COOLEX

ACS Screw Water Chiller

R-134a

45 - 430 TR
158 - 1512 kW

COMMERCIAL AND INDUSTRIAL AIR COOLED SCREW WATER CHILLER

50 Hz

For more technical information please visit **www.coolex.com.kw**

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INTRODUCTION

COOLEX Air cooled screw water chillers **ACS** series designed to be suitable for gulf harsh environment with optimum performance, high efficiency, low power consumption, easy installation and low noise operations.

ACS series chillers were designed to provide central cooling for commercial and industrial applications with the high reliability utilizing the environment friendly R-134a refrigerant. **ACS** series are available from 45 TR (158 KW) to 430TR (1512 KW).

NOMENCLATURE

ACS **XXX** **X** **X** **X** **X** **XX**

AIR COOLED
COOLEX CHILLER
SCREW COMPRESSOR

045, 050, 055, 060, 070, 080
090, 100, 115, 130, 140, 150
160, 170, 180, 190, 200, 220
230, 240, 250, 260, 270, 280
300, 320, 330, 340, 350, 360
380, 400, 420, 430

REFRIGERANT
A R-134a

ELECTRICAL POWER SUPPLY (V-Ph-Hz)
A 415-3-50

OPTIONS**
AA STANDARD WITHOUT OPTIONS
AB PRESSURE GAUGES
AC COMPRESSOR AND COOLER GUARD
AD WATER FLOW SWITCH (WFS)
AE COMPRESSOR ENCLOSURE BOX
AF UNIT SPRING ISOLATOR
AG UNIT DISCONNECT SWITCH
AH GROUND CURRENT PROTECTION
AI COOLER HEATER TAPE

COOLER
A STANDARD WITH VICTUALIC CONNECTIONS
B OPTIONAL WITH FLANGE CONNECTIONS
C OPTIONAL ASME STAMPED WITH VICTAULIC CONNECTIONS
D OPTIONAL ASME STAMPED WITH FLANGE CONNECTIONS

CONDENSER COIL*
A STANDARD ALUMINUM FINS
B OPTIONAL, PRE-COATED ALUMINUM FINS
C OPTIONAL, COPPER FINS
D OPTIONAL, THERMOGUARD COATING WITH ALUMINUM FINS
E OPTIONAL, THERMOGUARD COATING WITH COPPER FINS

EXAMPLE
Customer needs a 140 Ton capacity chiller with refrigerant R-134a , 415v 3Ph 50Hz ,
Aluminium condenser coil ,Std. Victaulic connections coolers and water flow switch.

The unit model nomenclature will be :
ACS140. A. A. A .A. AD.

Notes
**For other coating specify your requirements in writing*
*** For othe combination , please consult factory*

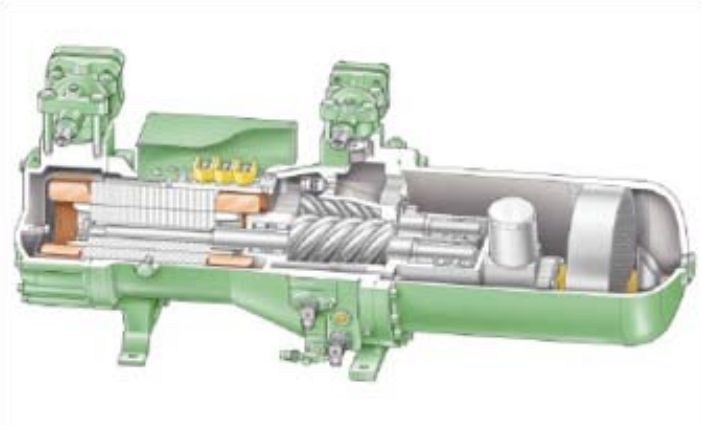
OUT STANDING FEATURES

- Designed to conform to ASHRAE 15 1994 (Safety Code for Mechanical Refrigeration).
- Performance Data are rated in accordance to ARI standard 550/590 98.
- Painted panel Salt Spray test in accordance to ASTM B 117 Salt Spray (Fog) Testing.
- Steel sheet panels lock forming quality conforming to ASTM A 653 Commercial weight G 90.
- Control panel design is equivalent to NEMA 4 (IP55 Weather proof and dust free).
- Internal power Connection High Voltage & control wire cables identification & markers As per NEC standard
- Compressors and Fan motors circuit breakers are having thermal protection. Single point power connection.
- Complete wired control panel with advanced microprocessor controller Matching with Building Management System.
- Compressors are part winding start.
- Low noise aerodynamic design condenser fan, direct drive with rolled for venture design to eliminate short circuiting of airflow.
- All fans are propeller type with aerodynamic design, top discharge & provided with protective grill.
- All fan motors are Totally Enclosed Air over (TEAO) type with class "F" winding insulation , ball bearings & inherent thermal protection of automatic reset.
- Economizer operation is a standard feature for selected models to optimize cooling capacity.
- Electronic expansion valve as standard accessories.
- Liquid injection valve
- Easy service accessibility

STANDARD FEATURES

SEMI HERMETIC SCREW COMPRESSOR

All compressors are compact semi-hermetic twin screw of the high capacity and efficiency due to its perfect profile form ratio 5:6. Simple and robust construction with slider control valve for capacity unloading, suction/discharge shut-off valves, check valve in discharge gas outlet, oil sight glass, oil fill/drain service valve, directly flanged-on three stage oil separator with long-life fine filter 10 microns mesh size, robust axial bearings in tandem configuration, suction gas filter, internal pressure relief valve as a burst protection and manual lock-out electronic protection system for thermal motor winding temperature, phase reversal, discharge gas temperature protection controls.



STANDARD FEATURES

STEPLESS CAPACITY CONTROL

ACS series chillers are equipped with stepless capacity control system as standard for very accurate response to load requirements and best part load efficiency. Each compressor is equipped with a slider controller that enables to modulate capacity between 50% to 100%, thus giving a broad range to control total chiller capacity between 10% to 100% on an average. This system has following advantages:

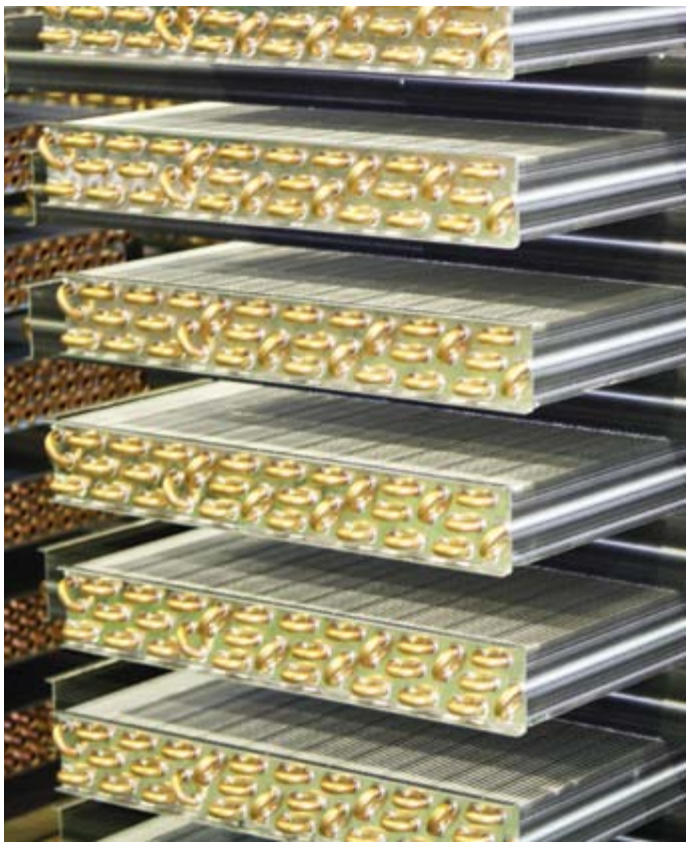
1 Infinites capacity modulation that allows the compressor capacity to exactly match the cooling load.

2 Reduces compressor cycling that leads to better operational reliability.

3 Reduces operating cost.

CONDENSERS COIL

The coils are built up seamless copper tubes and mechanically bonded to scientifically designed aluminum fins for maximum heat transfer efficiency. The assembled coils are factory leak tested under water at a pressure of 450 psig for quality and leak free unit. They also undergo dry chemical cleaning after Manufacturing for optimum system cleanness.



SHELL AND TUBE LIQUID COOLER

High efficiency DX shell & tube type cooler with removable "U" shape bundled tubes are made of internally grooved copper tubes expanded into heavy steel tubular sheets. The cooler shell, header, tube sheet, refrigerant and water connections are made of carbon steel. Baffles are made of brass. The coolers are insulated with heavy closed cellular foam insulation (3/4" thick) as a standard other thickness are available as an option. All chiller barrels are fitted with vent, drain connection and Victaulic water pipe connection as standard.(flange and ASME available as an option)

Coolers are tested and stamped for refrigerant/ water design /test pressure as follows:

COOLER	WATER SIDE	
	DESIGN PRESS.	TEST PRESS.
	BAR/PSIG	BAR/PSIG
STD	16/235	22.8/335
ASME	10/147	11.3/165

COOLER	REFRIGERANT SIDE	
	DESIGN PRESS.	TEST PRESS.
	BAR/PSIG	BAR/PSIG
STD	29/426	41.5/610
ASME	15.5/228	23.3/342

STANDARD FEATURES

CONDENSER FAN MOTOR

All condenser fan motors are totally enclosed air over type (TEAO) with class "F" winding insulation and ball bearings for high ambient application. The motors shall be three phase with inherent thermal protection of automatic reset type.

UNIT CASING (CABINET)

The unit casing are perfectly designed to eliminate the corrosion problem usually associated with outdoor equipment. The casing sheet metal is fabricated from hot dipped heavy gauge (G90), zinc coating and zero spangle galvanized steel, oven-baked powder coated.

CONTROL PANEL

The control panel design is equivalent to NEMA 4 (IP55) with hinged door for easy access ensuring dust and weatherproof construction. Internal power and control wiring is neatly routed, adequately anchored and all wires identified with cable markers as per NEC standards applicable to HVAC industry. The control voltage is 240V-1Ph-50Hz.The electrical controls used in the control panel are UL approved which are reliable in operation at high ambient conditions (Up to 70°C) for a long period.

CONSTRUCTION AND REFRIGERATION

- **INDEPENDENT REFRIGERATION CIRCUIT PER COMPRESSOR**

- **LIQUID LINE ELECTRONIC EXPANSION VALVE**
  Used to regulate the refrigerant flow to the water cooler and maintain a constant Superheat and load optimization.

- **LIQUID LINE REPLACEABLE CORE TYPE FILTER DRIER**
  Refrigerant circuits are kept free of harmful moisture, sludge, acids and oil contaminating particles by the filter drier.

- **LIQUID LINE MOISTURE INDICATOR SIGHT GLASS**
  Installed in the liquid line. An easy to read color indicator shows moisture contents and provides a mean for checking the system refrigerant charge.

- **LIQUID LINE SOLENOID VALVE**
  Closes when the compressor is off to prevent any liquid refrigerant from accumulating in the water cooler during the off cycle.

- **LIQUID LINE SHUT OFF VALVE**

- **FULLY CHARGED UNIT WITH R-134a REFRIGERANT**

- **DISCHARGE, SUCTION LIQUID LINE PIPES**
  All hard copper pipes and minimize pipe brazed joints which in turn increases the system reliability.

- **LIQUID INJECTION KIT**
  For cooling the compressor in high ambient temperature.

- **CONDENSER COIL GUARD**
  Protect the condenser from damage.

STANDARD FEATURES

ELECTRICAL

- **COMPRESSOR PART WINDING START**

- **COMPRESSOR IN-BUILT PROTECTION DEVICE**

- **STARTER.**
  The starter is operated by the control circuit and provides power to the compressor motors. These devices are rated to handle safely both RLA and LRA of motors.

- **CRANKCASE HEATERS.**
  Each compressor has immersion type crankcase heater. The compressor crankcase heater is always on when the compressors are de- energized. This protects the system against refrigerant Migration, oil dilution and potential compressor failure.

- **HIGH PRESSURE SWITCH**
  This switch provides an additional safety protection in case of excessive discharge pressure.

- **UNIT ON-OFF SWITCH.**
  On Off Switch is provided for manually switching the unit control circuit.

- **INDICATOR LIGHTS**.
  LED lights indicates power ON to the units, MENU adjustment and FAULT indications due to trip on safety devices.

- **UNDER VOLTAGE AND PHASE PROTECTION.**
  This feature protects the chiller against low incoming voltage as well as single phasing , phase reversal and phase imbalance by de-energizing the control circuit.

- **FAN MOTOR CIRCUIT BREAKER**
  For each pair of condenser fan motor.

- **CONTROL CIRCUIT TRANSFORMER**

- **COMPRESSOR CIRCUIT BREAKERS.**
  Protects compressor against overload and short circuit. When tripped, the breaker opens the power supply to the compressor and control circuit through auxiliary contacts. These circuit breakers are provided with thermal adjustable switch for precise over load setting.

- **EXTERNAL OVERLOAD RELAY FOR EACH COMPRESSOR**

- **CONTROL FUSED FOR SHORT CIRCUIT PROTECTION**

MICROPROCESSOR CONTROL

The advanced microprocessor controller is designed with the latest technology to give the best performance of the chiller and to ensure its efficiency and reliability.

It is not only monitoring the digital and analogue inputs but also responds very quickly to any problem before and during the operation of the chiller.

The user friendly display is a very effective tool for troubleshooting with its multi linked back illuminated 128 x 64 pixel LCD panel.

It shows all the required data of the chiller while it is running and keep all the faults in the alarm history.

The push buttons on the display board allows accessing to the operating conditions, control set points & alarm history.

The controller is capable to communicate with the building management system (BMS) open protocols like BacNet, LON, Modbus through optional gateway interfaces.

It also can be connected to a GSM gateway to send up to 3 mobiles an SMS massages whenever an alarm take place indicating all details of the alarms and showing the location and the name of the chiller.

The microprocessor controller is especially designed to withstand the high ambient temperature; it can withstand more than 70 degree C without any ventilating or cooling.

The microprocessor controller consists of the following hardware:

1 **User Interface Display Board:**
Provided with simple push buttons (6 Nos) on the display board and menu driven software to access operating conditions, control set points and history that are clearly displayed on the LCD panel (62 x 34 mm.)

2 **Master Board:**
This controls up to two compressor system. It has 20 digital input, 18 digital output, 12 analog input and 4 analog output.

3 **Auxiliary Boards:**
Required for controlling an additional two or more compressors.

- Temperature control: The user can select the temperature control based on either leaving water temperature or returning water temperature. The software will control system using a Proportional Integral Derivative (PID) for precise control logic.
- Electronic expansion valve control.
- Stepless control.
- Adaptive control algorithm.
- Economizer control.
- Compressors hour equalization.
- Condenser Fan hour equalization
- Software update through PC programming or hardware key.
- Suction temperature sensor.

MICROPROCESSOR CONTROL

- Discharge temperature sensor.
- Suction pressure transducer.
- Discharge pressure transducer.
- Suction pressure limitation algorithm.
- Head pressure control by fan cycling.
- Short cycling protection for compressors (time delay)
- Compressor locking option through parameter or digital input or dip switches setting.
- Pump management up to 2 pumps.
- Maximum demand control in emergency mode.
- Liquid injection control.
- Free terminal for general alarm output.

System Protection / Alarms

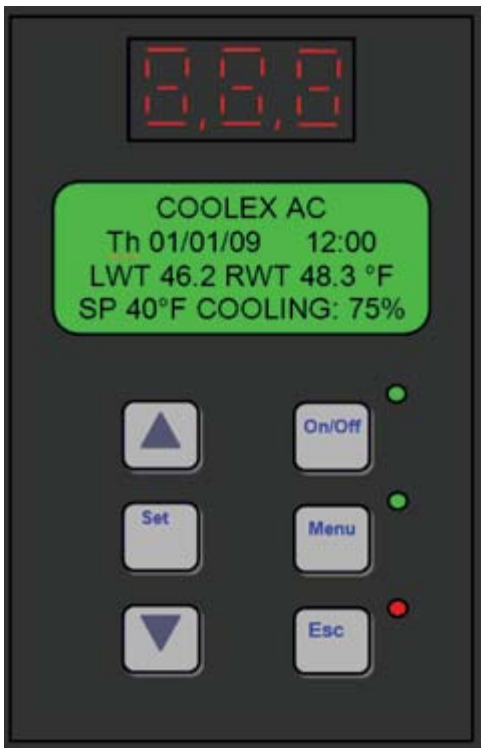
- Low suction pressure.
- High discharge pressure (through pressure switch and transducer).
- Anti freeze protection.
- Flow switches alarm.
- Serial communication alarm.
- Sensor alarm management.
- Pump alarm management
- Power supply alarm
- Compressor circuit breaker trip alarm.
- Compressor winding temp/SSPS alarm.
- Compressor no run alarm.
- EEV board communication alarm.
- Programmable auxiliary alarm.
- High discharge temperature alarm.
- High superheat alarm.
- Low superheat alarm
- EEV winding alarm for troubleshooting.

MICROPROCESSOR CONTROL

Data Display

In the normal operating mode the graphic LCD displays the system status, the inlet and outlet water temperatures, the set point, run time of the chiller, the alarm history. In addition, for each compressor:

- Suction and discharge pressure.
- Suction and discharge temperatures.
- Compressor status
- Fan status
- Liquid line solenoid stats
- Run time of each compressor.
- Super heat.
- Electronic expansion valve opening percentage
- Alarm history with time stamp.
- The Leaving or Return water temperature is continuously displayed on the 3 digit LED display



OPTIONAL FEATURES

CONSTRUCTION AND REFRIGERATION

- **WATER FLOW SWITCH**
  Paddle type field adjustable flow switch for water cooler circuits, Interlock into safety circuits so that the unit will remain off unit water flow is determine.

- **UNIT MOUNTING SPRING ISOLATORS**
  This housed spring assemblies have a neoprene friction pad on the bottom to prevent vibration transmission.

OPTIONAL FEATURES

- **ASME CODE STAMPED**
  For shell and tune liquid coolers

- **PRESSURE GAUGES:**
  Suction & discharge pressure gauges

- **COMPRESSOR/COOLER GUARD**
  protects the compressor from vandalism

- **COMPRESSOR ENCLOSURE BOX (SOUNDATTENUATOR)**
  reduces the compressor operating noise and keeps the compressor clean.

- **FLANGED TYPE COOLER CONNECTION**
  Easy on-site piping connections.

- **COPPER FINS/TUBES CONDENSER COILS**
  For seashore salty corrosive environments.

- **PRE-COATED ALUMINUM FINS CONDENSER COILS (MHG)**
  For seashore or acid corrosive environments.

- **COATED COPPER/ALUMINUM FINS CONDENSER COILS**
  For seashore or acid corrosive environments

ELECTRICAL

- **NON-FUSED MAIN DISCONNECT SWITCHES**
  De-energize power supply during servicing/repair works as well as with door interlock.

- **COOLER HEATER TAPE**
  Prevent freezing up of water on low ambient.

- **GROUND CURRENT PROTECTION**
  Additional protection for compressor in the case of abnormal current leakage.

- **EXTERNAL OVER LOAD RELAY**
  Overload relay can be provided for Condenser fan Motor

- **BUILDING MANAGEMENT SYSTEM (BMS)**
  MODBUS, BACNET, and LON protocol

- **Remote Monitoring / SMS Controller communications**
  This system based on GSM/GPRS gateway , allows to store chiller data on a GSM gateway with status,alarm history and other site information. It is possible to send up to 3 mobile phones an SMS messages once an alarm occurs showing name of the chiller ,location ,details and time of alarm.

- **POWER LINE ANALYZER**
  Power analyzer is not only used to measure ampere, voltage and frequency of each compressor and the whole chiller but also it is used to drive the stepless screw compressor to give very precise capacity.

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PHYSICAL DATA

UNIT MODEL (ACS)		045	050	055	060	070	080	090	100	115	130	140	150
COOLING CAPACITY *	TR	45.7	47.3	54.9	60.2	67.4	79.1	88.3	101.1	115.7	130.3	138.7	145.6
	KW	160.9	166.3	193.1	211.6	236.9	278.2	310.5	355.8	406.9	458.3	488.0	512.3
COOLING CAPACITY **	TR	39.0	42.3	46.8	50.7	57.6	67.7	78.5	86.1	97.7	112.2	119.1	130.8
	KW	137	149	164	178	203	238	276	303	344	395	419	460
COMPRESSOR		Semi Hermetic Compact Screw											
QUANTITY	(No.)	1	1	1	1	1	2	2	2	2	2	2	2
WEIGHT COMP.1/COMP.2	(Kg)	535	535	850	860	870	535	535	850	860	870	870	870
OIL GRADE		BSE170 Or Equivelant											
OIL CHARGE PER COMPRESSOR	(Liter)	15	15	22	22	22	15	15	22	22	22	22	22
CAPACITY CONTROL (STEPLESS)	(%)	100-50					100-25						
CONDENSER		Copper Tube Aluminum Fins											
Tube Diameter - Row - fin per inch		3/8"-3-14	3/8"-3-14	3/8"-4-14	3/8"-4-14	3/8"-4-14	3/8"-4-14	3/8"-4-14	3/8"-3-14	3/8"-4-14	3/8"-4-14	3/8"-4-14	3/8"-4-14
TOTAL FACE AREA	(Sq.ft)	93.3	93.3	93.3	93.3	93.3	113.3	113.3	160.0	160.0	186.7	186.7	186.7
CONDENSER FAN		Propeller Direct Driven (Axial) , 800mm dia , 920 rpm											
QUANTITY	(No.)	4	4	4	4	4	6	6	8	8	8	10	10
AIRFLOW (CFM)	(CFM)	44160	44160	42144	42144	42144	58428	58428	84528	79760	84288	96880	96880
WEIGHT PER FAN	(Kg)	50	50	50	50	50	50	50	50	50	50	50	50
COOLER		Direct Expansion Shell & Tube											
QUANTITY	(No.)	1	1	1	1	1	1	1	1	1	1	1	1
WATER VOLUME PER COOLER	(Liter)	53.2	53.2	53.2	53.2	53.2	53.2	99.8	99.8	113.5	113.5	221.7	221.7
WATER CONNECTION SIZE (IN /OUT) DIAMETER	(mm)	100	100	100	100	100	100	150	150	150	150	200	200
WEIGHT PER COOLER	(Kg)	245	245	245	245	245	245	330	330	417	417	578	578
EXPANSION DEVICE		Electronic											
ECONOMIZER		Brazed Plate Heat Exchanger											
QUANTITY	(No.)	N.A	1	N.A	N.A	N.A	N.A	2	N.A	N.A	N.A	N.A	2
GENERAL													
REFRIGERATION CIRCUITS	(No.)	1	1	1	1	1	2	2	2	2	2	2	2
REFRIGERANT CHARGE (Comp 1 / Comp 2)	(Kg)	36	40	44	46	56	36	40	44	46	56	56	60
SOUND PRESSURE LEVEL @ (3 m/5m/10m)	(dBA)	70.4 / 66.9 / 61.6	70.4 / 66.9 / 61.6	70.8 / 67.3 / 62.0	70.8 / 67.3 / 62.1	71.1 / 67.6 /62.3	72.3 / 68.8 / 63.5	72.3 / 68.8 / 63.5	73.8 / 70.3 / 65.0	73.8 / 70.3 / 65.1	74.1 / 70.6 / 65.3	74.9 / 71.4 / 66.1	74.9 / 71.4 / 66.1
SHIPPING WEIGHT - ALUMINUM COIL	(Kg)	2144	2188	2620	2661	2700	3322	3428	4574	4804	5172	5468	5543
OPERATING WEIGHT - ALUMINUM COIL	(Kg)	2197	2241	2673	2714	2753	3375	3528	4674	4917	5285	5690	5765
SHIPPING WEIGHT - COPPER COIL	(Kg)	2350	2393	2918	2958	2996	3682	3788	4928	5315	5766	6065	6138
OPERATING WEIGHT - COPPER COIL	(Kg)	2403	2446	2971	3011	3049	3735	3888	5028	5428	5879	6287	6360

** Capacity Rating are Based on Standard ARI-550/590 Conditions Of 95°F (35°C) Ambient,44°F(6.7°C) Leaving Chilled Water Temperature,10°F(5.5°C) Range and 0.0001 fT².h°F/Btu (0.018 m². C/Kw) Fouling factor*

*** Capacity Rating are Based on 115°F (46°C) Ambient,44°F(6.7°C) Leaving Chilled Water Temperature,10°F(5.5°C) Range and 0.0001 fT².h°F/Btu (0.018 m². C/Kw) Fouling factor*

NOTES:-

1- ALL COMPRESSORS OPERATE AT 2900 RPM @ 50Hz
2- SOUND PRESSURE LEVEL ± 2 dBA

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PHYSICAL DATA

UNIT MODEL (ACS)		160	170	180	190	200	220	230	240	250	260	270	280
COOLING CAPACITY *	TR	158.2	171.2	180.7	189.5	197.5	221.1	232.3	239.0	249.9	257.0	271.1	278.4
	KW	556.5	602.1	635.5	666.6	694.5	777.8	817.0	840.5	878.9	903.9	953.6	979.3
COOLING CAPACITY **	TR	135.1	154.0	157.3	167.0	169.2	187.8	196.5	203.0	210.9	217.7	231.3	243.0
	KW	475.3	541.6	553.2	587.3	595.2	660.5	691.3	714.1	742.0	765.9	813.7	854.7
COMPRESSOR		Semi Hermetic Compact Screw											
QUANTITY	(No.)	3	3	3	3	3	4	4	4	4	4	4	4
WEIGHT COMP.1/COMP.2	(Kg)	850	850	860	860	870	860/850	860	870 / 860	870 / 860	870 / 860	870	870
OIL GRADE		BSE170 Or Equivelant											
OIL CHARGE PER COMPRESSOR	(Liter)	22	22	22	22	22	22	22	22	22	22	22	22
CAPACITY CONTROL (STEPLESS)	(%)	100-16.3					100-12.5						
CONDENSER		Copper Tube Aluminum Fins											
Tube Diameter - Row - fin per inch		3/8"-4-14	3/8"-4-14	3/8"-4-14	3/8"-4-14	3/8"-4-14	3/8"-(4+3)-14	3/8"-4-14	3/8"-4-14	3/8"-4-14	3/8"-4-14	3/8"-4-14	3/8"-4-14
TOTAL FACE AREA	(Sq.ft)	252	252	252	252	252	336	336	336	336	336	336	336
CONDENSER FAN		Propeller Direct Driven (Axial) , 800mm dia , 920 rpm											
QUANTITY	(No.)	12	12	12	12	12	16	16	16	16	16	16	16
AIRFLOW (CFM)	(CFM)	121920	121920	121920	121920	121920	166944	162560	162560	162560	162560	162560	162560
WEIGHT PER FAN	(Kg)	50	50	50	50	50	50	50	50	50	50	50	50
COOLER		Direct Expansion Shell & Tube											
QUANTITY	(No.)	1	1	1	1	1	2	2	2	2	2	2	2
WATER VOLUME PER COOLER	(Liter)	206.5	206.5	206.5	184.4	184.4	113.5	113.5	113.5	221.7	221.7	221.7	221.7
WATER CONNECTION SIZE (IN /OUT) DIAMETER	(mm)	200	200	200	200	200	150	150	150	200	200	200	200
WEIGHT PER COOLER	(Kg)	604	604	604	645	645	417	417	417	578	578	578	578
EXPANSION DEVICE		Electronic											
ECONOMIZER		Brazed Plate Heat Exchanger											
QUANTITY	(No.)	N.A	3	2	3	N.A	N.A	N.A	N.A	N.A	N.A	N.A	2
GENERAL													
REFRIGERATION CIRCUITS	(No.)	3	3	3	3	3	4	4	4	4	4	4	4
REFRIGERANT CHARGE (Comp 1 / Comp 2)	(Kg)	44	50	52/46	52	56	46/44	46	56/52	56/52	56/52	56	60/56
SOUND PRESSURE LEVEL @ (3 m/5m/10m)	(dBA)	75.6 / 72.1 / 66.8	75.6 / 72.1 / 66.8	75.6 / 72.1 / 66.9	75.6 / 72.1 / 66.9	75.9 / 72.4 / 67.1	76.8 / 73.3 / 68.1	76.8 / 73.3 / 68.1	76.9 / 73.3 / 68.1	76.9 / 73.3 / 68.1	76.9 / 73.4 / 68.1	76.9 / 73.4 / 68.2	76.9 / 73.4 / 68.2
SHIPPING WEIGHT - ALUMINUM COIL	(Kg)	7206	7258	7302	7406	7453	9333	9471	9513	9878	9905	9935	10029
OPERATING WEIGHT - ALUMINUM COIL	(Kg)	7412	7464	7508	7590	7637	9560	9698	9740	10321	10348	10378	10442
SHIPPING WEIGHT - COPPER COIL	(Kg)	8010	8063	8106	8210	8258	10239	10543	10584	10949	10976	11006	11100
OPERATING WEIGHT - COPPER COIL	(Kg)	8216	8269	8312	8394	8442	10466	10770	10811	11392	11419	11449	11513

** Capacity Rating are Based on Standard ARI-550/590 Conditions Of 95°F (35°C) Ambient,44°F(6.7°C) Leaving Chilled Water Temperature,10°F(5.5°C) Range and 0.0001 fT².h°F/Btu (0.018 m². C/Kw) Fouling factor*

*** Capacity Rating are Based on 115°F (46°C) Ambient,44°F(6.7°C) Leaving Chilled Water Temperature,10°F(5.5°C) Range and 0.0001 fT².h°F/Btu (0.018 m². C/Kw) Fouling factor*

NOTES:-

1-ALL COMPRESSORS OPERATE AT 2900 RPM @ 50Hz
2-SOUND PRESSURE LEVEL ± 2 dBA

COOLEX

PHYSICAL DATA

UNIT MODEL (ACS)		300	320	330	340	350	360	380	400	420	430
COOLING CAPACITY *	TR	297.1	317.9	327.0	336.2	345.4	357.2	381.7	394.9	419.5	431.4
	KW	1044.9	1118.0	1150.3	1182.5	1214.8	1256.4	1342.7	1389.0	1475.6	1517.3
COOLING CAPACITY **	TR	255.7	274.7	287.5	289.6	291.9	308.7	325.7	338.5	366.0	384.6
	KW	899.6	966.2	1011.2	1018.8	1026.7	1085.8	1145.6	1190.5	1287.2	1352.8
COMPRESSOR		Semi Hermetic Compact Screw									
QUANTITY	(No.)	6	6	6	6	6	6	6	6	6	6
WEIGHT COMP.1/COMP.2	(Kg)	850 / 535	850	850	860	860	860	870 / 860	870	870	870
OIL GRADE		BSE170 Or Equivelant									
OIL CHARGE PER COMPRESSOR	(Liter)	22 / 15	22	22	22	22	22	22	22	22	22
CAPACITY CONTROL (STEPLESS)	(%)	100-8.3									
CONDENSER		Copper Tube Aluminum Fins									
Tube Diameter - Row - fin per inch		3/8"-(4+3)-14	3/8"-4-14	3/8"-4-14	3/8"-4-14	3/8"-4-14	3/8"-4-14	3/8"-4-14	3/8"-4-14	3/8"-4-14	3/8"-4-14
TOTAL FACE AREA	(Sq.ft)	476	476	476	476	544	544	544	544	544	544
CONDENSER FAN		Propeller Direct Driven (Axial) , 800mm dia , 920 rpm									
QUANTITY	(No.)	18	18	18	18	22	22	22	22	22	22
AIRFLOW (CFM)	(CFM)	199296	196740	196740	196740	235972	235972	235972	235972	235972	235972
WEIGHT PER FAN	(Kg)	50	50	50	50	50	50	50	50	50	50
COOLER		Direct Expansion Shell & Tube									
QUANTITY	(No.)	2	2	2	2	2	2	2	2	2	2
WATER VOLUME PER COOLER	(Liter)	206.5	206.5	206.5	206.5	206.5	206.5	184.4	184.4	252	252
WATER CONNECTION SIZE (IN /OUT) DIAMETER	(mm)	200	200	200	200	200	200	200	200	200	200
WEIGHT PER COOLER	(Kg)	604	604	604	604	604	604	645	645	825	825
EXPANSION DEVICE		Electronic									
ECONOMIZER		Brazed Plate Heat Exchanger									
QUANTITY	(No.)	2	2	4	N.A	N.A	3	N.A	N.A	3	6
GENERAL											
REFRIGERATION CIRCUITS	(No.)	6	6	6	6	6	6	6	6	6	6
REFRIGERANT CHARGE (Comp 1 / Comp 2)	(Kg)	44/40	50/44	50/44	46	46	52/46	56/52	56	60/56	60
SOUND PRESSURE LEVEL @ (3 m/5m/10m)	(dBA)	77.4 / 73.9 / 68.7	77.6 / 74.1 / 68.8	77.6 / 74.1 / 68.8	77.6 / 74.4 / 68.9	78.3 / 74.8 / 69.5	78.3 / 74.8 / 69.5	78.5 / 75 / 69.7	78.6 / 75.1 / 69.8	78.6 / 75.1 / 69.8	78.6 / 75.1 / 69.8
SHIPPING WEIGHT - ALUMINUM COIL	(Kg)	12428	13182	13260	13446	13833	13882	14017	14248	14591	14801
OPERATING WEIGHT - ALUMINUM COIL	(Kg)	12841	13595	13673	13859	14246	14295	14386	14617	14960	15170
SHIPPING WEIGHT - COPPER COIL	(Kg)	13790	14700	14779	14963	15569	15618	15753	15984	16327	16537
OPERATING WEIGHT - COPPER COIL	(Kg)	14203	15113	15192	15376	15982	16031	16122	16353	16696	16906

** Capacity Rating are Based on Standard ARI-550/590 Conditions Of 95°F (35°C) Ambient,44°F(6.7°C) Leaving Chilled Water Temperature,10°F(5.5°C) Range and 0.0001 fT².h°F/Btu (0.018 m². C/Kw) Fouling factor*

*** Capacity Rating are Based on 115°F (46°C) Ambient,44°F(6.7°C) Leaving Chilled Water Temperature,10°F(5.5°C) Range and 0.0001 fT².h°F/Btu (0.018 m². C/Kw) Fouling factor*

NOTES:-

1- ALL COMPRESSORS OPERATE AT 2900 RPM @ 50Hz

2- SOUND PRESSURE LEVEL ± 2 dBA

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ELECTRICAL DATA

Model #	Supply Voltage: (415v-3ph-50hz)		Compressor Type-1			Compressor Type-2			Comp. Wind'g	Condenser fan motor				Crankcase Heater(240v)		MCA	MOCP
	Min.	Max.	RLA (Ea)	LRA	Qty	RLA (Ea)	LRA	Qty		FLA (Ea)	LRA	Qty	Total Kw	Total Watts	Total Amps		
ACS045	374	457	82.4	423	1	-	-	-	PWS	2.7	13.9	4	5	200	0.83	114	175
ACS050	374	457	88	423	1	-	-	-	PWS	2.7	13.9	4	5	200	0.83	121	200
ACS055	374	457	103.5	520	1	-	-	-	PWS	2.7	13.9	4	5	300	1.25	140	225
ACS060	374	457	119.2	612	1	-	-	-	PWS	2.7	13.9	4	5	300	1.25	160	275
ACS070	374	457	137.1	665	1	-	-	-	PWS	2.7	13.9	4	5	300	1.25	182	300
ACS080	374	457	82.4	423	2	-	-	-	PWS	2.7	13.9	6	7.5	400	1.67	202	275
ACS090	374	457	88	423	2	-	-	-	PWS	2.7	13.9	6	7.5	400	1.67	214	300
ACS100	374	457	103.5	520	2	-	-	-	PWS	2.7	13.9	8	10	600	2.50	255	350
ACS115	374	457	119.2	612	2	-	-	-	PWS	2.7	13.9	8	10	600	2.50	290	400
ACS130	374	457	137.1	665	2	-	-	-	PWS	2.7	13.9	8	10	600	2.50	330	450
ACS140	374	457	137.1	665	2	-	-	-	PWS	2.7	13.9	10	12.5	600	2.50	336	450
ACS150	374	457	146.2	665	2	-	-	-	PWS	2.7	13.9	10	12.5	600	2.50	356	500
ACS160	374	457	103.5	520	3	-	-	-	PWS	2.7	13.9	12	15	900	3.75	369	475
ACS170	374	457	116.4	520	3	-	-	-	PWS	2.7	13.9	12	15	900	3.75	411	525
ACS180	374	457	131.1	612	2	119.2	612	1	PWS	2.7	13.9	12	15	900	3.75	447	575
ACS190	374	457	131.1	612	3	-	-	-	PWS	2.7	13.9	12	15	900	3.75	459	575
ACS200	374	457	137.1	665	3	-	-	-	PWS	2.7	13.9	12	15	900	3.75	478	600
ACS220	374	457	119.2	612	2	103.5	520	2	PWS	2.7	13.9	16	20	1200	5.00	518	625
ACS230	374	457	119.2	612	4	-	-	-	PWS	2.7	13.9	16	20	1200	5.00	550	650
ACS240	374	457	137.1	665	1	119.2	612	3	PWS	2.7	13.9	16	20	1200	5.00	572	700
ACS250	374	457	137.1	665	1	119.2	612	3	PWS	2.7	13.9	16	20	1200	5.00	572	700
ACS260	374	457	137.1	665	2	119.2	612	2	PWS	2.7	13.9	16	20	1200	5.00	590	725
ACS270	374	457	137.1	665	4	-	-	-	PWS	2.7	13.9	16	20	1200	5.00	626	750
ACS280	374	457	146.2	665	2	137.1	665	2	PWS	2.7	13.9	16	20	1200	5.00	646	750
ACS300	374	457	103.5	520	4	88	423	2	PWS	2.7	13.9	18	22.5	1600	6.67	665	750
ACS320	374	457	116.4	520	2	103.5	520	4	PWS	2.7	13.9	18	22.5	1800	7.50	725	825
ACS330	374	457	116.4	520	4	103.5	520	2	PWS	2.7	13.9	18	22.5	1800	7.50	750	850
ACS340	374	457	119.2	612	6	-	-	-	PWS	2.7	13.9	18	22.5	1800	7.50	794	900
ACS350	374	457	119.2	612	6	-	-	-	PWS	2.7	13.9	22	27.5	1800	7.50	804	900
ACS360	374	457	131.1	612	3	119.2	612	3	PWS	2.7	13.9	22	27.5	1800	7.50	843	950
ACS380	374	457	137.1	665	4	119.2	612	2	PWS	2.7	13.9	22	27.5	1800	7.50	881	1000
ACS400	374	457	137.1	665	6	-	-	-	PWS	2.7	13.9	22	27.5	1800	7.50	916	1000
ACS420	374	457	146.2	665	3	137.8	665	3	PWS	2.7	13.9	22	27.5	1800	7.50	948	1100
ACS430	374	457	146.2	665	6	-	-	-	PWS	2.7	13.9	22	27.5	1800	7.50	973	1100

Legend

RLA Rated Load Amps *LRA Locked Rotor Amp* *FLA Full Load Amps*
PWS Part Winding Start *MCA Minimum Circuit Ampacity as per NEC 430-24* *MOCP Maximum Over Current Protection*

Note:

i Main power must be provided from a single field supply with mounted fused disconnects using dual element time delay fuse or circuit breaker.
ii Neutral line is required on 415V-3PH-50HZ(4Wires) power supply.
iii The compressor crankcase heaters must be energized for 12 hours before the unit is initially started or after a prolonged power failure.
iv Type-1 Compressors are the big compressors or compressors with economizers and type-2 are the small compressors or compressors without economizers.
v The ± 10% voltage variation from the nominal is allowed for a short time only,not permanent.
vi All field wiring must be in accordance with NEC or local standard.

CORRECTION FACTOR TABLES

• Altitude Correction Factor:

The Unit ratings are based on sea level.
This correction factor is to be used for above sea level in order to get the required cooling capacity.
See table (1-a) and table (1-b)

ELEVATION ABOVE SEA LEVEL (F.T.)	CAPACITY CORRECTION FACTOR
0	1.00
2000	0.99
4000	0.98
6000	0.97
8000	0.96
10000	0.95

TABLE (1-a)

ELEVATION ABOVE SEA LEVEL (METER)	CAPACITY CORRECTION FACTOR
0	1.00
600	0.99
1200	0.98
1800	0.97
2400	0.96
3000	0.95

TABLE (1-b)

• Cooler Fouling Correction Factor:

The chillers are rated at a fouling factor of 0.00010 ft2.hr. °F/Btu (0.000018 m2.°C/w).
This correction factor is to be used for other fouling factor values in order to get the required cooling capacity and power input.
See table (2-a) and table (2-b)

EVAPORATOR FOULING FACTOR (HR-FT²-°F/BTU)	CAPACITY CORRECTION FACTOR	POWER INPUT FACTORS	ARI STANDARDS
0.00010	1.000	1.000	ARI-550/590-98
0.00025	0.992	0.997	ARI-590-86
0.00050	0.978	0.990	ARI-590-81
0.00075	0.965	0.984	
0.00100	0.951	0.978	

TABLE (2-a)

EVAPORATOR FOULING FACTOR (M²-°C/W)	CAPACITY CORRECTION FACTOR	POWER INPUT FACTORS	ARI STANDARDS
0.000018	1.000	1.000	ARI-550/590-98
0.000044	0.992	0.997	ARI-590-86
0.000088	0.978	0.990	ARI-590-81
0.000132	0.965	0.984	
0.000176	0.951	0.978	

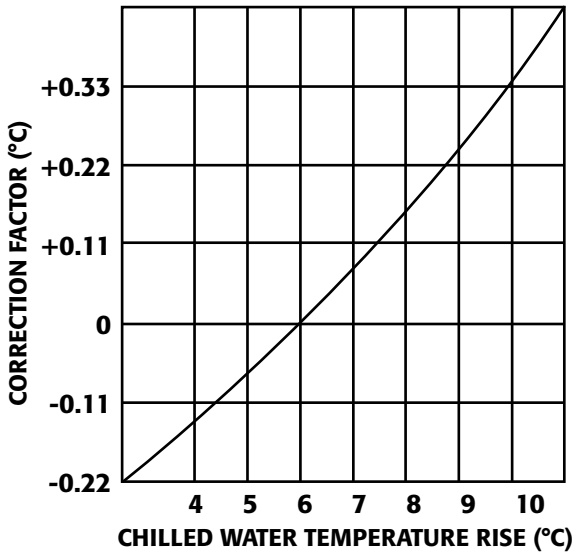
TABLE (2-b)

CORRECTION FACTOR CURVES

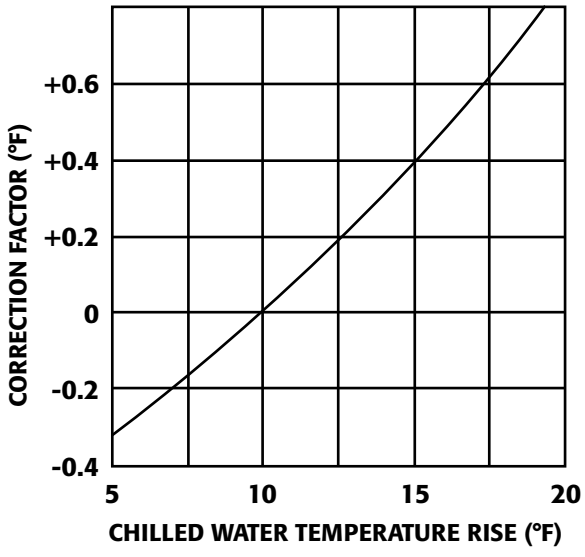
- **ΔT Correction Factor :**

Cooling Capacity ratings are based on 10 °F (5.5 °C) for Chilled water ΔT.

This correction factor is to be used for other range of ΔT in order to get the required cooling capacity .
See Curve (1-a) and Curve (1-b)



Curve (1-a)



Curve (1-b)

SELECTION PROCEDURE

Coolex ACS Chiller should be selected with specific Design considerations , requirements and parameters of the intended application. Sample of the selection procedures are shown below:

Example 1 (English system)

- Design requirement

  1-Cooling Capacity in tons (TR)

  2- Leaving chilled water temperature in °F (LCWT)

  3- Chilled water flow rate in GPM

  4- Chilled water cooling range in °F

  5- Design ambient temperature in °F

  6- Altitude

  7- Electrical power supply

- Selection sample

  Select an air cooled chiller giving capacity of 112 TR to cool water from 54°F to 44°F ,altitude is 2000 ft above sea level ,water cooler fouling Factor is 0.00010 ft2.hr.°F/Btu , design ambient temperature is 95°F and power supply is 415V/3Ph/50Hz

STEP-1

Entering the capacity performance data at given LCWT and ambient temperature. ACS 115 chiller unit at sea level will produce 115.7 tons and 117.8 kW compressor Power input at 44°F leaving chilled water temperature with 10°F water temperature difference and 95°F ambient temperature.

For the conditions required, apply the correction factors for altitude 0.99 table (1-a) and fouling factor 1 table (2-a) for actual unit capacity and actual power input

Capacity=115.7x0.99x1=114.5 TR, which then exceeds the requirements. So the selection is correct

Power input =117.8x1=117.8 KW

Example 2 (Metric system)

- Design requirement

  1-Cooling Capacity in kilowatt (KW)

  2- Leaving chilled water temperature in °C (LCWT)

  3- Chilled water flow rate in LPS

  4- Chilled water cooling range in °C

  5- Design ambient temperature in °C

  6- Altitude

  7- Electrical power supply

- Selection sample

  Select an air cooled chiller giving capacity of 395 kW to cool water from 12°C to 6°C ,altitude is 600 meter above sea level, water cooler fouling Factor is 0.000018 m2.°C/w, design ambient temperature is 35°c and power supply is 415V/3Ph/50Hz

STEP-1

Entering the capacity performance data at given LCWT and ambient temperature. ACS 115 chiller unit at sea level will produce 405 KW and 117.6 kW compressors Power input at 6°C leaving chilled water temperature with 6°C water temperature difference and 35°F ambient temperature.

For the conditions required, apply the correction factors for altitude 0.99 table (1-b) and fouling factor1 table (2-b) for actual unit capacity and actual power input

Capacity=405x0.99x1= 400.9 KW, which then exceeds the requirements. So the selection is correct

Power input =117.6x1=117.6 KW

SELECTION PROCEDURE

STEP-2

CHILLED WATER FLOW (GPM):

$$\text{Water GPM} = \frac{\text{Required capacity (Tons) x 24}}{\text{Cooling Range, } \Delta T}$$

$$= \frac{112 \times 24}{10} = 268.8 \text{ GPM}$$

Referring to pressure drop curve (page # 20),

Pressure drop at 268 GPM = 13.8 ft. of water for selected model.

STEP-2

CHILLED WATER FLOW (GPM):

$$\text{Water LPS} = \frac{\text{Required capacity (KW) x 0.239}}{\text{Cooling Range, } \Delta T}$$

$$= \frac{395 \times 0.239}{6} = 15.7 \text{ L/S}$$

Referring to pressure drop curve (page # 20),

Pressure drop at 15.7 L/S= 40 Kpa for selected model.

NOTES:

1- The total flow rate should be divided by 2 for models ACS220 – ASC430 to find out the total pressure drop.

2-: ELECTRICAL
Refer to electrical data at 415V/3Ph/50Hz, the main power wire size for ACS115 is to be sized for a minimum circuit ampacity (MCA) of 290 Amps and maximum over current protection (MOCP) of 400 Amps.

3- CHILLED WATER PUMP SELECTION
For chilled water pump selection, add all pressure drop in the closed chilled water loop piping to the pressure drop calculated step 2

4- LCWT CORRECTION
Refer to curve (1-a) & (1-b) Add correction factor to design leaving chilled water temperature (LCWT) when chilled water temperature range is above 10°F or 6°C and subtract correction from design leaving chilled water temperature (LCWT) when water temperature range is below 10°F or 6°C.

WATER FLOW LIMIT AND COOLER WATER PRESSURE DROP CURVES

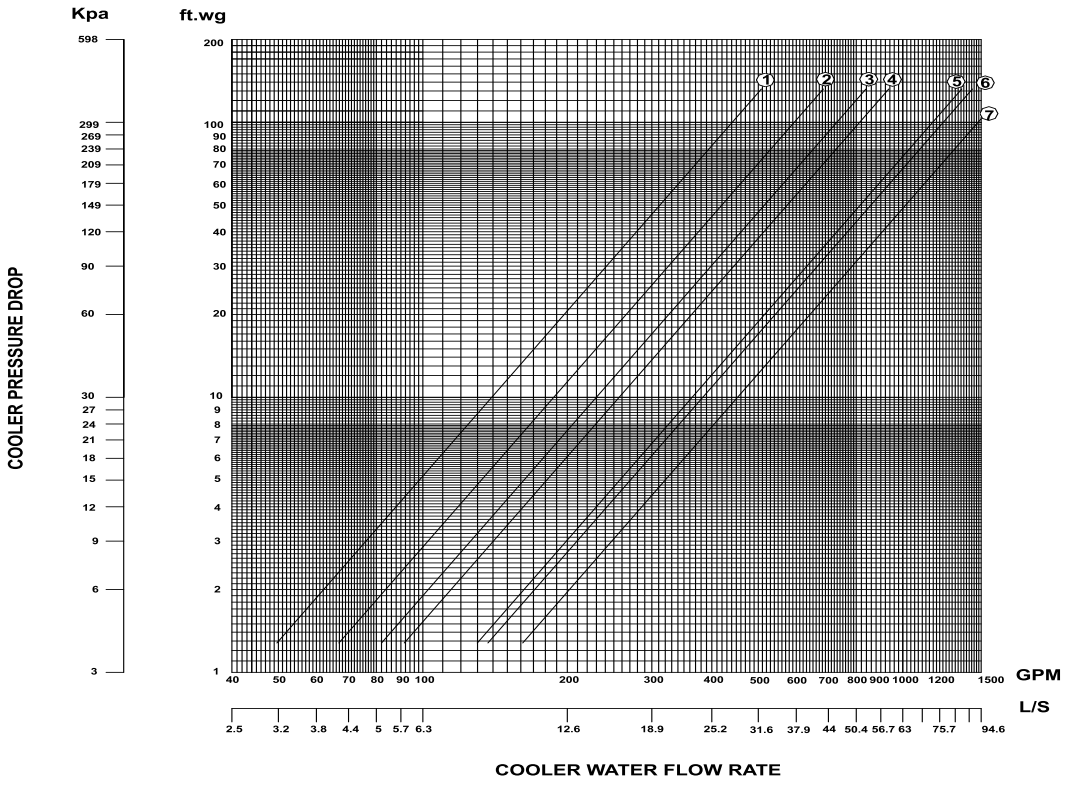
CURVE NO.	1						2		3		4	
MODELS	ACS045	ACS050	ACS055	ACS060	ACS070	ACS080	ACS090	ACS100	ACS115	ACS130	ACS140	ACS150
MINIMUM GPM	77	86	90	97	110	128	166	176	199	234	244	279
Maximum GPM	127	128	154	169	189	223	242	284	323	357	387	395

CURVE NO.	5			6		3			4			
MODELS	ACS160	ACS170	ACS180	ACS190	ACS200	ACS220	ACS230	ACS240	ACS250	ACS260	ACS270	ACS280
MINIMUM GPM	282	328	332	343	346	384	401	416	425	441	473	506
Maximum GPM	444	465	496	518	549	619	647	663	703	721	756	767

CURVE NO.	5						6		7	
MODELS	ACS300	ACS320	ACS330	ACS340	ACS350	ACS360	ACS380	ACS400	ACS420	ACS430
MINIMUM GPM	526	568	601	568	592	637	654	683	770	823
Maximum GPM	830	884	900	941	965	985	1063	1097	1159	1175

CONVERSION FACTOR *: GPM = 0.063 L/S*
: ft H2O=2.989 kPA

NOTES:
1- If the water flow rate outside these limits, please consult the factory
2- If the chiller has 2 evaporators, then the total water flow rate must be divided by 2 while applying the below curves.



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PERFORMANCE DATA TABLES-ENGLISH SYSTEM

LEAVING CHILLED WATER TEMP. (LCWT)	UNIT SIZE	95 °F AMBIENT TEMPERATURE				105 °F AMBIENT TEMPERATURE				115 °F AMBIENT TEMPERATURE				125 °F AMBIENT TEMPERATURE				130 °F AMBIENT TEMPERATURE			
		CAP. (Tons)	COMP. (kW)	EER	WATER FLOW (GPM)	CAP. (Tons)	COMP. (kW)	EER	WATER FLOW (GPM)	CAP. (Tons)	COMP. (kW)	EER	WATER FLOW (GPM)	CAP. (Tons)	COMP. (kW)	EER	WATER FLOW (GPM)	CAP. (Tons)	COMP. (kW)	EER	WATER FLOW (GPM)
40°F	ACS045	40.9	38.6	11.3	98.1	38.5	42.7	9.7	92.5	35.9	47.7	8.2	86.3	33.4	53.5	6.8	80.1	31.9	56.7	6.2	76.6
	ACS050	42.6	41.7	11.0	102.3	41.0	47.3	9.4	98.4	39.0	54.1	7.9	93.7	37.0	62.1	6.6	88.7	35.8	66.5	6.0	86.0
	ACS055	48.4	47.6	11.0	116.2	45.5	53.3	9.4	109.3	42.5	60.1	7.8	102.1	39.3	67.9	6.5	94.4	37.7	72.2	5.9	90.5
	ACS060	52.8	55.7	10.4	126.8	49.6	61.8	8.9	119.2	46.0	68.7	7.5	110.5	42.2	76.5	6.2	101.4	40.3	80.6	5.6	96.7
	ACS070	59.1	68.2	9.7	141.9	55.5	76	8.2	133.2	51.9	84.8	6.9	124.6	48.1	94.4	5.8	115.4	46.0	99.5	5.3	110.5
	ACS080	68.2	77.3	9.6	163.6	64.2	86.5	8.2	154.0	60.6	97.5	6.9	145.4	55.7	110.2	5.7	133.7	53.5	117.3	5.1	128.3
	ACS090	84.2	90.4	10.3	202.0	80.3	103.1	8.7	192.8	76.1	118	7.3	182.7	71.5	135.4	6.0	171.6	69.0	144.9	5.4	165.6
	ACS100	96.2	100.3	10.5	230.9	90.0	112.3	8.8	216.1	83.5	126.5	7.3	200.5	76.8	142.7	6.0	184.4	73.2	151.5	5.4	175.8
	ACS115	111.0	116	10.6	266.5	103.6	128.4	9.0	248.7	95.8	142.4	7.5	229.9	87.4	157.8	6.3	209.9	83.0	166.1	5.7	199.2
	ACS130	125.8	138.9	10.1	301.8	118.2	155.1	8.6	283.8	110.2	172.7	7.2	264.5	101.8	192	6.1	244.2	97.3	202.3	5.5	233.6
	ACS140	131.6	136.7	10.6	315.9	123.7	152.6	9.0	296.9	115.3	170	7.6	276.6	106.4	189.1	6.3	255.4	101.8	199.2	5.8	244.2
	ACS150	138.9	150.4	10.2	333.5	133.1	172.1	8.7	319.4	126.8	196.8	7.3	304.3	119.8	224.4	6.1	287.5	116.1	239.4	5.5	278.6
	ACS160	150.2	146.5	11.2	360.4	140.7	163.8	9.4	337.7	130.8	184.2	7.9	313.9	120.5	207.7	6.5	289.2	115.2	220.5	5.9	276.4
	ACS170	163.6	171.1	10.5	392.6	156.8	197.6	8.8	376.2	149.2	229.2	7.3	358.2	141.0	265.8	6.0	338.4	136.6	286.1	5.4	327.8
	ACS180	172.7	191.1	10.1	414.6	163.6	217.2	8.5	392.6	153.4	247.4	7.0	368.1	142.0	281.5	5.7	340.9	136.0	300.1	5.2	326.3
	ACS190	176.7	201.5	9.8	424.2	168.6	232	8.2	404.7	159.2	267.6	6.8	382.2	148.7	308.1	5.5	357.0	143.0	330.3	5.0	343.1
	ACS200	183.4	210.3	9.8	440.3	172.5	234.8	8.3	414.1	161.0	261.6	7.0	386.4	148.6	290.8	5.8	356.7	142.2	306.4	5.3	341.4
	ACS220	211.8	216.1	10.8	508.2	198.1	240.5	9.1	475.4	183.4	268.3	7.6	440.3	168.0	299.7	6.3	403.2	160.0	316.6	5.7	383.9
	ACS230	223.0	230.5	10.7	535.2	208.4	255.2	9.1	500.1	192.7	283	7.6	462.5	175.8	313.7	6.3	422.0	167.1	330.3	5.7	401.0
	ACS240	229.8	242.9	10.5	551.5	215.0	269.6	8.9	515.9	199.2	299.4	7.5	478.1	182.3	332.2	6.2	437.5	173.5	349.8	5.6	416.3
	ACS250	236.3	245.4	10.7	567.1	220.7	272	9.1	529.7	204.0	301.7	7.6	489.7	186.3	334.3	6.3	447.2	177.2	351.8	5.7	425.2
	ACS260	243.4	258.3	10.5	584.1	227.5	287	8.9	546.1	210.8	318.7	7.5	506.0	193.0	353.4	6.2	463.3	183.9	372	5.6	441.3
	ACS270	257.2	285.3	10.1	617.3	241.1	318	8.6	578.7	224.0	353.7	7.2	537.7	206.2	392.7	6.0	494.9	196.9	413.4	5.5	472.6
	ACS280	264.9	301	9.9	635.8	250.8	339.9	8.4	601.9	235.6	383.2	7.0	565.3	219.4	431	5.8	526.5	210.8	456.6	5.3	506.0
	ACS300	282.1	292.7	10.7	677.1	265.5	329.3	9.1	637.3	247.8	372.2	7.5	594.8	229.1	421.5	6.2	549.8	219.3	448.4	5.6	526.3
	ACS320	302.4	323.2	10.5	725.8	285.0	366.2	8.8	684.0	266.5	416.4	7.3	639.5	246.8	474	6.0	592.3	236.5	505.5	5.4	567.6
	ACS330	311.9	342.5	10.3	748.5	296.0	392.4	8.6	710.5	278.9	450.9	7.1	669.4	260.5	518.1	5.8	625.2	250.6	555	5.2	601.4
	ACS340	320.3	358.5	10.1	768.8	298.4	396.9	8.5	716.1	274.8	439.8	7.1	659.5	249.7	487.1	5.9	599.2	236.5	512.4	5.3	567.6
	ACS350	329.0	343.8	10.6	789.6	307.5	380.8	9.0	737.9	284.3	422.4	7.6	682.3	259.5	468.6	6.3	622.7	246.5	493.3	5.7	591.5
	ACS360	341.2	372.2	10.2	819.0	322.1	420.4	8.6	773.0	301.0	475.8	7.2	722.3	277.8	538.2	5.9	666.7	265.4	572	5.3	637.0
	ACS380	354.4	394.1	10.1	850.6	332.9	439.2	8.6	799.0	309.8	488.9	7.2	743.6	285.3	543.4	6.0	684.7	272.4	572.5	5.4	653.8
	ACS400	366.8	420.7	9.8	880.3	345.1	469.7	8.3	828.1	321.9	523.3	7.0	772.5	297.3	581.7	5.9	713.4	284.5	612.9	5.3	682.8
	ACS420	404.0	454.2	10.1	969.5	382.1	512.7	8.5	917.1	358.7	577.8	7.1	861.0	333.8	649.7	5.9	801.2	320.7	688.3	5.4	769.8
	ACS430	416.4	479.9	9.8	999.4	397.8	548.9	8.3	954.7	377.4	626.9	6.9	905.7	354.9	714	5.7	851.9	343.0	761.1	5.2	823.2

NOTES:-

1- The ACS chillers are rated with ARI - 550/590-98 standard.
2- Capacity ratings (CAP.) are based on (10°F) water range , (0.0001 $fT^2.h°F/Btu$) fouling factor in evaporator and zero altitude.
3- Direct interpolation is permissible between (95°F) to (130°F) ambient temperatures only. Do not extrapolate.
4- Leaving chilled water temperature. (LCWT)
5- Power input (KW) is for compressor only.
6- Energy Efficiency Ratio (EER) is for the overall unit,refer to electrical data for fan power input
7- Water flow rate in Gallons Per Minute (GPM)

COOLEX

PERFORMANCE DATA TABLES-ENGLISH SYSTEM

LEAVING CHILLED WATER TEMP. (LCWT)	UNIT SIZE	95 °F AMBIENT TEMPERATURE				105 °F AMBIENT TEMPERATURE				115 °F AMBIENT TEMPERATURE				125 °F AMBIENT TEMPERATURE				130 °F AMBIENT TEMPERATURE			
		CAP. (Tons)	COMP. (kW)	EER	WATER FLOW (GPM)	CAP. (Tons)	COMP. (kW)	EER	WATER FLOW (GPM)	CAP. (Tons)	COMP. (kW)	EER	WATER FLOW (GPM)	CAP. (Tons)	COMP. (kW)	EER	WATER FLOW (GPM)	CAP. (Tons)	COMP. (kW)	EER	WATER FLOW (GPM)
42°F	ACS045	43.6	39.5	11.7	104.6	41.0	43.7	10.1	98.4	38.3	48.6	8.6	92.0	35.5	54.3	7.2	85.3	34.0	57.4	6.5	81.6
	ACS050	45.2	42.4	11.4	108.5	43.5	48.1	9.8	104.3	41.4	54.9	8.3	99.4	39.1	62.8	6.9	93.9	37.9	67.2	6.3	91.0
	ACS055	51.9	48.7	11.6	124.6	48.8	54.4	9.9	117.2	45.5	61.2	8.3	109.3	42.1	68.9	6.8	101.1	40.3	73.2	6.2	96.7
	ACS060	56.8	57.1	11.0	136.2	53.3	63.3	9.4	127.8	49.4	70.2	7.9	118.7	45.3	77.9	6.6	108.8	43.2	82.1	5.9	103.6
	ACS070	63.2	69.6	10.2	151.8	59.6	77.7	8.7	143.1	55.7	86.7	7.3	133.7	51.6	96.4	6.1	123.8	49.4	101.6	5.6	118.7
	ACS080	73.6	79.6	10.1	176.7	69.4	88.8	8.7	166.6	65.0	99.7	7.3	156.0	60.3	112.4	6.0	144.6	57.7	119.3	5.5	138.4
	ACS090	86.2	91.2	10.5	206.9	82.4	103.9	8.9	197.8	78.1	118.9	7.4	187.4	73.3	136.2	6.1	176.0	70.8	145.8	5.5	169.8
	ACS100	98.9	101.2	10.7	237.3	92.6	113.4	9.0	222.2	86.0	127.5	7.5	206.4	79.1	143.7	6.2	189.8	75.5	152.5	5.6	181.2
	ACS115	113.6	117	10.7	272.7	106.2	129.5	9.1	254.9	98.3	143.5	7.7	235.8	89.7	159	6.4	215.3	85.3	167.4	5.8	204.7
	ACS130	128.5	139.9	10.3	308.5	120.9	156.1	8.7	290.2	112.8	174	7.4	270.7	104.3	193.5	6.2	250.4	99.9	203.9	5.6	239.8
	ACS140	135.3	137.9	10.8	324.8	127.2	153.9	9.2	305.3	118.7	171.5	7.7	284.8	109.7	190.8	6.5	263.3	105.1	201.1	5.9	252.1
	ACS150	142.4	151.4	10.4	341.9	136.6	173.3	8.8	327.8	130.1	198.2	7.4	312.2	122.9	226.1	6.2	294.9	119.1	241.2	5.6	285.8
	ACS160	154.3	147.8	11.4	370.3	144.7	165.2	9.6	347.3	134.7	185.6	8.1	323.3	124.2	209.1	6.7	298.1	118.8	221.9	6.0	285.0
	ACS170	167.7	172.3	10.7	402.4	160.8	199	9.0	385.9	153.2	230.7	7.5	367.6	144.7	267.4	6.1	347.3	140.2	287.7	5.6	336.4
	ACS180	177.1	192.7	10.2	424.9	167.8	219	8.6	402.7	157.4	249.3	7.1	377.7	145.8	283.6	5.9	350.0	139.7	302.3	5.3	335.2
	ACS190	183.2	203.9	10.0	439.8	174.8	234.7	8.4	419.5	165.1	270.5	6.9	396.3	154.1	311.3	5.7	369.8	148.0	333.6	5.1	355.2
	ACS200	190.6	213.1	10.0	457.3	179.3	237.8	8.5	430.4	167.4	264.9	7.2	401.7	154.7	294.5	6.0	371.3	148.1	310.3	5.5	355.5
	ACS220	216.8	217.9	10.9	520.4	202.9	242.4	9.3	487.0	188.2	270.3	7.8	451.6	172.5	301.8	6.4	414.1	164.4	318.8	5.8	394.5
	ACS230	228.1	232.5	10.8	547.5	213.3	257.3	9.2	512.0	197.5	285.2	7.8	473.9	180.6	316.1	6.4	433.3	171.7	332.7	5.8	412.1
	ACS240	234.9	244.9	10.6	563.9	220.0	271.7	9.1	528.0	204.0	301.7	7.6	489.7	187.1	334.7	6.3	448.9	178.2	352.4	5.7	427.7
	ACS250	243.1	247.9	10.9	583.4	227.1	274.8	9.2	545.1	210.2	304.6	7.8	504.5	192.4	337.5	6.5	461.8	183.0	355.1	5.9	439.3
	ACS260	250.3	260.9	10.7	600.7	234.1	289.8	9.1	561.9	217.1	321.7	7.6	521.1	199.2	356.8	6.3	478.1	189.8	375.6	5.8	455.6
	ACS270	264.3	288	10.3	634.3	247.9	321	8.7	595.0	230.6	357.1	7.3	553.5	212.5	396.6	6.1	510.0	203.1	417.7	5.6	487.5
	ACS280	271.9	303.6	10.1	652.6	257.5	342.8	8.5	618.0	242.1	386.6	7.1	580.9	225.6	434.9	6.0	541.4	216.8	460.9	5.4	520.4
	ACS300	289.7	295.5	10.9	695.4	272.8	332.3	9.2	654.8	254.8	375.3	7.7	611.6	235.8	424.4	6.3	565.8	225.8	451.4	5.7	541.9
	ACS320	310.4	326.3	10.7	745.1	292.8	369.4	9.0	702.8	274.0	419.8	7.4	657.6	253.9	477.4	6.1	609.3	243.4	508.9	5.5	584.1
	ACS330	319.8	345.6	10.4	767.6	303.9	395.7	8.7	729.2	286.4	454.4	7.2	687.5	267.6	521.7	5.9	642.2	257.5	558.6	5.3	618.0
	ACS340	328.8	362.3	10.3	789.1	306.5	400.9	8.7	735.7	282.6	444	7.3	678.3	257.2	491.5	6.0	617.3	243.9	516.9	5.4	585.4
	ACS350	337.8	347.1	10.8	810.8	315.9	384.3	9.2	758.2	292.4	426.1	7.7	701.8	267.3	472.5	6.4	641.5	254.1	497.4	5.8	609.8
	ACS360	349.9	375.4	10.4	839.7	330.4	424	8.8	793.0	309.0	479.6	7.3	741.6	285.4	542.3	6.0	685.0	272.8	576.3	5.4	654.8
	ACS380	368.3	399.4	10.4	884.0	346.0	444.9	8.8	830.3	322.1	495	7.4	773.0	296.8	550.1	6.2	712.4	283.7	579.5	5.6	680.8
	ACS400	381.1	426.2	10.1	914.6	358.5	475.7	8.6	860.5	334.6	530	7.2	803.2	309.3	589.2	6.0	742.3	296.1	620.8	5.5	710.7
	ACS420	412.2	457.3	10.2	989.3	390.2	516.2	8.6	936.4	366.5	581.9	7.2	879.5	341.1	654.5	6.0	818.7	327.8	693.5	5.5	786.8
	ACS430	424.6	482.8	10.0	1019.0	405.6	552.4	8.4	973.5	384.9	631	7.0	923.8	362.1	718.8	5.8	868.9	349.8	766.2	5.3	839.5

NOTES:-

1- The ACS chillers are rated with ARI - 550/590-98 standard.
2- Capacity ratings (CAP.) are based on (10°F) water range , (0.0001 fT².h°F/Btu) fouling factor in evaporator and zero altitude.
3- Direct interpolation is permissible between (95°F) to (130°F) ambient temperatures only. Do not extrapolate.
4- Leaving chilled water temperature. (LCWT)
5- Power input (KW) is for compressor only.
6- Energy Efficiency Ratio (EER) is for the overall unit,refer to electrical data for fan power input
7- Water flow rate in Gallons Per Minute (GPM)

COOLEX

PERFORMANCE DATA TABLES-ENGLISH SYSTEM

LEAVING CHILLED WATER TEMP. (LCWT)	UNIT SIZE	95 °F AMBIENT TEMPERATURE				105 °F AMBIENT TEMPERATURE				115 °F AMBIENT TEMPERATURE				125 °F AMBIENT TEMPERATURE				130 °F AMBIENT TEMPERATURE			
		CAP. (Tons)	COMP. (kW)	EER	WATER FLOW (GPM)	CAP. (Tons)	COMP. (kW)	EER	WATER FLOW (GPM)	CAP. (Tons)	COMP. (kW)	EER	WATER FLOW (GPM)	CAP. (Tons)	COMP. (kW)	EER	WATER FLOW (GPM)	CAP. (Tons)	COMP. (kW)	EER	WATER FLOW (GPM)
44°F	ACS045	45.7	40.3	12.1	109.8	43.0	44.4	10.4	103.1	40.1	49.3	8.9	96.2	37.0	54.9	7.4	88.7	35.4	58	6.7	85.0
	ACS050	47.3	43	11.8	113.5	45.3	48.7	10.1	108.8	43.2	55.4	8.6	103.6	40.7	63.3	7.1	97.6	39.4	67.7	6.5	94.7
	ACS055	54.9	49.6	12.1	131.8	51.5	55.3	10.2	123.6	48.0	62	8.6	115.2	44.3	69.7	7.1	106.3	42.3	73.9	6.4	101.6
	ACS060	60.2	58.3	11.4	144.4	56.3	64.5	9.7	135.2	52.1	71.4	8.2	125.1	47.8	79.1	6.8	114.7	45.4	83.2	6.2	109.0
	ACS070	67.4	71	10.6	161.7	63.3	79.2	9.0	152.0	59.0	88.3	7.6	141.6	54.6	98.2	6.3	131.0	52.3	103.4	5.8	125.6
	ACS080	79.1	81.9	10.6	189.8	74.4	91.1	9.1	178.5	69.4	101.9	7.6	166.6	64.2	114.2	6.3	154.0	61.5	121	5.7	147.6
	ACS090	88.3	92	10.6	211.9	84.4	104.7	9.0	202.5	80.0	119.8	7.5	192.1	75.3	137.1	6.2	180.7	72.7	146.7	5.7	174.5
	ACS100	101.1	102.1	10.8	242.8	95.0	114.3	9.2	227.9	88.4	128.5	7.7	212.1	81.5	144.7	6.3	195.5	77.9	153.3	5.7	186.9
	ACS115	115.7	117.8	10.9	277.6	108.4	130.4	9.3	260.1	100.5	144.6	7.8	241.3	92.2	160.3	6.5	221.2	87.9	168.7	5.9	210.9
	ACS130	130.3	140.5	10.4	312.7	122.8	156.9	8.8	294.7	114.9	175	7.5	275.9	106.6	194.8	6.2	255.9	102.2	205.4	5.7	245.2
	ACS140	138.7	139	11.0	333.0	130.6	155.1	9.4	313.4	122.2	173	7.9	293.2	113.1	192.5	6.6	271.4	108.5	203	6.0	260.3
	ACS150	145.6	152.3	10.6	349.5	139.8	174.4	9.0	335.5	133.2	199.5	7.5	319.6	126.0	227.7	6.3	302.3	122.1	242.9	5.7	292.9
	ACS160	158.2	149	11.6	379.7	148.6	166.6	9.8	356.7	138.6	187.1	8.2	332.7	128.1	210.6	6.8	307.5	122.6	223.5	6.2	294.2
	ACS170	171.2	173.4	10.9	410.8	164.4	200.3	9.2	394.5	156.8	232.2	7.6	376.2	148.3	269	6.3	356.0	143.7	289.3	5.7	344.8
	ACS180	180.7	194	10.4	433.6	171.4	220.6	8.7	411.3	161.0	251.1	7.3	386.4	149.6	285.7	6.0	358.9	143.3	304.5	5.4	343.9
	ACS190	189.5	206.2	10.3	454.8	180.8	237.3	8.6	433.8	170.7	273.4	7.1	409.6	159.2	314.4	5.8	382.2	153.1	336.8	5.2	367.3
	ACS200	197.5	215.7	10.3	473.9	185.8	240.7	8.7	445.9	173.6	268.2	7.4	416.5	160.7	298.2	6.2	385.6	153.9	314.3	5.6	369.3
	ACS220	221.1	219.5	11.1	530.7	207.8	244.2	9.4	498.7	192.9	272.4	7.9	463.0	177.5	304.11	6.6	425.9	169.4	321.2	6.0	406.6
	ACS230	232.3	234	11.0	557.4	217.7	259.1	9.4	522.6	202.1	287.3	7.9	485.0	185.5	318.6	6.6	445.2	176.7	335.4	6.0	424.2
	ACS240	239.0	246.4	10.8	573.5	224.2	273.5	9.2	538.2	208.6	303.8	7.7	500.6	191.9	337.3	6.4	460.5	183.2	355.2	5.9	439.8
	ACS250	249.9	250.5	11.1	599.7	233.8	277.6	9.4	561.1	216.9	307.7	7.9	520.6	199.0	341	6.6	477.6	189.6	358.8	6.0	455.1
	ACS260	257.0	263.5	10.9	616.8	240.9	292.6	9.2	578.2	223.8	325	7.8	537.2	205.8	360.5	6.5	493.9	196.5	379.5	5.9	471.7
	ACS270	271.1	290.6	10.5	650.6	254.6	324	8.9	611.1	237.4	360.6	7.5	569.8	219.3	400.8	6.3	526.3	209.9	422.2	5.7	503.8
	ACS280	278.4	306.1	10.2	668.2	264.0	345.7	8.7	633.6	248.5	390	7.3	596.5	231.9	439	6.1	556.4	223.1	465.4	5.5	535.4
	ACS300	297.1	298.2	11.1	712.9	280.2	335.3	9.4	672.4	262.1	378.4	7.8	629.1	243.0	427.7	6.5	583.1	232.9	454.6	5.9	558.9
	ACS320	317.9	329.1	10.8	762.9	300.2	372.6	9.1	720.6	281.5	423.2	7.6	675.6	261.3	480.9	6.2	627.1	250.7	512.5	5.6	601.7
	ACS330	327.0	348.3	10.6	784.9	311.1	398.8	8.9	746.5	293.7	457.9	7.3	704.8	274.7	525.4	6.0	659.3	264.6	562.4	5.4	635.1
	ACS340	336.2	365.6	10.4	806.9	314.1	404.7	8.8	753.7	290.3	448.2	7.4	696.6	264.9	496.2	6.1	635.8	251.7	521.8	5.5	604.2
	ACS350	345.4	350	11.0	828.9	323.6	387.6	9.4	776.7	300.2	429.7	7.9	720.6	275.2	476.5	6.6	660.5	262.1	501.6	5.9	629.1
	ACS360	357.2	378.1	10.6	857.3	337.8	427.1	8.9	810.8	316.4	483.2	7.4	759.4	292.9	546.4	6.1	703.0	280.4	580.6	5.5	672.9
	ACS380	381.7	404.5	10.6	916.1	358.6	450.4	9.0	860.8	334.2	501	7.6	802.2	308.5	556.7	6.3	740.4	295.0	586.5	5.8	708.0
	ACS400	394.9	431.5	10.3	947.8	371.6	481.5	8.8	891.9	347.1	536.4	7.4	833.1	321.2	596.6	6.2	770.8	307.8	628.8	5.6	738.6
	ACS420	419.5	460	10.3	1006.8	397.7	519.5	8.7	954.4	374.3	586	7.3	898.3	349.2	659.6	6.1	838.0	335.9	699.2	5.5	806.1
	ACS430	431.4	485.4	10.1	1035.3	412.7	555.5	8.5	990.5	392.1	634.9	7.1	941.1	369.3	723.6	5.9	886.2	356.9	771.6	5.4	856.5

NOTES:-

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3- Direct interpolation is permissible between (95°F) to (130°F) ambient temperatures only. Do not extrapolate.
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COOLEX

PERFORMANCE DATA TABLES-ENGLISH SYSTEM

LEAVING CHILLED WATER TEMP. (LCWT)	UNIT SIZE	95 °F AMBIENT TEMPERATURE				105 °F AMBIENT TEMPERATURE				115 °F AMBIENT TEMPERATURE				125 °F AMBIENT TEMPERATURE				130 °F AMBIENT TEMPERATURE			
		CAP. (Tons)	COMP. (kW)	EER	WATER FLOW (GPM)	CAP. (Tons)	COMP. (kW)	EER	WATER FLOW (GPM)	CAP. (Tons)	COMP. (kW)	EER	WATER FLOW (GPM)	CAP. (Tons)	COMP. (kW)	EER	WATER FLOW (GPM)	CAP. (Tons)	COMP. (kW)	EER	WATER FLOW (GPM)
46°F	ACS045	47.2	40.7	12.4	113.2	44.2	44.9	10.6	106.1	41.2	49.7	9.0	98.9	38.0	55.3	7.6	91.2	36.4	58.3	6.9	87.3
	ACS050	48.6	43.4	12.1	116.7	46.6	49	10.3	111.7	44.3	55.8	8.7	106.3	41.7	63.7	7.3	100.1	40.4	68	6.6	96.9
	ACS055	56.9	50.2	12.4	136.5	53.4	55.9	10.5	128.1	49.5	62.6	8.8	118.9	45.6	70.3	7.3	109.5	43.7	74.5	6.6	104.8
	ACS060	62.5	59.2	11.7	150.1	58.4	65.3	10.0	140.2	54.0	72.2	8.4	129.5	49.4	79.9	7.0	118.7	47.0	84	6.3	112.7
	ACS070	70.0	72	10.9	168.1	65.8	80.3	9.3	158.0	61.3	89.4	7.8	147.1	56.5	99.3	6.5	135.7	54.2	104.6	5.9	130.0
	ACS080	82.9	83.5	10.9	199.0	77.9	92.6	9.3	186.9	72.5	103.3	7.9	174.0	67.0	115.5	6.5	160.7	64.0	122.1	5.9	153.5
	ACS090	90.8	93	10.8	218.0	82.5	120.9	7.7	198.0	81.0	126.6	7.2	194.3	77.8	138.3	6.4	186.6	75.2	147.8	5.8	180.5
	ACS100	104.1	103.1	11.1	249.9	98.0	115.5	9.4	235.1	91.4	129.8	7.8	219.3	84.5	146.1	6.5	202.7	80.9	154.9	5.9	194.1
	ACS115	118.5	118.9	11.0	284.3	111.4	131.8	9.4	267.5	103.8	146.2	8.0	249.2	95.8	162.2	6.7	229.9	91.6	170.8	6.1	219.8
	ACS130	132.5	141.3	10.5	317.9	125.4	158	9.0	300.8	117.7	176.4	7.6	282.5	109.8	196.6	6.4	263.5	105.6	207.5	5.8	253.4
	ACS140	143.0	140.3	11.2	343.1	134.9	156.7	9.6	323.8	126.4	174.8	8.1	303.3	117.4	194.8	6.8	281.8	112.8	205.5	6.2	270.7
	ACS150	149.5	153.4	10.8	358.7	143.6	175.7	9.2	344.6	137.1	201.1	7.7	329.0	129.8	229.6	6.4	311.5	125.9	245.1	5.9	302.1
	ACS160	163.1	150.6	11.8	391.3	153.6	168.3	10.1	368.6	143.7	189	8.5	344.8	133.2	212.6	7.0	319.6	127.6	225.5	6.4	306.3
	ACS170	175.6	174.8	11.1	421.5	168.8	201.9	9.3	405.2	161.3	234	7.8	387.1	152.9	271	6.4	366.8	148.2	291.3	5.8	355.7
	ACS180	185.1	195.6	10.5	444.2	175.9	222.5	8.9	422.2	165.6	253.3	7.4	397.5	154.1	288.2	6.1	369.8	147.9	307.2	5.5	355.0
	ACS190	195.7	208.4	10.5	469.7	186.7	239.8	8.8	448.2	176.3	276.2	7.3	423.2	164.5	317.5	5.9	394.8	158.1	340	5.3	379.5
	ACS200	204.2	218.3	10.5	490.2	192.3	243.6	8.9	461.5	179.8	271.4	7.5	431.6	166.7	302	6.3	400.0	159.9	318.3	5.8	383.7
	ACS220	227.0	221.7	11.3	544.8	213.8	246.8	9.6	513.2	199.7	275.5	8.1	479.3	184.8	307.6	6.8	443.5	176.9	325	6.2	424.4
	ACS230	237.8	236.1	11.1	570.8	223.8	261.7	9.5	537.2	208.8	290.4	8.1	501.1	192.7	322.2	6.8	462.5	184.3	339.4	6.2	442.2
	ACS240	244.2	248.4	10.9	586.1	230.1	276	9.3	552.2	215.1	306.9	7.9	516.2	199.0	341	6.6	477.6	190.6	359.3	6.0	457.3
	ACS250	258.2	253.7	11.3	619.7	242.3	281.1	9.7	581.4	225.3	311.7	8.1	540.6	207.4	345.5	6.8	497.9	198.2	363.6	6.2	475.6
	ACS260	265.3	266.7	11.1	636.8	249.3	296.2	9.5	598.2	232.3	329.1	8.0	557.4	214.2	365.2	6.7	514.2	205.0	384.6	6.1	491.9
	ACS270	279.3	293.8	10.7	670.4	263.0	327.7	9.1	631.1	245.8	365	7.7	589.8	227.7	406.1	6.4	546.6	218.4	428	5.8	524.1
	ACS280	286.3	309.1	10.4	687.2	272.0	349.3	8.8	652.9	256.5	394.2	7.4	615.5	239.8	444.1	6.2	575.5	231.0	470.9	5.6	554.5
	ACS300	306.3	301.7	11.3	735.2	289.5	339.1	9.6	694.9	271.5	382.6	8.0	651.6	252.2	432.1	6.7	605.4	242.2	459	6.0	581.2
	ACS320	327.1	332.6	11.1	785.1	309.7	376.6	9.3	743.3	291.0	427.6	7.8	698.3	270.8	485.6	6.4	649.9	260.1	517.3	5.8	624.2
	ACS330	336.1	351.8	10.8	806.6	320.2	402.8	9.0	768.5	302.9	462.3	7.5	727.0	283.9	530.2	6.2	681.3	273.7	567.3	5.6	656.8
	ACS340	345.5	369.8	10.6	829.1	323.4	409.4	9.0	776.2	299.9	453.5	7.6	719.8	275.0	502.2	6.3	660.0	261.9	528.2	5.7	628.6
	ACS350	354.7	353.6	11.2	851.4	333.2	391.6	9.5	799.7	310.0	434.3	8.1	744.1	285.4	481.6	6.7	685.0	272.5	507.1	6.1	654.1
	ACS360	366.2	381.5	10.7	878.8	346.9	413	9.5	832.6	325.7	487.6	7.6	781.6	302.4	551.5	6.3	725.8	289.9	586.1	5.7	695.9
	ACS380	394.9	409.5	10.8	947.8	371.4	455.8	9.2	891.4	346.5	507.1	7.8	831.6	320.2	563.5	6.5	768.5	306.5	593.7	5.9	735.7
	ACS400	408.4	436.7	10.6	980.1	384.6	487.3	9.0	923.0	359.6	543	7.6	863.0	333.2	604.1	6.3	799.7	319.6	636.8	5.8	767.1
	ACS420	430.2	464	10.5	1032.6	409.0	524.5	8.9	981.6	386.1	592.3	7.5	926.8	361.4	667.5	6.2	867.4	348.3	708	5.7	836.0
	ACS430	441.4	489	10.3	1059.3	423.2	560.2	8.6	1015.7	402.9	640.7	7.2	967.1	380.3	730.9	6.0	912.7	367.9	779.7	5.5	883.0

NOTES:-

1- The ACS chillers are rated with ARI - 550/590-98 standard.
2- Capacity ratings (CAP.) are based on (10°F) water range , (0.0001 $fT^2.h°F/Btu$) fouling factor in evaporator and zero altitude.
3- Direct interpolation is permissible between (95°F) to (130°F) ambient temperatures only. Do not extrapolate.
4- Leaving chilled water temperature. (LCWT)
5- Power input (KW) is for compressor only.
6- Energy Efficiency Ratio (EER) is for the overall unit,refer to electrical data for fan power input
7- Water flow rate in Gallons Per Minute (GPM)

COOLEX

PERFORMANCE DATA TABLES-ENGLISH SYSTEM

LEAVING CHILLED WATER TEMP. (LCWT)	UNIT SIZE	95 °F AMBIENT TEMPERATURE				105 °F AMBIENT TEMPERATURE				115 °F AMBIENT TEMPERATURE				125 °F AMBIENT TEMPERATURE				130 °F AMBIENT TEMPERATURE			
		CAP. (Tons)	COMP. (kW)	EER	WATER FLOW (GPM)	CAP. (Tons)	COMP. (kW)	EER	WATER FLOW (GPM)	CAP. (Tons)	COMP. (kW)	EER	WATER FLOW (GPM)	CAP. (Tons)	COMP. (kW)	EER	WATER FLOW (GPM)	CAP. (Tons)	COMP. (kW)	EER	WATER FLOW (GPM)
48°F	ACS045	48.3	41.2	12.5	115.9	45.3	45.3	10.8	108.8	42.2	50.1	9.2	101.4	38.9	55.6	7.7	93.4	37.3	58.6	7.0	89.5
	ACS050	49.7	43.7	12.3	119.4	47.7	49.4	10.5	114.5	45.3	56.1	8.9	108.8	42.6	64	7.4	102.3	41.3	68.3	6.8	99.1
	ACS055	58.5	50.7	12.6	140.4	54.8	56.5	10.7	131.5	51.0	63.1	9.0	122.4	47.0	70.8	7.4	112.7	44.8	74.9	6.7	107.5
	ACS060	64.3	59.8	11.9	154.3	60.1	66	10.1	144.1	55.5	72.9	8.6	133.2	50.8	80.5	7.1	121.9	48.3	84.7	6.5	115.9
	ACS070	72.1	72.8	11.1	173.0	67.7	81.1	9.4	162.4	63.0	90.2	7.9	151.3	58.2	100.2	6.6	139.7	55.7	105.6	6.1	133.7
	ACS080	85.6	84.6	11.2	205.4	80.3	93.8	9.5	192.8	74.8	104.4	8.0	179.5	69.0	116.4	6.7	165.6	65.9	122.9	6.1	158.2
	ACS090	94.0	94.2	11.1	225.7	90.1	107.2	9.4	216.3	85.7	122.3	7.9	205.7	80.8	139.7	6.6	193.8	78.1	149.1	6.0	187.4
	ACS100	107.9	104.6	11.3	259.1	101.8	117	9.6	244.2	95.2	131.4	8.1	228.4	88.2	147.8	6.7	211.6	84.6	156.7	6.1	203.0
	ACS115	122.9	120.6	11.3	294.9	116.1	133.8	9.7	278.6	108.7	148.5	8.2	260.8	100.8	164.8	6.9	242.0	96.7	173.6	6.3	232.1
	ACS130	136.5	142.7	10.7	327.5	129.7	159.7	9.2	311.2	122.3	178.6	7.8	293.4	114.5	199.4	6.6	274.9	110.5	210.6	6.0	265.2
	ACS140	148.2	142	11.5	355.7	140.1	158.6	9.8	336.2	131.5	177.1	8.3	315.7	122.7	197.4	7.0	294.4	117.9	208.3	6.4	283.0
	ACS150	154.4	154.8	11.1	370.6	148.5	177.4	9.4	356.5	141.8	203.1	7.9	340.4	134.4	231.9	6.6	322.6	130.4	247.6	6.0	313.0
	ACS160	169.3	152.7	12.1	406.4	160.0	170.6	10.3	383.9	150.0	191.4	8.7	359.9	139.4	215.2	7.3	334.5	133.7	228.1	6.6	320.9
	ACS170	181.5	176.6	11.4	435.6	174.8	204	9.6	419.5	167.2	236.3	8.0	401.2	158.6	273.5	6.6	380.7	153.9	293.9	6.0	369.3
	ACS180	191.2	197.9	10.8	458.8	181.9	225	9.1	436.6	171.6	256.2	7.6	411.8	160.1	291.5	6.3	384.1	153.8	310.7	5.7	369.1
	ACS190	201.8	210.7	10.7	484.3	192.5	242.3	9.0	462.0	181.9	278.9	7.4	436.6	169.8	320.5	6.1	407.6	163.2	343.2	5.5	391.6
	ACS200	210.8	220.9	10.7	506.0	198.8	246.4	9.1	477.1	186.0	274.6	7.7	446.4	172.6	305.7	6.5	414.3	165.7	322.3	5.9	397.7
	ACS220	236.2	225.1	11.6	566.8	223.3	250.7	9.9	535.9	209.5	279.8	8.4	502.8	194.7	312.5	7.0	467.2	186.9	330.2	6.4	448.7
	ACS230	246.8	239.5	11.4	592.3	233.1	265.6	9.8	559.4	218.4	294.9	8.3	524.1	202.7	327.4	7.0	486.5	194.5	344.9	6.4	466.7
	ACS240	253.0	251.7	11.2	607.1	239.3	279.9	9.6	574.2	224.5	311.3	8.1	538.9	208.9	346.3	6.8	501.3	200.6	365.1	6.3	481.5
	ACS250	268.4	257.6	11.6	644.2	252.4	285.4	9.9	605.6	235.4	316.5	8.4	564.9	217.3	350.9	7.0	521.6	208.0	369.3	6.4	499.1
	ACS260	275.6	270.6	11.4	661.5	259.4	300.6	9.7	622.4	242.3	334	8.2	581.4	224.2	370.9	6.9	538.2	214.9	390.6	6.3	515.7
	ACS270	289.6	297.8	10.9	695.1	273.2	332.2	9.3	655.6	256.0	370.3	7.9	614.3	237.8	412.3	6.6	570.8	228.4	434.8	6.0	548.0
	ACS280	296.3	312.9	10.7	711.2	281.8	353.7	9.1	676.3	266.3	399.4	7.6	639.0	249.3	450.1	6.4	598.2	240.3	477.4	5.8	576.7
	ACS300	318.3	306.3	11.6	763.8	301.3	344	9.9	723.1	283.1	387.8	8.3	679.6	263.6	437.4	6.9	632.6	253.3	464.5	6.2	607.9
	ACS320	339.3	337.4	11.3	814.3	321.8	381.8	9.6	772.3	302.9	433.2	8.0	727.0	282.4	491.6	6.6	677.8	271.6	523.3	6.0	651.9
	ACS330	348.0	356.5	11.0	835.3	332.1	408.1	9.3	797.0	314.6	468	7.7	754.9	295.3	536.3	6.3	708.7	285.0	573.5	5.7	684.0
	ACS340	357.8	375.3	10.8	858.8	335.8	415.5	9.2	805.9	312.3	460.3	7.8	749.5	287.4	509.7	6.5	689.7	274.3	536.2	5.9	658.3
	ACS350	367.5	358.4	11.4	882.0	345.9	396.9	9.8	830.1	322.7	440.2	8.3	774.5	298.1	488.1	6.9	715.4	285.2	513.9	6.3	684.5
	ACS360	378.5	386	11.0	908.5	359.2	436.1	9.3	862.0	337.9	493.4	7.8	811.1	314.5	558	6.4	754.7	301.9	593.1	5.8	724.5
	ACS380	407.9	414.5	11.1	978.9	383.9	461.3	9.4	921.3	358.6	513.2	8.0	860.8	332.0	570.3	6.7	796.7	318.1	601	6.1	763.4
	ACS400	421.6	441.8	10.8	1011.8	397.4	493	9.2	953.7	371.9	549.4	7.7	892.6	345.3	611.5	6.5	828.6	331.4	644.8	5.9	795.2
	ACS420	447.2	470.5	10.8	1073.3	426.4	532.3	9.1	1023.4	403.9	601.6	7.7	969.3	379.2	678.8	6.4	910.2	366.2	720.3	5.9	878.8
	ACS430	457.5	495.1	10.5	1098.1	439.7	567.5	8.9	1055.3	419.4	649.6	7.4	1006.6	396.6	741.5	6.2	951.7	384.0	791.1	5.6	921.6

NOTES:-

1- The ACS chillers are rated with ARI - 550/590-98 standard.
2- Capacity ratings (CAP.) are based on (10°F) water range , (0.0001 $fT^2.h°F/Btu$) fouling factor in evaporator and zero altitude.
3- Direct interpolation is permissible between (95°F) to (130°F) ambient temperatures only. Do not extrapolate.
4- Leaving chilled water temperature. (LCWT)
5- Power input (KW) is for compressor only.
6- Energy Efficiency Ratio (EER) is for the overall unit,refer to electrical data for fan power input
7- Water flow rate in Gallons Per Minute (GPM)

COOLEX

PERFORMANCE DATA TABLES-ENGLISH SYSTEM

LEAVING CHILLED WATER TEMP. (LCWT)	UNIT SIZE	95 °F AMBIENT TEMPERATURE				105 °F AMBIENT TEMPERATURE				115 °F AMBIENT TEMPERATURE				125 °F AMBIENT TEMPERATURE				130 °F AMBIENT TEMPERATURE			
		CAP. (Tons)	COMP. (kW)	EER	WATER FLOW (GPM)	CAP. (Tons)	COMP. (kW)	EER	WATER FLOW (GPM)	CAP. (Tons)	COMP. (kW)	EER	WATER FLOW (GPM)	CAP. (Tons)	COMP. (kW)	EER	WATER FLOW (GPM)	CAP. (Tons)	COMP. (kW)	EER	WATER FLOW (GPM)
50°F	ACS045	50.1	41.8	12.8	120.1	47.1	45.9	11.1	113.0	43.9	50.7	9.5	105.3	40.5	56.2	7.9	97.1	38.7	59.2	7.2	92.9
	ACS050	51.4	44.2	12.5	123.4	49.2	49.9	10.8	118.2	46.8	56.6	9.1	112.2	44.1	64.4	7.6	105.8	42.6	68.7	6.9	102.3
	ACS055	60.5	51.4	12.9	145.1	56.8	57.1	11.0	136.2	52.8	63.8	9.2	126.8	48.7	71.5	7.6	116.9	46.6	75.7	6.9	111.7
	ACS060	66.4	60.6	12.2	159.4	62.0	66.8	10.4	148.8	57.5	73.8	8.8	137.9	52.7	81.5	7.3	126.6	50.0	85.5	6.6	119.9
	ACS070	74.4	73.6	11.4	178.5	69.8	82	9.6	167.6	65.1	91.2	8.1	156.2	60.3	101.4	6.8	144.6	57.7	106.9	6.2	138.4
	ACS080	88.1	85.7	11.3	211.4	82.7	94.9	9.7	198.5	77.1	105.5	8.2	185.2	71.3	117.4	6.8	171.1	68.2	123.9	6.2	163.6
	ACS090	97.1	95.4	11.3	233.1	93.0	108.4	9.6	223.2	88.4	123.5	8.1	212.1	83.2	140.8	6.7	199.7	80.4	150.2	6.1	193.1
	ACS100	112.1	106.1	11.6	269.0	105.6	118.6	9.9	253.4	98.8	133.1	8.3	237.1	91.5	149.4	6.9	219.5	87.7	158.2	6.3	210.4
	ACS115	127.6	122.5	11.6	306.3	120.4	135.6	9.9	289.0	112.7	150.4	8.4	270.4	104.4	166.8	7.1	250.7	100.1	175.6	6.5	240.3
	ACS130	142.0	144.7	11.0	340.9	134.7	161.9	9.4	323.3	127.0	180.9	8.0	304.8	118.9	201.9	6.7	285.3	114.6	213.2	6.2	275.1
	ACS140	153.2	143.6	11.8	367.6	144.8	160.4	10.1	347.6	136.1	179	8.5	326.6	126.9	199.6	7.2	304.6	122.1	210.6	6.6	292.9
	ACS150	159.2	156.2	11.3	382.2	153.2	179	9.6	367.6	146.3	204.9	8.1	351.0	138.4	233.9	6.7	332.2	134.2	249.7	6.1	322.1
	ACS160	175.6	154.7	12.4	421.5	165.8	172.7	10.6	398.0	155.4	193.6	8.9	373.0	144.4	217.3	7.5	346.6	138.6	230.3	6.8	332.7
	ACS170	187.8	178.6	11.6	450.6	180.9	206.2	9.8	434.1	172.9	238.6	8.2	415.1	164.0	275.9	6.8	393.5	159.0	296.3	6.1	381.7
	ACS180	198.1	200.4	11.0	475.4	188.4	227.7	9.3	452.1	177.6	259.1	7.8	426.2	165.6	294.5	6.4	397.5	159.1	313.8	5.8	381.9
	ACS190	207.5	212.7	10.9	498.1	198.1	244.6	9.2	475.4	187.2	281.5	7.6	449.2	174.9	323.4	6.2	419.7	168.1	346.2	5.6	403.4
	ACS200	217.0	223.3	10.9	520.9	204.8	249.1	9.3	491.4	191.9	277.7	7.9	460.5	178.4	309.3	6.6	428.2	171.3	326.2	6.0	411.1
	ACS220	245.1	228.5	11.8	588.3	231.5	254.1	10.1	555.7	217.0	283.3	8.6	520.9	201.6	315.9	7.2	483.8	193.4	333.6	6.6	464.2
	ACS230	256.3	243.1	11.7	615.0	241.8	269.3	10.0	580.4	226.5	298.6	8.5	543.6	221.0	309.3	8.1	530.5	210.1	331.2	7.2	504.3
	ACS240	262.9	255.4	11.5	630.9	248.3	283.7	9.8	596.0	232.9	315.3	8.3	558.9	216.5	350.4	7.0	519.6	207.9	369.2	6.4	498.8
	ACS250	277.4	261	11.8	665.7	260.8	289	10.1	625.9	243.4	320.3	8.6	584.1	225.0	355	7.2	539.9	215.3	373.6	6.6	516.6
	ACS260	284.7	274.1	11.6	683.3	268.1	304.3	9.9	643.5	250.5	338	8.4	601.2	232.0	375.2	7.0	556.7	222.3	395.2	6.4	533.5
	ACS270	299.1	301.6	11.2	717.9	282.2	336.3	9.5	677.3	264.5	374.9	8.0	634.8	245.9	417.4	6.7	590.1	236.1	440.1	6.2	566.6
	ACS280	305.7	316.5	10.9	733.7	290.8	357.7	9.2	697.8	274.7	403.8	7.8	659.3	257.1	455.1	6.5	617.0	247.8	482.6	5.9	594.8
	ACS300	329.4	310.5	11.9	790.5	311.7	348.4	10.1	748.0	292.8	392.2	8.5	702.8	272.4	441.7	7.1	653.8	261.8	468.7	6.4	628.4
	ACS320	351.3	342.1	11.6	843.2	333.1	386.8	9.8	799.4	313.4	438.3	8.2	752.2	292.2	496.7	6.8	701.3	281.0	528.4	6.1	674.4
	ACS330	360.1	316.4	12.8	864.2	343.5	413.2	9.5	824.4	325.3	473.3	7.9	780.7	305.2	541.6	6.5	732.5	294.5	578.7	5.9	706.7
	ACS340	370.8	381.2	11.0	889.9	347.9	421.6	9.4	835.0	323.6	466.6	7.9	776.7	297.9	516.2	6.6	714.9	284.4	542.8	6.0	682.5
	ACS350	381.2	363.6	11.7	914.9	358.6	402.3	10.0	860.8	334.8	445.7	8.5	803.4	309.3	493.9	7.1	742.3	296.0	519.8	6.5	710.5
	ACS360	392.2	391.1	11.2	941.3	325.7	441.5	8.3	781.6	349.9	499.1	8.0	839.7	325.6	564	6.6	781.4	312.5	599.2	6.0	750.0
	ACS380	420.1	419.2	11.3	1008.3	395.8	466.5	9.6	950.0	370.3	519	8.1	888.7	343.3	576.9	6.8	823.9	329.2	608	6.2	790.1
	ACS400	434.0	446.7	11.0	1041.7	409.5	498.4	9.3	982.9	383.8	555.6	7.9	921.1	356.7	618.7	6.6	856.1	342.6	652.5	6.1	822.2
	ACS420	462.8	476.6	11.0	1110.7	440.9	538.9	9.3	1058.3	417.2	608.7	7.9	1001.2	391.2	686.3	6.6	938.9	377.4	728.1	6.0	905.7
	ACS430	473.2	500.9	10.7	1135.6	454.2	574	9.1	1090.2	432.7	656.7	7.6	1038.5	408.4	749	6.3	980.1	395.1	798.7	5.7	948.3

NOTES:-

1- The ACS chillers are rated with ARI - 550/590-98 standard.
2- Capacity ratings (CAP.) are based on (10°F) water range , (0.0001 $fT^2.h°F/Btu$) fouling factor in evaporator and zero altitude.
3- Direct interpolation is permissible between (95°F) to (130°F) ambient temperatures only. Do not extrapolate.
4- Leaving chilled water temperature. (LCWT)
5- Power input (KW) is for compressor only.
6- Energy Efficiency Ratio (EER) is for the overall unit,refer to electrical data for fan power input
7- Water flow rate in Gallons Per Minute (GPM)

COOLEX

PERFORMANCE DATA TABLES-METRIC SYSTEM

PERFORMANCE DATA -SI units

LEAVING CHILLED WATER TEMP. (LCWT)	UNIT SIZE	35 °C AMBIENT TEMPERATURE				40 °C AMBIENT TEMPERATURE				46 °C AMBIENT TEMPERATURE				52 °C AMBIENT TEMPERATURE				55 °C AMBIENT TEMPERATURE			
		CAP. (kW)	COMP. (kW)	COP.	WATER FLOW (L/S)	CAP. (kW)	COMP. (kW)	COP.	WATER FLOW (L/S)	CAP. (kW)	COMP. (kW)	COP.	WATER FLOW (L/S)	CAP. (kW)	COMP. (kW)	COP.	WATER FLOW (L/S)	CAP. (kW)	COMP. (kW)	COP.	WATER FLOW (L/S)
4°C	ACS045	142.0	38.4	3.3	5.7	134.4	42.1	2.9	5.4	125.0	47.4	2.4	5.0	114.8	53.7	2.0	4.6	109.4	57.2	1.8	4.4
	ACS050	148.2	41.5	3.2	5.9	143.1	46.5	2.8	5.7	135.9	53.8	2.3	5.4	127.9	62.4	1.9	5.1	123.5	67.2	1.7	4.9
	ACS055	168.5	47.5	3.2	6.7	159.1	52.5	2.8	6.3	147.5	59.8	2.3	5.9	135.5	68.2	1.9	5.4	129.0	72.9	1.7	5.1
	ACS060	184.1	55.5	3.0	7.3	173.9	60.9	2.6	6.9	160.5	68.3	2.2	6.4	145.6	76.7	1.8	5.8	138.0	81.2	1.6	5.5
	ACS070	201.4	67.4	2.8	8.0	194.6	75	2.4	7.7	180.8	84.3	2.0	7.2	166.3	94.6	1.7	6.6	158.7	100.1	1.5	6.3
	ACS080	238.8	77.3	2.8	9.5	220.6	84.4	2.4	8.8	205.8	96.3	2.0	8.2	193.1	110.8	1.6	7.7	184.4	118.5	1.5	7.3
	ACS090	293.8	90.2	3.0	11.7	281.9	101.4	2.6	11.2	265.9	117.5	2.1	10.6	248.5	136.2	1.7	9.9	239.1	146.6	1.6	9.5
	ACS100	335.5	100	3.1	13.4	315.9	110.7	2.6	12.6	291.6	125.9	2.1	11.6	266.3	143.4	1.7	10.6	252.9	153	1.6	10.1
	ACS115	387.7	115.7	3.1	15.4	364.5	126.8	2.7	14.5	335.1	141.7	2.2	13.3	303.2	158.4	1.8	12.1	286.6	167.4	1.6	11.4
	ACS130	439.1	138.5	3.0	17.5	415.6	153	2.5	16.6	385.5	171.9	2.1	15.4	353.2	192.8	1.7	14.1	336.6	203.9	1.6	13.4
	ACS140	459.0	136.3	3.1	18.3	434.0	150.5	2.7	17.3	402.1	169.2	2.2	16.0	368.8	189.8	1.8	14.7	351.4	200.8	1.6	14.0
	ACS150	484.7	150.1	3.0	19.3	466.6	169.5	2.6	18.6	442.7	195.8	2.1	17.6	416.6	225.5	1.8	16.6	402.1	241.9	1.6	16.0
	ACS160	523.5	146.1	3.2	20.9	493.8	161.5	2.8	19.7	456.9	183.3	2.3	18.2	417.7	208.7	1.9	16.6	397.1	222.8	1.7	15.8
	ACS170	571.0	170.7	3.1	22.7	549.6	194.3	2.6	21.9	521.3	228.1	2.1	20.8	490.2	267.7	1.7	19.5	473.2	289.8	1.6	18.8
	ACS180	602.9	190.6	2.9	24.0	574.2	213.9	2.5	22.9	535.8	246.1	2.1	21.3	493.1	283	1.7	19.6	469.9	303.2	1.5	18.7
	ACS190	616.3	201	2.9	24.5	590.9	228.1	2.4	23.5	556.1	266.1	2.0	22.2	516.3	309.9	1.6	20.6	494.2	334	1.4	19.7
	ACS200	639.4	209.7	2.8	25.5	605.0	231.6	2.5	24.1	561.6	260.2	2.0	22.4	515.2	291.7	1.7	20.5	490.9	308.6	1.5	19.6
	ACS220	739.1	215.5	3.1	29.4	696.0	237.2	2.7	27.7	641.3	267.1	2.2	25.5	582.6	301	1.8	23.2	552.1	319.5	1.6	22.0
	ACS230	778.2	229.9	3.1	31.0	732.6	251.9	2.7	29.2	673.5	281.7	2.2	26.8	609.7	315	1.8	24.3	576.4	332.9	1.6	23.0
	ACS240	801.8	242.2	3.1	31.9	755.7	266.1	2.6	30.1	696.3	298	2.2	27.7	632.2	333.5	1.8	25.2	598.9	352.6	1.6	23.9
	ACS250	823.9	244.6	3.1	32.8	774.9	268.4	2.7	30.9	712.3	300.2	2.2	28.4	645.2	335.4	1.8	25.7	610.5	354.4	1.6	24.3
	ACS260	848.5	257.5	3.1	33.8	799.2	283.1	2.6	31.8	735.8	317.1	2.2	29.3	668.8	354.6	1.8	26.6	633.7	374.7	1.6	25.2
	ACS270	897.0	284.4	2.9	35.7	846.3	313.6	2.5	33.7	782.2	351.9	2.1	31.2	714.8	393.9	1.7	28.5	679.3	416.4	1.6	27.1
	ACS280	924.2	300.2	2.9	36.8	880.0	334.9	2.5	35.1	822.8	381.2	2.1	32.8	761.5	432.8	1.7	30.3	729.3	460.6	1.5	29.1
	ACS300	984.4	291.9	3.1	39.2	931.8	324.5	2.7	37.1	865.5	370.4	2.2	34.5	794.5	423.7	1.8	31.6	757.2	453.1	1.6	30.2
	ACS320	1055.0	322.3	3.1	42.0	1000.3	360.6	2.6	39.8	930.7	414.3	2.1	37.1	856.1	476.7	1.7	34.1	817.0	511	1.5	32.5
	ACS330	1088.0	341.6	3.0	43.3	1038.7	386	2.5	41.4	974.2	448.6	2.1	38.8	904.3	521.4	1.7	36.0	867.0	561.6	1.5	34.5
	ACS340	1117.3	357.3	2.9	44.5	1048.5	391.6	2.5	41.8	960.1	437.6	2.1	38.2	864.8	488.7	1.7	34.4	814.8	516.2	1.5	32.5
	ACS350	1147.4	342.7	3.1	45.7	1080.0	375.7	2.7	43.0	993.1	420.3	2.2	39.6	898.8	470.3	1.8	35.8	849.2	497.2	1.6	33.8
	ACS360	1190.5	371.2	3.0	47.4	1130.7	414.2	2.6	45.0	1051.4	473.4	2.1	41.9	963.7	540.8	1.7	38.4	916.6	577.7	1.5	36.5
	ACS380	1235.1	392.9	2.9	49.2	1167.7	433.2	2.5	46.5	1081.1	486.4	2.1	43.1	988.3	545.2	1.7	39.4	939.4	576.8	1.6	37.4
	ACS400	1278.5	419.4	2.9	50.9	1210.1	463.2	2.5	48.2	1123.1	520.6	2.1	44.7	1030.0	583.6	1.7	41.0	981.5	617.3	1.5	39.1
	ACS420	1410.8	453.1	2.9	56.2	1342.3	505.3	2.5	53.5	1254.6	575	2.1	50.0	1160.4	652.7	1.7	46.2	1110.8	694.6	1.5	44.2
	ACS430	1454.6	478.8	2.9	57.9	1396.3	540.4	2.5	55.6	1319.8	623.9	2.0	52.6	1235.4	717.9	1.7	49.2	1190.1	769.1	1.5	47.4

NOTES:-

1- The ACS chillers are rated with ARI - 550/590-98 standard.
2- Capacity ratings (CAP.) are based on(6°C) water range, (0.000018 m²°C/W) fouling factor in evaporator and zero altitude.
3- Direct interpolation is permissible between (35°C) to (55°C) ambient temperatures only. Do not extrapolate.
4- Leaving chilled water temperature. (LCWT)
5- Power input (KW) is for compressor only.
6- Coefficient of perforamnce (COP) is for the overall unit,refer to electrical data for fan power input
7- Water flow rate in liters Per second (L/s)

COOLEX

PERFORMANCE DATA TABLES-METRIC SYSTEM

LEAVING CHILLED WATER TEMP. (LCWT)	UNIT SIZE	35 °C AMBIENT TEMPERATURE				40 °C AMBIENT TEMPERATURE				46 °C AMBIENT TEMPERATURE				52 °C AMBIENT TEMPERATURE				55 °C AMBIENT TEMPERATURE			
		CAP. (kW)	COMP. (kW)	COP.	WATER FLOW (L/S)	CAP. (kW)	COMP. (kW)	COP.	WATER FLOW (L/S)	CAP. (kW)	COMP. (kW)	COP.	WATER FLOW (L/S)	CAP. (kW)	COMP. (kW)	COP.	WATER FLOW (L/S)	CAP. (kW)	COMP. (kW)	COP.	WATER FLOW (L/S)
5°C	ACS045	149.6	39.2	3.4	6.0	141.7	42.9	3.0	5.6	131.9	48.2	2.5	5.3	121.4	54.4	2.0	4.8	115.9	57.8	1.8	4.6
	ACS050	155.4	42.1	3.3	6.2	150.0	47.1	2.9	6.0	142.4	54.5	2.4	5.7	134.1	63	2.0	5.3	129.7	67.8	1.8	5.2
	ACS055	177.5	48.3	3.3	7.1	168.1	53.4	2.9	6.7	156.1	60.6	2.4	6.2	143.5	69	1.9	5.7	136.9	73.7	1.7	5.5
	ACS060	194.2	56.5	3.2	7.7	183.3	62	2.7	7.3	169.2	69.5	2.3	6.7	154.3	77.8	1.9	6.1	146.4	82.3	1.7	5.8
	ACS070	215.9	68.9	2.9	8.6	205.1	76.2	2.5	8.2	190.6	85.7	2.1	7.6	175.7	96.2	1.7	7.0	167.7	101.8	1.6	6.7
	ACS080	254.3	79.1	2.9	10.1	238.0	86.8	2.5	9.5	221.7	98.5	2.1	8.8	204.3	112.3	1.7	8.1	195.3	119.9	1.5	7.8
	ACS090	301.4	91	3.1	12.0	289.1	102.3	2.6	11.5	272.8	118.3	2.2	10.9	254.7	137.1	1.8	10.1	245.3	147.5	1.6	9.8
	ACS100	345.6	101	3.1	13.8	325.7	111.8	2.7	13.0	300.7	126.9	2.2	12.0	274.3	144.4	1.8	10.9	260.9	154	1.6	10.4
	ACS115	398.2	116.8	3.1	15.9	374.6	128	2.7	14.9	344.2	143	2.2	13.7	311.6	159.7	1.8	12.4	294.5	168.7	1.6	11.7
	ACS130	451.1	139.8	3.0	18.0	426.8	154.3	2.6	17.0	396.0	173.4	2.2	15.8	363.0	194.4	1.8	14.5	346.0	205.6	1.6	13.8
	ACS140	472.4	137.5	3.1	18.8	446.7	151.8	2.7	17.8	414.5	170.7	2.3	16.5	380.1	191.4	1.9	15.1	362.3	202.6	1.7	14.4
	ACS150	497.8	151.2	3.0	19.8	479.3	170.7	2.6	19.1	454.7	197.3	2.2	18.1	427.5	227.3	1.8	17.0	412.7	243.7	1.6	16.4
	ACS160	539.1	147.5	3.3	21.5	508.7	162.9	2.9	20.3	470.6	184.8	2.4	18.7	430.4	210.1	1.9	17.1	409.8	224.1	1.7	16.3
	ACS170	586.6	172.1	3.1	23.4	564.8	195.8	2.7	22.5	535.8	229.7	2.2	21.3	503.6	269.7	1.8	19.5	486.2	291.4	1.6	19.4
	ACS180	619.9	192.4	3.0	24.7	590.5	215.8	2.6	23.5	551.1	248.2	2.1	22.0	506.8	285.3	1.7	20.2	483.3	305.5	1.5	19.3
	ACS190	637.6	203.2	2.9	25.4	611.2	230.6	2.5	24.3	575.0	268.8	2.0	22.9	533.3	312.9	1.6	21.2	510.5	337.1	1.4	20.3
	ACS200	663.0	212.2	2.9	26.4	627.5	234.3	2.5	25.0	582.2	263.3	2.1	23.2	534.4	295.2	1.7	21.3	509.4	312.2	1.6	20.3
	ACS220	759.4	217.6	3.2	30.2	714.8	239.4	2.8	28.5	658.6	269.2	2.3	26.2	598.9	303.1	1.9	23.9	567.4	321.6	1.7	22.6
	ACS230	799.6	232.1	3.2	31.8	752.5	254.3	2.7	30.0	692.0	284.1	2.3	27.6	626.8	317.4	1.9	25.0	592.7	335.4	1.7	23.6
	ACS240	823.9	244.6	3.1	32.8	776.0	268.5	2.7	30.9	715.2	300.5	2.2	28.5	650.0	336.1	1.8	25.9	615.9	355.3	1.6	24.5
	ACS250	847.8	247.2	3.2	33.8	797.4	271	2.7	31.8	733.3	303	2.3	29.2	665.2	338.4	1.9	26.5	629.7	357.5	1.7	25.1
	ACS260	873.1	260.2	3.1	34.8	822.4	285.9	2.7	32.8	757.6	320.1	2.2	30.2	689.1	357.8	1.8	27.4	653.6	378.1	1.6	26.0
	ACS270	922.8	287.2	3.0	36.8	871.0	316.7	2.6	34.7	805.4	355.3	2.1	32.1	736.2	397.8	1.8	29.3	700.3	420.5	1.6	27.9
	ACS280	949.9	302.9	2.9	37.8	904.3	337.9	2.5	36.0	845.6	384.6	2.1	33.7	782.9	436.7	1.7	31.2	749.6	464.8	1.5	29.9
	ACS300	1011.9	294.8	3.2	40.3	958.3	327.5	2.7	38.2	890.2	373.4	2.2	35.5	817.7	426.6	1.8	32.6	779.3	455.9	1.6	31.0
	ACS320	1085.1	325.5	3.1	43.2	1028.9	363.9	2.7	41.0	957.5	417.8	2.2	38.1	881.1	480	1.8	35.1	840.9	514.3	1.6	33.5
	ACS330	1118.4	344.8	3.0	44.5	1067.7	389.5	2.6	42.5	1001.7	452.2	2.1	39.9	929.6	525	1.7	37.0	891.2	565.2	1.5	35.5
	ACS340	1149.6	361.4	3.0	45.8	1078.9	395.9	2.6	43.0	988.3	442	2.1	39.4	891.2	493.2	1.7	35.5	840.2	520.7	1.5	33.5
	ACS350	1181.4	346.4	3.2	47.1	1112.2	379.6	2.7	44.3	1022.8	424.3	2.3	40.7	926.7	474.3	1.8	36.9	876.0	501.2	1.7	34.9
	ACS360	1224.6	374.8	3.0	48.8	1163.0	418	2.6	46.3	1081.4	477.5	2.1	43.1	991.6	545.2	1.7	39.5	943.4	582.1	1.5	37.6
	ACS380	1280.7	397.8	3.0	51.0	1210.4	438.4	2.6	48.2	1120.9	492	2.2	44.7	1024.9	551.3	1.8	40.8	974.9	583.1	1.6	38.8
	ACS400	1325.6	424.6	2.9	52.8	1254.6	468.8	2.5	50.0	1164.4	526.7	2.1	46.4	1068.4	590.5	1.7	42.6	1018.4	624.6	1.6	40.6
	ACS420	1443.7	456.6	3.0	57.5	1373.8	509.2	2.6	54.7	1284.0	579.4	2.1	51.1	1187.2	657.7	1.7	47.3	1136.2	699.9	1.6	45.3
	ACS430	1487.6	482.3	2.9	59.3	1427.8	544.3	2.5	56.9	1349.2	628.4	2.1	53.7	1261.9	723.1	1.7	50.3	1214.8	774.6	1.5	48.4

NOTES:-

1- The ACS chillers are rated with ARI - 550/590-98 standard.
2- Capacity ratings (CAP.) are based on(6°C) water range, (0.000018 m².°C/W) fouling factor in evaporator and zero altitude.
3- Direct interpolation is permissible between (35°C) to (55°C) ambient temperatures only. Do not extrapolate.
4- Leaving chilled water temperature. (LCWT)
5- Power input (KW) is for compressor only.
6- Coefficient of perforamnce (COP) is for the overall unit,refer to electrical data for fan power input
7- Water flow rate in liters Per second (L/s)

COOLEX

PERFORMANCE DATA TABLES-METRIC SYSTEM

LEAVING CHILLED WATER TEMP. (LCWT)	UNIT SIZE	35 °C AMBIENT TEMPERATURE				40 °C AMBIENT TEMPERATURE				46 °C AMBIENT TEMPERATURE				52 °C AMBIENT TEMPERATURE				55 °C AMBIENT TEMPERATURE			
		CAP. (kW)	COMP. (kW)	COP.	WATER FLOW (L/S)	CAP. (kW)	COMP. (kW)	COP.	WATER FLOW (L/S)	CAP. (kW)	COMP. (kW)	COP.	WATER FLOW (L/S)	CAP. (kW)	COMP. (kW)	COP.	WATER FLOW (L/S)	CAP. (kW)	COMP. (kW)	COP.	WATER FLOW (L/S)
6°C	ACS045	157.6	39.9	3.5	6.3	141.7	42.9	3.0	5.6	131.9	48.2	2.5	5.3	121.4	54.4	2.0	4.8	115.9	57.8	1.8	4.6
	ACS050	163.4	42.7	3.4	6.5	157.2	47.8	3.0	6.3	149.3	55	2.5	5.9	140.2	63.6	2.0	5.6	135.5	68.4	1.8	5.4
	ACS055	188.4	49.2	3.5	7.5	178.2	54.3	3.0	7.1	165.2	61.5	2.5	6.6	151.4	69.9	2.0	6.0	144.6	74.5	1.8	5.8
	ACS060	206.5	57.8	3.3	8.2	194.6	63.3	2.8	7.7	179.7	70.7	2.4	7.2	163.4	79.1	1.9	6.5	154.7	83.5	1.7	6.2
	ACS070	230.4	70.4	3.1	9.2	218.5	77.7	2.6	8.7	202.9	87.4	2.2	8.1	186.6	98	1.8	7.4	177.9	103.7	1.6	7.1
	ACS080	269.5	80.9	3.1	10.7	255.4	89.1	2.6	10.2	237.7	100.7	2.2	9.5	218.5	114.2	1.8	8.7	208.7	121.6	1.6	8.3
	ACS090	307.6	91.7	3.1	12.3	295.3	103	2.7	11.8	279.0	119.1	2.2	11.1	260.5	137.8	1.8	10.4	250.7	148.2	1.6	10.0
	ACS100	353.2	101.8	3.2	14.1	333.3	112.6	2.7	13.3	308.3	127.8	2.2	12.3	281.5	145.3	1.8	11.2	267.7	154.9	1.6	10.7
	ACS115	405.0	117.6	3.2	16.1	381.5	128.8	2.7	15.2	351.4	143.9	2.3	14.0	318.8	160.8	1.9	12.7	301.8	169.8	1.7	12.0
	ACS130	457.9	140.5	3.0	18.2	433.7	155.1	2.6	17.3	402.9	174.4	2.2	16.1	370.6	195.6	1.8	14.8	353.6	207	1.6	14.1
	ACS140	483.7	138.5	3.2	19.3	457.6	153	2.8	18.2	425.0	172	2.3	16.9	390.6	193	1.9	15.6	372.8	204.2	1.7	14.8
	ACS150	508.3	152	3.1	20.2	489.5	171.7	2.7	19.5	464.8	198.4	2.2	18.5	436.9	228.8	1.8	17.4	422.1	245.3	1.6	16.8
	ACS160	551.4	148.6	3.4	22.0	521.0	164.2	2.9	20.8	482.9	186	2.4	19.2	442.4	211.4	2.0	17.6	421.0	225.4	1.8	16.8
	ACS170	598.5	173.1	3.2	23.8	576.4	197	2.7	23.0	547.4	231	2.2	21.8	514.8	270.8	1.8	20.5	497.1	292.8	1.6	19.8
	ACS180	632.2	193.7	3.0	25.2	602.5	217.3	2.6	24.0	562.6	249.8	2.1	22.4	518.4	287.1	1.7	20.7	494.5	307.5	1.5	19.7
	ACS190	657.9	205.3	3.0	26.2	630.4	232.9	2.5	25.1	593.1	271.4	2.1	23.6	550.0	315.7	1.7	21.9	526.1	340	1.5	21.0
	ACS200	685.1	214.7	3.0	27.3	648.5	236.9	2.6	25.8	602.1	266.2	2.1	24.0	553.2	298.5	1.8	22.0	527.5	315.8	1.6	21.0
	ACS220	773.5	219.1	3.2	30.8	729.3	241	2.8	29.1	673.1	271	2.3	26.8	613.4	305.1	1.9	24.4	581.8	323.6	1.7	23.2
	ACS230	813.7	233.7	3.2	32.4	766.6	256	2.8	30.5	706.1	286	2.3	28.1	641.6	319.5	1.9	25.6	607.6	337.6	1.7	24.2
	ACS240	837.6	246.1	3.1	33.4	790.2	270.2	2.7	31.5	729.7	302.5	2.3	29.1	664.4	338.3	1.9	26.5	630.8	357.7	1.7	25.1
	ACS250	868.8	249.4	3.2	34.6	818.1	273.5	2.8	32.6	753.2	305.6	2.3	30.0	684.7	341.4	1.9	27.3	648.9	360.6	1.7	25.8
	ACS260	894.5	262.4	3.2	35.6	843.1	288.4	2.7	33.6	777.8	322.8	2.3	31.0	708.6	361	1.9	28.2	673.1	381.5	1.7	26.8
	ACS270	944.1	289.6	3.1	37.6	892.0	319.3	2.6	35.5	826.0	358.3	2.2	32.9	756.5	401.4	1.8	30.1	720.2	424.4	1.6	28.7
	ACS280	970.6	305.2	3.0	38.7	924.9	340.4	2.6	36.8	865.9	387.6	2.1	34.5	802.1	440.3	1.7	32.0	768.4	468.7	1.6	30.6
	ACS300	1035.1	297.2	3.2	41.2	981.1	330.1	2.8	39.1	912.3	376.1	2.3	36.3	838.7	429.4	1.9	33.4	799.9	458.6	1.7	31.9
	ACS320	1109.0	328.1	3.2	44.2	1052.5	366.7	2.7	41.9	980.7	420.7	2.2	39.1	903.2	483.1	1.8	36.0	862.6	517.3	1.6	34.4
	ACS330	1141.9	347.4	3.1	45.5	1090.9	392.3	2.6	43.5	1024.6	455.3	2.1	40.8	951.7	528.2	1.7	37.9	912.6	568.4	1.5	36.4
	ACS340	1174.2	364.6	3.0	46.8	1103.2	399.3	2.6	43.9	1011.9	445.6	2.2	40.3	914.8	497.2	1.8	36.4	863.7	524.9	1.6	34.4
	ACS350	1206.8	349.1	3.2	48.1	1137.2	382.5	2.8	45.3	1047.4	427.5	2.3	41.7	951.0	477.7	1.9	37.9	900.3	504.9	1.7	35.9
	ACS360	1249.2	377.4	3.1	49.8	1187.2	420.9	2.6	47.3	1105.4	480.7	2.2	44.0	1014.8	548.8	1.8	40.4	966.2	585.9	1.6	38.5
	ACS380	1323.8	402.5	3.1	52.7	1251.7	443.3	2.7	49.9	1159.3	497.5	2.2	46.2	1061.5	557.3	1.8	42.3	1010.4	589.5	1.6	40.2
	ACS400	1370.2	429.5	3.0	54.6	1297.0	474	2.6	51.7	1204.3	532.6	2.2	48.0	1106.1	597.2	1.8	44.1	1055.0	631.8	1.6	42.0
	ACS420	1467.7	459.1	3.0	58.5	1397.4	512.1	2.6	55.7	1307.2	582.9	2.1	52.1	1210.4	662	1.8	48.2	1159.0	704.6	1.6	46.2
	ACS430	1510.4	484.6	2.9	60.2	1450.6	547.1	2.5	57.8	1371.3	631.8	2.1	54.6	1283.2	727.3	1.7	51.1	1235.8	779.1	1.5	49.2

NOTES:-

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7- Water flow rate in liters Per second (L/s)

COOLEX

PERFORMANCE DATA TABLES-METRIC SYSTEM

LEAVING CHILLED WATER TEMP. (LCWT)	UNIT SIZE	35 °C AMBIENT TEMPERATURE				40 °C AMBIENT TEMPERATURE				46 °C AMBIENT TEMPERATURE				52 °C AMBIENT TEMPERATURE				55 °C AMBIENT TEMPERATURE			
		CAP. (kW)	COMP. (kW)	COP.	WATER FLOW (LPS)	CAP. (kW)	COMP. (kW)	COP.	WATER FLOW (LPS)	CAP. (kW)	COMP. (kW)	COP.	WATER FLOW (LPS)	CAP. (kW)	COMP. (kW)	COP.	WATER FLOW (LPS)	CAP. (kW)	COMP. (kW)	COP.	WATER FLOW (LPS)
7°C	ACS045	163.0	40.5	3.6	6.5	154.3	44.2	3.1	6.1	143.1	49.4	2.6	5.7	131.2	55.4	2.2	5.2	125.0	58.7	2.0	5.0
	ACS050	168.8	43.2	3.5	6.7	162.3	48.2	3.1	6.5	153.6	55.5	2.5	6.1	144.2	64	2.1	5.7	139.1	68.7	1.9	5.5
	ACS055	196.4	49.9	3.6	7.8	185.5	55	3.1	7.4	171.7	62.2	2.6	6.8	157.2	70.5	2.1	6.3	149.6	75	1.9	6.0
	ACS060	215.6	58.7	3.4	8.6	202.9	64.2	2.9	8.1	186.9	71.6	2.4	7.4	169.9	79.9	2.0	6.8	160.9	84.4	1.8	6.4
	ACS070	241.6	71.5	3.2	9.6	228.6	78.9	2.7	9.1	211.9	88.6	2.3	8.4	194.6	99.3	1.9	7.7	185.5	105.1	1.7	7.4
	ACS080	284.8	82.7	3.2	11.3	269.5	90.9	2.7	10.7	250.0	102.4	2.3	10.0	229.3	115.6	1.9	9.1	218.5	122.9	1.7	8.7
	ACS090	314.8	92.5	3.1	12.5	302.2	103.9	2.7	12.0	285.8	120	2.2	11.4	267.4	138.7	1.8	10.7	257.2	149.1	1.6	10.2
	ACS100	361.2	102.6	3.2	14.4	341.6	113.6	2.8	13.6	316.3	128.8	2.3	12.6	289.8	146.3	1.9	11.5	275.7	155.9	1.7	11.0
	ACS115	412.3	118.4	3.2	16.4	389.5	129.8	2.8	15.5	359.8	145.1	2.3	14.3	327.9	162.1	1.9	13.1	311.6	171.3	1.7	12.4
	ACS130	464.1	141.1	3.1	18.5	440.5	155.9	2.7	17.5	410.5	175.4	2.2	16.4	379.0	197	1.8	15.1	362.3	208.6	1.7	14.4
	ACS140	495.3	139.6	3.3	19.7	469.5	154.2	2.8	18.7	436.9	173.4	2.4	17.4	402.5	194.7	1.9	16.0	384.8	206.2	1.8	15.3
	ACS150	519.2	152.9	3.1	20.7	500.7	172.7	2.7	19.9	475.7	199.7	2.2	18.9	447.8	230.4	1.8	17.8	432.6	247.1	1.7	17.2
	ACS160	564.8	149.8	3.4	22.5	534.7	165.5	3.0	21.3	496.3	187.5	2.5	19.8	455.8	213	2.0	18.2	434.8	227	1.8	17.3
	ACS170	610.5	174.1	3.2	24.3	589.1	198.2	2.8	23.5	560.1	232.4	2.3	22.3	527.1	272.3	1.8	21.0	509.4	294.4	1.6	20.3
	ACS180	644.5	194.9	3.1	25.7	614.8	218.7	2.6	24.5	575.3	251.6	2.2	22.9	531.1	289.1	1.7	21.2	507.2	309.6	1.6	20.2
	ACS190	677.9	207.3	3.1	27.0	649.6	235.2	2.6	25.9	610.8	274	2.1	24.3	566.3	318.5	1.7	22.6	542.0	342.9	1.5	21.6
	ACS200	706.8	217.1	3.1	28.2	669.2	239.5	2.6	26.7	622.1	269.2	2.2	24.8	572.1	301.9	1.8	22.8	546.3	319.5	1.6	21.8
	ACS220	789.1	220.7	3.3	31.4	745.6	242.9	2.8	29.7	690.5	273.2	2.4	27.5	631.5	307.6	1.9	25.2	600.7	326.3	1.7	23.9
	ACS230	828.2	235.3	3.2	33.0	782.2	257.8	2.8	31.2	723.1	288.2	2.3	28.8	659.7	322.2	1.9	26.3	626.8	340.5	1.7	25.0
	ACS240	851.8	247.6	3.2	33.9	805.4	272	2.8	32.1	746.0	304.7	2.3	29.7	682.6	341.1	1.9	27.2	649.2	360.7	1.7	25.9
	ACS250	892.3	252	3.3	35.5	841.2	276.3	2.8	33.5	776.4	308.8	2.4	30.9	707.9	344.9	1.9	28.2	672.1	364.4	1.7	26.8
	ACS260	917.7	265	3.2	36.6	866.2	291.2	2.8	34.5	801.0	326	2.3	31.9	732.2	364.7	1.9	29.2	696.3	385.5	1.7	27.7
	ACS270	967.7	292.2	3.1	38.5	915.2	322.2	2.7	36.5	849.2	361.8	2.2	33.8	780.0	405.6	1.8	31.1	743.8	429.1	1.7	29.6
	ACS280	993.4	307.6	3.0	39.6	947.4	343.2	2.6	37.7	888.0	391	2.2	35.4	824.2	444.3	1.8	32.8	790.2	473.2	1.6	31.5
	ACS300	1060.4	299.9	3.3	42.2	1006.8	333	2.8	40.1	938.0	379.3	2.3	37.4	864.1	432.7	1.9	34.4	824.9	462	1.7	32.9
	ACS320	1134.3	330.9	3.2	45.2	1078.5	369.8	2.7	43.0	1006.8	424.1	2.3	40.1	929.3	486.7	1.8	37.0	888.0	521	1.6	35.4
	ACS330	1166.9	350.1	3.1	46.5	1116.2	395.4	2.7	44.5	1049.6	458.7	2.2	41.8	976.7	531.9	1.8	38.9	937.3	572.2	1.6	37.3
	ACS340	1199.9	367.8	3.1	47.8	1129.3	402.9	2.7	45.0	1038.7	449.8	2.2	41.4	942.0	501.8	1.8	37.5	891.2	529.8	1.6	35.5
	ACS350	1232.9	352	3.2	49.1	1163.7	385.7	2.8	46.4	1074.2	431	2.3	42.8	978.9	481.8	1.9	39.0	928.6	509.1	1.7	37.0
	ACS360	1274.2	380	3.1	50.8	1212.6	423.9	2.7	48.3	1131.1	484.2	2.2	45.1	1040.9	552.8	1.8	41.5	992.3	590.2	1.6	39.5
	ACS380	1366.2	407.1	3.1	54.4	1292.3	448.3	2.7	51.5	1198.1	502.9	2.3	47.7	1098.5	563.4	1.9	43.8	1046.7	596	1.7	41.7
	ACS400	1413.7	434.2	3.1	56.3	1339.0	479.2	2.6	53.3	1244.1	538.5	2.2	49.6	1144.1	604	1.8	45.6	1092.3	639.2	1.6	43.5
	ACS420	1494.5	462	3.1	59.5	1425.3	515.6	2.6	56.8	1336.5	587.3	2.2	53.2	1240.1	667.5	1.8	49.4	1189.4	710.9	1.6	47.4
	ACS430	1535.4	487.3	3.0	61.2	1476.7	550.3	2.6	58.8	1398.1	635.9	2.1	55.7	1310.1	732.4	1.7	52.2	1262.2	784.9	1.6	50.3

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COOLEX

PERFORMANCE DATA TABLES-METRIC SYSTEM

LEAVING CHILLED WATER TEMP. (LCWT)	UNIT SIZE	35 °C AMBIENT TEMPERATURE				40 °C AMBIENT TEMPERATURE				46 °C AMBIENT TEMPERATURE				52 °C AMBIENT TEMPERATURE				55 °C AMBIENT TEMPERATURE			
		CAP. (kW)	COMP. (kW)	COP.	WATER FLOW (L/S)	CAP. (kW)	COMP. (kW)	COP.	WATER FLOW (L/S)	CAP. (kW)	COMP. (kW)	COP.	WATER FLOW (L/S)	CAP. (kW)	COMP. (kW)	COP.	WATER FLOW (L/S)	CAP. (kW)	COMP. (kW)	COP.	WATER FLOW (L/S)
8°C	ACS045	167.4	40.9	3.6	6.7	158.0	44.6	3.2	6.3	146.4	49.7	2.7	5.8	134.1	55.7	2.2	5.3	127.9	59	2.0	5.1
	ACS050	172.5	43.5	3.6	6.9	165.9	48.5	3.1	6.6	157.2	55.8	2.6	6.3	147.5	64.3	2.1	5.9	142.0	69	1.9	5.7
	ACS055	202.2	50.4	3.6	8.1	190.6	55.5	3.1	7.6	176.4	62.7	2.6	7.0	161.2	70.9	2.1	6.4	153.3	75.5	1.9	6.1
	ACS060	222.1	59.4	3.4	8.8	209.0	64.9	3.0	8.3	192.4	72.3	2.5	7.7	174.3	80.6	2.0	6.9	165.2	85	1.8	6.6
	ACS070	249.3	72.3	3.2	9.9	235.5	79.7	2.8	9.4	218.1	89.5	2.3	8.7	200.0	100.3	1.9	8.0	190.6	106.1	1.7	7.6
	ACS080	295.3	84	3.2	11.8	279.0	92.1	2.8	11.1	258.7	103.5	2.3	10.3	236.9	116.6	1.9	9.4	225.7	123.8	1.7	9.0
	ACS090	323.5	93.4	3.2	12.9	311.2	104.9	2.8	12.4	294.5	121.1	2.3	11.7	276.1	139.9	1.9	11.0	265.9	150.2	1.7	10.6
	ACS100	371.7	103.7	3.3	14.8	351.8	114.7	2.8	14.0	326.8	130.1	2.3	13.0	300.3	147.7	1.9	12.0	286.2	157.3	1.7	11.4
	ACS115	423.2	119.6	3.3	16.9	401.1	131.2	2.8	16.0	372.1	146.7	2.4	14.8	341.3	164.1	2.0	13.6	325.3	173.5	1.8	13.0
	ACS130	472.8	142	3.1	18.8	450.3	157	2.7	17.9	421.3	176.9	2.3	16.8	390.9	199	1.9	15.6	375.0	210.9	1.7	14.9
	ACS140	510.1	141	3.3	20.3	484.4	155.7	2.9	19.3	451.8	175.2	2.4	18.0	417.4	196.9	2.0	16.6	399.6	208.6	1.8	15.9
	ACS150	532.9	154	3.2	21.2	514.1	174	2.8	20.5	489.1	201.3	2.3	19.5	460.8	232.3	1.9	18.4	445.3	249.2	1.7	17.7
	ACS160	582.2	151.4	3.5	23.2	552.1	167.2	3.0	22.0	514.1	189.4	2.5	20.5	473.5	215	2.1	18.9	452.1	229	1.9	18.0
	ACS170	626.0	175.5	3.3	24.9	604.7	199.8	2.8	24.1	576.1	234.2	2.3	22.9	543.1	274.3	1.9	21.6	525.3	296.5	1.7	20.9
	ACS180	660.1	196.6	3.1	26.3	630.8	220.6	2.7	25.1	591.6	253.8	2.2	23.6	547.4	291.7	1.8	21.8	523.5	312.4	1.6	20.9
	ACS190	697.4	209.4	3.1	27.8	668.8	237.5	2.6	26.6	628.9	276.5	2.2	25.1	583.3	321.3	1.7	23.2	557.9	345.9	1.5	22.2
	ACS200	728.6	219.4	3.1	29.0	690.5	242.1	2.7	27.5	642.3	272.1	2.2	25.6	591.3	305.3	1.8	23.6	565.2	323.2	1.7	22.5
	ACS220	811.5	223.1	3.3	32.3	769.5	245.6	2.9	30.7	715.9	276.4	2.4	28.5	658.6	311.3	2.0	26.2	628.2	330.3	1.8	25.0
	ACS230	849.9	237.6	3.3	33.9	805.4	260.5	2.9	32.1	748.1	291.5	2.4	29.8	686.5	326.1	2.0	27.3	654.3	344.8	1.8	26.1
	ACS240	872.4	249.8	3.2	34.8	827.8	274.7	2.8	33.0	770.2	307.9	2.3	30.7	697.8	345	1.9	27.8	676.4	365.1	1.8	26.9
	ACS250	921.3	255.1	3.3	36.7	870.2	279.7	2.9	34.7	805.7	312.7	2.4	32.1	736.9	349.4	2.0	29.4	701.4	369.2	1.8	27.9
	ACS260	946.7	268.1	3.3	37.7	895.2	294.7	2.8	35.7	830.4	330.1	2.4	33.1	761.5	369.4	2.0	30.3	725.3	390.6	1.8	28.9
	ACS270	996.7	295.3	3.2	39.7	944.1	325.8	2.7	37.6	878.6	366.1	2.3	35.0	809.0	410.8	1.9	32.2	773.1	434.8	1.7	30.8
	ACS280	1020.9	310.6	3.1	40.7	975.3	346.7	2.7	38.8	915.9	395.1	2.2	36.5	851.4	449.4	1.8	33.9	817.3	478.7	1.6	32.6
	ACS300	1093.4	303.4	3.4	43.6	1039.8	336.9	2.9	41.4	970.6	383.4	2.4	38.7	896.3	437	2.0	35.7	857.2	466.4	1.8	34.1
	ACS320	1167.3	334.5	3.3	46.5	1111.9	373.8	2.8	44.3	1040.1	428.5	2.3	41.4	962.3	491.4	1.9	38.3	920.9	525.9	1.7	36.7
	ACS330	1198.8	353.7	3.2	47.8	1148.5	399.4	2.7	45.7	1082.2	463.1	2.2	43.1	1008.6	536.7	1.8	40.2	969.1	577.1	1.6	38.6
	ACS340	1232.9	372	3.1	49.1	1162.6	407.6	2.7	46.3	1072.8	455.1	2.2	42.7	977.1	507.9	1.8	38.9	926.7	536.3	1.7	36.9
	ACS350	1266.6	355.6	3.3	50.5	1197.7	389.7	2.9	47.7	1109.3	435.6	2.4	44.2	1014.4	487	2.0	40.4	964.8	514.7	1.8	38.4
	ACS360	1306.4	383.4	3.2	52.0	1245.2	427.8	2.7	49.6	1164.1	488.7	2.3	46.4	1074.2	558	1.8	42.8	1026.0	595.8	1.6	40.9
	ACS380	1408.6	411.6	3.2	56.1	1333.2	453.2	2.8	53.1	1237.6	508.4	2.3	49.3	1136.2	569.7	1.9	45.3	1083.6	602.6	1.7	43.2
	ACS400	1456.8	439	3.1	58.0	1380.7	484.4	2.7	55.0	1284.3	544.4	2.2	51.2	1182.5	610.8	1.9	47.1	1130.0	646.6	1.7	45.0
	ACS420	1535.4	466.5	3.1	61.2	1468.0	520.9	2.7	58.5	1381.1	594	2.2	55.0	1286.1	675.9	1.8	51.2	1235.4	720.3	1.7	49.2
	ACS430	1574.2	491.3	3.0	62.7	1516.6	555.3	2.6	60.4	1439.0	642.1	2.1	57.3	1351.7	740.2	1.8	53.8	1303.5	793.6	1.6	51.9

NOTES:-

1- The ACS chillers are rated with ARI - 550/590-98 standard.
2- Capacity ratings (CAP.) are based on(6°C) water range, (0.000018 m².°C/W) fouling factor in evaporator and zero altitude.
3- Direct interpolation is permissible between (35°C) to (55°C) ambient temperatures only. Do not extrapolate.
4- Leaving chilled water temperature. (LCWT)
5- Power input (KW) is for compressor only.
6- Coefficient of perforamnce (COP) is for the overall unit,refer to electrical data for fan power input
7- Water flow rate in liters Per second (L/s)

COOLEX

PERFORMANCE DATA TABLES-METRIC SYSTEM

LEAVING CHILLED WATER TEMP. (LCWT)	UNIT SIZE	35 °C AMBIENT TEMPERATURE				40 °C AMBIENT TEMPERATURE				46 °C AMBIENT TEMPERATURE				52 °C AMBIENT TEMPERATURE				55 °C AMBIENT TEMPERATURE			
		CAP. (kW)	COMP. (kW)	COP.	WATER FLOW (L/S)	CAP. (kW)	COMP. (kW)	COP.	WATER FLOW (L/S)	CAP. (kW)	COMP. (kW)	COP.	WATER FLOW (L/S)	CAP. (kW)	COMP. (kW)	COP.	WATER FLOW (L/S)	CAP. (kW)	COMP. (kW)	COP.	WATER FLOW (L/S)
10°C	ACS045	176.8	41.8	3.8	7.0	167.0	45.5	3.3	6.7	155.1	50.6	2.8	6.2	142.0	56.6	2.3	5.7	135.5	59.8	2.1	5.4
	ACS050	181.1	44.3	3.7	7.2	174.3	49.3	3.2	6.9	165.2	56.5	2.7	6.6	155.1	65	2.2	6.2	149.6	69.7	2.0	6.0
	ACS055	213.8	51.4	3.8	8.5	201.8	56.6	3.3	8.0	186.9	63.8	2.7	7.4	171.0	72.1	2.2	6.8	163.0	76.6	2.0	6.5
	ACS060	234.8	60.7	3.6	9.4	221.0	66.2	3.1	8.8	203.6	73.7	2.6	8.1	185.1	82.1	2.1	7.4	175.7	86.6	1.9	7.0
	ACS070	262.7	73.7	3.3	10.5	248.5	81.2	2.9	9.9	230.4	91.2	2.4	9.2	211.6	102.2	2.0	8.4	202.2	108.1	1.8	8.1
	ACS080	311.6	85.9	3.3	12.4	294.5	94.1	2.9	11.7	273.2	105.5	2.4	10.9	250.7	118.4	2.0	10.0	238.8	125.4	1.8	9.5
	ACS090	343.8	95.7	3.3	13.7	330.8	107.2	2.9	13.2	313.0	123.4	2.4	12.5	293.5	142.1	2.0	11.7	282.6	152.3	1.8	11.3
	ACS100	397.4	106.5	3.4	15.8	376.8	117.6	3.0	15.0	350.7	133.1	2.5	14.0	322.4	150.7	2.0	12.8	307.9	160.4	1.8	12.3
	ACS115	453.2	123	3.4	18.1	430.0	134.8	3.0	17.1	400.7	150.6	2.5	16.0	368.8	168.3	2.1	14.7	352.1	177.9	1.9	14.0
	ACS130	505.0	145.3	3.3	20.1	481.5	160.7	2.8	19.2	451.8	181.1	2.4	18.0	420.3	203.9	2.0	16.7	404.0	216.2	1.8	16.1
	ACS140	543.1	144	3.5	21.6	516.3	159	3.0	20.6	482.9	179.1	2.5	19.2	447.4	201.3	2.1	17.8	429.0	213.4	1.9	17.1
	ACS150	564.1	156.6	3.3	22.5	544.9	177	2.9	21.7	518.4	204.7	2.4	20.7	488.4	236.2	2.0	19.5	472.1	253.4	1.8	18.8
	ACS160	622.8	155.2	3.7	24.8	591.6	171.3	3.2	23.6	551.8	193.6	2.6	22.0	509.0	219.3	2.2	20.3	486.9	233.4	2.0	19.4
	ACS170	665.9	179.1	3.4	26.5	643.8	203.8	2.9	25.6	613.4	238.5	2.4	24.4	578.9	278.8	2.0	23.1	559.7	301	1.8	22.3
	ACS180	702.5	201	3.3	28.0	671.7	225.5	2.8	26.8	630.4	259.1	2.3	25.1	584.0	297.5	1.9	23.3	559.0	318.5	1.7	22.3
	ACS190	735.5	213.3	3.2	29.3	705.0	541.8	1.3	28.1	663.7	281.3	2.2	26.4	616.3	326.7	1.8	24.5	590.2	351.5	1.6	23.5
	ACS200	769.5	224	3.2	30.7	730.4	247.1	2.8	29.1	681.1	277.9	2.3	27.1	628.9	312	1.9	25.1	601.8	330.4	1.7	24.0
	ACS220	870.6	229.4	3.5	34.7	826.8	252.3	3.0	32.9	771.3	283.6	2.5	30.7	711.5	318.9	2.1	28.3	680.4	338.1	1.9	27.1
	ACS230	910.4	244.1	3.4	36.3	864.4	267.5	3.0	34.4	805.4	299	2.5	32.1	742.0	334.3	2.1	29.6	708.6	353.3	1.9	28.2
	ACS240	934.0	256.5	3.4	37.2	887.6	281.8	2.9	35.4	828.2	315.7	2.5	33.0	764.8	353.7	2.1	30.5	731.5	374.2	1.9	29.1
	ACS250	982.5	261.7	3.5	39.1	930.0	286.9	3.0	37.1	863.0	320.5	2.5	34.4	792.3	358	2.1	31.6	755.0	378.2	1.9	30.1
	ACS260	1009.0	274.9	3.4	40.2	955.7	302	3.0	38.1	888.3	338.2	2.5	35.4	817.3	378.5	2.1	32.6	780.0	400.2	1.9	31.1
	ACS270	1060.4	302.5	3.3	42.2	1006.1	333.7	2.8	40.1	938.3	375.1	2.4	37.4	866.2	421.1	2.0	34.5	828.9	445.8	1.8	33.0
	ACS280	1083.6	317.4	3.2	43.2	1035.8	354.3	2.8	41.3	973.8	403.9	2.3	38.8	906.5	459.4	1.9	36.1	870.2	489.3	1.7	34.7
	ACS300	1166.9	311.5	3.5	46.5	1110.8	345.3	3.0	44.2	1038.3	392.2	2.5	41.4	960.4	445.8	2.1	38.3	919.1	475	1.8	36.6
	ACS320	1245.6	343.2	3.4	49.6	1187.2	383.1	2.9	47.3	1111.9	438.3	2.4	44.3	1030.4	501.4	2.0	41.0	986.9	535.9	1.8	39.3
	ACS330	1276.7	362.5	3.3	50.9	1223.8	408.9	2.8	48.7	1153.9	473.2	2.3	46.0	1076.4	547.1	1.9	42.9	1034.7	587.5	1.7	41.2
	ACS340	1315.1	382.6	3.2	52.4	1241.9	418.7	2.8	49.5	1148.8	467	2.3	45.8	1049.6	520.7	1.9	41.8	997.8	549.6	1.7	39.7
	ACS350	1352.4	364.8	3.4	53.9	1280.3	399.5	3.0	51.0	1188.7	446	2.5	47.3	1090.9	498.2	2.1	43.5	1039.4	526.4	1.9	41.4
	ACS360	1391.2	392.4	3.3	55.4	1327.1	437.4	2.9	52.9	1241.9	499.2	2.4	49.5	1148.1	569.5	1.9	45.7	1098.1	607.8	1.7	43.7
	ACS380	1489.4	420.5	3.3	59.3	1411.9	462.8	2.9	56.2	1313.7	519.2	2.4	52.3	1209.7	582	2.0	48.2	1155.7	615.8	1.8	46.0
	ACS400	1538.7	448.1	3.2	61.3	1460.4	494.4	2.8	58.2	1361.9	555.9	2.3	54.2	1257.5	624.2	1.9	50.1	1203.2	661	1.7	47.9
	ACS420	1641.6	478.1	3.2	65.4	1571.6	533.9	2.8	62.6	1480.3	609	2.3	59.0	1380.3	693.1	1.9	55.0	1326.7	738.5	1.7	52.8
	ACS430	1678.1	502.4	3.2	66.8	1617.6	567.9	2.7	64.4	1535.4	656.7	2.2	61.2	1441.2	756.6	1.8	57.4	1389.0	810.7	1.7	55.3

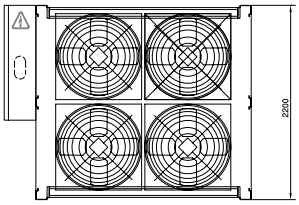
NOTES:-

1- The ACS chillers are rated with ARI - 550/590-98 standard.
2- Capacity ratings (CAP.) are based on(6°C) water range, (0.000018 m².°C/W) fouling factor in evaporator and zero altitude.
3- Direct interpolation is permissible between (35°C) to (55°C) ambient temperatures only. Do not extrapolate.
4- Leaving chilled water temperature. (LCWT)
5- Power input (KW) is for compressor only.
6- Coefficient of perforamnce (COP) is for the overall unit,refer to electrical data for fan power input
7- Water flow rate in liters Per second (L/s)

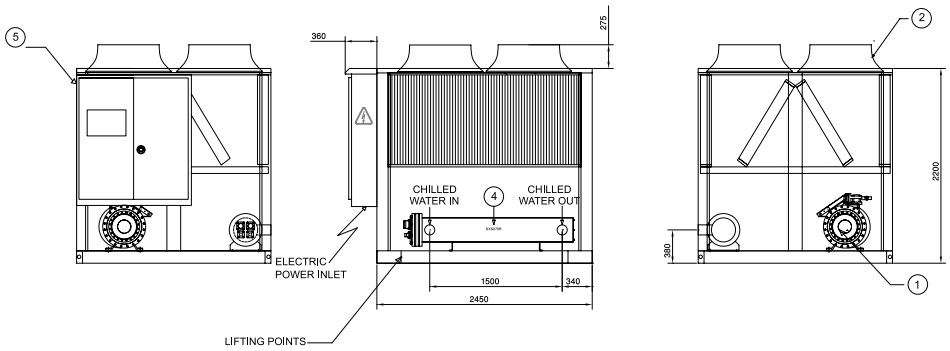
UNIT DIMENSIONS

1. COMPRESSOR
2. CONDENSER FAN
3. CONDENSER COIL
4. COOLER
5. CONTROL PANEL

MODELS ACS 045,050,055,060,070



TOP VIEW

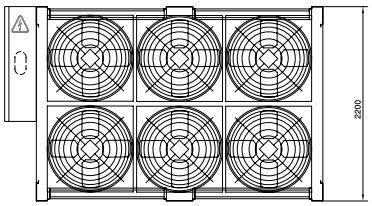


END VIEW FRONT VIEW END VIEW

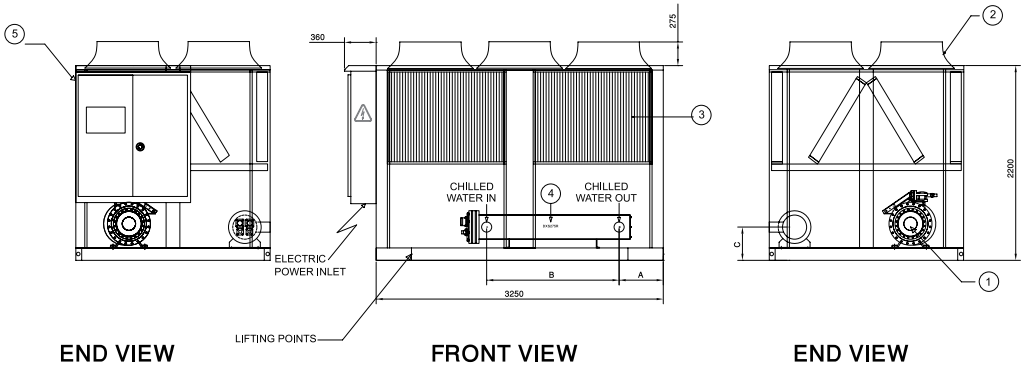
1. COMPRESSOR
2. CONDENSER FAN
3. CONDENSER COIL
4. COOLER
5. CONTROL PANEL

MODELS ACS 080,090

Model	A	B	C
ACS080	500	1500	380
ACS090	350	1730	400



TOP VIEW



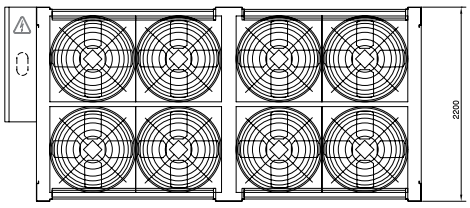
END VIEW FRONT VIEW END VIEW

Note: All Dimensions are in Millimeters

UNIT DIMENSIONS

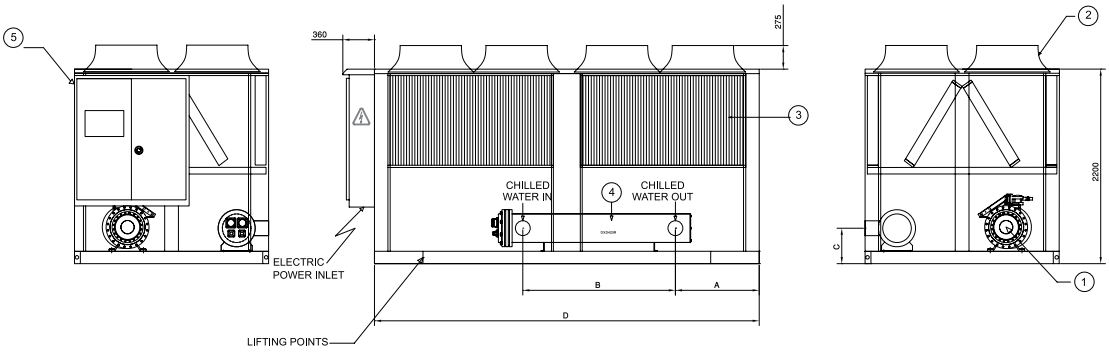
1. COMPRESSOR
2. CONDENSER FAN
3. CONDENSER COIL
4. COOLER
5. CONTROL PANEL

MODELS ACS 100,115,130



TOP VIEW

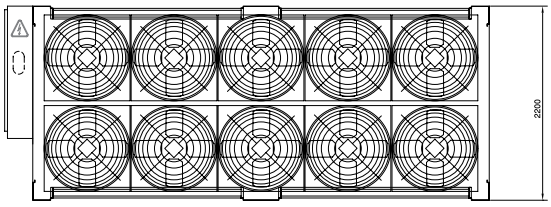
Model	A	B	C	D
ACS100	950	1730	400	4370
ACS115	400	2250	400	4370
ACS130	700	2250	400	4980



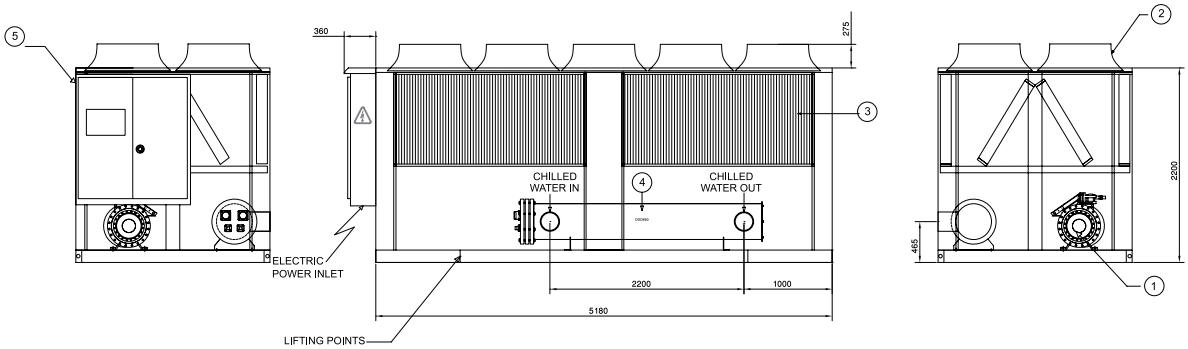
END VIEW FRONT VIEW END VIEW

1. COMPRESSOR
2. CONDENSER FAN
3. CONDENSER COIL
4. COOLER
5. CONTROL PANEL

MODELS ACS 140,150



TOP VIEW



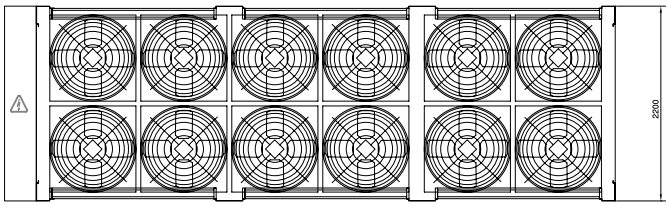
END VIEW FRONT VIEW END VIEW

Note: All Dimensions are in Millimeters

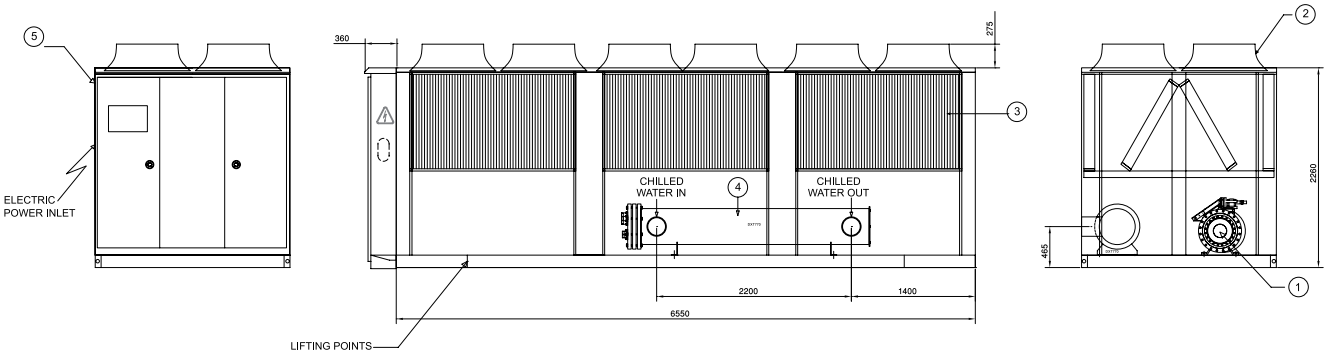
UNIT DIMENSIONS

1. COMPRESSOR
2. CONDENSER FAN
3. CONDENSER COIL
4. COOLER
5. CONTROL PANEL

MODELS ACS 160,170,180,190,200



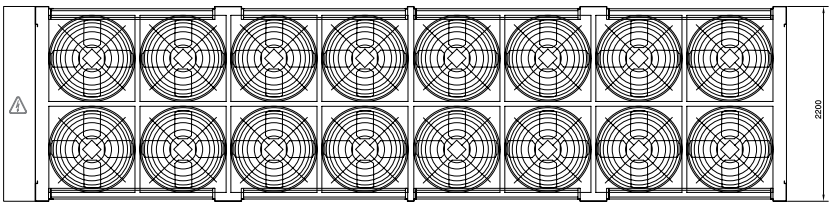
TOP VIEW



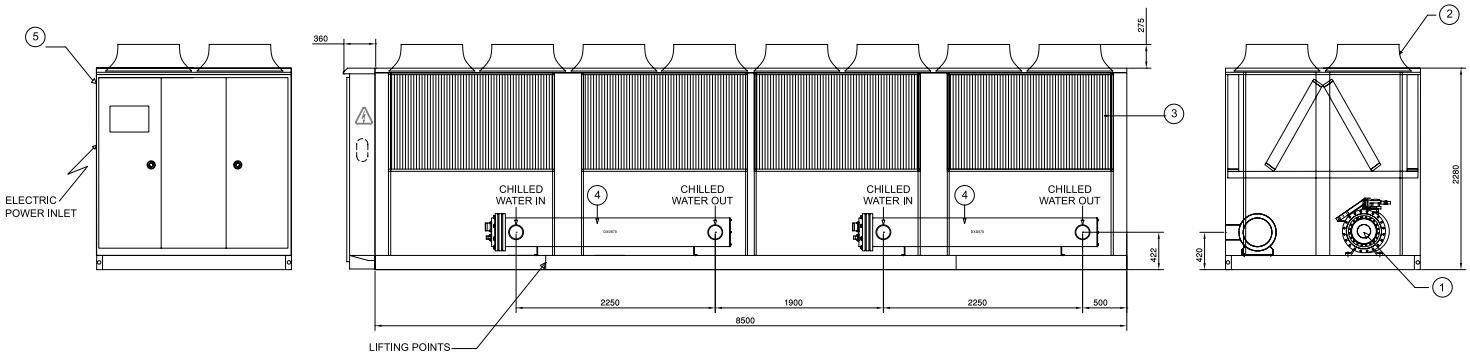
END VIEW FRONT VIEW END VIEW

1. COMPRESSOR
2. CONDENSER FAN
3. CONDENSER COIL
4. COOLER
5. CONTROL PANEL

MODELS ACS 220,230,240



TOP VIEW



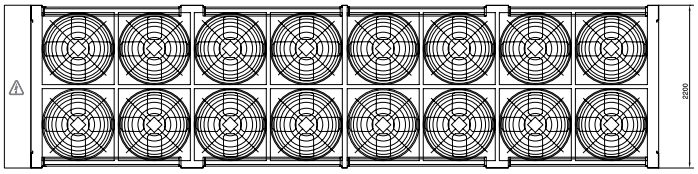
END VIEW FRONT VIEW END VIEW

Note: All Dimensions are in Millimeters

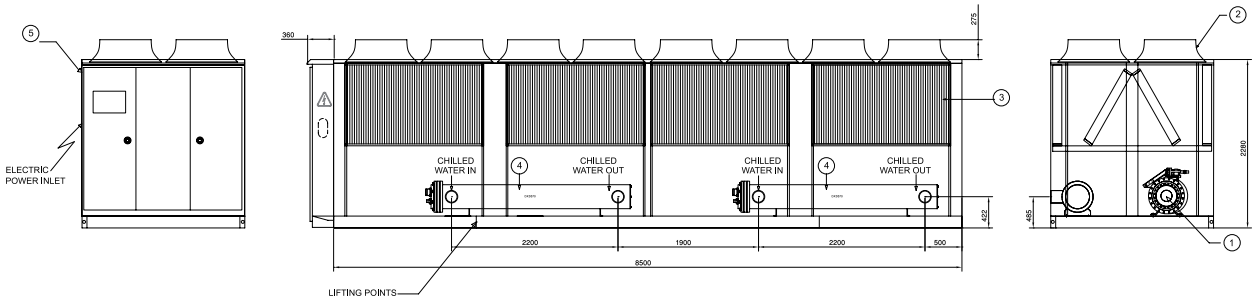
UNIT DIMENSIONS

1. COMPRESSOR
2. CONDENSER FAN
3. CONDENSER COIL
4. COOLER
5. CONTROL PANEL

MODELS ACS 250,260,270,280



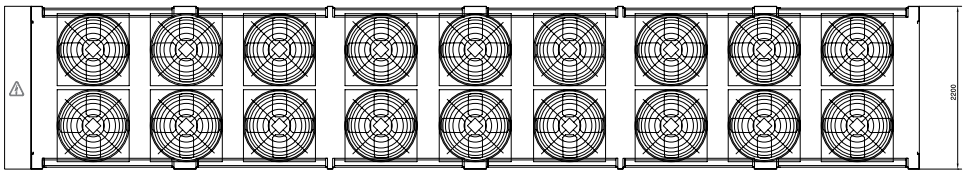
TOP VIEW



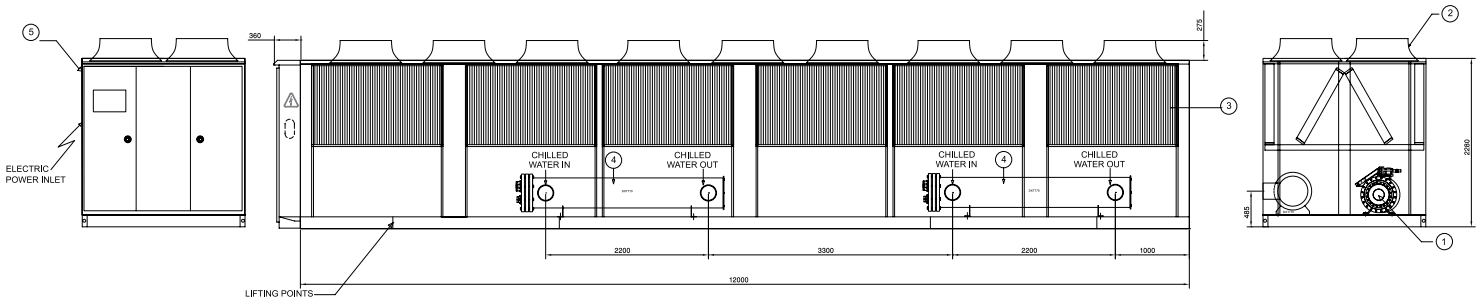
END VIEW FRONT VIEW END VIEW

1. COMPRESSOR
2. CONDENSER FAN
3. CONDENSER COIL
4. COOLER
5. CONTROL PANEL

MODELS ACS 300,320,330,340



TOP VIEW



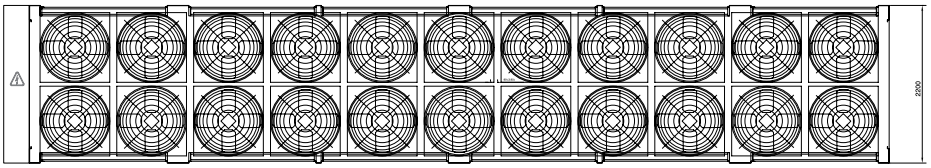
END VIEW FRONT VIEW END VIEW

Note: All Dimensions are in Millimeters

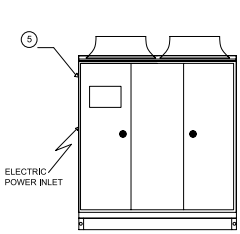
UNIT DIMENSIONS

1. COMPRESSOR
2. CONDENSER FAN
3. CONDENSER COIL
4. COOLER
5. CONTROL PANEL

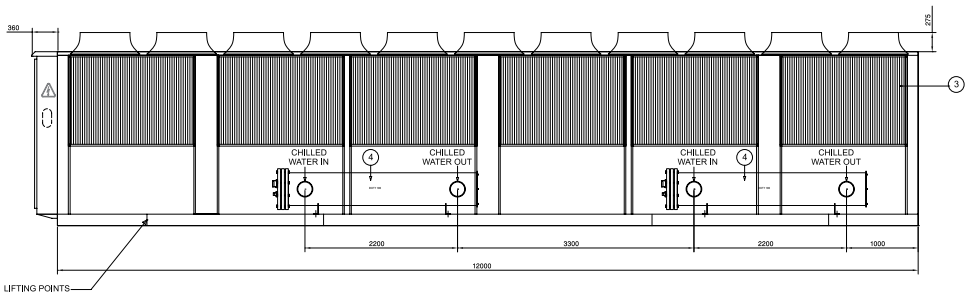
MODELS ACS 350,360,380,400,



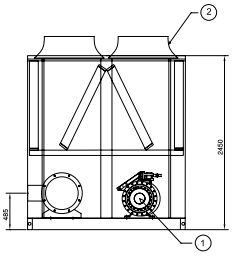
TOP VIEW



END VIEW



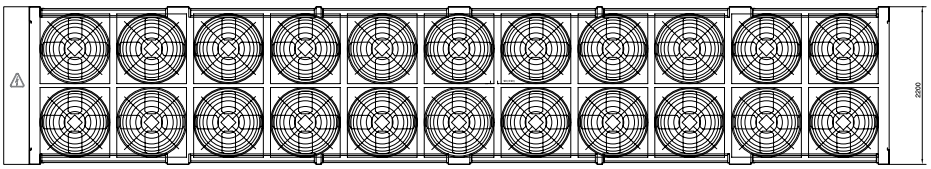
FRONT VIEW



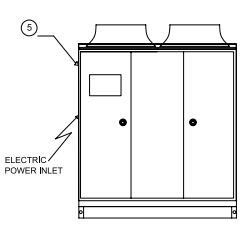
END VIEW

1. COMPRESSOR
2. CONDENSER FAN
3. CONDENSER COIL
4. COOLER
5. CONTROL PANEL

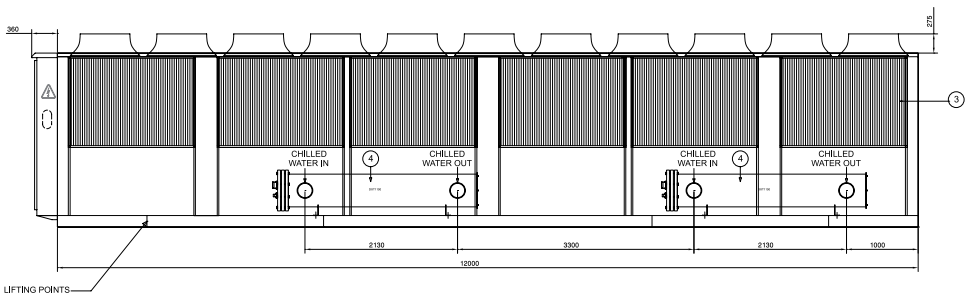
MODELS ACS 420,430



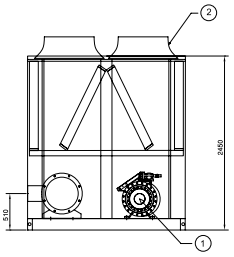
TOP VIEW



END VIEW



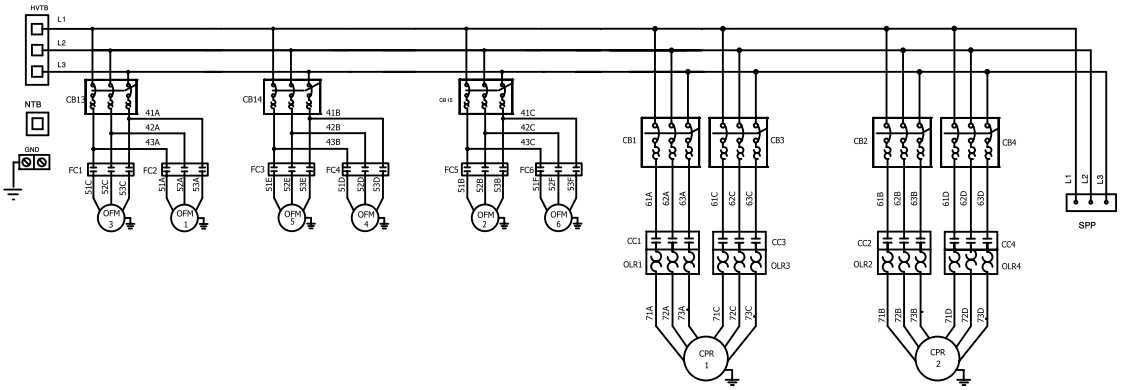
FRONT VIEW



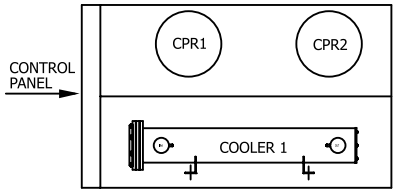
END VIEW

Note: All Dimensions are in Millimeters

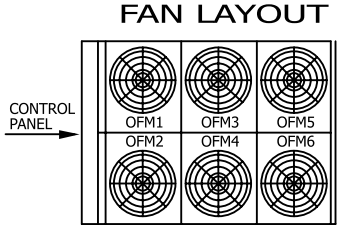
TYPICAL WIRING DIAGRAM



COMPRESSOR LAYOUT



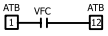
FAN LAYOUT



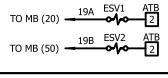
SET POINTS

NAME	OPEN	CLOSE
1. LOW PRESSURE(ISP)	16 PSI	--
2. HIGH PRESSURE(DP)	295 PSI	--
3. HIGH PRESSURE (HPS)	345	295
4. FREEZE	40 F	---
5. SET LWT 44 F @		

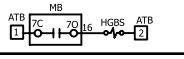
UNIT EXTERNAL ENABLE/DISABLE (OPTION)



ECONOMIZER CONNECTION (OPTION)

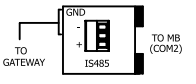


HOT GAS BYPASS OPTION

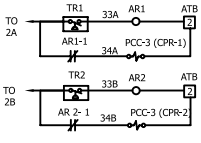


UNIT EMERGENCY OPTION

REMOTE MONITORING CONNECTION(OPTION)

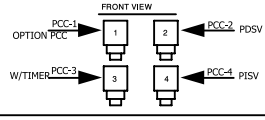


** UNLOADER WITH TIMER CONNECTION



SET TIMER @ 180 SEC

COMPRESSOR POWER CAPACITY CONTROL PHYSICAL DETAILS



LEGEND

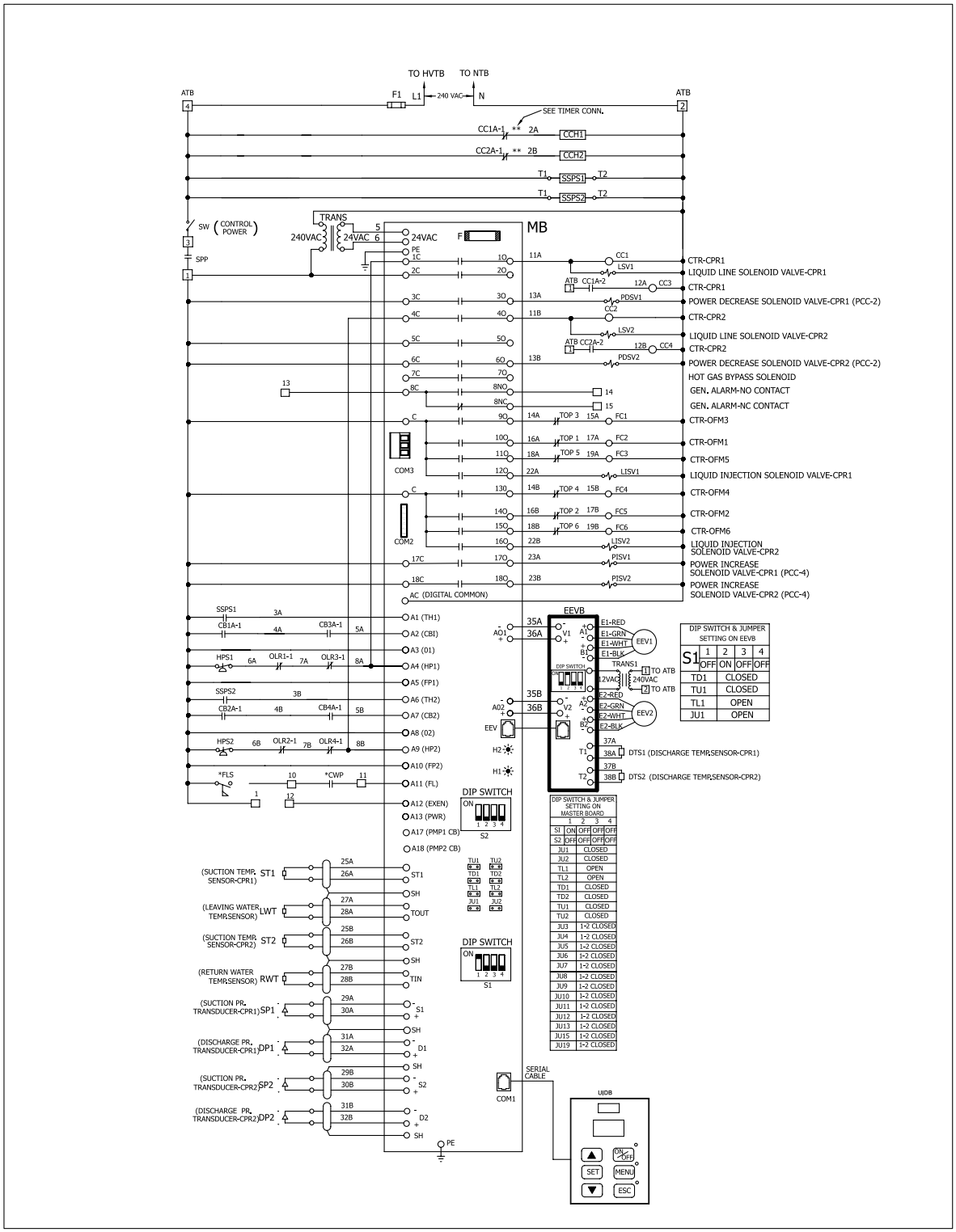
ATB	AUXILARY TERMINAL BLOCK
AR	AUXILARY RELAY
CB	CIRCUIT BREAKER
CBA	CIRCUIT BREAKER AUXILIARY
CC	COMPRESSOR CONTACTOR
CCA	COMP. CONTACTOR AUXILIARY
CPR	COMPRESSOR
CCH	CRANK CASE HEATER
CTR	CONTACTOR
CWP	CHILLED WATER PUMP
DP	DISCHARGE PRESSURE TRANSDUCER
DTS	DISCHARGE TEMPERATURE SENSOR
ESV	ECONOMIZER SOLENOID VALVE
EEV	ELECTRONIC EXPANSION VALVE
EEVB	ELECTRONIC EXP.VALVE BOARD
F	FUSE
FC	FAN MOTOR CONTACTOR
FLS	FLOW SWITCH
HGBS	HOT GAS BY PASS SOLENOID
HPS	HIGH PRESSURE SWITCH
HVTB	HIGH VOLTAGE TERMINAL BLOCK
LI SV	LIQUID INJECTION SOLENOID VALVE
LWT	LEAVING WATER TEMP.SENSOR
MB	MASTER BOARD
NTB	NEUTRAL TERMINAL BLOCK
OLR	OVERLOAD RELAY
OFM	OUTDOOR FAN MOTOR
PDSV	POWER DECREASE SOLENOID VALVE
PE	POTENTIAL EARTH
PISV	POWER INCREASE SOLENOID VALVE
RWT	RETURN WATER TEMP,SENSOR
SH	SHIELD
SPP	SINGLE PHASE PREVENTOR
SP	SUCTION PRESSURE TRANSDUCER
SSPS	SOLID STATE PROTECTIVE SYSTEM
ST	SUCTION TEMP. SENSOR
SW	SWITCH
TOP	THERMAL OVER LOAD PROTECTOR
TR	TIMER
TRANS	TRANSFORMER
UIDB	USER INTERFACE DISPLAY BOARD
UL	UNLOADER SOLENOID

— FIELD WIRING / FIELD INSTALLATION
□ TERMINAL BLOCK OR TERMINATION POINT
* FIELD SUPPLY

NOTES

1. USE COPPER CONDUCTORS ONLY.
2. ALL FIELD WIRING TO COMPLY WITH LOCAL CODES
3. USE COPPER CONDUCTORS ONLY
4. POWER MUST BE SUPPLIED TO CRANKCASE HEATER FOR A MINIMUM OF 12 HOURS PRIOR TO SYSTEM STARTUP IF POWER SUPPLY HAS BEEN INTERUPTED FOR A PROLONGED PERIOD,CRANK CASE HEATER MUST BE ENERGIZED FOR 12 HRS MINIMUM BEFORE STARTING COMPESSOR.
5. FOR HPS FAULT PLEASE ALSO CONSIDER OLR FAULT

TYPICAL WIRING DIAGRAM



MICROPROCESSOR OPERATION SEQUENCE

1. Configuration

The master board can control up to two compressors. More compressors may be controlled through auxilliay boards. All the interactions with the machine are made through the user interface connected to master board. The two water temperature sensors (RWT and LWT) are connected to the Master Board.

2. Machine starting

For initial start up, the following conditions must be met:

- All power supplied to the unit shall be energized for 12 hours.
- Control power switch shall be on for at least 5 minutes.
- All safety conditions must be satisfied *Press ON/OFF key on the key pad.
- The "ON" LED is lit.
- Chilled water pump running and water flow switch contact is closed.
- Customer interlock contact is closed, if any.
- On the main screen is showed the status "STARTING"
- After 60 seconds of delay the system will be running (i.e. compressors/circuits control is activated).

3. Machine shut down

- The machine is halted pushing again the ON/OFF key; the "ON" LED is switched off; on the main screen Is showed the status "STOPPING".
- All the compressors are halted and pumps if used.
- On the main screen is showed the status "SYSTEM OFF".

4. External Enable Unit

can be switched on and off also from digital input or serial line.

5. Lock compressor by digital input / setup parameter/ dip switch

Each compressor may be locked for service or other reason through setup parameter / digital input / dip switch.

6. Operation time logging

The operation times of the compressors are individually recorded by the systems which try to equalize the use of these devices by means of a "smart" use of the unloading steps.

7. System Setup

To enter into setup menu the MENU key has to be pressed from any screen.

To enter into every single setup menu to change some parameters, you have to press the SET key.

To store a modified parameter, you have to press the SET key, but if you press the ESC key, you'll come back to the previous menu with no storing.

MICROPROCESSOR TROUBLESHOOTING

1-No RUNNING LED blinking on master board

a-Check power supply cable connection.

b-Check if the power supply voltage is into the specified limits.

c-Check the fuse, replace with same type if blown.

2-No LCD backlight on the display panel

a-Check the supply voltage (24VAC) to the master board.

b- Check the fuse on the master board.

MICROPROCESSOR TROUBLESHOOTING

3-No LCD/LED display

a- Check serial cable connections on both sides of the user interface board and the master board.

b- Check the positions of jumpers on master board and user interface board.

(Refer the wiring diagram for the jumper positions.)

4-Controller does not respond to key board

a-Check serial connections on both sides of the user interface board and the master board.

b-Check the positions of jumpers on master board and the user interface board.

5-Analog values reading incorrectly

a-Check and tight connections of the probes to the board.

b-Check the probe cable, test for short circuit.

c-Check the polarity of the pressure transducer on the board.

6-Digital input reading incorrectly

a- Check the auxiliary voltage of 24VAC is available between the terminal block.

b- Check the connections of the master board.

7-Digital outputs not responding

a- Check the digital output cabling and connections.

b- Check the fuse on the master and auxiliary board.

8-Analog outputs not responding

a- Check analog output cabling and connections.

b- Check the fuse on the master board.

9-Auxiliary board not responding to commands

a- Check the serial cable connection on the main and auxiliary board.

b- Check the jumper setting of master board and auxiliary board.

10-No RUNNING LED blinking light on EEV Board

a-Check power supply cable connection.

b-Check if the power supply voltage is into the specified limits.
c- Check the fuse F1, replace with 4AT/250V if blown.

11-One electronic expansion valve is not opening

a- Check if one alarm is in progress.

b- Check valve connection.

c- Disconnect valve and check the internal resistance of motor winding per each phase (A+ and A ; B+ and B ; 75 Ohm±10%)

d-If both valves are not opening and serial communication mode is selected check thatcommunication is running (running led should flash with 0.3 sec pause, if flashing with 1 second pause then communication is lost).

.

INSTALLATION CLEARANCE

FIGURE 1
CORNER WALL

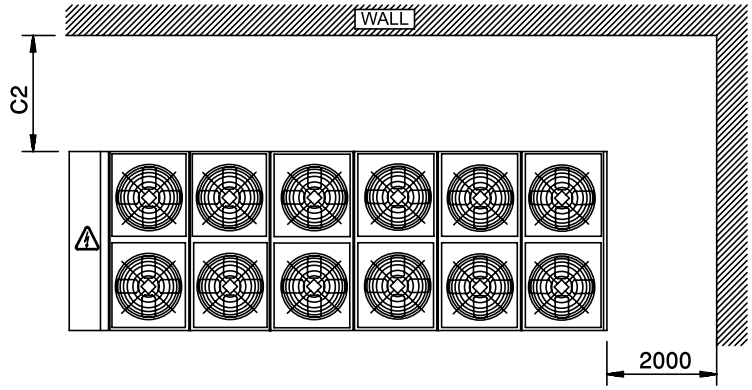
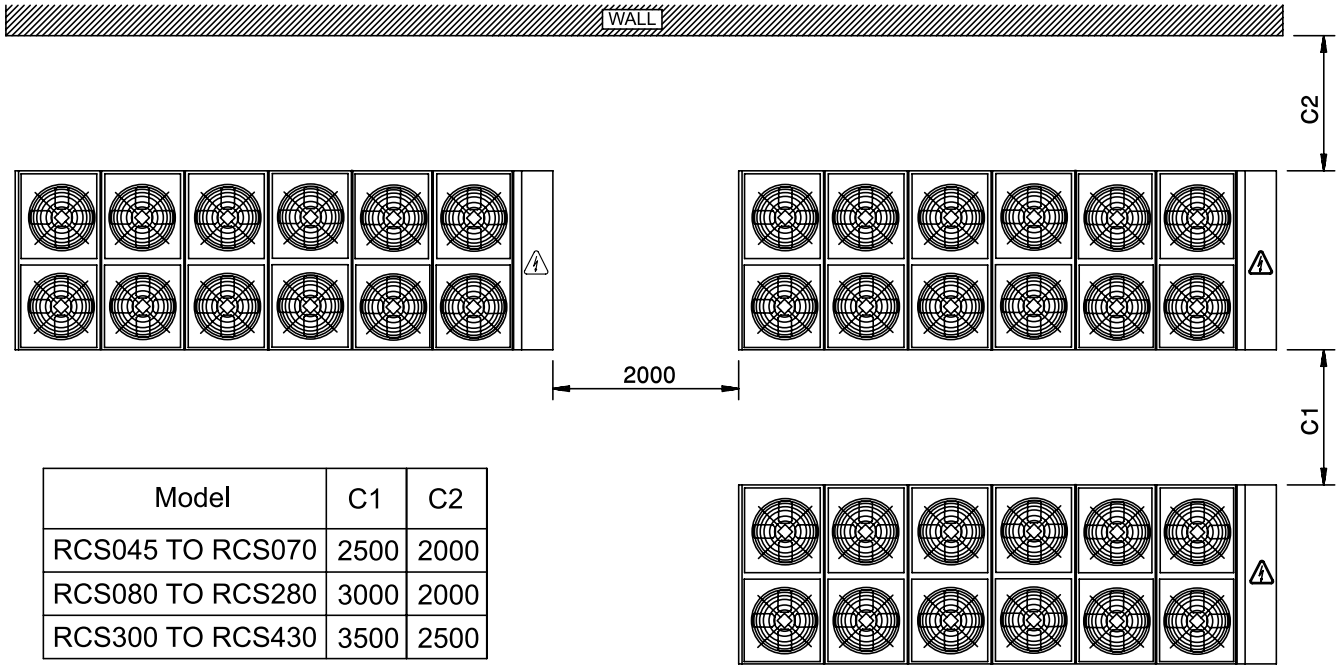


FIGURE 2
STRAIGHT WALL



Model	C1	C2
RCS045 TO RCS070	2500	2000
RCS080 TO RCS280	3000	2000
RCS300 TO RCS430	3500	2500

- Pit installations are not recommended where circulation of hot condenser air can take place and it will severely affect unit efficiency (EER) causing high pressure or fan motor temperature trips.

NOTE: ALL DIMENSIONS ARE IN MILLIMETERS (mm)

RIGGING INSTRUCTIONS

COOLEX chillers are designed for overhead rigging only,for this purpose the base channel has been extended beyond the sides of the unit with rigging holes. Use a spreader frame above the unit to keep the cables vertical and away from the sides.

Run the cables to a central suspension point so that the angle from the horizontal is not less than 45°. As an added protection, put plywood sheets on the sides of the unit behind cables while rigging. Raise and set the unit carefully.

ATTENTION TO RIGGERS

The positions of the rigging slings should be as per the below given drawings.

Lifting points are so provided in the unit as to evenly distribute the units load..

Center of gravity of the unit is not necessarily its center line.

Ensure that the center of gravity aligns with the main lifting pole before lifting the unit.

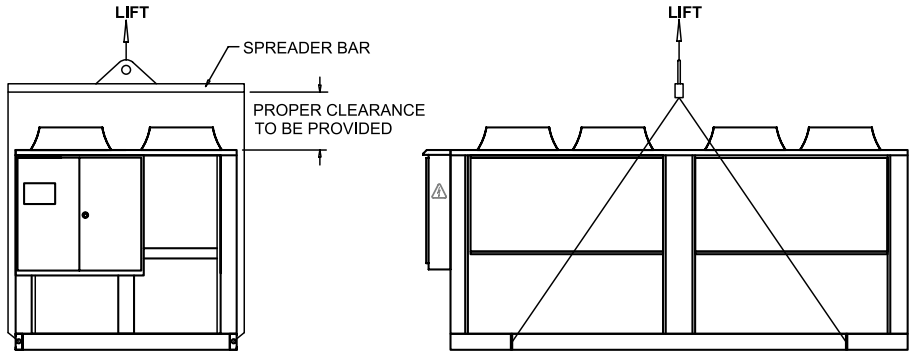
To avoid damage to the unit by the rigging slings, use spreader bars as shown below.

CAUTION

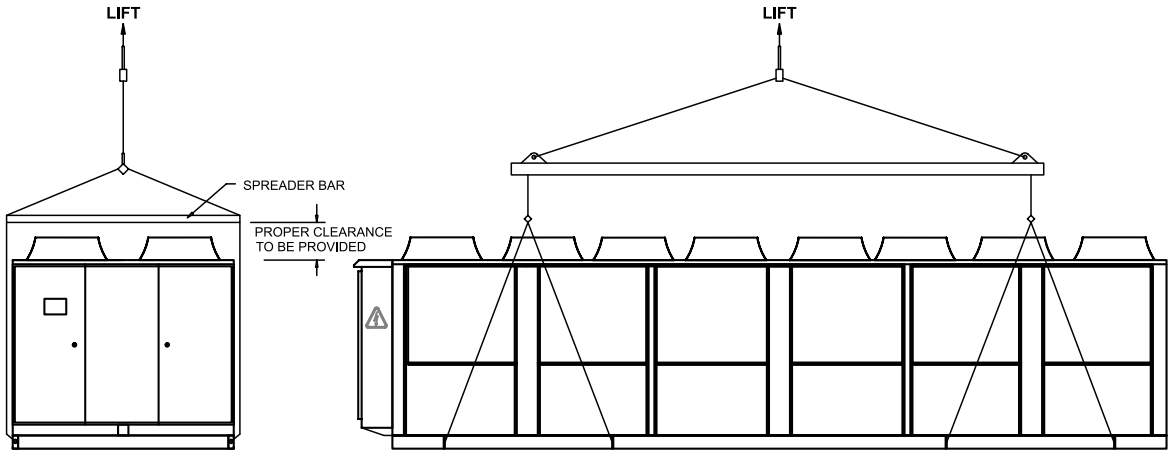
All panels should be in place when rigging.

Care must be taken to avoid damage to the coils during handling.

Insert packing material between coils & slings as necessary.

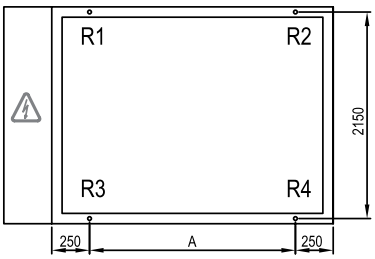


MODELS:ACS045 TO ACS280

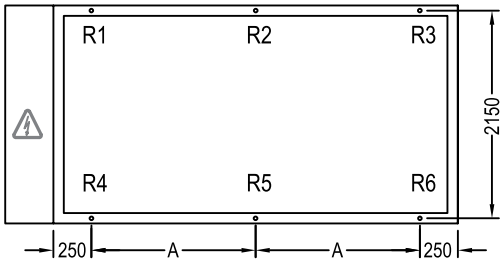


MODELS:ACS300 TO ACS430

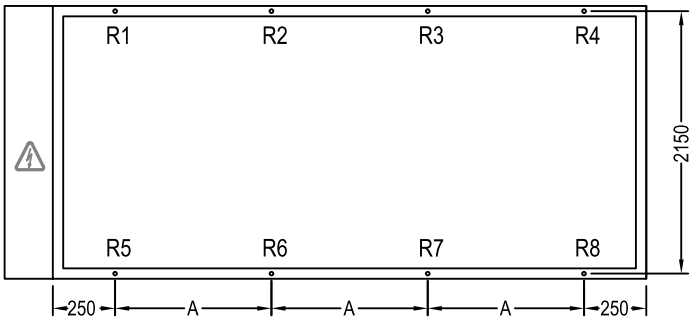
MOUNTING LOCATION AND DISTRIBUTION LOAD – ALUMINUM COIL



Model	A	R1	R2	R3	R4
ACS045	2000	576	560	553	508
ACS050	2000	589	573	565	514
ACS055	2000	710	694	686	583
ACS060	2000	722	706	698	588
ACS070	2000	733	717	709	594



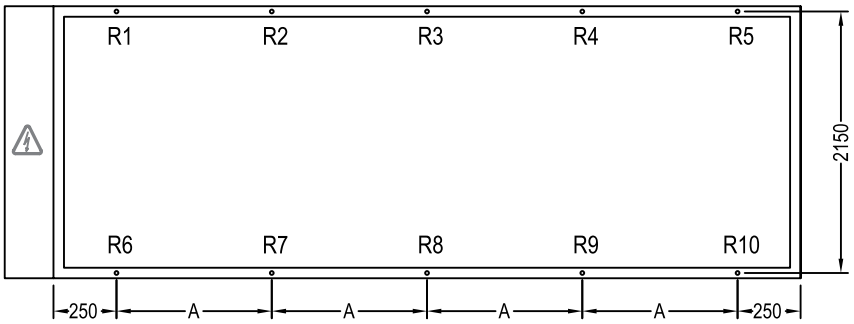
Model	A	R1	R2	R3	R4	R5	R6
ACS080	1375	640	609	593	537	506	490
ACS090	1375	658	627	611	570	539	523
ACS100	1935	888	857	841	722	691	675
ACS115	1935	924	893	877	767	736	720



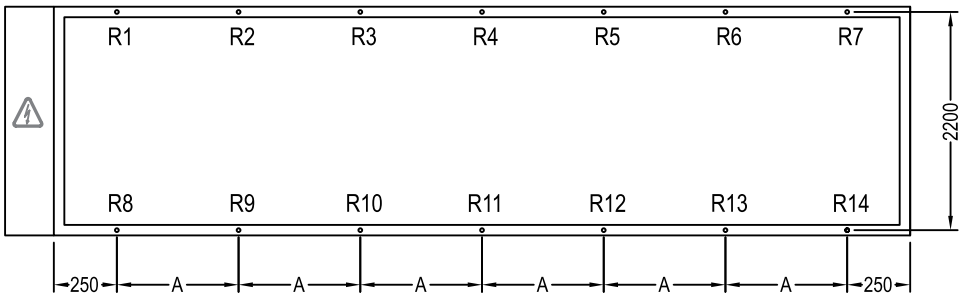
Model	A	R1	R2	R3	R4	R5	R6	R7	R8
ACS130	1494	773	746	737	727	677	649	640	631
ACS140	1560	787	759	750	741	691	663	654	645
ACS150	1560	799	772	763	754	697	669	660	651
ACS160	2017	1047	1012	1001	989	875	841	829	818
ACS170	2017	1055	1021	1010	998	879	845	834	822
ACS180	2017	1063	1028	1017	1005	883	849	837	826
ACS190	2017	1075	1040	1029	1017	892	857	846	834
ACS200	2017	1082	1048	1037	1025	896	861	850	838

NOTE: 1-ALL DIMENSIONS ARE IN MILLIMETERS (mm)

MOUNTING LOCATION AND DISTRIBUTION LOAD – ALUMINUM COIL



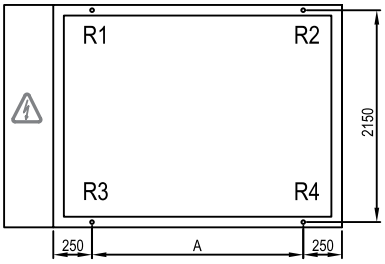
Model	A	R1	R2	R3	R4	R5	R6	R7	R8	R9	R10
ACS220	2000	1090	1056	1039	1033	1027	904	870	853	847	841
ACS230	2000	1105	1071	1053	1048	1042	917	883	865	860	854
ACS240	2000	1111	1076	1059	1053	1048	920	885	868	863	857
ACS250	2000	1149	1114	1097	1091	1086	998	964	946	941	935
ACS260	2000	1152	1118	1101	1095	1089	1000	965	948	943	937
ACS270	2000	1156	1122	1105	1099	1093	1002	967	950	945	939
ACS280	2000	1167	1133	1115	1110	1104	1004	969	952	947	941



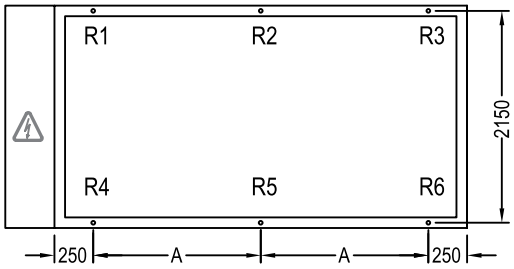
Model	A	R1	R2	R3	R4	R5	R6	R7	R8	R9	R10	R11	R12	R13	R14
ACS300	1917	1032	1014	1004	995	986	982	977	869	851	842	833	823	819	814
ACS320	1917	1101	1083	1074	1065	1055	1051	1046	908	889	880	871	962	857	853
ACS330	1917	1109	1090	1081	1072	1063	1058	1054	911	893	884	875	866	861	856
ACS340	1917	1126	1108	1099	1090	1081	1076	1071	920	902	893	884	874	870	865
ACS350	1917	1154	1134	1124	1114	1104	1099	1094	954	934	924	914	904	899	894
ACS360	1917	1159	1139	1129	1119	1109	1104	1099	956	936	926	916	906	901	896
ACS380	1917	1165	1145	1135	1125	1115	1110	1105	963	943	933	923	913	908	903
ACS400	1917	1187	1167	1157	1147	1137	1132	1127	974	954	944	934	924	919	914
ACS420	1917	1201	1181	1171	1161	1151	1146	1141	1009	989	979	969	959	954	949
ACS430	1917	1221	1201	1191	1181	1171	1166	1161	1019	999	989	979	969	964	959

NOTE: 1-ALL DIMENSIONS ARE IN MILLIMETERS (mm)

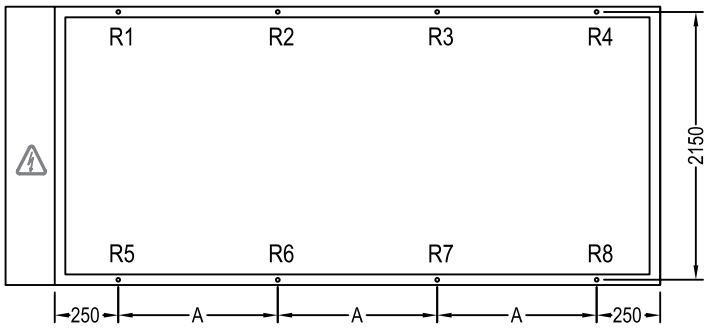
MOUNTING LOCATION AND DISTRIBUTION LOAD – COPPER COIL



Model	A	R1	R2	R3	R4
ACS045	2000	628	612	604	559
ACS050	2000	640	624	616	566
ACS055	2000	784	769	761	657
ACS060	2000	796	780	772	663
ACS070	2000	807	791	783	668



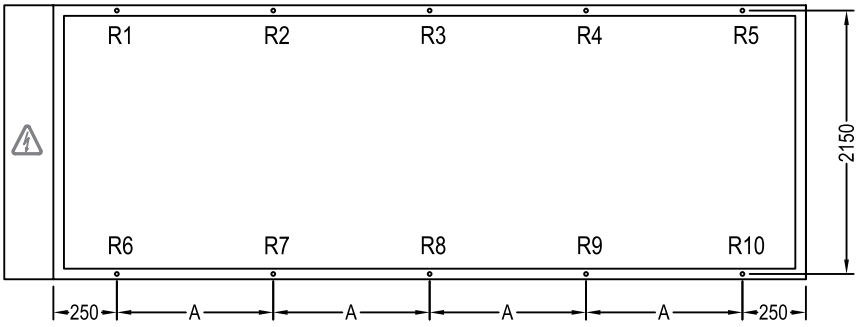
Model	A	R1	R2	R3	R4	R5	R6
ACS080	1375	700	669	653	597	566	550
ACS090	1375	718	687	671	630	599	583
ACS100	1935	947	916	900	781	750	734
ACS115	1935	1009	978	962	853	821	805



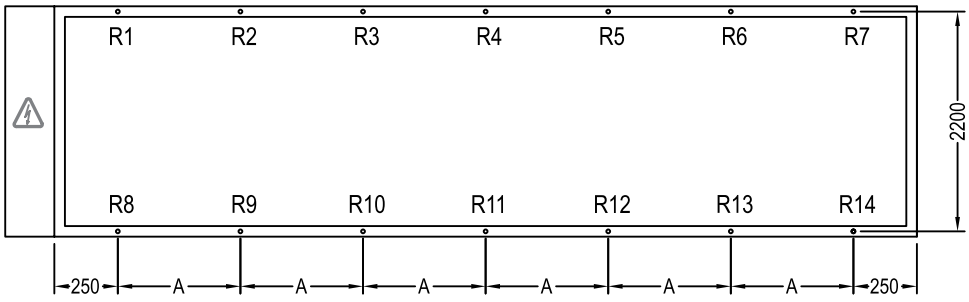
Model	A	R1	R2	R3	R4	R5	R6	R7	R8
ACS130	1494	823	796	786	777	702	674	665	656
ACS140	1560	862	834	825	816	765	738	728	719
ACS150	1560	874	846	837	828	771	744	735	725
ACS160	2017	1147	1113	1101	1090	976	941	930	918
ACS170	2017	1156	1121	1110	1099	980	946	934	923
ACS180	2017	1163	1129	1117	1106	984	949	938	926
ACS190	2017	1175	1141	1129	1118	992	958	946	935
ACS200	2017	1183	1149	1137	1126	996	962	950	939

NOTE: 1-ALL DIMENSIONS ARE IN MILLIMETERS (mm)

MOUNTING LOCATION AND DISTRIBUTION LOAD – COPPER COIL



Model	A	R1	R2	R3	R4	R5	R6	R7	R8	R9	R10
ACS220	2000	1181	1147	1129	1124	1118	995	960	943	937	932
ACS230	2000	1212	1178	1161	1155	1149	1024	990	973	967	961
ACS240	2000	1218	1183	1166	1160	1155	1027	993	975	970	964
ACS250	2000	1256	1221	1204	1198	1193	1105	1071	1054	1048	1042
ACS260	2000	1259	1225	1208	1202	1196	1107	1073	1055	1050	1044
ACS270	2000	1263	1229	1212	1206	1200	1109	1075	1057	1052	1046
ACS280	2000	1274	1240	1222	1217	1211	1111	1077	1059	1054	1048



Model	A	R1	R2	R3	R4	R5	R6	R7	R8	R9	R10	R11	R12	R13	R14
ACS300	1917	1129	1111	1102	1092	1083	1079	1074	967	948	939	930	921	916	912
ACS320	1917	1210	1191	1182	1173	1164	1159	1155	1016	998	989	979	970	966	961
ACS330	1917	1217	1199	1190	1181	1171	1167	1162	1020	1002	992	983	974	969	965
ACS340	1917	1235	1216	1207	1198	1189	1184	1180	1029	1010	1001	992	983	978	974
ACS350	1917	1278	1258	1248	1238	1228	1223	1218	1078	1058	1048	1038	1028	1023	1018
ACS360	1917	1283	1263	1253	1243	1233	1228	1223	1080	1060	1050	1040	1030	1025	1020
ACS380	1917	1289	1269	1259	1249	1239	1234	1229	1087	1067	1057	1047	1037	1032	1027
ACS400	1917	1311	1291	1281	1271	1261	1256	1251	1098	1078	1068	1058	1048	1043	1038
ACS420	1917	1325	1305	1295	1285	1275	1270	1265	1133	1113	1103	1093	1083	1078	1073
ACS430	1917	1345	1325	1315	1305	1295	1290	1285	1143	1123	1113	1103	1093	1088	1083

NOTE: 1-ALL DIMENSIONS ARE IN MILLIMETERS (mm)

NOTES

NOTES

صناعات التبريد
REFRIGERATION INDUSTRIES

About RIC

Refrigeration Industries Company (KSE 504) is a group holding company with diversified interests in manufacturing, contracting and services. Recognized regionally for our engineering capabilities and management excellence, RIC and its subsidiaries offer a wide range of high quality products and services that cater to both residential and commercial customers, in the areas of climate control technologies and specialized storage solutions.

In view of the growing Kuwait infrastructure and the limitations imposed on it by the country's arid climate, the Refrigeration Industries Company was established 40 years ago in 1973, by Amiri Decree. The company's operations began with the construction of the first cold stores in the region, to enable the storage of the imported foods, on which Kuwait relied. Along with the development and advancement of the country, so has RIC prospered and expanded, and is now a milestone in the history of modern Kuwait.

RIC takes pride in its successful record and the many accolades it has garnered over time, but the greatest achievement has been the provision of comfort and protection from the harsh climate, to the people of Kuwait.

More than 40 years of uninterrupted service, overcoming extreme weather conditions, war, economic recessions and ever increasing competition, is testimony to the fact that RIC has met the expectations and responsibilities that was envisioned at the beginning and also highlights the tenacity and vision to exceed them in the future.

Facts throughout the years

1973 Warehouses were established by Amiri Decree.

1979 RIC Constructed the Medical Cold Stores Complex, the world's largest at that time.

1980 RIC Air Conditioning manufacturing plant set up in Sulaibya.

1981 Production of Package & Mini-Split A/Cs started under York-Gulf.

1984 RIC was listed in Kuwait Stock Exchange.

1986 COOLEX brand Production Launched.

1991 RIC rebuilt the manufacturing plant destroyed during the war.

1997 Achieved ISO Certification ISO 9001:1994.

2002 ETL Designed testing lab became fully operational.

2004 Privatization of RIC.

2010 COOLEX becomes the first A/C Unit to Pass MEW's new regulations.

2010 RIC Factory Renovation and Expansion into neighboring countries.

2012 Achieved UL & AHRI Certification for Coolex Units.

2014 Achieved SASO Certification for Concealed Ducted Split Series.

2014 Achieved EUROVENT Certification for Air Handling Units AHU.

2014 Achieved UL Certification for Air Cooled Chillers.

نبذة عن الشركة

شركة صناعات التبريد (متداولة في سوق الكويت للأوراق المالية برقم 504) هي شركة متنوعة الإنشطة تعمل في مجال التصنيع والمقاولات والخدمات. ونحن نقدم مجموعة كبيرة من المنتجات والخدمات والحلول التقنية في مجال مواجهة الظروف المناخية وحلول التخزين. وقد حازت الشركة على إعتراف إقليمي بقدراتها الهندسية وكفاءتها الإدارية.

شركة صناعات التبريد هي مجموعة شركات تهدف إلى توفير أعلى مستويات الجودة من حيث المنتجات والخدمات التي تلبي إحتياجات عملائها السكنية والتجارية. وعلى مدى أربعون عاما مضت على إنشاء شركتنا فقد إستطعنا أن نوطد أقدامنا في جميع قطاعات السوق الكويتي. ونحن إذ نفتخر بالإنجازات التي حققناها، إلا أننا أشد فخرا بأننا تمكنا من الوقوف إلى جانب أهل الكويت على مدى سنوات طويلة في مواجهة تقلبات الظروف المناخية القاسية سواء من حيث درجات الحرارة العالية أو الأتربة أو الرطوبة.

وبإعتبارها إحدى الشركات الصناعية العاملة في دولة الكويت، فقد واجهت الشركة تحديات وآمال كبيرة في سعيها لتحقيق النجاح، وقد كانت الشركة – ولا تزال – معلما من المعالم المهمة في نظر أهل الكويت لما قدمته من منتجات وخدمات إستطاعت أن تغير الطبيعة القاسية لمناخ الكويت. فبعد نحو 40 عاما تقريبا، لا يزال السؤال مطروحا حول تحقيقنا لهذه التوقعات، فهل إستطاعت الشركة أن تتحمل مسؤولياتها على الوجه الأكمل؟ ويأتي الرد بالإيجاب، فعلى مدى أربعين عاما تقريبا لم تتوقف الشركة خلالها عن الإستمرار في تقديم خدماتها وأعمالها رغم الصعوبات التي تمثلت في ظروف الطقس القاسية أو الحروب أو الكساد الاقتصادي أو إرتفاع حدة المنافسة، فقد كانت كل واحدة من هذه الظروف بمثابة شهادة على أننا حققنا ما وعدنا به وما عقدنا العزم على تنفيذه.

حقائق وتواريخ

1973 تم إنشاء المستودعات بناء على مرسوم أميري.

1979 عهدت وزارة الصحة الكويتية لشركة صناعات التبريد بإنشاء مجمع مستودعات مخازن التبريد الطبية، وقد كان هذا المجمع حينها هو الأضخم من نوعه على مستوى العالم، وقد وصلت تكلفته إلى 12،000،000 دينار كويتي.

1980 تم إنشاء مصنع مكيفات الهواء التابع لشركة صناعات التبريد في الصليبية.

1981 بدء إنتاج أجهزة التكييف المدمجة والمنفصلة الصغيرة تحت علامة York-Gulf.

1984 تم قيد شركة صناعات التبريد في سوق الكويت للأوراق المالية.

1986 بدء إنتاج مكيفات علامة كولكس.

1991 قامت شركة صناعات التبريد بإعادة بناء مصنعها الذي دمرته الحرب.

1997 الحصول على شهادة الآيزو 9001:1994

2002 بدء تشغيل مختبر فحص وحدات التكييف (ETL)

2004 خصخصة شركة صناعات التبريد.

2010 كانت وحدات كولكس أول وحدات تكييف هواء تجتاز اللوائح التي أقرتها (وزارة الكهرباء والماء).

2010 تم تجديد مصنع شركة صناعات التبريد وبدء التوسع والتصدير إلى الدول المجاورة.

2012 الحصول على شهادة UL و AHRI لأجهزة التكييف كولكس.

2014 الحصول على شهادة SASO لأجهزة التكييف المنفصلة.

2014 الحصول على شهادة EUROVENT لأجهزة مناولة الهواء.

2014 الحصول على شهادة UL لمبردات الهواء الشيلر.

NOTES

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Website : www.altayer.com

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Mobile : + 966 560034240
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Website : www.Coolex.co

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Mobile : +964 7705 884444
Email : sweerco@yahoo.com
Website : www.sweerco.com

State of Qatar

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Tel : +974 4468 3950
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Email : dtcaircondi@darwish-tdg.qa
Website : http://www.darwish-trading.com

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Website : www.alnoorprojects.com

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Email : info@fortepak.com
Website : www.fortepak.com

Please contact Sales and Marketing Department sales@ric.com.kw or www.coolex.com.kw for specific information on the current design and specifications. **Ref no.: CCH-15-5-000**

CENTRAL AIR CONDITIONING AND SPLIT UNIT

Coolex continuously works towards the improvement of its products. Hence, the design and specifications of the ordered product may vary without prior notice.

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