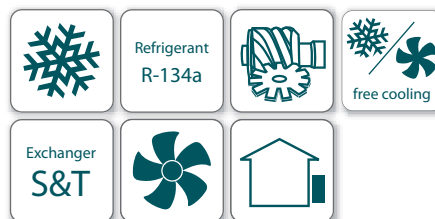


# AWS Free Cooling

AIR COOLED CHILLER WITH SCREW COMPRESSORS AND INTEGRATED FREE COOLING



Cooling capacity: 602 kW ÷ 1555 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
- New controller compatible with BMS
- Cabinet and structure made of galvanized steel sheet and painted to provide high resistance to corrosion; RAL 7032

## VERSIONS

### EFFICIENCY:

XE High efficiency <sup>(1)</sup>EER up to 3,19 (refrigeration mode)  
<sup>(1)(2)</sup>EER up to 9,67 (free cooling)  
 (1) (Standard Noise)  
 (2) (Free cooling at 5°C)

### NOISE LEVELS:

ST Standard noise	79,0 ÷ 80,7 dB(A)
LN Low noise	75,5 ÷ 77,1 dB(A)
XN Extra low noise	71,0 ÷ 72,5 dB(A)

## STANDARD OPTIONS

- Free Cooling
- Wye Delta Compressors starter (Y-D)
- Double set-point
- Fans thermal overload relays
- Phase monitor
- Evaporator Victaulic kit on water connection
- 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 relay
- Set-point reset and demand limit and alarm from external device
- Main switch interlock
- Auxiliary transformer
- Emergency stop
- Fans circuit breakers

## OPTIONS ON REQUEST

- Free cooling with system separation
- Total or partial heat recovery
- Soft starter
- Brine version
- Compressor thermal overload relays
- Under/overvoltage
- Ampere volt meter
- Capacitor factor correction
- Current limit - display
- Fan speed regulation (VFD)
- Condenser coil guards
- Hydronic kit
- Compressor and evaporator area coil guards
- Cu-Cu or Cu-Cu-Sn condensing coils
- Alucoat condensing coils
- Evaporator flow switch
- Suction line shut off valves
- High pressure manometers
- Rubber or spring type anti vibration mounts
- Double pressure relief valves
- Automatic circuit breakers
- Compressors circuit breakers
- Ground fault relay
- Absorbed current limit

# AWS Free Cooling

AIR COOLED CHILLER WITH SCREW COMPRESSORS  
AND INTEGRATED FREE COOLING

authorized McQuay distributor

## TECHNICAL DATA AWS XE ST/LN FC-SG

Compressor Mode		184.2	210.2	230.2	250.2	280.2	300.2	325.2	360.2	385.2	402.2	434.2
Cooling Capacity <sup>1</sup>	kW	640	772	852	902	1027	1089	1269	1349	1435	1493	1555
Unit Power Input <sup>1</sup>	kW	257	272	293	324	360	399	397	439	454	492	530
EER	--	2,49	2,84	2,90	2,78	2,85	2,73	3,19	3,08	3,16	3,04	2,93
ESEER	--	3,44	3,52	3,78	3,50	3,74	3,54	3,88	3,78	4,01	3,95	3,85
Sound Pressure Level <sup>2</sup> ST	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 Level <sup>2</sup> LN	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	McQuay Single Screw										
Quantity	No.	2	2	2	2	2	2	2	2	2	2	3
Minimum Capacity	%	13	13	13	13	13	13	13	13	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
Circuits Number	No.	2	2	2	2	2	2	2	2	2	2	3
Condenser Coil	Type	High efficiency fin and tube type with integral subcooler										
Fan	Type	Axial										
Quantity	No.	10	12	14	14	16	16	20	20	20	20	20
Power Input	kW	0,52	0,52	0,49	0,52	0,52	0,58	0,71	0,91	0,54	0,91	0,64
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
Evaporator	Type	Shell and Tube - Direct Expansion										
Water Volume	l	266	251	243	243	403	403	386	386	979	979	979
Pressure Drop	kPa	85	105	90	101	111	124	98	110	139	150	162
Water Connections Size	mm	168,3	168,3	168,3	168,3	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) 16/10°C entering/leaving evaporator water temperature; 35°C ambient temperature.
- (2) At 1m, according to ISO 3744, at free field semispherical conditions

Free Cooling		184.2	210.2	230.2	250.2	280.2	300.2	325.2	360.2	385.2	402.2	434.2
Cooling Capacity Free Cooling	kW	295	365	413	434	502	524	594	652	663	659	722
Refrigeration Mode - Cooling Capacity	kW	345	407	439	468	524	565	675	697	772	834	834
Power Input - Compressor	kW	74,3	87,9	90,7	99,8	109	118	131	143	152	160	170
EER	--	8,62	8,78	9,40	9,04	9,43	9,19	9,67	9,45	9,42	9,33	9,16
100% Free Cooling	°C	-0,8	-0,1	1,2	0,4	0,9	0,1	2,9	2,1	1,3	0,7	0,1

NOTES:

- 16/10°C entering/leaving evaporator water temperature; 5°C ambient temperature, 30% brine

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

aircool / McQuay reserves the right to make changes in design and construction at anytime without notice

