15	S20-26	S30-42	S45-65	S15	S20-26	S30-42	S45-65	
	E19	E29	E39	E49	E19	E29	E39	E49	E19	E29	E39	E49	E19	E29	E39	E49	
Length	mm	830	1030	1230	1430	830	1030	1230	1430	606	806	1006	1206	606	806	1006	1206
Width	mm	220	220	220	220	657	657	657	657	518	518	518	518	220	220	220	220
Height	mm	657	657	657	657	220	220	220	220	220	220	220	220	640	640	640	640
Weight	kg	17	19	22	35	17	19	22	35	13	15	16	28	13	15	16	28

## TERMINAL UNITS • 42NL/NH

**IDROFAN**



### Elegance, Performance and Comfort

- The Carrier 42NL/NH are available in different sizes with 2-pipe, 2-pipe plus electric heater or 4-pipe coils, with an air flow range from 100 to 2300 m<sup>3</sup>/h, a total nominal cooling capacity range from 0.6 kW to 12.0 kW and a nominal heating capacity range from 0.8 kW to 17.0 kW.

Reliable and economical for light commercial and office applications.

### Features

- Compact ducted unit, designed for false ceiling installation.
- Low height of 235 mm (sizes 2/3/4/5) and 285 mm (sizes 6/7).
- Extremely quiet operation.
- Modular Horizontal ducted unit.
- Low energy consumption.
- Efficient indoor air quality.
- Improved comfort

# PHYSICAL & ELECTRICAL DATA at Eurovent conditions - 42NL - sizes 2,3,4

42NL		225						235						229				239				
Fan speed		R6	R5	R4	R3	R2	R1	R6	R5	R4	R3	R2	R1	2V	4V	6V	10V	2V	5V	7V	10V	
(Eurovent certification speeds)		(L)	(M)	(H)	(Max)		(L)	(M)	(H)	(Max)		(L)	(M)	(H)	(Max)	(L)	(M)	(H)	(Max)			
Air flow		l/s	59	69	96	109	125	138	59	69	96	109	125	138	43	58	73	102	43	65	81	102
		m³/h	214	248	346	393	449	497	214	248	346	393	449	497	153	210	261	368	153	234	292	368
<b>Cooling mode, two pipes*</b>																						
Total cooling capacity		kW	1.20	1.36	1.77	1.93	2.1	2.22	1.39	1.58	2.09	2.31	2.53	2.71	0.89	1.18	1.42	1.85	1.02	1.50	1.82	2.19
Sensible cooling capacity		kW	0.96	1.10	1.45	1.60	1.76	1.88	1.06	1.22	1.64	1.82	2.03	2.19	0.71	0.95	1.15	1.52	0.77	1.15	1.41	1.73
<b>Heating mode,two pipes**</b>																						
Heating capacity		kW	1.69	1.92	2.51	2.76	3.03	3.23	1.86	2.13	2.85	3.16	3.51	3.78	1.25	1.66	2.01	2.64	1.36	2.02	2.46	3.00
<b>Electric heater</b>			230V±10% -1ph						230V±10% -1ph						230V±10% -1ph				230V±10% -1ph			
Maximum capacity		W	1000						1000						1000				1000			
Current drawn		A	4.6						4.6						4.6				4.6			
<b>Sound levels</b>																						
Sound power level (global)		dB(A)	38	41	48	51	54	57	38	41	48	51	54	57	32	37	39	48	32	38	41	48
<b>Electrical data, motor</b>																						
Power input		W	28	31	45	54	65	80	28	31	45	54	65	80	3	5	7	13	3	5	9	13
Current drawn		A	0.14	0.17	0.20	0.23	0.28	0.35	0.14	0.17	0.20	0.23	0.28	0.35	0.05	0.06	0.08	0.14	0.05	0.06	0.10	0.14

42NL		325						335						329				339				
Fan speed		R6	R5	R4	R3	R2	R1	R6	R5	R4	R3	R2	R1	2V	4V	6V	10V	2V	4V	6V	10V	
(Eurovent certification speeds)		(L)	(M)	(H)	(Max)		(L)	(M)	(H)	(Max)		(L)	(M)	(H)	(Max)	(L)	(M)	(H)	(Max)			
Air flow		l/s	84	94	124	144	154	168	84	94	124	144	154	168	55	88	120	165	55	88	120	165
		m³/h	302	338	447	517	555	606	302	338	447	517	555	606	196	318	431	594	198	318	431	594
<b>Cooling mode, two pipes*</b>																						
Total cooling capacity		kW	1.47	1.60	1.97	2.19	2.29	2.43	1.80	1.99	2.54	2.88	3.04	3.26	1.06	1.53	1.92	2.40	1.22	1.89	2.46	3.22
Sensible cooling capacity		kW	1.25	1.37	1.71	1.92	2.03	2.16	1.42	1.58	2.04	2.32	2.47	2.66	0.88	1.31	1.67	2.13	0.96	1.50	1.97	2.62
<b>Heating mode,two pipes**</b>																						
Heating capacity		kW	2.25	2.46	3.04	3.36	3.51	3.71	2.60	2.89	3.68	4.14	4.37	4.67	1.58	2.35	2.95	3.67	1.76	2.73	3.56	4.61
<b>Electric heater</b>			230V±10% -1ph						230V±10% -1ph						230V±10% -1ph				230V±10% -1ph			
Maximum capacity		W	1600						1600						1600				1600			
Current drawn		A	7.3						7.3						7.3				7.3			
<b>Sound levels</b>																						
Sound power level (global)		dB(A)	43	46	54	57	59	61	43	46	54	57	59	61	37	46	53	61	37	46	53	61
<b>Electrical data, motor</b>																						
Power input		W	38	45	62	74	86	99	38	45	62	74	86	99	4	10	20	40	4	10	20	40
Current drawn		A	0.16	0.20	0.27	0.32	0.37	0.44	0.16	0.20	0.27	0.32	0.37	0.44	0.06	0.1	0.17	0.39	0.06	0.10	0.17	0.39

42NL		425						435						429				439								
Fan speed		R6	R5	R4	R3	R2	R1	R6	R5	R4	R3	R2	R1	2V	3.5V	4V	6V	8V	10V	2V	3.5V	4V	6V	8V	10V	
(Eurovent certification speeds)		(L)	(M)	(H)	(Max)		(L)	(M)	(H)	(Max)		(L)	(M)	(H)	(Max)	(L)	(M)	(H)	(Max)	(L)	(M)	(H)	(Max)			
Air flow		l/s	129	149	209	234	267	301	129	149	209	234	267	301	67	110	123	169	206	226	67	111	123	169	206	226
		m³/h	464	537	751	842	960	1085	464	537	751	842	960	1085	240	397	444	610	743	814	240	398	444	610	743	814
<b>Cooling mode, two pipes*</b>																										
Total cooling capacity		kW	2.43	2.75	3.54	3.83	4.14	4.43	2.76	3.20	4.36	4.79	5.29	5.76	1.34	2.12	2.34	3.04	3.52	3.74	1.37	2.37	2.65	3.62	4.32	4.66
Sensible cooling capacity		kW	1.99	2.27	2.98	3.25	3.57	3.86	2.18	2.52	3.46	3.83	4.27	4.70	1.09	1.73	1.91	2.52	2.96	3.17	1.10	1.87	2.08	2.86	3.43	3.71
<b>Heating mode,two pipes**</b>																										
Heating capacity		kW	3.44	3.95	5.30	5.81	6.38	6.91	3.96	4.58	6.34	7.06	7.93	8.80	1.76	3.05	3.29	4.43	5.26	5.65	2.00	3.51	3.78	5.20	6.28	6.84
<b>Electric heater</b>			230V±10% -1ph						230V±10% -1ph						230V±10% -1ph				230V±10% -1ph							
Maximum capacity		W	2000						2000						2000				2000							
Current drawn		A	9.1						9.1						9.1				9.1							
<b>Sound levels</b>																										
Sound power level (global)		dB(A)	45	48	55	58	60	63	45	48	55	58														

## PHYSICAL &amp; ELECTRICAL DATA at Eurovent conditions - 42NL - size 5

42NL	525						535						545						
Fan speed	R6	R5	R4	R3	R2	R1	R6	R5	R4	R3	R2	R1	R6	R5	R4	R3	R2	R1	
(Eurovent certification speeds)	(L)	(M)	(H)	(Max)			(L)	(M)	(H)	(Max)			(L)	(M)	(H)	(Max)			
Air flow	l/s	150	170	233	275	313	359	150	170	233	275	313	359	150	170	233	275	313	359
	m³/h	540	612	840	991	1127	1291	540	612	840	991	1127	1291	540	612	840	991	1127	1291
<b>Cooling mode, two pipes*</b>																			
Total cooling capacity	kW	2.76	3.05	3.89	4.36	4.75	5.18	3.21	3.62	4.79	5.45	5.96	6.49						N/A
Sensible cooling capacity	kW	2.28	2.53	3.28	3.72	4.10	4.52	2.53	2.86	3.82	4.39	4.86	5.37						N/A
<b>Heating mode,two pipes**</b>																			
Heating capacity	kW	4.01	4.48	5.84	6.6	7.19	7.80	4.6	5.21	7.01	8.02	8.81	9.61						N/A
<b>Electric heater</b>		230V±10% -1ph						230V±10% -1ph						230V±10% -1ph					
Maximum capacity	W	2000						2000						2000					
Current drawn	A	9.1						9.1						9.1					
<b>Sound levels</b>																			
Sound power level (global)	dB(A)	42	46	53	57	59	62	42	46	53	57	59	62	42	46	53	57	59	62
<b>Electrical data, motor</b>																			
Power input	W	58	67	99	118	137	170	58	67	99	118	137	170	58	67	99	118	137	170
Current drawn	A	0.26	0.30	0.43	0.52	0.60	0.74	0.26	0.30	0.43	0.52	0.60	0.74	0.26	0.30	0.43	0.52	0.60	0.74

42NL	529						539						549						
Fan speed	2V	4V	5V	6V	8V	10V	2V	4V	5.5V	6V	8V	10V	2V	4V	5.5V	6V	8V	10V	
(Eurovent certification speeds)	(L)	(M)	(H)	(Max)			(L)	(M)	(H)	(Max)			(L)	(M)	(H)	(Max)			
Air flow	l/s	82	141	172	188	231	255	82	141	180	188	231	255	82	141	180	188	231	255
	m³/h	295	508	618	675	831	918	295	508	646.5	675	831	918	295	508	646.5	675	831	918
<b>Cooling mode, two pipes*</b>																			
Total cooling capacity	kW	1.66	2.62	3.07	3.29	3.85	4.13	1.71	3.02	3.81	3.97	4.75	5.14						N/A
Sensible cooling capacity	kW	1.34	2.16	2.55	2.75	3.25	3.51	1.37	2.38	3.01	3.14	3.78	4.12						N/A
<b>Heating mode,two pipes**</b>																			
Heating capacity	kW	2.24	3.79	4.52	4.88	5.79	6.25	2.32	4.31	5.5	5.74	6.94	7.55						N/A
<b>Electric heater</b>		230V±10% -1ph						230V±10% -1ph						230V±10% -1ph					
Maximum capacity	W	2000						2000						2000					
Current drawn	A	9.1						9.1						9.1					
<b>Sound levels</b>																			
Sound power level (global)	dB(A)	32	43	47	51	55	58	32	43	49	51	55	58	32	43	49	51	55	58
<b>Electrical data, motor</b>																			
Power input	W	4	11	18	24	43	58	4	11	21	24	43	58	4	11	21	24	43	58
Current drawn	A	0.04	0.09	0.13	0.17	0.28	0.39	0.04	0.09	0.15	0.17	0.28	0.39	0.04	0.09	0.15	0.17	0.28	0.39

Fan speed: L = Low, M = Medium, H = High

\* Eurovent condition Entering air temperature = 27°C db/47% rh - entering water temperature = 7°C, water temperature difference = 5K

\*\* Eurovent condition Entering air temperature = 20°C, entering water temperature = 50°C, same water flow rate as in cooling

## PHYSICAL & ELECTRICAL DATA at Eurovent conditions - 42NH - sizes 2,3,4

42NH			225			235			229				239				279			
Fan speed			R5	R2	R1	R5	R2	R1	2V	7V	8V	10V	2V	7V	8V	10V	2V	7V	8V	10V
(Eurovent certification speeds)			(L)	(M)	(H)	(L)	(M)	(H)	(L)	(M)	(H)	(Max)	(L)	(M)	(H)	(Max)	(L)	(M)	(H)	(Max)
Air flow	l/s	31	63	76	31	63	76	26	64	70	81	26	64	70	81	33	85	97	124	
	m³/h	111	228	272	111	228	272	95	229	253	292	95	229	253	292	118	305	349	446	
<b>Cooling mode, two pipes*</b>																				
Total cooling capacity	kW	0.66	1.27	1.47	0.75	1.47	1.71	0.58	1.28	1.39	1.56	0.65	1.48	1.61	1.82	0.80	1.89	2.11	2.52	
Sensible cooling capacity	kW	0.52	1.02	1.19	0.57	1.13	1.32	0.45	1.02	1.12	1.26	0.49	1.13	1.24	1.41	0.60	1.47	1.65	2.02	
<b>Heating mode, two pipes**</b>																				
Heating capacity	kW	0.93	1.78	2.07	1.00	1.97	2.31	0.80	1.79	1.95	2.20	0.87	1.98	2.17	2.46	1.06	2.56	2.87	3.49	
<b>Electric heater</b>			230V±10% -1ph			230V±10% -1ph			230V±10% -1ph				230V±10% -1ph				230V±10% -1ph			
Maximum capacity	W	1000			1000			1000				1000				1000				
Current drawn	A	4.6			4.6			4.6				4.6				4.6				
<b>Sound levels</b>																				
Sound power level (return and radiated)	dB(A)	33	45	48	33	45	48	36	49	52	56	36	49	52	56	32	52	55	61	
Sound power level (supply)	dB(A)	31	47	50	31	47	50	37	51	53	58	37	51	53	58	32	55	58	64	
<b>Electrical data, motor</b>																				
Power input	W	13	39	44	13	39	44	3	18	22	33	3	18	22	33	4	25	36	70	
Current drawn	A	0.13	0.23	0.24	0.13	0.23	0.24	0.05	0.22	0.28	0.39	0.05	0.22	0.28	0.39	0.06	0.29	0.40	0.75	

42NH		325					335					329					339				
Fan speed		R5	R4	R3	R2	R1	R5	R4	R3	R2	R1	2V	4.3V	6V	10V	2V	4.3V	6V	10V		
(Eurovent certification speeds)		(L)	(M)	(H)	(Max)		(L)	(M)	(H)	(Max)		(L)	(M)	(H)	(Max)	(L)	(M)	(H)	(Max)		
Air flow	l/s	55	79	102	131	160	55	79	102	131	160	69	123	154	198	68	121	153	197		
	m³/h	197	284	366	471	577	197	284	366	471	577	247	443	556	714	245	437	552	709		
<b>Cooling mode, two pipes*</b>																					
Total cooling capacity	kW	1.05	1.40	1.70	2.04	2.35	1.22	1.70	2.14	2.66	3.14	1.26	1.96	2.30	2.70	1.49	2.50	3.03	3.68		
Sensible cooling capacity	kW	0.87	1.19	1.46	1.78	2.09	0.95	1.34	1.70	2.14	2.56	1.06	1.70	2.03	2.44	1.17	2.00	2.46	3.03		
<b>Heating mode, two pipes**</b>																					
Heating capacity	kW	1.57	2.14	2.62	3.15	3.61	1.75	2.46	3.1	3.84	4.51	1.91	3.1	3.52	4.09	2.15	3.69	4.36	5.21		
<b>Electric heater</b>		230V±10% -1ph					230V±10% -1ph					230V±10% -1ph					230V±10% -1ph				
Maximum capacity	W	1600					1600					1600					1600				
Current drawn	A	7.3					7.3					7.3					7.3				
<b>Sound levels</b>																					
Sound power level (return and radiated)	dB(A)	42	45	49	55	60	42	45	49	55	60	43	57	61	65	43	57	61	65		
Sound power level (supply)	dB(A)	46	48	54	60	66	46	48	54	60	66	44	59	65	70	44	59	65	70		
<b>Electrical data, motor</b>																					
Power input	W	109	126	146	168	190	109	126	146	168	190	10	46	89	172	10	46	89	172		
Current drawn	A	0.50	0.57	0.65	0.75	0.88	0.50	0.57	0.65	0.75	0.88	0.11	0.57	0.79	1.35	0.11	0.57	0.79	1.35		

42NH		425					435					429					439				
Fan speed		R5	R4	R3	R2	R1	R5	R4	R3	R2	R1	2V	4V	6V	7V	10V	2V	4V	6V	7V	10V
(Eurovent certification speeds)		(L)	(M)	(H)	(Max)		(L)	(M)	(H)	(Max)		(L)	(M)	(H)	(Max)		(L)	(M)	(H)	(Max)	
Air flow	l/s	104	149	181	196	205	104	149	181	196	205	81	148	197	218	231	81	148	197	218	231
	m³/h	375	537	650	706	739	375	537	650	706	739	293	533	709	786	832	293	533	709	786	832
<b>Cooling mode, two pipes*</b>																					
Total cooling capacity	kW	2.02	2.75	3.19	3.39	350	2.21	3.20	3.84	4.13	4.30	1.61	2.73	3.40	3.65	3.79	1.69	3.17	2.15	4.53	4.74
Sensible cooling capacity	kW	1.65	2.26	2.66	2.84	2.94	1.76	2.52	3.03	3.27	3.41	1.31	2.25	2.85	3.09	3.22	1.36	2.50	3.28	3.60	3.78
<b>Heating mode,two pipes**</b>																					
Heating capacity	kW	2.79	3.95	4.69	5.04	5.23	3.19	4.58	5.53	5.98	6.25	2.17	3.92	5.05	5.50	5.75	2.47	4.55	6.01	6.62	6.97
<b>Electric heater</b>																					
Maximum capacity	W	230V±10% -1ph																			
Current drawn	A	2000					2000					1600					1600				
<b>Sound levels</b>																					
Sound power level (return and radiated)	dB(A)	44	51	55	58	59	44	51	55	58	59	43	55	61	63	65	43	55	61	63	65
Sound power level (supply)	dB(A)	47	54	58	60	61	47	54	58	60	61	44	57	65	67	70	44	57	65	67	70
<b>Electrical data, motor</b>																					
Power input	W	83	91	97	104	119	83	91	97	104	119	10.5	43	99	140	172	10.5	43	99	140	172
Current drawn	A	0.43	0.51	0.62	0.67	0.72	0.43	0.51	0.62	0.67	0.72	0.12	0.43	0.98	1.26	1.31	0.12	0.43	0.98	1.26	1.31

Fan speed: L = Low, M = Medium, H = High

\* Eurovent condition Entering air temperature = 27°C db/47% rh - entering water temperature = 7°C, water temperature difference = 5K

\*\* Eurovent condition Entering air temperature = 20°C, entering water temperature = 50°C, same water flow rate as in cooling

## PHYSICAL &amp; ELECTRICAL DATA at Eurovent conditions - 42NH - size 5

42NH		525					535					545				
Fan speed		R5	R4	R3	R2	R1	R5	R4	R3	R2	R1	R5	R4	R3	R2	R1
(Eurovent certification speeds)		(L)	(M)	(H)		(Max)	(L)	(M)	(H)		(Max)	(L)	(M)	(H)		(Max)
Air flow	l/s	213	240	257	268	279	213	240	257	268	279	213	240	257	268	279
	m³/h	767	863	924	964	1004	767	863	924	964	1004	767	863	925	964	1004
<b>Cooling mode, two pipes*</b>																
Total cooling capacity	kW	3.63	3.96	4.16	4.28	4.40	4.44	4.90	5.17	5.34	5.50					N/A
Sensible cooling capacity	kW	3.05	3.35	3.53	3.64	3.76	3.52	3.91	4.15	4.29	4.44					N/A
<b>Heating mode,two pipes**</b>																
Heating capacity	kW	5.43	5.96	6.28	6.47	6.66	6.46	7.17	7.60	7.86	8.11					N/A
<b>Electric heater</b>		230V±10% -1ph					230V±10% -1ph					230V±10% -1ph				
Maximum capacity	W	2000					2000					2000				
Current drawn	A	9.1					9.1					9.1				
<b>Sound levels</b>																
Sound power level (return and radiated)	dB(A)	53	55	57	58	58	53	55	57	58	58	53	55	57	58	58
Sound power level (global)	dB(A)	55	57	59	60	61	55	57	59	60	61	55	57	59	60	61
<b>Electrical data, motor</b>																
Power input	W	105	113	117	124	134	105	113	117	124	134	105	113	117	124	134
Current drawn	A	0.59	0.64	0.67	0.71	0.76	0.59	0.64	0.67	0.71	0.76	0.59	0.64	0.67	0.71	0.76

42NH		529					539					549				
Fan speed		2V	5V	6V	8V	10V	2V	5V	6V	8V	10V	2V	5V	6V	8V	10V
(Eurovent certification speeds)		(L)	(M)	(H)		(Max)	(L)	(M)	(H)		(Max)	(L)	(M)	(H)		(Max)
Air flow	l/s	96	213	244	307	347	96	213	244	307	347	96	213	244	307	347
	m³/h	346	765	878	1105	1249	346	765	878	1105	1249	346	765	878	1105	1249
<b>Cooling mode, two pipes*</b>																
Total cooling capacity	kW	1.90	3.63	4.01	4.69	5.08	2.03	4.43	4.97	5.88	6.35					N/A
Sensible cooling capacity	kW	1.55	3.04	3.39	4.04	4.42	1.62	3.52	3.97	4.79	5.24					N/A
<b>Heating mode,two pipes**</b>																
Heating capacity	kW	2.62	5.42	6.05	7.10	7.65	2.81	6.45	7.28	8.70	9.42					N/A
<b>Electric heater</b>		230V±10% -1ph					230V±10% -1ph					230V±10% -1ph				
Maximum capacity	W	2000					2000					2000				
Current drawn	A	9.1					9.1					9.1				
<b>Sound levels</b>																
Sound power level (return and radiated)	dB(A)	35	53	58	63	67	35	53	58	63	67	35	53	58	63	67
Sound power level (global)	dB(A)	36	57	61	66	70	36	57	61	66	70	36	57	61	66	70
<b>Electrical data, motor</b>																
Power input	W	9	52	78	146	212	9	52	78	146	212	9	52	78	146	212
Current drawn	A	0.12	0.67	0.95	1.58	1.88	0.12	0.67	0.95	1.58	1.88	0.12	0.67	0.95	1.58	1.88

Fan speed: L = Low, M = Medium, H = High

\* Eurovent condition Entering air temperature = 27°C db/47% rh - entering water temperature = 7°C, water temperature difference = 5K

\*\* Eurovent condition Entering air temperature = 20°C, entering water temperature = 50°C, same water flow rate as in cooling

# PHYSICAL & ELECTRICAL DATA at Eurovent conditions - 42NH - sizes 6,7

42NH	635					645					639				649				
Fan speed	R5	R4	R3	R2	R1	R5	R4	R3	R2	R1	2V	6V	7V	10V	2V	7V	8V	10V	
(Eurovent certification speeds)	(L) (M) (H) (Max)				(L) (M) (H) (Max)				(L) (M) (H) (Max)				(L) (M) (H) (Max)						
Air flow	l/s	200	298	397	460	499	200	298	397	460	499	102	269	303	389	111	327	364	425
	m³/h	720	1072	1428	1657	1796	720	1072	1428	1657	1796	368	967	1089	1400	399	1176	1310	1531
<b>Cooling mode, two pipes*</b>																			
Total cooling capacity	kW	4.22	6.04	7.55	8.33	8.77	4.77	7.03	8.86	9.79	10.28	2.18	5.52	6.11	7.45	2.45	7.62	8.31	9.29
Sensible cooling capacity	kW	3.36	4.85	6.18	6.92	7.36	3.63	5.37	6.90	7.75	8.23	1.74	4.42	4.91	6.08	1.93	5.84	6.42	7.29
<b>Heating mode,two pipes**</b>																			
Heating capacity	kW	6.09	8.83	11.29	12.66	13.4	6.57	9.69	12.45	13.95	14.75	3.14	8.04	8.95	11.11	3.47	10.55	11.59	13.15
<b>Electric heater</b>		230V±10% -1ph				230V±10% -1ph				230V±10% -1ph				230V±10% -1ph					
Maximum capacity	W	3200				3200				3200				3200					
Current drawn	A	14.6				14.6				14.6				14.6					
<b>Sound levels</b>																			
Sound power level (return and radiated)	dB(A)	50	56	58	61	62	50	56	58	61	62	39	62	64	70	39	64	67	70
Sound power level (supply)	dB(A)	50	59	62	65	66	50	59	62	65	66	45	58	61	68	45	61	64	68
<b>Electrical data, motor</b>																			
Power input	W	185	217	225	242	286	185	217	225	242	286	9	76	106	222	9	111	153	233
Current drawn	A	0.96	1.11	1.28	1.38	1.55	0.96	1.11	1.28	1.38	1.55	0.09	0.71	1.02	2.01	0.09	0.71	1.02	2.01

42NH	735					745					739				749				
Fan speed	R5	R4	R3	R2	R1	R5	R4	R3	R2	R1	2V	7V	8V	10V	2V	7V	8V	10V	
(Eurovent certification speeds)	(L) (M) (H)				(L) (M) (H)				(L) (M) (H)				(L) (M) (H)						
Air flow	l/s	148	218	374	533	600	148	218	374	533	600	147	441	477	529	147	441	477	529
	m³/h	534	785	1246	1918	2161	534	785	1346	1918	2161	530	1586	1717	1906	530	1586	1717	1906
<b>Cooling mode, two pipes*</b>																			
Total cooling capacity	kW	3.37	4.90	7.92	10.3	11.14	3.61	5.33	8.84	11.68	12.65	3.34	9.00	9.54	10.26	3.58	10.10	10.76	11.61
Sensible cooling capacity	kW	2.6	3.79	6.22	8.31	9.09	2.73	4.01	6.71	9.09	9.97	2.59	7.14	7.62	8.27	2.71	7.75	8.31	9.04
<b>Heating mode,two pipes**</b>		230V±10% -1ph				230V±10% -1ph				230V±10% -1ph				230V±10% -1ph					
Heating capacity	kW	4.52	6.48	10.68	14.63	16.15	4.59	6.72	11.38	15.82	17.52	4.48	12.38	13.29	14.54	4.56	13.29	14.32	15.72
<b>Electric heater</b>		230V±10% -1ph				230V±10% -1ph				230V±10% -1ph				230V±10% -1ph					
Maximum capacity	W	3200				3200				3000				3000					
Current drawn	A	14.6				14.6				13.7				13.7					
<b>Sound levels</b>																			
Sound power level (return and radiated)	dB(A)	41	48	57	63	64	41	48	57	63	64	46	60	62	64	46	60	62	64
Sound power level (supply)	dB(A)	42	48	58	66	68	42	48	58	66	68	45	61	63	66	45	61	63	66
<b>Electrical data, motor</b>																			
Power input	W	174	227	282	316	321	174	227	282	316	321	10	137	177	240	10	137	177	240
Current drawn	A	0.84	1.08	1.40	1.74	1.86	0.84	1.08	1.40	1.74	1.86	0.11	1.11	1.38	1.85	0.11	1.11	1.38	1.85

Fan speed: L = Low, M = Medium, H = High

\* Eurovent condition Entering air temperature = 27°C db/47% rh - entering water temperature = 7°C, water temperature difference = 5K

\*\* Eurovent condition Entering air temperature = 20°C, entering water temperature = 50°C, same water flow rate as in cooling

## TERMINAL UNITS • 42GW

**IDROFAN.**



### Air Treatment Solution

The Idrofan 42GW offers a wide range of options dedicated to performance and to providing solutions finely adapted to your needs. Energy consumption is reduced by 50 to 70 percent through variable speed LEC motors which continuously adjust the power providing an airflow adapted to the space. The switch to lower power modes results in a reduction in energy consumption.

### Features

The Carrier hydronic cassette is available in six sizes suitable for a wide range of applications, with air flows from 100 to 400 l/s. The Idrofan cassette offers an ultra-low-noise solution for applications where a low noise level is the most important selection parameter.

The low-profile 42GW is light and easy to install. The small chassis fits neatly with standard ceiling tiles and is simple to install wherever it is needed.

Four-way air distribution for individual comfort or localised control.

Integrated, factory-mounted cooling and heating coils, two-pipe or two-pipe with electric heater, and four-pipe applications.

The elegant air inlet grille blends aesthetically with any room decor.

The 42GW\_AC is available with a new-generation threespeed AC motor. The 42GW\_LEC is available with avariable-speed Low Energy Consumption EC motor.

## PHYSICAL & ELECTRICAL DATA, units with AC monitors

42GW		200C			300C			400C			500C			600C			701C		
Coil type		2 pipes			2 pipes			2 pipes			2 pipes			2 pipes			2 pipes		
		1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3
Air flow	l/s	183	125	100	204	140	89	249	173	134	271	199	147	321	229	139	402	299	166
<b>Cooling mode</b>																			
Total cooling capacity	kW	2.40	1.80	1.55	4.00	2.90	1.90	4.70	3.50	2.85	6.30	4.50	3.40	7.20	5.50	3.70	8.70	6.60	4.05
Sensible cooling capacity	kW	2.01	1.49	1.31	3.10	2.20	1.41	3.70	2.70	2.10	4.80	3.60	2.70	5.50	4.10	2.70	6.40	4.85	3.00
Water flow rate	l/s	0.11	0.09	0.07	0.19	0.14	0.09	0.22	0.17	0.14	0.30	0.22	0.16	0.34	0.26	0.18	0.42	0.32	0.19
Water pressure drop, cooling	kPa	413	310	267	688	499	327	808	602	490	1084	774	585	1238	946	636	1496	1135	697
<b>Heating mode</b>																			
Heating capacity	kW	3.20	2.50	2.20	5.00	4.00	2.50	6.20	4.60	3.70	8.11	6.00	4.50	10.00	7.40	4.60	11.60	9.30	5.20
Water pressure drop, heating	kPa	10.9	5.6	4.0	11.1	5.2	1.9	16.2	8.1	5.0	18.1	10.1	6.2	10.5	6.6	3.3	18.0	11.1	4.8
Water content	l	0.55			1.1			1.1			1.6			2.4			2.4		
<b>Sound levels</b>																			
Sound power level	dB(A)	47	37	32	52	44	32	57	48	42	47	40	34	53	46	37	59	52	40
Sound pressure level**	dB(A)	38	28	23	43	35	23	48	39	33	38	31	25	44	37	28	50	43	31
<b>Power input</b>	W	58	35	25	54	32	16	94	55	35	63	39	27	85	59	33	123	90	43
Current input	A	0.27	0.17	0.12	0.24	0.14	0.07	0.41	0.24	0.16	0.30	0.17	0.12	0.46	0.27	0.14	0.63	0.41	0.19
Eurovent energy class FCEER	D				C			D			C			C			C		
Eurovent energy class FCCOP	D				C			D			C			C			C		
<b>Electric heater</b>																			
High capacity @ 240 V	W	1500			2500			2500			3000			3000			3000		
Current input, high capacity @ 240 V	A	5.9			9.4			9.4			11.3			11.3			11.3		

**Based on Eurovent conditions**

Cooling mode (2 and 4-pipe coil): entering air temperature 27 °C db/19 °C wb, entering/leaving water temperature 7/12 °C, high fan speed.

Heating mode (2-pipe coil): entering air temperature 20 °C, entering water temperature 50 °C, high fan speed, water flow rate as cooling mode.

\* Fanspeeds: 1 = high, 2 = medium, 3 = low

\*\* Sound pressure level and NR values are based on a hypothetical sound attenuation for the room of -9 dB(A).

Note: Electrical heater version is available on all 2-pipe units.

## PHYSICAL & ELECTRICAL DATA, units with AC monitors

42GW		209C			309C			409C			509C			609C			709C		
Coil type		2 pipes			2 pipes			2 pipes			2 pipes			2pipes			2 pipes		
		10	6	2	10	6	2	10	6	2	10	6	2	10	6	2	10	6	2
Voltage (d.c.)	V	183	125	100	204	140	89	249	173	134	271	199	147	321	229	139	443	299	166
Air flow	l/s																		
<b>Power input</b>	W	23	10	7	33	14	7	57	23	13	25	12	7	46	23	9	115	40	11
<b>Current input</b>	A	0.19	0.10	0.08	0.27	0.13	0.08	0.46	0.20	0.12	0.23	0.12	0.08	0.40	0.22	0.10	0.89	0.35	0.12
Eurovent energy class FCEER	A				A			B			A			A			A		
Eurovent energy class FCCOP	A				A			B			A			A			A		

## DIMENSIONS AND WEIGHTS

All Units		42GW 200/209	42GW 300/309	42GW 400/409	42GW 500/509	42GW 600/609	42GW 700/709
Dimensions (H x L x D)	mm	298 x 569/627 x 569/627	298 x 569/627 x 569/627	298 x 569/627 x 569/627	302 x 822/879 x 822/879	302 x 822/879 x 822/879	302 x 822/879 x 822/879
Grille dimensions (H x L x D)	mm	36 x 720 x 720	36 x 720 x 720	36 x 720 x 720	37 x 960 x 960	37 x 960 x 960	37 x 960 x 960
Weight unit/weight grille	kg	14.8/3	16.5/3	16.5/3	37/5	39.6/5	39.6/5

Cooling mode (2 and 4-pipe coil): entering air temperature 27 °C db/19 °C wb, entering/leaving water temperature 7/12 °C, high fan speed.



## NOTES

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