AQUAFORCE®

61XWHLZE
61XWH-ZE
61XWHHZE

High temperature water-source heat pump

Renewable heat solution able to produce hot water up to 85°C

Multiple applications: district heating, space heating, process heating

Mutiple renewable energy sources: waste heat from data centers, from industry, grey waters, ground source water

Nominal heating capacity
300 - 1570 kW

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.

The AquaForce PUREtec 61XWHZE water-source heat pumps are designed to meet current and future requirements in terms of energy efficiency, flexibility of use and compactness.

They use the most reliable technologies available today:

- Twin-rotor screw compressors with a variable capacity valve.
- R-1234ze refrigerant.
- SmartVu™ control system.
- Flooded heat exchangers that are mechanically cleanable.

The 61XWHZE AquaForce range is available into three versions:

- 61XWHLZE for low heat source temperatures.
- 61XWH-ZE for medium heat sour temperatures.
- 61XWHHZE for high heat source temperatures.

Carrier

Original document

Introduction

Forecasts indicate that 75% of the European citizens will live in urban areas in 2020 and that this share will increase to 84% by 2050. People in cities use three times as much energy as people who live in the country. This has tremendous implications for the environment today and in the future if we do nothing.

Recent European surveys have demonstrated that there is enough waste heat produced in the European Union to heat the entire building stock. Industrial waste heat, waste heat from grey waters, waste heat from process cooling, data centers... All this waste energy too frequently released into the air or into water bodies.

More and more, developers, consultants, cities, politics will need to imagine intelligent, sustainable cities with smart heating and cooling solutions. More and more industrial end users will need to imagine new solutions to value waste heat from industrial processes.

Heat pumps have been already used to such purpose for many years.

More recently CARRIER has supported customers across various markets on big projects like data centers, hospitals, schools, district heating with large heat pumps using HFC 134a.

Higher with PUREtec

Now the combination of Carrier technology and HFO refrigerant enables to offer high temperature PUREtec heat pumps capable of delivering hot water up to 85°C!

The AquaForce PUREtec 61XWHZE water-source heat pumps can recover, updgrade and value the waste heat for reuse in applications like local or district heating. Selecting the 61XWH-ZE, you can now have an alternative and complement as traditionnal boiler in applications such as district heating or industrial processes.

While the boilers are heating only, 61XWHZE heat pumps can provide heating, cooling and transfert energy from waste energy with much higher energy efficiency performance ratios than boilers.

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

The AquaForce PUREtec 61XWHZE water-source heat pumps are designed to meet current and future requirements in terms of energy efficiency, flexibility of use and compactness. They use the most reliable technologies available today:

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- R-1234ze refrigerant.
- SmartVu™ control system.
- Flooded heat exchangers that are mechanically cleanable.

Customer Benefits

Renewable Heat Solution

- The perfect solution for district heating systems:
  - The 61XWHZE contribute both towards the EU 2020 ambition of 27% energy mix coming from renewable sources and the expansion of district heating from the present level of around 12% to 50% in 2050 in EU.
  - Multiple 61XWHZE high temperature water-source heat pumps can be combined to reach the best efficiency and higher capacities.
  - The district heating networks using 61XWHZE high temperature water-source heat pumps are being illegible for financial incentives in many countries.
- The perfect solution for smart cities:
  - The 61XWHZE high temperature water-source heat pumps can recover energy from industrial process wasted heat, IT cooling systems, grey waters, to produce very hot water up to 85°C to supply residential buildings, commercial buidlings, hotels, hospitals, public offices, schools, industries located in the district.
- The perfect solution for process heating and facilities space heating:
  - The 61XWHZE high temperature water-source heat pumps can be used in the industrial sector to recover, upgrade and value any water stream up to 55°C as a source to higher temperature levels of 85°C which make it attractive for several usages. Some examples are the heat removed from electrical motors, industrial machines, paper industry, steel industry, non-metallic industry (glass, ciment, tile, brick, food, beverage), chemical industries or also facilities space heating.

Low energy consumption

- Renewable energy source to comply with EU 2020 targets (27% of renewable energy).
- No need for a gas network.
- The heat pump technology is more efficient and sustainable than any fossil fuel combustion system.
- 61XWHZE achieves great Coefficient Of Performance (COP of 6 or more), with very low carbon impact when compared with traditional boilers.
- The high energy efficiency is reached through.
- Twin-rotor screw carrier compressor equipped with a high-efficiency motor and a variable capacity valve that permits exact matching of the heating capacity to the load.
- Flooded multi-pipe heat exchangers for increased heat exchange efficiency.
- Electronic expansion device permitting improved utilisation of the evaporator heat exchange surface.
- Economizer system with electronic expansion device for increased heating/cooling capacity.

Introduction

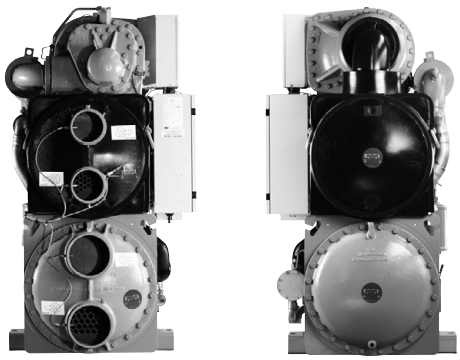
Low sound level

- Standard unit features include:
  - Silencers on the compressors discharge line.
  - Silencers on the economiser return line.
  - Acoustic insulation on the components that are most subjected to radiated noise.
  - Specific attenuation possible upon request.

Easy and fast installation

- The 61XWHZE units just need an electrical connection and a water source.
- Compact design:
  - The 61XWHZE water-source heat pumps are designed to offer the most compact dimensions on the market.
  - With a width of less than 1.4 m up to 2500 kW the units can pass through standard door openings and only require minimum floor space in the plant room.

Compact, accessible unit - side view



- Simplified electrical connections:
  - Main disconnect switch with high trip capacity.
  - Transformer to supply the integrated control circuit (400/24 V).
- Simplified hydronic connections:
  - Victaulic connections on the evaporator and condenser.
  - Practical reference marks for entering and leaving water connections.
  - Possibility to reverse the heat exchanger water inlet and outlet at the factory.
  - Possibilty to modify the number of heat exchanger passes.
- Fast commissioning:
  - Systematic factory operation test before shipment.
  - Quick-test function for step-by-step verification of the instruments, expansion devices and compressors.

Environmental care

PUREtec

- R-1234ze long-term refrigerant solution:
  - HFO refrigerant with nearly zero global warming potential (GWP < 1) and zero ozone depletion potential (ODP = 0).
  - Not impacted by the HFC phase-down plan in Europe (79% HFC reduction in EU member states at 2030 horizon).
  - Compliant with refrigerant regulation in Switzerland that bans the use of HFC refrigerant in large capacity air-conditioning equipment.
- Leak-tight refrigerant circuit:
  - Reduction of leaks as no capillary tubes and flare connections are used.
  - Verification of pressure transducers and temperature sensors without transferring refrigerant charge.
  - Discharge line shut-off valve and liquid line service valve for simplified maintenance.

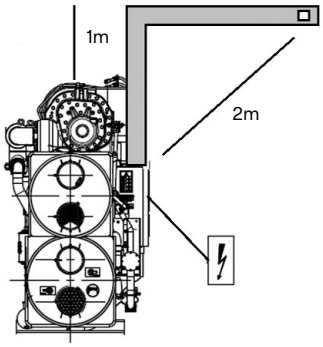
High reliability and easy servicing

- The 61XWHZE water-source heat pumps offer increased global performance as well as Carrier's acclaimed product quality and reliability.
- Major components are selected and tested with R-1234ze refrigerant to minimize failures possibility, as well as many design choices have been taken in this perspective.
- Screw compressors:
  - Industrial-type screw compressors with oversized bearings and motor cooled by suction gas.
  - All compressor components are easily accessible on site minimising down-time.
- Refrigerant circuit:
  - One or two independent refrigerant circuits the second one automatically takes over, if the first one develops a fault, maintaining partial cooling under all circumstances.
- Evaporator:
  - Electronic paddle-free flow switch. Auto-setting according to cooler size and fluid type.
- Auto-adaptive control:
  - Control algorithm prevents excessive compressor cycling (Carrier patent).
  - Automatic compressor unloading in case of abnormally high condensing pressure.
- Exceptional endurance tests:
  - Partnerships with specialised laboratories and use of limit simulation tools (finite element calculation) for the design of critical components.
  - Transport simulation test in the laboratory on a vibrating table and then on an endurance circuit (based on a military standard).

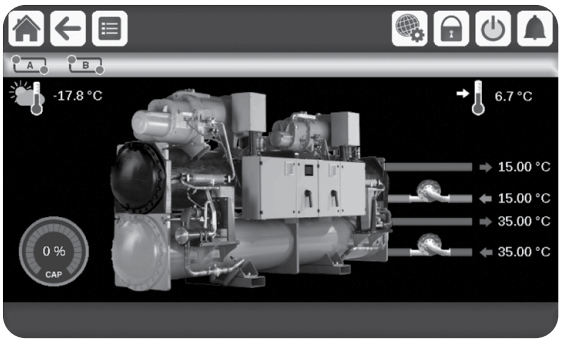
Introduction

Safe Design Carrier

- Specific compressor gaskets compatible with HFO-1234ze, tested and validated.
- New relief valves designed for operation with HFO-1234ze and high temperature.
- Specific electrical box with increased tightness and integrated blower that maintains positive air pressure to avoid any risk of ignition.
- New control algorithms.
- Specific documentation that contains all the installation, operation, maintenance and safety Instructions.



SmartVu™



- New innovative smart control features :
  - An intuitive and user-friendly, coloured, 4.3" interface.
  - 10 languages available on choice: DE, EN, ES, FR, T, NL, PT, TR, TU + one additional customer choice.
  - Screen-shots with concise and clear information in local languages.
  - Complete menu, customised for different users (end user, service personnel and Carrier-factory technicians.
  - Setpoint offset based on the outside air temperature.
  - Safe operation and unit setting: Password protection ensures that unauthorised people cannot modify any advanced parameters.
  - Simple and "smart" intelligence uses data collection from the constant monitoring of all machine parameters to optimise unit operation.
  - Night-mode: Cooling capacity management for reduced.
  - Noise level.
  - With hydraulic module: Water pressure display and water fow rate calculation.
- Energy management :
  - Internal time schedule clock controls chiller on/off times and operation at a second set-point.
  - The DCT (Data Collection Tool) records the alarms history to simplify and facilitate service operations.
- Maintenance functions :
  - F-Gas regulation leak check reminder alert.
  - Maintenance alert can be confgured to days, months or hours of operation.
- Advanced communication features :
  - Easy and high-speed communication technology over Ethernet (IP) to a centralised building management system.
  - Access to multiple unit parameters.

Remote Management (Standard)

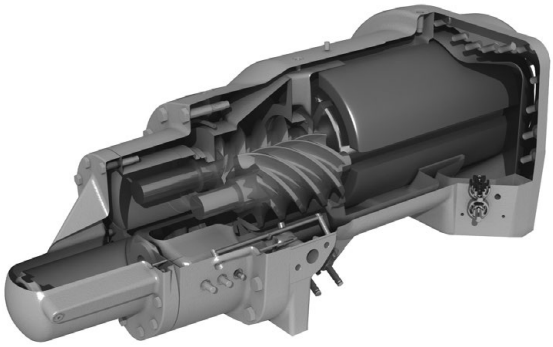
- Units with SmartVu™ control can be easily accessed from the internet, using a PC with an Ethernet connection. This makes remote control quick and easy and offers significant advantages for service operations.
- AquaForce with Greenspeed® Intelligence is equipped with an RS485 serial port that offers multiple remote control, monitoring and diagnostic possibilities. When networked with other Carrier equipment through the CCN (Carrier Comfort Network - proprietary protocol), all components form a HVAC system fully-integrated and balanced through one of the Carrier's network system products, like the Chiller System anager or the Plant System anager (optional).
- The 61XWHZE also communicates with other building management systems via optional communication gateways (BACnet, LON or JBus).
- The following commands/visualisations are possible from remote connection:
  - Start/Stop of the machine.
  - Dual set-point management: Through a dedicated contact is possible to activate a second set-point (example, unoccupied mode).
  - Demand limit setting: To limit the maximum chiller capacity to a predefned value.
  - Water pump control: These outputs control the contactors of one/two evaporator water pumps.
  - Water pumps changeover (only with hydraulic module options): These contacts are used to detect a water pump operation fault and automatically change over to the other pump.
  - Operation visualisation: ndication if the unit is operating or if it is in stand-by (no cooling load).
  - Alarm visualisation.

Introduction

Remote management (EMM option)

- The Energy Management Module offers extended remote control possibilities:
  - Room temperature: Permits set-point reset based on the building indoor air temperature (if Carrier thermostats are installed).
  - Set-point reset: Allows reset of the cooling set-point based on a 4-20 mA or 0-10 V signal.
  - Demand limit: Permits limitation of the maximum chiller capacity based on 0-10 V signal.
  - Demand limit 1 and 2: Closing of these contacts limits the maximum chiller capacity to two predefned values.
  - User safety: This contact can be used for any customer safety loop; opening the contact generates a specifc alarm.
  - Ice storage end: When ice storage has fnished, this input permits return to the second set-point (unoccupied mode).
  - Time schedule override: Closing of this contact cancels the programmed time schedule.
  - Out of service: This signal indicates that the chiller is completely out of service.
  - Chiller capacity: This analogue output (0-10 V) gives an immediate indication of the chiller capacity.
  - Alert indication: This volt-free contact indicates the necessity to carry out a maintenance operation or the presence of a minor fault.
  - Compressors running status: Set of outputs (as many as the compressors number) indicating which compressors are running.

06T screw compressor



The Carrier 06T screw compressor designed for operation with HFO-1234ze refrigerant benefits from Carrier's long experience in the development of twin-rotor screw compressors. The compressor is equipped with bearings with oversized rollers, oil pressure lubricated for reliable and durable operation, even at maximum load.

A variable control valve controlled by the oil pressure permits infinitely variable cooling capacity. This system allows optimal adjustment of the compressor heating capacity and ensures exceptionally high stability of the hot water leaving temperature.

Among the other advantages: if a fault occurs e.g. if the condenser is fouled or at very high water temperature, the compressor does not switch off, but continues operation with a reduced capacity (unloaded mode).

The silencer in the discharge line considerably reduces discharge gas pulsations for much quieter operation.

Options

Options	No.	Description	Advantages	Use for 61XWH range
Star/Delta Start	25A	Star / Delta start on each compressor	Reduced current start up	3,5 and 10
Lead/Lag operation	58	Unit equipped with supplementary water outlet temperature sensor kit to be field-installed allowing Lead/Lag operation of two units connected in parallel	Optimised operation of two units connected in parrallele operation with operating time equalisation	all
Single power connection point	81	Unit power connection via one main supply connection	Quick and easy installation	10 to 17 (excluding 61XWHHZE 15)
No disc.switch but short circ.protection	82A	Unit without disconnect switch, but with short-circuit protection device	Permits an external electrical disconnect system for the unit (field-supplied), while ensuring unit short circuit protection	all
Evap. pump power/ control circuit	84	Unit equipped with an electrical power and control circuit for one pump evaporator side	Quick and easy installation: the control of fixed speed pumps is embedded in the unit control	Not compatible with 61XWHHZE
Evap. dual pumps power/control circuit	84D	Unit equipped with an electrical power and control circuit for two pumps evaporator side	Quick and easy installation: the control of fixed speed pumps is embedded in the unit control	Not compatible with 61XWHHZE
Cond. pump power/ control circuit	84R	Unit equipped with an electrical power and control circuit for one pump condenser side	Quick and easy installation: the control of fixed speed pumps is embedded in the unit control	Not compatible with 61XWHHZE
Evaporator with one pass more (three passes)	100A	Evaporator with three passes on the water side. Evaporator inlet and outlet on opposite sides.	Adapted to sites where larger temperature differences and smaller water flowrates are required	all
Evaporator with one pass less	100C	Evaporator with one pass on the water side. Evaporator inlet and outlet on opposite sides.	Easy to install, depending on site. Reduced pressure drops	Not compatible with 61XWHLZE
Condenser with one pass more (threepasses)	102A	Condenser with three passes on the water side. Condenser inlet and outlet on opposite sides.	Adapted to sites where larger temperature differences and smaller water flowrates are required	all
Condenser with one pass less	102C	Condenser with one pass on the water side. Condenser inlet and outlet on opposite sides.	Easy to install, depending on site. Reduced pressure drops	Not compatible with 61XWHLZE
21 bar evaporator	104	Reinforced evaporator for extension of the maximum water-side service pressure to 21 bar (standard 10 bar)	Covers applications with a high water column evaporator side (typically high buildings)	all
21 bar condenser	104A	Reinforced condenser for extension of the maximum water-side service pressure to 21 bar (standard 10 bar)	Covers applications with a high water column condenser side (typically high buildings)	all
Reversed evaporator water connections	107	Evaporator with reversed water inlet/outlet	Easy installation on sites with specific requirements	all
Reversed condenser water connections	107A	Condenser with reversed water inlet/outlet	Easy installation on sites with specific requirements	all
J-Bus gateway	148B	Two-directional communication board complying with JBus protocol	Connects the unit by communication bus to a building management system	all
Lon gateway	148D	Two-directional communication board complying with Lon Talk protocol	Connects the unit by communication bus to a building management system	all
Bacnet over IP gateway	149	Two-directional high-speed communication using BACnet protocol over Ethernet network (IP)	Easy and high-speed connection by ethernet line to a building management system. Allows access to multiple unit parameters	all

Options

Options	No.	Description	Advantages	Use for 61XWH range
Control for low cond. temperature systems	152	Output signal (0-10 V) to control the condenser water inlet valve	Simple installation: for applications with cold water at condenser inlet (ex. ground-source, groundwater-source, superficial water-source applications) the signal permits to control a 2 or 3-way valve to maintain condenser water temperature (and so condensing pressure) at acceptable values	all
Energy Management Module	156	EMM Control board with additional inputs/ outputs. See Energy Management Module option chapter	Extended remote control capabilities (Set-point reset, ice storage end, demand limits, boiler on/off command...)	all
SmartVu™ control, 7" user interface	158A	SmartVu™ control supplied with a 7 inch colour touch screen user interface	Enhanced ease of use	all
Compliance with Swiss regulations	197	Additional tests on the water heat exchangers: supply (additional of PED documents) supplementary certificates and test certifications	Conformance with Swiss regulations	all
Low noise level	257	Evaporator sound insulation	3 dB(A) quieter than standard unit	5 to 17
Welded evaporator water connection kit	266	Victaulic piping connections with welded joints	Easy installation	all
Welded condenser water connection kit	267	Victaulic piping connections with welded joints	Easy installation	all
Flanged evaporator water connection kit	268	Victaulic piping connections with flanged joints	Easy installation	all
Flanged condenser water connection kit	269	Victaulic piping connections with flanged joints	Easy installation	all
ABOUND HVAC Performance (Connectivity embedded)	298A	Factory mounted connectivity device including 4G Modem & Antenna and access to Digital Services during warranty period.	Complete real time unit monitoring with web access to data and alarms. Enables more comprehensive Digital Service offers and service plans.	all
ABOUND HVAC Performance (Connectivity embedded) – Non DSO	298B	Factory mounted connectivity device including 4G Modem & antenna. Subscription to Digital Services purchased through Carrier Service.	Enables real time unit monitoring with more comprehensive Digital Service offers and service plans.	all

Physical data

61XWH-ZE (Heating performances*)	Model	3	5	7	10	14	15	17
Nominal capacity (kW)**		300	484	727	967	1453	1468	1570
Dimensions - 61XWHLZE/61XWH-ZE								
Length	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								
Length	mm	2724	3059	3290	4730	-	4790	-
Width	mm	981	1041	1079	1125	-	1417	-
Height	mm	1594	1745	1968	2002	-	2305	-
Operating weight①	kg	2054	2942	4147	7265	8031	9519	9519
Compressors		Semi-hermetic 06T screw compressors, 50 r/s						
Circuit A	-	1	1	1	1	1	1	1
Circuit B	-	-	-	-	1	1	1	1
Refrigerant - 61XWHLZE②		R1234ze						
Circuit A	kg	107	168	237	154	176	237	226
	teq CO_2	0,7	1,2	1,7	1,1	1,2	1,7	1,6
Circuit B	kg	-	-	-	154	187	237	231
	teq CO_2	-	-	-	1,1	1,3	1,7	1,6
Refrigerant - 61XWH-ZE②		R1234ze						
Circuit A	kg	97	153	215	140	160	215	205
	teq CO_2	0,7	1,1	1,5	1,0	1,1	1,5	1,4
Circuit B	kg	-	-	-	140	170	215	210
	teq CO_2	-	-	-	1,0	1,2	1,5	1,5
Refrigerant - 61XWHHZE②		R1234ze						
Circuit A	kg	88	138	195	140	-	195	-
	teq CO_2	0,6	1,0	1,4	1,0	-	1,4	-
Circuit B	kg	-	-	-	140	-	195	-
	teq CO_2	-	-	-	1,0	-	1,4	-
Oil - standard unit								
Circuit A	l	20	20	25	20	25	25	25
Circuit B	l	-	-	-	20	25	25	25
Capacity control		SmartVu™, 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

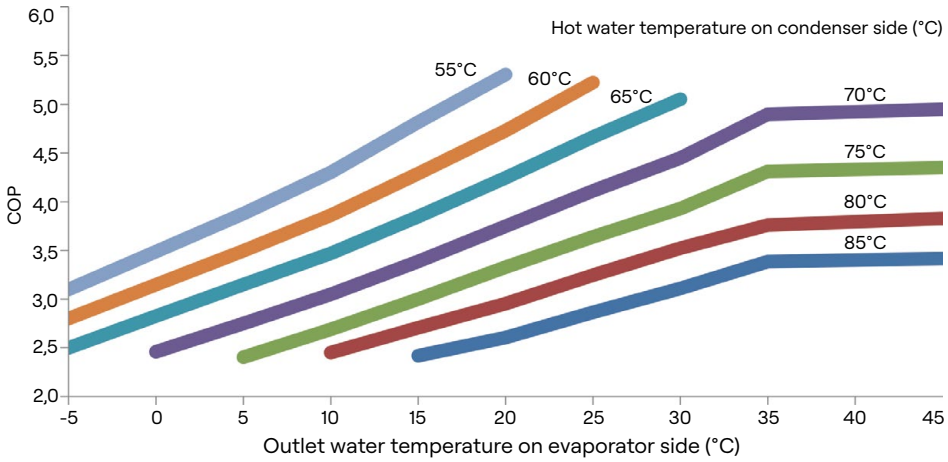
* In accordance with standard EN14511-3:2022.
** Heating mode conditions: Evaporator entering/leaving water temperature 20°C/15°C, condenser entering/leaving water temperature 70°C/75°C, evaporator and condenser fouling factor 0 m^2. k/W.
① Weight shown is guideline only. Please refer to the unit nameplate.
② Refrigerant charge shown is guideline only. Charge may differ according to options. Please refer to the unit nameplate.

COP of 61XWHZE Heat pumps in single and multiple units configuration

61XWHZE COP gain in a single unit configuration (temperature difference effect)

The COP of 61XWHZE heat pump will vary depending on the temperature difference between the heat source (evaporator side) and the heat sink (condenser side). The work done (lift) by each compressor is reduced when this temperature difference is low thus significantly improving the efficiency of the heat pump.

61XWHZE COP (Single unit)



61XWHZE COP gain in a multiple unit configuration (System effect)

61XWHZE units may be configured in various combinations including series, parallel, and series-counter flow on both the evaporator and/or the condenser side to improve the COP.

In a series counterflow arrangement with multiple 61XWHZE heat pumps heating system efficiency is maximized. The work done (lift) by each compressor is reduced, which significantly improves the efficiency of the heat pumps at full and part load conditions. Such series counter flow arrangement using 2, 3 or 4 units can improve system efficiency by as much as 40% depending on the temperature difference on the condenser side.

ΔT on the condenser side	One unit	Two units	Three units	Four units
ΔT 10 K	0%	4-7%	5-9%	6-10%
ΔT 20 K	0%	9-15%	11-19%	14-23%
ΔT 30 K	0%	15-24%	19-31%	23-40%

Electrical data

61XWHLZE / 61XWH-ZE	Model	3	5	7	10	14	15	17
Power circuit								
Nom. power supply	V-ph-Hz	400-3-50						
Voltage range	V	360-440						
Control circuit		24 V via the built-in transformer						
Maximum start-up current① - Standard unit								
Circuit A	A	1210	1828	1919	1828	1919	1919	1919
Circuit B	A	-	-	-	1828	1919	1919	1919
Option 81	A	-	-	-	2158	2425	2425	2407
Maximum start-up current - Star/delta start option②								
Circuit A	A	388	587	-	587	-	-	-
Circuit B	A	-	-	-	587	-	-	-
Transient (< 150ms)	A	1210	1828	-	1828	-	-	-
Option 81	A	-	-	-	943	-	-	-
Transient (< 150ms)	A	-	-	-	2158	-	-	-
Cosine phi								
Nominal		0,70	0,80	0,81	0,80	0,81	0,81	0,83
Maximum②		0,89	0,89	0,89	0,89	0,89	0,89	0,89
Total harmonic distortion②	%	Closed to 0% (negligible)						
Maximum power input③								
Circuit A	kW	137	203	312	203	312	312	301
Circuit B	kW	-	-	-	203	312	312	301
Option 81	kW	-	-	-	406	624	624	602
Maximum current drawn (Un)③								
Circuit A	A	222	330	506	330	506	506	488
Circuit B	A	-	-	-	330	506	506	488
Option 81	A	-	-	-	660	1012	1012	976
Maximum current drawn (Un -10%)②								
Circuit A	A	240	356	546	356	546	546	527
Circuit B	A	-	-	-	356	546	546	527
Option 81	A	-	-	-	712	1092	1092	1054

① Instantaneous start-up current for star connection (maximum operating current of the smallest compressor(s) + locked rotor current or reduced start-up current of the largest compressor). Values obtained at operation with maximum unit power input.
② Values obtained at operation with maximum unit power input.
③ Values obtained at operation with maximum unit power input. Values given on the unit name plate.

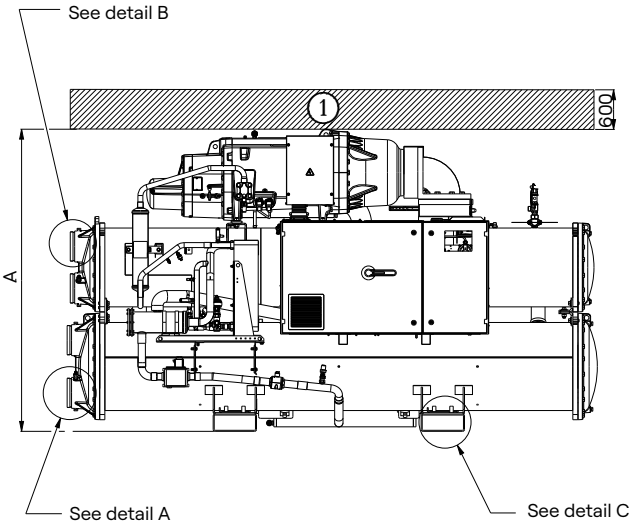
Electrical data

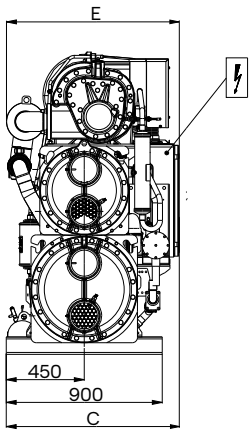
61XWHHZE	Model	3	5	7	10	14	15	17
Maximum start-up current① - Standard unit								
Circuit A	A	1210	1828	1919	1828	-	1919	-
Circuit B	A	-	-	-	1828	-	1919	-
Option 81	A	-	-	-	2188	-	-	-
Maximum start-up current - Star/delta start option②								
Circuit A	A	388	587	-	587	-	-	-
Circuit B	A	-	-	-	587	-	-	-
Transient (< 150ms)	A	1210	1828	-	1828	-	-	-
Option 81	A	-	-	-	947	-	-	-
Transient (< 150ms)	A	-	-	-	2188	-	-	-
Maximum power input④								
Circuit A		148	222	334	222	-	334	-
Circuit B		-	-	-	222	-	334	-
Option 81	%	-	-	-	444	-	-	-
Maximum current drawn (Un)④								
Circuit A	kW	241	360	543	360	-	543	-
Circuit B	kW	-	-	-	360	-	543	-
Option 81	kW	-	-	-	720	-	-	-
Maximum current drawn (Un -10%)③								
Circuit A	A	260	389	586	389	-	586	-
Circuit B	A	-	-	-	389	-	586	-
Option 81	A	-	-	-	778	-	-	-

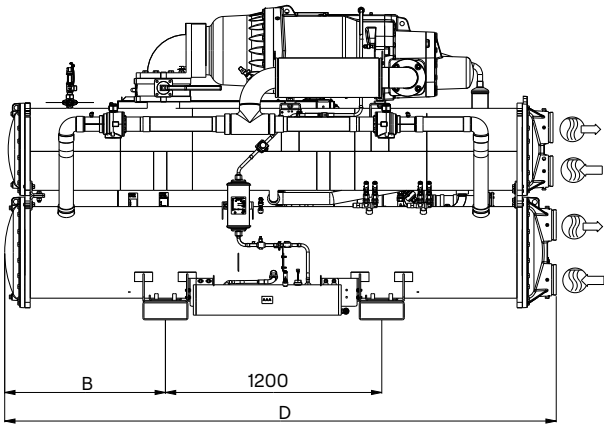
① Instantaneous start-up current for delta connection (maximum operating current of the smallest compressor(s) + locked rotor current or reduced start-up current of the largest compressor).
② Both Max start-up current and transient peak to be considered for installation.
③ Values obtained at operation with maximum unit power input.
④ Values obtained at operation with maximum unit power input. Values given on the unit name plate.

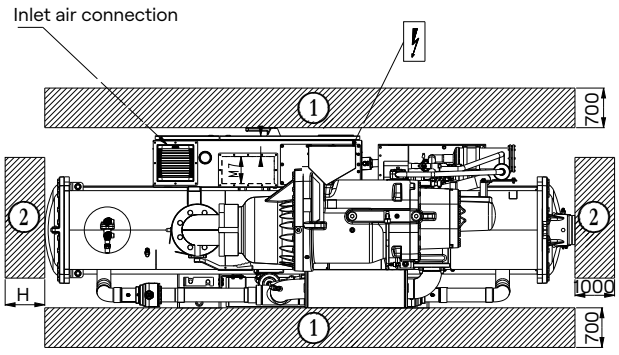
Dimensions/clearances

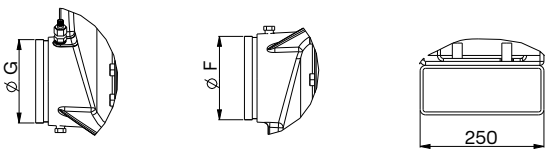
61XWHLZE/61XWH-ZE/61XWHHZE 03-05-07











Detail A Detail B Detail C

61XWHLZE/61XWH-ZE/61XWHHZE								
	A	B	C	D	E	F	G	H
Model	Dimensions in mm							
3	1594	723	981	2724	982	141,3	141,3	2600
5	1745	891	1041	3059	1039	168,3	168,3	2900
7	1968	1007	1079	3290	1170	219,1	219,1	3100

Legend

All dimensions are given in mm.

① Services clearances required.

② Space required to remove cooler tubes.

Inlet water.

Outlet water.

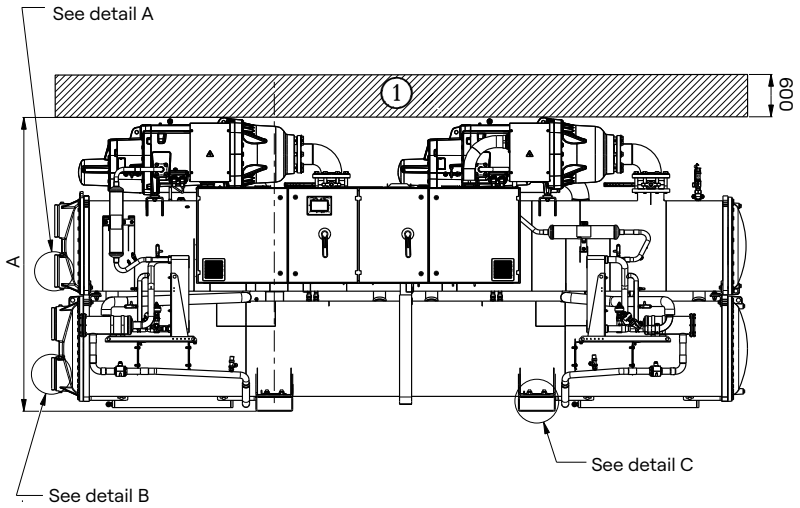
Electrical supply entry.

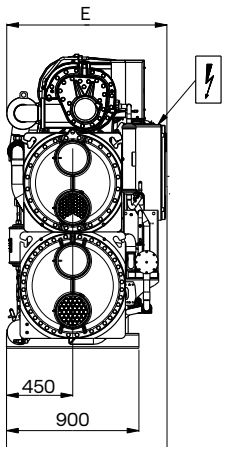
NOTES:

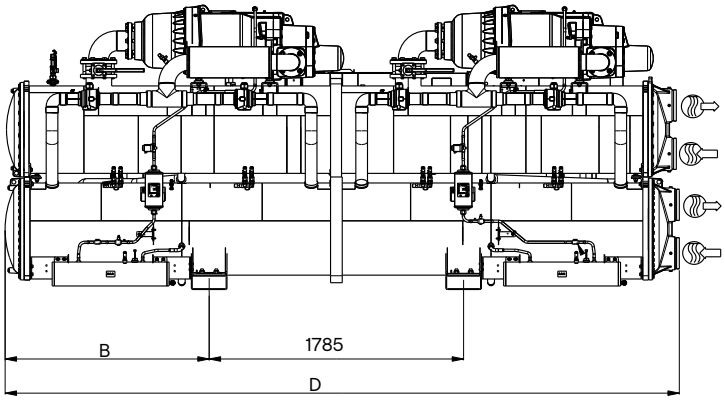
- **Drawings are not contractually binding. Before designing an installation, consult the certified dimensional drawings supplied with the unit or available on request.**
- **For the positioning of the fixing points, weight distribution and centre of gravity coordinates please refer to the dimensional drawings.**

Dimensions/clearances

61XWHLZE/61XWH-ZE 10-14-15-17; 61XWHHZE 10-15

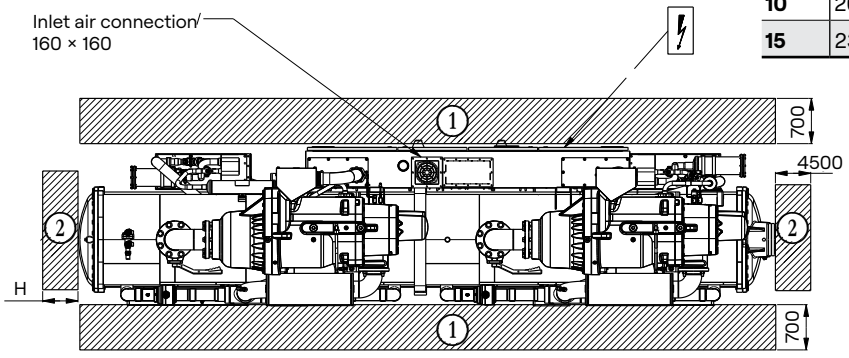


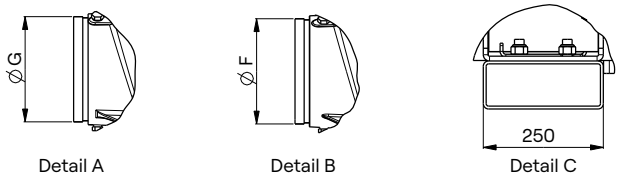




61XWHLZE/61XWH-ZE								
	A	B	C	D	E	F	G	H
Model	Dimensions in mm							
10	2002	1432	1124	4730	1124	219,1	219,1	4500
14	2070	1432	1148	4730	1237	219,1	219,1	4500
15	2305	1458	1399	4790	1264	219,1	219,1	4500
17	2305	1458	1399	4790	1264	219,1	219,1	4500

61XWHHZE								
	A	B	C	D	E	F	G	H
Model	Dimensions in mm							
10	2002	1432	1124	4730	1124	219,1	219,1	4500
15	2305	1458	1417	4790	1282	219,1	219,1	4500





Legend

All dimensions are given in mm.

(1) Services clearances required.

(2) Space required to remove cooler tubes.

Inlet water.

Outlet water.

Electrical supply entry.

NOTES:

- **Drawings are not contractually binding. Before designing an installation, consult the certified dimensional drawings supplied with the unit or available on request.**
- **For the positioning of the fixing points, weight distribution and centre of gravity coordinates please refer to the dimensional drawings.**