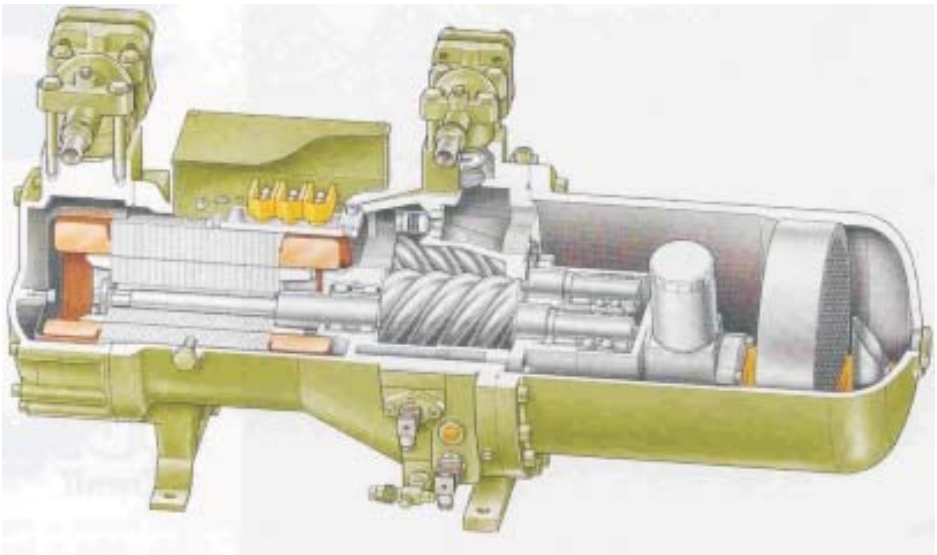
Air Cooled Water Chillers

MALC 040 thru MALC 740
25 TR thru 490 TR
88 kW thru 1725 kW

R-134a

COMPONENTS



COMPRESSOR CUTAWAY VIEW

FEATURES/BENEFITS

Single Skid Designed
Being a one packaged equipment it will be easy to transport as well as install at site.
Means lower installation cost.

Casing Panels and Frames
Materials are of galvanized iron sheets which do resist corrosion and ensure structural integrity in all operating ambient. And further finished with a coat of epoxy paint.

Semi-Hermetic Compact Twin Screw Compressors (optional)
These rotary and positive displacement compressors have been the focus of discussion in the air conditioning industry lately, mainly due to their high efficiency and construction of fewer moving parts which relates to lower operating liabilities or failures. One distinct feature of these compressors is the ability to overcome liquid slugging.

Economizer (optional)
Economizer is included in each refrigeration circuit to optimize the system capacity. The further subcooling of the high pressure liquid refrigerant which increases its thermodynamic efficiency is through a refrigerant to refrigerant brazed plate type heat exchanger made of stainless steel. In Economizer mode, a portion of the high pressure liquid is vaporized and subcools the remaining high pressure liquid. Although this has little effect on the suction capacity of the compressor but the effective refrigerating capacity of the compressor is boosted by the increased heat absorption capacity of the liquid entering the evaporator/cooler

Multiple Condenser Fans/Motors
Propeller condenser fans of low noise aerodynamic design and direct driven by high efficiency totally enclosed motor with class "F" winding insulation.Built-in redundancy due to multiple fans and motors in the event of failures.

Condenser Coils
Coils are of multiple independent refrigerant circuit system. And with this arrangement you can have partial cooling capacity in the event of a refrigerant circuit failure.

The standard corrugated fins material is aluminum and optional materials are acrylic coated aluminum for the acid corrosive environment, copper or electrotinned copper for the salty corrosive environment like; seashores, etc.

Factory Wired Control Panel/Single Point Power Connection
Electrical control components like; compressor contactor/ overload relay, condenser fan motor contactor, control microprocessor, high pressure switch, high/ control voltage terminal blocks and control transformer are all pre-wired at the factory which means lower installation cost.

The power supply to the compressor and condenser fan will be on a single point connection terminal block which then eliminates the need for parallel supplies.

With all these features and benefits you canít ask for more!

INDEX

CONTINUING RESEARCH RESULTS IN STEADY IMPROVEMENTS.
THEREFORE, THESE SPECIFICATIONS ARE SUBJECT TO CHANGE WITHOUT NOTICE.

MODEL DECODING

1, 2, 3 & 4 BASIC (SERIES)	5, 6 & 7 UNIT SIZE	8 ELECTRICAL SUPPLY (V-Ph-Hz)	9 COMPRESSOR TYPE	10 CONDENSER COIL	11 CONTROLS	12 UNIT ACCESSORIES	13 CIRCUIT BREAKER OPTIONS	14 OTHER OPTIONS
MALC AIR COOLED WATER CHILLERS	040 050 060 070 075 090 100 120 140 150 170 190 220 250 270 290 300 330 350 370 380 410 440 470 500 540 580 600 660 700 740	**H** : 208/230-3-60 **M** : 380-3-50 (4 WIRE) **F** : 460-3-60 **N** : 380-3-50 (4 WIRE)	**X** : SCREW **Y** : RECIPROCATE	**A** : ALUMINUM FIN **B** : COATED ALUMINUM FIN **C** : COPPER FIN **D** : ELECTRO-TINNED COPPER FIN **J** : ALUMINUM FIN WITH FIN GUARD **K** : COATED ALUMINUM FIN WITH FIN GUARD **L** : COPPER FIN WITH FIN GUARD **M** : ELECTRO-TINNED COPPER FIN WITH FIN GUARD	**S** : STANDARD **P** : MICROPRO-CESSOR	**A** : STANDARD **B** : WATER FLOW SWITCH **C** : SPRING ISOLATORS **D** : HOTGAS BYPASS **E** : B + C COMBO **F** : B + D COMBO **G** : C + D COMBO **H** : B + C + D COMBO	**A** : STANDARD **B** : COMPRESSOR CIRCUIT BREAKER **C** : CONDENSER FAN CIRCUIT BREAKER **D** : NONFUSED DISCONNECT SWITCH **E** : B + C COMBO **F** : B + D COMBO **G** : C + D COMBO **H** : B + C + D COMBO	**A** : STANDARD **B** : ELECTRONIC THERMAL EXPANSIONVALVE **C** : COMPRESSOR ENCLOSURE **D** : VARIABLE SPEED CONDENSER FAN MOTORS FOR LOW AMBIENT **E** : PRESSURE GAUGES **F** : VICTAULIC COOLER CONNECTIONS **G** : COMPRESSOR COOLER GUARD **H** : ANY COMBINATION OF ABOVE (PLEASE SPECIFY)

FEATURES

These MALC air cooled screw water chillers offer the ultimate combination of energy saving design, superior engineering features and flexibility of application as required by todayís market.

* These chillers incorporate the newest advanced Microprocessor controller. This controller monitors analog and digital inputs to achieve precise control & protective functions of the air cooled water chiller units.This microprocessor controller is complete with all the hardware and software necessary to control the chiller unit and insures its efficiency and reliability.

* Compact unit design and excellent serviceability.

* All packaged chillers incorporate compact water coolers with low fin copper tubes that expanded into a steel tubular sheet which offer efficient water flow as well as heat transfer design resulting in optimal unit performance.

* High Energy Efficiency Ratio (EER) semi-hermetic compact screw and reciprocate compressors provided in these units.

* Economizer operation is a optional feature to optimize cooling capacity.

* Single point power connection to minimize job site installation cost and time.

* Completely wired control panel provides all the necessary operating and safety controls.

* Compressors are with part winding start.

* Low noise condenser fans, direct drive with rolled form venturi design to eliminate short circuiting of airflow.

* All fans are aerodynamic design, top discharge, provided with protective grille mounted on top panel within the unit casing.

* All condenser fan motors are totally enclosed air over type (TEAO) with class "F" winding insulation and ball bearings.

SPECIFICATIONS

CAPACITY CONTROL

The packaged chillers incorporate stepped load shedding as required by most energy management systems. Capacity control is achieved by cycling compressor ON/OFF or capacity control valve. The use of control valve provides excellent part load capacities.

On multiple compressor units, capacity is controlled by a combination of capacity control valve and compressor staging. See the following table for the capacity control for each unit.

SPECIFICATIONS

MODEL NUMBER	% FULL LOAD CA PACITY CONTROL	
	OPTIONAL	OPTIONAL
MALC 040	100-50-OFF	100-50-HGBP-OFF
MALC 050	100-50-OFF	100-50-HGBP-OFF
MALC 060	100-50-OFF	100-50-HGBP-OFF
MALC 070	100-50-OFF	100-50-HGBP-OFF
MALC 075	100-75-50-25-OFF	100-75-50-25-HGBP-OFF
MALC 090	100-75-50-25-OFF	100-75-50-25-HGBP-OFF
MALC 100	100-75-50-25-OFF	100-75-50-25-HGBP-OFF
MALC 120	100-75-50-25-OFF	100-75-50-25-HGBP-OFF
MALC 140	100-75-50-25-OFF	100-75-50-25-HGBP-OFF
MALC 150	100-75-50-25-OFF	100-75-50-25-HGBP-OFF
MALC 170	100-75-50-25-OFF	100-75-50-25-HGBP-OFF
MALC 190	100-75-50-25-OFF	100-75-50-25-HGBP-OFF
MALC 220	100-75-50-25-OFF	100-75-50-25-HGBP-OFF
MALC 250	100-75-50-25-OFF	100-75-50-25-HGBP-OFF
MALC 270	100-83-66-50-33-16-OFF	100-83-66-50-33-16-HGBP-OFF
MALC 290	100-83-66-50-33-16-OFF	100-83-66-50-33-16-HGBP-OFF
MALC 300	100-83-66-50-33-16-OFF	100-83-66-50-33-16-HGBP-OFF
MALC 330	100-83-66-50-33-16-OFF	100-83-66-50-33-16-HGBP-OFF
MALC 350	100-83-66-50-33-16-OFF	100-83-66-50-33-16-HGBP-OFF
MALC 370	100-83-66-50-33-16-OFF	100-83-66-50-33-16-HGBP-OFF
MALC 380	100-87-75-62-50-37-25-12-OFF	100-87-75-62-50-37-25-12-HGBP-OFF
MALC 410	100-87-75-62-50-37-25-12-OFF	100-87-75-62-50-37-25-12-HGBP-OFF
MALC 440	100-87-75-62-50-37-25-12-OFF	100-87-75-62-50-37-25-12-HGBP-OFF
MALC 470	100-87-75-62-50-37-25-12-OFF	100-87-75-62-50-37-25-12-HGBP-OFF
MALC 500	100-87-75-62-50-37-25-12-OFF	100-87-75-62-50-37-25-12-HGBP-OFF
MALC 540	100-92-83-75-66-60-50-42-33-25-16-8-OFF	100-92-83-75-66-60-50-42-33-25-16-8-HGBP-OFF
MALC 580	100-92-83-75-66-60-50-42-33-25-16-8-OFF	100-92-83-75-66-60-50-42-33-25-16-8-HGBP-OFF
MALC 600	100-92-83-75-66-60-50-42-33-25-16-8-OFF	100-92-83-75-66-60-50-42-33-25-16-8-HGBP-OFF
MALC 660	100-92-83-75-66-60-50-42-33-25-16-8-OFF	100-92-83-75-66-60-50-42-33-25-16-8-HGBP-OFF
MALC 700	100-92-83-75-66-60-50-42-33-25-16-8-OFF	100-92-83-75-66-60-50-42-33-25-16-8-HGBP-OFF
MALC 740	100-92-83-75-66-60-50-42-33-25-16-8-OFF	100-92-83-75-66-60-50-42-33-25-16-8-HGBP-OFF

NOTES:

1. Capacity control valve on compressors. (optional)
2. HGBP = Hot gas bypass available on lead compressor for all models (option).
3. HGBP modulates to approximately 80% of its compressor lowest unloaded capacity.

SEMI-HERMETIC COMPACT SCREW AND RECIPROCATE COMPRESSORS

Compressors are compact semi-hermetic of the high capacity and efficiency due to its perfect profile form ratio 5:6. Simple and robust construction with 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 filter10 microns mesh size, robust axial bearings in tandem configuration, suction gas filter, internal pressure relief valve and manual lock-out electronic protection system for thermal motor winding temperature, phase reversal, discharge gas temperature protection controls.

CONDENSER COILS

W-configuration condenser coils are corrugated fin and tube type, constructed of seamless 3/8î dia copper tubes of thickness 0.016 inch, mechanically bonded to aluminum fins for maximum heat transfer efficiency. **As an option, corrugated copper, electrotinned copper or coated aluminum fins may be provided.** The fins have full self spacing collars which completely cover each tube. The staggered tube design improve the thermal efficiency. End plates and tube support sheets are 14 gauge galvanized steel, formed to provide structural strength. Each coil is pressure tested in the factory at not less than 450 psi air pressure.

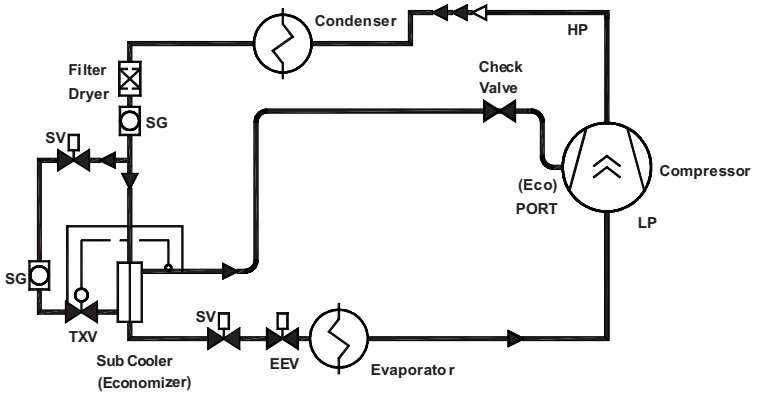
SPECIFICATIONS

COMPACT DESIGN SHELL AND TUBE WATER COOLERS

The DX shell & tube chillers made of internaly star profil copper tubes expanded into a heavy steel tubular sheets.

The chiller shell & baffles are constructed of steel and brass respectively. The barrel is insulated with heavy closed cellular foam insulation. All chiller barrels are fitted with vent and drain connection.

ECONOMIZER OPERATION



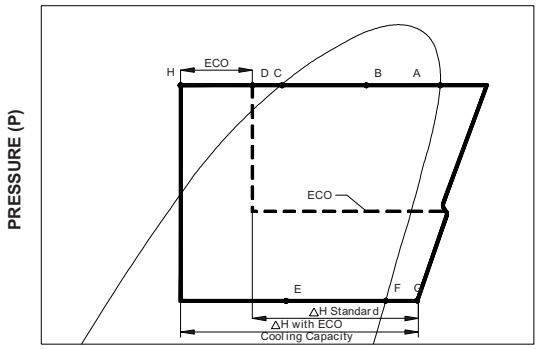
EEV : Electronic Expansion Valve

T V : Thermal Expansion Valve

SG : Sight Glass

SV : Solenoid Valve

ECONOMIZER PROCESS DIAGRAM



A : Condensing temperature reference temperature corresponding to the pressure at the inlet of the condenser.

B : Means condensing temperature.

C : Temperature corresponding to the pressure at the outlet of the condenser.

D : Liquid temperature (subcooling)

E : Means evaporating temperature

F : Evaporating temperature reference temperature corresponding to the pressure at the outlet of the evaporator

G : Suction temperature (superheat G F)

D-H : Additional subcooling with economizer (ECO)

SHELL & TUBE HEAT EXCHANGER (COOLER)	WATER SIDE		REFRIGERANT SIDE	
	DESIGN PRESSURE, PSIG	TEST PRESSURE, PSIG	DESIGN PRESSURE, PSIG	TEST PRESSURE, PSIG
	147	220	290	320

CABINET

All units are of heavy gauge (G-90) galvanized steel. Steel sheet panels are galvanized by hot dip process commercial weight G-90 followed by air dry paint or backed on electrostatic polyester dry powder coat. Removable access panels are provided for easy maintenance purpose.

CONTROL PANEL

The control panel design with hinged door for easy access ensuring dust and weatherproof construction. Internal power

SPECIFICATIONS

and control wiring is neatly routed, adequately anchored and all wires identified with cable markers .
The electrical controls used in the control panel are UL approved which are reliable in operation at high ambient conditions for a long period.

CONDENSER FANS

High efficiency propeller fans made of steel or PPG are statically and dynamically balanced.
All fan motors shall be three phase with class "F" winding insulation and ball or roller bearings for high ambient application. These fan motors are of totally enclosed air over (TEAO) with inherent thermal protection of automatic reset type.

MICROPROCESSOR CONTROLLER (OPTIONAL)

The Control works on the state of art microprocessor technology. This controller monitors analog and digital inputs to achieve precise control & safety functions of the unit.
The Software works on the Proportional Integral (PI) algorithm for precise control logic.
The simple to use push button keyboard allows to access the operating conditions, control set points & alarm history clearly displayed on a multi-line back illuminated LCD panel.

An easy to install **serial port/modem option** allows remote monitoring of the operating parameters. With corresponding windows software, the system allows data to be viewed in tabular or graphic format and as well interact with system set up.

Display Information:
In the normal operating mode the 20 x 4 characters LCD panel display the system status, the temperature of the water inlet & outlet, the set point, run time of the compressor & the alarm history.

Easily accessible measurements for each circuit include the following:

- Suction and discharge temperature
- Suction and discharge pressure
- Water inlet/outlet temperatures
- Compressor status
- Fan status
- Liquid line solenoid status
- Unit/Compressor run time

The control temperature is continuously displayed on the 3 Digit 7 segments LED Display. The 3 LED lights indicate the **Power ON, Menu adjustment and Fault .**

System Protection:
The following system protection is provided to ensure system reliability:

- Compressor winding overheating
- Low suction pressure
- High discharge pressure
- Freeze protection
- Oil level
- Sensor error
- Time delay - Anti recycle time for compressor

CONTROL & SAFETY DEVICES

MICROPROCESSOR CONTROLLER: This controller monitors analog and digital inputs to achieve precise control & safety functions of the unit. (optional)

COMPRESSOR IN-BUILT PROTECTION DEVICE: Protect the compressor by monitoring:

A) Motor winding temperature in case of overload.

B) Discharge gas temperature in case of overheating.

C) Phase reversal for direction of rotation.

STARTERS: 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 protect the system against refrigerant migration, oil dilution and potential compressor failure.

SAFETY VALVE: This valve protects the unit against high discharge pressure in the system due to malfunction of high pressure switches.

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

ACCESSORIES

UNIT ON-OFF SWITCH: ON-OFF switch is provided for manually switching the unit control circuit.

INDICATOR LIGHTS: lights indicates power ON to the unit.

EXPANSION VALVE: expansion valve is used to regulate the refrigerant flow to the water cooler and maintain a constant superheat and load optimization.

ECONOMIZER: Economizer is provided in each refrigeration circuit to further increase the subcooling of the liquid refrigerant which result to maximum cooling capacity. (optional)

ECONOMIZER THERMAL EXPANSION VALVE: This is used to regulate the refrigerant flow to the economizer.

ECONOMIZER SOLENOID VALVE: This is used to allow the liquid refrigerant to the economizer when the compressor is in economizer mode.

FILTER DRIER (REPLACEABLE CORE TYPE): Refrigerant circuits are kept free of harmful moisture, sludge, acids and oil contaminating particles by the filter drier.

SIGHT GLASS: A moisture indicating 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.

UNDER VOLTAGE AND PHASE PROTECTION: Protects against low incoming voltage as well as single phasing, phase reversal and phase imbalance by de-energizing the control circuit. It is an automatic reset device, but it can be set up for manual reset.

CONTROL CIRCUIT TRANSFORMER: On 460V-3Ph-60Hz power supply factory mounted and wired control circuit transformer is furnished eliminating the need for running a separate 220 volt control circuit power supply. (optional)

OTHER OPTIONS

HOT GAS BYPASS SYSTEM: Hot gas bypass is provided on the lead circuit to permit operation of the system down to 80 of its unloaded capacity. Under low ambient condition, it controls temperature by eliminating the need to cycle the compressor on and off, ensuring narrow temperature swing and lengthen the life span of the compressor

WATER FLOW SWITCH: Paddle type field ad ustable flow switch for water cooler circuits. Interlock into unit safety circuits so that the unit will remain off until water flow is determine.

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

CIRCUIT BREAKERS: Protects against compressor/condenser fans branch circuit fault. When tripped (manually or automatically), the breaker opens the power supply to the compressor and control circuit through auxiliary contacts.

LIQUID COOLERS: ASME code stamped liquid cooler.

PRESSURE GAUGES: Suction & discharge pressures gauges.

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

CONDENSER COIL GUARD: Protect the condenser coil from physical damage.

COMPRESSOR/COOLER GUARD: Protect the compressor from vandalism.

COMPRESSOR ENCLOSURE BOX: Reduce compressor operating noise and keep the compressor clean.

VARIABLE SPEED CONDENSER FANS: Low ambient temperature operation and low noise.

VICTAULIC COOLER CONNECTION: Easy on-site piping connections.

COOLER HEATER WRAPPED: Prevent freezing up of water on low ambient temperature.

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

ELECTROTINNED COPPER FINS/TUBES CONDENSER COILS: For seashore salty corrosive environments.

COATED ALUMINUM FINS CONDENSER COILS: For seashore or acid corrosive environments.

PHYSICAL DATA

UNIT SIZE		MALC 040	MALC 050	MALC 060	MALC 070	MALC 075	MALC 090	MALC 100	MALC 120	MALC 140
COMPRESSOR										
PART NUMBER	208/230V-3Ph-60Hz	800-683-01	800-683-04	800-683-07	800-683-10	800-683-01(2)	800-683-01 800-683-04	800-683-04(2)	800-683-07(2)	800-683-10(2)
	380V-3Ph-50Hz	800-683-02	800-683-05	800-683-08	800-683-11	800-683-02(2)	800-683-02 800-683-05	800-683-05(2)	800-683-08(2)	800-683-11 (2)
	460V-3Ph-60Hz	800-683-03	800-683-06	800-683-09	800-683-12	800-683-03(2)	800-683-03 800-683-06	800-683-06(2)	800-683-09(2)	800-683-12(2)
NUMBER OF COMPRESSORS		1	1	1(2)	1(2)	2	2	2	2(3)	2(3)
TOTAL COMPRESSOR DISPLACEMENT, CFM (L/S)		97.2 (45.7)	120.8 (56.8)	140 (66)	161.4 (75.9)	194.4 (91.4)	218 (102.5)	241.6 (113.6)	280 (132)	322.8 (151.8)
OIL CHARGE PER COMPRESSOR,Gallons (Liters)		2.1 (8)	2.1 (8)	3.7 (14)	3.7 (14)	4.2 (16)	4.2 (16)	4.2 (16)	7.4 (28)	7.4 (28)
% FULL LOAD CAPACITY CONTROL (optional)		100-50-0				100-75-50-25-0				
MOTOR OVERLOAD PROTECTION (INTERNAL)		ELECTRONIC								
OIL LUBRICATION		INJECTION								
TOTAL CRANKCASE HEATER WATTS		200	200	200	200	400	400	400	400	400
REFRIGERANT		R-134a								
EXPANSION DEVICE		EXPANSION VALVE								
CONTROL VOLTAGE		220V-1Ph-50Hz (60Hz)								
AIRCOOLED CONDENSER										
CONDENSER COIL	Tube Dia.- Rows - Fins per inch	3/8- 3	3/8- 3	3/8- 3	3/8- 3	3/8- 2	3/8- 3	3/8- 3	3/8- 3	3/8- 3
	Total face area, Sq. ft.	52.3	52.3	69.7	69.7	104.5	104.5	104.5	139.4	139.4
AIRFLOW, CFM		30,020	30,020	40,020	40,020	61,200	58,270	58,270	80,050	80,050
NUMBER OF FAN/FAN DIA.,mm		3/700	3/700	4/700	4/700	6/700	6/700	6/700	8/700	8/700
TOTAL FAN MOTOR kW		4.11	4.11	5.48	5.48	8.22	8.22	8.22	10.96	10.96
FAN MOTOR RPM		950	950	950	950	950	950	950	950	950
COOLER										
COOLER PART NUMBER		800-515-70	800-515-71	800-515-72	800-515-72	800-515-45	800-515-45	800-515-73	800-515-47	800-515-48
SHELL DIAMETER, mm		220	273	273	273	323	323	323	323	406
TOTAL LENGTH, mm		2000	2000	3000	3000	2000	2000	2000	3000	2000
WATER HOLDING VOLUME, Liters (Gallons)		51.6 (13.6)	68.7 (18.1)	92.3 (24.4)	92.3 (24.4)	79.8 (21.1)	79.8 (21.1)	88.1 (23.3)	88.1 (23.3)	153.4(40.5)
FLANGED WATER IN/OUT PIPE DIA.mm		100	125	125	125	150	150	150	150	200
ECONOMIZER										
PART NUMBER		800-516-50	800-516-50	800-516-51	800-516-51	800-516-50(2)	800-516-50(2)	800-516-50(2)	800-516-51(2)	800-516-51(2)
EXPANSION DEVICE		THERMAL EXPANSION VALVE								
GENERAL										
NUMBER OF REFRIGERANT CIRCUITS		1	1	1(2)	1(2)	2	2	2	2	2
REFRIGERANT CHARGE PER COMPRESSOR, kg		35	65	88	90	92	93	95	109	153
SHIPPING/OPERATING WEIGHTS, kg		1390/1445	1410/1490	1470/1570	1500/1600	2510/2600	2550/2640	2600/2700	2740/2860	2810/2980

NOTES: 1. Cooler vent and drain size are 1/2" MPT.
2. All barrels are single face refrigerant connection.

PHYSICAL DATA

UNIT SIZE		MALC 150	MALC 170	MALC 190	MALC 220	MALC 250	MALC 270	MALC 290	MALC 300	MALC 330
COMPRESSOR										
PART NUMBER	208/230V-3Ph-60Hz	800-683-13(2)	800-683-13 800-683-16	800-683-16(2)	800-683-19(2)	800-683-22(2)	800-683-13(1) 800-683-16(2)	800-683-16(3)	800-683-19(1) 800-683-16(2)	800-683-19(3)
	380V-3Ph-50Hz	800-683-14(2)	800-683-14 800-683-17	800-683-17(2)	800-683-20(2)	800-683-23(2)	800-683-14(1) 800-683-17(2)	800-683-17(3)	800-683-20(1) 800-683-17(2)	800-683-20(3)
	460V-3Ph-60Hz	800-683-15(2)	800-683-15 800-683-18	800-683-18(2)	800-683-21(2)	800-683-24(2)	800-683-15(1) 800-683-18(2)	800-683-18(3)	800-683-21(1) 800-683-18(2)	800-683-21(3)
NUMBER OF COMPRESSORS		2(3)	2(4)	2(4)	2(5)	2(5)	2(6)	2(6)	2(6)	2(7)
TOTAL COMPRESSOR DISPLACEMENT, CFM (L/S)		366.4(172.3)	407(192)	447.6(210.5)	510.1(239.9)	583.1(274.2)	630.8(296.7)	671.5(315.8)	702.7(330.5)	765.1(359.8)
OIL CHARGE PER COMPRESSOR,Gallons (Liters)		7.4 (28)	8.5 (32)	9.5 (36)	9.5 (36)	9.5 (36)	13.2 (50)	14.3 (54)	14.3 (54)	14.3 (54)
% FULL LOAD CAPACITY CONTROL (optional)		100-75-50-25-0					100-83-66-50-33-16-0			
MOTOR OVERLOAD PROTECTION (INTERNAL)		ELECTRONIC								
OIL LUBRICATION		INJECTION								
TOTAL CRANKCASE HEATER WATTS		400	500	600	600	600	800	900	900	900
REFRIGERANT		R-134a								
EXPANSION DEVICE		EXPANSION VALVE								
CONTROL VOLTAGE		220V-1Ph-50Hz (60Hz)								
AIRCOOLED CONDENSER										
CONDENSER COIL	Tube Dia.- Rows - Fins per inch	3/8- 3	3/8- 4	3/8- 3	3/8- 4	3/8- 4	3/8- 5	3/8- 5	3/8- 3	3/8- 4
	Total face area, Sq. ft.	139.4	139.4	174.2	174.2	209.1	209.1	209.1	278.8	278.8
AIRFLOW, CFM		100,060	91,230	123,600	118,300	136,550	132,430	132,430	194,230	185,400
NUMBER OF FAN/FAN DIA.,mm		8/800	8/800	10/800	10/800	12/800	12/800	12/800	16/800	16/800
TOTAL FAN MOTOR kW		14.8	14.8	14.8	18.5	22.2	22.2	22.2	29.6	29.6
FAN MOTOR RPM		950	950	950	950	950	950	950	950	950
COOLER										
COOLER PART NUMBER		800-515-48	800-515-50	800-515-80	800-515-81	800-515-82	800-515-83	800-515-84	800-515-84	800-515-85
SHELL DIAMETER, mm		406	406	406	406	406	457	457	457	457
TOTAL LENGTH, mm		2000	3000	3000	3000	3000	3000	3000	3000	3000
WATER HOLDING VOLUME, Liters (Gallons)		153.4(40.5)	196.8(52)	206.5(54.5)	184.4(48.6)	222.2(58.6)	252(66.5)	295(77.9)	295(77.9)	295(77.9)
FLANGED WATER IN/OUT PIPE DIA.mm		200	200	200	200	200	200	200	200	200
ECONOMIZER										
PART NUMBER		800-516-51(2)	800-516-51 800-516-52	800-516-52(2)	800-516-52(2)	800-516-52(2)	800-516-51(1) 800-516-52(2)	800-516-52(3)	800-516-51(3)	800-516-51(3)
EXPANSION DEVICE		THERMAL EXPANSION VALVE								
GENERAL										
NUMBER OF REFRIGERANT CIRCUITS		2	2	2	2	2	3	3	3	3
REFRIGERANT CHARGE PER COMPRESSOR, kg		156	198	150	166	196	224	260	270	280
SHIPPING/OPERATING WEIGHTS, kg		2900/3080	3350/3560	3870/4100	3950/4160	5270/5520	5400/5700	5400/5820	7800/8140	8150/8480

NOTES: 1. Cooler vent and drain size are 1/2" MPT.
2. All barrels are single face refrigerant connection.

PHYSICAL DATA

UNIT SIZE		MALC 350	MALC 370	MALC 380	MALC 410	MALC 440	MALC 470	MALC 500	MALC 540	MALC 580
COMPRESSOR										
PART NUMBER	208/230V-3Ph-60Hz	800-683-22 (1) 800-683-19 (2)	800-683-22 (3)	800-683-16 (4)	800-683-19 (2) 800-683-16 (2)	800-683-19 (4)	800-683-22 (2) 800-683-19 (2)	800-683-22 (4)	800-683-13 (2) 800-683-16 (4)	800-683-16 (6)
	380V-3Ph-50Hz	800-683-23 (1) 800-683-20 (2)	800-683-23 (3)	800-683-17 (4)	800-683-20 (2) 800-683-17 (2)	800-683-20 (4)	800-683-23 (2) 800-683-20 (2)	800-683-23 (4)	800-683-14 (2) 800-683-17 (4)	800-683-17 (6)
	460V-3Ph-60Hz	800-683-24 (1) 800-683-21 (2)	800-683-24 (3)	800-683-18 (4)	800-683-21 (2) 800-683-18 (2)	800-683-21 (4)	800-683-24 (2) 800-683-21 (2)	800-683-24 (4)	800-683-15 (2) 800-683-18 (4)	800-683-18 (6)
NUMBER OF COMPRESSORS		3(7)	3(8)	4(8)	4(8)	4(9)	4(9)	4(10)	6(11)	6(12)
TOTAL COMPRESSOR DISPLACEMENT, CFM (L/S)		801.6(377)	874.7(411.3)	895.3(421)	957.7(450.4)	1020.1(479.8)	1093.2(514.1)	1166.2(548.5)	1261.6(593.3)	1342.9(631.6)
OIL CHARGE PER COMPRESSOR,Gallons (Liters)		14.3 (54)	14.3 (54)	19 (72)	19 (72)	19 (72)	19 (72)	19 (72)	26.4(100)	28.6(108)
% FULL LOAD CAPACITY CONTROL (optional)		100-83-66-50-33-16-0		100-87-75-62-50-37-25-12-0					100-92-83-75-66-60-50-42-33-25-16-8-0	
MOTOR OVERLOAD PROTECTION (INTERNAL)		ELECTRONIC								
OIL LUBRICATION		INJECTION								
TOTAL CRANKCASE HEATER WATTS		900	900	1200	1200	1200	1200	1200	1800	1800
REFRIGERANT		R-134a								
EXPANSION DEVICE		EXPANSION VALVE								
CONTROL VOLTAGE		220V-1Ph-50Hz (60Hz)								
AIRCOOLED CONDENSER										
CONDENSER COIL	Tube Dia.- Rows - Fins per inch	3/8- 4	3/8- 5	3/8- 4	3/8- 4	3/8- 5	3/8- 5	3/8- 5	3/8- 3	3/8- 3
	Total face area, Sq. ft.	278.8	278.8	348.5	348.5	348.5	348.5	348.5	613.3	613.3
AIRFLOW, CFM		185,400	170,690	211,890	211,890	208,950	208,950	220,720	317,830	317,830
NUMBER OF FAN/FAN DIA.,mm		16/800	16/800	18/800	18/800	18/800	18/800	20/800	22/800	22/800
TOTAL FAN MOTOR kW		29.6	29.6	33.3	33.3	33.3	33.3	37	40.7	40.7
FAN MOTOR RPM		950	950	950	950	950	950	950	950	950
COOLER										
COOLER PART NUMBER		800-515-86	800-515-87	800-515-80 (2)	800-515-88 (2)	800-515-80 (1) 800-515-81 (1)	800-515-81 (1) 800-515-82 (1)	800-515-82 (2)	800-515-83 (2)	800-515-84 (2)
SHELL DIAMETER, mm		508	508	406	406	406	406	406	457	457
TOTAL LENGTH, mm		4000	4000	3000	3000	3000	3000	3000	3000	3000
WATER HOLDING VOLUME, Liters (Gallons)		462(122)	423(111.6)	413(109)	368.8(97.4)	390.9(103.2)	406.6(107.3)	444.4(117.3)	504(133)	590(155.7)
FLANGED WATER IN/OUT PIPE DIA.mm		200	200	250	250	250	250	250	250	250
ECONOMIZER										
PART NUMBER		800-516-51(3)	800-516-51(3)	800-516-51(4)	800-516-52(4)	800-516-52(4)	800-516-52(4)	800-516-52(4)	800-516-51(2) 800-516-52(4)	800-516-51(6)
EXPANSION DEVICE		THERMAL EXPANSION VALVE								
GENERAL										
NUMBER OF REFRIGERANT CIRCUITS		3	3	(3)4	(3)4	(3)4	(3)4	4	(4)6	(4)6
REFRIGERANT CHARGE PER COMPRESSOR, kg		310	360	370	380	390	410	420	445	530
SHIPPING/OPERATING WEIGHTS, kg		8350/8580	8570/8840	9500/9960	9870/10260	9900/10460	10500/10960	10900/11440	12500/13060	12800/13400

NOTES: 1. Cooler vent and drain size are 1/2" MPT.
2. All barrels are single face refrigerant connection.

PHYSICAL DATA

UNIT SIZE		MALC 600	MALC 660	MALC 700	MALC 740
COMPRESSOR					
PART NUMBER	208/230V-3Ph-60Hz	800-683-19 (2) 800-683-16 (4)	800-683-19 (6)	800-683-22 (2) 800-683-19 (4)	800-683-22 (6)
	380V-3Ph-50Hz	800-683-20 (2) 800-683-17 (4)	800-683-20 (6)	800-683-23 (2) 800-683-20 (4)	800-683-23 (6)
	460V-3Ph-60Hz	800-683-21 (2) 800-683-18 (4)	800-683-21 (6)	800-683-24 (2) 800-683-21 (4)	800-683-24 (6)
NUMBER OF COMPRESSORS		6(12)	6(14)	6(14)	6(14)
TOTAL COMPRESSOR DISPLACEMENT, CFM (L/S)		1405.4 (660.9)	1530.2 (719.6)	1603.3 (754)	1749.3 (822.7)
OIL CHARGE PER COMPRESSOR, Gallons (Liters)		28.6 (108)	28.6 (108)	28.6 (108)	28.6 (108)
% FULL LOAD CAPACITY CONTROL (optional)		100-92-83-75-66-60-50-42-33-25-16-8-0			
MOTOR OVERLOAD PROTECTION (INTERNAL)		ELECTRONIC			
OIL LUBRICATION		INJECTION			
TOTAL CRANKCASE HEATER WATTS		1800	1800	1800	1800
REFRIGERANT		R-134a			
EXPANSION DEVICE		EXPANSION VALVE			
CONTROL VOLTAGE		220V-1Ph-50Hz (60Hz)			
AIRCOOLED CONDENSER					
CONDENSER COIL	Tube Dia.- Rows - Fins per inch	3/8- 4	3/8- 4	3/8- 5	3/8- 6
	Total face area, Sq. ft.	613.3	613.3	613.3	613.3
AIRFLOW, CFM		303,110	322,540	300,160	287,810
NUMBER OF FAN/FAN DIA.,mm		22/800	24/800	24/800	24/800
TOTAL FAN MOTOR kW		40.7	44.4	44.4	44.4
FAN MOTOR RPM		950	950	950	950
COOLER					
COOLER PART NUMBER		800-515-85 (2)	800-515-85 (2)	800-515-86 (2)	800-515-87 (2)
SHELL DIAMETER, mm		457	457	508	508
TOTAL LENGTH, mm		3000	3000	4000	4000
WATER HOLDING VOLUME, Liters (Gallons)		590 (155.7)	590 (155.7)	924 (244)	846 (223.3)
FLANGED WATER IN/OUT PIPE DIA.mm		250	250	250	250
ECONOMIZER					
PART NUMBER		800-516-51 (6)	800-516-51 (6)	800-516-51 (6)	800-516-51 (6)
EXPANSION DEVICE		THERMAL EXPANSION VALVE			
GENERAL					
NUMBER OF REFRIGERANT CIRCUITS		6	6	6	6
REFRIGERANT CHARGE PER COMPRESSOR, kg		540	560	620	720
SHIPPING/OPERATING WEIGHTS, kg		13100/13800	13700/14380	13900/14900	14200/15100

NOTES: 1. Cooler vent and drain size are 1/2" MPT.
2. All barrels are single face refrigerant connection.

SELECTION PROCEDURE (English units)

DESIGN REQUIREMENTS

The following design requirements must be known to select a package chiller.

1. Required cooling capacity in tons
2. Leaving chilled water temperature in ^{0}F (LCWT)
3. Chilled water flow rate in GPM
4. Chilled water cooling range in ^{0}F (water in temp. – water out temp.)
5. Design ambient temperature
6. Minimum ambient temperature
7. Altitude
8. Electrical power supply

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

TABLE - 1

EVAPORATOR FOULING FACTOR (HR-FT^2-^{0}F/BTU)	CAPACITY CORRECTION FACTOR	POWER INPUT FACTOR	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

SAMPLE SELECTION

Select an Air Cooled Packaged chiller for the following conditions:
Required system capacity is 90 tons at 54^{0}F entering chilled water and 44^{0}F leaving water. Design ambient temperature is 95^{0}F.
Altitude is 2000 feet above sea level.
Water cooler fouling factor is 0.00010. Power supply: 380V-3Ph-50Hz.

STEP-1: UNIT SELECTION

Entering the capacity performance data at given LCWT and ambient temperature. MALC 150 chiller unit at sea level will produce 97.6 tons and111.4kW compressor power input at 44^{0}F leaving chilled water temperature with 10^{0}F water temperature difference and 95^{0}F ambient temperature.

For the conditions required, the unit actual cooling capacity when corrected for altitude (0.99) and fouling factor (1.0).
Capacity = 97.6x0.99x1.0 = 96.6 Tons, which then exceeds the requirements.
So the selection is correct.

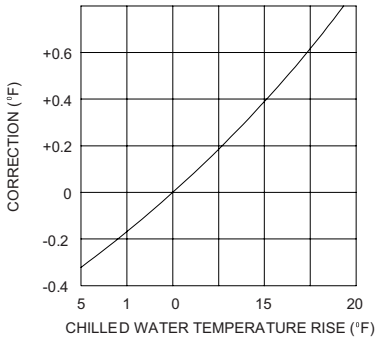


TABLE - 3

STEP-2: CHILLED WATER FLOW (GPM):

$$\text{Water GPM} = \frac{\text{Required capacity (Tons) x 24}}{\text{Cooling Range, } \triangle T} = \frac{90 \times 24}{10^0\text{F}} = 216 \text{ GPM}$$

Referring to pressure drop chart, pressure drop at 216 GPM = 7.3 ft. of water for selected model.

STEP-3: ELECTRICAL

Refer to electrical data at 380V-3Ph-60Hz,the main power wire size for MALC 150 is to be sized for a minimum circuit ampacity (MCA) of 268.7 Amps and maximum over current protection (MOCP) of 350 Amps.

STEP-4: 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 in step 2.

STEP-5: LCWT CORRECTION

When a corrected LCWT is used, cooler pressure drop must also be corrected for new LCWT.
Refer to table-3. Add correction factor to design leaving chilled water temperature (LCWT) when chilled water temperature range is above 10^{0}F and subtract correction from design leaving chilled water temperature (LCWT) when water temperature range is below 10^{0}F.

EXAMPLE:
If LCWT rise is 12.5^{0}F, enter correction curve at 12.5^{0}F and read the correction factor of 0.2. The corrected LCWT is 44+0.2 = 44.2^{0}F.

NOTE: 1.When the chilled water temperature rise is less than 5^{0}F, the high water flow rate will result to excessive pressure drop. In such cases, contact factory for special selection of a cooler with wider baffle spacing.
2.Please refer to water pressure drop curves.

SELECTION PROCEDURE (Metric units)

DESIGN REQUIREMENTS

The following design requirements must be known to select a proper package chiller.

1. Required cooling capacity in kilowatt (kW)
2. Leaving chilled water temperature in ^{0}C (LCWT)
3. Chilled water flow rate in LPS
4. Chilled water cooling range in ^{0}C (water in temp. – water out temp.)
5. Design ambient temperature
6. Minimum ambient temperature
7. Altitude
8. Electrical power supply

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

EVAPORATOR FOULING FACTOR (M^2-^{0}C/W)	CAPACITY CORRECTION FACTOR	POWER INPUT FACTOR	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

SAMPLE SELECTION

Select an Air Cooled Packaged chiller for the following conditions:
Required system capacity is 300 kW at 12^{0}C entering chilled water and 6^{0}C leaving water. Design ambient temperature is 35^{0}C. Altitude is 600 meter above sea level.
Water cooler fouling factor is 0.000018. Power supply: 380V-3Ph-50Hz.

STEP-1: UNIT SELECTION

Entering the capacity performance data at given LCWT and ambient temperature. MALC 150 chiller unit at sea level will produce 336.8 kW and111.2kW compressor power input at 6^{0}C leaving chilled water temperature with 6^{0}C water temperature difference and 35^{0}C ambient temperature.

For the conditions required, the unit actual cooling capacity when corrected for altitude (0.99) and fouling factor (1.0).
Capacity = 336.8x0.99X1.0 = 333.4 kW, which then exceeds the requirements. So the selection is correct.

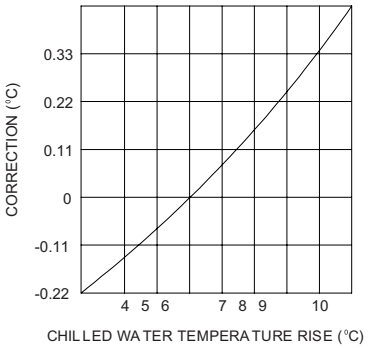


TABLE - 3

STEP-2: CHILLED WATER FLOW (LPS):

$$\text{Water LPS} = \frac{\text{Required capacity (kW)} \times 0.239}{\text{Cooling Range, } \triangle T} = \frac{300 \times 0.239}{6^0\text{C}} = 12 \text{ LPS}$$

Referring to pressure drop chart, pressure drop at 12 LPS with pressure drop of 17 kPa of water for selected model.

STEP-3: ELECTRICAL

Refer to electrical data at 380V-3Ph-60Hz,the main power wire size for MALC 150 is to be sized for a minimum circuit ampacity (MCA) of 268.7 Amps and maximum over current protection (MOCP) of 350 Amps.

STEP-4: 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 in step 2.

STEP-5: LCWT CORRECTION

When a corrected LCWT is used, cooler pressure drop must also be corrected for new LCWT.
Refer to table-3. Add correction factor to design leaving chilled water temperature (LCWT) when chilled water temperature range is above 6^{0}C and subtract correction from design leaving chilled water temperature (LCWT) when water temperature range is below 6^{0}C.

EXAMPLE:
If LCWT rise is 7.4^{0}C, enter correction curve at 7.4^{0}C and read the correction factor of 0.11. The corrected LCWT is 6^{0}C+0.11 = 6.11^{0}C.

NOTE: 1.When the chilled water temperature rise is less than 3^{0}C, the high water flow rate will result to excessive pressure drop. In such cases, contact factory for special selection of a cooler with wider baffle spacing.
2.Please refer to water pressure drop curves.

ETHYLENE GLYCOL SOLUTION CAPACITY CORRECTION (Antifreeze)

When operating in areas with temperatures below 32^{0}F (0^{0}C), cooler protection in the form of Ethylene glycol solution (brine solution) is required to protect cooler from low ambient freeze-up.This brine solution must be added to water loop to bring down the freezing point with a difference of 15^{0}F (8^{0}C) below minimum operating ambient temperature.

Ethylene glycol solution causes a variation in unit performance. To obtain the effective performance, it is necessary to multiply the water performance data by correction factors corresponding to the ambient temperature or Ethylene glycol percentage indicated in the following table.

ETHYLENE GLYCOL % BY WEIGHT	0%	12%	22%	30%	36%	41%	46%	50%
Freezing point of Ethylene glycol solution	0^{0}C (32^{0}F)	-5^{0}C (23^{0}F)	-10^{0}C (14^{0}F)	-15^{0}C (5^{0}F)	-20^{0}C (-4^{0}F)	-25^{0}C (-13^{0}F)	-30^{0}C (-22^{0}F)	-35^{0}C (-31^{0}F)
Ambient temperature	8.3^{0}C (47^{0}F)	3.3^{0}C (38^{0}F)	-1.7^{0}C (29^{0}F)	-6.7^{0}C (20^{0}F)	-11.7^{0}C (11^{0}F)	-16.7^{0}C (2^{0}F)	-21.7^{0}C (-7^{0}F)	-26.7^{0}C (-16^{0}F)
Cooling capacity correction factor	1.0	0.985	0.980	0.974	0.970	0.965	0.964	0.960
Water flow correction factor	1.0	1.02	1.04	1.075	1.11	1.14	1.17	1.20
Pressure drop correction factor	1.0	1.07	1.11	1.18	1.22	1.24	1.27	1.30

EXAMPLE: English system- Determine Ethylene glycol percentage by weight and correction factors at 38^{0}F ambient temperature.
From the above table, Ethylene glycol water solution concentration (percentage by weight) corresponding to 38^{0}F ambient temperature is 12% by weight.

Find the correction factors corresponding to 38^{0}F ambient temperature from the table.
Cooling capacity correction factor is 0.985, Flow correction factor is 1.02, Pressure drop correction factor is 1.07.
Apply these correction factors for corrected system performance values.

TONS (E.G. SOLUTION) = Tons (water) x Cooling capacity correction factor.
BRINE (E.G. SOLUTION) FLOW (GPM) = Flow (water) x Flow correction factor.
BRINE (E.G. SOLUTION) PRESSURE DROP = Water pressure drop (Ft.) x Pressure drop correction factor.

EXAMPLE: Metric system- Determine Ethylene glycol percentage by weight and correction factors where 3.3^{0}C ambient temperature.
From the above table, Ethylene glycol water solution concentration (percentage by weight) corresponding to 3.3^{0}C ambient temperature is 12% by weight.

Find the correction factors corresponding to 3.3^{0}C ambient temperature from the table.
Cooling capacity correction factor is 0.985, Flow correction factor is 1.02, Pressure drop correction factor is 1.07.
Apply these correction factors for corrected system performance values.

KW (E.G. SOLUTION) = KW (water) x Cooling capacity correction factor.
BRINE (E.G. SOLUTION) FLOW (L/S) = KW (water) x Flow correction factor.
BRINE (E.G. SOLUTION) PRESSURE DROP = Water pressure drop (kPa) x Pressure drop correction factor.

Note: Correction factors apply to published chilled water performance rating from 40^{0}F to 50^{0}F (4.4^{0}C to 10^{0}C) LCWT.

PERFORMANCE DATA (English units)

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	MALC 040	23.4	30.4	8.2	56.2	22.1	35.1	6.8	53.1	20.8	40.6	5.6	49.8	19.2	47.3	4.5	46.1	18.4	50.9	4.0	44.1
	MALC 050	28.5	36.2	8.5	68.4	26.9	41.7	7.1	64.6	25.3	48.3	5.8	60.6	23.4	56.3	4.7	56.1	22.4	60.6	4.2	53.7
	MALC 060	35.6	45.0	8.5	85.4	33.6	51.9	7.1	80.6	31.5	60.0	5.8	75.6	29.2	69.9	4.7	70.0	27.9	75.3	4.2	67.0
	MALC 070	40.1	51.8	8.5	96.3	37.8	59.7	7.0	90.8	35.5	69.0	5.8	85.3	32.9	80.4	4.6	78.9	31.5	86.7	4.1	75.6
	MALC 075	46.9	60.9	8.2	112.5	44.2	70.2	6.8	106.1	41.5	81.1	5.6	99.7	38.4	94.6	4.5	92.2	36.8	101.9	4.0	88.3
	MALC 090	52.0	66.7	8.4	124.8	49.0	76.8	7.0	117.7	46.0	88.8	5.7	110.5	42.6	103.5	4.6	102.2	40.8	111.6	4.1	97.9
	MALC 100	57.0	72.5	8.5	136.9	53.8	83.5	7.1	129.2	50.5	96.6	5.8	121.3	46.7	112.5	4.7	112.2	44.8	121.2	4.2	107.4
	MALC 120	71.2	90.0	8.5	170.9	67.2	103.7	7.1	161.2	63.1	120.0	5.8	151.4	58.4	139.8	4.7	140.1	55.9	150.6	4.2	134.1
	MALC 140	80.2	103.6	8.4	192.4	75.6	119.4	7.0	181.5	71.0	138.1	5.8	170.4	65.7	160.9	4.6	157.7	62.9	173.3	4.1	151.0
	MALC 150	89.8	111.2	8.6	215.5	84.7	128.1	7.2	203.3	79.5	148.2	5.9	190.9	73.6	172.7	4.7	176.6	70.5	186.0	4.2	169.1
	MALC 170	103.9	127.8	8.8	249.5	98.1	147.3	7.3	235.4	92.1	170.4	6.0	221.0	85.2	198.6	4.8	204.4	81.6	213.9	4.3	195.8
	MALC 190	118.1	144.5	9.0	283.5	111.5	166.5	7.4	267.5	104.6	192.6	6.1	251.2	96.8	224.4	4.9	232.4	92.7	241.8	4.4	222.5
	MALC 220	131.6	164.9	8.7	315.9	124.2	190.0	7.2	298.0	116.6	219.7	5.9	279.8	107.9	256.1	4.7	258.9	103.3	275.9	4.2	247.9
	MALC 250	150.3	184.8	8.8	360.8	141.8	213.0	7.3	340.4	133.2	246.3	6.0	319.6	123.2	287.1	4.8	295.7	118.0	309.3	4.3	283.1
	MALC 270	163.0	200.1	8.9	391.2	153.8	230.6	7.3	369.1	144.4	266.7	6.0	346.5	133.6	310.8	4.8	320.6	127.9	334.8	4.3	307.0
	MALC 290	177.1	216.8	9.0	425.1	167.1	249.8	7.4	401.1	156.9	288.9	6.1	376.6	145.2	336.7	4.9	348.4	139.0	362.7	4.4	333.6
	MALC 300	183.9	226.9	8.7	441.4	173.5	261.5	7.2	416.4	162.9	302.4	5.9	391.0	150.7	352.5	4.8	361.7	144.3	379.8	4.3	346.4
	MALC 330	197.4	247.3	8.6	473.8	186.3	285.0	7.2	447.1	174.9	329.6	5.9	419.8	161.8	384.1	4.7	388.3	154.9	413.8	4.2	371.9
	MALC 350	206.8	257.3	8.7	496.4	195.1	296.5	7.2	468.3	183.2	342.9	5.9	439.7	169.5	399.6	4.8	406.8	162.3	430.5	4.3	389.5
	MALC 370	225.5	277.2	8.9	541.2	212.7	319.5	7.4	510.6	199.8	369.5	6.0	479.4	184.8	430.6	4.8	443.5	177.0	463.9	4.3	424.7
	MALC 380	236.2	289.0	8.8	566.8	222.8	333.0	7.3	534.8	209.2	385.2	6.0	502.1	193.6	448.9	4.8	464.5	185.3	483.6	4.3	444.8
	MALC 410	249.7	309.4	8.8	599.3	235.6	356.5	7.3	565.4	221.2	412.3	6.0	530.9	204.6	480.5	4.8	491.1	196.0	517.7	4.3	470.3
	MALC 440	263.2	329.7	8.8	631.7	248.3	380.0	7.3	596.0	233.2	439.4	6.0	559.6	215.7	512.1	4.8	517.7	206.6	551.8	4.3	495.8
	MALC 470	282.0	349.7	8.9	676.8	266.0	403.0	7.4	638.5	249.8	466.0	6.0	599.5	231.1	543.1	4.8	554.6	221.3	585.2	4.3	531.1
	MALC 500	300.7	369.7	8.9	721.6	283.7	426.0	7.4	680.8	266.3	492.6	6.1	639.2	246.4	574.1	4.9	591.4	235.9	618.6	4.3	566.3
	MALC 540	326.0	400.2	8.9	782.3	307.5	461.2	7.4	738.1	288.8	533.3	6.1	693.0	267.1	621.6	4.9	641.1	255.8	669.7	4.3	613.9
	MALC 580	354.2	433.5	9.0	850.1	334.2	499.6	7.5	802.0	313.8	577.8	6.1	753.1	290.3	673.3	4.9	696.7	278.0	725.4	4.4	667.1
	MALC 600	367.8	453.3	9.0	882.8	347.0	522.3	7.4	832.9	325.8	604.1	6.1	782.0	301.4	704.0	4.9	723.5	288.7	758.5	4.4	692.8
	MALC 660	394.9	494.6	8.8	947.7	372.5	569.9	7.3	894.1	349.8	659.1	6.0	839.5	323.6	768.2	4.8	776.7	309.9	827.7	4.3	743.7
	MALC 700	413.5	514.6	8.9	992.5	390.2	592.9	7.4	936.4	366.3	685.7	6.1	879.2	338.9	799.2	4.9	813.4	324.5	861.1	4.3	778.9
	MALC 740	451.0	554.5	9.1	1082.4	425.5	638.9	7.5	1021.2	399.5	738.9	6.2	958.8	369.6	861.2	4.9	887.1	353.9	927.9	4.4	849.4
42 °F	MALC 040	24.5	30.4	8.5	58.7	23.1	35.1	7.1	55.4	21.7	40.7	5.8	52.0	20.1	47.3	4.7	48.3	19.3	50.9	4.2	46.4
	MALC 050	29.8	36.2	8.9	71.4	28.1	41.7	7.4	67.5	26.4	48.5	6.1	63.3	24.5	56.3	4.9	58.8	23.5	60.6	4.4	56.5
	MALC 060	37.1	45.0	8.9	89.1	35.1	51.9	7.4	84.2	32.9	60.2	6.0	79.0	30.5	69.9	4.9	73.3	29.4	75.3	4.4	70.4
	MALC 070	41.9	51.8	8.8	100.5	39.5	59.7	7.3	94.9	37.1	69.3	6.0	89.0	34.4	80.4	4.8	82.7	33.1	86.7	4.3	79.4
	MALC 075	48.9	60.9	8.5	117.4	46.2	70.2	7.1	110.9	43.4	81.4	5.8	104.1	40.3	94.6	4.7	96.6	38.7	101.9	4.2	92.8
	MALC 090	54.2	66.7	8.7	130.2	51.2	76.8	7.3	123.0	48.1	89.2	6.0	115.4	44.6	103.5	4.8	107.1	42.9	111.6	4.3	102.9
	MALC 100	59.5	72.5	8.9	142.8	56.2	83.5	7.4	135.0	52.8	96.9	6.1	126.6	49.0	112.5	4.9	117.6	47.1	121.2	4.4	112.9
	MALC 120	74.3	90.0	8.9	178.3	70.2	103.7	7.4	168.5	65.9	120.4	6.1	158.1	61.1	139.8	4.9	146.8	58.7	150.6	4.4	141.0
	MALC 140	83.6	103.6	8.8	200.7	79.0	119.4	7.3	189.7	74.1	138.6	6.0	178.0	68.8	160.9	4.8	165.2	66.1	173.3	4.3	158.7
	MALC 150	93.7	111.2	9.0	224.9	88.5	128.1	7.5	212.5	83.1	148.7	6.1	199.3	77.1	172.7	5.0	185.0	74.1	186.0	4.5	177.8
	MALC 170	108.5	127.8	9.2	260.3	102.5	147.3	7.6	245.9	96.1	171.0	6.2	230.8	89.3	198.6	5.1	214.2	85.8	213.9	4.5	205.8
	MALC 190	123.3	144.5	9.3	295.8	116.5	166.5	7.8	279.5	109.3	193.3	6.3	262.2	101.4	224.4	5.1	243.4	97.5	241.8	4.6	233.9
	MALC 220	137.3	164.9	9.0	329.6	129.8	190.0	7.5	311.4	121.7	220.5	6.1	292.2	113.0	256.1	5.0	271.2	108.6	275.9	4.5	260.6
	MALC 250	156.9	184.8	9.1	376.5	148.2	213.0	7.6	355.7	139.1	247.2	6.2	333.7	129.1	287.1	5.0	309.8	124.0	309.3	4.5	297.6
	MALC 270	170.1	200.1	9.2	408.2	160.7	230.6	7.7	385.6	150.8	267.7	6.3	361.8	140.0	310.8	5.1	335.9	134.5	334.8	4.5	322.7
	MALC 290	184.8	216.8	9.3	443.6	174.6	249.8	7.8	419.1	163.9	290.0	6.3	393.2	152.1	336.7	5.1	365.1	146.1	362.7	4.6	350.7
	MALC 300	191.9	226.9	9.0	460.6	181.3	261.5	7.5	435.1	170.1	303.6	6.2	408.3	157.9	352.5	5.0	379.0	151.7	379.8	4.5	364.1
	MALC 330	206.0	247.3	9.0	494.4	194.6	285.0	7.5	467.1	182.6	330.8	6.1	438.3	169.5	384.1	4.9	406.9	162.9	413.8	4.4	390.9
	MALC350	215.8	257.3	9.1	517.9	203.9	296.5	7.6	489.3	191.3	344.2	6.2	459.1	177.6	399.6	5.0	426.2	170.6	430.5	4.5	409.5
	MALC 370	235.3	277.2	9.3	564.7	222.3	319.5	7.7	533.5	208.6	370.9	6.3	500.6	193.6	430.6	5.1	464.7	186.0	463.9	4.6	446.5
	MALC 380	246.4	289.0	9.2	591.4	232.8	333.0	7.7	558.8	218.5	386.6	6.3	524.3	202.8	448.9	5.1	486.7	194.8	483.6	4.6	467.6
	MALC 410	260.5	309.4	9.2	625.3	246.2	356.5	7.6	590.8	231.0	413.9	6.2	554.3	214.4	480.5	5.0	514.6	206.0	517.7	4.5	494.4
	MALC 440	274.7	329.7	9.1	659.2	259.5	380.0	7.6	622.8	243.5	441.1	6.2	584.3	226.0	512.1	5.0	542.4	217.1	551.8	4.5	521.2
	MALC 470	294.2	349.7	9.3	706.2	278.0	403.0	7.7	667.2	260.8	467.8	6.3	626.0	242.1	543.1	5.1	581.1	232.6	585.2	4.5	558.3
	MALC 500	313.7	369.7	9.3	752.9	296.4	426.0	7.7	711.4	278.1	494.5	6.3	667.5	258.2	574.1	5.1	619.9	248.0	618.6	4.6	595.3
	MALC 540	340.1	400.2	9.3	816.3	321.4	461.2	7.7	771.2	301.5	535.3	6.3	723.6	279.9	621.6	5.1	671.8	268.9	669.7	4.6	645.4
	MALC 580	369.6	433.5	9.4	887.0	349.2	499.6	7.8	838.1	327.6	579.9	6.4	786.3	304.2	673.3	5.1	730.0	292.2	725.4	4.6	701.3
	MALC 600	383.8	453.3	9.4	921.1	362.6	522.3	7.8	870.3	340.2	606.4	6.3	816.6	315.8	704.0	5.1	758.0	303.4	758.5	4.6	728.3
	MALC 660	412.0	494.6	9.2	988.9	389.3	569.9	7.7	934.3	365.2	661.6	6.2	876.6	339.1	768.2	5.0	813.8	325.8	827.7	4.5	781.8
	MALC 700	431.5	514.6	9.3	1035.6	407.7	592.9	7.7	978.5	382.5	688.3	6.3	918.1	355.1	799.2	5.1	852.3	341.2	861.1	4.5	818.8
	MALC 740	470.6	554.5	9.5	1129.4	444.6	638.9	7.9	1067.1	417.2	741.7	6.4	1001.2	387.3	861.2	5.2	929.4	372.1	927.9	4.6	892.9

LEGEND:

kW - Compressor power input
GPM - Gallons Per Minute
EER - Energy Efficiency Ratio

NOTES:

1. Performance data are based on 10^0F water range in evaporator.
2. Ratings are based on 0.00010 (hr-ft^{2}-^{0}F/Btu) fouling factor for evaporator.
3. Direct interpolation is permissible. Do not extrapolate.
4. kW power input is for compressor only.
5. EER for entire unit. Refer to electrical data for fan kW.

PERFORMANCE DATA (English units)

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	MALC 040	25.5	30.5	8.9	61.1	24.1	35.1	7.4	57.9	22.6	40.6	6.1	54.3	21.1	47.3	4.9	50.6	20.3	50.9	4.4	48.7
	MALC 050	31.0	36.3	9.3	74.4	29.4	41.7	7.7	70.5	27.6	48.3	6.4	66.1	25.6	56.3	5.1	61.5	24.7	60.6	4.6	59.2
	MALC 060	38.7	45.1	9.2	92.8	36.6	51.9	7.7	87.9	34.4	60.0	6.3	82.5	32.0	69.9	5.1	76.8	30.8	75.3	4.6	73.9
	MALC 070	43.6	51.9	9.2	104.6	41.3	59.7	7.7	99.1	38.8	69.0	6.3	93.0	36.1	80.4	5.1	86.5	34.7	86.7	4.5	83.3
	MALC 075	51.0	61.0	8.9	122.3	48.2	70.2	7.4	115.8	45.3	81.1	6.1	108.7	42.1	94.6	5.0	101.1	40.6	101.9	4.4	97.3
	MALC 090	56.5	66.8	9.1	135.6	53.5	76.8	7.6	128.4	50.2	88.8	6.2	120.5	46.7	103.5	5.0	112.1	45.0	111.6	4.5	107.9
	MALC 100	62.0	72.6	9.3	148.8	58.7	83.5	7.7	140.9	55.1	96.6	6.4	132.3	51.3	112.5	5.1	123.1	49.4	121.2	4.6	118.4
	MALC 120	77.4	90.2	9.2	185.8	73.3	103.7	7.7	175.9	68.8	120.0	6.3	165.1	64.0	139.8	5.1	153.6	61.6	150.6	4.6	147.9
	MALC140	87.1	103.8	9.2	209.1	82.5	119.4	7.6	198.0	77.5	138.1	6.3	185.9	72.1	160.9	5.1	172.9	69.4	173.3	4.5	166.5
	MALC 150	97.6	111.4	9.3	234.2	92.4	128.1	7.8	221.8	86.8	148.2	6.4	208.2	80.7	172.7	5.2	193.7	77.7	186.0	4.7	186.5
	MALC 170	113.0	128.1	9.5	271.2	107.0	147.3	8.0	256.8	100.4	170.4	6.5	241.1	93.4	198.6	5.3	224.2	89.9	213.9	4.7	215.8
	MALC 190	128.4	144.8	9.7	308.2	121.6	166.5	8.1	291.8	114.1	192.6	6.6	274.0	106.2	224.4	5.4	254.8	102.2	241.8	4.8	245.3
	MALC 220	143.1	165.2	9.4	343.3	135.5	190.0	7.8	325.1	127.2	219.7	6.4	305.2	118.3	256.1	5.2	283.9	113.9	275.9	4.7	273.3
	MALC 250	163.4	185.2	9.5	392.2	154.7	213.0	7.9	371.4	145.3	246.3	6.5	348.6	135.1	287.1	5.3	324.3	130.1	309.3	4.7	312.2
	MALC 270	177.2	200.5	9.6	425.2	167.8	230.6	8.0	402.6	157.5	266.7	6.6	378.0	146.5	310.8	5.3	351.6	141.0	334.8	4.8	338.4
	MALC 290	192.2	217.2	9.7	462.1	182.3	249.8	8.1	437.6	171.2	288.9	6.6	410.8	159.2	336.7	5.4	382.2	153.3	362.7	4.8	367.8
	MALC 300	199.9	227.4	9.4	479.8	189.3	261.5	7.9	454.3	177.7	302.4	6.5	426.5	165.3	352.5	5.2	396.8	159.1	379.8	4.7	381.9
	MALC 330	214.6	247.8	9.3	515.0	203.2	285.0	7.8	487.7	190.8	329.6	6.4	457.9	177.5	384.1	5.2	425.9	170.8	413.8	4.7	410.0
	MALC 350	224.8	257.8	9.4	539.5	212.9	296.5	7.9	510.9	199.8	342.9	6.5	479.6	185.9	399.6	5.2	446.2	178.9	430.5	4.7	429.5
	MALC 370	245.1	277.8	9.6	588.2	232.1	319.5	8.0	557.1	217.9	369.5	6.6	522.9	202.7	430.6	5.3	486.5	195.1	463.9	4.8	468.2
	MALC 380	256.7	289.6	9.6	616.1	243.1	333.0	8.0	583.4	228.2	385.2	6.6	547.7	212.3	448.9	5.3	509.5	204.3	483.6	4.8	490.4
	MALC 410	271.4	310.0	9.5	651.4	257.0	356.5	8.0	616.8	241.3	412.3	6.5	579.1	224.4	480.5	5.3	538.7	216.0	517.7	4.7	518.5
	MALC 440	286.1	330.4	9.5	686.6	270.9	380.0	7.9	650.2	254.3	439.4	6.5	610.4	236.6	512.1	5.2	567.9	227.7	551.8	4.7	546.6
	MALC 470	306.5	350.4	9.6	735.6	290.3	403.0	8.0	696.6	272.5	466.0	6.6	653.9	253.5	543.1	5.3	608.3	244.0	585.2	4.8	585.5
	MALC 500	326.8	370.4	9.7	784.3	309.5	426.0	8.1	742.8	290.5	492.6	6.6	697.3	270.3	574.1	5.3	648.6	260.1	618.6	4.8	624.3
	MALC 540	354.3	401.0	9.7	850.3	335.5	461.2	8.1	805.3	315.0	533.3	6.6	755.9	293.0	621.6	5.3	703.2	282.0	669.7	4.8	676.9
	MALC 580	385.0	434.4	9.8	924.0	364.6	499.6	8.1	875.0	342.3	577.8	6.7	821.4	318.4	673.3	5.4	764.1	306.5	725.4	4.8	735.5
	MALC 600	399.8	454.2	9.8	959.5	378.6	522.3	8.1	908.7	355.4	604.1	6.7	853.0	330.6	704.0	5.4	793.5	318.2	758.5	4.8	763.8
	MALC 660	429.2	495.6	9.6	1030.1	406.5	569.9	8.0	975.5	381.6	659.1	6.5	915.7	354.9	768.2	5.3	851.9	341.6	827.7	4.7	819.9
	MALC 700	449.5	515.6	9.7	1078.8	425.7	592.9	8.1	1021.6	399.6	685.7	6.6	959.1	371.7	799.2	5.3	892.2	357.8	861.1	4.8	858.7
	MALC 740	490.2	555.6	9.9	1176.5	464.2	638.9	8.2	1114.1	435.8	738.9	6.7	1045.9	405.4	861.2	5.4	972.9	390.2	927.9	4.8	936.5
46 °F	MALC 040	26.5	30.5	9.2	63.5	25.1	35.1	7.7	60.3	23.7	40.6	6.4	56.8	22.0	47.3	5.2	52.9	21.2	50.9	4.7	50.9
	MALC 050	32.2	36.3	9.6	77.3	30.6	41.7	8.1	73.4	28.8	48.3	6.6	69.1	26.8	56.3	5.4	64.4	25.8	60.6	4.8	62.0
	MALC 060	40.2	45.1	9.6	96.4	38.2	51.9	8.0	91.6	35.9	60.0	6.6	86.2	33.4	69.9	5.4	80.3	32.2	75.3	4.8	77.3
	MALC 070	45.3	51.9	9.5	108.7	43.0	59.7	8.0	103.3	40.5	69.0	6.6	97.2	37.7	80.4	5.3	90.5	36.3	86.7	4.8	87.2
	MALC 075	52.9	61.0	9.2	127.0	50.3	70.2	7.7	120.7	47.3	81.1	6.4	113.6	44.1	94.6	5.2	105.8	42.4	101.9	4.7	101.9
	MALC 090	58.7	66.8	9.4	140.9	55.8	76.8	7.9	133.8	52.5	88.8	6.5	126.0	48.9	103.5	5.3	117.3	47.1	111.6	4.7	113.0
	MALC 100	64.4	72.6	9.6	154.6	61.2	83.5	8.1	146.9	57.6	96.6	6.6	138.2	53.6	112.5	5.4	128.7	51.6	121.2	4.8	124.0
	MALC 120	80.4	90.2	9.6	193.0	76.4	103.7	8.0	183.3	71.9	120.0	6.6	172.6	67.0	139.8	5.4	160.7	64.5	150.6	4.8	154.7
	MALC 140	90.5	103.8	9.5	217.3	86.0	119.4	8.0	206.4	80.9	138.1	6.6	194.3	75.4	160.9	5.3	180.9	72.6	173.3	4.8	174.2
	MALC 150	101.4	111.4	9.7	243.4	96.3	128.1	8.1	231.2	90.7	148.2	6.7	217.6	84.4	172.7	5.4	202.6	81.3	186.0	4.9	195.1
	MALC 170	117.4	128.1	9.9	281.7	111.5	147.3	8.3	267.6	105.0	170.4	6.8	251.9	97.7	198.6	5.5	234.5	94.1	213.9	5.0	225.9
	MALC 190	133.4	144.8	10.0	320.2	126.7	166.5	8.4	304.2	119.3	192.6	6.9	286.3	111.1	224.4	5.6	266.6	107.0	241.8	5.0	256.7
	MALC 220	148.6	165.2	9.8	356.7	141.2	190.0	8.2	338.9	132.9	219.7	6.7	319.0	123.7	256.1	5.4	297.0	119.2	275.9	4.9	286.0
	MALC 250	169.8	185.2	9.9	407.5	161.3	213.0	8.3	387.1	151.8	246.3	6.8	364.3	141.3	287.1	5.5	339.2	136.1	309.3	5.0	326.7
	MALC 270	184.1	200.5	10.0	441.8	174.9	230.6	8.4	419.7	164.6	266.7	6.9	395.0	153.2	310.8	5.6	367.8	147.6	334.8	5.0	354.2
	MALC 290	200.0	217.2	10.1	480.1	190.0	249.8	8.4	456.1	178.9	288.9	6.9	429.3	166.5	336.7	5.6	399.7	160.4	362.7	5.0	384.9
	MALC 300	207.7	227.4	9.8	498.5	197.3	261.5	8.2	473.5	185.7	302.4	6.8	445.7	172.9	352.5	5.5	415.0	166.5	379.8	4.9	399.6
	MALC 330	223.0	247.8	9.7	535.1	211.8	285.0	8.1	508.3	199.4	329.6	6.7	478.5	185.6	384.1	5.4	445.5	178.8	413.8	4.9	429.0
	MALC 350	233.6	257.8	9.8	560.6	221.9	296.5	8.2	532.5	208.8	342.9	6.8	501.2	194.5	399.6	5.5	466.7	187.3	430.5	4.9	449.4
	MALC 370	254.7	277.8	10.0	611.2	241.9	319.5	8.4	580.6	227.7	369.5	6.9	546.5	212.0	430.6	5.6	508.8	204.2	463.9	5.0	490.0
	MALC 380	266.7	289.6	10.0	640.1	253.4	333.0	8.4	608.1	238.5	385.2	6.9	572.3	222.0	448.9	5.6	532.9	213.8	483.6	5.0	513.2
	MALC 410	282.0	310.0	9.9	676.8	267.9	356.5	8.3	642.9	252.1	412.3	6.8	605.1	234.8	480.5	5.5	563.4	226.1	517.7	5.0	542.6
	MALC 440	297.3	330.4	9.9	713.4	282.4	380.0	8.3	677.7	265.8	439.4	6.8	637.9	247.5	512.1	5.5	593.6	238.3	551.8	4.9	572.0
	MALC 470	318.5	350.4	10.0	764.3	302.5	403.0	8.4	726.0	284.7	466.0	6.9	683.4	265.1	543.1	5.6	636.3	255.3	585.2	5.0	612.8
	MALC 500	339.5	370.4	10.1	814.9	322.6	426.0	8.4	774.1	303.6	492.6	6.9	728.6	282.7	574.1	5.6	678.4	272.2	618.6	5.0	653.3
	MALC 540	368.1	401.0	10.1	883.5	349.7	461.2	8.4	839.3	329.1	533.3	6.9	789.9	306.5	621.6	5.6	735.5	295.1	669.7	5.0	708.3
	MALC 580	400.0	434.4	10.2	960.0	380.0	499.6	8.5	912.0	357.7	577.8	7.0	858.4	333.0	673.3	5.6	799.3	320.7	725.4	5.1	769.7
	MALC 600	415.4	454.2	10.1	996.9	394.6	522.3	8.5	947.0	371.4	604.1	7.0	891.4	345.8	704.0	5.6	830.0	333.0	758.5	5.0	799.3
	MALC 660	445.9	495.6	10.0	1070.3	423.6	569.9	8.3	1016.7	398.7	659.1	6.8	956.9	371.3	768.2	5.5	891.0	357.5	827.7	5.0	858.1
	MALC 700	467.0	515.6	10.1	1120.9	443.7	592.9	8.4	1064.8	417.6	685.7	6.9	1002.2	388.8	799.2	5.6	933.2	374.4	861.1	5.0	898.6
	MALC 740	509.3	555.6	10.3	1222.4	483.8	638.9	8.5	1161.2	455.4	738.9	7.0	1092.9	424.0	861.2	5.7	1017.7	408.3	927.9	5.1	980.0

LEGEND:

kW - Compressor power input
GPM - Gallons Per Minute
EER - Energy Efficiency Ratio

NOTES:

1. Performance data are based on 10°F water range in evaporator.
2. Ratings are based on 0.00010 (hr-ft²-°F/Btu) fouling factor for evaporator.
3. Direct interpolation is permissible. Do not extrapolate.
4. kW power input is for compressor only.
5. EER for entire unit. Refer to electrical data for fan kW.

PERFORMANCE DATA (English units)

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	MALC 040	27.6	30.5	9.6	66.2	26.1	35.1	8.1	62.7	24.7	40.6	6.7	59.2	23.0	47.3	5.4	55.2	22.2	50.9	4.9	53.2
	MALC 050	33.6	36.3	10.0	80.6	31.8	41.7	8.4	76.3	30.0	48.3	6.9	72.1	28.0	56.3	5.6	67.2	27.0	60.6	5.0	64.8
	MALC 060	41.9	45.1	10.0	100.5	39.7	51.9	8.4	95.2	37.5	60.0	6.9	89.9	34.9	69.9	5.6	83.8	33.7	75.3	5.0	80.8
	MALC 070	47.2	51.9	9.9	113.3	44.7	59.7	8.3	107.4	42.2	69.0	6.8	101.4	39.4	80.4	5.5	94.5	38.0	86.7	5.0	91.1
	MALC 075	55.2	61.0	9.6	132.4	52.3	70.2	8.1	125.5	49.4	81.1	6.7	118.5	46.0	94.6	5.4	110.4	44.4	101.9	4.9	106.5
	MALC 090	61.2	66.8	9.8	146.9	58.0	76.8	8.2	139.1	54.7	88.8	6.8	131.4	51.0	103.5	5.5	122.4	49.2	111.6	5.0	118.1
	MALC 100	67.1	72.6	10.0	161.2	63.6	83.5	8.4	152.7	60.1	96.6	6.9	144.2	56.0	112.5	5.6	134.4	54.0	121.2	5.0	129.6
	MALC 120	83.8	90.2	10.0	201.2	79.4	103.7	8.4	190.6	75.0	120.0	6.9	180.0	69.9	139.8	5.6	167.7	67.4	150.6	5.0	161.8
	MALC 140	94.4	103.8	9.9	226.5	89.4	119.4	8.3	214.5	84.4	138.1	6.8	202.6	78.7	160.9	5.5	188.8	75.9	173.3	5.0	182.1
	MALC 150	105.7	111.4	10.1	253.7	100.1	128.1	8.5	240.3	94.6	148.2	7.0	227.0	88.1	172.7	5.7	211.5	85.0	186.0	5.1	204.0
	MALC 170	122.4	128.1	10.3	293.7	115.9	147.3	8.6	278.2	109.5	170.4	7.1	262.7	102.0	198.6	5.8	244.9	98.4	213.9	5.2	236.2
	MALC 190	139.1	144.8	10.5	333.7	131.7	166.5	8.8	316.2	124.4	192.6	7.2	298.6	115.9	224.4	5.9	278.3	111.8	241.8	5.3	268.4
	MALC 220	154.9	165.2	10.2	371.8	146.8	190.0	8.5	352.3	138.6	219.7	7.0	332.7	129.2	256.1	5.7	310.0	124.6	275.9	5.1	299.1
	MALC 250	177.0	185.2	10.3	424.7	167.6	213.0	8.6	402.4	158.3	246.3	7.1	380.0	147.6	287.1	5.8	354.1	142.3	309.3	5.2	341.6
	MALC 270	191.9	200.5	10.4	460.5	181.8	230.6	8.7	436.2	171.7	266.7	7.2	412.0	160.0	310.8	5.8	383.9	154.3	334.8	5.2	370.3
	MALC 290	208.5	217.2	10.5	500.4	197.5	249.8	8.8	474.1	186.6	288.9	7.2	447.8	173.9	336.7	5.9	417.3	167.7	362.7	5.3	402.5
	MALC 300	216.5	227.4	10.2	519.6	205.1	261.5	8.5	492.2	193.7	302.4	7.0	464.9	180.5	352.5	5.7	433.2	174.1	379.8	5.1	417.9
	MALC 330	232.4	247.8	10.1	557.8	220.2	285.0	8.5	528.4	207.9	329.6	7.0	499.1	193.8	384.1	5.7	465.1	186.9	413.8	5.1	448.6
	MALC 350	243.5	257.8	10.2	584.3	230.6	296.5	8.5	553.5	217.8	342.9	7.1	522.8	203.0	399.6	5.7	487.2	195.8	430.5	5.1	469.9
	MALC 370	265.4	277.8	10.4	637.1	251.5	319.5	8.7	603.5	237.5	369.5	7.2	570.0	221.3	430.6	5.8	531.2	213.5	463.9	5.2	512.4
	MALC 380	278.0	289.6	10.4	667.2	263.4	333.0	8.7	632.1	248.7	385.2	7.2	597.0	231.8	448.9	5.8	556.3	223.6	483.6	5.2	536.6
	MALC 410	293.9	310.0	10.3	705.4	278.5	356.5	8.6	668.3	263.0	412.3	7.1	631.2	245.1	480.5	5.8	588.2	236.4	517.7	5.2	567.3
	MALC 440	309.8	330.4	10.3	743.6	293.5	380.0	8.6	704.5	277.2	439.4	7.1	665.4	258.3	512.1	5.7	620.0	249.2	551.8	5.1	598.1
	MALC 470	331.9	350.4	10.4	796.7	314.5	403.0	8.7	754.7	297.0	466.0	7.2	712.8	276.8	543.1	5.8	664.2	267.0	585.2	5.2	640.7
	MALC 500	353.9	370.4	10.5	849.4	335.3	426.0	8.7	804.7	316.7	492.6	7.2	760.0	295.1	574.1	5.8	708.2	284.6	618.6	5.2	683.1
	MALC 540	383.7	401.0	10.5	920.9	363.5	461.2	8.7	872.4	343.3	533.3	7.2	824.0	319.9	621.6	5.8	767.8	308.6	669.7	5.2	740.6
	MALC 580	417.0	434.4	10.6	1000.7	395.0	499.6	8.8	948.0	373.1	577.8	7.3	895.4	347.7	673.3	5.9	834.4	335.3	725.4	5.3	804.8
	MALC 600	433.0	454.2	10.6	1039.2	410.2	522.3	8.8	984.5	387.4	604.1	7.3	929.8	361.0	704.0	5.9	866.4	348.2	758.5	5.3	835.7
	MALC 660	464.8	495.6	10.4	1115.6	440.4	569.9	8.7	1056.9	415.9	659.1	7.1	998.1	387.6	768.2	5.8	930.2	373.8	827.7	5.2	897.2
	MALC 700	486.8	515.6	10.5	1168.3	461.2	592.9	8.7	1106.8	435.6	685.7	7.2	1045.4	405.9	799.2	5.8	974.2	391.5	861.1	5.2	939.6
	MALC 740	530.9	555.6	10.7	1274.1	502.9	638.9	8.9	1207.1	475.0	738.9	7.3	1140.0	442.7	861.2	5.9	1062.4	427.0	927.9	5.3	1024.7
50°F	MALC 040	28.7	30.6	10.0	69.0	27.3	35.1	8.4	65.5	25.6	41.2	6.8	61.4	24.0	47.3	5.6	57.6	23.2	51.2	5.1	55.7
	MALC 050	35.0	36.4	10.4	83.9	33.2	41.7	8.7	79.7	31.1	49.0	7.1	74.7	29.2	56.3	5.8	70.2	28.3	61.0	5.2	67.9
	MALC 060	43.6	45.2	10.4	104.7	41.4	51.9	8.7	99.4	38.8	60.9	7.1	93.2	36.5	69.9	5.8	87.5	35.3	75.8	5.2	84.6
	MALC 070	49.2	52.0	10.3	118.0	46.7	59.7	8.7	112.1	43.8	70.1	7.0	105.1	41.1	80.4	5.8	98.7	39.8	87.2	5.2	95.4
	MALC 075	57.5	61.1	10.0	137.9	54.6	70.2	8.4	131.0	51.2	82.4	6.8	122.8	48.0	94.6	5.6	115.3	46.5	102.5	5.1	111.5
	MALC 090	63.7	66.9	10.2	153.0	60.5	76.8	8.6	145.2	56.7	90.2	7.0	136.1	53.3	103.5	5.8	127.9	51.5	112.2	5.2	123.7
	MALC 100	69.9	72.7	10.4	167.8	66.4	83.5	8.7	159.4	62.2	98.0	7.1	149.4	58.5	112.5	5.8	140.3	56.5	122.0	5.2	135.7
	MALC 120	87.3	90.4	10.4	209.5	82.9	103.7	8.7	198.9	77.7	121.8	7.1	186.5	73.0	139.8	5.8	175.2	70.6	151.5	5.2	169.4
	MALC 140	98.3	104.0	10.3	235.9	93.3	119.4	8.6	224.0	87.5	140.1	7.0	209.9	82.2	160.9	5.8	197.2	79.5	174.4	5.2	190.7
	MALC 150	110.1	111.6	10.5	264.2	104.5	128.1	8.8	250.9	98.0	150.4	7.2	235.2	92.0	172.7	5.9	220.9	89.0	187.2	5.3	213.6
	MALC 170	127.4	128.4	10.7	305.9	121.0	147.3	9.0	290.4	113.4	172.9	7.3	272.2	106.5	198.6	6.0	255.7	103.0	215.2	5.4	247.3
	MALC 190	144.8	145.1	10.9	347.6	137.5	166.5	9.2	330.0	128.9	195.5	7.4	309.4	121.1	224.4	6.1	290.6	117.1	243.3	5.5	281.0
	MALC 220	161.4	165.5	10.6	387.3	153.2	190.0	8.9	367.7	143.6	223.0	7.2	344.7	134.9	256.1	5.9	323.8	130.5	277.5	5.3	313.1
	MALC 250	184.3	185.6	10.7	442.4	175.0	213.0	9.0	420.0	164.1	250.0	7.3	393.7	154.1	287.1	6.0	369.8	149.0	311.1	5.4	357.6
	MALC 270	199.8	200.9	10.8	479.6	189.7	230.6	9.1	455.4	177.9	270.7	7.3	426.9	167.1	310.8	6.1	400.9	161.6	336.8	5.4	387.8
	MALC 290	217.2	217.6	10.9	521.2	206.2	249.8	9.2	494.9	193.3	293.2	7.4	463.9	181.6	336.7	6.1	435.8	175.6	364.9	5.5	421.4
	MALC 300	225.5	227.9	10.6	541.2	214.1	261.5	8.9	513.8	200.7	307.0	7.2	481.7	188.5	352.5	6.0	452.4	182.3	382.0	5.3	437.5
	MALC 330	242.1	248.3	10.5	581.0	229.8	285.0	8.8	551.6	215.5	334.5	7.1	517.1	202.4	384.1	5.9	485.7	195.7	416.3	5.3	469.7
	MALC 350	253.6	258.3	10.6	608.6	240.8	296.5	8.9	577.8	225.7	348.0	7.2	541.7	212.0	399.6	6.0	508.8	205.0	433.1	5.4	492.0
	MALC 370	276.5	278.4	10.8	663.5	262.5	319.5	9.1	630.0	246.1	375.0	7.3	590.6	231.1	430.6	6.1	554.7	223.5	466.7	5.4	536.5
	MALC 380	289.6	290.2	10.8	694.9	274.9	333.0	9.1	659.8	257.7	391.0	7.3	618.5	242.1	448.9	6.1	581.0	234.1	486.5	5.4	561.9
	MALC 410	306.1	310.6	10.7	734.7	290.7	356.5	9.0	697.6	272.5	418.5	7.3	654.0	255.9	480.5	6.0	614.2	247.5	520.8	5.4	594.0
	MALC 440	322.7	331.1	10.7	774.5	306.4	380.0	9.0	735.4	287.2	446.0	7.2	689.4	269.8	512.1	6.0	647.5	260.9	555.1	5.4	626.2
	MALC 470	345.7	351.1	10.9	829.8	328.3	403.0	9.1	787.8	307.7	473.0	7.3	738.5	289.0	543.1	6.1	693.7	279.5	588.7	5.4	670.9
	MALC 500	368.6	371.1	10.9	884.7	350.0	426.0	9.1	840.0	328.1	500.0	7.4	787.5	308.2	574.1	6.1	739.6	298.0	622.3	5.5	715.3
	MALC 540	399.7	401.8	10.9	959.2	379.5	461.2	9.1	910.7	355.7	541.4	7.4	853.7	334.1	621.6	6.1	801.9	323.1	673.7	5.5	775.5
	MALC 580	434.3	435.3	11.0	1042.3	412.3	499.6	9.2	989.6	386.5	586.4	7.4	927.7	363.1	673.3	6.1	871.3	351.1	729.8	5.5	842.7
	MALC 600	451.0	455.1	11.0	1082.3	428.2	522.3	9.2	1027.6	401.4	613.2	7.4	963.4	377.0	704.0	6.1	904.8	364.6	763.1	5.5	875.1
	MALC 660	484.1	496.6	10.8	1161.9	459.7	569.9	9.0	1103.2	430.9	669.1	7.3	1034.2	404.7	768.2	6.0	971.4	391.4	832.6	5.4	939.4
	MALC 700	507.0	516.6	10.9	1216.9	481.4	592.9	9.1	1155.4	451.3	696.1	7.4	1083.1	423.9	799.2	6.1	1017.3	409.9	866.2	5.4	983.9
	MALC 740	552.9	556.7	11.1	1327.1	525.0	638.9	9.3	1260.0	492.2	750.1	7.5	1181.2	462.3	861.2	6.2	1109.4	447.1	933.4	5.5	1072.9

LEGEND:

kW - Compressor power input
GPM - Gallons Per Minute
EER - Energy Efficiency Ratio

NOTES:

1. Performance data are based on 10°F water range in evaporator.
2. Ratings are based on 0.00010 (hr-ft²-°F/Btu) fouling factor for evaporator.
3. Direct interpolation is permissible. Do not extrapolate.
4. kW power input is for compressor only.
5. EER for entire unit. Refer to electrical data for fan kW.

PERFORMANCE DATA (Metric 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 (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)
4 °C	MALC 040	81.5	30.5	2.4	3.2	77.5	34.5	2.0	3.1	72.3	40.6	1.6	2.9	66.5	47.9	1.3	2.6	63.3	52.2	1.1	2.5
	MALC 050	99.1	36.2	2.5	3.9	94.3	40.9	2.1	3.8	87.9	48.1	1.7	3.5	80.8	56.8	1.3	3.2	77.0	61.9	1.2	3.1
	MALC 060	123.7	45.1	2.4	4.9	117.7	51.0	2.1	4.7	109.7	60.0	1.7	4.4	100.9	70.8	1.3	4.0	96.0	77.1	1.2	3.8
	MALC 070	139.3	51.9	2.4	5.5	132.6	58.6	2.1	5.3	123.5	69.0	1.7	4.9	113.6	81.5	1.3	4.5	108.2	88.7	1.1	4.3
	MALC 075	163.0	61.0	2.4	6.5	155.1	68.9	2.0	6.2	144.5	81.1	1.6	5.8	132.9	95.8	1.3	5.3	126.6	104.3	1.1	5.0
	MALC 090	180.6	66.7	2.4	7.2	171.8	75.4	2.1	6.8	160.1	88.7	1.7	6.4	147.3	104.7	1.3	5.9	140.3	114.1	1.1	5.6
	MALC 100	198.2	72.4	2.5	7.9	188.6	81.8	2.1	7.5	175.7	96.3	1.7	7.0	161.6	113.7	1.3	6.4	153.9	123.8	1.2	6.1
	MALC 120	247.3	90.2	2.4	9.9	235.3	101.9	2.1	9.4	219.3	120.0	1.7	8.7	201.7	141.6	1.3	8.0	192.1	154.2	1.2	7.7
	MALC 140	278.7	103.8	2.4	11.1	265.1	117.3	2.1	10.6	247.1	138.1	1.7	9.8	227.3	163.0	1.3	9.1	216.4	177.5	1.1	8.6
	MALC 150	312.2	111.2	2.5	12.4	297.1	125.7	2.1	11.8	276.8	147.9	1.7	11.0	254.6	174.6	1.3	10.1	242.5	190.2	1.2	9.7
	MALC 170	361.0	127.9	2.5	14.4	343.5	144.5	2.2	13.7	320.1	170.1	1.7	12.7	294.4	200.8	1.4	11.7	280.4	218.7	1.2	11.2
	MALC 190	409.7	144.6	2.6	16.3	389.8	163.4	2.2	15.5	363.3	192.3	1.8	14.5	334.2	227.0	1.4	13.3	318.2	247.3	1.2	12.7
	MALC 220	456.1	165.0	2.5	18.2	433.9	186.5	2.1	17.3	404.4	219.5	1.7	16.1	372.0	259.1	1.3	14.8	354.2	282.2	1.2	14.1
	MALC 250	524.7	185.2	2.5	20.9	499.2	209.3	2.2	19.9	465.3	246.3	1.7	18.5	427.9	290.8	1.4	17.0	407.5	316.7	1.2	16.2
	MALC 270	565.8	200.2	2.5	22.5	538.4	226.2	2.2	21.4	501.7	266.3	1.7	20.0	461.5	314.3	1.4	18.4	439.5	342.3	1.2	17.5
	MALC 290	614.6	216.9	2.6	24.5	584.8	245.1	2.2	23.3	545.0	288.5	1.8	21.7	501.2	340.5	1.4	20.0	477.4	370.9	1.2	19.0
	MALC 300	637.8	227.1	2.5	25.4	606.8	256.6	2.1	24.2	565.5	302.0	1.7	22.5	520.1	356.5	1.3	20.7	495.4	388.3	1.2	19.7
	MALC 330	684.1	247.5	2.5	27.2	650.9	279.7	2.1	25.9	606.6	329.2	1.7	24.2	557.9	388.6	1.3	22.2	531.4	423.2	1.2	21.2
	MALC 350	718.4	257.6	2.5	28.6	683.6	291.1	2.1	27.2	637.1	342.6	1.7	25.4	585.9	404.4	1.3	23.3	558.0	440.5	1.2	22.2
	MALC 370	787.0	277.8	2.6	31.3	748.8	313.9	2.2	29.8	697.9	369.5	1.7	27.8	641.8	436.1	1.4	25.6	611.3	475.0	1.2	24.3
	MALC 380	819.5	289.2	2.5	32.6	779.7	326.8	2.2	31.1	726.6	384.6	1.7	28.9	668.3	454.0	1.4	26.6	636.5	494.5	1.2	25.4
	MALC 410	865.8	309.6	2.5	34.5	823.8	349.8	2.2	32.8	767.7	411.8	1.7	30.6	706.1	486.1	1.4	28.1	672.5	529.4	1.2	26.8
	MALC 440	912.2	330.0	2.5	36.3	867.9	372.9	2.1	34.6	808.8	438.9	1.7	32.2	743.9	518.1	1.3	29.6	708.5	564.3	1.2	28.2
	MALC 470	980.8	350.2	2.6	39.1	933.2	395.7	2.2	37.2	869.7	465.8	1.7	34.6	799.8	549.8	1.4	31.9	761.8	598.8	1.2	30.3
	MALC 500	1049.4	370.4	2.6	41.8	998.4	418.6	2.2	39.8	930.5	492.6	1.8	37.1	855.8	581.5	1.4	34.1	815.0	633.4	1.2	32.5
	MALC 540	1131.7	400.4	2.6	45.1	1076.7	452.5	2.2	42.9	1003.5	532.5	1.8	40.0	922.9	628.6	1.4	36.8	879.0	684.7	1.2	35.0
	MALC 580	1229.2	433.8	2.6	49.0	1169.5	490.2	2.2	46.6	1090.0	577.0	1.8	43.4	1002.5	681.1	1.4	39.9	954.7	741.8	1.2	38.0
	MALC 600	1275.6	454.2	2.6	50.8	1213.6	513.2	2.2	48.3	1131.1	604.1	1.8	45.1	1040.3	713.1	1.4	41.4	990.7	776.7	1.2	39.5
	MALC 660	1368.3	495.0	2.5	54.5	1301.8	559.4	2.2	51.9	1213.3	658.4	1.7	48.3	1115.9	777.2	1.4	44.4	1062.7	846.5	1.2	42.3
	MALC 700	1436.9	515.6	2.6	57.2	1367.1	582.6	2.2	54.5	1274.1	685.7	1.7	50.7	1171.8	809.5	1.4	46.7	1116.0	881.7	1.2	44.5
	MALC 740	1574.0	555.6	2.6	62.7	1497.6	627.8	2.2	59.7	1395.8	738.9	1.8	55.6	1283.7	872.3	1.4	51.1	1222.6	950.1	1.2	48.7
5 °C	MALC 040	84.6	30.5	2.4	3.4	80.7	34.5	2.1	3.2	75.2	40.6	1.7	3.0	69.4	47.9	1.3	2.8	66.2	51.9	1.2	2.6
	MALC 050	102.9	36.2	2.6	4.1	98.1	40.9	2.2	3.9	91.5	48.1	1.8	3.6	84.3	56.8	1.4	3.4	80.5	61.5	1.2	3.2
	MALC 060	128.5	45.1	2.5	5.1	122.5	51.0	2.2	4.9	114.2	60.0	1.7	4.5	105.3	70.8	1.4	4.2	100.5	76.7	1.2	4.0
	MALC 070	144.7	51.9	2.5	5.8	138.0	58.6	2.2	5.5	128.7	69.0	1.7	5.1	118.6	81.5	1.4	4.7	113.2	88.2	1.2	4.5
	MALC 075	169.3	61.0	2.4	6.7	161.4	68.9	2.1	6.4	150.5	81.1	1.7	6.0	138.7	95.8	1.3	5.5	132.4	103.7	1.2	5.3
	MALC 090	187.6	66.7	2.5	7.5	178.8	75.4	2.1	7.1	166.7	88.7	1.7	6.6	153.7	104.7	1.4	6.1	146.7	113.4	1.2	5.8
	MALC 100	205.9	72.4	2.6	8.2	196.3	81.8	2.2	7.8	183.0	96.3	1.8	7.3	168.7	113.7	1.4	6.7	161.0	123.1	1.2	6.4
	MALC 120	256.9	90.2	2.5	10.2	244.9	101.9	2.2	9.8	228.4	120.0	1.7	9.1	210.5	141.6	1.4	8.4	200.9	153.3	1.2	8.0
	MALC 140	289.5	103.8	2.5	11.5	276.0	117.3	2.2	11.0	257.3	138.1	1.7	10.2	237.2	163.0	1.4	9.4	226.4	176.5	1.2	9.0
	MALC 150	324.3	111.2	2.6	12.9	309.2	125.7	2.2	12.3	288.3	147.9	1.8	11.5	265.7	174.6	1.4	10.6	253.6	189.0	1.2	10.1
	MALC 170	375.0	127.9	2.6	14.9	357.5	144.5	2.2	14.2	333.3	170.1	1.8	13.3	307.2	200.8	1.4	12.2	293.2	217.4	1.3	11.7
	MALC 190	425.6	144.6	2.7	17.0	405.8	163.4	2.3	16.2	378.4	192.3	1.8	15.1	348.7	227.0	1.4	13.9	332.8	245.8	1.3	13.3
	MALC 220	473.8	165.0	2.6	18.9	451.7	186.5	2.2	18.0	421.2	219.5	1.8	16.8	388.2	259.1	1.4	15.5	370.5	280.5	1.2	14.8
	MALC 250	545.1	185.2	2.6	21.7	519.6	209.3	2.2	20.7	484.5	246.3	1.8	19.3	446.6	290.8	1.4	17.8	426.2	314.8	1.3	17.0
	MALC 270	587.8	200.2	2.6	23.4	560.3	226.2	2.3	22.3	522.5	266.3	1.8	20.8	481.6	314.3	1.4	19.2	459.6	340.3	1.3	18.3
	MALC 290	638.5	216.9	2.7	25.4	608.6	245.1	2.3	24.2	567.5	288.5	1.8	22.6	523.1	340.5	1.4	20.8	499.2	368.7	1.3	19.9
	MALC 300	662.5	227.1	2.6	26.4	631.6	256.6	2.2	25.2	588.9	302.0	1.8	23.5	542.8	356.5	1.4	21.6	518.1	386.1	1.2	20.6
	MALC 330	710.7	247.5	2.6	28.3	677.5	279.7	2.2	27.0	631.7	329.2	1.8	25.2	582.3	388.6	1.4	23.2	555.7	420.8	1.2	22.1
	MALC 350	746.3	257.6	2.6	29.7	711.5	291.1	2.2	28.3	663.4	342.6	1.8	26.4	611.5	404.4	1.4	24.4	583.6	437.9	1.2	23.2
	MALC 370	817.6	277.8	2.7	32.6	779.4	313.9	2.3	31.0	726.7	369.5	1.8	28.9	669.9	436.1	1.4	26.7	639.3	472.3	1.3	25.5
	MALC 380	851.3	289.2	2.6	33.9	811.5	326.8	2.3	32.3	756.7	384.6	1.8	30.1	697.5	454.0	1.4	27.8	665.7	491.6	1.3	26.5
	MALC 410	899.4	309.6	2.6	35.8	857.4	349.8	2.2	34.2	799.5	411.8	1.8	31.8	736.9	486.1	1.4	29.4	703.3	526.3	1.3	28.0
	MALC 440	947.6	330.0	2.6	37.7	903.3	372.9	2.2	36.0	842.3	438.9	1.8	33.5	776.4	518.1	1.4	30.9	741.0	561.0	1.2	29.5
	MALC 470	1018.9	350.2	2.7	40.6	971.2	395.7	2.3	38.7	905.6	465.8	1.8	36.1	834.8	549.8	1.4	33.2	796.7	595.3	1.3	31.7
	MALC 500	1090.1	370.4	2.7	43.4	1039.2	418.6	2.3	41.4	969.0	492.6	1.8	38.6	893.1	581.5	1.4	35.6	852.4	629.7	1.3	34.0
	MALC 540	1175.6	400.4	2.7	46.8	1120.7	452.5	2.3	44.6	1045.0	532.5	1.8	41.6	963.2	628.6	1.4	38.4	919.3	680.7	1.3	36.6
	MALC 580	1276.9	433.8	2.7	50.9	1217.3	490.2	2.3	48.5	1135.1	577.0	1.8	45.2	1046.2	681.1	1.4	41.7	998.5	737.5	1.3	39.8
	MALC 600	1325.1	454.2	2.7	52.8	1263.2	513.2	2.3	50.3	1177.9	604.1	1.8	46.9	1085.7	713.1	1.4	43.2	1036.1	772.1	1.3	41.3
	MALC 660	1421.4	495.0	2.6	56.6	1355.0	559.4	2.2	54.0	1263.5	658.4	1.8	50.3	1164.6	777.2	1.4	46.4	1111.4	841.5	1.3	44.3
	MALC 700	1492.7	515.6	2.7	59.5	1422.9	582.6	2.3	56.7	1326.8	685.7	1.8	52.8	1223.0	809.5	1.4	48.7	1167.2	876.5	1.3	46.5
	MALC 740	1635.5	555.6	2.7	65.1	1558.8	627.8	2.3	62.1	1453.5	738.9	1.9	57.9	1339.7	872.3	1.5	53.4	1278.6	944.5	1.3	50.9

LEGEND:

kW - Compressor power input
LPS - Liters Per Second
COP - Coefficient of Performance

NOTES:

1. Performance data are based on 6°C water range in evaporator.
2. Ratings are based on 0.000018 (m^2 -°C/W) fouling factor for evaporator.
3. Direct interpolation is permissible. Do not extrapolate.
4. kW power input is for compressor only.
5. COP for entire unit. Refer to electrical data for fan kW.

PERFORMANCE DATA (Metric 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 (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)
6 °C	MALC 040	87.9	30.5	2.5	3.5	83.9	34.5	2.2	3.3	78.3	40.6	1.8	3.1	72.3	47.9	1.4	2.9	69.1	51.9	1.2	2.8
	MALC 050	106.9	36.2	2.7	4.3	102.0	40.9	2.3	4.1	95.2	48.1	1.8	3.8	88.0	56.8	1.4	3.5	84.0	61.5	1.3	3.3
	MALC 060	133.4	45.1	2.6	5.3	127.3	51.0	2.3	5.1	118.9	60.0	1.8	4.7	109.8	70.8	1.4	4.4	104.9	76.7	1.3	4.2
	MALC 070	150.3	51.9	2.6	6.0	143.4	58.6	2.2	5.7	133.9	69.0	1.8	5.3	123.7	81.5	1.4	4.9	118.1	88.2	1.3	4.7
	MALC 075	175.8	61.0	2.5	7.0	167.7	68.9	2.2	6.7	156.6	81.1	1.8	6.2	144.7	95.8	1.4	5.8	138.2	103.7	1.2	5.5
	MALC 090	194.8	66.7	2.6	7.8	185.8	75.4	2.2	7.4	173.6	88.7	1.8	6.9	160.3	104.7	1.4	6.4	153.1	113.4	1.3	6.1
	MALC 100	213.8	72.4	2.7	8.5	204.0	81.8	2.3	8.1	190.5	96.3	1.8	7.6	176.0	113.7	1.4	7.0	168.0	123.1	1.3	6.7
	MALC 120	266.8	90.2	2.6	10.6	254.5	101.9	2.3	10.1	237.7	120.0	1.8	9.5	219.6	141.6	1.4	8.7	209.7	153.3	1.3	8.4
	MALC 140	300.6	103.8	2.6	12.0	286.8	117.3	2.2	11.4	267.8	138.1	1.8	10.7	247.4	163.0	1.4	9.9	236.3	176.5	1.3	9.4
	MALC 150	336.8	111.2	2.7	13.4	321.3	125.7	2.3	12.8	300.1	147.9	1.8	12.0	277.2	174.6	1.5	11.0	264.7	189.0	1.3	10.5
	MALC 170	389.4	127.9	2.7	15.5	371.5	144.5	2.3	14.8	347.0	170.1	1.9	13.8	320.5	200.8	1.5	12.8	306.1	217.4	1.3	12.2
	MALC 190	442.0	144.6	2.8	17.6	421.7	163.4	2.4	16.8	393.8	192.3	1.9	15.7	363.8	227.0	1.5	14.5	347.4	245.8	1.3	13.8
	MALC 220	492.0	165.0	2.7	19.6	469.4	186.5	2.3	18.7	438.4	219.5	1.8	17.5	404.9	259.1	1.5	16.1	386.7	280.5	1.3	15.4
	MALC 250	566.0	185.2	2.7	22.5	540.0	209.3	2.3	21.5	504.3	246.3	1.9	20.1	465.8	290.8	1.5	18.6	444.9	314.8	1.3	17.7
	MALC 270	610.4	200.2	2.7	24.3	582.3	226.2	2.3	23.2	543.9	266.3	1.9	21.7	502.4	314.3	1.5	20.0	479.8	340.3	1.3	19.1
	MALC 290	663.0	216.9	2.8	26.4	632.5	245.1	2.4	25.2	590.7	288.5	1.9	23.5	545.6	340.5	1.5	21.7	521.1	368.7	1.3	20.8
	MALC 300	688.0	227.1	2.7	27.4	656.4	256.6	2.3	26.1	613.0	302.0	1.8	24.4	566.2	356.5	1.5	22.6	540.8	386.1	1.3	21.5
	MALC 330	738.0	247.5	2.7	29.4	704.1	279.7	2.3	28.0	657.6	329.2	1.8	26.2	607.4	388.6	1.5	24.2	580.1	420.8	1.3	23.1
	MALC 350	775.0	257.6	2.7	30.9	739.4	291.1	2.3	29.4	690.5	342.6	1.9	27.5	637.8	404.4	1.5	25.4	609.2	437.9	1.3	24.3
	MALC 370	849.0	277.8	2.8	33.8	809.9	313.9	2.4	32.3	756.5	369.5	1.9	30.1	698.7	436.1	1.5	27.8	667.3	472.3	1.3	26.6
	MALC 380	884.0	289.2	2.7	35.2	843.3	326.8	2.3	33.6	787.6	384.6	1.9	31.4	727.5	454.0	1.5	29.0	694.8	491.6	1.3	27.7
	MALC 410	934.0	309.6	2.7	37.2	891.0	349.8	2.3	35.5	832.2	411.8	1.9	33.1	768.7	486.1	1.5	30.6	734.1	526.3	1.3	29.2
	MALC 440	984.0	330.0	2.7	39.2	938.7	372.9	2.3	37.4	876.7	438.9	1.9	34.9	809.9	518.1	1.5	32.3	773.4	561.0	1.3	30.8
	MALC 470	1058.0	350.2	2.8	42.1	1009.3	395.7	2.4	40.2	942.7	465.8	1.9	37.5	870.7	549.8	1.5	34.7	831.6	595.3	1.3	33.1
	MALC 500	1132.0	370.4	2.8	45.1	1079.9	418.6	2.4	43.0	1008.6	492.6	1.9	40.2	931.6	581.5	1.5	37.1	889.8	629.7	1.3	35.4
	MALC 540	1220.8	400.4	2.8	48.6	1164.6	452.5	2.4	46.4	1087.7	532.5	1.9	43.3	1004.7	628.6	1.5	40.0	959.5	680.7	1.3	38.2
	MALC 580	1326.0	433.8	2.8	52.8	1265.0	490.2	2.4	50.4	1181.5	577.0	1.9	47.1	1091.3	681.1	1.5	43.5	1042.2	737.5	1.3	41.5
	MALC 600	1376.0	454.2	2.8	54.8	1312.7	513.2	2.4	52.3	1226.0	604.1	1.9	48.8	1132.4	713.1	1.5	45.1	1081.5	772.1	1.3	43.1
	MALC 660	1476.0	495.0	2.7	58.8	1408.1	559.4	2.3	56.1	1315.1	658.4	1.9	52.4	1214.7	777.2	1.5	48.4	1160.1	841.5	1.3	46.2
	MALC 700	1550.0	515.6	2.8	61.7	1478.7	582.6	2.4	58.9	1381.1	685.7	1.9	55.0	1275.7	809.5	1.5	50.8	1218.3	876.5	1.3	48.5
	MALC 740	1698.0	555.6	2.8	67.6	1619.9	627.8	2.4	64.5	1512.9	738.9	1.9	60.3	1397.5	872.3	1.5	55.7	1334.6	944.5	1.3	53.2
7 °C	MALC 040	91.4	30.5	2.6	3.6	87.0	34.5	2.3	3.5	81.5	40.6	1.8	3.2	75.4	47.9	1.5	3.0	72.2	51.9	1.3	2.9
	MALC 050	111.2	36.2	2.8	4.4	105.8	40.9	2.4	4.2	99.1	48.1	1.9	3.9	91.7	56.8	1.5	3.7	87.8	61.5	1.3	3.5
	MALC 060	138.7	45.1	2.7	5.5	132.1	51.0	2.3	5.3	123.7	60.0	1.9	4.9	114.5	70.8	1.5	4.6	109.5	76.7	1.3	4.4
	MALC 070	156.3	51.9	2.7	6.2	148.8	58.6	2.3	5.9	139.3	69.0	1.9	5.5	129.0	81.5	1.5	5.1	123.4	88.2	1.3	4.9
	MALC 075	182.8	61.0	2.6	7.3	174.0	68.9	2.3	6.9	163.0	81.1	1.8	6.5	150.8	95.8	1.5	6.0	144.3	103.7	1.3	5.7
	MALC 090	202.6	66.7	2.7	8.1	192.9	75.4	2.3	7.7	180.6	88.7	1.9	7.2	167.1	104.7	1.5	6.7	159.9	113.4	1.3	6.4
	MALC 100	222.4	72.4	2.8	8.9	211.7	81.8	2.4	8.4	198.2	96.3	1.9	7.9	183.4	113.7	1.5	7.3	175.5	123.1	1.3	7.0
	MALC 120	277.5	90.2	2.7	11.1	264.1	101.9	2.3	10.5	247.3	120.0	1.9	9.9	228.9	141.6	1.5	9.1	219.0	153.3	1.3	8.7
	MALC 140	312.6	103.8	2.7	12.5	297.6	117.3	2.3	11.9	278.7	138.1	1.9	11.1	257.9	163.0	1.5	10.3	246.8	176.5	1.3	9.8
	MALC 150	350.3	111.2	2.8	14.0	333.4	125.7	2.4	13.3	312.2	147.9	1.9	12.4	289.0	174.6	1.5	11.5	276.5	189.0	1.4	11.0
	MALC 170	405.0	127.9	2.8	16.1	385.5	144.5	2.4	15.4	361.0	170.1	2.0	14.4	334.1	200.8	1.5	13.3	319.7	217.4	1.4	12.7
	MALC 190	459.7	144.6	2.9	18.3	437.6	163.4	2.5	17.4	409.7	192.3	2.0	16.3	379.2	227.0	1.6	15.1	362.9	245.8	1.4	14.5
	MALC 220	511.7	165.0	2.8	20.4	487.1	186.5	2.4	19.4	456.1	219.5	1.9	18.2	422.1	259.1	1.5	16.8	403.9	280.5	1.4	16.1
	MALC 250	588.6	185.2	2.8	23.4	560.3	209.3	2.4	22.3	524.7	246.3	2.0	20.9	485.6	290.8	1.6	19.3	464.7	314.8	1.4	18.5
	MALC 270	634.8	200.2	2.9	25.3	604.3	226.2	2.4	24.1	565.8	266.3	2.0	22.5	523.7	314.3	1.6	20.9	501.1	340.3	1.4	20.0
	MALC 290	689.5	216.9	2.9	27.5	656.4	245.1	2.5	26.1	614.6	288.5	2.0	24.5	568.9	340.5	1.6	22.7	544.3	368.7	1.4	21.7
	MALC 300	715.5	227.1	2.8	28.5	681.1	256.6	2.4	27.1	637.8	302.0	1.9	25.4	590.3	356.5	1.5	23.5	564.8	386.1	1.4	22.5
	MALC 330	767.5	247.5	2.8	30.6	730.6	279.7	2.4	29.1	684.1	329.2	1.9	27.2	633.2	388.6	1.5	25.2	605.9	420.8	1.3	24.1
	MALC 350	806.0	257.6	2.8	32.1	767.3	291.1	2.4	30.6	718.4	342.6	1.9	28.6	665.0	404.4	1.5	26.5	636.3	437.9	1.4	25.3
	MALC 370	883.0	277.8	2.9	35.2	840.5	313.9	2.4	33.5	787.0	369.5	2.0	31.3	728.4	436.1	1.6	29.0	697.0	472.3	1.4	27.8
	MALC 380	919.4	289.2	2.9	36.6	875.2	326.8	2.4	34.9	819.5	384.6	2.0	32.6	758.5	454.0	1.6	30.2	725.8	491.6	1.4	28.9
	MALC 410	971.4	309.6	2.8	38.7	924.7	349.8	2.4	36.8	865.8	411.8	1.9	34.5	801.4	486.1	1.5	31.9	766.8	526.3	1.4	30.5
	MALC 440	1023.4	330.0	2.8	40.8	974.2	372.9	2.4	38.8	912.2	438.9	1.9	36.3	844.3	518.1	1.5	33.6	807.9	561.0	1.4	32.2
	MALC 470	1100.3	350.2	2.9	43.8	1047.4	395.7	2.4	41.7	980.8	465.8	2.0	39.1	907.8	549.8	1.6	36.2	868.6	595.3	1.4	34.6
	MALC 500	1177.3	370.4	2.9	46.9	1120.7	418.6	2.5	44.6	1049.4	492.6	2.0	41.8	971.3	581.5	1.6	38.7	929.4	629.7	1.4	37.0
	MALC 540	1269.6	400.4	2.9	50.6	1208.6	452.5	2.5	48.1	1131.7	532.5	2.0	45.1	1047.4	628.6	1.6	41.7	1002.3	680.7	1.4	39.9
	MALC 580	1379.0	433.8	2.9	54.9	1312.7	490.2	2.5	52.3	1229.2	577.0	2.0	49.0	1137.7	681.1	1.6	45.3	1088.6	737.5	1.4	43.4
	MALC 600	1431.0	454.2	2.9	57.0	1362.2	513.2	2.5	54.3	1275.6	604.1	2.0	50.8	1180.6	713.1	1.6	47.0	1129.7	772.1	1.4	45.0
	MALC 660	1535.0	495.0	2.8	61.1	1461.2	559.4	2.4	58.2	1368.3	658.4	1.9	54.5	1266.4	777.2	1.5	50.4	1211.8	841.5	1.4	48.3
	MALC 700	1612.0	515.6	2.9	64.2	1534.5	582.6	2.4	61.1	1436.9	685.7	2.0	57.2	1329.9	809.5	1.6	53.0	1272.6	876.5	1.4	50.7
	MALC 740	1765.9	555.6	2.9	70.3	1681.0	627.8	2.5	67.0	1574.0	738.9	2.0	62.7	1456.9	872.3	1.6	58.0	1394.1	944.5	1.4	55.5

LEGEND:

kW - Compressor power input
LPS - Liters Per Second
COP - Coefficient of Performance

NOTES:

1. Performance data are based on 6°C water range in evaporator.
2. Ratings are based on 0.000018 (m^2 -°C/W) fouling factor for evaporator.
3. Direct interpolation is permissible. Do not extrapolate.
4. kW power input is for compressor only.
5. COP for entire unit. Refer to electrical data for fan kW.

PERFORMANCE DATA (Metric 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 (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)
8 °C	MALC 040	94.9	30.5	2.7	3.8	90.3	34.5	2.3	3.6	84.6	40.6	1.9	3.4	78.5	47.9	1.5	3.1	75.2	51.9	1.3	3.0
	MALC 050	115.5	36.2	2.9	4.6	109.8	40.9	2.4	4.4	102.9	48.1	2.0	4.1	95.5	56.8	1.6	3.8	91.5	61.5	1.4	3.6
	MALC 060	144.1	45.1	2.8	5.7	137.0	51.0	2.4	5.5	128.5	60.0	2.0	5.1	119.1	70.8	1.6	4.7	114.2	76.7	1.4	4.5
	MALC 070	162.3	51.9	2.8	6.5	154.4	58.6	2.4	6.1	144.7	69.0	1.9	5.8	134.2	81.5	1.5	5.3	128.7	88.2	1.4	5.1
	MALC 075	189.9	61.0	2.7	7.6	180.5	68.9	2.3	7.2	169.3	81.1	1.9	6.7	157.0	95.8	1.5	6.3	150.5	103.7	1.3	6.0
	MALC 090	210.4	66.7	2.8	8.4	200.1	75.4	2.4	8.0	187.6	88.7	1.9	7.5	174.0	104.7	1.5	6.9	166.7	113.4	1.4	6.6
	MALC 100	230.9	72.4	2.9	9.2	219.6	81.8	2.4	8.7	205.9	96.3	2.0	8.2	190.9	113.7	1.6	7.6	183.0	123.1	1.4	7.3
	MALC 120	288.1	90.2	2.8	11.5	274.0	101.9	2.4	10.9	256.9	120.0	2.0	10.2	238.3	141.6	1.6	9.5	228.4	153.3	1.4	9.1
	MALC 140	324.6	103.8	2.8	12.9	308.7	117.3	2.4	12.3	289.5	138.1	1.9	11.5	268.4	163.0	1.5	10.7	257.3	176.5	1.4	10.2
	MALC 150	363.7	111.2	2.9	14.5	345.9	125.7	2.5	13.8	324.3	147.9	2.0	12.9	300.8	174.6	1.6	12.0	288.3	189.0	1.4	11.5
	MALC 170	420.6	127.9	2.9	16.8	399.9	144.5	2.5	15.9	375.0	170.1	2.0	14.9	347.7	200.8	1.6	13.9	333.3	217.4	1.4	13.3
	MALC 190	477.4	144.6	3.0	19.0	453.9	163.4	2.5	18.1	425.6	192.3	2.1	17.0	394.7	227.0	1.6	15.7	378.4	245.8	1.5	15.1
	MALC 220	531.4	165.0	2.9	21.2	505.3	186.5	2.5	20.1	473.8	219.5	2.0	18.9	439.4	259.1	1.6	17.5	421.2	280.5	1.4	16.8
	MALC 250	611.3	185.2	2.9	24.3	581.3	209.3	2.5	23.2	545.1	246.3	2.0	21.7	505.4	290.8	1.6	20.1	484.5	314.8	1.4	19.3
	MALC 270	659.2	200.2	3.0	26.3	626.9	226.2	2.5	25.0	587.8	266.3	2.0	23.4	545.1	314.3	1.6	21.7	522.5	340.3	1.4	20.8
	MALC 290	716.0	216.9	3.0	28.5	680.9	245.1	2.5	27.1	638.5	288.5	2.1	25.4	592.1	340.5	1.6	23.6	567.5	368.7	1.5	22.6
	MALC 300	743.0	227.1	2.9	29.6	706.6	256.6	2.5	28.1	662.5	302.0	2.0	26.4	614.4	356.5	1.6	24.5	588.9	386.1	1.4	23.5
	MALC 330	797.0	247.5	2.9	31.7	757.9	279.7	2.5	30.2	710.7	329.2	2.0	28.3	659.0	388.6	1.6	26.2	631.7	420.8	1.4	25.2
	MALC 350	837.0	257.6	2.9	33.3	795.9	291.1	2.5	31.7	746.3	342.6	2.0	29.7	692.1	404.4	1.6	27.6	663.4	437.9	1.4	26.4
	MALC 370	916.9	277.8	3.0	36.5	871.9	313.9	2.5	34.7	817.6	369.5	2.0	32.6	758.2	436.1	1.6	30.2	726.7	472.3	1.4	28.9
	MALC 380	954.7	289.2	3.0	38.0	907.9	326.8	2.5	36.2	851.3	384.6	2.0	33.9	789.4	454.0	1.6	31.4	756.7	491.6	1.4	30.1
	MALC 410	1008.7	309.6	2.9	40.2	959.2	349.8	2.5	38.2	899.4	411.8	2.0	35.8	834.1	486.1	1.6	33.2	799.5	526.3	1.4	31.8
	MALC 440	1062.7	330.0	2.9	42.3	1010.6	372.9	2.5	40.3	947.6	438.9	2.0	37.7	878.7	518.1	1.6	35.0	842.3	561.0	1.4	33.5
	MALC 470	1142.6	350.2	3.0	45.5	1086.6	395.7	2.5	43.3	1018.9	465.8	2.0	40.6	944.8	549.8	1.6	37.6	905.6	595.3	1.4	36.1
	MALC 500	1222.6	370.4	3.0	48.7	1162.6	418.6	2.6	46.3	1090.1	492.6	2.1	43.4	1010.9	581.5	1.6	40.3	969.0	629.7	1.5	38.6
	MALC 540	1318.5	400.4	3.0	52.5	1253.8	452.5	2.5	49.9	1175.6	532.5	2.1	46.8	1090.2	628.6	1.6	43.4	1045.0	680.7	1.4	41.6
	MALC 580	1432.1	433.8	3.0	57.0	1361.8	490.2	2.6	54.2	1276.9	577.0	2.1	50.9	1184.1	681.1	1.6	47.2	1135.1	737.5	1.5	45.2
	MALC 600	1486.1	454.2	3.0	59.2	1413.2	513.2	2.6	56.3	1325.1	604.1	2.1	52.8	1228.8	713.1	1.6	48.9	1177.9	772.1	1.4	46.9
	MALC 660	1594.1	495.0	3.0	63.5	1515.9	559.4	2.5	60.4	1421.4	658.4	2.0	56.6	1318.1	777.2	1.6	52.5	1263.5	841.5	1.4	50.3
	MALC 700	1674.0	515.6	3.0	66.7	1591.9	582.6	2.5	63.4	1492.7	685.7	2.0	59.5	1384.2	809.5	1.6	55.1	1326.8	876.5	1.4	52.8
	MALC 740	1838.8	555.6	3.1	73.0	1743.8	627.8	2.6	69.5	1635.2	738.9	2.1	65.1	1516.3	872.3	1.7	60.4	1453.5	944.5	1.5	57.9
10 °C	MALC 040	101.8	30.6	2.9	4.1	96.7	34.5	2.5	3.9	91.4	40.6	2.0	3.6	85.1	47.9	1.6	3.4	81.5	51.9	1.5	3.2
	MALC 050	123.8	36.3	3.1	4.9	117.6	40.9	2.6	4.7	111.2	48.1	2.1	4.4	103.5	56.8	1.7	4.1	99.1	61.5	1.5	3.9
	MALC 060	154.5	45.3	3.0	6.2	146.7	51.0	2.6	5.8	138.7	60.0	2.1	5.5	129.1	70.8	1.7	5.1	123.7	76.7	1.5	4.9
	MALC 070	174.0	52.1	3.0	6.9	165.3	58.6	2.6	6.6	156.3	69.0	2.1	6.2	145.5	81.5	1.7	5.8	139.3	88.2	1.5	5.5
	MALC 075	203.6	61.2	2.9	8.1	193.4	68.9	2.5	7.7	182.8	81.1	2.0	7.3	170.2	95.8	1.6	6.8	163.0	103.7	1.5	6.5
	MALC 090	225.6	67.0	3.0	9.0	214.3	75.4	2.6	8.5	202.6	88.7	2.1	8.1	188.6	104.7	1.7	7.5	180.6	113.4	1.5	7.2
	MALC 100	247.6	72.7	3.1	9.9	235.2	81.8	2.6	9.4	222.4	96.3	2.1	8.9	207.0	113.7	1.7	8.2	198.2	123.1	1.5	7.9
	MALC 120	309.0	90.6	3.0	12.3	293.5	101.9	2.6	11.7	277.5	120.0	2.1	11.1	258.3	141.6	1.7	10.3	247.3	153.3	1.5	9.9
	MALC 140	348.1	104.2	3.0	13.9	330.7	117.3	2.6	13.2	312.6	138.1	2.1	12.5	291.0	163.0	1.7	11.6	278.7	176.5	1.5	11.1
	MALC 150	390.0	111.6	3.1	15.5	370.5	125.7	2.6	14.8	350.3	147.9	2.2	14.0	326.0	174.6	1.7	13.0	312.2	189.0	1.5	12.4
	MALC 170	450.9	128.4	3.1	18.0	428.3	144.5	2.7	17.1	405.0	170.1	2.2	16.1	376.9	200.8	1.7	15.0	361.0	217.4	1.6	14.4
	MALC 190	511.8	145.2	3.2	20.4	486.2	163.4	2.7	19.4	459.7	192.3	2.2	18.3	427.9	227.0	1.8	17.0	409.7	245.8	1.6	16.3
	MALC 220	569.7	165.7	3.1	22.7	541.2	186.5	2.6	21.6	511.7	219.5	2.2	20.4	476.3	259.1	1.7	19.0	456.1	280.5	1.5	18.2
	MALC 250	655.4	185.9	3.1	26.1	622.6	209.3	2.7	24.8	588.6	246.3	2.2	23.4	547.9	290.8	1.8	21.8	524.7	314.8	1.6	20.9
	MALC 270	706.8	201.0	3.2	28.2	671.4	226.2	2.7	26.7	634.8	266.3	2.2	25.3	590.9	314.3	1.8	23.5	565.8	340.3	1.6	22.5
	MALC 290	767.8	217.8	3.2	30.6	729.3	245.1	2.7	29.0	689.5	288.5	2.2	27.5	641.8	340.5	1.8	25.6	614.6	368.7	1.6	24.5
	MALC 300	796.7	228.0	3.1	31.7	756.8	256.6	2.6	30.1	715.5	302.0	2.2	28.5	666.0	356.5	1.7	26.5	637.8	386.1	1.5	25.4
	MALC 330	854.6	248.5	3.1	34.0	811.8	279.7	2.6	32.3	767.5	329.2	2.1	30.6	714.4	388.6	1.7	28.5	684.1	420.8	1.5	27.2
	MALC350	897.5	258.6	3.1	35.7	852.5	291.1	2.7	34.0	806.0	342.6	2.2	32.1	750.2	404.4	1.7	29.9	718.4	437.9	1.5	28.6
	MALC 370	983.1	278.9	3.2	39.2	933.9	313.9	2.7	37.2	883.0	369.5	2.2	35.2	821.8	436.1	1.8	32.7	787.0	472.3	1.6	31.3
	MALC 380	1023.7	290.4	3.2	40.8	972.4	326.8	2.7	38.7	919.4	384.6	2.2	36.6	855.7	454.0	1.8	34.1	819.5	491.6	1.6	32.6
	MALC 410	1081.6	310.8	3.1	43.1	1027.4	349.8	2.7	40.9	971.4	411.8	2.2	38.7	904.1	486.1	1.7	36.0	865.8	526.3	1.5	34.5
	MALC 440	1139.5	331.3	3.1	45.4	1082.4	372.9	2.7	43.1	1023.4	438.9	2.2	40.8	952.5	518.1	1.7	37.9	912.2	561.0	1.5	36.3
	MALC 470	1225.2	351.6	3.2	48.8	1163.8	395.7	2.7	46.4	1100.3	465.8	2.2	43.8	1024.1	549.8	1.8	40.8	980.8	595.3	1.6	39.1
	MALC 500	1310.9	371.9	3.2	52.2	1245.2	418.6	2.7	49.6	1177.3	492.6	2.2	46.9	1095.8	581.5	1.8	43.6	1049.4	629.7	1.6	41.8
	MALC 540	1413.7	402.0	3.2	56.3	1342.9	452.5	2.7	53.5	1269.6	532.5	2.2	50.6	1181.7	628.6	1.8	47.1	1131.7	680.7	1.6	45.1
	MALC 580	1535.5	435.5	3.2	61.2	1458.6	490.2	2.7	58.1	1379.0	577.0	2.2	54.9	1283.6	681.1	1.8	51.1	1229.2	737.5	1.6	49.0
	MALC 600	1593.4	456.0	3.2	63.5	1513.6	513.2	2.7	60.3	1431.0	604.1	2.2	57.0	1332.0	713.1	1.8	53.1	1275.6	772.1	1.6	50.8
	MALC 660	1709.2	497.0	3.2	68.1	1623.6	559.4	2.7	64.7	1535.0	658.4	2.2	61.1	1428.8	777.2	1.7	56.9	1368.3	841.5	1.5	54.5
	MALC 700	1794.9	517.7	3.2	71.5	1705.0	582.6	2.7	67.9	1612.0	685.7	2.2	64.2	1500.4	809.5	1.8	59.8	1436.9	876.5	1.6	57.2
	MALC 740	1966.3	557.8	3.3	78.3	1867.8	627.8	2.8	74.4	1765.9	738.9	2.3	70.3	1643.7	872.3	1.8	65.5	1574.0	944.5	1.6	62.7

LEGEND:

kW - Compressor power input
LPS - Liters Per Second
COP - Coefficient of Performance

NOTES:

1. Performance data are based on 6°C water range in evaporator.
2. Ratings are based on 0.000018 (m^2 -°C/W) fouling factor for evaporator.
3. Direct interpolation is permissible. Do not extrapolate.
4. kW power input is for compressor only.
5. COP for entire unit. Refer to electrical data for fan kW.

ELECTRICALDATA

UNIT SIZE	SUPPLY VOLTAGE					COMPRESSOR TYPE-1						COMPRESSOR TYPE-2						CONDENSER FAN MOTORS						CRANKCASE HEATER		
	Nominal (V-Ph-Hz)	Min.	Max.	MCA	MOCP	Qty.	RLA (each)	LRA (each)	CB Poles	CB MTA	Qty.	Qty.	RLA (each)	LRA (each)	CB Poles	CB MTA	Qty.	Qty. (3 ph.)	FLA (each)	Total kW	FCA	Fuse Size	Qty. (each)	Volts	Total Watts	Total Amps
MALC 040	208/230-3-60	187	253	131.8	225	1	93.4	412	3	70	2	-	-	-	-	-	-	3	5.0	4.11	15.0	20	3	230	200	0.87
	380-3-50	342	418	79.6	125	1	56.5	249	3	40	2	-	-	-	-	-	-	3	3.0	4.11	9.0	12	3	230	200	0.87
	460-3-60	414	506	65.9	110	1	46.7	206	3	35	2	-	-	-	-	-	-	3	2.5	4.11	7.5	10	3	230	200	0.87
MALC 050	208/230-3-60	187	253	154.5	250	1	111.6	534	3	80	2	-	-	-	-	-	-	3	5.0	4.11	15.0	20	3	230	200	0.87
	380-3-50	342	418	93.4	150	1	67.5	323	3	50	2	-	-	-	-	-	-	3	3.0	4.11	9.0	12	3	230	200	0.87
	460-3-60	414	506	77.3	125	1	55.8	267	3	40	2	-	-	-	-	-	-	3	2.5	4.11	7.5	10	3	230	200	0.87
MALC 060	208/230-3-60	187	253	187.0	300	1	133.6	580	3	100	2	-	-	-	-	-	-	4	5.0	5.48	20.0	25	3	230	200	0.87
	380-3-50	342	418	113.0	175	1	80.8	350	3	60	2	-	-	-	-	-	-	4	3.0	5.48	12.0	15	3	230	200	0.87
	460-3-60	414	506	93.5	150	1	66.8	290	3	50	2	-	-	-	-	-	-	4	2.5	5.48	10.0	12	3	230	200	0.87
MALC 070	208/230-3-60	187	253	210.0	350	1	152.0	700	3	110	2	-	-	-	-	-	-	4	5.0	5.48	20.0	25	3	230	200	0.87
	380-3-50	342	418	126.9	200	1	91.9	423	3	60	2	-	-	-	-	-	-	4	3.0	5.48	12.0	15	3	230	200	0.87
	460-3-60	414	506	105.0	175	1	76.0	350	3	50	2	-	-	-	-	-	-	4	2.5	5.48	10.0	12	3	230	200	0.87
MALC 075	208/230-3-60	187	253	240.2	300	2	93.4	412	3	70	4	-	-	-	-	-	-	6	5.0	8.22	30.0	20	6	230	400	1.74
	380-3-50	342	418	145.1	200	2	56.5	96	3	40	4	-	-	-	-	-	-	6	3.0	8.22	18.0	20	3	230	400	1.74
	460-3-60	414	506	120.1	150	2	46.7	206	3	35	4	-	-	-	-	-	-	6	2.5	8.22	15.0	20	3	230	400	1.74
MALC 090	208/230-3-60	187	253	258.4	350	1	93.4	412	3	70	2	1	111.6	534	3	80	2	6	5.0	8.22	30.0	20	6	230	400	1.74
	380-3-50	342	418	156.1	200	1	56.5	96	3	40	2	1	67.5	323	3	50	2	6	3.0	8.22	18.0	20	3	230	400	1.74
	460-3-60	414	506	129.2	175	1	46.7	206	3	35	2	1	55.8	267	3	40	2	6	2.5	8.22	15.0	20	3	230	400	1.74
MALC 100	208/230-3-60	187	253	281.1	350	2	111.6	534	3	80	4	-	-	-	-	-	-	6	5.0	8.22	30.0	20	6	230	400	1.74
	380-3-50	342	418	169.9	225	2	67.5	323	3	50	4	-	-	-	-	-	-	6	3.0	8.22	18.0	20	3	230	400	1.74
	460-3-60	414	506	140.6	175	2	55.8	267	3	40	4	-	-	-	-	-	-	6	2.5	8.22	15.0	20	3	230	400	1.74
MALC 120	208/230-3-60	187	253	340.6	450	2	133.6	580	3	100	4	-	-	-	-	-	-	8	5.0	10.96	40.0	25	6	230	400	1.74
	380-3-50	342	418	205.8	250	2	80.8	350	3	60	4	-	-	-	-	-	-	8	3.0	10.96	24.0	30	3	230	400	1.74
	460-3-60	414	506	170.3	225	2	66.8	290	3	50	4	-	-	-	-	-	-	8	2.5	10.96	20.0	25	3	230	400	1.74
MALC 140	208/230-3-60	187	253	382.0	500	2	152.0	700	3	110	4	-	-	-	-	-	-	8	5.0	10.96	40.0	25	6	230	400	1.74
	380-3-50	342	418	230.8	300	2	91.9	423	3	60	4	-	-	-	-	-	-	8	3.0	10.96	24.0	30	3	230	400	1.74
	460-3-60	414	506	191.0	250	2	76.0	350	3	50	4	-	-	-	-	-	-	8	2.5	10.96	20.0	25	3	230	400	1.74
MALC 150	208/230-3-60	187	253	444.8	600	2	172.8	846	3	125	4	-	-	-	-	-	-	8	7.0	14.8	56.0	30/20	6/3	230	400	1.74
	380-3-50	342	418	268.7	350	2	104.5	511	3	75	4	-	-	-	-	-	-	8	4.2	14.8	33.6	20	6	230	400	1.74
	460-3-60	414	506	222.4	300	2	86.4	423	3	60	4	-	-	-	-	-	-	8	3.5	14.8	28.0	20	6	230	400	1.74
MALC 170	208/230-3-60	187	253	481.2	600	1	172.8	846	3	125	2	1	209.2	966	3	150	2	8	7.0	14.8	56.0	30/20	6/3	230	500	2.17
	380-3-50	342	418	290.7	350	1	104.5	511	3	75	2	1	126.5	584	3	90	2	8	4.2	14.8	33.6	20	6	230	500	2.17
	460-3-60	414	506	240.6	300	1	86.4	423	3	60	2	1	104.6	483	3	75	2	8	3.5	14.8	28.0	20	6	230	500	2.17

LEGEND:

MCA - Minimum Circuit Ampacity per NEC 430-24
MOCP - Maximum Over Current Protection
RLA - Rated Load Amps
LRA - Locked Rotor Amps
CB - Circuit Breaker
MTA - Must Trip Amps
FLA - Full Load Amps
FCA - Fan Circuit Amps

NOTES:

1. Main power must be supplied from a single field supplied and mounted fused disconnects, using dual element time delay fuse or circuit breaker.
2. The maximum incoming wire size is 500 mcm. On units having MCA greater than 500 mcm wire, the factory supplied power terminal block will accept two parallel field wires per phase.
3. The compressor crankcase heaters must be energized for 12 hours before the unit is initially started or after a prolonged power disconnection.
4. All field wiring must be in accordance with NEC and local standards.
5. Minimum and maximum unit supply voltages are shown in the tabulated data above.
6. Neutral line required on 380V-3Ph-50Hz power supply only.

ELECTRICALDATA

UNIT SIZE	SUPPLY VOLTAGE					COMPRESSOR TYPE-1						COMPRESSOR TYPE-2						CONDENSER FAN MOTORS						CRANKCASE HEATER		
	Nominal (V-Ph-Hz)	Min.	Max.	MCA	MOCP	Qty.	RLA (each)	LRA (each)	CB Poles	CB MTA	Qty.	Qty.	RLA (each)	LRA (each)	CB Poles	CB MTA	Qty.	Qty. (3 ph.)	FLA (each)	Total kW	FCA	Fuse Size	Qty. (each)	Volts	Total Watts	Total Amps
MALC 190	208/230-3-60	187	253	540.7	700	2	209.2	966	3	150	4	-	-	-	-	-	-	10	7.0	18.5	70.0	30/20	6/6	230	600	2.61
	380-3-50	342	418	326.6	450	2	126.5	584	3	90	4	-	-	-	-	-	-	10	4.2	18.5	42.0	25	6	230	600	2.61
	460-3-60	414	506	270.4	350	2	104.6	483	3	75	4	-	-	-	-	-	-	10	3.5	18.5	35.0	20	6	230	600	2.61
MALC 220	208/230-3-60	187	253	611.8	800	2	240.8	1142	3	175	4	-	-	-	-	-	-	10	7.0	18.5	70.0	30/20	6/6	230	600	2.61
	380-3-50	342	418	369.6	500	2	145.6	690	3	110	4	-	-	-	-	-	-	10	4.2	18.5	42.0	25	6	230	600	2.61
	460-3-60	414	506	305.9	400	2	120.4	571	3	90	4	-	-	-	-	-	-	10	3.5	18.5	35.0	20	6	230	600	2.61
MALC 250	208/230-3-60	187	253	687.5	800	2	268.2	1230	3	200	4	-	-	-	-	-	-	12	7.0	22.2	84.0	30	12	230	600	2.61
	380-3-50	342	418	415.4	500	2	162.2	744	3	120	4	-	-	-	-	-	-	12	4.2	22.2	50.4	30	6	230	600	2.61
	460-3-60	414	506	343.7	450	2	134.1	615	3	100	4	-	-	-	-	-	-	12	3.5	22.2	42.0	25	6	230	600	2.61
MALC 270	208/230-3-60	187	253	718.4	800	1	172.8	846	3	125	2	2	209.2	966	3	150	4	12	7.0	22.2	84.0	30	12	230	800	3.48
	380-3-50	342	418	434.0	500	1	104.5	511	3	75	2	2	126.5	584	3	90	4	12	4.2	22.2	50.4	30	6	230	800	3.48
	460-3-60	414	506	359.2	400	1	86.4	423	3	60	2	2	104.6	483	3	75	4	12	3.5	22.2	42.0	25	6	230	800	3.48
MALC 290	208/230-3-60	187	253	763.9	800	3	209.2	966	3	150	6	-	-	-	-	-	-	12	7.0	22.2	84.0	30	12	230	900	3.91
	380-3-50	342	418	461.5	500	3	126.5	584	3	90	6	-	-	-	-	-	-	12	4.2	22.2	50.4	30	6	230	900	3.91
	460-3-60	414	506	382.0	450	3	104.6	483	3	75	6	-	-	-	-	-	-	12	3.5	22.2	42.0	25	6	230	900	3.91
MALC 300	208/230-3-60	187	253	823.5	1000	2	209.2	966	3	150	4	1	240.8	1142	3	175	2	16	7.0	29.6	112.0	30/20	12/6	230	900	3.91
	380-3-50	342	418	497.4	600	2	126.5	584	3	90	4	1	145.6	690	3	110	2	16	4.2	29.6	67.2	20	12	230	900	3.91
	460-3-60	414	506	411.8	500	2	104.6	483	3	75	4	1	120.4	571	3	90	2	16	3.5	29.6	56.0	20	12	230	900	3.91
MALC 330	208/230-3-60	187	253	894.6	1000	3	240.8	1142	3	175	6	-	-	-	-	-	-	16	7.0	29.6	112.0	30/20	12/6	230	900	3.91
	380-3-50	342	418	540.4	600	3	145.6	690	3	110	6	-	-	-	-	-	-	16	4.2	29.6	67.2	20	12	230	900	3.91
	460-3-60	414	506	447.3	500	3	120.4	571	3	90	6	-	-	-	-	-	-	16	3.5	29.6	56.0	20	12	230	900	3.91
MALC 350	208/230-3-60	187	253	922.0	1000	2	240.8	1142	3	175	4	1	268.2	1230	3	200	2	16	7.0	29.6	112.0	30/20	12/6	230	900	3.91
	380-3-50	342	418	557.0	700	2	145.6	690	3	110	4	1	162.2	744	3	120	2	16	4.2	29.6	67.2	20	12	230	900	3.91
	460-3-60	414	506	461.0	500	2	120.4	571	3	90	4	1	134.1	615	3	100	2	16	3.5	29.6	56.0	20	12	230	900	3.91
MALC 370	208/230-3-60	187	253	983.7	1200	3	268.2	1230	3	200	6	-	-	-	-	-	-	16	7.0	29.6	112.0	30/20	12/6	230	900	3.91
	380-3-50	342	418	594.4	700	3	162.2	744	3	120	6	-	-	-	-	-	-	16	4.2	29.6	67.2	20	12	230	900	3.91
	460-3-60	414	506	491.8	600	3	134.1	615	3	100	6	-	-	-	-	-	-	16	3.5	29.6	56.0	20	12	230	900	3.91
MALC 380	208/230-3-60	187	253	1015.1	1200	4	209.2	966	3	150	8	-	-	-	-	-	-	18	7.0	33.3	126.0	30	18	230	1200	5.22
	380-3-50	342	418	613.2	700	4	126.5	584	3	90	8	-	-	-	-	-	-	18	4.2	33.3	75.6	30	9	230	1200	5.22
	460-3-60	414	506	507.6	600	4	104.6	483	3	75	8	-	-	-	-	-	-	18	3.5	33.3	63.0	25	9	230	1200	5.22
MALC 410	208/230-3-60	187	253	1078.3	1200	2	209.2	966	3	150	4	2	240.8	1142	3	175	4	18	7.0	33.3	126.0	30	18	230	1200	5.22
	380-3-50	342	418	651.4	700	2	126.5	584	3	90	4	2	145.6	690	3	110	4	18	4.2	33.3	75.6	30	9	230	1200	5.22
	460-3-60	414	506	539.2	600	2	104.6	483	3	75	4	2	120.4	571	3	90	4	18	3.5	33.3	63.0	25	9	230	1200	5.22

LEGEND:

MCA - Minimum Circuit Ampacity per NEC 430-24
MOCP - Maximum Over Current Protection
RLA - Rated Load Amps
LRA - Locked Rotor Amps
CB - Circuit Breaker
MTA - Must Trip Amps
FLA - Full Load Amps
FCA - Fan Circuit Amps

NOTES:

1. Main power must be supplied from a single field supplied and mounted fused disconnects, using dual element time delay fuse or circuit breaker.
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4. All field wiring must be in accordance with NEC and local standards.
5. Minimum and maximum unit supply voltages are shown in the tabulated data above.
6. Neutral line required on 380V-3Ph-50Hz power supply only.

ELECTRICALDATA

UNIT SIZE	SUPPLY VOLTAGE					COMPRESSOR TYPE-1						COMPRESSOR TYPE-2						CONDENSER FAN MOTORS						CRANKCASE HEATER		
	Nominal (V-Ph-Hz)	Min.	Max.	MCA	MOCP	Qty.	RLA (each)	LRA (each)	CB Poles	CB MTA	Qty.	Qty.	RLA (each)	LRA (each)	CB Poles	CB MTA	Qty.	Qty. (3 ph.)	FLA (each)	Total kW	FCA	Fuse Size	Qty. (each)	Volts	Total Watts	Total Amps
MALC 440	208/230-3-60	187	253	1149.4	1200	4	240.8	1142	3	175	8	-	-	-	-	-	-	18	7.0	33.3	126.0	30	18	230	1200	5.22
	380-3-50	342	418	694.4	800	4	145.6	690	3	110	8	-	-	-	-	-	-	18	4.2	33.3	75.6	30	9	230	1200	5.22
	460-3-60	414	506	574.7	600	4	120.4	571	3	90	8	-	-	-	-	-	-	18	3.5	33.3	63.0	25	9	230	1200	5.22
MALC 470	208/230-3-60	187	253	1204.2	1600	2	240.8	1142	3	175	4	2	268.2	1230	3	200	4	18	7.0	33.3	126.0	30	18	230	1200	5.22
	380-3-50	342	418	727.6	800	2	145.6	690	3	110	4	2	162.2	744	3	120	4	18	4.2	33.3	75.6	30	9	230	1200	5.22
	460-3-60	414	506	602.1	700	2	120.4	571	3	90	4	2	134.1	615	3	100	4	18	3.5	33.3	63.0	25	9	230	1200	5.22
MALC 500	208/230-3-60	187	253	1279.9	1600	4	268.2	1230	3	200	8	-	-	-	-	-	-	20	7.0	37.0	140.0	30/20	18/3	230	1200	5.22
	380-3-50	342	418	773.4	800	4	162.2	744	3	120	8	-	-	-	-	-	-	20	4.2	37.0	84.0	25	12	230	1200	5.22
	460-3-60	414	506	639.9	700	4	134.1	615	3	100	8	-	-	-	-	-	-	20	3.5	37.0	70.0	20	12	230	1200	5.22
MALC 540	208/230-3-60	187	253	1379.6	1600	2	172.8	846	3	125	4	4	209.2	966	3	150	8	22	7.0	40.7	154.0	30/12	21/3	230	1800	7.83
	380-3-50	342	418	833.5	1000	2	104.5	511	3	75	4	4	126.5	584	3	90	8	22	4.2	40.7	92.4	30/20	9/3	230	1800	7.83
	460-3-60	414	506	689.8	700	2	86.4	423	3	60	4	4	104.6	483	3	75	8	22	3.5	40.7	77.0	30/6.25	9/3	230	1800	7.83
MALC 580	208/230-3-60	187	253	1461.5	1600	6	209.2	966	3	150	12	-	-	-	-	-	-	22	7.0	40.7	154.0	30/12	21/3	230	1800	7.83
	380-3-50	342	418	883.0	1000	6	126.5	584	3	90	12	-	-	-	-	-	-	22	4.2	40.7	92.4	30/20	9/3	230	1800	7.83
	460-3-60	414	506	730.8	800	6	104.6	483	3	75	12	-	-	-	-	-	-	22	3.5	40.7	77.0	30/6.25	9/3	230	1800	7.83
MALC 600	208/230-3-60	187	253	1524.7	1600	4	209.2	966	3	150	8	2	240.8	1142	3	175	4	22	7.0	40.7	154.0	30/12	21/3	230	1800	7.83
	380-3-50	342	418	921.2	1000	4	126.5	584	3	90	8	2	145.6	690	3	110	4	22	4.2	40.7	92.4	30/20	9/3	230	1800	7.83
	460-3-60	414	506	762.4	800	4	104.6	483	3	75	8	2	120.4	571	3	90	4	22	3.5	40.7	77.0	30/6.25	9/3	230	1800	7.83
MALC 660	208/230-3-60	187	253	1673.0	2000	6	240.8	1142	3	175	12	-	-	-	-	-	-	24	7.0	44.4	168.0	30	24	230	1800	7.83
	380-3-50	342	418	1010.8	1200	6	145.6	690	3	110	12	-	-	-	-	-	-	24	4.2	44.4	100.8	30	12	230	1800	7.83
	460-3-60	414	506	836.5	1000	6	120.4	571	3	90	12	-	-	-	-	-	-	24	3.5	44.4	84.0	25	12	230	1800	7.83
MALC 700	208/230-3-60	187	253	1782.6	2000	2	240.8	1142	3	175	4	4	268.2	1230	3	200	8	24	7.0	44.4	168.0	30	24	230	1800	7.83
	380-3-50	342	418	1077.2	1200	2	145.6	690	3	110	4	4	162.2	744	3	120	8	24	4.2	44.4	100.8	30	12	230	1800	7.83
	460-3-60	414	506	891.3	1000	2	120.4	571	3	90	4	4	134.1	615	3	100	8	24	3.5	44.4	84.0	25	12	230	1800	7.83
MALC 740	208/230-3-60	187	253	1844.3	2000	6	268.2	1230	3	200	12	-	-	-	-	-	-	24	7.0	44.4	168.0	30	24	230	1800	7.83
	380-3-50	342	418	1114.6	1200	6	162.2	744	3	120	12	-	-	-	-	-	-	24	4.2	44.4	100.8	30	12	230	1800	7.83
	460-3-60	414	506	922.1	1000	6	134.1	615	3	100	12	-	-	-	-	-	-	24	3.5	44.4	84.0	25	12	230	1800	7.83

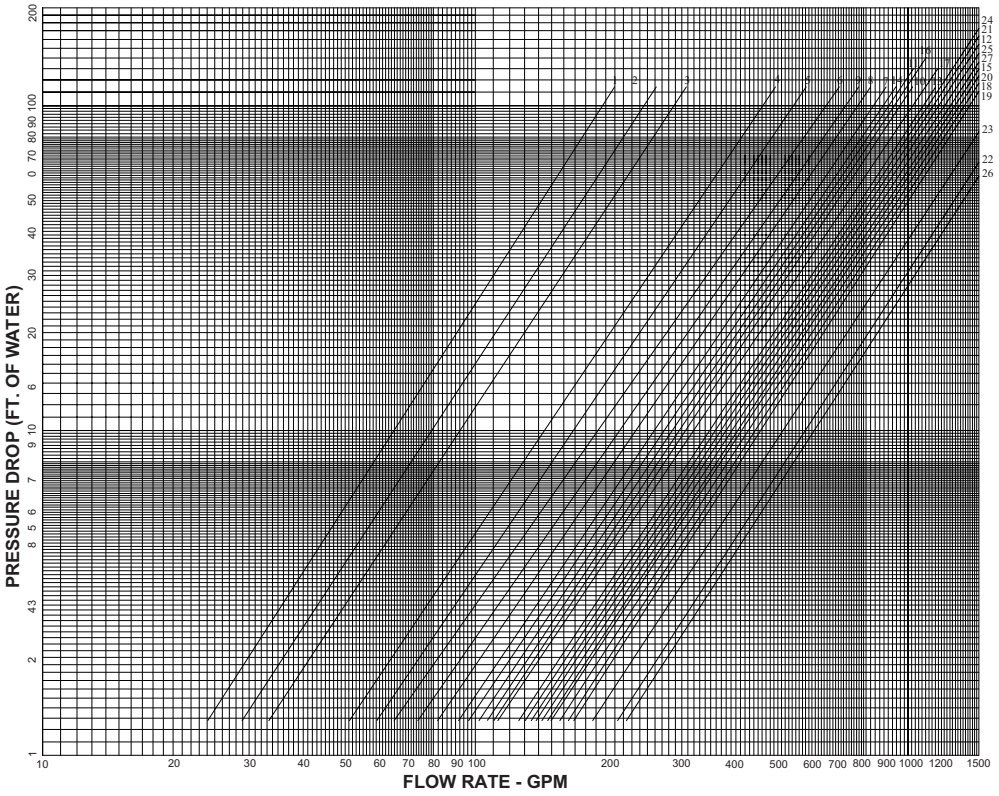
LEGEND:

MCA - Minimum Circuit Ampacity per NEC 430-24
MOCP - Maximum Over Current Protection
RLA - Rated Load Amps
LRA - Locked Rotor Amps
CB - Circuit Breaker
MTA - Must Trip Amps
FLA - Full Load Amps
FCA - Fan Circuit Amps

NOTES:

1. Main power must be supplied from a single field supplied and mounted fused disconnects, using dual element time delay fuse or circuit breaker.
2. The maximum incoming wire size is 500 mcm. On units having MCA greater than 500 mcm wire, the factory supplied power terminal block will accept two parallel field wires per phase.
3. The compressor crankcase heaters must be energized for 12 hours before the unit is initially started or after a prolonged power disconnection.
4. All field wiring must be in accordance with NEC and local standards.
5. Minimum and maximum unit supply voltages are shown in the tabulated data above.
6. Neutral line required on 380V-3Ph-50Hz power supply only.

WATER SIDE PRESSURE DROP

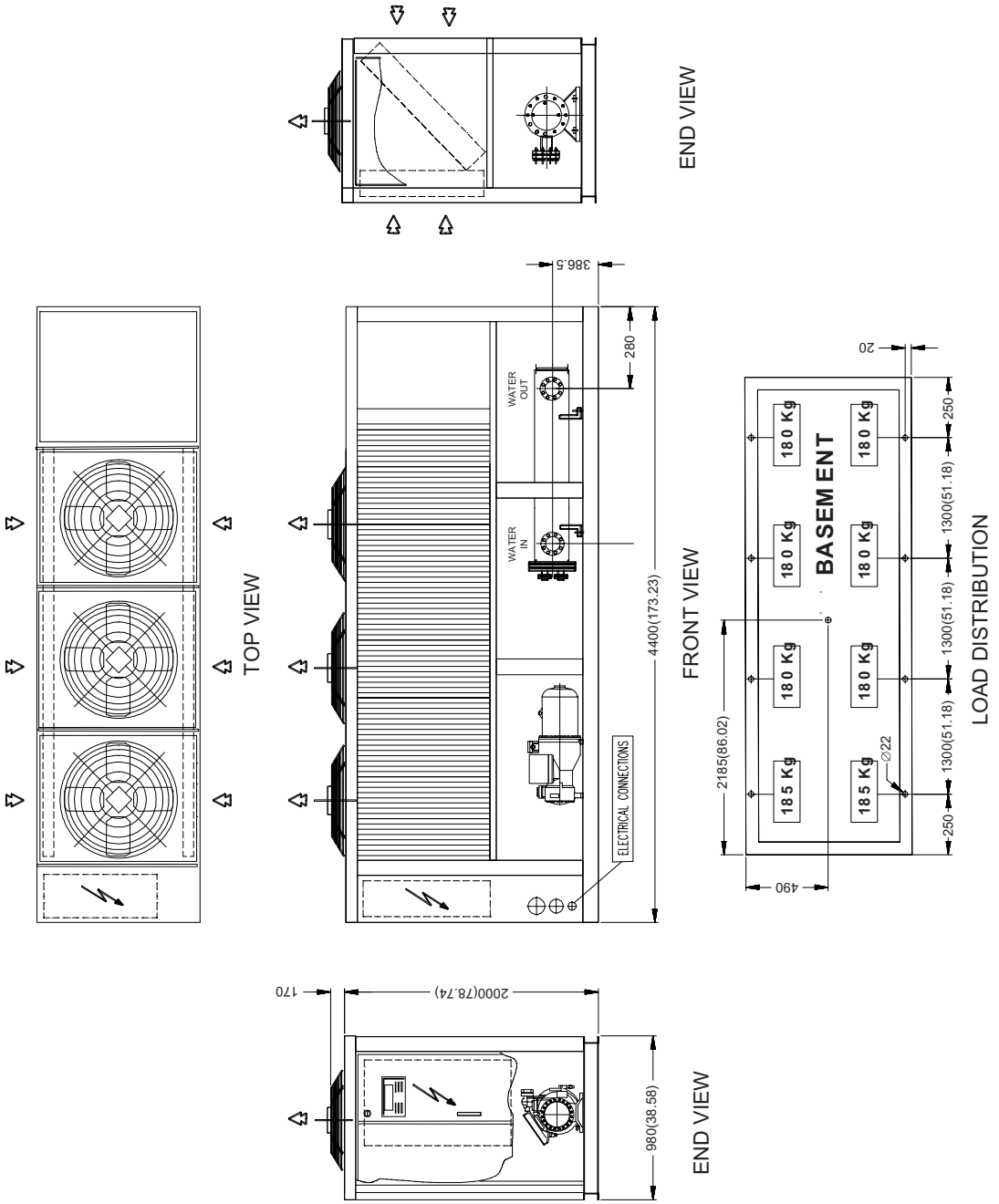


MODEL NUMBER	CURVE No.	Minimum GPM	Maximum GPM
MALC 040	1	39.6	219.7
MALC 050	2	49.3	265.1
MALC 060	3	60.3	381.7
MALC 070	3	68.2	381.7
MALC 075	4	79.3	387.0
MALC 090	4	88.9	387.0
MALC 100	5	96.9	453.9
MALC 120	6	122.0	561.4
MALC 140	7	136.5	656.0
MALC 150	7	153.7	656.0
MALC 170	8	177.4	722.1
MALC 190	9	201.2	651.6
MALC 220	10	223.7	748.5
MALC 250	11	256.7	792.5
MALC 270	12	277.4	880.6
MALC 290	13	301.2	968.6
MALC 300	13	312.2	968.6
MALC 330	14	335.9	968.6
MALC 350	15	351.8	1100.7
MALC 370	16	385.3	1232.8
MALC 380	17	402.4	1303.2
MALC 410	18	424.9	1497.0
MALC 440	19	446.9	1400.1
MALC 470	20	480.4	1541.0
MALC 500	21	515.1	1585.0
MALC 540	22	554.8	1761.1
MALC 580	23	602.3	1937.3
MALC 600	24	626.1	1937.3
MALC 660	25	670.6	1937.3
MALC 700	26	705.3	2201.4
MALC 740	27	771.8	2465.6

CONVERSION FACTOR: GPM = 0.063 Liters per second.
Feet of water = 2.989 Kilo Pascal (kPa) of water.

DIMENSIONS

MALC 040

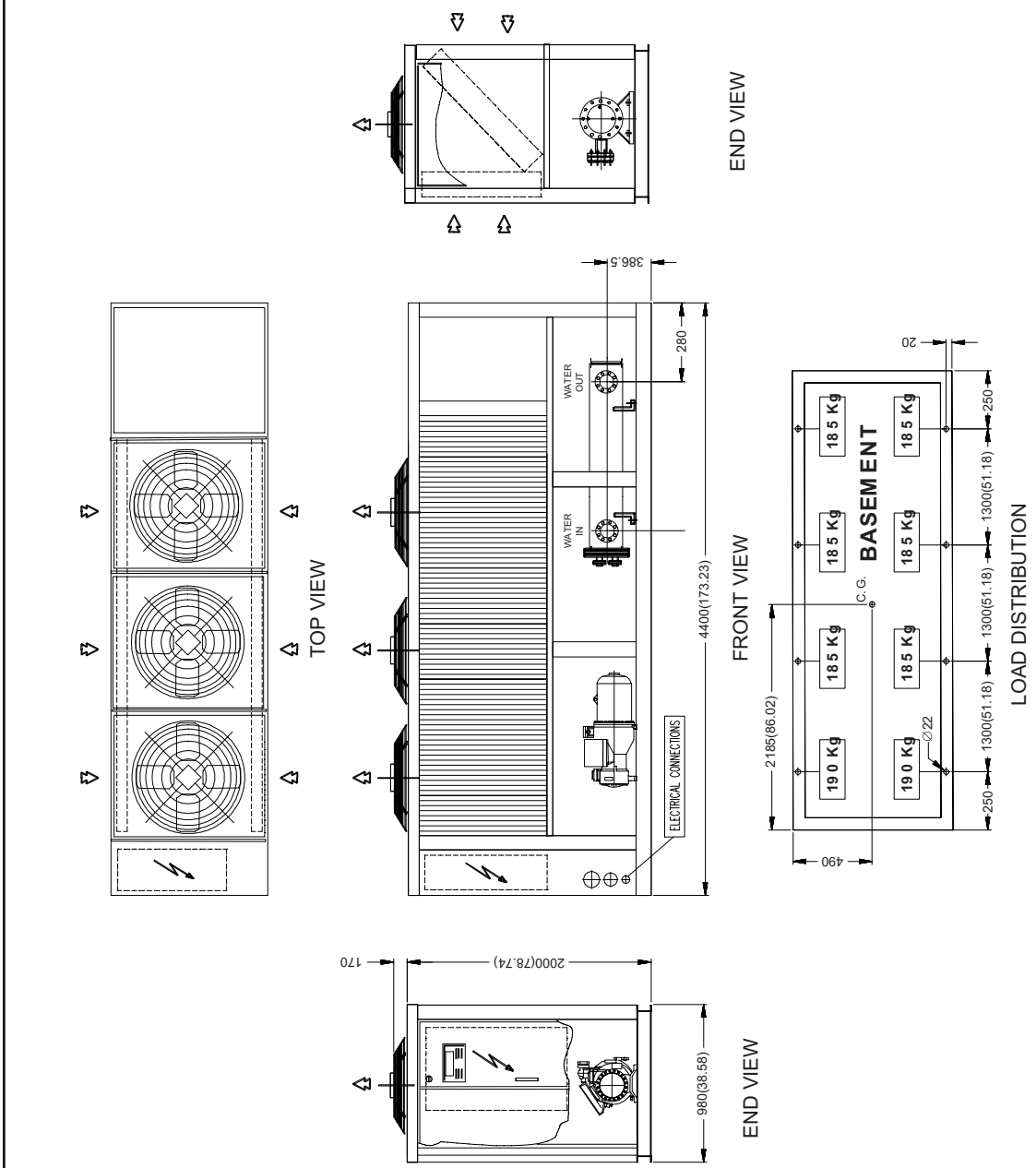


NOTES:

1. ALL DIMENSIONS ARE IN MILLIMETERS, mm. (DIMENSIONS IN BRACKETS ARE IN INCHES).
2. ALLOW 2 METER CLEARANCE ON BOTH SIDE OF A SINGLE UNIT.
3. WATER PIPING TO BE SUPPORTED TO MINIMIZE LOAD ON UNIT.
4. USE MINIMUM ONE (1) METER FLEXIBLE ELECTRICAL CONDUIT TO CONTROL BOX TO ISOLATE UNIT.
5. PIPE CONNECTIONS: FLANGES WITH COMPANION FLANGE, GASKETS, NUTS & BOLTS.
6. VENT & DRAIN CONNECTIONS PROVIDED ON COOLER BARREL.

DIMENSIONS

MALC 050



NOTES:

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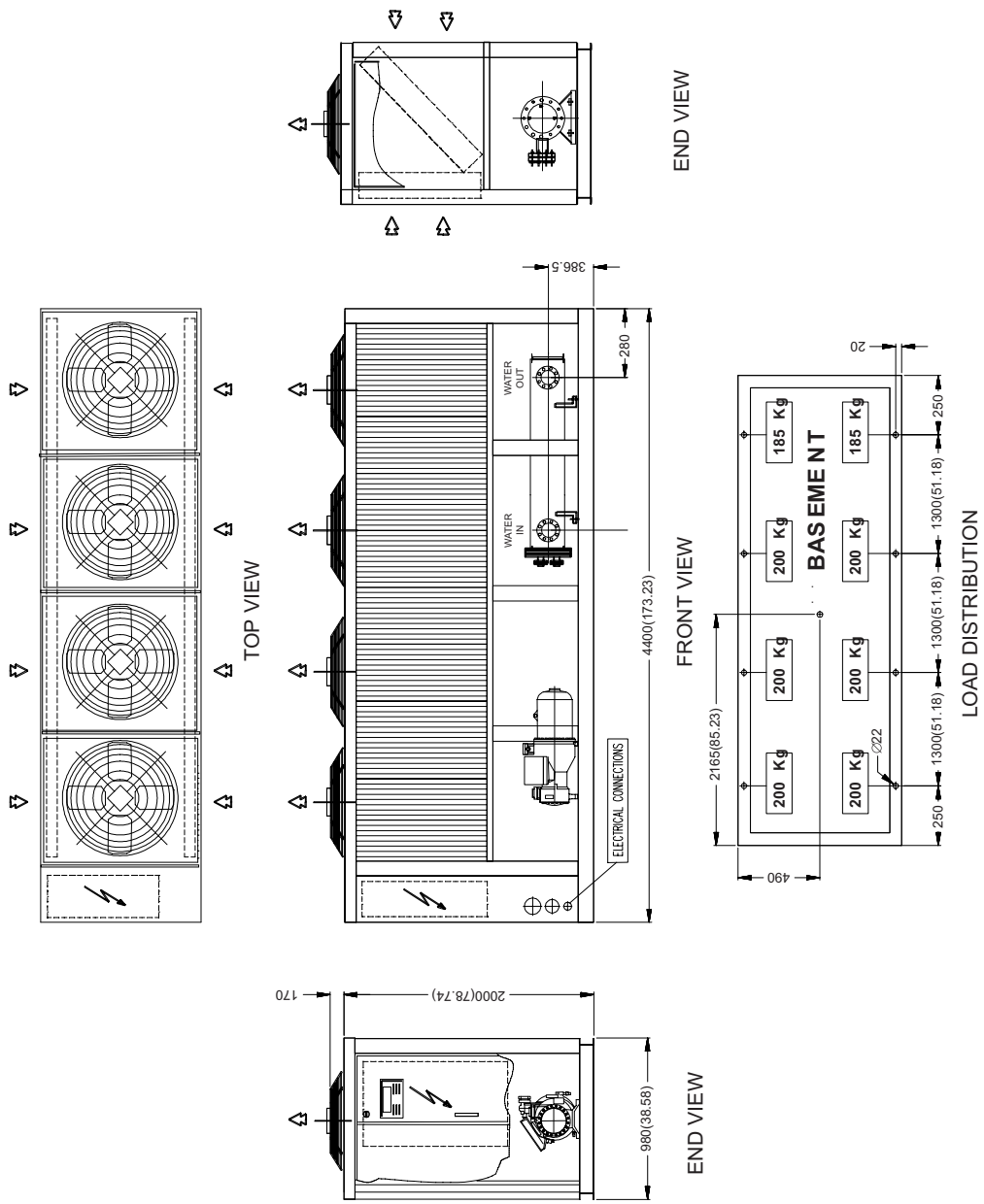
6. VENT & DRAIN CONNECTIONS PROVIDED ON COOLER BARREL.

DIMENSIONS

MALC 060



NOTES:

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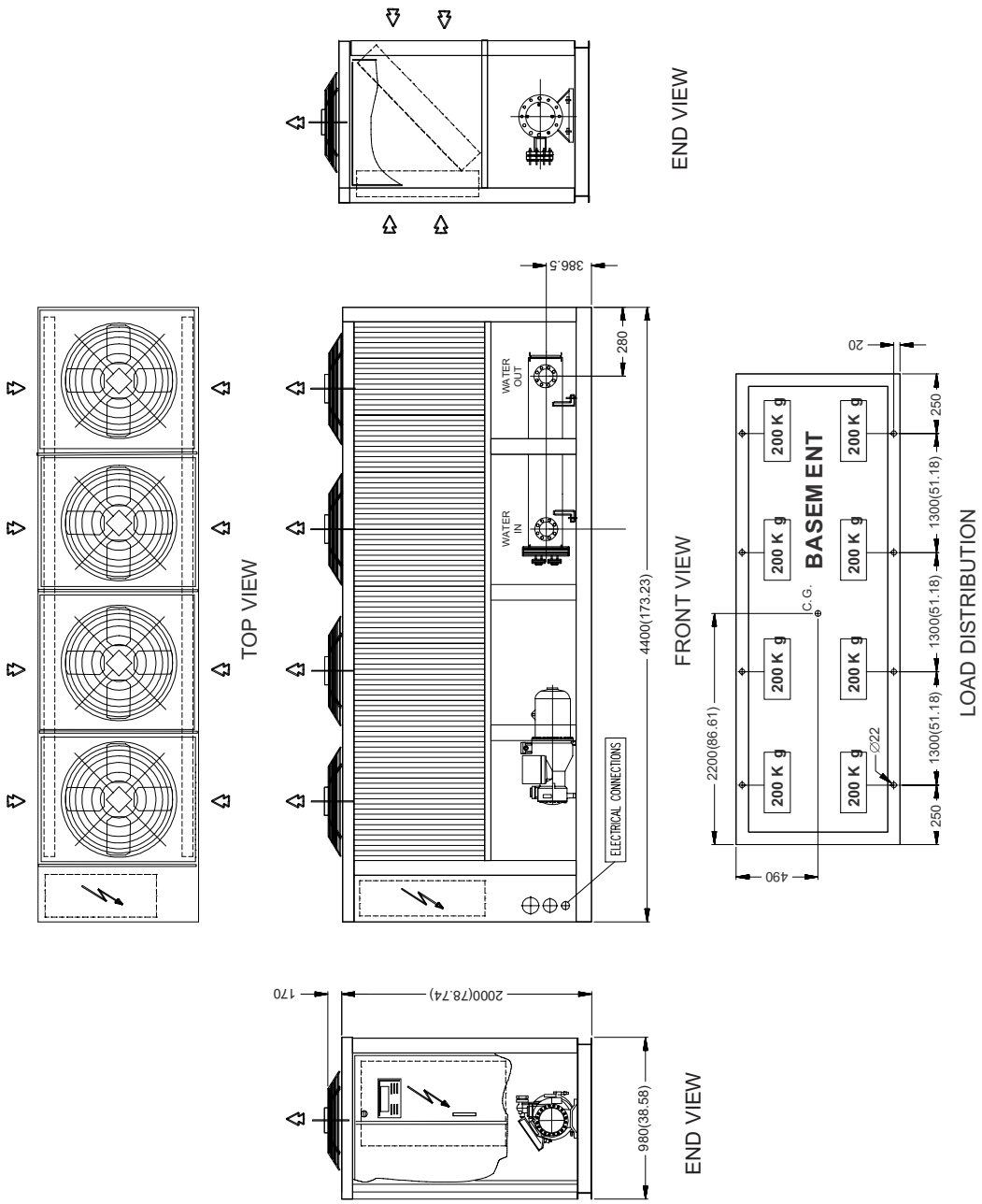
6. VENT & DRAIN CONNECTIONS PROVIDED ON COOLER BARREL.

DIMENSIONS

MALC 070



NOTES:

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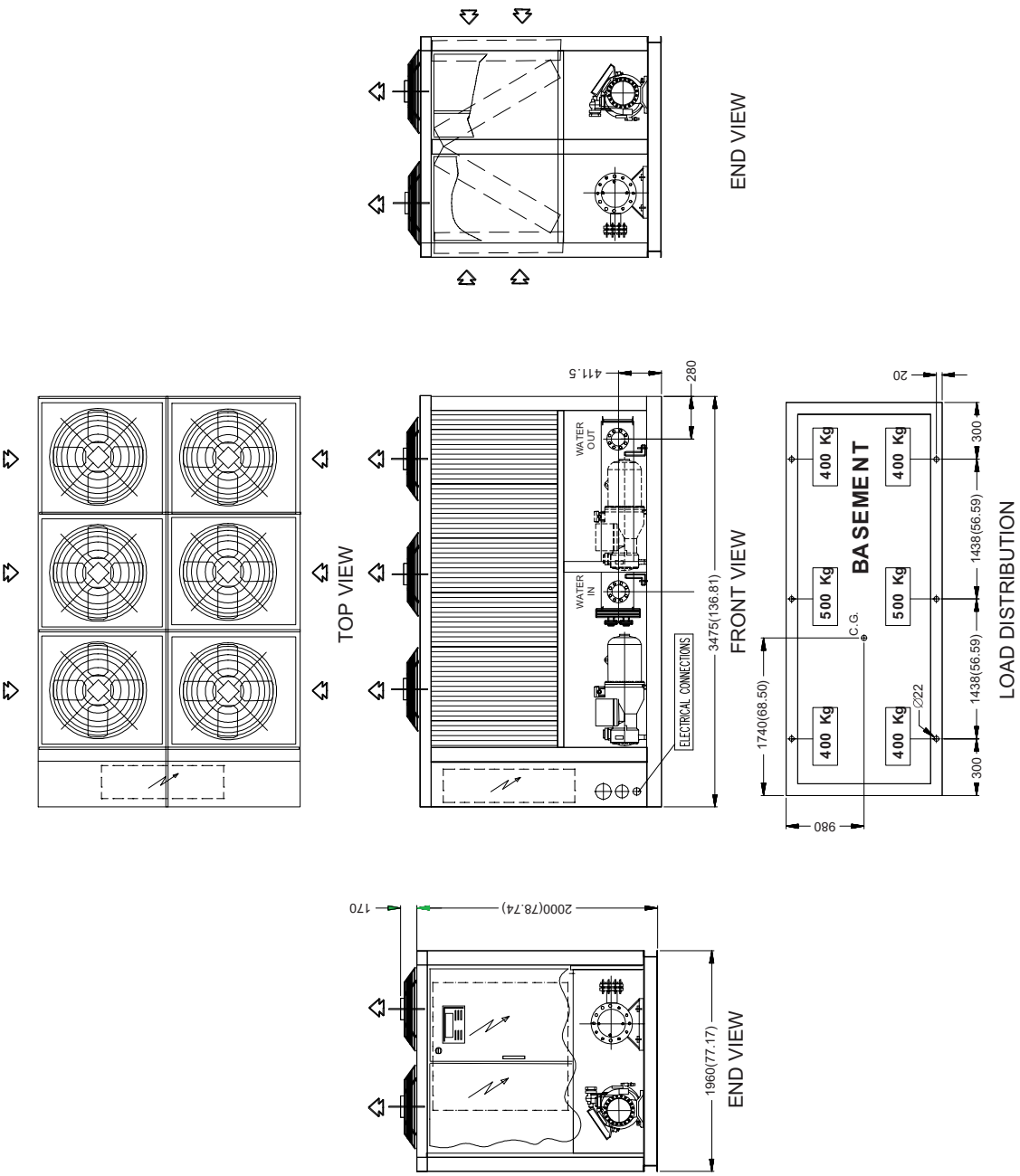
6. VENT & DRAIN CONNECTIONS PROVIDED ON COOLER BARREL.

DIMENSIONS

MALC 075



NOTES:

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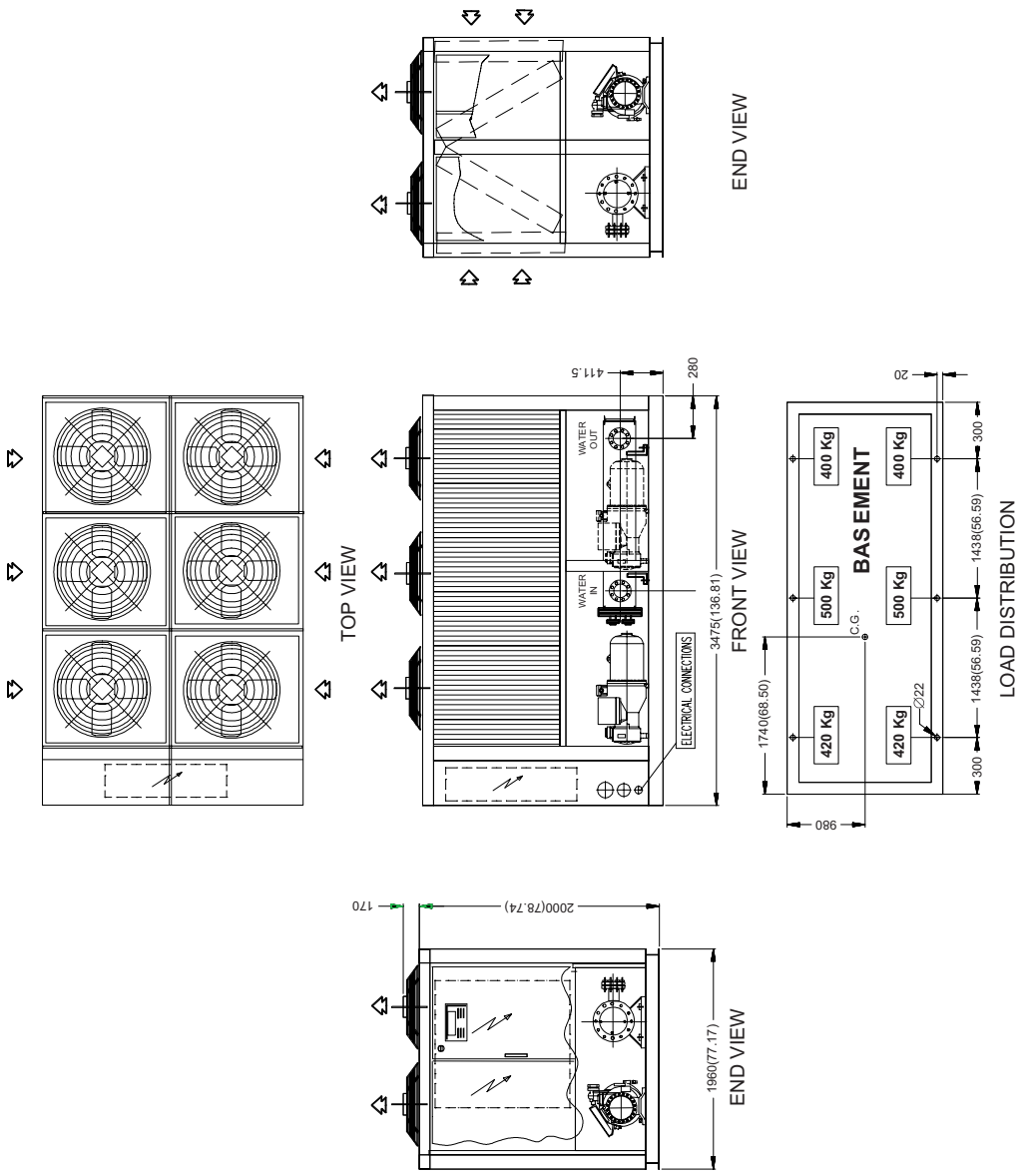
6. VENT & DRAIN CONNECTIONS PROVIDED ON COOLER BARREL.

DIMENSIONS

MALC 090



NOTES:

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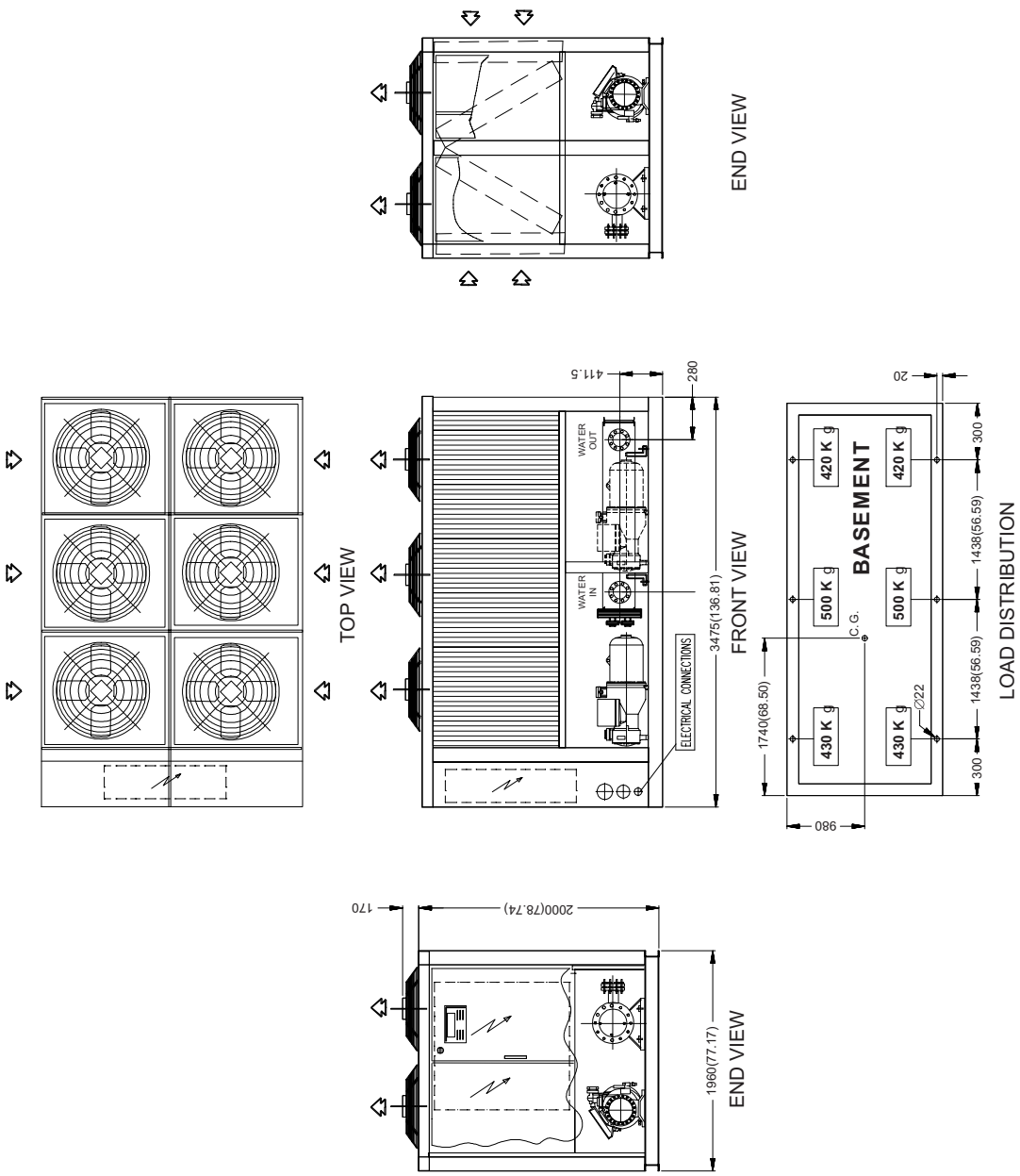
6. VENT & DRAIN CONNECTIONS PROVIDED ON COOLER BARREL.

DIMENSIONS

MALC 100



NOTES:

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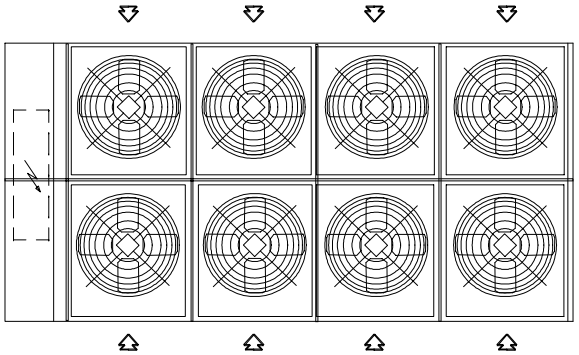
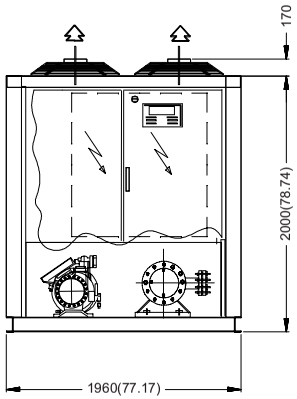
6. VENT & DRAIN CONNECTIONS PROVIDED ON COOLER BARREL.

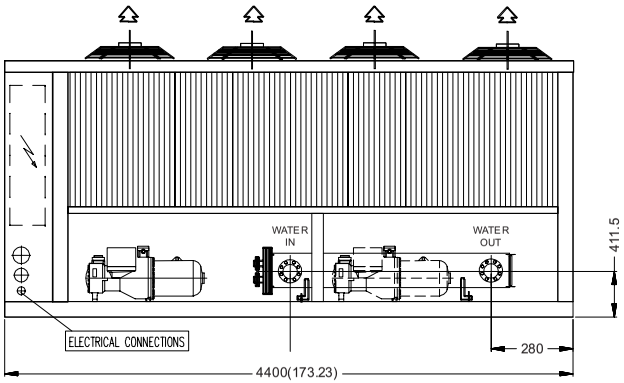
MALC 120



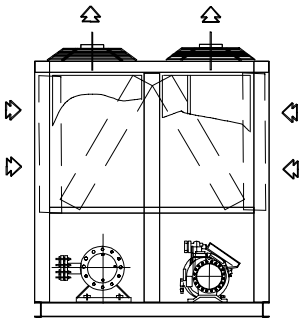
TOP VIEW



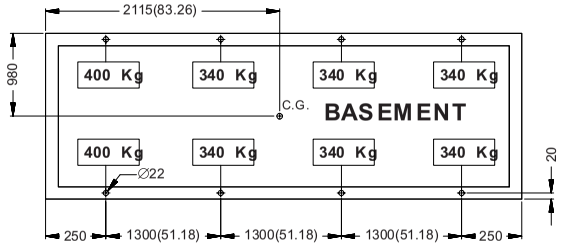
END VIEW



FRONT VIEW



END VIEW



LOAD DISTRIBUTION

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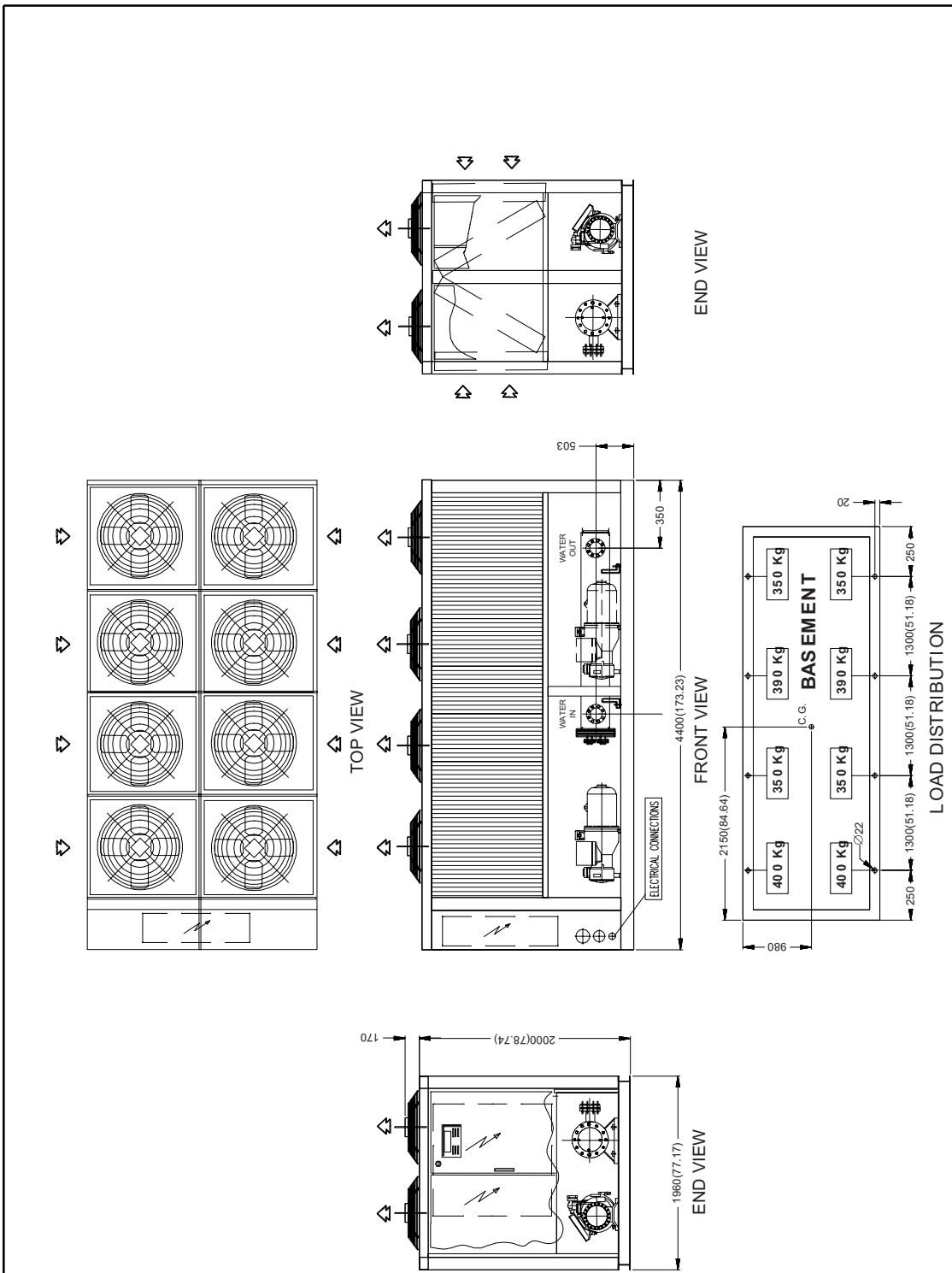
6. VENT & DRAIN CONNECTIONS PROVIDED ON COOLER BARREL.

DIMENSIONS

MALC 140



NOTES:

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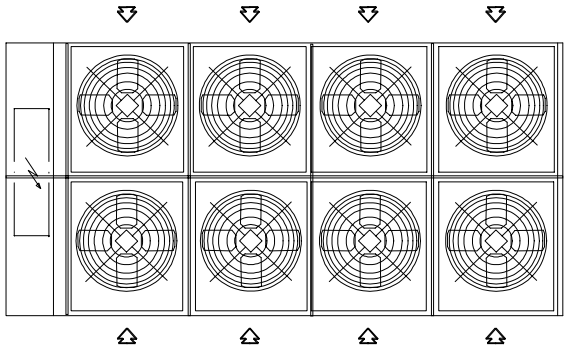
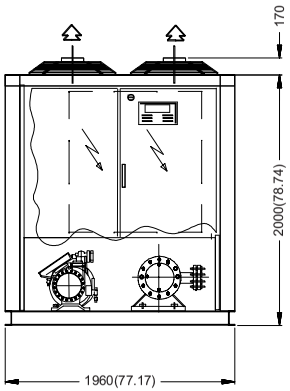
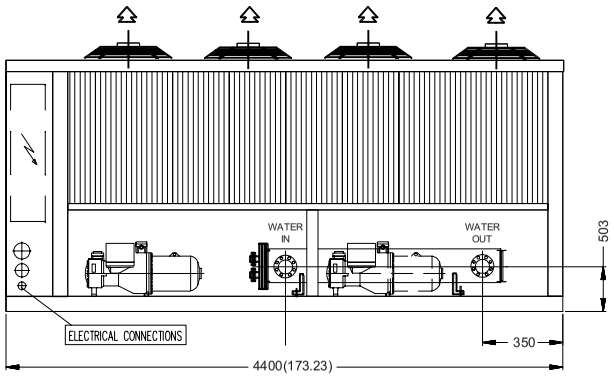
MALC 150



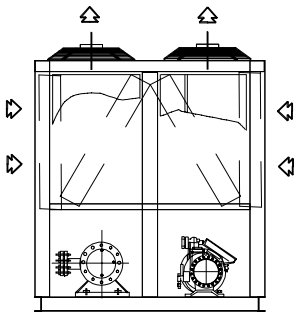
TOP VIEW



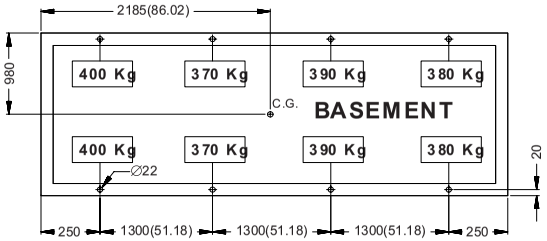
END VIEW



FRONT VIEW



END VIEW



LOAD DISTRIBUTION

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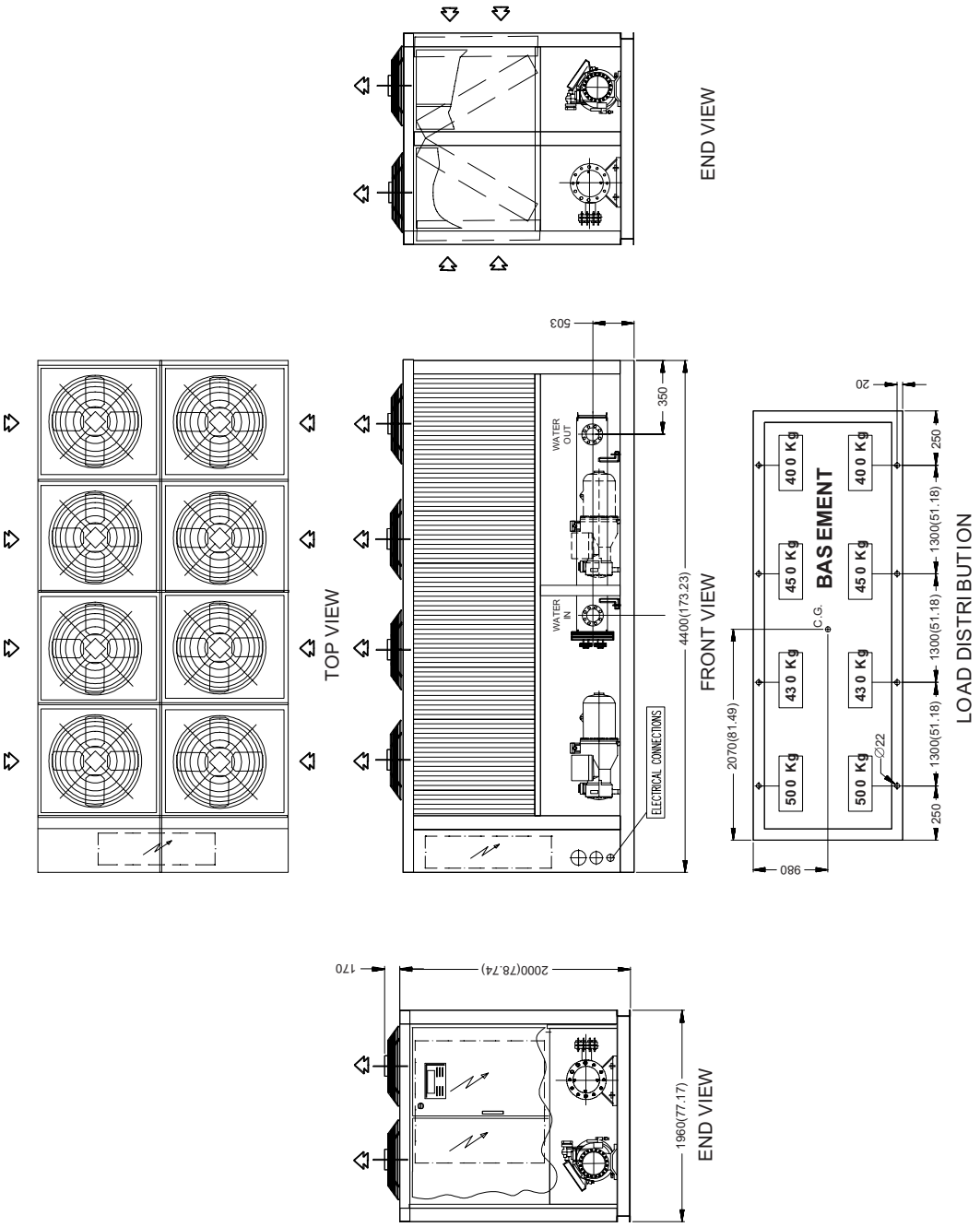
DIMENSIONS

MALC 170



NOTES:

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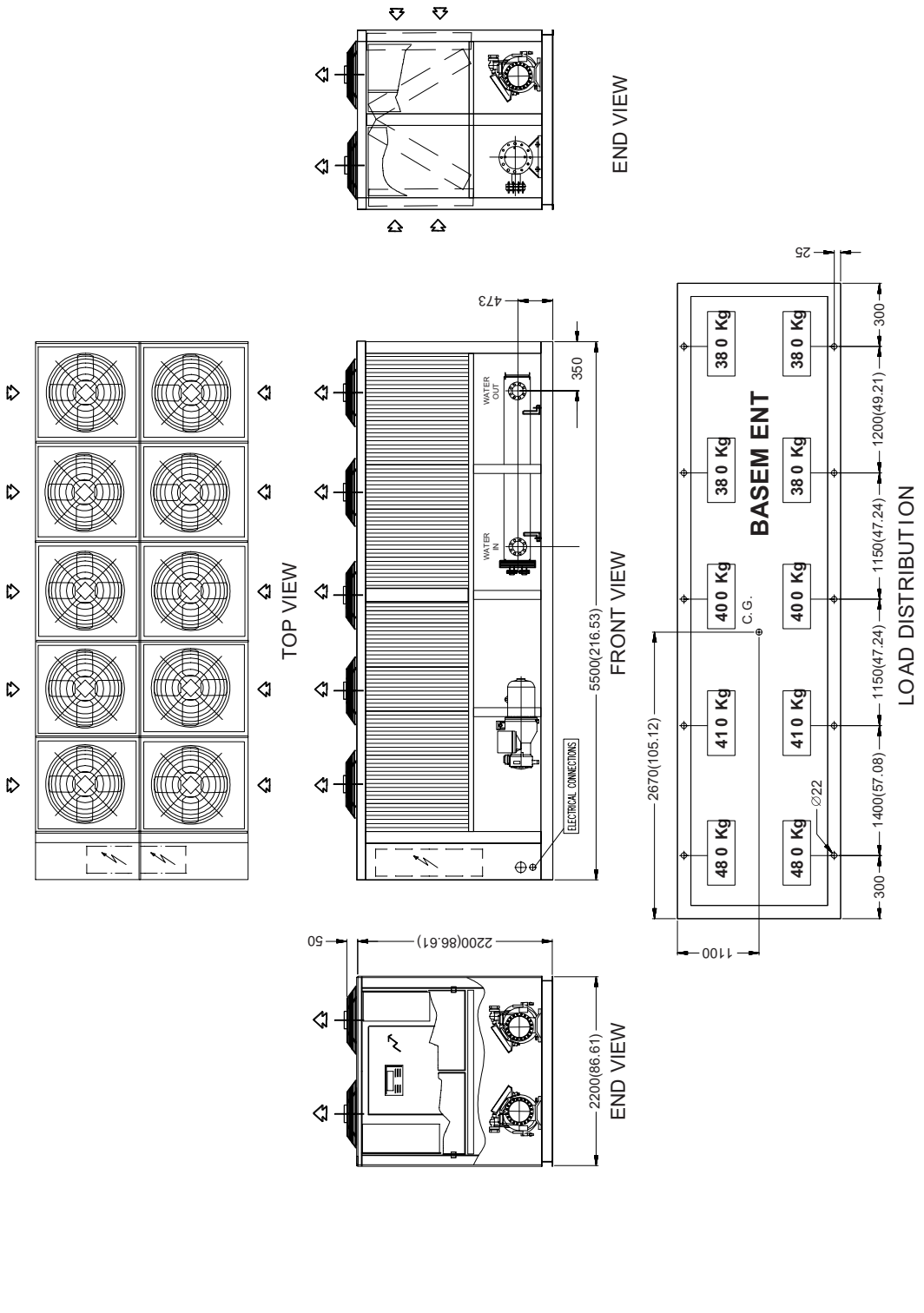
DIMENSIONS

MALC 190



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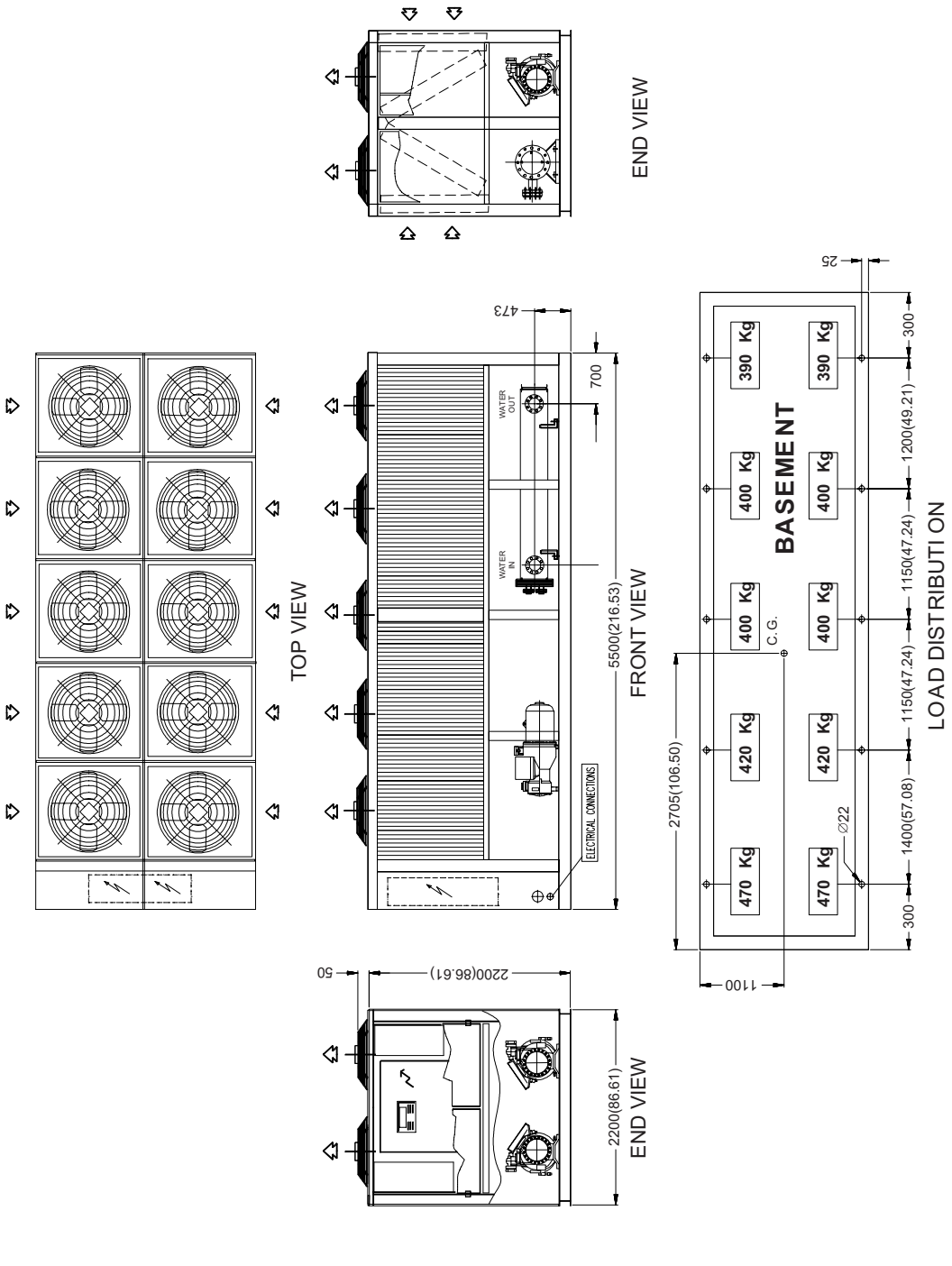
DIMENSIONS

MALC 220



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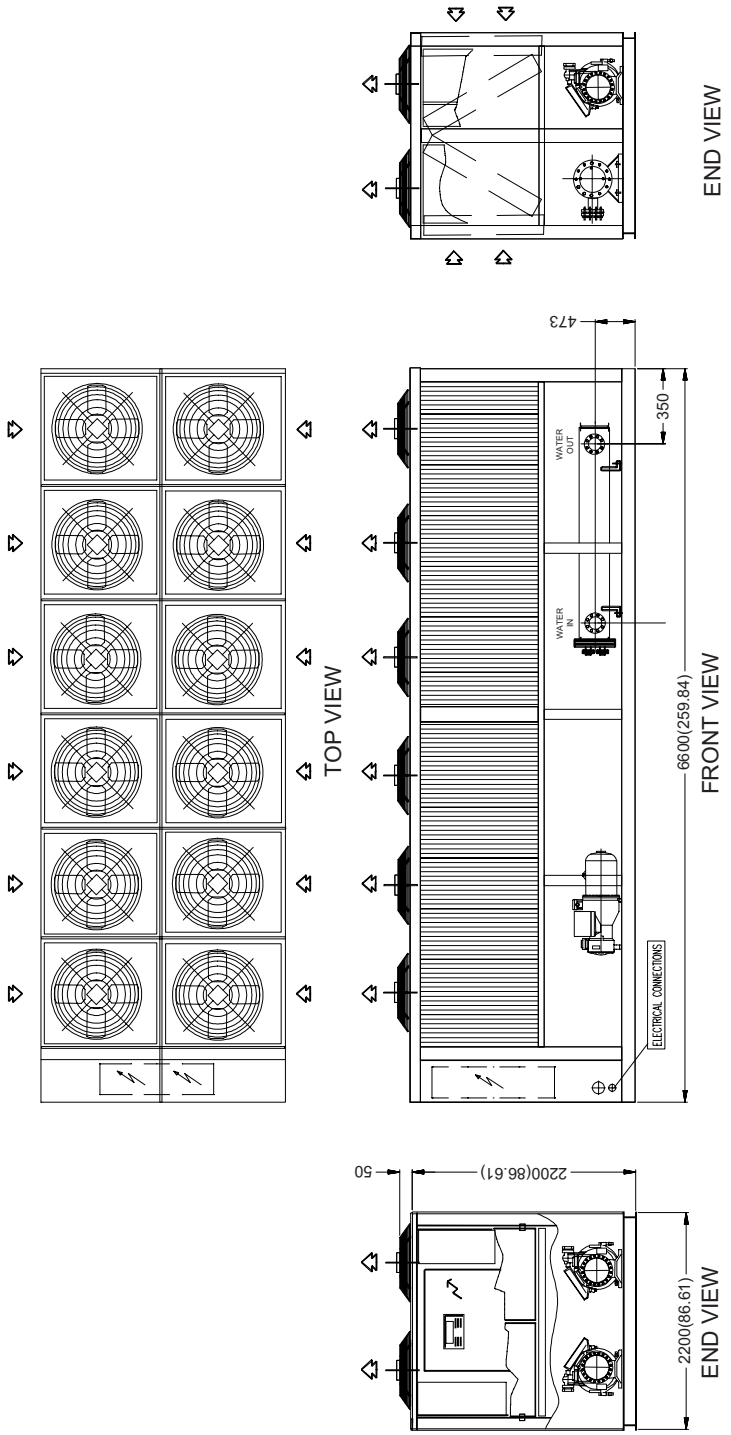
6. VENT & DRAIN CONNECTIONS PROVIDED ON COOLER BARREL.

DIMENSIONS

MALC 250

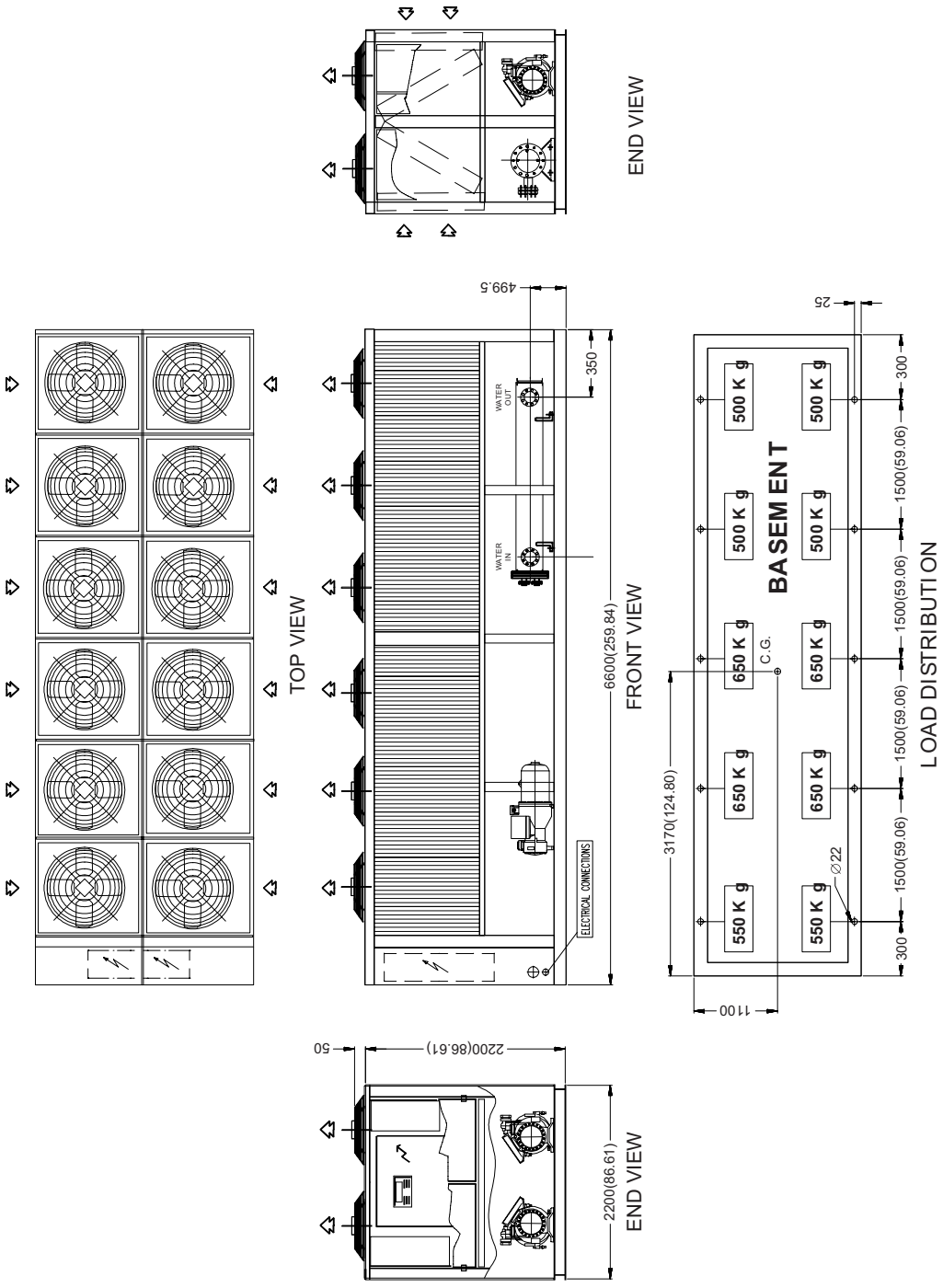


NOTES:

1. ALL DIMENSIONS ARE IN MILLIMETERS, mm. (DIMENSIONS IN BRACKETS ARE IN INCHES).
2. ALLOW 2 METER CLEARANCE ON BOTH SIDE OF A SINGLE UNIT.
3. WATER PIPING TO BE SUPPORTED TO MINIMIZE LOAD ON UNIT.
4. USE MINIMUM ONE (1) METER FLEXIBLE ELECTRICAL CONDUIT TO CONTROL BOX TO ISOLATE UNIT.
5. PIPE CONNECTIONS: FLANGES WITH COMPANION FLANGE, GASKETS, NUTS & BOLTS.
6. VENT & DRAIN CONNECTIONS PROVIDED ON COOLER BARREL.

DIMENSIONS

MALC 270



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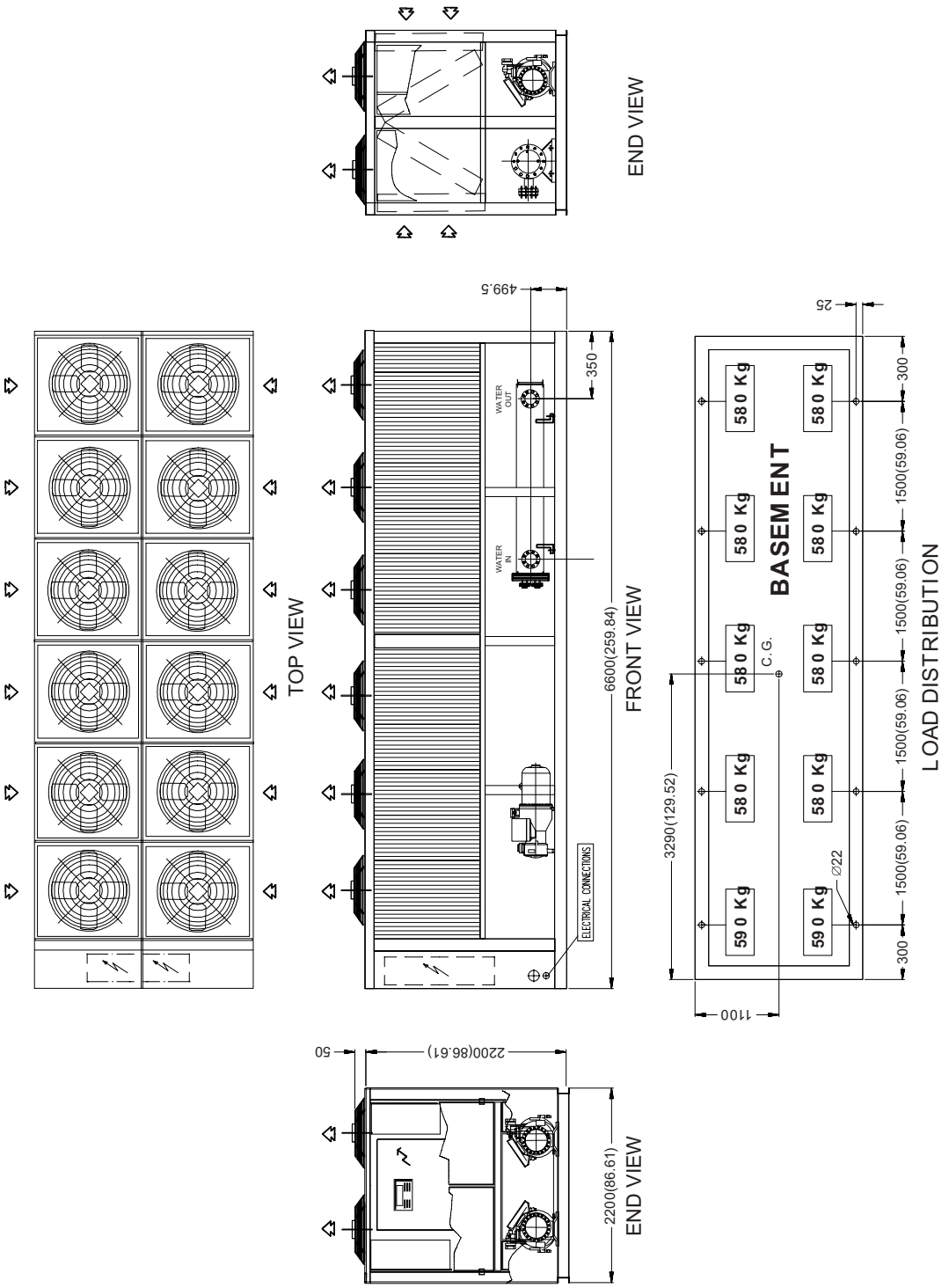
6. VENT & DRAIN CONNECTIONS PROVIDED ON COOLER BARREL.

DIMENSIONS

MALC 290



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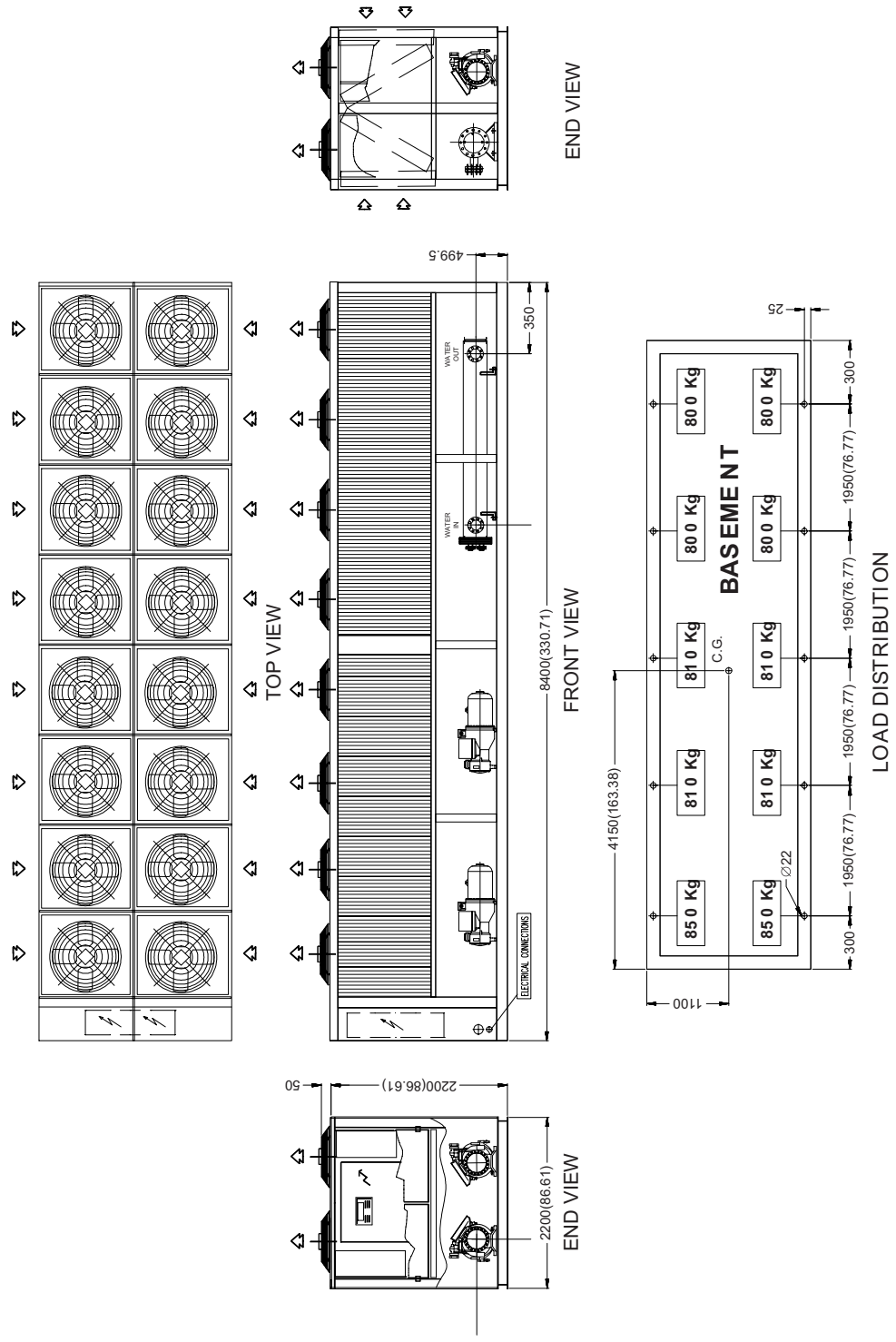
6. VENT & DRAIN CONNECTIONS PROVIDED ON COOLER BARREL.

DIMENSIONS

MALC 300



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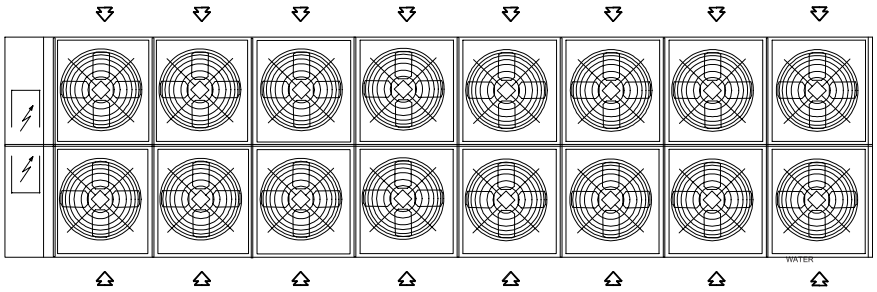
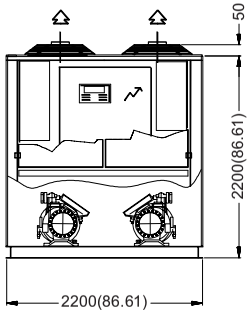
6. VENT & DRAIN CONNECTIONS PROVIDED ON COOLER BARREL.

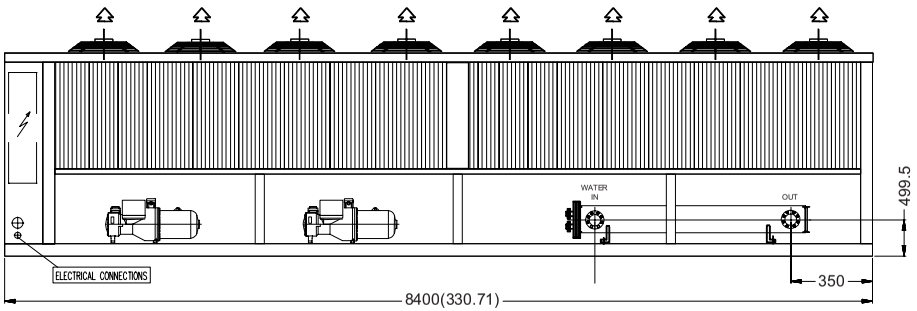
MALC 330



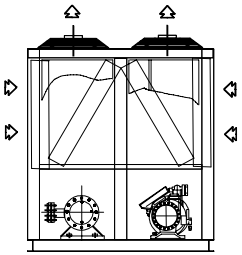
TOP VIEW



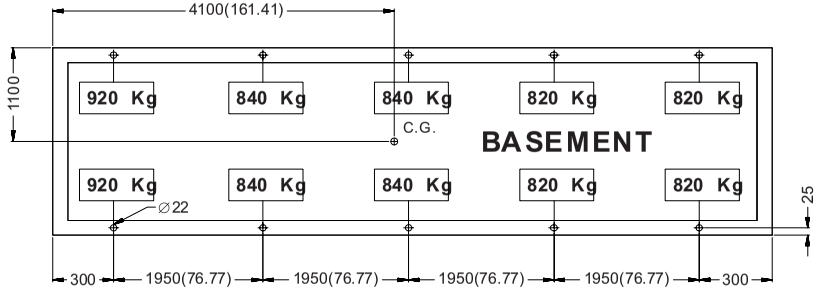
END VIEW



FRONT VIEW



END VIEW



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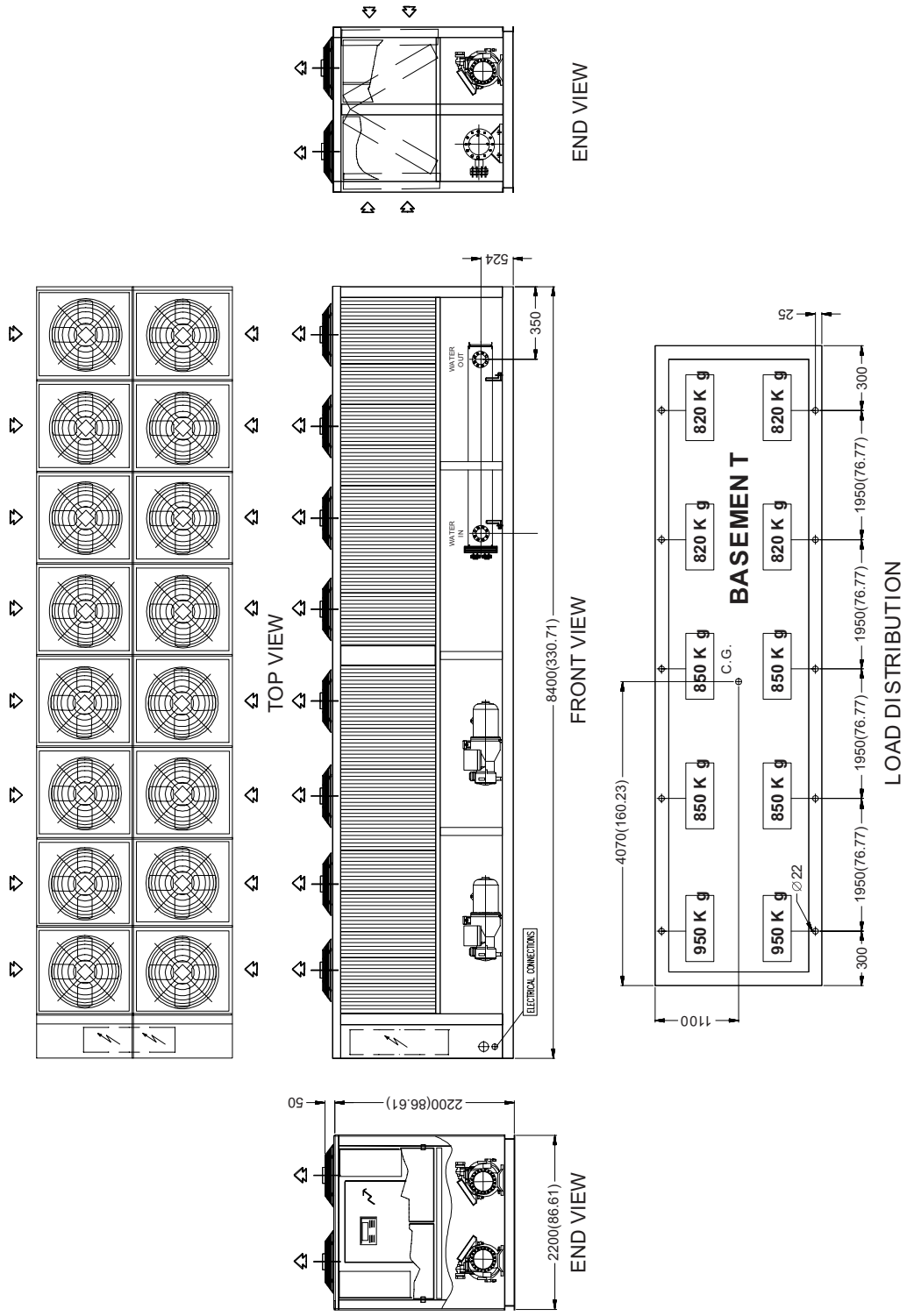
6. VENT & DRAIN CONNECTIONS PROVIDED ON COOLER BARREL.

DIMENSIONS

MALC 350



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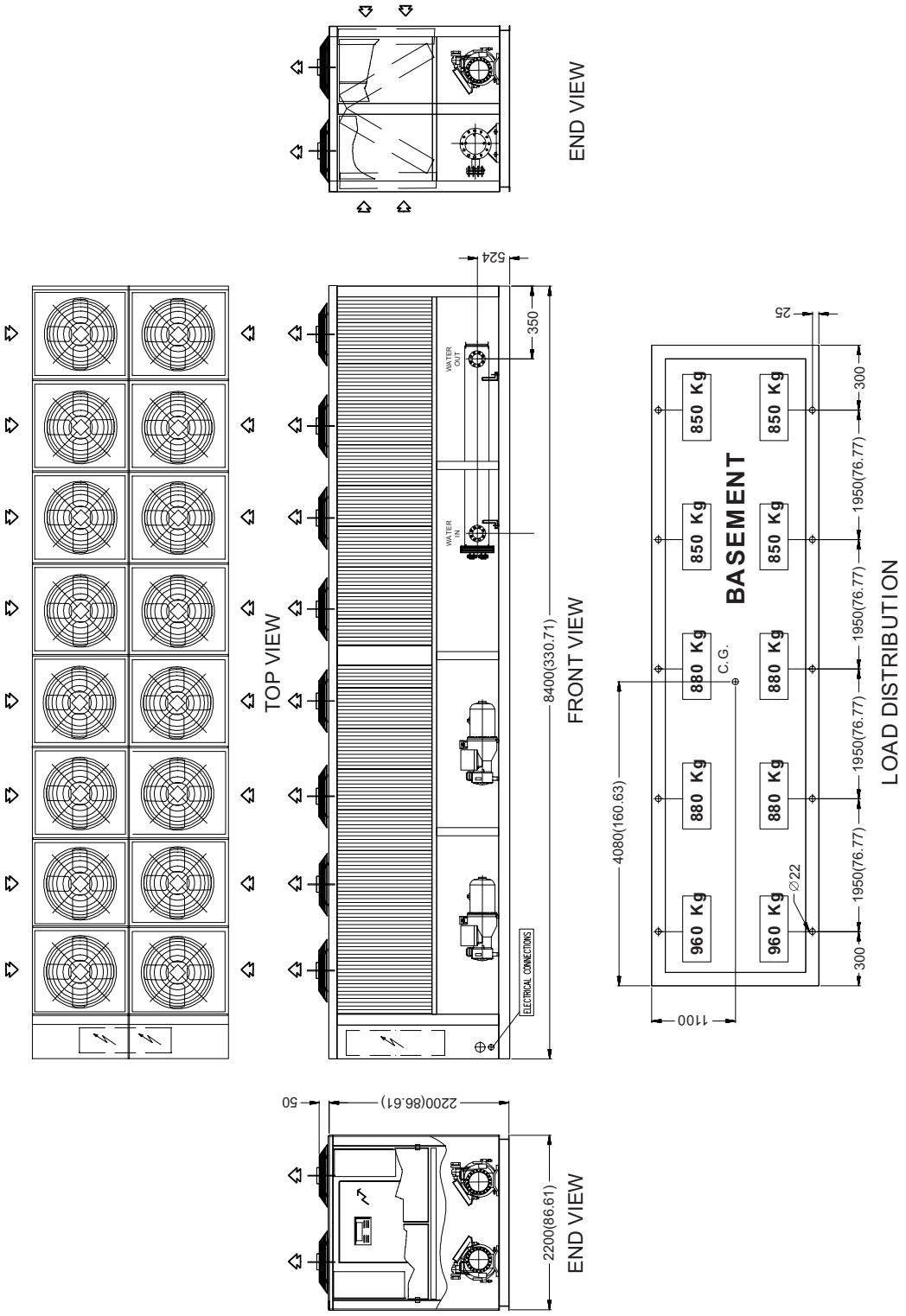
6. VENT & DRAIN CONNECTIONS PROVIDED ON COOLER BARREL.

DIMENSIONS

MALC 370



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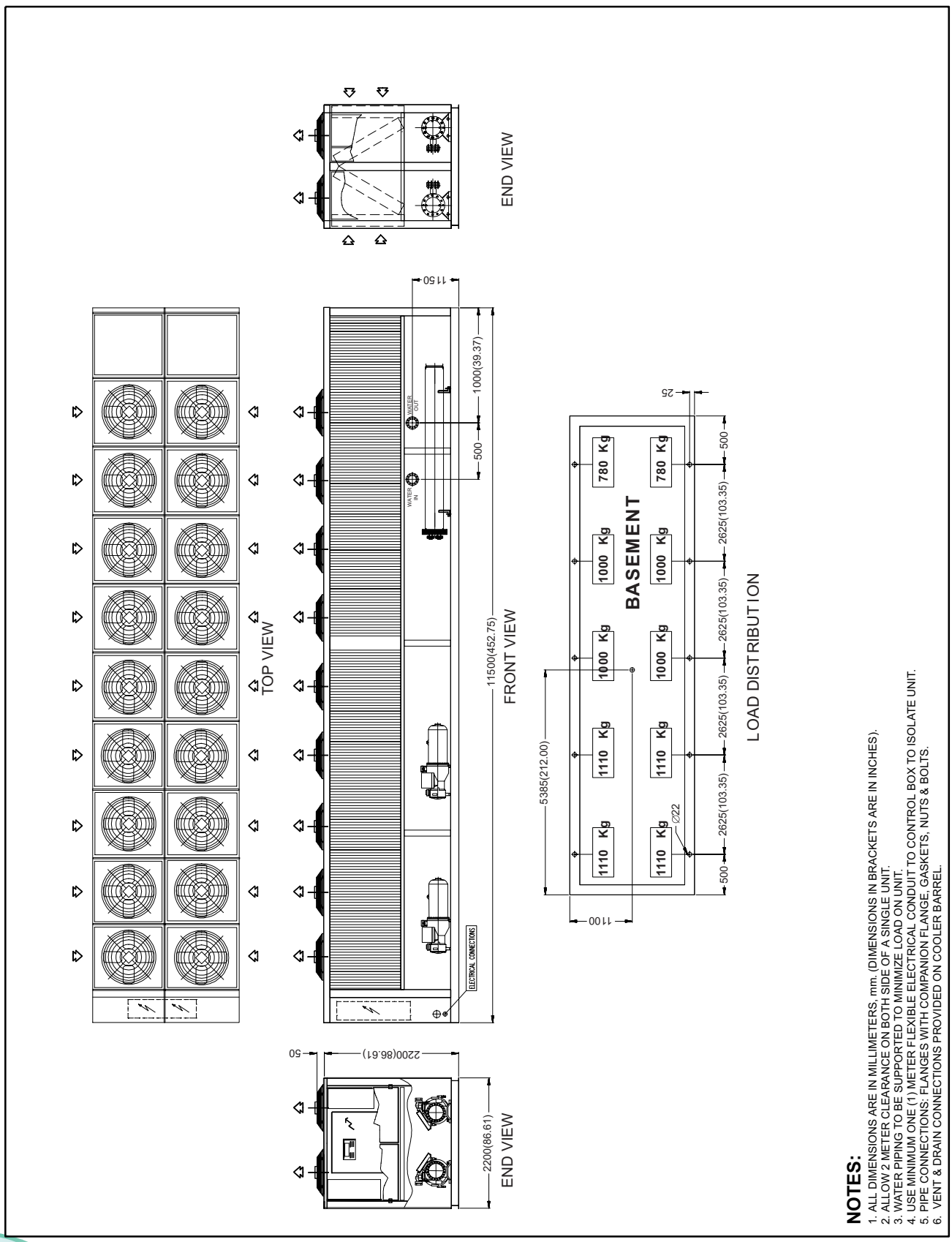
6. VENT & DRAIN CONNECTIONS PROVIDED ON COOLER BARREL.

DIMENSIONS

MALC 380



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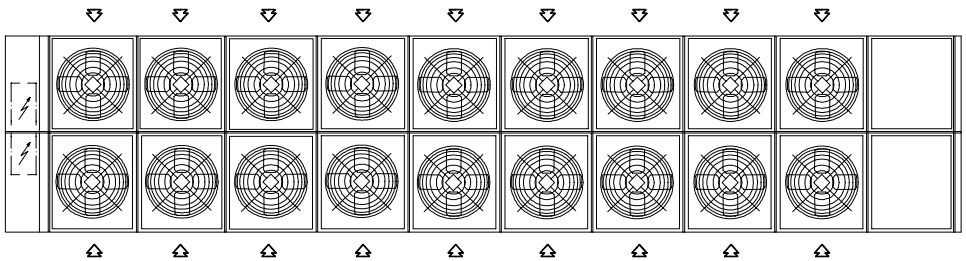
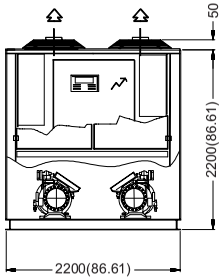
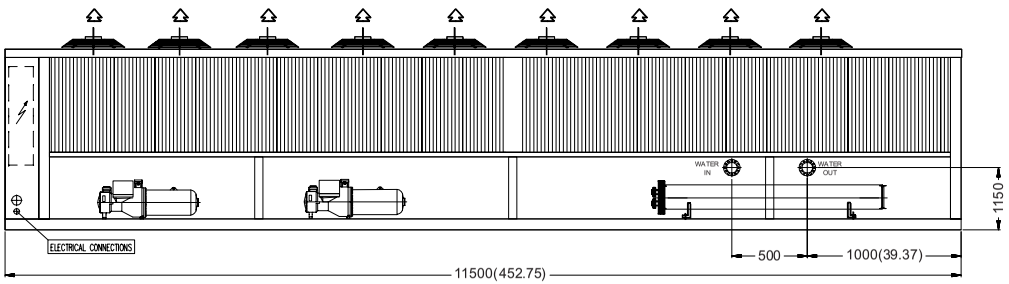
MALC 410



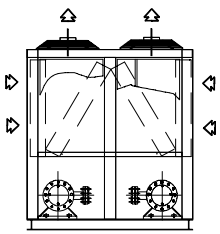
TOP VIEW



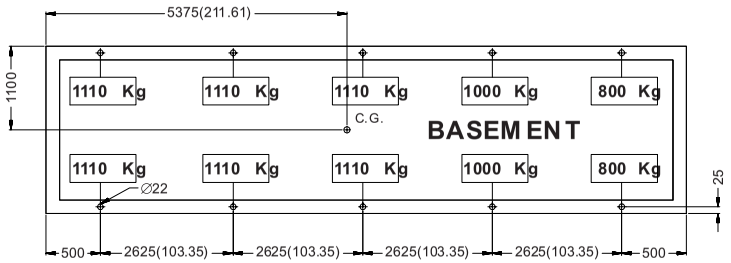
END VIEW



FRONT VIEW



END VIEW



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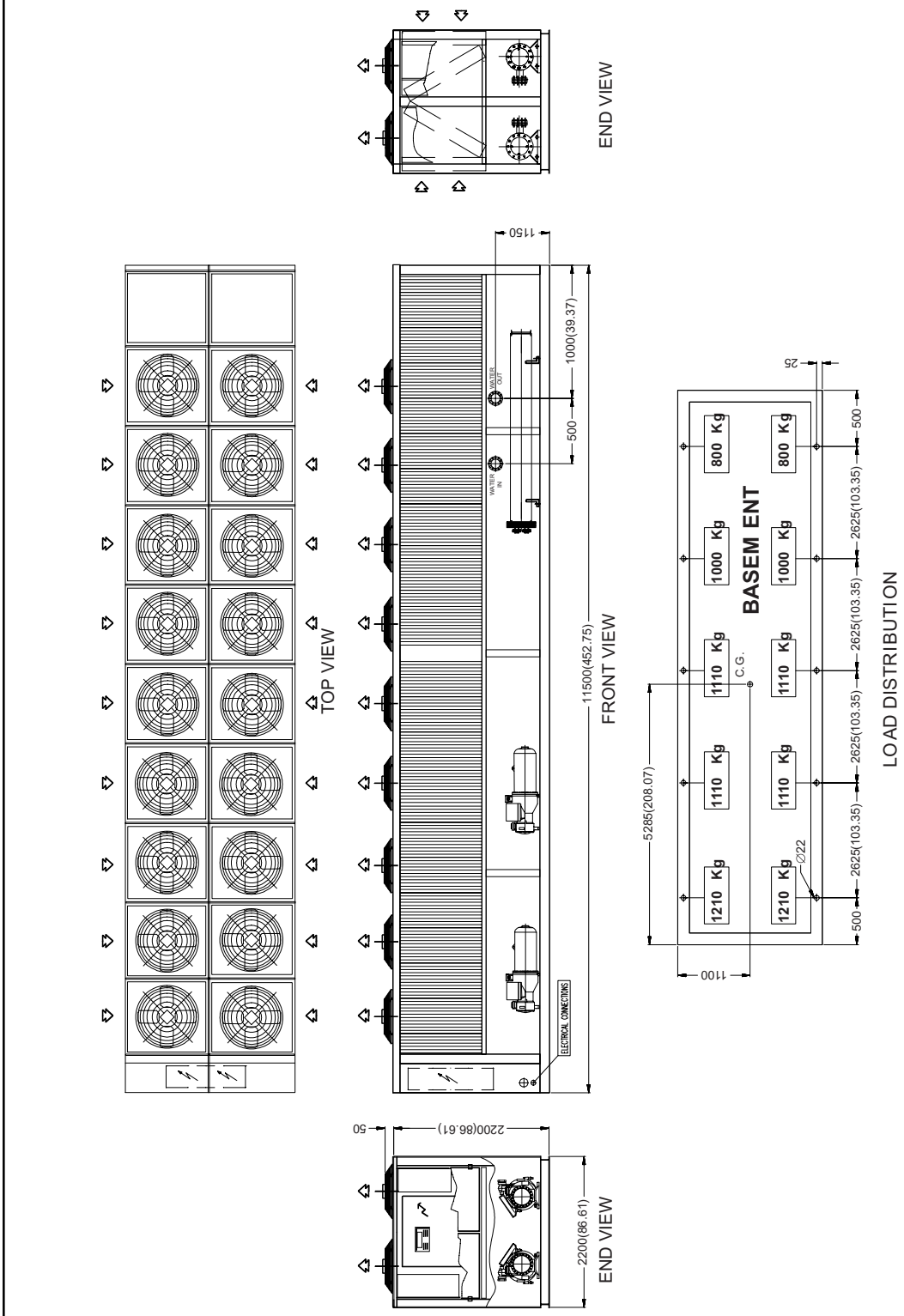
6. VENT & DRAIN CONNECTIONS PROVIDED ON COOLER BARREL.

DIMENSIONS

MALC 440



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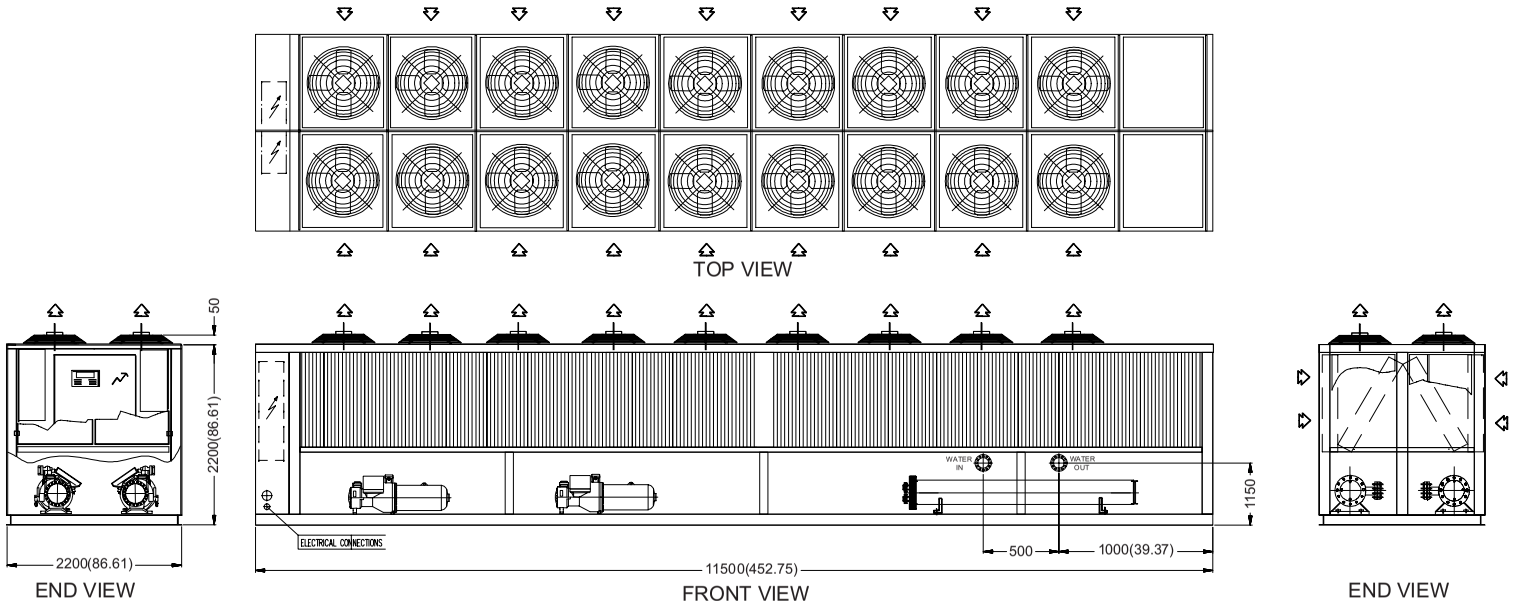
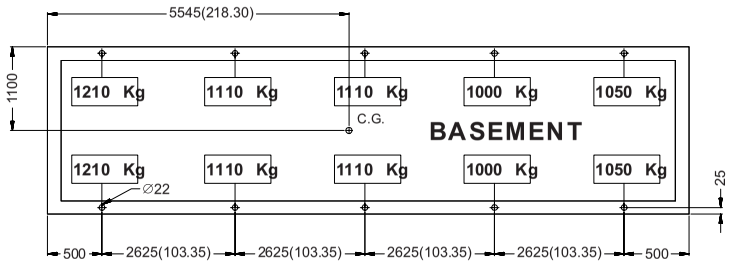
MALC 470





LOAD DISTRIBUTION

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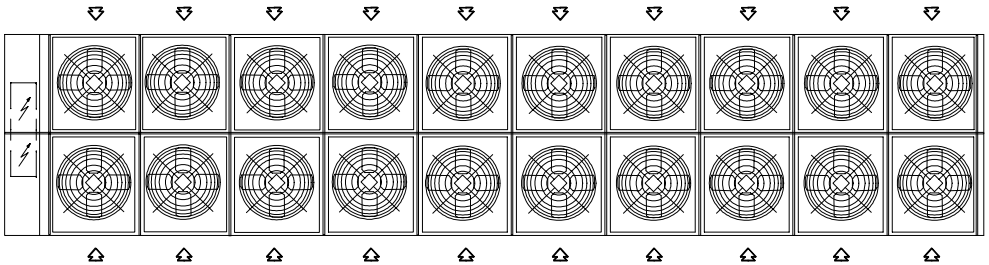
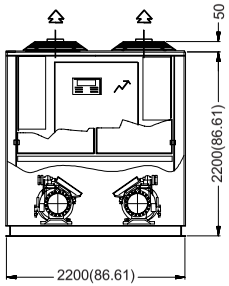
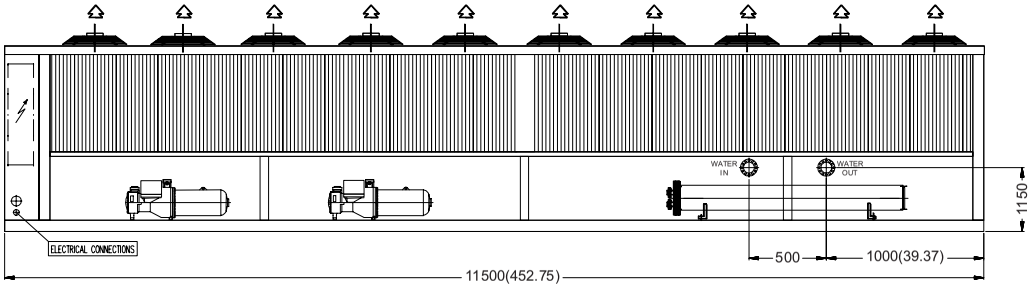
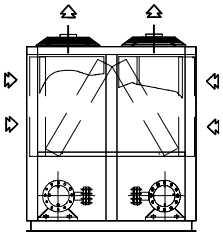
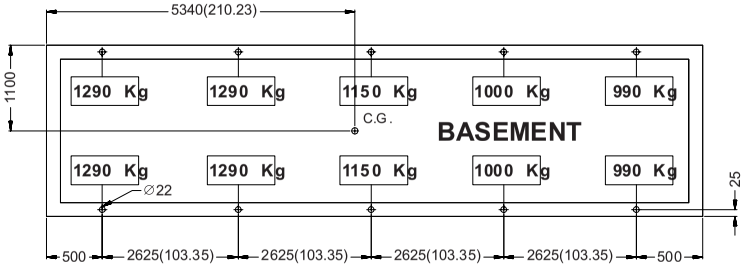
MALC 500











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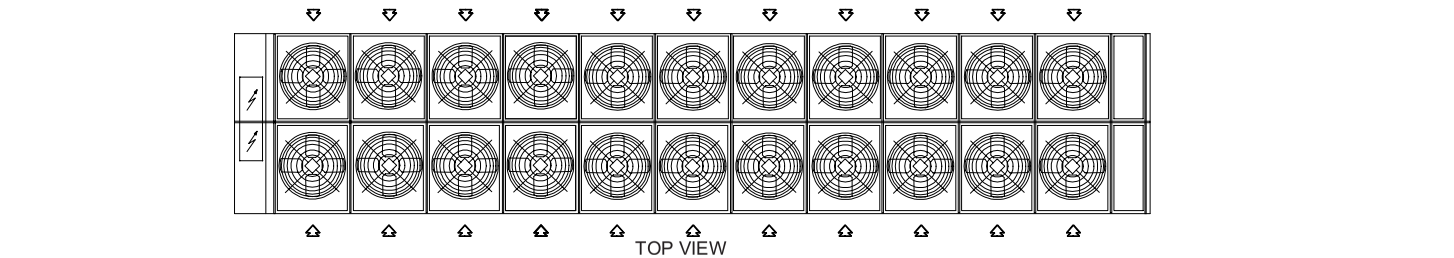
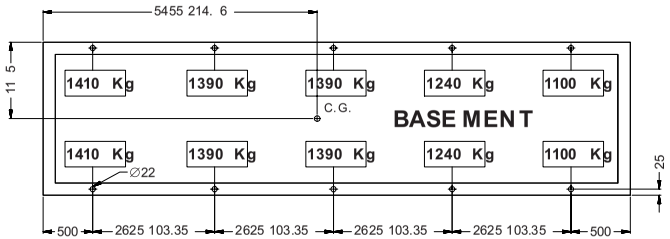
MALC 540





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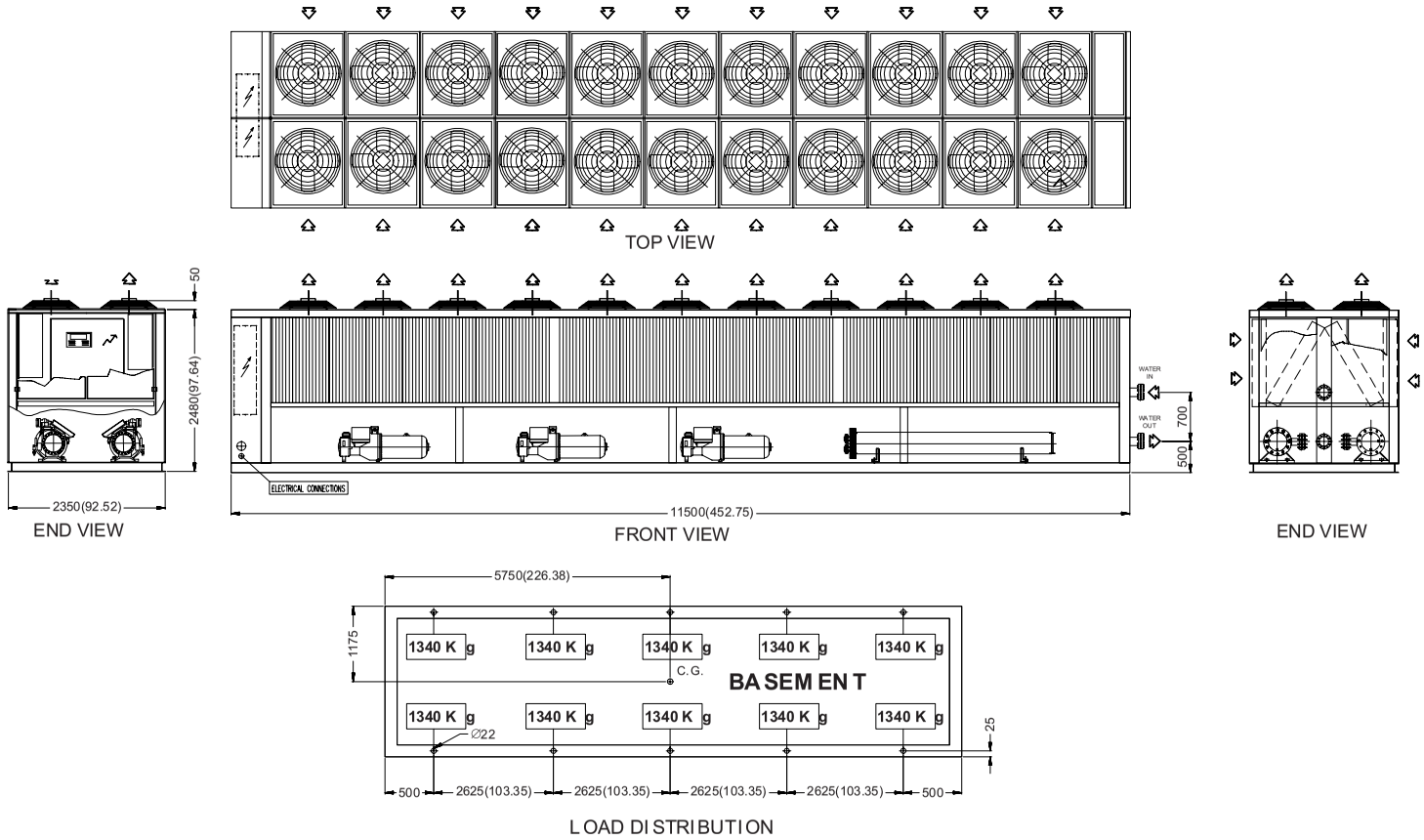
MALC 580



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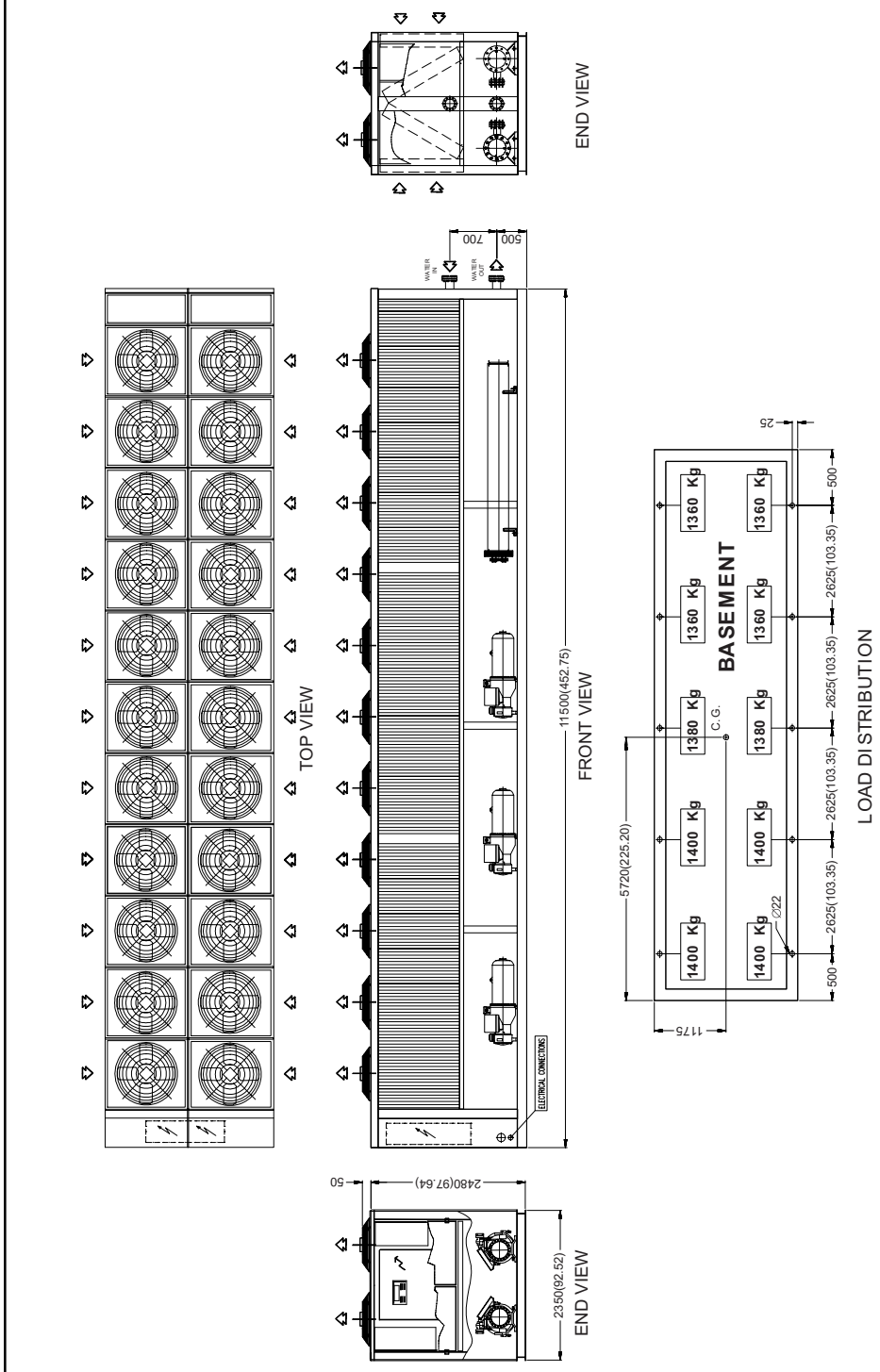
DIMENSION

MALC 600



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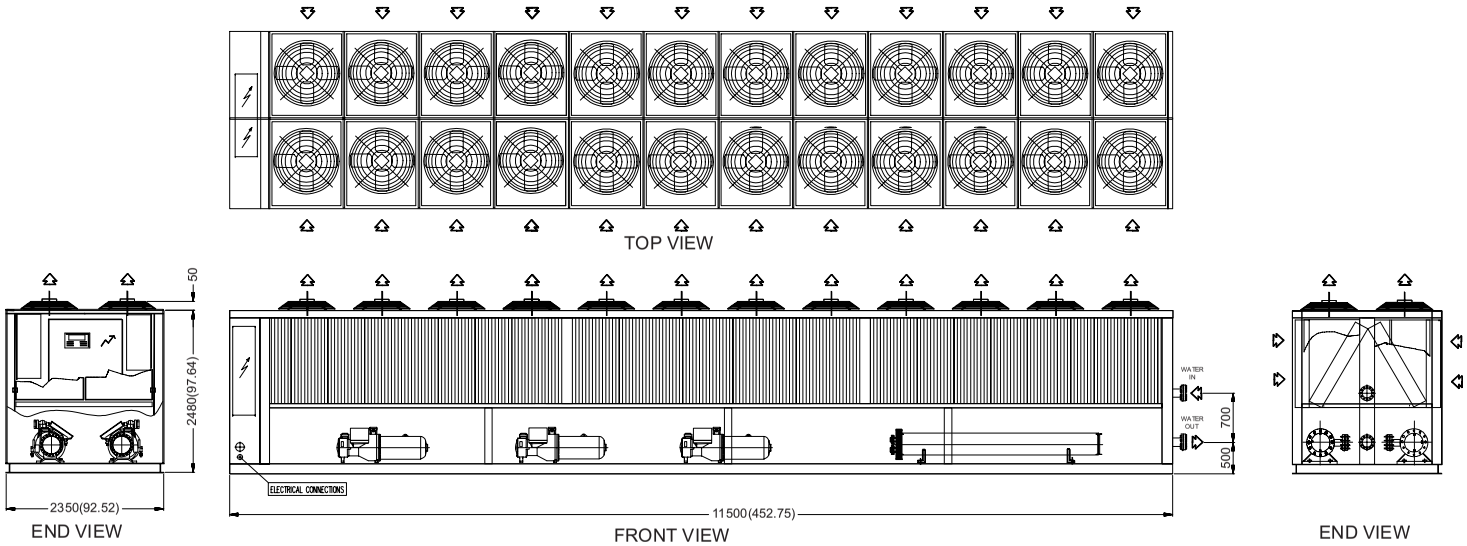
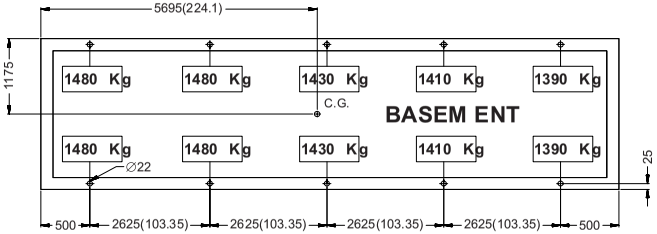
MALC 660





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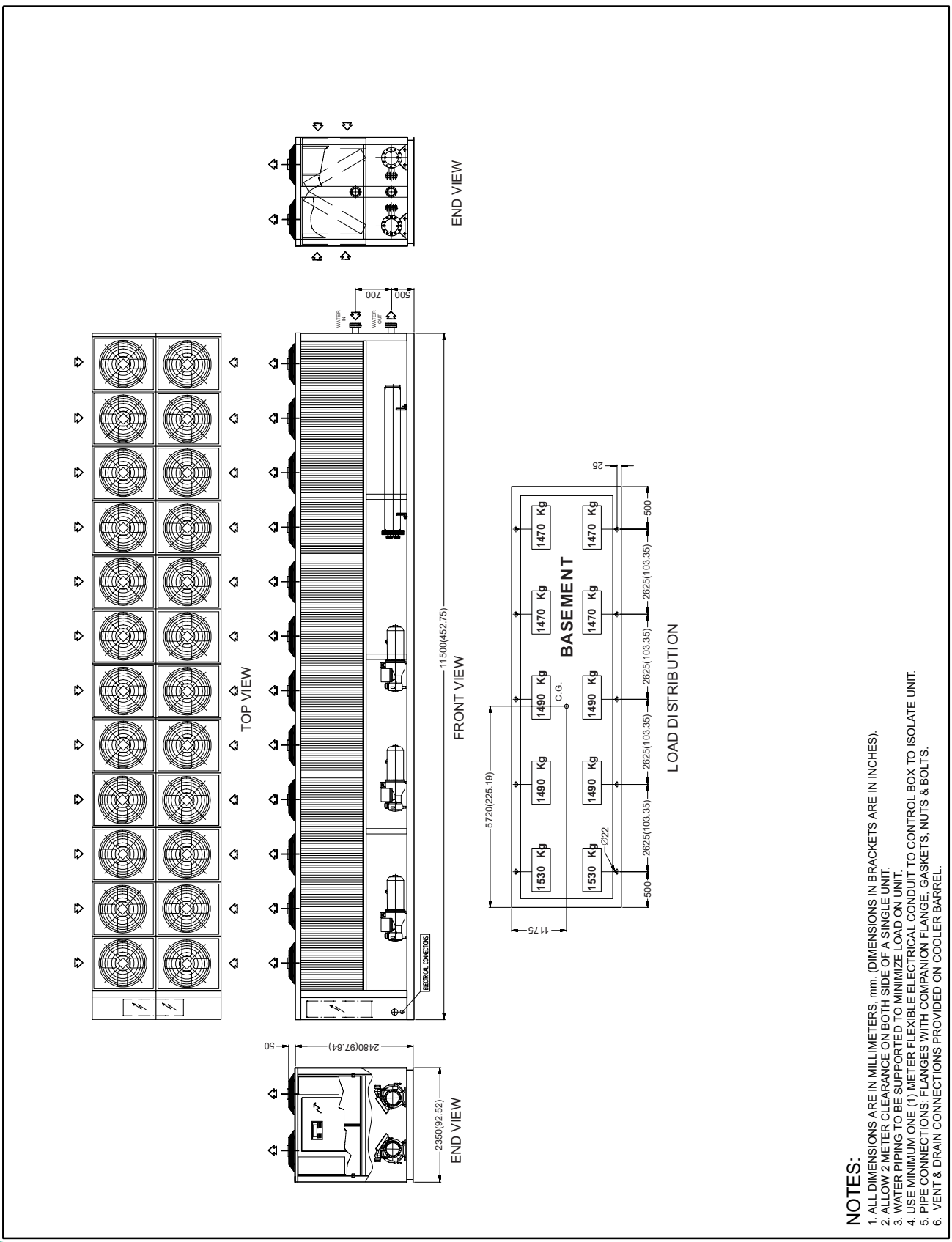
DIMENSION

MALC 700



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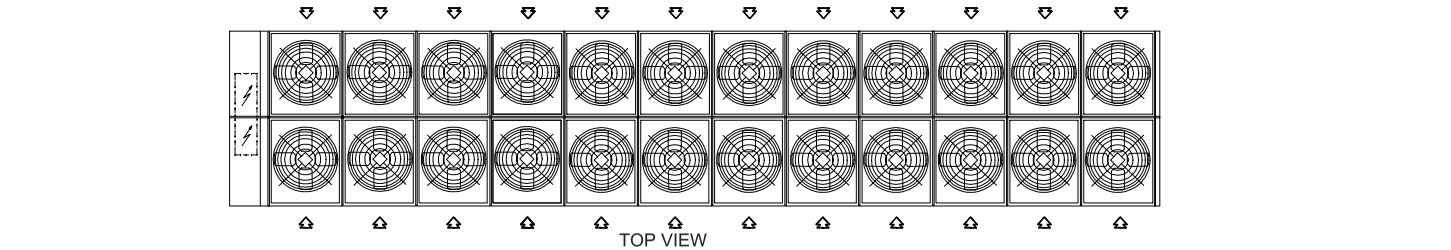
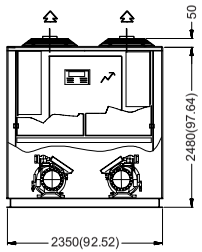
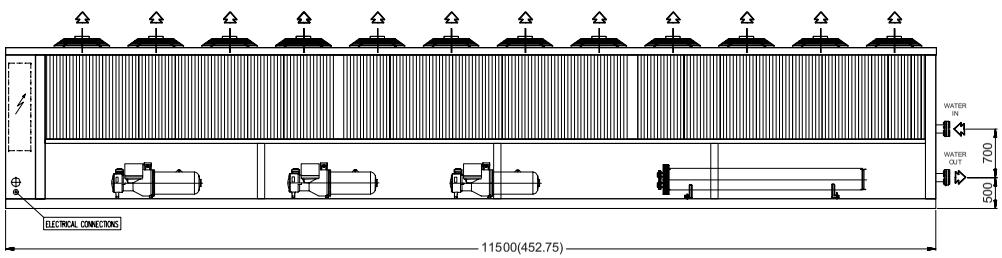
MALC 740

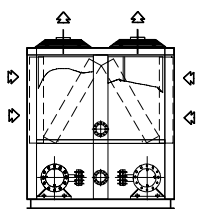




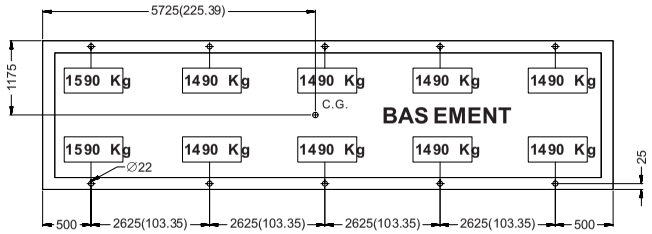
END VIEW



FRONT VIEW



END VIEW



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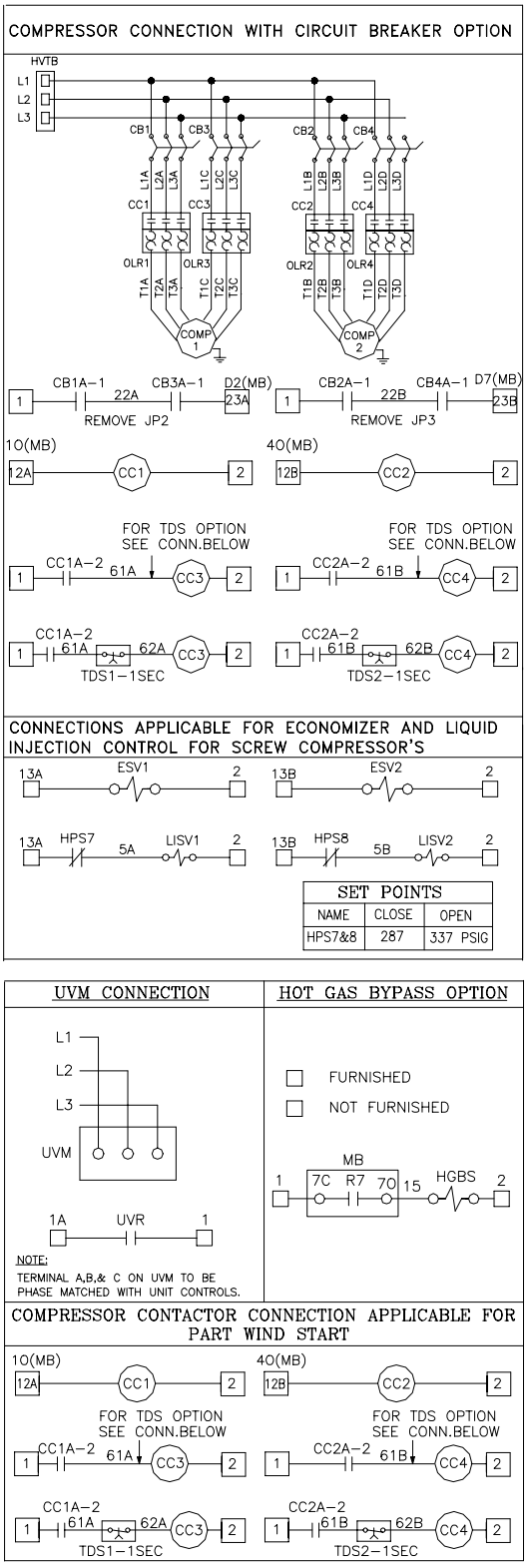
6. VENT & DRAIN CONNECTIONS PROVIDED ON COOLER BARREL.

TYPICAL SCHEMATIC WIRING DIAGRAM



LEGEND	
AI	ANALOG INPUT
CB	CIRCUIT BREAKER
COMP	COMPRESSOR
CC	COMPRESSOR CONTACTOR
CCA	COMPRESSOR CONTACTOR AUXILIARY
CWP	CHILLED WATER PUMP
ES	ECONOMIZER SOLENOID
ESR	ECONOMIZER SOLENOID RELAY
FLS	FLOW SWITCH
FM	FAN MOTOR
FU	FUSE
HGBS	HOT GAS BYPASS SOLENOID
HVTB	HIGH VOLTAGE TERMINAL BLOCK
I/O	INPUT/OUTPUT
MB	MAIN BOARD
OLR	OVER LOAD RELAY
PT	PRESSURE TRANSDUCER
R	CHILLER RANGE ^{0}F
S1	CONTROL SWITCH
SSPS	SOLID STATE PROTECTION SYSTEM
TRANS	TRANSFORMER
TS	TEMPERATURE SENSOR
UVM	UNDER VOLTAGE MONITOR
☐	TERMINAL BLOCK

NOTES

1. POWER SUPPLY, REFER TO UNIT NAMEPLATE.
2. FUSES TO DUAL ELEMENT TYPE.
3. COPPER CONDUCT ORS ONLY.
4. FUSED DISCONNECT SWITCH OR CIRCUIT BREAKER TO BE PROVIDED BY END USER WITH RATING AS RECOMMENDED BY MANUFACTURER.
5. POWER MUST BE SUPPLIED TO CRANKCASE HEATER FOR MINIMUM OF 12 HOURS PRIOR TO SYSTEM START UP.
   IF POWER IS OFF 6 HOURS OR MORE, CRANKCASE HEATER MUST BE ON FOR 12 HOURS BEFORE OPERATING THE SYSTEM.
   FAILURE TO FOLLOW THESE INSTRUCTIONS MAY RESULT IN COMPRESSOR DAMAGE.
6. NEUTRAL LINE REQUIRED ON 380V-3Ph- 50Hz POWER SUPPL Y ONLY.

SET POINTS		
NAME	CLOSE	OPEN
HPS1&2	360	450 PSIG

TYPICAL MICROPROCESSOR CONTROLER (OPTIONAL)

SEQUENCE OF OPERATION

The following describes the sequence of operation for a two screw compressor reciprocating chiller unit.
Operation is similar for a one or six compressor unit.
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 on for at least 5 minutes.
All safety conditions satisfied.
Press ESC on the microcomputer keypad.
Chilled water pump running and chilled water flow switch contact closed.
Customer interlock contact closed, if any.

STAGE - ON SEQUENCE

Staging ON & OFF sequence, shall be accomplished by the Leaving water temperature control selection.

Stage #1:

If the Leaving Water Temperature is greater than the Stage 1- ON water temperature set point value, the Compressor #1 liquid line solenoid & slider control valves shall be switched ON. Now the compressor is in the minimum or unloaded capacity. The compressor capacity is varied to achieve the full/part load capacity as per the load demand.

As discharge pressure of Compressor #1 rises, the corresponding fans are energize accordingly to the fan stage-ON set point. If the discharge pressure falls below the fan stage-OFF set point value, the corresponding fans will turn off.

Stage #2:

If the Leaving Water Temperature is greater than the Stage 2- ON water temperature set point value, the Compressor #2 liquid line solenoid & slider control valves shall be switched ON. Now the compressor is in the minimum or unloaded capacity. The compressor capacity is varied to achieve the full/part load capacity as per the load demand.

As discharge pressure of Compressor #2 rises, the corresponding fans are energize accordingly to the fan stage-ON set point. If the discharge pressure falls below the fan stage-OFF set point value, the corresponding fans will turn off.

STAGE - OFF SEQUENCE

During the staging OFF, the first-in last-out sequence is adopted, if equalization of compressor timing is not selected. Else the more used is switched off.

As the applied load decreases and when the leaving water temperature falls below the stage 2 -OFF water temperature set point value, stage 2 is turned off.

If the leaving water temperature falls below the stage 1-OFF water temperature set point value, the stage 1 is turned off.

TROUBLESHOOTING GUIDE

1) No LED display lit or erratic display behavior

a) Check serial cable integrity.
b) Check serial cable connections on both the User Interface Board and the Main Board.
c) Check correct and tight insertion of jumpers JU1 and JU2 on the Main Board.
d) Check correct and tight insertion of jumpers TU1 and TD1 on the User Interface Board and on the last board of the network.

2) Controller does not respond to keypad

a) Check serial cable integrity.
b) Check serial cable connections on both the User Interface Board and the Main Board.
c) Check correct and tight insertion of jumpers TU1 and TD1 on the User Interface Board, main and/or auxiliary board.
d) Check dip switches and integrity on the User Interface Board.

3) Several analog values reading incorrectly

a) Check correct and tight connection of the probes to the board.
b) Check the probe cable: test for short-circuit.
c) The pressure transducer probe is a 4-20mA transmitter check the polarity of the connection on the Board.
d) Check if the power supply voltage is into the specified limits: 24Vac +/- 10%.
e) The temperature probe is a PTC sensor disconnect it from the board and measure its resistance that is 1000 ohm at 25^0C or 1200 ohm at 50^0C.

4) Digital input reading incorrectly

a) Check if the auxiliary 220 Vac voltage is present in the electrical box.
b) Check if the AC input on the Board is correctly connected to one of the 220 Vac terminals in the electrical box.
c) Check if A1/A14 inputs are correctly connected with respect to the cabling diagram of the electrical box.

5) No LCD display lit or erratic display behavior

a) Check serial cable integrity.
b) Check serial cable connections on both the User Interface Board and the Main Board.
c) Check correct and tight insertion of jumpers JU1 and JU2 on the Main Board.
d) Check correct and tight insertion of jumpers TU1 and TD1 on the User Interface Board, main and/or auxiliary board.
e) Adjust display intensity by rotating trimmer RV1 counter-clockwise (from the back side of the board).

6) No LED H1 blinking light on NG3 Board

a) Check power supply cable an connection.
b) Check if the power supply voltage is into the specified limits: 24Vac +/- 10%.
c) Check for fuse F1, replace with 1AT/250V if blown.

7) No display of leds on User Interface Board

a) Check serial cable integrity.
b) Check serial cable connections on both the User Interface Board and the Main Board.
c) Check correct and tight insertion of jumpers JU1 and JU2 on the Main Board.
d) Check correct and tight insertion of jumpers TU1 and TD1 on the User Interface Board, main and/or auxiliary board.

8) Auxilliary board not responding to commands

a) Check if LED H1 on Auxilliary board is blinking , if not go to point (6).
b) Check serial cable integrity.
c) Check serial cable connections on both the Main and the Auxilliary boards.
d) Check that jumpers JU1 and JU2 on the Auxilliary boards are not installed.
e) Check correct and tight insertion of jumpers TU1 and TD1 on the User Interface Board, main and/or auxiliary board.

9) Analog Outputs not responding

a) Check Analog Output cables integrity (for short-circuit).
b) Check Analog Output cabling and connections.
c) Check if the power supply voltage is into the specified limits: 24VAC +/- 10%.
d) Check the fuse F1, replace with 1AT/250V if blown.

10) Digital Outputs not responding

a) Check Digital Output cables integrity (no short-circuit, no open-circuit).
b) Check digits Output cabling and connections.
c) Check if the power supply voltage is into the specified limits: 24VAC +/- 10%.
d) Check the fuse F1, replace with 1AT/250V if blown.

11) Serial Communication with Remote Monitoring Control not Functioning

a) Check the serial cable connected on plug-in board IS-485 mounted on the Main Board.
b) Check if the plug-in board is correctly mounted on the Main Board.
c) Check if jumpers X5 and X6 on the plug-in board IS-485 are correctly installed.
d) Check if jumpers X17 and X18 on the GATEWAY board are correctly installed.

APPLICATION DATA

UNIT PLACEMENT: Prior to unit installation, please check the following points. Strength, level of the base or foundation. Please refer unit installation clearance dimensional drawings for proper unit installation.

CONDENSER AIRFLOW: Obstructed flow of condenser air will effect the unit capacity and operating efficiency. It is essential to install the units where sufficient airflow available to eliminate condenser discharge air recirculation.

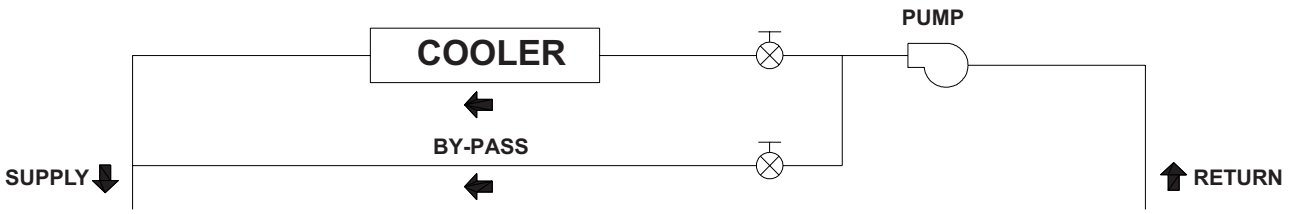
WATER (FLUID STRAINERS): It is recommended to install 20-mesh strainers in the fluid piping.

COOLER ENTERING WATER TEMPERATURE: Unit can start and pull down from 95^{0}F (35^{0}C) entering water temperature for sustained operation conditions. If entering water temperature is expected to be higher, contact engineering dept. for design modification.

HIGH AMBIENT TEMPERA TURE: Chillers can start and operate satisfactorily at 130 F (55^{0}C) ambient temperature at nominal voltage.

COOLER TEMPERATURE RISE: Rating and performance data are for a cooling rise of 10^{0}F. It is recommended that the cooler temperature rise not exceed 16^{0}F (8.8^{0}C).
It is recommended to recirculate the chilled water to increase the flow rate. Ensure to maintain the mixed fluid temperature entering to the cooler at least 5^{0}F (2.8^{0}C) above the leaving chilled water temperature.

It is recommended to maintain the pressure drop through the cooler within the limit by bypassing return water as shown on diagram below. This permits a higher temperature difference with lower water flow through the cooler and mixing after the cooler. However the flow rate through the cooler should not be lower than the minimum flow rates indicated in this catalog.



OVERSIZING OF CHILLER: It is not recommended to oversize the chiller more than 5 - 10% of the load for future requirement. Over sizing of chiller cause system inefficiency due to excessive compressor cycling which will reduce the compressor life. It is recommended to select the chiller for present load requirement and add another unit for future expansion. Units operate more efficient with fully loaded than larger equipment operates at minimum capacity.

MINIMUM CHILLED WATER VOLUME: As the compressor may alter between stating, loading, unloading and stopping in a closed coupled system, the leaving water temperature may vary by 2^{0}F - 5^{0}F (1^{0}C - 2.5^{0}C) per step of capacity control. The anti recycle timer will prevent the compressor from starting for 3 minutes and that influence the leaving water temperature variation. Therefore, in case where precise control of leaving temperature is absolutely required, it will be necessary to install a water tank in the chilled water loop. Table on next page indicate minimum tank volume for air conditioning and process application.

APPLICATION DATA

UNIT SIZE	AIR CONDITIONING APPLICATIONS		PROCESS APPLICATIONS	
	GALLONS	LITERS	GALLONS	LITERS
MALC 040	77	290	83	314
MALC 050	93	352	101	381
MALC 060	116	439	126	476
MALC 070	131	495	142	536
MALC 075	153	579	166	627
MALC 090	170	642	184	695
MALC 100	186	704	202	763
MALC 120	232	879	252	952
MALC 140	261	989	283	1072
MALC 150	293	1108	317	1201
MALC 170	339	1283	367	1390
MALC 190	385	1458	417	1580
MALC 220	429	1625	465	1761
MALC 250	490	1856	531	2010
MALC 270	532	2012	576	2180
MALC 290	578	2186	626	2368
MALC 300	600	2270	650	2459
MALC 330	644	2437	697	2640
MALC 350	674	2553	731	2766
MALC 370	735	2783	797	3015
MALC 380	770	2915	834	3158
MALC 410	814	3082	882	3339
MALC 440	858	3249	930	3520
MALC 470	920	3481	996	3771
MALC 500	980	3711	1062	4020
MALC 540	1063	4024	1151	4359
MALC 580	1155	4372	1251	4736
MALC 600	1199	4540	1299	4919
MALC 660	1288	4874	1395	5280
MALC 700	1349	5105	1461	5530
MALC 740	1471	5567	1593	6031

Minimumloopvolumes: Normal air conditioning: 3 gal/Ton or 3.25 liters/KW.
Process cooling: 6 gal/ton or 6.5 liters/KW.

RIGGING INSTRUCTIONS

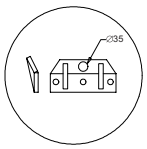
ATTENTION TO RIGGERS

Hook rigging sling thru holes in base rail, as shown below.
Holes in base rail are centered around the unit center of gravity.
Center of gravity is not unit center line.
Ensure center of gravity aligns with the main lifting point before lifting.
Use spreader bar when rigging, to prevent the slings from damaging the unit.

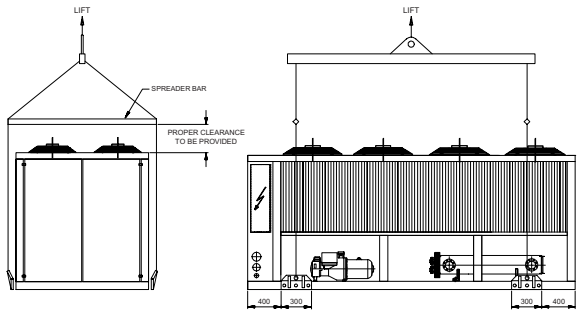
CAUTION

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: MALC 040 - MALC 220

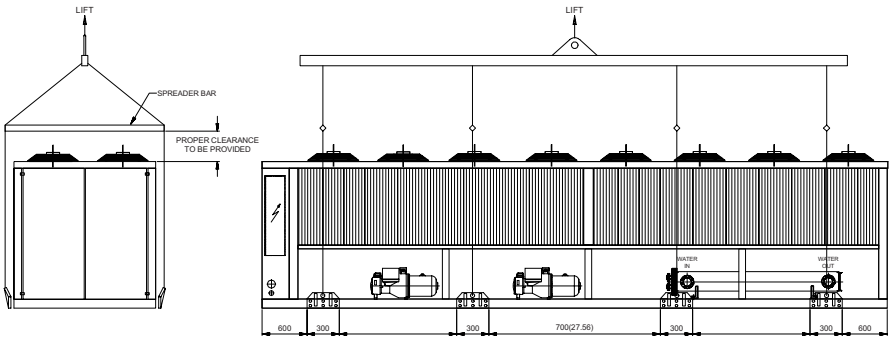


LIFTING PLATE

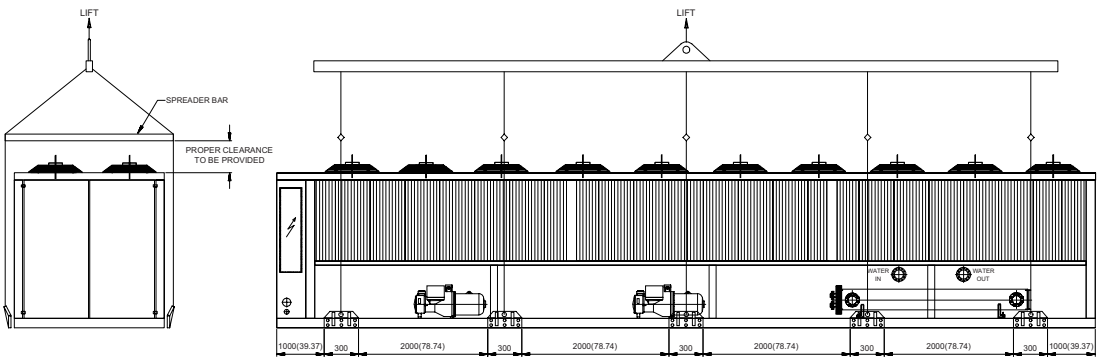


MUST BE 3 NOMINAL PIPE THROUGH UNIT FOR SLINGS TO AVOID BASE DAMAGE.

MODELS: MALC 250 - MALC 370



MODELS: MALC 380 - MALC 740



INSTALLATION CLEARANCE

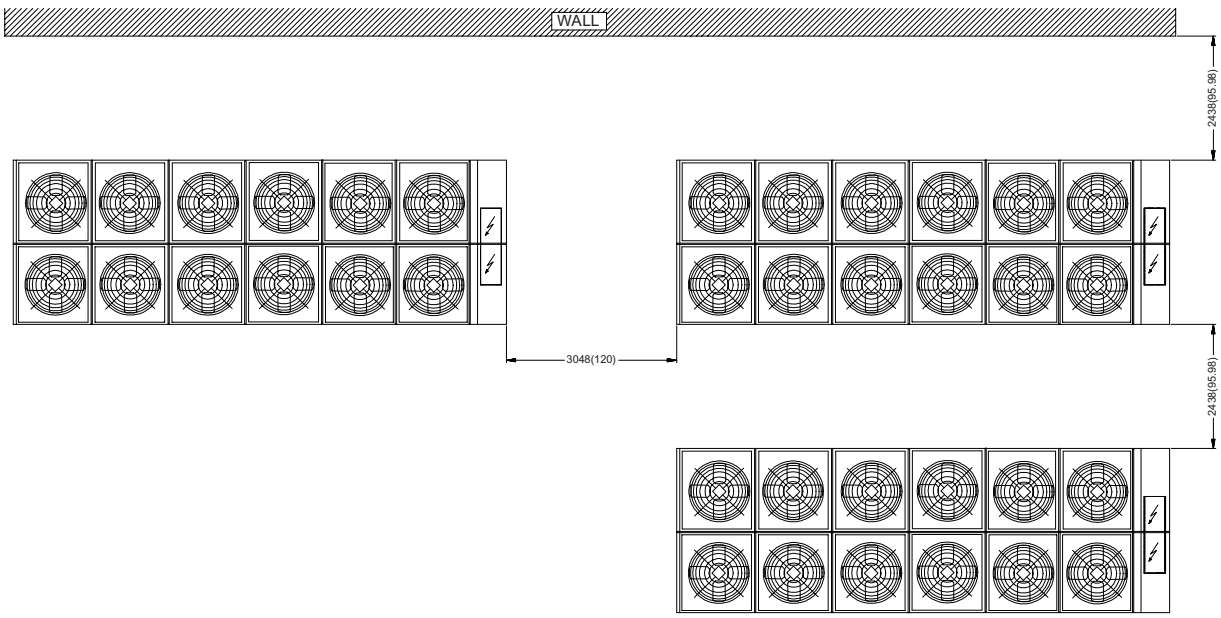


FIGURE - 1

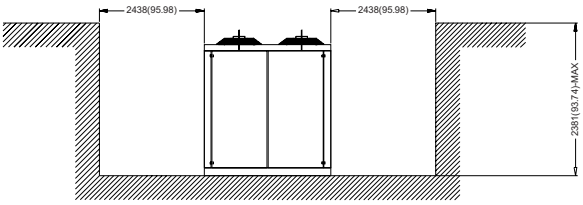


FIGURE - 2
SINGLE UNIT IN PIT

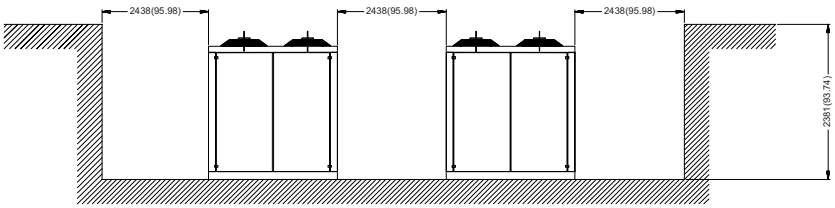


FIGURE - 3
DOUBLE UNITS IN PIT

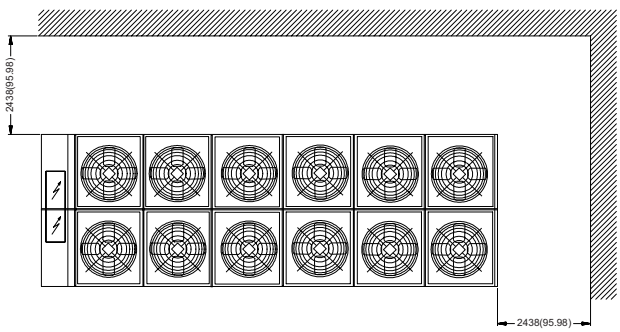


FIGURE - 4
CORNER WALL

PARTS LIST

MODEL NUMBER	MALC040H	MALC040F	MALC040M	MALC050H	MALC050F	MALC050M	MALC060H	MALC060F	MALC060M	MALC070H	MALC070F	MALC070M
COMPRESSOR STARTER	800-097-45(2)	800-097-36(2)	800-097-39(2)	800-097-48(2)	800-097-45(2)	800-097-42(2)	800-097-51(2)	800-097-45(2)	800-097-42(2)	800-097-54(2)	800-097-45(2)	800-097-45(2)
COMPRESSOR OLR	800-097-14(2)	800-097-10(2)	800-097-11(2)	800-097-15(2)	800-097-11(2)	800-097-12(2)	800-097-17(2)	800-097-12(2)	800-097-12(2)	800-097-17(2)	800-097-12(2)	800-097-13(2)
FAN MOTOR CONTACTOR/FUSE	800-095-56(3)	800-095-56(3)	800-095-56(3)	800-095-56(3)	800-095-56(3)	800-095-56(3)	800-095-56(4)	800-095-56(4)	800-095-56(4)	800-095-56(4)	800-095-56(4)	800-095-56(4)
CONDENSER FAN MOTOR	800-556-51	800-556-52	800-556-52	800-556-51	800-556-52	800-556-52	800-556-51	800-556-52	800-556-52	800-556-51	800-556-52	800-556-52
CONDENSER FAN GUARD	800-626-01	800-626-01	800-626-01	800-626-01	800-626-01	800-626-01	800-626-01	800-626-01	800-626-01	800-626-01	800-626-01	800-626-01
CONDENSER FAN	800-556-01	800-556-01	800-556-01	800-556-01	800-556-01	800-556-01	800-556-01	800-556-01	800-556-01	800-556-01	800-556-01	800-556-01
MICROPROCESSOR USER INTERFACE BOARD	800-646-50	800-646-50	800-646-50	800-646-50	800-646-50	800-646-50	800-646-50	800-646-50	800-646-50	800-646-50	800-646-50	800-646-50
MICROPROCESSOR MAIN BOARD	800-646-51	800-646-51	800-646-51	800-646-51	800-646-51	800-646-51	800-646-51	800-646-51	800-646-51	800-646-51	800-646-51	800-646-51
EXPANSION VALVE	800-181-52	800-181-52	800-181-52	800-181-52	800-181-52	800-181-52	800-181-59	800-181-59	800-181-59	800-181-59	800-181-59	800-181-59
SIGHT GLASS	800-200-20	800-200-20	800-200-20	800-200-20	800-200-20	800-200-20	800-200-20	800-200-20	800-200-20	800-200-20	800-200-20	800-200-20
PRESSURE RELIEF VALVE	800-706-01	800-706-01	800-706-01	800-706-01	800-706-01	800-706-01	800-706-01	800-706-01	800-706-01	800-706-01	800-706-01	800-706-01
PUMP DOWN SOLENOID VALVE	800-706-60	800-706-60	800-706-60	800-706-60	800-706-60	800-706-60	800-706-60	800-706-60	800-706-60	800-706-62	800-706-62	800-706-62
UNDER VOLTAGE MONITOR	800-013-41	800-013-44	800-013-42	800-013-41	800-013-44	800-013-42	800-013-41	800-013-44	800-013-42	800-013-41	800-013-44	800-013-42
TRANSFORMER (24V)	800-012-00	800-012-00	800-012-00	800-012-00	800-012-00	800-012-00	800-012-00	800-012-00	800-012-00	800-012-00	800-012-00	800-012-00
OPTIONAL ITEMS												
HOT GAS BYPASS VALVE	800-533-05	800-533-05	800-533-05	800-533-06	800-533-06	800-533-06	800-533-06	800-533-06	800-533-06	800-533-06	800-533-06	800-533-06
HOT GAS BYPASS SOLENOID	800-706-57	800-706-57	800-706-57	800-706-57	800-706-57	800-706-57	800-706-58	800-706-58	800-706-58	800-706-58	800-706-58	800-706-58
WATER FLOW SWITCH	800-557-41	800-557-41	800-557-41	800-557-41	800-557-41	800-557-41	800-557-41	800-557-41	800-557-41	800-557-41	800-557-41	800-557-41
COMPRESSOR CIRCUIT BREAKER	800-607-39(2)	800-607-36(2)	800-607-36(2)	800-607-40(2)	800-607-36(2)	800-607-37(2)	800-607-40(2)	800-607-37(2)	800-607-38(2)	800-607-30(2)	800-607-37(2)	800-607-38(2)

MODEL NUMBER	MALC075H	MALC075F	MALC075M	MALC090H	MALC090F	MALC090M	MALC100H	MALC100F	MALC100M	MALC120H	MALC120F	MALC120M
COMPRESSOR STARTER	800-097-45(4)	800-097-36(4)	800-097-39(4)	800-097-45(2) 800-097-48(2)	800-097-45(2) 800-097-36(2)	800-097-39(2) 800-097-42(2)	800-097-48(4)	800-097-45(4)	800-097-42(4)	800-097-51(4)	800-097-45(4)	800-097-42(4)
COMPRESSOR OLR	800-097-14(4)	800-097-10(4)	800-097-11(4)	800-097-14(2) 800-097-15(2)	800-097-10(2) 800-097-11(2)	800-097-11(2) 800-097-12(2)	800-097-15(4)	800-097-11(4)	800-097-12(4)	800-097-17(4)	800-097-12(4)	800-097-12(4)
FAN MOTOR CONTACTOR/FUSE	800-095-56(6)	800-095-56(6)	800-095-56(6)	800-095-56(6)	800-095-56(6)	800-095-56(6)	800-095-56(6)	800-095-56(6)	800-095-56(6)	800-095-56(8)	800-095-56(8)	800-095-56(8)
CONDENSER FAN MOTOR	800-556-51	800-556-52	800-556-52	800-556-51	800-556-52	800-556-52	800-556-51	800-556-52	800-556-52	800-556-51	800-556-52	800-556-52
CONDENSER FAN GUARD	800-626-01	800-626-01	800-626-01	800-626-01	800-626-01	800-626-01	800-626-01	800-626-01	800-626-01	800-626-01	800-626-01	800-626-01
CONDENSER FAN	800-556-01	800-556-01	800-556-01	800-556-01	800-556-01	800-556-01	800-556-01	800-556-01	800-556-01	800-556-01	800-556-01	800-556-01
MICROPROCESSOR USER INTERFACE BOARD	800-646-50	800-646-50	800-646-50	800-646-50	800-646-50	800-646-50	800-646-50	800-646-50	800-646-50	800-646-50	800-646-50	800-646-50
MICROPROCESSOR MAIN BOARD	800-646-51	800-646-51	800-646-51	800-646-51	800-646-51	800-646-51	800-646-51	800-646-51	800-646-51	800-646-51	800-646-51	800-646-51
EXPANSION VALVE	800-181-52	800-181-52	800-181-52	800-181-52	800-181-52	800-181-52	800-181-52	800-181-52	800-181-52	800-181-59	800-181-59	800-181-59
SIGHT GLASS	800-200-20	800-200-20	800-200-20	800-200-20	800-200-20	800-200-20	800-200-20	800-200-20	800-200-20	800-200-20	800-200-20	800-200-20
PRESSURE RELIEF VALVE	800-706-01	800-706-01	800-706-01	800-706-01	800-706-01	800-706-01	800-706-01	800-706-01	800-706-01	800-706-01	800-706-01	800-706-01
PUMP DOWN SOLENOID VALVE	800-706-60	800-706-60	800-706-60	800-706-60	800-706-60	800-706-60	800-706-60	800-706-60	800-706-60	800-706-62	800-706-62	800-706-62
UNDER VOLTAGE MONITOR	800-013-41	800-013-44	800-013-42	800-013-41	800-013-44	800-013-42	800-013-41	800-013-44	800-013-42	800-013-41	800-013-44	800-013-42
TRANSFORMER (24V)	800-012-00	800-012-00	800-012-00	800-012-00	800-012-00	800-012-00	800-012-00	800-012-00	800-012-00	800-012-00	800-012-00	800-012-00
OPTIONAL ITEMS												
HOT GAS BYPASS VALVE	800-533-05	800-533-05	800-533-05	800-533-05/06	800-533-05/06	800-533-05/06	800-533-06	800-533-06	800-533-06	800-533-06	800-533-06	800-533-06
HOT GAS BYPASS SOLENOID	800-706-57	800-706-57	800-706-57	800-706-57	800-706-57	800-706-57	800-706-57	800-706-57	800-706-57	800-706-58	800-706-58	800-706-58
WATER FLOW SWITCH	800-557-41	800-557-41	800-557-41	800-557-41	800-557-41	800-557-41	800-557-41	800-557-41	800-557-41	800-557-41	800-557-41	800-557-41
COMPRESSOR CIRCUIT BREAKER	800-607-39(4)	800-607-36(4)	800-607-36(4)	800-607-39(2) 800-607-40(2)	800-607-36(4)	800-607-36(2) 800-607-37(2)	800-607-40(4)	800-607-36(4)	800-607-37(4)	800-607-40(4)	800-607-37(4)	800-607-38(4)

NOTE:

1. REFER TO PHYSICAL SPECIFICATION DATA FOR COMPRESSOR & CHILLER BARREL PART NUMBERS.
2. DATA ENCLOSED BY PARENTHESIS MEANS QUANTITY.

PARTS LIST

MODEL NUMBER	MALC140H	MALC140F	MALC140M	MALC150H	MALC150F	MALC150M	MALC170H	MALC170F	MALC170M	MALC190H	MALC190F	MALC190M
COMPRESSOR STARTER	800-097-54(4)	800-097-45(4)	800-097-45(4)	800-097-57(4)	800-097-45(4)	800-097-48(4)	800-097-57(4)	800-097-45(2) 800-097-51(2)	800-097-48(2) 800-097-51(2)	800-097-57(4)	800-097-51(4)	800-097-51(4)
COMPRESSOR OLR	800-097-17(4)	800-097-12(4)	800-097-13(4)	800-097-19(4)	800-097-13(4)	800-097-15(4)	800-097-19(4)	800-097-13(2) 800-097-17(2)	800-097-15(2) 800-097-17(2)	800-097-19(4)	800-097-17(4)	800-097-17(4)
FAN MOTOR CONTACTOR/FUSE	800-095-56(8)	800-095-56(8)	800-095-56(8)	800-095-56(8)	800-095-56(8)	800-095-56(8)	800-095-56(8)	800-095-56(8)	800-095-56(8)	800-095-56 (10)	800-095-56(10)	800-095-56(10)
CONDENSER FAN MOTOR	800-556-51	800-556-52	800-556-52	800-556-53	800-556-54	800-556-54	800-556-53	800-556-54	800-556-54	800-556-53	800-556-54	800-556-54
CONDENSER FAN GUARD	800-626-01	800-626-01	800-626-01	800-626-02	800-626-02	800-626-02	800-626-02	800-626-02	800-626-02	800-626-02	800-626-02	800-626-02
CONDENSER FAN	800-556-01	800-556-01	800-556-01	800-556-02	800-556-02	800-556-02	800-556-02	800-556-02	800-556-02	800-556-02	800-556-02	800-556-02
MICROPROCESSOR USER INTERFACE BOARD	800-646-50	800-646-50	800-646-50	800-646-50	800-646-50	800-646-50	800-646-50	800-646-50	800-646-50	800-646-50	800-646-50	800-646-50
MICROPROCESSOR MAIN BOARD	800-646-51	800-646-51	800-646-51	800-646-51	800-646-51	800-646-51	800-646-51	800-646-51	800-646-51	800-646-51	800-646-51	800-646-51
EXPANSION VALVE	800-181-59	800-181-59	800-181-59	800-181-60	800-181-60	800-181-60	800-181-55/60	800-181-55/60	800-181-55/60	800-181-55	800-181-55	800-181-55
SIGHT GLASS	800-200-20	800-200-20	800-200-20	800-200-20	800-200-20	800-200-20	800-200-20	800-200-20	800-200-20	800-200-20	800-200-20	800-200-20
PRESSURE RELIEF VALVE	800-706-01	800-706-01	800-706-01	800-706-01	800-706-01	800-706-01	800-706-01	800-706-01	800-706-01	800-706-01	800-706-01	800-706-01
PUMP DOWN SOLENOID VALVE	800-706-62	800-706-62	800-706-62	800-706-64	800-706-64	800-706-64	800-706-64	800-706-64	800-706-64	800-706-64	800-706-64	800-706-64
UNDER VOLTAGE MONITOR	800-013-41	800-013-44	800-013-42	800-013-41	800-013-44	800-013-42	800-013-41	800-013-44	800-013-42	800-013-41	800-013-44	800-013-42
TRANSFORMER (24V)	800-012-00	800-012-00	800-012-00	800-012-00	800-012-00	800-012-00	800-012-00	800-012-00	800-012-00	800-012-00	800-012-00	800-012-00
OPTIONAL ITEMS												
HOT GAS BYPASS VALVE	800-533-06	800-533-06	800-533-06	800-533-06	800-533-06	800-533-06	800-533-06/10	800-533-06/10	800-533-06/10	800-533-10	800-533-10	800-533-10
HOT GAS BYPASS SOLENOID	800-706-58	800-706-58	800-706-58	800-706-59	800-706-59	800-706-59	800-706-59	800-706-59	800-706-59	800-706-59	800-706-59	800-706-59
WATER FLOW SWITCH	800-557-41	800-557-41	800-557-41	800-557-41	800-557-41	800-557-41	800-557-41	800-557-41	800-557-41	800-557-41	800-557-41	800-557-41
COMPRESSOR CIRCUIT BREAKER	800-607-30(4)	800-607-37(4)	800-607-38(4)	800-607-30(4)	800-607-38(4)	800-607-39(4)	800-607-30(2) 800-607-31(2)	800-607-38(2) 800-607-39(2)	800-607-39(2) 800-607-40(2)	800-607-31(4)	800-607-39(4)	800-607-40(4)

MODEL NUMBER	MALC220H	MALC220F	MALC220M	MALC250H	MALC250F	MALC250M	MALC270H	MALC270F	MALC270M	MALC290H	MALC290F	MALC290M
COMPRESSOR STARTER	800-097-60(4)	800-097-51(4)	800-097-54(4)	800-097-60(4)	800-097-54(4)	800-097-54(4)	800-097-57(6)	800-097-38(2) 800-097-39(4)	800-097-48(2) 800-097-51(4)	800-097-57(6)	800-097-51(6)	800-097-51(6)
COMPRESSOR OLR	800-097-19(4)	800-097-17(4)	800-097-17(4)	800-097-20(4)	800-097-17(4)	800-097-17(4)	800-097-16(6)	800-097-13(2) 800-097-17(4)	800-097-15(2) 800-097-17(4)	800-097-19(6)	800-097-17(6)	800-097-17(6)
FAN MOTOR CONTACTOR/FUSE	800-095-56(10)	800-095-56(10)	800-095-56(10)	800-095-56(12)	800-095-56(12)	800-095-56(12)	800-095-56(12)	800-095-56(12)	800-095-56(12)	800-095-56(12)	800-095-56(12)	800-095-56(12)
CONDENSER FAN MOTOR	800-556-53	800-556-54	800-556-54	800-556-53	800-556-54	800-556-54	800-556-53	800-556-54	800-556-54	800-556-53	800-556-54	800-556-54
CONDENSER FAN GUARD	800-626-02	800-626-02	800-626-02	800-626-02	800-626-02	800-626-02	800-626-02	800-626-02	800-626-02	800-626-02	800-626-02	800-626-02
CONDENSER FAN	800-556-02	800-556-02	800-556-02	800-556-02	800-556-02	800-556-02	800-556-02	800-556-02	800-556-02	800-556-02	800-556-02	800-556-02
MICROPROCESSOR USER INTERFACE BOARD	800-646-50	800-646-50	800-646-50	800-646-50	800-646-50	800-646-50	800-646-50	800-646-50	800-646-50	800-646-50	800-646-50	800-646-50
MICROPROCESSOR MAIN BOARD	800-646-51	800-646-51	800-646-51	800-646-51	800-646-51	800-646-51	800-646-51(2)	800-646-51(2)	800-646-51(2)	800-646-51(2)	800-646-51(2)	800-646-51(2)
EXPANSION VALVE	800-181-55	800-181-55	800-181-55	800-181-55	800-181-55	800-181-55	800-181-55/60	800-181-55/60	800-181-55/60	800-181-55	800-181-55	800-181-55
SIGHT GLASS	800-200-20	800-200-20	800-200-20	800-200-20	800-200-20	800-200-20	800-200-20	800-200-20	800-200-20	800-200-20	800-200-20	800-200-20
PRESSURE RELIEF VALVE	800-706-01	800-706-01	800-706-01	800-706-01	800-706-01	800-706-01	800-706-01	800-706-01	800-706-01	800-706-01	800-706-01	800-706-01
PUMP DOWN SOLENOID VALVE	800-706-64	800-706-64	800-706-64	800-706-64	800-706-64	800-706-64	800-706-64	800-706-64	800-706-64	800-706-64	800-706-64	800-706-64
UNDER VOLTAGE MONITOR	800-013-41	800-013-44	800-013-42	800-013-41	800-013-44	800-013-42	800-013-41	800-013-44	800-013-42	800-013-41	800-013-44	800-013-42
TRANSFORMER (24V)	800-012-00	800-012-00	800-012-00	800-012-00	800-012-00	800-012-00	800-012-00	800-012-00	800-012-00	800-012-00	800-012-00	800-012-00
OPTIONAL ITEMS												
HOT GAS BYPASS VALVE	800-533-10	800-533-10	800-533-10	800-533-09	800-533-09	800-533-09	800-533-06/10	800-533-06/10	800-533-06/10	800-533-10	800-533-10	800-533-10
HOT GAS BYPASS SOLENOID	800-706-59	800-706-59	800-706-59	800-706-60	800-706-60	800-706-60	800-706-59	800-706-59	800-706-59	800-706-59	800-706-59	800-706-59
WATER FLOW SWITCH	800-557-41	800-557-41	800-557-41	800-557-41	800-557-41	800-557-41	800-557-41	800-557-41	800-557-41	800-557-41	800-557-41	800-557-41
COMPRESSOR CIRCUIT BREAKER	800-607-32(4)	800-607-40(4)	800-607-30(4)	800-607-33(4)	800-607-40(4)	800-607-30(4)	800-607-30(2) 800-607-31(4)	800-607-38(2) 800-607-39(4)	800-607-39(2) 800-607-40(4)	800-607-31(6)	800-607-39(6)	800-607-40(6)

NOTE:

1. REFER TO PHYSICAL SPECIFICATION DATA FOR COMPRESSOR & CHILLER BARREL PART NUMBERS.
2. DATA ENCLOSED BY PARENTHESIS MEANS QUANTITY.

PARTS LIST

MODEL NUMBER	MALC300H	MALC300F	MALC300M	MALC330H	MALC330F	MALC330M	MALC350H	MALC350F	MALC350M	MALC370H	MALC370F	MALC370M
COMPRESSOR STARTER	800-097-57(4) 800-097-60(2)	800-097-51(6)	800-097-51(4) 800-097-54(2)	800-097-60(6)	800-097-51(6)	800-097-54(6)	800-097-60(6)	800-097-51(4) 800-097-54(2)	800-097-54(6)	800-097-60(6)	800-097-54(6)	800-097-54(6)
COMPRESSOR OLR	800-097-19(6)	800-097-17(6)	800-097-17(6)	800-097-19(6)	800-097-17(6)	800-097-17(6)	800-097-19(4) 800-097-20(2)	800-097-17(6)	800-097-17(6)	800-097-20(6)	800-097-17(6)	800-097-17(6)
FAN MOTOR CONTACTOR/FUSE	800-095-56(16)	800-095-56(16)	800-095-56(16)	800-095-56(16)	800-095-56(16)	800-095-56(16)	800-095-56(16)	800-095-56(16)	800-095-56(16)	800-095-56(16)	800-095-56(16)	800-095-56(16)
CONDENSER FAN MOTOR	800-556-53	800-556-54	800-556-54	800-556-53	800-556-54	800-556-54	800-556-53	800-556-54	800-556-54	800-556-53	800-556-54	800-556-54
CONDENSER FAN GUARD	800-626-02	800-626-02	800-626-02	800-626-02	800-626-02	800-626-02	800-626-02	800-626-02	800-626-02	800-626-02	800-626-02	800-626-02
CONDENSER FAN	800-556-02	800-556-02	800-556-02	800-556-02	800-556-02	800-556-02	800-556-02	800-556-02	800-556-02	800-556-02	800-556-02	800-556-02
MICROPROCESSOR USER INTERFACE BOARD	800-646-50	800-646-50	800-646-50	800-646-50	800-646-50	800-646-50	800-646-50	800-646-50	800-646-50	800-646-50	800-646-50	800-646-50
MICROPROCESSOR MAIN BOARD	800-646-51(2)	800-646-51(2)	800-646-51(2)	800-646-51(2)	800-646-51(2)	800-646-51(2)	800-646-51(2)	800-646-51(2)	800-646-51(2)	800-646-51(2)	800-646-51(2)	800-646-51(2)
EXPANSION VALVE	800-181-55	800-181-55	800-181-55	800-181-55	800-181-55	800-181-55	800-181-55	800-181-55	800-181-55	800-181-55	800-181-55	800-181-55
SIGHT GLASS	800-200-20	800-200-20	800-200-20	800-200-20	800-200-20	800-200-20	800-200-20	800-200-20	800-200-20	800-200-20	800-200-20	800-200-20
PRESSURE RELIEF VALVE	800-706-01	800-706-01	800-706-01	800-706-01	800-706-01	800-706-01	800-706-01	800-706-01	800-706-01	800-706-01	800-706-01	800-706-01
PUMP DOWN SOLENOID VALVE	800-706-64	800-706-64	800-706-64	800-706-64	800-706-64	800-706-64	800-706-64	800-706-64	800-706-64	800-706-64	800-706-64	800-706-64
UNDER VOLTAGE MONITOR	800-013-41	800-013-44	800-013-42	800-013-41	800-013-44	800-013-42	800-013-41	800-013-44	800-013-42	800-013-41	800-013-44	800-013-42
TRANSFORMER (24V)	800-012-00	800-012-00	800-012-00	800-012-00	800-012-00	800-012-00	800-012-00	800-012-00	800-012-00	800-012-00	800-012-00	800-012-00
OPTIONAL ITEMS												
HOT GAS BYPASS VALVE	800-533-10	800-533-10	800-533-10	800-533-10	800-533-10	800-533-10	800-533-09/10	800-533-09/10	800-533-09/10	800-533-09	800-533-09	800-533-09
HOT GAS BYPASS SOLENOID	800-706-59	800-706-59	800-706-59	800-706-59	800-706-59	800-706-59	800-706-59/60	800-706-59/60	800-706-59/60	800-706-60	800-706-60	800-706-60
WATER FLOW SWITCH	800-557-41	800-557-41	800-557-41	800-557-41	800-557-41	800-557-41	800-557-41	800-557-41	800-557-41	800-557-41	800-557-41	800-557-41
COMPRESSOR CIRCUIT BREAKER	800-607-31(4) 800-607-32(2)	800-607-39(4) 800-607-40(2)	800-607-40(4) 800-607-30(2)	800-607-32(6)	800-607-40(6)	800-607-30(6)	800-607-32(4) 800-607-33(2)	800-607-40(6)	800-607-30(6)	800-607-33(6)	800-607-40(6)	800-607-30(6)

MODEL NUMBER	MALC380H	MALC380F	MALC380M	MALC410H	MALC410F	MALC410M	MALC440H	MALC440F	MALC440M	MALC470H	MALC470F	MALC470M
COMPRESSOR STARTER	800-097-57(8)	800-097-51(8)	800-097-51(8)	800-097-57(4) 800-097-60(4)	800-097-51(8)	800-097-51(4) 800-097-54(4)	800-097-60(8)	800-097-51(8)	800-097-54(8)	800-097-60(8)	800-097-51(4) 800-097-54(4)	800-097-54(8)
COMPRESSOR OLR	800-097-19(8)	800-097-17(8)	800-097-17(8)	800-097-19(8)	800-097-17(8)	800-097-17(8)	800-097-19(8)	800-097-17(8)	800-097-17(8)	800-097-19(4) 800-097-20(4)	800-097-17(8)	800-097-17(8)
FAN MOTOR CONTACTOR/FUSE	800-095-56(18)	800-095-56(18)	800-095-56(18)	800-095-56(18)	800-095-56(18)	800-095-56(18)	800-095-56(18)	800-095-56(18)	800-095-56(18)	800-095-56(18)	800-095-56(18)	800-095-56(18)
CONDENSER FAN MOTOR	800-556-53	800-556-54	800-556-54	800-556-53	800-556-54	800-556-54	800-556-53	800-556-54	800-556-54	800-556-53	800-556-54	800-556-54
CONDENSER FAN GUARD	800-626-02	800-626-02	800-626-02	800-626-02	800-626-02	800-626-02	800-626-02	800-626-02	800-626-02	800-626-02	800-626-02	800-626-02
CONDENSER FAN	800-556-02	800-556-02	800-556-02	800-556-02	800-556-02	800-556-02	800-556-02	800-556-02	800-556-02	800-556-02	800-556-02	800-556-02
MICROPROCESSOR USER INTERFACE BOARD	800-646-50	800-646-50	800-646-50	800-646-50	800-646-50	800-646-50	800-646-50	800-646-50	800-646-50	800-646-50	800-646-50	800-646-50
MICROPROCESSOR MAIN BOARD	800-646-51(2)	800-646-51(2)	800-646-51(2)	800-646-51(2)	800-646-51(2)	800-646-51(2)	800-646-51(2)	800-646-51(2)	800-646-51(2)	800-646-51(2)	800-646-51(2)	800-646-51(2)
EXPANSION VALVE	800-181-55	800-181-55	800-181-55	800-181-55	800-181-55	800-181-55	800-181-55	800-181-55	800-181-55	800-181-55	800-181-55	800-181-55
SIGHT GLASS	800-200-20	800-200-20	800-200-20	800-200-20	800-200-20	800-200-20	800-200-20	800-200-20	800-200-20	800-200-20	800-200-20	800-200-20
PRESSURE RELIEF VALVE	800-706-01	800-706-01	800-706-01	800-706-01	800-706-01	800-706-01	800-706-01	800-706-01	800-706-01	800-706-01	800-706-01	800-706-01
PUMP DOWN SOLENOID VALVE	800-706-64	800-706-64	800-706-64	800-706-64	800-706-64	800-706-64	800-706-64	800-706-64	800-706-64	800-706-64	800-706-64	800-706-64
UNDER VOLTAGE MONITOR	800-013-41	800-013-44	800-013-42	800-013-41	800-013-44	800-013-42	800-013-41	800-013-44	800-013-42	800-013-41	800-013-44	800-013-42
TRANSFORMER (24V)	800-012-00	800-012-00	800-012-00	800-012-00	800-012-00	800-012-00	800-012-00	800-012-00	800-012-00	800-012-00	800-012-00	800-012-00
OPTIONAL ITEMS												
HOT GAS BYPASS VALVE	800-533-10	800-533-10	800-533-10	800-533-10	800-533-10	800-533-10	800-533-10	800-533-10	800-533-10	800-533-09/10	800-533-09/10	800-533-09/10
HOT GAS BYPASS SOLENOID	800-706-59	800-706-59	800-706-59	800-706-59	800-706-59	800-706-59	800-706-59	800-706-59	800-706-59	800-706-59/60	800-706-59/60	800-706-59/60
WATER FLOW SWITCH	800-557-41	800-557-41	800-557-41	800-557-41	800-557-41	800-557-41	800-557-41	800-557-41	800-557-41	800-557-41	800-557-41	800-557-41
COMPRESSOR CIRCUIT BREAKER	800-607-31(8)	800-607-39(8)	800-607-40(8)	800-607-31(4) 800-607-32(4)	800-607-39(4) 800-607-40(4)	800-607-40(4) 800-607-30(4)	800-607-32(8)	800-607-40(8)	800-607-30(8)	800-607-32(4) 800-607-33(4)	800-607-40(8)	800-607-30(8)

NOTE:

1. REFER TO PHYSICAL SPECIFICATION DATA FOR COMPRESSOR & CHILLER BARREL PART NUMBERS.
2. DATA ENCLOSED BY PARENTHESIS MEANS QUANTITY.

PARTS LIST

MODEL NUMBER	MALC500H	MALC500F	MALC500M	MALC540H	MALC540F	MALC540M	MALC580H	MALC580F	MALC580M	MALC600H	MALC600F	MALC600M
COMPRESSOR STARTER	800-097-60(8)	800-097-54(8)	800-097-54(8)	800-097-57(12)	800-097-45(4) 800-097-51(8)	800-097-48(4) 800-097-51(8)	800-097-57(12)	800-097-51(12)	800-097-51(12)	800-097-57(8) 800-097-60(4)	800-097-51(12)	800-097-51(8) 800-097-54(4)
COMPRESSOR OLR	800-097-20(8)	800-097-17(8)	800-097-17(8)	800-097-19(12)	800-097-13(4) 800-097-17(8)	800-097-15(4) 800-097-17(8)	800-097-19(12)	800-097-17(12)	800-097-17(12)	800-097-19(12)	800-097-17(12)	800-097-17(12)
FAN MOTOR CONTACTOR/FUSE	800-095-56(20)	800-095-56(20)	800-095-56(20)	800-095-56(22)	800-095-56(22)	800-095-56(22)	800-095-56(22)	800-095-56(22)	800-095-56(22)	800-095-56(22)	800-095-56(22)	800-095-56(22)
CONDENSER FAN MOTOR	800-556-53	800-556-54	800-556-54	800-556-53	800-556-54	800-556-54	800-556-53	800-556-54	800-556-54	800-556-53	800-556-54	800-556-54
CONDENSER FAN GUARD	800-626-02	800-626-02	800-626-02	800-626-02	800-626-02	800-626-02	800-626-02	800-626-02	800-626-02	800-626-02	800-626-02	800-626-02
CONDENSER FAN	800-556-02	800-556-02	800-556-02	800-556-02	800-556-02	800-556-02	800-556-02	800-556-02	800-556-02	800-556-02	800-556-02	800-556-02
MICROPROCESSOR USER INTERFACE BOARD	800-646-50	800-646-50	800-646-50	800-646-50	800-646-50	800-646-50	800-646-50	800-646-50	800-646-50	800-646-50	800-646-50	800-646-50
MICROPROCESSOR MAIN BOARD	800-646-51(2)	800-646-51(2)	800-646-51(2)	800-646-51(3)	800-646-51(3)	800-646-51(3)	800-646-51(3)	800-646-51(3)	800-646-51(3)	800-646-51(3)	800-646-51(3)	800-646-51(3)
EXPANSION VALVE	800-181-55	800-181-55	800-181-55	800-181-55/60	800-181-55/60	800-181-55/60	800-181-55	800-181-55	800-181-55	800-181-55	800-181-55	800-181-55
SIGHT GLASS	800-200-20	800-200-20	800-200-20	800-200-20	800-200-20	800-200-20	800-200-20	800-200-20	800-200-20	800-200-20	800-200-20	800-200-20
PRESSURE RELIEF VALVE	800-706-01	800-706-01	800-706-01	800-706-01	800-706-01	800-706-01	800-706-01	800-706-01	800-706-01	800-706-01	800-706-01	800-706-01
PUMP DOWN SOLENOID VALVE	800-706-64	800-706-64	800-706-64	800-706-64	800-706-64	800-706-64	800-706-64	800-706-64	800-706-64	800-706-64	800-706-64	800-706-64
UNDER VOLTAGE MONITOR	800-013-41	800-013-44	800-013-42	800-013-41	800-013-44	800-013-42	800-013-41	800-013-44	800-013-42	800-013-41	800-013-44	800-013-42
TRANSFORMER (24V)	800-012-00	800-012-00	800-012-00	800-012-00	800-012-00	800-012-00	800-012-00	800-012-00	800-012-00	800-012-00	800-012-00	800-012-00
OPTIONAL ITEMS												
HOT GAS BYPASS VALVE	800-533-09	800-533-09	800-533-09	800-533-06/10	800-533-06/10	800-533-06/10	800-533-10	800-533-10	800-533-10	800-533-10	800-533-10	800-533-10
HOT GAS BYPASS SOLENOID	800-706-60	800-706-60	800-706-60	800-706-59	800-706-59	800-706-59	800-706-59	800-706-59	800-706-59	800-706-59	800-706-59	800-706-59
WATER FLOW SWITCH	800-557-41	800-557-41	800-557-41	800-557-41	800-557-41	800-557-41	800-557-41	800-557-41	800-557-41	800-557-41	800-557-41	800-557-41
COMPRESSOR CIRCUIT BREAKER	800-607-33(8)	800-607-40(8)	800-607-30(8)	800-607-30(4) 800-607-31(8)	800-607-38(4) 800-607-39(8)	800-607-39(4) 800-607-40(8)	800-607-31(12)	800-607-39(12)	800-607-40(12)	800-607-31(8) 800-607-32(4)	800-607-39(8) 800-607-40(4)	800-607-40(8) 800-607-30(4)

MODEL NUMBER	MALC660H	MALC660F	MALC660M	MALC700H	MALC700F	MALC700M	MALC740H	MALC740F	MALC740M
COMPRESSOR STARTER	800-097-60(12)	800-097-51(12)	800-097-54(12)	800-097-60(12)	800-097-51(4) 800-097-58(8)	800-097-54(12)	800-097-60(12)	800-097-54(12)	800-097-54(12)
COMPRESSOR OLR	800-097-19(12)	800-097-17(12)	800-097-17(12)	800-097-20(12)	800-097-17(12)	800-097-17(12)	800-097-20(12)	800-097-17(12)	800-097-17(12)
FAN MOTOR CONTACTOR/FUSE	800-095-56(24)	800-095-56(24)	800-095-56(24)	800-095-56(24)	800-095-56(24)	800-095-56(24)	800-095-56(24)	800-095-56(24)	800-095-56(24)
CONDENSER FAN MOTOR	800-556-53	800-556-54	800-556-54	800-556-53	800-556-54	800-556-54	800-556-53	800-556-54	800-556-54
CONDENSER FAN GUARD	800-626-02	800-626-02	800-626-02	800-626-02	800-626-02	800-626-02	800-626-02	800-626-02	800-626-02
CONDENSER FAN	800-556-02	800-556-02	800-556-02	800-556-02	800-556-02	800-556-02	800-556-02	800-556-02	800-556-02
MICROPROCESSOR USER INTERFACE BOARD	800-646-50	800-646-50	800-646-50	800-646-50	800-646-50	800-646-50	800-646-50	800-646-50	800-646-50
MICROPROCESSOR MAIN BOARD	800-646-51(3)	800-646-51(3)	800-646-51(3)	800-646-51(3)	800-646-51(3)	800-646-51(3)	800-646-51(3)	800-646-51(3)	800-646-51(3)
EXPANSION VALVE	800-181-55	800-181-55	800-181-55	800-181-55	800-181-55	800-181-55	800-181-55	800-181-55	800-181-55
SIGHT GLASS	800-200-20	800-200-20	800-200-20	800-200-20	800-200-20	800-200-20	800-200-20	800-200-20	800-200-20
PRESSURE RELIEF VALVE	800-706-01	800-706-01	800-706-01	800-706-01	800-706-01	800-706-01	800-706-01	800-706-01	800-706-01
PUMP DOWN SOLENOID VALVE	800-706-64	800-706-64	800-706-64	800-706-64	800-706-64	800-706-64	800-706-64	800-706-64	800-706-64
UNDER VOLTAGE MONITOR	800-013-41	800-013-44	800-013-42	800-013-41	800-013-44	800-013-42	800-013-41	800-013-44	800-013-42
TRANSFORMER (24V)	800-012-00	800-012-00	800-012-00	800-012-00	800-012-00	800-012-00	800-012-00	800-012-00	800-012-00
OPTIONAL ITEMS									
HOT GAS BYPASS VALVE	800-533-10	800-533-10	800-533-10	800-533-09/10	800-533-09/10	800-533-09/10	800-533-09	800-533-09	800-533-09
HOT GAS BYPASS SOLENOID	800-706-59	800-706-59	800-706-59	800-706-59/60	800-706-59/60	800-706-59/60	800-706-60	800-706-60	800-706-60
WATER FLOW SWITCH	800-557-41	800-557-41	800-557-41	800-557-41	800-557-41	800-557-41	800-557-41	800-557-41	800-557-41
COMPRESSOR CIRCUIT BREAKER	800-607-32(12)	800-607-40(12)	800-607-30(12)	800-607-32(4) 800-607-33(8)	800-607-40(12)	800-607-30(12)	800-607-33(12)	800-607-40(12)	800-607-30(12)

NOTE:

1. REFER TO PHYSICAL SPECIFICATION DATA FOR COMPRESSOR & CHILLER BARREL PART NUMBERS.
2. DATA ENCLOSED BY PARENTHESIS MEANS QUANTITY.