




turn to the experts 



INTEGRATED
HEATING SYSTEMS
CATALOGUE

2019-2020

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WEATHERMAKERS TO THE WORLD



Willis H. Carrier

THE INVENTOR OF MODERN
AIR-CONDITIONING THAT CHANGED
THE WAY WE LIVE, WORK AND PLAY.



CARRIER IS A WORLD LEADER IN HEATING, AIR-CONDITIONING AND REFRIGERATION SOLUTIONS.

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

Our innovations drive new industries and it is why our products and services are trusted in every corner of the world – and why you can feel good about trusting us in your corner of it.

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.

We create comfortable and productive environments, regardless of the climate. We safeguard the global food supply by preserving the quality and freshness of food and beverages. We ensure health and well-being by enabling the proper transport and delivery of vital medical supplies under exacting conditions. We provide solutions, services and education to lead the green building movement.

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

#thankyouwilliscarrier

MEETING **CUSTOMER NEEDS**

Carrier delivers global solutions across a broad range of applications in heating, air-conditioning, refrigeration and beyond.



HOME COMFORT

Carrier heating and air-conditioning systems are trusted to bring energy-efficient, quiet, consistent comfort to millions of people at home.



BUILDING SOLUTIONS

Carrier provides sustainable solutions in heating, air-conditioning, building automation and energy services for the building life-cycle.



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.

Carrier is committed to limiting the environmental impact of its products and solutions and reducing energy consumption. This commitment is in line with the targets of the European climate and energy package for 2030.

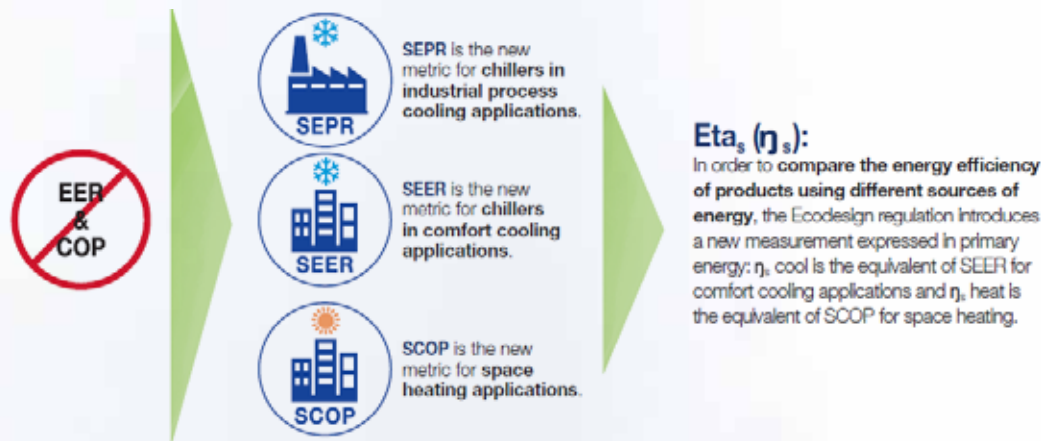
The energy efficiency improvement target strongly influences the HVAC market. Indeed buildings are the largest consumers of energy today and, of that consumption, HVAC systems account for considerably more than other equipment. Providing its customers with energy efficient solutions is therefore now a key sustainable development opportunity for the HVAC industry.

NEW METRICS BECAUSE SEASONAL EFFICIENCY MATTERS

With all new buildings expected to be close to zero energy by January 2021, calculations of the energy efficiency of buildings require accurate indicators of the efficiency of their equipment. These indicators must be representative of actual operations throughout the year, measuring the performance of equipment on a seasonal basis.

EER & COP belong to the past. Now, and in the future, the focus is on seasonal efficiency. With a broad new product range, Carrier is fully engaged to take up the challenge of energy efficiency.

Compliance with the Ecodesign regulations therefore involves the use of new, more meaningful seasonal efficiency metrics. The Seasonal Energy Efficiency Ratio (SEER), Seasonal Energy Performance Ratio (SEPR) and Seasonal Coefficient of Performance (SCOP) all ensure precise evaluation of the energy actually consumed by chillers and heat pumps, by including seasonal variations in their measurements. Previous metrics (EER & COP) measured operations only at a single point, at full thermal load, and were therefore less representative of consumption over entire heating and cooling seasons.



These new seasonal performance metrics are now the key indicator used for all product ranges, in all applications.

They are calculated according to technical standard EN 14825 and compliance is mandatory for a product to obtain CE marking



AN IDEAL SOLUTION FOR EACH CASE...

Carrier & Toshiba 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.

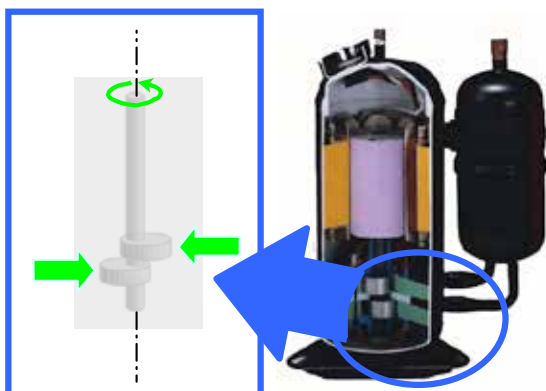
INVERTER-DRIVEN OUTDOOR UNIT

One of the best energy coefficients of performance in the market...

Twin-rotary DC inverter technology, variable-air volume fans, electronic expansion valve and large-surface heat exchanger ensure an energy efficiency ratio above 4 at standard operating conditions.

Pulse width modulation (PWM): finetuning of the compressor speed to avoid temperature fluctuation. Efficient coordination between expansion valves, compressor, fan and control

The compressor speed variation from 20 to 120% permits precise adjustment of capacity and leaving water temperature during the whole heating season, avoiding energy waste of on/off control mode of inverter compressor.



EFFICIENCY OR ADAPTABILITY?

Because you should not have to choose!

EFFICIENCY

The commitment to performance

- Large operating map
- Energy savings
- Advanced control

ADAPTABILITY

Fast to install, easy to maintain

- A plug and play solution
- Maintenance made simple
- Perfect integration



HEAT PUMP SYSTEMS

AIR-TO-WATER HEAT PUMP SPLIT SYSTEM

HWS-



● MADE IN JAPAN



55 °C



Do you want a versatile solution to make significant savings?

NEW COMPACT & HIGH QUALITY OF 4.5KW IN ESTIA SERIES 5 (VERY SUIT FOR RECENT WELL-SEALED OR SMALL RESIDENCE)

Toshiba ESTIA & ESTIA Powerful series 5 air-to-water heat pumps are the ideal compact solution for delivering the right temperature. An advanced heating and cooling system of the future, all whilst respecting the environment and ensuring significant energy savings.

ENERGY SAVINGS AND PROTECTION OF THE ENVIRONMENT

The European Union commitment to a 20% reduction in CO₂ emissions by 2020 has highlighted heating and domestic hot water production as a way of meeting this target.

Air-to-water heat pumps are considered renewable energy technology, the ideal solutions for space heating, hot water production, and cooling in warmer months — all whilst respecting the environment and ensuring significant energy savings for the end user.

BEST-IN CLASS PERFORMANCES EVEN AT VERY LOW AMBIENT TEMPERATURE

Both versions of the ESTIA offer outstanding levels of performance, even when outdoor temperatures are very low. This new technology allows the ESTIA to offer greater energy savings, with one of the best part load energy efficiency levels offered on the heat pump market.

ESTIA FOR INNOVATION, CONTROL AND EXCELLENCE

The ESTIA can be connected to either a traditional room thermostat, or the latest generation of connected home thermostat in the market, enabling it to be controlled remotely by smartphone, tablet or PC.

HIGHLY ADAPTABLE AND FLEXIBLE

The ESTIA is able to either replace or complement a traditional boiler and is perfect both for new-builds (standard version) and for renovation projects (powerful version).

FEATURES

- Inverter and Compressor Control
 - » Smooth Compressor Operation
- High Efficiency Propeller Fan
 - » Improve the efficiency of air flow due to reduce the electrical power for air flow
- Twin-rotary compressor
 - » Improved the efficiency via developed new motor and compression unit
 - » Improved system efficiency through less discharged oil in refrigeration circuit

TOSHIBA

PERFORMANCE DATA



Outdoor unit

Hydro unit combination

HWS-	455H-E	805H-E	1105H-E	1105H8(R)-E	1405H-E	1405H8(R)-E	1605H8(R)-E
HWS-	455XWHM3-E	805XWH**E	1405XWH**E	1405XWH**E	1405XWH**E	1405XWH**E	1405XWH**E

Air T° Water T°

UNDER FLOOR HEATING

Max heating capacity	+7°C	35°C	kW	H	6,83	8,52	14,63	16,74	14,73	15,77	16,76
Nominal heating capacity	+7°C	35°C	kW	H	4,5	7,51	10,52	10,52	13,15	13,15	14,91
Seasonal space heating energy efficiency (ηs) - average climate		35°C	%	H	167	161	163	161	159	157	159
Seasonal space heating energy efficiency (SCOP) - average climate		35°C	kWh/kWh	H	4,28	4,12	4,174	4,19	4,078	4,021	4,07
Energy Efficiency Class - Low Temp (Ecodesign LOT1-2015), average climate		35°C		H	A++	A++	A++	A++	A++	A++	A++
Energy Efficiency Class - Low Temp (Ecodesign LOT1-Sept2019), average climate		35°C		H	A+++	A+++	A+++	A+++	A+++	A+++	A+++
Seasonal Space Heating Energy Efficiency (ηs) - medium temp., average climate		55°C	%	H	125	127	130	130	129	129	130
Seasonal Space Heating Energy Efficiency (SCOP) - medium temp., average climate		55°C	kWh/kWh	H	3,22	3,27	3,35	3,34	3,31	3,31	3,33
Energy Efficiency Class Space Heating medium temp., average climate (Ecodesign LOT1-Sept2015)		55°C		H	A++	A++	A++	A++	A++	A++	A++
Energy Efficiency Class Space Heating medium temp., average climate (Ecodesign LOT1-Sept2019)		55°C		H	A++	A++	A++	A++	A++	A++	A++
Seasonal Space Heating Energy Efficiency (ηs) - low temp., warmer climate		35°C	%		221	196	202	207	201	199	183
Seasonal Space Heating Energy Efficiency (SCOP) - low temp., warmer climate		35°C	kWh/kWh		5,6	4,98	5,13	5,25	5,1	5,05	4,65
Seasonal Space Heating Energy Efficiency (ηs) - medium temp., warmer climate		55°C	%		162	171	158	155	160	160	160
Seasonal Space Heating Energy Efficiency (SCOP) - medium temp., warmer climate		55°C	kWh/kWh		4,13	4,35	4,03	3,95	4,08	4,08	4,08
Max heating capacity	-7°C	35°C	kW	H	4,48	5,74	9,67	9,50	10,79	10,64	11,25
Heating capacity (l)	-7°C	35°C	kW	H	4,18	5,00	8,04	8,04	8,63	8,64	9,05
Max heating capacity	-15°C	35°C	kW	H	3,61	4,47	7,52	7,29	8,34	8,16	8,63
Heating capacity (l)	-15°C	35°C	kW	H	3,14	4,02	6,17	6,38	6,86	6,85	7,18

RADIATORS HEATING & DHW

Max heating capacity	+7°C	45°C	kW	H	6,42	8,13	13,62	14,26	13,93	15,07	15,77
Max heating capacity	-7°C	45°C	kW	H	4,37	5,55	9,16	9,59	9,17	10,12	10,64
Max heating capacity	-15°C	45°C	kW	H	2,84	4,31	7,12	7,03	7,37	7,75	8,15
Max heating capacity	+7°C	55°C	kW	H	6,25	7,93	10,98	11,67	12,56	13,64	14,12
Max heating capacity	-7°C	55°C	kW	H	4,29	5,29	8,83	8,93	8,92	9,76	10,22

COOLING

Nominal cooling capacity	35°C	7°C	kW	C	4,5	6	10	10	11	11	13
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Max heating capacities are shown at peak value during operation, at max compressor operating range in accordance with EN14511

Nominal heating capacity are given at water delta T° 5°C and rated compressor operating frequency in accordance with EN14511

(l) Heating capacity at -7°C are shown at max compressor operating frequency in accordance with EN14511

Energy Efficiencies Class & Seasonal space heating energy efficiency (ηs) are provided for Average Climate conditions in accordance with EN14825

PHYSICAL DATA



Outdoor unit

	HWS-	455H-E	805H-E	1105H-E	1105H8-E	1405H-E	1405H8-E	1605H8-E
Dimensions (HxWxD)	mm	630x800x300	890x900x320	1340x900x320	1340x900x320	1340x900x320	1340x900x320	1340x900x320
Weight	kg	42	63	92	93	92	93	93
Sound pressure Level (max)	dB(A)	49	50	51	51	52	52	53
Sound power level (max)	dB(A)	65	66	66	66	68	68	69
Compressor type					DC Twin rotary			
Refrigerant type		R410A	R410A	R410A	R410A	R410A	R410A	R410A
Refrigerant charge	kg	1,15	1,80	2,70	2,70	2,70	2,70	2,70
Flare connections (gas-liquid)		4/8" - 2/8"	5/8" - 3/8"	5/8" - 3/8"	5/8" - 3/8"	5/8" - 3/8"	5/8" - 3/8"	5/8" - 3/8"
Minimum pipe length	m	5	5	5	5	5	5	5
Maximum pipe length	m	15	30	30	30	30	30	30
Maximum height difference	m	10	30	30	30	30	30	30
Chargeless pipe length	m	15	30	30	30	30	30	30
Operating range in space heating*	°C	-20-25	-20-25	-20-25	-20-25	-20-25	-20-25	-20-25
Operating range Domestic hot water	°C	-20-43	-20-43	-20-43	-20-43	-20-43	-20-43	-20-43
Operating range in cooling	°C	10-43	10-43	10-43	10-43	10-43	10-43	10-43
Bottom tape heater power	W	-	-	-	75	-	75	75
Power supply	V-ph-Hz	220/230-1-50	220/230-1-50	220/230-1-50	380/400-3N-50	220-230-1-50	380/400-3N-50	380/400-3N-50

Hydro unit

	HWS-	455XWHM3-E	805XWHM3-E	805XWHT6-E	805XWHT9-E	1405XWHM3-E	1405XWHT6-E	1405XWHT9-E
To be used with size		45	80	80	80	110-140-160	110-140-160	110-140-160
Leaving water temperature	°C	20 - 55°C	20 - 55°C	20 - 55°C	20 - 55°C	20 - 55°C	20 - 55°C	20 - 55°C
Leaving water temperature	°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	925 x 525 x 355	925 x 525 x 355	925 x 525 x 355	925 x 525 x 355	925 x 525 x 355	925 x 525 x 355	925 x 525 x 355
Weight	kg	49	49	49	49	52	52	52
Sound pressure level	dB(A)	29	29	29	29	32	32	32
Electric back up heater capacity	kW	3	3	6	9	3	6	9
Electric back up heater supply	V-ph-Hz	220-230-1-50	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	13 x 2	13 x 3	13	13 x 2	13 x 3

Sanitary Hot Water tank

	HWS-	1501CSHM3-E	2101CSHM3-E	3001CSHM3-E
Water volume	litres	150	210	300
Max water temperature	°C	75	75	75
Electric heater	kW	2,7	2,7	2,7
Power supply	V-ph-Hz	220/230-1-50	220/230-1-50	220/230-1-50
Height	mm	1,090	1,474	2,040
Diameter	mm	550	550	550
Weight	Kg	31	41	60
Material			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-PCMO3E	Input signal PCB	Room thermostat input. Emergency stop input
HWS-AMMS4E	Wired RC	Wired Remote controller(sub)

Notes:

Max heating capacities are shown at peak value during operation, at max compressor operating range in accordance with EN14511

Nominal heating capacity are given at water delta T° 5°C and rated compressor operating frequency in accordance with EN14511

(l) Heating capacity at -7°C are shown at max compressor operating frequency in accordance with EN14511

Energy Efficiencies Class & Seasonal space heating energy efficiency (ηs) are provided for Average Climate conditions in accordance with EN14825

* Depending on the conditions only back-up heater operates.

** Heater Operation in more than 35°C

C = cooling mode

H = heating mode



AIR-TO-WATER HEAT PUMP SPLIT SYSTEM

HWS-



● MADE IN JAPAN



60 °C



FOR LOW AMBIENT AREA AND / OR FOR AREAS WHERE REQUIRE HIGH WATER TEMPERATURE!

The development of new powerful type of ESTIA series 4 to operate it in cold region, especially North Europe, East Europe and etc.

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 (20-60°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).

FEATURES

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

TOSHIBA

PERFORMANCE DATA



Outdoor unit

Hydro unit combination

HWS-	P805HR-E	P1105HR-E	P805H8R-E	P1105H8R-E	P1405H8R-E
HWS-	P805XWH**E	P1105XWH**E	P805XWH**E	P1105XWH**E	P1105XWH**E

Air T° Water T°

UNDER FLOOR HEATING

Max heating capacity	+7°C	35°C	kW	H	16,92	18,05	14,67	14,95	15,1
Nominal heating capacity	+7°C	35°C	kW	H	8,00	11,20	8,00	11,20	14,00
Seasonal Space Heating Energy Efficiency (ηs) - low temp., average climate		35°C	%		157	175	169	173	173
Seasonal Space Heating Energy Efficiency (SCOP) - low temp., average climate		35°C	kWh/kWh		4,01	4,48	4,31	4,43	4,43
Energy Efficiency Class Space Heating low temp., average climate (Ecodesign LOT1-Sep2015)		35°C			A++	A++	A++	A++	A++
Energy Efficiency Class Space Heating low temp., average climate (Ecodesign LOT1-Sep2019)		35°C			A+++	A+++	A+++	A+++	A+++
Seasonal Space Heating Energy Efficiency (ηs) - medium temp., average climate		55°C	%		125	131	123	130	130
Seasonal Space Heating Energy Efficiency (SCOP) - medium temp., average climate		55°C	kWh/kWh		3,22	3,38	3,16	3,35	3,34
Energy Efficiency Class Space Heating medium temp., average climate (Ecodesign LOT1-Sep2015)		55°C			A++	A++	A+	A++	A++
Energy Efficiency Class Space Heating medium temp., average climate (Ecodesign LOT1-Sep2019)		55°C			A++	A++	A+	A++	A++
Seasonal Space Heating Energy Efficiency (ηs) - low temp., warmer climate		35°C	%		185	187	224	218	222
Seasonal Space Heating Energy Efficiency (SCOP) - low temp., warmer climate		35°C	kWh/kWh		4,70	4,75	5,68	5,53	5,63
Seasonal Space Heating Energy Efficiency (ηs) - medium temp., warmer climate		55°C	%		158	150	125	165	165
Seasonal Space Heating Energy Efficiency (SCOP) - medium temp., warmer climate		55°C	kWh/kWh		4,03	3,83	3,20	4,20	4,20
Max heating capacity	-7°C	35°C	kW	H	11,92	12,79	10,82	11,62	13,44
Heating capacity (1)	-7°C	35°C	kW	H	9,38	9,74	9,45	10,3	12,21
Max heating capacity	-15°C	35°C	kW	H	9,37	11,23	8,18	9,26	10,7
Heating capacity (1)	-15°C	35°C	kW	H	7,26	8,06	7,77	8,75	8,91

RADIATORS HEATING & DHW

Max heating capacity	+7°C	45°C	kW	H	14,00	14,74	16,32	15,32	16,05
Max heating capacity	-7°C	45°C	kW	H	10,16	10,61	9,08	10,01	11,43
Max heating capacity	-15°C	45°C	kW	H	8,04	8,13	6,82	7,71	7,96
Max heating capacity	-20°C	45°C	kW	H	6,72	7,64	5,98	7,80	8,05
Max heating capacity	+7°C	55°C	kW	H	11,08	11,43	15,04	15,69	16,97
Max heating capacity	-7°C	55°C	kW	H	8,40	8,42	9,41	10,93	12,37

COOLING

Nominal cooling capacity	35°C	7°C	kW	C	6,0	10,0	6,00	10,0	11,0
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Max heating capacities are shown at peak value during operation, at max compressor operating range in accordance with EN14511

Nominal heating capacity are given at water delta T° 5°C and rated compressor operating frequency in accordance with EN14511

(1) Heating capacity at -7°C are shown at max compressor operating frequency in accordance with EN14511

Energy Efficiencies Class & Seasonal space heating energy efficiency (ηs) are provided for Average Climate conditions in accordance with EN14825

PHYSICAL DATA



Outdoor unit

	HWS-	P805HR-E	P1105HR-E	P805H8R-E	P1105H8R-E	P1405H8R-E
Dimensions (HxWxD)	mm	1340x900x320	1340x900x320	1340x900x320	1340x900x320	1340x900x320
Weight	kg	92	92	94	94	94
Sound pressure Level (max) (2)	dB(A)	51	51	52	52	53
Sound power level (max)	dB(A)	66	66	66	67	68
Compressor type				DC Twin rotary		
Refrigerant		R410A	R410A	R410A	R410A	R410A
Refrigerant charge	kg	2,70	2,70	2,70	2,70	2,70
Flare connections (gas-liquid)		5/8" - 3/8"	5/8" - 3/8"	5/8" - 3/8"	5/8" - 3/8"	5/8" - 3/8"
Minimum pipe length	m	5	5	5	5	5
Maximum pipe length	m	30	30	30	30	30
Maximum height difference	m	30	30	30	30	30
Chargeless pipe length	m	30	30	30	30	30
Operating range in space heating*	°C	-25-25	-25-25	-25-25	-25-25	-25-25
Operating range Domestic hot water	°C	-25-43 **	-25-43 **	-25-43 **	-25-43 **	-25-43 **
Operating range in cooling	°C	10-43	10-43	10-43	10-43	10-43
Bottom tape heater power	W	75	75	75	75	75
Power supply	V-ph-Hz	220/230-1-50	220/230-1-50	380/400-3-50	380/400-3-50	380/400-3-50

* Depending on the conditions only back-up heater operates.

** Heater Operation in more than 35°C

(2) Measurement position : Front = 1m, Height = 1.5m

Hydro unit

	HWS-	P805XWHM3-E	P805XWHT6-E	P1105XWHM3-E	P1105XWHT6-E	P1105XWHT9-E
To be used with size	°C	80	80	110	110	110
Leaving water temperature	°C	20 - 60°C	20 - 60°C	20 - 60°C	20 - 60°C	20 - 60°C
	mm	7 - 25°C	7 - 25°C	7 - 25°C	7 - 25°C	7 - 25°C
Dimensions (HxWxD)	Kg	925 x 525 x 355	925 x 525 x 355	925 x 525 x 355	925 x 525 x 355	925 x 525 x 355
Weight	dB(A)	49**	49**	52**	52**	52**
Sound pressure level	dB(A)	29	29	32	32	32
Sound power level	kW	41	41	43	43	43
Electric back up heater capacity	V-ph-Hz	3	6	3	6	9
Electric back up heater supply	A	220-230-1-50	380-400-3N-50	220-230-1-50	380-400-3N-50	380-400-3N-50
Maximum current	m	13	13 x 2	13	13 x 2	13 x 3

Domestic Hot Water tank

	HWS-	1501CSHM3-E	2101CSHM3-E
Water volume	litres	150	210
Max water temperature	°C	75	75
Electric heater	kW	2,7	2,7
Power supply	V-ph-Hz	220/230-1-50	220/230-1-50
Height	mm	1,090	1,474
Diameter	mm	550	550
Weight	Kg	31	41
Material		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-PCMO3E	Input signal PCB	Room thermostat input. Emergency stop input
HWS-AMS54E	Wired RC	Wired Remote controller(sub)

C = cooling mode

H = heating mode



DOMESTIC HOT WATER HEAT PUMP

DHW-HP



60 °C



The new Toshiba Phase 2 Domestic Hot Water Heat Pumps (DHW-HP) have been designed to provide increased flexibility for installers, added control functionality and the option of solar thermal connectivity. The additional features have been added whilst maintaining best in class performance and energy savings for sanitary hot water production throughout the year.

FEATURES

- Best in class performances
 - » Energy class A+ (ErP Sept. 2017)
 - » High COP > 3.5 at A7°C W10°C to 52.9°C (EN16147)
 - » High COP > 3.5 at A7°C W10°C to 52.9°C (EN16147)
 - » Fan external static pressure available up to 200Pa
 - » Low noise operation: 49dB(A) sound power level – ducted configuration (32dB(A) sound pressure level)
- Wide operating temperature range
 - » Heat pump hot water production possible for -7°C to 40°C outside air temperature
 - » Hot water temperature to 60°C without the use of electric heaters (65°C with electric heaters)

TOSHIBA

PERFORMANCE DATA



Domestic Hot Water Heat Pump

Energy Class
 COP at Air7°C W10°C-52,9°C (EN16147)
 COP at Air20°C W10°C-52,9°C (EN16147)
 Heat pump operating range (min/max)
 Heat up time (A7°C W10°C-53,5°C)
 Heat up time (A20°C W10°C-53,5°C)
 Maximum Qty of water by electric heater
 V40 volume (W52,9°C)
 Cylinder volume
 Maximum water temperature
 Corrosion protection

Sound power level - Air7°C W10°C-52,9°C (EN16147)
 Sound power level - Air20°C W10°C-52,9°C (EN16147)

Airflow rate nominal (min - max)
 Maximum fan power
 Maximum external static pressure
 Air duct connections
 Minimum room volume (non-ducted unit)

Maximum Power input
 Electrical heater Power
 Auxiliary Power input (Paux)
 Standby Power input (Pes)

HWS-	G1901CNMR-E	G2601CNMR-E	G1901ENXR-E	G2601ENXR-E
	A+	A+	A+	A+
	3.57	3.69	3.57	3.69
	4.13	4.2	4.13	4.2
°C	-7/+40	-7/+40	-7/+40	-7/+40
hh:mm	06:27	09:12	06:27	09:12
hh:mm	05:15	07:09	05:15	07:09
l (%)	75 (40%)	130 (50%)	75 (40%)	130 (50%)
l	247	347	234	331
l	190	260	184	252
°C	60	60	60	60
	Magnesium anode	Magnesium anode	Magnesium anode	Magnesium anode
dB(A)	49	49	49	49
dB(A)	55.6	55.6	55.6	55.6
m3/h	450 (0 - 800)	450 (0 - 800)	450 (0 - 800)	450 (0 - 800)
W	85	85	85	85
Pa	200	200	200	200
mm	Ø160	Ø160	Ø160	Ø160
m3	60	60	60	60
W	2185	2185	2185	2185
W	1500	1500	1500	1500
W	1.61	1.61	1.61	1.61
W	17	20	17	20

PHYSICAL DATA



Domestic Hot Water Heat Pump

Dimensions (Height x Diameter)

Required height for installation
 Weight (dry / wet)

Refrigerant
 Refrigerant charge
Refrigerant charge CO2 equivalent

Water connections (cold & hot water)
 Standard water connection entry angle
 Condensates water connections
 Max water side operating pressure

Power supply

HWS-	G1901CNMR-E	G2601CNMR-E	G1901ENXR-E	G2601ENXR-E
	1600 x 620	1960 x 620	1600 x 620	1960 x 620
mm	1868	2223	1868	2223
kg	91 / 231	106 / 350	94 / 234	106 / 350
	R134A	R134A	R134A	R134A
kg	1.2	1.28	1.2	1.28
ton	1.72	1.83	1.72	1.83
	3/4"	3/4"	3/4"	3/4"
deg.	45	45	45	45
mm	Ø19	Ø19	Ø19	Ø19
Mpa	0.6	0.6	0.6	0.6
V-ph-Hz	230-1-50	230-1-50	230-1-50	230-1-50

AIR-TO-WATER SPLIT HEAT PUMP & COMFORT MODULE

38AW/80AW



60 °C



The new reversible XP Energy air-to-water split system heat pumps with built-in inverter technology are designed for residential and light commercial applications. They offer stringent operating temperature demands.

Ecodesign is the European Directive that sets mandatory requirements for Energy reduce the environmental impact of its products.

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

FEATURES

- Variable-speed fans with an innovative patented fan blade shape ensure improved air distribution at exceptionally low noise levels
- Leaving water temperature up to 60°C for radiator and domestic hot water applications, making hot water readily available
- Backup heating, either electrical (single-energy applications) or gas boiler (dual-energy applications)
- GMC board: The new GMC controller is specifically developed for the XP Energy inverter heat pumps, and incorporates new control algorithms. It features customised or predefined climate curves, domestic hot water control, a night-time noise reduction function, a defrost/alarm output signal, an external heat source, a pump block prevention function, freeze protection and compressor operation management



**Outdoor unit (heat pump)
Indoor unit (confort module)**

38AW050H7	38AW065H7	38AW090H7	38AW115H7	38AW120H9	38AW150H9
80AW 065	80AW 065	80AW 115	80AW 115	80AW 150	80AW 150

80AWX + 80AWH

HEATING

Standard unit Full load performances*	HA1	Nominal capacity	kW	5,01	6,55	9,27	11,5	12	15,01
				HA2	4,37	5,7	8,7	11,3	11,2
	HA3			4,25	5,52	7,88	10,95	11,48	11,91
Seasonal energy efficiency** (80AWX only)	HA1 (Average)	SCOP _{30/35°C}	kWh/ kWh	3,10	3,00	3,20	3,19	3,82	3,67
				η _{s heat} _{30/35°C}	%	121	117	125	125
	HA3 (Average)	SCOP _{47/55°C}	kWh/ kWh			3	2,98	2,99	2,94
				η _{s heat} _{47/55°C}	%	117	116	117	115
	HA3 (Warm)	P _{rated}	kW			1,9	2,16	7,6	8,75
				SCOP _{47/55°C}	kWh/ kWh	4,15	4,15	4,18	4,08
η _{s heat} _{47/55°C}	%	163	163			164	160	181	179

80AWX COOLING

Standard unit Full load performances*	CA1	Nominal capacity	kW	3,57	4,73	5,95	6,8	10,3	12,6
				CA2				5,1	6,55
Seasonal energy efficiency	SEER _{12/7°C} Comfort low temp.	kWh/kWh	3,73	3,86	4,76	4,57	4,33	4,16	

80AW

Sound levels

Sound power level(l) (H3)	dB(A)	40,9					
Dimension, H x L x D	mm	800 x 450 x 320					
Operating weight ⁽³⁾	kg	48	48	50	50	52	52

Hydraulic module

Pump	Variable speed circulator					
Connections, Liquid / Gas side	3/8" - 5/8"	3/8" - 5/8"	3/8" - 5/8"	3/8" - 5/8"	3/8" - 5/8"	3/8" - 5/8"

38AW

Dimension, H x L x D	mm	690 x 900 x 320	820 x 900 x 320	1360 x 900 x 320	1360 x 900 x 320	1360 x 900 x 320	1360 x 900 x 320
Refrigerant		R410A					
Compressors		DC Twin-Rotary					
Fans		Variable speed 3 blades fan					
Quantity		1	1	2	2	2	2
Air flow	m ³ /h	2620	2820	5970	6360	5770	5770
Maximum connection pipe length	m	50	30	70	70	70	70
Maximum height difference	m	30	30	30	30	30	30
Precharged length	m	20	20	20	30	30	30
Connections, Liquid / Gas side	inch	1/4" - 1/2"	3/8" - 5/8"	3/8" - 5/8"	3/8" - 5/8"	3/8" - 5/8"	3/8" - 5/8"

Notes:

* In accordance with standard EN14511-3:2013

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

HA1 Heating mode conditions: Water heat exchanger water entering/leaving temperature 30°C/35°C, outside air temperature tdb/twb = 7°C db/6°C wb, evaporator fouling factor 0 m².K/W

HA2 Heating mode conditions: Water heat exchanger water entering/leaving temperature 40°C/45°C, outside air temperature tdb/twb = 7°C db/6°C wb, evaporator fouling factor 0 m².K/W

HA3 Heating mode conditions: Water heat exchanger water entering/leaving temperature 47°C/55°C, outside air temperature tdb/twb = 7°C db/6°C wb, evaporator fouling factor 0 m².K/W

CA1 Cooling mode conditions: Evaporator water entering/leaving temperature 12°C/7°C, outside air temperature 35°C, evaporator fouling factor 0 m².K/W

CA2 Cooling mode conditions: Evaporator water entering/leaving temperature 23°C/18°C, outside air temperature 35°C, evaporator fouling factor 0 m².K/W

η_{s heat} 30/35°C & SCOP 30/35°C Applicable Ecodesign regulation: (EU) No 813/2013

η_{s heat} 47/55°C & SCOP 47/55°C Applicable Ecodesign regulation: (EU) No 813/2013

SEER 12/7°C & SEPR 12/7°C Applicable Ecodesign regulation: (EU) No 2016/2281



REVERSIBLE AIR-TO-WATER HEAT PUMPS

30AWH



60 °C



AQUASNAP^{PLUS}
Reversible



The 30AWH air-to-water heat pump is designed for heating and cooling applications in new and existing individual homes and small businesses.

When installed alone, the 30AWH is compatible with low to medium temperature emitters (underfloor heating, fan coil units, water cassettes, radiators, mixed installations, etc.).

The 30AWH is also compatible with medium to high temperature emitters for boiler back up operation.

RANGES

- The 30AWH range of reversible heat pumps comprises 4 single-phase models and 2 three-phase models
- Operation in cooling mode with an outdoor temperature of 0°C to 46°C
- Operation in heating mode with an outdoor temperature of -20°C to 35°C. If the heat pump is the only source of heat

FEATURES

- Twin Rotary DC Inverter compressors with pulse amplitude modulation (PAM) and pulse wave modulation (PWM) for increased reliability, reduced energy consumption and operation without vibrations, whatever the operating conditions
- Inlet and outlet connections to the three-way valve, to enable connection to a domestic hot water buffer tank, increase the flexibility of use, regardless of the application
- A water outlet temperature of up to 60°C for heating and domestic hot water in residential applications

PHYSICAL DATA



30AWH

HEATING

	004	006	008	012	015	012-3Ph	015-3Ph
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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
	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
	H3 Capacity (nom)	kW	4.27	5.43	7.25	10.9	12.4	11.4	12.2
Seasonal Efficiency**	η_s /SCOP/ENERGY CLASS (Average)	% / - / -	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+
	η_s /SCOP/ENERGY CLASS (Average)	% / - / -	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++
	η_s /SCOP/	% / - / -	201/5,09	194/4,92	163/4,14	171/4,36	194/4,93	203/5,16/A+++	198/5,03/A+++
	η_s /SCOP/	% / - / -	190/4,82	181/4,60	152/3,88	158/4,03	175/4,44	187/4,74	179/4,55

COOLING

Full load performances*	C1 Nominal capacity	kW	3.33	4.73	5.84	10.2	13.0	10.20	13.00
	C2 Nominal capacity	kW	4.93	7.04	7.84	13.5	16.0	13.50	16.00
Seasonal Efficiency*	ESEER	kW/kW	4.36	4.51	4.15	4.22	4.31	4.40	4.31

Sound Pressure Level at 4m (H3)	dB(A)	42	42	44	47	48	48	48
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Operating weight †

Operating weight, unit with/without hydronic module	kg	57/54	61/58	69/66	104/101	112/109	116/113	116/113
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Refrigerant

Compressor

Fans	R-410A							
Quantity	DC twin-rotary with PMV expansion valve							
	Propeller fans							
Quantity	mm	1	1	1	2	2	2	2

Dimensions

Length	mm	908	908	908	908	908	908	908
Depth	mm	350	350	350	350	350	350	350
Height	mm	821	821	821	1363	1363	1363	1363

ELECTRICAL DATA



	004	006	008	012	015	-	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	9	11	14.5	20.7	22.6	11.1	11.1
Fuse rating	A	10	16	16	25	25	16	16

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

† Weight shown is a guideline only.

(1) In dB ref 20μPa, (A) weighting. Declared dualnumber noise emission values in accordance with ISO 4871 (with an associated uncertainty of +/-3dB(A)). For information, calculated from the sound power level Lw(A).



INVERTER AIR-COOLED LIQUID CHILLERS & REVERSIBLE AIR TO WATER HEAT PUMPS

30RQV



up to 60 °C



The units integrate the latest technological innovations: Non-ozone depleting refrigerant R410A, DC inverter twin-rotary compressors, low-noise variable speed fans and microprocessor control.

With exceptional energy efficiency values the inverter chillers qualify for local tax reductions and incentive plans in all EU countries.

For added flexibility the AquaSnap Greenspeed® units are available with or without hydraulic module integrated into the unit chassis, limiting the installation to straightforward operations like connection of the power supply and the water supply and return piping.

FEATURES

- Low-noise INVERTER Twin rotary compressor with low vibration levels
- Thermal insulation and frost protection down to -20°C, using an electric resistance heater and pump cycling
- Increased seasonal efficiency
- Leak-tight refrigerant circuit



30RQV HEATING

		17		21	
Full load performances*	HA1	Nominal capacity	kW	17,1	21,1
	HA2	Nominal capacity	kW	16,2	20,0
	HA3	Nominal capacity	kW	15,3	19,1
Seasonal energy efficiency**	HA1	SCOP _{30/35°C}	kWh/kWh	3,68	3,56
		ηs heat _{30/35°C}	%	144	139
	HA3	SCOP _{47/55°C (average zone)}	kWh/kWh	3,1	2,9
		ηs heat _{47/55°C (average zone)}	%	121	113
		P _{rated}	kW	9,5	15,43
		Energy class		A+	A+
	SCOP _{30/35°C S} / ηs heat _{30/35°C (warmer zone)}		5,71 / 225%	4,87 / 192%	
	SCOP _{47/55°C S} / ηs heat _{34/75°C (warmer zone)}		3,80 / 149%	3,65 / 143%	

COOLING

Full load performances*	CA1	Nominal capacity	kW	14,9	18,6
	CA2	Nominal capacity	kW	19,8	25,8
Seasonal energy efficiency**		SEER _{12/7°C} Comfort low temp.	kWh/kWh	3,85	3,81

Sound levels

Sound power level ⁽¹⁾		dB(A)	71	74
Sound pressure level at 10 m ⁽²⁾		dB(A)	40	43

Dimensions

Length ⁽³⁾		mm	1109	1109
Width		mm	584	584
Height		mm	1579	1579

Operating Weight ⁽³⁾

Standard unit		kg	190,9	199,4
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Compressors

		Rotary compressor	1	1
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Refrigerant

Charge ⁽⁴⁾		kg	8	8
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Capacity control

Minimum capacity ⁽⁵⁾		%	33 %	41 %
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Air heat exchanger

		Grooved copper tubes, aluminium fins		
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		Axial type fan		
--	--	----------------	--	--

Quantity			2	2
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Maximum total air flow		l/s	2000	2400
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Maximum rotational speed		rps	14	16
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		Braze plate heat exchanger		
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Water volume		l	1,52	1,9
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Max water-side operating pressure without hydraulic module		kPa	1000	1000
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Notes:

* In accordance with standard EN 14511-3:2013

** In accordance with standard EN 14825:2013, Average climate

HA1 Heating mode conditions: Water heat exchanger water entering/leaving temperature 300°C/350°C, outside air temperature tdb/twb = 7°C db/60°C wb, evaporator fouling factor 0 m² K/W

HA2 Heating mode conditions: Water heat exchanger water entering/leaving temperature 400°C/450°C, outside air temperature tdb/twb = 7°C db/60°C wb, evaporator fouling factor 0 m² K/W

HA3 Heating mode conditions: Water heat exchanger water entering/leaving temperature 470°C/550°C, outside air temperature tdb/twb = 7°C db/60°C wb, evaporator fouling factor 0 m² K/W

CA1 Cooling mode conditions: Evaporator water entering/leaving temperature 120°C/70°C, outside air temperature 350°C, evaporator fouling factor 0 m² K/W

CA2 Cooling mode conditions: Evaporator water entering/leaving temperature 230°C/180°C, outside air temperature 350°C, evaporator fouling factor 0 m² K/W

ηs heat 30/35°C & SCOP Applicable Ecodesign regulation: (EU) No 813/2013

ηs heat 47/55°C & scop 47/55°C Applicable Ecodesign regulation: (EU) NO 813/2013

SEER 12/7°C Applicable Ecodesign regulation: (EU) No 2016/2281

(1) In dB ref=10-12 W, (A) weighting. Declared dualnumber noise emission values in accordance with ISO 4871 (with an associated uncertainty of +/-3dB(A)). Measured in accordance with ISO 9614-1 and certified by Eurovent.

(2) In dB ref 20 µPa, (A) weighting. Declared dualnumber noise emission values in accordance with ISO 4871 (with an associated uncertainty of +/-3dB(A)). For information, calculated from the sound power level Lw(A).

(3) Length = 1141 mm if main disconnect switch

(4) Values are guidelines only. Refer to the unit nameplate.



AIR-TO-WATER HEAT PUMPS

30RQ



50 °C



AQUASNAP
Reversible



The new AquaSnap units integrate the latest technological innovations:

- Non-ozone depleting refrigerant R410A
- Scroll compressors
- Low-noise fans
- Auto-adaptive microprocessor control

The AquaSnap units are equipped with a hydraulic module integrated into the unit chassis, limiting the installation to straightforward operations like connection of the power supply and the water supply and return piping.

FEATURES

- Low-noise scroll compressors with low vibration levels
- Vertical air heat exchanger coils
- The latest-generation low-noise fans are now even quieter and do not generate intrusive low-frequency noise
- Thermal insulation and frost protection down to -10°C, using an electric resistance heater and pump cycling
- Increased energy efficiency at part load



30RQ

HEATING

			017	021	026	033	040	
Full load performances*	HA1	Nominal capacity	kW	17,6	22,0	30,8	34,3	38,6
	HA2	Nominal capacity	kW	17,0	21,5	29,6	33,0	40,7
		SCOP _{30/35°C} (average zone)	kWh/kWh	3,23	3,20	3,26	3,27	3,25
	HA1	η _s heat _{30/35°C} (average zone)	%	126	125	127	128	127
		P _{rated} (average zone)	kW	13	13	21	23	31
		Energy class (average zone)		A+	A+	A+	A+	A+
		SCOP _{30/35°C} (warmer zone)	kWh/kWh	3,55	3,63	3,65	3,63	3,63
		η _s heat _{30/35°C} (warmer zone)	%	139	142	143	144	142

COOLING

Full load performances*	CA1	Nominal capacity	kW	15,8	19,9	26,3	32,3	39,2
	CA2	Nominal capacity	kW	21,9	26,9	34,0	42,9	54,2
Seasonal energy efficiency**	SEER 12/7°C Comfort low temp.			3,42	3,28	3,25	3,45	3,32
	SEER 23/18°C Comfort medium temp.			4,08	3,78	3,74	3,96	3,85

Operating weight(1)

Standard unit, with hydraulic module	kg	206	223	280	295	305
Standard unit, without hydraulic module	kg	191	208	262	277	287
Sound power level(2)	dB(A)	72	74	78	78	80
Sound pressure level at 10 m	dB(A)	40	42	46	46	48

Dimensions

Length	mm	1136			1002	
Depth	mm	584			824	
Height	mm	1579			1790	

Compressor

Refrigerant charge R-410A	One hermetic scroll compressor					
	kg	6,4	7,7	7,6	9,5	9,8
	teqCO ₂	13,4	16,1	15,9	19,8	20,5

Control

Fans	Two twin-speed axial fans, 3 blades			One twin-speed axial fan, 7 blades		
	Diameter	mm	495	495	710	710
Air Flow	l/s	2217	1978	3530	3530	3530
Speed	r/s	14,5	14,5	15	15	15

Water heat exchanger

	Plate heat exchanger, maximum operating pressure 1000 kPa					
Water volume	l	1,52	1,9	2,28	2,85	3,8

Air heat exchanger

	Copper tubes and aluminum fins					
Pipe diameter		3/8"	3/8"	3/8"	3/8"	3/8"
Number of rows		2,5	3	2,5	3	3
Number of pipes per row		60	60	60	60	60
Fin spacing	mm	1,69	1,69	1,69	1,69	1,69

Standard unit

Water connection (MPT gas)		1"	1"	1-1/4"	1-1/4"	1-1/4"
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Unit with hydraulic module

	Pump, screen filter, expansion tank, flow switch, pressure gauge, automatic air purge valve, relief valve					
	One single-speed pump, maximum water-side operating pressure 400 kPa					
Expansion tank capacity	l	5	5	8	8	8
Entering water connection		1-1/4"	1-1/4"	1-1/4"	1-1/4"	1-1/4"
Leaving water connection		1	1	1-1/4	1-1/4	1-1/4
Nominal operating current	A	1,3	1,4	2,4	2,6	2,8
Chassis paint colour		Beige				

Notes:

* In accordance with standard EN14511-3:2013

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

HA1 Heating mode conditions: Water heat exchanger water entering/leaving temperature 30°C/35°C, outside air temperature tdb/twb= 7°C db/6°C wb, evaporator fouling factor 0 m².K/W

HA2 Heating mode conditions: Water heat exchanger water entering/leaving temperature 40°C/45°C, outside air temperature tdb/twb= 7°C db/6°C wb, evaporator fouling factor 0 m².K/W

CA1 Cooling mode conditions: evaporator water entering/leaving temperature 12°C/7°C, outside air temperature 35°C, evaporator fouling factor 0 m².K/W

CA2 Cooling mode conditions: evaporator water entering/leaving temperature 23°C/18°C, outside air temperature 35°C, evaporator fouling factor 0 m².K/W

η_s heat 30,390 & SCOP 30,350c Applicable Ecodesign regulation: (EU) No 813/2013

SEER 12/7°C & SEPR 12/7°C Applicable Ecodesign regulation: (EU) No 2016/2281

SEER 23/18°C Applicable Ecodesign regulation: (EU) No 2016/2281

IPLV/SI Calculations according to standard performances AHRI 551-591

(1) Weight shown is a guideline only. Please refer to the unit nameplate

(2) In dB ref=10-12 W, (A) weighting. Declared dual number noise emission values in accordance with ISO 4871 (with an associated uncertainty of +/-3dB(A)). Measured in accordance with ISO 9614-1 and certified by Eurovent.

(3) In dB ref 20µPa, (A) weighting. Declared dual number noise emission values in accordance with ISO 4871 (with an associated uncertainty of +/-3dB(A)). For information, calculated from the sound power level Lw(A).



REVERSIBLE AIR-TO-WATER HEAT PUMPS

30RQS



AQUASNAP
Reversible

 55 °C



The AquaSnap integrates the latest technological innovations:

- Non-ozone depleting refrigerant R410A
- Scroll compressors
- Low-noise fans made of a composite material
- Auto-adaptive microprocessor control
- Electronic expansion valve
- Variable-speed pump (option)

The AquaSnap can be equipped with a hydronic module integrated into the unit chassis, limiting the installation to straightforward operations like connection of the power supply and the chilled water supply and return piping.

FEATURES

- Low-noise scroll compressors with low vibration level
- Dynamic suction and discharge piping support, minimising vibration transmission (Carrier patent)
- Thermal insulation and frost protection down to -20°C, using an electric resistance heater (see table of options)
- Optional variable-speed pump for economical operation
- Brazed refrigerant connections for increased leak tightness



30RQS

HEATING

Full load performances*	HA1	Nominal capacity
	HA2	Nominal capacity
Seasonal efficiency*	HA1	SCOP _{30/35°C}
		η _s heat _{30/35°C}
	η _s heat _{30/35°C} ^{Prated}	
	Energy labelling	
	SCOP _{30/35°C} (warmer zone)	
		η _s heat _{30/35°C} (warmer zone)

	39	45	50	60	70	78	80	90	100	120	140	160
kW	42,3	46,4	53,2	61,2	68,0	77,6	81,7	92,2	100	116	135	155
kW	41,5	46,3	51,7	59,3	65,9	75,0	78,9	89,5	97,4	112	130	150
kWh/kWh	3,32	3,39	3,53	3,40	3,40	3,28	3,51	3,50	3,57	3,54	3,44	3,42
%	130	133	138	133	133	128	137	137	140	139	135	134
kW	35,5	31,6	36,3	43,8	50,1	55,7	56,8	81,5	72,3	84,2	99,4	111
	A+	A+	A+	A+	A+	A+	A+	NA	NA	NA	NA	NA
kWh/kWh	3,83	3,93	4,13	4,08	4,00	3,93	4,10					
%	150	154	162	160	157	154	161					

COOLING

Full load performances*	CA1	Nominal capacity
	CA2	Nominal capacity
		SEER _{12/7°C} Comfort low temp.

	39	45	50	60	70	78	80	90	100	120	140	160
kW	37,7	43,1	49,4	58,0	63,1	70,2	77,0	84,9	95,1	112	131	148
kW	47,1	53,9	62,7	70,7	78,2	88,5	96,5	106,9	116,6	142	162	185
kWh/kWh	3,64	3,67	3,70	3,53	3,50	3,37	3,83	3,70	3,76	4,00	3,65	3,61

Sound levels

Standard unit

Sound power level	dB(A)	80	81	81	86	87	87	84	84	84	90	90
Sound pressure level at 10 m ⁽²⁾	dB(A)	49	49	49	55	55	55	52	52	52	58	58

Unit with option 15LS

Sound power level	dB(A)	79	80	80	80	80	80	83	83	83	83	83
Sound pressure level at 10 m ⁽²⁾	dB(A)	48	48	48	48	48	48	51	51	51	51	51

Dimensions

	39	45	50	60	70	78	80	90	100	120	140	160
Length	mm	1090	1090	1090	1090	1090	1090	2273	2273	2273	2273	2273
Width	mm	2109	2109	2109	2109	2109	2109	2136	2136	2136	2136	2136
Height	mm	1330	1330	1330	1330	1330	1330	1330	1330	1330	1330	1330

Operating weight⁽³⁾

Standard unit without hydraulic module

kg	497	504	533	546	547	554	739	886	894	953	1054	1072
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Standard unit with hydraulic module

Single high-pressure pump	kg	529	537	563	576	576	584	769	918	926	989	1093	1111
Dual high-pressure pump	kg	555	563	588	602	602	610	795	963	971	1037	1130	1148

Compressors

Hermetic scroll compressors, 48.3 r/s												
Circuit A		2	2	2	2	2	2	2	3	3	2	2
Circuit B		-	-	-	-	-	-	-	-	-	2	2
No of control stages		2	2	2	2	2	2	3	3	3	4	4

Refrigerant charge⁽³⁾

R-410A													
Circuit A	kg	12,5	13,5	16,5	17,5	18	16,5	21,5	27,5	28,5	33	19	18,5
	teqCO ₂	26,1	28,2	34,5	36,5	37,6	34,5	44,9	57,4	59,5	68,9	39,7	38,6
Circuit B	kg	-	-	-	-	-	-	-	-	-	-	19	18,5
	teqCO ₂	-	-	-	-	-	-	-	-	-	-	39,7	38,6

Capacity control

Minimum capacity	%	50	50	50	50	50	50	50	33	33	33	25	25
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Air heat exchangers

Grooved copper tubes and aluminium fins												
Axial Flying Bird IV with rotating shroud												
Quantity		1	1	1	1	1	1	2	2	2	2	2

Maximum total air flow	l/s	3692	3690	3910	5285	5284	5282	7770	7380	7376	7818	10568	10568
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Maximum rotation speed	r/s	12	12	12	16	16	16	12	12	12	12	16	16
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Water heat exchanger

Direct expansion, plate heat exchanger													
Water volume	l	2,6	3	4	4,8	4,8	5,6	8,7	8,7	9,9	11,3	12,4	14,7

Without hydraulic module													
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Max. water-side operating pressure	kPa	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000
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With hydraulic module (option)

Pump, Victaulic screen filter, relief valve, expansion tank, purge valves (water + air), pressure sensors													
Expansion tank volume	l	12	12	12	12	12	12	35	35	35	35	35	35

Expansion tank pressure	bar	1	1	1	1	1	1	1,5	1,5	1,5	1,5	1,5	1,5
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Max. water-side operating pressure	kPa	400	400	400	400	400	400	400	400	400	400	400	400
------------------------------------	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----

Water connections with/without hydraulic module

Victaulic													
Connections		2"	2"	2"	2"	2"	2"	2"	2"	2"	2"	2"	2"

Outside diameter	mm	60,3	60,3	60,3	60,3	60,3	60,3	60,3	60,3	60,3	60,3	60,3	60,3
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Chassis paint colour

Colour code: RAL7035												
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Notes:
 * In accordance with standard EN14511-3z2013
 ** In accordance with standard EN14825:2013, average climate
 HA1 Heating mode conditions: Water heat exchanger water entering/leaving temperature 30°C/35°C, outside air temperature tdb/twb = 7°C db/6°C wb, evaporator fouling factor 0 m².K/W
 HA2 Heating mode conditions: Water heat exchanger water entering/leaving temperature 40°C/45°C, outside air temperature tdb/twb = 7°C db/6°C wb, evaporator fouling factor 0 m².K/W
 CA1 Cooling mode conditions: Evaporator water entering/leaving temperature 12°C/7°C, outside air temperature 35°C, evaporator fouling factor 0 m².K/W
 CA2 Cooling mode conditions: Evaporator water entering/leaving temperature 23°C/18°C, outside air temperature 35°C, evaporator fouling factor m².[515 heat 30,35°C & SCOP 30,35°C.
 Applicable Ecodesign regulation: (EU) No 813/2013
 SEER 12/7°C & SEPR 12/7°C Applicable Ecodesign regulation: EU No 2016/2281
 SEER 23/18°C Applicable Ecodesign regulation: EU No 2016/2281
 SEPR -2/-8°C Applicable Ecodesign regulation: EU No 2015/1095
 IPLV/SLI Calculations according to standard performances AHRI 551-591
 (1) In dB ref=10-12 W, (A) weighting. Declared dual number noise emission values in accordance with ISO 4871 (with an associated uncertainty of +/-3dB(A)). Measured in accordance with ISO 9614-1 and certified by Eurovent
 (2) In dB ref 20uPa, (A) weighting. Declared dual number noise emission values in accordance with ISO 4871 (with an associated uncertainty of +/-3dB(A)).
 For information, calculated from the sound power level Lw(A)
 (3) Values shown are a guideline only. Please refer to the unit nameplate
 (4) When delivered, the standard pre-inflation of the tank is not necessarily the optimal value for the system. To permit changing the water volume, change the inflation pressure to a pressure that is close to the static head of the system. Fill the system with water (purging the air) to a pressure value that is 10 to 20 kPa higher than the pressure in the tank



AIR-TO-WATER SCROLL HEAT PUMP WITH GREENSPEED INTELLIGENT

30RQM/30RQP



The new generation AquaSnap features two new versions:

- The AquaSnap (30RQM) version features a compact all-in-one package where reduced investment cost (low Capex) is required.
- The AquaSnap Greenspeed® (30RQP) version features a compact all-in-one package optimized for part-load applications where high SCOP and SEER are required. The AquaSnap Greenspeed® equipped with variable speed fans and variable speed pump provides premium part load efficiency to reduce utility costs over the lifespan of the heat pump. Additionally, the low sounds levels achieved at part load conditions can be very beneficial for sensitive acoustic applications.

FEATURES

- Designed to meet current and future Ecodesign and F-Gas European regulation requirements in terms of energy efficiency and reduced CO2 emissions
- Condenser coils in V-shape with an open angle, allowing quieter air flow across the coil
- Low-noise 4th generation Flying Bird fans, made of a composite material (Carrier patent)
- Rigid fan installation for reduced noise (Carrier patent)
- Low or high pressure water pump (as required)
- Thermal insulation and frost protection down to -20°C, using an electric resistance heater (option)
- Two independent refrigerant circuits: the second one automatically takes over if the first one develops a fault, maintaining partial cooling under all circumstances



30RQM

HEATING

Full load performances*	HA1	Nominal capacity
	HA2	Nominal capacity
Seasonal energy efficiency	HA1	SCOP _{30/35°C} (average zone)
		η _s heat _{30/35°C}
		P _{rated}

	160	180	210	230	240	270	310	330	380	430	470	520
kW	181	198	240	216	272	294	342	359	415	474	457	436
kW	174	191	232	245	262	282	329	345	399	456	498	537
kWh/kWh	3,20	3,21	3,23	3,21	3,20	3,22	3,20	3,20	3,30	3,35	3,34	3,31
%	125	125	126	125	125	126	125	125	129	131	131	130
kW	121	134	159	169	159	194	211	231	268	305	339	356

COOLING

Full load performances*	CA1	Nominal capacity
		SEER12/7°C Comfort low temp.
		SEPR-2/-8°C Process medium temp.

	160	180	210	230	240	270	310	330	380	430	470	520
kW	154	168	201	225	232	264	297	322	372	424	458	510
kWh/kWh	3,89	3,89	3,93	3,99	3,95	4,03	4,06	4,00	4,04	4,11	4,09	4,04
kWh/kWh	-	-	-	-	-	-	-	-	-	-	-	-

Sound levels

Standard unit

Sound power level	dB(A)	90	91	91	91	92	92	93	93	94	94	94	94
Sound pressure level at 10 m ⁽²⁾	dB(A)	58	59	59	59	60	60	61	61	62	62	62	62

Standard unit + option 15⁽³⁾

Sound power level	dB(A)	89	90	90	90	91	91	91	92	92	93	93	93
Sound pressure level at 10 m ⁽²⁾	dB(A)	57	58	58	58	59	59	59	60	60	61	61	61

Dimensions

Length	mm	2410	2410	2410	2410	3604	3604	3604	3604	4797	4797	4797	4797
Width	mm	2253	2253	2253	2253	2253	2253	2253	2253	2253	2253	2253	2253
Height	mm	2297	2297	2297	2297	2297	2297	2297	2297	2297	2297	2297	2297

Operating weight⁽⁴⁾

Standard unit	kg	1426	1505	1633	1656	2068	2216	2341	2572	3040	3289	3302	3342
Standard unit + option 15 ⁽⁴⁾	kg	1509	1588	1741	1764	2176	2342	2467	2716	3202	3470	3482	3522
Standard unit + option 15 + option 116S ⁽³⁾	kg	1605	1683	1824	1846	2267	2463	2596	2813	3281	3571	3620	3660

Compressors

Hermetic Scroll 48.3 r/s													
Circuit A		1	1	2	2	2	2	2	2	3	4	4	4
Circuit B		2	2	2	2	2	3	3	4	4	4	4	4
No. of control stages		3	3	4	4	4	5	5	6	7	8	8	8

30RQP

HEATING

Full load performances*	HA1	Nominal capacity
	HA2	Nominal capacity
Seasonal energy efficiency	HA1	SCOP _{30/35°C}
		η _s heat _{30/35°C}
		P _{rated}

	160	180	210	230	240	270	310	330	380	430	470	520
kW	181	198	240	216	272	294	342	359	415	474	457	436
kW	174	191	232	245	262	282	329	345	399	456	498	537
kWh/kWh	3,38	3,38	3,39	3,39	3,38	3,38	3,40	3,40	3,43	3,46	3,46	3,41
%	132	132	133	133	132	132	133	133	134	135	135	133
kW	121	134	159	169	159	194	211	231	268	305	339	356

COOLING

Full load performances*	CA1	Nominal capacity
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	160	180	210	230	240	270	310	330	380	430	470	520
kW	154	168	201	225	232	264	297	322	372	424	458	510

Sound levels

Standard unit

Sound power level	dB(A)	90	91	91	91	92	92	93	93	94	94	94	94
Sound pressure level at 10 m ⁽²⁾	dB(A)	58	59	59	59	60	60	61	61	62	62	62	62

Standard unit + option 15⁽³⁾

Sound power level	dB(A)	89	90	90	90	91	91	91	92	92	93	93	93
Sound pressure level at 10 m ⁽²⁾	dB(A)	57	58	58	58	59	59	59	60	60	61	61	61

Standard unit + option 15LS⁽³⁾

Sound power level	dB(A)	84	85	86	86	86	87	87	87	88	89	89	89
Sound pressure level at 10 m	dB(A)	52	53	54	54	54	55	55	55	56	57	57	57

Dimensions

Length	mm	2410	2410	2410	2410	3604	3604	3604	3604	4797	4797	4797	4797
Width	mm	2253	2253	2253	2253	2253	2253	2253	2253	2253	2253	2253	2253
Height	mm	2297	2297	2297	2297	2297	2297	2297	2297	2297	2297	2297	2297

Operating weight⁽⁴⁾

Standard unit	kg	1462	1542	1670	1693	2105	2252	2378	2608	3076	3347	3359	3408
Standard unit + option 15 ⁽⁴⁾	kg	1545	1624	1778	1801	2213	2378	2504	2752	3239	3527	3539	3588
Standard unit + option 15 + option 116S ⁽³⁾	kg	1640	1720	1860	1882	2304	2500	2632	2849	3318	3629	3677	3726

Compressors

Hermetic Scroll 48.3 r/s													
Circuit A		1	1	2	2	2	2	2	2	3	4	4	4
Circuit B		2	2	2	2	2	3	3	4	4	4	4	4
No. of control stages		3	3	4	4	4	5	5	6	7	8	8	8

Notes:
 * In accordance with standard EN14511-3:2013.
 ** In accordance with standard EN14825:2013, average climate
 HA1 Heating mode conditions: Water heat exchanger water entering/leaving temperature 30°C/35°C, outside air temperature tdb/twb = 7°C db/6°C wb, evaporator fouling factor 0 m².K/W
 HA2 Heating mode conditions: Water heat exchanger water entering/leaving temperature 40°C/45°C, outside air temperature tdb/twb = 7°C db/6°C wb, evaporator fouling factor 0 m².KNV
 CA1 Cooling mode conditions: Evaporator water entering/leaving temperature 12°C/7°C, outside air temperature 35°C, evaporator fouling factor 0 m².K/W
 η_s heat 30/35°C & SCOP 30/25°C. Applicable Ecodesign regulation: (EU) No 81312013
 SEER 12/7°C & SEPR 12/7°C. Applicable Ecodesign regulation: (EU) No 2016/2281
 SEPR -2/-8°C Applicable Ecodesign regulation: (EU) No 2015/1095
 (1) In dB ref=10⁻¹² W. (A) weighting. Declared dual number noise emission values in accordance with ISO 4871 (with an associated uncertainty of +/-3 dB(A)). Measured in accordance with ISO 9614-1 and certified by Eurovent at nominal conditions EN14511 - cooling mode.
 (2) In dB ref 20 μPa. (A) weighting. Declared dual number noise emission values in accordance with ISO 4871 (with an associated uncertainty of +/-3 dB(A)). For information, calculated from the sound power level Lw(A).
 (3) Options: 15 = Low noise level, 116S = High Pressure dual-pump hydraulic module
 (4) Weights are guidelines only. Refer to the unit nameplate



HIGH-TEMPERATURE MONOBLOC AIR-TO-WATER HEAT PUMPS WITH INTEGRATED HYDRAULIC MODULE

61AF 014-019



AQUASNAP
Heating



65 °C



High-temperature heat pump range was designed for commercial applications such as the heating of office, apartments and hotels as well as domestic hot water production in new and refurbished buildings.

FEATURES

- The operating range allows outside temperatures down to -20°C and leaving water temperatures 65°C for ambient temperature up to 40°C for domestic hot water applications
- Incorporates the latest technological features:
 - » scroll compressors with vapour injection
 - » low-noise fans made of a composite material
 - » auto-adaptative microprocessor control
 - » electronic expansion valve
 - » variable speed pump
- Dynamic suction and discharge piping supports, minimising vibration transmission (Carrier patent)



61AF HEATING

		014-7	014-9	019-9		
Full load performances *	HA1	Nominal capacity	kW	13,8	13,4	19,9
	HA2	Nominal capacity	kW	14,0	13,6	19,6
	HA3	Nominal capacity	kW	14,0	13,6	19,5
	HA4	Nominal capacity	kW	13,8	13,5	19,8
Seasonal energy efficiency **	HA1	SCOP _{30/35°C} (avegare zone)	kWh/kWh	3,32	3,52	3,45
		η _s heat _{30/35°C} (avegare zone)	%	130	138	135
		SCOP _{47/55°C} (avegare zone)	kWh/kWh	2,89	3,02	3,05
		η _s heat _{47/55°C} (avegare zone)	%	113	118	119
	HA3	P _{rated}	kW	14,00	13,33	14,12
		Energy labelling		A+	A+	A+
		SCOP _{47/55°C} (warmer zone)	kWh/kWh	3,13	3,28	3,38
	η _s heat _{47/55°C} (warmer zone)	%	122	128	132	
Operating weight(1)						
	Standard unit (without hydraulic kit)	kg	159	159	206	
	Standard unit (plus hydraulic kit option)	kg	169	169	216	
Sound levels						
	Sound power level	dB(A)	71	71	72	
	Sound pressure level at 10 m	dB(A)	40	40	41	
Dimensions						
	Length	mm	1103	1103	1135	
	Depth	mm	333	333	559	
	Height	mm	1278	1278	1579	
	Compressor	One, hermetic scroll, 48.3 r/s, one capacity stage				
	Refrigerant	R-407C				
	Charge	kg	4	4	8	
		teqCO ₂	7,1	7,1	14,2	
	Capacity control	Pro-Dialog+				
	Minimum capacity	%	100	100	100	
	Condenser	Direct-expansion plate heat exchanger				
	Water volume	l	3,7	3,7	3,9	
	Max. water-side operating pressure with and without hydraulic module	kPa	300	300	400	
	Fan	Two, axial twin-speed fans				
	Total air flow (high speed)	l/s	2050	2050	2000	
	Speed	r/s	11,7	11,7	14,5	
	Evaporator	Grooved copper tubes and aluminum fins				
	Pump	Variable speed pump				
	Water connections with/without hydraulic module	Victaulic				
	Connections		1"	1"	1"/1-1/4"	

Notes:
 * In accordance with standard EN14511-3:2013
 ** In accordance with standard EN14825:2013, average climate
 HA1 Heating mode conditions: Water heat exchanger water entering/leaving temperature 30°C/35°C, outside air temperature tdb/twb = 7°C db/6°C wb, evaporator fouling factor 0 m².K/W
 HA2 Heating mode conditions: Water heat exchanger water entering/leaving temperature 40°C/45°C, outside air temperature tdb/ twb= 7°C db/6°C wb, evaporator fouling factor 0 m².K/W
 HA3 Heating mode conditions: Water heat exchanger water entering/leaving temperature 47°C/55°C, outside air temperature tdb/ twb= 7°C db/6°C wb, evaporator fouling factor 0 m².K/W
 HA4 Heating mode conditions: Water heat exchanger water entering/leaving temperature 55°C/65°C, outside air temperature tdb/ twb= 7°C db/6°C wb, evaporator fouling factor 0 m².K/W
 η_s heat 30/35°C & SCOP 30/35°C Applicable Ecodesign regulation: (EU) No 813/2013
 η_s heat 47/55°C & SCOP 47/55°C Applicable Ecodesign regulation: (EU) No 813/2013
 (1) Weight shown is a guideline only. Please refer to the unit nameplate
 (2) In dB ref=10-12 W, (A) weighting. Declared dualnumber noise emission values in accordance with ISO 4871 (with an associated uncertainty of +/-3dB(A)). Measured in accordance with ISO 9614-1 and certified by Eurovent.
 (3) In dB ref 20uPa, (A) weighting. Declared dualnumber noise emission values in accordance with ISO 4871 (with an associated uncertainty of +/-3dB(A)). For information, calculated from the sound power level Lw(A).



HIGH-TEMPERATURE MONOBLOC AIR-TO-WATER HEAT PUMPS WITH INTEGRATED HYDRAULIC MODULE

61AF 022-105



AQUASNAP
Heating



65 °C



FEATURES

- High-temperature heat pump
- The 61AF range is certified to the Eurovent energy efficiency class A
- The high-temperature AquaSnap heat pumps incorporate an optional hydraulic module with a variable speed pump
- The low noise levels of the 61AF heat pump and its very compact chassis reduce the noise disturbance from the unit
- The operating range allows outside temperatures down to -20°C and leaving water temperatures 65°C for ambient temperature up to 40°C for domestic hot water applications
- Intelligent unit control permits unit operation in extreme conditions, minimising unit shut-down times



61AF HEATING

		22	30	35	45	55	75	105		
Full load performances *	HA1	Nominal capacity	kW	20,6	25,9	32,3	43,6	51,6	64,9	102
	HA2	Nominal capacity	kW	20,6	25,5	32,0	43,1	51,8	66,8	102
	HA3	Nominal capacity	kW	20,7	25	31,6	42,8	52,3	68	102
	HA4	Nominal capacity	kW	20,9	24,5	31,3	42,7	53,3	68,1	103,4
Seasonal energy efficiency **		SCOP _{30/35°C} (average zone)	kWh/kWh	3,26	3,23	3,38	3,52	3,60	3,50	3,57
	HA1	η _s heat _{30/35°C} (average zone)	%	127	126	132	138	141	137	140
		P _{rated}	kW	14,79	19,25	32,81	44,73	56,21	65,51	96,25
		SCOP _{47/55°C} (average zone)	kWh/kWh	2,85	2,87	2,91	3,07	3,12	2,96	3,12
	HA3	η _s heat _{47/55°C} (average zone)	%	111	112	113	120	122	115	122
		P _{rated}	kW	14,53	19,42	31,31	43,29	54,55	62,83	94,01
		Energy labelling		A+	A+	A+	A+	A+	A+	NA
		SCOP _{47/55°C} (warmer zone)	kWh/kWh	3,23	3,20	3,23	3,60	3,63	3,43	NA
	η _s heat _{47/55°C} (warmer zone)	%	126	125	126	141	142	134	NA	
Operating weight(1)										
Standard unit (without hydraulic kit)		kg	353	409	426	540	564	904	1024	
Standard unit (plus hydraulic kit option)		kg	362	418	435	555	579	919	1039	
Sound levels										
Sound power level ⁽²⁾		dB(A)	77	78	83	82	84	84	85	
Sound pressure level at 10 m ⁽³⁾		dB(A)	46	46	51	51	53	52	53	
Dimensions										
Length		mm	1110		1114		2273			
Depth		mm	1327		2100		2100			
Height		mm	1330		1330		1330			
Compressor			Hermetic scroll compressors, 48,3 r/s							
Quantity			1	1	1	1	1	2	2	
Number of capacity stages			1	1	1	1	1	2	2	
Refrigerant			R407C							
Charge		kg	8	8,8	9,7	10	13,2	22	26,5	
		teqCO ₂	14,2	15,6	17,2	17,7	23,4	39,0	47,0	
Capacity control			Touch Pilot Junior							
Minimum capacity		%	100	100	100	100	100	50	50	
Condenser			Direct expansion, plate heat exchanger							
Water volume		l	4,9	6,4	8,2	9,6	12,1	16,4	22,7	
Max. water-side operating pressure without hydraulic module		kPa	1000	1000	1000	1000	1000	1000	1000	
Max. water-side operating pressure plus hydraulic module		kPa	400	400	400	400	400	400	400	
Fan			Axial Flying Bird IV with rotating shroud							
Quantity			1	1	1	1	1	2	2	
Total air flow (high speed)		l/s	3770	3748	3736	4035	4036	7479	8072	
Max speed, standard unit		tr/s	12	12	12	12	12	12	12	
Max speed, unit with option 11		tr/s	-	-	16	16	16	16	16	
Evaporator			Grooved copper tubes and aluminium fins							
Hydraulic module (option 116)			Pump, Victaulic screen filler, relief valve, purge valves (water and air), cavitation pressure sensors							
Variable speed pump			Victaulic							
Water connections with/without hydraulic module			1-1"/4"	1-1"/4"	1-1"/2"	1-1"/2"	1-1"/2"	2"	2"	
Connections			42,4	42,4	48,3	48,3	48,3	60,3	60,3	
Outside diameter										

Notes:
 * In accordance with standard EN14511-3:2013
 ** In accordance with standard EN14825:2013, average climate
 HA1 Heating mode conditions: Water heat exchanger water entering/leaving temperature 30°C/35°C, outside air temperature t_{db}/t_{wb} = 7°C db/6°C wb, evaporator fouling factor 0 m².K/W
 HA2 Heating mode conditions: Water heat exchanger water entering/leaving temperature 40°C/45°C, outside air temperature t_{db}/t_{wb} = 7°C db/6°C wb, evaporator fouling factor 0 m².K/W
 HA3 Heating mode conditions: Water heat exchanger water entering/leaving temperature 47°C/55°C, outside air temperature t_{db}/t_{wb} = 7°C db/6°C wb, evaporator fouling factor 0 m².K/W
 HA4 Heating mode conditions: Water heat exchanger water entering/leaving temperature 55°C/65°C, outside air temperature t_{db}/t_{wb} = 7°C db/6°C wb, evaporator fouling factor 0 m².K/W
 η_s heat 30/35°C & SCOP 30/35°C Applicable Ecodesign regulation: (EU) No 813/2013
 η_s heat 47/55°C & SCOP 47/55°C Applicable Ecodesign regulation: (EU) No 813/2013
 (1) Weight shown is a guideline only. Please refer to the unit nameplate.
 (2) In dB ref=10-12 W, (A) weighting. Declared dualnumber noise emission values in accordance with ISO 4871 (with an associated uncertainty of +/-3dB(A)). Measured in accordance with ISO 9614-1 and certified by Eurovent.
 (3) In dB ref 20μPa, (A) weighting. Declared dualnumber noise emission values in accordance with ISO 4871 (with an associated uncertainty of +/-3dB(A)). For information, calculated from the sound power level L_w(A).



WATER SOURCE HEAT PUMPS

61WG



AQUASNAP
Heating



65 °C



FEATURES

- The 61WG units are the new Carrier heat pumps designed for commercial (offices, small hotels, leisure facilities), residential and industrial applications. All units offer a unique combination of high performance and functionality in an exceptionally compact chassis
- 61WG units are designed for high-temperature heating applications with hot water production possible up to 65°C
- Hydraulic modules with or without variable water flow rate
- Reinforced sound insulation
- Stacking and connection of two units



61WG HEATING

020	025	030	035	040	045	050	060	070	080	090
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----

Full load performances*	HW1	Nominal capacity	kW	29	34	38	44	50	57	69	78	88	100	117
	HW2	Nominal capacity	kW	28	33	37	43	49	55	66	76	84	95	109
	HW3	Nominal capacity	kW	27	32	35	41	47	52	64	74	80	90	103
	HW4	Nominal capacity	kW	26	31	34	40	43	49	61	71	76	85	97
Seasonal efficiency**	HB1	Nominal capacity	kW	22	26	29	34	38	42	50	57	67	75	87
	HW1	SCOP _{30/35°C}	kW/kW	5,36	5,20	5,11	5,19	5,23	5,19	5,84	5,93	5,93	5,83	5,82
		η _{s heat} _{30/35°C}	%	206	200	197	200	201	200	226	229	229	225	225
	HW3	SCOP _{47/55°C}	kW/kW	4,37	4,32	4,20	4,28	4,32	4,35	4,86	4,88	4,80	4,89	4,80
		η _{s heat} _{47/55°C}	%	167	165	160	163	165	166	186	187	184	188	184
			P _{rated}	kW	32	38	42	49	56	63	76	88	97	109
		Energy labelling		A++	A++	A++	A++	A++	A++	-	-	-	-	-
Operating weight ⁽¹⁾			kg	191	200	200	207	212	220	386	392	403	413	441
Operating weight with option 258 ⁽¹⁾			kg	198	207	207	214	219	227	399	405	416	426	454

Sound levels⁽²⁾

Sound power level, standard unit	dB(A)	67	68	69	69	70	70	72	72	72	73	73
Sound power level, option 257	dB(A)	65	66	66	67	68	68	68	69	69	69	70
Sound power level, option 258	dB(A)	61	62	63	63	64	64	66	66	66	67	67
Sound power level, option 257+258	dB(A)	60	62	62	62	64	63	65	65	65	66	66

Dimensions, standard unit⁽³⁾

Width	mm	600	600	600	600	600	600	880	880	880	880	880
Length	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

Compressors

	Hermetic scroll 48.3 r/s											
Quantity	1	1	1	1	1	1	1	2	2	2	2	2
Number of capacity stages	1	1	1	1	1	1	1	2	2	2	2	2
Minimum capacity	%	100	100	100	100	100	100	50	50	50	50	50

Notes:
 * In accordance with standard EN14511-3z2013
 ** In accordance with standard EN14825:2013, average climate
 HW1 Heating mode conditions: Evaporator entering/leaving water temperature 10°C/7°C, condenser entering/leaving water temperature 30°C/35°C, evaporator and condenser fouling factor 0 m².k/W
 HW2 Heating mode conditions: Evaporator entering/leaving water temperature 10°C/7°C, condenser entering/leaving water temperature 40°C/45°C, evaporator and condenser fouling factor 0 m².k/W
 HW3 Heating mode conditions: Evaporator entering/leaving water temperature 10°C/7°C, condenser entering/leaving water temperature 47°C/55°C, evaporator and condenser fouling factor 0 m².k/W
 HW4 Heating mode conditions: Evaporator entering/leaving water temperature 10°C/7°C, condenser entering/leaving water temperature 55°C/65°C, evaporator and condenser fouling factor 0 m².k/W
 HB1 Heating mode conditions: Evaporator entering/leaving water temperature 0°C/-3°C, condenser entering/leaving water temperature 30°C/35°C, evaporator and condenser fouling factor 0 m².k/W, evaporator fluid: 30% ethylene glycol.
 CW1 Cooling mode conditions: Evaporator water entering/leaving temperature 12°C/7°C, condenser entering/leaving water temperature 30°C/35°C, evaporator and condenser fouling factor 0 m².K/W
 CW2 Cooling mode conditions: Evaporator water entering/leaving temperature 23°C/18°C, condenser entering/leaving water temperature 30°C/35°C, evaporator and condenser fouling factor 0 m².K/W
 ns heat 30/35°C & SCOP 30/35°C Applicable Ecodesign regulation: (EU) No 813/2013
 ns heat 47/55°C & SCOP 47/55°C Applicable Ecodesign regulation: (EU) No 813/2013
 (1) Weight shown is a guideline only. Please refer to the unit nameplate
 (2) In dB ref=1012 W, (A) weighting. Declared dual number noise emission values in accordance with ISO 4871 (with an associated uncertainty of +/-3dB(A)).
 Measured in accordance with ISO 9614-1.
 (3) The dimensions shown are for the standard unit. For other unit types please refer to the dimensional drawings



HIGH TEMPERATURE WATER-SOURCE HEAT PUMP

61XWHLZE, 61XWH-ZE, 61XWHHZE



AQUAFORCE
PUREtec



85 °C



The AQUAFORCE PUREtec 61XWHZE water-source heat pumps are the premium solution for industrial and commercial heating applications where end users, consultants and building owners require optimal performances, very hot water temperature, environmental solution and maximum reliability.

FEATURES

- Twin-rotor screw compressors with a variable capacity valve
- R-1234ze refrigerant
- Touch Pilot control system
- Flooded heat exchangers that are mechanically cleanable
- 61XWHLZE for low heat source temperatures
- 61XWH-ZE for medium heat sour temperatures
- 61XWHHZE for high heat source temperatures



61XWHLZE/61XWH-ZE/61XWHHZE

	3	5	7	10	14	15	17
--	---	---	---	----	----	----	----

Sound levels - standard unit

Sound power level ⁽¹⁾	dB(A)	98	102	102	105	105	105	105
Sound pressure level at 1 m ⁽²⁾	dB(A)	81	85	84	86	86	86	86

Sound levels - option 257 ⁽³⁾

Sound power level ⁽¹⁾	dB(A)	-	99	99	102	102	102	102
Sound pressure level at 1 m ⁽²⁾	dB(A)	-	82	81	83	83	83	83

Dimensions - 61XWHLZE/61XWH-ZE

/HQJWK	mm	2724	3059	3290	4730	4730	4790	4790
Width	mm	981	1041	1079	1125	1148	1399	1399
Height	mm	1594	1745	1968	2002	2070	2305	2305

Dimensions - 61XWHHZE

/HQJWK	mm	2724	3059	3290	4730	-	4790	-
Width	mm	981	1041	1079	1125	-	1417	-
Height	mm	1594	1745	1968	2002	-	2305	-
Operating weight ⁽⁴⁾	kg	2054	2942	4147	7265	8031	9519	9519

Operating weight ⁽⁴⁾

Semi-hermetic 06T screw compressors, 50 r/s								
Circuit A	-	1	1	1	1	1	1	1
Circuit B	-	-	-	-	1	1	1	1

Refrigerant - 61XWHLZE ⁽⁵⁾

R1234ze								
Circuit A	kg	107	168	237	154	176	215	215
	teq CO ₂	0,7	1,2	1,7	1,1	1,2	1,5	1,5
Circuit B	kg	-	-	-	154	187	215	215
	teq CO ₂	-	-	-	1,1	1,3	1,5	1,5

Refrigerant - 61XWH-ZE ⁽⁵⁾

Circuit A	kg	97	153	215	140	160	195	195
	teq CO ₂	0,7	1,1	1,5	1	1,1	1,4	1,4
Circuit B	kg	-	-	-	140	170	195	195
	teq CO ₂	-	-	-	1	1,2	1,4	1,4

Refrigerant - 61XWHHZE ⁽⁵⁾

R1234ze								
Circuit A	kg	88	138	194	126	-	195	-
	teq CO ₂	0,6	1	1,4	0,9	-	1,4	-
Circuit B	kg	-	-	-	126	-	195	-
	teq CO ₂	-	-	-	0,9	-	1,4	-

Oil - standard unit

HATCOL4496								
Circuit A	l	20	20	25	20	25	25	25
Circuit B	l	-	-	-	20	25	25	25

Capacity control

Touch Pilot, electronic expansion valves (EXV)								
Unit minimum stage	%	50	50	50	25	25	25	25

Evaporator

Multi-pipe flooded type								
Water volume	l	61	101	154	293	321	354	354
Water connections (Victaulic)	in	5	6	8	8	8	8	8
Drain and vent connections (NPT)	in	3/8	3/8	3/8	3/8	3/8	3/8	3/8
Max. water-side operating pressure	kPa	1000	1000	1000	1000	1000	1000	1000

Condenser

Multi-pipe flooded type								
Water volume	l	55	103	148	316	340	426	426
Water connections (Victaulic)	in	5	6	8	8	8	8	8
Drain and vent connections (NPT)	in	3/8	3/8	3/8	3/8	3/8	3/8	3/8
Max. water-side operating pressure	kPa	1000	1000	1000	1000	1000	1000	1000

Notes:
 (1) In dB ref=10-12 W, (A) weighting. Dual number noise emission values in accordance with ISO 4871 (with an associated uncertainty of +/-3dB(A)). Measured in accordance with ISO 9614-1.
 (2) In dB ref ZQuPa, (A) weighting. Dual number noise emission values in accordance with ISO 4871 (with an associated uncertainty of +/-3dB(A)). For information, calculated from the sound power level Lw(A).
 (3) Option 257 = Low noise level
 (4) Weight shown is guideline only. Please refer to the unit name plate
 (5) Refrigerant charge shown is guideline only. Charge may differ according to options. Please refer to the unit name plate

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/m³ 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/m³ 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 resistance for back up of heating during low winter temperatures.
- Eco friendly polyurethane foam of 50kg/m³ density and external cover of Prepainted Steel ST37-2, 0.50mm thickness for indoor storage



PHYSICAL DATA



HPC

	HPC - 1 & 2 (Enameled for DHW)			HPCmax & solmax (AISI 316L for DHW)			HPCmini (small buffer tank)	
	DHM	DHM	DHM	DHM	DHM	DHM	BUFFER	BUFFER
Usage								
Tank Capacity	lt	200	300	500	200	300	500	60 80
Total Height	mm	1400	1650	1850	1310	1800	1800	840 1050
Tank Diameter with ins.	mm	600	630	750	585	600	800	400 400
Max. Working Pressure	bar	10	10	10	8	8	8	6 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")	- -
Resistance		YES (OPT.)	YES (OPT.)	YES (OPT.)	YES (OPT.)	YES (OPT.)	YES (OPT.)	YES (OPT.) YES (OPT.)
Length of Resistance	mm	1160	1160	1160	430	430	430	430 430
Installation of Resistance		ON TOP	ON TOP	ON TOP	SIDE	SIDE	SIDE	BOTTOM 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 ²	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 ²	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 POL. FOAM
Insulation Density	kg/m ³	52	52	52	17.3	17.3	17.3	40 40
Insulation Thickness	mm	55	55	55	100	100	100	30 30

Notes:
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.



DOMESTIC HOT WATER PRODUCTION TANK

30CWH200/300



HYDRIA



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 (30CWH200)
- 25 Pa external static pressure enables air duct up to 10 meters (30CWH300)
- Automatic defrosting
- Automatic weekly disinfect function
- Auto mode selection & Vacation mode
- R134A gas, environmentally friendly
- Close refrigerant circuit, easy for plumber installation

PHYSICAL DATA 30CWH200/300 Units



30CWH200/300

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



BECAUSE WE HAVE LISTENED TO YOUR SUGGESTIONS..



HYDRONICS – A NATURAL CONCEPT!

Water has many intrinsic characteristics – it is tranquil, clear, with a calming movement. Silence and discretion can enhance comfort.

Carrier hydronic solutions uses water and all its benefits to provide an economic and ecological solution. Discreet and easy start up, non-polluting, optimized operating simplicity, guaranteed aesthetic appearance, simplified installation. Operation with ecological refrigerants reflects our utmost concern for the environment.

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 customized air handling solutions to ensure the best match to the requirements.

Carrier also proposes a range of hybrid terminal cassette, cabins, 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, utilizing 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 favorable 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 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 m³/h)
- The Idrofan offers an ultra-lownoise 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 & ELECTRICAL DATA



42N_ with AC motors

	S15					S20					S26				S30					S42			S45				
Fan speed	R1	R2	R3	R4	R5	R1	R2	R3	R4	R5	R1	R2	R3	R1	R2	R3	R4	R5	R1	R2	R3	R1	R2	R3	R4	R5	
Fan type	One, tangential					One, centrifugal					One, centrifugal				Two, centrifugal					Two, centrifugal			Two, centrifugal				
Air Flow	l/s	96	82	69	55	34	126	106	91	79	59	189	148	93	205	181	152	126	97	267	221	147	332	275	224	184	146
	m³/h	345	296	247	198	123	453	382	327	283	214	681	534	334	739	651	547	454	349	960	795	530	1195	991	805	663	524

COOLING MODE*

Total cooling capacity	kW	1,20	1,09	0,97	0,83	0,58	2,13	2,01	1,78	1,54	1,15	3,52	2,98	2,09	3,68	3,34	2,91	2,45	1,92	4,44	3,93	3,00	5,32	4,76	3,94	3,25	2,58
Sensible cooling capacity	kW	1,10	1,01	0,89	0,74	0,50	1,77	1,62	1,42	1,23	0,93	2,84	2,35	1,60	3,04	2,73	2,35	1,97	1,40	3,64	3,17	2,33	4,58	4,00	3,30	2,73	2,10

HEATING MODE**

Heating capacity	kW	1,87	1,74	1,48	1,29	0,88	3,01	2,72	2,36	2,05	1,59	4,28	3,68	2,56	4,77	4,33	3,78	3,25	2,62	6,40	5,57	4,07	8,04	7,00	5,84	4,90	3,96
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Sound levels

Sound power level	dB(A)	52	47	43	37	29	52	46	43	37	32	61	54	44	56	51	47	42	36	62	57	47	62	57	55	47	41
Sound pressure level***	dB(A)	43	38	34	28	20	43	37	34	28	23	52	45	35	47	42	38	33	27	53	48	38	53	48	46	38	32
NR Value		39	34	29	23	16	36	32	29	22	15	47	40	31	41	37	33	28	22	48	43	34	48	43	41	34	28

Notes:

- * Eurovent conditions: Entering air temperature = 27°C db/19°C wb - entering/leaving water temperature = 7°C/12°C, high fan speed.
- ** Eurovent conditions: Entering air temperature = 20°C, entering water temperature = 50°C, same water flow rate as in cooling mode.
- *** Based on a hypothetical acoustic attenuation for the room and the air distribution system of -9 dB(A).
- † This unit complies with all applicable standards for EC marking (for further details see Declaration of Conformity). Except the unit size 42N_S65 which is not CE labeled due to fan efficiency regulation 327/2011 but is fully compliant with Machinery (2006/42/EC) and Electromagnetic Compatibility (2004/108/EC) directives.

42N_ with LEC motors

	E19					E29					E39					E49					E69					
Fan speed	100	80	60	40	20	100	80	60	40	20	100	80	60	40	20	100	80	60	40	20	100	80	60	40	20	
Fan type	One, tangential					One, centrifugal					Two, centrifugal					Two, centrifugal					Two, centrifugal					
Air Flow	l/s	96	82	69	55	34	126	106	91	79	59	205	181	152	126	97	332	323	314	306	385	410	399	388	378	476
	m³/h	345	296	247	198	123	453	382	327	283	214	739	651	547	454	349	1195	991	805	663	524	1476	1314	1134	954	792

COOLING MODE*

Total cooling capacity	kW	1,20	1,09	0,97	0,83	0,58	2,13	2,01	1,78	1,54	1,15	3,68	3,34	2,91	2,45	1,92	5,32	4,76	3,94	3,25	2,58	6,00	5,52	4,85	4,26	3,57
Sensible cooling capacity	kW	1,10	1,01	0,89	0,74	0,50	1,77	1,62	1,42	1,23	0,93	3,04	2,73	2,35	1,97	1,40	4,58	4,00	3,30	2,73	2,10	5,10	4,70	4,10	3,57	2,97

HEATING MODE**

Heating capacity	kW	1,87	1,74	1,48	1,29	0,88	3,01	2,72	2,36	2,05	1,59	4,77	4,33	3,78	3,25	2,62	8,04	7,00	5,84	4,90	3,96	9,30	8,56	7,65	6,67	5,65
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Sound levels

Sound power level	dB(A)	52	47	43	37	29	52	46	43	37	32	56	51	47	42	36	62	57	55	47	41	68	65	62	57	53
Sound pressure level***	dB(A)	43	38	34	28	20	43	37	34	28	23	47	42	38	33	27	53	48	46	38	32	59	56	53	48	44
NR Value		39	34	29	23	16	36	32	29	22	15	41	37	33	28	22	48	43	41	34	28	54	51	48	43	40

Notes:

- Based on Eurovent conditions:
- * Cooling mode (2-pipe and 4-pipe coil): entering air temperature 27°C db/19°C wb, entering/leaving water temperature 7°C/12°C, high fan speed.
- ** Heating mode (2-pipe coil): entering air temperature 20°C, entering water temperature 50°C, high fan speed, same water flow rate as in cooling mode.
- Heating mode (4-pipe coil): entering air temperature 20°C, entering water temperature 70°C, high fan speed, water temperature difference = 10 K.
- *** Based on a hypothetical acoustic attenuation for the room and the air distribution system of -9 dB(A).

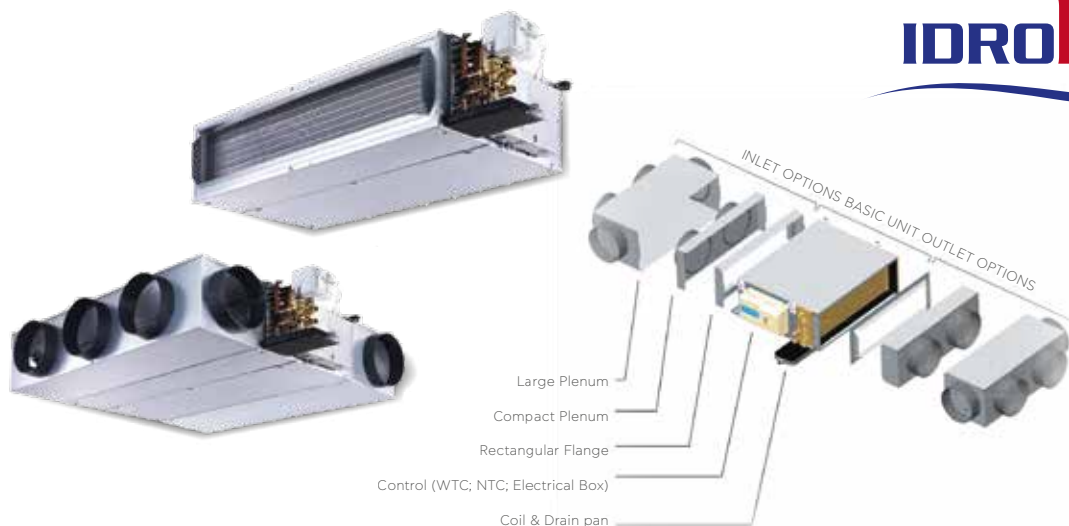
DIMENSIONS & WEIGHT



	Vertical units with cabinet				Horizontal units with cabinet				Horizontal units without cabinet				
Fan type	S15	S20-26	S30-42	S45-65	S15	S20-26	S30-42	S45-65	S15	S20-26	S30-42	S45-65	
	E19	E29	E39	E49-69	E19	E29	E39	E49-69	E19	E29	E39	E49-69	
Length	mm	830	1030	1230	1430	830	1030	1230	1430	606	806	1006	1206
Width	mm	220	220	220	220	557	557	557	557	220	220	220	220
Height	mm	657	657	657	657	220	220	220	220	640	640	640	640
Weight	kg	17	19	22	35	17	19	22	35	13	15	16	28

TERMINAL UNITS

42NL/NH



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 m³/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



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	
Motor	AC						AC						LEC				LEC				
(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

COOLING MODE, TWO PIPES*

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

HEATING MODE, TWO PIPES**

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
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Sound levels

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
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Electrical data, motor

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	
Motor	AC						AC						LEC				LEC				
(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

COOLING MODE, TWO PIPES*

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

HEATING MODE, TWO PIPES**

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
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Sound levels

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
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Electrical data, motor

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	
Motor	AC						AC						LEC						LEC						
(Eurovent certification speeds)	(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

COOLING MODE, TWO PIPES*

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

HEATING MODE, TWO PIPES**

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
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Sound levels

Sound power level (global)	dB(A)	45	48	55	58	60	63	45	48	55	58	60	63	38	49	52	60	65	67	38	49	52	60	65	67
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Electrical data, motor

Power input	W	57	69	98	113	129	157	57	69	98	113	129	157	6	15	18	42	78	99	6	15	18	42	78	99
Current drawn	A	0.25	0.30	0.43	0.49	0.57	0.69	0.25	0.30	0.43	0.49	0.57	0.69	0.07	0.15	0.18	0.38	0.65	0.80	0.07	0.15	0.18	0.38	0.65	0.80

Notes:

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



42NL

	525						535						
Fan speed	R6	R5	R4	R3	R2	R1	R6	R5	R4	R3	R2	R1	
Motor	AC						AC						
(Eurovent certification speeds)	(L)	(M)	(H)			(Max)	(L)		(M)	(H)		(Max)	
Air flow	l/s	150	170	233	275	313	359	150	170	233	275	313	359
	m ³ /h	540	612	840	991	1127	1291	540	612	840	991	1127	1291

COOLING MODE, TWO PIPES*

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
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

HEATING MODE, TWO PIPES**

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
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Sound levels

Sound power level (global)	dB(A)	42	46	53	57	59	62	42	46	53	57	59	62
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Electrical data, motor

Power input	W	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

42NL

	529						539						
Fan speed	2V	4V	5V	6V	8V	10V	2V	4V	5.5V	6V	8V	10V	
Motor	LEC						LEC						
(Eurovent certification speeds)	(L)		(M)	(H)		(Max)	(L)		(M)	(H)		(Max)	
Air flow	l/s	82	141	172	188	231	255	82	141	180	188	231	255
	m ³ /h	295	508	618	675	831	918	295	508	646.5	675	831	918

COOLING MODE, TWO PIPES*

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
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

HEATING MODE, TWO PIPES**

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
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Sound levels

Sound power level (global)	dB(A)	32	43	47	51	55	58	32	43	49	51	55	58
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Electrical data, motor

Power input	W	4	11	18	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

Notes:

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



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	
Motor	AC			AC			LEC				LEC				LEC				
(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

COOLING MODE, TWO PIPES*

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

HEATING MODE, TWO PIPES**

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
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Sound levels

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

Electrical data, motor

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		
Motor	AC					AC					LEC				LEC					
(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	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	

COOLING MODE, TWO PIPES*

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

HEATING MODE, TWO PIPES**

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
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Sound levels

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

Electrical data, motor

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	
Motor	AC					AC					LEC					LEC					
(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	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

COOLING MODE, TWO PIPES*

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

HEATING MODE, TWO PIPES**

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
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Sound levels

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

Electrical data, motor

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

Notes:

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



42NH

	525					535					
Fan speed	R5	R4	R3	R2	R1	R5	R4	R3	R2	R1	
Motor	AC					AC					
(Eurovent certification speeds)	(L)	(M)	(H)		(Max)	(L)	(M)	(H)		(Max)	
Air flow	l/s	213	240	257	268	279	213	240	257	268	279
	m ³ /h	767	863	924	964	1004	767	863	924	964	1004

COOLING MODE, TWO PIPES*

Total cooling capacity	kW	3.63	3.96	4.16	4.28	4.40	4.44	4.90	5.17	5.34	5.50
Sensible cooling capacity	kW	3.05	3.35	3.53	3.64	3.76	3.52	3.91	4.15	4.29	4.44

HEATING MODE, TWO PIPES**

Heating capacity	kW	5.43	5.96	6.28	6.47	6.66	6.46	7.17	7.60	7.86	8.11
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Sound levels

Sound power level (return and radiated)	dB(A)	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

Electrical data, motor

Power input	W	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

42NH

	529					539					
Fan speed	2V	5V	6V	8V	10V	2V	5V	6V	8V	10V	
Motor	LEC					LEC					
(Eurovent certification speeds)	(L)	(M)	(H)		(Max)	(L)	(M)	(H)		(Max)	
Air flow	l/s	96	213	244	307	347	96	213	244	307	347
	m ³ /h	346	765	878	1105	1249	346	765	878	1105	1249

COOLING MODE, TWO PIPES*

Total cooling capacity	kW	1.90	3.63	4.01	4.69	5.08	2.03	4.43	4.97	5.88	6.35
Sensible cooling capacity	kW	1.55	3.04	3.39	4.04	4.42	1.62	3.52	3.97	4.79	5.24

HEATING MODE, TWO PIPES**

Heating capacity	kW	2.62	5.42	6.05	7.10	7.65	2.81	6.45	7.28	8.70	9.42
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Sound levels

Sound power level (return and radiated)	dB(A)	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

Electrical data, motor

Power input	W	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

Notes:

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



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	
Motor	AC					AC					LEC				LEC				
(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
	m ³ /h	720	1072	1428	1657	1796	720	1072	1428	1657	1796	368	967	1089	1400	399	1176	1310	1531

COOLING MODE, TWO PIPES*

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

HEATING MODE, TWO PIPES**

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
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Sound levels

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

Electrical data, motor

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	
Motor	AC					AC					LEC				LEC				
(Eurovent certification speeds)			(L)	(M)	(H)			(L)	(M)	(H)	(L)	(M)	(H)	(Max)	(L)	(M)	(H)	(Max)	
Air flow	l/s	148	218	374	533	600	148	218	374	533	600	147	441	477	529	147	441	477	529
	m ³ /h	534	785	1246	1918	2161	534	785	1346	1918	2161	530	1586	1717	1906	530	1586	1717	1906

COOLING MODE, TWO PIPES*

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

HEATING MODE, TWO PIPES**

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
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Sound levels

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

Electrical data, motor

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

Notes:

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



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 variable-speed Low Energy Consumption EC motor

PHYSICAL & ELECTRICAL DATA AC motor units



42GW

	200			300			400			500			600			701			
Coil type	2 pipes			2 pipes			2 pipes			2 pipes			2 pipes			2 pipes			
Fan speed	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	272	199	147	321	229	139	402	299	166

COOLING MODE*

Total cooling capacity	kW	2,39	1,78	1,55	4,02	2,89	1,88	4,74	3,52	2,80	6,10	4,45	3,36	7,22	5,49	3,71	8,67	6,53	4,06
Sensible cooling capacity	kW	2,01	1,50	1,30	3,07	2,19	1,42	3,67	2,70	2,10	4,50	3,37	2,53	5,46	4,09	2,69	6,40	4,90	2,99

HEATING MODE**

Heating capacity	kW	3,20	2,50	2,20	4,53	3,72	2,32	6,20	4,61	3,70	8,07	5,97	4,48	9,99	7,40	4,61	11,70	9,30	5,21
Sound power level	dB(A)	49	40	36	53	44	35	57	48	42	49	40	35	54	46	38	59	52	40
Sound pressure level***	dB(A)	40	31	27	44	35	26	48	39	33	40	31	26	45	37	29	50	43	31
NR level**		35	27	23	39	30	20	43	34	28	35	26	21	40	32	22	45	38	25
Power Input	W	58	35	25	58	34	17	99	58	38	66	41	28	88	61	34	125	92	44
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

Notes:

Based on Eurovent conditions:

Cooling mode (2 and 4-pipe coil): entering air temperature 27°C db/1 9°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.

* Fan speeds: 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).

PHYSICAL & ELECTRICAL DATA LEC motor units



42GW

	209			309			409			509			609			709			
Coil type	2 pipes			2 pipes			2 pipes			2 pipes			2 pipes			2 pipes			
Fan speed	10	6	2	10	6	2	10	6	2	10	6	2	10	6	2	10	6	2	
Air Flow	l/s	183	125	100	204	140	89	249	173	134	272	199	147	321	229	139	443	299	166

COOLING MODE*

Total cooling capacity	kW	2,39	1,78	1,55	4,02	2,89	1,88	4,74	3,52	2,80	6,10	4,45	3,36	7,22	5,49	3,71	9,67	6,53	4,06
Sensible cooling capacity	kW	2,01	1,50	1,30	3,07	2,19	1,42	3,67	2,70	2,10	4,50	3,37	2,53	5,46	4,09	2,69	7,27	4,90	2,99

HEATING MODE**

Heating capacity	kW	3,20	2,50	2,20	4,53	3,72	2,32	6,20	4,61	3,70	8,07	5,97	4,48	9,99	7,40	4,61	12,99	9,30	5,21
Sound power level	dB(A)	49	40	36	53	44	35	57	48	42	49	40	35	54	46	38	61	52	40
Sound pressure level***	dB(A)	40	31	27	44	35	26	48	39	33	40	31	26	45	37	29	52	43	31
NR level**		35	27	23	39	30	20	43	34	28	35	26	21	40	32	22	47	38	25
Power Input	W	29	13	9	33	14	7	57	23	13	25	12	7	45	23	9	115	40	11
Current Input	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

Notes:

Based on Eurovent conditions:

Cooling mode (2 and 4-pipe coil): entering air temperature 27°C db/1 9°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.

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

DIMENSIONS & WEIGHT



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	298 x 569/627 x 569	298 x 569/627 x 569	302 x 822/879 x 822	302 x 822/879 x 822
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
Weight unit/weight grille	kg	14.8/3	16.5/3	16.5/3	37/5	39.6/5



ONE-WAY COANDA EFFECT CASSETTE

42KY



AIR TREATMENT SOLUTION

Energy performance, comfort and indoor air quality: Carrier's new 42KY cassette is the all-in-one solution to meet heating and cooling requirements for commercial buildings and provide optimum comfort for users.

The 42KY one-way cassette range includes 3 models that cover a flow rate of 250 to 770 m³/h which meet the most stringent of noise level requirements.

The 42KY is available as:

- » 2 tube system, hot or cold operation.
- » 2 tube + 2 wire system, cold + hot / cold + electrical operation. 4 tube system, cold and hot operation.

FEATURES

- Low energy consumption
- Acoustic comfort
- Responsiveness of the system and individual adjustment
- Ease of maintenance

PHYSICAL DATA 42KY Unit performance / 2Tubes



42KY

Speed
Motor
Voltage
Input Power
Air Flow Rate

	10C			19C			20C		
	HS	MS	LS	HS	MS	LS	HS	MS	LS
		AC			LEC			LEC	
V	-	-	-	4.9	3.9	2.5	-	-	-
W	45	41	34	17	8	5	45	41	34
m ³ /h	440	375	230	440	305	230	420	355	215

HEATING CAPACITY

Pressure drop

W	2410	2180	1640	2420	1930	1650	3270	2860	1930
kPa	9	8	5	9	6	5	16	13	7

COOLING CAPACITY

Total
Sensible
Pressure drop
Lw
LP
NR

W	1740	1570	1220	1720	1380	1190	2640	2320	1610
W	1590	1430	1060	1570	1230	1040	2070	1790	1180
kPa	11	9	6	11	7	5	19	15	8
dB(A)	49	46	37	49	42	37	51	47	35
dB(A)	37	34	25	37	30	25	39	35	23
	32	29	19	32	25	19	34	30	18

42KY

Speed
Motor
Voltage
Input Power
Air Flow Rate

	29C			30C			39C		
	HS	MS	LS	HS	MS	LS	HS	MS	LS
		LEC			AC			LEC	
V	4.9	4.2	2.5	-	-	-	6.7	5.3	3
W	17	12	5	77	56	40	38	21	6
m ³ /h	420	355	215	655	520	405	655	520	290

HEATING CAPACITY

Pressure drop

W	3290	2880	1960	5070	4090	3240	5100	4120	2500
kPa	16	13	6	25	17	12	25	17	7

COOLING CAPACITY

Total
Sensible
Pressure drop
Lw
LP
NR

W	2610	2290	1580	4420	3600	2880	4390	3560	2220
W	2040	1770	1150	3340	2680	2110	3310	2650	1580
kPa	18	15	7	30	20	13	29	20	9
dB(A)	51	47	35	58	51	45	58	51	40
dB(A)	39	35	23	46	39	33	46	39	28
	34	30	18	40	34	27	40	34	21

Notes:

EUROVENT conditions

Cooling mode: (2 tubes): Air inlet temperature: 27°C/19°C_{BH}, Water inlet/outlet temperature: 7°C/12°C

Heating mode: (2 tubes): Air inlet Temperature: 20°C, water inlet temperature: 50°C, water flow rate identical to cold mode
The sound pressure levels and NR levels are based on hypothetical attenuation of the room of -12dB(A).

PHYSICAL DATA 42KY Unit performance / 4Tubes



42KY

Speed
Motor
Voltage
Input Power
Air Flow Rate

	20D			29D			30D			39D		
	HS	MS	LS	HS	MS	LS	HS	MS	LS	HS	MS	LS
		AC			LEC			AC			LEC	
V	-	-	-	4.9	4.2	2.5	-	-	-	5.3	4.6	3
W	45	41	34	17	12	5	77	56	40	21	15	6
m ³ /h	420	355	215	420	355	215	655	520	405	520	455	290

HEATING CAPACITY

Pressure drop

W	2820	2580	2020	2830	2600	2040	3460	3000	2600	2820	2610	2110
kPa	21	18	12	21	18	12	28	22	17	25	22	15

COOLING CAPACITY

Total
Sensible
Pressure drop
Lw
LP
NR

W	2090	1910	1450	2060	1880	1420	3790	3140	2570	2910	2620	1920
W	1840	1620	1120	1810	1600	1090	3040	2470	1980	2280	2020	1410
kPa	10	8	5	10	8	5	19	13	9	13	11	6
dB(A)	51	47	35	51	47	35	58	51	45	51	48	40
dB(A)	39	35	23	39	35	23	46	39	33	39	36	28
	34	30	18	34	30	18	40	34	27	34	30	21

Electrical heater specifications - Input voltage 230V - 1 ph - 50Hz

42KY CASSETTE

Electrical power
Input amps

	10/10	20/29	30/39
W	-	900	1200
A	-	3.6	4.8



COMPACT AIR HANDLING UNIT

39CQ



AIR TREATMENT SOLUTION

The 39CQ air handling unit (AHU) is a modular ventilation unit, which can be configured to meet all your requirements whilst complying with current standards.

It is available in several versions: single-flow, aligned dual-flow, adjacent dual-flow.

There are three different installations in the range, so it can be adapted to meet your needs:

- horizontal ceiling-mounted version, accessed from underneath,
- horizontal floor-mounted version, accessed from the top,
- vertical wall-mounted version, accessed via the front.

It is available in three sizes to meet all your needs, able to handle air flows from 1000 to 6000 m³/h.

At 400 mm thick, it is ultra compact and can be fitted into the tightest of spaces.

This range is particularly well-suited to tertiary buildings:

- administration, offices,
- education facilities, libraries, community centres,
- cafés, hotels, restaurants,
- shopping centres, nursing homes, healthcare facilities,
- collective housing.

39CQ

Assembly

Width/Height

Nominal air flow (m³/h) (Speed: 3.1 m/s across finned layer)

"Asynchronous motor NPL technology"

"EC motor EBM technology"

Pleated filters

Opacimetric filters (Short flexible pockets)

Opacimetric filters (Rigid pockets)

Hydraulic heating coil

Hydraulic cooling coil

Direct expansion cooling oil

Electric heating coil

Adjacent plate heat exchanger

	025	040		060
	Ceiling-mounted (C), Floor-mounted (F), Vertical (V)			
	750*400	1310*400		1880*400
	2000	4000		6000
Plug fan	1	1	2	2
Electric motor	1	1	2	2
Available power	0.55 kW - 4-pole/1.1 kW - 2-pole/1.4 kW - 2 pole			
Number of inverters	1	1	1	1
Plug fan	1	1	2	2
Electric motor	1	1	2	2
Available power	1 kW			
Pleated filters	G4 / M5 / F7 HEE / F9 HEE			
Opacimetric filters (Short flexible pockets)	M6 / F7			
Opacimetric filters (Rigid pockets)	M6 / F7 / F8 / F9			
Hydraulic heating coil	1/2/3 rows	1/2/4 rows		1/2/4 rows
Hydraulic cooling coil	3/4/6 rows			
Direct expansion cooling oil	3/6 rows			
Electric heating coil	15 kW	24 kW		39 kW
Adjacent plate heat exchanger	Yes	Yes		No

Notes:
610 mm module
830 mm module
1100 mm module
1400 mm module

1 x 540 mm door
1 x 595 mm door
1 x 595 mm door + 1 x 435 mm door
1 x 595 mm door + 1 x 735 mm door

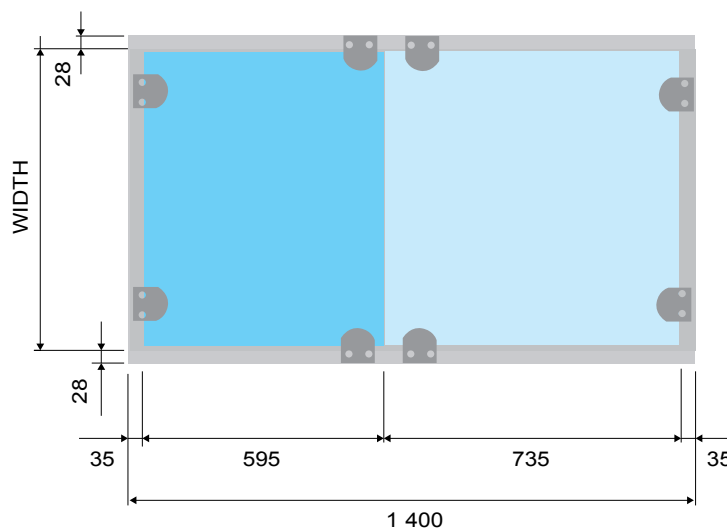
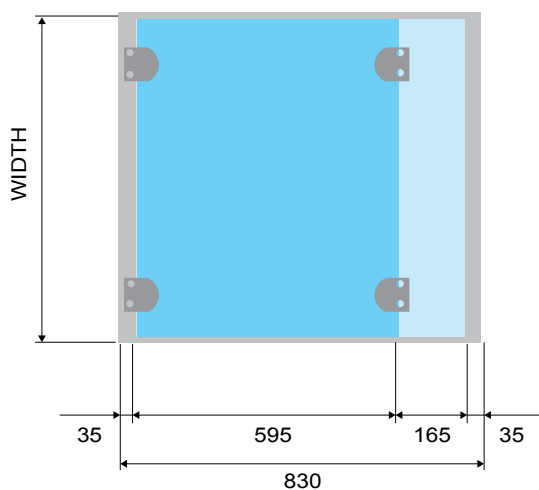
SPACE REQUIREMENTS AND DIMENSIONS

AHU size

External dimensions (in mm)

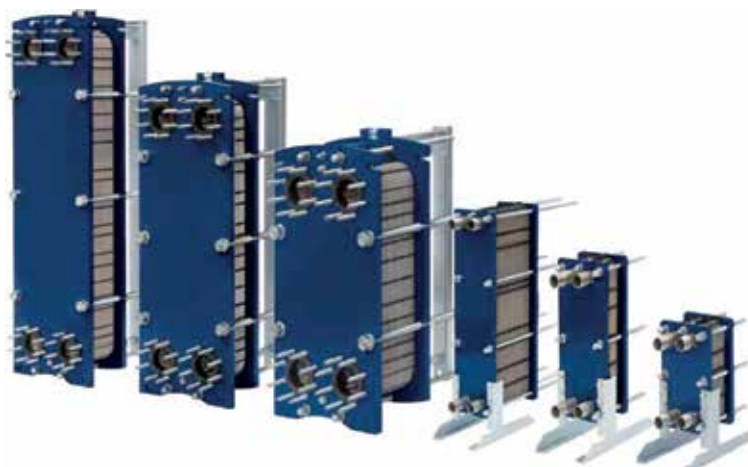
Casing length (in mm)

	25	40	60
External dimensions (in mm)	750 * 400	1310 * 400	1880 * 400
Casing length (in mm)	610 - 830 - 1100 - 1400: Four standardised lengths of casing, automatically adapted to the components and options selected		



GASKETED PLATE HEAT EXCHANGERS

10TE



AIR TREATMENT SOLUTION

10TE gasketed plate heat exchangers are particularly well-suited to exchanges between two fluids, and therefore to a wide range of applications:

- Heating sub-stations
- Heating of domestic water
- Swimming pool heating
- Buffer on heat pump
- Recovery on corrosive waste
- Geothermal energy
- Oil refrigeration
- Industrial processes

10TE

		10TE020+	10TE040+	10TE080+	10TE070+	10TE160+	10TE260+	10TE125+	10TE180+
Surface area	m ²	0.021	0.041	0.081	0.078	0.164	0.254	0.125	0.18
Maximum flow rate	m ³ /h	19	19	19	63	63	63	80	83
Connection		DN 32	DN 32	DN 32	DN 50	DN 50	DN 50	DN 65	DN 65
Standard pressure (stainless)		6	6	6	6	6	6	10	10
Maximum pressure	Stainless steel	25	25	25	25	25	25	16	10
	254 SMO	10	10	10	16	16	16	16	-
Maximum pressure	Titanium	10	10	10	16	16	16	16	10
	304 stainless steel	75	75	101	151	251	251	151	151
Plate thickness	316L stainless steel	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
	316L stainless steel	0.4/0.5/0.6	0.4/0.5/0.6	0.4/0.5/0.6	0.4/0.5/0.6	0.4/0.5/0.6	0.4/0.5/0.6	0.4/0.5/0.6	0.4/0.5
	254 SMO	0.6	0.6	0.6	0.6	0.6	0.6	0.6	-
Plate patterns	Titanium	0.5	0.5	0.5	0.5/0.6	0.5/0.6	0.5/0.6	0.5	0.5
	H	H	H	H	H/L	H/L	H/L	H/L	H/L
Gasket material (max. T°)	NBR (NITRYL (110°C))	YES	YES	YES	YES	YES	YES	YES	YES
	EPDM prx (160°C)	YES	YES	YES	YES	YES	YES	YES	YES
	VITON (200°C)	YES	YES	YES	YES	YES	YES	YES	-
Capacity between plates	l	0.063	0.103	0.181	0.217	0.383	0.555	0.366	0.50
Max. transfer area	m ²	1.6	3.1	8.2	11.6	40.8	63.3	19	27

10TE

		10TE300+	10TE450+	10TE700+	10TE400+	10TE600+	10TE900+	10TE650+	10TE990+
Surface area	m ²	0.268	0.482	0.697	0.390	0.645	0.900	0.606	0.972
Maximum flow rate	m ³ /h	240	240	240	380	380	380	800	730
Connection		DN 100	DN 100	DN 100	DN 150	DN 150	DN 150	DN 200	DN 200
Standard pressure (stainless)		10	10	10	10	10	10	10	10
Maximum pressure	Stainless steel	25	25	25	16	16	16	16	16
	254 SMO	16	16	16	16	16	16	10	-
Maximum pressure	Titanium	16	16	16	16	16	-	10	10
	304 stainless steel	401	401	401	551	551	701	551	551
Plate thickness	316L stainless steel	0.4/0.5/0.6	0.4/0.5/0.6	0.4/0.5/0.6	0.5/0.6	0.5/0.6	0.5/0.6	0.5/0.6	0.5/0.6
	316L stainless steel	0.5/0.6/0.7	0.5/0.6/0.7	0.5/0.6/0.7	0.5/0.6	0.5/0.6	0.5/0.6	0.5/0.6	0.5/0.6
	254 SMO	0.6	0.6	0.6	0.6*	0.6*	0.6*	0.6*	-
Plate patterns	Titanium	0.6	0.6	0.6	0.6*	0.6*	-	0.7*	0.6*
	H/L	H/L	H/L	H/L	H/L	H/L	H/L	H/L	H/L
Gasket material (max. T°)	NBR (NITRYL (110°C))	YES	YES	YES	YES	YES	YES	YES	YES
	EPDM prx (160°C)	YES	YES	YES	YES	YES	YES	YES	YES
	VITON (200°C)	YES	YES	YES	YES	YES	YES	YES	-
Capacity between plates	l	0.766	1.217	1.669	1.122	1.659	2.197	2.109	2.339
Max. transfer area	m ²	107.5	193	279.5	215	355	631	334	534

Notes:
The 10TE range is built with plug-in gaskets and lateral circulation.
Please consult us.



turn to the experts 

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