

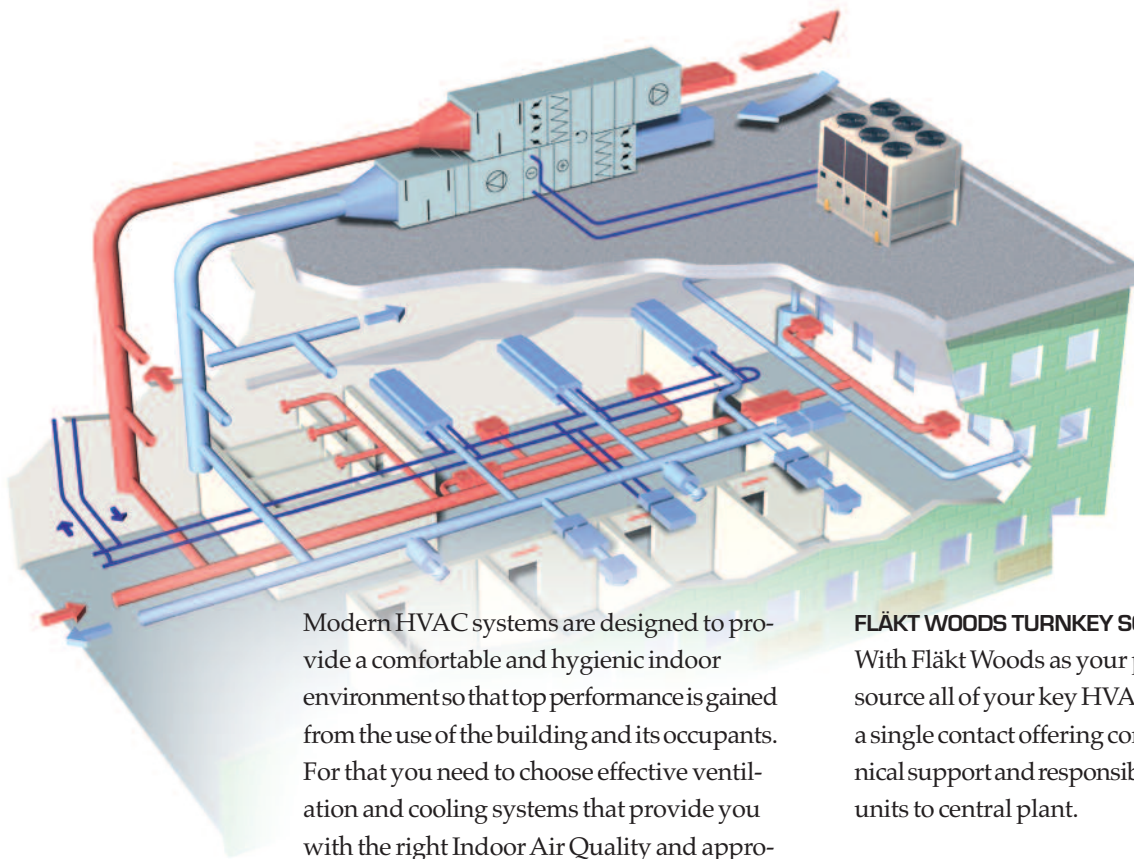
ClimaFläkt

Chillers Catalogue 2011



FläktWoods

Total Energy Control



Modern HVAC systems are designed to provide a comfortable and hygienic indoor environment so that top performance is gained from the use of the building and its occupants. For that you need to choose effective ventilation and cooling systems that provide you with the right Indoor Air Quality and appropriate temperature control.

Fläkt Woods offers all the pieces in the puzzle from individual components through to the provision of complete air systems, now complete with a range of chillers and air based cooling equipment.

Fläkt Woods' contribution towards a sustainable environment is to offer products and know-how for more efficient energy usage in all types of buildings. Global energy prices are increasing in real terms and the HVAC system in a building can often be the biggest consumer of power. It makes economic sense to invest in a system optimized for best overall efficiency. Fläkt Woods experience and advanced technology can be combined into intelligent system solutions.

FLÄKT WOODS TURNKEY SOLUTIONS

With Fläkt Woods as your partner you can source all of your key HVAC equipment with a single contact offering comprehensive technical support and responsibility from terminal units to central plant.

FULLY CERTIFIED EQUIPMENT









Under the Eurovent Certification Program equipment is tested to specific standards by independent testing organizations. Consultants, Specifiers and Users can select products from certified manufacturers with the assurance that the catalogue data are accurate. This is a corner stone for those in the business of marketing or procuring energy efficient equipment since catalogue data is used for comparison.



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General

All in one

From the very beginning Fläkt Woods decided to equip its units with all devices necessary for operation. Every product is therefore designed, made and tested together with every accessory necessary for its operation. Use of external components, which are always difficult to select and size, is thus reduced to a minimum. This also means a drastic reduction in the necessary work on site for installing the unit.

Fläkt Woods units give peace of mind as they offer an integrated design, industrial construction and final test and inspection complete with all components, so that they arrive on site ready for operation.

No more storage tanks

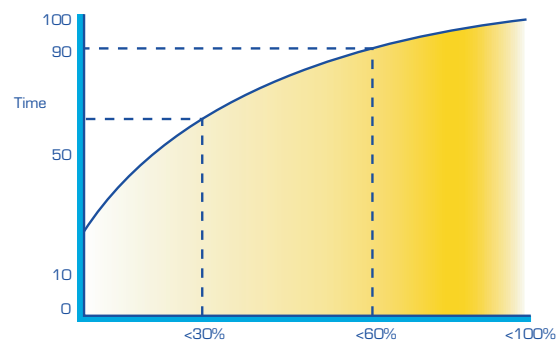
Water storage tanks have always been troublesome to install, bulky and a source of enormous heat loss. They were, however, necessary to preserve the working life of the compressors, which was otherwise shortened by the excessive activation required to follow the system loads.

Fläkt Woods enables the waste represented by storage tanks to be eliminated by dividing up the power of the compressors installed in its units, which can consequently follow the changes in heating or cooling load in the best way possible. All the units also have the "sliding temperature" function, which in the single-compressor units permits modulation of the supply water temperature in relation to the system load. This modulation is important for optimisation of the compressor operating cycles, so that they remain within safety limits even without the installation of a storage tank.



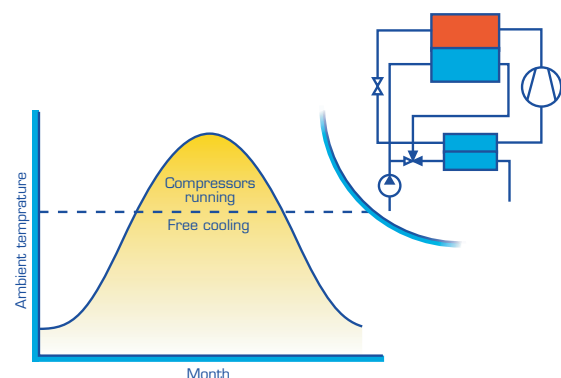
Variable load

Chillers in HVAC applications are generally required to operate most of the year at part load and for 90 % of the time the load is less than 60 % of the maximum design. The Fläkt Woods range of chillers are designed for high efficiency at part load as well as at peak load to minimise the overall annual energy consumption.

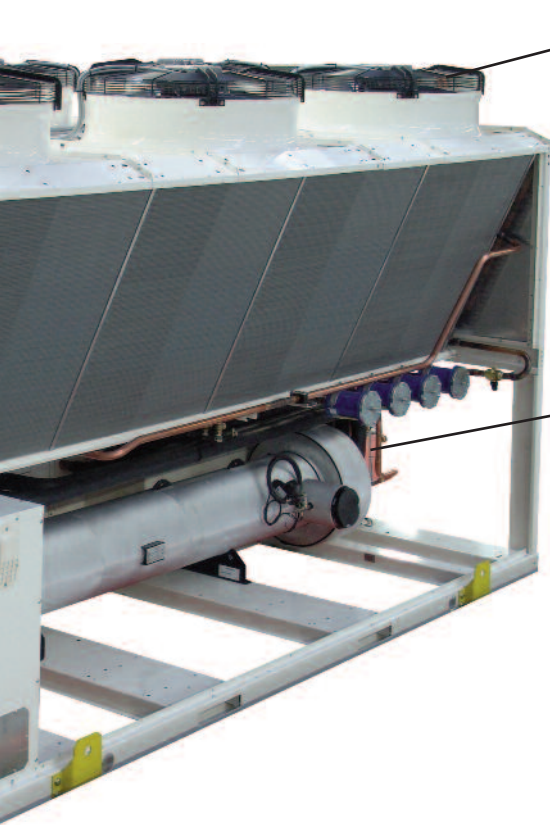


Free cooling

In many applications, cooling water is needed during periods of the year when the outdoor temperature is low. By installing a chiller with a free cooling circuit it is possible to cool the water without running the compressors, which saves a considerable amount of energy and reduces wear on them. Free cooling is best suited to high water temperatures and low ambient temperatures.



General



High efficiency condensor fans

The Fläkt Woods air cooled chillers can be fitted with high efficiency fans making use of electronic control to vary the speed with minimum use of electricity.

HYDROPack

The HYDROPack device was created to simplify to the utmost water connections of the units, while allowing freedom of choice in respect of configuration and the range of pumps to be installed.

Further benefits of this system are the possibility of reducing the risk of unit failure, as it will always continue to operate even if a pump breaks down, of having a stand-by pump that may be activated immediately and of intervening very fast if pumps need replacing. The units fitted with this device are also selfadapting with regard to the water flow rate in order to prevent blocking caused by overloads, which are always possible after prolonged periods of inactivity in the summer.

Applicable units:
KCCC, KCAF, KCCE.

ESEER

Guarantee in the performance means to be able to plan realistically the energy consumption and then the costs.

The ESEER (European Seasonal Energy Efficiency Ratio), contrarily to the simple EER, is calculated as a combination of different operating conditions, which have been recently declared by Eurovent/CEN, in order to demonstrate the chiller efficiency while operating also in off-design conditions, normal in the mid-season.

KC(A,B)A Air cooled water chiller/heat pump for outdoor installation



KC(A,B)A

KC(A,B)A: Capacity from 4.32 to 37.2 kW
 KC(A,B)A water cooling units use R-410a refrigerant. Because they are so compact, they are ideal for residential applications. And they keep on working under all conditions thanks to a variable speed fan and water pump.

The KCAA and KCBA units offer the following features:

- silent operation thanks to a fan unit that operates at only 70 % of its maximum speed under normal conditions.
- storage-free operation and temperature modulation for a perfect balance between output power and energy consumption.

Accessories

KC(A,B)A

- Rubber antivibration mounts *
- Serial communication module to supervisor (MODBUS) *
- Phase monitor *
- Double temperature control kit *
- Set point compensation with according to outdoor enthalpy *
- Set point compensation with 4-20 mA signal *

* Accessories supplied separately

KC(A,B)A Air cooled water chiller for outdoor installation

Technical data

Sizes			17	21	25	31	41	51	61	71	81	91	101	121	131	151
- Cooling capacity KCAA	(1)	kW	4,32	5,28	5,79	7,62	8,86	11,2	14,0	16,6	18,5	21,2	24,1	27,1	32,4	37,2
- Total input KCAA	(1)(2)	kW	1,89	2,28	2,53	3,23	3,12	4,34	5,18	6,72	6,93	7,97	9,42	10,8	11,1	14,0
- Total EER at 100% - KCAA		-	2,28	2,32	2,29	2,36	2,84	2,58	2,69	2,47	2,67	2,65	2,56	2,50	2,91	2,65
- ESEER - KCAA		-	2,56	2,62	2,54	2,65	3,34	3,03	3,22	2,88	3,23	3,07	3,00	2,91	3,35	3,02
- Heating capacity	(3)	kW	4,91	6,09	6,40	8,71	10,1	12,4	14,5	17,1	19,3	21,6	25,2	28,5	33,1	38,0
- Total input	(2)(3)	kW	1,77	2,11	2,37	3,09	3,32	4,32	4,94	5,88	6,54	7,23	8,44	9,77	10,5	12,3
- COP		-	2,78	2,88	2,70	2,82	3,04	2,87	2,94	2,90	2,95	2,99	2,99	2,91	3,16	3,09
Pump working head KCAA	kPa	(1)	44	37	32	53	51	33	158	152	152	132	150	165	155	140
Number of refrigerant circuits		-	1													
Number and type of compressors (4)		-	1 ROT				1 SCROLL									
Sound pressure level KCAA	(5)	dB(A)	49	50	51	53	53	54	56	56	57	57	57	58	60	60
Power supply		V/Ph/Hz	230/1/50				400/3/50+N									

Data referred to the following conditions:

(1) Internal exchanger water = 12/7 °C;
external air temperature 35 °C.

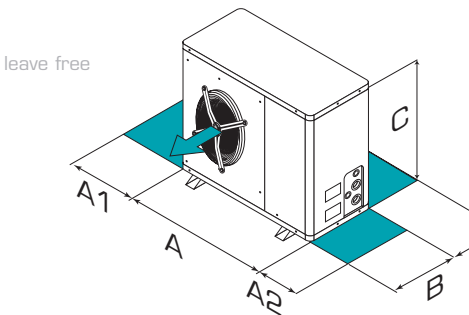
(2) Total input is obtained from compressor input + fan input

(3) Air at external exchanger inlet = 6,1°C W.B.;
internal exchanger water = 40/45°C

(4) ROT = rotary compressor.

(5) Sound levels refer to units with full load under nominal test conditions. The sound pressure is measured at 1 m from the external surface of the unit in open field conditions.

Dimensions and functional spaces



CAUTION! For trouble-free operation of the unit it is essential to maintain the safety distances indicated by the green areas.

Sizes		17	21	25	31	41	51	61	71	81	91	101	121	131	151
KCAA															
Length (A)	mm	800	800	800	800	800	800	1087	1087	1373	1373	1373	1373	1715	1715
Width (B)	mm	300	300	300	300	300	300	411	411	555	555	555	555	820	820
Height (C)	mm	643	643	643	930	1244	1244	1175	1175	1225	1225	1225	1225	1480	1480
(A1)	mm	100	100	100	100	100	100	100	100	100	100	100	100	100	100
(A2)	mm	500	500	500	500	500	500	500	500	500	500	500	500	500	500
(B2)	mm	150	150	150	150	150	150	150	150	150	150	150	150	150	150
Weight in operation	Kg	58	66	66	80	102	110	126	135	180	184	203	206	268	273
KCBA															
Length (A)	mm	800	800	800	800	800	800	1087	1087	1373	1373	1373	1373	1715	1715
Width (B)	mm	300	300	300	300	300	300	411	411	555	555	555	555	820	820
Height (C)	mm	930	930	930	930	1244	1244	1175	1175	1225	1225	1225	1225	1480	1480
(A1)	mm	100	100	100	100	100	100	100	100	100	100	100	100	100	100
(A2)	mm	500	500	500	500	500	500	500	500	500	500	500	500	500	500
(B2)	mm	150	150	150	150	150	150	150	150	150	150	150	150	150	150
Weight in operation	Kg	68	76	77	91	111	120	126	135	180	184	203	206	268	273

The above data refer to standard units

KC(A,B)A Air cooled water chiller/heat pump for outdoor installation

Product Code

Air Cooled chiller for outdoor installation

KCAA-aa-b-c-d-e-f

Size (aa) _____
 17, 21, 25, 31, 41, 51, 61, 71, 81, 91, 101, 121, 131, 151

Version (b) _____
 1 = Standard

Supply Voltage (c) _____
 1 = 230/1/50 (sizes 17-31)
 2 = 400/3/50+N (sizes 41-151)

Condenser coil (d) _____
 1 = Standard Cu/Al
 2 = Cu/Al+Acrylic
 3 = Cu/Al+Fin Guard

Hydronic group (e) _____
 1 = With Hydronic group
 0 = Without

Soft Starter (f) _____
 0 = Without
 1 = With

Air Cooled chiller and heat pump for outdoor installation

KCBA-aa-b-c-d-e-f

Size (aa) _____
 17, 21, 25, 31, 41, 51, 61, 71, 81, 91, 101, 121, 131, 151

Version (b) _____
 1 = standard

Supply Voltage (c) _____
 1 = 230/1/50 (sizes 17-31)
 2 = 400/3/50+N (sizes 41-151)

Condenser coil (d) _____
 1 = Standard Cu/Al
 2 = Cu/Al+Acrylic
 3 = Cu/Al+Fin Guard

Hydronic group (e) _____
 1 = With Hydronic group
 0 = Without

Soft Starter (f) _____
 0 = Without
 1 = With

KCAC and KCBC Air cooled water chiller/heat pump for outdoor installation

Product Code

Air Cooled water chiller and for outdoor installation

KCAC-a-bbb-c-d-e

Energy recovery (a) _____
 0 = Without (standard)
 1 = With

Size (bbb) _____
 082, 102, 122, 142, 162,
 182, 202, 222, 242

Low temperature (c) _____
 0 = Without (standard)
 1 = With

Heat exchanger approvals (d) _____
 1 = PED (European test)

Energy Efficiency (e) _____
 0 = Temperate climate

Air Cooled chiller and heat pump for outdoor installation

KCBC-a-bbb-c-d-e

Energy recovery (a) _____
 0 = Without (standard)
 1 = With

Size (bbb) _____
 082, 102, 122, 142, 162,
 182, 202, 222, 242

Low temperature (c) _____
 0 = Without (standard)
 1 = With

Heat exchanger approvals (d) _____
 1 = PED (European test)

Energy Efficiency (e) _____
 0 = Temperate climate

KCAG and KCBG Air cooled water chiller/heat pump for outdoor installation



KCAG and KCBG

KCAG and KCBG: Capacity from 24,3 to 72,2 kW

Liquid chillers and heat pumps of the KCAG and KCBG series are units designed for outdoor installation and best energy efficiency in relation to their reduced size.

Every unit has been conceived and made by applying state-of-the-art technology, emphasising the qualities of efficiency, self-adaption and easy installation that distinguish this product.

Thanks to its constructional and electronic peculiarities, these Chillers permit:

- High energy efficiency, in particular during partial load operation, thanks to the use of two compressors with different capacities that work on a single refrigerant circuit;
- Eurovent energy efficiency classification class "A" in heating operation, also in full load condition;
- Adaptability of operating parameters to the load conditions of the connected system, thereby optimising consumption, efficiency and working life of the parts;
- Easy, quick installation thanks to the standard hydronic group and the factory test carried out prior to dispatch;
- Installation of hydronic group with non-standard working head pumps or with double pump.

Accessories

- Rubber antivibration mounts*
- Serial communication module (MODBUS)*
- Steel mesh filter on water side* (when unit is in "without hydronic group" configuration)
- High and low pressure gauges*
- Daily and weekly programming clock*
- Finned coil protection grilles*
- Phase monitor*
- Set point compensation with according to outdoor enthalpy*
- Set point compensation with fresh air sensor*
- Remote keypad*

* Accessories supplied separately

KCAG and KCBG Air cooled water chiller/heat pump for outdoor installation

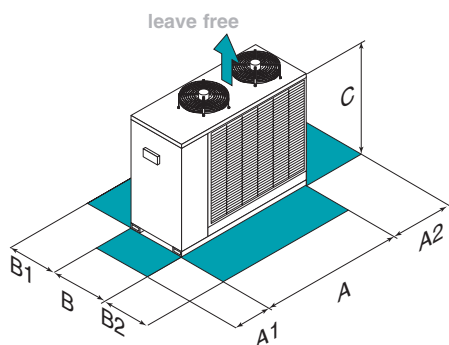
Technical data

Sizes			82	102	122	162	182	222	262	303
- Cooling capacity KCAG	(1)	kW	24,3	28,2	33,7	40,0	45,9	54,4	64,1	72,2
Total input KCAG	(1)(2)	kW	8,90	10,4	12,5	14,2	16,7	20,1	23,4	26,6
Total - KCAG	(1)	-	2,73	2,72	2,71	2,81	2,74	2,71	2,74	2,71
ESEER - KCAG		-	4,32	4,48	4,18	4,20	4,34	4,47	4,19	4,06
- Heating capacity	(3)	kW	28,8	32,9	37,5	45,1	52,9	62,0	72,8	83,6
Total input	(2)(3)	kW	9,00	10,27	11,7	14,1	16,5	18,6	22,2	24,6
COP		-	3,20	3,20	3,2	3,2	3,2	3,3	3,3	3,4
Pump working head KCAG	(1)	kPa	132	126	120	104	88	148	139	131
Number of refrigerant circuits		-	2							
Number and type of compressors		-	2 SCROLL							
Sound pressure level	(4)	dB(A)	60,7	61,0	61,5	63	64	66	67	68
Power supply		V/Ph/Hz	400/3/50+N							

Data referred to the following conditions:

- (1) Internal exchanger water = 12/7 °C; ambient temperature = 35°C
- (2) Total input is obtained from the compressor input + fan input + auxiliary circuit input.
- (3) Ambient temperature = 7°C (R.H. = 85%); internal exchanger water outlet temperature 45°C
- (4) Sound levels refer to units with full load under nominal test conditions. The sound pressure is measured at 1 m from the external surface of the unit in open field conditions.

Dimensions and functional spaces



CAUTION! For trouble-free operation of the unit it is essential to maintain the safety distances indicated by the grey areas.

Sizes		82	102	122	162	182	222	262	302
Length (A)	mm	1703	1703	1703	1932	1932	1932	2332	2332
Width (B)	mm	675	675	675	1100	1100	1100	1100	1100
Height (C)	mm	1209	1209	1209	1417	1417	1417	1417	1417
(A1)	mm	700	700	700	700	700	700	700	700
(A2)	mm	700	700	700	700	700	700	700	700
(B1)	mm	700	700	700	700	700	700	700	700
(B2)	mm	700	700	700	700	700	700	700	700
KCAG									
Weight in oper.	Kg	305	310	360	520	540	570	665	680
KCBG									
Weight in oper.	Kg	315	320	370	530	550	580	675	690

The above data refer to standard units.

KCAG and KCBG Air cooled water chiller/heat pump for outdoor installation

Product Code

Air Cooled water chiller and for outdoor installation KC(A,B)G-a-bbb-c-d-e-f-g-h-i-j

Water low temperature (a)

- 0 = Standard
- 1 = water low temperature
- 2 = Double set point

Size (bbb)

- 082, 102, 122, 162, 182,
- 222, 262, 302

Supply voltage (c)

- 1 = 400, 3, 50

Hydronic group utility side (d)

- 0 = Hydronic group utility side: not required
- 1 = Standard pump
- 2 = single-pump with reduced available head
- 3 = single-pump with larger available head
- 4 = standard double pump
- 5 = double pump with larger available head
- 6 = double pump with reduced available head

Energy recovery (e)

- 0 = Energy recovery: not required
- 1 = Partial energy recovery

Condensing coil (f)

- 1 = Standard condenser coil
- 2 = Copper / aluminium condenser coil with acrylic lining
- 3 = Copper / aluminium condenser coil with Fin Guard treatment (Silver)
- 4 = Copper / copper condenser coil

Soft starter (g)

- 0 = Disposal for inrush current reduction: not required
- 1 = disposal for inrush current reduction, for unit 400/3/50+N

Free contacts heating external signal (h)

- 0 = Additional free contacts: not required
- 1 = free contacts for alarm

Power factor correction capacitors (COSFI > 0.9) (i)

- 1 = power factor correction capacitors (cosfi > 0.9)
- 0 = Power factor correction capacitors: not required

Storage tank (j)

- 0 = Storage tank: not required
- 1 = Teflon steel storage device

KC(A,B)J Air cooled chiller for outdoor installation



KC(A,B)J

KC(A,B)J: Capacity from 88.1 to 203 kW

The heat pumps and liquid chillers guarantee maximum energy efficiency throughout the entire operating cycle. Designed for outdoor installation, they use several Scroll compressors of different sizes in the same cooling circuit. Thanks to its construction features, KC(A, B)J offers:

Optimised for heating, the range guarantees:

- Eurovent class A energy efficiency rating in heating mode, thanks to its high performance not just in full loads but also in partial loads.
- Self-adaptability in different load conditions, thanks to the availability of several capacity steps and the adjustment logic developed for maximum efficiency and minimum wear.
- Very high overall reliability, thanks to the consolidated construction choices and the use of industrially-made products.
- Lower sound emissions, achieved thanks to the optimal sizing of the exchange surfaces and the use of high efficiency fans with “winglets”.
- Quick and easy installation thanks to the quick connections with the main circuit, electrical wiring enablement and complete functional testing before delivery. The units can also be supplied with pump assemblies, partial heat recovery and inertial storage tank already installed on board, bringing together all the system's main components in a single solution.

Accessories

- Condenser coil in copper/aluminium with acrylic coating
- Copper/aluminium condensing coil with Fin Guard Silver shell
- Copper/copper condenser coil
- Spring antivibration mounts
- Condensing coil protection grilles
- Shut-off valve on compressor supply and return
- High and low pressure gauges
- Hydropack with 2 pumps
- Hydronic assembly with 1 x pump
- Hydronic assembly with 1 x pump + 1 x pump in stand-by
- Storage tank with antifreeze heater
- Storage tank with antifreeze heater and primary/secondary circuit
- Steel mesh filter on water side
- Set point compensation with 0-10 V signal
- Set point compensation with 4-20 mA signal
- Set point compensation with fresh air sensor
- Set point compensation with according to outdoor enthalpy
- Phase monitor
- Soft Start
- Shunt capacitors (power factor > 0,9)
- LonWorks serial converter kit
- BACnet serial converter kit
- Free contacts for compressor status
- Unit microprocessor remote control interface kit

KC(AB)J Air cooled chiller for outdoor installation

Technical data

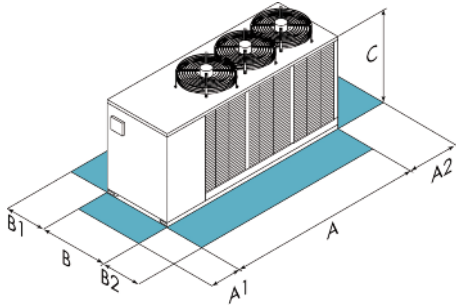
Sizes			352	402	432	452	502	552	602	702	802	
WSAT-XEE												
SC	Cooling capacity	(1)	kW	88,1	101	111	118	129	139	160	185	203
SC	Total input		kW	32,4	36,7	40,8	43,2	46,4	51,4	57,4	64,3	73,0
SC	EER EUROVENT		-	2,72	2,75	2,72	2,73	2,78	2,70	2,79	2,88	2,78
SC	ESEER		-	3,86	3,94	3,94	3,98	4,12	3,75	3,96	3,84	3,77
SC	Sound pressure level	(3)	dB(A)	67	67	67	67	67	68	68	71	7
WSAN-XEE												
SC	Cooling capacity	(1)	kW	83,1	94,9	105	111	121	137	154	179	198
SC	Total input		kW	32,9	36,6	41,2	43,8	48,3	52,1	61,5	68,0	77,3
SC	EER EUROVENT		-	2,53	2,59	2,55	2,53	2,51	2,62	2,50	2,63	2,56
SC	ESEER		-	3,59	3,71	3,69	3,69	3,71	3,65	3,56	3,51	3,47
SC	Heating capacity	(2)	kW	100	112	124	132	142	167	186	215	237
SC	Total input		kW	33,0	37,0	40,8	43,3	46,2	52,0	58,1	66,7	73,7
SC	COP EUROVENT		-	3,02	3,03	3,04	3,05	3,07	3,21	3,20	3,22	3,22
SC	Cooling capacity	(4)	kW	115	133	143	150	165	186	205	239	266
SC	Total input		kW	37,7	41,0	46,9	48,5	54,6	55,6	66,2	71,6	82,6
SC	EER (EN 14511:2004)		-	3,05	3,24	3,05	3,09	3,02	3,35	3,10	3,34	3,22
SC	Heating capacity	(5)	kW	107	121	135	139	151	173	189	221	245
SC	Total input		kW	28,1	31,6	35,0	36,2	39,3	44,5	49,7	57,7	64,0
SC	COP (EN 14511:2004)		-	3,81	3,83	3,86	3,84	3,84	3,89	3,80	3,83	3,83
SC	Sound pressure level	(3)	dB(A)	67	67	67	67	67	68	68	71	71
EN	Cooling capacity	(1)	kW	79,5	91,5	99	107	117	133	146	172	190
EN	Total input		kW	33,4	37,4	42,9	45,2	50,6	53,0	63,3	68,7	79,8
EN	EER EUROVENT		-	2,38	2,45	2,31	2,37	2,31	2,5	2,31	2,50	2,38
EN	ESEER		-	3,43	3,45	3,41	3,53	3,55	3,50	3,25	3,40	3,32
EN	Sound pressure level	(3)	dB(A)	62	63	64	64	64	65	65	66	66
EN	Heating capacity	(2)	kW	100	112	124	132	142	167	186	215	237
EN	Total input		kW	33,0	37,0	40,8	43,3	46,2	52,0	58,1	66,7	73,7
EN	COP EUROVENT		-	3,02	3,03	3,04	2,05	3,07	3,21	3,20	3,22	3,22
EN	Sound pressure level	(3)	dB(A)	67	67	67	67	67	68	68	71	71
Number of refrigerant circuits			-	1								
Number and type of compressors			-	2 SCROL								
Power supply			V/Ph/Hz	400/3/50								

Data referred to the following conditions:

- (1) Internal exchanger water = 12/7 °C; ambient temperature = 35 °C
- (2) Internal exchanger water = 40/45 °C; air at external exchanger inlet = 6,1 °C W.B.
- (3) Sound levels refer to units with full load under nominal test conditions. The sound pressure is measured at 1 m from the external surface of the unit in open field conditions.
- (4) Internal exchanger water = 23/18 °C; ambient temperature 35 °C.
- (5) Internal exchanger water = 30/35 °C; air at external exchanger inlet 6,1 °C W.B.

KC(AB)J Air cooled chiller for outdoor installation

Dimensions and clearances



CAUTION! For trouble-free operation of the unit it is essential to maintain the clearance given.

Sizes		352	402	432	452	502	552	602	702	802
WSAT-XEE										
Length (A)	mm	3075	3075	3075	3075	3075	3075	4025	4025	4025
Width (B)	mm	1097	1097	1097	1097	1097	1097	1097	1097	1097
Height (C)	mm	1805	1805	1805	1805	1805	1805	1805	1805	1805
- (A1)	mm	1000	1000	1000	1000	1000	1000	1000	1000	1000
- (A2)	mm	700	700	700	700	700	700	700	700	700
- (B1)	mm	1350	1350	1350	1350	1350	1350	1350	1350	1350
- (B2)	mm	1350	1350	1350	1350	1350	1350	1350	1350	1350
WSAN-XEE										
Length (A)	mm	3075	3075	3075	3075	3075	4025	4025	5025	5025
Width (B)	mm	1097	1097	1097	1097	1097	1097	1097	1097	1097
Height (C)	mm	1805	1805	1805	1805	1805	1805	1805	1805	1805
- (A1)	mm	1000	1000	1000	1000	1000	1000	1000	1000	1000
- (A2)	mm	700	700	700	700	700	700	700	700	700
- (B1)	mm	1350	1350	1350	1350	1350	1350	1350	1350	1350
- (B2)	mm	1350	1350	1350	1350	1350	1350	1350	1350	1350
Weight in oper.	Kg	915	975	1059	1101	1126	1326	1341	1549	1566

The above data refer to standard units.

KC(AB)J Air cooled chiller for outdoor installation

Product Code

Air Cooled chiller for outdoor installation

KCAJ-a-b-c-d-eee-f-g

Version (a)

- 1 = Excellence
- 2 = Premium

Energy recovery (b)

- 0 = Not required
- 1 = Patial recovery
- 2 = Total recovery

Energy saving (c)

- 0 = Not required
- 1 = Low water temperature

Free Cooling (d)

- 0 = Not required
- 1 = Direct free cooling

Size (e)

- 352, 402, 432, 452, 502,
- 552, 602, 702, 802

Accoustic configuration (f)

- 1 = Compressor soundproofing
- 2 = Super silenced

Exchanger Approvals (g)

- 1 = PED (european test)
- 2 = Fläkt Woods (inhouse test)

Air Cooled chiller for outdoor installation

KCBJ-a-b-c-d-eee-f-g

Version (a)

- 1 = Excellence
- 2 = Premium

Energy recovery (b)

- 0 = Not required
- 1 = Patial recovery
- 2 = Total recovery

Energy saving (c)

- 0 = Not required
- 1 = Low water temperature

Free Cooling (d)

- 0 = Not required
- 1 = Direct free cooling

Size (e)

- 352, 402, 432, 452, 502,
- 552, 602, 702, 802

Accoustic configuration (f)

- 1 = Compressor soundproofing
- 2 = Super silenced

Exchanger Approvals (g)

- 1 = PED (european test)
- 2 = Fläkt Woods (inhouse test)

KCCC and KCDC Air cooled water chiller/heat pump for outdoor installation



KCCC and KCDC

KCCC and KCDC: Capacity from 163 to 493 kW

The R-410A multi Scroll chiller series presents a new concept of chiller offering:

- **Efficiency**, that increases as the cooling load decreases, while guaranteeing maximum requested load when necessary. Multi Scroll always ensures maximum comfort with very high efficiency and consequently considerable energy savings;
- **Reliability**: a modular approach. Several basic units may be connected together to form a single structure according to the required capacity. This allows high production standardisation and therefore utmost operating reliability;
- **Self-adaptation**: simple unit-system combination, since these units are self-adapting to the characteristics of the actual system, thereby avoiding delicate, time-consuming calibrations. Easy connection to the service system plus a simple control system and easy maintenance drastically reduce work requiring specialised personnel with consequent reduction in installation costs;
- extended operating limits to keep the system running, even under exceptional start-up and load conditions;
- customisation of the unit, also for special requirements both in the civil and technological air-conditioning sphere, thanks to the many available optional accessories. The high performance fans and pump set accessories in particular enhance the qualities of flexibility and energy efficiency. The latter, for example, consistent with the concept of modularity, has several pumps in parallel (up to 3) with the possibility of reserve pump, to

monitor the system load variations better and to regulate the water flow in the critical system starting (or restarting) stages so that outside servicing is avoided.

The innovative and hi-tech features of multi Scroll chiller give this series a much higher quality than can generally be found on the market today.

Accessories

- Condenser coil in copper/aluminium with acrylic coating
- Copper/copper condenser coil
- Spring antivibration mounts*
- Compressor compartment and condenser coil protection grilles
- Shut-off valve on compressor suction and discharge
- High and low pressure gauges
- Pump set with 2 pumps
- Pump set with 2 pumps + 1 in stand-by
- Pump set with 3 pumps
- Pump set with 3 pumps + 1 spare onboard
- User side anti-ice electric heaters for hydronic group
- Aluminium cover for hydronic group
- Steel mesh filter on water side*
- Set point compensation with 4-20 mA signal
- Set point compensation with fresh air sensor
- Set point compensation with according to outdoor enthalpy
- Device for reducing consumption of the outdoor section fans
- Phase monitor
- Shunt capacitors (power factor > 0,9)
- CAN/MODBUS serial converter kit
- CAN/LON WORKS serial converter kit
- Data logger*
- Master-slave operation*
- Free contacts for compressor status
- Remote control with remote microprocessor control*

* Accessories supplied separately

KCCA and KCDC Air cooled water chiller/heat pump for outdoor installation

Technical data

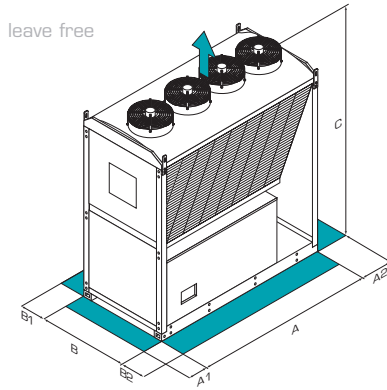
Sizes		65	70	75	80	85	90	100	110	115	120	135	150	165	180
KCCA															
f=0/2 Cooling capacity (1)	kW	163	174	189	200	216	237	261	279	300	323	345	374	425	493
f=0/2 Total input	kW	59,8	64	69,4	73,2	78,7	86	95,6	102,1	110	117	126	137	154	179
f=0/2 Total EER at 100%	-	2,72	2,73	2,72	2,73	2,75	2,75	2,73	2,73	2,74	2,76	2,74	2,74	2,76	2,75
f=0/2 ESEER	-	4,38	4,39	4,38	4,39	4,42	4,43	4,4	4,39	4,41	4,44	4,49	4,57	4,6	4,6
f=0 Sound pressure level (3)	dB(A)	74	74	74	74	76	76	77	78	78	78	78	78	79	79
f=1 Sound pressure level (3)	dB(A)	70	70	70	71	72	72	72	74	74	74	75	75	76	76
f=2 Cooling capacity (1)	kW	156	170	183	194	208	227	249	264	288	309	329	357	404	459
f=2 Total input	kW	61,6	66,9	72,3	76,8	81,3	88,6	99,2	105	114	122	130	141	159	180
f=2 Total EER at 100%	-	2,53	2,54	2,53	2,52	2,55	2,56	2,52	2,51	2,53	2,53	2,52	2,53	2,54	2,56
f=2 ESEER	-	4,07	4,08	4,07	4,06	4,11	4,12	4,05	4,05	4,08	4,07	4,14	4,22	4,25	4,27
f=2 Sound pressure level (3)	dB(A)	64	65	65	65	66	66	67	68	68	68	69	69	70	70
FREE-COOLING															
f=1 Free-Cooling rated output (4)	kW	167	179	194	205	229	250	271	287	308	332	358	387	441	511
f=1 Air temp. with Free-Cooling at 100% °C		-5,7	-6,7	-8	-9	-4	-5,4	-6,6	-2,9	-3,9	-4,9	-6,8	-8	-3,6	-5,6
KCDC															
f=0/1 Cooling capacity (1)	kW	158	170	183	200	216	237	261	279	300	317	342	370	425	494
f=0/1 Total input	kW	63,1	68	72,1	73,8	78,8	86,7	95,7	101,4	109	116	126	137	153	179
f=0/1 Total EER at 100%	-	2,51	2,51	2,54	2,71	2,74	2,73	2,73	2,76	2,74	2,74	2,71	2,71	2,78	2,76
f=0/1 ESEER	-	4,04	4,03	4,09	4,36	4,41	4,4	4,39	4,45	4,42	4,41	4,45	4,52	4,64	4,61
f=0/1 Heating capacity (2)	kW	166	175	190	205	229	245	263	297	311	326	363	388	449	497
f=0/1 Total input	kW	56,7	60,3	63,9	67,8	74,9	80,8	87,9	97,3	103	109	117	125	146	163
f=0 Sound pressure level (3)	dB(A)	74	74	74	74	76	76	77	78	78	78	78	78	79	79
f=1 Sound pressure level (3)	dB(A)	70	70	70	71	72	72	72	74	74	74	75	75	76	76
f=2 Cooling capacity (1)	kW	153	164	175	191	207	226	249	263	288	308	324	355	403	458
f=2 Total input	kW	66,5	71,1	75,8	78,2	81,6	88,7	99,4	105	114	123	129	141	159	180
f=2 Total EER at 100%	-	2,31	2,31	2,31	2,44	2,54	2,5	2,51	2,51	2,53	2,51	2,52	2,51	2,53	2,54
f=2 ESEER	-	4,04	4,04	4,04	4,27	4,44	4,46	4,38	4,39	4,42	4,39	4,48	4,54	4,59	4,61
f=2 Heating capacity (2)	kW	157	166	183	197	224	238	256	288	303	317	354	369	436	481
f=2 Total input	kW	55	58,6	62,2	66,2	72,8	78,6	85,6	94,6	100	106	114	122	141	159
f=2 Sound pressure level (3)	dB(A)	64	65	65	65	66	66	67	68	68	68	69	69	70	70
Number of refrigerant circuits	-	2													
Number and type of compressors	-	4 SCROLL										5 SCROLL		6 SCROLL	
Power supply	V/Ph/Hz	400/3/50													

Data referred to the following conditions:

- (1) Internal exchanger water = 12/7 °C; ambient temperature = 35 °C
 (2) Internal exchanger water = 40/45 °C; air at external exchanger inlet = 6,1 °C W.B.
 (3) Sound levels refer to units with full load under nominal test conditions. The sound pressure is measured at 1 m from the external surface of the unit in open field conditions.
 (4) Internal exchanger water = 15/10 °C; glycol 30 %

KCCC and KCDC Air cooled water chiller/heat pump for outdoor installation

Dimensions and functional spaces



CAUTION! For trouble-free operation of the unit it is essential to maintain the safety distances indicated by the green areas.

Sizes		65	70	75	80	85	90	100	110	115	120	135	150	165	180	
KCCC																
Length (A)	mm	2 850	2 850	2 850	2 850	3 800	3 800	3800	4750	4750	4750	2850	2850	3800	3800	
Width (B)	mm	1 120	1 120	1 120	1 120	1 120	1 120	1120	1120	1120	1120	2233	2233	2233	2233	
Height (C)	mm	2 250	2 250	2 250	2 250	2250	2250	2250	2250	2250	2250	2250	2250	2250	2250	
(A1)	mm	1 640	1 640	1 640	1640	1640	1640	1640	1640	1640	1640	1640	1640	1640	1640	
(A2)	mm	700	700	700	700	700	700	700	700	700	700	700	700	700	700	
(B1)	mm	1 100	1 100	1 100	1 100	1100	1100	1100	1100	1100	1100	1100	1100	1100	1100	
(B2)	mm	1 100	1 100	1 100	1 100	1100	1100	1100	1100	1100	1100	1100	1100	1100	1100	
Weight in oper.	kg	1 438	1 478	1 510	1 535	1698	1706	1739	1941	1951	1953	2417	2644	2930	2936	
KCDC																
Length (A)	mm	2 850	2 850	2 850	2 850	3800	3800	3800	4750	4750	4750	2850	2850	3800	3800	
Width (B)	mm	1 120	1 120	1 120	1 120	1120	1120	1120	1120	1120	1120	2233	2233	2233	2233	
Height (C)	mm	2 250	2 250	2 250	2 250	2250	2250	2250	2250	2250	2250	2250	2250	2250	2250	
(A1)	mm	1 640	1640	1640	1640	1640	1640	1640	1640	1640	1640	1640	1640	1640	1640	
(A2)	mm	700	700	700	700	700	700	700	700	700	700	700	700	700	700	
(B1)	mm	1 100	1 100	1 100	1 100	1100	1100	1100	1100	1100	1100	1100	1100	1100	1100	
(B2)	mm	1 100	1 100	1 100	1 100	1100	1100	1100	1100	1100	1100	1100	1100	1100	1100	
Weight in oper.	kg	1574	1613	1668	1714	1884	1892	1926	2170	2178	2184	2708	2954	3422	3445	

The above data refer to standard units.

KCCC and KCDC Air cooled water chiller/heat pump for outdoor installation

Product Code

Air Cooled water chiller and for outdoor installation KCCC-a-bbb-c-d-e-f-g-h

Energy recovery (a)

- 0 = Without (standard)
- 1 = Partial recovery
- 2 = Total recovery

Size (bbb)

- 065, 070, 075, 080, 085, 090,
- 100, 110, 125, 135, 150, 165, 180

Number of compressors (c)

- 3 = 3 Scroll
- 4 = 4 Scroll
- 5 = 5 scroll
- 6 = 6 Scroll
- 8 = 8 Scroll

Low temperature (d)

- 0 = Without
- 1 = With low water temperature
- 2 = Double operating setpoint

Energy Saving (e)

- 0 = Without
- 1 = Direct free cooling

Acoustic Configuration (f)

- 0 = Standard
- 2 = Compressor sound proofing
- 3 = Super silenced

Energy Efficiency (g)

- 0 = Temperate climate

Heat exchanger approvals (h)

- 1 = PED (European test)
- 2 = FWG Standard

Air Cooled chiller and heat pump for outdoor installation KCDC-a-bbb-c-d-e-f-g-h

Energy recovery (a)

- 0 = Without (standard)
- 1 = Partial recovery
- 2 = Total recovery

Size (bbb)

- 065, 070, 075, 080, 085, 090,
- 100, 110, 125, 135, 150, 165, 180

Number of compressors (c)

- 3 = 3 Scroll
- 4 = 4 Scroll
- 5 = 5 Scroll
- 6 = 6 Scroll
- 8 = 8 Scroll

Low temperature (d)

- 0 = Without
- 1 = With low water temperature
- 2 = Double operating setpoint

Energy Saving (e)

- 0 = Without
- 1 = Direct free cooling

Acoustic Configuration (f)

- 0 = Standard
- 2 = Compressor sound proofing
- 3 = Super silenced

Energy Efficiency (g)

- 0 = Temperate climate

Heat exchanger approvals (h)

- 1 = PED (European test)
- 2 = FWG Standard

KCCC Air cooled chiller for outdoor installation



KCCC

KCCC: Capacity from 511 to 965 kW

The R-410A multi Scroll chiller series presents a new concept of chiller offering:

- **Efficiency**, that increases as the cooling load decreases, while guaranteeing maximum requested load when necessary. Multi Scroll always ensures maximum comfort with very high efficiency and consequently considerable energy savings;
- **Reliability**: a modular approach. Several basic units may be connected together to form a single structure according to the required capacity. This allows high production standardisation and therefore utmost operating reliability;
- **Self-adaptation**: simple unit-system combination, since these units are self-adapting to the characteristics of the actual system, thereby avoiding delicate, time-consuming calibrations. Easy connection to the service system plus a simple control system and easy maintenance drastically reduce work requiring specialised personnel with consequent reduction in installation costs;
- extended operating limits to keep the system running, even under exceptional start-up and load conditions;
- customisation of the unit, also for special requirements both in the civil and technological air-conditioning sphere, thanks to the many available optional accessories. The high performance fans and pump set accessories in particular enhance the qualities of flexibility and energy efficiency. The latter, for example, consistent with the concept of modularity, has two pumps in parallel, to monitor the system load variations better and to regulate the water flow in the critical system starting (or restarting) stages so that outside servicing is avoided.

The innovative and hi-tech features of multi Scroll chiller give this series a much higher quality than can generally be found on the market today.

Accessories

- Condenser coil in copper/aluminium with acrylic coating
- Copper/copper condenser coil
- Spring antivibration mounts*
- Compressor compartment and condenser coil protection grilles
- Shut-off valve on compressor suction and discharge
- High and low pressure gauges
- Pump set with 2 pumps
- Pump set with 2 pumps + 1 in stand-by
- Pump set with 3 pumps
- Pump set with 3 pumps + 1 spare onboard
- User side anti-ice electric heaters for hydronic group
- Aluminium cover for hydronic group
- Steel mesh filter on water side*
- Set point compensation with 4-20 mA signal
- Set point compensation with fresh air sensor
- Set point compensation with according to outdoor enthalpy
- Device for reducing consumption of the outdoor section fans
- Phase monitor
- Shunt capacitors (power factor > 0,9)
- CAN/MODBUS serial converter kit
- CAN/LON WORKS serial converter kit
- Data logger*
- Master-slave operation*
- Free contacts for compressor status
- Remote control with remote microprocessor control*

* Accessories supplied separately

KCCC Air cooled chiller for outdoor installation

Technical data

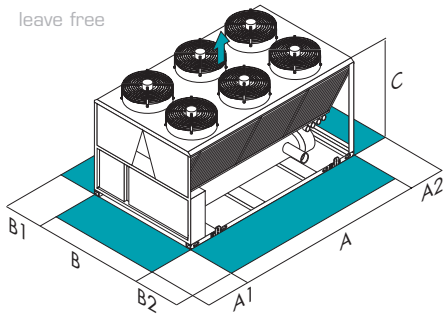
Sizes			200	220	230	240	270	300	315	330	345	360	
KCCA													
f=0/2	Cooling capacity	(1)	kW	511	558	609	647	692	748	797	860	910	965
f=0/2	Total input		kW	185	204	219	235	251	272	289	309	328	349
f=0/2	Total EER at 100%		-	2,76	2,73	2,77	2,75	2,75	2,74	2,76	2,78	2,78	2,76
f=0/2	ESEER		-	4,44	4,39	4,46	4,43	4,51	4,58	4,6	4,64	4,64	4,62
f=0	Sound pressure level	(2)	dB(A)	80	80	80	81	81	81	81	82	82	82
f=1	Sound pressure level	(2)	dB(A)	75	76	76	77	77	78	78	78	79	79
f=3	Cooling capacity	(1)	kW	493	535	575	615	665	719	761	819	862	925
f=3	Total input		kW	191	209	227	244	257	282	298	320	337	358
f=3	Total EER at 100%		-	2,57	2,55	2,53	2,52	2,58	2,55	2,55	2,55	2,56	2,58
f=3	ESEER		-	4,5	4,46	4,43	4,4	4,59	4,61	4,61	4,62	4,63	4,67
f=3	Sound pressure level	(2)	dB(A)	70	71	71	71	71	72	72	73	73	73
FREE-COOLING													
f=2	Free-Cooling rated output	(3)	kW	527	576	624	662	696	754	820	878	911	965
f=2	Air temp. with Free-Cooling at 100%		°C	-3	-3	-4,1	-5	-6,3	-5,3	-5,8	-6,3	-1,9	-2,2
	Number of refrigerant circuits		-						4				
	Number and type of compressors		-	8 SCROLL				10 SCROLL			12 SCROLL		
	Power supply		V/Ph/Hz					400/3/50					

Data referred to the following conditions:

- (1) Internal exchanger water = 12/7 °C; ambient temperature = 35 °C
 (2) Internal exchanger water = 40/45 °C; air at external exchanger inlet = 6,1 °C W.B.
- (3) Sound levels refer to units with full load under nominal test conditions. The sound pressure is measured at 1 m from the external surface of the unit in open field conditions.
 (4) Internal exchanger water = 15/10 °C; glycol 30 %

KCCC Air cooled chiller for outdoor installation

Dimensions and functional spaces



CAUTION! For trouble-free operation of the unit it is essential to maintain the safety distances indicated by the green areas.

Sizes			200	220	230	240	270	300	315	330	345	360
KCCC												
f=0/2	Length (A)	mm	4 750	4750	4750	4750	5708	6658	6658	6658	7608	7608
f=0/2	Width (B)	mm	2 233	2233	2233	2233	2233	2233	2233	2233	2233	2233
f=0/2	Height (C)	mm	2 250	2250	2250	2250	2280	2280	2280	2280	2280	2280
f=0/2	(A1)	mm	1 930	1930	1930	1930	1690	1690	1690	1690	1690	1690
f=0/2	(A2)	mm	700	700	700	700	700	700	700	700	700	700
f=0/2	(B1)	mm	1100	1100	1100	1100	1100	1100	1100	1100	1100	1100
f=0/2	(B2)	mm	1100	1100	1100	1100	1100	1100	1100	1100	1100	1100
f=0	Weight in oper.	Kg	3887	4118	4360	4374	5358	6023	6080	6114	6511	6567
f=2	Weight in oper.	Kg	4038	4268	4510	4524	5570	6266	6324	6357	6745	6800
f=3	Weight in oper.	Kg	4038	4268	4510	4524	5570	6266	6324	6357	6745	6800

The above data refer to standard units.

KCCC Air cooled chiller for outdoor installation

Product Code

Air Cooled chiller for outdoor installation

KCCC-a-bbb-c-d-e-f-g-h

Energy recovery (a)

- 0 = Without (standard)
- 1 = Partial recovery
- 2 = Total recovery

Size (bbb)

- 200, 220, 230, 240, 270, 300,
- 315, 330, 345, 360

Number of compressors (c)

- 03 = 3 Scroll
- 04 = 4 Scroll
- 05 = 5 scroll
- 06 = 6 Scroll
- 08 = 8 Scroll
- 10 = 10 Scroll
- 12 = 12 Scroll

Low temperature (d)

- 0 = Without
- 1 = With low water temperature
- 2 = Double operating setpoint

Energy Saving (e)

- 0 = Without
- 1 = Direct free cooling

Acoustic Configuration (f)

- 0 = Standard
- 2 = Compressor sound proofing
- 3 = Super silenced

Energy Efficiency (g)

- 0 = Temperate climate

Heat exchanger approvals (h)

- 1 = PED (European test)
- 2 = FWG Standard

KCCJ Air cooled water chiller for outdoor installation



KCCJ

KCCJ: Capacity from 183 kW to 657 kW

KCCJ is a highly energy efficient liquid chiller equipped with Scroll compressors, wide thermal exchange surfaces and electronically-controlled fans.

Thanks to its excellent performance at part load, ESEER seasonal efficiency puts it at the top of its category, enabling high-level savings on management costs over the entire annual cycle. Furthermore, the EXCELLENCE standard version has been located in energy efficiency class A while operating at full load.

KCCJ is also available in the compact PREMIUM version, perfected for reducing initial investments. It can be equipped with numerous accessories installed built-in, such as pumping groups, an energy recovery device and an inertial storage tank.

KCCJ is therefore the centralised solution for all applications which require high performance, operating continuity and management cost reduction.

Accessories

- Finned coil protection grill
- Anti-hall protection grilles
- Spring antivibration mounts*
- External copper/aluminium coil with acrylic covering
- External copper/aluminium coil with Fin Guard treatment (Silver)
- External copper/copper coil
- High and low pressure gauges
- Shut-off valve on compressor suction and discharge
- Electrical panel ventilation
- Electrical resistances (for heating the electrical panel)
- Phase monitor
- Multi-function phase monitor
- Power factor correction capacitors (cosφ > 0.9)
- Breakaway current reducing device (soft start)
- Serial communication module to BACnet supervisor
- Serial communication module to MODBUS supervisor
- Serial communication module to LonWorks supervisor
- Master-slave operation
- External section fan consumption reduction device with variable speed control (phase cutting) (only for EXCELLENCE version)
- Remote microprocessor control unit
- Compensation of set point with signal 0-10 V
- Set point compensation with 4-20 mA signal
- Set point compensation with outside temperature probe
- Set point compensation based on external Enthalpy
- Base spring vibration isolator*

* Accessories supplied separately

KCCJ Air cooled water chiller for outdoor installation

Technical data, version Excellence

Sizes		80	90	100	110	120	140	160	170	180	200	220	240	
KCCJ														
Cooling capacity	(1)	kW	212	254	261	309	349	392	436	474	518	562	614	657
Compressor power input		kW	60,9	74,6	82,2	89,5	102	112	127	140	152	165	174	191
Total power input	(2)	kW	67,7	81,4	90,6	99,5	112	125	140	153	166	181	194	210
Heating capacity total recovery	(3)	kW	265	315	345	376	425	480	540	595	636	695	750	800
Heating capacity partial recovery	(3)	kW	55	66	73	80	90	101	113	123	134	145	158	169
EER 100% Full load	(6)	-	3,13	3,12	3,1	3,1	3,11	3,14	3,11	3,1	3,13	3,1	3,17	3,13
EER 75% partial load	(6)	-	3,99	3,89	3,8	3,74	3,68	3,78	3,77	3,78	3,75	3,81	3,82	3,75
EER 50% partial load	(6)	-	5,06	4,8	4,83	4,82	4,7	4,85	4,71	4,79	4,73	4,74	4,69	4,59
EER 25% partial load	(6)	-	4,97	5,21	4,94	4,93	4,93	5,52	5,18	5,49	5,86	5,84	5,74	5,34
ESEER	(6)	-	4,63	4,55	4,46	4,44	4,37	4,6	4,46	4,57	4,62	4,63	4,6	4,44
Free-Cooling														
Type of compressors	-		scroll	scroll	scroll	scroll	scroll	scroll	scroll	scroll	scroll	scroll	scroll	scroll
No. of compressors	Nr		4	4	4	4	4	4	5	6	6	6	6	6
Rated power (C1)	HP		40	45	50	55	60	70	80	80	90	100	110	120
Nominal power (C2)	HP		40	45	50	55	60	70	80	90	90	100	110	120
Std Capacity control steps	Nr		6	6	6	6	4	6	4	6	6	6	6	6
Oil charge (C1)	l		10	10	11	13	13	13	13	13	19	19	19	19
Oil charge (C2)	l		10	10	11	13	13	13	13	19	19	19	19	19
Refrigerant circuits	Nr		2	2	2	2	2	2	2	2	2	2	2	2
Internal exchanger														
Type of internal exchanger	(4)		PHE	PHE	PHE	PHE	PHE	PHE	PHE	PHE	PHE	PHE	PHE	PHE
Water flow rate (Int. Exchanger)	(1)	l/s	10,1	12,1	13,4	14,7	16,7	18,7	20,8	22,7	24,7	26,9	29,3	31,4
Internal exchanger pressure drop		kPa	46	51	33	29	31	33	32	37	41	44	53	60
Water content		l	13	15	27	33	37	42	52	52	56	61	61	61
External section fans														
Type of fans	(5)		AX	AX	AX	AX	AX	AX	AX	AX	AX	AX	AX	AX
Number of fans	Nr		4	4	5	6	6	8	8	8	8	10	12	12
Standard air flow		l/s	25278	25000	31528	35833	36111	45555	50000	47778	51111	62500	68889	68889
Connections														
Water fittings			3"	3"	3"	3"	3"	4"	4"	4"	5"	5"	5"	5"
Power supply														
Standard power supply		V	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
Dimensions														
Length		mm	5800	5800	5800	5800	5800	3800	4750	4750	5800	5800	5800	5800
Depth		mm	1097	1097	1115	1115	1115	2228	2228	2228	2228	2228	2228	2228
Height		mm	1825	1825	2221	2221	2221	2246	2246	2246	2246	2246	2246	2246
Standard unit weights														
Shipping weight		kg	1766	2036	2199	2293	2360	2779	3073	3438	4089	4236	4464	4510
Operating weight		kg	1784	2057	2171	2329	2397	2821	3125	3490	4146	4297	4525	4571

(1) Data referred to the following conditions:

- Internal exchanger water = 12/7 °C

(2) According to EUROVENT the Total Power Input does not consider the pump share, required to overcome the pressure drop for the solution circulation inside the exchangers.

(3) Recovery exchanger water option = 40/45 °C

(4) PHE = plate exchanger

(5) AX = axial-flow fan

(6) Water outlet at a constant temperature = 7 °C

KCCJ Air cooled water chiller for outdoor installation

Technical data, version Premium

Sizes		80	90	100	110	120	140	160	170	180	200	220	240	
KCCJ														
Cooling capacity	(1)	kW	197	224	254	282	320	360	400	444	471	517	544	596
Compressor power input		kW	67	80,6	85,9	96,3	109	121	136	150	163	176	195	206
Total power input	(2)	kW	72,5	86,1	93,1	104	116	132	147	164	177	190	209	220
Heating capacity total recovery	(3)	kW	250	300	330	360	405	470	520	570	620	670	730	780
Heating capacity partial recovery	(3)	kW	53	61	68	76	86	96	107	119	127	139	148	160
EER 100% Full load	(6)	-	2,72	2,61	2,73	2,72	2,75	2,73	2,73	2,7	2,66	2,72	2,6	2,71
EER 75% partial load	(6)	-	3,54	3,53	3,66	3,47	3,41	3,46	3,41	3,36	3,27	3,28	3,28	3,35
EER 50% partial load	(6)	-	4,66	4,36	4,56	4,46	4,34	4,36	4,13	4,33	4,18	4,18	4,22	4,33
EER 25% partial load	(6)	-	4,5	4,66	4,56	4,87	4,92	4	4,25	5,03	5,14	5,24	5,32	5,12
ESEER	(6)	-	4,2	4,1	4,21	4,22	4,12	3,93	3,88	4,12	4,05	4,08	4,11	4,14
Free-Cooling														
Type of compressors	-		scroll	scroll	scroll	scroll	scroll	scroll	scroll	scroll	scroll	scroll	scroll	scroll
No. of compressors	Nr		4	4	4	4	4	4	4	5	6	6	6	6
Rated power (C1)	HP		40	45	50	55	60	70	80	80	90	100	110	120
Nominal power (C2)	HP		40	45	50	55	60	70	80	90	90	100	110	120
Std Capacity control steps	Nr		6	6	6	6	4	6	4	6	6	6	6	6
Oil charge (C1)	l		10	10	11	13	13	13	13	13	19	19	19	19
Oil charge (C2)	l		10	10	11	13	13	13	13	19	19	19	19	19
Refrigerant circuits	Nr		2	2	2	2	2	2	2	2	2	2	2	2
Internal exchanger														
Type of internal exchanger	(4)		PHE	PHE	PHE	PHE	PHE	PHE	PHE	PHE	PHE	PHE	PHE	PHE
Water flow rate (Int. Exchanger)	(1)	l/s	9,4	10,7	12,1	13,5	15,3	17,2	19,1	21,2	22,5	24,7	26	28,5
Internal exchanger pressure drop		kPa	55	51	51	44	49	51	54	48	47	52	53	58
Water content		l	10	13	15	18	25	27	30	37	42	45	47	52
External section fans														
Type of fans	(5)		AX	AX	AX	AX	AX	AX	AX	AX	AX	AX	AX	AX
Number of fans	Nr		3	3	4	4	4	6	6	8	8	8	8	8
Standard air flow		l/s	19167	18611	25556	25556	24800	33889	36111	46111	46111	50000	50000	48333
Connections														
Water fittings			3"	3"	3"	3"	3"	4"	4"	4"	4"	5"	5"	5"
Power supply														
Standard power supply	V		400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
Dimensions														
Length		mm	4800	4800	5800	5800	5800	5800	5800	3800	3800	4750	4750	4750
Depth		mm	1097	1097	1097	1097	1097	1115	1115	2228	2228	2228	2228	2228
Height		mm	1825	1825	1825	1825	1825	2221	2221	2246	2246	2246	2246	2246
Standard unit weights														
Shipping weight		kg	1591	1874	2081	2188	2234	2283	2393	2878	3055	3473	3513	3739
Operating weight		kg	1612	1892	2102	2213	2259	2311	2423	2915	3097	3515	3558	3787

(1) Data referred to the following conditions:

- Internal exchanger water = 12/7 °C

(2) According to EUROVENT the Total Power Input does not consider the pump share, required to overcome the pressure drop for the solution circulation inside the exchangers.

(3) Option recovery exchanger water option = 40/45 °C

(4) PHE = plate exchanger

(5) AX = axial-flow fan

(6) Water outlet at a constant temperature = 7 °C

KCCJ Air cooled water chiller for outdoor installation

Sizes		80	90	100	110	120	140	160	170	180	200	220	240
KCCJ													
M	mm	2091	2006	3468	3439	3441	2290	2615	2581	3278	3258	3257	3261
N	mm	3709	3794	2358	2389	2386	1510	2135	2168	2522	2542	2543	2539
O	mm	529	532	568	571	570	1092	1098	1142	1106	1105	1106	1106
P	mm	568	565	547	544	545	1136	1130	1086	1122	1123	1122	1122
OD	mm	88,9	88,9	88,9	88,9	88,9	114,3	114,3	114,3	139,7	139,7	139,7	139,7
Length	mm	5800	5800	5800	5800	5800	3800	4750	4750	5800	5800	5800	5800
Depth	mm	1097	1097	1115	1115	1115	2228	2228	2228	2228	2228	2228	2228
Height	mm	1825	1825	2221	2221	2221	2246	2246	2246	2246	2246	2246	2246
W1	kg	366	446	81	87	85	575	699	810	899	935	990	999
W2	kg	221	247	697	728	758	821	852	957	1166	1201	1265	1279
W3	kg	135	150	350	377	384	589	711	788	907	948	998	1007
W4	kg	139	154	77	83	81	835	864	935	1174	1209	1273	1287
W5	Kg	404	485	720	751	781	-	-	-	-	-	-	-
W6	kg	244	269	273	300	308	-	-	-	-	-	-	-
W7	kg	135	150	0	0	0	-	-	-	-	-	-	-
W8	kg	139	154	0	0	0	-	-	-	-	-	-	-
Operating weight	kg	1784	2057	2171	2329	2397	2821	3125	3490	4146	4297	4525	4571
Shipping weight	kg	1766	2036	2199	2293	2360	2779	3073	3438	4089	4236	4464	4510

KCCJ Air cooled water chiller for outdoor installation

Sizes		80	90	100	110	120	140	160	170	180	200	220	240
KCCJ													
M	mm	1783	1767	1972	1916	1896	2350	2365	2355	2347	2600	2597	2583
N	mm	3017	3033	3828	3884	3904	3475	3462	1445	1453	2150	2153	2167
O	mm	528	531	565	573	572	571	570	132	1092	1099	1099	1099
P	mm	569	566	532	524	525	544	545	1095	1134	1129	1129	1128
OD	mm	88,9	88,9	88,9	88,9	88,9	114,3	114,3	114,3	114,3	139,7	139,7	139,7
Length	mm	4800	4800	5800	5800	5800	5800	5800	3800	3800	4750	4750	4750
Depth	mm	1097	1097	1097	1097	1097	1115	1115	2228	2228	2228	2228	2228
Height	mm	1825	1825	1825	1825	1825	2221	2221	2246	2246	2246	2246	2246
W1	kg	312	374	465	498	514	73	81	587	613	792	803	861
W2	kg	232	284	251	256	263	730	765	883	921	954	964	1021
W3	kg	120	133	150	150	150	381	395	575	627	804	815	873
W4	kg	111	124	154	154	154	69	77	870	936	966	976	1033
W5	Kg	348	409	505	562	578	753	788	-	-	-	-	-
W6	kg	258	310	272	289	295	304	318	-	-	-	-	-
W7	kg	120	133	-	-	-	-	-	-	-	-	-	-
W8	kg	111	124	-	-	-	-	-	-	-	-	-	-
Operating weight	kg	1612	1892	2102	2213	2250	2311	2423	2915	3097	3515	3558	3787
Shipping weight	kg	1591	1874	2081	2188	2234	2283	2393	2878	3055	3473	3513	3739

KCCJ Air cooled water chiller for outdoor installation

Product Code

Air Cooled chiller for outdoor installation

KCCJ-a-b-c-d-eee-f-g-h

Version (a)

- 1 = Premium
- 2 = Excellence

Energy recovery (b)

- 0 = Not required
- 1 = Total energy recovery
- 2 = Partial energy recovery

Low temperature (c)

- 0 = Not required
- 1 = Low temperature water

Free cooling (d)

- 0 = Not required
- 1 = Direct free cooling

Size (eee)

- 80, 90, 100, 110, 120, 140, 160,
- 170, 180, 200, 220, 240

Number of compressors (f)

- 4, 5, 6

Acoustic Configuration (g)

- 1 = Compressor sound proofing
- 2 = Super silenced

Heat exchanger approvals (h)

- 1 = Clivet
- 2 = PED

KCCE Air cooled water chiller for outdoor installation



KCCE

KCCE: Capacity from 365 to 1525 kW

The KCCE offer following features:

- **Efficiency:** New high capacity screw compressors (over 1000 kW with just 2 compressors, 1500 kW with 3 compressors), water-cooled shell-and-tube exchangers specially developed for the gas R-134a. The air-cooled exchangers have been designed and made in-house to ensure best adaptation to the other refrigerant circuit parts. The compressors are managed with continual adjustment of the capacity and are fitted with an economiser circuit for further operating efficiency. The best compromise is thus reached to boost efficiency while limiting costs;
- **Self-adaptation:** New, modern and intelligent electronic control. This customisation allows better management of all the circuit components. Continual adapting of chiller operating parameters to the load conditions of the system in which it is installed reduces consumption and noise level, while the working life of the parts increases;
- **Sturdiness:** Load-bearing frame in enamelled hot-galvanised sheet metal with semi-hermetic double-screw compressors and shell-and-tube evaporator ensuring reliability and constant performance. All the finishes are meticulously applied to ensure the utmost weathering resistance even under extreme conditions of use.

Accessories

- Condenser coil in copper/aluminium with acrylic coating
- Copper/copper condenser coil
- Spring antivibration mounts *
- Compressor compartment and condenser coil protection grilles
- Hail grilles
- Shut-off valve on compressor suction and discharge
- Pump set with 2 pumps
- Pump set with 3 pumps
- User side anti-ice electric heaters for hydronic group
- Set point compensation with 4-20 mA signal
- Set point compensation with fresh air sensor
- Set point compensation with according to outdoor enthalpy
- Device for reducing consumption of the outdoor section variable speed fans (phase-cut)
- Device for reducing consumption of the outdoor section fans
- General isolating switch
- Magnetothermal circuit breakers
- Shunt capacitors (power factor > 0,9)
- CAN/MODBUS serial converter kit
- CAN/LON WORKS serial converter kit
- Data logger *
- Master-slave operation *
- Free contacts for compressor status
- Free contacts for compressor status and enabling
- Remote control with remote microprocessor control *

* Accessories supplied separately

KCCE Air cooled water chiller for outdoor installation

Technical data

Sizes		160	180	200	220	250	280	300	320	340	360	390	420	450	480	480	500	540	630	660	
KCCE																					
f=0/1	- Cooling capacity (1)	kW	365	406	474	527	584	675	736	801	869	915	954	1015	1085	1116	1196	1268	1367	1456	1525
f=0/1	Total input:	kW	125	139	163	181	200	223	242	267	278	293	305	332	3654	382	375	393	415	431	469
f=0/1	Total EER at 100%	-	2,92	2,92	2,92	2,91	2,92	3,03	3,04	3	3,13	3,12	3,13	3,06	2,97	2,92	3,19	3,23	3,29	3,38	3,25
f=0	Sound pressure level (2)	dB(A)	80	81	81	81	81	81	81	81	82	83	83	84	84	85	83	84	85	86	87
f=1	Sound pressure level (2)	dB(A)	77	78	78	78	78	78	78	78	79	80	80	81	81	82	80	81	82	83	84
f=2	- Cooling capacity (1)	kW	363	399	469	526	576	670	738	802	857	896	939	1018	1102	1137	1207	1271	1344	1450	-
f=2	Total input:	kW	124	137	161	181	197	222	240	262	277	293	304	336	361	374	379	395	421	454	-
f=2	Total EER at 100%	-	2,92	2,91	2,92	2,91	2,99	3,01	3,07	3,06	3,09	3,06	3,09	3,03	3,05	3,04	3,19	3,21	3,2	3,19	-
f=2	Sound pressure level (2)	dB(A)	74	74	74	74	75	75	75	75	76	76	77	77	78	78	79	79	80	81	-
f=3	- Cooling capacity (1)	kW	353	387	447	504	567	655	709	771	815	851	918	1008	1076	1105	1158	1208	1291	-	-
f=3	Total input:	kW	133	146	169	193	508	238	266	290	309	326	331	352	392	407	407	427	460	-	-
f=3	Total EER at 100%	-	2,65	2,65	2,65	2,61	2,73	2,75	2,67	2,66	2,64	2,62	2,78	2,86	2,74	2,72	2,84	2,83	2,81	-	-
f=3	Sound pressure level (2)	dB(A)	67	68	68	68	68	69	70	70	70	70	70	71	71	72	72	72	72	-	-
Free-Cooling																					
f=0/1	Free-Cooling rated output (3)	kW	379	420	493	546	605	697	760	829	900	948	989	1052	1119	1151	-	-	-	-	-
f=0/1	Air temp. with Free-Cooling at 100%	°C	1	0	0,5	0	0,5	-0,5	-1,5	-2,5	-2,5	-3,5	-3,5	-4,5	-5,5	-5,5	-	-	-	-	-
f=2	Free-Cooling rated output (3)	kW	377	412	486	539	597	692	763	831	886	926	972	1053	1138	1174	-	-	-	-	-
f=2	Air temp. with Free-Cooling at 100%	°C	-1	-2,5	-3,5	-2,5	-1,5	-3	-3,5	-4	-5	-5	-3,5	-2,5	-3,5	-3,5	-	-	-	-	-
Number of refrigerant circuits		-	2													3					
Number and type of compressors (4)		-	2 DSW													3 DSW					
Power supply		V/Ph/Hz	400/3/50																		

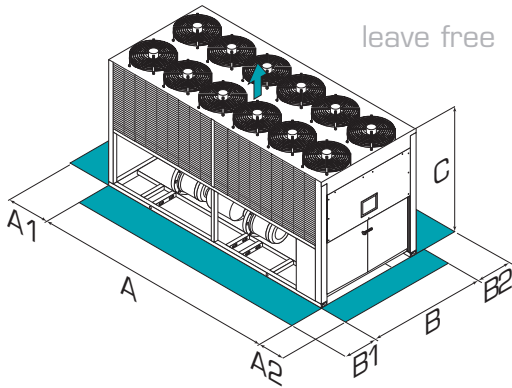
Data referred to the following conditions:

(1) Internal exchanger water = 12/7 °C; external air temperature 35 °C
 (2) Sound levels refer to units with full load under nominal test conditions. The sound pressure is measured at 1 m from the external surface of the unit in open field conditions.

(3) Internal exchanger water = 15/10 °C; glycol 30 %
 (4) DSW = twin-screw compressor

KCCE Air cooled water chiller for outdoor installation

Dimensions and functional spaces



CAUTION! For trouble-free operation of the unit it is essential to maintain the safety distances indicated by the green areas.

Sizes		160	180	200	220	250	280	300	320	340	360	390	420	450	480	480	500	540	630	660	
KCCE																					
f=0/1	Length (A)	mm	3950	3950	4880	4880	5900	5900	5900	5900	7050	7050	7050	7050	7050	7050	8940	9840	10990	10990	10990
f=0/1	Width (B)	mm	2326	2326	2326	2326	2326	2326	2326	2326	2326	2326	2326	2326	2326	2326	2326	2326	2326	2326	2326
f=0/1	Height (C)	mm	2510	2510	2510	2510	2510	2510	2510	2510	2510	2510	2510	2510	2510	2510	2510	2510	2510	2510	2510
f=0/1	(A1)	mm	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
f=0/1	(A2)	mm	700	700	700	700	700	700	700	700	700	700	700	700	700	700	700	700	700	700	700
f=0/1	(B1)	mm	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500
f=0/1	(B2)	mm	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500
f=0	Weight in oper.	Kg	4402	4418	5257	5772	6072	6397	7105	7696	8442	8862	8983	9043	9216	9236	11136	12242	13235	13315	13987
f=1	Weight in oper.	Kg	4817	4833	5757	6272	6487	6812	7520	8111	8852	9082	9203	9463	9436	9656	11806	12907	13905	13985	14657
f=2	Length (A)	mm	3950	3950	4880	4880	5900	5900	7050	7050	7050	7050	8830	9760	9760	9760	10990	10990	10990	11920	-
f=3	Length (A)	mm	3950	3950	4880	4880	5900	5900	7050	7050	7050	7050	9760	9760	9760	9760	10990	10990	10990	11920	-
f=2/3	Width (B)	mm	2326	2326	2326	2326	2326	2326	2326	2326	2326	2326	2326	2326	2326	2326	2326	2326	2326	2326	-
f=2/3	Height	mm	2510	2510	2510	2510	2510	2510	2510	2510	2510	2510	2510	2510	2510	2510	2510	2510	2510	2510	-
f=2/3	(A1)	mm	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	-
f=2/3	(A2)	mm	700	700	700	700	700	700	700	700	700	700	700	700	700	700	700	700	700	700	-
f=2/3	(B1)	mm	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500	-
f=2/3	(B2)	mm	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500	-
f=2	Weight in oper.	Kg	4997	5013	5867	6492	6747	7072	8115	8796	9162	9262	10677	11077	11304	11710	13478	13812	13925	14165	-
f=3	Weight in oper.	Kg	4997	5013	5867	6492	6747	7072	8115	8796	9162	9262	11237	11517	11690	11710	13498	13812	13925	-	-

The above data refer to standard units.

KCCE Air cooled water chiller for outdoor installation

Product Code

Air Cooled water chiller for outdoor installation

KCCE-a-bbb-c-d-e-f-g-h

Energy recovery (a)

- 0 = Without (standard)
- 1 = Partial recovery
- 2 = Total recovery

Size (bbb)

- 160, 180, 200, 220, 250, 280,
- 300, 320, 340, 360, 390,
- 420, 450, 480, 500, 540, 630, 660

Number of compressors (c)

- 2 = 2 Twin Screw
- 3 = 3 Twin screw

Low temperature (d)

- 0 = Without (standard)
- 1 = With low water temperature
- 2 = Double operating set point

Energy Saving (e)

- 0 = Without
- 1 = Direct free cooling

Acoustic Configuration (f)

- 0 = Standard
- 1 = Silenced
- 2 = Compressor sound proofing
- 3 = Super silenced

Energy Efficiency (g)

- 1 = High efficiency

Heat exchanger approvals (h)

- 1 = PED (European test)
- 2 = FWG Standard

KCCF Air cooled water chiller for outdoor installation



KCCF

KCCF: Capacity from 364 to 1432 kW

The KCCF offer following features:

- **Efficiency:** New high capacity screw compressors (over 1000 kW with just 2 compressors, 1500 kW with 3 compressors), water-cooled shell-and-tube exchangers specially developed for the gas R-134a. The air-cooled exchangers have been designed and made in-house to ensure best adaptation to the other refrigerant circuit parts. The compressors are managed with continual adjustment of the capacity and are fitted with an economiser circuit for further operating efficiency. The best compromise is thus reached to boost efficiency while limiting costs;
- **Self-adaptation:** New, modern and intelligent electronic control. This customisation allows better management of all the circuit components. Continual adapting of chiller operating parameters to the load conditions of the system in which it is installed reduces consumption and noise level, while the working life of the parts increases;
- **Sturdiness:** Load-bearing frame in enamelled hot-galvanised sheet metal with semi-hermetic double-screw compressors and shell-and-tube evaporator ensuring reliability and constant performance. All the finishes are meticulously applied to ensure the utmost weathering resistance even under extreme conditions of use.

Accessories

- Condenser coil in copper/aluminium with acrylic coating
- Copper/copper condenser coil
- Spring antivibration mounts *
- Compressor compartment and condenser coil protection grilles
- Hail grilles
- Shut-off valve on compressor suction and discharge
- Pump set with 2 pumps
- Pump set with 3 pumps
- User side anti-ice electric heaters for hydronic group
- Set point compensation with 4-20 mA signal
- Set point compensation with fresh air sensor
- Set point compensation with according to outdoor enthalpy
- Device for reducing consumption of the outdoor section variable speed fans (phase-cut)
- Device for reducing consumption of the outdoor section fans
- General isolating switch
- Magnetothermal circuit breakers
- Shunt capacitors (power factor > 0,9)
- CAN/MODBUS serial converter kit
- CAN/LON WORKS serial converter kit
- Data logger *
- Master-slave operation *
- Free contacts for compressor status
- Free contacts for compressor status and enabling
- Remote control with remote microprocessor control *

* Accessories supplied separately

KCCF Air cooled water chiller for outdoor installation

Technical data

Sizes		160	180	200	220	250	280	300	320	360	420	480	480	540	630		
KCCF																	
f=0/1	- Cooling capacity	(1)	kW	364	402	469	521	580	650	715	768	845	963	1066	1167	1304	1432
f=0/1	Total input:		kW	129	141	169	193	207	234	257	279	319	351	407	425	456	519
f=0/1	Total EER at 100%		-	2,83	2,84	2,78	2,70	2,80	2,78	2,78	2,76	2,65	2,74	2,62	2,75	2,86	2,76
f=0	Sound pressure level	(2)	dB(A)	-	-	-	-	85	85	85	85	87	88	89	87	89	90
f=1	Sound pressure level	(2)	dB(A)	79	80	80	80	81	81	81	81	83	84	85	83	85	86
f=2	- Cooling capacity	(1)	kW	350	388	448	518	568	645	713	766	837	968	1054	1160	1264	1410
f=2	Total input:		kW	134	144	171	188	210	229	251	273	315	343	406	418	470	520
f=2	Total EER at 100%		-	2,62	2,69	2,61	2,75	2,70	2,82	2,84	2,81	2,66	2,82	2,60	2,77	2,69	2,71
f=2	Sound pressure level	(2)	dB(A)	76	77	77	77	77	78	78	78	79	80	81	80	80	81
f=3	- Cooling capacity	(1)	kW	347	375	435	507	567	615	683	735	829	945	1026	1114	1237	1387
f=3	Total input:		kW	138	153	177	195	210	247	269	293	325	357	428	446	491	535
f=3	Total EER at 100%		-	2,51	2,45	2,46	2,60	2,70	2,49	2,54	2,51	2,55	2,65	2,40	2,50	2,52	2,59
f=3	Sound pressure level	(2)	dB(A)	69	69	69	69	69	71	71	71	71	72	73	73	73	74
Number of refrigerant circuits			-	2								3					
Number and type of compressors		(3)	-	2 DSW								3 DSW					
Power supply			V/Ph/Hz	400/3/50													

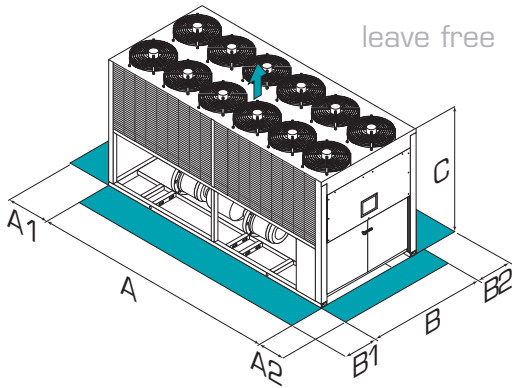
Data referred to the following conditions:

- (1) Internal exchanger water = 12/7 °C; external air temperature 35 °C
 (2) Sound levels refer to units with full load under nominal test conditions. The sound pressure is measured at 1 m from the external surface of the unit in open field conditions.

- (3) DSW = twin-screw compressor

KCCF Air cooled water chiller for outdoor installation

Dimensions and functional spaces



CAUTION! For trouble-free operation of the unit it is essential to maintain the safety distances indicated by the green areas.

Sizes		160	180	200	220	250	280	300	320	360	420	480	480	540	630	
KCCF																
f=0/1	Length (A)	mm	4250	4250	4250	4250	4880	4880	4880	4880	5900	5900	7050	7918	8940	10990
f=0/1	Width (B)	mm	2194	2194	2194	2194	2326	2326	2326	2326	2326	2326	2326	2326	2326	2326
f=0/1	Height (C)	mm	2410	2410	2410	2410	2510	2510	2510	2510	2510	2510	2510	2510	2510	2510
f=0/1	(A1)	mm	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
f=0/1	(A2)	mm	700	700	700	700	700	700	700	700	700	700	700	700	700	700
f=0/1	(B1)	mm	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500
f=0/1	(B2)	mm	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500
f=0	Weight in oper.	Kg	3817	3882	4405	4510	5230	5430	6047	6423	6871	7622	8996	9995	10335	12382
f=1	Weight in oper.	Kg	3817	3882	4405	4510	5680	5880	6497	6873	7371	8122	9416	10620	11035	13002
f=2	Length (A)	mm	4250	4250	4250	4250	4880	4880	5900	5900	5900	7050	7050	8940	9840	10990
f=3	Length (A)	mm	4250	4250	4250	4250	4880	4880	5900	5900	7050	7050	7050	8940	10990	10990
f=2/3	Width (B)	mm	2194	2194	2194	2194	2326	2326	2326	2326	2326	2326	2326	2326	2326	2326
f=2/3	Height	mm	2410	2410	2410	2410	2510	2510	2510	2510	2510	2510	2510	2510	2510	2510
f=2/3	(A1)	mm	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
f=2/3	(A2)	mm	700	700	700	700	700	700	700	700	700	700	700	700	700	700
f=2/3	(B1)	mm	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500
f=2/3	(B2)	mm	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500
f=2	Weight in oper.	Kg	3887	3952	4475	4780	5860	6100	7215	7591	7611	9062	9816	11005	11847	13582
f=3	Weight in oper.	Kg	3967	4032	4555	4860	6080	6170	7315	7691	8171	9062	9816	11005	12407	13782

The above data refer to standard units.

KCCF Air cooled water chiller for outdoor installation

Product Code

Air Cooled water chiller for outdoor installation

KCCF-a-bbb-c-d-e-f-g-h

Energy recovery (a)

- 0 = Without (standard)
- 1 = Partial recovery
- 2 = Total recovery

Size (bbb)

- 160, 180, 200, 220, 250, 280,
- 300, 320, 340, 360,
- 420, 480, 540, 630

Number of compressors (c)

- 2 = 2 Twin Screw
- 3 = 3 Twin screw

Low temperature (d)

- 0 = Without (standard)
- 1 = With low water temperature
- 2 = Double operating set point

Energy Saving (e)

- 0 = Standard

Acoustic Configuration (f)

- 0 = Standard
- 1 = Silenced
- 2 = Compressor sound proofing
- 3 = Super silenced

Energy Efficiency (g)

- 1 = High efficiency

Heat exchanger approvals (h)

- 1 = PED (European test)
- 2 = FWG Standard

KCCG Air cooled chiller for outdoor installation



KCCG

KCCG: Capacity from 400 to 1411 kW

The KCCG offer following features:

- **Efficiency:** New high capacity screw compressors (over 1400 kW with 2 compressors), water-cooled shell-and-tube exchangers specially developed for the gas R-134a. The compressors are managed with continual adjustment of the capacity and are fitted with an economiser circuit for further operating efficiency. In this way, the best result is achieved, highlighting the performance and reducing costs; all the series is in the ENERGETIC-CLASS "A", with performances over 3.1;
- **Self-adaptation:** This customisation allows better management of all the circuit components. Continual adapting of chiller operating parameters to the load conditions of the system in which it is installed reduces consumption and noise level, while the working life of the parts increases;
- **Sturdiness:** Load-bearing frame in enamelled hot-galvanised sheet metal with semi-hermetic double-screw compressors and shell-and-tube evaporator ensuring reliability and constant performance. All the finishes are meticulously applied to ensure the utmost weathering resistance even under extreme conditions of use.

Accessories

- Condenser coil in copper/aluminium with acrylic coating
- Copper/copper condenser coil
- Condenser coil in copper/aluminium with Fin Guard (Silver) treatment
- Spring antivibration mounts*
- Compressor compartment and condenser coil protection grilles
- HydroPack with 2 pumps
- HydroPack with 3 pumps
- Set point compensation with 4-20 mA signal
- Set point compensation with 0-10 V signal
- Set point compensation with fresh air sensor
- Set point compensation with according to outdoor enthalpy
- Device for reducing consumption of the outdoor section variable speed fans (phase-cut)
- Device for reducing consumption of the outdoor section fans of the ECOBreeze
- General isolating switch
- Magnetothermal circuit breakers
- Shunt capacitors (power factor > 0,9)
- CAN/MODBUS serial converter kit
- CAN/LonWorks serial converter kit
- Data logger*
- Master-slave operation*
- Free contacts for compressor status
- Free contacts for compressor status and enabling
- Clean contacts for compressor enabling and status, local/off/BMS selector
- Remote control with remote microprocessor control*
- Compressor suction

* Accessories supplied separately

KCCG Air cooled chiller for outdoor installation

Technical data

Sizes			160	180	190	200	240	280	300	320	340	360	440	480	540	600	
KCCG																	
ST/SC	- Cooling capacity	(1)	kW	400	456	505	556	616	699	767	835	882	935	1016	1138	1272	1411
ST/SC	Total input		kW	129	146	162	179	198	225	247	268	284	300	328	366	408	452
ST/SC	EER EUROVENT		-	3,10	3,12	3,12	3,11	3,11	3,11	3,11	3,12	3,11	3,12	3,10	3,11	3,12	3,12
ST/SC	ESEER		-	3,55	3,45	3,61	3,65	3,64	3,72	3,72	3,79	3,79	3,83	3,67	3,74	3,73	3,77
ST	Sound pressure level	(2)	dB(A)	80	80	81	81	81	81	82	82	82	83	84	84	85	85
SC	Sound pressure level	(2)	dB(A)	77	77	78	78	79	79	79	79	79	80	81	81	82	82
LN	- Cooling capacity	(1)	kW	400	454	506	553	614	694	769	829	877	932	1020	1143	1287	-
LN	Total input		kW	129	146	162	177	198	224	247	267	281	299	329	368	413	-
LN	EER EUROVENT		-	3,10	3,11	3,12	3,12	3,10	3,10	3,11	3,10	3,12	3,12	3,10	3,11	3,12	-
LN	ESEER		-	3,65	3,64	3,65	3,71	3,74	3,81	3,81	3,85	3,81	3,83	3,85	3,85	3,83	-
LN	Sound pressure level	(2)	dB(A)	74	74	75	75	75	76	76	76	76	77	78	79	79	-
Free-Cooling																	
ST/SC	Free-Cooling rated output	(3)	kW	416	473	526	577	641	724	795	864	915	970	1050	1182	1320	1463
ST/SC	Air temp. with Free-Cooling at 100%		°C	3,0	1,5	-0,6	-1,7	-1,0	-2,5	-3,8	-5,1	-6,2	-7,1	-3,7	-5,5	-3,5	-5,0
LN	Free-Cooling rated output	(3)	kW	416	470	527	574	639	718	793	851	909	960	1055	1184	1354	-
LN	Air temp. with Free-Cooling at 100%		°C	-0,7	-1,5	-1,1	-1,9	-3,3	-5,1	-6,8	-8,0	-4,3	-5,1	-6,5	-4,6	-6,5	-
	Number of refrigerant circuits		-	2													
	Number and type of compressors	(4)		2 DSW													
	Power supply		V/Ph/Hz	400/3/50													

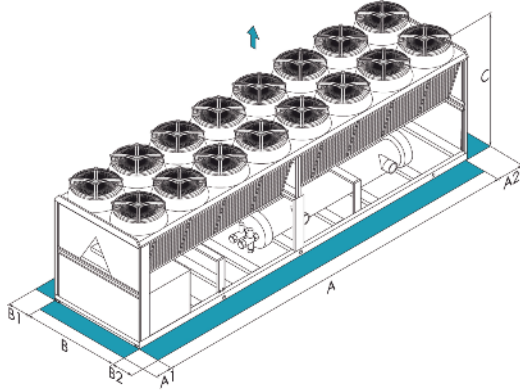
Data referred to the following conditions:

(1) Internal exchanger water = 12/7°C; external air temperature 35°C
 (2) Sound levels refer to units with full load under nominal test conditions.
 The sound pressure is measured at 1 m from the external surface of the unit in open field conditions.

(3) Internal exchanger water = 15/10°C; glycol 30%
 (4) DSW = twin-screw compressor

KCCG Air cooled chiller for outdoor installation

Dimensions and clearances



CAUTION! For trouble-free operation of the unit it is essential to maintain the clearances in green.

Sizes		160	180	190	200	240	280	300	320	340	360	440	480	540	600	
KCCG																
ST/SC	Length (A)	mm	5704	5704	5704	5704	6654	6654	6654	6654	7612	7612	9512	9512	11414	11414
ST/SC	Width (B)	mm	2239	2239	2239	2239	2239	2239	2239	2239	2239	2239	2247	2247	2247	2247
ST/SC	Height (C)	mm	2220	2220	2220	2220	2220	2220	2370	2370	2400	2400	2400	2400	2400	2400
ST/SC	-(A1)	mm	1690	1690	1690	1690	1690	1690	1690	1690	1690	1690	1690	1690	1690	1690
ST/SC	(A2)	mm	700	700	700	700	700	700	700	700	700	700	700	700	700	700
ST/SC	(B1)	mm	1100	1100	1100	1100	1100	1100	1100	1100	1100	1100	1100	1100	1100	1100
ST/SC	(B2)	mm	1100	1100	1100	1100	1100	1100	1100	1100	1100	1100	1100	1100	1100	1100
ST	Weight in opec.	Kg	4483	4504	4754	5089	5260	5282	5589	6095	6424	6940	7522	8486	9487	10021
SC	Weight in opec.	Kg	4763	4784	5034	5369	5626	5648	5939	6414	6844	7360	7942	9019	9829	10363
LN	Length (A)	mm	5704	5704	6654	6654	6654	6654	7612	7612	9512	9512	9512	11414	11414	-
LN	Width (B)	mm	2239	2239	2239	2239	2239	2239	2239	2239	2247	2247	2247	2247	2247	-
LN	Height (C)	mm	2220	2220	2220	2220	2220	2220	2400	2400	2400	2400	2400	2400	2400	-
LN	-(A1)	mm	1690	1690	1690	1690	1690	1690	1690	1690	1690	1690	1690	1690	1690	-
LN	(A2)	mm	700	700	700	700	700	700	700	700	700	700	700	700	700	-
LN	(B1)	mm	1100	1100	1100	1100	1100	1100	1100	1100	1100	1100	1100	1100	1100	-
LN	(B2)	mm	1100	1100	1100	1100	1100	1100	1100	1100	1100	1100	1100	1100	1100	-
LN	Weight in opec.	Kg	4763	4900	5425	5817	5933	5955	6577	6970	7490	7859	8251	9652	10301	-

The above data refer to standard units.

KCCG Air cooled chiller for outdoor installation

Product Code

**Air Cooled chiller
for outdoor installation**

KCCG-a-b-c-ddd-e-f-g

Energy recovery (a)

0 = Without (standard)

1 = Partial recovery

2 = Total recovery

Low temperature (b)

0 = Standard

1 = Low temperature operation

Free cooling (c)

0 = Standard

0 = Direct free cooling

Size (d)

160, 180, 190, 200, 240, 280, 300,

320, 340, 360, 440, 480, 540, 600

Acoustic Configuration (e)

0 = Standard

1 = Compressor sound proofing

2 = Low noise configuration

Energy Efficiency (f)

0 = Temprate climate

Heat exchanger approvals (g)

1 = FWG Standard

2 = PED (European test)

KCCH Air cooled chiller for outdoor installation



KCCH

KCCH: Capacity from 388 to 1384 kW

The KCCH offer following features:

- **Efficiency:** New high capacity screw compressors (over 1380 kW with 2 compressors), water-cooled shell-and-tube exchangers specially developed for the gas R-134a. The compressors are managed with continual adjustment of the capacity and are fitted with an economiser circuit for further operating efficiency. In this way, the best result is achieved, highlighting the performance and reducing costs; all the series is in the ENERGETICCLASS "B"
- **Self-adaptation:** This customisation allows better management of all the circuit components. Continual adapting of chiller operating parameters to the load conditions of the system in which it is installed reduces consumption and noise level, while the working life of the parts increases;
- **Sturdiness:** Load-bearing frame in enamelled hot-galvanised sheet metal with semi-hermetic double-screw compressors and shell-and-tube evaporator ensuring reliability and constant performance. All the finishes are meticulously applied to ensure the utmost weathering resistance even under extreme conditions of use.

Accessories

- Condenser coil in copper/aluminium with acrylic coating
- Copper/copper condenser coil
- Condenser coil in copper/aluminium with Fin Guard (Silver) treatment
- Spring antivibration mounts*
- Compressor compartment and condenser coil protection grilles
- HydroPack with 2 pumps
- HydroPack with 3 pumps
- Set point compensation with 4-20 mA signal
- Set point compensation with 0-10 V signal
- Set point compensation with fresh air sensor
- Set point compensation with according to outdoor enthalpy
- Device for reducing consumption of the outdoor section variable speed fans (phase-cut)
- Device for reducing consumption of the outdoor section fans of the ECOBreeze
- General isolating switch
- Magnetothermal circuit breakers
- Shunt capacitors (power factor > 0,9)
- CAN/MODBUS serial converter kit
- CAN/LonWorks serial converter kit
- Data logger*
- Master-slave operation*
- Free contacts for compressor status
- Free contacts for compressor status and enabling
- Clean contacts for compressor enabling and status, local/off/BMS selector
- Remote control with remote microprocessor control*
- Compressor suction shut-off valves
- Soft Start

* Accessories supplied separately

KCCH Air cooled chiller for outdoor installation

Technical data

Sizes			160	180	190	200	240	280	300	320	340	360	440	480	540	600	
KCCH																	
ST/SC	- Cooling capacity	(1)	kW	388	440	485	534	588	669	751	807	855	905	994	1108	1239	1384
ST/SC	Total input		kW	134	151	167	184	202	231	258	278	294	309	343	382	427	478
ST/SC	EER EUROVENT		-	2,90	2,91	2,90	2,90	2,91	2,90	2,91	2,90	2,90	2,92	2,90	2,90	2,90	2,90
ST/SC	ESEER		-	3,44	3,44	3,47	3,50	3,55	3,56	3,60	3,61	3,70	3,69	3,64	3,62	3,57	3,58
ST	Sound pressure level	(2)	dB(A)	79	80	81	81	81	81	82	82	82	83	84	84	85	85
SC	Sound pressure level	(2)	dB(A)	77	77	78	78	78	78	79	79	79	80	81	81	82	82
LN	- Cooling capacity	(1)	kW	384	439	481	525	584	662	743	801	855	895	991	1112	1241	1375
LN	Total input		kW	132	150	166	181	201	228	256	275	294	309	342	383	426	474
LN	EER EUROVENT		-	2,91	2,93	2,90	2,90	2,91	2,90	2,90	2,91	2,90	2,90	2,90	2,91	2,91	2,90
LN	ESEER		-	3,47	3,54	3,51	3,45	3,61	3,62	3,64	3,68	3,74	3,69	3,64	3,64	3,61	3,61
LN	Sound pressure level	(2)	dB(A)	74	74	75	75	75	76	76	76	76	77	78	79	79	80
EN	- Cooling capacity	(1)	kW	391	440	488	531	590	668	744	796	851	893	996	1099	1216	-
EN	Total input		kW	135	150	168	183	203	230	256	272	293	306	342	378	419	-
EN	EER EUROVENT		-	2,90	2,93	2,90	2,90	2,91	2,90	2,91	2,93	2,90	2,92	2,91	2,91	2,90	-
EN	ESEER		-	3,53	3,51	3,52	3,52	3,58	3,60	3,67	3,73	3,75	3,73	3,68	3,70	3,65	-
EN	Sound pressure level	(2)	dB(A)	67	68	68	69	69	71	71	71	71	71	72	73	73	-
Free-Cooling																	
ST/SC	Free-Cooling rated output	(3)	kW	402	456	505	554	610	695	774	841	887	941	1026	1144	1280	1434
ST/SC	Air temp. with Free-Cooling at 100%		°C	-0,5	-1,0	-1,0	-2,0	-2,5	-3,5	-5,0	-7,5	-6,0	-7,0	-7,5	-10,0	-7,0	-5,5
LN	Free-Cooling rated output	(3)	kW	398	454	500	544	602	689	766	824	883	927	1023	1148	1282	1416
LN	Air temp. with Free-Cooling at 100%		°C	0,0	-2,0	-2,0	-1,5	-3,0	-4,0	-6,0	-7,0	-8,5	-9,5	-7,5	-8,0	-7,0	-7,5
Number of refrigerant circuits			-														2
Number and type of compressors			(4)														2 DSW
Power supply			V/Ph/Hz														400/3/50

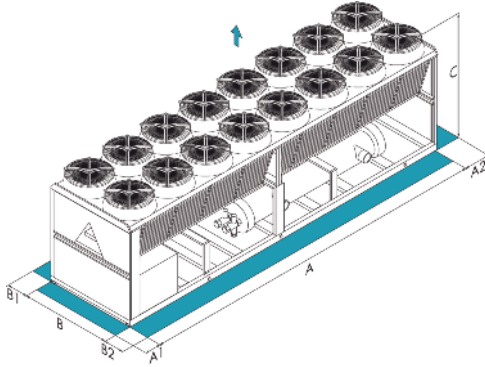
Data referred to the following conditions:

(1) Internal exchanger water = 12/7°C; external air temperature 35°C
 (2) Sound levels refer to units with full load under nominal test conditions. The sound pressure is measured at 1 m from the external surface of the unit in open field conditions.

(3) Internal exchanger water = 15/10°C; glycol 30%
 (4) DSW = twin-screw compressor

KCCH Air cooled chiller for outdoor installation

Dimensions and clearances



CAUTION! For trouble-free operation of the unit it is essential to maintain the clearances in green.

Sizes			160	180	190	200	240	280	300	320	340	360	440	480	540	600
KCCH																
ST/SC	Length (A)	mm	4754	4754	5704	5704	5704	5704	5704	5704	6654	6654	6654	7612	9512	11414
ST/SC	Width (B)	mm	2239	2239	2239	2239	2239	2239	2239	2239	2239	2239	2239	2239	2247	2247
ST/SC	Height (C)	mm	2220	2220	2220	2220	2220	2220	2400	2400	2400	2400	2400	2400	2400	2400
ST/SC	-(A1)	mm	1690	1690	1690	1690	1690	1690	1690	1690	1690	1690	1690	1690	1690	1690
ST/SC	(A2)	mm	700	700	700	700	700	700	700	700	700	700	700	700	700	700
ST/SC	(B1)	mm	1100	1100	1100	1100	1100	1100	1100	1100	1100	1100	1100	1100	1100	1100
ST/SC	(B2)	mm	1100	1100	1100	1100	1100	1100	1100	1100	1100	1100	1100	1100	1100	1100
ST	Weight in opec.	Kg	3716	3825	4249	4603	4759	4780	5241	5698	5775	6010	6567	7723	8263	91115
SC	Weight in opec.	Kg	4116	4225	4529	4883	5039	5060	5471	5918	6175	6410	6967	8143	8683	9537
LN	Length (A)	mm	5704	5704	5704	6654	6654	6654	6654	6654	7612	7612	9512	9512	11414	11414
LN	Width (B)	mm	2239	2239	2239	2239	2239	2239	2239	2239	2239	2239	2247	2247	2247	2247
LN	Height (C)	mm	2220	2220	2220	2220	2220	2220	2400	2400	2400	2400	2400	2400	2400	2400
LN	-(A1)	mm	1690	1690	1690	1690	1690	1690	1690	1690	1690	1690	1690	1690	1690	1690
LN	(A2)	mm	700	700	700	700	700	700	700	700	700	700	700	700	700	700
LN	(B1)	mm	1100	1100	1100	1100	1100	1100	1100	1100	1100	1100	1100	1100	1100	1100
LN	(B2)	mm	1100	1100	1100	1100	1100	1100	1100	1100	1100	1100	1100	1100	1100	1100
LN	Weight in opec.	Kg	4373	4394	4645	5503	5543	5680	5987	6473	6844	7002	7860	8791	9330	9819
LN	Length (A)	mm	5704	6654	6654	6654	7612	7612	9512	9512	9512	9512	11414	11414	11414	-
LN	Width (B)	mm	2239	2239	2239	2239	2239	2239	2247	2247	2247	2247	2247	2247	2247	-
LN	Height (C)	mm	2220	2220	2220	2220	2400	2400	2400	2400	2400	2400	2400	2400	2400	-
LN	-(A1)	mm	1690	1690	1690	1690	1690	1690	1690	1690	1690	1690	1690	1690	1690	-
LN	(A2)	mm	700	700	700	700	700	700	700	700	700	700	700	700	700	-
LN	(B1)	mm	1100	1100	1100	1100	1100	1100	1100	1100	1100	1100	1100	1100	1100	-
LN	(B2)	mm	1100	1100	1100	1100	1100	1100	1100	1100	1100	1100	1100	1100	1100	-
LN	Weight in opec.	Kg	4373	5014	5256	5887	6349	6423	6838	7236	7408	7419	8137	9289	9562	-

The above data refer to standard units.

KCCH Air cooled chiller for outdoor installation

Product Code

Air Cooled chiller for outdoor installation

KCCH-a-b-c-ddd-e-f

Energy recovery (a)

- 0 = Without (standard)
- 1 = Partial recovery
- 2 = Total recovery

Low temperature (b)

- 0 = Standard
- 1 = Low temperature operation

Free cooling (c)

- 0 = Standard
- 0 = Direct free cooling

Size (d)

- 160, 180, 190, 200, 240, 280, 300,
- 320, 340, 360, 440, 480, 540, 600

Acoustic Configuration (e)

- 0 = Standard
- 1 = Compressor sound proofing
- 2 = Low noise configuration

Heat exchanger approvals (g)

- 0 = FWG Standard
- 1 = PED (European test)

KCDG Air cooled chiller and heatpump for outdoor installation



KCDG

KCDG: Capacity from 29,1 to 99,8 kW

KCDG comprises a series of high temperature heat pumps, ideal as a one-stop heating, cooling and hot water solution for centralised systems in residential complexes, hotels and collective buildings in general.

- **Efficiency:** Energy Efficiency CLASS A rating, in both heating and cooling mode;

Ideal for all system types, including radiator systems with hot water production up to 60°C, at outdoor air temperatures down to -10°C;

System simplification thanks to the use of a single generator for heating and cooling, doing away with the risks and maintenance costs associated with traditional combustion systems.

The units in the KCDG range offer autonomous hot water production and are enabled for use with solar panel heaters, making it possible to use direct solar energy.

Accessories

- Rubber antivibration mounts
- Finned coil protection grilles
- Phase monitor to check the presence and correct sequence of the power supply phases
- 3 ways-valve
- Domestic hot water kit control
- Multi-function keypad holder

* Accessories supplied separately

KCDG Air cooled chiller and heat pump for outdoor installation

Technical data

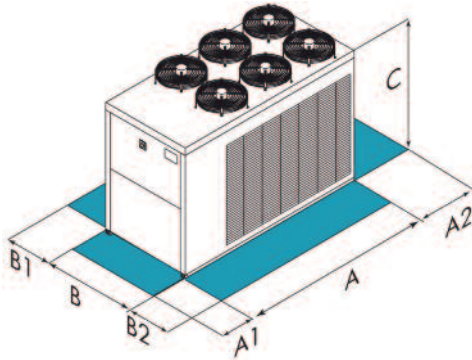
Sizes			82	122	162	202	262	302
Application with radiant panels								
A7/W35	(1)							
- Heating capacity		kW	29,1	41,4	52,5	71,2	83,9	99,8
Total input	(2)	kW	7,13	10,2	12,8	17,4	20,6	24,4
COP EUROVENT	(3)	-	4,08	4,07	4,11	4,10	4,07	4,09
COP (EN 14544:2004)	(4)	-	4,11	4,13	4,13	4,12	4,10	4,13
A2/W35	(1)							
- Heating capacity		kW	26,0	36,6	46,0	61,9	74,2	87,9
Total input	(2)	kW	6,94	9,64	12,2	16,6	20,0	23,6
COP EUROVENT	(3)	-	3,75	3,80	3,76	3,72	3,72	3,73
A-5/W35	(1)							
- Heating capacity		kW	19,8	27,9	34,7	46,5	56,2	66,0
Total input	(2)	kW	6,76	9,25	11,7	15,7	19,1	22,4
COP EUROVENT	(3)	-	2,92	3,02	2,96	2,96	2,95	2,95
A35/W18	(1)							
- Cooling capacity		kW	32,8	46,0	60,7	85,5	96,3	121
Total input	(2)	kW	8,60	12,5	16,0	23,1	26,1	32,5
COP EUROVENT	(5)	-	3,81	3,68	3,80	3,69	3,69	3,72
Application with terminals units								
A7/W45	(1)							
- Heating capacity		kW	29,1	40,9	53,7	70,2	85,7	99,6
Total input	(2)	kW	8,55	12,0	15,5	20,3	25,6	28,7
COP EUROVENT	(3)	-	3,40	3,40	3,47	3,45	3,35	3,47
A2/W45	(1)							
- Heating capacity		kW	26,0	36,6	46,0	61,9	74,2	87,9
Total input	(2)	kW	6,94	9,64	12,2	16,6	20,0	23,6
COP EUROVENT	(3)	-	3,75	3,80	3,76	3,72	3,72	3,73
A-5/W45	(1)							
- Heating capacity		kW	19,9	28,0	37,0	47,6	57,5	66,0
Total input	(2)	kW	7,73	10,8	13,8	18,4	23,2	25,5
COP EUROVENT	(3)	-	2,58	2,59	2,68	2,58	2,48	2,59
A35/W45	(1)							
- Heating capacity		kW	25,1	35,3	46,4	64,9	77,5	93,2
Total input	(2)	kW	7,97	11,4	14,7	20,6	24,6	29,3
COP EUROVENT	(5)	-	3,15	3,10	3,16	3,16	3,15	3,18
Application with radiators								
A7/W55	(1)							
- Heating capacity		kW	29,1	40,5	54,4	69,9	87,4	99,9
Total input	(2)	kW	9,84	13,7	18,8	24,9	30,2	33,8
COP EUROVENT	(3)	-	2,96	2,95	2,89	2,80	2,90	2,96
A2/W55	(1)							
- Heating capacity		kW	26,2	36,2	48,9	52,9	77,8	88,3
Total input	(2)	kW	9,57	13,2	18,0	22,5	29,0	32,3
COP EUROVENT	(3)	-	2,74	2,74	2,71	2,35	2,69	2,74
A-5/W55	(1)							
- Heating capacity		kW	22,5	31,3	42,0	49,7	65,4	74,4
Total input	(2)	kW	9,25	12,7	16,9	21,9	27,5	30,3
COP EUROVENT	(3)	-	2,43	2,46	2,48	2,27	2,38	2,46
Minimum external air temperature		°C	-18	-18	-18	-18	-18	-18
Maximum water temperature		°C	60	61	62	63	64	65
Water flow rate	(6)	l/s	1,62	2,27	3	4,23	4,76	5,98
Pump working head	(6)	kPa	158	164	149	169	159	183
Number of cooling circuits		-				2		
Number and type of compressors		-				2 SCROLL		
Sound pressure level	(7)	dB(A)	47	47	49	49	51	51
Power supply		V/Ph/Hz				400/3/50+N		

Data referred to the following conditions:

- (1) A7/W35 internal exchanger water 30/35°C; external air temperature 7°C D.B. / 6°C W.B.
A2/W35 internal exchanger water 30/35°C; external air temperature 2°C D.B. / 1,1°C W.B.
A-5/W35 internal exchanger water 30/35°C; external air temperature -5°C D.B. / -5,4°C W.B.
A7/W45 internal exchanger water 40/45°C; external air temperature 7°C D.B. / 6°C W.B.
A2/W45 internal exchanger water 40/45°C; external air temperature 2°C D.B. / 1,1°C W.B.
A-5/W45 internal exchanger water 40/45°C; external air temperature -5°C D.B. / -5,4°C W.B.
A7/W55 internal exchanger water 50/55°C; external air temperature 7°C D.B. / 6°C W.B.
A2/W55 internal exchanger water 50/55°C; external air temperature 2°C D.B. / 1,1°C W.B.
A-5/W55 internal exchanger water 50/55°C; external air temperature -5°C D.B. / -5,4°C W.B.
A35/W18 internal exchanger water 23/18°C; external air temperature 35°C
A35/W7 internal exchanger water 12/7°C; external air temperature 35°C
- (2) The total power input is the total power absorbed by the compressors + fans - the power absorbed by the fan to supply the remaining available static pressure to the system + the power absorbed by the auxiliary circuit.
- (3) EUROVENT COP: coefficient of performance in heating mode. Relationship between heating capacity output and power input according to EUROVENT. The power input is the total power absorbed by the compressor + fan + auxiliary circuit + defrost cycles.
- (4) COP (EN 14511:2004) coefficient of performance in heating mode. Relationship between heating capacity output and power input according to standard EN 14511:2004. The power input is the total power absorbed by the compressor + fan + auxiliary circuit + defrost cycles + part of the pump to overcome internal pressure drops.
- (5) EUROVENT EER calculated as the relationship between the cooling capacity and the total power input.
- (6) Water flow and available static pressure in winter operating conditions A7/W35: water at the internal heat exchanger 30/35°C; outdoor air temperature 7°C D.B. / 6°C W.B.
- (7) Sound levels refer to units with full load under nominal test conditions. The sound pressure is measured at 10 m from the external surface of the unit in open field conditions.

KCDG Air cooled chiller and heat pump for outdoor installation

Dimensions and functional spaces



CAUTION! For trouble-free operation of the unit it is essential to maintain the clearances in green.

Sizes		82	122	162	202	262	302
KCDG							
Length (A)	mm	1928	1928	2328	2328	2932	2932
Width (B)	mm	1100	1100	1100	1100	1100	1100
Height (C)	mm	1474	1474	1474	1474	1474	1474
- (A1)	mm	700	700	700	700	700	700
- (A2)	mm	700	700	700	700	700	700
- (B1)	mm	700	700	700	700	700	700
- (B2)	mm	700	700	700	700	700	700
Weight in oper.	Kg	420	466	635	670	803	826

The above data refer to standard units.

KCDG Air cooled chiller and heat pump for outdoor installation

Product Code

Air Cooled chiller and Heat pump for outdoor installation KCDG-a-bbb-c-d-e-f-g-h-i-j-k-l-m

Energy recovery (a)

- 0 = Without (standard)
- 1 = Partial recovery
- 2 = Total recovery

Size (bbb)

- 082, 122, 162, 202, 262, 302

Voltage (c)

- 0 = 400/3/50 + N(400TN)

Hydronic group utility side (d)

- 0 = Not required
- 1 = Standard pump 1PUS

Energy Recovery (e)

- 0 = Without
- 1 = Partial heat recovery

Condensing coil (f)

- 0 = Standard aluminium (CCS)
- 1 = Cu / Al with acrylic coating (CCCA)
- 2 = Cu / Al with Fin guard silver treatment (CCCA1)
- 3 = Cu / Cu

Soft starter (g)

- 0 = Not required
- 1 = With (SFSTR4N)

Soft starter (h)

- 0 = Not required
- 1 = Free contact for alarm

Soft starter (i)

- 0 = Not required
- 1 = Power factor correction capacitors (cosfi>0.9)(PFCP)

Soft starter (j)

- 0 = Not required
- 1 = Built in three way valve for domestic hot water (3DHW)

Soft starter (k)

- 0 = Not required
- 1 = Compressor insulation (IS4)

Soft starter (l)

- 0 = Not required
- 1 = Coil protection grille

Soft starter (m)

- 0 = Not required
- 1 = With (PM)

KC(E,F)(A,B,C) Air cooled water chiller/heat pump for indoor installation



KC(E,F)A

KC(E,F)A: Capacity from 4.47 to 22.7 kW

The liquid chillers and heat pumps of the KC(E,F)A series are units designed for indoor installation and best energy efficiency in relation to their reduced size. The KC(E,F)A chillers offer following features:

- **Self-adaptation**, adaptability of operating parameters to the load conditions of the connected system, thereby optimising consumption, efficiency and working life of the parts;
- **Easy installation**, easy, quick installation thanks to the standard hydronic group and the factory test carried out prior to dispatch.
- **use of a centrifugal fan**, which allows the air from the condensing section to be ducted.

Accessories

- Rubber antivibration mounts *
 - Condenser coil in copper/aluminium with acrylic coating
 - Condenser coil in copper/aluminium with Fin Guard (Silver) treatment
 - Copper/copper condenser coil
 - Serial communication module (MODBUS) *
 - Device for operation with low external air temperature with variable fan speed through inverter (sizes 71÷91)
 - Steel mesh filter on water side *
 - Room keypad *
 - Phase monitor *
 - Set, point compensation with according to outdoor enthalpy *
 - Set, point compensation with 4-20 mA signal *
 - Supply voltage 230/1/50 (for sizes 31-41)
 - Supply voltage 400/3/50+N (for sizes 17÷25)
 - Unit without hydronic group
- KCEA only:
- Device for operation with low external air temperature with variable fan speed (sizes 17÷61) *
 - Set, point compensation with fresh air sensor *

* Accessories supplied separately



KC(E,F)B

KC(E,F)B: Capacity from 25.5 to 62.1 kW

The liquid chillers and heat pumps of the KC(E,F)B series are units designed for indoor installation and best energy efficiency in relation to their reduced size.

Use of low-rev centrifugal fans and special thermal and acoustic insulation of the cabinet have resulted in highly reduced noise levels. The head pressures available with centrifugal fans enable wide ducting for air intake and cooled air discharge to be installed.

Accessories

- Supply voltage 400/3/50 without neutral
 - Rubber antivibration mounts *
 - High and low pressure gauges
 - Outlet uprated electric motor
 - Non-standard belt and pulley drive
 - Front outlet plenum *
 - Steel mesh filter on water side *
 - Remote control with remote microprocessor control *
 - Daily and weekly programming clock *
- KCEB only:
- Device for operation with low external air temperature with variable fan speed through inverter
 - Anti-ice electric heater to protect the internal exchanger
 - Serial communication module PC/BMS MODBUS for 1 unit (Master) *
 - Serial communication module PC/BMS MODBUS from 2 to 254 units (Slave) *
- KCFB only:
- Device for operation with low external air temperature with variable fan speed *
 - Condensate collecting tray with electric heater
 - Serial communication module with RS485/RS232 serial converter kit *

* Accessories supplied separately



KC(E,F)C

KC(E,F)C: Capacity from 72.1 to 144 kW

The liquid chillers and heat pumps of the KC(E,F)C series are units designed for indoor installation and best energy efficiency in relation to their reduced size.

Use of low-rev centrifugal fans and special thermal and acoustic insulation of the cabinet have resulted in highly reduced noise levels.

The head pressures available with centrifugal fans enable wide ducting for air intake and cooled air discharge to be installed.

Accessories

- Condenser coil in copper/aluminium with acrylic coating
 - Condenser coil in copper/aluminium with Fin Guard (Silver) treatment
 - Copper/copper condenser coil
 - Copper/tinned copper condenser coil
 - Spring antivibration mounts *
 - Rubber antivibration mounts *
 - High and low pressure gauges
 - Steel mesh filter on water side *
 - Uprated electric fan motor
 - 4/8-pole electric fan motor
 - Horizontal air outflow
 - Upward air outflow
 - Magnetothermal circuit breakers
 - Compressor and fan thermal cutouts
 - Phase monitor
 - Daily and weekly programming clock
 - Shunt capacitors (power factor > 0,9)
 - Serial communication module PC/BMS MODBUS for 1 unit (Master)
 - Remote control with remote microprocessor control *
- KCEC only:
- Anti-ice electric heater to protect the internal exchanger
- KCFC only:
- Condensate collecting tray with electric heater

* Accessories supplied separately

KC(E,F)A Air cooled chiller/heat pump for indoor installation

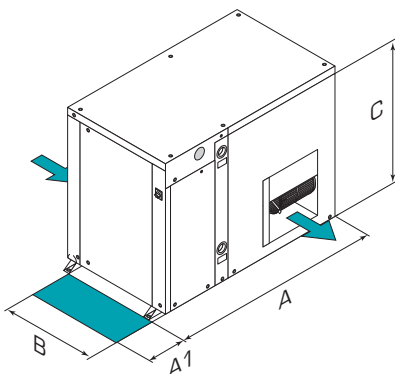
Technical data

Sizes			17	21	25	31	41	51	61	71	81	91
- Cooling capacity	(1)	kW	4,47	5,35	7,13	8,49	10,7	12,8	14,9	17	18,8	22,7
Total input	(1)(2)	kW	1,75	2,18	2,9	3,4	4,51	5,2	6,09	6,73	7,69	8,99
- Heating capacity	(3)	kW	4,81	5,76	7,69	9,19	11,4	13,6	15,9	18	20,6	24,8
Total input	(2)(3)	kW	1,88	2,35	3,01	3,69	4,77	5,71	6,4	7,56	8,06	9,77
Pump working head	(1)	kPa	52	42	44	32	149	129	123	105	114	87
Max. working static pressure		Pa	60	60	60	60	100	100	100	100	100	100
Number of refrigerant circuits		-	1									
Number and type of compressors (4)		-	1 ROT				1 SCROLL					
Total EER at 100 %-		-	2,55	2,45	2,45	2,5	2,38	2,46	2,45	2,53	2,45	2,52
Sound pressure level	(5)	dB(A)	56	57	59	60	64	65	65	67	68	69
Power supply		V/Ph/Hz	230/1/50				400/3/50+N					

Data referred to the following conditions:

- | | | | |
|-----|--|-----|---|
| (1) | Internal exchanger water = 12/7 °C; external air temperature 35 °C | (3) | Ambient temperature = 7 °C (R.H. = 85 %); external exchanger water outlet temperature 45 °C |
| (2) | Total input is obtained from compressor input + fan input + circulating pump input - proportional part of the water pump to supply the available head to installation input + auxiliary circuit input. | (4) | ROT = rotary compressor |
| | | (5) | Sound levels refer to units with full load under nominal test conditions. The sound pressure is measured at 1 m from the external surface of the unit in open field conditions. |

Dimensions and functional spaces



CAUTION! For trouble-free operation of the unit it is essential to maintain the safety distances indicated by the green areas.

Sizes		17	21	25	31	41	51	61	71	81	91
KC(E,F)A											
Length (A)	mm	838	838	982	982	1206	1206	1206	1515	1515	1515
Width (B)	mm	561	561	647	647	726	726	726	761	761	761
Height (C)	mm	649	649	648	648	691	691	691	1121	1121	1121
- [A1]	mm	500	500	500	500	500	500	500	500	500	500
Weight in oper.	Kg	84	90	122	132	170	178	182	259	323	332

The above data refer to standard units.

KC(E,F)B Air cooled chiller/heat pump for indoor installation

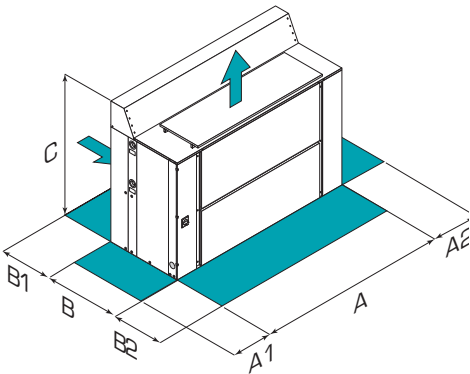
Technical data

Sizes			101	121	142	182	202	242
- Cooling capacity	(1)	kW	25,5	30,1	33,1	42,6	50,5	62,1
Total input	(1)(2)	kW	9,22	11,9	11	16,1	19,7	23,8
- Heating capacity	(3)	kW	29,9	35,8	38,3	50,8	59	69,2
Total input	(2)(3)	kW	10,7	12,8	13,2	18,7	22,9	26
Max. working static pressure	(1)	Pa	410	410	300	300	235	235
Number of refrigerant circuits	-		1		2			
Number and type of compressors	-		1 SCROLL		2 SCROLL			
Total EER at 100 %-	-		2,77	2,52	3,01	2,65	2,57	2,61
Sound pressure level	(4)	dB(A)	62	62	62	60	61	62
Power supply		V/Ph/Hz	400/3/50+N					

Data referred to the following conditions:

- (1) Internal exchanger water = 12/7 °C; external air temperature 35 °C
- (2) Total input is obtained from compressor input + fan input
- (3) Ambient temperature = 7 °C (R.H. = 85 %); external exchanger water outlet temperature 45 °C
- (4) Sound levels refer to units with full load under nominal test conditions. The sound pressure is measured at 1 m from the external surface of the unit in open field conditions.

Dimensions and functional spaces



CAUTION! For trouble-free operation of the unit it is essential to maintain the safety distances indicated by the green areas.

Sizes		101	121	142	182	202	242
KC(E,F)B							
Length (A)	mm	1780	1780	2230	2230	2230	2230
Width (B)	mm	846	846	978	978	978	978
Height (C)	mm	1205	1205	1430	1430	1705	1705
- (A1)	mm	700	700	700	700	700	700
- (A2)	mm	500	500	500	500	500	500
- (B1)	mm	700	700	700	700	700	700
- (B2)	mm	700	700	700	700	700	700
Weight in oper.	Kg	397	417	606	647	737	749

The above data refer to standard units.

KC(E,F)C Air cooled chiller/heat pump for indoor installation

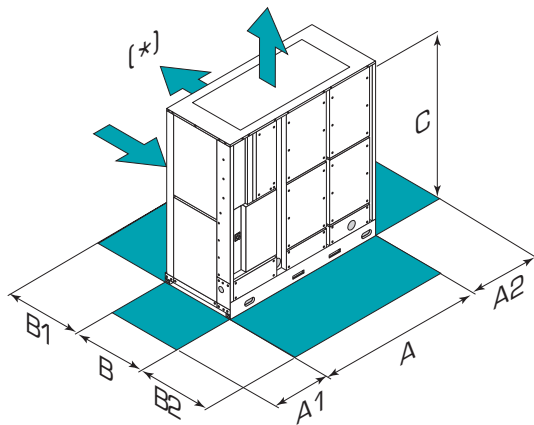
Technical data

Sizes			292	322	362	422	404	464	524	564	604
KCFB											
- Cooling capacity	(1)	kW	72,1	81,5	93,5	109	100	111	121	137	144
Total input		kW	34,1	38,7	47,8	57,8	45,5	50,1	56,7	60,9	68,2
Total EER at 100 %		-	2,11	2,1	1,95	1,89	2,2	2,22	2,14	2,25	2,11
KCFC											
- Cooling capacity	(1)	kW	71,9	82,3	105	105	100	109	118	132	140
Total input		kW	32,9	38,1	58,1	58,2	43,7	49,4	55,5	62,1	68
Total EER at 100 %		-	2,19	2,16	1,8	1,8	2,28	2,21	2,13	2,13	2,07
- Heating capacity	(2)	kW	82	94,6	109	128	112	124	137	152	163
Total input		kW	33,9	39,1	46,6	56,7	42,7	48,2	54,1	60,6	66,3
Max. working static pressure		Pa	90	90	120	90	90	90	90	120	90
Number of refrigerant circuits		-	2								
Number and type of compressors (3)		-	2 SCROLL	2 RCP		4 SCROLL					
Sound pressure level	(4)	dB(A)	59	64	66	66	61	61	61	63	64
Power supply		V/Ph/Hz	400/3/50								

Data referred to the following conditions:

- (1) Internal exchanger water = 12/7 °C;
external air temperature 35 °C;
- (2) External exchanger water = 40/45 °C; ambient temperature = 7 °C (R.H. = 85 %)
- (3) RCP = reciprocating
- (4) Sound levels refer to units with full load under nominal test conditions. The sound pressure is measured at 1 m from the external surface of the unit in open field conditions.

Dimensions and functional spaces



CAUTION! For trouble-free operation of the unit it is essential to maintain the safety distances indicated by the green areas.

*) Horizontal air outflow for sizes 404-604 only

Sizes			292	322	362	422	404	464	524	564	604
KC(E,F)C											
Length (A)		mm	2478	2478	2478	2478	3308	3308	3308	3308	3308
Width (B)		mm	974	974	974	974	1155	1155	1155	1155	1155
Height (C)		mm	1676	1676	1676	1676	2275	2275	2275	2275	2275
- (A1)		mm	800	800	800	800	500	500	500	500	500
- (A2)		mm	500	500	500	500	500	500	500	500	500
- (B1)		mm	70	70	70	70	70	70	70	70	70
- (B2)		mm	1300	1300	1300	1300	1300	1300	1300	1300	1300
Weight in oper.		Kg	940	972	1080	1100	1530	1590	1620	1710	1740

The above data refer to standard units.

KC(E,F)(A,B,C) Air cooled water chiller/heat pump for indoor installation

Product Code

Air Cooled chiller/heat pump for indoor installation

KC(E,F)A-a-bb-c-d

E = Cooling only
F = Heat pump

Low temperature (a)
0 = Without (standard)
1 = With

Size (bb)
17, 21, 25, 31, 41, 51, 61, 71, 81, 91

Heat exchanger approvals (c)
1 = PED (European test)

Energy Efficiency (d)
0 = Temperate climate

Air Cooled chiller/heat pump for indoor installation

KC(E,F)B-a-bb-c-d

E = Cooling only
F = Heat pump

Low temperature (a)
0 = Without (standard)
1 = With

Size (bb)
101, 121, 142, 182, 202, 242

Heat exchanger approvals (c)
1 = PED (European test)

Energy Efficiency (d)
0 = Temperate climate

Air Cooled chiller/heat pump for indoor installation

KC(E,F)C-a-bbb-c-d-e-f-g

E = Cooling only
F = Heat pump

Energy recovery (a)
0 = Without (standard)
1 = Partial recovery
2 = Total recovery

Size (bbb)
292, 322, 362, 422, 404,
464, 524, 564, 604

Low temperature (c)
0 = Without
1 = With low water temperature
2 = Double operating set point

Acoustic Configuration (d)
0 = Standard

Energy Efficiency (e)
0 = Temperate climate

Heat exchanger approvals (f)
1 = PED (European test)
2 = FWG standard
3 = SQL

KCED Air cooled chiller for indoor installation



KCED: Capacity from 173 to 257 kW

The KCED chiller series presents a new concept of chiller. The KCED units are designed for indoor installation with ducted discharge for chilled water solutions.

These units offer:

- Efficiency that increases as the heating load decreases, while guaranteeing maximum requested load when necessary. KCED chiller always ensures maximum comfort with very high efficiency and consequently considerable energy savings;
- Simple unit-system combination, since these units are self-adapting to the characteristics of the actual system, thereby avoiding delicate, time-consuming calibrations. Easy connection to the service system plus a simple control system and easy maintenance of all the most sensitive parts drastically reduce work requiring specialised personnel with consequent reduction in installation costs;
- The particular abundance of optional accessories allows customisation of the unit, also for special requirements both in the civil and technological air-conditioning sphere. In particular the optional for pump set water circulating unit, consistent with the concept of modularity, has several pumps in parallel (up to 3), to monitor the system load variations better and to regulate the water flow in the critical system starting (or restarting) stages so that outside servicing is avoided.

The innovative and hi-tech features of KCED air cooled chiller give this series a much higher quality than can generally be found on the market today.

Accessories

- Condenser coil in copper/aluminium with acrylic coating
- Condenser coil in copper/aluminium with Fin Guard (Silver) treatment
- Spring antivibration mounts *
- Shut-off valve on compressor supply and return
- High and low pressure gauges
- Pump set with 2 pumps
- Pump set with 2 pumps + 1 in stand-by
- Pump set with 3 pumps
- Pump set with 3 pumps + 1 spare onboard
- User side anti-ice electric heaters for hydronic group
- Steel mesh filter on water side*
- Set point compensation with 4-20 mA signal
- Set point compensation with fresh air sensor
- Set point compensation with according to outdoor enthalpy
- Uprated electric fan motor
- 4/8-pole electric fan motor
- Kit for low external temperatures with variable fan speed with inverter
- Horizontal air supply
- Upward air supply
- Phase monitor
- Shunt capacitors (power factor > 0,9)
- CAN/MODBUS serial converter kit
- CAN/LON WORKS serial converter kit
- Data logger*
- Master-slave operation *
- Free contacts for compressor status
- Remote control with remote microprocessor control*

* Accessories supplied separately

KCED Air cooled chiller for indoor installation

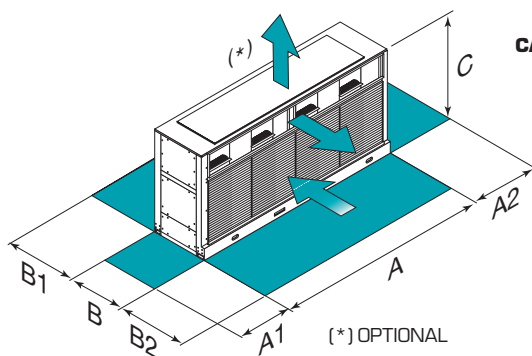
Technical data

Sizes			65	70	75	75	80	90	90	100	
- Cooling capacity	(1)	kW	173	182	200	198	212	237	231	257	
Total input		kW	66,9	71,1	75,7	79,0	82,0	94,4	92,0	102	
Total EER at 100%		-	2,55	2,54	2,63	2,50	2,53	2,46	2,44	2,41	
ESEER		-	2,80	2,82	3,90	2,77	2,86	3,85	2,67	2,67	
Max. working static pressure		Pa	90	50	50	60	90	90	120	120	
Number of refrigerant circuits		-	2		1	2		1	2		
Number and type of compressors		-	4 SCROLL		3 SCROLL	4 SCROLL		3 SCROLL	4 SCROLL		
Sound pressure level	(2)	dB(A)	72	73	73	74	74	74	75	76	
Power supply		V/Ph/Hz	400/3/50								

Data referred to the following conditions:

- (1) Internal exchanger water = 12/7 °C; external air temperature 35 °C
 (2) Sound levels refer to units with full load under nominal test conditions. The sound pressure is measured at 1 m from the external surface of the unit in open field conditions.

Dimensions and functional spaces



CAUTION! For trouble-free operation of the unit it is essential to maintain the safety distances indicated by the green areas.

Sizes		65	70	75	75	80	90	90	100
Length (A)	mm	4400	4400	4400	4400	4400	4400	4400	4400
Width (B)	mm	1140	1140	1140	1140	1140	1140	1140	1140
Height (C)	mm	2270	2270	2270	2270	2270	2270	2270	2270
- (A1)	mm	900	900	900	900	900	900	900	900
- (A2)	mm	900	900	900	900	900	900	900	900
- (B1)	mm	1300	1300	1300	1300	1300	1300	1300	1300
- (B2)	mm	(**)							
Weight in oper.	Kg	2135	2312	2118	2176	2258	2385	2437	2474

The above data refer to standard units.

(**) Space depending on the type of installation.

KCED Air cooled chiller for indoor installation

Product Code

**Air Cooled chiller
for indoor installation**

KCED-a-bbb-c-d-e-f

Energy recovery (a)

0 = Without (standard)

1 = Partial recovery

2 = Total recovery

Size (bbb)

65, 70, 75, 80, 90, 100

Low temperature (c)

1 = With low water temperature

Acoustic Configuration (d)

0 = standard

Energy Efficiency (e)

0 = Temperate climate

Heat exchanger approvals (f)

1 = PED (European test)

2 = FWG standard

KCME Condenserless water chiller for indoor installation



KCME

KCME: Capacity from 4,8 to 138 kW

The condenserless water chillers of the KCME series are units designed for indoor installation to be matched with a remote condenser.

These units are particularly suitable for noise-sensitive environments and for resolving problems concerning the space occupied by a packaged chillers.

The condenserless water chillers in the KCME series have been designed for combination with the air-cooled chillers of the KCRC series.

Accessories

- Manifold for unit with double exchanger
- Serial communication module PC/BMS MODBUS for 1 unit (Master)*
- Serial communication module PC/BMS MODBUS from 2 to 254 units (Slave)*
- Steel mesh filter on water side*
- Daily and weekly programming clock*
- Phase monitor*
- Remote control with remote microprocessor control
Supply voltage 400/3/50 without neutral (sizes 17-21)*
- Liquid line solenoid valve

* Accessories supplied separately

KCME Condenserless water chiller for indoor installation

Technical data

Sizes			17	21	25	31	41	51	61	71	81	91	101	121
- Cooling capacity	(1)	kW	4,79	5,99	7,28	8,39	10,8	12,8	15,3	17,1	18,8	22,5	26,3	32,3
Total input	(1)	kW	1,49	1,91	2,23	2,64	3,12	3,86	4,47	5,07	5,84	7,12	8,19	10,1
Total ERR at 100%		-	3,21	3,14	3,26	3,18	3,46	3,32	3,42	3,37	3,22	3,16	3,21	3,20
Number of refrigerant circuits		-	1											
Number and type of compressors		-	1 SCROLL											
Sound pressure level	(2)	dB(A)	49	49	49	49	50	50	50	50	59	59	60	62
Power supply		V/Ph/Hz	230/1/50						400/3/50+N					

Sizes			102	142	162	182	202	222	242	292	322	362	422
- Cooling capacity	(1)	kW	25,7	34,2	37,5	45,1	52,5	58,5	64,5	82,1	96,9	113	138
Total input	(1)	kW	7,69	10,1	11,7	14,3	16,4	18,3	20,1	24,9	29,4	33,9	41,6
Total ERR at 100%		-	3,34	3,39	3,21	3,15	3,20	3,20	3,21	3,30	3,30	3,33	3,32
Number of refrigerant circuits		-	2										
Number and type of compressors		-	2 SCROLL										
Sound pressure level	(2)	dB(A)	53	53	62	62	63	64	65	66	66	66	66
Power supply		V/Ph/Hz	400/3/50+N										

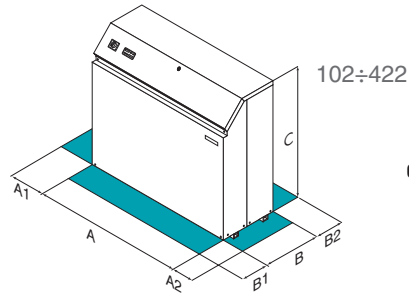
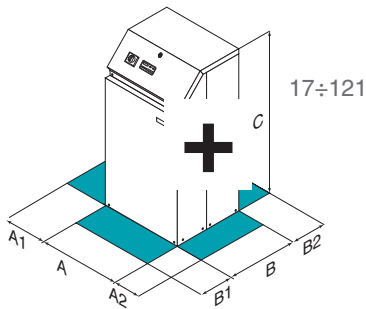
Data referred to the following conditions:

(1) Internal exchanger water = 12/7°C; dew point = 50°C

(2) Sound levels refer to units with full load under nominal test conditions. The sound pressure is measured at 1 m from the external surface of the unit in open field conditions.

KCME Condenserless water chiller for indoor installation

Dimensions and functional spaces



CAUTION! For trouble-free operation of the unit it is essential to maintain the safety distances indicated by the green areas.

Sizes		17	21	25	31	41	51	61	71	81	91	101	121
Length (A)	mm	402	402	402	402	402	402	402	402	402	402	402	402
Width (B)	mm	487	487	487	487	602	602	602	602	602	602	602	602
Height (C)	mm	790	790	790	790	790	790	790	790	915	915	915	915
(A1)	mm	300	300	300	300	300	300	300	300	300	300	300	300
(A2)	mm	300	300	300	300	300	300	300	300	300	300	300	300
(B1)	mm	500	500	500	500	500	500	500	500	500	500	500	500
(B2)	mm	300	300	300	300	300	300	300	300	300	300	300	300
Weight in oper.	Kg	77	80	85	87	91	92	93	93	113	113	113	119

Sizes		102	142	162	182	202	222	242	292	322	362	422
Length (A)	mm	802	802	802	802	802	802	802	802	802	802	802
Width (B)	mm	602	602	602	602	602	602	602	1062	1062	1062	1062
Height (C)	mm	790	790	915	915	915	915	915	1538	1538	1538	1538
(A1)	mm	300	300	300	300	300	300	300	300	300	300	300
(A2)	mm	300	300	300	300	300	300	300	300	300	300	300
(B1)	mm	500	500	500	500	500	500	500	500	500	500	500
(B2)	mm	300	300	300	300	300	300	300	300	300	300	300
Weight in oper.	Kg	158	193	232	232	239	245	250	410	445	468	520

The above data refer to standard units.

KCME Condenserless water chiller for indoor installation

Product Code

Condenserless water chiller for indoor installation

KCME-a-bb-1-1

Version **(a)** _____

1 = Standard

2 = With pump pack

Size **(bb)** _____

17, 21, 25, 31, 41, 51, 61, 71, 81, 91,

101, 121, 102, 142, 162, 182, 202,

222, 242, 292, 322, 362, 422

Heat exchanger approvals **(c)** _____

1 = PED (European test)

Low temperature **(d)** _____

1 = low water temperature

KCRC Remote condenser, air cooled for outdoor installation



KCRC

KCRC: Capacity from 9.1 to 277 kW

The remote air-cooled condensers in the KCRC series are designed for connecting to the indoor evaporating units of the KCME range.

They are available in three soundproofing versions: standard (b=1), low noise (b=2) and extra low noise (b=3), to satisfy even the severest of requirements in terms of noise limits.

They are fitted with axial-flow fans with open inlet and outlet, suitable for installation outdoors, with large exchange surfaces and fan speed adjustment (optional) to optimise the cooling performance of the coupled units. All the units comply with Fläkt Woods high quality standards and undergo severe tests during assembly.

Accessories

- Condenser coil in copper/copper
- Condenser coil with double circuit
- Mounts for horizontal condenser coil installation units (Slave)*
- Fan switch (sizes 302÷602)
- Liquid receiver kit *
- Low temperature liquid receiver kit *
- Low external air temperature pressure-switch device
- Sub-cooling circuit
- General isolating switch (sizes 25÷201)
- Packing in wooden case*

* Accessories supplied separately

KCRC Remote condenser, air cooled for outdoor installation

Technical data

Sizes			25	31	41	51	61	71	91	101	121	141	161	181	201	
b=1 Rated output	(1)	kW	9,10	12,1	13,5	17,3	20,2	24,2	29,7	34,5	41,3	51,5	60,0	72,7	79,5	
b=1 Air flow rate		l/s	1039	961	910	1956	2538	2150	2542	3911	3707	6617	6488	6195	5981	
b=1 Sound pressure level	(2)	dB(A)	56	55	55	58	59	57	59	61	61	71	70	70	70	
b=2 Rated output	(1)	kW	6,62	8,70	9,57	12,9	15,3	18,1	21,6	25,7	30,3	43,8	50,5	58,9	63,2	
b=2 Air flow rate		l/s	639	606	577	1233	1614	1413	1615	2467	2343	5086	4945	4560	4337	
b=2 Sound pressure level	(2)	dB(A)	43	43	42	46	46	45	46	49	48	63	62	62	62	
b=3 Rated output	(1)	kW	5,86	7,50	8,19	11,3	13,7	16,1	19,1	22,6	26,2	37,5	42,8	48,7	51,3	
b=3 Air flow rate		l/s	533	497	475	1015	1362	1201	1363	2030	1923	3981	3849	3509	3290	
b=3 Sound pressure level	(2)	dB(A)	40	40	39	43	44	42	44	46	45	55	54	54	53	
Number and diameter of fans		n°/mm	1/450			2/450		3/450			4/450		3/630			
b=1/b=2 Power supply		V/Ph/Hz	230/1/50													
b=3 Power supply		V/Ph/Hz	400/3/50													

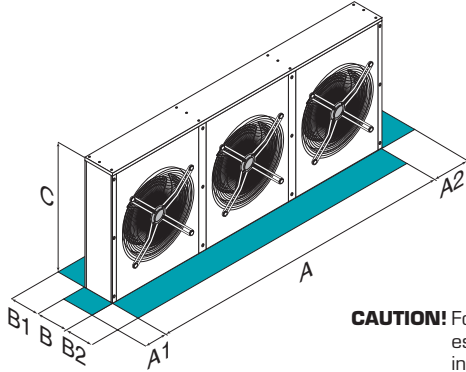
Sizes			302	322	402	452	502	552	602
b=1 Rated output	(1)	Δ kW	110	141	158	170	213	238	277
		Y kW	95,9	119	129	149	180	195	233
b=1 Air flow rate		Δ l/s	12271	11659	11092	18426	17517	16673	23375
		Y l/s	9539	8938	8407	14330	13435	12643	17932
b=1 Sound pressure level	(2)	Δ dB(A)	74	74	74	76	76	76	77
		Y dB(A)	67	67	67	69	69	69	70
b=2 Rated output	(1)	Δ kW	93,7	118	128	145	177	193	229
		Y kW	84,7	103	110	132	155	165	201
b=2 Air flow rate		Δ l/s	9167	8733	8323	13765	13119	12510	17506
		Y l/s	7720	7224	6789	11597	10858	10161	14493
b=2 Sound pressure level	(2)	Δ dB(A)	67	67	67	69	69	69	70
		Y dB(A)	62	62	62	64	64	64	65
b=3 Rated output	(1)	Δ kW	71,1	84,6	88,4	111	127	133	166
		Y kW	59,7	68,5	70,6	93,0	103	106	138
b=3 Air flow rate		Δ l/s	5843	5507	5199	8776	8276	7818	11045
		Y l/s	4518	4201	3932	6789	6316	5914	8430
b=3 Sound pressure level	(2)	Δ dB(A)	58	58	58	60	60	60	61
		Y dB(A)	52	52	52	54	54	54	55
Number and diameter of fans		n°/mm	2/800			3/800			4/800
Power supply		V/Ph/Hz	400/3/50						

Data referred to the following conditions:

- (1) Fresh air 35°C - Dew point 52,5°C
 (2) Sound levels refer to units with full load under nominal test conditions. The sound pressure is measured at 1 m from the external surface of the unit in open field conditions.

KCRC Remote condenser, air cooled for outdoor installation

Dimensions and functional spaces



CAUTION! For trouble-free operation of the unit it is essential to maintain the safety distances indicated by the green areas.

Sizes		25	31	41	51	61	71	91	101	121	141	161	181	201
Length (A)	mm	1110	1110	1110	1790	1760	1760	1840	1840	1840	2690	2690	2690	2690
Width (B)	mm	490	490	490	490	490	490	500	595	595	595	595	595	595
Height (C)	mm	585	585	585	585	590	590	735	1170	1170	1215	1215	1215	1215
(A1)	mm	700	700	700	700	700	700	700	700	700	700	700	700	700
(A2)	mm	700	700	700	700	700	700	700	700	700	700	700	700	700
(B1)	mm	550	550	550	550	550	550	700	1100	1100	1200	1200	1200	1200
(B2)	mm	550	550	550	550	550	550	700	1100	1100	1200	1200	1200	1200
Weight in oper.	Kg	35	40	50	60	75	80	85	110	125	150	155	190	225

Sizes		302	322	402	452	502	552	602
Length (A)	mm	3097	3097	3097	4407	4407	4407	5717
Width (B)	mm	820	820	820	820	820	820	820
Height (C)	mm	1495	1495	1495	1495	1495	1495	1495
(A1)	mm	700	700	700	700	700	700	700
(A2)	mm	700	700	700	700	700	700	700
(B1)	mm	1450	1450	1450	1450	1450	1450	1450
(B2)	mm	1450	1450	1450	1450	1450	1450	1450
Weight in oper.	Kg	303	336	368	427	475	523	617

The above data refer to standard units.

KCRC Remote condenser, air cooled for outdoor installation

Product Code

Remote condenser air cooled
for indoor installation

KCRC-aaa-b-c

Size (aaa)

025, 031, 041, 051, 061, 071, 091,
101, 121, 141, 161, 181, 201, 302,
322, 402, 452, 502, 552, 602

Acoustic configuration (b)

1 = standard
2 = silenced
3 = super silenced

Fan connection (c)

0 = norman (sizes 25-201)
1 = star connection (sizes 302-602)
2 = delta connection (sizes 302-602)

KCSA Small air cooled DX condensing unit for outdoor installation



KCSA: Capacity from 7.02 to 19 kW

These appliances are the outdoor unit of the SPLIT SYSTEMS. They may be connected to exchanger coils of air-handling units. The use of external rotor fans with a low number of revs, the complete thermal and acoustic insulation of the compressor compartment, the variable speed of fans and the adoption of the "SCROLL" compressor make the KCSA unit particularly silent. Moreover, the reduced dimensions allow it to be installed in small spaces. All the units feature the new control and microprocessor regulation systems which optimize the performances and include:

- Display for the visualization of the state of operation and of the alarms
- control over condensation based on the temperature of fresh air (modulating variation of the fan speed)
- control over defrosting
- compressor functioning time count
- possibility of connection to a supervisor

Accessories

- Rubber antivibration mounts
- Remote keypad
- Serial communication module PC/BMS MODBUS for 1 unit (Master)
- Serial communication module PC/BMS MODBUS from 2 to 254 units (Slave)
- Connection set (thermostat, dehydrating filter, liquid flow gauge, check valve)
- Phase monitor

KCSA Small air cooled DX condensing unit for outdoor installation

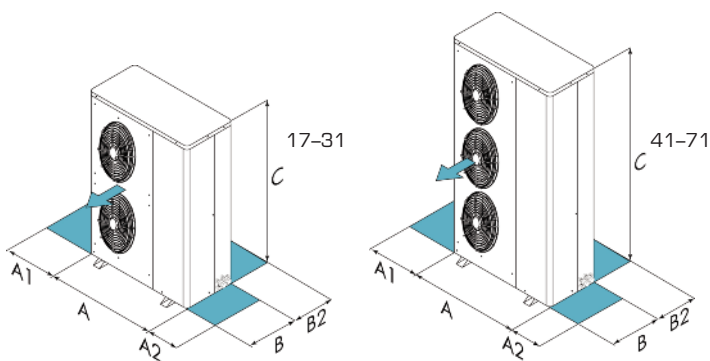
Technical data

Sizes			17	21	31	41	51	61	71
- Cooling capacity	(1)	kW	7,02	7,53	8,99	11,8	15,0	17,9	19,0
Total input	(1)	kW	1,52	1,63	2,03	2,62	3,75	4,67	5,06
- Heating capacity	(2)	kW	6,64	6,99	8,73	11,7	15,0	17,6	18,7
Total input	(2)	kW	1,38	1,52	1,72	2,36	3,12	3,74	3,98
Number and type of compressors		-				1 SCROLL			
Sound pressure level	(3)	dB(A)	56	56	57	57	59	59	59
Power supply		V/Ph/Hz	400/3/50+N						

Data referred to the following conditions:

- (1) Saturated suction temperature (SST) = 9,5 °C exchanger air temperature 35 °C
- (2) Exchanger air temperature = 7 °C D.B./6 °C W.B.; Dew point = 40 °C
- (3) Sound levels refer to units with full load under nominal test conditions. The sound pressure is measured at 1 m from the external surface of the unit in open field conditions.

Dimensions and functional spaces



CAUTION! For trouble-free operation of the unit it is essential to maintain the clearances in green.

Sizes		17	21	31	41	51	61	71
Length (A)	mm	800	800	800	800	800	800	800
Width (B)	mm	300	300	300	300	300	300	300
Height (C)	mm	1242	1242	1242	1242	1242	1242	1242
- (A1)	mm	100	100	100	100	100	100	100
- (A2)	mm	500	500	500	500	500	500	500
- (B2)	mm	150	150	150	150	150	150	150

The above data refer to standard units.

KCSA Small air cooled DX condensing unit for outdoor installation

Product Code

Small Air Cooled DX condensing unit for outdoor installation

KCSA-aa-b-c-d

Size (aa)	17, 21, 25, 31, 41, 51, 61, 71
Supply voltage (b)	1 = Three phase 400/3/50 2 = Single phase 230/1/50
Soft starter (c)	0 = without 1 = soft starter for 400 V version 2 = soft starter for 230 V version
Condensing coil material (d)	0 = standard 1 = Cu/Al with acrylic coating 2 = Cu/Al with Fin Guard coating 3 = Cu/Cu

KC(S,T)B Small/medium air cooled DX/heat pump condensing unit for outdoor installation



KC(S,T)B

KC(S,T)B: Capacity from 22 to 72.8 kW

These split system are designed for outdoor installation and connection to a DX coil in the air handling unit. The use of low-rev external rotor fans, full thermal and acoustic insulation of the compressor compartment, variable fan speed and scroll compressor make the units particularly low noise. Their reduced overall size also allows installation in restricted spaces. All units are fitted with the new microprocessor control and regulation system, which optimises performance.

Accessories

- Rubber antivibration mounts *
- Remote keypad *
- Condenser coil in copper/aluminium with acrylic coating
- Copper/copper condenser coil
- Serial communication module PC/BMS MODBUS for 1 unit (Master) *
- Serial communication module PC/BMS MODBUS from 2 to 254 units (Slave) *
- Low external air temperature pressure-switch device
- Coil protection grilles on external air side *
- Phase monitor *
- Supply voltage 230/3/50

KCSB only:

- Hot gas by pass
- Connection set (thermostat, solenoid valve, dehydrating filter, liquid flow gauge) *

KCTB only:

- Connection set (thermostat, dehydrating filter, liquid flow gauge, check valve) *

* Accessories supplied separately

KC(S,T)B Medium air cooled DX/heat pump condensing unit for outdoor installation

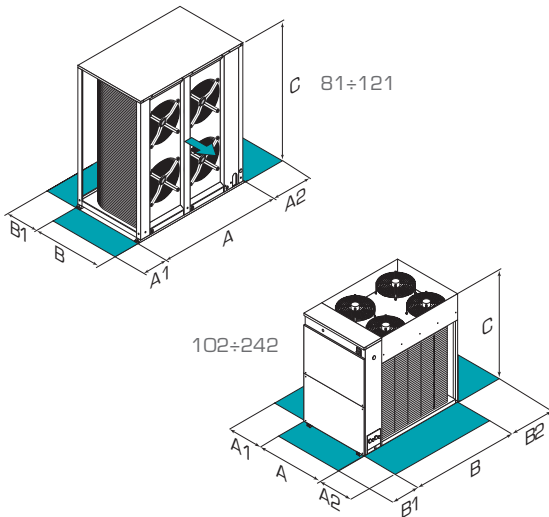
Technical data

Sizes			81	91	101	121	102	122	142	162	182	202	242
KCSB													
- Cooling capacity	(1)	kW	22	26,7	30,9	38,1	29,8	34,1	39,2	44,1	50,3	62,8	72,8
Total input	(1)	kW	6,7	8,2	9,8	12,1	9,8	11,6	13,2	15,3	18,4	21,2	26,1
Number and type of compressors	-		1 SCROLL				2 SCROLL						
Sound pressure level	(3)	dB(A)	60	61	60	61	59	59	60	60	60	61	62
Power supply		V/Ph/Hz	400/3/50+N										
KCSB													
- Cooling capacity	(1)	kW	21,8	25,8	30,9	37,6	-	-	39,2	44,1	50,3	62,8	72,8
Total input	(1)	kW	6,82	8,6	9,83	12,3	-	-	13,4	15,5	18,6	21,5	26,4
Heating capacity	(2)	kW	22,6	26,7	31,7	38,9	-	-	42	45,9	54,6	65,2	77,7
Total input	(2)	kW	5,12	6,23	7,4	8,9	-	-	9,1	10,5	12,7	14,8	17,8
Number and type of compressors	-		1 SCROLL				-		2 SCROLL				
Sound pressure level	(3)	dB(A)	66	61	60	61	-	-	60	60	60	61	62
Power supply		V/Ph/Hz	400/3/50+N										

Data referred to the following conditions:

- (1) Saturated suction temperature (SST) = 9,5 °C (Dew Point); external air temperature 35 °C
- (2) Air at external exchanger inlet = 6,1 °C W.B.; condensing temperature = 40 °C;
- (3) Sound levels refer to units with full load under nominal test conditions. The sound pressure is measured at 1 m from the external surface of the unit in open field conditions.

Dimensions and functional spaces



CAUTION! For trouble-free operation of the unit it is essential to maintain the safety distances indicated by the green areas.

Sizes		81	91	101	121	102	122	142	162	182	202	242	
Length (A)	mm	1373	1373	1573	1573	1530	1530	1563	1563	1563	2098	2098	
Width (B)	mm	557	557	557	557	678	678	1107	1107	1107	1107	1107	
Height (C)	mm	1225	1225	1225	1225	1400	1400	1570	1570	1570	1570	1570	
(A1)	mm	200	200	200	200	1000	1000	1000	1000	1000	1000	1000	
(A2)	mm	500	500	500	500	1000	1000	1000	1000	1000	1000	1000	
(B1)	mm	200	200	200	200	800	800	900	900	900	900	900	
(B2)	mm	-	-	-	-	800	900	900	900	900	900	900	
KCSB													
Weight in oper.	Kg	164	199	244	254	254	264	344	364	444	534	544	
KCTB													
Weight in oper.	Kg	167	202	247	257	-	-	347	367	447	537	547	

The above data refer to standard units.

KC(S,T)B Small/medium air cooled DX/heat pump condensing unit for outdoor installation

Product Code

Medium Air Cooled DX/
Heat pump condensing unit
for outdoor installation

KC(S,T)B-aaa

S = Cooling only
T = Heat pump

Size (aaa) _____
081, 091, 101, 121, 102, 122, 142, 162, 182, 202, 242

KCS(C,D) Medium/large air cooled DX condensing unit for outdoor installation



KCS



KCS

KCS: Capacity from 90.1 to 174 kW

The KCS air-cooled condensing units have been designed for outdoor installation and for best energy efficiency in relation to reduced size. The compressors are of the hermetic Scroll type.

They are fitted with an innovative microprocessor control for regulating and optimising all unit functions, thereby increasing the energy efficiency. An enamelled, hot-galvanised sheet metal load-bearing frame with prepainted aluminium outer panelling ensures maximum resistance to weathering. The base, made from painted galvanised metal sections with holes to facilitate lifting and earthing the unit, guarantees even weight distribution.

All the units are factory assembled and tested and ready for operation after connection, with consequent substantial reduction in installation costs.

Accessories

- Condenser coil in copper/aluminium with acrylic coating
- Condenser coil in copper/aluminium with Fin Guard (Silver) treatment
- Copper/copper condenser coil
- Copper/tinned copper condenser coil
- Spring antivibration mounts *
- Finned coil protection grilles
- Connection set (thermostat, filter, etc) *
- Hot gas by pass
- Phase monitor
- Magnetothermal circuit breakers
- Shunt capacitors (power factor > 0,9)
- Serial communication module with supervisor (MODBUS)
- Remote control with remote microprocessor control *

* Accessories supplied separately

KCS: Capacity from 210 to 588 kW

The multi Scroll chiller series presents a new concept of chiller offering:

- Efficiency that increases as the heating load decreases, while guaranteeing maximum requested load when necessary. Multi Scroll chiller always ensures maximum comfort with very high efficiency and consequently considerable energy savings;
- customisation of the unit with the high performance fans accessory, which enhances the qualities of flexibility and energy efficiency;
- easy connection to the service system plus a simple control system and easy maintenance drastically reduce work requiring specialised personnel with consequent reduction in installation costs;
- customisation of the unit, also for special requirements both in the civil and technological air-conditioning sphere, thanks to the many available optional accessories.

The innovative and hi-tech features of multi Scroll chiller give this series a much higher quality than can generally be found on the market today.

KCS is a condensing unit series for use together with a remote evaporating section.

Accessories

- Copper/copper condenser coil
- Copper/tinned copper condenser coil
- Condenser coil in copper/aluminium with Fin Guard (Silver) treatment
- Spring antivibration mounts *
- Compressor compartment and condenser coil protection grilles
- Hail grilles
- Shut-off valve on compressor suction and discharge
- Connection set (thermostat, filter, etc) *
- High and low pressure gauges
- Device for reducing consumption of the outdoor section fans
- Phase monitor
- Shunt capacitors (power factor > 0,9)
- CAN/MODBUS serial converter kit
- CAN/LON WORKS serial converter kit
- Data logger *
- Free contacts for compressor status
- Remote control with remote microprocessor control *

* Accessories supplied separately

KCSC Medium/large air cooled DX condensing unit for outdoor installation

Technical data

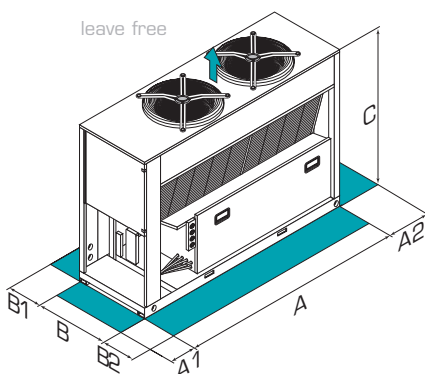
Sizes			292	323	404	464	524	564	604
c = 0 Cooling capacity	(1)	kW	90,1	106	121	137	152	162	174
c = 0 Total input		kW	30,4	33,7	39,1	45,4	51,9	56,2	59,9
c = 0 Sound pressure level	(2)	dB(A)	72	74	76	77	77	77	77
c = 1 Cooling capacity	(1)	kW	85,8	102	117	131	145	155	164
c = 1 Total input		kW	30,8	33,8	38,5	45,4	52,4	57,1	62
c = 1 Sound pressure level	(2)	dB(A)	63	65	67	67	68	68	68
Number of refrigerant circuits	-		2						
Number and type of compressors	-		2 SCROLL	3 SCROLL	4 SCROLL				
Power supply		V/Ph/Hz	400/3/50						

Data referred to the following conditions:

(1) Saturated suction temperature (SST) = 9,5 °C (Dew Point);
external air temperature 35 °C

(2) Sound levels refer to units with full load under nominal test conditions. The sound pressure is measured at 1 m from the external surface of the unit in open field conditions.

Dimensions and functional spaces



CAUTION! For trouble-free operation of the unit it is essential to maintain the safety distances indicated by the green areas.

Sizes		292	323	404	464	524	564	604
Length (A)	mm	3250	3250	3250	3250	3250	3250	3250
Width (B)	mm	1095	1095	1095	1095	1095	1095	1095
Height (C)	mm	2030	2030	2030	2030	2030	2030	2030
- (A1)	mm	1500	1500	1500	1500	1500	1500	1500
- (A2)	mm	900	900	900	900	900	900	900
- (B1)	mm	1500	1500	1500	1500	1500	1500	1500
- (B2)	mm	1500	1500	1500	1500	1500	1500	1500
c = 0 Weight in oper.	Kg	1225	1336	1486	1511	1534	1577	1612
c = 1 Weight in oper.	Kg	1256	1367	1516	1544	1565	1607	1644

The above data refer to standard units.

KCSD Medium/large air cooled DX condensing unit for outdoor installation

Technical data

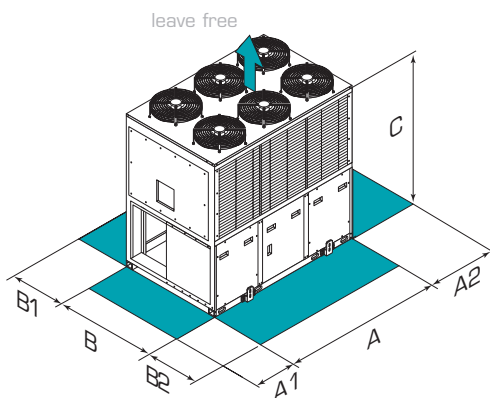
Sizes		65	70	75	80	90	100	110	120	135	150	165	180
d = 1 Cooling capacity	(1) kW	210	226	240	255	278	318	363	386	429	462	518	588
d = 1 Total input	kW	64,8	69,5	75,9	82,2	89,5	96,8	112	126	139	156	179	193
d = 1 Total EER at 100 %	-	3,25	3,25	3,17	3,1	3,1	3,29	3,25	3,06	3,1	2,95	2,9	3,04
d = 1 Sound pressure level	(2) dB(A)	76	76	76	76	76	76	78	78	78	78	79	79
d = 2 Cooling capacity	(1) kW	204	220	231	244	264	300	350	379	406	450	500	551
d = 2 Total input	kW	63,7	69,5	77,1	84	92,1	103	111	125	141	159	179	199
d = 2 Total EER at 100 %	-	3,2	3,16	2,99	2,9	2,87	2,92	3,15	3,02	2,88	2,82	2,79	2,77
d = 2 Sound pressure level	(2) dB(A)	67	68	68	68	68	68	70	70	71	71	72	72
Number of refrigerant circuits	-	2											
Number and type of compressors	-	4 SCROLL						6 SCROLL					
Power supply	V/Ph/Hz	400/3/50											

Data referred to the following conditions:

(1) Saturated suction temperature (SST) = 9,5 °C (Dew Point);
external air temperature

(2) Sound levels refer to units with full load under nominal test conditions. The sound 1 m from the external surface of the unit in open field conditions.

Dimensions and functional spaces



CAUTION! For trouble-free operation of the unit it is essential to maintain the safety distances indicated by the green areas.

Sizes		65	70	75	80	90	100	110	120	135	150	165	180
Length (A)	mm	2950	2950	2950	2950	2950	2950	4250	4250	4250	4250	4250	4250
Width (B)	mm	2195	2195	2195	2195	2195	2195	2195	2195	2195	2195	2195	2195
Height (C)	mm	2410	2410	2410	2410	2410	2410	2410	2410	2410	2410	2410	2410
– (A1)	mm	700	700	700	700	700	700	700	700	700	700	700	700
– (A2)	mm	700	700	700	700	700	700	700	700	700	700	700	700
– (B1)	mm	1300	1300	1300	1300	1300	1300	1300	1300	1300	1300	1300	1300
– (B2)	mm	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500
d = 1 Weight in oper.	Kg	2102	2164	2226	2288	2293	2298	2926	2984	3113	3120	3506	3670
d = 2 Weight in oper.	Kg	2112	2184	2246	2308	2313	2318	2876	3009	3203	3300	3596	3650

The above data refer to standard units.

KCS(C,D) Medium/large air cooled DX condensing unit for outdoor installation

Product Code

Large Air Cooled DX condensing unit for outdoor installation **KCSC-a-bbb-c-d-e**

Energy recovery (a) _____
 0 = Without (standard)
 1 = Partial recovery

Size (bbb) _____
 292, 323, 404, 464, 524, 564, 604

Acoustic Configuration (c) _____
 0 = Standard
 1 = Silenced

Energy Efficiency (d) _____
 0 = Temperate climate

Heat exchanger approvals (e) _____
 1 = PED (European test)
 2 = FWG Standard
 3 = SQL

Large Air Cooled DX condensing unit for outdoor installation **KCSD-a-bbb-c-d-e-f**

Energy recovery (a) _____
 0 = Without (standard)
 1 = Partial recovery

Size (bbb) _____
 65, 70, 75, 80, 90, 100, 110,
 120, 135, 150, 165, 180

Number of compressors (c) _____
 4 = 4 Scroll
 6 = 6 Scroll

Acoustic Configuration (d) _____
 0 = Standard
 1 = Compressor soundproofing
 2 = Super silenced

Energy Efficiency (e) _____
 0 = Temperate climate

Heat exchanger approvals (f) _____
 1 = PED (European test)
 2 = FWG Standard
 3 = SQL

KCPA Pumping unit with storage tank for indoor installation



KCPA

KCPA

The KCPA pumping units are designed for connection to our chiller and heat pump units for producing chilled and hot water. They come complete with all the necessary electrical and water components for trouble-free operation of the system.

The performance range of the installed centrifugal pumps makes the units suitable for all types of service systems.

The units may be used on systems with primary and secondary circuit.

Accessories

- 65-litre tank capacity
- 150-litre tank capacity
- Hose kit 0,8 m *
- Hose kit 1,5 m *
- Hose kit 2,0 m *
- Ball valve kit for connection to the system *
- Set-up for operation as primary circuit and fittings for secondary circuit

* Accessories supplied separately

Product Code

Pumping unit with storage tank for indoor installation

KCPA-a-bbb

Size (a)

0, 1, 2, 3, 4, 5, 6, 7, 8, 9

Storage tank (bbb)

065 = 65 litres

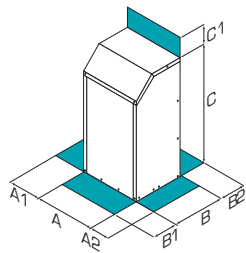
150 = 150 litres

KCPA Pumping unit with storage tank for indoor installation

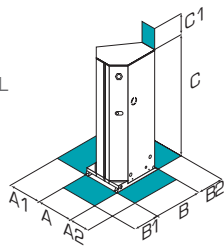
Technical data

Sizes		0	1	2	3	4	5	6	7	8	9
2-pole electric pump											
Rated output	kW	0,3	0,45	0,3	0,45	0,55	0,75	0,45	0,55	0,75	0,9
Rated absorbed current	A	0,8	1,2	0,8	1,2	1,5	2	1,2	1,5	2	2,4
Expansion tank											
Capacity	L	8									
Maximum pressure	kPa	800									
Standard pressure	kPa	150									
Safety valve calibration	kPa	600									
Power supply	V/Ph/Hz	400/3/50									
KCPA-a-065											
Storage tank capacity	L	65									
KCPA-a-150											
Storage tank capacity	L	150									

Dimensions and functional spaces



KCPA 65 L



KCPA 150 L

CAUTION! For trouble-free operation of the unit it is essential to maintain the safety distances indicated by the green areas.

Sizes		0	1	2	3	4	5	6	7	8	9
KCPA-aa-65											
Length (A)	mm	470									
Width (B)	mm	600									
Height (C)	mm	790									
– (A1)	mm	600									
– (A2)	mm	600									
– (B1)	mm	700									
– (B2)	mm	1000									
– (C1)	mm	600									
Weight in oper.	Kg	140									

Sizes		0	1	2	3	4	5	6	7	8	9
KCPA-aa-150											
Length (A)	mm	600									
Width (B)	mm	790									
Height (C)	mm	1186									
– (A1)	mm	600									
– (A2)	mm	600									
– (B1)	mm	600									
– (B2)	mm	600									
– (C1)	mm	600									
Weight in oper.	Kg	240									

The above data refer to standard units.

KCPB Pumping unit with storage tank for outdoor installation



KCPB

KCPB-1

Pumping unit to be combined with our units for the production of chilled and hot water, complete with all the indispensable water and electrical parts for correct operation of a central water plant.

KCPB-2

These differ from the KCPB-1 because, in addition to the pumping and control functions, they also provide for water storage.

The capacity of the tanks is 300 - 500 - 2 x 300 - 2 x 500 litres.

Accessories

- Hose kit 1,5 m (1 exchanger x 1") *
- Hose kit 1,5 m (2 exchanger x 1") *
- Hose kit 1,5 m (1 exchanger x 2"-2"1/2) *
- Supply voltage 400/3/50+N

Only KCPB-1:

- One pump
- Two pumps

Only KCPB-2:

- Storage tank 300 litres 1 Pump
- Storage tank 300 litres 2 Pumps
- Storage tank 500 litres 1 Pump
- Storage tank 500 litres 2 Pumps
- Storage tank 600 litres 1 Pump
- Storage tank 600 litres 2 Pumps
- Storage tank 1000 litres 1 Pump
- Storage tank 1000 litres 2 Pumps
- Three-way valve kit for storage tank from 300 litres to 500 litres
- Three-way valve kit for storage tank from 600 litres to 1000 litres
- 8 kW Add. el. heater for storage tank from 300 litres to 500 litres
- 8 kW Add. el. heater for storage tank from 600 litres to 1000 litres
- 12 kW Add. el. heater for storage tank from 300 litres to 500 litres
- 12 kW Add. el. heater for storage tank from 600 litres to 1000 litres
- 16 kW Add. el. heater for storage tank from 600 litres to 1000 litres
- 24 kW Add. el. heater for storage tank from 600 litres to 1000 litres

* Accessories supplied separately

Product Code

Pumping unit with storage tank for outdoor installation

KCPB-a-bb-c-d

Storage tank (a)

- 1 = Without
- 2 = With

Capacity (bb)

- 00, 01, 02, 03, 04, 05, 06, 07, 08, 09,
- 10, 11, 12

Number of pumps (c)

- 1 = Single pump
- 2 = Double pump

Storage tank capacity, litres (d)

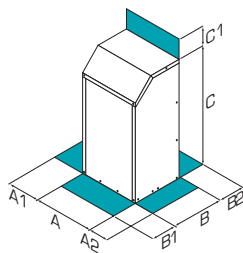
- 0 = Without
- 3 = 300
- 5 = 500
- 6 = 600
- 9 = 1000

KCPB Pumping unit with storage tank for outdoor installation

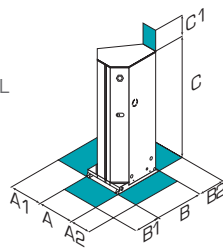
Technical data

Sizes		00	01	02	03	04	05	06	07	08	09	10	11	12
2-pole electric pump														
Rated output	kW	0,5	0,6	0,9	1,1	0,8	1,2	1,1	1,5	2	2,3	1,5	2,1	2,6
Rated absorbed current	A	0,8	1,1	1,8	2	1,6	2,2	2	2,8	3,6	4,4	2,8	3,6	4,5
Expansion tank														
Capacity KCPB-1	L							12						
Capacity KCPB-2-bb-c-3,5	L							16						
Capacity KCPB-2-bb-c-6	L							24						
Capacity KCPB-2-bb-c-9	L							32						
Maximum pressure	kPa							800						
Standard pressure	kPa							150						
Storage tank capacity														
d=3	L							300						
d=5	L							500						
d=6	L							600						
d=9	L							900						
Safety valve calibration	kPa							600						
Power supply	V/Ph/Hz							400/3/50						

Dimensions and functional spaces



KCPA 65 L



KCPA 150 L

CAUTION! For trouble-free operation of the unit it is essential to maintain the safety distances indicated by the green areas.

Sizes		00	01	02	03	04	05	06	07	08	09	10	11	12
Length (A) KCPB-1-bb-1,2	mm							616						
Length (A) KCPB-2-bb-1-3,5	mm							831						
Length (A) KCPB-2-bb-2-6,9	mm							1356						
Width (B) KCPB-1-bb-1,2	mm							514						
Width (B) KCPB-2-bb-1-3,5	mm							831						
Width (B) KCPB-2-bb-1-6,9	mm							867						
Height (C) KCPB-1-bb-1,2	mm							1299						
Height KCPB-1,2-bb-c-3	mm							1502						
Height KCPB-1,2-bb-c-5	mm							2225						
Height KCPB-1,2-bb-c-6	mm							1502						
Height KCPB-1,2-bb-c-9	mm							2225						
(A 1) KCPB-1	mm							300						
(A 1) KCPB-2	mm							600						
(A2), (B1), (B2)	mm							600						
(C1)	mm							500						
KCPB-1-bb-c-d Weight in oper.	Kg							70						
KCPB-2-bb-c-3 Weight in oper.	Kg							130						
KCPB-2-bb-c-5 Weight in oper.	Kg							170						
KCPB-2-bb-c-6 Weight in oper.	Kg							205						
KCPB-2-bb-c-9 Weight in oper.	Kg							260						

The above data refer to standard units.

KCPC Pumping unit with storage tank for outdoor installation



KCPC

KCPC

Pumping units with storage tank to be combined with units for the production of chilled and hot water, complete with the indispensable water and electrical parts for correct operation of the system. They have been designed for connection to our medium power units and come with steel tanks with a capacity of 2 x 300 and 2 x 500 litres.

The range of capacity and head of the pumps makes these units suited to many types of systems.

Accessories

- 600-litre tank capacity
- 1000-litre tank capacity
- 12 kW additional electric heaters
- 8 kW additional electric heaters
- Water side protection differential pressure switch

Product Code

Pumping unit with storage tank for outdoor installation

KCPC-aa-b-c

Pump type (aa) _____
60, 61, 62, 63

Number of pumps (b) _____
1 = Single pump
2 = Double pump

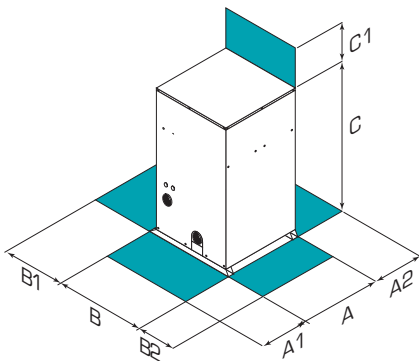
Storage tank (c) _____
1 = 600 litres
2 = 1000 litres

KCPC Pumping unit with storage tank for outdoor installation

Technical data

Sizes		60	61	62	63
2-pole electric pump					
Rated output	kW	1,5	2,2	3	4
Rated absorbed current	A	3,6	4,9	6,5	8,5
Expansion tank					
Capacity:	L				
KCPC-aa-b-1	L		24		
KCPC-aa-b-2	L		32		
Maximum pressure	kPa		800		
Standard pressure	kPa		150		
Storage tank capacity	L	600	600	1000	1000
Safety valve calibration	kPa		600		
Power supply	V/Ph/Hz		400/3/50		

Dimensions and functional spaces



CAUTION! For trouble-free operation of the unit it is essential to maintain the safety distances indicated by the green areas.

Sizes		60	61	62	63
Length (A)	mm		1355		
Width (B)	mm		911		
Height (C) KCPC-aa-b-1	mm	1505	1505		
Height (C) KCPC-aa-b-2	mm			2225	2225
- (A1)	mm		600		
- (A2)	mm		600		
- (B1)	mm		300		
- (B2)	mm		600		
- (C1)	mm		500		
Weight in oper.	Kg	1355	1360	1390	1395

The above data refer to pumping units with 2 operating pumps and 1000 l storage tank.

KCPD Pumping unit with storage tank for indoor installation



KCPD

KCPD: Capacity from 1.5 to 11 kW

The KCPD pumping units are modular and designed for connection to units for the production of chilled and hot water.

They come complete with all the indispensable electrical and water components for correct operation of the system.

They have been designed for connection to our high power units and may be supplied either separately or integrated into the structure of the chillers with semi-hermetic compressors.

The range of capacity and head of the pumps makes these units suited to many types of systems, also thanks to the possibility of having a primary or primary/secondary circuit.

The KCPD units are factory assembled and tested and are ready for operation as soon as they are connected to the electricity and water supplies.

Accessories

- Water side differential pressure switch
- Silenced 4-pole pumps
- 2 kW anti-ice electric heater with safety thermostat
- Shut-off valves for connection to the system (P version only) *

* Accessories supplied separately.

Product Code

Pumping unit with storage tank for indoor installation

KCPD-a-bb-c-d-e

Version (a)

- 1 = Standard
- 2 = Primary secondary

Pump type (bb)

- 60, 61, 62, 63, 68, 69, 70, 71, 78, 79,
- 80, 83, 85, 87, 90, 91, 92, 93, 94, 98, 99

Number of pumps (c)

- 1 = Single pump
- 2 = Double pump

Set up (d)

- 1 = Separate installation
- 2 = Packaged with unit

Storage tank capacity, litres (e)

- 1 = 1200
- 2 = 2400

KCPD Pumping unit with storage tank for indoor installation

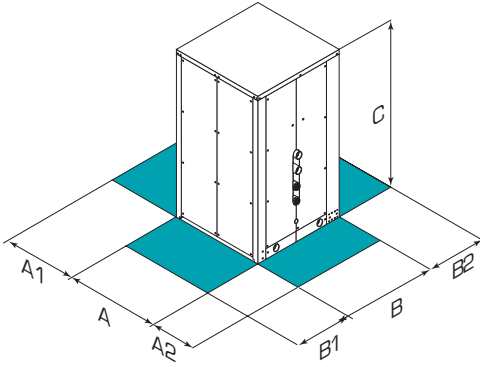
Technical data

Sizes		60	61	62	63	68	69	70	71	78	79	80
No poles	-						2					
Electric pump												
Rated output	kW	1,5	2,2	3	4	2,2	3	4	5,5	5,5	7,5	11,0
Rated absorbed current	A	3,6	4,9	6,5	8,5	4,9	6,5	8,5	11,5	11,5	15,5	22,0
Expansion tank												
Capacity	L						74					
Maximum pressure	kPa						800					
Standard pressure	kPa						150					
Storage tank capacity												
KCPD-a-bb-c-1	L						1200					
KCPD-a-bb-c-2	L						2400					
Safety valve calibration	kPa						600					
Power supply	V/Ph/Hz						400/3/50					

Sizes		83	85	87	90	91	92	93	94	98	99
No poles	-						4				
Electric pump											
Rated output	kW	0,8	1,5	2,2	1,1	1,5	2,2	4	5,5	5,5	7,5
Rated absorbed current	A	2,1	3,6	5,2	2,8	3,6	5,2	8,7	12,4	12,4	15,8
Expansion tank											
Capacity	L						74				
Maximum pressure	kPa						800				
Standard pressure	kPa						150				
Storage tank capacity											
KCPD-a-bb-c-1	L						1200				
KCPD-a-bb-c-2	L						2400				
Safety valve calibration	kPa						600				
Power supply	V/Ph/Hz						400/3/50				

KCPD Pumping unit with storage tank for indoor installation

Dimensions and functional spaces



CAUTION! For trouble-free operation of the unit it is essential to maintain the safety distances indicated by the green areas.

Sizes		60	61	62	63	68	69	70	71	78	79	80
Length (A)	mm						2040					
Width (B) KCPD-a-bb-c-1	mm						1260					
Width (B) KCPD-a-bb-c-2	mm						2520					
Height (C)	mm						2113					
(A1)	mm						700					
(A2)	mm						700					
(B1)	mm						700					
(B2)	mm						700					
"Weight in oper.												
KCPD-a-bb-c-1"	Kg	1902	1906	1915	1924	1926	1922	1932	1960	1976	1978	2024
"Weight in oper.												
KCPD-a-bb-c-2"	Kg	3804	3812	3830	3848	3852	3844	3864	3920	3952	3956	4048

Sizes		83	85	87	90	91	92	93	94	98	99	
Length (A)	mm						2040					
Width (B) KCPD-a-bb-c-1	mm						1260					
Width (B) KCPD-a-bb-c-2	mm						2520					
Height (C)	mm						2113					
(A1)	mm						700					
(A2)	mm						700					
(B1)	mm						700					
(B2)	mm						700					
"Weight in oper.												
KCPD-a-bb-c-1"	Kg	1929	1945	1964	1954	1954	1983	2048	2060	2068	2070	
"Weight in oper.												
KCPD-a-bb-c-2"	Kg	3858	3890	3928	3908	3908	3966	4096	4120	4136	4140	

The above data refer to standard units.

Water cooled chiller for indoor installation

	<p>KCGA: Capacity from 5,95 to 35 kW</p>
	<p>KC(G,H) B: Capacity from 27,1 to 144 kW</p>
	<p>KCGC: Capacity from 195 to 560 kW</p>
	<p>KCGE: Capacity from 408 to 153 kW</p>
	<p>KCGF: Capacity from 173 to 500 kW</p>
	<p>KCGH: Capacity from 633 to 1711 kW</p>

Contact Fläkt Woods for further information or technical catalogues regarding Water cooled chillers.

Product Code

Accessories	Description													
Air cooled water chillers and heat pumps	Stainless steel mesh mechanical filter	Finned coil protection grille	Pump	Unit without hydronic group	Anti hail protection grille	Compressor suction and discharge shut off valve	High performance fans	Rubber Anti vibration mounts	Spring Anti vibration	Condenser coil and compressor compartment grille	High and low pressure gauges	Cu/Al Condensor coil with acrylic lining	Cu/Al Condensor coil with fin guard	Cu/Cu Condensor coil
	KCDC	•					•		•	•	•	•	•	
KCCC	•					•		•	•	•	•			•
KCCJ		•			•						•			
KCBB	•						•					•	•	•
KCAB	•						•					•	•	•
KCBD	•	•	•	•				•				•	•	•
KCAD	•	•	•	•				•				•	•	•
KCFA	•						•					•	•	•
KCEA	•						•					•	•	•
KCFB	•						•			•				
KCEB	•						•			•				
KCFC	•						•	•		•	•	•	•	•
KCEC	•						•	•		•	•	•	•	•
KCBF		•		•	•	•	•	•		•	•	•	•	•
KCAF		•		•	•	•	•	•		•	•	•	•	•
KCFA				•										
KCEA				•										
KCCE					•	•	•	•	•		•			•
KCCF					•	•	•	•	•		•			•
KCCG			•					•	•		•	•	•	•
KCCH			•					•	•		•	•	•	•
KCBA							•							
KCAA							•							
KCDG		•					•							
KCHB														
KCGB														
KCGH							•							
Condensing units														
KCSD					•	•	•		•	•	•	•	•	•
KCTA								•					•	•
KCTB								•						
KCSB								•						

Product Code

Accessories		Description													
Air cooled water chillers and heat pumps		Stainless steel mesh mechanical filter	Finned coil protection grille	Pump	Unit without hydronic group	Anti hail protection grille	Compressor suction and discharge shut off valve	High performance fans	Rubber Anti vibration mounts	Spring Anti vibration	Condenser coil and compressor compartment grille	High and low pressure gauges	Cu/Al Condensor coil with acrylic lining	Cu/Al Condensor coil with fin guard	Cu/Cu Condensor coil
		KCDC			•	•							•	•	•
KCCC			•	•							•	•	•	•	•
KCCJ															
KCBB															
KCAB															
KCBD															
KCAD															
KCFA															
KCEA															
KCFB			•		•		•	•							
KCEB			•		•		•	•							
KCFC	•				•	•									
KCEC	•				•	•									
KCBF	•	•													
KCAF	•	•													
KCFA															
KCEA															
KCCE			•												
KCCF										•	•	•	•	•	•
KCCG									•						
KCCH									•						
KCBA															
KCAA															
KCDG															
KCHB															
KCGB															
KCGH															
Condensing units															
KCHB															
KCSC	•		•												
KCSD	•		•												
KCTA															
KCTB															
KCSB															

Product Code

Accessories	Description													
Air cooled water chillers and heat pumps	Stainless steel mesh mechanical filter	Finned coil protection grille	Pump	Unit without hydronic group	Anti hail protection grille	Compressor suction and discharge shut off valve	High performance fans	Rubber Anti vibration mounts	Spring Anti vibration	Condenser coil and compressor compartment grille	High and low pressure gauges	Cu/Al Condensor coil with acrylic lining	Cu/Al Condensor coil with fin guard	Cu/Cu Condensor coil
	KCBC						•				•			
KCAC						•				•				•
KCDC				•	•	•	•		•	•		•		•
KCCC				•	•	•	•		•	•		•		•
KCCJ						•				•				
KCBB						•				•	•			
KCAB						•				•	•			
KCBD						•				•				•
KCAD						•				•				•
KCFA						•				•				
KCEA						•				•				
KCFB										•				
KCEB										•				
KCFC						•	•							•
KCEC						•	•							•
KCBF							•	•		•				•
KCAF							•	•		•				•
KCFA														
KCEA														
KCCE				•		•	•			•		•		•
KCCF	•	•	•	•		•	•			•		•		•
KCCG												•		•
KCCH												•		•
KCBA						•				•	•			
KCAA						•				•	•			
KCDG														
KCHB														
KCGB														
KCGH														
Condensing units														
KCSC						•	•							
KCSD						•	•					•		•
KCTA						•								
KCTB						•								
KCSB						•								

Product Code

Accessories	Description													
Air cooled water chillers and heat pumps	Stainless steel mesh mechanical filter	Finned coil protection grille	Pump	Unit without hydropic group	Anti hail protection grille	Compressor suction and discharge shut off valve	High performance fans	Rubber Anti vibration mounts	Spring Anti vibration	Condenser coil and compressor compartment grille	High and low pressure gauges	Cu/Al Condensor coil with acrylic lining	Cu/Al Condensor coil with fin guard	Cu/Cu Condensor coil
	KCBC			•	•									
KCAC			•	•										
KCDC				•										
KCCC				•										
KCCJ				•										
KCBB	•			•		•								
KCAB	•			•		•								
KCBD			•	•										
KCAD			•	•										
KCFA	•					•								
KCEA	•					•								
KCFB	•		•	•						•				
KCEB	•		•	•						•				
KCFC			•	•										
KCEC			•	•										
KCBF				•	•									
KCAF				•	•									
KCFA														
KCEA														
KCCE	•			•										
KCCF	•			•										
KCCG	•											•		
KCCH	•											•		
KCBA				•										
KCAA				•										
KCDG												•		•
KCHB											•			
KCGB											•			
KCGH														
Condensing units														
KCSC				•				•	•					
KCSD				•										
KCTA				•			•	•						
KCTB				•			•	•	•					
KCSB				•			•	•	•					

Product Code

Accessories	Description													
Air cooled water chillers and heat pumps	Stainless steel mesh mechanical filter	Finned coil protection grille	Pump	Unit without hydronic group	Anti hail protection grille	Compressor suction and discharge shut off valve	High performance fans	Rubber Anti vibration mounts	Spring Anti vibration	Condenser coil and compressor compartment grille	High and low pressure gauges	Cu/Al Condensor coil with acrylic lining	Cu/Al Condensor coil with fin guard	Cu/Cu Condensor coil
KCBC														
KCAC														
KCDC														
KCCC														
KCCJ						•		•						
KCBB														
KCAB														
KCBD														
KCAD														
KCFA														
KCEA														
KCFB														
KCEB														
KCFC														
KCEC														
KCBF														
KCAF														
KCFA														
KCEA														
KCCE														
KCCF														
KCCG														
KCCH														
KCBA														
KCAA														
KCDG														
KCHB														
KCGB														
KCGH	•	•	•	•	•	•	•	•						
Condensing units														
KCSC														
KCSD														
KCTA														
KCTB														
KCSB														

We Bring Air to Life

Fläkt Woods is a global leader in air management. We specialise in the design and manufacture of a wide range of air climate and air movement solutions. And our collective experience is unrivalled.

Our constant aim is to provide systems that precisely deliver required function and performance, as well as maximise energy efficiency.

Solutions for all your air climate and air movement needs

Fläkt Woods is providing solutions for ventilation and air climate for buildings as well as fan solutions for Industry and Infrastructure.

● Air Handling Units (AHUs)

Modular, compact and small AHU units. Designed to ensure optimisation of indoor air quality, operational performance and service life.

● Air Terminal Devices and Ducts

Supply and exhaust diffusers and valves for installation on walls, ceiling or floor are all included in our large range and fit all types of applications.

● Chilled Beams

Active induction beams for ventilation, cooling and heating, and passive convection beams for cooling. For suspended or flush-mounted ceiling installation – and multi-service configuration. With unique Comfort Control and Flow Pattern Control features.

● Residential ventilation

A complete range of products for residential ventilation. Consists of ventilation units, exhaust air fans and cooker hoods designed to optimise indoor comfort and save energy.

● Fans

Advanced axial, centrifugal and boxed fans for general and specialist applications. Comprehensive range including high temperature and ATEX compliant options. Engineered for energy efficiency and minimised life cycle cost.

● Chillers

Air-cooled and water-cooled chillers with cooling capacity up to 1800kW. Designed to minimise annual energy consumption in all types of buildings.

● Controls and drives

Variable speed drives and control systems, all tested to ensure total compatibility with our products. Specialist team can advise on energy saving and overall system integration.

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