McQuay® Air Conditioning

APPLIED SYSTEM

Air to water heat pumps

Air cooled chillers

Water cooled chillers

Air handling units

Fan coils

GENERAL CATALOGUE 2012

A GLOBAL LEADER IN SYSTEM SOLUTIONS FOR AIR CONDITIONING, HEATING, VENTILATING AND REFRIGERATION

Engineered for flexibility and performance™

Symbols

Function

- Cooling
- Free Cooling
- Heating
- Cooling / Heating
- 2 Pipe System
- 4 Pipe System

Compressor

- Rotary Compressor
- Scroll Compressor
- Single Screw Compressor
- Centrifugal Compressor
- Oil Free Centrifugal Compressor
- Inverter Technology

Fan

- Axial Fan

Refrigerant / Fluid

- R-134a Refrigerant
- R-407C Refrigerant
- R-410A Refrigerant
- Water

Exchanger (Evaporator)

- Plate Heat Exchanger
- Shell & Tube Heat Exchanger
- Flooded Heat Exchanger

Installation

- Wall
- Floor / Ceiling Installation
- Ceiling Concealed Installation
- Ducted Installation
- Floor Standing Installation
- Indoor Installation
- Outdoor Installation

A GLOBAL LEADER IN SYSTEM SOLUTIONS FOR AIR CONDITIONING, HEATING, VENTILATING AND REFRIGERATION

APPLIED SYSTEM

ENGINEERED FOR FLEXIBILITY AND PERFORMANCE

McQuay International is a global leader in system solutions for air conditioning, heating, ventilating and refrigeration.

Our engineered flexibility allows us meet our customers' expectations for quality, reliability, low installation, operating and maintenance costs, high energy efficiency, quite operation and comfort.

A HISTORY OF LEADERSHIP

Combining the best ideas in technology and industry leading innovations has allowed us to provide systems and solutions that continue to meet the changing requirements of our customers.

McQuay companies and brands date back to 1785 when J&E Hall began doing business in the United Kingdom. In the United States, we pioneered the manufacture of the steam engine in 1872 and built our first radiator in 1933. The strengths of well-known companies such as Remington, Singer, Herman Nelson Company, American Air Filter and Westinghouse have kept McQuay at the forefront of changes in the air conditioning, heating, ventilating and refrigeration industry, leading the industry in environmental and system solutions.

As part of OYL Industries and Daikin Industries, McQuay companies are the second largest air conditioning, heating, ventilating and refrigeration company in the world.

As a world class company, Daikin's group philosophy is to listen to the wants and needs of our customers, protect the global environment and maximize the ability of each and every employee. Combining advanced technologies and R&D capabilities, we are creating innovative products, systems and services that benefit the industry and the lives of our customers.

LEADING THE WAY WITH INNOVATIVE SOLUTIONS

McQuay has always been at the forefront of creating new technology to meet the changing requirements of our customers.

McQuay's products and system solutions are as diverse as our customers' requirements for quiet operation, improved indoor air quality, energy efficiency, lower installation, operating and maintenance costs and reliability.

We design and manufacture McQuay products to create a comfortable environment in every climate.

COMMITMENT TO THE ENVIRONMENT

McQuay has led the way in providing high-performance, cost-effective solutions that preserve and protect our natural environment in addition to providing maximum comfort.

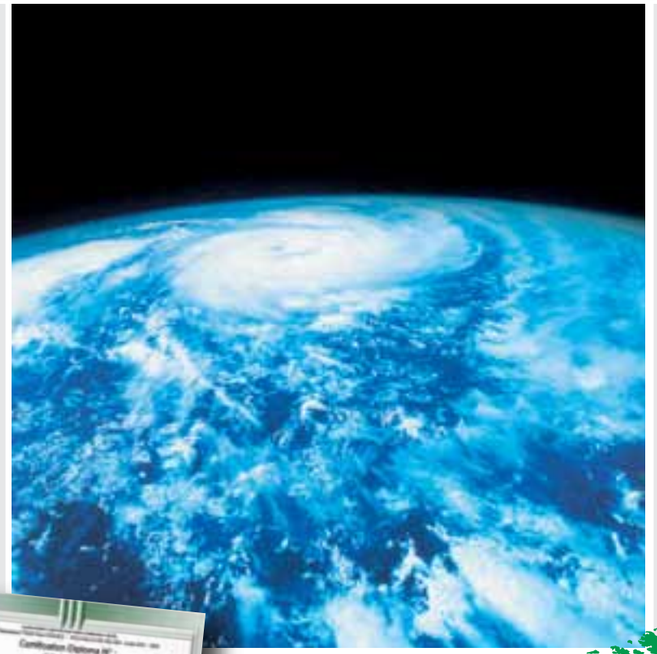
It starts with efficiency. Our products make the most of our planet's precious resources using advancements that minimize energy consumption. McQuay has also led the way in using non-ozone depleting refrigerants and developing quiet operating equipment.

QUALITY ASSURANCE

ISO 9001 and 14001 are international references for quality management certification. Conformity of products and services provides assurance about their quality, safety and reliability.

EUROVENT certifies that equipments perform as intended. Annual tests are carried out in an indipendent laboratory on randomly chosen production units.
The certification is granted only if the performance matches the submitted data.

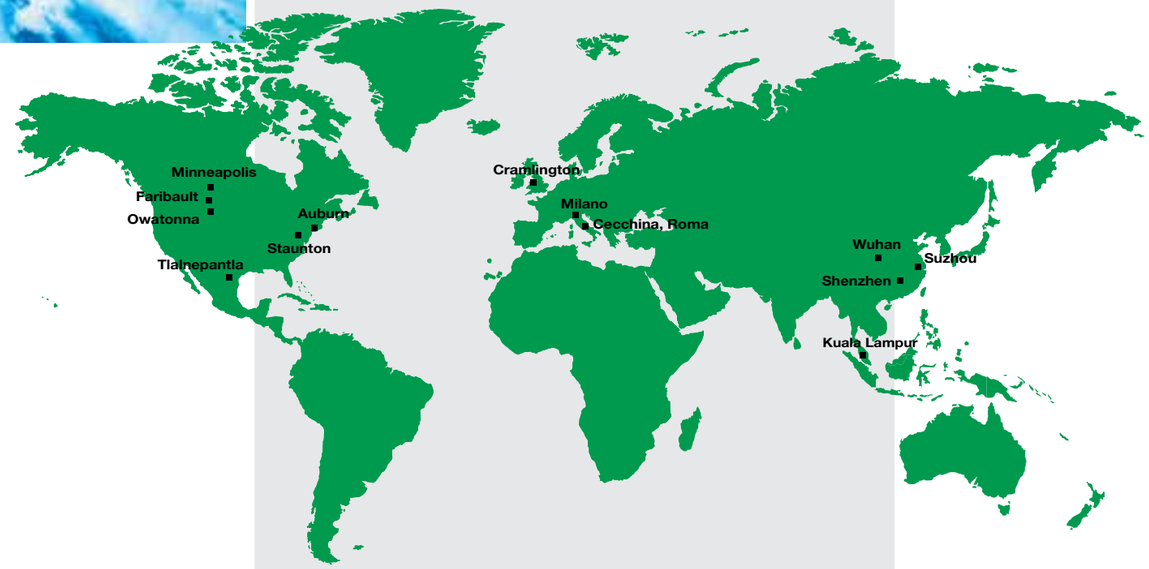
CE conformity guarantees that systems comply to safety requirements according to European Standards.



GLOBAL PRESENCE LOCAL SUPPORT

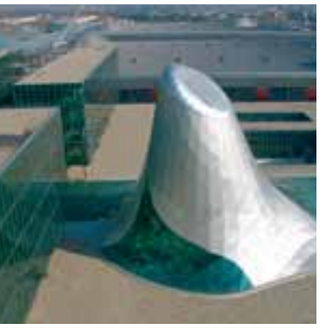
McQuay is uniquely positioned to make sure our products and services are always within our customers' reach.
Offices on six continents in more than 75 countries are augmented by thousands of local sales and after-sale service and parts organizations, alliances and joint ventures with some of the largest companies in the industry to support our products.

McQuay has the capacity to fulfill manufacturing commitments around the world.
Our thirteen manufacturing plants with more than 200,000 square meters (6 million square feet) of manufacturing space bring together the most innovative manufacturing practices on three continents.



■ Production Facilities

SOME PRESTIGIOUS INSTALLATION



Melbourne Queen Vistoria Village - Australia
Macarthur SQ Shopping Center - Australia
University of Technology, Sydney - Australia
Airport Garden - Belgium
GlaxosmithKlnine - Belgium
Volvo Gent - Belgium
Janssen Pharmaceutica - Belgium
Tobbaco Factory Sarajevo - Bosnia and Herzegovina
Pliva New Research Institute - Croatia
Aventis Hattersheim - Germany
Main Tower Frankfurt - Germany
Deutsche Bank Frankfurt - Germany
Phoenix Center Hamburg - Germany
Kaufhof München - Germany
Kaufhof Frankfurt - Germany
Michelin Bad Kreuznach - Germany
Organisation of Pireaus Port - Greece
Olympia Riviera Resort - Greece
Athens Imperial Hotel - Greece
Athens Airport El. Venizelos - Greece
CARS Larisa - Greece
Airport of Heraclio, Creta Island - Greece
T. S. T. & Empire Centre - Hong Kong
China Ferry Terminal - Hong Kong
MTRC Stations - Hong Kong
Hong Kong Central Library - Hong Kong
FOXCONN Mobile Telephone Parts Manufacturing Co. - Hungary
Hotel Intercontinental - Hungary
Four Seasons Gresham Palace Budapest - Hungary
Radicifilm Tiszaújváros - Hungary
Procter&Gamble Csömör - Hungary
Natsteel - Solectron Manufacturing Co. - Hungary
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Rokadovskaja mineral water bottlers - Russia
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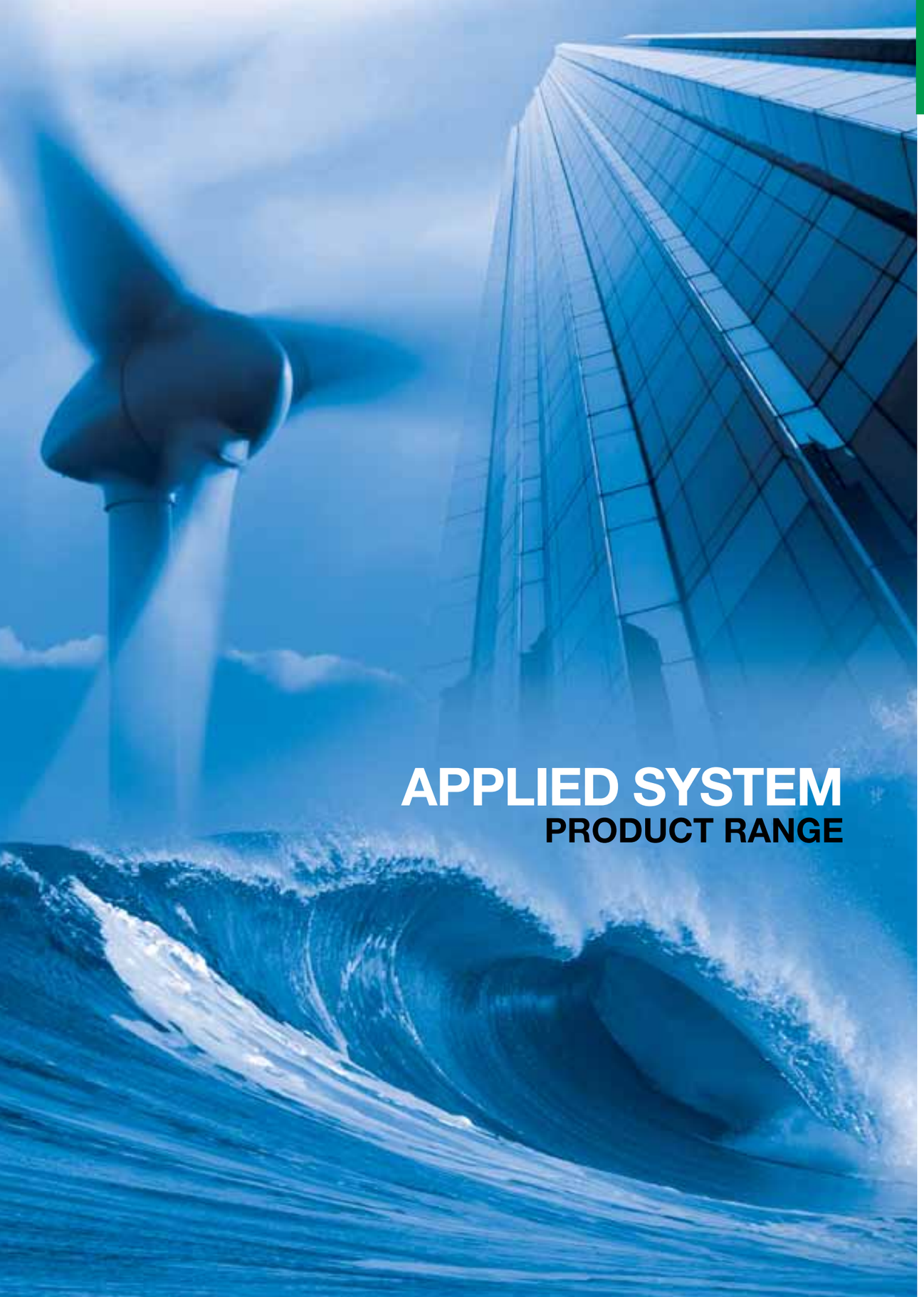
HIT Casino Perla, Nova Gorica - Slovenia
CASA AIRBUS - Spain
Hospital de Valdecilla - Spain
Bilbao Exhibition Centre - Spain
Central Nuclear Asco - Spain
El Corte Inglés Sanchinarro - Spain
Induyco - Spain
Filature Mahdia - Tunisie
Lares Hotel - Turkey
Konya Hilton Hotel - Turkey
Ford Otosan - Turkey
Anadolu Health Center - Turkey
Burg Al Arab Dubai - U.A.E.
Emirates Tower Dubai - U.A.E.
Pfizer, Kent - United Kingdom
Ministry of Defence, London - United Kingdom
IBM (UK), Warwick - United Kingdom
TAG McLaren F1, Woking - United Kingdom
Belgrade Arena - Yugoslavia



APPLIED SYSTEM
PRODUCT RANGE

INDEX

AIR TO WATER HEAT PUMPS

0 40 80 120 160 200 240 280 320 360 400 440 480 520 560 600 640 kW

AIR COOLED CHILLERS

0 200 400 600 800 1000 1200 1400 1600 1800 2000 2200 2400 kW

WATER COOLED CHILLERS

0 200 400 600 800 1000 1200 1400 1600 1800 2000 2200 2400 kW

AIR HANDLING UNITS

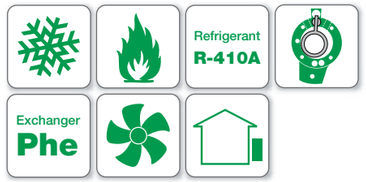
0 10.000 20.000 30.000 40.000 50.000 60.000 70.000 80.000 90.000 100.000 110.000 120.000 m^3/h

FAN COILS

0 10 20 30 40 50 60 70 80 90 100 110 120 kW

AIR TO WATER HEAT PUMPS

Cooling capacity: 4,61 kW ÷ 13,2 kW
Heating capacity: 6,30 kW ÷ 16,1 kW



GENERAL CHARACTERISTICS

- **Compressors**
  - M5AC models are using R410A rotary compressors in tandem configuration
  - Tandem compressors are highly efficient and cost saving. It reduces mechanical losses; minimize gas flow losses and turbulence
  - There are 3 steps capacity loading (0-40-60-100%) for M5AC040/050CR and 2 steps capacity loading (0-50-100%) for M5AC030/055CR
- **Evaporator**
  The heat exchanger is made of stainless steel plates closely arranged and brazed together (BPHE) to ensure high heat exchange efficiency
- **Refrigerant**
  R410A
- Finned coils with copper tubes mechanically expanded in aluminium fins
- Axial fans
- Panels and frame made of electro-galvanized steel polyester powder painted

STANDARD OPTIONS

- **Safety Protection**
  The safety protections provided for the chiller are:
  - High and low pressure switches
  - Differential water flow switch
  - Compressor, water pump and fan motor overload protectors
  - Anti-freeze protection sensor

  During abnormal condition, chiller panel controller will turn off the unit and then display the faults of operation
- **Antifreeze Protection**
  The chiller unit has several anti-freeze protection features:
  - Brazed plate heat exchanger anti-freeze.
    The BPHE has a strip heater around it to prevent water freezing inside
  - Auto mode
    The chiller controller will force on the unit to the heat mode if the outdoor ambient air temperature becomes too cold
- LCD display for local or remote installation

OPTIONS ON REQUEST

- LAK-M5AC fan speed controller
- Smart Manager
- Additional LCD display

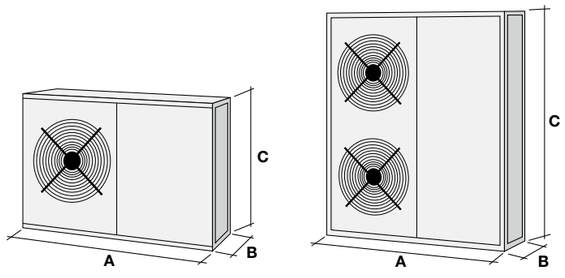
Minichiller R-410A - Heat Pump
AIR TO WATER HEAT PUMP WITH ROTARY COMPRESSORS

TECHNICAL DATA Minichiller R-410A - heat pump

M5AC		020CR	025CR	030CR	040CR	050CR	055CR
Cooling Capacity[1]	kW	4,61	5,69	7,27	10,0	12,2	13,2
Unit Power Input[1]	kW	2,62	2,83	3,83	5,00	5,31	5,49
EER	--	1,76	2,01	1,90	2,00	2,30	2,40
Heating Capacity[2]	kW	6,30	7,33	9,53	12,6	14,1	16,1
Unit Power Input[2]	kW	2,59	2,79	3,63	4,65	5,15	5,44
COP	--	2,43	2,63	2,62	2,71	2,74	2,02
Sound Pressure Level[3]	dB(A)	58	59	57	59	59	61
Compressor	Type	Rotary		Tandem Rotary			
Quantity	Nr	1	1	2	2	2	2
Minimum Capacity	%	-	-	50	40	40	50
Refrigerant	Type	R-410A					
Circuits Number	Nr	1	1	1	1	1	1
Condenser Coil	Type	Lanced Fins - Internally Spiral Wound Tubes					
Fan		Axial					
Quantity	Nr	1	1	1	2	2	2
Power Input	kW	0,14	0,14	0,14	0,14	0,14	0,14
Diameter	mm	457	457	457	457	457	457
Evaporator	Type	Plate					
Hydraulic section							
Pump type		High Head Circulator			Horizontal Multistage End-Suction		
Water Connections Size	--	1”	1”	1”	1”	1”	1”
Standard Voltage	V/ph/Hz	220-240V / 1Ph / 50Hz			380-415V / 3Ph / 50Hz		

NOTES:
(1) 12/7°C entering/leaving evaporator water temperature; 35°C ambient temperature
(2) 40/45°C entering/leaving condenser water temperature; 7°C ambient temperature, 90% R.H.
(3) At 1m, according to ISO 3744, at free field semispherical conditions

Weight and dimensions		020CR	025CR	030CR	040CR	050CR	055CR
Shipping weight	kg	128	128	128	195	195	195
(A) Length	mm	1160	1160	1059	1059	1059	1059
(B) Width	mm	460	460	460	460	460	460
(C) Height	mm	791	791	791	1409	1409	1409



McQuay Air Conditioning

Cooling capacity: 20,5 kW ÷ 58,6 kW
Heating capacity: 22,0 kW ÷ 61,5 kW

GENERAL CHARACTERISTICS

- **True Dual Circuits BPHE**
  The true dual BPHE puts the secondary circuit (water) in contact with 2 primary circuits (refrigerant). So even if one primary circuit is shut off, each secondary channel is still in contact with a primary channel
- **Inverter Compressor**
  Inverter compressor is programmed to run at the optimum speed, which is regulated by the input frequency as it can vary according to the heat load requirement
  Inverter advantages:
  - Less start & stop
  - Fast cooling/heating
  - Smart loading/unloading
  - Better compressor reliability, lesser on/off of the system
- **Elimination of Water Tank**
  Inverter system provides constant water temperature band, or much lesser water temperature fluctuation

STANDARD OPTIONS

- **Safety Protection**
  - High & low pressure switches
  - Anti-freeze protection sensor
  - Discharge temperature sensor
  - Over pressure relief valve
  - Water pressure differential switch
  - Anti-freeze heater on BPHE
  - Compressor, water pump overload protector
- **Anti Corrosion Heat Exchanger**
  Gold aluminium fin is offered as standard material of the condenser heat exchanger of this series of chiller
- **Modular Installation**
  A network up to 50chillers in a system is possible. Control on the operation of the chillers will be done through the microprocessor controller. The external water piping connection can be made either from the left or right side of the unit

OPTIONS ON REQUEST

- Smart Manager
- Additional LCD display

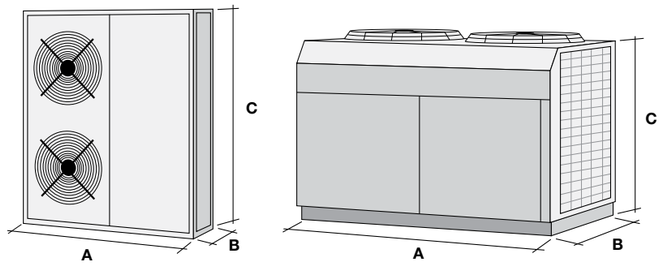
Minichiller Inverter R-410A - Heat Pump
AIR TO WATER HEAT PUMP WITH INVERTER DRIVEN SCROLL COMPRESSORS

TECHNICAL DATA Minichiller Inverter R-410A - heat pump

M5ACV		075CR	100CR	135CR	210CR
Cooling Capacity[1]	kW	20,5	27,8	38,5	58,6
Unit Power Input[1]	kW	9,05	12,0	15,8	22,3
EER	--	2,27	2,32	2,44	2,63
Heating Capacity[2]	kW	22,0	29,3	41,5	61,5
Unit Power Input[2]	kW	7,90	11,4	16,3	21,8
COP	--	2,78	2,57	2,55	2,82
Sound Pressure Level[3]	dB(A)	65	63	67	67
Compressor	Type	AC Inverter Scroll			
Quantity	Nr	1	1+1 scroll	1+1 scroll	1+2 scroll
Minimum Capacity	%	50	50	50	20
Refrigerant	Type	R-410A			
Circuits Number	Nr	1	1	1	1
Condenser Coil	Type	Lanced Fins - Internally Spiral Wound Tubes			
Fan		Axial			
Quantity	Nr	2	2	2	2
Power Input	kW	0,30	0,50	1,43	0,85
Diameter	mm	610	600	660	812
Evaporator	Type	Plate			
Hydraulic section					
Pump type		Horizontal Multistage End-Suction			
Water Connections Size	--	1"	1 1/4"	1 1/4"	1 1/4"
Standard Voltage	V/ph/Hz	380-415V / 3Ph / 50Hz			

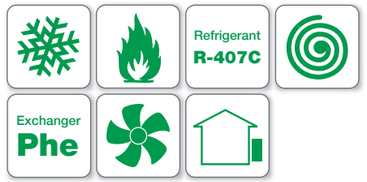
NOTES:
(1) 12/7°C entering/leaving evaporator water temperature; 35°C ambient temperature
(2) 40/45°C entering/leaving condenser water temperature; 7°C ambient temperature, 90% R.H.
(3) At 1m, according to ISO 3744, at free field semispherical conditions

Weight and dimensions		075CR	100CR	135CR	210CR
Shipping weight	kg	200	405	525	682
(A) Length	mm	1150	1500	1800	2093
(B) Width	mm	550	900	1150	1192
(C) Height	mm	1460	1245	1245	1786



McQuay Air Conditioning

Cooling capacity: 21,7 kW ÷ 38,1 kW
Heating capacity: 26,4 kW ÷ 42,2 kW



GENERAL CHARACTERISTICS

- **Refrigerant Circuit**
  Models M4AC080~150CR has been designed with two separate refrigerant circuits. By doing so, the unit has part loading capabilities. This will improve the reliability and energy efficiency of the unit, especially during low loading operations. The expansion process is done with capillary tubes
- **Scroll Compressor**
  Scroll Compressors are used to give quiet and reliable performance over a wide operating temperature range
- **Condenser Fan Motor**
  High air flow propeller fan blades which are made of metal. The fans are driven vertically by weather proof motors which are single phase type
- **Evaporator**
  The heat exchanger is made of stainless steel plates closely arranged and brazed together (BPHE) to ensure high heat exchange efficiency

STANDARD OPTIONS

- **Safety Protection**
  - High and low pressure switches
  - Differential water flow switch
  - Compressor, water pump and fan motor overload protectors
  - Anti-freeze protection sensor
    During abnormal condition, chiller panel controller will turn off the unit and then display the faults of operation
- **Expansion Tank**
  The unit does come with an 8 liters expansion tank
- **Antifreeze Protection**
  - Brazed plate heat exchanger anti-freeze
    The BPHE has a strip heater around it to prevent water freezing inside
  - Auto mode
    The chiller controller will force on the unit to the heat mode if the outdoor ambient air temperature becomes too cold

OPTIONS ON REQUEST

- LAK-M4AC fan speed controller (2 sets for models 080/100/120/150)
- WTACC-135L-002 Buffer Tank - 135litres, separated module (models 080/100/120/150)
- Smart Manager
- Additional LCD display

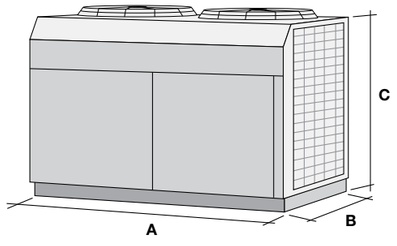
Minichiller R-407C - Heat Pump
AIR TO WATER HEAT PUMP WITH SCROLL COMPRESSORS

TECHNICAL DATA Minichiller R-407C - heat pump

M4AC		080CR	100CR	120CR	150CR
Cooling Capacity[1]	kW	21,7	25,8	32,2	38,1
Unit Power Input[1]	kW	9,95	11,0	12,3	15,1
EER	--	2,18	2,35	2,62	2,52
Heating Capacity[2]	kW	26,4	28,7	34,6	42,2
Unit Power Input[2]	kW	9,98	11,1	12,4	15,8
COP	--	2,65	2,59	2,79	2,67
Sound Pressure Level[3]	dB(A)	65	66	67	69
Compressor	Type	Scroll			
Quantity	Nr	2	2	2	2
Minimum Capacity	%	50	50	50	50
Refrigerant	Type	R407C			
Circuits Number	Nr	2	2	2	2
Condenser Coil	Type	Lanced Fins - Internally Spiral Would Tubes			
Fan					
Quantity	Nr	2	2	2	2
Power Input	kW	0,57	0,57	0,57	0,57
Diameter	mm	610	610	610	610
Evaporator	Type	Plate			
Hydraulic section					
Pump type		Horizotal Multistage End-Suction			
Water Connections Size	--	1 1/4”	1 1/4”	1 1/4”	1 1/4”
Standard Voltage	V/ph/Hz	380-415V / 3Ph / 50Hz			

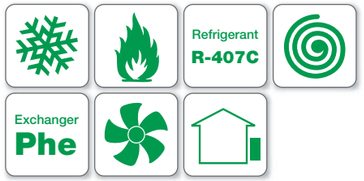
NOTES:
(1) 12/7°C entering/leaving evaporator water temperature; 35°C ambient temperature
(2) 40/45°C entering/leaving condenser water temperature; 7°C ambient temperature, 90% R.H.
(3) At 1m, according to ISO 3744, at free field semispherical conditions

Weight and dimensions		080CR	100CR	120CR	150CR
Shipping weight	kg	350	360	480	560
(A) Length	mm	1500	1500	1800	1800
(B) Width	mm	900	900	1150	1150
(C) Height	mm	1245	1245	1245	1245



McQuay Air Conditioning

Cooling capacity: 47,1 kW ÷ 145 kW
Heating capacity: 55,1 kW ÷ 158 kW



GENERAL CHARACTERISTICS

- Scroll Compressor
- Evaporator made of brazed stainless steel plates, with double circuit; electrical heater to prevent freezing; insulation made of closed cells material; threaded water connections
- R407C refrigerant
- Finned coils with copper tubes mechanically expanded in aluminium fins
- Axial fans
- Panels and frame made of electro-galvanized steel polyester powder painted
- Control by microprocessor compatible with Smart manager system to manage McQuay hydronic systems

STANDARD OPTIONS

- Phase monitor
- Fan thermal overload relays
- Compressor thermal overload relays
- Condenser coil guards
- Compressor guards
- Water differential pressure switch
- High and low pressure manometers
- Anti vibration-mounts

OPTIONS ON REQUEST

- Low ambient temperature kit
- 2 pumps hydronic kit
- Inertial tank

McSmart
AIR TO WATER HEAT PUMP WITH SCROLL COMPRESSORS

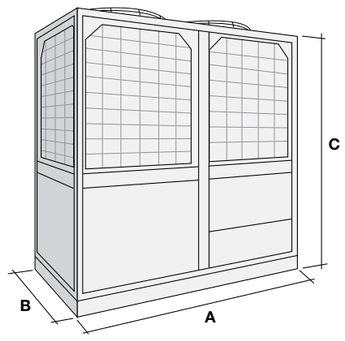
TECHNICAL DATA McSmart - heat pump

McSmart		160CR	190CR	210CR	240CR	320CR	400CR	500CR
Cooling Capacity[1]	kW	47,1	52,9	63,6	75,6	96,0	113	145
Unit power input[1]	kW	18,3	20,1	23,4	27,1	35,5	41,0	50,7
EER	--	2,57	2,63	2,72	2,79	2,70	2,75	2,85
ESEER	--	3,51	3,61	3,76	3,90	3,59	3,66	3,97
Heating Capacity[2]	kW	55,1	57,1	67,2	81,8	110	118	158
Unit power input[2]	kW	19,5	20,7	26,6	28,5	38,1	45,4	57,3
COP	--	2,83	2,76	2,53	2,87	2,90	2,60	2,75
Sound Pressure[3]	--	65,8	67,0	67,2	66,9	71,0	71,0	72,0
Compressor	Type	Semi-hermetic single screw compressor						
Quantity	No.	2	2	2	2	4	4	4
Minimum capacity	%	50	50	50	50	25	25	25
Refrigerant	Type	R-407C	R-407C	R-407C	R-407C	R-407C	R-407C	R-407C
N. of circuits	No.	2	2	1	1	2	2	2
Air heat exchanger	Type	High efficiency fin and tube type with integral subcooler						
Fan	Type	Direct propell						
Quantity	No.	2	2	2	2	2	4	4
Motor input	kW	0,72	0,72	0,72	0,72	1,9	0,72	0,72
Speed	rpm	715	715	715	715	715	715	715
Diameter	mm	710	710	800	800	800	800	800
Water heat exchanger	Type	Plate						
Water volume	l	8,0	9,5	10,0	12,8	12,3	18,0	25,5
Nominal Water pressure drop	kPa	31	23	30	31	44	48	75
Piping connections	"	Rc 1 1/2	Rc 1 1/2	Rc 1 1/2	Rc 1 1/2	Rc 2	Rc 2	Rc 2
Standard voltage	V/ph/Hz	400V / 3ph / 50Hz						

NOTES:
(1) 12/7°C evaporator water temperature; 35°C ambient temperature
(2) 40/45°C condenser water temperature; 7°C DB ambient temperature
(3) At 1 m, according to ISO 3744, at free field semispherical conditions

Weight and dimensions		160CR	190CR	210CR	240CR	320CR	400CR	500CR
Shipping weight	kg	650 (674)	676 (676)	885 (920)	928 (963)	1206 (1241)	1583 (1620)	1988 (2154)
Operating weight	kg	663 (687)	691 (715)	906 (941)	964 (999)	1226 (1261)	1611 (1648)	2024 (2190)
(A) Length	mm	1820	1820	2056	2056	2750	2750	2750
(B) Width	mm	1000	1000	1153	1153	1100	2200	2200
(C) Height	mm	1935	1985	2185	2185	2180	2180	2180

( ) units with pumps hydronic kit



Cooling capacity: 254 kW ÷ 583 kW
Heating capacity: 270 kW ÷ 615 kW

GENERAL CHARACTERISTICS

- Stepless capacity control
- Independent circuit for each compressor
- Inverter driven Frame 3100 single-screw compressors
- Direct expansion evaporator (shell and tubes); electrical heater to prevent freezing; insulation made of closed cells material; victaulic water connections
- R134a refrigerant
- Condensed coils with copper tubes mechanically expanded in aluminium fins; sub-cooler circuits
- Axial fans
- Micro Tech II C plus controller compatible with BMS
- Cabinet and structure made of galvanized steel sheet and painted to provide high resistance to corrosion; colour Ivory White (Munsell code 5Y7.5/1) (±RAL7044)

VERSIONS

EFFICIENCY

SE Standard efficiency — **EER up to 2,87**, **ESEER up to 4,31**, **COP up to 3,04**

SOUND LEVELS

ST Standard sound — (1)(2)**75,9 ÷ 85,6 dB(A)** (Cooling-Heating)

LN Low sound — (1) **72,3 ÷ 77,8 dB(A)**, (2) **73,5 ÷ 78,6 dB(A)**

(1) Cooling mode
(2) Heating mode

STANDARD OPTIONS

- Double set-point
- Fans thermal relays
- Phase monitor
- Inverter compressor starter
- Evaporator victaulic kit
- Evaporator electric heater
- Electronic expansion device
- Discharge line shut off valve
- Suction line shut off valve
- Hour run meter
- General fault contactor

OPTIONS ON REQUEST

- Partial heat recovery
- Brine version
- Under/Overvoltage control
- Current limit display
- 20 mm evaporator insulation
- Fan speed regulation (+ Fan silent mode)
- Condenser coil guards
- Cu-Cu/Cu-Cu-Sn condenser coils
- Alucoat fins coils
- Evaporator flow switch
- High/Low pressure side manometers
- Rubber/Spring type anti vibration mounts
- Water circulation pump (low or high lifting)
- Two water circulation pumps (low or high lifting)
- Set-point reset, demand limit and alarm from external device
- Double pressure relief valve with diverter

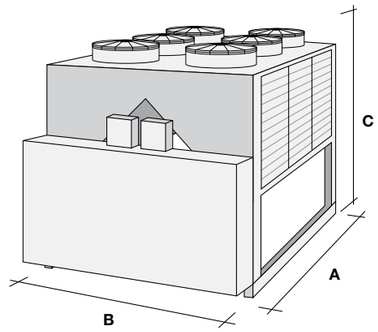
McEnergy HPI “Extension”
AIR TO WATER HEAT PUMP WITH INVERTER DRIVEN SCREW COMPRESSORS

TECHNICAL DATA McEnergy HPI “Extension” SE ST - heat pump

McEnergy HPI “Extension” SE ST		072.2	079.2	083.2	093.2	096.2	103.2	109.2	117.2	124.2	130.3	144.3	153.3	167.3
Cooling Capacity[1]	kW	254	273	292	324	339	365	382	413	436	457	505	522	583
Unit power input[1]	kW	90,3	100	109	116	124	134	142	152	163	161	178	186	215
EER	--	2,81	2,74	2,69	2,79	2,74	2,73	2,68	2,72	2,68	2,83	2,83	2,81	2,71
ESEER	--	4,05	4,04	4,01	4,07	4,01	4,02	3,94	4,03	4,01	4,31	4,13	4,13	4,05
Heating Capacity[2]	kW	270	297	324	333	349	379	410	443	463	475	530	558	615
Unit power input[2]	kW	90,4	99,3	107	117	124	132	141	155	165	164	176	184	205
COP		2,98	2,99	3,03	2,84	2,80	2,87	2,90	2,85	2,81	2,90	3,02	3,04	3,00
Sound Pressure[3]														
Cooling	dB(A)	82,1	82,1	82,1	82,3	82,3	82,3	82,3	82,5	82,5	83,7	83,7	83,7	83,7
Heating	dB(A)	82,1	82,1	82,3	82,3	82,3	82,3	82,5	82,5	83,7	83,7	83,7	83,7	83,7
Compressor	Type	Semi-hermetic single screw compressor												
Quantity	No.	2	2	2	2	2	2	2	2	2	3	3	3	3
Minimum capacity	%	13	13	3	13	13	13	13	13	13	9	9	9	9
Refrigerant	Type	R-134a	R-134a	R-134a	R-134a	R-134a	R-134a	R-134a	R-134a	R-134a	R-134a	R-134a	R-134a	R-134a
N. of circuits	No.	2	2	2	2	2	2	2	2	2	3	3	3	3
Air heat exchanger	Type	High efficiency fin and tube type with integral subcooler												
Fan	Type	Direct propeller												
Quantity	No.	6	6	6	8	8	8	8	10	10	12	12	12	12
Motor input	kW	1,75	1,75	1,75	1,75	1,75	1,75	1,75	1,75	1,75	1,75	1,75	1,75	1,75
Speed	rpm	920	920	920	920	920	920	920	920	920	920	920	920	920
Diameter	mm	800	800	800	800	800	800	800	800	800	800	800	800	800
Water heat exchanger	Type	Single pass Shell & Tube												
Water volume	l	138	138	138	133	133	128	128	128	128	240	229	229	218
Nominal Water pressure drop														
Cooling	kPa	37	42	48	53	58	53	57	46	51	61	50	53	65
Heating	kPa	42	49	58	55	60	57	65	52	57	66	55	60	71
Piping connections	"	5,5	5,5	5,5	5,5	5,5	5,5	5,5	5,5	5,5	8,6	8,6	8,6	8,6
Standard voltage	V/ph/Hz	400V / 3ph / 50Hz												

NOTES:
(1) 12/7°C evaporator water temperature; 35°C ambient temperature
(2) 40/45°C condenser water temperature; 7°C DB ambient temperature
(3) At 1m, according to ISO 3744, at free field semispherical conditions

Weight and dimensions		072.2	079.2	083.2	093.2	096.2	103.2	109.2	117.2	124.2	130.3	144.3	153.3	167.3
Shipping weight	kg	3410	3455	3500	3870	3870	3940	4010	4390	4390	5015	5495	5735	5735
Operating weight	kg	3550	3595	3640	4010	4010	4068	4138	4518	4518	5255	5724	5964	5953
(A) Length	mm	3547	3547	3547	4381	4381	4381	4381	5281	5281	6583	6583	6583	6583
(B) Width	mm	2254	2254	2254	2254	2254	2254	2254	2254	2254	2254	2254	2254	2254
(C) Height	mm	2335	2335	2335	2224	2224	2224	2224	2224	2224	2335	2335	2335	2280



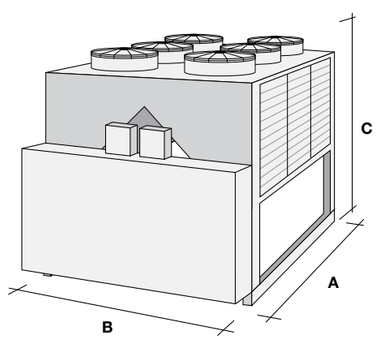
McQuay Air Conditioning

TECHNICAL DATA McEnergy HPI “Extension” SE LN - heat pump

McEnergy HPI “Extension” SE ST		072.2	079.2	083.2	093.2	096.2	103.2	109.2	117.2	124.2	130.3	144.3	153.3	167.3
Cooling Capacity[1]	kW	248	266	291	316	331	355	372	403	425	448	510	510	567
Unit power input[1]	kW	88,5	98	109	113	122	132	142	149	161	156	183	183	214
EER	--	2,80	2,70	2,66	2,79	2,72	2,68	2,62	2,71	2,64	2,87	2,79	2,79	2,65
ESEER	--	4,18	4,16	4,11	4,29	4,18	4,16	4,13	4,19	4,14	4,31	4,23	4,23	4,10
Heating Capacity[2]	kW	270	297	324	333	349	379	410	443	463	475	558	558	615
Unit power input[2]	kW	90,4	99,3	107	117	124	132	141	155	165	164	184	184	205
COP		2,98	2,99	3,03	2,84	2,80	2,87	2,90	2,85	2,81	2,90	3,04	3,04	3,00
Sound Pressure[3]														
Cooling	dB(A)	75,6	75,6	75,6	75,8	75,8	75,8	75,8	76,0	76,0	77,2	77,2	77,2	77,2
Heating	dB(A)	76,5	76,5	76,5	77,2	77,2	77,2	77,2	77,4	77,4	78,6	78,6	78,6	78,6
Compressor	Type	Semi-hermetic single screw compressor												
Quantity	No.	2	2	2	2	2	2	2	2	2	3	3	3	3
Minimum capacity	%	13	13	13	13	13	13	13	13	13	9	9	9	9
Refrigerant	Type	R-134a	R-134a	R-134a	R-134a	R-134a	R-134a	R-134a	R-134a	R-134a	R-134a	R134-a	R-134a	R-134a
N. of circuits	No.	2	2	2	2	2	2	2	2	2	3	3	3	3
Air heat exchanger	Type	High efficiency fin and tube type with integral subcooler												
Fan	Type	Direct propeller												
Quantity	No.	6	6	6	8	8	8	8	10	10	12	12	12	12
Motor input - Cooling (Heating)	kW	0.78 (1.75)												
Speed - Cooling (Heating)	rpm	715 (920)												
Diameter	mm	800												
Water heat exchanger	Type	Single pass Shell & Tube												
Water volume	l	138	138	138	133	133	128	128	128	128	240	229	229	218
Nominal Water pressure drop														
Cooling	kPa	36	40	48	51	55	50	55	44	48	59	48	51	62
Heating	kPa	42	49	58	55	60	57	65	52	57	66	55	60	71
Piping connections	"	5,5	5,5	5,5	5,5	5,5	5,5	5,5	5,5	5,5	8,6	8,6	8,6	8,6
Standard voltage	V/ph/Hz	400V / 3ph / 50Hz												

NOTES:
(1) 12/7°C evaporator water temperature; 35°C ambient temperature
(2) 40/45°C condenser water temperature; 7°C DB ambient temperature
(3) At 1m, according to ISO 3744, at free field semispherical conditions

Weight and dimensions		072.2	079.2	083.2	093.2	096.2	103.2	109.2	117.2	124.2	130.3	144.3	153.3	167.3
Shipping weight	kg	3750	3795	3840	4210	4210	4280	4350	4730	4730	5525	6005	6245	6245
Operating weight	kg	3888	3933	3978	4343	4343	4408	4478	4858	4858	5765	6234	6474	6463
(A) Length	mm	3547	3547	3547	4428	4428	4428	4428	5329	5329	6659	6659	6659	6659
(B) Width	mm	2254	2254	2254	2254	2254	2254	2254	2254	2254	2254	2254	2254	2254
(C) Height	mm	2335	2335	2335	2224	2224	2224	2224	2224	2224	2280	2280	2280	2280

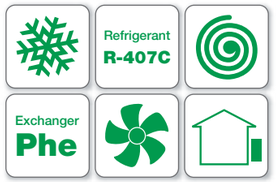


A GLOBAL LEADER IN SYSTEM SOLUTIONS FOR AIR CONDITIONING, HEATING, VENTILATING AND REFRIGERATION

McQuay Air Conditioning

AIR COOLED CHILLERS

Cooling capacity: 47,8 kW ÷ 155 kW



GENERAL CHARACTERISTICS

- Scroll Compressor
- Evaporator made of brazed stainless steel plates, with double circuit; electrical heater to prevent freezing; insulation made of closed cells material; threaded water connections
- R407C refrigerant
- Finned coils with copper tubes mechanically expanded in aluminium fins
- Axial fans
- Panels and frame made of electro-galvanized steel polyester powder painted
- Control by microprocessor compatible with Smart manager system to manage McQuay hydronic systems

STANDARD OPTIONS

- Phase monitor
- Fan thermal overload relays
- Compressor thermal overload relays
- Condenser coil guards
- Compressor guards
- Water differential pressure switch
- High and low pressure manometers
- Anti vibration-mounts

OPTIONS ON REQUEST

- Low ambient temperature kit
- 2 pumps hydronic kit

McSmart
AIR COOLED CHILLER WITH SCROLL COMPRESSORS

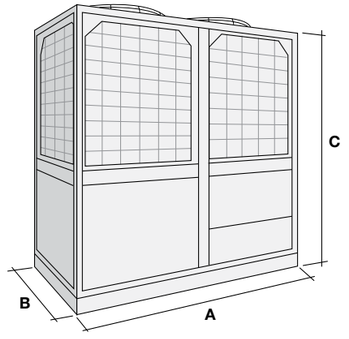
TECHNICAL DATA McSmart - cooling only

McSmart		160C	190C	210C	240C	320C	400C	500C
Cooling Capacity[1]	kW	47,8	57,9	70,5	81,2	98,0	124	155
Unit power input[1]	kW	18,4	21,1	24,2	28,6	37,5	42,4	52,3
EER	--	2,60	2,74	2,91	2,84	2,61	2,93	2,96
ESEER	--	3,55	3,77	4,04	3,97	3,48	4,03	4,12
Sound Pressure[2]	dB(A)	65,8	67,0	67,2	66,9	71,0	71,0	72,0
Compressor	Type	Semi-hermetic single screw compressor						
Quantity	No.	2	2	2	2	4	4	4
Minimum capacity	%	50	50	50	50	25	25	25
Refrigerant	Type	R-407C	R-407C	R-407C	R-407C	R-407C	R-407C	R-407C
N. of circuits	No.	2	2	1	1	2	2	2
Air heat exchanger	Type	High efficiency fin and tube type with integral subcooler						
Fan	Type	Direct propeller						
Quantity	No.	2	2	2	2	2	4	4
Motor input	kW	0,72	0,72	0,72	0,72	1,9	0,72	0,72
Speed	rpm	715	715	715	715	715	715	715
Diameter	mm	710	710	800	800	800	800	800
Water heat exchanger	Type	Plate						
Water volume	l	8,0	9,5	10,0	12,8	12,3	18,0	25,5
Nominal Water pressure drop	kPa	31	26	36	36	46	57	86
Piping connections	"	Rc 1 1/2	Rc 1 1/2	Rc 1 1/2	Rc 1 1/2	Rc 2	Rc 2	Rc 2
Standard voltage	V/ph/Hz	400V / 3ph / 50Hz						

NOTES:
(1) 12/7°C evaporator water temperature; 35°C ambient temperature
(2) At 1 m, according to ISO 3744, at free field semispherical conditions

Weight and dimensions		160C	190C	210C	240C	320C	400C	500C
Shipping weight	kg	637 (661)	651 (675)	843 (878)	906 (941)	1155 (1190)	1543 (1580)	1899 (2055)
Operating weight	kg	650 (674)	666 (690)	864 (899)	942 (977)	1175 (1210)	1571 (1607)	1935 (2092)
(A) Length	mm	1820	1820	2056	2056	2750	2750	2750
(B) Width	mm	1000	1000	1153	1153	1100	2200	2200
(C) Height	mm	1985	1985	2185	2185	2180	2180	2180

( ) units with pumps hydronic kit



Cooling capacity: 170 kW ÷ 675 kW

Refrigerant **R-410A**

Exchanger **Phe**

GENERAL CHARACTERISTICS

- Multi scroll compressors
- Direct expansion plate to plate type evaporator; electrical heater to prevent freezing insulation made of closed cells material
- R-410A refrigerant
- High efficiency fin and tube type with integral subcooler
- Direct propeller fans type
- Electronic expansion valve
- MicroTech III controller compatible with BMS
- Cabinet and structure made of galvanized steel sheet and painted to provide a high resistance to corrosion; colour Ivory White (Munsell code 5Y7.5/1) (±RAL7044)

VERSIONS

EFFICIENCY

SE Standard efficiency — **EER up to 2,85**, **(1)ESEER up to 4,26**

XE High efficiency — **EER up to 3,17**, **(1)ESEER up to 4,48**

(1) (Standard Sound)

SOUND LEVELS

ST Standard sound — **72,4 ÷ 79,5 dB(A)**

LN Low sound — **71,4 ÷ 76,1 dB(A)**

XN Extra low sound — **64,0 ÷ 72,1 dB(A)**

STANDARD OPTIONS

- Direct on line starter (DOL)
- Double setpoint
- Evaporator victaulic kit
- 20 mm evaporator insulation
- Evaporator electric heater
- Evaporator flow swicth
- Electronic expansion valve
- Ambient outside temperature sensor and set-point reset
- Hour run meter
- General fault contactor
- Main switch interlock

OPTIONS ON REQUEST

- Partial and total heat recovery
- Brine version
- Axial fans (250 Pa Lift)
- Condenser coil guards
- Evaporator area guards
- Cu-CU condenser coil
- Cu-CU-Sn condenser coil
- Alucoat fins coil
- Discharge line shutoff valve
- Suction line shutoff valve
- High/Low pressure side manometers
- One/Two centrifugal pump (high/low lift)
- Double pressure relief valve with diverter
- Compressor thermal overload relays
- Phase monitor
- Under/over voltage control
- Energy meter
- Capacitors for power factor correction
- Speedtrol (fan speed control device ON/OFF up to 18°C)
- Setpoint reset, demand limit and alarm from external device
- Compressors circuit brakers
- Fans circuit breakers
- Fans speed regulation (+ Fan silent mode)
- Soft starter

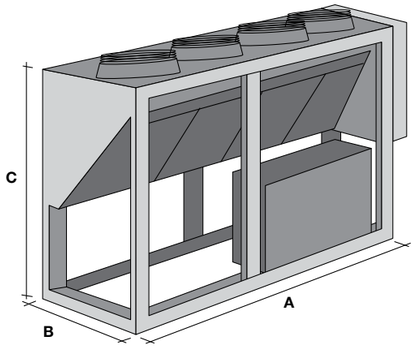
ACZC
AIR COOLED CHILLER WITH SCROLL COMPRESSORS

TECHNICAL DATA ACZC XE ST/LN Cooling only

ACZC (single)		051.1	057.1	065.1	075.1	090.1	096.1
Cooling Capacity[1]	kW	178	201	227	264	316	336
Unit power input[1]	kW	57,4	64,6	73,0	85,1	102	108
EER	--	3,10	3,10	3,11	3,10	3,10	3,10
ESEER	--	4,14	4,24	4,03	4,31	4,30	4,27
Sound Pressure ST[2]	dB(A)	74,9	75,7	76,4	75,5	76,5	77,0
Sound Pressure LN[2]	dB(A)	72,7	73,0	73,5	73,2	73,6	73,8
Compressor	Type	Scroll					
Quantity	No.	2	2	2	3	3	3
Minimum capacity	%	50%	43%	50%	33%	27%	33%
Refrigerant	Type	R-410A	R-410A	R-410A	R-410A	R-410A	R-410A
N. of circuits	No.	1	1	1	1	1	1
Air heat exchanger	Type	High efficiency fin and tube type with integral subcooler					
Fan	Type	Direct Propeller Type					
Quantity	No.	4	4	5	5	6	6
Motor input	kW	1,75	1,75	1,75	1,75	1,75	1,75
Speed	rpm	900	900	900	900	900	900
Diameter	mm	800	800	800	800	800	800
Water heat exchanger	Type						
Water volume	l	12	12	14	14	14	14
Nominal Water pressure drop	kPa	27	34	35	47	69	54
Piping connections	"	3"	3"	3"	3"	3"	3"
Standard voltage	V/ph/Hz	400V / 3ph / 50Hz					

NOTE:
(1) 12/7°C evaporator water temperature; 35°C ambient temperature.
(2) At 1 m, according to ISO 3744, at free field semispherical conditions.

Weight and dimensions		051.1	057.1	065.1	075.1	090.1	096.1
Shipping weight (ST)	kg	1722	1807	1871	2173	2304	2492
Operating weight (ST)	kg	1734	1819	1885	2188	2318	2507
Shipping weight (LN)	kg	1876	1965	2032	2370	2507	2705
Operating weight (LN)	kg	1889	1978	2047	2385	2522	2719
(A) Length (ST/LN)	mm	4413	4413	5313	5313	6213	6213
(B) Width (ST/LN)	mm	1224	1224	1224	1224	1224	1224
(C) Height (ST/LN)	mm	2271	2271	2271	2271	2271	2271

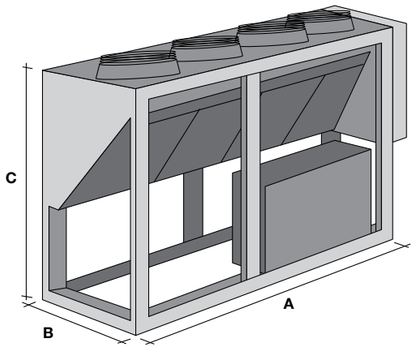


TECHNICAL DATA ACZC XE XN Cooling only

ACZC (single)		049.1	055.1	062.1	073.1	086.1	092.1
Cooling Capacity[1]	kW	173	194	220	255	303	323
Unit power input[1]	kW	56,0	63,7	71,0	84,5	101	108
EER	--	3,09	3,04	3,09	3,01	3,00	2,99
ESEER	--	4,59	4,69	4,46	4,79	4,76	4,68
Sound Pressure[2]	dB(A)	65,9	67,2	68,0	66,7	68,1	68,7
Compressor	Type	Scroll					
Quantity	No.	2	2	2	3	3	3
Minimum capacity	%	50%	43%	50%	33%	27%	33%
Refrigerant	Type	R-410A	R-410A	R-410A	R-410A	R-410A	R-410A
N. of circuits	No.	1	1	1	1	1	1
Air heat exchanger	Type	High efficiency fin and tube type with integral subcooler					
Fan	Type	Direct Propeller Type					
Quantity	No.	4	4	5	5	6	6
Motor input	kW	0,75	0,75	0,75	0,75	0,75	0,75
Speed	rpm	705	705	705	705	705	705
Diameter	mm	800	800	800	800	800	800
Water heat exchanger	Type	Plate Heat Exchanger --- S&T: Single Pass Shell & Tube					
Water volume	l	12	12	14	14	14	14
Nominal Water pressure drop	kPa	26	32	33	44	43	50
Piping connections	"	3"	3"	3"	3"	3"	3"
Standard voltage	V/ph/Hz	400V / 3ph / 50Hz					

NOTE:
(1) 12/7°C evaporator water temperature; 35°C ambient temperature.
(2) At 1 m, according to ISO 3744, at free field semispherical conditions.

Weight and dimensions		049.1	055.1	062.1	073.1	086.1	092.1
Shipping weight	kg	1970	2064	2134	2489	2632	2840
Operating weight	kg	1982	2076	2148	2503	2647	2855
(A) Length	mm	4413	4413	5313	5313	6213	6213
(B) Width	mm	1224	1224	1224	1224	1224	1224
(C) Height	mm	2271	2271	2271	2271	2271	2271

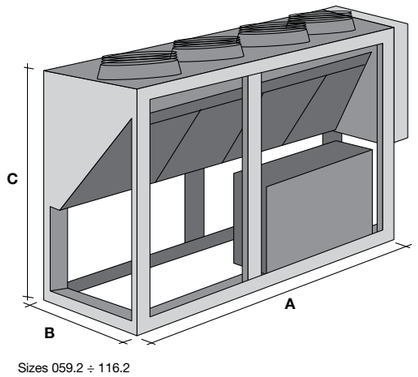


TECHNICAL DATA ACZC SE ST/LN Cooling only

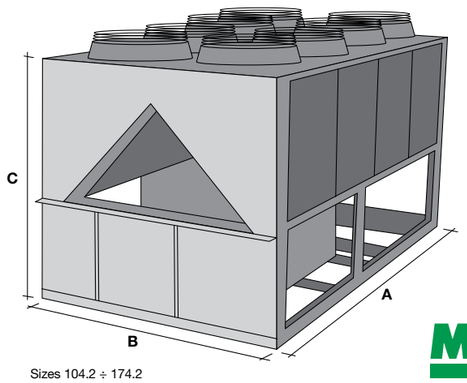
ACZC (dual)		059.2	064.2	071.2	081.2	090.2	102.2	116.2	104.2	118.2	137.2	157.2	174.2
Cooling Capacity[1]	kW	207	225	248	284	315	360	408	360	408	482	553	612
Unit power input[1]	kW	72,6	84,0	92,4	107	120	140	153	140	153	185	205	226
EER	--	2,85	2,68	2,69	2,65	2,63	2,57	2,67	2,57	2,67	2,60	2,70	2,70
ESEER	--	3,91	3,89	3,93	3,86	3,90	3,85	3,90	4,14	4,16	4,26	4,18	4,21
Sound Pressure ST[2]	dB(A)	74,9	75,4	75,9	76,0	76,0	77,0	77,6	77,8	78,5	77,7	78,7	79,5
Sound Pressure LN[2]	dB(A)	72,7	72,9	73,0	73,3	73,3	73,9	74,0	74,7	74,8	75,1	75,7	76,0
Compressor	Type	Scroll											
Quantity	No.	4	4	4	4	4	4	4	4	4	6	6	6
Minimum capacity	%	25%	22%	25%	23%	25%	21%	25%	21%	25%	17%	14%	17%
Refrigerant	Type	R-410A	R-410A	R-410A	R-410A	R-410A	R-410A	R-410A	R-410A	R-410A	R-410A	R-410A	R-410A
N. of circuits	No.	2	2	2	2	2	2	2	2	2	2	2	2
Air heat exchanger	Type	High efficiency fin and tube type with integral subcooler											
Fan	Type	Direct Propeller Type											
Quantity	No.	4	4	4	5	5	6	6	6	6	8	10	10
Motor input	kW	1,75	1,75	1,75	1,75	1,75	1,75	1,75	1,75	1,75	1,75	1,75	1,75
Speed	rpm	900	900	900	900	900	900	900	900	900	900	900	900
Diameter	mm	800	800	800	800	800	800	800	800	800	800	800	800
Water heat exchanger	Type	Plate Heat Exchanger --- S&T: Single Pass Shell & Tube											
Water volume	l	12	12	12	14	14	14	40	14	40	46	46	46
Nominal Water pressure drop	kPa	37	43	53	56	69	30	32	30	32	35	46	56
Piping connections	"	3"	3"	3"	3"	3"	3"	3"	3"	3"	3"	3"	3"
Standard voltage	V/ph/Hz	400V / 3ph / 50Hz											

NOTE:
(1) 12/7°C evaporator water temperature; 35°C ambient temperature.
(2) At 1 m, according to ISO 3744, at free field semispherical conditions.

Weight and dimensions		059.2	064.2	071.2	081.2	090.2	102.2	116.2	104.2	118.2	137.2	157.2	174.2
Shipping weight (ST)	kg	2058	2058	2130	2202	2284	2409	2659	2509	2759	2990	3336	3558
Operating weight (ST)	kg	2070	2070	2142	2216	2298	2424	2699	2524	2799	3036	3382	3604
Shipping weight (LN)	kg	2297	2297	2373	2449	2535	2666	2968	2766	3068	3315	3679	3912
Operating weight (LN)	kg	2309	2309	2385	2463	2549	2681	3008	2781	3108	3362	3725	3958
(A) Length (ST/LN)	mm	4413	4413	4413	5313	5313	6213	6213	3210	3210	4110	5010	5010
(B) Width (ST/LN)	mm	1224	1224	1224	1224	1224	1224	1224	2258	2258	2258	2258	2258
(C) Height (ST/LN)	mm	2271	2271	2271	2271	2271	2271	2447	2221	2397	2221	2221	2221



Sizes 059.2 ÷ 116.2



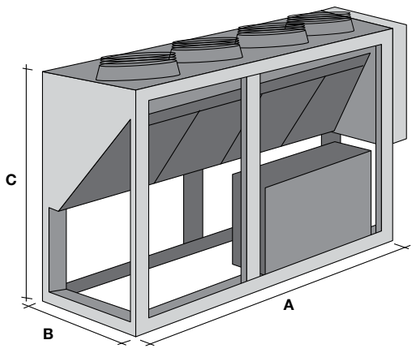
Sizes 104.2 ÷ 174.2

TECHNICAL DATA ACZC SE XN Cooling only

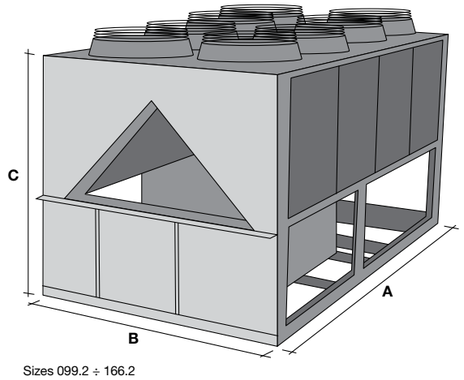
ACZC (dual)		057.2	061.2	067.2	077.2	085.2	097.2	109.2	099.2	111.2	130.2	150.2	166.2
Cooling Capacity[1]	kW	199	215	236	272	299	342	384	342	384	457	529	582
Unit power input[1]	kW	72,7	85,1	94,6	109	123	143	158	143	158	190	206	231
EER	--	2,73	2,52	2,49	2,49	2,42	2,39	2,44	2,39	2,44	2,41	2,56	2,53
ESEER	--	4,40	4,33	4,26	4,29	4,21	4,23	4,15	4,40	4,29	4,67	4,63	4,57
Sound Pressure[2]	dB(A)	66,4	67,4	68,2	68,0	68,0	69,3	70,2	70,3	71,2	69,6	71,0	72,1
Compressor	Type	Scroll											
Quantity	No.	4	4	4	4	4	4	4	4	4	6	6	6
Minimum capacity	%	25%	22%	25%	23%	25%	21%	25%	21%	25%	17%	14%	17%
Refrigerant	Type	R-410A	R-410A	R-410A	R-410A	R-410A	R-410A	R-410A	R-410A	R-410A	R-410A	R-410A	R-410A
N. of circuits	No.	2	2	2	2	2	2	2	2	2	2	2	2
Air heat exchanger	Type	High efficiency fin and tube type with integral subcooler											
Fan	Type	Direct Propeller Type											
Quantity	No.	4	4	4	5	5	6	6	6	6	8	10	10
Motor input	kW	0,75	0,75	0,75	0,75	0,75	0,75	0,75	0,75	0,75	0,75	0,75	0,75
Speed	rpm	705	705	705	705	705	705	705	705	705	705	705	705
Diameter	mm	800	800	800	800	800	800	800	800	800	800	800	800
Water heat exchanger	Type	Plate Heat Exchanger --- S&T: Single Pass Shell & Tube											
Water volume	l	12	12	12	14	14	14	40	14	40	46	46	46
Nominal Water pressure drop	kPa	37	40	48	51	63	27	29	27	29	31	42	51
Piping connections	"	3"	3"	3"	3"	3"	3"	3"	3"	3"	3"	3"	3"
Standard voltage	V/ph/Hz	400V / 3ph / 50Hz											

NOTE:
(1) 12/7°C evaporator water temperature; 35°C ambient temperature.
(2) At 1 m, according to ISO 3744, at free field semispherical conditions.

Weight and dimensions		057.2	061.2	067.2	077.2	085.2	097.2	109.2	099.2	111.2	130.2	150.2	166.2
Shipping weight	kg	2412	2412	2491	2571	2661	2799	3116	2899	3216	3481	3863	4108
Operating weight	kg	2424	2424	2504	2585	2676	2814	3156	2914	3256	3527	3909	4154
(A) Length	mm	4413	4413	4413	5313	5313	6213	6213	3210	3210	4110	5010	5010
(B) Width	mm	1224	1224	1224	1224	1224	1224	1224	2258	2258	2258	2258	2258
(C) Height	mm	2271	2271	2271	2271	2271	2271	2447	2221	2221	2221	2221	2221



Sizes 057.2 ÷ 109.2



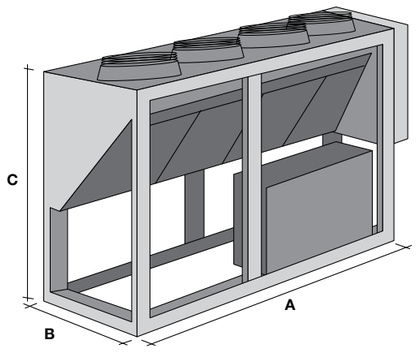
Sizes 099.2 ÷ 166.2

TECHNICAL DATA ACZC XE ST/LN Cooling only

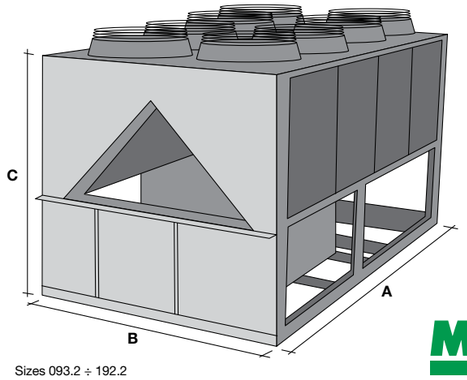
ACZC (dual)		049.2	055.2	062.2	070.2	091.2	101.2	093.2	103.2	114.2	121.2	129.2	149.2	173.2	192.2
Cooling Capacity[1]	kW	171	195	221	245	317	357	317	357	404	429	5458	529	609	675
Unit power input[1]	kW	54,3	61,6	69,9	77,4	101	114	101	114	129	136	145	168	196	216
EER	--	3,15	3,16	3,16	3,17	3,12	3,12	3,12	3,12	3,13	3,15	3,15	3,14	3,11	3,12
ESEER	--	4,02	4,23	4,07	4,21	4,16	4,18	4,43	4,46	4,37	4,41	4,36	4,48	4,43	4,36
Sound Pressure ST[2]	dB(A)	72,4	74,4	75,0	75,5	76,0	76,0	76,8	76,8	77,0	78,3	78,6	77,7	78,7	79,4
Sound Pressure LN[2]	dB(A)	71,4	72,6	73,1	73,2	73,6	73,6	74,4	74,4	75,2	75,3	75,4	75,4	75,7	76,1
Compressor	Type	Scroll													
Quantity	No.	4	4	4	4	4	4	4	4	4	6	6	6	6	6
Minimum capacity	%	25%	21%	25%	22%	23%	25%	23%	25%	21%	20%	25%	17%	14%	17%
Refrigerant	Type	R-410A	R-410A	R-410A	R-410A	R-410A	R-410A	R-410A	R-410A	R-410A	R-410A	R-410A	R-410A	R-410A	R-410A
N. of circuits	No.	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Air heat exchanger	Type	High efficiency fin and tube type with integral subcooler													
Fan	Type	Direct Propeller Type													
Quantity	No.	4	4	5	5	6	6	6	6	8	8	18	10	10	12
Motor input	kW	1,75	1,75	1,75	1,75	1,75	1,75	1,75	1,75	1,75	1,75	1,75	1,75	1,75	1,75
Speed	rpm	900	900	900	900	900	900	900	900	900	900	900	900	900	900
Diameter	mm	800	800	800	800	800	800	800	800	800	800	800	800	800	800
Water heat exchanger	Type	Plate Heat Exchanger --- S&T: Single Pass Shell & Tube													
Water volume	l	12	14	14	14	14	40	14	40	40	46	46	46	60	60
Nominal Water pressure drop	kPa	25	27	34	42	22	23	22	23	31	29	30	41	44	55
Piping connections	"	3"	3"	3"	3"	3"	3"								
Standard voltage	V/ph/Hz	400V / 3ph / 50Hz													

NOTE:
(1) 12/7°C evaporator water temperature; 35°C ambient temperature.
(2) At 1 m, according to ISO 3744, at free field semispherical conditions.

Weight and dimensions		049.2	055.2	062.2	070.2	091.2	101.2	093.2	103.2	114.2	121.2	129.2	149.2	173.2	192.2
Shipping weight (ST)	kg	1688	1958	2210	2339	2500	2632	2600	2732	2744	2845	2861	3569	3667	4054
Operating weight (ST)	kg	1700	1973	2225	2353	2514	2672	2514	2772	2784	2891	2907	3615	3727	4115
Shipping weight (LN)	kg	1909	2193	2457	2592	2761	2900	2861	3000	3017	3124	3141	3923	4026	4434
Operating weight (LN)	kg	1921	2207	2472	2607	2776	2940	2876	3040	3057	3170	3187	3970	4087	4494
(A) Length (ST/LN)	mm	4413	4413	5313	5313	6213	6213	3210	3210	4110	4110	4110	5010	5010	5910
(B) Width (ST/LN)	mm	1224	1224	1224	1224	1224	1224	2258	2258	2258	2258	2258	2258	2258	2258
(C) Height (ST/LN)	mm	2271	2271	2271	2271	2271	2271	2221	2221	2221	2221	2221	2221	2221	2221



Sizes 049.2 ÷ 101.2



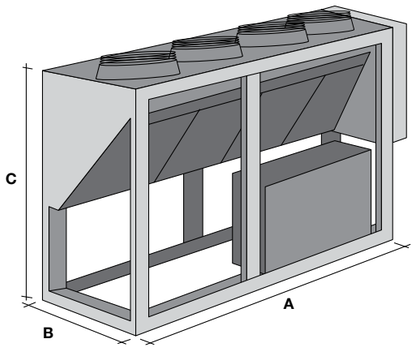
Sizes 093.2 ÷ 192.2

TECHNICAL DATA ACZC XE XN Cooling only

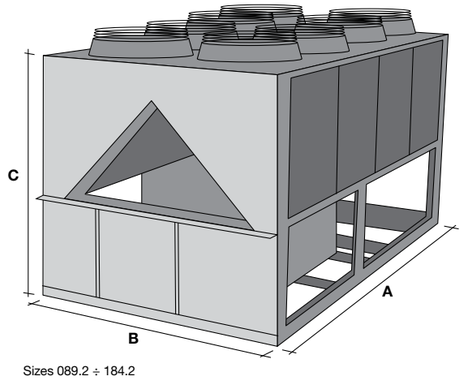
ACZC (dual)		047.2	053.2	060.2	068.2	087.2	096.2	089.2	098.2	110.2	116.2	123.2	143.2	165.2	184.2
Cooling Capacity[1]	kW	166	188	212	237	305	341	305	341	386	408	434	504	581	648
Unit power input[1]	kW	52,5	60,6	68,0	76,4	101	116	101	116	127	135	145	168	198	216
EER	--	3,16	3,11	3,12	3,10	3,03	2,94	3,03	2,94	3,04	3,02	2,99	3,00	2,94	3,00
ESEER	--	4,67	4,78	4,65	4,74	4,67	4,58	4,82	4,77	4,82	4,78	4,68	4,97	4,84	4,79
Sound Pressure[2]	dB(A)	64,0	65,2	66,0	66,7	67,2	68,1	68,1	68,1	69,4	69,4	69,9	70,4	70,3	71,1
Compressor	Type	Scroll													
Quantity	No.	4	4	4	4	4	4	4	4	4	4	4	6	6	6
Minimum capacity	%	25%	21%	25%	22%	23%	25%	23%	25%	21%	20%	25%	17%	14%	17%
Refrigerant	Type	R-410A	R-410A	R-410A	R-410A	R-410A	R-410A	R-410A	R-410A	R-410A	R-410A	R-410A	R-410A	R-410A	R-410A
N. of circuits	No.	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Air heat exchanger	Type	High efficiency fin and tube type with integral subcooler													
Fan	Type	Direct Propeller Type													
Quantity	No.	4	4	5	5	6	6	6	6	8	8	8	10	10	12
Motor input	kW	0,75	0,75	0,75	0,75	0,75	0,75	0,75	0,75	0,75	0,75	0,75	0,75	0,75	0,75
Speed	rpm	705	705	705	705	705	705	705	705	705	705	705	705	705	705
Diameter	mm	800	800	800	800	800	800	80	80	800	800	800	800	800	800
Water heat exchanger	Type	Plate Heat Exchanger --- S&T: Single Pass Shell & Tube													
Water volume	l	12	14	14	14	14	40	14	40	40	46	46	46	60	60
Nominal Water pressure drop	kPa	24	25	31	39	21	21	21	21	28	26	27	38	40	51
Piping connections	“	3”	3”	3”	3”	3”	3”	3”	3”	3”	3”	3”	3”	3”	3”
Standard voltage	V/ph/Hz	400V / 3ph / 50Hz													

NOTE:
(1) 12/7°C evaporator water temperature; 35°C ambient temperature.
(2) At 1 m, according to ISO 3744, at free field semispherical conditions.

Weight and dimensions		047.2	053.2	060.2	068.2	087.2	096.2	089.2	098.2	110.2	116.2	123.2	143.2	165.2	184.2
Shipping weight	kg	2004	2303	2580	2722	2900	3045	3000	3145	3168	3280	3298	4120	4228	4655
Operating weight	kg	2017	2317	2594	2736	2914	3085	3014	3185	3208	3326	3344	4166	4288	4716
(A) Length	mm	4413	4413	5313	5313	6213	6213	3210	3210	4110	4110	4110	5010	5010	5910
(B) Width	mm	1224	1224	1224	1224	1224	1224	2258	2258	2258	2258	2258	2258	2258	2258
(C) Height	mm	2271	2271	2271	2271	2271	2271	2221	2221	2221	2221	2221	2221	2221	2221



Sizes 047.2 ÷ 096.2



Sizes 089.2 ÷ 184.2

Cooling capacity: 101 kW ÷ 413 kW

Refrigerant **R-134a**

Exchanger **Phe**

GENERAL CHARACTERISTICS

- Stepless capacity control
- Single-screw compressors
- Direct expansion plate to plate type evaporator; electrical heater to prevent freezing insulation made of cloded cells material
- R134 refrigerant
- High efficiency fin and tube type with integral subcooler
- Direct propeller fans type
- Electronic expansion valve
- MicroTech III controller compatible with BMS
- Cabinet and structure made of galvanized steel sheet and painted to provide a high resistance to corrosion; colour Ivory White (Munsell code 5Y7.5/1) (±RAL7044)

VERSIONS

EFFICIENCY

SE Standard efficiency — (1)**EER up to 2,98**, (1)**ESEER up to 3,34**

CU Condensing unit — (1)**EER up to 3,30**

(1) (Standard Sound)

SOUND LEVELS

ST Standard sound — **73,5 ÷ 76,0 dB(A)**

LN Low sound — **71,0 ÷ 73,5 dB(A)**

STANDARD OPTIONS

- Wye-Delta Compressors starter (Y-Δ)
- Double set-point
- Phase monitor
- Evaporator electric heater
- Electronic expansion valve
- Discharge line shut off valves
- Suction line shut off valve
- Ambient outside temperature sensor and set-point reset
- Hour run meter
- General fault contactor
- Set-point reset
- Demand limit
- Alarm from external device
- Main switch interlock door
- Fans circuit breakers

OPTIONS ON REQUEST

- Total heat recovery / Partial heat recovery
- Soft starter
- Brine version
- Compressor thermal overload relays
- Under/Over Voltage
- Energy Meter
- Capacitors for power factor correction
- Current limit
- 20 mm evaporator insulation
- Fan speed regulation
- Speedtrol
- Condenser coil guards
- Cu-Cu condensing coils
- Cu-Cu-Sn condensing coils
- Alucoat condensing coils
- Evaporator flow switch
- High/Low pressure side manometer
- Double pressure relief valve with diverter
- Rubber type anti vibration mounts
- Spring type anti vibration mounts
- Hydronic kit (single water pump) / (twin water pumps)
- Compressors circuit breakers

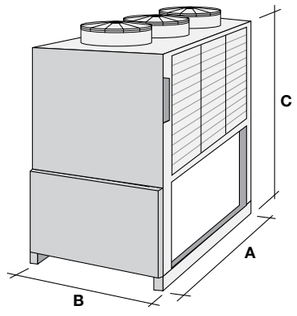
McEnergy Mono
AIR COOLED CHILLER WITH SCREW COMPRESSORS

TECHNICAL DATA McEnergy Mono SE ST - cooling only

McEnergy Mono SE ST		029.1	034.1	039.1	046.1	052.1	061.1	073.1	087.1	102.1	118.1
Cooling Capacity[1]	kW	101	121	138	163	183	214	256	307	360	413
Unit power input[1]	kW	38,7	46,9	53,4	60,3	68,5	71,7	86,7	111	133	146
EER	--	2,61	2,57	2,58	2,70	2,67	2,98	2,95	2,77	2,71	2,84
ESEER	--	2,93	2,93	2,75	2,93	2,81	3,02	3,18	3,05	3,23	3,34
Sound Pressure[2]	dB(A)	73,5	73,5	73,7	73,7	73,9	75,1	75,0	75,3	75,3	76,0
Compressor	Type	Semi-hermetic single screw compressor									
Quantity	No.	1	1	1	1	1	1	1	1	1	1
Minimum capacity	%	25	25	25	25	25	25	25	25	25	25
Refrigerant	Type	R-134a	R-134a	R-134a	R-134a	R-134a	R-134a	R-134a	R-134a	R-134a	R-134a
N. of circuits	No.	1	1	1	1	1	1	1	1	1	1
Air heat exchanger	Type	High efficiency fin and tube type with integral subcooler									
Fan	Type	Direct propeller									
Quantity	No.	2	2	3	3	4	4	6	6	6	6
Motor input	kW	1,75	1,75	1,75	1,75	1,75	1,75	1,75	1,75	1,75	1,75
Speed	rpm	920	920	920	920	920	920	920	920	920	920
Diameter	mm	800	800	800	800	800	800	800	800	800	800
Water heat exchanger	Type	Plate to Plate									
Water volume	l	12	15	17	20	24	30	25	30	36	44
Nominal Water pressure drop	kPa	24	25	24	24	22	21	48	48	48	45
Piping connections	"	3	3	3	3	3	3	3	3	3	3
Standard voltage	V/ph/Hz	4000 V / 3ph / 50 Hz									

NOTES:
(1) 12/7°C evaporator water temperature; 35°C ambient temperature
(2) At 1 m, according to ISO 3744, at free field semispherical conditions

Weight and dimensions		029.1	034.1	039.1	046.1	052.1	061.1	073.1	087.1	102.1	118.1
Shipping weight	kg	1684	1684	1861	1861	2086	2086	2919	2919	2919	2919
Operating weight	kg	1699	1699	1881	1881	2116	2116	2963	2963	2963	2963
(A) Length	mm	2165	2165	3065	3065	3965	3965	3070	3070	3070	3070
(B) Width	mm	1292	1292	1292	1292	1292	1292	2236	2236	2236	2236
(C) Height	mm	2273	2273	2273	2273	2273	2273	2223	2223	2223	2223

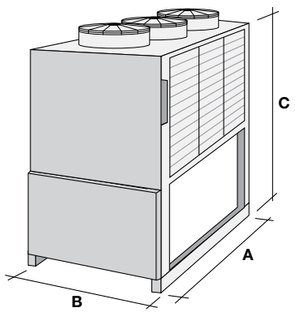


TECHNICAL DATA McEnergy Mono SE LN - cooling only

McEnergy Mono SE LN		029.1	034.1	039.1	046.1	052.1	061.1	073.1	087.1	102.1	118.1
Cooling Capacity[1]	kW	97,9	116	134	157	177	209	249	296	345	398
Unit power input[1]	kW	38,8	47,9	53,0	60,4	67,8	72,1	84,5	110	134	150
EER	--	2,52	2,42	2,53	2,60	2,61	2,89	2,95	2,69	2,58	2,65
ESEER	--	3,01	2,97	2,85	3,00	3,07	3,32	3,55	3,41	3,34	3,45
Sound Pressure[2]	dB(A)	71,0	71,0	71,2	71,2	71,4	72,6	72,5	72,8	72,8	73,5
Compressor	Type	Semi-hermetic single screw compressor									
Quantity	No.	1	1	1	1	1	1	1	1	1	1
Minimum capacity	%	25	25	25	25	25	25	25	25	25	25
Refrigerant	Type	R-134a	R-134a	R-134a	R-134a	R-134a	R-134a	R-134a	R-134a	R-134a	R-134a
N. of circuits	No.	1	1	1	1	1	1	1	1	1	1
Air heat exchanger	Type	High efficiency fin and tube type with integral subcooler									
Fan	Type	Direct propeller									
Quantity	No.	2	2	3	3	4	4	6	6	6	6
Motor input	kW	0,78	0,78	0,78	0,78	0,78	0,78	0,78	0,78	0,78	0,78
Speed	rpm	715	715	715	715	715	715	715	715	715	715
Diameter	mm	800	800	800	800	800	800	800	800	800	800
Water heat exchanger	Type	Single Pass Shell&Tube									
Water volume	l	12	15	17	20	24	30	25	30	36	44
Nominal Water pressure drop	kPa	23	23	23	23	21	20	46	45	44	42
Piping connections	"	3	3	3	3	3	3	3	3	3	3
Standard voltage	V/ph/Hz	4000 V / 3ph / 50 Hz									

NOTES:
(1) 12/7°C evaporator water temperature; 35°C ambient temperature
(2) At 1 m, according to ISO 3744, at free field semispherical conditions

Weight and dimensions		029.1	034.1	039.1	046.1	052.1	061.1	073.1	087.1	102.1	118.1
Shipping weight	kg	1784	1784	1961	1961	2186	2186	3029	3029	3029	3029
Operating weight	kg	1799	1799	1981	1981	2216	2216	3073	3073	3073	3073
(A) Length	mm	2165	2165	3065	3065	3965	3965	3070	3070	3070	3070
(B) Width	mm	1292	1292	1292	1292	1292	1292	2236	2236	2236	2236
(C) Height	mm	2273	2273	2273	2273	2273	2273	2223	2223	2223	2223

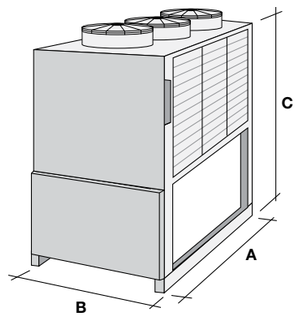


TECHNICAL DATA McEnergy Mono CU SE ST - cooling only

McEnergy Mono CU SE ST		029.1	034.1	039.1	046.1	052.1	061.1	073.1	087.1	102.1	118.1
Cooling Capacity[1]	kW	121	144	165	196	219	252	306	370	435	488
Unit power input[1]	kW	41,8	51,0	57,4	65,2	73,7	76,6	92,8	122	147	161
EER	--	2,90	2,83	2,87	3,00	2,97	3,28	3,30	3,04	2,96	3,03
Sound Pressure[2]	dB(A)	73,5	73,5	73,7	73,7	73,9	75,1	75,0	75,3	75,3	76,0
Compressor	Type	Semi-hermetic single screw compressor									
Quantity	No.	1	1	1	1	1	1	1	1	1	1
Minimum capacity	%	25	25	25	25	25	25	25	25	25	25
Refrigerant	Type	R-134a	R-134a	R-134a	R-134a	R-134a	R-134a	R-134a	R-134a	R-134a	R-134a
N. of circuits	No.	1	1	1	1	1	1	1	1	1	1
Air heat exchanger	Type	High efficiency fin and tube type with integral subcooler									
Fan	Type	Direct propeller									
Quantity	No.	2	2	3	3	4	4	6	6	6	6
Motor input	kW	1,75	1,75	1,75	1,75	1,75	1,75	1,75	1,75	1,75	1,75
Speed	rpm	920	920	920	920	920	920	920	920	920	920
Diameter	mm	800	800	800	800	800	800	800	800	800	800
Standard voltage	V/ph/Hz	4000 V / 3ph / 50 Hz									

NOTES:
(1) 12/7°C evaporator water temperature; 35°C ambient temperature
(2) At 1 m, according to ISO 3744, at free field semispherical conditions

Weight and dimensions		029.1	034.1	039.1	046.1	052.1	061.1	073.1	087.1	102.1	118.1
Shipping weight	kg	1584	1584	1741	1741	1936	1936	2679	2679	2679	2679
Operating weight	kg	1617	1617	1781	1781	1981	1981	2756	2756	2756	2756
(A) Length	mm	2165	2165	3065	3065	3965	3965	3070	3070	3070	3070
(B) Width	mm	1292	1292	1292	1292	1292	1292	2236	2236	2236	2236
(C) Height	mm	2273	2273	2273	2273	2273	2273	2223	2223	2223	2223

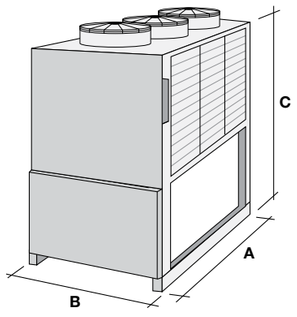


TECHNICAL DATA McEnergy Mono CU SE LN - cooling only

McEnergy Mono CU SE ST		029.1	034.1	039.1	046.1	052.1	061.1	073.1	087.1	102.1	118.1
Cooling Capacity[1]	kW	116	137	159	187	209	243	295	352	409	462
Unit power input[1]	kW	42,3	52,5	57,6	66,3	73,9	78,2	91,5	122	150	167
EER	--	2,74	2,61	2,75	2,82	2,83	3,11	3,23	2,88	2,73	2,76
Sound Pressure[2]	dB(A)	71,0	71,0	71,2	71,2	71,4	72,6	72,5	72,8	72,8	73,5
Compressor	Type	Semi-hermetic single screw compressor									
Quantity	No.	1	1	1	1	1	1	1	1	1	1
Minimum capacity	%	25	25	25	25	25	25	25	25	25	25
Refrigerant	Type	R-134a	R-134a	R-134a	R-134a	R-134a	R-134a	R-134a	R-134a	R-134a	R-134a
N. of circuits	No.	1	1	1	1	1	1	1	1	1	1
Air heat exchanger	Type	High efficiency fin and tube type with integral subcooler									
Fan	Type	Direct propeller									
Quantity	No.	2	2	3	3	4	4	6	6	6	6
Motor input	kW	0,78	0,78	0,78	0,78	0,78	0,78	0,78	0,78	0,78	0,78
Speed	rpm	715	715	715	715	715	715	715	715	715	715
Diameter	mm	800	800	800	800	800	800	800	800	800	800
Standard voltage	V/ph/Hz	4000 V / 3ph / 50 Hz									

NOTES:
(1) 12/7°C evaporator water temperature; 35°C ambient temperature
(2) At 1 m, according to ISO 3744, at free field semispherical conditions

Weight and dimensions		029.1	034.1	039.1	046.1	052.1	061.1	073.1	087.1	102.1	118.1
Shipping weight	kg	1684	1684	1841	1841	2036	2036	2789	2789	2789	2789
Operating weight	kg	1717	1717	1881	1881	2081	2081	2886	2886	2886	2886
(A) Length	mm	2165	2165	3065	3065	3965	3965	3070	3070	3070	3070
(B) Width	mm	1292	1292	1292	1292	1292	1292	2236	2236	2236	2236
(C) Height	mm	2273	2273	2273	2273	2273	2273	2223	2223	2223	2223



Cooling capacity: 184 kW ÷ 622 kW

Refrigerant **R-134a**

Exchanger **Phe**

Exchanger **S&T**

GENERAL CHARACTERISTICS

- Stepless capacity control
- Indipendent circuit for each compressor
- Single-screw compressors
- Direct expansion shell&tube evaporator with single-pass; plate to plate and shall and tubes plate made of carbon steel; high efficiency copper tubes; electrical heater to prevent freezing insulation made of cloded cells material, victaulic water connections
- R134 refrigerant
- High efficiency fin and tube type with integral subcooler
- Direct propeller fans type
- Electronic expansion valve
- MicroTech III controller compatible with BMS
- Cabinetand structure made of galvanized steel sheet and painted to provide a high resistance to corrosion; colour Ivory White (Munsell code 5Y7.5/1) (±RAL7044)

VERSIONS

EFFICIENCY

SE Standard efficiency — (1) **EER up to 2,93**, (1) **ESEER up to 3,56**

Class A High efficiency — (1) **EER up to 3,85**, (1) **ESEER up to 4,01**

(1) (Standard Sound)

AMBIENT TEMPERATURE

HA High ambient temperature — **Up to 48°C**

SOUND LEVELS

ST Standard sound	**76,5 ÷ 79,0 dB(A)**
LN Low sound	**75,0 ÷ 76,5 dB(A)**
XN Extra low sound	**70,0 ÷ 73,0 dB(A)**
XXN Super quiet	**65,0 ÷ 66,0 dB(A)**

STANDARD OPTIONS

- Evaporator victaulic kit
- Evaporator water design pressure (10Bar)
- Discharge line shut off valves
- Suction line shut off valve
- Wye-Delta Compressors starter (Y-Δ)
- Double set-point
- Phase monitor
- Evaporator electric heater type
- Electronic expansion device
- Ambient outside temperature sensor and set-point reset
- Hour run meter
- General fault contactor
- Set-point reset
- Demand limit
- Alarm from external device
- Fans circuit breakers
- Main switch interlock door

OPTIONS ON REQUEST

- Total heat recovery / Total heat recovery (1 circuit)
- Partial heat recovery
- Brine version
- Evaporator flanged kit
- Condenser coil guards / Alucoat condensing coils
- Cu-Cu condensing coils / Cu-Cu-Sn condensing coils
- Hydronic kit (single water pump) / (twin water pumps)
- Double pressure relief valve with diverter
- Soft starter / Energy Meter
- Compressor thermal overload relays
- Under/Overvoltage control
- Capacitors for power factor correction
- Current limit / Speedtrol
- Fan speed regulation (+ Fan silent mode)
- Evaporator flow switch
- High/Low pressure side manometers
- Compressors circuit breakers
- Rubber type anti vibration mounts
- Spring type anti vibration mounts
- External tank without cabinet (500 L / 1000 L)
- External tank with cabinet (500 L / 1000 L)

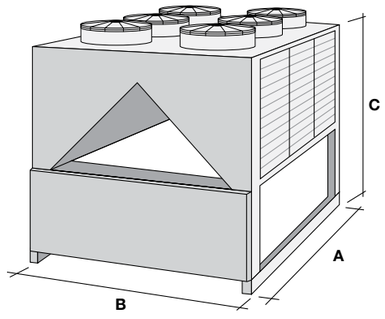
McEnergy Evolution
AIR COOLED CHILLER WITH SCREW COMPRESSORS

TECHNICAL DATA McEnergy Evolution SE ST - cooling only

McEnergy Evolution SE ST		111.2	125.2	132.2	142.2	152.2	158.2	165.2
Cooling Capacity[1]	kW	389	436	466	502	532	556	578
Unit power input[1]	kW	152	164	167	184	194	205	197
EER	--	2,56	2,66	2,79	2,73	2,74	2,72	2,93
ESEER	--	3,36	3,54	3,55	3,52	3,52	3,56	3,39
Sound Pressure[2]	dB(A)	76,5	77,0	77,0	77,0	78,5	79,0	79,0
Compressor	Type	Semi-hermetic single screw compressor						
Quantity	No.	2	2	2	2	2	2	2
Minimum capacity	%	12,5	12,5	12,5	12,5	12,5	12,5	12,5
Refrigerant	Type	R-134a	R-134a	R-134a	R-134a	R-134a	R-134a	R-134a
N. of circuits	No.	1	1	1	1	1	1	1
Air heat exchanger	Type	High efficiency fin and tube type with integral subcooler						
Fan	Type	Direct propeller						
Quantity	No.	6	6	8	8	8	8	8
Motor input	kW	1,75	1,75	1,75	1,75	1,75	1,75	1,75
Speed	rpm	890	890	890	890	890	890	890
Diameter	mm	800	800	800	800	800	800	800
Water heat exchanger	Type	Single Pass Shell&Tube						
Water volume	l	130	165	175	165	165	165	160
Nominal Water pressure drop	kPa	46	38	67	47	52	57	51
Piping connections	"	5,5	5,5	5,5	5,5	5,5	5,5	5,5
Standard voltage	V/ph/Hz	400V / 3ph / 50Hz						

NOTES:
(1) 12/7°C evaporator water temperature; 35°C ambient temperature
(2) At 1 m, according to ISO 3744, at free field semispherical conditions

Weight and dimensions		111.2	125.2	132.2	142.2	152.2	158.2	165.2
Shipping weight	kg	2960	4030	4220	4230	4230	4230	4235
Operating weight	kg	3090	4195	4395	4395	4395	4395	4395
(A) Length	mm	3139	4040	4040	4040	4040	4040	4040
(B) Width	mm	2234	2234	2234	2234	2234	2234	2234
(C) Height	mm	2223	2223	2223	2223	2223	2223	2223

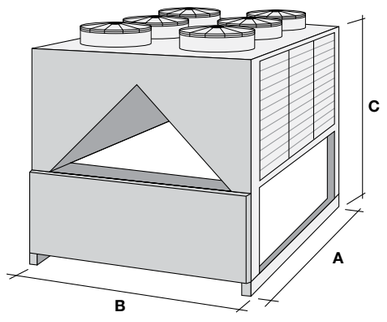


TECHNICAL DATA McEnergy Evolution SE LN - cooling only

McEnergy Evolution SE LN		053.2	057.2	065.2	071.2	076.2	081.2	088.2
Cooling Capacity[1]	kW	184	198	225	245	261	275	298
Unit power input[1]	kW	81,4	79,7	84,5	93,4	101	108	119
EER	--	2,26	2,48	2,66	2,62	2,58	2,54	2,50
ESEER	--	3,00	3,12	3,31	3,21	3,26	3,23	3,20
Sound Pressure[2]	dB(A)	75,0	75,0	75,0	75,0	75,0	75,0	75,0
Compressor	Type	Semi-hermetic single screw compressor						
Quantity	No.	2	2	2	2	2	2	2
Minimum capacity	%	12,5	12,5	12,5	12,5	12,5	12,5	12,5
Refrigerant	Type	R-134a	R-134a	R-134a	R-134a	R-134a	R-134a	R-134a
N. of circuits	No.	2	2	2	2	2	2	2
Air heat exchanger	Type	High efficiency fin and tube type with integral subcooler						
Fan	Type	Direct propeller						
Quantity	No.	4	4	6	6	6	6	6
Motor input	kW	1,23	1,23	1,23	1,23	1,23	1,23	1,23
Speed	rpm	900	900	900	900	900	900	900
Diameter	mm	710	710	710	710	710	710	710
Water heat exchanger	Type	Plate Heat Exchanger		Single Pass Shell&Tube				
Water volume	l	25	30	100	100	100	100	100
Nominal Water pressure drop	kPa	29	22	58	49	54	59	60
Piping connections	"	3	3	4	4	4	4	4
Standard voltage	V/ph/Hz	400V / 3ph / 50Hz						

NOTES:
(1) 12/7°C evaporator water temperature; 35°C ambient temperature
(2) At 1 m, according to ISO 3744, at free field semispherical conditions

Weight and dimensions		053.2	057.2	065.2	071.2	076.2	081.2	088.2
Shipping weight	kg	2475	2470	2860	2860	2860	2860	2860
Operating weight	kg	2500	2500	2960	2960	2960	2960	2960
(A) Length	mm	2239	2239	3139	3139	3139	3139	3139
(B) Width	mm	2234	2234	2234	2234	2234	2234	2234
(C) Height	mm	2355	2355	2355	2355	2355	2355	2355



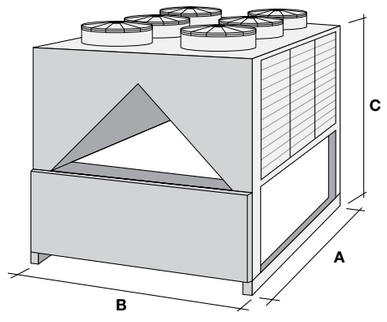
McEnergy Evolution
AIR COOLED CHILLER WITH SCREW COMPRESSORS

TECHNICAL DATA McEnergy Evolution SE LN - cooling only

McEnergy Evolution SE LN		095.2	107.2	125.2	132.2	142.2	152.2	158.2
Cooling Capacity[1]	kW	321	370	404	440	477	505	533
Unit power input[1]	kW	123	133	169	170	186	203	195
EER	--	2,60	2,78	2,39	2,59	2,57	2,49	2,73
ESEER	--	3,24	3,41	3,65	3,67	3,57	3,67	3,77
Sound Pressure[2]	dB(A)	75,0	77,5	74,5	74,5	74,5	76,0	76,5
Compressor	Type	Semi-hermetic single screw compressor						
Quantity	No.	2	2	2	2	2	2	2
Minimum capacity	%	12,5	12,5	12,5	12,5	12,5	12,5	12,5
Refrigerant	Type	R-134a	R-134a	R-134a	R-134a	R-134a	R-134a	R-134a
N. of circuits	No.	2	2	2	2	2	2	2
Air heat exchanger	Type	High efficiency fin and tube type with integral subcooler						
Fan	Type	Direct propeller						
Quantity	No.	8	8	6	8	8	8	8
Motor input	kW	1,23	1,23	0,78	0,78	0,78	0,78	0,78
Speed	rpm	900	900	705	705	705	705	705
Diameter	mm	710	710	800	800	800	800	800
Water heat exchanger	Type	Single Pass Shell&Tube						
Water volume	l	130	130	170	100	170	165	160
Nominal Water pressure drop	kPa	55	67	62	54	54	48	43
Piping connections	"	5,5	5,5	5,5	4	5,5	5,5	5,5
Standard voltage	V/ph/Hz	400V / 3ph / 50Hz						

NOTES:
(1) 12/7°C evaporator water temperature; 35°C ambient temperature
(2) At 1 m, according to ISO 3744, at free field semispherical conditions

Weight and dimensions		095.2	107.2	125.2	132.2	142.2	152.2	158.2
Shipping weight	kg	3187	3187	4030	4220	4230	4230	4230
Operating weight	kg	3300	3300	4195	4395	4395	4395	4395
(A) Length	mm	4040	4040	4040	4040	4040	4040	4040
(B) Width	mm	2234	2234	2234	2234	2234	2234	2234
(C) Height	mm	2355	2355	2223	2223	2223	2223	2223



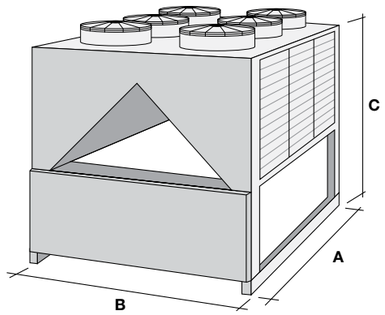
McQuay Air Conditioning

TECHNICAL DATA McEnergy SE XN - cooling only

McEnergy Evolution SE XN		053.2	057.2	065.2	071.2	076.2	081.2	088.2
Cooling Capacity[1]	kW	177	190	219	238	252	265	278
Unit power input[1]	kW	84,0	82,7	85,2	94,7	103	111	122
EER	--	2,11	2,30	2,57	2,51	2,44	2,38	2,28
ESEER	--	2,89	3,00	3,34	3,21	3,23	3,16	3,13
Sound Pressure[2]	dB(A)	70,0	70,0	70,0	70,0	70,0	70,0	70,0
Compressor	Type	Semi-hermetic single screw compressor						
Quantity	No.	2	2	2	2	2	2	2
Minimum capacity	%	12,5	12,5	12,5	12,5	12,5	12,5	12,5
Refrigerant	Type	R-134a	R-134a	R-134a	R-134a	R-134a	R-134a	R-134a
N. of circuits	No.	2	2	2	2	2	2	2
Air heat exchanger	Type	High efficiency fin and tube type with integral subcooler						
Fan	Type	Direct propeller						
Quantity	No.	4	4	6	6	6	6	6
Motor input	kW	0,87	0,87	0,87	0,87	0,87	0,87	0,87
Speed	rpm	680	680	680	680	680	680	680
Diameter	mm	710	710	710	710	710	710	710
Water heat exchanger	Type	Plate Heat Exchanger		Single Pass Shell&Tube				
Water volume	l	25	30	100	100	100	100	100
Nominal Water pressure drop	kPa	27	20	55	47	51	55	55
Piping connections	"	3	3	4	4	4	4	4
Standard voltage	V/ph/Hz	400V / 3ph / 50Hz						

NOTES:
(1) 12/7°C evaporator water temperature; 35°C ambient temperature
(2) At 1 m, according to ISO 3744, at free field semispherical conditions

Weight and dimensions		052.2	056.2	064.2	070.2	074.2	078.2	085.2
Shipping weight	kg	2620	2620	2890	2890	2890	2890	2890
Operating weight	kg	2650	2650	3100	3100	3100	3100	3100
(A) Length	mm	2239	2239	3139	3139	3139	3139	3139
(B) Width	mm	2234	2234	2234	2234	2234	2234	2234
(C) Height	mm	2355	2355	2355	2355	2355	2355	2355

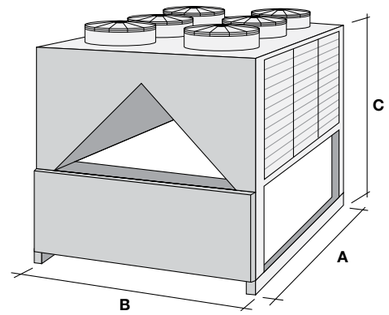


TECHNICAL DATA McEnergy SE XN - cooling only

McEnergy Evolution SE XN		095.2	107.2	125.2	132.2	142.2	152.2	158.2
Cooling Capacity[1]	kW	312	366	404	440	477	505	533
Unit power input[1]	kW	125	138	169	170	186	203	195
EER	--	2,49	2,65	2,39	2,59	2,57	2,49	2,73
ESEER	--	3,25	3,42	3,65	3,67	3,57	3,67	3,77
Sound Pressure[2]	dB(A)	70,0	72,5	71,0	71,0	71,0	72,5	73,0
Compressor	Type	Semi-hermetic single screw compressor						
Quantity	No.	2	2	2	2	2	2	2
Minimum capacity	%	12,5	12,5	12,5	12,5	12,5	12,5	12,5
Refrigerant	Type	R-134a	R-134a	R-134a	R-134a	R-134a	R-134a	R-134a
N. of circuits	No.	2	2	2	2	2	2	2
Air heat exchanger	Type	High efficiency fin and tube type with integral subcooler						
Fan	Type	Direct propeller						
Quantity	No.	8	8	6	8	8	8	8
Motor input	kW	0,87	0,87	0,78	0,78	0,78	0,78	0,78
Speed	rpm	680	680	705	705	705	705	705
Diameter	mm	710	710	800	800	800	800	800
Water heat exchanger	Type	Plate Heat Exchanger		Single Pass Shell&Tube				
Water volume	l	130	130	165	170	170	165	160
Nominal Water pressure drop	kPa	53	65	48	62	54	48	43
Piping connections	"	5,5	5,5	5,5	5,5	5,5	5,5	5,5
Standard voltage	V/ph/Hz	400V / 3ph / 50Hz						

NOTES:
(1) 12/7°C evaporator water temperature; 35°C ambient temperature
(2) At 1 m, according to ISO 3744, at free field semispherical conditions

Weight and dimensions		095.2	107.2	125.2	132.2	142.2	152.2	158.2
Shipping weight	kg	3335	3335	4040	4240	4240	4240	4240
Operating weight	kg	3450	3450	4342	4542	4542	4542	4542
(A) Length	mm	4040	4040	4040	4040	4040	4040	4040
(B) Width	mm	2234	2234	2234	2234	2234	2234	2234
(C) Height	mm	2355	2355	2223	2223	2223	2223	2223

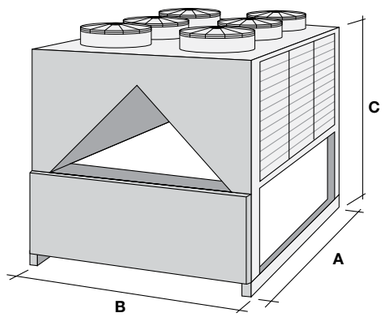


TECHNICAL DATA McEnergy Evolution SE XXN - cooling only

McEnergy Evolution SE XXN		057.2	065.2	071.2	076.2	081.2	088.2
Cooling Capacity[1]	kW	203	231	253	271	286	299
Unit power input[1]	kW	79,9	85,2	93,5	104	114	126
EER	--	2,54	2,71	2,70	2,59	2,50	2,37
ESEER	--	3,39	3,63	3,52	3,55	3,44	3,39
Sound Pressure[2]	dB(A)	65,0	65,0	65,0	65,0	65,0	65,0
Compressor	Type	Semi-hermetic single screw compressor					
Quantity	No.	2	2	2	2	2	2
Minimum capacity	%	12,5	12,5	12,5	12,5	12,5	12,5
Refrigerant	Type	R-134a	R-134a	R-134a	R-134a	R-134a	R-134a
N. of circuits	No.	2	2	2	2	2	2
Air heat exchanger	Type	High efficiency fin and tube type with integral subcooler					
Fan	Type	Direct propeller					
Quantity	No.	6	8	8	8	8	8
Motor input	kW	0,45	0,45	0,45	0,45	0,45	0,45
Speed	rpm	500	500	500	500	500	500
Diameter	mm	710	710	710	710	710	710
Water heat exchanger	Type	Single Pass Shell&Tube					
Water volume	l	90	115	115	165	160	160
Nominal Water pressure drop	kPa	45	34	38	38	35	38
Piping connections	"	4	4	4	4	4	4
Standard voltage	V/ph/Hz	400V / 3ph / 50Hz					

NOTES:
(1) 12/7°C evaporator water temperature; 35°C ambient temperature
(2) At 1 m, according to ISO 3744, at free field semispherical conditions

Weight and dimensions		057.2	065.2	071.2	076.2	081.2	088.2
Shipping weight	kg	3110	3475	3475	3425	3430	3430
Operating weight	kg	3200	3590	3590	3590	3590	3590
(A) Length	mm	3139	4040	4040	4040	4040	4040
(B) Width	mm	2234	2234	2234	2234	2234	2234
(C) Height	mm	2420	2420	2420	2420	2420	2420



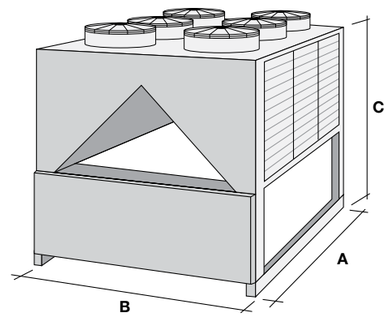
McEnergy Evolution
AIR COOLED CHILLER WITH SCREW COMPRESSORS

TECHNICAL DATA McEnergy Evolution SE XXN - cooling only

McEnergy Evolution SE XXN		095.2	111.2	125.2	132.2	142.2
Cooling Capacity[1]	kW	309	370	413	451	492
Unit power input[1]	kW	136	148	169	173	187
EER	--	2,27	2,49	2,44	2,60	2,63
ESEER	--	3,25	3,24	3,49	3,61	3,58
Sound Pressure[2]	dB(A)	65,0	65,0	65,0	65,5	66,0
Compressor	Type	Semi-hermetic single screw compressor				
Quantity	No.	2	2	2	2	2
Minimum capacity	%	12,5	12,5	12,5	12,5	12,5
Refrigerant	Type	R-134a	R-134a	R-134a	R-134a	R-134a
N. of circuits	No.	2	2	2	2	2
Air heat exchanger	Type	High efficiency fin and tube type with integral subcooler				
Fan	Type	Direct propeller				
Quantity	No.	8	8	8	9	10
Motor input	kW	0,45	0,60	0,60	0,60	0,60
Speed	rpm	500	500	500	500	500
Diameter	mm	710	800	800	800	800
Water heat exchanger	Type	Single Pass Shell&Tube				
Water volume	l	160	175	170	170	165
Nominal Water pressure drop	kPa	41	45	44	50	45
Piping connections	"	4	5,5	5,5	5,5	5,5
Standard voltage	V/ph/Hz	400V / 3ph / 50Hz				

NOTES:
(1) 12/7°C evaporator water temperature; 35°C ambient temperature
(2) At 1 m, according to ISO 3744, at free field semispherical conditions

Weight and dimensions		095.2	111.2	125.2	132.2	142.2
Shipping weight	kg	3110	3475	3475	3425	3430
Operating weight	kg	3200	3590	3590	3590	3590
(A) Length	mm	3139	4040	4040	4040	4040
(B) Width	mm	2234	2234	2234	2234	2234
(C) Height	mm	2420	2420	2420	2420	2420

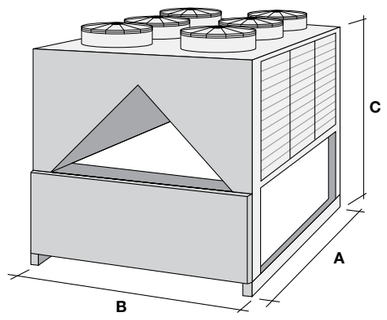


TECHNICAL DATA McEnergy Evolution ClassA ST - cooling only

McEnergy Evolution ClassA ST		070.2	078.2	085.2	093.2	101.2	107.2
Cooling Capacity[1]	kW	247	275	302	327	351	376
Unit power input[1]	kW	79,1	87,1	94,1	104	113	120
EER	--	3,12	3,16	3,20	3,15	3,12	3,14
ESEER	--	3,56	3,60	3,62	3,85	3,67	3,58
Sound Pressure[2]	dB(A)	77,5	77,5	77,5	77,5	77,5	79,0
Compressor	Type	Semi-hermetic single screw compressor					
Quantity	No.	2	2	2	2	2	2
Minimum capacity	%	12,5	12,5	12,5	12,5	12,5	12,5
Refrigerant	Type	R-134a	R-134a	R-134a	R-134a	R-134a	R-134a
N. of circuits	No.	2	2	2	2	2	2
Air heat exchanger	Type	High efficiency fin and tube type with integral subcooler					
Fan	Type	Direct propeller					
Quantity	No.	6	8	8	8	8	8
Motor input	kW	1,23	1,23	1,23	1,23	1,23	1,75
Speed	rpm	900	900	900	900	900	890
Diameter	mm	710	710	710	710	710	800
Water heat exchanger	Type	Single Pass Shell&Tube					
Water volume	l	95	115	115	165	160	160
Nominal Water pressure drop	kPa	48	45	49	46	51	58
Piping connections	"	4	4	4	4	4	4
Standard voltage	V/ph/Hz	400V / 3ph / 50Hz					

NOTES:
(1) 12/7°C evaporator water temperature; 35°C ambient temperature
(2) At 1 m, according to ISO 3744, at free field semispherical conditions

Weight and dimensions		070.2	078.2	085.2	093.2	101.2	107.2
Shipping weight	kg	2905	3285	3285	3240	3240	3240
Operating weight	kg	3000	3400	3400	3400	3400	3400
(A) Length	mm	3138	4040	4040	4040	4040	4040
(B) Width	mm	2234	2234	2234	2234	2234	2234
(C) Height	mm	2355	2355	2355	2355	2355	2355



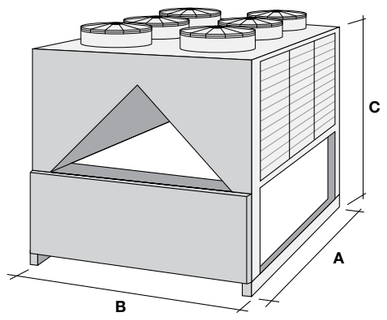
McEnergy Evolution
AIR COOLED CHILLER WITH SCREW COMPRESSORS

TECHNICAL DATA McEnergy Evolution ClassA ST - cooling only

McEnergy Evolution ClassA ST		116.2	134.2	149.2	164.2	177.2
Cooling Capacity[1]	kW	401	469	524	575	622
Unit power input[1]	kW	127	150	166	181	194
EER	--	3,16	3,12	3,15	3,18	3,20
ESEER	--	3,59	3,84	4,00	4,01	3,88
Sound Pressure[2]	dB(A)	79,0	79,0	79,0	79,0	79,0
Compressor	Type	Semi-hermetic single screw compressor				
Quantity	No.	2	2	2	2	2
Minimum capacity	%	12,5	12,5	12,5	12,5	12,5
Refrigerant	Type	R-134a	R-134a	R-134a	R-134a	R-134a
N. of circuits	No.	2	2	2	2	2
Air heat exchanger	Type	High efficiency fin and tube type with integral subcooler				
Fan	Type	Direct propeller				
Quantity	No.	8	8	10	10	10
Motor input	kW	1,75	1,75	1,75	1,75	1,75
Speed	rpm	800	890	890	890	890
Diameter	mm	710	800	800	800	800
Water heat exchanger	Type	Single Pass Shell&Tube				
Water volume	l	160	270	270	255	255
Nominal Water pressure drop	kPa	64	47	63	56	38
Piping connections	"	4	6	6	6	6
Standard voltage	V/ph/Hz	400V / 3ph / 50Hz				

NOTES:
(1) 12/7°C evaporator water temperature; 35°C ambient temperature
(2) At 1 m, according to ISO 3744, at free field semispherical conditions

Weight and dimensions		116.2	134.2	149.2	164.2	177.2
Shipping weight	kg	3240	3510	4670	4685	4685
Operating weight	kg	3400	3780	4940	4940	4940
(A) Length	mm	4040	4040	4940	4940	4940
(B) Width	mm	2234	2234	2234	2234	2234
(C) Height	mm	2355	2223	2223	2223	2223

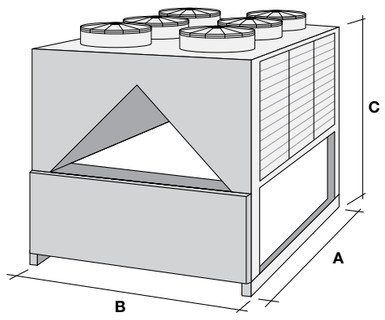


TECHNICAL DATA McEnergy Evolution ClassA XN - cooling only

McEnergy Evolution ClassA XN		070.2	078.2	085.2	093.2	101.2	107.2
Cooling Capacity[1]	kW	243	272	296	322	345	370
Unit power input[1]	kW	80,6	87,0	95,1	106	115	119
EER	--	3,01	3,12	3,11	3,05	2,99	3,12
ESEER	--	3,63	3,70	3,69	3,82	3,71	4,01
Sound Pressure[2]	dB(A)	72,5	72,5	72,5	72,5	72,5	73,5
Compressor	Type	Semi-hermetic single screw compressor					
Quantity	No.	2	2	2	2	2	2
Minimum capacity	%	12,5	12,5	12,5	12,5	12,5	12,5
Refrigerant	Type	R-134a	R-134a	R-134a	R-134a	R-134a	R-134a
N. of circuits	No.	2	2	2	2	2	2
Air heat exchanger	Type	High efficiency fin and tube type with integral subcooler					
Fan	Type	Direct propeller					
Quantity	No.	6	8	8	8	8	8
Motor input	kW	0,87	0,87	0,87	0,87	0,87	0,78
Speed	rpm	680	680	680	680	680	705
Diameter	mm	710	710	710	710	710	800
Water heat exchanger	Type	Single Pass Shell&Tube					
Water volume	l	95	115	115	165	160	160
Nominal Water pressure drop	kPa	47	44	48	45	49	56
Piping connections	"	4	4	4	4	4	4
Standard voltage	V/ph/Hz	400V / 3ph / 50Hz					

NOTES:
(1) 12/7°C evaporator water temperature; 35°C ambient temperature
(2) At 1 m, according to ISO 3744, at free field semispherical conditions

Weight and dimensions		070.2	078.2	085.2	093.2	101.2	107.2
Shipping weight	kg	3005	3385	3385	3335	3340	3340
Operating weight	kg	3100	3500	3500	3500	3500	3500
(A) Length	mm	3138	4040	4040	4040	4040	4040
(B) Width	mm	2234	2234	2234	2234	2234	2234
(C) Height	mm	2355	2355	2355	2355	2355	2355



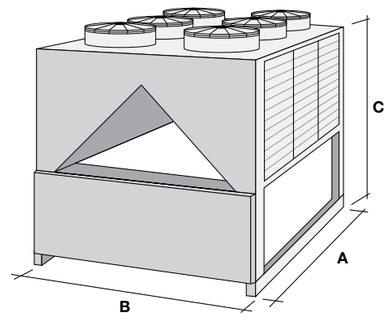
McEnergy Evolution
AIR COOLED CHILLER WITH SCREW COMPRESSORS

TECHNICAL DATA McEnergy Evolution ClassA XN - cooling only

McEnergy Evolution ClassA XN		116.2	134.2	149.2	164.2	177.2
Cooling Capacity[1]	kW	394	455	512	561	600
Unit power input[1]	kW	127	152	167	183	198
EER	--	3,10	2,99	3,07	3,07	3,03
ESEER	--	3,82	3,89	4,11	4,11	3,93
Sound Pressure[2]	dB(A)	73,5	73,5	73,5	73,5	73,5
Compressor	Type	Semi-hermetic single screw compressor				
Quantity	No.	2	2	2	2	2
Minimum capacity	%	12,5	12,5	12,5	12,5	12,5
Refrigerant	Type	R-134a	R-134a	R-134a	R-134a	R-134a
N. of circuits	No.	2	2	2	2	2
Air heat exchanger	Type	High efficiency fin and tube type with integral subcooler				
Fan	Type	Direct propeller				
Quantity	No.	8	8	10	10	10
Motor input	kW	0,78	0,78	0,78	0,78	0,78
Speed	rpm	705	705	705	705	705
Diameter	mm	800	800	800	800	800
Water heat exchanger	Type	Single Pass Shell&Tube				
Water volume	l	160	270	270	255	255
Nominal Water pressure drop	kPa	56	45	60	54	36
Piping connections	"	4	6	6	6	6
Standard voltage	V/ph/Hz	400V / 3ph / 50Hz				

NOTES:
(1) 12/7°C evaporator water temperature; 35°C ambient temperature
(2) At 1 m, according to ISO 3744, at free field semispherical conditions

Weight and dimensions		116.2	134.2	149.2	164.2	177.2
Shipping weight	kg	3340	3610	4770	4785	4785
Operating weight	kg	3500	3880	5040	5040	5040
(A) Length	mm	4040	4040	4940	4940	4940
(B) Width	mm	2234	2234	2234	2234	2234
(C) Height	mm	2355	2223	2223	2223	2223

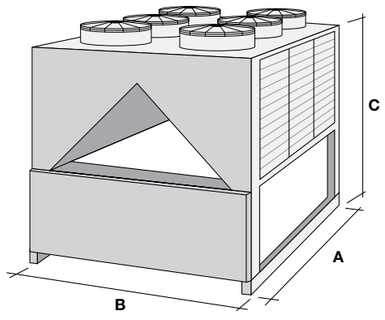


TECHNICAL DATA McEnergy Evolution HA ST - cooling only

McEnergy Evolution HA ST		053.2	057.2	065.2	071.2	076.2	081.2	088.2	095.2
Cooling Capacity[1]	kW	195	208	234	256	274	289	306	336
Unit power input[1]	kW	77,2	75,5	83,0	91,0	97,7	104	112	120
EER	--	2,52	2,76	2,81	2,81	2,80	2,78	2,73	2,80
ESEER	--	3,11	3,26	3,34	3,21	3,30	3,28	3,27	3,25
Sound Pressure[2]	dB(A)	77,0	77,0	77,0	77,0	77,0	77,0	77,0	77,0
Compressor	Type	Semi-hermetic single screw compressor							
Quantity	No.	2	2	2	2	2	2	2	2
Minimum capacity	%	12,5	12,5	12,5	12,5	12,5	12,5	12,5	12,5
Refrigerant	Type	R-134a	R-134a	R-134a	R-134a	R-134a	R-134a	R-134a	R-134a
N. of circuits	No.	2	2	2	2	2	2	2	2
Air heat exchanger	Type	High efficiency fin and tube type with integral subcooler							
Fan	Type	Direct propeller							
Quantity	No.	4	4	6	6	6	6	6	8
Motor input	kW	1,75	1,75	1,75	1,75	1,75	1,75	1,75	1,75
Speed	rpm	890	890	890	890	890	890	890	890
Diameter	mm	800	800	800	800	800	800	800	800
Water heat exchanger	Type	Shell and Tube - Direct Expansion							
Water volume	l	25	30	95	95	90	90	90	115
Nominal Water pressure drop	kPa	32	24	46	52	54	59	64	58
Piping connections	"	3	3	4	4	4	4	4	4
Standard voltage	V/ph/Hz	400V / 3ph / 50Hz							

NOTES:
(1) 12/7°C evaporator water temperature; 35°C ambient temperature
(2) At 1 m, according to ISO 3744, at free field semispherical conditions

Weight and dimensions		053.2	057.2	065.2	071.2	076.2	081.2	088.2	095.2
Shipping weight	kg	2475	2470	2865	2865	2870	2870	2870	3185
Operating weight	kg	2500	2500	2960	2960	2960	2960	2960	3300
(A) Length	mm	2239	2239	3339	3339	3339	3339	3339	4040
(B) Width	mm	2234	2234	2234	2234	2234	2234	2234	2234
(C) Height	mm	2223	2223	2223	2223	2223	2223	2223	2223



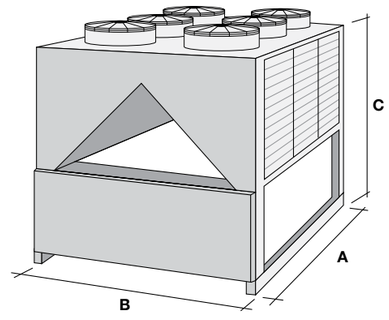
McEnergy Evolution
AIR COOLED CHILLER WITH SCREW COMPRESSORS

TECHNICAL DATA McEnergy Evolution HA ST - cooling only

McEnergy Evolution HA ST		107.2	119.2	128.2	134.2	149.2	156.2	167.2
Cooling Capacity[1]	kW	381	415	448	478	514	547	587
Unit power input[1]	kW	127	141	150	162	175	182	191
EER	--	3,00	2,94	2,98	2,95	2,94	3,00	3,07
ESEER	--	3,57	3,61	3,68	3,68	3,66	3,71	3,79
Sound Pressure[2]	dB(A)	79,0	77,0	77,5	77,5	77,5	79,0	79,5
Compressor	Type	Semi-hermetic single screw compressor						
Quantity	No.	2	2	2	2	2	2	2
Minimum capacity	%	12,5	12,5	12,5	12,5	12,5	12,5	12,5
Refrigerant	Type	R-134a	R-134a	R-134a	R-134a	R-134a	R-134a	R-134a
N. of circuits	No.	2	2	2	2	2	2	2
Air heat exchanger	Type	High efficiency fin and tube type with integral subcooler						
Fan	Type	Direct propeller						
Quantity	No.	8	8	8	10	10	10	10
Motor input	kW	1,75	1,75	1,75	1,75	1,75	1,75	1,75
Speed	rpm	890	890	890	890	890	890	890
Diameter	mm	800	800	800	800	800	800	800
Water heat exchanger	Type	Shell and Tube - Direct Expansion						
Water volume	l	115	170	170	170	165	165	160
Nominal Water pressure drop	kPa	70	46	53	58	51	56	53
Piping connections	"	4	5	5	5	5	5	5
Standard voltage	V/ph/Hz	400V / 3ph / 50Hz						

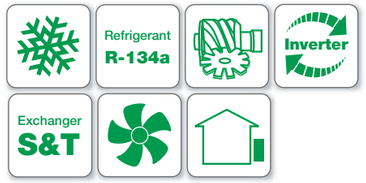
NOTES:
(1) 12/7°C evaporator water temperature; 35°C ambient temperature
(2) At 1 m, according to ISO 3744, at free field semispherical conditions

Weight and dimensions		107.2	119.2	128.2	134.2	149.2	156.2	167.2
Shipping weight	kg	3185	3277	3942	4356	4361	4361	4366
Operating weight	kg	3300	3447	4112	4526	4526	4526	4526
(A) Length	mm	4040	4040	4040	4940	4940	4940	4940
(B) Width	mm	2234	2234	2234	2234	2234	2234	2234
(C) Height	mm	2223	2223	2223	2223	2223	2223	2223



McQuay Air Conditioning

Cooling capacity: 329 kW ÷ 515 kW



GENERAL CHARACTERISTICS

- Stepless capacity control
- Independent circuit for each compressor
- Inverter driven single-screw compressors; Start is Inverter type
- Direct expansion evaporator (shell and tubes); electrical heater to prevent freezing; insulation made of closed cells material; Victaulic water connections
- R134a refrigerant
- Condensed coils with copper tubes mechanically expanded in aluminium fins; sub-cooler circuits
- Axial fans
- Micro Tech II C plus controller compatible with BMS
- Cabinet and structure made of galvanized steel sheet and painted to provide high resistance to corrosion; colour Ivory White (Musell code 5Y7.5/1)(±RAL 7044)

VERSIONS

EFFICIENCY

SSE Standard seasonal efficiency	**EER up to 2,74**
	ESEER up to 4,70
XSE High seasonal efficiency	**EER up to 2,79**
	ESEER up to 5,01

SOUND LEVELS

ST Standard sound	**83,0 ÷ 83,5 dB(A)**
LN Low sound	**77,0 ÷ 77,5 dB(A)**
XN Extra low sound (XSE version only)	**73,0 ÷ 73,5 dB(A)**

STANDARD OPTIONS

- Double set-point
- Fans circuit breaker
- Phase monitor
- Inverter compressor starter
- Evaporator victaulic kit
- Fan speed regulation (+ Fan silent mode)
- Evaporator electric heater
- Electronic expansion valve
- Discharge line shut off valve
- Suction line shut off valve
- Hour run meter
- General fault contactor
- Main switch interlock door
- Ambient outside temperature sensor and set-point reset

OPTIONS ON REQUEST

- Total heat recovery
- Total heat recovery 1 circuit
- Partial heat recovery
- Brine version
- Under/Overvoltage control
- Energy Meter
- Current limit
- 20mm evaporator insulation
- Condenser coil guards
- Cu-Cu/Cu-Cu-Sn condenser coils
- Alucoat fins coils
- Evaporator flow switch
- High/Low pressure side manometers
- Rubber/Spring type anti vibration mounts
- Water circulation pump (low or high lifting)
- Two water circulation pumps (low or high lifting)
- External tank with cabinet (500 l or 1000 l)
- Set-point reset, demand limit and alarm from external device
- Double pressure relief valve with diverter

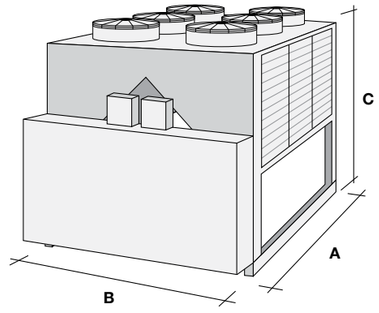
McEnergy Inverter
AIR COOLED CHILLER WITH INVERTER DRIVEN SCREW COMPRESSORS

TECHNICAL DATA McEnergy Inverter SSE ST/LN - cooling only

McEnergy Inverter SSE ST/LN		094.2	102.2	113.2	122.2	131.2	139.2	147.2
Cooling Capacity[1]	kW	329	358	395	423	459	488	515
Unit power input[1]	kW	120	136	147	159	168	181	193
EER	--	2,74	2,63	2,69	2,66	2,73	2,70	2,67
ESEER	--	4,59	4,60	4,55	4,59	4,57	4,70	4,60
Sound Pressure ST[2]	dB(A)	83,0	83,0	83,0	83,0	83,5	83,5	83,5
Sound Pressure LN[2]	dB(A)	77,0	77,0	77,0	77,0	77,5	77,5	77,5
Compressor	Type	Semi-hermetic single screw compressor Inverter driven						
Quantity	No.	2	2	2	2	2	2	2
Minimum capacity	%	13,5	13,5	13,5	13,5	13,5	13,5	13,5
Refrigerant	Type	R-134a	R-134a	R-134a	R-134a	R-134a	R-134a	R-134a
N. of circuits	No.	2	2	2	2	2	2	2
Air heat exchanger	Type	High efficiency fin and tube type with integral subcooler						
Fan	Type	Direct propeller						
Quantity	No.	8	8	10	10	12	12	12
Motor input	kW	1,13	1,13	1,13	1,13	1,13	1,13	1,13
Speed	rpm	700	700	700	700	700	700	700
Diameter	mm	800	800	800	800	800	800	800
Water heat exchanger	Type	Shell and Tube - Direct Expansion						
Water volume	l	271	264	264	256	256	248	248
Nominal Water pressure drop	kPa	60	61	72	67	78	69	76
Piping connections	"	6,6	6,6	6,6	6,6	6,6	6,6	6,6
Standard voltage	V/ph/Hz	400V / 3ph / 50Hz						

NOTES:
((1) 12/7°C evaporator water temperature; 35°C ambient temperature
(2) At 1 m, according to ISO 3744, at free field semispherical conditions

Weight and dimensions		094.2	102.2	113.2	122.2	131.2	139.2	147.2
Shipping weight (ST)	kg	4190	4190	4590	4590	4990	4990	4990
Operating weight (ST)	kg	4440	4440	4840	4840	5240	5240	5240
Shipping weight (LN)	kg	4340	4340	4740	4740	5140	5140	5140
Operating weight (LN)	kg	4590	4590	4990	4990	5390	5390	5390
(A) Length	mm	4381	4381	5281	5281	6181	6181	6181
(B) Width	mm	2234	2234	2234	2234	2234	2234	2234
(C) Height	mm	2355	2355	2355	2355	2355	2355	2355

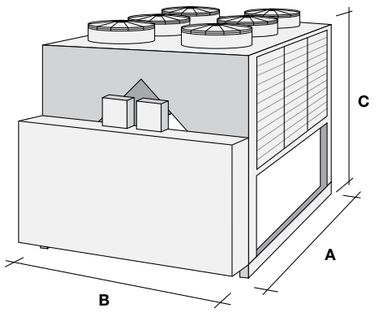


TECHNICAL DATA McEnergy Inverter XSE ST/LN/XN - cooling only

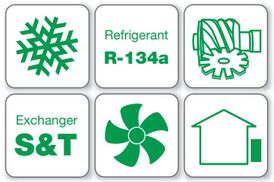
McEnergy inverter XSE ST/LN/XN		094.2	102.2	113.2	122.2	131.2	139.2	147.2
Cooling Capacity[1]	kW	329	358	395	423	459	488	515
Unit power input[1]	kW	118	135	145	157	165	178	190
EER	--	2,79	2,65	2,72	2,69	2,78	2,74	2,71
ESEER	--	4,79	4,82	4,78	4,84	4,81	5,01	4,84
Sound Pressure ST[2]	dB(A)	83,0	83,0	83,0	83,0	83,5	83,5	83,5
Sound Pressure LN[2]	dB(A)	77,0	77,0	77,0	77,0	77,5	77,5	77,5
Sound Pressure XN[2]	dB(A)	73,0	73,0	73,0	73,0	73,5	73,5	73,5
Compressor	Type	Semi-hermetic single screw compressor Inverter driven						
Quantity	No.	2	2	2	2	2	2	2
Minimum capacity	%	13,5	13,5	13,5	13,5	13,5	13,5	13,5
Refrigerant	Type	R-134a	R-134a	R-134a	R-134a	R-134a	R-134a	R-134a
N. of circuits	No.	2	2	2	2	2	2	2
Air heat exchanger	Type	High efficiency fin and tube type with integral subcooler						
Fan	Type	Direct propeller						
Quantity	No.	8	8	10	10	12	12	12
Motor input	kW	0,9	0,9	0,9	0,9	0,9	0,9	0,9
Speed	rpm	700	700	700	700	700	700	700
Diameter	mm	800	800	800	800	800	800	800
Water heat exchanger	Type	Single Pass Shell&Tube						
Water volume	l	271	264	264	256	256	248	248
Nominal Water pressure drop	kPa	60	61	72	67	78	69	76
Piping connections	"	6,6	6,6	6,6	6,6	6,6	6,6	6,6
Standard voltage	V/ph/Hz	400V / 3ph / 50Hz						

NOTES:
(1) 12/7°C evaporator water temperature; 35°C ambient temperature
(2) At 1 m, according to ISO 3744, at free field semispherical conditions

Weight and dimensions		094.2	102.2	113.2	122.2	131.2	139.2	147.2
Shipping weight (ST)	kg	4190	4190	4590	4590	4990	4990	4990
Operating weight (ST)	kg	4440	4440	4840	4840	5240	5240	5240
Shipping weight (LN)	kg	4340	4340	4740	4740	5140	5140	5140
Operating weight (LN)	kg	4590	4590	4990	4990	5390	5390	5390
Shipping weight (XN)	kg	4390	4390	4790	4790	5190	5190	5190
Operating weight (XN)	kg	4640	4640	5040	5040	5440	5440	5440
(A) Length	mm	4381	4381	5281	5281	6181	6181	6181
(B) Width	mm	2234	2234	2234	2234	2234	2234	2234
(C) Height	mm	2355	2355	2355	2355	2355	2355	2355



Cooling capacity: 619 kW ÷ 2008 kW



GENERAL CHARACTERISTICS

- Stepless capacity control
- Independent circuit for each compressor
- Single-screw compressors; Star-Delta standard start
- Direct expansion shell and tube evaporators with single pass; shell and tube plates made of carbon steel; high efficiency copper tubes; electrical heater to prevent freezing insulation made of closed cells material; Victaulic water connections
- R134a refrigerant
- Condenser coils with copper tubes mechanically expanded in aluminium fins; sub-cooler circuits
- Direct propeller fans type
- Electronic expansion valves
- Micro Tech III controller compatible with BMS
- Cabinet and structure made of galvanized steel sheet and painted to provide high resistance to corrosion; colour Ivory White (Munsell code 5Y7.5/1) (±RAL7044)

VERSIONS

EFFICIENCY

SE Standard efficiency	**EER up to 2,99** (1)**ESEER up to 4,09**
XE High efficiency	**EER up to 3,29** (1)**ESEER up to 4,37**
PR Premium efficiency	**EER up to 3,64** (1)**ESEER up to 4,53**

(1) (Standard Sound)

SOUND LEVELS

ST Standard sound	**79,0 ÷ 81,9 dB(A)**
LN Low sound	**75,5 ÷ 78,0 dB(A)**
XN Extra low sound	**71,0 ÷ 74,0 dB(A)**

STANDARD OPTIONS

- Wye-Delta Compressors starter (Y-D)
- Double set-point
- Phase monitor
- Evaporator victaulic kit
- 20mm evaporator insulation
- Evaporator electric heater
- Electronic expansion valve
- Discharge line shut off valve
- Ambient outside temperature sensor and set-point reset
- Hour run meter
  General fault contactor
- Set-point reset
- Demand limit
- Alarm from external device
- Main switch interlock door
- Emergency stop
- Fans circuit breakers

OPTIONS ON REQUEST

- Total/Partial heat recovery
- Soft starter
- Brine version
- Compressor thermal overload relays
- Under/Overvoltage control
- Ampere / Volt meter
- Capacitors for power factor correction
- Current limit
- Fan speed regulation (+ Fan silent mode)
- Speedtrol
- Condenser coil guards
- Evaporator area guards
- Cu-Cu/Cu-Cu-Sn condenser coils
- Alucoat fins coils
- Evaporator flow switch
- Suction line shut off valve
- High/Low pressure side manometers
- Rubber/Spring type anti vibration mounts
- Hydronic kit (single water pump) / (twin water pumps)
- Evaporator flanged connections
- Refrigerant recovery tank
- Compressors circuit breakers
- Ground fault protection
- Rapid restart

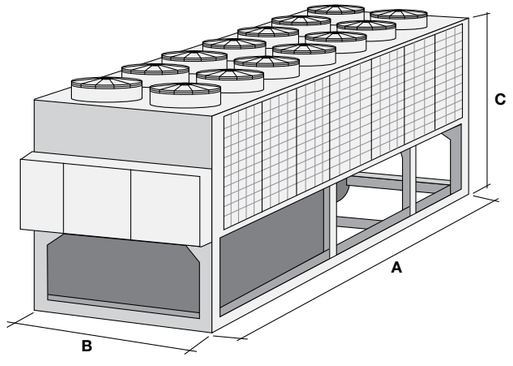
AWS
AIR COOLED CHILLER WITH SCREW COMPRESSORS

TECHNICAL DATA AWS SE ST/LN - cooling only

AWS SE ST/LN		184.2	212.2	237.2	260.2	275.2	303.2	327.2	375.2	405.2	435.3	461.3	487.3	515.3	535.3	550.3
Cooling Capacity[1]	kW	647	744	832	912	967	1064	1152	1319	1418	1538	1622	1714	1802	1875	1922
Unit power input[1]	kW	221	262	299	318	351	378	402	441	474	551	580	618	665	682	715
EER	--	2,93	2,84	2,78	2,87	2,76	2,82	2,86	2,99	2,99	2,79	2,80	2,77	2,71	2,75	2,69
ESEER	--	3,95	3,87	3,89	3,84	3,80	3,88	3,84	4,09	4,08	3,90	3,87	3,78	3,79	3,82	3,77
Sound Pressure ST[2]	dB(A)	79,0	79,5	79,5	80,4	80,6	80,6	80,6	80,7	80,7	81,1	81,1	81,2	81,5	81,9	81,9
Sound Pressure LN[2]	dB(A)	75,5	75,6	75,6	76,5	76,6	76,8	76,9	77,0	77,0	77,2	77,3	77,4	77,9	78,0	78,0
Compressor	Type	Semi-hermetic single screw compressor														
Quantity	No.	2	2	2	2	2	2	2	2	2	3	3	3	3	3	3
Minimum capacity	%	12,5	12,5	12,5	12,5	12,5	12,5	12,5	12,5	12,5	7	7	7	7	7	7
Refrigerant	Type	R-134a	R-134a	R-134a	R-134a	R-134a	R-134a	R-134a	R-134a	R-134a	R-134a	R-134a	R-134a	R-134a	R-134a	R-134a
N. of circuits	No.	2	2	2	2	2	2	2	2	2	3	3	3	3	3	3
Air heat exchanger	Type	High efficiency fin and tube type with integral subcooler														
Fan	Type	Direct propeller														
Quantity	No.	10	10	10	12	12	14	16	18	18	20	22	22	22	24	24
Motor input	kW	1,75	1,75	1,75	1,75	1,75	1,75	1,75	1,75	1,75	1,75	1,75	1,75	1,75	1,75	1,75
Speed	rpm	920	920	920	920	920	920	920	920	920	920	920	920	920	920	920
Diameter	mm	800	800	800	800	800	800	800	800	800	800	800	800	800	800	800
Water heat exchanger	Type	Single Pass Shell&Tube														
Water volume	l	266	266	251	251	251	243	243	386	386	408	408	474	850	850	850
Nominal Water pressure drop	kPa	73	59	52	61	68	63	72	54	58	59	65	73	36	39	40
Piping connections	mm	6,6	6,6	6,6	6,6	6,6	6,6	6,6	8,6	8,6	8,6	8,6	8,6	10,8	10,8	10,8
Standard voltage	V/ph/Hz	400 V / 3ph / 50 Hz														

NOTES:
(1) 12/7°C evaporator water temperature; 35°C ambient temperature
(2) At 1 m, according to ISO 3744, at free field semispherical conditions

Weight and dimensions		184.2	212.2	237.2	260.2	275.2	303.2	327.2	375.2	405.2	435.3	461.3	487.3	515.3	535.3	550.3
Shipping weight (ST)	kg	5630	5740	5760	6280	6560	7010	7280	7900	7900	10320	10710	10770	11240	11600	11600
Operating weight (ST)	kg	5910	5990	6010	6530	6810	7250	7520	8280	8280	10730	11110	11260	12110	12480	12480
Shipping weight (LN)	kg	5920	6030	6050	6570	6850	7300	7570	8190	8190	10770	11150	11210	11680	12040	12040
Operating weight (LN)	kg	6200	6280	6300	6820	7100	7540	7810	8570	8570	11170	11550	11700	12560	12920	12920
(A) Length	mm	6185	6185	6185	6185	6185	7085	7985	8885	8885	10185	11085	11085	11085	11985	11985
(B) Width	mm	2285	2285	2285	2285	2285	2285	2285	2285	2285	2285	2285	2285	2285	2285	2285
(C) Height	mm	2540	2540	2540	2540	2540	2540	2540	2540	2540	2540	2540	2540	2540	2540	2540

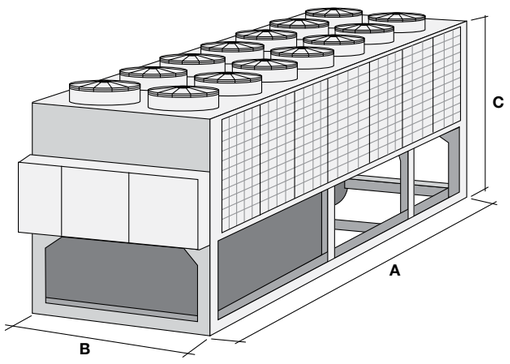


TECHNICAL DATA AWS SE XN - cooling only

AWS SE XN		184.2	212.2	237.2	260.2	275.2	303.2	327.2	375.2	405.2	403.3	435.3	461.3	487.3	515.3	535.3	550.3
Cooling Capacity[1]	kW	619	715	789	876	922	1020	1112	1270	1321	1367	1471	1556	1623	1714	1795	1833
Unit power input[1]	kW	223	272	315	331	369	395	417	457	495	517	576	603	647	702	718	757
EER	--	2,77	2,62	2,51	2,65	2,50	2,59	2,67	2,78	2,67	2,64	2,55	2,58	2,51	2,44	2,50	2,42
ESEER	--	4,08	3,96	3,98	3,99	4,00	3,96	3,96	4,13	4,00	3,90	3,87	3,90	3,83	3,80	3,83	3,77
Sound Pressure[2]	dB(A)	71,0	71,5	71,5	72,0	72,5	72,6	72,7	72,9	72,9	72,9	73,0	73,0	73,1	73,4	73,7	74,0
Compressor	Type	Semi-hermetic single screw compressor															
Quantity	Nr	2	2	2	2	2	2	2	2	2	3	3	3	3	3	3	3
Minimum capacity	%	12,5	12,5	12,5	12,5	12,5	12,5	12,5	12,5	12,5	7	7	7	7	7	7	7
Refrigerant	Type	R-134a															
N. of circuits	Nr	2	2	2	2	2	2	2	2	2	3	3	3	3	3	3	3
Air heat exchanger	Type	High efficiency fin and tube type with integral subcooler															
Fan	Type	Direct propeller															
Quantity	Nr	10	10	10	12	12	14	16	18	18	20	20	22	22	22	24	24
Motor input	kW	0,78	0,78	0,78	0,78	0,78	0,78	0,78	0,78	0,78	0,78	0,78	0,78	0,78	0,78	0,78	0,78
Speed	RPM	715	715	715	715	715	715	715	715	715	715	715	715	715	715	715	715
Diameter	mm	800	800	800	800	800	800	800	800	800	800	800	800	800	800	800	800
Water heat exchanger	Type	Single Pass Shell&Tube															
Water volume	l	266	266	251	251	251	243	243	386	386	421	408	408	474	850	850	850
Nominal Water pressure drop	kPa	67	55	47	57	62	58	68	50	54	44	54	60	66	33	36	37
Piping connections	mm	6,6	6,6	6,6	6,6	6,6	6,6	6,6	8,6	8,6	8,6	8,6	8,6	8,6	10,8	10,8	10,8
Standard voltage	V/ph/Hz	400 V / 3ph / 50 Hz															

NOTES:
(1) 12/7°C evaporator water temperature; 35°C ambient temperature
(2) At 1 m, according to ISO 3744, at free field semispherical conditions

Weight and dimensions		184.2	212.2	237.2	260.2	275.2	303.2	327.2	375.2	405.2	403.3	435.3	461.3	487.3	515.3	535.3	550.3
Shipping weight	kg	5920	6030	6050	6570	6850	7300	7570	8190	8190	10750	10770	11150	11210	11680	12040	12040
Operating weight	kg	6200	6280	6300	6820	7100	7540	7810	8570	8570	11170	11170	11550	11700	12560	12920	12920
(A) Length	mm	6185	6185	6185	6185	6185	7085	7985	8885	8885	10185	10185	11085	11085	11085	11985	11985
(B) Width	mm	2285	2285	2285	2285	2285	2285	2285	2285	2285	2285	2285	2285	2285	2285	2285	2285
(C) Height	mm	2540	2540	2540	2540	2540	2540	2540	2540	2540	2540	2540	2540	2540	2540	2540	2540

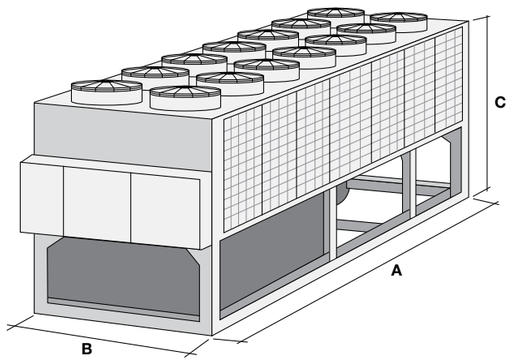


TECHNICAL DATA AWS XE ST/LN - cooling only

AWS XE ST/LN		210.2	230.2	250.2	280.2	300.2	325.2	360.2	385.2	402.2	434.2	445.3	470.3	490.3	515.3	540.3	555.3	570.3
Cooling Capacity[1]	kW	756	830	889	1001	1074	1196	1280	1349	1415	1525	1596	1685	1768	1858	1901	1953	2008
Unit Power Input[1]	kW	233	253	278	307	338	364	400	411	444	475	504	533	561	590	615	642	672
EER	--	3,25	3,28	3,20	3,26	3,18	3,29	3,20	3,29	3,19	3,21	3,17	3,16	3,15	3,15	3,09	3,04	2,99
ESEER	--	4,02	4,11	4,02	4,11	4,05	4,14	4,02	4,28	4,31	4,37	4,17	4,16	4,13	4,13	4,15	4,05	4,01
Sound Pressure Levels[2] (ST)	dB(A)	79,7	79,7	79,7	80,2	80,7	80,3	80,4	80,4	80,4	80,4	80,9	80,8	81,0	81,0	81,0	81,0	81,0
Sound Pressure Levels[2] (LN)	dB(A)	76,3	76,5	76,5	76,9	77,1	76,7	76,8	76,8	76,8	76,8	77,3	77,4	77,5	77,5	77,5	77,5	77,5
Compressor	Type	Semi-hermetic single screw compressor																
Quantity	No.	2	2	2	2	2	2	2	2	2	2	3	3	3	3	3	3	3
Minimum Capacity	%	12,5	12,5	12,5	12,5	12,5	12,5	12,5	12,5	12,5	12,5	7	7	7	7	7	7	7
Refrigerant	Type	R-134a																
Circuits Number	No.	2	2	2	2	2	2	2	2	2	2	3	3	3	3	3	3	3
Condenser Coil	Type	High efficiency fin and tube type with integral subcooler																
Fan	Type	Direct propeller																
Quantity	No.	12	14	14	16	16	20	20	20	20	24	26	28	30	30	30	30	
Power Input	kW	1,75	1,75	1,75	1,75	1,75	1,75	1,75	1,75	1,75	1,75	1,75	1,75	1,75	1,75	1,75	1,75	1,75
Speed	rpm	920	920	920	920	920	920	920	920	920	920	920	920	920	920	920	920	920
Diameter	mm	800	800	800	800	800	800	800	800	800	800	800	800	800	800	800	800	800
Evaporator	Type	Single Pass Shell&Tube																
Water Volume	l	251	243	243	403	403	386	386	979	979	979	850	850	871	850	850	850	850
Pressure Drop	kPa	81	57	64	61	69	45	51	68	77	84	62	68	68	74	39	41	43
Water Connections Size	"	6,6	6,6	6,6	8,6	8,6	8,6	8,6	8,6	10,8	10,8	10,8	10,8	10,8	10,8	10,8	10,8	10,8
Standard Voltage	V/ph/Hz	400 V / 3ph / 50 Hz																

NOTES:
(1) 12/7°C evaporator water temperature; 35°C ambient temperature
(2) At 1 m, according to ISO 3744, at free field semispherical conditions

Weight and dimensions		210.2	230.2	250.2	280.2	300.2	325.2	360.2	385.2	402.2	434.2	445.3	470.3	490.3	515.3	540.3	555.3	570.3
Shipping weight (ST)	kg	5990	6340	6360	7190	7470	8220	8240	8900	8900	8900	11570	11900	12260	12600	12600	12600	12600
Operating weight (ST)	kg	6240	6580	6600	7600	7870	8610	8630	9890	9890	9890	12430	12760	13140	13470	13470	13470	13470
Shipping weight (LN)	kg	6280	6630	6650	7480	7760	8510	8530	9190	9190	9190	12010	12350	12700	13040	13040	13040	13040
Operating weight (LN)	kg	6520	6870	6890	7880	8160	8900	8920	10180	10180	10180	12870	13200	13580	13910	13910	13910	13910
(A) Length	mm	6185	7085	7085	7985	7985	9785	9785	9785	9785	9785	11985	12885	13785	14685	14685	14685	14685
(B) Width	mm	2285	2285	2285	2285	2285	2285	2285	2285	2285	2285	2285	2285	2285	2285	2285	2285	2285
(C) Height	mm	2540	2540	2540	2540	2540	2540	2540	2540	2540	2540	2540	2540	2540	2540	2540	2540	2540

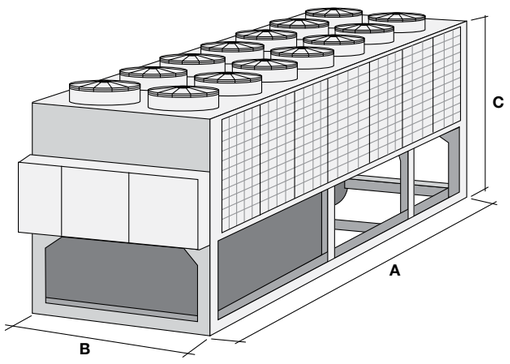


TECHNICAL DATA AWS XE XN - cooling only

AWS XE XN		210.2	230.2	250.2	280.2	300.2	325.2	360.2	385.2	402.2	434.2	445.3	470.3	490.3	515.3	540.3	555.3	570.3
Cooling Capacity[1]	kW	736	811	866	974	1041	1168	1247	1302	1367	1468	1550	1639	1722	1813	1854	1902	1952
Unit power input[1]	kW	234	253	281	309	344	365	405	415	454	491	512	541	566	596	624	657	691
EER	--	3,14	3,20	3,08	3,15	3,03	3,20	3,08	3,14	3,01	2,99	3,03	3,03	3,04	3,04	2,97	2,89	2,83
ESEER	--	4,28	4,36	4,23	4,34	4,24	4,38	4,25	4,33	4,36	4,40	4,26	4,20	4,21	4,20	4,18	4,09	4,06
Sound Pressure[2]	dB(A)	71,5	71,55	71,5	72,3	72,5	72,2	72,3	72,3	72,5	72,5	72,9	72,9	73,0	73,0	73,3	73,7	73,7
Compressor	Type	Semi-hermetic single screw compressor																
Quantity	Nr	2	2	2	2	2	2	2	2	2	2	3	3	3	3	3	3	3
Minimum capacity	%	12,5	12,5	12,5	12,5	12,5	12,5	12,5	12,5	12,5	12,5	7	7	7	7	7	7	7
Refrigerant	Type	R-134a																
N. of circuits	Nr	2	2	2	2	2	2	2	2	2	2	3	3	3	3	3	3	3
Air heat exchanger	Type	High efficiency fin and tube type with integral subcooler																
Fan	Type	Direct propeller																
Quantity	Nr	12	14	14	16	16	20	20	20	20	20	24	26	28	30	30	30	30
Motor input	kW	0,78	0,78	0,78	0,78	0,78	0,78	0,78	0,78	0,78	0,78	0,78	0,78	0,78	0,78	0,78	0,78	0,78
Speed	RPM	715	715	715	715	715	715	715	715	715	715	715	715	715	715	715	715	715
Diameter	mm	800	800	800	800	800	800	800	800	800	800	800	800	800	800	800	800	800
Water heat exchanger	Type	Single Pass Shell&Tube																
Water volume	l	251	243	243	403	403	386	386	979	979	979	850	850	871	850	850	850	850
Nominal Water pressure drop	kPa	77	54	61	58	65	43	49	64	73	79	59	65	65	71	37	39	41
Piping connections	mm	6,6	6,6	6,6	8,6	8,6	8,6	8,6	10,8	10,8	10,8	10,8	10,8	10,8	10,8	10,8	10,8	10,8
Standard voltage	V/ph/Hz	400 V / 3ph / 50 Hz																

NOTES:
(1) 12/7°C evaporator water temperature; 35°C ambient temperature
(2) At 1 m, according to ISO 3744, at free field semispherical conditions

Weight and dimensions		210.2	230.2	250.2	280.2	300.2	325.2	360.2	385.2	402.2	434.2	445.3	470.3	490.3	515.3	540.3	555.3	570.3
Shipping weight	kg	6280	6630	6650	7480	7760	8510	8530	9190	9190	9190	12010	12350	12700	13040	13040	13040	13040
Operating weight	kg	6520	6870	6890	7880	8160	8900	8920	10180	10180	10180	12870	13200	13580	13910	13910	13910	13910
(A) Length	mm	6185	7085	7085	7985	7985	9785	9785	9785	9785	9785	11985	12885	13785	14685	14685	14685	14685
(B) Width	mm	2285	2285	2285	2285	2285	2285	2285	2285	2285	2285	2285	2285	2285	2285	2285	2285	2285
(C) Height	mm	2540	2540	2540	2540	2540	2540	2540	2540	2540	2540	2540	2540	2540	2540	2540	2540	2540



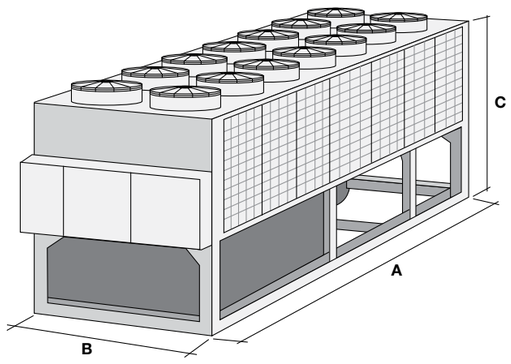
AWS
AIR COOLED CHILLER WITH SCREW COMPRESSORS

TECHNICAL DATA AWS PR ST/LN - cooling only

AWS PR ST/LN		221.2	243.2	266.2	290.2	313.2	350.2	378.2	420.2	444.2
Cooling Capacity[1]	kW	821	890	975	1074	1158	1279	1390	1474	1562
Unit power input[1]	kW	225	249	274	301	330	363	396	424	453
EER	--	3,64	3,58	3,56	3,56	3,51	3,52	3,51	3,48	3,45
ESEER	--	4,44	4,50	4,41	4,53	4,39	4,44	4,31	4,33	4,32
Sound Pressure ST[1]	dB(A)	79,5	79,5	79,5	80,0	80,5	80,4	80,5	80,8	81,1
Sound Pressure LN[1]	dB(A)	76,9	76,9	76,9	77,0	77,1	77,1	77,2	77,5	77,8
Compressor	Type	Semi-hermetic single screw compressor								
Quantity	No.	2	2	2	2	2	2	2	2	2
Minimum capacity	%	12,5	12,5	12,5	12,5	12,5	12,5	12,5	12,5	12,5
Refrigerant	Type	R-134a	R-134a	R-134a	R-134a	R-134a	R-134a	R-134a	R-134a	R-134a
N. of circuits	No.	2	2	2	2	2	2	2	2	2
Air heat exchanger	Type	High efficiency fin and tube type with integral subcooler								
Fan	Type	Direct propeller								
Quantity	No.	18	18	18	20	20	22	24	24	24
Motor input	kW	1,75	1,75	1,75	1,75	1,75	1,75	1,75	1,75	1,75
Speed	rpm	920	920	920	920	920	920	920	920	920
Diameter	mm	800	800	800	800	800	800	800	800	800
Water heat exchanger	Type	Single Pass Shell&Tube								
Water volume	l	599	599	1043	1027	1027	995	979	979	979
Nominal Water pressure drop	kPa	57	65	30	61	69	60	73	81	89
Piping connections	"	8,6	8,6	10,8	10,8	10,8	10,8	10,8	10,8	10,8
Standard voltage	V/ph/Hz	400 V / 3ph / 50 Hz								

NOTES:
(1) 12/7°C evaporator water temperature; 35°C ambient temperature
(2) At 1 m, according to ISO 3744, at free field semispherical conditions

Weight and dimensions		221.2	243.2	266.2	290.2	313.2	350.2	378.2	420.2	444.2
Shipping weight (ST)	kg	7530	7530	7660	8290	8550	9390	9730	9730	9730
Operating weight (ST)	kg	8130	8130	8700	9330	9590	10380	10720	10720	10720
Shipping weight (LN)	kg	7820	7820	7950	8580	8840	10380	10720	10720	10720
Operating weight (LN)	kg	8420	8420	8990	9620	9880	10670	11010	11010	11010
(A) Length	mm	8885	8885	8885	9785	9785	11085	11985	11985	11985
(B) Width	mm	2285	2285	2285	2285	2285	2285	2285	2285	2285
(C) Height	mm	2540	2540	2540	2540	2540	2540	2540	2540	2540

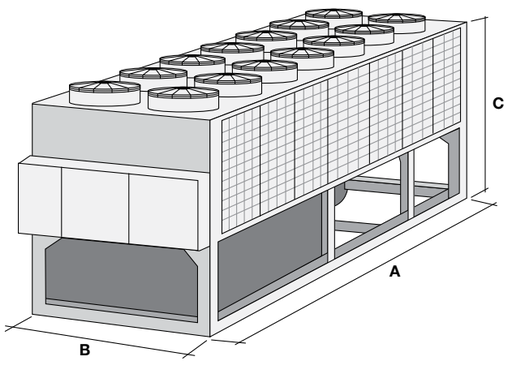


TECHNICAL DATA AWS PR XN - cooling only

AWS PR XN		221.2	243.2	266.2	290.2	313.2	350.2	378.2	420.2	444.2
Cooling Capacity[1]	kW	809	875	956	1053	1132	1251	1359	1439	1521
Unit power input[1]	kW	219	244	272	299	330	364	396	425	457
EER	--	3,69	3,59	3,51	3,52	3,43	3,44	3,43	3,39	3,33
ESEER	--	4,63	4,59	4,54	4,59	4,5	4,53	4,51	4,50	4,47
Sound Pressure[2]	dB(A)	71,2	71,2	71,2	71,7	72	72	72	72,3	72,6
Compressor	Type	Semi-hermetic single screw compressor								
Quantity	Nr	2	2	2	2	2	2	2	2	2
Minimum capacity	%	12,5	12,5	12,5	12,5	12,5	12,5	12,5	12,5	12,5
Refrigerant	Type	R-134a	R-134a	R-134a	R-134a	R-134a	R-134a	R-134a	R-134a	R-134a
N. of circuits	Nr	2	2	2	2	2	2	2	2	2
Air heat exchanger	Type	High efficiency fin and tube type with integral subcooler								
Fan	Type	Direct propeller								
Quantity	Nr	18	18	18	20	20	22	24	24	24
Motor input	kW	0,78	0,78	0,78	0,78	0,78	0,78	0,78	0,78	0,78
Speed	RPM	715	715	715	715	715	715	715	715	715
Diameter	mm	800	800	800	800	800	800	800	800	800
Water heat exchanger	Type	Single Pass Shell&Tube								
Water volume	l	599	599	1043	1027	1027	995	979	979	979
Nominal Water pressure drop	kPa	56	63	29	59	66	58	70	77	84
Piping connections	--	8,6	8,6	10,8	10,8	10,8	10,8	10,8	10,8	10,8
Standard voltage	V/ph/Hz	400 V / 3ph / 50 Hz								

NOTES:
(1) 12/7°C evaporator water temperature; 35°C ambient temperature
(2) At 1 m, according to ISO 3744, at free field semispherical conditions

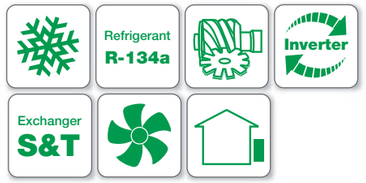
Weight and dimensions		221.2	243.2	266.2	290.2	313.2	350.2	378.2	420.2	444.2
Shipping weight	kg	7820	7820	7950	8580	8840	10380	10720	10720	10720
Operating weight	kg	8420	8420	8990	9620	9880	10670	11010	11010	11010
(A) Length	mm	8885	8885	8885	9785	9785	11085	11985	11985	11985
(B) Width	mm	2285	2285	2285	2285	2285	2285	2285	2285	2285
(C) Height	mm	2540	2540	2540	2540	2540	2540	2540	2540	2540



A GLOBAL LEADER IN SYSTEM SOLUTIONS FOR AIR CONDITIONING, HEATING, VENTILATING AND REFRIGERATION

McQuay Air Conditioning

Cooling capacity: 635 kW ÷ 1802 kW



GENERAL CHARACTERISTICS

- Stepless capacity control
- Indipendent circuit for each compressor
- Inverter driven single-screw compressors; start is inverter type
- Direct expansion shell&tube evaporator with single-pass; shall and tubes plate made of carbon steel; high efficiency copper tubes; electrical heater to prevent freezing insulation made of cloded cells material, victaulic water connections
- R134 refrigerant
- High efficiency fin and tube type with integral subcooler
- Direct propeller fans type
- Electronic expansion valve
- MicroTech III controller compatible with BMS
- Cabinetand structure made of galvanized steel sheet and painted to provide a high resistance to corrosion; colour Ivory White (Munsell code 5Y7.5/1) (±RAL7044)

VERSIONS

EFFICIENCY

XE Standard efficiency — [(1)]**EER up to 3,14**, [(1)]**ESEER up to 5,24**

(1) (Standard Sound)

SOUND LEVELS

ST Standard sound	**81,0 ÷ 82,9 dB(A)**
LN Low sound	**81,0 ÷ 82,9 dB(A)**
XN Extra low sound	**73,5 ÷ 75,9 dB(A)**

STANDARD OPTIONS

- Double setpoint
- Compressor thermal overload relays
- Inverter compressor starter
- Phase monitor
- Evaporator victaulic kit
- 20mm evaporator insulation
- Evaporator electric heater
- Electronic expansion valve
- Discharge line shut off valves
- Ambient outside temperature sensor and set-point reset
- Hour run meter
- General fault contactor
- Set-point reset
- Demand limit
- Alarm from external device
- Fan circuit breakers
- Main switch interlock door
- Emergency stop

OPTIONS ON REQUEST

- Total heat recovery / Partial heat recovery
- Brine version
- Under/Over voltage control
- Ampere / Volt meter
- Current limit
- Evaporator flanged kit
- Speedtrol
- Condenser coil guards
- Evaporator area guards
- Cu-Cu condensing coils / Cu-Cu-Sn condensing coils
- Alucoat condensing coils
- Evaporator Flow switch
- Suction line shut off valves
- High/Low pressure gauges
- Container kit
- Rubber type antivibration mounts
- Spring type antivibration mounts
- Hydronic kit (single water pump) / (twin water pumps)
- Double pressure relief valve with diverter
- Compressors circuit breakers
- Fan speed regulation (+ Fan silent mode)
- Refrigerant recovery tank
- Ground fault protection relay
- Rapid restart

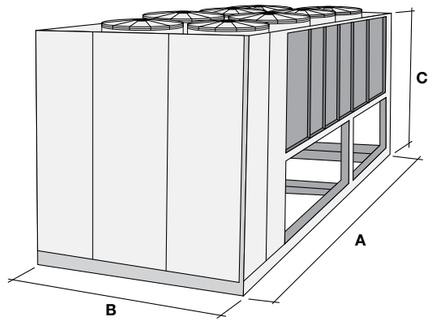
AWS Inverter
AIR COOLES CHILLER WITH INVERTER DRIVEN SCREW COMPRESSORS

TECHNICAL DATA AWS Inverter XE ST/LN - cooling only

AWS Inverter XE ST/LN		184.2	210.2	230.2	250.2	280.2	300.2	325.2	360.2	385.2	402.3	445.3	470.3	490.3
Cooling Capacity[1]	kW	672	738	832	902	1037	1095	1236	1308	1450	1545	1622	1709	1802
Unit power input[1]	kW	245	235	266	305	339	375	400	442	488	531	558	588	611
EER	--	2,74	3,14	3,13	2,96	3,06	2,92	3,09	2,96	2,97	2,91	2,91	2,90	2,95
ESEER	--	5,07	5,13	5,20	5,22	5,24	5,03	4,93	4,74	5,02	5,17	5,03	5,03	4,85
Sound Pressure ST[2]	dB(A)	81,0	81,0	81,1	81,1	81,1	81,1	81,2	81,2	81,2	81,2	82,8	82,9	82,9
Sound Pressure LN[2]	dB(A)	77,5	78,0	78,1	78,1	78,1	78,1	78,2	78,2	78,2	78,2	79,8	79,9	79,9
Compressor	Type	Semi-hermetic single screw compressor Inverter driven												
Quantity	No.	2	2	2	2	2	2	2	2	2	2	3	3	3
Minimum capacity	%	20	20	20	20	20	20	20	20	20	20	13	13	13
Refrigerant	Type	R-134a	R-134a	R-134a	R-134a	R-134a	R-134a	R-134a	R-134a	R-134a	R-134a	R-134a	R-134a	R-134a
N. of circuits	No.	2	2	2	2	2	2	2	2	2	2	3	3	3
Air heat exchanger	Type	High efficiency fin and tube type with integral subcooler												
Fan	Type	Direct propeller												
Quantity	No.	10	12	14	14	14	16	20	20	22	24	24	26	28
Motor input	kW	1,75	1,75	1,75	1,75	1,75	1,75	1,75	1,75	1,75	1,75	1,75	1,75	1,75
Speed	rpm	900	900	900	900	900	900	900	900	900	900	900	900	900
Diameter	mm	800	800	800	800	800	800	800	800	800	800	800	800	800
Water heat exchanger	Type	Single Pass Shell&Tube												
Water volume	l	263	248	241	241	441	441	383	383	374	374	850	850	871
Nominal Water pressure drop	kPa	80	75	55	64	63	69	46	51	61	71	62	68	64
Piping connections	mm	168,3	168,3	168,3	168,3	219,1	219,1	219,1	219,1	219,1	219,1	273,0	273,0	273,0
Standard voltage	V/ph/Hz	400 V / 3ph / 50 Hz												

NOTES:
(1) 12/7°C evaporator water temperature; 35°C ambient temperature
(2) At 1 m, according to ISO 3744, at free field semispherical conditions

Weight and dimensions		184.2	210.2	230.2	250.2	280.2	300.2	325.2	360.2	385.2	402.2	445.3	470.3	490.3
Shipping weight (ST)	kg	5880	6000	6620	6870	7440	7440	8570	8970	9600	9940	11370	12190	12920
Operating weight (ST)	kg	6140	6250	6860	7110	7880	7880	8960	9360	9980	10320	12220	13040	13790
Shipping weight (LN)	kg	6170	6280	6900	7150	7720	7720	8850	9250	9880	10220	11790	12610	13340
Operating weight (LN)	kg	6430	6530	7140	7390	8160	8160	9240	9640	10260	10600	12640	13460	14210
(A) Length	mm	6725	6725	7625	7625	8525	8525	10325	10325	11625	12525	12525	13425	14325
(B) Width	mm	2285	2285	2285	2285	2285	2285	2285	2285	2285	2285	2285	2285	2285
(C) Height	mm	2540	2540	2540	2540	2540	2540	2540	2540	2540	2540	2540	2540	2540

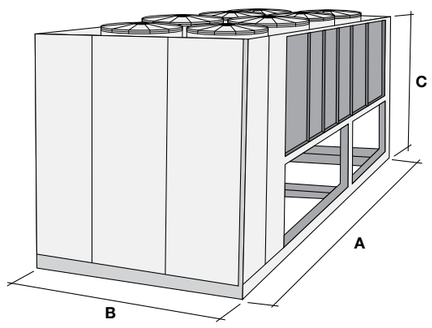


TECHNICAL DATA AWS Inverter XE XN - cooling only

AWS Inverter XE XN		184.2	210.2	230.2	250.2	280.2	300.2	325.2	360.2	385.2	402.2	445.3	470.3	490.3
Cooling Capacity[1]	kW	635	700	789	852	976	1031	1170	1235	1332	1443	1545	1631	1712
Unit power input[1]	kW	260	242	271	314	347	388	408	455	524	589	580	610	631
EER	--	2,44	2,89	2,91	2,71	2,81	2,65	2,86	2,71	2,55	2,45	2,66	2,67	2,71
ESEER	--	5,52	5,71	5,76	5,76	5,79	5,49	5,41	5,05	5,45	5,60	5,51	5,33	5,19
Sound Pressure[2]	dB(A)	73,5	74,0	74,1	74,1	74,1	74,1	74,2	74,2	74,2	74,2	75,8	75,9	75,9
Compressor	Type	Semi-hermetic single screw compressor Inverter driven												
Quantity	Nr	2	2	2	2	2	2	2	2	2	2	3	3	3
Minimum capacity	%	20	20	20	20	20	20	20	20	20	20	13	13	13
Refrigerant	Type	R-134a												
N. of circuits	Nr	2	2	2	2	2	2	2	2	2	2	3	3	3
Air heat exchanger	Type	High efficiency fin and tube type with integral subcooler												
Fan	Type	Direct propeller												
Quantity	Nr	10	12	14	14	16	16	20	20	22	24	24	26	28
Motor input	kW	0,78	0,78	0,78	0,78	0,78	0,78	0,78	0,78	0,78	0,78	0,78	0,78	0,78
Speed	RPM	700	700	700	700	700	700	700	700	700	700	700	700	700
Diameter	mm	800	800	800	800	800	800	800	800	800	800	800	800	800
Water heat exchanger	Type	Single Pass Shell&Tube												
Water volume	l	263	248	241	241	441	441	383	383	374	374	850	850	871
Nominal Water pressure drop	kPa	73	69	51	58	57	63	43	47	53	59	57	62	59
Piping connections	mm	168,3	168,3	168,3	168,3	219,1	219,1	219,1	219,1	219,1	219,1	273,0	273,0	273,0
Standard voltage	V/ph/Hz	400 V / 3ph / 50 Hz												

NOTES:
(1) 12/7°C evaporator water temperature; 35°C ambient temperature
(2) At 1 m, according to ISO 3744, at free field semispherical conditions

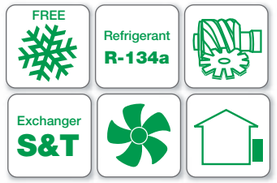
Weight and dimensions		184.2	210.2	230.2	250.2	280.2	300.2	325.2	360.2	385.2	402.2	445.3	470.3	490.3
Shipping weight	kg	6170	6470	7100	7360	7950	7950	9120	9530	10180	10530	12150	12990	13740
Operating weight	kg	6430	6720	7340	7600	8390	8390	9500	9920	10550	10910	13000	13840	14610
(A) Length	mm	6725	6725	7625	7625	8525	8525	10325	10325	11625	12525	12525	13425	14325
(B) Width	mm	2285	2285	2285	2285	2285	2285	2285	2285	2285	2285	2285	2285	2285
(C) Height	mm	2540	2540	2540	2540	2540	2540	2540	2540	2540	2540	2540	2540	2540



AWS Free Cooling

AIR COOLED FREE COOLING CHILLER WITH SCREW COMPRESSORS

Cooling capacity: 602 kW ÷ 1555 kW



GENERAL CHARACTERISTICS

- Stepless capacity control
- Indipendent circuit for each compressor
- Direct expansion shell&tube evaporator with single-pass; shall and tubes plate made of carbon steel; high efficiency copper tubes; electrical heater to prevent freezing insulation made of cloded cells material, victaulic water connections
- R-134a refrigerant
- Free Cooling (Air - Water heat exchanger)
- "Standard Glycol" Free Cooling
- The principal hydraulic circuit is connected directly (through a three way valve) with the free cooling section, creating a circuit with a water-glycol mixture. The free cooling section includes:
  - Air-water heat exchanger
  - Three way valve (as standard)
- MicroTech III controller compatible with BMS
- Cabinetand structure made of galvanized steel sheet and painted to provide a high resistance to corrosion; colour Ivory White (Munsell code 5Y7.5/1) (±RAL7044)

VERSIONS

EFFICIENCY

XE Standard efficiency	(1)**EER up to 2,90** (1)**ESEER up to 4,01**
Free Cooling mode	(1)**EER up to 9,67**

(1) (Standard Sound)

SOUND LEVELS

ST Standard sound	**79,0 ÷ 80,4 dB(A)**
LN Low sound	**75,5 ÷ 77,1 dB(A)**
XN Extra low sound	**71,0 ÷ 72,5 dB(A)**

STANDARD OPTIONS

- Wye-Delta compressor starter (Y-D)
- Double setpoint
- Phase monitor
- Evaporator flange kit
- 20mm evaporator insulation
- Evaporator electric heater
- Electronic expansion valve
- Discharge line shut-off valve
- Ambient outside temperature sensor and setpoint reset
- Hour run meter
- General fault contactor
- Setpoint reset, demand limit and alarm from external device
- Fans circuit breakers
- Main switch interlock door
- Emergency stop
- Fans speed regulation (+ fan silent mode)

OPTIONS ON REQUEST

- Brine version
- Condenser coil guards
- Evaporator area guards
- Cu-Cu condenser coil
- Cu-Cu-Sn condenser coil
- Alucoat fins coil
- Suction line shut-off valve
- High/Low pressure side manometers
- Double pressure relief valve with diverter
- Soft starter
- Compressor thermal overload relays
- Under / Over voltage control
- Energy meter
- Capacitors for power factor correction
- Current limit
- Evaporator flow switch
- Compressors circuit breakers
- Ground fault relay
- Rapid restart
- Optimized free cooling
- Rubber anti vibration mounts
- Spring anti vibration mounts

AWS Free Cooling

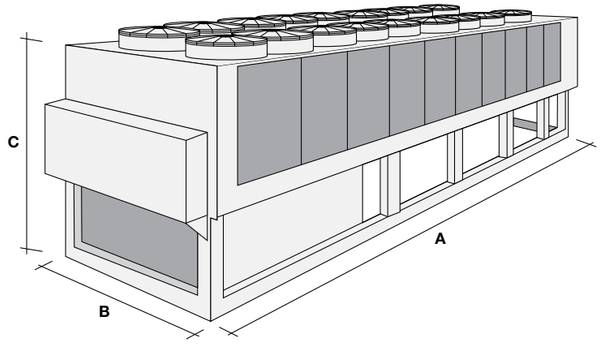
AIR COOLES CHILLER WITH INVERTER DRIVEN SCREW COMPRESSORS

TECHNICAL DATA AWS Free Cooling XE ST/LN - standard glycol

AWS-XE ST/LN FC-SG		184.2	210.2	230.2	250.2	280.2	300.2	325.2	360.2	385.2	402.2	434.2
Cooling Capacity[1]	kW	640	772	852	902	1027	1089	1269	1349	1435	1493	1555
Unit power input[1]	kW	257	272	293	324	360	399	397	439	454	492	530
EER	--	2,5	2,8	2,9	2,8	2,9	2,7	3,2	3,1	3,2	3,0	2,9
ESEER	--	3,4	3,5	3,8	3,5	3,7	3,5	3,9	3,8	4,0	4,0	3,8
Sound Pressure ST[2]	dB(A)	79,0	79,7	79,7	79,7	80,2	80,7	80,3	80,4	80,4	80,4	80,4
Sound Pressure LN[2]	dB(A)	75,5	76,3	76,5	76,5	76,9	77,1	76,7	76,8	76,8	76,8	76,8
Compressor	Type	Semi-hermetic single screw compressor										
Quantity	No.	2,0	2,0	2,0	2,0	2,0	2,0	2,0	2,0	2,0	2,0	2,0
Minimum capacity	%	12,5	12,5	12,5	12,5	12,5	12,5	12,5	12,5	12,5	12,5	12,5
Refrigerant	Type	R-134a	R-134a	R-134a	R-134a	R-134a	R-134a	R-134a	R-134a	R-134a	R-134a	R-134a
N. of circuits	No.	2,0	2,0	2,0	2,0	2,0	2,0	2,0	2,0	2,0	2,0	3,0
Air heat exchanger	Type	High efficiency fin and tube type with integral subcooler										
Fan	Type	Direct propeller										
Quantity	No.	10	12	14	14	16	16	20	20	20	20	20
Motor input	kW	5,2	6,3	6,8	7,3	8,4	9,2	14,1	18,1	10,8	18,1	12,7
Speed	rpm	920	920	920	920	920	920	920	920	920	920	920
Diameter	mm	800	800	800	800	800	800	800	800	800	800	800
Water heat exchanger	Type	Single Pass Shell&Tube										
Water volume	l	266	251	243	243	403	403	386	386	979	979	979
Nominal Water pressure drop	kPa	85	105	90	101	111	124	98	110	139	150	162
Piping connections	mm	168,3	168,3	168,3	219,1	219,1	219,1	219,1	219,1	273,0	273,0	273,0
Standard voltage	V/ph/Hz	400 V / 3ph / 50 Hz										
FREE COOLING MODE												
Unit capacity - Cooling	kW	640	772	852	902	1027	1089	1269	1349	1435	1493	1555
DATA WITH AIR TEMPERATURE 5°C												
Free Cooling capacity	kW	295	365	413	434	502	524	594	652	663	659	722
Mechanical capacity	kW	345	407	439	468	524	565	675	697	772	834	834
Unit power input - Cooling	kW	74,3	87,9	90,7	99,8	109	118	131	143	152	160	170
EER	--	8,62	8,78	9,4	9,04	9,43	9,19	9,67	9,45	9,42	9,33	9,16
Air Temperature	°C	5	5	5	5	5	5	5	5	5	5	5
Water temperature - inlet	°C	16	16	16	16	16	16	16	16	16	16	16
Water flow rate - Cooling	l/s	27,8	33,5	37	39,2	44,6	47,3	55,1	58,6	62,4	64,9	67,6
Water pressure drop - Cooling	kPa	128	172	178	198	245	272	232	259	305	328	354
FREE COOLING 100%												
Air Temperature for Free Cooling 100%	°C	-0,8	-0,1	1,2	0,4	0,9	0,1	2,9	2,1	1,3	0,7	0,1

NOTES:
(1) 16/10°C evaporator water temperature; 35°C ambient temperature
(2) At 1 m, according to ISO 3744, at free field semispherical conditions

Weight and dimensions		184.2	210.2	230.2	250.2	280.2	300.2	325.2	360.2	385.2	402.2	434.2
Shipping weight (ST)	kg	7760	8340	8900	8900	10160	10420	11900	11900	12540	12620	12670
Operating weight (ST)	kg	8040	8580	9140	9140	10560	10820	12290	12290	13530	13610	13660
Shipping weight (LN)	kg	8050	8620	9190	9190	10450	10710	12190	12190	12830	12910	12960
Operating weight (LN)	kg	8320	8870	9430	9430	10850	11110	12580	12580	13820	13900	13950
(A) Length	mm	6185	7085	7985	7985	8885	8885	10685	10685	10685	10685	10685
(B) Width	mm	2480	2480	2480	2480	2480	2480	2480	2480	2480	2480	2480
(C) Height	mm	2565	2565	2565	2565	2565	2565	2565	2565	2565	2565	2565



AWS Free Cooling

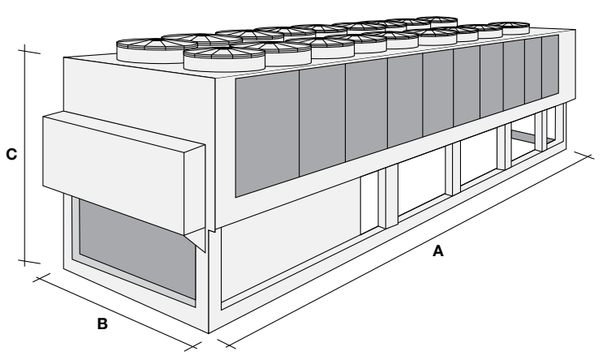
AIR COOLED FREE COOLING CHILLER WITH SCREW COMPRESSORS

TECHNICAL DATA AWS Free Cooling XE XN - standard glycol

AWS-XE XN FC-SG		184.2	210.2	230.2	250.2	280.2	300.2	325.2	360.2	385.2	402.2	434.2
Cooling Capacity[1]	kW	602	739	821	866	981	1034	1229	1302	1374	1424	1476
Unit power input[1]	kW	263	278	299	334	368	412	403	450	466	511	556
EER	--	2,3	2,7	2,7	2,6	2,7	2,5	3,0	2,9	2,9	2,8	2,7
ESEER	--	3,6	3,7	3,9	3,6	3,8	3,6	4,1	3,9	4,1	4,0	3,9
Sound Pressure[2]	dB(A)	71,0	71,5	71,5	71,5	72,3	72,5	72,2	72,3	72,3	72,5	72,5
Compressor	Type	Semi-hermetic single screw compressor										
Quantity	No.	2,0	2,0	2,0	2,0	2,0	2,0	2,0	2,0	2,0	2,0	2,0
Minimum capacity	%	12,5	12,5	12,5	12,5	12,5	12,5	12,5	12,5	12,5	12,5	12,5
Refrigerant	Type	R-134a	R-134a	R-134a	R-134a	R-134a	R-134a	R-134a	R-134a	R-134a	R-134a	R-134a
N. of circuits	No.	2,0	2,0	2,0	2,0	2,0	2,0	2,0	2,0	2,0	2,0	2,0
Air heat exchanger	Type	High efficiency fin and tube type with integral subcooler										
Fan	Type	Direct propeller										
Quantity	No.	10	12	14	14	16	16	20	20	20	20	20
Motor input	kW	3,0	3,6	4,0	4,6	4,9	5,6	8,3	6,0	6,6	7,2	7,5
Speed	rpm	715	715	715	715	715	715	715	715	715	715	715
Diameter	mm	800	800	800	800	800	800	800	800	800	800	800
Water heat exchanger	Type	Single Pass Shell&Tube										
Water volume	l	266	251	243	243	403	403	386	386	979	979	979
Nominal Water pressure drop	kPa	76	97	84	93	102	113	92	103	128	137	146
Piping connections	mm	168,3	168,3	168,3	219,1	219,1	219,1	219,1	219,1	273,0	273,0	273,0
Standard voltage	V/ph/Hz	400 V / 3ph / 50 Hz										
FREE COOLING MODE												
Unit capacity - Cooling	kW	602	739	821	866	981	1034	1229	1302	1374	1424	1476
DATA WITH AIR TEMPERATURE 5°C												
Free Cooling capacity	kW	270	334	379	409	459	492	562	598	619	640	668
Mechanical capacity	kW	332	405	442	457	523	542	667	704	756	784	809
Unit power input - Cooling	kW	70,3	84,3	88,4	95,9	106	112	127	141	146	154	161
EER	--	8,56	8,77	9,29	9,03	9,27	9,21	9,67	9,22	9,4	9,26	9,15
Air Temperature	°C	5	5	5	5	5	5	5	5	5	5	5
Water temperature - inlet	°C	16	16	16	16	16	16	16	16	16	16	16
Water flow rate - Cooling	l/s	26,2	32,1	35,7	37,6	42,6	44,9	53,4	56,6	59,7	61,9	64,1
Water pressure drop - Cooling	kPa	115	159	167	184	225	248	219	243	282	301	321
FREE COOLING 100%												
Air Temperature for Free Cooling 100%	°C	-2,3	-1,9	-0,6	-1,5	-0,9	-1,7	0,7	-0,2	-1,1	-1,6	-2,3

NOTES:
(1) 16/10°C evaporator water temperature; 35°C ambient temperature
(2) At 1 m, according to ISO 3744, at free field semispherical conditions

Weight and dimensions		184.2	210.2	230.2	250.2	280.2	300.2	325.2	360.2	385.2	402.2	434.2
Shipping weight	kg	8050	8620	9190	9190	10450	10710	12190	12190	12830	12910	12960
Operating weight	kg	8320	8870	9430	9430	10850	11110	12580	12580	13820	13900	13950
(A) Length	mm	6185	7085	7985	7985	8885	8885	10685	10685	10685	10685	10685
(B) Width	mm	2480	2480	2480	2480	2480	2480	2480	2480	2480	2480	2480
(C) Height	mm	2565	2565	2565	2565	2565	2565	2565	2565	2565	2565	2565



A GLOBAL LEADER IN SYSTEM SOLUTIONS FOR AIR CONDITIONING, HEATING, VENTILATING AND REFRIGERATION

McQuay Air Conditioning

WATER COOLED CHILLERS

Cooling capacity: 120 kW ÷ 570 kW

Refrigerant **R-134a**

Exchanger **Phe**

GENERAL CHARACTERISTICS

- Stepless capacity control
- Frame 3100 and 3200 single screw compressors; star - delta standard start
- Direct expansion plate to plate type evaporator, one per circuit; heat exchanger made of stainless steel brazed plates and covered with a 10 mm closed cell insulation material.
- Direct expansion shell and tube condenser, one per circuit; copper tubes rolled into steel tube sheets; victaulic water connections.
- R134a refrigerant
- Microtech III controller compatible with BMS

VERSIONS

SE Standard efficiency — **EER up to 4,41**, **ESEER up to 5,37**

ME Condenserless — **EER up to 3,63**

SOUND LEVELS

Standard sound — **79,0 ÷ 82,0 dB(A)**

STANDARD OPTIONS

- Wye delta starter (Y-Δ)
- Double set point
- Phase monitor
- Evaporator victaulic kit
- 20 mm evaporator insulation
- Condenser victaulic kit
- Condenser Water Side Design 16 Bar
- Condenser 2 passes (Δ t 4-8°C)
- Evaporator flow switch
- Electronic expansion device
- Discharge line shut off valve
- Suction line shut off valve
- Set-point reset, demand limit and alarm from external device
- Hour run meter
- General fault contactor
- Main switch interlock
- Emergency stop

OPTIONS ON REQUEST

- Soft starter
- Heat pump version / Brine version
- Compressor thermal relays
- Under / overvoltage control
- Energy meter
- Capacitors cosfi 0.9
- Current limit - display
- Condenser double flanges kit
- 20mm condenser insulation
- Cu-ni 90-10 condenser tubes
- Water pressure differential switch on evaporator
- Rubber anti vibration mount
- Sound proof system
- High/Low pressure side manometers
- Double pressure relief valve with diverter
- Automatic circuit breakers
- Ground fault relay
- Transport kit
- Container kit

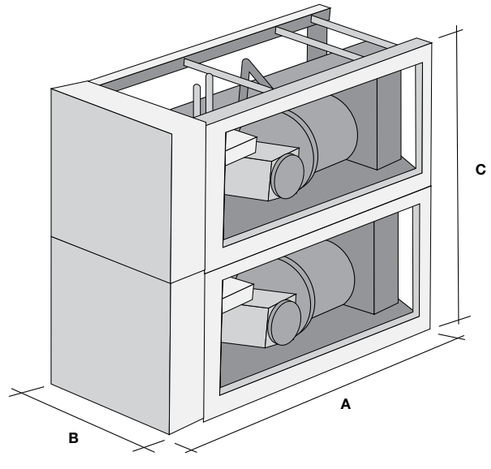
WHB
WATER COOLED CHILLER WITH SCREW COMPRESSORS

TECHNICAL DATA WHB SE ST - cooling only

WHB SE ST		034.1	040.1	043.1	051.1	057.1	071.1	080.1	085.2	094.2	102.2	108.2	114.2	128.2	142.2	151.2	159.2
Cooling Capacity[1]	kW	120	146	155	178	208	256	285	310	334	357	386	416	464	513	541	570
Unit power input[1]	kW	27,3	33,3	38,5	44,2	49,3	58,7	68,3	77,0	82,7	88,4	98,6	98,6	108	117	127	137
EER	--	4,40	4,38	4,03	4,03	4,22	4,37	4,18	4,03	4,04	4,04	3,91	4,22	4,30	4,38	4,26	4,16
ESEER	--	5,01	4,67	4,67	4,66	4,75	5,20	4,46	4,80	4,84	5,00	4,79	5,17	5,27	5,37	5,25	4,81
Heating Capacity[2]	kW	142	172	188	216	249	305	340	377	405	432	466	499	554	610	645	681
Unit power input[2]	kW	32,9	40,1	46,4	53,5	59,6	71,7	80,8	92,9	99,9	107	113	119	131	143	152	162
COP[2]	--	4,32	4,29	4,05	4,04	4,18	4,26	4,21	4,06	4,05	4,04	4,12	4,19	4,22	4,26	4,23	4,22
Sound Pressure[3]	dB(A)	79,0	79,0	79,0	79,0	79,0	79,0	79,0	82,0	82,0	82,0	82,0	82,0	82,0	82,0	82,0	82,0
Compressor	Type	Semi-hermetic single screw compressor															
Quantity	No.	1	1	1	1	1	1	1	2	2	2	2	2	2	2	2	2
Minimum capacity	%	25	25	25	25	25	25	25	12,5	12,5	12,5	12,5	12,5	12,5	12,5	12,5	12,5
Refrigerant	Type	R-134a															
N. of circuits	No.	1	1	1	1	1	1	1	2	2	2	2	2	2	2	2	2
Evaporator	Type	Brased plate, one per circuit															
Quantity	No.	1	1	1	1	1	1	1	2	2	2	2	2	2	2	2	2
Water volume	l	14,3	18,1	14,4	16,7	20,3	26,1	26,1	28,8	31,1	33,3	36,9	40,5	46,4	52,2	52,2	52,2
Nominal Water pressure drop	kPa	15	13	40	38	36	28	33	40	40	38	38	36	36	28	28	33
Water connections size	mm	76,2	76,2	76,2	76,2	76,2	76,2	76,2	76,2	76,2	76,2	76,2	76,2	76,2	76,2	76,2	76,2
Condenser	Type	Shell&Tube															
Quantity	No.	1	1	1	1	1	1	1	2	2	2	2	2	2	2	2	2
Water volume	l	20,0	20,1	22,7	25,3	28,7	28,7	32,0	45,4	48,0	50,6	54,0	57,3	57,3	57,3	60,7	64,0
Nominal Water pressure drop	kPa	20	12	11	11	11	16	26	11	11	11	11	11	11	16	16	26
Water connections size	''	2"½	4"	4"	4"	4"	4"	4"	4"	4"	4"	4"	4"	4"	4"	4"	4"
Standard voltage	V/ph/Hz	400 V / 3ph / 50 Hz															

NOTES:
(1) 12/7°C entering/leaving evaporator water temperature; 30/35°C entering/leaving condenser water temperature
(2) 12/7°C entering/leaving evaporator water temperature; 40/45°C entering/leaving condenser water temperature
(3) At 1 m, according to ISO 3744, at free field semispherical conditions

Weight and dimensions		034.1	040.1	043.1	051.1	057.1	071.1	080.1	085.2	094.2	102.2	108.2	114.2	128.2	142.2	151.2	159.2
Shipping weight	kg	1177	1233	1334	1366	1416	1600	1607	2668	2700	2732	2782	2832	3016	3200	3207	3215
Operating weight	kg	1211	1276	1378	1415	1473	1663	1675	2755	2792	2830	2888	2946	3136	3327	3338	3350
(A) Length	mm	2684	2684	2684	2684	2684	2684	2684	2684	2684	2684	2684	2684	2684	2684	2684	2684
(B) Width	mm	913	913	913	913	913	913	913	913	913	913	913	913	913	913	913	913
(C) Height	mm	1020	1020	1020	1020	1020	1020	1020	2000	2000	2000	2000	2000	2000	2000	2000	2000



WHB

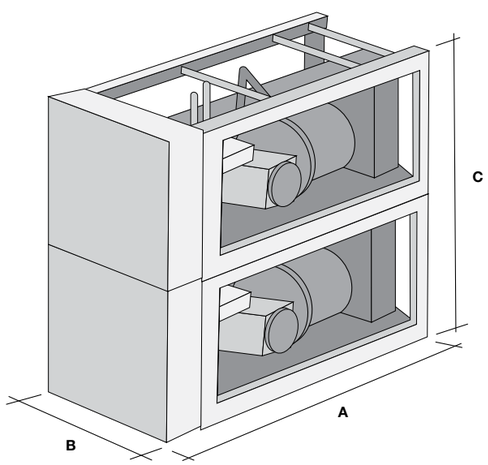
WATER COOLED CHILLER WITH SCREW COMPRESSORS

TECHNICAL DATA WHB ME ST - cooling only

WHB ME ST		034.1	040.1	043.1	051.1	057.1	071.1	080.1	085.2	094.2	102.2	108.2	114.2	128.2	142.2	151.2	159.2
Cooling Capacity[1]	kW	110	128	143	164	192	237	265	286	307	328	356	383	429	474	502	530
Unit power input[1]	kW	30,9	38,0	43,3	49,8	55,3	65,2	74,5	86,5	93,0	99,5	105	111	121	130	140	149
EER	--	3,55	3,36	3,31	3,30	3,47	3,63	3,56	3,31	3,30	3,30	3,39	3,47	3,56	3,63	3,59	3,56
Sound Pressure[2]	dB(A)	79,0	79,0	79,0	79,0	79,0	79,0	79,0	82,0	82,0	82,0	82,0	82,0	82,0	82,0	82,0	82,0
Compressor	Type	Semi-hermetic single screw compressorX															
Quantity	No.	1	1	1	1	1	1	1	2	2	2	2	2	2	2	2	2
Minimum capacity	%	25	25	25	25	25	25	25	12,5	12,5	12,5	12,5	12,5	12,5	12,5	12,5	12,5
Refrigerant	Type	R-134a															
N. of circuits	No.	1	1	1	1	1	1	1	2	2	2	2	2	2	2	2	2
Evaporator	Type	Brased plate, one per circuit															
Quantity	No.	1	1	1	1	1	1	1	2	2	2	2	2	2	2	2	2
Water volume	l	14	18	14	17	20	26	26	29	31	33	37	41	46	52	52	52
Nominal Water pressure drop	kPa	14	12	36	34	32	25	31	36	36	34	34	32	32	25	25	31
Water connections size	--	3"	3"	3"	3"	3"	3"	3"	3"	3"	3"	3"	3"	3"	3"	3"	3"
Liquid connections Inlet	--	1"3/8	1"3/8	1"3/8	1"3/8	1"3/8	1"3/8	1"3/8	1"	1"	1"	1"	1"	1"	1"	1"	1"
Gas Discharge connections Outlet	--	2"	2"	2"	2"	2"	2"	2"	2"	2"	2"	2"	2"	2"	2"	2"	2"
Standard voltage	V/ph/Hz	400 V / 3ph / 50 Hz															

NOTES:
(1) 12/7°C entering/leaving evaporator water temperature; 45°C saturated discharge temperature at the compressor
(2) At 1 m, according to ISO 3744, at free field semispherical conditions

Weight and dimensions		034.1	040.1	043.1	051.1	057.1	071.1	080.1	085.2	094.2	102.2	108.2	114.2	128.2	142.2	151.2	159.2
Shipping weight	kg	1124	1141	1237	1263	1305	1489	1489	2474	2500	2526	2568	2611	2795	2979	2979	2979
Operating weight	kg	1138	1159	1253	1281	1327	1518	1518	2505	2533	2562	2608	2655	2845	3036	3036	3036
(A) Length	mm	2684	2684	2684	2684	2684	2684	2684	2684	2684	2684	2684	2684	2684	2684	2684	2684
(B) Width	mm	913	913	913	913	913	913	913	913	913	913	913	913	913	913	913	913
(C) Height	mm	1020	1020	1020	1020	1020	1020	1020	2000	2000	2000	2000	2000	2000	2000	2000	2000



A GLOBAL LEADER IN SYSTEM SOLUTIONS FOR AIR CONDITIONING, HEATING, VENTILATING AND REFRIGERATION

McQuay Air Conditioning

Cooling capacity: 166 kW ÷ 604 kW

Refrigerant **R-134a**

Exchanger **S&T**

GENERAL CHARACTERISTICS

- Stepless capacity control
- Independent circuit for each compressor
- Frame 3200 single-screw compressors; Star-Delta standard start
- Direct expansion shell and tube evaporator with single pass; shell and tube plates made of carbon steel; high efficiency copper tubes; insulation made of closed cells material; victaulic water connections
- R134a refrigerant
- Shell and tube condensers; one per each circuit; shell and tube plates made of carbon steel; high efficiency copper tubes; GAS water connections
- Micro Tech III controller compatible with BMS

VERSIONS

SE Standard efficiency	**EER up to 4,00** **ESEER up to 5,33**
XE High efficiency	**EER up to 4,73** **ESEER up to 6,31**
ME Condenserless	**EER up to 3,70**

SOUND LEVELS

Standard sound **69,7 ÷ 71,7 dB(A)**

STANDARD OPTIONS

- Evaporator victaulic kit
- Evaporator water side design pressure 10 bar
- Condenser water side design pressure 16 bar
- Suction line shut-off valve
- Wye Delta Starter (Y-Δ)
- Double Set Point
- Phase Monitor
- Hour run meter
- General fault contactor
- Set-Point reset, demand limit and alarm from external device
- Electronic expansion device

OPTIONS ON REQUEST

- Total heat recovery
- Partial heat recovery
- Soft starter
- Heat pump version
- Brine version
- Compressor thermal relays
- Under / overvoltage control
- Energy meter
- Capacitors cosfi 0.9
- Current limit
- Condenser victalic kit
- Condenser kit
- Condenser double flanges kit
- 20 mm evaporator insulation
- 20 mm condenser insulation
- Cu-ni 90-10 condenser tubes
- Evaporator flow switch
- Condenser flow switch
- Container kit
- Trasport kit
- Rubber anti vibration mount
- Sound proof system
- Double pressure relief valve with diverter
- High/Low pressure side manometer

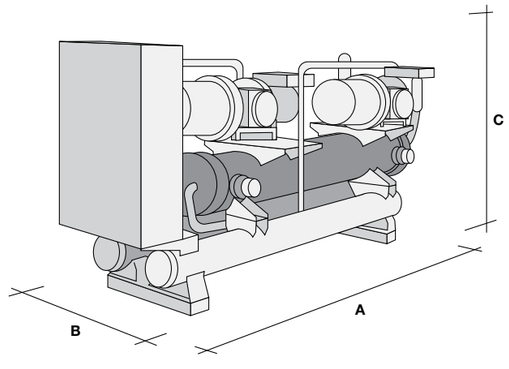
Ecoplus
WATER COOLED CHILLER WITH SCREW COMPRESSORS

TECHNICAL DATA Ecoplus SE ST - cooling only

Ecoplus SE ST		050.1	060.1	073.1	080.1	100.2	110.2	120.2	133.2	146.2	165.2
Cooling Capacity[1]	kW	166	201	253	280	334	372	403	448	494	556
Unit power input[1]	kW	42,2	50,6	64,9	75,3	84,3	93,0	101	115	129	150
EER	--	3,93	3,97	3,90	3,72	3,96	4,00	3,97	3,89	3,83	3,70
ESEER	--	5,00	5,04	4,95	4,72	5,28	5,33	5,29	5,19	5,10	4,93
Sound Pressure[2]	dB(A)	69,7	69,7	69,7	69,7	71,7	71,7	71,7	71,7	71,7	71,7
Compressor	Type	Semi-hermetic single screw compressor									
Quantity	No.	1	1	1	1	2	2	2	2	2	2
Minimum capacity	%	25	25	25	25	12,5	12,5	12,5	12,5	12,5	12,5
Refrigerant	Type	R-134a									
N. of circuits	No.	1	1	1	1	2	2	2	2	2	2
Evaporator	Type	Single Pass Shell&Tube									
Quantity	No.	1	1	1	1	1	1	1	1	1	1
Water volume	l	60	56	123	123	118	113	113	173	168	168
Nominal Water pressure drop	kPa	48	69	43	53	64	63	72	54	54	68
Water connections size	mm	88,9	88,9	114,3	114,3	114,3	114,3	114,3	139,7	139,7	139,7
Condenser	Type	Shell and Single Pass Shell&Tube									
Quantity	No.	1	1	1	1	2	2	2	2	2	2
Water volume	l	13	15	15	15	26	28	30	30	30	30
Nominal Water pressure drop	kPa	39	41	63	77	40	41	41	57	60	75
Water connections size	''	5”	5”	5”	5”	5”	5”	5”	5"	5”	5”
Standard voltage	V/ph/Hz	400V / 3ph / 50Hz									

NOTES:
(1) 12/7°C entering/leaving evaporator water temperature; 30/35°C entering/leaving condenser water temperature
(2) At 1 m, according to ISO 3744, at free field semispherical conditions

Weight and dimensions		050.1	060.1	073.1	080.1	100.2	110.2	120.2	133.2	146.2	165.2
Shipping weight	kg	1393	1410	1503	1503	2687	2687	2702	2757	2762	2762
Operating weight	kg	1470	1480	1650	1650	2840	2840	2860	2970	2970	2970
(A) Length	mm	3435	3435	3435	3435	4305	4305	4305	4305	4305	4305
(B) Width	mm	920	920	920	920	860	860	860	860	860	860
(C) Height	mm	1860	1860	1860	1860	1880	1880	1880	1880	1880	1880

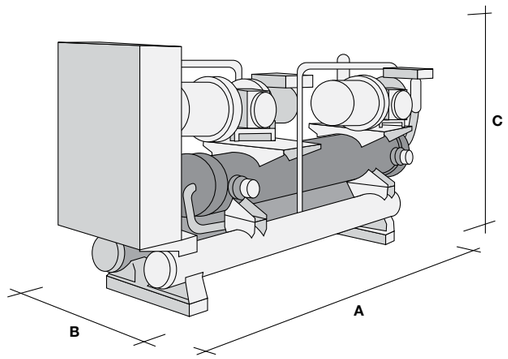


TECHNICAL DATA Ecoplus XE ST - cooling only

Ecoplus XE ST		050.1	060.1	073.1	080.1	100.2	110.2	120.2	133.2	146.2	165.2
Cooling Capacity[1]	kW	186	223	277	307	366	408	444	496	541	604
Unit power input[1]	kW	39,6	48,1	59,4	71,4	79,2	87,2	95,1	105	115	137
EER	--	4,70	4,64	4,66	4,30	4,62	4,68	4,67	4,73	4,72	4,39
ESEER	--	5,97	5,90	5,92	5,46	6,15	6,24	6,23	6,31	6,3	5,85
Sound Pressure[2]	dB(A)	69,7	69,7	69,7	69,7	71,7	71,7	71,7	71,7	71,7	71,7
Compressor	Type	Semi-hermetic single screw compressor									
Quantity	No.	1	1	1	1	2	2	2	2	2	2
Minimum capacity	%	25	25	25	25	12,5	12,5	12,5	12,5	12,5	12,5
Refrigerant	Type	R-134a									
N. of circuits	No.	1	1	1	1	2	2	2	2	2	2
Evaporator	Type	Single Pass Shell&Tube									
Quantity	No.	1	1	1	1	1	1	1	1	1	1
Water volume	l	125	120	110	110	170	285	285	280	280	280
Nominal Water pressure drop	kPa	25	35	35	44	30	24	28	39	46	57
Water connections size	mm	114,3	114,3	114,3	114,3	139,7	168,3	168,3	168,3	168,3	168,3
Condenser	Type	Single Pass Shell&Tube									
Quantity	No.	1	1	1	1	2	2	2	2	2	2
Water volume	l	22	25	25	25	44	47	50	59	68	68
Nominal Water pressure drop	kPa	17	20	25	28	17	17	17	16	15	19
Water connections size	''	5”	5”	5”	5”	5”	5”	5”	5”	5”	5”
Standard voltage	V/ph/Hz	400V / 3ph / 50Hz									

NOTES:
(1) 12/7°C entering/leaving evaporator water temperature; 30/35°C entering/leaving condenser water temperature
(2) At 1 m, according to ISO 3744, at free field semispherical conditions

Weight and dimensions		050.1	060.1	073.1	080.1	100.2	110.2	120.2	133.2	146.2	165.2
Shipping weight	kg	1650	1665	1680	1680	2800	2945	2955	2975	2990	2990
Operating weight	kg	1800	1810	1820	1820	3020	3280	3290	3315	3340	3340
(A) Length	mm	3435	3435	3435	3435	4305	4305	4305	4305	4305	4305
(B) Width	mm	920	920	920	920	860	860	860	860	860	860
(C) Height	mm	1860	1860	1860	1860	1880	1880	1880	1880	1880	1880

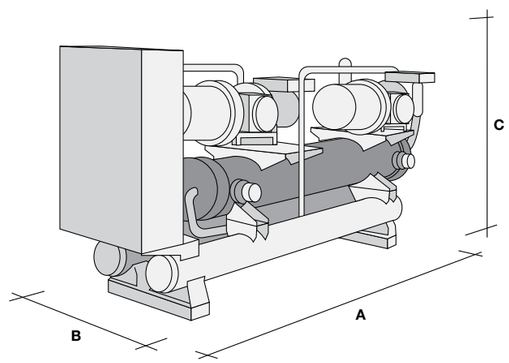


TECHNICAL DATA Ecoplus ME ST - cooling only

Ecoplus ME ST		050.1	060.1	073.1	080.1	100.2	110.2	120.2	133.2	146.2	165.2
Cooling Capacity[1]	kW	161	189	244	270	316	352	381	428	476	526
Unit power input[1]	kW	45,4	54,3	65,9	74,6	90,6	99,7	109	120	132	148
EER	--	3,54	3,48	3,70	3,62	3,48	3,53	3,51	3,57	3,62	3,55
Sound Pressure[2]	dB(A)	69,7	69,7	69,7	69,7	71,7	71,7	71,7	71,7	71,7	71,7
Compressor	Type	Semi-hermetic single screw compressor									
Quantity	No.	1	1	1	1	2	2	2	2	2	2
Minimum capacity	%	25	25	25	25	12,5	12,5	12,5	12,5	12,5	12,5
Refrigerant	Type	R-134a									
N. of circuits	No.	1	1	1	1	2	2	2	2	2	2
Evaporator	Type	Single Pass Shell&Tube									
Quantity	No.	1	1	1	1	1	1	1	1	1	1
Water volume	l	60	56	123	123	118	113	113	173	168	168
Nominal Water pressure drop	kPa	44	60	41	49	57	56	64	50	51	61
Water connections size	mm	88,9	88,9	114,3	114,3	114,3	114,3	114,3	139,7	139,7	139,7
Liquid connections Inlet	mm	42,0	42,0	42,0	42,0	42,0	42,0	42,0	42,0	42,0	42,0
Gas Discharge connections Outlet	mm	67,0	67,0	67,0	67,0	67,0	67,0	67,0	67,0	67,0	67,0
Standard voltage	V/ph/Hz	400V / 3ph / 50Hz									

NOTES:
(1) 12/7°C entering/leaving evaporator water temperature; 45°C saturated discharge temperature at the compressor
(2) At 1m, according to ISO 3744, at free field semispherical conditions

Weight and dimensions		050.1	060.1	073.1	080.1	100.2	110.2	120.2	133.2	146.2	165.2
Shipping weight	kg	1280	1280	1398	1398	2442	2446	2446	2501	2506	2506
Operating weight	kg	1337	1337	1516	1516	2560	2560	2560	2670	2670	2670
(A) Length	mm	3700	3700	3700	3700	4400	4400	4400	4400	4400	4400
(B) Width	mm	1000	1000	1000	1000	1100	1100	1100	1100	1100	1100
(C) Height	mm	1860	1860	1860	1860	1942	1942	1942	1942	1942	1942



McQuay Air Conditioning

PFS C

WATER COOLED CHILLER WITH SCREW COMPRESSORS

Cooling capacity: 369 kW ÷ 1215 kW

Refrigerant **R-134a**

Exchanger **FLD**

GENERAL CHARACTERISTICS

- Stepless capacity control
- Frame 4200 single screw compressor; star - delta standard start
- Shell and tube flooded heat exchangers; high efficiency copper tubes; victaulic water connections
- R134a refrigerant
- Microtech III controller compatible with BMS

VERSIONS

XE High efficiency — **EER up to 6,17**, **ESEER up to 7,43**

SOUND LEVELS

Standard sound — **78,0 ÷ 83,5 dB(A)**

STANDARD OPTIONS

- Wye delta starter (Y-Δ)
- Double set point
- Phase monitor
- Evaporator victaulic kit
- Evaporator water side design pressure 10bar
- 20 mm evaporator insulation
- Condenser victaulic kit
- Condenser Water side design pressure 10bar
- Condenser 2 passes (Δ t 4-8°C)
- Electronic expansion device
- Discharge line shut off valve
- Hour run meter
- General fault contactor
- Set point reset, demand limit and alarm for external device
- Main switch interlock
- Emergency stop
- Evaporator 2 passes

OPTIONS ON REQUEST

- Soft starter
- Heat pump version / Brine version
- Compressor thermal relays
- Under / overvoltage control
- Energy meter
- Capacitors cosfi 0.9
- Current limit - display
- Evaporator / Condenser marine water box
- Condenser / Evaporator double flanges kit
- 20 mm condenser insulation
- Cu-Ni 90-10 condenser tubes
- Condenser 1 pass (Δ t 4-8 °C) / Condenser 3 passes
- Evaporator / condenser flow switch
- Suction line shut off valve
- High / low pressure side manometers
- Rubber anti vibration mount
- Sound proof system
- Double pressure relief valve with diverter
- Automatic circuit breakers
- Ground fault relay
- Evaporator 1 pass / 3 passes
- High temperature kit
- Container kit
- Transport kit

PFS C

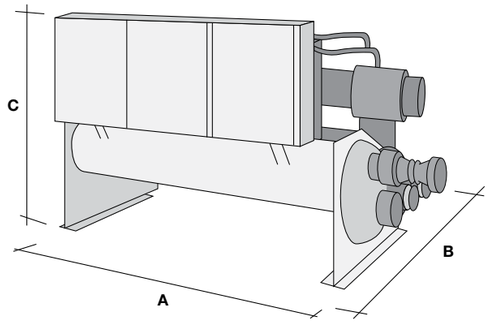
WATER COOLED CHILLER WITH SCREW COMPRESSORS

TECHNICAL DATA PFS C XE ST - cooling only

PFS C XE ST		108.1	130.1	151.1	175.1	215.2	238.2	260.2	280.2	302.2	325.2	350.2
Cooling Capacity[1]	kW	369	445	521	608	748	827	932	978	1050	1133	1215
Unit power input[1]	kW	62,8	75,4	87	101	125	138	151	163	174	188	201
EER	--	5,88	5,90	5,99	6,02	5,98	5,99	6,17	6,00	6,03	6,03	6,04
ESEER	--	6,44	6,47	6,56	6,57	7,16	7,23	7,32	7,37	7,40	7,43	7,42
Sound Pressure[2]	dB(A)	78,0	79,0	80,0	80,0	81,0	81,5	82,0	82,5	83,0	83,5	83,5
Compressor	Type	Semi-hermetic single screw compressor										
Quantity	No.	1	1	1	1	2	2	2	2	2	2	2
Minimum capacity	%	25	25	25	25	12,5	12,5	12,5	12,5	12,5	12,5	12,5
Refrigerant	Type	R-134a										
N. of circuits	No.	1	1	1	1	1	1	1	1	1	1	1
Evaporator	Type	Flooded Shell &Tube										
Quantity	No.	1	1	1	1	1	1	1	1	1	1	1
Water volume	l	78	107	134	160	172	201	261	272	295	310	327
Nominal Water pressure drop	kPa	48	40	38	42	48	40	38	35	35	37	40
Water connections size	"	6	6	8	8	8	8	8	8	8	8	8
Condenser	Type	Flooded Shell &Tube										
Quantity	No.	1	1	1	1	1	1	1	1	1	1	1
Water volume	l	83	111	133	222	233	259	259	283	348	358	376
Nominal Water pressure drop	kPa	35	30	32	28	34	30	37	35	33	33	35
Water connections size	"	6	6	6	8	8	8	8	8	8	8	8
Standard voltage	V/ph/Hz	400V / 3ph / 50Hz										

NOTE:
(1) 12/7°C entering/leaving evaporator water temperature; 30/35°C entering/leaving condenser water temperature

Weight and dimensions		108.1	130.1	151.1	175.1	215.2	238.2	260.2	280.2	302.2	325.2	350.2
Shipping weight	kg	3089	3370	3603	3781	5289	5375	5654	5707	6066	6105	6156
Operating weight	kg	3250	3588	3870	4163	5694	5835	6174	6262	6709	6773	6859
(A) Length	mm	3341	3341	3419	3417	3609	3609	3609	3609	3509	3509	3509
(B) Width	mm	1353	1353	1353	1384	1689	1689	1711	1711	1711	1711	1711
(C) Height	mm	2121	2121	2121	2048	2048	2048	2048	2048	2161	2161	2161



Cooling capacity: 333 kW ÷ 1510 kW

Refrigerant **R-134a**

Exchanger **S&T**

GENERAL CHARACTERISTICS

- Stepless capacity control
- Indipendent circuit for each compressor
- Single-screw compressors; Star-Delta standard start
- Direct expansion shell and tube evaporator with single pass; shell and tube plates made of carbon steel; high efficiency copper tubes; insulation made of closed cells material; Victaulic water connections
- R134a refrigerant
- Shell and tube condensers; one per each circuit; shell and tube plates made of carbon steel; high efficiency copper tubes; GAS water connections
- Micro Tech III controller compatible with BMS

VERSIONS

SE Standard efficiency	**EER up to 4,66** **ESEER up to 5,75**
XE High efficiency	**EER up to 5,12** **ESEER up to 6,31**
ME Condenserless	**EER up to 3,91**

SOUND LEVELS

Standard sound	**75,2 ÷ 83,0 dB(A)**

STANDARD OPTIONS

- Wye Delta Starter (Y-Δ)
- Double setpoint
- Phase monitor
- Evaporator 1 pass
- Evaporator victaulic kit
- Evaporator Water side design pressure 10 bar
- Condenser Water side design pressure 16 bar
- Condenser 1 pass (Δ t 4-8°C) on SE ST
- Condenser 2 passes on XE ST
- Electronic expansion device
- Hour run meter
- General fault contactor
- Set-point reset, demand limit & alarm from external device

OPTIONS ON REQUEST

- Total heat recovery / Partial heat recovery
- Soft starter
- Heat pump version / Brine version
- Under / overvoltage control
- Energy meter
- Capacitors cosfi 0.9
- Current limit - display
- Condenser double flanges kit
- 20 mm evaporator insulation
- 20 mm condenser insulation
- Condenser victaulic kit
- Cu-ni 90-10 condenser tubes
- Condenser 2 passes (Δ t 9-15°C) on SE ST
- Condenser 4 passes on XE ST
- Water pressure differential switch on condenser
- Water pressure differential switch on evaporator
- Evaporator flow switch / Condenser flow switch
- Discharge line shut off valve
- Suction line shut off valve
- Container kit
- Rubber anti vibration mount
- Sound proof system
- Double pressure relief valve with diverter
- High pressure side manometers

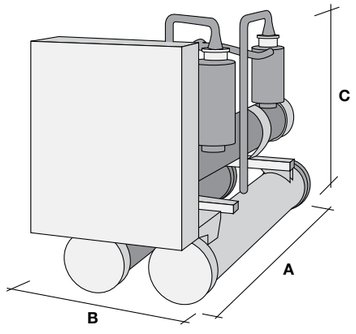
WHS E
WATER COOLED CHILLER WITH SCREW COMPRESSORS

TECHNICAL DATA WHS E SE ST - cooling only

WHS E SE ST		096.1	112.1	131.1	153.1	182.2	200.2	222.2	240.2	251.2	281.2
Cooling Capacity[1]	kW	333	394	460	538	640	705	782	844	9910	986
Unit power input[1]	kW	71,5	85,8	101	120	141	156	171	186	200	218
EER	--	4,66	4,59	4,56	4,47	4,53	4,52	4,57	4,55	4,55	4,51
ESEER	--	5,06	4,96	4,93	4,86	5,54	5,75	5,56	5,7	5,47	5,61
Sound Pressure[2]	dB(A)	75,2	76,2	78,2	78,2	77,8	78,2	78,7	79,8	80,7	80,7
Compressor	Type	Semi-hermetic single screw compressor									
Quantity	No.	1	1	1	1	2	2	2	2	2	2
Minimum capacity	%	25	25	25	25	12,5	12,5	12,5	12,5	12,5	12,5
Refrigerant	Type	R-134a									
N. of circuits	No.	1	1	1	1	2	2	2	2	2	2
Evaporator	Type	Single Pass Shell&Tube									
Quantity	No.	1	1	1	1	1	1	1	1	1	1
Water volume	l	193	193	183	172	271	263	256	248	241	233
Nominal Water pressure drop	kPa	37	50	54	62	55	44	58	53	53	66
Water connections size	mm	168,3	168,3	168,3	168,3	168,3	168,3	168,3	168,3	168,3	168,3
Condenser	Type	Single Pass Shell&Tube									
Quantity	No.	1	1	1	1	2	2	2	2	2	2
Water volume	l	37	43	48	61	74	80	86	93	100	117
Nominal Water pressure drop	kPa	26	28	30	26	25	25	28	28	26	23
Water connections size	''	5"	5"	5"	5"	5"	5"	5"	5"	5"	5"
Standard voltage	V/ph/Hz	400V / 3ph / 50Hz									

NOTES:
(1) 12/7°C entering/leaving evaporator water temperature; 30/35°C entering/leaving condenser water temperature
(2) At 1 m, according to ISO 3744, at free field semispherical conditions

Weight and dimensions		096.1	112.1	131.1	153.1	182.2	200.2	222.2	240.2	251.2	281.2
Shipping weight	kg	2150	2160	2179	2224	3909	3927	3945	3971	3996	4080
Operating weight	kg	2380	2396	2410	2457	4217	4228	4243	4262	4288	4369
(A) Length	mm	3398	3398	3398	3398	4361	4361	4361	4361	4361	4361
(B) Width	mm	1430	1430	1430	1430	1350	1350	1350	1350	1350	1350
(C) Height	mm	1821	1821	1821	1821	2113	2113	2113	2113	2113	2113

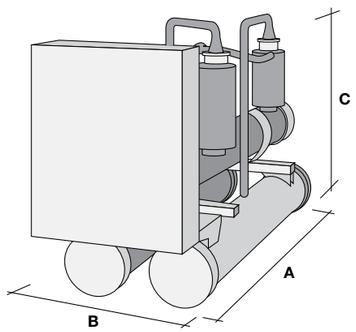


TECHNICAL DATA WHS E SE ST - cooling only

WHS E SE ST		292.2	329.3	342.3	362.3	383.3	398.3	414.3	429.3
Cooling Capacity[1]	kW	1027	1155	1204	1274	1346	1401	1455	1510
Unit power input[1]	kW	237	254	268	282	298	317	335	353
EER	--	4,33	4,54	4,50	4,51	4,51	4,43	4,35	4,28
ESEER	--	5,36	5,51	5,56	5,56	5,54	5,55	5,45	5,27
Sound Pressure[2]	dB(A)	80,7	80,4	80,8	81,2	83	83	83	83
Compressor	Type	Semi-hermetic single screw compressor							
Quantity	No.	2	3	3	3	3	3	3	3
Minimum capacity	%	12,5	8,3	8,3	8,3	8,3	8,3	8,3	8,3
Refrigerant	Type	R-134a							
N. of circuits	No.	2	3	3	3	3	3	3	3
Evaporator	Type	Single Pass Shell&Tube							
Quantity	No.	1	1	1	1	1	1	1	1
Water volume	l	233	504	504	489	472	472	472	472
Nominal Water pressure drop	kPa	51	52	56	47	58	62	66	71
Water connections size	mm	168,3	219,1	219,1	219,1	219,1	219,1	219,1	219,1
Condenser	Type	Single Pass Shell&Tube							
Quantity	No.	2	3	3	3	3	3	3	3
Water volume	l	122	135	143	151	159	167	174	183
Nominal Water pressure drop	kPa	24	24	24	25	24	24	24	23
Water connections size	''	5"	5"	5"	5"	5"	5"	5"	5"
Standard voltage	V/ph/Hz	400V / 3ph / 50Hz							

NOTES:
(1) 12/7°C entering/leaving evaporator water temperature; 30/35°C entering/leaving condenser water temperature
(2) At 1 m, according to ISO 3744, at free field semispherical conditions

Weight and dimensions		292.2	329.3	342.3	362.3	383.3	398.3	414.3	429.3
Shipping weight	kg	4092	6079	6097	6136	6174	6192	6210	6228
Operating weight	kg	4386	6628	6646	6670	6699	6717	6735	6761
(A) Length	mm	4361	4426	4426	4426	4426	4426	4426	4426
(B) Width	mm	1350	2435	2435	2135	2135	2135	2135	2135
(C) Height	mm	2113	2323	2323	2323	2323	2323	2323	2323



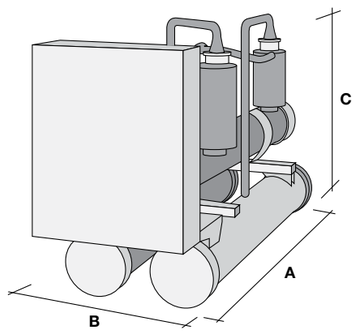
WHS E
WATER COOLED CHILLER WITH SCREW COMPRESSORS

TECHNICAL DATA WHS E XE ST - cooling only

WHS E XE ST		096.1	112.1	131.1	153.1	182.2	200.2	222.2	240.2	251.2	281.2	292.2
Cooling Capacity[1]	kW	362	433	506	573	720	795	866	933	976	1038	1134
Unit power input[1]	kW	71,0	85,4	100	121	141	156	170	185	199	219	240
EER	--	5,10	5,07	5,06	4,75	5,09	5,10	5,08	5,05	4,90	4,73	4,73
ESEER	--	5,34	5,27	5,22	5,11	6,13	6,31	6,01	6,14	5,90	6,05	5,67
Sound Pressure[1]	dB(A)	75,2	76,2	78,2	78,2	77,8	78,2	78,7	79,8	80,7	80,7	80,7
Compressor	Type	McQuay Single Screw										
Quantity	No.	1	1	1	1	2	2	2	2	2	2	2
Minimum capacity	%	25	25	25	25	12,5	12,5	12,5	12,5	12,5	12,5	12,5
Refrigerant	Type	R-134a										
N. of circuits	No.	1	1	1	1	2	2	2	2	2	2	2
Evaporator	Type	Shell and Tube										
Quantity	No.	1	1	1	1	1	1	1	1	1	1	1
Water volume	l	326	317	308	308	539	539	528	528	528	504	504
Nominal Water pressure drop	kPa	64	48	54	68	48	48	47	50	72	46	52
Water connections size	mm	168,3	168,3	168,3	168,3	219,1	219,1	219,1	219,1	219,1	219,1	219,1
Condenser	Type	Shell and Tube										
Quantity	No.	1	1	1	1	2	2	2	2	2	2	2
Water volume	l	79	94	105	105	157	173	188	199	209	209	209
Nominal Water pressure drop	kPa	48	47	51	66	48	48	47	50	50	65	65
Water connections size	''	5"	5"	5"	5"	5"	5"	5"	5"	5"	5"	5"
Standard voltage	V/ph/Hz	400V / 3ph / 50Hz										

NOTES:
(1) 12/7°C entering/leaving evaporator water temperature; 30/35°C entering/leaving condenser water temperature
(2) At 1 m, according to ISO 3744, at free field semispherical conditions

Weight and dimensions		096.1	112.1	131.1	153.1	182.2	200.2	222.2	240.2	251.2	281.2	292.2
Shipping weight	kg	2594	2667	2704	2704	4964	4997	5049	5073	5097	5132	5132
Operating weight	kg	2998	3078	3116	3116	5582	5615	5671	5695	5729	5741	5741
(A) Length	mm	4081	4081	4081	4081	4769	4769	4769	4769	4769	4769	4769
(B) Width	mm	1430	1430	1430	1430	1350	1350	1350	1350	1350	1350	1350
(C) Height	mm	1883	1883	1883	1883	2245	2245	2245	2245	2245	2245	2245

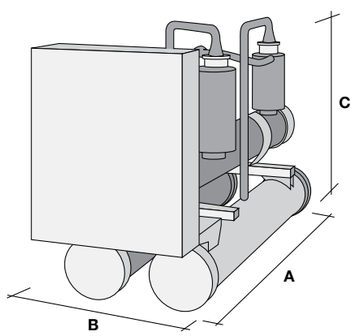


TECHNICAL DATA WHS E ME ST - cooling only

WHS E ME ST		096.1	112.1	131.1	153.1	182.2	200.2	222.2	240.2	251.2	281.2
Cooling Capacity[1]	kW	328	391	428	504	596	657	730	788	850	919
Unit power input[1]	kW	83,8	100	116	137	165	181	198	214	231	252
EER	--	3,91	3,90	3,70	3,67	3,61	3,63	3,69	3,67	3,67	3,65
Sound Pressure[2]	dB(A)	75,2	76,2	78,2	78,2	77,8	78,2	78,7	79,8	80,7	80,7
Compressor	Type	Semi-hermetic single screw compressor									
Quantity	No.	1	1	1	1	2	2	2	2	2	2
Minimum capacity	%	25	25	25	25	12,5	12,5	12,5	12,5	12,5	12,5
Refrigerant	Type	R-134a									
N. of circuits	No.	1	1	1	1	2	2	2	2	2	2
Evaporator	Type	Single Pass Shell&Tube									
Quantity	No.	1	1	1	1	1	1	1	1	1	1
Water volume	l	193	193	183	172	271	263	256	248	241	233
Nominal Water pressure drop	kPa	34	47	47	54	49	39	52	47	47	45
Water connections size	mm	168,3	168,3	168,3	168,3	168,3	168,3	168,3	168,3	168,3	168,3
Liquid connections Inlet	mm	42	42	42	42	42	42	42	42	42	42
Gas Discharge connections Outlet	mm	88,9	88,9	88,9	88,9	88,9	88,9	88,9	88,9	88,9	88,9
Standard voltage	V/ph/Hz	400V / 3ph / 50Hz									

NOTES:
(1) 12/7°C entering/leaving evaporator water temperature; 45°C saturated discharge temperature at the compressor
(2) At 1m, according to ISO 3744, at free field semispherical conditions

Weight and dimensions		096.1	112.1	131.1	153.1	182.2	200.2	222.2	240.2	251.2	281.2
Shipping weight	kg	1861	1861	1869	1884	3331	3339	3347	3356	3364	3412
Operating weight	kg	2054	2054	2052	2056	3602	3602	3603	3604	3605	3645
(A) Length	mm	3114	3114	3114	3114	4391	4391	4391	4391	4391	4391
(B) Width	mm	1464	1464	1464	1464	1464	1464	1464	1464	1464	1464
(C) Height	mm	1899	1899	1899	1899	2325	2325	2325	2325	2325	2325



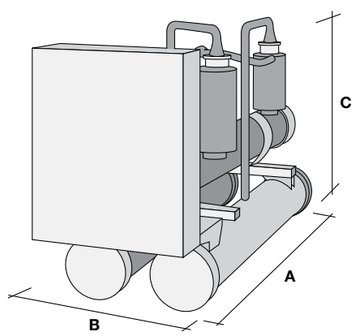
WHS E
WATER COOLED CHILLER WITH SCREW COMPRESSORS

TECHNICAL DATA WHS E ME ST - cooling only

WHS E ME ST		292.2	305.3	329.3	342.3	362.3	383.3	398.3	414.3	429.3
Cooling Capacity[1]	kW	966	1033	1078	1125	1188	1267	1319	1370	1422
Unit power input[1]	kW	271	279	296	312	329	347	366	386	405
EER	--	3,56	3,59	3,64	3,60	3,61	3,65	3,60	3,55	3,51
Sound Pressure[2]	dB(A)	80,7	80,4	80,8	81,2	83	80,4	80,8	81,2	83
Compressor	Type	Semi-hermetic single screw compressor								
Quantity	No.	2	3	3	3	3	3	3	3	3
Minimum capacity	%	12,5	8,3	8,3	8,3	8,3	8,3	8,3	8,3	8,3
Refrigerant	Type	R-134a								
N. of circuits	No.	2	3	3	3	3	3	3	3	3
Evaporator	Type	Single Pass Shell&Tube								
Quantity	No.	1	1	1	1	1	1	1	1	1
Water volume	l	233	504	504	489	472	504	504	489	472
Nominal Water pressure drop	kPa	45	52	46	49	41	51	55	59	63
Water connections size	mm	168,3	219,1	219,1	219,1	219,1	219,1	219,1	219,1	219,1
Liquid connections Inlet	mm	42	42	42	42	42	42	42	42	42
Gas Discharge connections Outlet	mm	88,9	88,9	88,9	88,9	88,9	88,9	88,9	88,9	88,9
Standard voltage	V/ph/Hz	400V / 3ph / 50Hz								

NOTES:
(1) 12/7°C entering/leaving evaporator water temperature; 45°C saturated discharge temperature at the compressor
(2) At 1m, according to ISO 3744, at free field semispherical conditions

Weight and dimensions		292.2	305.3	329.3	342.3	362.3	383.3	398.3	414.3	429.3
Shipping weight	kg	3412	5146	5167	5167	5188	5208	5208	5208	5208
Operating weight	kg	3645	5667	5671	5671	5677	5680	5680	5680	5680
(A) Length	mm	4391	4426	4426	4426	4426	4426	4426	4426	4426
(B) Width	mm	1464	2135	2135	2135	2135	2135	2135	2135	2135
(C) Height	mm	2325	2415	2415	2415	2415	2415	2415	2415	2415



McQuay Air Conditioning

Cooling capacity: 380 kW ÷ 2152 kW

Refrigerant **R-410A**

Exchanger **S&T**

GENERAL CHARACTERISTICS

- Stepless capacity control
- Independent circuit for each compressor
- Single-screw compressors; Star-Delta standard start
- Direct expansion shell and tube evaporator with single pass; shell and tube plates made of carbon steel; high efficiency copper tubes; insulation made of closed cells material; Victaulic water connections
- R410A refrigerant
- Shell and tube condensers; one per each circuit; shell and tube plates made of carbon steel; high efficiency copper tubes; GAS water connections
- Micro Tech III controller compatible with BMS

VERSIONS

SE Standard efficiency	**EER up to 4,64** **ESEER up to 5,37**
XE High efficiency	**EER up to 5,09** **ESEER up to 5,98**

SOUND LEVELS

Standard sound **82,2 ÷ 87,9 dB(A)**

STANDARD OPTIONS

- Wye delta starter (Y-Δ)
- Double set point
- Phase monitor
- Evaporator victaulic kit
- Evaporator water side design pressure 10 bar
- Condenser water side design 16 bar
- Electronic expansion device
- High pressure side manometers
- Hour run meter
- General fault contactor
- Set-point reset, demand limit and alarm from external device
- Double pressure relief valve with diverter

OPTIONS ON REQUEST

- Partial heat recovery
- Soft starter
- Brine version
- Compressor thermal relays
- Under / overvoltage control
- Energy meter
- Capacitors cosfi 0.9
- Current limit - display
- 20 mm evaporator insulation
- 20 mm condenser insulation
- Condenser victaulic kit
- Cu-ni 90-10 condenser tubes
- Evaporator electric heater
- Evaporator flow switch
- Discharge line shut off valve
- Suction line shut off valve
- Container kit
- Rubber anti vibration mount
- Sound proof system

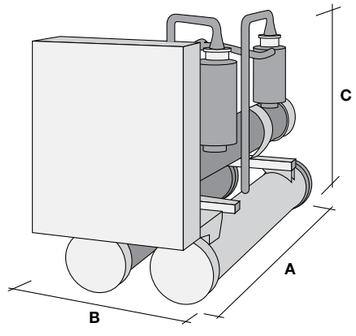
Proximus Evolution
WATER COOLED CHILLER WITH SCREW COMPRESSORS

TECHNICAL DATA Proximus Evolution C SE ST - cooling only

Proximus Evolution C SE ST		108.1	132.1	160.1	181.1	207.1	226.2	245.1	248.2	273.2	286.1
Cooling Capacity[1]	kW	380	464	562	637	727	796	862	872	960	1007
Unit power input[1]	kW	85,6	104	128	144	166	172	202	190	209	240
EER	--	4,44	4,46	4,40	4,41	4,37	4,64	4,26	4,59	4,60	4,19
ESEER	--	5,16	5,21	5,22	5,22	4,95	5,64	4,83	5,63	5,59	4,76
Sound Pressure[2]	dB(A)	82,2	83,0	83,9	83,9	83,2	84,0	84,9	85,2	85,2	85,6
Compressor	Type	Semi-hermetic single screw compressor									
Quantity	No.	1	1	1	1	1	2	1	2	2	1
Minimum capacity	%	25	25	25	25	25	25	25	12,5	12,5	12,5
Refrigerant	Type	R-134a									
N. of circuits	No.	1	1	1	1	1	2	1	2	2	1
Evaporator	Type	Shell & Tube									
Quantity	No.	1	1	1	1	1	1	1	1	1	1
Water volume	l	124	118	176	170	274	344	266	344	325	251
Nominal Water pressure drop	kPa	47	63	43	46	53	52	48	62	57	55
Water connections size	mm	152	154	203	203	203	203	203	203	203	203
Condenser	Type	Shell & Tube									
Quantity	No.	1	1	1	1	1	2	1	2	2	1
Water volume	l	79	92	84	126	97	79 + 79	102	79 + 92	92 + 92	104
Nominal Water pressure drop	kPa	58	62	66	63	15	62	19	65	65	25
Water connections size	''	5”	5”	6”	6”	5”	5”	5”	5”	5”	5”
Standard voltage	V/ph/Hz	400V / 3ph / 50Hz									

NOTES:
(1) 12/7°C entering/leaving evaporator water temperature; 30/35°C entering/leaving condenser water temperature
(2) At 1m, according to ISO 3744, at free field semispherical conditions

Weight and dimensions		108.1	132.1	160.1	181.1	207.1	226.2	245.1	248.2	273.2	286.1
Shipping weight	kg	1933	1967	2283	2332	2407	3921	2427	3949	3988	2457
Operating weight	kg	2135	2169	2543	2628	2777	4422	2795	4463	4496	2812
(A) Length	mm	3373	3373	3454	3454	3535	5020	2001	5020	5020	2001
(B) Width	mm	1140	1140	1276	1276	1314	1350	1314	1350	1350	1314
(C) Height	mm	1849	1849	2001	2001	1848	2158	1848	2158	2158	1848

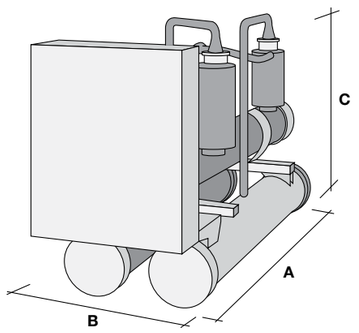


TECHNICAL DATA Proximus Evolution C SE ST - cooling only

Proximus Evolution C SE ST		300.2	337.2	357.2	377.2	415.2	450.2	497.2	537.2	583.2
Cooling Capacity[1]	kW	1055	1185	1255	1325	1458	1607	1764	1907	2070
Unit power input[1]	kW	232	256	274	290	328	363	395	427	459
EER	--	4,55	4,62	4,59	4,56	4,44	4,42	4,47	4,47	4,51
ESEER	--	5,60	5,61	5,62	5,55	5,18	5,18	5,06	5,11	5,07
Sound Pressure[2]	dB(A)	86,0	86,5	86,9	86,9	86,2	86,6	87,0	87,5	87,9
Compressor	Type	Semi-hermetic single screw compressor								
Quantity	No.	2	2	2	2	2	2	2	2	2
Minimum capacity	%	12,5	12,5	12,5	12,5	12,5	12,5	12,5	12,5	12,5
Refrigerant	Type	R-134a								
N. of circuits	No.	2	2	2	2	2	2	2	2	2
Evaporator	Type	Shell & Tube								
Quantity	No.	1	1	1	1	1	1	1	1	1
Water volume	l	325	538	538	538	505	505	495	539	527
Nominal Water pressure drop	kPa	67	43	48	53	59	69	88	117	126
Water connections size	mm	203	254	254	254	254	254	254	254	254
Condenser	Type	Shell & Tube								
Quantity	No.	2	2	2	2	2	2	2	2	2
Water volume	l	52 + 60	60 + 60	60 + 68	68 + 68	54 + 54	54 + 57	61 + 61	61 + 77	77 + 77
Nominal Water pressure drop	kPa	67	70	70	67	16	19	17	17	15
Water connections size	''	6”	6”	6”	6”	5”	5”	5”	5”	5”
Standard voltage	V/ph/Hz	400V / 3ph / 50Hz								

NOTES:
(1) 12/7°C entering/leaving evaporator water temperature; 30/35°C entering/leaving condenser water temperature
(2) At 1m, according to ISO 3744, at free field semispherical conditions

Weight and dimensions		300.2	337.2	357.2	377.2	415.2	450.2	497.2	537.2	583.2
Shipping weight	kg	4344	4529	4536	4607	4988	4999	5053	5204	5289
Operating weight	kg	4780	5186	5200	5280	5602	5615	5670	5881	5970
(A) Length	mm	4894	5070	5070	5070	4892	4892	4892	4865	4865
(B) Width	mm	1350	1350	1350	1350	1350	1350	1350	1350	1350
(C) Height	mm	2378	2455	2455	2455	2495	2495	2495	2495	2495

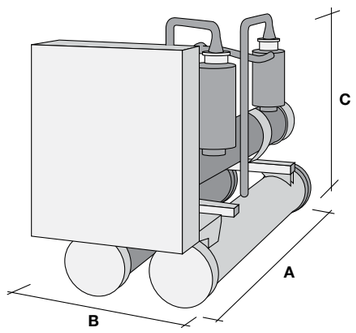


TECHNICAL DATA Proximus Evolution C XE ST - cooling only

Proximus Evolution C XE ST		108.1	132.1	160.1	181.1	207.1	245.1	273.2	286.1	300.2
Cooling Capacity[1]	kW	422	516	639	725	801	973	1037	1116	1158
Unit power input[1]	kW	84,9	102	126	143	159	193	205	227	228
EER	--	4,97	5,03	5,09	5,07	5,05	5,05	5,06	4,91	5,07
ESEER	--	5,86	5,88	5,97	5,95	5,89	5,66	6,18	5,54	6,13
Sound Pressure[2]	dB(A)	82,2	83,0	83,9	83,9	83,2	84,0	85,6	84,9	86,0
Compressor	Type	Semi-hermetic single screw compressor								
Quantity	No.	1	1	1	1	1	1	2	1	2
Minimum capacity	%	25	25	25	25	25	25	12,5	25	12,5
Refrigerant	Type	R-134a								
N. of circuits	No.	1	1	1	1	1	1	2	1	2
Evaporator	Type	Shell & Tube								
Quantity	No.	1	1	1	1	1	1	1	1	1
Water volume	l	220	213	200	334	325	538	587	538	575
Nominal Water pressure drop	kPa	57	70	73	65	58	55	55	70	65
Water connections size	mm	152	152	152	203	203	254	203	254	203
Condenser	Type	Shell & Tube								
Quantity	No.	1	1	1	1	1	1	2	1	2
Water volume	l	52	69	81	86	83	91	69 + 70	91	73 + 76
Nominal Water pressure drop	kPa	50	40	41	46	60	64	39	84	48
Water connections size	''	8”	8”	8”	6”	6”	6”	5”	6”	5”
Standard voltage	V/ph/Hz	400V / 3ph / 50Hz								

NOTES:
(1) 12/7°C entering/leaving evaporator water temperature; 30/35°C entering/leaving condenser water temperature
(2) At 1m, according to ISO 3744, at free field semispherical conditions

Weight and dimensions		108.1	132.1	160.1	181.1	207.1	245.1	273.2	286.1	300.2
Shipping weight	kg	2322	2403	2464	2738	2407	2427	4775	2457	4831
Operating weight	kg	2594	2685	2745	3158	2815	3056	5431	3086	5479
(A) Length	mm	3863	3863	3863	3878	3878	3919	5219	3919	5219
(B) Width	mm	1276	1276	1276	1268	1314	1446	1350	1446	1350
(C) Height	mm	2001	2001	2001	2001	2003	2003	2454	2003	2454



Proximus Evolution

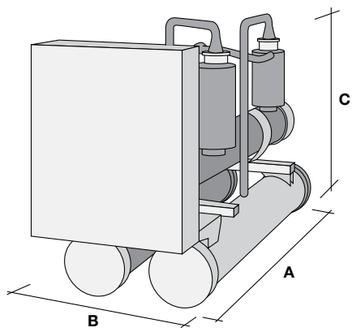
WATER COOLED CHILLER WITH SCREW COMPRESSORS

TECHNICAL DATA Proximus Evolution C XE ST - cooling only

Proximus Evolution C XE ST		337.2	357.2	377.2	415.2	450.2	497.2	537.2	583.2
Cooling Capacity[1]	kW	1270	1369	1449	1587	1749	1880	2038	2172
Unit power input[1]	kW	252	269	286	311	344	377	411	445
EER	--	5,04	5,08	5,07	5,11	5,08	4,99	4,95	4,88
ESEER	--	6,13	6,28	6,23	5,92	6,00	5,73	5,78	5,64
Sound Pressure[2]	dB(A)	86,5	86,9	86,9	86,2	86,6	87,0	87,5	87,9
Compressor	Type	Semi-hermetic single screw compressor							
Quantity	No.	2	2	2	2	2	2	2	2
Minimum capacity	%	12,5	12,5	12,5	12,5	12,5	12,5	12,5	12,5
Refrigerant	Type	R-410A							
N. of circuits	No.	2	2	2	2	2	2	2	2
Evaporator	Type	Shell & Tube							
Quantity	No.	1	1	1	1	1	1	1	1
Water volume	l	563	551	551	495	484	535	527	527
Nominal Water pressure drop	kPa	56	68	76	69	88	90	111	124
Water connections size	mm	203,2	203,2	254	254	254	254	254	254
Condenser	Type	Shell & Tube							
Quantity	No.	2	2	2	2	2	2	2	2
Water volume	l	76 + 76	75 + 86	86 + 86	91 + 91	91 + 91	91 + 91	91 + 91	91 + 91
Nominal Water pressure drop	kPa	48	49	46	44	60	60	78	78
Water connections size	''	5”	6”	6”	8”	8”	8”	8”	8”
Standard voltage	V/ph/Hz	400V / 3ph / 50Hz							

NOTES:
(1) 12/7°C entering/leaving evaporator water temperature; 30/35°C entering/leaving condenser water temperature
(2) At 1m, according to ISO 3744, at free field semispherical conditions

Weight and dimensions		337.2	357.2	377.2	415.2	450.2	497.2	537.2	583.2
Shipping weight	kg	4873	4919	4969	5117	5177	5388	5408	5414
Operating weight	kg	5512	5546	5606	5794	5843	6110	6118	6124
(A) Length	mm	5219	5219	5219	4829	4829	4829	4865	4865
(B) Width	mm	1350	1350	1350	1350	1350	1350	1350	1350
(C) Height	mm	2454	2454	2454	2495	2495	2495	2495	2495



A GLOBAL LEADER IN SYSTEM SOLUTIONS FOR AIR CONDITIONING, HEATING, VENTILATING AND REFRIGERATION

McQuay Air Conditioning

WMC

WATER COOLED CHILLER WITH FRICTIONLESS CENTRIFUGAL COMPRESSORS

Cooling capacity: 317 kW ÷ 1048 kW

Refrigerant R-134a

OIL FREE

Inverter

Exchanger FLD

GENERAL CHARACTERISTICS

- Oil free Centrifugal Compressor with magnetic bearings
- Hermetically-Sealed, Direct Drive Motor
- Unit Mounted VFD
- VFD location: integral to compressor
- Refrigerant-Cooled VFD & Motor
- Non-Powered Coast Down using Regenerative Power System and Backup Bearings
- Touchscreen Interface
- R-134a refrigerant

VERSIONS

WMC — **EER up to 6,00**, **ESEER up to 9,60**

NOISE LEVELS

Standard noise — **72,0 ÷ 75,9 dB(A)**

STANDARD OPTIONS

- Evaporator victaulic kit
- Condenser victaulic kit
- Evaporator waterside design pressure (10 bar)
- Condenser water side design pressure (10 bar)
- 20 mm evaporator insulation
- Condenser 2 passes
- Evaporator 2 passes
- Double pressure relief valve
- Electronic expansion valve
- Inverter compressor starter
- Current limit
- Water pressure differential switch on evaporator and condenser
- Hour run meter
- General fault contactor
- Set-point reset, demand limit and alarm from external device

OPTIONS ON REQUEST

- Evaporator/Condenser double flange kit
- 20 mm condenser insulation
- Marine water boxes
- Cu-NI 90-10 cendenser tubes
- Condenser 1/3 passes
- Suction line shut off valve
- High/Low pressure side manometers
- Sound proof system
- Evaporator 1/3 passes
- Energy meter
- Evaporator/Condenser flow switch
- Rubber antivibration mounts
- Container kit
- Transport kit

WMC

WATER COOLED CHILLER WITH FRICTIONLESS CENTRIFUGAL COMPRESSORS

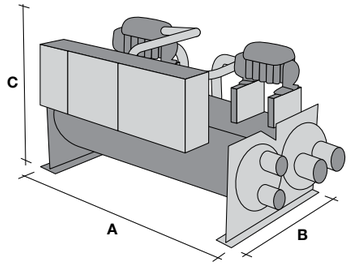
TECHNICAL DATA WMC - Cooling only

WMC		100S	125S	150S	200D	250D	300D
Cooling Capacity (MIN - MAX)[1-2]	kW	114 - 317	128 - 429	172 - 521	114 - 635	128 - 856	172 - 1048
Unit power input (MIN - MAX)[1-2]	kW	21.6 - 65.9	27.7 - 85.7	33.1 - 104	21.6 - 132	27.7 - 171	33.1 - 206
EER up to[3]	--	5,40	5,40	6,00	5,40	5,50	5,90
ESEER up to[4]	--	8,60	8,60	9,40	8,80	8,60	9,60
Sound Pressure[5]	dB(A)	70,9	72,0	73,0	73,8	75,1	75,9
Compressor	Type	Oil free Centrifugal compressor with magnetic bearings					
Quantity	No.	1	1	1	2	2	2
Minimum capacity	--	Variable speed centrifugal compressor					
Refrigerant	Type	R-134a	R-134a	R-134a	R-134a	R-134a	R-134a
N. of circuits	No.	1	1	1	1	1	1
Evaporator	Type	Flooded Shell&Tube (2 passes)					
Nominal Water pressure drop[5]	kPa	30	31	23	18	21	11
Water connections size	mm	168,3	168,3	219,1	219,1	219,1	273
Condenser	Type	Flooded Shell&Tube (2 passes)					
Nominal Water pressure drop[5]	kPa	24	25	28	24	25	29
Water connections size	mm	168,3	168,3	168,3	219,1	219,1	219,1
Standard voltage	V/ph/Hz	400 V / 3ph / 50 Hz					

SELECTION SOFTWARE:
Since a Frictionless Centrifugal Chiller, at fixed evaporator and condenser water conditions, can provide different Cooling Capacity, EER, sound level, etc depending on the speed of rotation, a dedicated selection tool is availbale to make unit selections and calculate the Performance Data (EER and Part load data) in specific working conditions.

NOTES:
(1) Indicated intervals are related to full load Cooling Capacity at standard conditions: 12/7°C evaporator water temperature and 30/35°C condenser water temperature
(2) For dual compressor units the minimum capacity is related to the conditions with only one compressor running
(3) Indicated EER is the maximum at standard conditions (see also note 1)
(4) Indicated ESEER is the maximum with full load at standard conditions (see also note 1)
(5) Sound pressure related to maximum Cooling Capacity at standard conditions, according to ISO 3744 at 1m and free field semispherical conditions

Weight and dimensions		100S	125S	150S	200D	250D	300D
Shipping weight	kg	2360	2416	2546	3709	4095	4765
Operating weight	kg	2520	2634	2812	4074	4548	5330
(A) Length	mm	3254	3254	3419	3441	3289	3401
(B) Width	mm	1276	1276	1276	1790	1853	1904
(C) Height	mm	1823	1823	1823	1755	1748	1794



WME

WATER COOLED CHILLER WITH FRICTIONLESS CENTRIFUGAL COMPRESSORS

IN-HOUSE DEVELOPED MAGNETIC BEARING COMPRESSOR

CENTRIFUGAL COMPRESSOR

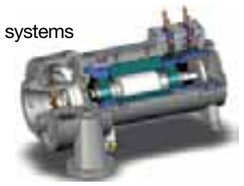
- Industry's highest full load efficiency
- Best part load efficiency when coupled with a variable frequency drive
- One moving part (rotor - shaft assembly)

UNIT MOUNTED VARIABLE FREQUENCY DRIVE (VFD)

- Very high part load efficiency
- Great unloading capability
- Automatic speed adjustment
- Soft start

MAGNETIC BEARING TECHNOLOGY

- No friction loss
- No oil contamination
- No additional oil management systems
- Increased equipment life



WIDE CHOICE OF CAPACITIES AND EFFICIENCES

Size	Cooling capacity
500S	1,400 - 1,900 kW **AVAILABLE**
700S	up to 2,500 kW **COMING SOON**
EER *	up to 6.50
ESEER	up to 10.0

* at Eurovent conditions:
Evaporator water In/Out 12/7°C, Condenser water In/Out 30/35°C

WME chillers can be selected with different combination of the main components such as the compressor size, the exchangers, the electrical motor, etc. A selected unit, at fixed evaporator and condenser conditions, will provide cooling capacity, power input, EER, etc. depending on the compressor speed of rotation. Adedicated selection tool is available to perform the unit selection at the real working conditions. WME boast **outstanding energy efficiencies,** at both full and part load.

QUIET OPERATION

- 76~82dB(A) of sound level at 1 meter (according to AHRI standard 575)
- WME chillers are ideal for sound sensitive environments such as libraries, schools, etc

SMART CONTROL

- On-board advanced electronics allow smart control also in case of power failure
- User friendly touch screen operator interface

EXTENSIVE PORTFOLIO OF OPTIONS

STANDARD OPTIONS

- Water-side vessel construction of 150psi
- Copper evaporator and condenser tubes
- 0.025 inches tube thickness
- Victaulic connections
- 2 pass heat exchangers
- Single insulation ¾ inches on evaporator, suction and discharge piping
- Water differential pressure switches
- Sound insulation
- EMI filter

OPTIONS (ON REQUEST)

- Water-side vessel construction of 300psi
- 0.028/0.035 inches tube thickness
- 90/10 Cu-Ni condenser tubes (only with 0.028/0.035 tube thickness)
- Flanged connections
- Marine water boxes
- 1 or 3 pass heat exchangers
- Double insulation 1½ inches on evaporator
- Pumpout unit
- Refrigerant monitor
- Low THD (Harmonics)
- High short circuit current rating
- Ground fault protection
- Input power meter

A GLOBAL LEADER IN SYSTEM SOLUTIONS FOR AIR CONDITIONING, HEATING, VENTILATING AND REFRIGERATION

McQuay Air Conditioning

WIDE CHOICE OF CAPACITIES AND EFFICIENCIES

Single compressor
WSC: 300 kW ÷ 4500 kW - Approximately 1,1 million possible chiller offerings with combination options of motors, impellers, gears and vessels.
Dual compressor
WDC: 600 kW ÷ 9000 kW - Approximately 0,75 million possible chiller offerings with combination options of motors, impellers, gears and vessels.

VARIABLE FREQUENCY DRIVE OPTION

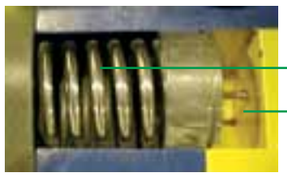
Improves part load efficiency.
Reduces annual energy costs.

HIGH EFFICIENCY

- Full load - COP up to 7
- Partial loads - COP up to 12 (with inverter)

POWER LOSS DAMAGE PROTECTION

Power failures do not allow chillers to proceed through their normal shutdown sequence. Poor lubrication at this point can damage the bearings and reduce compressor life. The compressors are equipped with a lubricant reservoir and a piston with a compressed spring that provides pressurized lubricant to the bearings during the coast-down period. Also, the compressors decelerate quickly due to the low inertia.



REFRIGERANT STORAGE CAPABILITY

The condensers are sized to hold the entire chiller refrigerant charge and are provided with the necessary valves to isolate this charge. This feature eliminates the need for separate storage vessels in most applications.

UNMATCHED UNLOADING

Unloading to 10% of full load for a WSC single compressor chiller and 5% for a WDC dual compressor unit, without using inefficient hot gas bypass. This unloading capability provides improved stability of the chilled water temperature and less harmful cycling of compressors.
Movable discharge diffuser increases stability and reduces vibrations.

Moveable diffuser closing off impeller discharge area

QUIET OPERATION

Liquid Injection
A small amount of liquid refrigerant is taken from the condenser and injected into the compressor discharge area. The liquid droplets absorb sound energy and reduce the compressor's overall sound level. The droplets evaporate and reduce discharge superheat.
Quieter as chiller unloads
McQuay's design results in a reduction in sound levels at lower loads, where most chillers spend most of their operating hours.

WSC - WDC
WATER COOLED CHILLERS WITH CENTRIFUGAL COMPRESSORS

ONE WDC DUAL COMPRESSOR CHILLER VERSUS TWO SINGLE COMPRESSOR CHILLERS

- Lower equipment costs than two separate chillers
- Lower installation cost than two separate chillers
- Lower annual operating cost than either one large or two small chillers
- Less equipment room space required than for two separate chillers
- Capacity reduction to 5% of design value
- Standby redundancy for most of the cooling season

options of motors, impellers, gears and vessels.

PART LOAD EFFICIENCY

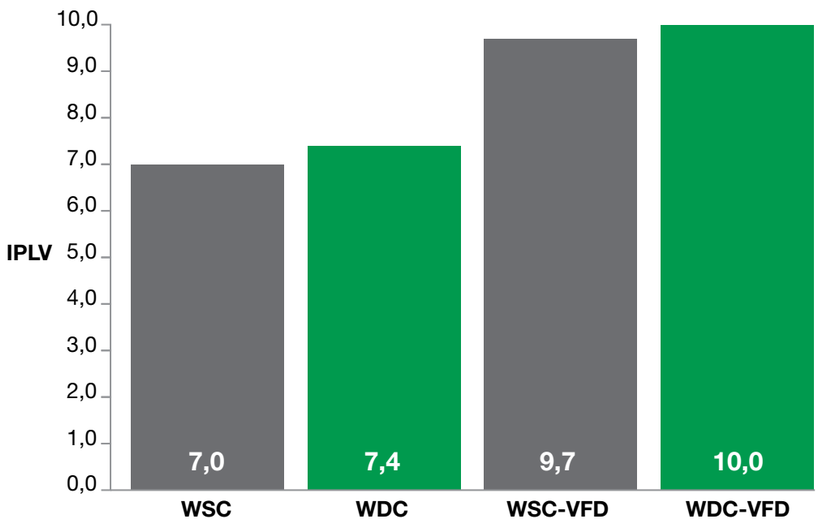
When one compressor is running, it is able to utilize the heat transfer area of the entire chiller, twice the amount found on a single compressor chiller. This huge amount of surface provides exceptional part load efficiency. The addition of VFDs to the dual compressor chiller produces an astonishing ARI certified IPLV.

THE REDUNDANCY FEATURE

McQuay dual centrifugal chillers have two of everything, connected to a common evaporator and condenser - two compressors, two lubrication systems, two control systems, two starters. If any component on a compressor system fails, the component can be removed or repaired without shutting down the other compressor; providing an automatic back-up with at least 60 percent of the chiller design capacity available. In the unlikely event of a motor burnout, the chiller refrigerant charge will not be contaminated.

PARTIAL LOADS EFFICIENCY FOR 2000 KW CENTRIFUGAL UNIT

WCS: single compressor
WDC: double compressor
VFD: compressor inverter
Specific selections can vary up or down from this example.



AIR HANDLING UNITS

GENERAL CHARACTERISTICS

EASDALE INTERNATIONAL SYSTEM

PRE DEFINED FAMILY OF SIZE
Twenty-seven (27) fixed sizes optimized for the most cost effective selection and manufacturing standardization.

INFINITE VARIABLE
Designed for special applications all over the world. The system is giving the possibility to tailor the unit to the clients need with very small incremental, 5 cm.

Air flow from 1.100 m^3/h up to 124.000 m^3/h

All the sizes are modular manufactured to facilitate the transport and the assembly on site.

EUROVENT CERTIFICATION

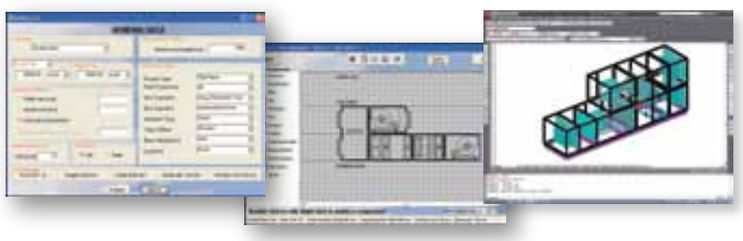
McQuay is participating in the EUROVENT CERTIFICATION Programme for Air Handling Units. Easdale International is certified under the number 10.10.502 and presented on www .eurovent-certification. com

EUROVENT CERTIFIED PERFORMANCE
AHU N°: 10.10.502
Range: Easdale International
www.eurovent-certification.com

MODEL BOX-SP65		EUROVENT CLASSIFICATION ACCORDING TO EN1886				
		CASING MECHANICAL				
Casing mechanical strength	D1	Casing Class	D1	D2	D3	
		Maximum relative deflection mm x m^{-1}	4,00	10,00	EXCEEDING10	
		CASING AIR LEAKAGE				
Casing air leakage Negative pressure -400 Pa	L1	Leakage Class	L1	L2	L3	
		Maximum leakage rate (f_{400}) l x s^{-1} x m^{-2}	0,15	0,44	1,32	
		CASING AIR LEAKAGE				
Casing air leakage Positive pressure +700 Pa	L1	Leakage Class	L1	L2	L3	
		Maximum leakage rate (f_{700}) l x s^{-1} x m^{-2}	0,22	0,63	1,90	
		FILTER BYPASS LEAKAGE				
Filter bypass leakage	F9	Filter Class	F9	F8	F7	F6	G1 TO F5
		Maximum filter bypass leakage rate k in % of the volume flow rate	0,50	1	2	4	6
		THERMAL TRANSMITTANCE					
Thermal transmittance	T2	Class	T1	T2	T3	T4	T5
		Thermal transmittance (U) W/m^2 x K	U <= 0.5	0.5 < U <= 1	1 < U <= 1.4	1.4 < U <= 2	No requirements
		THERMAL BRODGING OF THE CASING					
Thermal brodging of the casing	TB2	Class	TB1	TB2	TB3	TB4	TB5
		Thermal bridging facto (kb) W x m^{-2} x K-1	0.75 < K_b <= 1	0.6 < K_b <= 0.75	0.45 < K_b <= 0.6	0.3 < K_b <= 0.45	No requirements

SOFTWARE

ASTRA is the powerful software that McQuay has developed to offer a quick and comprehensive service for the customer in order to make the technical choice and the economic valorization of each AHU. It is a complete tool that can configure any type of product and respond exactly to the strictest design needs. The result is a comprehensive economic offer including all the technical data and drawings, the psychrometric diagram with the relative air treatment and the fans' performance curves. However McQuay did not stop there, went further.



MECCANO is the other powerful software developed and designed to quickly convert the offer in the executive order. Technical drawings to be sent and approved by the client, executive drawings for the production, bill of material, code generation for each component used are just a few of the many functions of the instrument.
The ASTRA-MECCANO integration has therefore made possible the complete automated management of the process by reducing the time of the offer and of the delivery and improving the service to our customers.

TECHNICAL DATA

Construction type	SP 65	SP 45	FP 50	FP 25
Profile				
Material				
Aluminium	standard	standard	standard	standard
Anodized aluminium	option	option	option	option
Aluminium with thermal break	option	option	option	option
Anodized aluminium with thermal break	option	option	option	option
Corner				
Material				
Glass fibre reinforced nylon	standard	standard	standard	standard
Panel				
Insulation				
Polyurethane foam density 45 kg/m3 thermal conductivity 0.020 W/m*K fire reaction class 1	standard	standard	standard	standard
Mineral wool density 90 kg/m3 thermal conductivity 0.037 W/m*K (referred to 20°C) fire reaction class 0	option	option	option	option
External sheet material				
Grey Plastisol covered galvanized steel	standard	standard	standard	standard
Pre-coated galvanized steel	option	option	option	option
Galvanized steel	option	option	option	option
Aluminium	option	option	option	option
AISI 304 stainless steel	option	option	option	option
Internal sheet material				
Galvanized steel	standard	standard	standard	standard
Pre-coated galvanized steel	option	option	option	option
Grey Plastisol covered galvanized steel	option	option	option	option
Aluminium	option	option	option	option
AISI 304 stainless steel	option	option	option	option
Base frame				
Material				
Aluminium	standard (from size 1 to size 17)	standard (from size 1 to size 17)	standard (from size 1 to size 17)	standard (from size 1 to size 17)
Galvanized steel	standard (from size 18 to size 27)	standard (from size 18 to size 27)	standard (from size 18 to size 27)	standard (from size 18 to size 27)
Handle				
Material				
Glass fibre reinforced nylon	standard	standard	standard	standard
Type				
Compression type	standard	standard	standard	standard
Hinge function type (possibility to remove door)	option	option	option	option

FANS

- Forward bladed fan
- Backward bladed fan
- Backward airfoil blades fan
- Plug fan



EXCHANGERS

- Water coils
- Steam coils
- Direct expansion coil
- Superheated water coils
- Electric coils

HUMIDIFIERS

- Evaporative humidifier without pump (loss water)
- Evaporative humidifier with re-circulating pump
- Air washer without pump (loss water)
- Air washer with re-circulating pump
- Steam humidifier with direct steam production
- Steam humidifier with local distributor
- Atomized water spray humidifier

HEAT RECOVERY SYSTEMS

- Heat wheel, sensible or sorption
- Plate heat exchanger
- Run-around coils

OTHER SECTIONS

OTHER SECTION

- Attenuator section
- Mixing box section with actuators or manual controlled dampers
- Empty section
- Gas burner section


Easdale International Infinity
AIR HANDLING UNITS

FILTERS

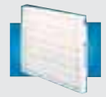
- Synthetic pleated filter
- Flat filter aluminium mesh
- Rigid bag filter
- Soft bag filter
- High efficiency filter
- Carbon absorption filter
- Carbon deodorizing filter


FILTERS

flat synthetic filters
EN 779 class: G2 - G3

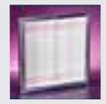
plated synthetic filters
EN 779 class: G3 - G4

moisture resistent plated synthetic filters
EN 779 class: G3 - G4



bag filters
EN 779 class: F6 - F8

deep pleated filters
EN 779 class: F6 - F8



extended surface mini-pleat filters
EN 779 class: F6 - F8

high capacity rigid pocket filters
EN 779 class: F6 - F9

absolute mini-pleat filters
EN 1886 class: H12 - H13

absolute high capacity filters
EN 1886 class: H12 - H13

ACCESSORIES

- Frost protection
- Manometers
- Drive guard
- Roof
- ....


Easdale International Infinity

AIR HANDLING UNITS

PRE DEFINED SIZES - Overall dimension

Size	Air Flow (m³/h) Speed 2.5 m/s	Width - mm	Height - mm
1	1.105	850	550
2	1.550	900	600
3	1.980	950	650
4	2.600	1.000	780
5	3.170	1.150	780
6	3.550	1.150	800
7	4.000	1.250	800
8	4.800	1.300	850
9	5.560	1.350	900
10	6.600	1.550	900
11	7.950	1.550	1.100
12	9.320	1.650	1.100
13	10.050	1.650	1.150

Size	Air Flow (m³/h) Speed 2.5 m/s	Width - mm	Height - mm
14	13.200	1.850	1.400
15	19.200	2.100	1.500
16	25.300	2.650	1.580
17	31.500	2.750	1.750
18	37.000	3.240	1.800
19	43.400	3.090	2.100
20	51.300	3.340	2.250
21	58.000	3.820	2.250
22	67.500	4.040	2.400
23	78.000	4.490	2.450
24	84.700	4.490	2.700
25	98.000	4.890	2.850
26	111.000	5.490	2.850
27	124.000	5.990	3.000

INFINITELY VARIABLE SIZES

FLEXIBLE SIZING FOR AHU OPTIMIZATION

- 5 cm increment for width & height dimensions
- No additional cost for customized unit size
- No additional lead time

Example

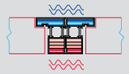
Air Flow (m³/h)	Unit Size	Width - mm	Height - mm	Face Velocity m/s
15.000	STD 15	2.100	1.500	1.95
	1.500 x 1.750	1.750	1.500	2.46

UNIQUE SECTION TO SECTION THERMAL BREAK PROFILE

- Thermal bridge free for the entire AHU
- Smooth interior surface with improved IAQ (Indoor Air Quality)

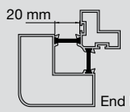
Common design

New McQuay design



EXCLUSIVE & INNOVATIVE REAL THERMAL BREAK PROFILE

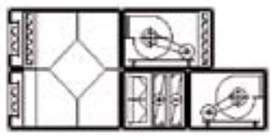
- Real thermal break profile
- Reduce section to section length



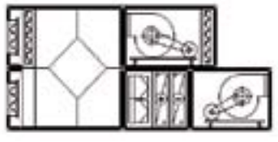
Section to section Profile

CONFIGURATIONS

1. Horizontal with one fan

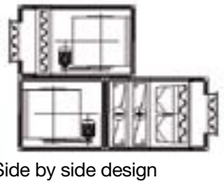


2. Horizontal with return and supply fan



3. Double Deck with Plate heat exchanger and Centrifugal fan

4. Double Deck with Heat wheel and Plug fan



5. Side by side design

6. Customized solution

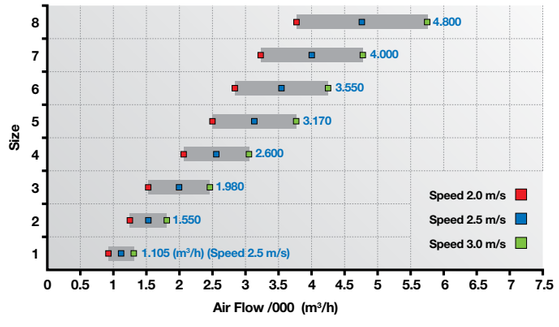
Easdale International Essential

AIR HANDLING UNITS

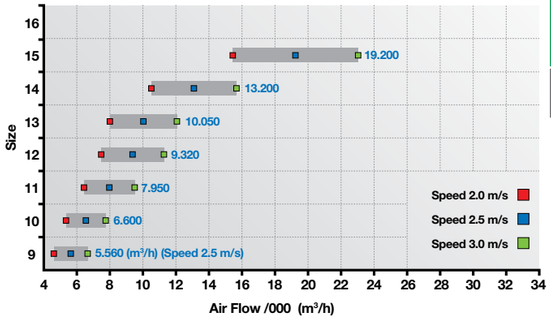
TECHNICAL DATA

Construction type	DS 50	DS 25
Profile		
Material		
Aluminium	standard	standard
Corner		
Material		
Glass fibre reinforced nylon	standard	standard
Panel		
Insulation		
Polyurethane foam thermal conductivity 0.024 W/m*K	standard (density 45 kg/m³)	standard (density 47 kg/m³)
External sheet material		
Pre-coated galvanized steel (RAL 9002)	standard	standard
Internal sheet material		
Galvanized steel	standard	standard
Base frame		
Material		
Aluminium	standard	standard
Handle		
Material		
Glass fibre reinforced nylon	standard	standard
Type		
Compression type	standard	standard

EASDALE INTERNATIONAL 1-8



EASDALE INTERNATIONAL 9-15



AHU SELECTION
AHU selection and offers directly issued from ASTRA selection software for both standard and non standard units

RANGE
Wide range of components and design selectable directly with our selection software ASTRA

VARIABLE DIMENSIONING™
Thanks to the exclusive Variable Dimensioning™ design method, clients will always enjoy an efficient and optimized dimensioning of the units

CONSTRUCTION
The exclusive fixing method used for panels and profiles will ensure an uniform pressure on the whole profile length. That feature will improve significantly the air leakage rate

INTERNAL SURFACE
Completely smooth internal surface

OPTIMIZED AIR FACE VELOCITY
Automatic dimensioning of section in order to guarantee an optimal air face velocity on coils and optimized unit cost

DELIVERY LEAD TIME
Same delivery lead-time for both standard and non standard units thanks to our exclusive design and production software MECCANO

PANELS
Hot injected Polyurethane panels to achieve excellent performance in terms of thermal insulation

AUTOCAD DRAWINGS
AutoCAD drawings (.dwg) immediately available with ASTRA selection software with both standard and non standard size, this will ease AHU integration within job site allocated space

UNIT COMPETITIVENESS
Through Variable Dimensioning™ exclusive design our clients are sure to invest only for the most optimized panel surface needed to match their requirements

SPECIAL GASKETS
Utilization of special gasket will ensure internal insulation of the profiles and will help to improve the thermal bridging factor

The range covers an area of air flow rates from 500 m³/h up to 30.000 m³/h*, with the possibility to choose the more appropriate face velocity, depending on the treatment required.

PRE DEFINED SIZES
Fifteen (15) fixed sizes optimized to reach the best compromise between competitiveness and manufacturing standardization

VARIABLE DIMENSIONING™
Designed to overcome installation constraints where space requirements of the section “height x width” must be adapted to the available space. The system gives the possibility to tailor the unit sizes through increments of 5 cm average

PRE DEFINED SIZES - Overall dimension

Size	Air Flow (m³/h) Speed 2.5 m/s	Height - mm	Width - mm
Std 1	1.105	550	850
Std 2	1.550	600	900
Std 3	1.980	650	950
Std 4	2.600	780	1.100
Std 5	3.170	780	1.150
Std 6	3.550	800	1.150
Std 7	4.000	800	1.250
Std 8	4.800	850	1.300
Std 9	5.560	900	1.350
Std 10	6.600	900	1.550
Std 11	7.950	1.100	1.550
Std 12	9.320	1.100	1.650
Std 13	10.050	1.150	1.650
Std 14	13.200	1.400	1.850
Std 15	19.200	1.500	2.100

Example

Air Flow (m³/h)	Unit Size	Height - mm	Width - mm	Face Velocity m/s
15.000	STD 15	1.500	2.100	1.95
	1.500x1.700	1.500	1.700	2.48

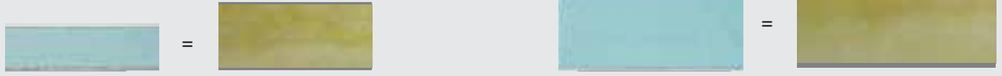
INFINITELY VARIABLE SIZES

FLEXIBLE SIZING FOR AHU OPTIMIZATION
- **5 cm increment for width & height dimensions**
- **No additional cost for non-standard unit size**
- **No additional lead time**

*Air Flow limits of 500 m³/h and 30.000 m³/h are calculated using non standard sizes (max dimensions 2.150x2.150) and considering 2,5 m/s coil face velocity

Panel performance

McQuay polyurethane panels guarantee an excellent performance in terms of thermal insulation. For instance McQuay DS 25 perform the same as mineral wool panel of 50 mm thickness. While McQuay DS 50 will match the thermal performance of a mineral wool panel of 90mm panel thickness



McQuay DS 25 Polyurethane foam = 50 mm Mineral wool panel

McQuay DS 50 Polyurethane foam = 90 mm Mineral wool panel

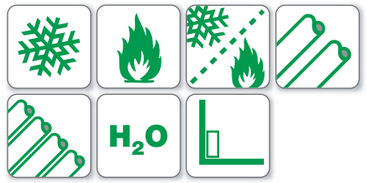
Considering a λ of 0.024 [W/(m*K)] for McQuay Polyurethane panel and 0.047 [W/(m*K)] for Mineral wool panel

FAN COILS

MF - Vertical

FAN COILS

Cooling capacity: 1,20 kW ÷ 8,30 kW
Heating capacity: 2,20 kW ÷ 13,0 kW



GENERAL CHARACTERISTICS

- 8 sizes available, with cabinet for floor or wall installation and chassis for concealed installations. The units are available in the 2-pipe version with 3 or 4-row coil or in the 4-pipe version with 3+1 row coil
- Cover and grills are manufactured in ABS, RAL 1013; the cabinet is made of pre-painted sheet metal finished with high quality paint
- The G1 filter grants a filtration surface up to 60% greater than traditional filters resulting in lower pressure drop and reduced noise emission
- Left or right hand water connections, which can be easily switched in the field if required, connections are equipped with air vents and drainage valves

OPTIONS ON REQUEST

- **Electronic controls**
  - **AC2800A** electronic controller allows the regulation of all unit functions and operating modes, and is compatible for connection into a network for Master & Slave configuration for up to **16 units**. Through the **AC2800A** units can also be directly integrated with **Smart Manager**. With reference to Fan Coils, Smart Manager can control and monitor up to **256 units**

  - **AC8100; AC8000-NIM** for wall mounted installation:
  - DISPLAY LCD
  - KEYBOARD

  - **AC500B22** electromechanical control for 2 & 4 pipe systems

- **Valves kit** (standard condensate drain pan), 2 or 3 ways

- **Feet** (cover and/or support)

STANDARD OPTION

- The **AC2800B** electronic controller (standard for unit with cabinet) allows the regulation of all unit functions and operating modes

TECHNICAL DATA MF - Vertical

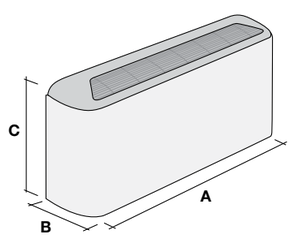
MF - 2 PIPE SYSTEM / 3 - ROW COIL		012 C	020 C	025 C	035 C	050 C	060 C	080 C	090 C
Nominal Air Flow (High/Medium/Low)	m³/h	290/245/197	380/296/210	497/349/260	705/565/400	853/695/465	1141/969/705	1360/1063/824	1500/1368/1190
Total Cooling Capacity[1]	kW	1,30	1,80	2,70	3,60	4,80	5,90	6,90	8,00
Total Sensible Capacity[1]	kW	1,00	1,50	1,90	2,60	3,60	4,60	5,30	5,80
Heating Capacity[2]	kW	2,20	2,70	3,60	4,80	6,20	8,10	10,50	12,00
Water Flow Rate (cooling)	l/s	0,063	0,085	0,129	0,170	0,227	0,282	0,358	0,347
Water Pressure Drop (cooling)	kPa	4	5	10	16	28	33	18	20
Sound Pressure Level[3]	dB(A)	38/35/33	42/37/32	42/35/32	48/44/39	47/39/31	53/48/41	51/47/40	53/51/47
Power Input[5]	kW	0,024	0,044	0,044	0,059	0,068	0,102	0,147	0,167
Standard Voltage	V/ph/Hz	220-240/1/50							
Water Connections	inches	3/4”	3/4”	3/4”	3/4”	3/4”	3/4”	3/4”	3/4”
Condensate Drain Connections	mm	20	20	20	20	20	20	20	20

MF - 2 PIPE SYSTEM / 4 - ROW COIL		412 C	420 C	425 C	435 C	450 C	460 C	480 C	490 C
Nominal Air Flow (High/Medium/Low)	m³/h	254/215/176	369/321/240	445/330/250	677/545/380	811/663/456	1068/915/672	1300/1165/908	1450/1288/1120
Total Cooling Capacity[1]	kW	1,50	2,70	3,10	4,60	5,30	6,40	7,10	8,30
Total Sensible Capacity[1]	kW	1,10	1,70	2,10	2,80	3,70	5,00	5,50	5,80
Heating Capacity[2]	kW	2,30	2,80	4,20	5,30	6,80	8,40	11,0	12,5
Water Flow Rate (cooling)	l/s	0,073	0,098	0,149	0,193	0,251	0,304	0,397	0,409
Water Pressure Drop (cooling)	kPa	4	5	10	14	21	20	18	17
Sound Pressure Level[3]	dB(A)	38/36/33	42/37/32	41/34/32	47/43/38	47/39/31	53/48/41	51/47/40	53/50/47
Power Input[5]	kW	0,021	0,050	0,051	0,056	0,077	0,107	0,143	0,167
Standard Voltage	V/ph/Hz	220-240/1/50							
Water Connections	inches	3/4”	3/4”	3/4”	3/4”	3/4”	3/4”	3/4”	3/4”
Condensate Drain Connections	mm	20	20	20	20	20	20	20	20

MF - 4 PIPE		012 H	020 H	025 H	035 H	050 H	060 H	080 H	090 H
Nominal Air Flow (High/Medium/Low)	m³/h	254/215/176	369/321/240	445/330/250	677/545/380	811/663/456	1068/915/672	1300/1165/824	1450/1248/1078
Total Cooling Capacity[1]	kW	1,20	1,80	2,50	3,50	4,60	5,70	6,90	8,00
Total Sensible Capacity[1]	kW	0,90	1,40	1,70	2,50	3,40	4,40	4,90	5,20
Heating Capacity[4]	kW	2,30	2,90	4,30	5,60	7,00	8,60	12,0	13,0
Water Flow Rate (cooling)	l/s	0,057	0,084	0,118	0,165	0,219	0,271	0,320	0,345
Water Pressure Drop (cooling)	kPa	4	5	8	15	26	16	15	17
Sound Pressure Level[3]	dB(A)	38/36/33	42/37/32	41/34/32	47/43/38	47/39/31	53/48/41	51/47/40	53/50/47
Power Input[5]	kW	0,021	0,050	0,051	0,056	0,077	0,107	0,140	0,161
Standard Voltage	V/ph/Hz	220-240/1/50							
Water Connections	inches	3/4”	3/4”	3/4”	3/4”	3/4”	3/4”	3/4”	3/4”
Condensate Drain Connections	mm	20	20	20	20	20	20	20	20

NOTES:
(1) At the following nominal conditions: nominal air flow; 7/12°C inlet/outlet water temperature; 27°C db / 19°C wb inlet air temperature; High speed
(2) At the following nominal conditions: nominal air flow 50°C inlet water temperature; 20°C inlet air temperature; same water flow as for cooling; High speed
(3) At High/Medium/Low speed; nominal air flow; measured in a room of 100 m³ volume and 0.5 sec. reverberation time
(e.g. office/conference room with carpet on the floor)
(4) At the following nominal conditions: nominal air flow 70/60°C inlet/outlet water temperature; 20°C inlet air temperature; same water flow as for cooling; High speed
(5) High speed

Weight and dimensions		012 / 412	020 / 420	025 / 425	035 / 435	050 / 450	060 / 460	080 / 480	090 / 490
Weight 2Pipe - 3Row	kg	20		24		26		35	
Weight with cabinet 2Pipe - 3Row	kg	22		29		32		45	
Weight 2&4Pipe - 4Row	kg	24		28		30		35	
Weight with cabinet 2&4Pipe - 4Row	kg	26		31		35		45	
Dimens. unit (A x B x C)	mm	704 x 224 x 540		904 x 224 x 540		1104 x 224 x 540		1304 x 224 x 540	
Dimension with cabinet (A x B x C)	mm	910 x 230 x 539		1110 x 230 x 539		1310 x 230 x 539		1510 x 230 x 539	



Cooling capacity: 2,49 kW ÷ 10,8 kW
Heating capacity: 3,52 kW ÷ 13,8 kW

GENERAL CHARACTERISTICS

- 3 range of ceiling cassette:
  - MCK-CW - 570 mm (w) x 570 mm (l)
  - MCK-AW/AWH - 820 mm (w) x 820 mm (l)
- 4 way air discharge to provide better air distribution to room
- Automatic air swing
- 4 pipes system available for models MCK020÷050AWH Easy servicing and maintenance
- Condensate water up to 700 mm high
- Able to communicate with the versatile NIM
- Self diagnosis feature
- Wireless G17 control mode: selection, fan speed, 24 hours real timers

OPTIONS ON REQUEST

- **Electronic controls** for wall mounted installation:
  - SLM3
  - NETWARE3
- **Valve kit**, 3 ways

TECHNICAL DATA MCK - Cassette

MCK		010CW	015CW	020CW
Nominal Air Flow	m³/h	646/493/391	680/527/374	748/561/476
Total Cooling Capacity[1]	kW	2,49	4,10	4,54
Total Sensible Capacity[1]	kW	1,90	2,93	3,37
Heating Capacity[2]	kW	3,52	4,69	5,28
Water Flow Rate (cooling)	l/s	0,127	0,217	0,225
Water Pressure Drop (cooling)	kPa	19,28	26,86	28,84
Sound Pressure Level[3]	dB(A)	42/35/29	45/38/30	48/40/36
Power Input[4]	kW	0,063	0,064	0,079
Current Input[4]	A	0,22	0,30	0,34
Standard Voltage	V/ph/Hz	220-240/1/50		
Water Connections	inches	3/4”	3/4”	3/4”
Condensate Drain Connections	mm	19	19	19

NOTES:
(1) At the following nominal conditions: 7/12°C inlet/outlet water temperature; 27°C db / 19°C wb inlet air temperature; high speed
(2) At the following nominal conditions: 50°C inlet water temperature; 20°C inlet air temperature; same water flow as for cooling; high speed
(3) Sound pressure levels are tested at 1.4m below the centre of the unit (according to JIS C 9612 standard)
(4) High speed

Weight and dimensions		010CW	015CW	020CW
Shipping weight (unit + panel)	kg	22+2	23+2	23+2
(A) Length	mm	570	570	570
(B) Width	mm	570	570	570
(C) Height	mm	250	250	250

TECHNICAL DATA MCK - Cassette

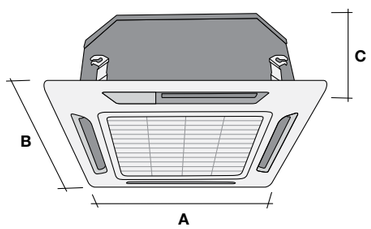
MCK 2 PIPE		020AW	025AW	030AW	040AW	050AW
Nominal Air Flow	m³/h	1310/1130/1069	1379/1180/1069	1558/1321/1209	1738/1530/1339	1839/1681/1540
Total Cooling Capacity[1]	kW	6,62	7,50	8,80	9,95	10,8
Total Sensible Capacity[1]	kW	4,90	5,40	6,40	7,10	7,70
Heating Capacity[2]	kW	8,40	9,50	11,0	12,0	12,9
Water Flow Rate (cooling)	l/s	0,316	0,358	0,421	0,475	0,516
Water Pressure Drop (cooling)	kPa	24,8	30,8	41,6	52,2	69,3
Sound Pressure Level[3]	dB(A)	42/39/37	45/42/40	49/45/43	51/48/46	53/52/50
Power Input[4]	kW	0,130	0,150	0,160	0,190	0,250
Current Input[4]	A	0,52	0,64	0,68	0,79	1,06
Standard Voltage	V/ph/Hz	220-240/1/ 50				
Water Connections	inches	3/4”	3/4”	3/4”	3/4”	3/4”
Condensate Drain Connections	mm	19	19	19	19	19

NOTES:
(1) At the following nominal conditions: 7/12°C inlet/outlet water temperature; 27°C db / 19°C wb inlet air temperature; high speed
(2) At the following nominal conditions: 50°C inlet water temperature; 20°C inlet air temperature; same water flow as for cooling; high speed
(3) Sound pressure levels are tested at 1.4 m below the centre of the unit (according to JIS C 9612 standard) - MCK 020AW - MCK 025AW and 1.5 m below the centre of the unit (according to JIS B8615) - MCK 030AW - MCK 040AW - MCK 050AW
(4) High speed

MCK 4 PIPE		020AWH	025AWH	030AWH	040AWH	050AWH
Nominal Air Flow	m³/h	1310/1130/1069	1379/1180/1069	1558/1321/1209	1738/1530/1339	1839/1681/1540
Total Cooling Capacity[1]	kW	3,81	3,96	4,63	5,01	5,16
Total Sensible Capacity[1]	kW	3,40	3,52	4,07	4,40	4,54
Heating Capacity[2]	kW	10,6	11,0	12,5	13,5	13,8
Water Flow Rate (cooling)	l/s	0,182	0,189	0,221	0,239	0,246
Water Pressure Drop (cooling)	kPa	3,56	3,78	4,96	5,70	5,96
Sound Pressure Level[3]	dB(A)	42/39/37	45/42/40	49/45/43	51/48/46	53/52/50
Power Input[4]	kW	0,122	0,138	0,153	0,184	0,232
Current Input[4]	A	0,53	0,61	0,67	0,80	1,02
Standard Voltage	V/ph/Hz	220-240/1/50				
Water Connections	inches	3/4”	3/4”	3/4”	3/4”	3/4”
Condensate Drain Connections	mm	19	19	19	19	19

NOTES:
(1) At the following nominal conditions: 7/12°C inlet/outlet water temperature; 27°C db / 19°C wb inlet air temperature; high speed
(2) At the following nominal conditions: 70/60°C inlet/outlet water temperature; 20°C inlet air temperature; high speed
(3) Sound pressure levels are tested at 1.4 m below the centre of the unit (according to JIS C 9612 standard) - MCK 020 AWH - MCK 025 AWH and 1.5 m below the centre of the unit (according to JIS B8615) - MCK 030AWH - MCK 040AWH - MCK 050AWH
(4) High speed

Weight and dimensions		020AW/AWH	025AW/AWH	030AW/AWH	040AW/AWH	050AW/AWH
Shipping weight (unit + panel)	kg	31+4	32+4	35+4	38+4	40+4
(A) Length	mm	820	820	820	820	820
(B) Width	mm	820	820	820	820	820
(C) Height	mm	305	305	305	305	305



McQuay Air Conditioning

Cooling capacity: 2,20 kW ÷ 9,80 kW
Heating capacity: 2,40 kW ÷ 12,2 kW

GENERAL CHARACTERISTICS

- Wide capacity range
- Available ESP (External Static Pressure) 30 Pa
- Multiple rooms can be cooled by just 1 unit of MCW
- Simple design with easy serviceability feature
- Extremely low height of unit - 249 mm for complete range
- Water piping connection can be easily converted from one side to the other
- Fan motor assembly is not cased, allowing free return or back return or bottom return with optional return plenum
- Availability of 4 pipes MCW series

OPTIONS ON REQUEST

- **Electronic controls**
  - **AC8100; AC8000-NIM** for wall mounted installation:
  - DISPLAY LCD
  - KEYBOARD
  - **AC500B22** electromechanical control for 2 & 4 pipe systems
- **Valves kit** (standard condensate drain pan), 3 ways

STANDARD OPTION

- Extended drain to receive the condensate water dripping from the water piping connection

MCW - Ceiling concealed
FAN COILS

TECHNICAL DATA MCW - Ceiling concealed

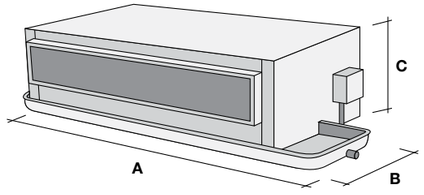
MCW - 2 PIPE		200C	300C	400C	600C	800C	1000C	1200C
Nominal Air Flow (super high/high/medium/low)	m^3/h	327/307 269/246	572/456 380/290	710/541 475/445	1000/785 630/510	1264/1018 863/717	1436/1234 1115/805	1785/1500 1298/1106
Available External Static Pressure	Pa	30	30	30	30	30	30	30
Total Cooling Capacity[1]	kW	2,20	3,40	4,20	6,10	7,10	8,20	9,80
Total Sensible Capacity[1]	kW	1,50	2,50	3,30	4,70	5,60	6,50	7,70
Heating Capacity[2]	kW	2,40	4,10	5,40	7,30	8,80	10,2	12,2
Water Flow Rate (cooling)	l/s	0,106	0,162	0,201	0,288	0,337	0,388	0,464
Water Pressure Drop - (cooling)	kPa	13	13	19	34	15	15	26
Sound Pressure Level[3]	dB(A)	38/36/32/31	42/40/37/35	41/37/33/32	43/40/38/36	43/40/38/36	46/43/41/39	46/44/41/39
Power Input[4]	kW	0,039	0,062	0,079	0,107	0,148	0,165	0,215
Standard Voltage	V/ph/Hz	220-240/1/50						
Water Connections	inches	3/4"	3/4"	3/4"	3/4"	3/4"	3/4"	3/4"
Condensate Drain Connections	inches	3/4"	3/4"	3/4"	3/4"	3/4"	3/4"	3/4"

NOTES:
(1) At the following nominal conditions: nominal air flow; 7/12°C inlet/outlet water temperature; 27°C db / 19°C wb inlet air temperature; Super high speed
(2) At the following nominal conditions: nominal air flow 50°C inlet water temperature;20°C inlet air temperature; same water flow as for cooling; Super high speed
(3) At Super-high/High/Medium/Low speed; nominal air flow, with plenum and filter
(4) At Super-high speed

MCW - 4 PIPE		200H	300H	400H	600H	800H	1000H	1200H
Nominal Air Flow (super high/high/medium/low)	m^3/h	314/290 257/241	529/422 338/298	671/536 494/460	1004/811 725/653	1194/963 856/700	1346/1154 1039/743	1674/1406 1200/1069
Available External Static Pressure	Pa	30	30	30	30	30	30	30
Total Cooling Capacity[1]	kW	2,20	3,20	4,10	6,10	6,80	7,80	9,40
Total Sensible Capacity[1]	kW	1,40	2,40	3,10	4,70	5,40	6,10	7,30
Heating Capacity[2]	kW	2,70	4,10	5,30	7,70	8,50	9,50	11,7
Water Flow Rate (cooling)	l/s	0,102	0,153	0,194	0,289	0,324	0,373	0,446
Water Pressure Drop - (cooling)	kPa	12	11	18	34	14	14	24
Sound Pressure Level[3]	dB(A)	38/35/33/31	42/40/37/35	41/38/34/33	43/40/38/36	44/40/38/36	46/43/41/39	47/44/42/40
Power Input[4]	kW	0,040	0,057	0,072	0,106	0,137	0,160	0,203
Standard Voltage	V/ph/Hz	220-240/1/50						
Water Connections	inches	3/4"	3/4"	3/4"	3/4"	3/4"	3/4"	3/4"
Condensate Drain Connections	inches	3/4"	3/4"	3/4"	3/4"	3/4"	3/4"	3/4"

NOTES:
(1) At the following nominal conditions: nominal air flow; 7/12°C inlet/outlet water temperature; 27°C db / 19°C wb inlet air temperature; Super high speed
(2) At the following nominal conditions: nominal air flow 70/60°C inlet/outlet water temperature;20°C inlet air temperature; Super high speed
(3) At Super-high/High/Medium/Low speed; nominal air flow, 1 m below the unit (according to JB/T 4283-91)
(4) At Super-high speed

Weight and dimensions		200C/H	300C/H	400C/H	600C/H	800C/H	1000C/H	1200C/H
Shipping weight C/H	kg	20/22	23/27	28/31	33/36	44/48	48/52	50/56
(A) Length	mm	814	984	1114	1314	1564	1664	1924
(B) Width	mm	590	590	590	590	590	590	590
(C) Height	mm	249	249	249	249	249	249	249



MCC - Ceiling concealed ducted

FAN COILS

Cooling capacity: 2,90 kW ÷ 15,8 kW
Heating capacity: 3,37 kW ÷ 19,6 kW

GENERAL CHARACTERISTICS

- 4 speed fan motor
- Mode selection, fan speed selection
- Able to communicate with the versatile NIM
- Self diagnosis feature

OPTIONS ON REQUEST

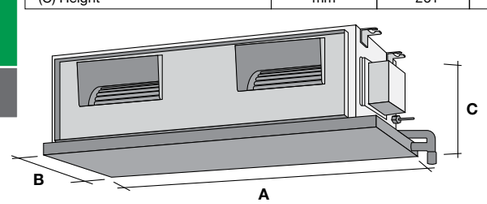
- **Electronic control** for wall mounted installation:
  - SLM3
  - NETWARE3
- **Valve kit**, 2 or 3 ways

TECHNICAL DATA MCC - Ceiling concealed ducted

MCC		010CW	015CW	020CW	025CW	030CW	040CW	050CW	060CW
Nominal Air Flow (super high/high/medium/low)	m^3/h	-/511 443/374	-/868 749/612	-/1188 1156/1055	-/1242 1224/986	(1530)/1411 1292/1206	(1868)/1800 1681/1530	(2700)/2344 2174/2056	(2804)/2599 2430/2192
Available External Static Pressure[4]	Pa	49	49	69	59	167	176	156	156
Total Cooling Capacity[1]	kW	2,90	3,40	5,28	6,59	8,21	11,1	13,8	15,8
Total Sensible Capacity[1]	kW	2,05	3,10	3,69	4,62	5,83	7,80	9,64	11,1
Heating Capacity[2]	kW	3,37	4,40	6,74	8,50	10,6	13,5	16,7	19,6
Water Flow Rate (cooling)	l/s	0,133	0,160	0,252	0,314	0,391	0,533	0,656	0,755
Water Pressure Drop (cooling)	kPa	11	24	20	32	15	21	41	8
Sound Pressure Level[3]	dB(A)	33/30/26	37/34/29	38/36/34	40/39/36	(49)/46/42/38	(51)/49/45/41	(53)/52/50/47	(53)/52/50/47
Power Input[4]	kW	0,068	0,097	0,141	0,165	0,401	0,448	0,510	0,562
Current Input[4]	A	0,30	0,42	0,64	0,73	1,87	2,00	2,26	2,47
Standard Voltage	V/ph/Hz	220-240/1/50							
Water Connections	inches	3/4"	3/4"	3/4"	3/4"	3/4"	3/4"	3/4"	3/4"
Condensate Drain Connections	inches	3/4"	3/4"	3/4"	3/4"	3/4"	3/4"	3/4"	3/4"

NOTES:
(1) At the following nominal conditions: 7/12°C inlet/outlet water temperature; 27°C db / 19°C wb inlet air temperature; high speed
(2) At the following nominal conditions: 50°C inlet water temperature; 20°C inlet air temperature; same water flow as for cooling;
high speed - MCC 010CW - MCC 015CW - MCC020CW - MCC025CW and 70/65°C inlet/outlet water temperature; 20°C inlet air temperature;
high speed - MCC 030CW - MCC 040CW - MCC 050CW - MCC 060CW
(3) Sound pressure levels are tested at 1.4m below the centre of the unit, with 2m length duct at the air discharge outlet and air return inlet (according to GB/D17758)
(4) High speed

Weight and dimensions		010CW	015CW	020CW	025CW	030CW	040CW	050CW	060CW
Shipping weight	kg	17	21	22	25	39	42	54	63
(A) Length	mm	765	905	1065	1200	929	1045	1299	1299
(B) Width	mm	411	411	411	411	541	541	541	541
(C) Height	mm	261	261	261	261	379	378	378	378



MDB - Large ducted

FAN COILS

Cooling capacity: 22,2 kW ÷ 44,0 kW
Heating capacity: 22,9 kW ÷ 49,8 kW

GENERAL CHARACTERISTICS

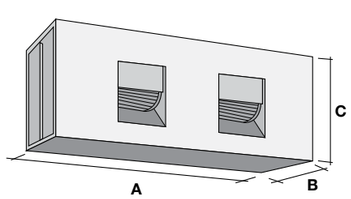
- High air flow and high external static pressure, enables adequate distribution of air to the desired space
- Multiple rooms can be cooled by just 1 unit
- Simple design with easy serviceability feature
- The robust unit is designed with durability and reliability

TECHNICAL DATA MDB - Large ducted

MDB		075BW	100BW	125BW	150BW
Nominal Air Flow	m^3/h	4248	5436	7135	7815
Available External Static Pressure	Pa	100	100	149	100
Total Cooling Capacity[1]	kW	22,2	27,8	36,6	44,0
Total Sensible Capacity[1]	kW	16,5	20,3	26,4	31,2
Heating Capacity[2]	kW	22,9	28,6	40,5	49,8
Water Flow Rate (cooling)	l/s	1,058	1,330	1,750	2,100
Water Pressure Drop (cooling)	kPa	35	42	49	53
Sound Pressure Level[3]	dB(A)	56	57	58	59
Power Input	kW	0,810	1,781	1,550	1,620
Current Input	A	3,7	7,68	2,95	3,1
Standard Voltage	V/ph/Hz	220-240/1/50		380-415/3/50	
Water Connections	inches	1 1/8"	1 1/8"	1 1/8"	1 1/8"
Condensate Drain Connections	inches	1"	1"	1"	1"

NOTES:
(1) At the following nominal conditions: 7/12°C inlet/outlet water temperature; 27°C db / 19°C wb inlet air temperature; high speed
(2) At the following nominal conditions: 50°C inlet water temperature; 20°C inlet air temperature; same water flow as for cooling; high speed
(3) Sound pressure levels are tested at 1.4m below the unit (free return and the discharge air was ducted to adjacent room)

Weight and dimensions		075BW	100BW	125BW	150BW
Shipping weight	kg	96	100	140	145
(A) Length	mm	1502	1502	1640	1640
(B) Width	mm	761	761	980	980
(C) Height	mm	572	572	885	885



MWM - Wall mount

FAN COILS

Cooling capacity: 2,34 kW ÷ 5,28 kW
Heating capacity: 3,02 kW ÷ 6,74 kW

GENERAL CHARACTERISTICS

- Slim and compact
- Wide capacity range
- Wide air flow range
- Able to communicate with the versatile NIM
- Light weight
- Detachable and washable air intake grille
- Self diagnosis features
- Automatic air swing
- Wireless G17 control: mode selection, fan speed, 24 hours real timers

OPTIONS ON REQUEST

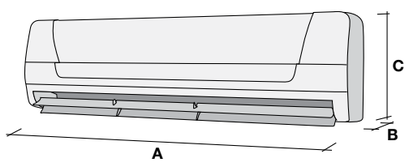
- **Electronic controls** for wall installation:
  - SLM 3
  - NETWARE 3
- **Valve kit**, 2 ways

TECHNICAL DATA MWM - Wall mount

MWM		007GW	010GW	015GW	020GW	025GW
Nominal Air Flow (High/Medium/Low)	m³/h	468/382/299	511/425/338	587/486/374	1069/832/749	1123/986/799
Total Cooling Capacity[1]	kW	2,34	2,78	3,22	4,54	5,28
Total Sensible Capacity[1]	kW	1,74	2,03	2,35	3,65	4,33
Heating Capacity[2]	kW	3,02	3,75	4,10	6,01	6,74
Water Flow Rate (cooling)	l/s	0,111	0,133	0,152	0,216	0,252
Water Pressure Drop (cooling)	kPa	48,3	64,7	76,7	50,3	69,3
Sound Pressure Level[3]	dB(A)	40/35/29	39/34/28	42/36/29	49/44/42	49/47/45
Power Input[4]	kW	0,240	0,250	0,290	0,660	0,690
Current Input[4]	A	0,11	0,11	0,13	0,29	0,30
Standard Voltage	V/ph/Hz	220-240/1/50				
Water Connections	inches	1/2”	1/2”	1/2”	1/2”	1/2”
Condensate Drain Connections	mm	16	16	16	20	20

NOTES:
(1) At the following nominal conditions: 7/12°C inlet/outlet water temperature; 27°C db / 19°C wb inlet air temperature; high speed
(2) At the following nominal conditions: 50°C inlet water temperature; 20°C inlet air temperature; same water flow as for cooling; high speed
(3) At High/Medium/Low speed; position of the measurement point 1 m in front of the unit and 0.8 m below the unit (according to JIS C9612)
(4) High speed

Weight and dimensions		007GW	010GW	015GW	020GW	025GW
Shipping weight	kg	10	12	12	16	16
(A) Length	mm	799	899	899	1062	1062
(B) Width	mm	198	198	198	222	222
(C) Height	mm	260	260	260	304	304



MCM - Ceiling convertible

FAN COILS

EW Series

DW Series

Cooling capacity: 4,54 kW ÷ 13,2 kW
Heating capacity: 5,72 kW ÷ 15,1 kW

GENERAL CHARACTERISTICS

- Ceiling Convertible feature offers flexibility on installation
- 2 way air discharge ensure better air distribution
- Automatic Air swing (MCM-DW)
- Able to communicate with the versatile NIM for fan coil units networking
- Self diagnosis feature
- Wireless G17 control: mode selection, fan speed, 24 hours real timers

OPTIONS ON REQUEST

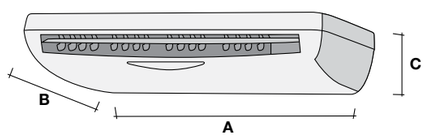
- **Electronic controls** for wall installation:
  - SLM 3
  - NETWARE 3

TECHNICAL DATA MCM - Ceiling convertible

MCM		015EW	020EW	025EW	030DW	040DW	050DW
Nominal Air Flow (High/Medium/Low)	m³/h	850/763/680	986/901/833	1775/1652/1530	1184/1170/1102	1620/1541/1512	1800/1750/1620
Total Cooling Capacity[1]	kW	4,54	5,95	6,15	7,21	9,41	13,2
Total Sensible Capacity[1]	kW	3,72	4,52	4,73	5,19	7,50	9,20
Heating Capacity[2]	kW	5,72	7,33	8,21	8,70	12,4	15,1
Water Flow Rate (cooling)	l/s	0,216	0,283	0,294	0,345	0,436	0,630
Water Pressure Drop (cooling)	kPa	27,4	48,1	57,1	49,4	24	37,7
Sound Pressure Level[3]	dB(A)	50/43/41	53/51/49	56/51/44	51/50/48	54/53/52	54/53/52
Power Input[4]	kW	0,100	0,110	0,110	0,130	0,240	0,240
Current Input[4]	A	0,46	0,49	0,52	0,57	0,98	1,03
Standard Voltage	V/ph/Hz	220-240 V / 1ph / 50Hz					
Water Connections	inches	1/2”	1/2”	1/2”	3/4”	3/4”	3/4”
Condensate Drain Connections	inches	3/4”	3/4”	3/4”	3/4”	3/4”	3/4”

NOTES:
(1) At the following nominal conditions: 7/12°C inlet/outlet water temperature; 27°C db / 19°C wb inlet air temperature; high speed
(2) At the following nominal conditions: 50°C inlet water temperature; 20°C inlet air temperature; same water flow as for cooling; high speed
(3) At High/Medium/Low speed; position of the measurement point 1 m in front of the unit and 1 m below the unit (according to JIS B8615) - MCM 030/040/050 DW; position of measurement point: 1 m in front and 0,8 m below the vertical centre line of the unit
(4) High speed

Weight and dimensions		015EW	020EW	025EW	030DW	040DW	050DW
Shipping weight	kg	27	27	27	45	70	70
(A) Length	mm	1090	1090	1090	1214	1714	1714
(B) Width	mm	630	630	630	670	670	670
(C) Height	mm	213	213	213	214	249	249



NOTES

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McQuay Italia S.p.A. - Via Piani di Santa Maria, 72 - 00040 Ariccia - Roma - Italy
T. +39 06.937311 - F. +39 06.9374014 - www .mcquayeurope. com
McQuay (UK) Ltd. - 69 Questor Estate - Pearsons Way - Dartford - Kent DA1 1JN
T. +44 01322.424950 - F. +44 01322.424951 - info @ mcquay. co. uk

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