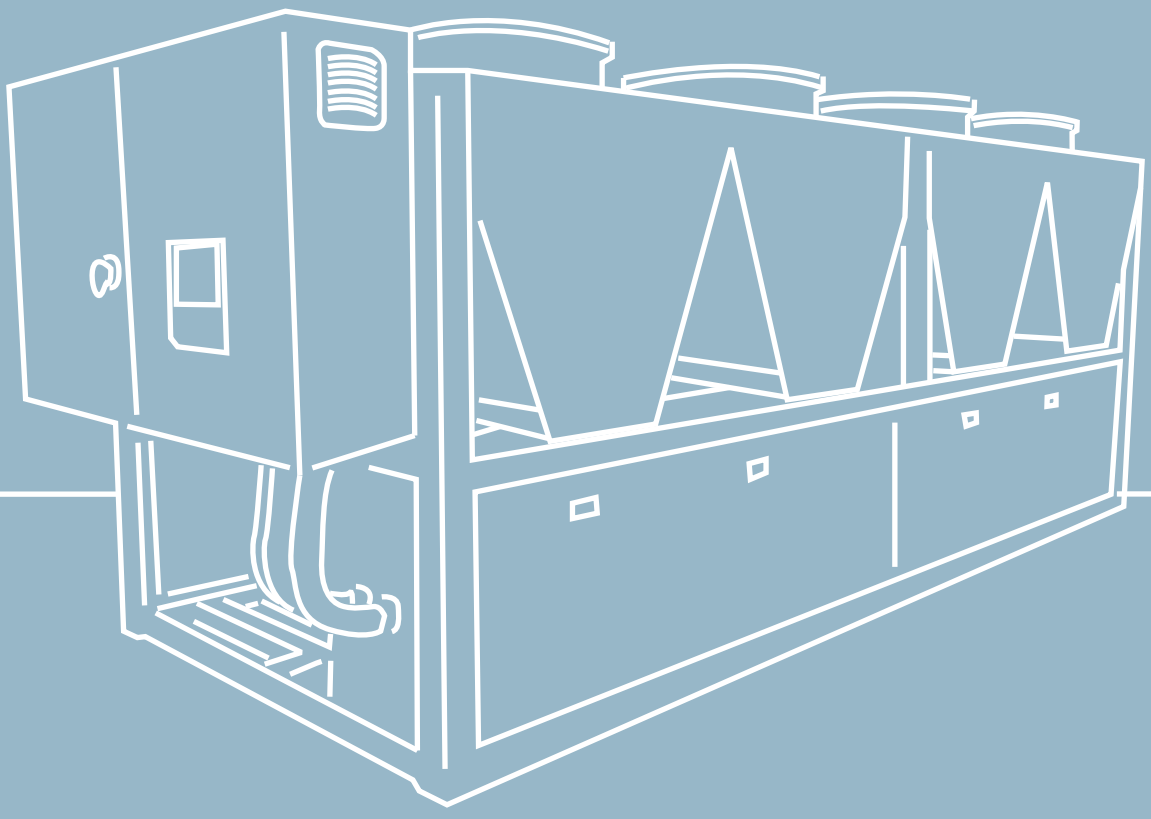
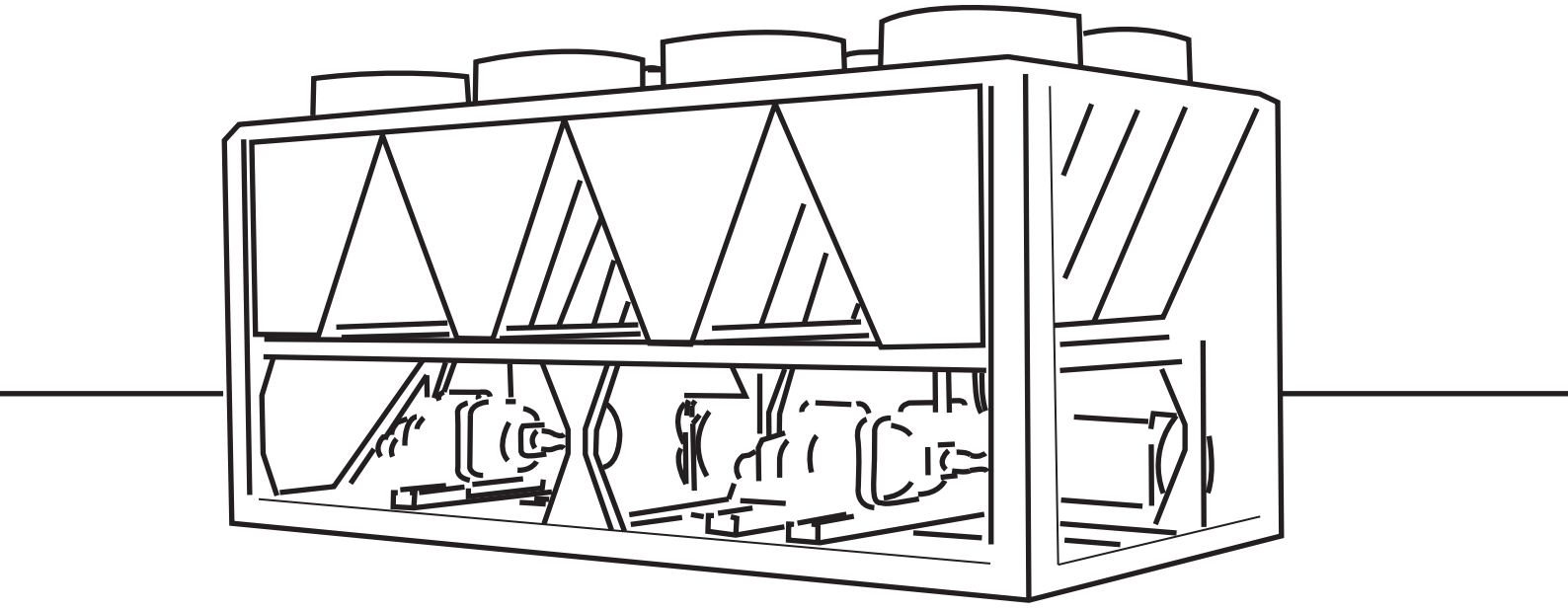
Cooling as vast as comfort



EXON
Air Conditioning Solutions

Air Cooled Chiller

- High Energy Efficiency.
- Long Lifespan & Easy Maintenance.
- Wide Range of Refrigerant Options.
- Offered in Multiple capacity options.
- Effective and Consistent Cooling Performance.
- Lower Water Consumption Compared to Evaporative Systems.



Cooling as vast as comfort

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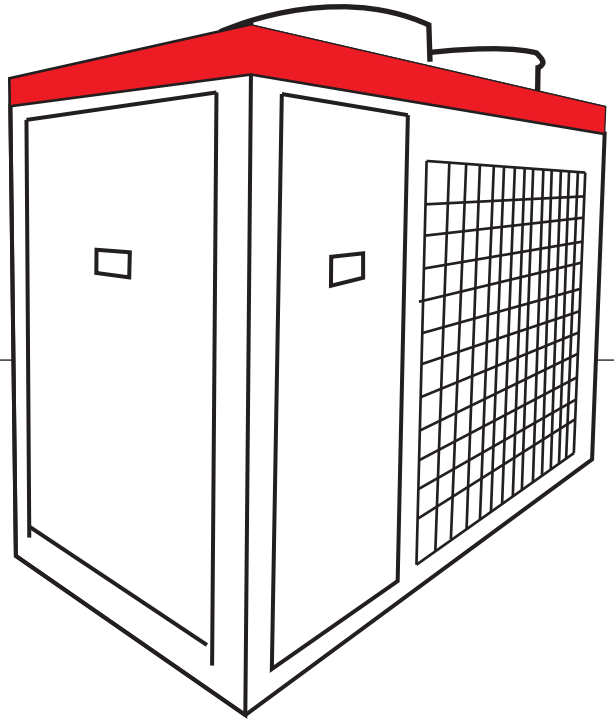
DESCRIPTION

Air Cooled Chiller:

— EMC +– Mini Chiller with Scroll Compressor.
— EMC + – With Scroll Compressor.
— EMS + – Semi–Hermetic with Screw Compressor.

TYPE OF UNIT

Mini Chiller:



— Capacity range 10.4–40.6 kw
— Cooling capacity 3–11.6 RT.
— Circuits 1 & 2 Nr.
— Compressor type scroll.
— Compressor quantity number 1&2 Nr.
— Shell & tube or plate evaporator.
— Air flow rate 2900–10800 cfm.

EMC

— Capacity range 54–252.2 kw.
— Cooling capacity 15.5–71.7RT.
— Circuits 1 & 4 Nr.
— Compressor type scroll.
— Compressor quantity number 1 & 4 Nr.
— Air Flow Rate 17000–60000 cfm.
— Shell & tube or plate evaporator.
— Maximum energy saving with PLC PID control.
— Condenser with a large surface area and high capacity axial fan.
— Electrical board includes emergency stop and overload protection.
— Polyester based electrostatically powder painted galvanized steel, which provides excellent UV and corrosion protection, is used for casing.
— Scroll compressors offer superior performance and are widely used in modern refrigeration systems. They replace reciprocating compressors and enable high–capacity chillers with multi–compressor assemblies (tandem or trio configurations).

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Air Conditioning Solutions

EMS

- Capacity range 244.8–884.3 kw.
- Cooling capacity 69.6–251.4 RT.
- Circuits 2 Nr.
- Compressor type screw.
- Compressor quantity number 2 Nr.
- Shell & tube evaporator .
- Air Flow Rate 18000–150000 cfm.
- Maximum energy saving with PLC PID control & HMI.
- Condenser with a large surface area and high capacity axial fan.
- Electrical board includes emergency stop and overload protection.
- Polyester based electrostatically powder painted galvanized steel which provides excellent UV and corrosion protection, is used for casing.
- Screw compressors deliver high efficiency and reliability in all operating conditions. Equipped with separate radial and axial bearings, liquid injection, economizer connections, and temperature sensors, they ensure long–term durability and reliable performance under heavy–duty operations.

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General features

System Security and Safety Devices

— Phase monitor.
— Low Ambient temperature lock–out.
— High and Low Pressure switches.
— Additional I/O relays.
— Compressor overload protection.
— Water pump overload protection.
— Compressor internal wiring heat protection.

Control Section

— Management of the compressor capacity.
— Display of evaporator entering/leaving water temperature.
— Display of capacity level of the Chiller.
— Display of condensing–evaporating temperature and pressure, suction and discharge superheat for each circuit
— Display alarms and actual water temperature history.
— Leaving water evaporator temperature regulation.
— Display of Status Safety Devices.
— Optimized management of compressor load.
— Re–start in case of power failure (automatic / manual).
— Capability to connect to Building Management System (BMS) and provision of an Ethernet port for local or remote monitoring and control via web browsers through a local network or the Internet (optional).

Scroll Compressor

Scroll compressors represent the leading–edge compression technology, having largely supplanted reciprocating compressors due to their superior energy efficiency, reduced mechanical complexity, lower noise levels, and enhanced reliability. Our high–capacity chillers incorporate multiple scroll compressor configurations—such as tandem and trio arrangements—each fully tested and performance–optimized, to ensure precise capacity modulation, operational redundancy, and improved part–load efficiency under varying load conditions.

EXON
Air Conditioning Solutions

Screw Compressor

All screw compressors used are engineered for high efficiency and exceptional reliability across a wide range of operating conditions. They are equipped with independent radial and axial bearings for enhanced mechanical stability, along with liquid injection ports and economizer connections to optimize performance and capacity. Integrated PTC thermistors monitor motor temperature, while discharge temperature sensors ensure thermal protection. Additional features include a motor protection module, oil level switch, oil differential pressure switch connector, and various other critical accessories. These compressors deliver superior durability, extended bearing life, and consistent performance even under demanding and continuous heavy-duty operations.

Shell & Tube Evaporator

Evaporators are available in both shell-and-tube and plate types across all capacities. Shell-and-tube heat exchangers are used in screw chillers, while plate heat exchangers are applied in scroll chillers—both options can be customized or interchanged based on customer requirements. The shell is made of carbon steel, with copper tubes and 5 mm thick Teflon baffles. The refrigerant inlet and outlet pipes are connected to the end plate using a flange and brass nipple. The entire unit is insulated with 19 mm thick elastomeric insulation covered by a UV-resistant aluminum foil. All evaporators are custom-engineered to match the actual capacity and specific needs of each project.

Electronic Expansion Valve

Service valves at the compressor inlet and outlet, high and low-pressure switches, high and low-pressure transducers with real-time pressure display on the chiller control board, sight glass, filter drier, and electronic expansion valve are key control and protection components of the system.

Condenser Fan

High-performance, direct-drive axial fans with aerodynamic impellers are mounted on external rotor motors and constructed from durable materials such as aluminum alloy or fiberglass-reinforced plastic. Each V-type condenser block is equipped with two fans optimized for airflow and minimal pressure drop. The fans are supplied by reputable manufacturers, feature galvanized steel protective covers, and come with motors rated at insulation class B or F and protection class IP54. For enhanced energy efficiency and noise reduction, fans can be equipped with variable speed drive systems or EC (Electronically Commutated) motors. Integrated thermal protection is provided within each motor.

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Condenser

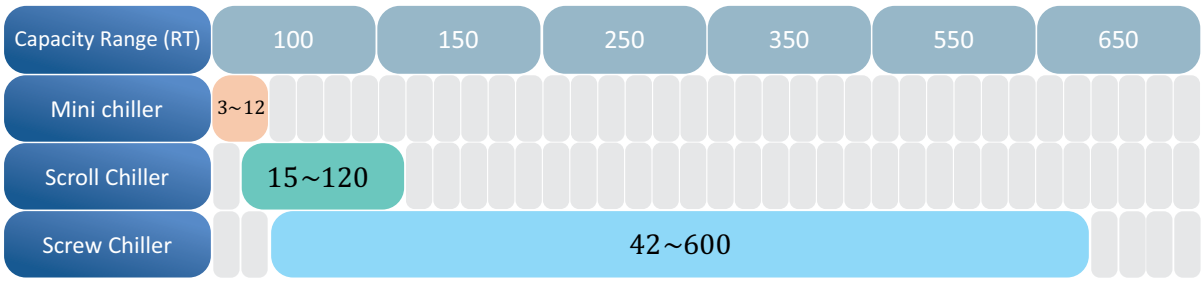
These coils are constructed using copper tubes and aluminum micro-fin fins, engineered based on Turbo-Fin technology to enhance heat transfer efficiency, equipped with a subcooler to improve overall performance, capable of operating reliably in high ambient temperatures, and custom-designed to match the actual capacity and specific requirements of each project.

Power and Control System

The internal electrical panel features an IP54 protection class and is equipped with all necessary protective components. It includes an electronic control board for precise parameter management, electronic expansion valve regulation, and superheat temperature monitoring and control. A built-in touchscreen display shows water inlet and outlet temperatures, fault codes, and allows on/off control of the chiller from within the unit. The panel also supports Modbus protocol for seamless integration with Building Management Systems (BMS).

Chiller Structure

The unit frame is constructed from galvanized steel sheets with thickness optimized based on the unit's weight and capacity. Structural columns and access panels are made from hot-dip galvanized steel and coated with electrostatic powder paint for enhanced durability. The entire casing is sealed with insulating foam to improve condenser performance, prevent water ingress, and minimize vibration-induced noise. All body components are assembled using bolts and nuts to ensure mechanical stability and ease of maintenance.



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EMC

MODEL	Unit	Air cooled mini chiller								
		EMC10	EMC13	EMC15	EMC17	EMC20	EMC25	EMC30	EMC35	EMC40
Cooling Capacity	RT	3	3.6	4.4	5	5.8	7.2	8.8	10	11.6
	kW	10.4	12.6	15.4	17.4	20.3	25.2	30.8	34.8	40.6
Total Input Power	kW	3.6	4.3	5.1	5.7	6.5	8.36	10.6	11.6	13.2
Total Input Current	A	6.75	8.5	9.3	11.3	12.6	16.5	19.9	23.3	26
Power Supply	V-Ph-Hz	380V-3ph-50Hz								
EER	w/w	2.89	2.93	3.02	3	3.1	3	2.9	3	3
Water flow rate	GPM	7.8	9.5	11.7	13.2	15.4	19	23.3	26.3	30.7
Refrigerant	Type	R407C/R410A								
Circuits	Nr	1,2								
Evaporator	Type	Shell&Tube-plate								
Evaporator Quantity	Nr	1								
PressureDrop(WaterSide)	kPa	21	21	21	21	25	26	43	39	32
Compressor Type	...	Scroll								
Compressor Quantity	Nr	1	1	1	1	1	2	2	2	2
Fan Type	Type	Axial								
Fan Quantity	Nr	1	2	2	2	2	2	2	2	2
Air Flow Rate	CFM	2900	4700	4800	5800	5800	9500	1000	10800	10800
Sound Power Level	dB(A)	70	70	70	73	73	73	76	76	79
Sound pressure Level	dB)A(	37	38	41	43	43	50	52	53	54
Inlet Water Connection	inch	1 1/4”	1 1/4”	1 1/4”	1 1/4”	1 1/4”	1 1/4”	1/1-2”	1/1-2”	1/1-2”
Outlet Water Connection	inch	1 1/4”	1 1/4”	1 1/4”	1 1/4”	1 1/4”	1 1/4”	1/1-2”	1/1-2”	1/1-2”
Net Weight	kg	280	370	390	410	430	480	510	560	590
Dimensions (L×W×H)	cm	95x40x90	113x45x130	160x75x120	160x75x120	160x75x130	180x80x150	180x80x150	180x80x150	180x80x150

The technical data is calculated as follows:

.Entering air temperature of 35°CdB
.Temperature water inlet 12°C
.Temperature of processed water 7°C

EXON
Air Conditioning Solutions

EMC

MODEL	Unit	Air cooled chiller						
		EMC54	EMC70	EMC105	EMC140	EMC175	EMC215	EMC260
Cooling Capacity	RT	15.5	19.5	32.6	42.7	47.7	59.02	71.7
	kW	54.5	68.5	114.8	150.2	167.9	207.6	252.2
Total Input Power	kW	18.1	22.3	35.4	47.6	51.9	69.6	80.9
Total Input Current	A	34.3	42	59	77	86	103	139.9
Power Supply	V-Ph-Hz	380V-3ph-50Hz						
EER	w/w	3.01	3.07	3.24	3.16	3.24	2.98	3.12
Water Flow Rate	GPM	41	52	87	114	127	157	191
Refrigerant	Type	R407C/R410A						
Circuits	Nr	1,4						
Evaporator	Type	Shell&Tube-plate as request						
Evaporator Quantity	Nr	1						
PressureDrop(WaterSide)	kPa	47	47	47	48	48	48	48
Compressor Type	...	Scroll						
Compressor Quantity	Nr	1	1	2	4	2	4	4
Fan Type	Type	Axial						
Fan Quantity	Nr	2	2	2	4	4	4	6
Air Flow Rate	CFM	17000	18000	18000	40000	40000	50000	60000
Sound Power Level	dB(A)	81	83	85	87	88	88	88
Sound pressure Level	dB(A)	65	65	67	67	68	68	68
Inlet Water Connection	inch	2 1/2”	2 1/2”	2 1/2”	2 1/2”	3”	3”	4”
Outlet Water Connection	inch	2 1/2”	2 1/2”	2 1/2”	2 1/2”	3”	3”	4”
Net Weight	kg	1500	1500	1500	1500	2700	2700	3660
Dimensions (L×W×H)	cm	210x120x190	210x120x190	240x110x190	240x220x190	280x220x190	320x220x250	390x220x250

The technical data is calculated as follows:

.Entering air temperature of 35°CdB
.Temperature water inlet 12°C
.Temperature of processed water 7°C

EXON
Air Conditioning Solutions

EMS

MODEL	Unit	Air cooled chiller						
		EMS245	EMS280	EMS315	EMS332	EMS420	EMS770	EMS875
Cooling Capacity	RT	69.6	79.2	89.7	94.6	118	220	251.4
	kW	244.8	278.5	315.6	332.6	415.2	774	884.3
Total Input Power	kW	82.7	94.2	99	113.5	133.7	263.2	281.2
Total Input Current	A	157	170	175	207	223	499.9	459
Power Supply	V-Ph-Hz	380V-3ph-50Hz						
EER	w/w	2.96	2.96	3.19	2.93	3.11	2.94	3.15
Water Flow Rate	GPM	184	210	238	250	314	580	670
Refrigerant	Type	R134a						
Circuits	Nr	2						
Evaporator	Type	Shell&Tube						
Evaporator Quantity	Nr	1	1	1	1	1	1	1
PressureDrop(WaterSide)	kPa	44	44	44	44	44	44	44
Compressor Type	...	Screw						
Compressor Quantity	Nr	2	2	2	2	2	2	2
Fan Type	Type	Axial						
Fan Quantity	Nr	6	6	6	6	8	14	16
Air Flow Rate	CFM	18000	65000	65000	65000	85000	145000	150000
Sound Power Level	dB(A)	96.3	96.3	96.3	96.3	96.3	99.1	99.1
Sound pressure Level	dB(A)	74	68	68	68	72	74	76
Inlet Water Connection	inch	4”	4”	4”	4”	5”	6”	8”
Outlet Water Connection	inch	4”	4”	4”	4”	5”	6”	8”
Net Weight	kg	3660	3660	4360	4360	5400	6730	8647
Dimensions (L×W×H)	cm	390x220x250	390x220x250	390x220x250	390x220x250	560x220x250	840x220x250	960x220x250

The technical data is calculated as follows:

.Entering air temperature of 35°CdB
.Temperature water inlet 12°C
.Temperature of processed water 7°C