Technical Bulletin
BT14E002GB-03

ELFOEnergy Duct Inverter

Air-water ductable liquid chiller for indoor or outdoor installation

SERIES WSA-XIN 21-141

Nominal cooling capacity **(A35/W7) da 4 a 31 kW**

- **HIGH SEASONAL EFFICIENCY**
- **DC INVERTER COMPRESSOR**
- **PLUG-FAN DC INVERTER FAN**

DC Inverter

Clivet is taking in the EUROVENT certification programme up to 1.500 kW. The products concerned appear in the certified products list of the EUROVENT www.eurovent-certification.com site.

Clivet hydronic system

Designed to provide high energy efficiency and sustainability of the investment, the wide range of Clivet liquid chillers and heat pumps for high efficiency air conditioning of Residential and Commercial spaces and for Industrial applications it is available with air or water source.

The ventilation with thermodynamic recovery

Air renewal determines comfort levels in rooms: it often represents the building's main energy load

ELFOFresh²
Mechanical ventilation system with energythermodynamic recovery

- It multiplies the recovered energy
- It reduces the main generator power
- Summer dehumidification for the matching to the radiant system
- It cools free (FREE-COOLING) in specific conditions
- PM10, pollens, bacteria and nanoparticles are eliminated thanks to the electronic filter

Complete management of the system

In integrated systems, control over the various elements is essential for correct management and increased seasonal efficiency

ELFOControl²
System domotics based on advanced algorithms to optimise energy and comfort

- Complete installation control
- Time schedule
- Customised comfort levels
- Optimization of the seasonal efficiency
- Communication with the room thermostat for temperature and humidity control.

ELFOEnergy Duct Inverter, two solutions to satisfy different installation needs

COOLING ONLY
WSA-XIN:

- Water cooler
- Capacity from 4 to 31 kW

HEAT PUMP
WSN-XIN:

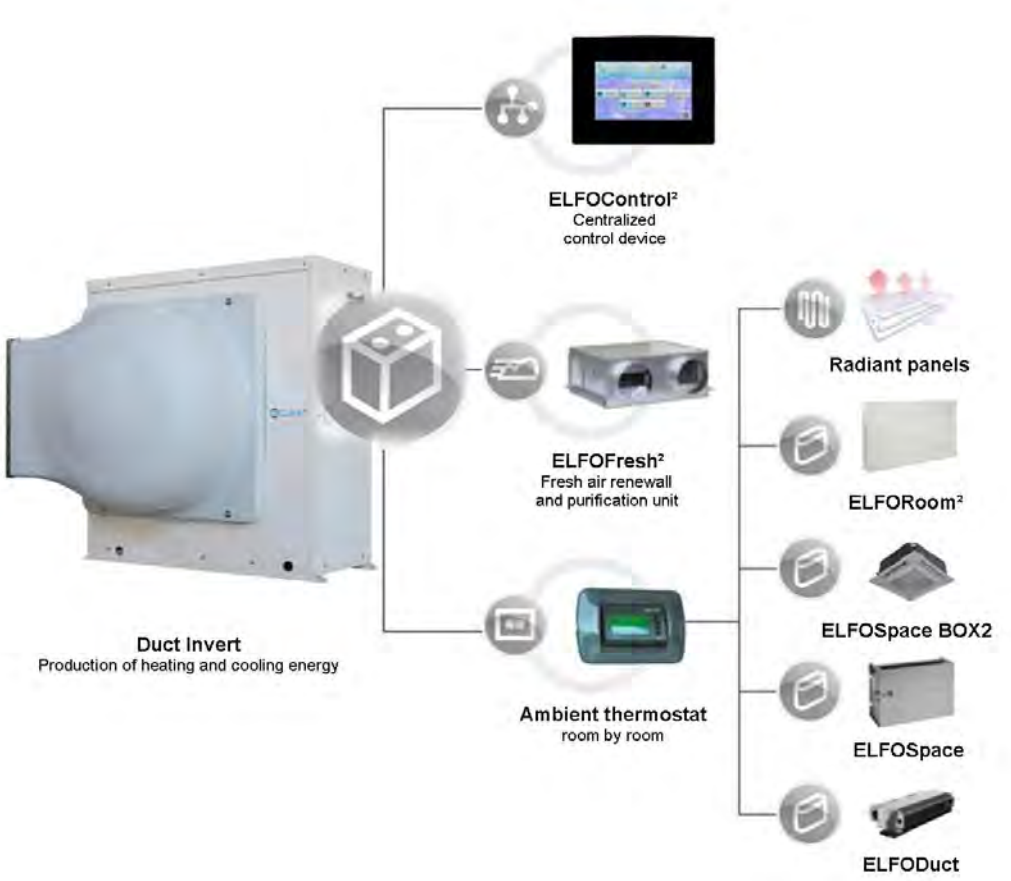
- Reversible-cycle heat pump
- Capacity from 5 to 32 kW

Technical bulletin BT14E003GB-02

ELFOEnergy Duct Inverter is the heart of ELFOSystem

A single, intelligent system with all the elements for year-round comfort

- Cooling
- Fresh air renewal and purification
- Dehumidification



System components

ELFOEnergy Duct Inverter

- Heat pump at high seasonal efficiency
- Inverter technology
- 100% silent operation
- Compact dimensions

ELFOControl²

- Advanced control system to manage the operation of the whole flat
- Optimisation of performance and operation
- Simply to use and complete system management

ELFOFresh²

- Energy-recovery based room ventialtion and purification
- Active thermodynamic recovery
- Electronic filtering
- Summer dehumidification
- FREE-COOLING

Fan coil units

- Wide range of room terminals to adapt to any
- installation requirement. with temperature
- control for room
- Compact design and small size
- Continuous speed variation
- Homogenous temperature
- Reduced consumptions

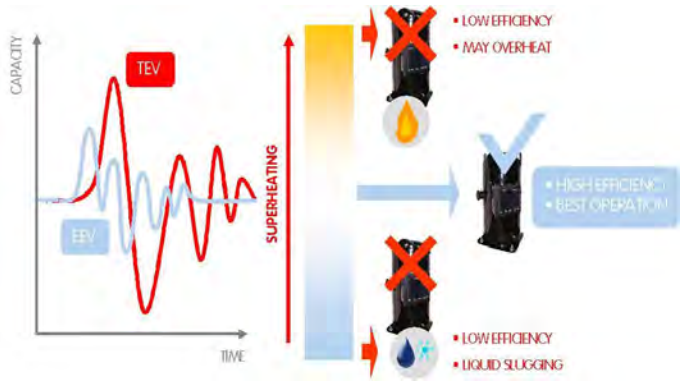
Advanced technology and benefits

Inverter compressor

The inverter compressor can continuously modulate the cooling capacity from 40% to 100%.

This allows the delivered capacity to be set according to the demand on the system. Very high efficiency values can be achieved, especially under load staging conditions that coincide with most of the operating time.

Thermostatic electronics

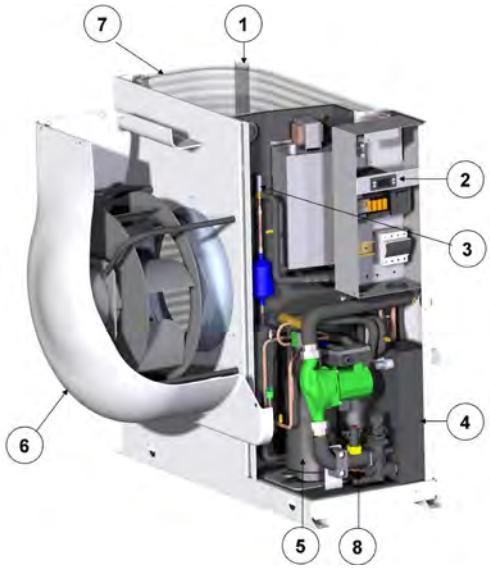


The thermostatic electronic expansion valve (TEE) adapts quickly and precisely to the effective load required for use, permitting a stable and accurate adjustment and optimal operation of the compressor.

There is also an additional increase in efficiency in comparison to traditional thermostatic mechanical valves (TEM) and a longer compressor life.

Special design features

1. **The outdoor air probe** allows setting the ideal climate in relation to environmental conditions
2. **The built-in display** shows all the operating parameter settings
3. **The Electronic Thermostat** Optimises the operation conditions of the refrigeration circuit
4. **The plate heat exchanger** maximises the thermal efficiency thanks to large exchange surfaces
5. **The Inverter DC Compressor** allows high seasonal efficiency thanks to the modulation
6. **Plug-fan DC Inverter fan** thanks to the flow rate modulation reduces the sound emissions and the fan consumptions.
7. **The Hydrophilic Battery** ensures a better cleaning maintaining thermal exchange efficiency and reduced defrost time
8. **Water kit:** kit that simplifies the hydronic circuit, reduces the overall dimensions and allows an easier maintenance



Intelligent energy management

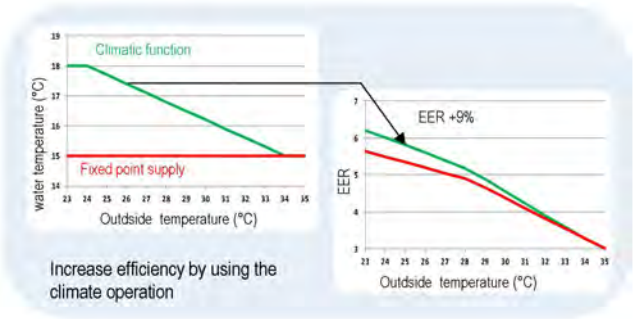
The Extended Inverter electronic control allows producing energy in the required quantity and in the most efficient and effective way in relation to the outdoor conditions and requirements of the building.

Everything IS UNDER CONTROL

The electronic control with built-in display the unit allows defining the operation parameters with maximum simplicity. Once set, the control manages automatically the operation of the unit.

- setting the supply water set point
- climate compensation
- time schedule

Outdoor climatic compensation



The water temperature for the system is adjusted automatically in relation to the real requirements of the building and outdoor air temperature, increasing the seasonal energy efficiency.

Remote control (RCTX option)

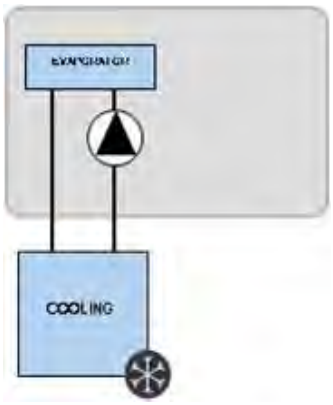
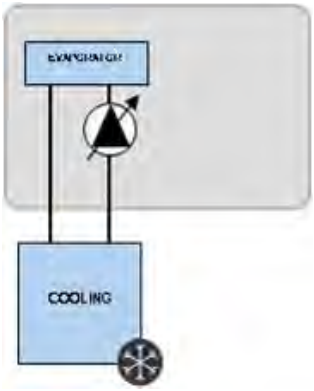
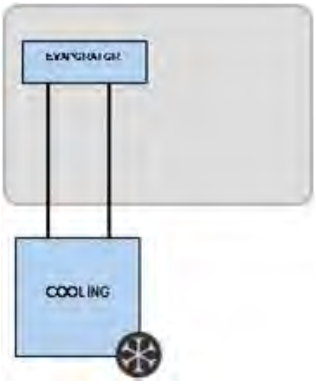
The RCTX remote control, is provided with a large and easy to read display. Programming, using only 4 keys, is intuitive and simple.

- The device can also:
  - control the unit's operation
  - activate the circulation of the system's water
  - set the unit set point water temperature according to time bands
- The RCTX also works in "remote control", making it even easier to configure and control the unit's operation. It can:
  - set the ON/OFF control
  - read the information detected by the device installed on board the unit, as the operation status, parameters and alarms.

Unit configuration

Model	Size										
WSA-XIN	21	31	41	51	71	81	91	101	121	131	141

Supply voltage											
230/1/50	std	std	std	optional	optional	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
400/3/50 + N	n.a.	n.a.	n.a.	std	std	std	std	std	std	std	std

Functionalities	Hydronic units		
2 PIPE SYSTEM Chilled water production for installation	**1.1** Standard unit	**1.2** Unit with higt efficiency hydronic assembly	**1.3** Unit without hydronic assembly
			

Accessories separately supplied		
• **RCTX** - Remote control • **CMSC2X** - Serial comunication module with RS485 serial converter kit • **KG4UP** - Management kit up to 4 units in parallel	• **KTFL1X** - 1"water side hose kit • **KTFL2X** - 1"1/4 water side hose kit	• **AMRX** - Rubber antivibration mounts • **KSAX** - 100-litre circuit breaker • **GMX** - Outlet grille

General technical data

Size			21	31	41	51	71	81	91	101	121	131	141
Radiant panels													
Cooling													
Cooling capacity	1	kW	4,25	6,33	8,07	10,3	13,0	16,0	18,8	21,0	26,5	29,5	33,1
Total power input	2	kW	1,19	1,83	2,26	3,20	3,94	4,19	5,16	6,03	7,09	8,40	10,2
EER (EN 14511:_2013)	3		3,57	3,46	3,58	3,23	3,31	3,82	3,63	3,48	3,73	3,51	3,24
ESEER	4		4,71	4,61	5,02	3,87	4,46	5,70	5,82	5,80	5,70	5,06	4,75
Water flow-rate	1	l/s	0,20	0,30	0,39	0,49	0,62	0,76	0,90	1,00	1,27	1,41	1,58
Useful pump discharge head	1	kPa	53	43	48	42	45	69	62	56	52	42	28
Terminal units													
Cooling													
Cooling capacity	5	kW	4,39	5,64	8,01	10,1	13,1	15,5	17,5	19,6	25,3	27,8	30,6
Total power input	2	kW	1,69	2,19	3,07	4,25	5,63	5,50	6,58	8,12	9,54	11,2	13,7
EER (EN 14511:_2013)	3		2,59	2,58	2,61	2,39	2,32	2,82	2,65	2,42	2,65	2,48	2,23
ESEER	6		3,58	3,37	3,67	3,25	3,35	4,48	4,38	4,36	4,35	3,85	3,58
Water flow-rate	5	l/s	0,21	0,27	0,38	0,48	0,63	0,74	0,84	0,94	1,21	1,33	1,46
Useful pump discharge head	5	kPa	52	46	48	44	44	70	65	60	55	48	38
Compressor													
Type of compressors			ROTARY INVERTER DC			SCROLL INVERTER DC							
Refrigerant			R-410A	R-410A	R-410A	R-410A	R-410A	R-410A	R-410A	R-410A	R-410A	R-410A	R-410A
No. of compressors		No	1	1	1	1	1	1	1	1	1	1	1
Oil charge		l	0,35	0,35	0,87	1,70	1,70	1,90	1,90	1,90	1,90	1,90	1,90
Refrigeration circuits		No	1	1	1	1	1	1	1	1	1	1	1
Refrigerant charge		kg	2,1	1,9	2,1	3,3	4,4	4,7	4,7	4,7	6,8	6,8	6,8
User side exchanger													
Type of exchanger	7		PHE	PHE	PHE	PHE	PHE	PHE	PHE	PHE	PHE	PHE	PHE
No. of exchangers			1	1	1	1	1	1	1	1	1	1	1
Water content		l	0,56	0,64	0,64	1,14	1,80	2,37	2,37	2,37	3,13	3,13	3,13
External Section Fans													
Type of fans	8		RAD	RAD	RAD	RAD	RAD	RAD	RAD	RAD	RAD	RAD	RAD
No. of fans		No	1	1	1	1	1	1	1	1	1	1	1
Standard airflow		l/s	653	1028	1028	2081	1996	2167	2389	2444	3333	3889	4167
Installed unit power		kW	0,25	0,36	0,36	0,88	0,88	0,67	0,74	0,76	1,28	1,75	2,04
Max external static pressure		Pa	100	100	100	100	100	120	120	120	120	120	120
Water circuit													
Maximum water side pressure		kPa	550	550	550	550	550	550	550	550	550	550	550
Safety valve calibration		kPa	600	600	600	600	600	600	600	600	600	600	600
Min. installation water contents		l	17	20	25	33	40	50	53	57	63	68	74
Power supply													
Standard power supply			230/1/50	230/1/50	230/1/50	400/3/50+N	400/3/50+N	400/3/50+N	400/3/50+N	400/3/50+N	400/3/50+N	400/3/50+N	400/3/50+N

1. Entering/leaving water temperature user side 23/18°C, external exchanger entering air 35°C
2. The overall power absorbed is calculated by adding the power absorbed by the compressor + the power absorbed by the fans + the power absorbed by the auxiliary electrical circuit + the percentage value of the pump to overcome pressure drops inside the unit
3. EER (EN 14511:2013) cooling performance coefficient. Ratio between delivered cooling capacity and power input in compliance with EN 14511:2013
4. ESEER calculated by Clivet for radiant systems with water produced at 18°C by taking into account the load conditions and source water temperature as defined by EUROVENT for water at 7°C
5. User side entering/leaving water temperature 12/7 °C, external exchanger entering air 35°C
6. ESEER calculated by EUROVENT, for systems featuring terminal units with water produced at 7°C
7. PHE = Plate exchanger
8. RAD = Radial fan

The heads are intended as available at the unit connections

The pressure drops of the steel mesh strainer, supplied with the unit, have been already taken into consideration

Electrical data

Supply voltage 230/1/50

Size			21	31	41	51	71
F.L.A. - Full load current at max admissible conditions							
F.L.A. - Pump		A	0.58	0.58	0.95	0.95	1.24
F.L.A. - Fan		A	1,85	1,85	1,85	6,90	6,90
F.L.A. - Total		A	13,30	16,34	20,19	30,31	34,88
F.L.I. - Full load power input at max admissible conditions							
F.L.I. - Pump		kW	0,132	0,132	0,200	0,200	0,260
F.L.I. - Fan		kW	1,00	1,00	1,00	1,59	1,59
F.L.I. - Total		kW	3,63	4,33	5,20	7,04	8,05
M.I.C. - Maximum unit starting current							
M.I.C. - Value		A	13,30	16,34	20,19	30,31	34,88

Power supply: 230/1/50 Hz. Voltage variation: max. +/-10%
The pump is included in the total values calculation
for non standard voltage please contact Clivet technical office
The units are compliant with the provisions of European standards CEI EN 60204 and CEI EN 60335.

Supply voltage 400/3/50+N

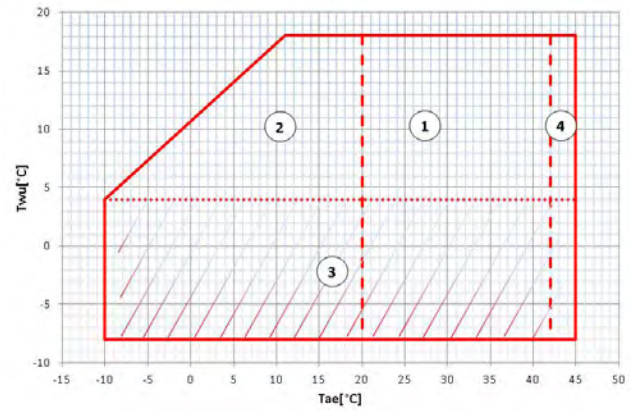
Size			51	71	81	91	101	121	131	141
F.L.A. - Full load current at max admissible conditions										
F.L.A. - Pump		A	0.95	1.24	1.90	1.90	1.90	1.90	1.90	1.90
F.L.A. - Fan		A	6,90	6,90	4.10	4.10	4.10	4.10	4.10	4.10
F.L.A. - Total		A	15,65	17,18	27,83	28,13	28,93	31,53	33,53	34,53
F.L.I. - Full load power input at max admissible conditions										
F.L.I. - Pump		kW	0.20	0.26	0.39	0.39	0.39	0.39	0.39	0.39
F.L.I. - Fan		kW	1,59	1,59	2,70	2,70	2,70	2,70	2,70	2,70
F.L.I. - Total		kW	8,14	9,15	9,68	10,68	12,28	14,38	16,68	17,68
M.I.C. Maximum inrush current										
M.I.C. - Value		A	15,65	17,18	27,83	28,13	28,93	31,53	33,53	34,53

Power supply: 400/3/50 Hz. Voltage variation: max. +/-10%
Voltage unbalance between phases: max 2 %
The pump is included in the total values calculation
for non standard voltage please contact Clivet technical office
The units are compliant with the provisions of European standards CEI EN 60204 and CEI EN 60335.

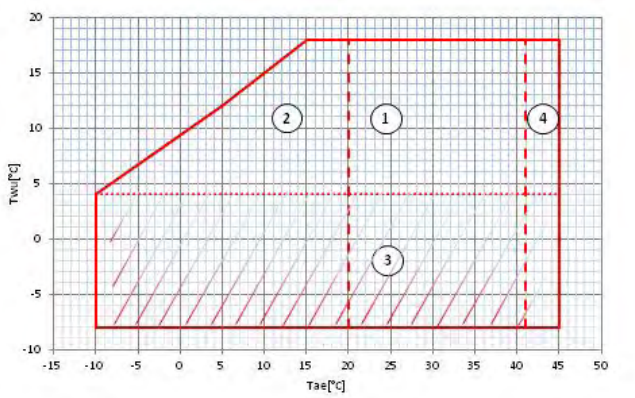
Operating range

Cooling

ELFOEnergy Duct Inverter 21 - 31 - 41



ELFOEnergy Duct Inverter 51-141



Twu [°C] = leaving exchanger water temperature
Eat [°C]: external exchanger inlet air temperature

1. Normal operating range
2. Normal operating range, with modulating fans
3. Operating range where the use of ethylene glycol is mandatory in relation to the temperature of the water at the outlet of the user side exchanger
4. Operating range with modulating compressor

Unit sound levels

ΔPut [Pa]	Size	Sound pressure level [dB(A)]	Sound power level [dB(A)]
50	**21**	51	66
50	**31**	52	67
50	**41**	53	68
50	**51**	64	80
50	**71**	66	81
80	**81**	57	74
80	**91**	57	74
80	**101**	58	74
80	**121**	62	79
80	**131**	65	82
80	**141**	66	83

The noise levels refer to units at full load under nominal test conditions, with ducted supply and return and available pressure of 50Pa and 80Pa as indicated in the table.
The sound pressure level refers to a distance of 1m from the outer surface of the unit operating in an open field.
Noise levels are determined using the tensiometric method (UNI EN ISO 9614-2)
Data referred to the following conditions:
entering / leaving user side exchanger water T 12/7°C, source side air T 35°C

Supply sound levels

ΔPut [Pa]	Size	Sound power level								Sound pressure level	Sound power level
		Octave band (Hz)									
		63	125	250	500	1000	2000	4000	8000	dB(A)	dB(A)
100	**21**	88	77	69	65	64	66	60	41	63	71
100	**31**	95	87	76	71	69	66	62	48	67	76
100	**41**	97	89	77	72	70	68	64	49	69	78
100	**51**	104	95	84	88	83	72	65	58	79	88
100	**71**	106	97	86	90	85	74	67	60	81	90
120	**81**	104	94	78	73	71	70	69	56	72	82
120	**91**	105	94	78	73	71	69	69	58	73	82
120	**101**	107	96	81	74	72	70	69	60	74	84
120	**121**	106	100	86	81	78	77	70	65	77	87
120	**131**	107	103	89	85	82	81	75	69	81	91
120	**141**	108	104	88	86	83	82	77	69	82	92

The noise levels refer to units at full load, under nominal test conditions with ducted supply.
The sound pressure level is measured on the outlet with 1 meter duct and available pressure of 100Pa and 120Pa as indicated in the table.
Noise levels are determined using the tensiometric method (UNI EN ISO 9614-2)
Data referred to the following conditions:
entering / leaving user side exchanger water T 12/7°C, source side air T 35°C

Admissible water flow rates

Min. (Qmin) and max. (Qmax) water flow-rates admissibles for the correct unit operation.

Size		21	31	41	51	71	81	91	101	121	131	141
Minimum flow	[l/s]	0,15	0,18	0,18	0,23	0,34	0,32	0,32	0,32	0,45	0,45	0,45
Maximum flow-rate	[l/s]	0,90	0,90	0,90	1,10	1,50	1,70	1,70	1,70	1,90	1,90	1,90

Correction factors for glycol use

% ethylene glycol by weight			5%	10%	15%	20%	25%	30%	35%	40%
Freezing temperature		°C	-2,0	-3,9	-6,5	-8,9	-11,8	-16,6	-19,0	-23,4
Safety temperature		°C	3	1	-1	-4	-6	-10	-14	-19
Cooling Capacity Factor		No	0,995	0,990	0,985	0,981	0,977	0,974	0,971	0,968
Compressor power input Factor		No	0,997	0,993	0,990	0,988	0,986	0,984	0,982	0,981
Internal exchanger glycol solution flow factor		No	1,003	1,010	1,020	1,033	1,050	1,072	1,095	1,124
Pressure drop Factor		No	1,029	1,060	1,090	1,118	1,149	1,182	1,211	1,243

The correction factors shown refer to water and glycol ethylene mixes used to prevent the formation of frost on the exchangers in the water circuit during inactivity in winter.

Fouling Correction Factors

	Internal exchanger	
m^2C/W	**F1**	**FK1**
0,44x10(-4)	1,00	1,00
0,44x10(-4)	0,97	0,99
0,44x10(-4)	0,94	0,98

The cooling performance values provided in the tables are based on the external exchanger having clean plates (fouling factor 1). For different fouling factor values, multiply the performance by the coefficients shown in the table.
F1 = Cooling capacity correction factors
FK1 = Compressor power input correction factor

Standard unit technical specifications

Compressor

Size 21-31-41

Inverter controlled rotary-type hermetic compressor equipped with a motor protection device for overheating, overcurrents and excessive temperatures of the supply gas. It is installed on anti-vibration mounts and it is equipped with oil charge.

An oil heater, which starts automatically, keeps the oil from being diluted by the refrigerant when the compressor stops.

Size 51-141

Inverter controlled scroll-type hermetic compressor equipped with a motor protection device for overheating, overcurrents and excessive temperatures of the supply gas. It is installed on anti-vibration mounts and is equipped with oil charge.

An oil heater, which starts automatically, keeps the oil from being diluted by the refrigerant when the compressor stops.

Structure

Structure made entirely in Zinc–Magnesium plate that guarantees excellent mechanical characteristics and high corrosion strength over time.

base made from galvanized steel plate painted with polyester powder paint, RAL 9001.

Panelling

External panels made with prepainted zinc-magnesium, especially indicated in outdoor installation due to its superior resistance to corrosion avoiding periodic painting. Side panels are easily removable and allow complete access to unit components.

Internal exchanger

Direct expansion heat exchanger with braze welded stainless steel INOX AISI 316 plates and complete with external thermal/anti-condensation insulation.

The exchanger is complete with:

- antifreeze heater to protect the water side exchanger, preventing the formation of frost if the water temperature falls below a set value.

External exchanger

Direct expansion finned coil exchanger made with copper pipes placed on staggered rows mechanically expanded to better adhere to the fin collar. The fins are made from aluminium with a corrugated surface and adequately distanced to ensure the maximum heat exchange efficiency.

Fan

Direct current radial fan, reversed blades, optimised to reduce at minimum the sound emissions and at the same time increase the energy efficiency, though keeping the pressure necessary to the unit duct system.

Refrigeration circuit

Refrigeration circuit with:

- electronic expansion valve
- filter dryer
- pressure probes
- low pressure safety
- high pressure safety

Front return plenum

Magnesium zinc metal olate structure that allows the return duct to be easily connected.

Electrical panel

The capacity section includes:

- fans and auxiliary circuit fuse
- compressor fuses
- isolating transformer for auxiliary circuit power supply

The control section includes:

- compressor overload protection and timer
- relay for remote cumulative fault signal
- condenser control
- Set point compensation with outdoor temperature
- ON/OFF clear input

The control keypad includes:

- Multifunction keys for ON/OFF control, cold and hot operation mode, display and alarm reset, daily or weekly schedule
- Display

Water circuit

- water side safety valve
- drain valve
- Steel mesh strainer
- Flow Switch
- pump

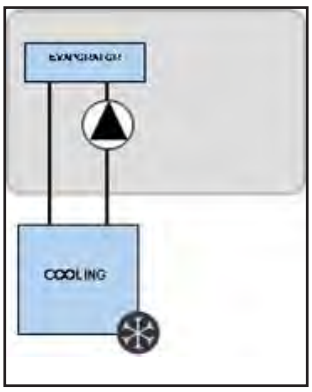
Accessories

- AMRX - Rubber antivibration mounts
- RCTX - Remote control
- CMSC2X - Serial communication module with RS485 serial converter kit
- KTFL1X - 1" water side hose kit
- KTFL2X - 1" 1/4 water side hose kit
- KSAX - 100-litre circuit breaker
- GMX - Outlet grille
- PGFCX - Finned coil protection grill
- KG4UP - Management kit up to 4 units in parallel

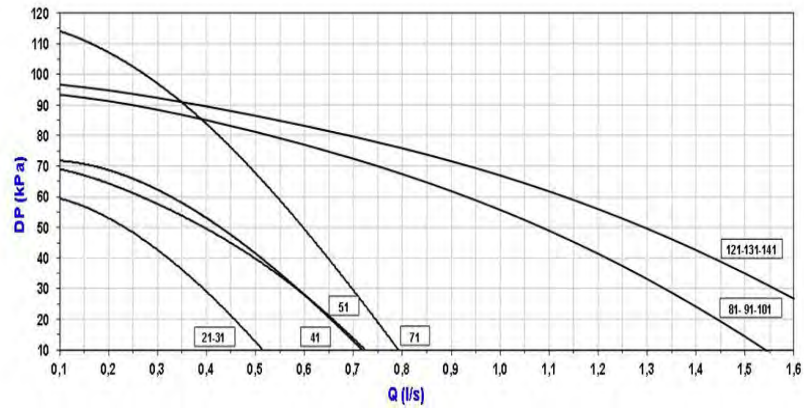
Hydronic assembly configuration 1.1

Standard unit

Standard unit is equipped with wet rotor, pipe union connection and max operating pressure at 6 bar.

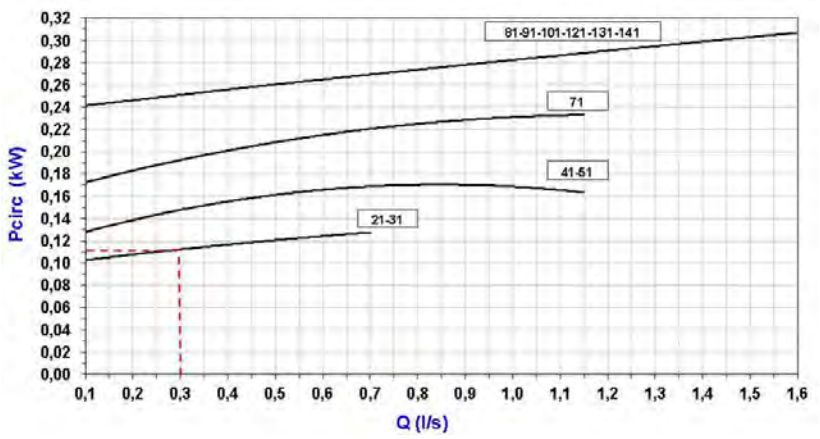


Curve of discharge head with standard circulator



Available pressure curves with hydronic assembly
DP [kPa] = Available pressure
Q [l/s] = water flow-rate
The heads are intended as available at the unit connections
The pressure drops of the steel mesh strainer, supplied with the unit, have been already taken into consideration

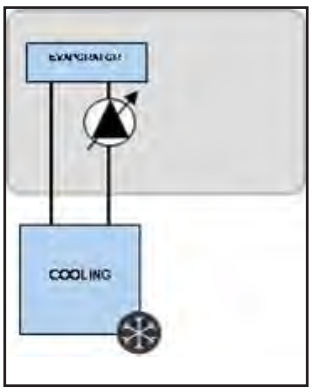
Standard circulator absorption curves



Available pressure curves with hydronic assembly
DP [kPa] = Available pressure
Q [l/s] = water flow-rate
the heads are intended as available at the unit connections
The pressure drops of the steel mesh strainer, supplied with the unit, have been already taken into consideration

Hydronic assembly configuration 1.2

Unit with high efficiency hydronic assembly - HYHE



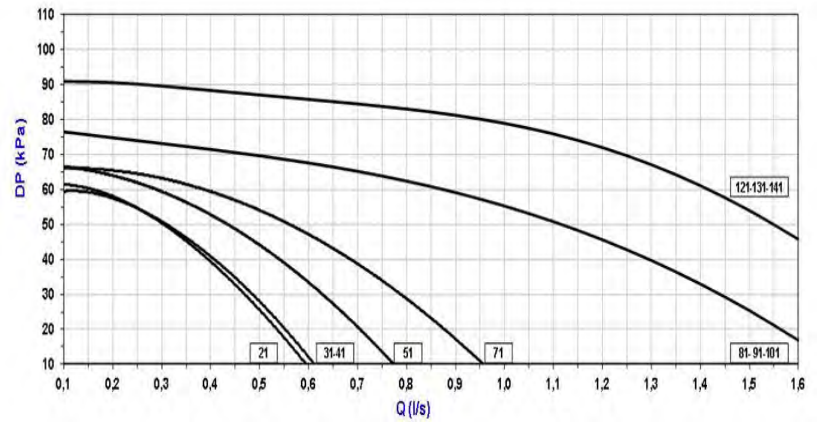
The EC technology decisively reduces the annual consumption of electric energy, thereby allowing for considerable cost savings compared to conventional motors.

The EC circulator use allows to chose the optimal operating curve according to the charge and the installation pressure drop and allows to exceed the traditional operating ranges.

A series of automatically-activated devices assure the unit operation even when the system water is under critical conditions, that would lock the operation of the old generation units:

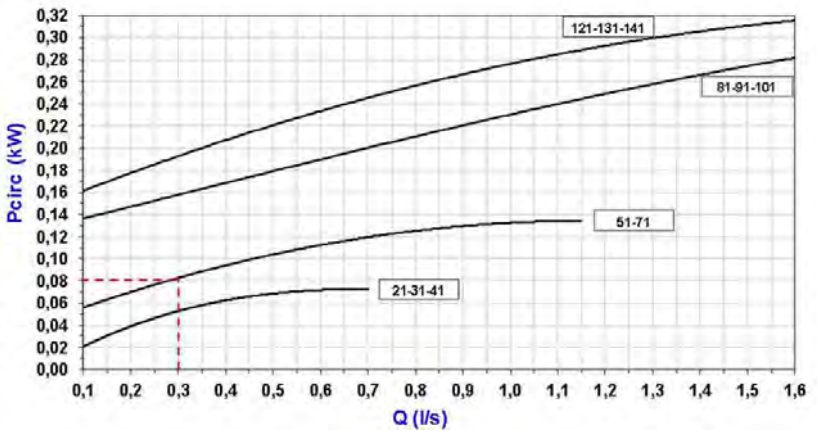
if the water temperature exceeds the maximum operating temperature, the electronic control decreases the circulator's water flow-rate.

Available pressure curves with high-efficiency circulator



Available pressure curves with hydronic assembly
Q [l/s] = water flow-rate
DP [kPa] = Available pressure
The heads are intended as available at the unit connections
The pressure drops of the steel mesh strainer, supplied with the unit, have been already taken into consideration

High-efficiency circulator absorption curves

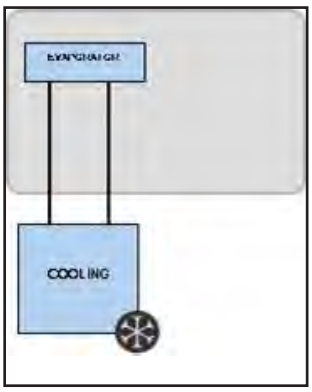


Q [l/s] = water flow-rate
Pac (kW)= capacity absorbed by the pump

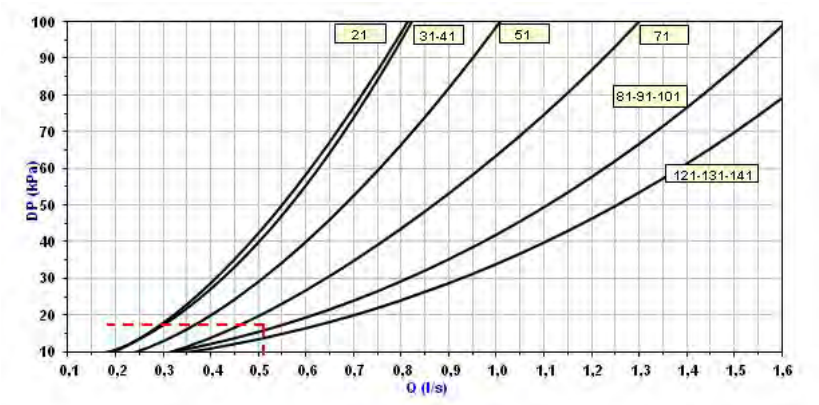
Hydronic assembly configuration 1.3

Unit without hydronic assembly

The unit can be requested without the hydronic assembly, consisting solely of the circulation pump



Exchanger pressure drop curves + steel mesh filter



Exchanger pressure drop limit + filter Caution: do not use beyond this limit.

Dp = pressure drop
Q = water flow

Exchanger pressure drop limit + filter. Caution: do not use below this limit

Control

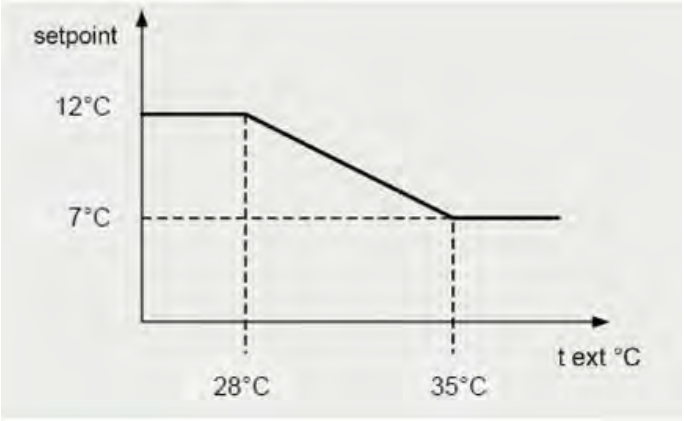
Climatic compensation with ambient temperature

The cooling capacity requirement of the building cooling decreases with the ambient temperature reduction

Power supply is not necessary for the terminal units always at the same temperature; for each kind of terminal unit it is better to have a water temperature that changes according with ambient temperature, with linear trend (what is commonly defined climatic control) for a high seasonal energy efficiency.

The following graph shows an example of climatic control on the water supply temperature.

Climatic curve in Cooling



With a decreasing ambient temperature, the climatic function increases the supply water set point

Set point = 7°C
Compensated set point = 12°C

WSA-XIN 21 Performance

Cooling

To	Tae	Cooling capacity						EER					
°C	°C	100%	90%	75%	60%	50%	40%	100%	90%	75%	60%	50%	40%
5	20	4,89	4,39	3,89	3,40	2,40	1,90	3,82	3,83	3,87	3,85	3,84	3,80
	25	4,63	4,16	3,70	3,23	2,30	1,83	3,28	3,30	3,35	3,34	3,35	3,33
	30	4,37	3,93	3,50	3,07	2,19	1,76	2,84	2,86	2,91	2,90	2,92	2,92
	35	4,11	3,71	3,30	2,90	2,09	1,68	2,43	2,45	2,50	2,49	2,53	2,53
	40	3,85	3,48	3,10	2,73	1,98	1,61	2,09	2,11	2,17	2,16	2,20	2,21
	45	3,59	3,25	2,91	2,57	1,88	1,54	1,78	1,80	1,87	1,86	1,90	1,91
7	20	5,21	4,68	4,15	3,62	2,56	2,03	4,14	4,17	4,25	4,23	4,23	4,19
	25	4,94	4,44	3,95	3,45	2,46	1,96	3,53	3,56	3,64	3,63	3,66	3,65
	30	4,67	4,21	3,75	3,29	2,36	1,90	3,03	3,06	3,14	3,13	3,18	3,18
	35	4,39	3,97	3,54	3,12	2,26	1,83	2,59	2,63	2,71	2,70	2,75	2,76
	40	4,12	3,73	3,34	2,95	2,16	1,77	2,23	2,27	2,35	2,34	2,39	2,41
	45	3,85	3,49	3,13	2,78	2,06	1,70	1,91	1,94	2,03	2,02	2,07	2,09
12	20	6,01	5,41	4,80	4,19	2,97	2,36	4,94	5,02	5,20	5,15	5,21	5,16
	25	5,71	5,15	4,58	4,01	2,88	2,30	4,14	4,21	4,38	4,35	4,45	4,45
	30	5,41	4,89	4,36	3,84	2,78	2,26	3,50	3,57	3,73	3,71	3,81	3,84
	35	5,11	4,63	4,14	3,66	2,69	2,21	3,02	3,08	3,23	3,21	3,31	3,34
	40	4,81	4,37	3,93	3,49	2,60	2,16	2,60	2,66	2,80	2,78	2,87	2,90
	45	4,49	4,10	3,70	3,31	2,51	2,11	2,23	2,29	2,42	2,40	2,49	2,52
15	20	6,51	5,85	5,19	4,53	3,22	2,55	5,05	5,16	5,39	5,36	5,50	5,50
	25	6,19	5,58	4,97	4,36	3,13	2,52	4,28	4,38	4,59	4,57	4,73	4,77
	30	5,88	5,32	4,75	4,18	3,05	2,48	3,66	3,75	3,94	3,93	4,08	4,14
	35	5,56	5,04	4,52	4,01	2,96	2,44	3,14	3,23	3,40	3,39	3,53	3,59
	40	5,24	4,77	4,30	3,83	2,88	2,41	2,70	2,78	2,94	2,92	3,05	3,10
	45	4,91	4,49	4,07	3,64	2,80	2,38	2,32	2,40	2,56	2,53	2,65	2,70
18	20	6,85	6,16	5,47	4,78	3,39	2,69	5,26	5,39	5,68	5,65	5,83	5,85
	25	6,53	5,89	5,24	4,60	3,31	2,66	4,46	4,59	4,85	4,82	5,02	5,08
	30	6,20	5,61	5,02	4,43	3,24	2,64	3,83	3,94	4,17	4,15	4,34	4,41
	35	5,87	5,33	4,79	4,25	3,16	2,61	3,28	3,38	3,59	3,57	3,74	3,81
	40	5,54	5,05	4,56	4,07	3,09	2,60	2,83	2,92	3,11	3,09	3,24	3,31
	45	5,20	4,76	4,33	3,89	3,02	2,58	2,44	2,53	2,71	2,69	2,83	2,88

To = Leaving internal exchanger water temperature (°C)
Tae [°C]: external exchanger inlet air temperature
Performances in function of the inlet/outlet water temperature differential = 5°C
Cooling capacity and EER calculated according to EN 14511:2013

WSA-XIN 31 Performance

Cooling

To	Tae	Cooling capacity						EER					
°C	°C	100%	90%	75%	60%	50%	40%	100%	90%	75%	60%	50%	40%
5	20	6,05	5,49	4,76	4,20	2,98	2,33	3,66	3,67	3,66	3,64	3,57	3,47
	25	5,74	5,21	4,52	3,99	2,85	2,24	3,13	3,14	3,14	3,14	3,10	3,04
	30	5,42	4,93	4,29	3,79	2,72	2,15	2,69	2,70	2,72	2,72	2,71	2,67
	35	5,10	4,64	4,04	3,58	2,58	2,05	2,44	2,46	2,48	2,49	2,49	2,46
	40	4,77	4,35	3,80	3,37	2,45	1,95	1,96	1,98	2,01	2,03	2,05	2,04
	45	4,44	4,06	3,55	3,15	2,30	1,85	1,68	1,71	1,74	1,76	1,80	1,80
7	20	6,68	6,06	5,26	4,64	3,30	2,59	3,95	3,98	4,01	4,01	3,98	3,89
	25	6,34	5,76	5,01	4,42	3,17	2,50	3,37	3,40	3,43	3,45	3,45	3,41
	30	6,00	5,46	4,75	4,21	3,03	2,41	2,89	2,93	2,96	2,99	3,01	2,99
	35	5,64	5,14	4,49	3,98	2,89	2,31	2,58	2,61	2,65	2,68	2,71	2,69
	40	5,29	4,83	4,23	3,76	2,75	2,22	2,12	2,15	2,20	2,23	2,28	2,28
	45	4,94	4,52	3,97	3,54	2,61	2,12	1,81	1,85	1,90	1,93	1,99	2,01
12	20	8,24	7,50	6,51	5,75	4,10	3,21	4,68	4,77	4,87	4,94	5,00	4,94
	25	7,84	7,14	6,22	5,50	3,96	3,13	3,98	4,06	4,16	4,23	4,32	4,31
	30	7,43	6,78	5,92	5,25	3,81	3,05	3,41	3,49	3,58	3,65	3,76	3,77
	35	7,01	6,41	5,62	5,00	3,67	2,96	2,92	2,99	3,08	3,15	3,26	3,29
	40	6,59	6,04	5,31	4,75	3,53	2,88	2,52	2,58	2,67	2,73	2,85	2,88
	45	6,17	5,67	5,01	4,50	3,39	2,80	2,16	2,22	2,31	2,37	2,49	2,52
15	20	8,94	8,14	7,07	6,24	4,45	3,50	5,00	5,12	5,27	5,37	5,49	5,45
	25	8,51	7,76	6,77	5,99	4,31	3,42	4,22	4,33	4,47	4,57	4,72	4,73
	30	8,08	7,39	6,46	5,73	4,18	3,35	3,60	3,70	3,83	3,92	4,08	4,12
	35	7,64	7,00	6,14	5,48	4,04	3,27	3,07	3,16	3,28	3,37	3,53	3,58
	40	7,19	6,61	5,82	5,21	3,90	3,20	2,63	2,72	2,83	2,91	3,06	3,12
	45	6,74	6,21	5,50	4,95	3,77	3,14	2,27	2,35	2,46	2,54	2,69	2,74
18	20	9,16	8,35	7,26	6,41	4,57	3,59	5,19	5,33	5,52	5,64	5,78	5,74
	25	8,73	7,97	6,95	6,15	4,44	3,53	4,40	4,53	4,70	4,81	4,99	5,01
	30	8,29	7,59	6,64	5,90	4,31	3,46	3,76	3,88	4,04	4,15	4,33	4,38
	35	7,85	7,20	6,33	5,65	4,18	3,40	3,21	3,32	3,46	3,56	3,74	3,80
	40	7,40	6,81	6,01	5,39	4,06	3,35	2,76	2,85	2,99	3,08	3,26	3,32
	45	6,95	6,41	5,70	5,14	3,95	3,31	2,36	2,46	2,59	2,68	2,86	2,92

To = Leaving internal exchanger water temperature (°C)
Tae [°C]: external exchanger inlet air temperature
Performances in function of the inlet/outlet water temperature differential = 5°C
Cooling capacity and EER calculated according to EN 14511:2013

WSA-XIN 41 Performance

Cooling

To	Tae	Cooling capacity						EER					
°C	°C	100%	90%	75%	60%	50%	40%	100%	90%	75%	60%	50%	40%
5	20	8,07	7,31	6,05	5,54	3,96	3,12	3,40	3,31	3,38	3,42	3,56	3,67
	25	7,90	7,17	5,95	5,45	3,92	3,11	3,21	3,24	3,30	3,35	3,47	3,55
	30	7,74	7,02	5,85	5,37	3,89	3,10	2,88	2,92	2,97	3,02	3,14	3,21
	35	7,57	6,88	5,75	5,28	3,86	3,10	2,57	2,61	2,66	2,70	2,82	2,88
	40	7,41	6,74	5,65	5,20	3,83	3,10	2,29	2,33	2,38	2,43	2,53	2,59
	45	7,24	6,61	5,56	5,13	3,80	3,10	2,05	2,09	2,14	2,19	2,29	2,34
7	20	8,79	7,96	6,60	6,04	4,32	3,41	3,56	3,62	3,72	3,78	3,98	4,12
	25	8,53	7,74	6,43	5,90	4,26	3,38	3,34	3,39	3,47	3,54	3,71	3,82
	30	8,27	7,51	6,27	5,76	4,19	3,36	2,96	3,01	3,08	3,14	3,29	3,39
	35	8,01	7,29	6,11	5,62	4,13	3,33	2,61	2,66	2,72	2,78	2,92	3,00
	40	7,75	7,07	5,94	5,48	4,07	3,32	2,31	2,35	2,41	2,47	2,59	2,66
	45	7,49	6,84	5,79	5,35	4,01	3,30	2,04	2,09	2,15	2,20	2,32	2,37
12	20	10,6	9,59	7,96	7,29	5,23	4,13	3,96	4,40	4,56	4,69	5,03	5,25
	25	10,1	9,16	7,64	7,01	5,09	4,06	3,66	3,76	3,89	4,00	4,30	4,49
	30	9,60	8,73	7,32	6,73	4,94	3,99	3,15	3,23	3,35	3,44	3,69	3,85
	35	9,10	8,31	7,00	6,46	4,81	3,93	2,72	2,79	2,89	2,97	3,18	3,30
	40	8,61	7,88	6,68	6,18	4,67	3,87	2,35	2,42	2,50	2,57	2,75	2,84
	45	8,10	7,44	6,35	5,91	4,54	3,81	2,03	2,09	2,16	2,23	2,38	2,45
15	20	11,6	10,5	8,73	8,00	5,74	4,54	4,23	4,74	4,94	5,10	5,53	5,82
	25	11,1	10,1	8,40	7,71	5,61	4,49	3,92	4,04	4,22	4,35	4,72	4,96
	30	10,6	9,62	8,07	7,43	5,48	4,44	3,38	3,48	3,63	3,75	4,05	4,25
	35	10,0	9,16	7,73	7,15	5,35	4,40	2,92	3,01	3,13	3,23	3,49	3,64
	40	9,49	8,70	7,40	6,87	5,23	4,36	2,53	2,61	2,71	2,80	3,01	3,12
	45	8,93	8,22	7,06	6,58	5,11	4,33	2,19	2,26	2,35	2,43	2,60	2,69
18	20	13,0	11,8	9,78	8,96	6,44	5,10	4,60	4,78	5,04	5,24	5,79	6,18
	25	12,4	11,3	9,43	8,66	6,31	5,06	4,27	4,43	4,65	4,82	5,29	5,59
	30	11,8	10,8	9,08	8,37	6,20	5,04	3,68	3,81	4,00	4,14	4,52	4,77
	35	11,3	10,3	8,72	8,07	6,08	5,01	3,18	3,30	3,45	3,58	3,88	4,07
	40	10,7	9,80	8,37	7,78	5,97	5,00	2,77	2,87	3,00	3,11	3,36	3,50
	45	10,1	9,30	8,02	7,49	5,87	5,01	2,42	2,51	2,62	2,72	2,93	3,04

To = Leaving internal exchanger water temperature (°C)
Tae [°C]: external exchanger inlet air temperature
Performances in function of the inlet/outlet water temperature differential = 5°C
Cooling capacity and EER calculated according to EN 14511:2013

WSA-XIN 51 Performance

Cooling

To	Tae	Cooling capacity						EER					
°C	°C	100%	85%	75%	60%	50%	40%	100%	85%	75%	60%	50%	40%
5	20	11,2	10,2	9,23	8,35	6,31	5,34	3,26	3,39	3,50	3,60	3,75	3,91
	25	10,6	9,67	8,73	7,87	5,89	4,94	2,84	2,92	3,00	3,07	3,17	3,28
	30	10,1	9,16	8,26	7,44	5,54	4,64	2,48	2,53	2,59	2,63	2,69	2,77
	35	9,47	8,62	7,78	7,01	5,24	4,39	2,28	2,32	2,35	2,38	2,40	2,44
	40	8,85	8,09	7,31	6,61	5,00	4,22	1,85	1,88	1,91	1,93	1,96	2,00
	45	8,20	7,52	6,84	6,23	4,81	4,13	1,59	1,62	1,65	1,67	1,71	1,75
7	20	12,0	10,9	9,83	8,86	6,61	5,53	3,48	3,62	3,75	3,85	4,03	4,21
	25	11,4	10,3	9,30	8,35	6,17	5,12	3,03	3,12	3,21	3,29	3,40	3,53
	30	10,8	9,78	8,79	7,88	5,80	4,79	2,64	2,71	2,77	2,82	2,89	2,98
	35	10,1	9,22	8,29	7,44	5,48	4,54	2,39	2,43	2,47	2,50	2,54	2,59
	40	9,50	8,65	7,79	7,02	5,23	4,37	1,97	2,01	2,04	2,06	2,10	2,14
	45	8,82	8,06	7,31	6,63	5,05	4,29	1,70	1,73	1,76	1,78	1,82	1,87
12	20	14,0	12,7	11,3	10,1	7,35	6,01	4,03	4,20	4,36	4,50	4,72	4,95
	25	13,3	12,0	10,7	9,55	6,84	5,55	3,50	3,63	3,74	3,84	3,98	4,14
	30	12,6	11,3	10,1	9,00	6,43	5,19	3,06	3,15	3,23	3,29	3,38	3,49
	35	11,8	10,7	9,55	8,50	6,08	4,92	2,65	2,71	2,76	2,80	2,86	2,94
	40	11,1	10,0	8,99	8,03	5,82	4,75	2,28	2,33	2,37	2,40	2,45	2,51
	45	10,4	9,42	8,48	7,62	5,64	4,69	1,95	2,00	2,04	2,07	2,12	2,19
15	20	16,4	14,9	13,4	12,1	9,01	7,52	4,61	4,84	5,05	5,23	5,56	5,87
	25	15,6	14,2	12,7	11,4	8,42	6,97	3,99	4,16	4,31	4,44	4,67	4,90
	30	14,8	13,4	12,0	10,8	7,91	6,53	3,47	3,59	3,69	3,78	3,94	4,11
	35	13,9	12,6	11,4	10,2	7,50	6,20	3,00	3,08	3,16	3,22	3,33	3,45
	40	13,1	11,9	10,7	9,64	7,16	5,98	2,59	2,65	2,71	2,75	2,84	2,93
	45	12,2	11,1	10,1	9,12	6,93	5,88	2,22	2,28	2,33	2,37	2,46	2,55
18	20	16,3	14,9	13,5	12,2	9,24	7,81	4,83	5,09	5,33	5,53	5,88	6,21
	25	15,6	14,2	12,8	11,5	8,64	7,25	4,21	4,40	4,58	4,73	4,98	5,23
	30	14,8	13,4	12,1	10,9	8,14	6,80	3,69	3,82	3,95	4,06	4,24	4,42
	35	13,9	12,7	11,5	10,3	7,72	6,46	2,95	3,05	3,15	3,23	3,38	3,53
	40	13,1	12,0	10,8	9,79	7,39	6,24	2,55	2,63	2,70	2,76	2,89	3,01
	45	12,2	11,2	10,2	9,30	7,17	6,15	2,19	2,26	2,33	2,39	2,51	2,62

To = Leaving internal exchanger water temperature (°C)
Tae [°C]: external exchanger inlet air temperature
Performances in function of the inlet/outlet water temperature differential = 5°C
Cooling capacity and EER calculated according to EN 14511:2013

WSA-XIN 71 Performance

Cooling

To	Tae	Cooling capacity						EER					
°C	°C	100%	80%	75%	60%	50%	40%	100%	80%	75%	60%	50%	40%
5	20	14,4	13,2	12,0	10,8	8,11	6,79	3,44	3,55	3,65	3,77	4,03	4,08
	25	13,7	12,6	11,5	10,3	7,71	6,41	3,01	3,11	3,21	3,31	3,48	3,51
	30	13,0	12,0	11,0	9,84	7,34	6,08	2,64	2,73	2,82	2,90	3,02	3,03
	35	12,3	11,3	10,3	9,31	6,96	5,77	2,30	2,37	2,43	2,48	2,56	2,56
	40	11,4	10,6	9,68	8,73	6,58	5,50	1,98	2,06	2,12	2,18	2,23	2,23
	45	10,6	9,79	8,97	8,11	6,22	5,27	1,70	1,76	1,82	1,87	1,93	1,94
7	20	15,4	14,1	12,9	11,6	8,63	7,15	3,47	3,62	3,76	3,91	4,22	4,29
	25	14,6	13,5	12,3	11,1	8,20	6,76	3,04	3,17	3,30	3,42	3,63	3,68
	30	13,9	12,8	11,7	10,6	7,80	6,41	2,67	2,78	2,90	3,00	3,14	3,16
	35	13,1	12,1	11,1	10,0	7,40	6,09	2,32	2,41	2,50	2,58	2,67	2,69
	40	12,2	11,3	10,4	9,40	7,01	5,81	2,00	2,09	2,18	2,25	2,32	2,33
	45	11,3	10,5	9,66	8,75	6,64	5,57	1,72	1,79	1,87	1,93	2,01	2,02
12	20	17,7	16,4	15,1	13,6	9,91	8,07	3,56	3,80	4,02	4,25	4,68	4,80
	25	16,9	15,6	14,4	13,0	9,41	7,62	3,11	3,32	3,52	3,71	4,01	4,09
	30	16,0	14,8	13,7	12,4	8,95	7,22	2,73	2,91	3,08	3,24	3,45	3,50
	35	15,1	14,0	13,0	11,8	8,50	6,87	2,37	2,53	2,69	2,82	2,96	3,00
	40	14,1	13,2	12,2	11,1	8,08	6,57	2,05	2,19	2,33	2,44	2,54	2,57
	45	13,2	12,3	11,4	10,4	7,68	6,34	1,77	1,89	2,00	2,10	2,20	2,24
15	20	19,0	17,6	16,2	14,7	10,9	9,05	3,76	4,05	4,33	4,61	5,11	5,28
	25	18,1	16,8	15,5	14,0	10,4	8,54	3,27	3,52	3,77	3,99	4,36	4,48
	30	17,1	16,0	14,8	13,4	9,86	8,09	2,85	3,07	3,29	3,48	3,73	3,81
	35	16,2	15,1	14,0	12,7	9,39	7,71	2,49	2,68	2,87	3,02	3,20	3,26
	40	15,2	14,2	13,2	12,0	8,94	7,40	2,16	2,32	2,49	2,62	2,76	2,80
	45	14,3	13,3	12,4	11,3	8,54	7,16	1,87	2,01	2,15	2,27	2,40	2,45
18	20	20,7	19,3	17,7	15,9	12,0	10,1	4,42	4,61	4,93	5,26	5,90	6,11
	25	19,3	17,9	16,4	14,9	11,1	9,24	3,66	3,93	4,20	4,45	4,91	5,05
	30	17,8	16,5	15,2	13,7	10,3	8,50	3,11	3,34	3,56	3,76	4,08	4,18
	35	16,8	15,6	14,4	13,0	9,75	8,09	2,71	2,93	3,13	3,31	3,54	3,62
	40	15,8	14,7	13,6	12,3	9,29	7,76	2,36	2,53	2,70	2,84	3,03	3,09
	45	14,8	13,8	12,7	11,6	8,89	7,52	2,05	2,19	2,34	2,46	2,64	2,70

To = Leaving internal exchanger water temperature (°C)
Tae [°C]: external exchanger inlet air temperature
Performances in function of the inlet/outlet water temperature differential = 5°C
Cooling capacity and EER calculated according to EN 14511:2013

WSA-XIN 81 Performance

Cooling

To	Tae	Cooling capacity						EER					
°C	°C	100%	80%	75%	60%	50%	40%	100%	80%	75%	60%	50%	40%
5	20	17,3	15,8	13,6	11,4	10,1	8,69	4,19	4,42	4,79	5,22	5,54	6,01
	25	16,5	15,1	12,9	10,8	9,42	8,08	3,64	3,81	4,08	4,38	4,60	4,93
	30	15,7	14,3	12,2	10,2	8,89	7,60	3,19	3,30	3,49	3,70	3,86	4,08
	35	14,7	13,3	11,4	9,51	8,32	7,13	2,72	2,80	2,93	3,07	3,18	3,32
	40	13,4	12,3	10,5	8,85	7,79	6,72	2,30	2,36	2,45	2,55	2,62	2,72
	45	12,3	11,2	9,76	8,31	7,39	6,48	1,93	1,98	2,06	2,14	2,20	2,27
7	20	18,5	16,8	14,3	12,0	10,5	8,94	4,37	4,62	5,03	5,52	5,90	6,48
	25	17,6	15,9	13,6	11,2	9,75	8,28	3,79	3,97	4,26	4,61	4,87	5,27
	30	16,7	15,1	12,8	10,6	9,18	7,77	3,30	3,43	3,64	3,88	4,06	4,33
	35	15,5	14,1	12,0	9,90	8,59	7,29	2,82	2,91	3,06	3,22	3,34	3,52
	40	14,3	13,0	11,1	9,23	8,07	6,90	2,39	2,46	2,56	2,67	2,76	2,88
	45	13,1	12,0	10,3	8,74	7,72	6,70	2,02	2,08	2,16	2,26	2,32	2,41
12	20	21,3	19,3	16,2	13,3	11,4	9,58	4,81	5,12	5,64	6,27	6,79	7,65
	25	20,1	18,2	15,2	12,4	10,6	8,80	4,15	4,37	4,74	5,18	5,54	6,13
	30	19,0	17,1	14,3	11,6	9,90	8,19	3,59	3,75	4,01	4,31	4,56	4,95
	35	17,7	15,9	13,4	10,9	9,28	7,69	3,08	3,20	3,38	3,59	3,76	4,01
	40	16,4	14,8	12,5	10,2	8,76	7,33	2,62	2,70	2,83	2,98	3,10	3,27
	45	15,3	13,9	11,8	9,81	8,54	7,27	2,24	2,31	2,42	2,54	2,63	2,77
15	20	22,8	20,7	17,7	14,7	12,8	11,0	4,96	5,29	5,84	6,51	7,04	7,89
	25	21,6	19,6	16,6	13,7	11,9	10,1	4,29	4,52	4,92	5,39	5,76	6,35
	30	20,4	18,5	15,7	12,9	11,2	9,45	3,72	3,89	4,17	4,50	4,76	5,15
	35	19,0	17,2	14,6	12,1	10,5	8,85	3,18	3,30	3,49	3,72	3,89	4,15
	40	17,6	16,0	13,6	11,4	9,90	8,45	2,71	2,80	2,94	3,10	3,23	3,40
	45	16,6	15,2	13,1	11,0	9,71	8,42	2,36	2,43	2,56	2,69	2,79	2,93
18	20	24,7	22,6	19,4	16,3	14,4	12,4	5,38	5,77	6,43	7,21	7,82	8,78
	25	23,3	21,2	18,2	15,2	13,3	11,4	4,61	4,89	5,36	5,92	6,35	7,01
	30	21,9	19,9	17,0	14,2	12,4	10,6	3,96	4,17	4,50	4,89	5,19	5,64
	35	20,5	18,7	16,0	13,3	11,7	10,0	3,42	3,57	3,82	4,09	4,30	4,61
	40	19,1	17,4	14,9	12,5	11,0	9,52	2,93	3,04	3,22	3,42	3,57	3,78
	45	18,3	16,8	14,5	12,4	11,0	9,63	2,60	2,70	2,86	3,04	3,16	3,33

To = Leaving internal exchanger water temperature (°C)
Tae [°C]: external exchanger inlet air temperature
Performances in function of the inlet/outlet water temperature differential = 5°C
Cooling capacity and EER calculated according to EN 14511:2013

WSA-XIN 91 Performance

Cooling

To	Tae	Cooling capacity						EER					
°C	°C	100%	80%	75%	60%	50%	40%	100%	80%	75%	60%	50%	40%
5	20	19,6	18,0	16,2	12,7	11,1	9,40	3,86	4,06	4,31	4,87	5,18	5,66
	25	18,6	17,1	15,3	12,0	10,4	8,73	3,37	3,51	3,69	4,09	4,31	4,64
	30	17,7	16,2	14,5	11,3	9,75	8,20	2,95	3,06	3,18	3,46	3,61	3,83
	35	16,5	15,2	13,6	10,6	9,15	7,71	2,54	2,62	2,71	2,89	3,00	3,15
	40	15,2	14,0	12,5	9,85	8,56	7,27	2,15	2,21	2,28	2,41	2,48	2,59
	45	13,9	12,9	11,6	9,28	8,16	7,03	1,80	1,85	1,91	2,02	2,08	2,17
7	20	20,9	19,1	17,2	13,4	11,5	9,71	4,07	4,29	4,58	5,20	5,56	6,13
	25	19,8	18,2	16,2	12,5	10,8	9,00	3,54	3,70	3,91	4,35	4,60	4,99
	30	18,7	17,2	15,4	11,8	10,1	8,44	3,09	3,21	3,35	3,66	3,83	4,10
	35	17,5	16,1	14,3	11,1	9,50	7,92	2,65	2,74	2,84	3,05	3,17	3,35
	40	16,1	14,8	13,2	10,3	8,89	7,48	2,25	2,32	2,39	2,54	2,63	2,75
	45	14,9	13,8	12,4	9,81	8,56	7,31	1,92	1,98	2,04	2,17	2,24	2,34
12	20	24,0	22,0	19,6	14,9	12,7	10,5	4,60	4,88	5,24	6,02	6,50	7,29
	25	22,7	20,8	18,5	14,0	11,8	9,66	3,97	4,19	4,44	4,99	5,33	5,87
	30	21,4	19,7	17,4	13,1	11,1	9,02	3,44	3,60	3,78	4,17	4,40	4,77
	35	19,9	18,3	16,2	12,3	10,4	8,45	2,94	3,06	3,18	3,45	3,61	3,85
	40	18,3	16,9	15,0	11,4	9,71	7,99	2,49	2,59	2,68	2,87	2,98	3,15
	45	17,4	16,1	14,4	11,1	9,56	8,01	2,21	2,30	2,38	2,55	2,64	2,78
15	20	25,7	23,6	21,2	16,4	14,2	11,9	4,65	4,96	5,34	6,18	6,69	7,51
	25	24,3	22,4	20,0	15,4	13,2	11,0	4,04	4,28	4,55	5,15	5,51	6,08
	30	23,0	21,1	18,9	14,5	12,4	10,3	3,53	3,71	3,90	4,32	4,57	4,96
	35	21,4	19,7	17,6	13,5	11,6	9,66	3,02	3,16	3,30	3,59	3,76	4,02
	40	19,8	18,3	16,4	12,7	11,0	9,19	2,58	2,69	2,79	3,00	3,13	3,31
	45	19,0	17,6	15,8	12,5	10,9	9,29	2,28	2,37	2,46	2,65	2,76	2,91
18	20	27,3	25,2	22,7	17,8	15,5	13,2	5,06	5,42	5,88	6,88	7,46	8,40
	25	25,8	23,8	21,4	16,7	14,4	12,2	4,40	4,67	5,00	5,73	6,14	6,80
	30	24,3	22,4	20,1	15,6	13,5	11,3	3,83	4,04	4,28	4,80	5,09	5,54
	35	22,7	20,9	18,8	14,6	12,6	10,6	3,29	3,46	3,63	4,00	4,21	4,52
	40	21,1	19,5	17,5	13,8	12,0	10,2	2,84	2,97	3,10	3,38	3,53	3,75
	45	20,6	19,1	17,3	13,8	12,1	10,4	2,55	2,67	2,79	3,03	3,17	3,36

To = Leaving internal exchanger water temperature (°C)
Tae [°C]: external exchanger inlet air temperature
Performances in function of the inlet/outlet water temperature differential = 5°C
Cooling capacity and EER calculated according to EN 14511:2013

WSA-XIN 101 Performance

Cooling

To	Tae	Cooling capacity						EER					
°C	°C	100%	80%	75%	60%	50%	40%	100%	80%	75%	60%	50%	40%
5	20	22,6	20,7	17,8	14,7	12,7	10,8	3,72	3,88	4,20	4,67	4,99	5,36
	25	21,3	19,5	16,9	13,8	11,9	10,0	3,20	3,34	3,58	3,91	4,13	4,39
	30	20,0	18,4	15,9	13,0	11,2	9,36	2,76	2,88	3,06	3,29	3,44	3,62
	35	18,5	17,1	14,8	12,1	10,4	8,74	2,36	2,44	2,57	2,73	2,83	2,95
	40	17,1	15,7	13,7	11,3	9,75	8,24	2,01	2,09	2,21	2,32	2,39	2,48
	45	15,8	14,6	12,7	10,6	9,27	7,95	1,72	1,79	1,89	1,99	2,06	2,13
7	20	24,0	22,0	19,0	15,5	13,4	11,2	3,78	3,98	4,33	4,84	5,21	5,63
	25	22,6	20,8	18,0	14,6	12,5	10,4	3,27	3,44	3,72	4,08	4,33	4,63
	30	21,2	19,6	16,9	13,7	11,7	9,76	2,83	2,98	3,20	3,45	3,62	3,83
	35	19,6	18,1	15,7	12,8	10,9	9,10	2,42	2,53	2,69	2,86	2,98	3,12
	40	18,2	16,8	14,6	11,9	10,3	8,62	2,07	2,17	2,31	2,44	2,52	2,62
	45	17,1	15,9	13,8	11,4	9,95	8,45	1,81	1,89	2,01	2,13	2,20	2,28
12	20	27,3	25,2	21,8	17,6	14,9	12,3	3,92	4,20	4,67	5,29	5,74	6,30
	25	25,8	23,9	20,7	16,6	14,0	11,5	3,44	3,69	4,06	4,50	4,82	5,22
	30	24,2	22,5	19,5	15,6	13,2	10,8	3,03	3,24	3,53	3,85	4,07	4,34
	35	22,4	20,8	18,1	14,5	12,3	10,0	2,57	2,74	2,98	3,19	3,35	3,53
	40	20,9	19,5	17,0	13,7	11,6	9,57	2,23	2,38	2,57	2,73	2,85	2,98
	45	20,4	19,0	16,6	13,6	11,6	9,71	2,01	2,14	2,31	2,46	2,56	2,68
15	20	29,4	27,2	23,7	19,4	16,6	13,9	4,08	4,42	4,96	5,65	6,14	6,75
	25	27,6	25,6	22,3	18,1	15,5	12,9	3,51	3,79	4,21	4,70	5,05	5,47
	30	25,8	24,0	20,9	17,0	14,5	12,0	3,02	3,26	3,59	3,93	4,17	4,46
	35	23,9	22,3	19,5	15,8	13,5	11,2	2,60	2,80	3,06	3,30	3,47	3,67
	40	22,6	21,1	18,5	15,1	13,0	10,8	2,28	2,45	2,67	2,85	2,98	3,12
	45	23,2	21,6	19,0	15,7	13,6	11,6	2,12	2,28	2,48	2,65	2,77	2,90
18	20	31,6	29,2	25,4	20,9	18,1	15,3	4,46	4,83	5,45	6,28	6,87	7,56
	25	29,6	27,4	23,9	19,5	16,9	14,2	3,87	4,18	4,66	5,25	5,68	6,17
	30	27,7	25,6	22,4	18,3	15,7	13,2	3,35	3,61	3,99	4,42	4,71	5,06
	35	25,9	24,0	21,0	17,2	14,8	12,4	2,92	3,16	3,48	3,79	4,00	4,25
	40	24,6	22,8	20,0	16,5	14,2	12,0	2,57	2,76	3,01	3,25	3,42	3,60
	45	25,0	23,3	20,5	17,0	14,9	12,8	2,46	2,64	2,88	3,12	3,27	3,44

To = Leaving internal exchanger water temperature (°C)
Tae [°C]: external exchanger inlet air temperature
Performances in function of the inlet/outlet water temperature differential = 5°C
Cooling capacity and EER calculated according to EN 14511:2013

WSA-XIN 121 Performance

Cooling

To	Tae	Cooling capacity						EER					
°C	°C	100%	80%	75%	60%	50%	40%	100%	80%	75%	60%	50%	40%
5	20	28,9	26,6	22,8	18,9	16,3	13,7	3,88	4,03	4,33	4,70	4,93	5,15
	25	27,4	25,3	21,7	17,8	15,3	12,8	3,39	3,51	3,74	4,00	4,16	4,32
	30	25,9	23,9	20,5	16,9	14,5	12,1	2,96	3,07	3,24	3,42	3,53	3,64
	35	23,8	22,0	19,0	15,6	13,4	11,2	2,52	2,60	2,72	2,83	2,91	2,98
	40	21,9	20,2	17,5	14,4	12,5	10,5	2,14	2,21	2,31	2,40	2,45	2,50
	45	19,7	18,3	15,9	13,3	11,6	9,87	1,79	1,85	1,94	2,01	2,06	2,10
7	20	30,7	28,3	24,3	19,9	17,1	14,3	4,10	4,28	4,62	5,02	5,27	5,51
	25	29,1	26,9	23,0	18,8	16,1	13,3	3,57	3,72	3,98	4,26	4,44	4,61
	30	27,4	25,4	21,8	17,8	15,1	12,5	3,11	3,24	3,44	3,63	3,75	3,87
	35	25,3	23,4	20,2	16,4	14,0	11,6	2,65	2,75	2,89	3,02	3,10	3,18
	40	23,1	21,5	18,5	15,2	13,1	10,9	2,24	2,34	2,45	2,55	2,61	2,66
	45	21,0	19,6	16,9	14,1	12,2	10,3	1,89	1,96	2,06	2,15	2,20	2,25
12	20	35,2	32,7	28,0	22,6	19,1	15,7	4,64	4,91	5,35	5,83	6,13	6,41
	25	33,2	30,9	26,4	21,3	17,9	14,5	4,01	4,24	4,58	4,91	5,13	5,33
	30	31,1	29,0	24,9	20,0	16,8	13,6	3,47	3,67	3,93	4,16	4,31	4,44
	35	28,9	27,0	23,1	18,6	15,7	12,7	2,96	3,12	3,33	3,49	3,59	3,68
	40	26,4	24,7	21,3	17,2	14,5	11,9	2,51	2,65	2,81	2,92	3,00	3,06
	45	24,3	22,7	19,7	16,1	13,7	11,4	2,13	2,25	2,39	2,49	2,56	2,62
15	20	37,9	35,2	30,3	24,9	21,3	17,8	4,81	5,13	5,65	6,19	6,54	6,88
	25	35,7	33,2	28,6	23,4	19,9	16,5	4,13	4,40	4,79	5,18	5,43	5,67
	30	33,4	31,2	26,9	21,9	18,6	15,4	3,55	3,78	4,09	4,36	4,53	4,70
	35	30,9	28,9	24,9	20,3	17,3	14,3	3,02	3,22	3,46	3,64	3,76	3,88
	40	28,2	26,4	22,9	18,8	16,1	13,4	2,55	2,72	2,90	3,04	3,13	3,21
	45	26,3	24,6	21,5	17,8	15,4	13,0	2,20	2,34	2,51	2,63	2,71	2,79
18	20	40,4	37,4	32,2	26,7	23,0	19,4	5,14	5,47	6,05	6,71	7,12	7,54
	25	38,0	35,3	30,4	25,0	21,5	18,0	4,40	4,68	5,13	5,60	5,91	6,20
	30	35,6	33,1	28,6	23,5	20,1	16,8	3,78	4,02	4,37	4,71	4,92	5,13
	35	32,8	30,6	26,5	21,7	18,7	15,6	3,23	3,45	3,73	3,97	4,12	4,27
	40	30,1	28,1	24,3	20,1	17,3	14,6	2,74	2,90	3,12	3,30	3,42	3,53
	45	28,3	26,5	23,1	19,3	16,8	14,3	2,39	2,53	2,73	2,89	2,99	3,10

To = Leaving internal exchanger water temperature (°C)
Tae [°C]: external exchanger inlet air temperature
Performances in function of the inlet/outlet water temperature differential = 5°C
Cooling capacity and EER calculated according to EN 14511:2013

WSA-XIN 131 Performance

Cooling

To	Tae	Cooling capacity						EER					
°C	°C	100%	80%	75%	60%	50%	40%	100%	80%	75%	60%	50%	40%
5	20	31,9	29,2	25,1	20,8	17,9	14,9	3,67	3,79	3,95	4,21	4,36	4,45
	25	30,2	27,7	24,0	19,8	16,9	14,0	3,20	3,31	3,45	3,63	3,73	3,79
	30	28,6	26,3	22,9	18,8	16,0	13,2	2,79	2,89	3,02	3,15	3,21	3,25
	35	26,3	24,2	21,1	17,4	14,8	12,3	2,37	2,44	2,53	2,61	2,65	2,68
	40	24,0	22,2	19,4	16,1	13,8	11,5	2,01	2,08	2,18	2,24	2,27	2,28
	45	21,8	20,1	17,6	14,7	12,7	10,8	1,69	1,75	1,83	1,89	1,92	1,94
7	20	33,9	31,1	26,9	22,2	18,9	15,6	3,84	4,01	4,23	4,52	4,68	4,78
	25	32,0	29,5	25,7	21,1	17,9	14,7	3,34	3,48	3,68	3,88	3,99	4,06
	30	30,2	27,8	24,4	19,9	16,9	13,8	2,90	3,03	3,21	3,35	3,42	3,46
	35	27,8	25,7	22,6	18,5	15,7	12,9	2,48	2,57	2,71	2,80	2,85	2,88
	40	25,5	23,6	20,7	17,1	14,5	12,0	2,10	2,19	2,32	2,39	2,43	2,44
	45	23,2	21,5	18,9	15,7	13,5	11,3	1,77	1,85	1,96	2,02	2,06	2,08
12	20	38,8	35,8	31,5	25,6	21,5	17,5	4,27	4,53	4,90	5,28	5,48	5,60
	25	36,5	33,8	29,8	24,2	20,2	16,3	3,68	3,91	4,24	4,51	4,65	4,72
	30	34,2	31,8	28,1	22,8	19,0	15,3	3,18	3,39	3,67	3,86	3,95	4,00
	35	31,7	29,5	26,2	21,2	17,8	14,3	2,73	2,91	3,16	3,28	3,34	3,37
	40	29,1	27,1	24,1	19,6	16,5	13,4	2,32	2,47	2,69	2,78	2,82	2,85
	45	26,7	24,9	22,2	18,2	15,5	12,7	1,96	2,09	2,27	2,36	2,40	2,43
15	20	41,7	38,6	34,0	28,0	23,8	19,6	4,39	4,71	5,16	5,61	5,86	6,04
	25	39,2	36,4	32,2	26,4	22,4	18,3	3,79	4,07	4,46	4,78	4,96	5,08
	30	36,8	34,2	30,4	24,9	21,0	17,2	3,28	3,52	3,87	4,09	4,21	4,29
	35	33,8	31,5	28,1	23,0	19,5	15,9	2,78	2,98	3,28	3,44	3,52	3,57
	40	31,1	29,0	25,9	21,3	18,2	15,0	2,37	2,55	2,80	2,92	2,98	3,02
	45	29,0	27,0	24,1	20,1	17,2	14,4	2,05	2,20	2,41	2,52	2,59	2,63
18	20	44,1	40,7	35,6	29,5	25,3	21,1	4,67	5,00	5,46	6,00	6,31	6,54
	25	41,4	38,3	33,7	27,8	23,7	19,6	4,01	4,29	4,69	5,08	5,31	5,48
	30	38,7	35,9	31,7	26,1	22,2	18,3	3,45	3,69	4,04	4,32	4,48	4,60
	35	35,9	33,3	29,5	24,3	20,7	17,2	2,96	3,19	3,51	3,72	3,83	3,91
	40	32,9	30,5	27,1	22,5	19,2	16,0	2,51	2,69	2,94	3,10	3,19	3,26
	45	30,8	28,7	25,4	21,3	18,4	15,6	2,19	2,34	2,56	2,71	2,79	2,86

To = Leaving internal exchanger water temperature (°C)
Tae [°C]: external exchanger inlet air temperature
Performances in function of the inlet/outlet water temperature differential = 5°C
Cooling capacity and EER calculated according to EN 14511:2013

WSA-XIN 141 Performance

Cooling

To	Tae	Cooling capacity						EER					
°C	°C	100%	80%	75%	60%	50%	40%	100%	80%	75%	60%	50%	40%
5	20	35,5	33,5	27,3	24,0	20,6	17,1	3,33	3,58	3,82	3,95	4,08	4,14
	25	33,4	31,5	25,9	22,8	19,4	16,1	2,89	3,12	3,34	3,43	3,52	3,55
	30	31,3	29,5	24,4	21,5	18,3	15,1	2,52	2,71	2,91	2,98	3,04	3,05
	35	28,9	27,2	22,6	19,9	17,0	14,0	2,15	2,32	2,46	2,51	2,55	2,55
	40	26,3	24,8	20,6	18,2	15,6	13,0	1,82	1,95	2,10	2,14	2,17	2,17
	45	23,9	22,5	18,7	16,6	14,4	12,1	1,53	1,62	1,74	1,79	1,81	1,83
7	20	37,6	35,6	29,3	25,8	22,0	18,1	3,47	3,74	4,07	4,22	4,37	4,44
	25	35,3	33,5	27,7	24,4	20,7	17,0	3,00	3,24	3,54	3,66	3,76	3,80
	30	33,1	31,3	26,0	22,9	19,4	15,9	2,60	2,81	3,07	3,17	3,23	3,25
	35	30,6	28,9	24,1	21,3	18,1	14,8	2,23	2,41	2,62	2,69	2,73	2,73
	40	27,9	26,4	22,1	19,6	16,7	13,8	1,89	2,03	2,22	2,29	2,31	2,32
	45	25,5	24,1	20,2	17,9	15,4	12,9	1,60	1,70	1,86	1,92	1,95	1,97
12	20	42,9	40,9	34,2	30,1	25,4	20,6	3,81	4,14	4,67	4,91	5,10	5,19
	25	40,2	38,3	32,2	28,4	23,8	19,2	3,28	3,56	4,03	4,23	4,36	4,41
	30	37,5	35,7	30,2	26,6	22,3	18,0	2,82	3,07	3,48	3,63	3,72	3,74
	35	34,8	33,1	28,1	24,8	20,8	16,8	2,44	2,64	3,00	3,12	3,18	3,19
	40	32,0	30,4	25,9	22,9	19,3	15,7	2,08	2,24	2,55	2,65	2,69	2,70
	45	29,5	28,1	23,9	21,2	18,0	14,8	1,77	1,89	2,15	2,24	2,29	2,31
15	20	46,1	44,2	37,2	32,9	28,0	23,1	3,88	4,25	4,91	5,20	5,45	5,60
	25	43,1	41,4	35,0	31,0	26,3	21,5	3,35	3,66	4,24	4,48	4,65	4,75
	30	40,2	38,6	32,8	29,1	24,6	20,1	2,89	3,16	3,66	3,85	3,97	4,03
	35	37,2	35,7	30,4	27,0	22,9	18,7	2,47	2,70	3,13	3,29	3,36	3,40
	40	34,2	32,8	28,1	25,0	21,3	17,5	2,12	2,30	2,67	2,80	2,86	2,89
	45	32,1	30,8	26,3	23,5	20,2	16,8	1,84	1,98	2,30	2,41	2,47	2,51
18	20	49,2	47,9	40,3	35,7	30,6	25,5	4,04	4,45	5,04	5,38	5,72	5,97
	25	46,6	45,3	38,1	33,7	28,8	23,8	3,41	3,77	4,36	4,64	4,88	5,06
	30	43,5	42,4	35,8	31,7	27,0	22,3	2,95	3,26	3,78	4,00	4,17	4,30
	35	40,1	39,0	33,1	29,4	25,0	20,7	2,52	2,77	3,24	3,42	3,55	3,63
	40	37,0	36,0	30,6	27,3	23,3	19,4	2,17	2,38	2,76	2,90	3,00	3,07
	45	35,3	34,4	29,2	26,1	22,6	19,0	1,92	2,09	2,42	2,55	2,64	2,72

To = Leaving internal exchanger water temperature (°C)
Tae [°C]: external exchanger inlet air temperature
Performances in function of the inlet/outlet water temperature differential = 5°C
Cooling capacity and EER calculated according to EN 14511:2013

Seasonal efficiency in accordance with EN 14825

To assess the benefits of a Chiller in terms of lower consumption of primary energy, CO^2 emissions and running costs, the seasonal performance coefficient (SEER) must be considered.

The seasonal efficiency (SEER) in cooling mode of an air-water heat pump depends on four variables:

Project temperature:
the EN 14825 standard takes into account just one sample location.

User side water temperature:
the standard defines 2 types of distribution with different water temperatures on the user side

- Radiant panel (constant Twater = 18°C).
- Fan coil (constant Twater = 45°C or variable according to the outdoor air temperature)

DEGREE OF COMPRESSOR PARTIALISATION
the EN 14825 standard takes into account partial load inefficiencies with suitable corrective coefficients if the heat pumps operate in "On-Off" mode.

Outdoor air temperature occurrence frequency
the number of hours of occurrence for each outdoor air temperature value, in degrees, during the heating season.

The SEER is calculated based on the "Bin Method", as the weighted average of the chiller's efficiency (EER) on the occurrence frequency of the outdoor air temperature. According to the standard, the calculation must be made for both types of distribution defined by the standard itself.

The ELFOEnergy Extended Inverter offers high seasonal efficiency values also in cooling mode. See the table below:

SEER

	Size										
SEER	**21**	**31**	**41**	**51**	**71**	**81**	**91**	**101**	**121**	**131**	**141**
Radiant panels	4,11	4,27	4,55	4,22	4,32	5,29	5,43	5,38	5,42	4,91	4,58
Terminal units	3,15	3,05	3,3	3,03	3,27	4,16	4,09	4,04	4,04	3,68	3,44

Accessories separately supplied

Every accessory is marked with a configuration code, for instance CMMBX.

When the letter X is placed at the end, this means that the accessory is supplied separately. If there is no X in the code, the accessory is mounted in the factory.

AMRX - Rubber antivibration mounts

The rubber antivibration mounts reduce the vibrations of compressor during its operation and they are installed at the base toe.

RCTX - Remote control

The RCTX remote control, is provided with a large and easy to read display. Programming, using only 4 keys, is intuitive and simple.

The device can also:

- control the unit's operation
- activate the circulation of the system's water
- set the unit set point water temperature according to time bands

The RCTX also works in "remote control", making it even easier to configure and control the unit's operation. It can:

- set the ON/OFF control
- read the information detected by the device installed on board the unit, as the operation status, parameters and alarms.

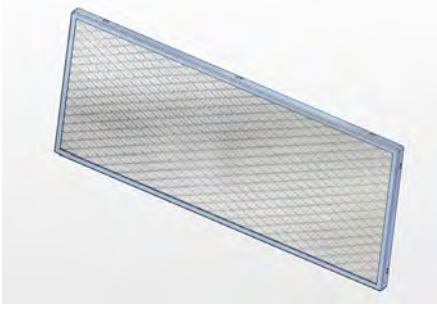
The unit is not activated if the room temperature set point has not been reached, but it is activated if the supply water temperature does not reach the set point programmed when setting the daily or weekly operating schedule.

The thermostat can be controlled at a maximum distance of 100 metres.

1. Clock
2. summer/winter/defrosting operating display
3. Ambient temperature
4. Alarm
5. UP + DOWN: operating time band setting
6. ON/OFF button
7. ESC +SET parameter programming
8. fan operating status (active)
9. compressor operating status (not active)
10. circulator operating status (active)

GMX - Outlet grille

Protection grille to apply to the screw supply outlet as protection of the moving parts if the unit has been installed in an accessible position and not ducted



CMSC2X - Serial communication module with RS485 serial converter kit

It is a serial communication module (Modbus) designed to be connected to a supervisor with the standard Modbus protocol.

Up to 127 units can be connected to a single supervision system.

The serial communication module fitted with the supervisor (Modbus) is required if the unit is connected to ELFOControl.

Use an RS 485 BUS to connect it to a PC.

KTFL1X - 1" water side hose kit

The kit is composed of: Two hoses, length 300 and diameter 1 ", required for connection of the unit to the system.

This kit can be used for 4 to 15kW heat pumps

KTFL2X - 1" 1/4 water side hose kit

The kit is composed of: Two hoses, length 300 and diameter 1 ¼", required for connection of the unit to the system.

This kit can be used for 16 to 31kW heat pumps

KSAX - 100-litre circuit breaker

Storage in Fe360b and anti-corrosion treatment with organic enamel, 50 mm-thick polyethylene and polyurethane external insulation and a maximum operating pressure of 6 bar.

Diameter 500 Height 900 8 connections.

Suitable for all WSA-XIN sizes

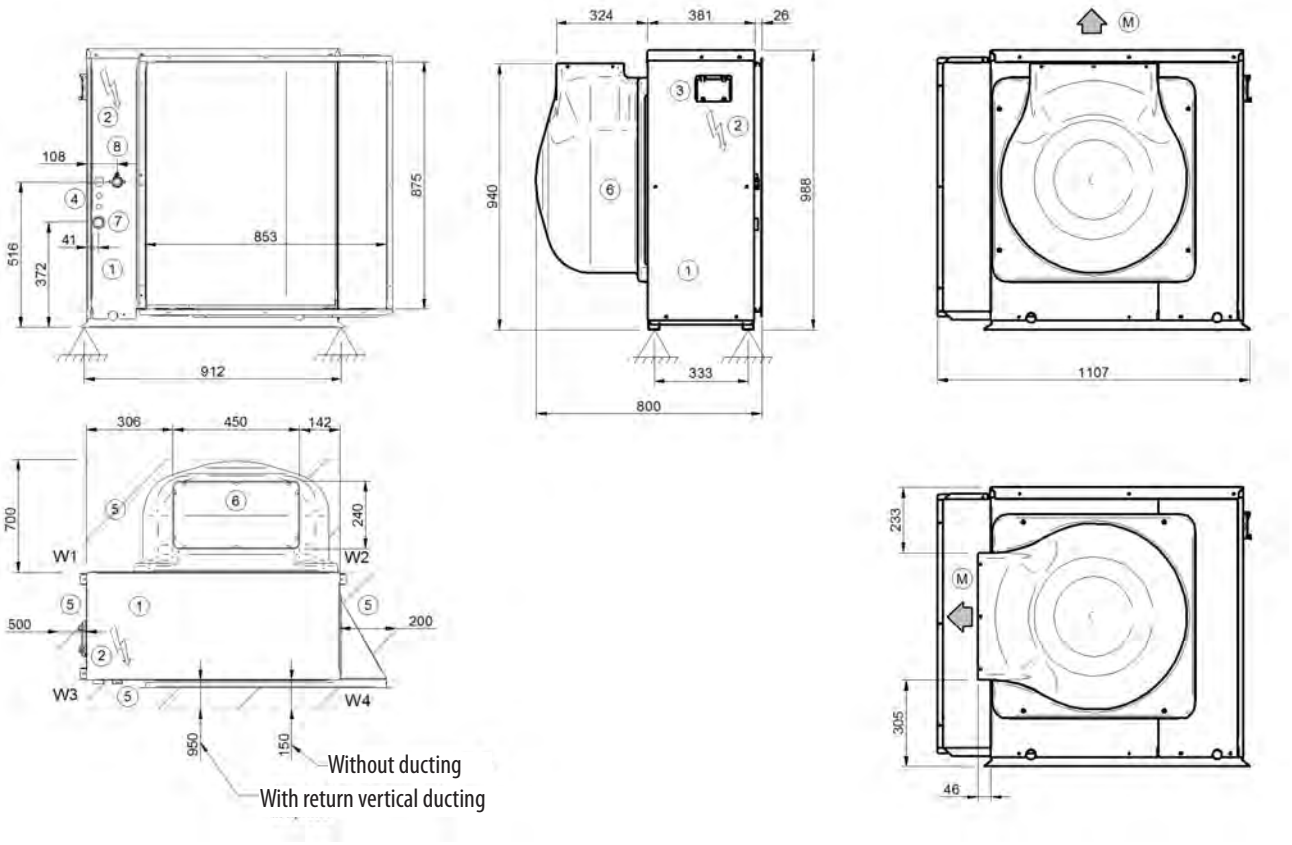
KG4UP - Management kit up to 4 units in parallel

Module that, by the remote activation of the first and second set-point, allows to manage the unit operating in cascade, up to 4 units, balancing the operating hours. Each unit must be connected to the module that enables its operating by a potential-free contact.

Dimensional drawings

Size 21-31-41

DAAU9-21-41_1 REV01
DATA 28/01/2016



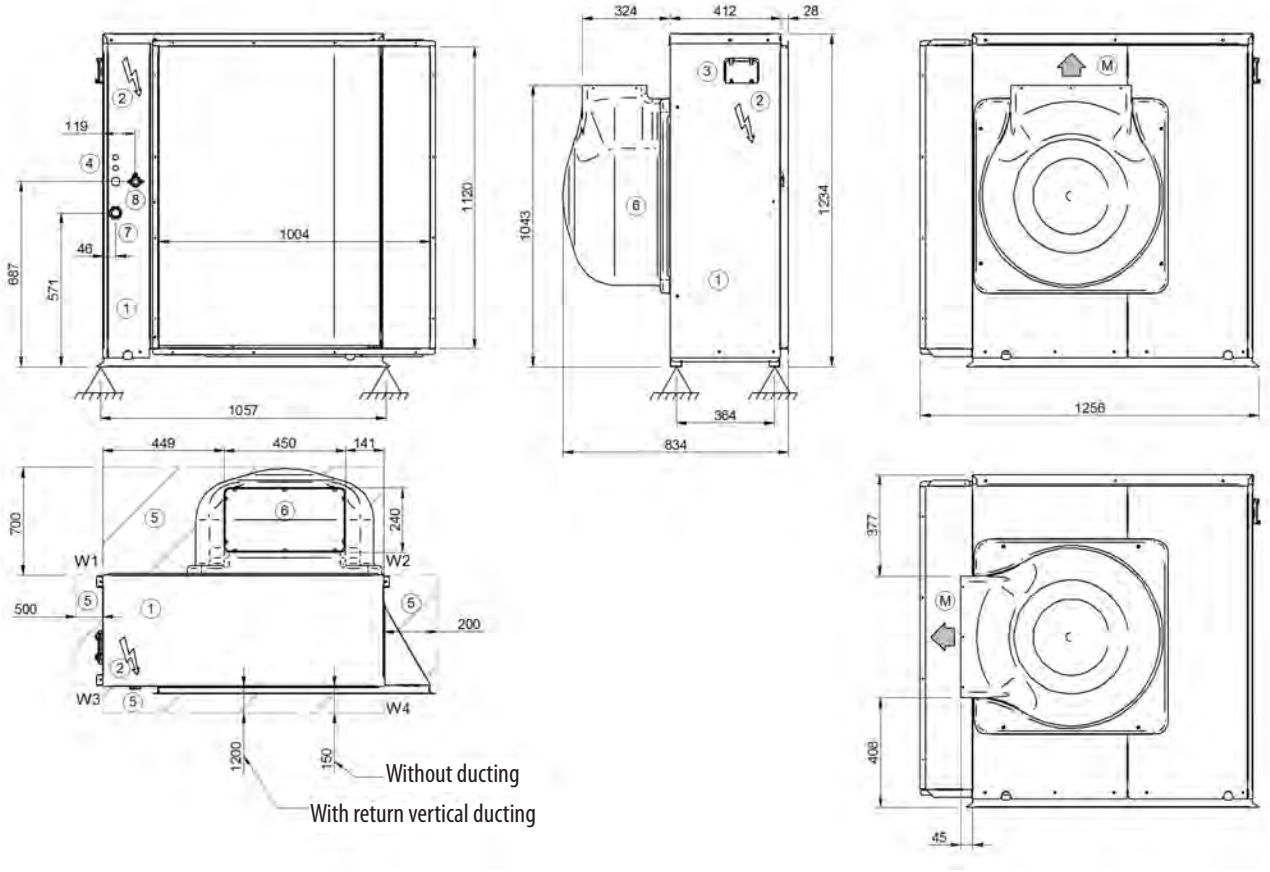
1. Compressor compartment
2. Electrical panel
3. Unit control keypad
4. Power input
5. Functional spaces
6. Electric fan (Supply)
7. internal exchanger water inlet (GAS F 1")
8. internal exchanger water outlet (GAS F 1")

(M) Air supply

Size		21	31	41
Length	mm	1107	1107	1107
Depth	mm	800	800	800
Height	mm	988	988	988
W1	kg	34	34	34
W2	kg	38,2	38,2	38,2
W3	kg	39	39	39
W4	kg	23	23	23
Operating weight	kg	125	131	137
Shipping weight	kg	131	137	141

The presence of optional accessories may result in a substantial variation of the weights shown in the table.

Size 51-71



1. Compressor compartment
2. Electrical panel
3. Unit control keypad
4. Power input
5. Functional spaces
6. Electric fan (Supply)
7. internal exchanger water inlet (GAS F 1")
8. internal exchanger water outlet (GAS F 1")

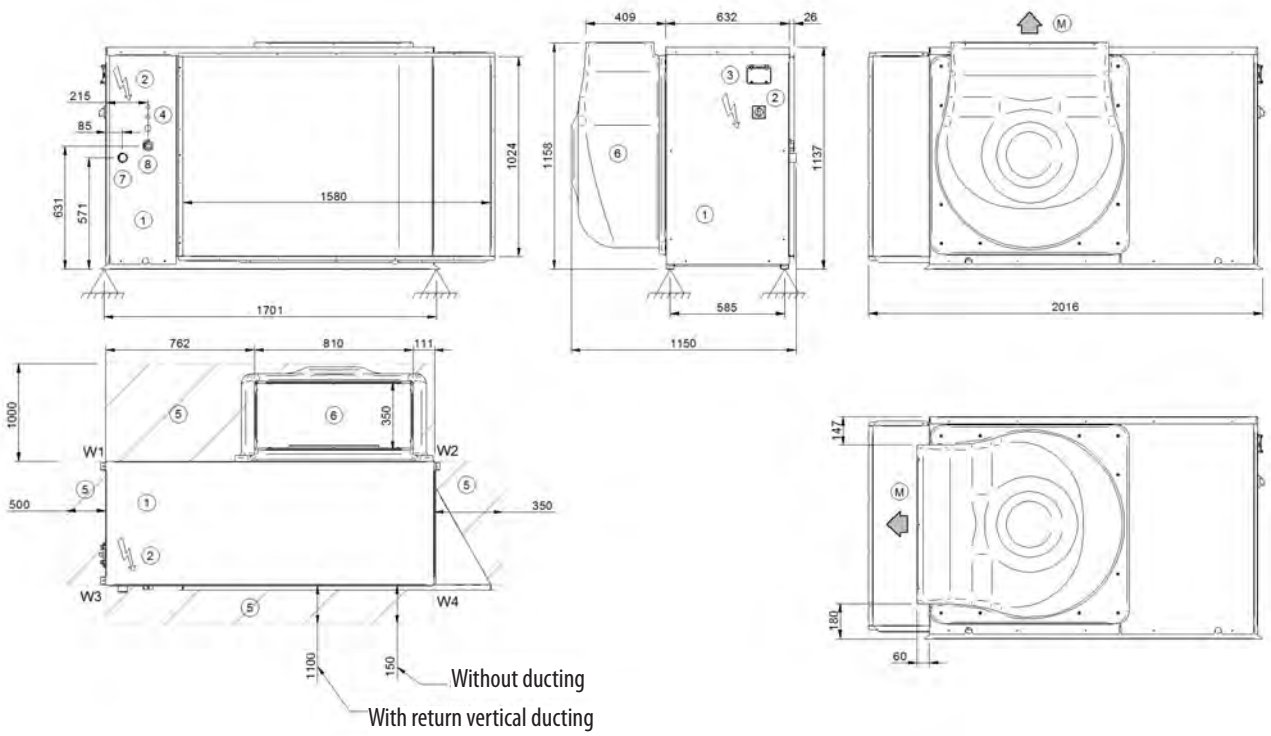
(M)Air supply

Grandezze		51	71
Lunghezza	mm	1256	1256
Profondità	mm	834	834
Altezza	mm	1234	1234
W1	kg	51	52,5
W2	kg	45,4	46,9
W3	kg	54	55
W4	kg	29	30
Peso in funzionamento	kg	179	184
Peso di spedizione	kg	183	188

The presence of optional accessories may result in a substantial variation of the weights shown in the table.

Size 81-91-101

DAAU9-81-101_1 REV01
DATA 19/05/2014



1. Compressor compartment
2. Electrical panel
3. Unit control keypad
4. Power input
5. Functional spaces
6. Electric fan (Supply)
7. internal exchanger water inlet (GAS F 1"1/4)
8. internal exchanger water outlet (GAS F 1"1/4)

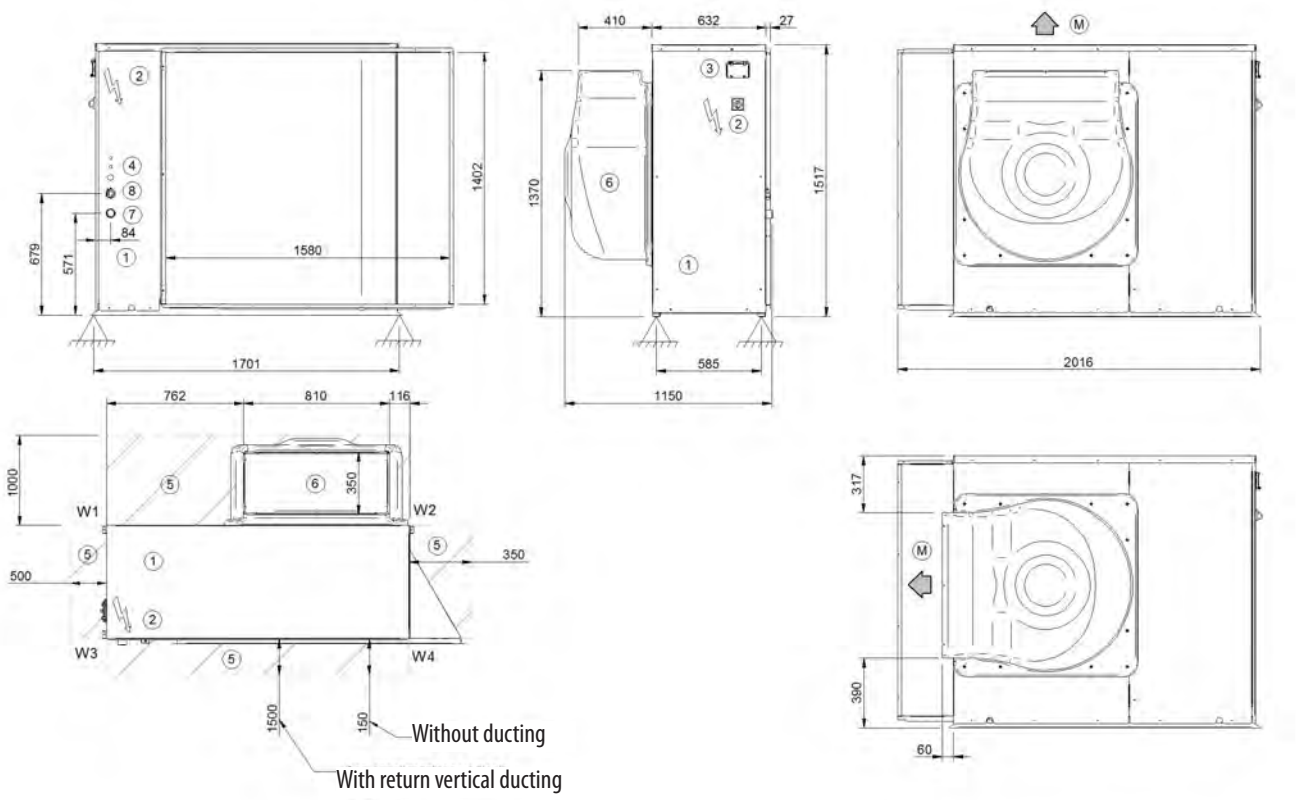
(M) Air supply

Grandezze		81	91	101
Lunghezza	mm	2016	2016	2016
Profondità	mm	1150	1150	1150
Altezza	mm	1137	1137	1137
W1	kg	75	75	75
W2	kg	66	66	66
W3	kg	67,5	67,5	67,5
W4	kg	37,5	37,5	37,5
Peso in funzionamento	kg	246	246	246
Peso di spedizione	kg	250	250	250

The presence of optional accessories may result in a substantial variation of the weights shown in the table.

Grandezze 121-131-141

DAAU9-121-141_1 REV01
DATA 19/05/2014



1. Compressor compartment
2. Electrical panel
3. Unit control keypad
4. Power input
5. Functional spaces
6. Electric fan (Supply)
7. internal exchanger water inlet (GAS F 1"1/4)
8. internal exchanger water outlet (GAS F 1"1/4)

(M) Air supply

Grandezze		121	131	141
Lunghezza	mm	2016	2016	2016
Profondità	mm	1150	1150	1150
Altezza	mm	1517	1517	1517
W1	kg	82	82	82
W2	kg	86	86	86
W3	kg	83	83	83
W4	kg	58	58	58
Peso in funzionamento	kg	309	309	309
Peso di spedizione	kg	312	312	312

La presenza di accessori opzionali può comportare una variazione significativa dei pesi indicati in tabella.

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