



YCWL WATER-COOLED SCROLL LIQUID CHILLER



**50 THROUGH 150 TONS
175kW THROUGH 530 kW
60Hz
STYLE A**





York YCWL Water Cooled Scroll Chillers



YORK **YCWL** Water-Cooled models provide chilled water for all air conditioning applications that use central station air handling or terminal units. They are completely self-contained and are designed for indoor (new or retrofit) installation. Each unit includes hermetic scroll compressors, a liquid evaporator, water cooled condenser, and a user-friendly, diagnostic Microcomputer Control Center all mounted on a rugged steel base. The units are produced at an ISO 9001 registered facility. The **YCWL** chillers are rated in accordance with ARI Standard 550/590.

Specification

GENERAL

The Liquid Chiller will be completely assembled with all interconnecting refrigerant piping and internal wiring, ready for field installation.

The unit will be pressure-tested, evacuated, and charged with Refrigerant-410A, and York 'V' (POE) synthetic oil. There will be an operational test, with water flowing through the evaporator, to check that each control device operates correctly.

The unit can be covered with an optional overspray coat of Caribbean Blue enamel. Units are designed in accordance with NFPA 70 (National Electric Code), ASHRAE/ANSI 15 Safety Code for Mechanical Refrigeration. All units are produced at an ISO 9001 registered facility. All YCWL chillers are rated in accordance with ARI Standard 550/590 at ARI conditions.

COMPRESSORS

The chiller has suction-gas cooled, hermetic, scroll compressors. The YCWL compressors incorporate a compliant scroll design in both the axial and radial direction. All rotating parts are statically and dynamically balanced. A large internal volume and oil reservoir provides greater liquid tolerance. Compressor crankcase heaters are also included for extra protection against liquid migration. All compressors are mounted on isolator pads to reduce transmission of vibration to the rest of the unit.

EVAPORATOR

The dual-circuit evaporator will be the direct-expansion type, with refrigerant in the tubes and chilled liquid flowing through the baffled shell. The design working pressure of the shell (liquid) side will be 150 PSIG (10.3 bar), and 450 PSIG (31.0 bar) for the tube (refrigerant) side.

The evaporator will be constructed and tested in accordance with the applicable sections of the ASME Pressure Vessel Code, Section VIII, Division (1). The water side will be exempt per paragraph U-1, © (6).

The removable heads will allow access to the internally enhanced, seamless, copper tubes. Vent and drain connections will be included. Nozzle connections are grooved to accept ANSI/AWWA C-606 couplings.

The evaporator will be covered with 3/4" (19.1 mm) flexible, closed-cell, foam insulation (K = 0.25).

CONDENSER

The condenser is a cleanable thru-tube type with steel shell, copper tubes, removable water heads, and includes integral subcooling. The design working pressure of the

shell (liquid) side will be 150 PSIG (10.3 bar), and 560 PSIG (38.6 bar) for the tube (refrigerant) side. The shell will be constructed and tested in accordance with section VII, division 1 of the ASME pressure-vessel code. The water side is exempt per paragraph U-1 © of section VIII, division 1 of the ASME pressure-vessel code. The condenser is equipped with relief valves and will hold the full refrigerant charge for pumpdown. Water connections are grooved to accept ANSI/AWWA C-606 couplings. Vent and drain connections are included.

REFRIGERANT CIRCUIT

Two independent refrigerant circuits will be furnished on each unit. All piping will be copper with brazed joints. The liquid line will include: a shutoff valve with charging port; sight-glass with moisture indicator; thermal expansion valve; solenoid valve; and high-absorption removable-core filter drier. The entire suction line and the liquid line between the expansion valve and the cooler will be insulated with flexible, closed-cell, foam insulation.

POWER AND CONTROL PANELS

All controls and motor starting equipment necessary for unit operation shall be factory wired and function tested. The panel enclosures shall be designed to NEMA 1 (IP 32) and manufactured from powder-painted galvanized steel.

The Power and Control Panel shall be divided into a power section for each electrical system, a common input section and a control section.

Each power panel shall contain:

Compressor starting contactors, control circuit serving compressor capacity control, compressor contactor coils and compressor motor overloads. The compressor motor overloads contain current transformers which sense each phase, as an input to the microprocessor, to protect the compressor motors from damage due to: low input current, high input current, unbalanced current, single phasing, phase reversal, and compressor locked rotor.

The common input section shall contain:

The control supply transformer providing 115V, customer relay board and control circuit switch disconnect/emergency stop device.

Microprocessor Controls

MICROPROCESSOR CONTROLS

The control section shall contain:

On/Off rocker switch, microcomputer keypad and display, microprocessor board, I/O expansion board, relay boards, and 24V fused power supply board.

The control display shall include:

Liquid Crystal Display with Light Emitting Diode backlighting for outdoor viewing:

- Two display lines
- Twenty characters per line

Color coded 12-button non-tactile keypad with sections for:

Display/Print of typical information:

- Chilled liquid temperatures
- System pressures (each circuit)
- Operating hours and starts (each compressor)
- Print calls up to the liquid crystal display:
- Operating data for the systems
- History of fault shutdown data for up to the last six fault shutdown conditions
- An RS-232 port, in conjunction with this press-to-print button, is provided to permit the capability of hard copy print-outs via a separate printer (by others).

Entry section to:

- ENTER setpoints or modify system values

Setpoints updating can be performed to:

- Chilled liquid temperature setpoint and range
- Remote reset temperature range
- Set daily schedule/holiday for start/stop
- Manual override for servicing
- Number of compressors
- Low liquid temperature cutout
- Low suction pressure cutout
- High discharge pressure cutout
- Anti-recycle timer (compressor start cycle time)
- Anti-coincident timer (delay compressor starts)

Unit section to:

- Set time
- Set unit options

The microprocessor control center is capable of displaying the following:

- Return and leaving chilled liquid temperature
- Low leaving liquid temperature cutout setting
- English or Metric data
- Suction pressure cutout setting
- Each system suction pressure
- Discharge pressure
- Liquid Temperature Reset via a Building Automation System via one of the following:
 - ◆ a pulse width modulated (PWM) input
 - ◆ a 4-20 milliamp input or a 0-10 VDC input
- Anti-recycle timer status for each system
- Anti-coincident system start timer condition
- Compressor run status
- No cooling load condition
- Day, date and time
- Daily start/stop times
- Holiday status
- Automatic or manual system lead/lag control
- Lead system definition
- Compressor starts & operating hours (each compressor)
- Status of hot gas valves (if supplied)
- Run permissive status
- Number of compressors running
- Liquid solenoid valve status
- Load & unload timer status

The standard controls shall include: brine chilling, automatic pumpdown, run signal contacts, demand load limit form external building automation system input, remote reset liquid temperature reset input, unit alarm contacts, chilled liquid pump control, automatic reset after power failure, automatic system optimization to match operating conditions.

The operating program software shall be stored in non-volatile memory (EPROM) to eliminate chiller failure due to AC power failure. Programmed setpoints are retained in lithium battery-backed regulated time clock (RTC) memory for 5 years minimum.

Accessories and Options

POWER OPTIONS:

SINGLE POINT SUPPLY TERMINAL BLOCK - The standard power wiring connection on all models is a single point power connection to a factory provided terminal block. Components included are the enclosure, terminal-block and interconnecting wiring to the compressors. Separate external protection must be supplied, by others, in the incoming power wiring. (Do not include this option if either the SinglePoint NonFused Disconnect Switch or Single-Point Circuit Breaker options have been included.) **(Factory-Mounted)**

SINGLE POINT NON-FUSED DISCONNECT SWITCH

- An optional unit-mounted disconnect switch with external, lockable handle (in compliance with Article 440-14 of N.E.C.), can be supplied to isolate the unit power voltage for servicing. Separate external fusing must be supplied, by others in the power wiring, which must comply with the National Electrical Code and/or local codes. **(Factory-Mounted)**

SINGLE POINT CIRCUIT BREAKER - An optional unit mounted circuit breaker with external, lockable handle (in compliance with N.E.C. Article 440-14), can be supplied to isolate the power voltage for servicing. **(Factory-Mounted)**

CONTROL TRANSFORMER - Converts unit power voltage to 115-1-60 (0.5 or 1.0 KVA capacity). Factory mounting includes primary and secondary wiring between the transformer and the control panel. **(Factory-Mounted)**

COMPRESSOR EXTERNAL OVERLOADS - Optional compressor motor overloads can be factory mounted in the unit control/power panel. This option will reduce the chiller MCA (minimum circuit ampacity) and allow for reduced wire sizing to the unit. This option is not available for applications with Leaving Condenser Water Temperature (LCWT) greater than 105°F (40.6°C). **(Factory-Mounted)**

CONTROLS OPTIONS:

LANGUAGE LCD AND KEYPAD - Standard display language and keypad is in English. Spanish, French, German, and Italian are available as an option. **(Factory-Mounted)**

HEAT EXCHANGER OPTIONS:

FLOW SWITCH - An optional flow switch can be factory supplied for the evaporator. Vapor-proof SPDT, NEMA 3R switch, 150 PSIG (10.3 bar) DWP, 20°F to 250°F (-29°C to 121°C) with 1" NPT (IPS) connection for upright mounting in horizontal pipe. The flow switch or its equivalent must be furnished with each unit. **(Field mounted)**

DIFFERENTIAL PRESSURE SWITCH - An alternative option to the paddle-type flow switch. 3-45 PSIG (0.2-3 bar) range with 1/4" NPTE pressure connections. **(Field Mounted)**

PRESSURE VESSEL CODES - Evaporators and condensers are to be supplied (Standard) in conformance with the A.S.M.E. pressure codes.

FLANGES (ANSI/AWWA C-606 COUPLINGS TYPE)

- Consists of (4) flange adapters for grooved end pipe on evaporator and condenser. Standard 150 psi (10.3 bar). (Field Kit, matching pipe flange by contractor.)

DOUBLE THICK INSULATION - Double Thick (1-1/2") insulation provided on the evaporator. **(Factory-Mounted)**

CHILLER OPTIONS:

FINAL PAINT OVERSPRAY - Overspray painting of unit after assembly. **(Factory-Mounted)**

SERVICE ISOLATION VALVE - Service suction isolation valve added to unit per system in addition to the standard discharge service valve. **(Factory Mounted)**

HOT GAS BY-PASS - Permits continuous, stable operation at capacities below the minimum step of compressor unloading to as low as 5% capacity (depending on both the unit and operating conditions) by introducing an artificial load on the evaporator. Hot gas by-pass is installed on only refrigerant system #1 on two-circuited units. **(Factory-Mounted)**

CHICAGO CODE RELIEF VALVES - Unit will be provided with relief valves to meet Chicago code requirements. **(Factory-Mounted)**

COMPRESSOR ACOUSTIC SOUND BLANKET - Each compressor is individually enclosed by an acoustic sound blanket. The sound blankets are made with one layer of acoustical absorbent textile fiber of 5/8" (15mm) thickness; one layer of anti-vibrating heavy material thickness of 1/8" (3mm). Both are closed by two sheets of welded PVC, reinforced for temperature and UV resistance. **(Factory-Mounted)**

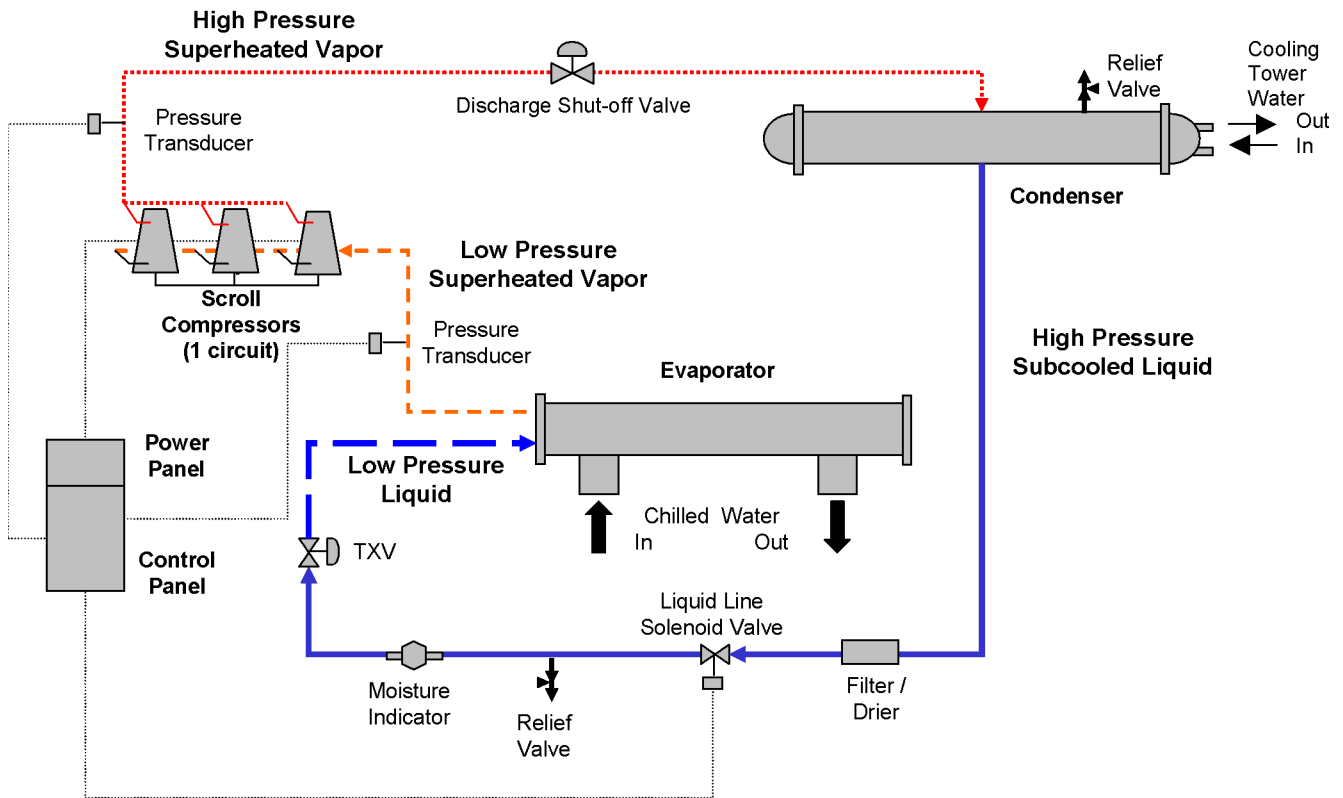
VIBRATION ISOLATION:

Neoprene Isolation - Recommended for normal installations. Provides very good performance in most applications for the least cost. **(Field-mounted)**

1" Spring Isolators - Level adjustable, spring and cage type isolators for mounting under the unit base rails. 1" nominal deflection may vary slightly by application. **(Field-Mounted)**

2" Sesmic Isolators - Restrained Spring-Flex Mountings incorporate a rugged welded steel housing with vertical and horizontal limit stops. Housings designed to withstand a minimum 1.0g accelerated force in all directions to 2". Level adjustable, deflection may vary slightly by application. **(Field-Mounted)**

Refrigerant Flow Diagram



Low-pressure liquid refrigerant enters the evaporator tubes and is evaporated and superheated by the heat energy absorbed from the chilled liquid passing through the evaporator shell. Low-pressure vapor enters the compressor where pressure and superheat are increased. High-pressure vapor is passed through the condenser where heat is rejected to the condenser water passing through the tubes. The fully condensed and subcooled liquid leaves the condenser and enters the expansion valve, where pressure reduction and further cooling take place. The low pressure liquid refrigerant then returns to the evaporator.

Design Parameters – English & SI

Design Parameters - Standard Efficiency (SE) - English

YCWL MODEL NUMBER	EVAPORATOR FLOW (GPM)		CONDENSER FLOW (GPM)		LEAVING EVAP. WATER TEMP. (°F)		ENT. COND. WATER TEMP. (°F)	LVG. COND. WATER TEMP. (°F)	EQUIPMENT ROOM TEMP. (°F)	
	MIN	MAX	MIN	MAX	MIN1	MAX2	MIN	MAX	MIN	MAX
SE										
0056	60	285	90	360	40	50	65	130	40	115
0064	60	285	90	360	40	50	65	130	40	115
0074	60	285	90	360	40	50	65	130	40	115
0084	60	285	145	450	40	50	65	130	40	115
0094	100	385	145	450	40	50	65	130	40	115
0104	100	385	145	450	40	50	65	130	40	115
0118	100	385	145	450	40	50	65	130	40	115
0132	140	625	180	700	40	50	65	130	40	115
0156	150	625	225	700	40	50	65	130	40	115

Design Parameters - High Efficiency (HE) - English

YCWL MODEL NUMBER	EVAPORATOR FLOW (GPM)		CONDENSER FLOW (GPM)		LEAVING EVAP. WATER TEMP. (°F)		ENT. COND. WATER TEMP. (°F)	LVG. COND. WATER TEMP. (°F)	EQUIPMENT ROOM TEMP. (°F)	
	MIN	MAX	MIN	MAX	MIN1	MAX2	MIN	MAX	MIN	MAX
HE										
0064	100	355	145	450	40	50	65	130	40	115
0074	140	625	145	450	40	50	65	130	40	115
0084	140	625	145	450	40	50	65	130	40	115
0094	140	625	225	700	40	50	65	130	40	115
0096	150	625	225	700	40	50	65	130	40	115
0118	140	625	225	700	40	50	65	130	40	115
0126	200	650	225	700	40	50	65	130	40	115
0156	200	650	260	700	40	50	65	130	40	115

Design Parameters - Standard Efficiency (SE) - SI

YCWL MODEL NUMBER	EVAPORATOR FLOW (L/S)		CONDENSER FLOW (L/S)		LEAVING EVAP. WATER TEMP. (°C)		ENT. COND. WATER TEMP. (°C)	LVG. COND. WATER TEMP. (°C)	EQUIPMENT ROOM TEMP. (°C)	
	MIN	MAX	MIN	MAX	MIN1	MAX2	MIN	MAX	MIN	MAX
SE										
0056	3.8	18.0	5.7	22.7	4.4	10	18	54	4.4	46
0064	3.8	18.0	5.7	22.7	4.4	10	18	54	4.4	46
0074	3.8	18.0	5.7	22.7	4.4	10	18	54	4.4	46
0084	3.8	18.0	9.1	28.4	4.4	10	18	54	4.4	46
0094	6.3	24.3	9.1	28.4	4.4	10	18	54	4.4	46
0104	6.3	24.3	9.1	28.4	4.4	10	18	54	4.4	46
0118	6.3	24.3	9.1	28.4	4.4	10	18	54	4.4	46
0132	8.8	39.4	11.4	44.2	4.4	10	18	54	4.4	46
0156	9.5	39.4	14.2	44.2	4.4	10	18	54	4.4	46

Design Parameters - High Efficiency (HE) - SI

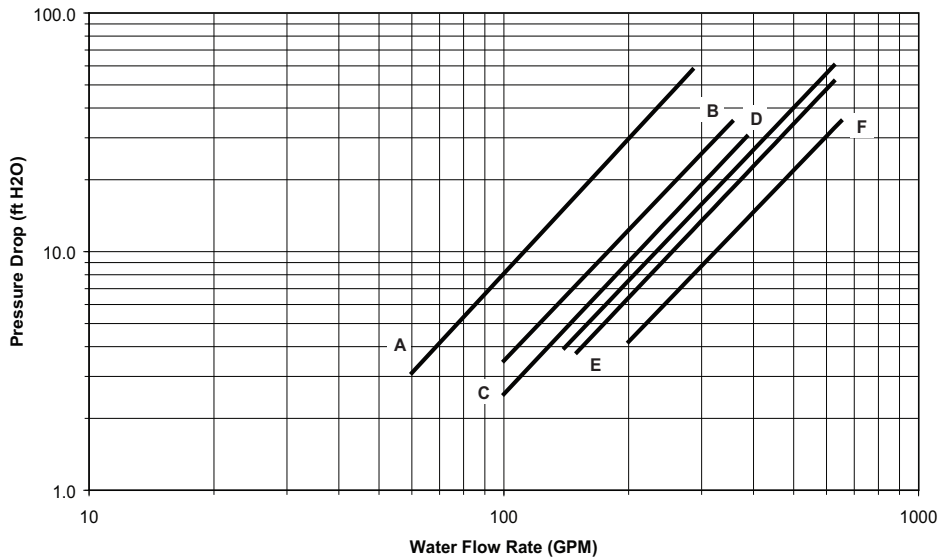
YCWL MODEL NUMBER	EVAPORATOR FLOW (L/S)		CONDENSER FLOW (L/S)		LEAVING EVAP. WATER TEMP. (°C)		ENT. COND. WATER TEMP. (°C)	LVG. COND. WATER TEMP. (°C)	EQUIPMENT ROOM TEMP. (°C)	
	MIN	MAX	MIN	MAX	MIN1	MAX2	MIN	MAX	MIN	MAX
HE										
0064	6.3	22.4	9.1	28.4	4.4	10	18	54	4.4	46
0074	8.8	39.4	9.1	28.4	4.4	10	18	54	4.4	46
0084	8.8	39.4	9.1	28.4	4.4	10	18	54	4.4	46
0094	8.8	39.4	14.2	44.2	4.4	10	18	54	4.4	46
0096	9.5	39.4	14.2	44.2	4.4	10	18	54	4.4	46
0118	8.8	39.4	14.2	44.2	4.4	10	18	54	4.4	46
0126	12.6	41.0	14.2	44.2	4.4	10	18	54	4.4	46
0156	12.6	41.0	16.4	44.2	4.4	10	18	54	4.4	46

NOTES:

1. For leaving brine temperature below 40°F (4.4°C), contact the nearest YORK Office for application requirements.
2. For leaving water temperature higher than 50°F (10°C), contact the nearest YORK Office for application guidelines.

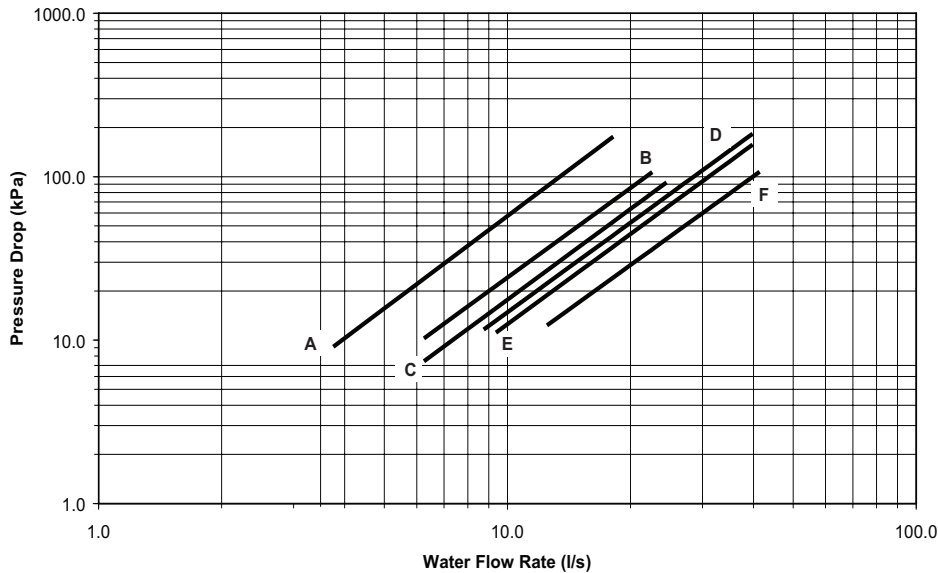
Pressure Drop Curves - English & SI

YCWL Evaporator Pressure Drop (English Units)

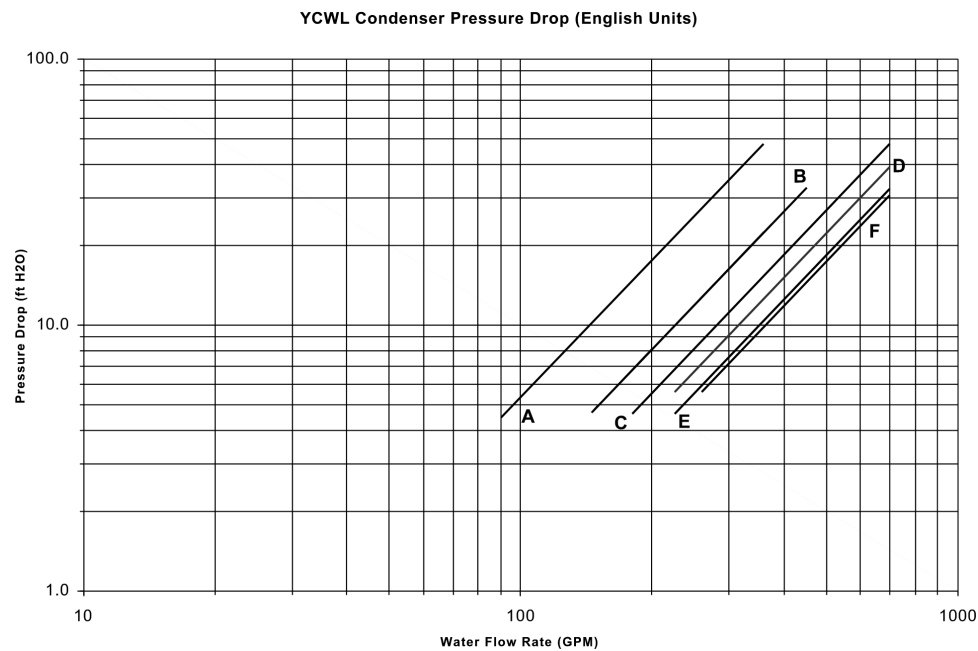


YCWL Model Number	Evap
0056SE, 0064SE, 0074SE, 0084SE	A
0064HE, 0094SE	B
0104SE, 0118SE	C
0074HE, 0084HE, 0094HE, 0118HE, 0132SE	D
0096HE, 0156SE	E
0126HE, 0156HE	F

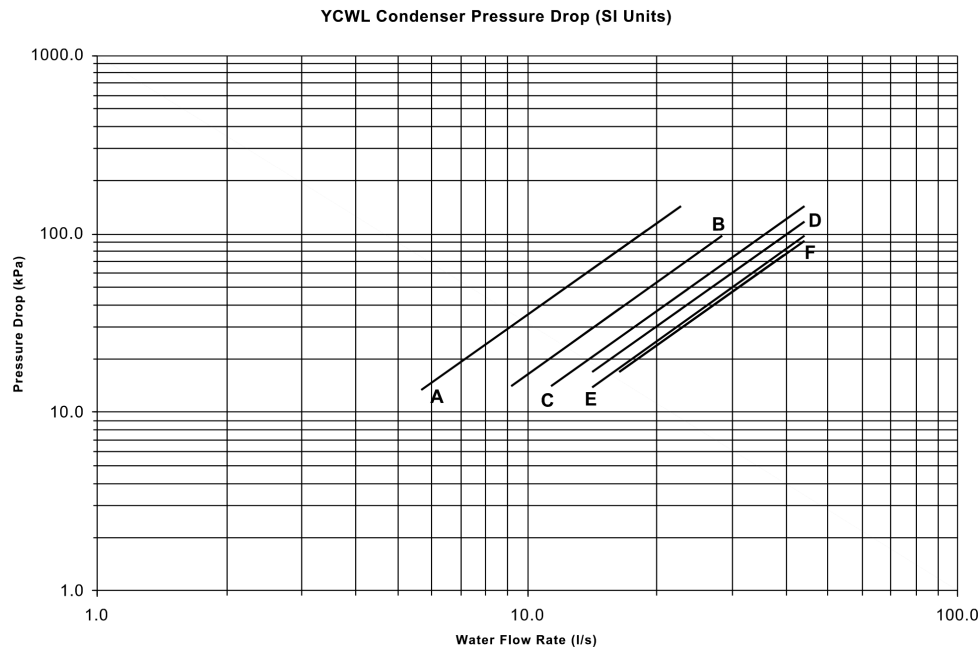
YCWL Evaporator Pressure Drop (SI Units)



Pressure Drop Curves - English & SI – continued



YCWL Model Number	Cond
0056SE, 0064SE, 0074SE,	A
0064HE, 0074HE, 0084SE, 0084HE, 0094SE, 0104SE, 0118SE	B
0132SE	C
0096HE, 0126HE, 0156SE,	D
0094HE, 0118HE,	E
0156HE	F



Selection Data

GUIDE TO SELECTION

Complete water chilling capacity ratings for YORK YCWL chillers are shown on the following pages to cover the majority of job requirements. For any application beyond the scope of this Engineering Guide, consult your nearest Johnson Controls office.

SELECTION RULES

1. **RATINGS** - All YCWL ratings are in accordance with ARI Standard 550/590, at the ARI standard conditions. Ratings not at standard ARI conditions are rated in accordance with ARI rating procedures. These ratings may be interpolated but should not be extrapolated.
2. **COOLING WATER QUANTITY** - Ratings are based on 10°F chilled water range with the evaporator at sea level. Use the chilled water correction factors (below) for other ranges except as limited by water pressure drop, minimum or maximum water flows for the evaporator.
3. **CONDENSER WATER QUANTITY** – Ratings are applicable from 2 to 4 GPM/Ton. Use the condenser water correction factors (below) for different ranges except as limited by water pressure drop or minimum or maximum water flows for the condenser. Using the heat rejection (MBH), the Condenser GPM is calculated as follows:

$$\text{Cond. GPM} = \frac{\text{MBH} \times 2}{\text{Cond. Water Range (°F)}}$$

EVAPORATOR CORRECTION FACTORS

FF= Temp Split	0.0001		0.00025	
	Tons	Compr kW	Tons	Compr kW
6	0.976	0.998	0.969	0.997
8	0.990	0.999	0.980	0.998
10	1.000	1.000	0.991	0.999
12	1.009	1.001	0.999	1.000
14	1.017	1.002	1.007	1.001

Note: Temperature split factors @ 85°F Entering Condenser Water Temp (ECWT)

CONDENSER CORRECTION FACTORS

FF=Temp Split	0.00025		0.0005	
	Tons	Compr kW	Tons	Compr kW
6	1.020	0.963	1.014	0.974
8	1.010	0.982	1.019	0.990
10	1.000	1.000	0.995	1.010
12	0.990	1.019	0.985	1.029
14	0.980	1.040	0.975	1.048

4. **FOULING FACTORS** – Ratings are based on 0.0001 evaporator and 0.00025 condenser fouling factor. For other fouling factors, consult the table below or contact your Johnson Controls representative.

ETHYLENE GLYCOL

% WEIGHT	TONS	COMPR KW	GPM	PRESS DROP	FREEZE PT
10	0.993	1.002	1.029	1.095	26
20	0.98	1.004	1.04	1.191	18
30	0.964	1.007	1.055	1.302	7
40	0.945	1.009	1.071	1.435	-8
50	0.922	1.013	1.091	1.599	-29

5. **ETHYLENE GLYCOL CORRECTION FACTORS** – The following factors are to be applied to the standard ratings for units cooling ethylene glycol.

PROPYLENE GLYCOL

% WEIGHT	TONS	COMPR KW	GPM	PRESS DROP	FREEZE PT
10	0.985	1.002	1.003	1.078	26
20	0.968	1.005	1.000	1.157	19
30	0.937	1.008	0.992	1.266	9
40	0.898	1.012	0.982	1.414	-6
50	0.862	1.019	0.985	1.605	-28

6. **PROPYLENE GLYCOL CORRECTION FACTORS** – The following factors are to be applied to the standard ratings for units cooling propylene glycol.

METHOD OF SELECTION

If the duty requires a 10°F range on both the evaporator and condenser, see “Ratings”. For water ranges other

Selection Data – continued

than 10°F, use the following procedure.

1. Determine capacity required from the following formula

$$\text{Capacity (Tons)} = \frac{\text{GPM} \times \text{Chilled Water Range (°F)}}{24}$$

2. After applying any fouling factor corrections, the actual condenser heat rejection may be determined as follows:

$$\text{Heat Rejection (MBH)} = \frac{\text{Heat Rejection (Btuh)}}{1000}$$

$$= (\text{Tons} \times 12) = (\text{kW} \times 3.415)$$

3. Determine condensing water requirements for water cooled models as follows:

$$\text{Condenser Tons} = \frac{\text{Heat Rejection (MBH)} \times 1000}{15,000}$$

Or combine the two formulas:

$$\text{Cond. Water GPM} = \frac{\text{Condenser Tons} \times 30}{\text{Condenser Water Range (°F)}}$$

SAMPLE SELECTION

Water Cooled Chiller (YCWL)

GIVEN – Chill 200 GPM of water from 56°F to 44°F and 0.0001 evaporator fouling factor with 85°F to 95°F condensing water available. The fouling factor is 0.0005 for the condenser.

FIND – The required unit size capacity, kW, EER, and water pressure drop.

SOLUTION:

1. Chilled water range = 56°F - 44°F = 12°F and correction factors are 1.009 for Tons and 1.001 for kW for the evaporator.

$$\text{Capacity (Tons)} = \frac{\text{GPM} \times \text{Chilled Water Range}}{24}$$

$$= \frac{200 \times 12}{24} = 100\text{TR}$$

2. From the rating, a model YCWL01180SE has a capacity range required. For the evaporator leaving water

temperature of 44°F and a condenser leaving water temperature of 95°F, the unit capacity rating table indicates:

$$\begin{aligned}\text{Tons} &= 108.4 \\ \text{KW} &= 83.5 \\ \text{EER} &= 15.6\end{aligned}$$

Correcting for the 12°F chilled water range and the 0.0005 condenser-fouling factor (Correction factors for the condenser are 0.995 for Tons and 1.010 for kW):

$$\begin{aligned}\text{Tons} &= 108.4 \times 1.009 \times 0.995 = 108.8\text{TR} \\ \text{KW} &= 83.5 \times 1.001 \times 1.010 = 84.4 \text{ kW}\end{aligned}$$

The unit is suitable.

3. Determine the average full load kW and EER at 100 Tons

$$\frac{100}{108.8} \times (84.4) = 77.6 \text{ kW}$$

$$\text{EER} = \frac{\text{Tons} \times 12}{\text{kW}} = \frac{100 \times 12}{77.6} = 15.5$$

4. Determine the cond. Heat rejection as follows:

$$\begin{aligned}\text{Heat Rejection (MBH)} &= (\text{Tons} \times 12) + (\text{kW} \times 3.415) \\ &= (108.8 \times 12) + (84.4 \times 3.415) \\ &= 1306 + 288 \\ &= 1594\end{aligned}$$

5. Determine the GPM of condensing water as follows:

$$\text{GPM Condenser Water} = \frac{\text{MBH} \times 2}{\text{Cond. Water Range}}$$

$$= \frac{1594 \times 2}{10}$$

$$= 319 \text{ GPM}$$

6. From curves on pages 10 and 11, the pressure drops with 200 GPM through the evaporator and 319 GPM through the condenser of the Model YCWL118SE:

Evaporator Pressure Drop at 200 GPM = 9 ft

Condenser Pressure Drop at 319 GPM = 18 ft

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Ratings- English - Standard Efficiency

MODEL: YCWL0056SE

IPLV = 20.1

LEAVING CONDENSER WATER TEMPERATURE (°F)

LCWT (°F)	85.0				95.0				105.0			
	TONS	KW	MBH	EER	TONS	KW	MBH	EER	TONS	KW	MBH	EER
40.0	51.3	35.3	736.0	17.5	48.8	38.8	718.0	15.1	46.1	43.2	700.0	12.8
42.0	53.2	35.5	759.0	18.0	50.6	39.0	739.0	15.6	47.8	43.3	721.0	13.2
44.0	55.1	35.8	783.0	18.4	52.4	39.2	762.0	16.1	49.6	43.5	743.0	13.7
46.0	57.0	36.2	807.0	18.9	54.3	39.4	785.0	16.5	51.4	43.6	765.0	14.1
48.0	59.0	36.5	832.0	19.4	56.2	39.7	809.0	17.0	53.2	43.8	788.0	14.6
50.0	61.1	36.9	858.0	19.8	58.1	39.9	834.0	17.5	55.1	44.0	811.0	15.0

MODEL: YCWL0064SE

IPLV = 19.9

LEAVING CONDENSER WATER TEMPERATURE (°F)

LCWT (°F)	85.0				95.0				105.0			
	TONS	KW	MBH	EER	TONS	KW	MBH	EER	TONS	KW	MBH	EER
40.0	58.7	41.1	844.0	17.1	55.8	45.3	824.0	14.8	52.8	50.6	806.0	12.5
42.0	60.8	41.4	871.0	17.6	57.8	45.5	849.0	15.2	54.8	50.7	830.0	13.0
44.0	62.9	41.8	897.0	18.1	59.9	45.7	875.0	15.7	56.7	50.8	854.0	13.4
46.0	65.1	42.1	925.0	18.6	62.0	46.0	901.0	16.2	58.8	51.0	879.0	13.8
48.0	67.4	42.5	953.0	19.0	64.2	46.3	928.0	16.6	60.8	51.2	905.0	14.3
50.0	69.7	43.0	982.0	19.5	66.4	46.6	955.0	17.1	63.0	51.4	931.0	14.7

MODEL: YCWL0074SE

IPLV = 20.2

LEAVING CONDENSER WATER TEMPERATURE (°F)

LCWT (°F)	85.0				95.0				105.0			
	TONS	KW	MBH	EER	TONS	KW	MBH	EER	TONS	KW	MBH	EER
40.0	66.6	48.3	963.0	16.5	63.2	53.1	939.0	14.3	59.6	58.8	916.0	12.2
42.0	69.0	48.6	993.0	17.0	65.5	53.3	967.0	14.7	61.8	59.0	943.0	12.6
44.0	71.4	48.9	1023.0	17.5	67.8	53.6	996.0	15.2	64.1	59.3	971.0	13.0
46.0	73.9	49.2	1054.0	18.0	70.2	53.9	1026.0	15.6	66.4	59.5	1000.0	13.4
48.0	76.5	49.5	1086.0	18.5	72.7	54.2	1057.0	16.1	68.8	59.8	1029.0	13.8
50.0	79.1	49.9	1119.0	19.0	75.2	54.5	1088.0	16.6	71.2	60.1	1059.0	14.2

MODEL: YCWL0084SE

IPLV = 22.5

LEAVING CONDENSER WATER TEMPERATURE (°F)

LCWT (°F)	85.0				95.0				105.0			
	TONS	KW	MBH	EER	TONS	KW	MBH	EER	TONS	KW	MBH	EER
40.0	75.2	52.6	1082.0	17.2	71.3	57.8	1052.0	14.8	67.2	63.7	1024.0	12.7
42.0	78.0	52.8	1116.0	17.7	73.9	58.1	1084.0	15.3	69.7	64.0	1055.0	13.1
44.0	80.8	53.0	1150.0	18.3	76.6	58.3	1117.0	15.8	72.3	64.3	1086.0	13.5
46.0	83.7	53.2	1185.0	18.9	79.3	58.6	1151.0	16.2	74.9	64.6	1119.0	13.9
48.0	86.6	53.4	1221.0	19.5	82.1	58.8	1186.0	16.7	77.6	64.9	1152.0	14.4
50.0	89.6	53.6	1258.0	20.1	85.0	59.1	1221.0	17.3	80.4	65.2	1186.0	14.8

NOTES:

1. Tons = Unit Cooling Capacity Output
2. KW = Compressor Input Power
3. MBH = Condenser Heat Rejection
4. EER = Chiller Energy Efficiency Ratio
5. LCWT = Leaving Chilled Water Temperature
6. Ratings based on 2.4 GPM cooler water per ton.

MODEL: YCWL0094SE**IPLV = 23.1****LEAVING CONDENSER WATER TEMPERATURE (°F)**

LCWT (°F)	85.0				95.0				105.0			
	TONS	KW	MBH	EER	TONS	KW	MBH	EER	TONS	KW	MBH	EER
40.0	84.2	57.6	1207.0	17.5	79.9	63.7	1175.0	15.1	75.5	70.2	1145.0	12.9
42.0	87.3	57.8	1244.0	18.1	82.8	63.9	1211.0	15.5	78.3	70.5	1179.0	13.3
44.0	90.4	57.9	1282.0	18.7	85.8	64.1	1248.0	16.1	81.1	70.7	1215.0	13.8
46.0	93.6	58.0	1321.0	19.4	88.8	64.3	1285.0	16.6	84.1	71.0	1251.0	14.2
48.0	96.9	58.1	1361.0	20.0	92.0	64.5	1324.0	17.1	87.1	71.3	1288.0	14.7
50.0	100.3	58.1	1402.0	20.7	95.2	64.6	1363.0	17.7	90.2	71.5	1326.0	15.1

MODEL: YCWL0104SE**IPLV = 23.3****LEAVING CONDENSER WATER TEMPERATURE (°F)**

LCWT (°F)	85.0				95.0				105.0			
	TONS	KW	MBH	EER	TONS	KW	MBH	EER	TONS	KW	MBH	EER
40.0	90.9	62.3	1303.0	17.5	86.3	69.1	1271.0	15.0	81.9	76.3	1242.0	12.9
42.0	94.2	62.3	1342.0	18.1	89.5	69.3	1310.0	15.5	84.8	76.5	1279.0	13.3
44.0	97.5	62.4	1383.0	18.8	92.7	69.4	1349.0	16.0	87.9	76.8	1317.0	13.7
46.0	101.0	62.4	1425.0	19.4	96.0	69.6	1389.0	16.6	91.1	77.0	1355.0	14.2
48.0	104.6	62.3	1467.0	20.1	99.4	69.7	1430.0	17.1	94.3	77.2	1395.0	14.7
50.0	108.2	62.3	1511.0	20.9	102.9	69.7	1472.0	17.7	97.6	77.4	1435.0	15.1

MODEL: YCWL0118SE**IPLV = 22.7****LEAVING CONDENSER WATER TEMPERATURE (°F)**

LCWT (°F)	85.0				95.0				105.0			
	TONS	KW	MBH	EER	TONS	KW	MBH	EER	TONS	KW	MBH	EER
40.0	106.2	74.8	1530.0	17.0	101.1	82.9	1496.0	14.6	95.8	91.9	1463.0	12.5
42.0	110.0	75.1	1576.0	17.6	104.7	83.2	1540.0	15.1	99.3	92.2	1506.0	12.9
44.0	113.9	75.4	1623.0	18.1	108.4	83.5	1586.0	15.6	102.8	92.5	1549.0	13.3
46.0	117.8	75.7	1672.0	18.7	112.2	83.9	1632.0	16.1	106.4	92.9	1594.0	13.7
48.0	121.9	76.0	1721.0	19.3	116.1	84.2	1680.0	16.5	110.1	93.2	1639.0	14.2
50.0	126.0	76.2	1772.0	19.8	120.0	84.5	1728.0	17.1	113.9	93.6	1686.0	14.6

MODEL: YCWL0132SE**IPLV = 21.9****LEAVING CONDENSER WATER TEMPERATURE (°F)**

LCWT (°F)	85.0				95.0				105.0			
	TONS	KW	MBH	EER	TONS	KW	MBH	EER	TONS	KW	MBH	EER
40.0	126.9	87.0	1819.0	17.5	120.9	96.0	1778.0	15.1	114.4	106.5	1736.0	12.9
42.0	131.4	87.6	1875.0	18.0	125.2	96.5	1831.0	15.6	118.5	107.0	1787.0	13.3
44.0	135.9	88.1	1932.0	18.5	129.6	97.0	1885.0	16.0	122.7	107.4	1839.0	13.7
46.0	140.6	88.7	1990.0	19.0	134.0	97.5	1941.0	16.5	127.0	107.9	1892.0	14.1
48.0	145.4	89.3	2050.0	19.5	138.6	98.1	1998.0	17.0	131.4	108.4	1946.0	14.5
50.0	150.3	90.0	2110.0	20.0	143.3	98.7	2056.0	17.4	135.8	109.0	2002.0	15.0

NOTES:

1. Tons = Unit Cooling Capacity Output
2. KW = Compressor Input Power
3. MBH = Condenser Heat Rejection
4. EER = Chiller Energy Efficiency Ratio
5. LCWT = Leaving Chilled Water Temperature
6. Ratings based on 2.4 GPM cooler water per ton.

Ratings- English - Standard Efficiency– continued

MODEL: YCWL0156SE

IPLV = 23.4

LEAVING CONDENSER WATER TEMPERATURE (°F)

LCWT (°F)	85.0				95.0				105.0			
	TONS	KW	MBH	EER	TONS	KW	MBH	EER	TONS	KW	MBH	EER
40.0	137.8	94.3	1975.0	17.5	130.8	104.9	1927.0	15.0	123.9	115.9	1883.0	12.8
42.0	142.8	94.4	2036.0	18.2	135.6	105.1	1986.0	15.5	128.5	116.3	1939.0	13.3
44.0	148.0	94.4	2098.0	18.8	140.5	105.3	2045.0	16.0	133.2	116.6	1996.0	13.7
46.0	153.3	94.3	2161.0	19.5	145.6	105.5	2106.0	16.6	138.0	116.9	2055.0	14.2
48.0	158.7	94.2	2226.0	20.2	150.8	105.6	2169.0	17.1	143.0	117.1	2115.0	14.6
50.0	164.3	94.0	2293.0	21.0	156.1	105.6	2233.0	17.7	148.0	117.3	2176.0	15.1

NOTES:

1. Tons = Unit Cooling Capacity Output
2. KW = Compressor Input Power
3. MBH = Condenser Heat Rejection
4. EER = Chiller Energy Efficiency Ratio
5. LCWT = Leaving Chilled Water Temperature
6. Ratings based on 2.4 GPM cooler water per ton.

Ratings- English - High Efficiency

MODEL: YCWL0064HE**IPLV = 20.2****LEAVING CONDENSER WATER TEMPERATURE (°F)**

LCWT (°F)	85.0				95.0				105.0			
	TONS	KW	MBH	EER	TONS	KW	MBH	EER	TONS	KW	MBH	EER
40.0	61.1	41.0	873.0	17.9	58.0	45.0	849.0	15.5	54.7	50.1	827.0	13.1
42.0	63.4	41.4	901.0	18.4	60.2	45.2	876.0	16.0	56.8	50.2	852.0	13.6
44.0	65.7	41.8	930.0	18.9	62.4	45.5	904.0	16.5	58.9	50.4	879.0	14.0
46.0	68.0	42.2	959.0	19.4	64.7	45.8	932.0	17.0	61.2	50.6	906.0	14.5
48.0	70.4	42.6	990.0	19.8	67.0	46.1	960.0	17.4	63.4	50.8	934.0	15.0
50.0	72.8	43.1	1021.0	20.3	69.3	46.5	990.0	17.9	65.7	51.0	962.0	15.4

MODEL: YCWL0074HE**IPLV = 20.7****LEAVING CONDENSER WATER TEMPERATURE (°F)**

LCWT (°F)	85.0				95.0				105.0			
	TONS	KW	MBH	EER	TONS	KW	MBH	EER	TONS	KW	MBH	EER
40.0	71.4	48.2	1021.0	17.8	67.4	52.9	989.0	15.3	63.4	58.4	959.0	13.0
42.0	74.2	48.5	1055.0	18.3	70.0	53.1	1022.0	15.8	65.9	58.7	990.0	13.5
44.0	77.0	48.8	1090.0	18.9	72.7	53.4	1055.0	16.3	68.4	58.9	1022.0	13.9
46.0	79.9	49.2	1126.0	19.5	75.5	53.7	1089.0	16.9	71.1	59.2	1054.0	14.4
48.0	82.9	49.5	1163.0	20.1	78.4	54.0	1124.0	17.4	73.8	59.5	1088.0	14.9
50.0	85.9	49.9	1201.0	20.7	81.3	54.4	1161.0	17.9	76.5	59.8	1122.0	15.4

MODEL: YCWL0084HE**IPLV = 23.1****LEAVING CONDENSER WATER TEMPERATURE (°F)**

LCWT (°F)	85.0				95.0				105.0			
	TONS	KW	MBH	EER	TONS	KW	MBH	EER	TONS	KW	MBH	EER
40.0	81.2	53.1	1155.0	18.4	76.5	58.3	1116.0	15.7	71.7	64.2	1079.0	13.4
42.0	84.4	53.3	1194.0	19.0	79.5	58.6	1154.0	16.3	74.6	64.6	1115.0	13.9
44.0	87.7	53.5	1234.0	19.7	82.6	58.9	1192.0	16.8	77.5	64.9	1151.0	14.3
46.0	91.0	53.7	1275.0	20.3	85.8	59.2	1231.0	17.4	80.5	65.2	1189.0	14.8
48.0	94.4	53.8	1316.0	21.1	89.1	59.4	1271.0	18.0	83.6	65.5	1227.0	15.3
50.0	97.8	53.9	1358.0	21.8	92.4	59.7	1312.0	18.6	86.8	65.8	1266.0	15.8

MODEL: YCWL0094HE**IPLV = 23.6****LEAVING CONDENSER WATER TEMPERATURE (°F)**

LCWT (°F)	85.0				95.0				105.0			
	TONS	KW	MBH	EER	TONS	KW	MBH	EER	TONS	KW	MBH	EER
40.0	87.7	57.2	1247.0	18.4	82.8	63.3	1210.0	15.7	78.0	69.9	1174.0	13.4
42.0	91.1	57.3	1288.0	19.1	86.0	63.5	1249.0	16.3	81.0	70.1	1211.0	13.9
44.0	94.5	57.4	1329.0	19.8	89.4	63.7	1289.0	16.8	84.2	70.4	1250.0	14.4
46.0	98.0	57.4	1372.0	20.5	92.7	63.8	1330.0	17.4	87.4	70.6	1290.0	14.9
48.0	101.6	57.4	1415.0	21.2	96.2	64.0	1372.0	18.0	90.7	70.8	1330.0	15.4
50.0	105.3	57.4	1459.0	22.0	99.7	64.1	1415.0	18.7	94.1	71.0	1371.0	15.9

NOTES:

1. Tons = Unit Cooling Capacity Output
2. KW = Compressor Input Power
3. MBH = Condenser Heat Rejection
4. EER = Chiller Energy Efficiency Ratio
5. LCWT = Leaving Chilled Water Temperature
6. Ratings based on 2.4 GPM cooler water per ton.

Ratings- English - High Efficiency – continued

MODEL: YCWL0096HE

IPLV = 20.5

LEAVING CONDENSER WATER TEMPERATURE (°F)

LCWT (°F)	85.0				95.0				105.0			
	TONS	KW	MBH	EER	TONS	KW	MBH	EER	TONS	KW	MBH	EER
40.0	92.6	61.4	1320.0	18.1	87.8	67.2	1283.0	15.7	82.8	74.8	1249.0	13.3
42.0	96.1	61.9	1364.0	18.6	91.1	67.6	1324.0	16.2	86.0	75.0	1288.0	13.8
44.0	99.6	62.5	1409.0	19.1	94.6	68.0	1366.0	16.7	89.3	75.2	1328.0	14.2
46.0	103.3	63.1	1455.0	19.6	98.1	68.4	1410.0	17.2	92.6	75.5	1369.0	14.7
48.0	107.1	63.9	1502.0	20.1	101.7	68.9	1455.0	17.7	96.1	75.8	1411.0	15.2
50.0	110.9	64.7	1551.0	20.6	105.4	69.5	1501.0	18.2	99.6	76.2	1455.0	15.7

MODEL: YCWL0118HE

IPLV = 23.7

LEAVING CONDENSER WATER TEMPERATURE (°F)

LCWT (°F)	85.0				95.0				105.0			
	TONS	KW	MBH	EER	TONS	KW	MBH	EER	TONS	KW	MBH	EER
40.0	112.6	74.2	1604.0	18.2	106.9	82.2	1564.0	15.6	101.1	91.1	1524.0	13.3
42.0	116.7	74.4	1654.0	18.8	110.9	82.5	1612.0	16.1	104.9	91.4	1570.0	13.8
44.0	120.9	74.6	1705.0	19.4	114.9	82.7	1661.0	16.7	108.8	91.7	1618.0	14.2
46.0	125.1	74.9	1757.0	20.1	119.0	83.0	1711.0	17.2	112.7	92.0	1666.0	14.7
48.0	129.5	75.1	1810.0	20.7	123.2	83.3	1762.0	17.7	116.7	92.3	1715.0	15.2
50.0	134.0	75.3	1865.0	21.4	127.5	83.5	1815.0	18.3	120.8	92.6	1765.0	15.7

MODEL: YCWL0126HE

IPLV = 23.0

LEAVING CONDENSER WATER TEMPERATURE (°F)

LCWT (°F)	85.0				95.0				105.0			
	TONS	KW	MBH	EER	TONS	KW	MBH	EER	TONS	KW	MBH	EER
40.0	121.6	80.6	1734.0	18.1	114.8	88.6	1679.0	15.5	107.8	97.7	1627.0	13.2
42.0	126.2	80.9	1790.0	18.7	119.2	89.0	1734.0	16.1	112.0	98.1	1679.0	13.7
44.0	131.0	81.1	1848.0	19.4	123.7	89.4	1789.0	16.6	116.3	98.6	1732.0	14.2
46.0	135.8	81.3	1907.0	20.0	128.3	89.8	1846.0	17.2	120.7	99.0	1787.0	14.6
48.0	140.7	81.5	1967.0	20.7	133.1	90.1	1904.0	17.7	125.3	99.5	1843.0	15.1
50.0	145.8	81.7	2028.0	21.4	137.9	90.4	1964.0	18.3	129.9	99.9	1900.0	15.6

MODEL: YCWL0156HE

IPLV = 23.8

LEAVING CONDENSER WATER TEMPERATURE (°F)

LCWT (°F)	85.0				95.0				105.0			
	TONS	KW	MBH	EER	TONS	KW	MBH	EER	TONS	KW	MBH	EER
40.0	142.0	94.1	2026.0	18.1	134.7	104.8	1974.0	15.4	127.6	115.8	1926.0	13.2
42.0	147.3	94.2	2088.0	18.8	139.7	105.0	2035.0	16.0	132.3	116.1	1984.0	13.7
44.0	152.7	94.1	2153.0	19.5	144.9	105.1	2097.0	16.5	137.2	116.4	2044.0	14.1
46.0	158.2	94.0	2219.0	20.2	150.1	105.2	2161.0	17.1	142.3	116.7	2105.0	14.6
48.0	163.9	93.8	2287.0	21.0	155.6	105.3	2226.0	17.7	147.4	116.9	2168.0	15.1
50.0	169.8	93.6	2356.0	21.8	161.2	105.3	2293.0	18.4	152.7	117.1	2232.0	15.7

NOTES:

1. Tons = Unit Cooling Capacity Output
2. KW = Compressor Input Power
3. MBH = Condenser Heat Rejection
4. EER = Chiller Energy Efficiency Ratio
5. LCWT = Leaving Chilled Water Temperature
6. Ratings based on 2.4 GPM cooler water per ton.

Ratings- SI - Standard Efficiency

MODEL: YCWL0056SE

LEAVING CONDENSER WATER TEMPERATURE (°C)												
LCWT (°C)	30.0				35.0				40.0			
	KWo	KWi	KW	COP	KWo	KWi	KW	COP	KWo	KWi	KW	COP
5.0	182.0	35.7	217.0	5.1	173.8	38.9	212.0	4.5	165.2	42.8	208.0	3.9
6.0	187.9	35.9	223.0	5.2	179.5	39.0	218.0	4.6	170.8	42.9	213.0	4.0
7.0	193.9	36.2	230.0	5.4	185.3	39.2	224.0	4.7	176.4	43.1	219.0	4.1
8.0	200.0	36.5	236.0	5.5	191.3	39.4	230.0	4.9	182.1	43.2	225.0	4.2
9.0	206.3	36.8	243.0	5.6	197.3	39.7	237.0	5.0	188.0	43.4	231.0	4.3
10.0	212.6	37.1	249.0	5.7	203.5	39.9	243.0	5.1	193.9	43.5	237.0	4.5

MODEL: YCWL0064SE

LEAVING CONDENSER WATER TEMPERATURE (°C)												
LCWT (°C)	30.0				35.0				40.0			
	KWo	KWi	KW	COP	KWo	KWi	KW	COP	KWo	KWi	KW	COP
5.0	208.1	41.6	249.0	5.0	198.9	45.4	244.0	4.4	189.4	50.1	239.0	3.8
6.0	214.8	41.9	256.0	5.1	205.4	45.6	251.0	4.5	195.5	50.2	245.0	3.9
7.0	221.6	42.2	263.0	5.3	211.9	45.8	257.0	4.6	201.9	50.3	252.0	4.0
8.0	228.5	42.5	271.0	5.4	218.7	46.1	264.0	4.8	208.3	50.5	258.0	4.1
9.0	235.6	42.9	278.0	5.5	225.5	46.3	271.0	4.9	214.9	50.7	265.0	4.2
10.0	242.8	43.2	286.0	5.6	232.4	46.6	279.0	5.0	221.6	50.9	272.0	4.4

MODEL: YCWL0074SE

LEAVING CONDENSER WATER TEMPERATURE (°C)												
LCWT (°C)	30.0				35.0				40.0			
	KWo	KWi	KW	COP	KWo	KWi	KW	COP	KWo	KWi	KW	COP
5.0	236.0	48.9	284.0	4.8	225.1	53.2	278.0	4.2	213.9	58.3	272.0	3.7
6.0	243.6	49.1	292.0	5.0	232.4	53.4	285.0	4.4	220.9	58.5	279.0	3.8
7.0	251.4	49.4	300.0	5.1	239.9	53.7	293.0	4.5	228.1	58.8	286.0	3.9
8.0	259.3	49.7	309.0	5.2	247.5	54.0	301.0	4.6	235.4	59.0	294.0	4.0
9.0	267.4	50.0	317.0	5.4	255.3	54.2	309.0	4.7	242.9	59.2	302.0	4.1
10.0	275.7	50.3	325.0	5.5	263.3	54.5	317.0	4.8	250.6	59.5	310.0	4.2

MODEL: YCWL0084SE

LEAVING CONDENSER WATER TEMPERATURE (°C)												
LCWT (°C)	30.0				35.0				40.0			
	KWo	KWi	KW	COP	KWo	KWi	KW	COP	KWo	KWi	KW	COP
5.0	266.8	53.2	320.0	5.0	254.0	57.9	311.0	4.4	241.1	63.2	304.0	3.8
6.0	275.5	53.4	328.0	5.2	262.4	58.2	320.0	4.5	249.1	63.5	312.0	3.9
7.0	284.4	53.6	338.0	5.3	270.9	58.4	329.0	4.6	257.3	63.7	321.0	4.0
8.0	293.5	53.8	347.0	5.5	279.7	58.6	338.0	4.8	265.7	64.0	329.0	4.2
9.0	302.8	54.0	356.0	5.6	288.6	58.9	347.0	4.9	274.3	64.3	338.0	4.3
10.0	312.2	54.1	366.0	5.8	297.7	59.1	356.0	5.0	283.0	64.5	347.0	4.4

NOTES:

1. KW_o = Unit kW Cooling Capacity Output
2. KW_i = Compressor kW Input
3. KW = Condenser Heat Rejection
4. COP = Coefficient of Performance
5. LCWT = Leaving Chilled Water Temperature
6. Ratings based on 0.047 l/s cooler water per kW.

Ratings- SI - Standard Efficiency – continued

MODEL: YCWL0094SE

LEAVING CONDENSER WATER TEMPERATURE (°C)												
LCWT (°C)	30.0				35.0				40.0			
	KWo	KWi	KW	COP	KWo	KWi	KW	COP	KWo	KWi	KW	COP
5.0	298.2	58.3	356.0	5.1	284.2	63.8	348.0	4.5	270.3	69.6	339.0	3.9
6.0	307.9	58.4	366.0	5.3	293.6	64.0	357.0	4.6	279.2	69.9	349.0	4.0
7.0	317.8	58.6	376.0	5.4	303.1	64.2	367.0	4.7	288.3	70.1	358.0	4.1
8.0	328.0	58.7	386.0	5.6	312.9	64.3	377.0	4.9	297.7	70.4	368.0	4.2
9.0	338.4	58.7	397.0	5.8	322.8	64.5	387.0	5.0	307.3	70.6	377.0	4.4
10.0	349.0	58.8	407.0	5.9	333.1	64.6	397.0	5.2	317.0	70.8	387.0	4.5

MODEL: YCWL0104SE

LEAVING CONDENSER WATER TEMPERATURE (°C)												
LCWT (°C)	30.0				35.0				40.0			
	KWo	KWi	KW	COP	KWo	KWi	KW	COP	KWo	KWi	KW	COP
5.0	321.9	63.0	384.0	5.1	307.3	69.2	376.0	4.4	292.9	75.7	368.0	3.9
6.0	332.3	63.1	395.0	5.3	317.3	69.4	386.0	4.6	302.5	75.9	378.0	4.0
7.0	343.0	63.1	406.0	5.4	327.6	69.5	397.0	4.7	312.3	76.1	388.0	4.1
8.0	353.9	63.2	417.0	5.6	338.1	69.6	407.0	4.9	322.4	76.3	398.0	4.2
9.0	365.2	63.1	428.0	5.8	348.8	69.7	418.0	5.0	332.7	76.5	409.0	4.4
10.0	376.7	63.1	439.0	6.0	359.9	69.8	429.0	5.2	343.2	76.6	419.0	4.5

MODEL: YCWL0118SE

LEAVING CONDENSER WATER TEMPERATURE (°C)												
LCWT (°C)	30.0				35.0				40.0			
	KWo	KWi	KW	COP	KWo	KWi	KW	COP	KWo	KWi	KW	COP
5.0	376.5	75.8	452.0	5.0	360.0	83.1	443.0	4.3	343.1	91.1	434.0	3.8
6.0	388.4	76.0	464.0	5.1	371.5	83.4	454.0	4.5	354.2	91.4	445.0	3.9
7.0	400.6	76.3	476.0	5.3	383.2	83.6	466.0	4.6	365.4	91.7	457.0	4.0
8.0	413.1	76.5	489.0	5.4	395.2	83.9	479.0	4.7	376.9	92.0	468.0	4.1
9.0	425.9	76.8	502.0	5.6	407.5	84.2	491.0	4.8	388.6	92.3	480.0	4.2
10.0	439.0	77.0	516.0	5.7	420.0	84.5	504.0	5.0	400.6	92.6	493.0	4.3

MODEL: YCWL0132SE

LEAVING CONDENSER WATER TEMPERATURE (°C)												
LCWT (°C)	30.0				35.0				40.0			
	KWo	KWi	KW	COP	KWo	KWi	KW	COP	KWo	KWi	KW	COP
5.0	449.3	88.1	537.0	5.1	430.0	96.2	526.0	4.5	409.5	105.6	515.0	3.9
6.0	463.6	88.6	552.0	5.2	443.8	96.7	540.0	4.6	422.6	106.0	528.0	4.0
7.0	478.1	89.1	567.0	5.4	457.7	97.1	554.0	4.7	436.0	106.5	542.0	4.1
8.0	492.9	89.6	582.0	5.5	471.9	97.6	569.0	4.8	449.7	106.9	556.0	4.2
9.0	508.0	90.2	598.0	5.6	486.4	98.1	584.0	5.0	463.5	107.4	571.0	4.3
10.0	523.3	90.7	614.0	5.8	501.2	98.7	599.0	5.1	477.7	107.9	585.0	4.4

NOTES:

1. KW_o = Unit kW Cooling Capacity Output
2. KW_i = Compressor kW Input
3. KW = Condenser Heat Rejection
4. COP = Coefficient of Performance
5. LCWT = Leaving Chilled Water Temperature
6. Ratings based on 0.047 l/s cooler water per kW.

MODEL: YCWL0156SE

LEAVING CONDENSER WATER TEMPERATURE (°C)												
LCWT (°C)	30.0				35.0				40.0			
	KWo	KWi	KW	COP	KWo	KWi	KW	COP	KWo	KWi	KW	COP
5.0	488.1	95.5	583.0	5.1	465.7	105.1	570.0	4.4	443.7	115.0	558.0	3.9
6.0	504.0	95.5	599.0	5.3	480.9	105.3	586.0	4.6	458.4	115.3	573.0	4.0
7.0	520.3	95.6	615.0	5.4	496.6	105.4	602.0	4.7	473.4	115.5	588.0	4.1
8.0	537.1	95.5	632.0	5.6	512.7	105.5	618.0	4.9	488.7	115.8	604.0	4.2
9.0	554.3	95.4	649.0	5.8	529.1	105.6	634.0	5.0	504.4	116.0	620.0	4.4
10.0	571.9	95.3	667.0	6.0	545.9	105.6	651.0	5.2	520.5	116.2	636.0	4.5

NOTES:

1. KW_o = Unit kW Cooling Capacity Output
2. KW_i = Compressor kW Input
3. KW = Condenser Heat Rejection
4. COP = Coefficient of Performance
5. LCWT = Leaving Chilled Water Temperature
6. Ratings based on 0.047 l/s cooler water per kW.

Ratings- SI - High Efficiency

MODEL: YCWL0064SE

LEAVING CONDENSER WATER TEMPERATURE (°C)												
LCWT (°C)	30.0				35.0				40.0			
	KWo	KWi	KW	COP	KWo	KWi	KW	COP	KWo	KWi	KW	COP
5.0	216.4	41.5	257.0	5.2	206.2	45.1	251.0	4.6	195.7	49.6	245.0	4.0
6.0	223.5	41.8	265.0	5.4	213.3	45.3	258.0	4.7	202.4	49.7	252.0	4.1
7.0	230.7	42.1	272.0	5.5	220.4	45.5	266.0	4.8	209.3	49.9	259.0	4.2
8.0	238.2	42.5	280.0	5.6	227.6	45.8	273.0	5.0	216.4	50.1	266.0	4.3
9.0	245.7	42.9	288.0	5.7	234.8	46.1	280.0	5.1	223.6	50.3	273.0	4.5
10.0	253.4	43.3	296.0	5.9	242.3	46.4	288.0	5.2	230.7	50.5	281.0	4.6

MODEL: YCWL0074SE

LEAVING CONDENSER WATER TEMPERATURE (°C)												
LCWT (°C)	30.0				35.0				40.0			
	KWo	KWi	KW	COP	KWo	KWi	KW	COP	KWo	KWi	KW	COP
5.0	252.4	48.7	301.0	5.2	239.6	52.9	292.0	4.5	226.5	57.9	284.0	3.9
6.0	261.2	49.0	310.0	5.3	248.0	53.2	301.0	4.7	234.5	58.1	292.0	4.0
7.0	270.1	49.3	319.0	5.5	256.6	53.5	310.0	4.8	242.8	58.4	301.0	4.2
8.0	279.3	49.6	328.0	5.6	265.4	53.7	319.0	4.9	251.2	58.6	309.0	4.3
9.0	288.7	49.9	338.0	5.8	274.5	54.0	328.0	5.1	259.8	58.9	318.0	4.4
10.0	298.3	50.2	348.0	5.9	283.7	54.3	338.0	5.2	268.6	59.2	327.0	4.5

MODEL: YCWL0084SE

LEAVING CONDENSER WATER TEMPERATURE (°C)												
LCWT (°C)	30.0				35.0				40.0			
	KWo	KWi	KW	COP	KWo	KWi	KW	COP	KWo	KWi	KW	COP
5.0	287.2	53.7	340.0	5.4	271.9	58.4	330.0	4.7	256.6	63.7	320.0	4.0
6.0	297.2	53.9	351.0	5.5	281.6	58.7	340.0	4.8	265.8	64.0	329.0	4.2
7.0	307.6	54.1	361.0	5.7	291.5	58.9	350.0	4.9	275.2	64.3	339.0	4.3
8.0	318.1	54.2	372.0	5.9	301.6	59.2	360.0	5.1	284.9	64.6	349.0	4.4
9.0	328.9	54.4	383.0	6.1	312.0	59.4	371.0	5.3	294.7	64.9	359.0	4.5
10.0	339.8	54.5	394.0	6.2	322.5	59.6	382.0	5.4	304.9	65.2	370.0	4.7

MODEL: YCWL0094SE

LEAVING CONDENSER WATER TEMPERATURE (°C)												
LCWT (°C)	30.0				35.0				40.0			
	KWo	KWi	KW	COP	KWo	KWi	KW	COP	KWo	KWi	KW	COP
5.0	310.3	57.9	368.0	5.4	294.5	63.4	357.0	4.7	279.0	69.2	348.0	4.0
6.0	320.9	57.9	378.0	5.5	304.9	63.5	368.0	4.8	288.8	69.5	358.0	4.2
7.0	331.8	58.0	389.0	5.7	315.4	63.7	379.0	5.0	299.0	69.7	368.0	4.3
8.0	343.0	58.1	401.0	5.9	326.1	63.8	390.0	5.1	309.3	69.9	379.0	4.4
9.0	354.4	58.1	412.0	6.1	337.1	64.0	401.0	5.3	319.8	70.1	389.0	4.6
10.0	366.0	58.0	424.0	6.3	348.3	64.0	412.0	5.4	330.5	70.3	400.0	4.7

NOTES:

1. KW_o = Unit kW Cooling Capacity Output
2. KW_i = Compressor kW Input
3. KW = Condenser Heat Rejection
4. COP = Coefficient of Performance
5. LCWT = Leaving Chilled Water Temperature
6. Ratings based on 0.047 l/s cooler water per kW.

MODEL: YCWL0096SE**LEAVING CONDENSER WATER TEMPERATURE (°C)**

LCWT (°C)	30.0				35.0				40.0			
	KWo	KWi	KW	COP	KWo	KWi	KW	COP	KWo	KWi	KW	COP
5.0	327.9	62.0	389.0	5.3	312.5	67.3	379.0	4.6	296.6	74.0	370.0	4.0
6.0	338.9	62.5	401.0	5.4	323.2	67.7	390.0	4.8	306.8	74.2	381.0	4.1
7.0	350.3	63.0	413.0	5.6	334.1	68.0	402.0	4.9	317.3	74.5	391.0	4.3
8.0	361.8	63.6	425.0	5.7	345.2	68.4	413.0	5.1	328.0	74.7	402.0	4.4
9.0	373.7	64.3	438.0	5.8	356.6	68.9	425.0	5.2	339.0	75.0	414.0	4.5
10.0	385.8	65.0	450.0	5.9	368.4	69.4	437.0	5.3	350.2	75.4	425.0	4.7

MODEL: YCWL0118SE**LEAVING CONDENSER WATER TEMPERATURE (°C)**

LCWT (°C)	30.0				35.0				40.0			
	KWo	KWi	KW	COP	KWo	KWi	KW	COP	KWo	KWi	KW	COP
5.0	398.7	75.0	473.0	5.3	380.5	82.3	462.0	4.6	362.0	90.2	452.0	4.0
6.0	411.6	75.3	486.0	5.5	393.2	82.5	475.0	4.8	374.0	90.5	464.0	4.1
7.0	424.9	75.5	500.0	5.6	405.9	82.8	488.0	4.9	386.4	90.8	477.0	4.3
8.0	438.4	75.7	514.0	5.8	418.9	83.0	502.0	5.0	399.0	91.1	490.0	4.4
9.0	452.2	75.9	528.0	6.0	432.2	83.3	515.0	5.2	411.7	91.4	503.0	4.5
10.0	466.3	76.1	542.0	6.1	445.8	83.5	529.0	5.3	424.6	91.6	516.0	4.6

MODEL: YCWL0126SE**LEAVING CONDENSER WATER TEMPERATURE (°C)**

LCWT (°C)	30.0				35.0				40.0			
	KWo	KWi	KW	COP	KWo	KWi	KW	COP	KWo	KWi	KW	COP
5.0	430.2	81.5	511.0	5.3	408.2	88.8	497.0	4.6	385.9	96.9	482.0	4.0
6.0	444.9	81.7	526.0	5.4	422.3	89.1	511.0	4.7	399.4	97.3	496.0	4.1
7.0	459.9	82.0	541.0	5.6	436.8	89.5	526.0	4.9	413.2	97.7	510.0	4.2
8.0	475.2	82.2	557.0	5.8	451.5	89.8	541.0	5.0	427.3	98.1	525.0	4.4
9.0	490.8	82.4	573.0	6.0	466.5	90.1	556.0	5.2	441.8	98.5	540.0	4.5
10.0	506.8	82.6	589.0	6.1	481.8	90.4	572.0	5.3	456.5	98.9	555.0	4.6

MODEL: YCWL0156SE**LEAVING CONDENSER WATER TEMPERATURE (°C)**

LCWT (°C)	30.0				35.0				40.0			
	KWo	KWi	KW	COP	KWo	KWi	KW	COP	KWo	KWi	KW	COP
5.0	502.8	95.3	598.0	5.3	479.4	104.9	584.0	4.6	456.5	114.8	571.0	4.0
6.0	519.4	95.3	614.0	5.5	495.3	105.1	600.0	4.7	471.7	115.1	586.0	4.1
7.0	536.5	95.3	631.0	5.6	511.7	105.2	616.0	4.9	487.4	115.3	602.0	4.2
8.0	554.0	95.2	649.0	5.8	528.5	105.3	633.0	5.0	503.4	115.6	619.0	4.4
9.0	571.9	95.1	667.0	6.0	545.7	105.3	651.0	5.2	519.9	115.7	635.0	4.5
10.0	590.3	94.9	685.0	6.2	563.3	105.3	668.0	5.4	536.7	115.9	652.0	4.6

NOTES:

1. KW_o = Unit kW Cooling Capacity Output
2. KW_i = Compressor kW Input
3. KW = Condenser Heat Rejection
4. COP = Coefficient of Performance
5. LCWT = Leaving Chilled Water Temperature
6. Ratings based on 0.047 l/s cooler water per kW.

Part Load Ratings – English

STANDARD EFFICIENCY (SE)

YCWL0056SE			
% Load	Tons	kW	EER
100	52.4	39.2	16.1
75	41.0	26.7	18.5
50	28.7	16.3	21.1
25	14.0	7.9	21.3
IPLV = 20.1			

YCWL0064SE			
% Load	Tons	kW	EER
100	59.9	45.7	15.7
75	47.1	31.1	18.2
50	33.3	19.1	20.9
25	16.3	9.2	21.2
IPLV = 19.9			

YCWL0074SE			
% Load	Tons	kW	EER
100	67.8	53.6	15.2
72.2	52.5	34.1	18.5
50	38.7	21.8	21.2
22.2	16.2	9.2	21.2
IPLV = 20.2			

YCWL0084SE			
% Load	Tons	kW	EER
100	76.6	58.3	
75	61.0	37.7	
50	44.4	22.3	
25	21.9	10.5	
IPLV = 22.5			

YCWL0094SE			
% Load	Tons	kW	EER
100	85.8	64.1	16.1
72.6	66.7	39.3	20.4
50	48.1	23.5	24.6
22.6	21.9	10.5	25.1
IPLV = 23.1			

YCWL0104SE			
% Load	Tons	kW	EER
100	92.7	69.4	16.0
75	72.8	44.0	19.8
50	51.7	24.8	25.0
25	25.5	11.7	26.2
IPLV = 23.3			

YCWL0118SE			
% Load	Tons	kW	EER
100	108.4	83.5	15.6
71	83.0	49.4	20.2
50	61.2	31.1	23.6
21	25.4	11.6	26.2
IPLV = 22.7			

YCWL0132SE			
% Load	Tons	kW	EER
100	129.6	97.0	
75	101.5	62.2	
50	71.3	37.0	
25	34.9	17.7	
IPLV = 21.9			

YCWL0156SE			
% Load	Tons	kW	EER
100	140.5	105.3	16.0
83.3	121.2	77.4	18.8
66.7	101.2	56.4	21.5
50	77.5	37.8	24.6
33.3	51.3	23.5	26.1
16.7	25.2	11.6	26.1
IPLV = 23.4			

HIGH EFFICIENCY (HE)

YCWL0064HE			
% Load	Tons	kW	EER
100	62.4	45.5	16.5
75	48.5	31.0	18.8
50	33.4	18.9	21.2
25	16.3	9.2	21.3
IPLV = 20.2			

YCWL0074HE			
% Load	Tons	kW	EER
100	72.7	53.4	16.3
72.2	54.6	33.7	19.4
50	38.9	21.4	21.9
22.2	16.2	9.1	21.3
IPLV = 20.7			

YCWL0084HE			
% Load	Tons	kW	EER
100	82.6	58.9	16.8
75	64.4	37.7	20.5
50	44.7	21.8	24.5
25	21.9	10.5	25.1
IPLV = 23.1			

YCWL0094HE			
% Load	Tons	kW	EER
100	89.4	63.7	16.8
72.6	68.6	38.8	21.2
50	48.3	23.1	25.2
22.6	21.9	10.4	25.3
IPLV = 23.6			

YCWL0096HE			
% Load	Tons	kW	EER
100	94.6	68.0	16.7
83.3	80.9	53.1	18.3
66.7	66.2	39.9	19.9
50.0	50.0	28.3	21.2
33.3	34.2	18.8	21.8
16.7	16.5	9.2	21.6
IPLV = 20.5			

YCWL0118HE			
% Load	Tons	kW	EER
100	114.9	82.7	16.7
71	86.8	48.6	21.4
50	62.9	30.6	24.6
21	26.0	11.5	27.2
IPLV = 23.7			

YCWL0126HE			
% Load	Tons	kW	EER
100	123.7	89.4	16.6
83.3	106.2	66.1	19.3
66.7	87.5	48.6	21.6
50	66.7	33.4	23.9
33.3	43.8	21.3	24.7
16.7	23.7	10.5	27.1
IPLV = 23.0			

YCWL0156HE			
% Load	Tons	kW	EER
100	144.9	105.1	16.5
83	124.5	77.1	19.4
67	103.2	56.0	22.1
50	78.9	37.6	25.2
33.3	52.0	23.5	26.5
16.7	25.7	11.5	26.7
IPLV = 23.8			

Part Load Ratings – SI

STANDARD EFFICIENCY (SE)

YCWL0056SE				YCWL0064SE				YCWL0074SE				YCWL0084SE			
% Load	kW _o	kW _i	COP	% Load	kW _o	kW _i	COP	% Load	kW _o	kW _i	COP	% Load	kW _o	kW _i	COP
100	184.3	39.2	4.7	100	210.7	45.7	4.6	100	238.5	53.6	4.4	100	269.3	58.3	4.6
75	144.2	26.7	5.4	75	165.6	31.1	5.3	72.2	184.8	34.1	5.4	75	214.5	37.7	5.7
50	100.9	16.3	6.2	50	117.0	19.1	6.1	50	136.0	21.8	6.2	50	156.0	22.3	7.0
25	49.3	7.9	6.2	25	57.3	9.2	6.2	22.2	57.1	9.2	6.2	25	77.1	10.5	7.3
IPLV = 5.9				IPLV = 5.8				IPLV = 5.9				IPLV = 6.6			
YCWL0094SE				YCWL0104SE				YCWL0118SE				YCWL0132SE			
% Load	kW _o	kW _i	COP	% Load	kW _o	kW _i	COP	% Load	kW _o	kW _i	COP	% Load	kW _o	kW _i	COP
100	301.7	64.1	4.7	100	326.0	69.4	4.7	100	381.3	83.5	4.6	100	455.7	97.0	4.7
72.6	234.7	39.3	6.0	75	255.9	44.0	5.8	71	292.1	49.4	5.9	75	357.1	62.2	5.7
50	169.2	23.5	7.2	50	181.7	24.8	7.3	50	215.3	31.1	6.9	50	250.8	37.0	6.8
22.6	77.0	10.5	7.4	25	89.6	11.7	7.7	21	89.3	11.6	7.7	25	122.6	17.7	6.9
IPLV = 6.8				IPLV = 6.8				IPLV = 6.7				IPLV = 6.4			
YCWL0156SE															
% Load	kW _o	kW _i	COP												
100	494.1	105.3	4.7												
83.3	426.3	77.4	5.5												
66.7	355.9	56.4	6.3												
50	272.7	37.8	7.2												
33.3	180.4	23.5	7.7												
16.7	88.5	11.6	7.7												
IPLV = 6.8															

HIGH EFFICIENCY (HE)

YCWL0064HE				YCWL0074HE				YCWL0084HE				YCWL0094HE			
% Load	kW _o	kW _i	COP	% Load	kW _o	kW _i	COP	% Load	kW _o	kW _i	COP	% Load	kW _o	kW _i	COP
100	219.6	45.5	4.8	100	255.8	53.4	4.8	100	290.6	58.9	4.9	100	314.3	63.7	4.9
75	170.4	31.0	5.5	72.2	192.0	33.7	5.7	75	226.6	37.7	6.0	72.6	241.2	38.8	6.2
50	117.3	18.9	6.2	50	136.9	21.4	6.4	50	157.0	21.8	7.2	50	170.0	23.1	7.4
25	57.4	9.2	6.3	22.2	57.1	9.1	6.3	25	77.0	10.5	7.3	22.6	77.2	10.4	7.4
IPLV = 5.9				IPLV = 6.1				IPLV = 6.8				IPLV = 6.9			
YCWL0096HE				YCWL0118HE				YCWL0126HE				YCWL0156HE			
% Load	kW _o	kW _i	COP	% Load	kW _o	kW _i	COP	% Load	kW _o	kW _i	COP	% Load	kW _o	kW _i	COP
100	332.6	68.0	4.9	100	404.1	82.7	4.9	100	435.0	89.4	4.9	100	509.4	105.1	4.8
83.3	284.4	53.1	5.4	71	305.3	48.6	6.3	83.3	373.3	66.1	5.7	83	437.9	77.1	5.7
66.7	232.7	39.9	5.8	50	221.1	30.6	7.2	66.7	307.8	48.7	6.3	67	363.0	56.0	6.5
50.0	176.0	28.3	6.2	21	91.4	11.5	8.0	50	234.5	33.4	7.0	50	277.3	37.6	7.4
33.3	117.7	18.6	6.3	IPLV = 6.9				33.3	154.3	21.3	7.2	33.3	183.0	23.5	7.8
16.7	56.6	9.0	6.3					16.7	80.5	10.5	7.7	16.7	90.4	11.5	7.8
IPLV = 6.0								IPLV = 6.7				IPLV = 7.0			

Physical Data – Standard & High Efficiency – English

Standard Efficiency (SE)									
YCWL MODEL	0056SE	0064SE	0074SE	0084SE	0094SE	0104SE	0118SE	0132SE	0156SE

General Unit Data

Nominal Unit Capacity (Tons)	52.4	59.9	67.8	76.6	85.8	92.7	108.4	129.6	140.5
Number of Independent Refrigerant Circuits	2	2	2	2	2	2	2	2	2
Refrigerant Charge, R-410A, Ckt 1/Ckt. 2 (lbs.)	60/60	60/60	60/60	70/70	65/65	80/80	80/80	130/130	170/170
Oil Charge, Ckt. 1/Ckt. 2, (gal.)	1.7/1.7	2.2/2.2	2.5/2.2	2.5/2.5	3.1/2.5	3.1/3.1	3.3/3.1	3.3/3.3	4.7/4.7
Shipping Weight (lbs.)	3154	3522	3700	4107	4446	4679	4625	4860	6526
Operating Weight (lbs.)	3455	3823	4001	4470	4878	5132	5078	5440	7316

Compressors, Scroll

Quantity per Chiller	4	4	4	4	4	4	4	4	6
Nominal Size Ckt. 1/ Ckt. 2	13-13 / 13-13	15-15 / 15-15	15-15 / 20-20	20-20 / 20-20	20-20 / 25-25	25-25 / 25-25	25-25 / 32-32	32-32 / 32-32	25-25-25 / 25-25-25

Condenser

Water Volume (gal.)	19.4	19.4	19.4	26.9	26.9	26.9	26.9	35.2	52.4
Maximum Water Side Pressure (psig)	150	150	150	150	150	150	150	150	150
Maximum Refrigerant Side Pressure (psig)	560	560	560	560	560	560	560	560	560
Dia. X Length (inches X feet)	13" X 8'	13" X 8'	13" X 8'	14" X 8'	14" X 8'	14" X 8'	14" X 8'	16" X 8'	18" X 10'
Water Nozzle Connection Size, (inches)	4	4	4	4	4	4	4	5	5

Evaporator

Water Volume (gals.)	22.4	22.4	22.4	22.4	37.3	37.3	37.3	59.8	57.6
Maximum Water Side Pressure (psig)	150	150	150	150	150	150	150	150	150
Maximum Refrigerant Side Pressure (psig)	450	450	450	450	450	450	450	450	450
Dia. X Length (inches X feet)	11" X 8'	11" X 8'	11" X 8'	11" X 8'	13" X 8'	14" X 8'	14" X 8'	16" X 8'	15" X 10'
Water Nozzle Connection Size, (inches)	6	6	6	6	6	6	6	8	8

High Efficiency (HE)

YCWL MODEL	0064HE	0074HE	0084HE	0094HE	0096HE	0118HE	0126HE	0156HE
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General Unit Data

Nominal Unit Capacity (Tons)	62.4	72.7	82.6	89.4	94.6	114.9	123.7	144.9
Number of Independent Refrigerant Circuits	2	2	2	2	2	2	2	2
Refrigerant Charge, R-410A, Ckt 1/Ckt. 2 (lbs.)	65/65	90/90	90/90	155/155	170/170	155/155	180/180	195/195
Oil Charge, Ckt. 1/Ckt. 2, (gal.)	2.2/2.2	2.5/2.2	2.5/2.5	3.1/2.5	3.3/3.3	3.3/3.1	3.7/3.7	4.7/4.7
Shipping Weight (lbs.)	3904	4294	4472	5019	5434	5151	6115	6760
Operating Weight (lbs.)	4336	4805	4983	5674	6224	5806	6996	7697

Compressors, Scroll

Quantity per Chiller	4	4	4	4	6	4	6	6
Nominal Size Ckt. 1/ Ckt. 2	15-15 / 15-15	15-15 / 20-20	20-20 / 20-20	20-20 / 25-25	15-15-15/ 15-15-15	25-25 / 32-32	20-20-20 / 20-20-20	25-25-25 / 25-25-25

Condenser

Water Volume (gal.)	26.9	26.9	26.9	44.1	52.4	44.1	52.4	59.1
Maximum Water Side Pressure (psig)	150	150	150	150	150	150	150	150
Maximum Refrigerant Side Pressure (psig)	560	560	560	560	560	560	560	560
Dia. X Length (inches X feet)	14" X 8'	14" X 8'	14" X 8'	18" X 8'	18" X 10'	18" X 8'	18" X 10'	18" X 10'
Water Nozzle Connection Size, (inches)	4	4	4	5	5	5	5	5

Evaporator

Water Volume (gals.)	37.3	59.8	59.8	59.8	57.6	59.8	77	77
Maximum Water Side Pressure (psig)	150	150	150	150	150	150	150	150
Maximum Refrigerant Side Pressure (psig)	450	450	450	450	450	450	450	450
Dia. X Length (inches X feet)	13" X 8'	16" X 8'	16" X 8'	16" X 8'	15" X 10'	16" X 8'	17" 10'	17" 10'
Water Nozzle Connection Size, (inches)	6	8	8	8	8	8	8	8

Physical Data – Standard & High Efficiency – SI

Standard Efficiency (SE)									
YCWL MODEL	0056SE	0064SE	0074SE	0084SE	0094SE	0104SE	0118SE	0132SE	0156SE

General Unit Data

Unit Capacity at 44°F water & 95°F ambient (kW)	184.2	210.6	238.4	269.3	301.7	325.9	381.2	455.7	494.0
Number of Independent Refrigerant Circuits	2	2	2	2	2	2	2	2	2
Refrigerant Charge, R-410A, Ckt.-1/Ckt.-2 (kg)	27.2/27.2	27.2/27.2	27.2/27.2	31.8/31.8	29.5/29.5	36.3/36.3	36.3/36.3	59/59	77.1/77.1
Oil Charge, Ckt.-1/Ckt.-2 (liters)	6.4/6.4	8.3/8.3	9.5/8.3	9.5/9.5	11.7/9.5	11.7/11.7	12.5/11.7	12.5/12.5	17.8/17.8
Shipping Weight (kg)	1431	1598	1678	1863	2017	2122	2098	2204	2960
Operating Weight (kg)	1567	1734	1815	2028	2213	2328	2303	2468	3318

Compressors, Scroll

Quantity per Chiller	4	4	4	4	4	4	4	4	6
Nominal Size Ckt. 1/ Ckt. 2	46-46 / 46-46	53-53 / 53-53	53-53 / 70-70	70-70 / 70-70	70-70 / 88-88	88-88 / 88-88	88-88 / 113-113	113-113 / 113-113	88-88-88 / 88-88-88

Condenser

Water Volume (liters)	73.4	73.4	73.4	101.8	101.8	101.8	101.8	133.2	198.4
Maximum Water Side Pressure (MPa)	1	1	1	1	1	1	1	1	1
Maximum Refrigerant Side Pressure (MPa)	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9
Dia. X Length (mm x m)	330 x 2.4	330 x 2.4	330 x 2.4	356 x 2.4	356 x 2.4	356 x 2.4	356 x 2.4	406 x 2.4	457 x 3.0
Water Nozzle Connection Size, (mm)	101.6	101.6	101.6	101.6	101.6	101.6	101.6	127	127

Evaporator

Water Volume (liters)	84.8	84.8	84.8	84.8	141.2	141.2	141.2	226.4	218
Maximum Water Side Pressure (MPa)	1	1	1	1	1	1	1	1	1
Maximum Refrigerant Side Pressure (MPa)	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1
Dia. X Length (mm x m)	279 x 2.4	279 x 2.4	279 x 2.4	279 x 2.4	330 x 2.4	356 x 2.4	356 x 2.4	406 x 2.4	381 x 3.0
Water Nozzle Connection Size, (mm)	152.4	152.4	152.4	152.4	152.4	152.4	152.4	203.2	203.2

High Efficiency (HE)

YCWL MODEL	0064HE	0074HE	0084HE	0094HE	0096HE	0118HE	0126HE	0156HE
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General Unit Data

Unit Capacity at 44°F water & 95°F ambient (kW)	219.4	255.6	290.4	314.3	332.6	404.0	435.0	509.3
Number of Independent Refrigerant Circuits	2	2	2	2	2	2	2	2
Refrigerant Charge, R-410A, Ckt.-1/Ckt.-2 (kg)	29.5/29.5	40.9/40.9	40.9/40.9	70.3/70.3	77.1/77.1	70.3/70.3	81.6/81.6	88.5/88.5
Oil Charge, Ckt.-1/Ckt.-2 (liters)	8.3/8.3	9.5/8.3	9.5/9.5	11.7/9.5	12.5/12.5	12.5/11.7	14/14	17.8/17.8
Shipping Weight (kg)	1771	1948	2028	2277	2465	2336	2774	3066
Operating Weight (kg)	1967	2180	2260	2574	2823	2634	3173	3491

Compressors, Scroll

Quantity per Chiller	4	4	4	4	6	4	6	6
Nominal Size Ckt. 1/ Ckt. 2	53-53 / 53-53	53-53 / 70-70	70-70 / 70-70	70-70 / 88-88	53-53-53 / 53-53-53	88-88 / 113-113	70-70-70 / 70-70-70	88-88-88 / 88-88-88

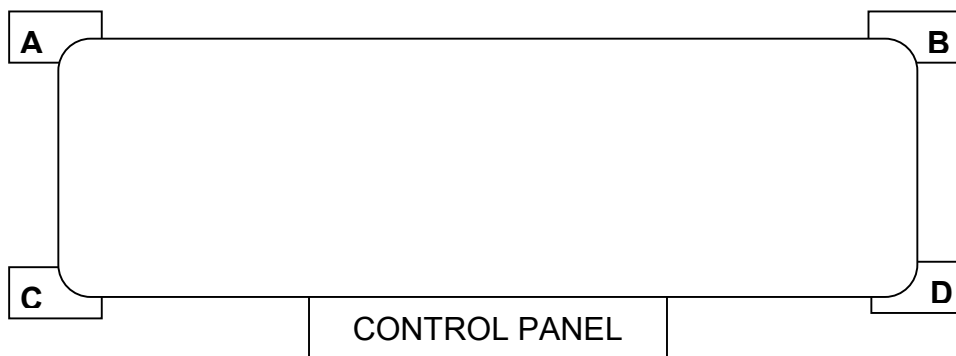
Condenser

Water Volume (liters)	101.8	101.8	101.8	166.9	198.4	166.9	198.4	223.7
Maximum Water Side Pressure (MPa)	1	1	1	1	1	1	1	1
Maximum Refrigerant Side Pressure (MPa)	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9
Dia. X Length (mm x m)	356 x 2.4	356 x 2.4	356 x 2.4	457 x 2.4	457 x 3.0	457 x 2.4	457 x 3.0	457 x 3.0
Water Nozzle Connection Size, (mm)	101.6	101.6	101.6	127	127	127	127	127

Evaporator

Water Volume (liters)	141.2	226.4	226.4	226.4	218	226.4	291.5	291.5
Maximum Water Side Pressure (MPa)	1	1	1	1	1	1	1	1
Maximum Refrigerant Side Pressure (MPa)	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1
Dia. X Length (mm x m)	330 x 2.4	406 x 2.4	406 x 2.4	406 x 2.4	381 x 3.0	406 x 2.4	432 x 3.0	432 x 3.0
Water Nozzle Connection Size, (mm)	152.4	203.2	203.2	203.2	203.2	203.2	203.2	203.2

Isolator Selection Data

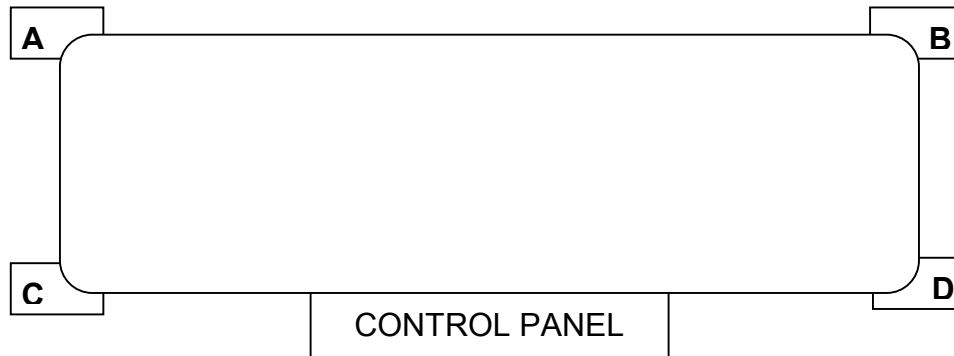


STANDARD EFFICIENCY - ENGLISH				
Weight Distribution by Model - Op. Weights (lbs)				
Model	A	B	C	D
YCWL0056SE	861	861	867	867
YCWL0064SE	994	994	918	918
YCWL0074SE	1058	1058	942	942
YCWL0084SE	1195	1195	1040	1040
YCWL0094SE	1318	1318	1121	1121
YCWL0104SE	1402	1402	1164	1164
YCWL0118SE	1383	1383	1156	1156
YCWL0132SE	1467	1467	1253	1253
YCWL0156SE	2102	2102	1556	1556

HIGH EFFICIENCY - ENGLISH				
Weight Distribution by Model - Op. Weights (lbs)				
Model	A	B	C	D
YCWL0064HE	1122	1122	1046	1046
YCWL0074HE	1259	1259	1143	1143
YCWL0084HE	1324	1324	1168	1168
YCWL0094HE	1517	1517	1320	1320
YCWL0096HE	1664	1664	1448	1448
YCWL0118HE	1565	1565	1338	1338
YCWL0126HE	1937	1937	1560	1560
YCWL0156HE	2197	2197	1652	1652

STANDARD EFFICIENCY - SI				
Weight Distribution by Model - Op. Weights (kg)				
Model	A	B	C	D
YCWL0056SE	391	391	393	393
YCWL0064SE	451	451	416	416
YCWL0074SE	480	480	427	427
YCWL0084SE	542	542	472	472
YCWL0094SE	598	598	508	508
YCWL0104SE	636	636	528	528
YCWL0118SE	627	627	524	524
YCWL0132SE	665	665	568	568
YCWL0156SE	953	953	706	706

HIGH EFFICIENCY - SI				
Weight Distribution by Model - Op. Weights (kg)				
Model	A	B	C	D
YCWL0064HE	509	509	474	474
YCWL0074HE	571	571	518	518
YCWL0084HE	601	601	530	530
YCWL0094HE	688	688	599	599
YCWL0096HE	755	755	657	657
YCWL0118HE	710	710	607	607
YCWL0126HE	879	879	708	708
YCWL0156HE	997	997	749	749

**1" Isolator Selections - CIP-**

Model	A	B	C	D
YCWL0056SE	B-Gray	B-Gray	B-Gray	B-Gray
YCWL0064SE	B-Gray	B-Gray	B-Gray	B-Gray
YCWL0074SE	B-Gray	B-Gray	B-Gray	B-Gray
YCWL0084SE	B-Black	B-Black	B-Black	B-Black
YCWL0094SE	B-Black	B-Black	B-Black	B-Black
YCWL0104SE	B-Black	B-Black	B-Black	B-Black
YCWL0118SE	B-Black	B-Black	B-Black	B-Black
YCWL0132SE	C-Black	C-Black	C-Black	C-Black
YCWL0156SE	C-Red w/ Red	C-Red w/ Red	C-Red w/ Red	C-Red w/ Red

Neoprene Selections

Model	A	B	C	D
YCWL0056SE	ND-D	ND-D	ND-D	ND-D
YCWL0064SE	ND-D	ND-D	ND-D	ND-D
YCWL0074SE	ND-D	ND-D	ND-D	ND-D
YCWL0084SE	ND-D	ND-D	ND-D	ND-D
YCWL0094SE	ND-D	ND-D	ND-D	ND-D
YCWL0104SE	ND-D	ND-D	ND-D	ND-D
YCWL0118SE	ND-D	ND-D	ND-D	ND-D
YCWL0132SE	ND-D	ND-D	ND-D	ND-D
YCWL0156SE	ND-DS	ND-DS	ND-DS	ND-DS

Seismic Isolator Selections - SLRS-2-C2-

Model	A	B	C	D
YCWL0056SE	Green	Green	Green	Green
YCWL0064SE	Green	Green	Green	Green
YCWL0074SE	Gray	Gray	Gray	Gray
YCWL0084SE	Gray	Gray	Gray	Gray
YCWL0094SE	Gray	Gray	Gray	Gray
YCWL0104SE	Gray	Gray	Gray	Gray
YCWL0118SE	Gray	Gray	Gray	Gray
YCWL0132SE	Gray	Gray	Gray	Gray
YCWL0156SE	Gray w/ Red	Gray w/ Red	Gray w/ Red	Gray w/ Red

1" Isolator Selections - CIP-

Model	A	B	C	D
YCWL0064HE	B-Black	B-Black	B-Black	B-Black
YCWL0074HE	B-Black	B-Black	B-Black	B-Black
YCWL0084HE	B-Black	B-Black	B-Black	B-Black
YCWL0094HE	C-Yellow w/ Red	C-Yellow w/ Red	C-Yellow w/ Red	C-Yellow w/ Red
YCWL0096HE	C-Yellow w/ Red	C-Yellow w/ Red	C-Yellow w/ Red	C-Yellow w/ Red
YCWL0118HE	C-Yellow w/ Red	C-Yellow w/ Red	C-Yellow w/ Red	C-Yellow w/ Red
YCWL0126HE	C-Yellow w/ Green	C-Yellow w/ Green	C-Yellow w/ Green	C-Yellow w/ Green
YCWL0156HE	C-Red w/ Red	C-Red w/ Red	C-Red w/ Red	C-Red w/ Red

Neoprene Selections

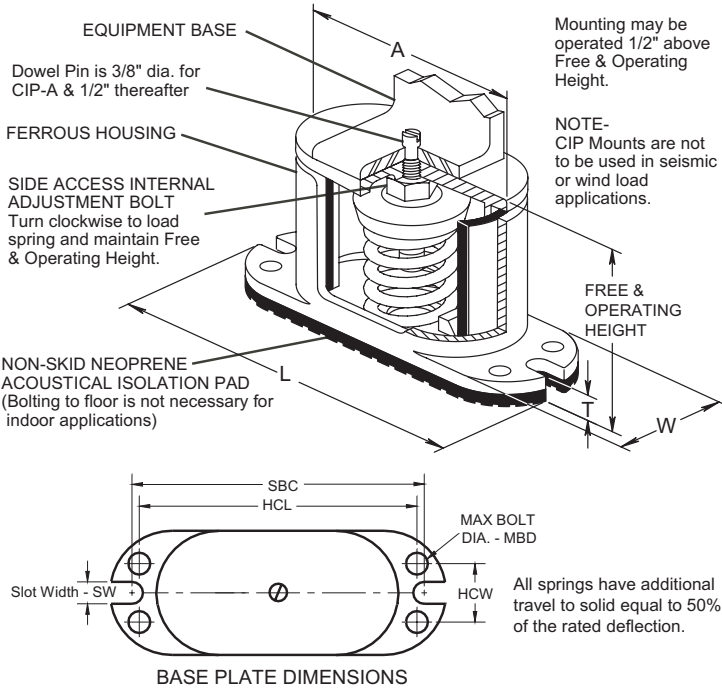
Model	A	B	C	D
YCWL0064HE	ND-D	ND-D	ND-D	ND-D
YCWL0074HE	ND-D	ND-D	ND-D	ND-D
YCWL0084HE	ND-D	ND-D	ND-D	ND-D
YCWL0094HE	ND-D	ND-D	ND-D	ND-D
YCWL0096HE	ND-DS	ND-DS	ND-DS	ND-DS
YCWL0118HE	ND-D	ND-D	ND-D	ND-D
YCWL0126HE	ND-DS	ND-DS	ND-DS	ND-DS
YCWL0156HE	ND-DS	ND-DS	ND-DS	ND-DS

Seismic Isolator Selections - SLRS-2-C2-

Model	A	B	C	D
YCWL0064HE	Gray	Gray	Gray	Gray
YCWL0074HE	Gray	Gray	Gray	Gray
YCWL0084HE	Gray	Gray	Gray	Gray
YCWL0094HE	Silver	Silver	Silver	Silver
YCWL0096HE	Silver	Silver	Silver	Silver
YCWL0118HE	Silver	Silver	Silver	Silver
YCWL0126HE	Silver	Silver	Silver	Silver
YCWL0156HE	Gray w/ Red	Gray w/ Red	Gray w/ Red	Gray w/ Red

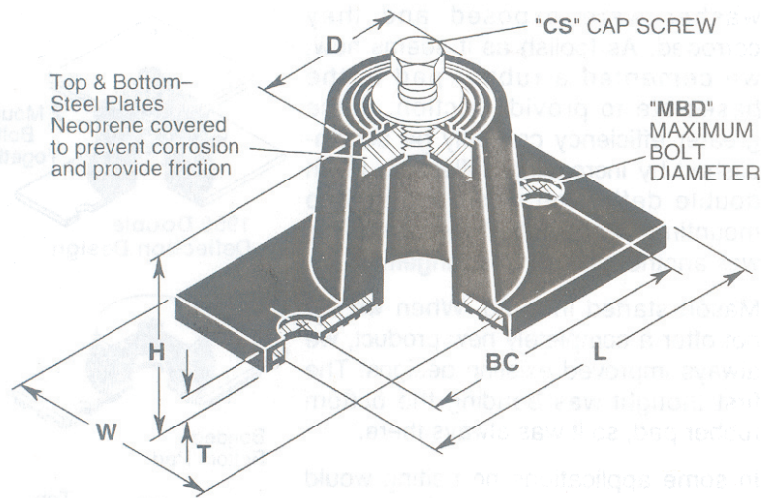
Isolator Information

Illustration shows single spring CIP-B or CIP-C mount.



FOR UNITS WITH ALL POINT LOADS LESS THAN 1404 LBS (637 KG)			
Weight Range (lbs)	Weight Range (kg)	Model Number	Color
239 to 384 lbs	108 to 174 kg	CIP-B-	Red
384 to 639 lbs	174 to 290 kg	CIP-B-	White
639 to 851 lbs	290 to 386 kg	CIP-B-	Blue
851 to 1064 lbs	386 to 483 kg	CIP-B-	Gray
1064 to 1404 lbs	483 to 637 kg	CIP-B-	Black

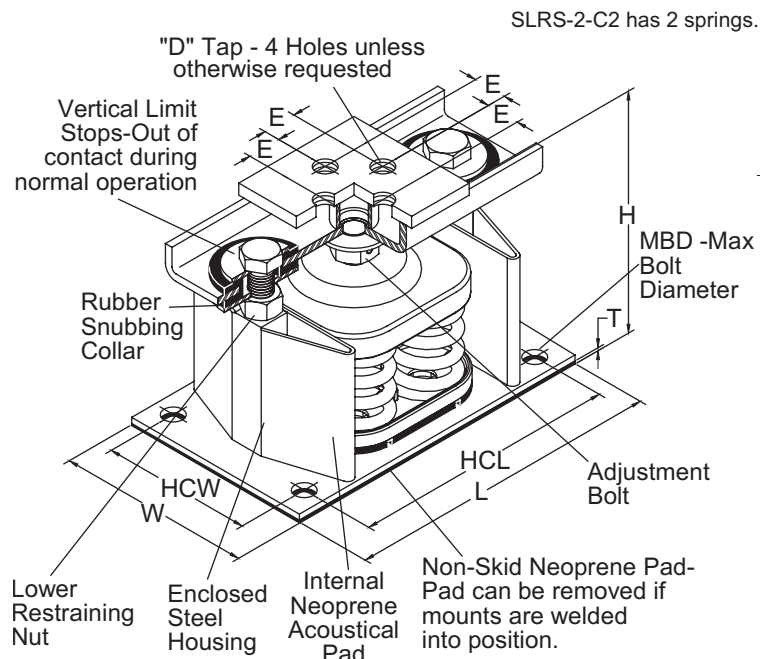
FOR UNITS WITH ANY POINT LOAD ABOVE 1404 LBS (637 KG)			
Weight Range (lbs)	Weight Range (kg)	Model Number	Color
Up to 851 lbs	Up to 386 kg	CIP-C-	Black
851 to 1149 lbs	386 to 521 kg	CIP-C-	Yellow
1149 to 1489 lbs	521 to 675 kg	CIP-C-	Black
1489 to 1786 lbs	675 to 910 kg	CIP-C-	Yellow w/ Red
1786 to 2028 lbs	910 to 920 kg	CIP-C-	Yellow w/ Green
2028 to 2254 lbs	920 to 1022 kg	CIP-C-	Red w/ Red
2254 to 2936 lbs	1022 to 1332 kg	CIP-C-	Red w/ Green



ENGLISH								
Size	D	H	L	t	W	BC	CS	MBD
ND-C	2 9/16	2 3/4	5 1/2	1/4	2 5/16	4 1/80	1/2- 13 x 1"	1/2 "
ND-D	3 3/8	2 3/4	6 1/4	5/16	4	5	1/2- 13 x 1"	1/2 "
ND-DS	4 1/2	4 3/4	7 3/8	1/4	5 1/80	6 1/80	1/2- 13 x 1"	1/2 "
SI								
ND-C	65.1	69.9	139.7	6.4	58.7	101.9	1/2- 13 x 1"	1/2 "
ND-D	85.7	69.9	158.8	7.9	101.6	127	1/2- 13 x 1"	1/2 "
ND-DS	114.3	120.7	187.3	6.4	127.3	152.7	1/2- 13 x 1"	1/2 "

Weight Range (lbs)	Weight Range (kg)	Model Number	Color
Up to 751 lbs	Up to 341 kg	ND-C	Yellow
751 to 1651 lbs	341 to 749 kg	ND-D	Yellow
1651 to 3226 lbs	749 to 1463 kg	ND-DS	Yellow

Isolator Information - Continued



ENGLISH										
SIZE	H	t	D	E	L	HCL	W	HCW	MBD	
2-C2	8 1/2	3/8	5/8	1 3/8	14	12 1/4	5 1/4	3 1/2	5/8 "	
SI										
SIZE	H	t	D	E	L	HCL	W	HCW	MBD	
2-C2	215.9	9.5	15.9	34.9	355.6	311.2	133.4	88.9	5/8 "	

*Weight Range (lbs)	Weight Range (kg)	Model Number	Color
Up to 358 lbs	Up to 162 kg	SLRS-2-C2-	Red
358 to 443 lbs	162 to 201 kg	SLRS-2-C2-	White
443 to 582 lbs	201 to 264 kg	SLRS-2-C2-	Black
582 to 783 lbs	264 to 335 kg	SLRS-2-C2-	Blue
783 to 1038 lbs	335 to 471 kg	SLRS-2-C2-	Green
1038 to 1497 lbs	471 to 679 kg	SLRS-2-C2-	Gray
1497 to 2058 lbs	679 to 933 kg	SLRS-2-C2-	Silver
2058 to 2619 lbs	933 to 1188 kg	SLRS-2-C2-	Gray w/ red
2619 to 3180 lbs	1188 to 1442 kg	SLRS-2-C2-	Silver w/ red

Sound Data

BASE UNITS									
YCWL Standard Efficiency	ARI 575 Sound Pressure Levels (dB re: 20 microPascals)								
	63	125	250	500	1000	2000	4000	8000	dBA
0056SE	58	47	51	67	66	65	59	55	71
0064SE	59	52	54	68	68	69	62	53	74
0074SE	60	56	63	70	70	75	68	57	78
0084SE	60	58	66	71	72	77	70	59	80
0094SE	61	57	66	72	76	78	70	60	82
0104SE	61	56	67	73	79	79	70	60	83
0118SE	65	67	74	77	78	78	70	59	83
0132SE	68	70	77	79	78	78	70	57	83
0156SE	63	58	68	75	80	80	72	62	84

YCWL High Efficiency	63	125	250	500	1000	2000	4000	8000	dBA
0064HE	59	52	54	68	68	69	62	53	74
0074HE	60	56	63	70	70	75	68	57	78
0084HE	60	58	66	71	72	77	70	59	80
0094HE	61	57	66	72	76	78	70	60	82
0096HE	61	54	55	69	70	71	64	55	75
0118HE	65	67	74	77	78	78	70	59	83
0126HE	62	59	68	73	73	79	72	61	82
0156HE	63	58	68	75	80	80	72	62	84

Compressor Acoustic Blankets Installed									
YCWL Standard Efficiency	ARI 575 Sound Pressure Levels (dB re: 20 microPascals)								
	63	125	250	500	1000	2000	4000	8000	dBA
0056SE	58	47	50	65	61	59	53	50	66
0064SE	59	52	53	66	63	63	56	48	69
0074SE	60	56	62	68	65	69	62	52	72
0084SE	60	58	65	69	67	71	64	54	74
0094SE	61	57	65	70	71	72	64	55	76
0104SE	61	56	66	71	74	73	64	55	77
0118SE	65	67	73	75	73	72	64	54	78
0132SE	68	70	76	77	73	72	64	52	78
0156SE	63	58	67	73	75	74	66	57	79

YCWL High Efficiency	63	125	250	500	1000	2000	4000	8000	dBA
0064HE	59	52	53	66	63	63	56	48	69
0074HE	60	56	62	68	65	69	62	52	72
0084HE	60	58	65	69	67	71	64	54	74
0094HE	61	57	65	70	71	72	64	55	76
0096HE	61	54	54	67	65	65	58	50	70
0118HE	65	67	73	75	73	72	64	54	78
0126HE	62	59	67	71	68	73	66	56	76
0156HE	63	58	67	73	75	74	66	57	79

Unit Dimensions - English

NOTES:

1. Recommended service clearances.

Rear to wall: 20" (508mm)

Front to wall: 36" (915mm)

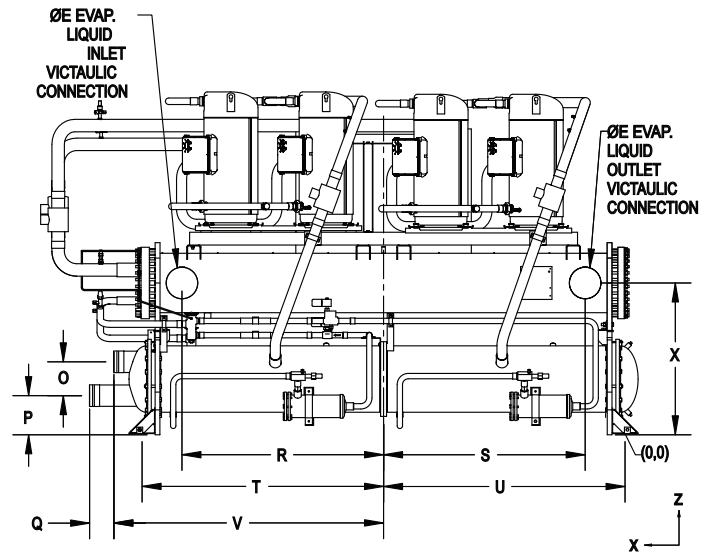
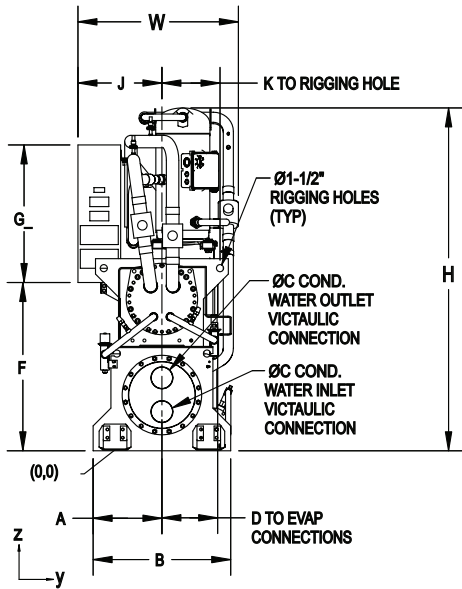
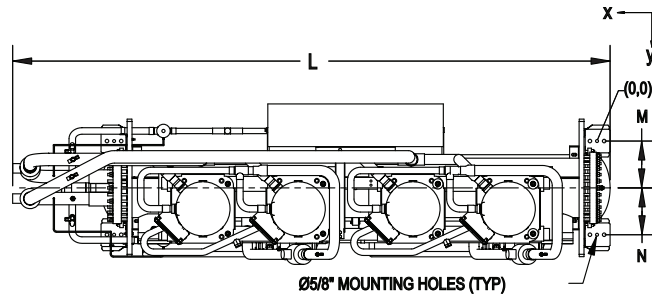
Top: 43" (1092mm)

Tube cleaning and removal: 132" (3353 mm) either end

2. Relief valve connection sizes.

Low side (suction line): 1/2" flare

High side (condenser): 1" NPTI



Standard Efficiency (SE)

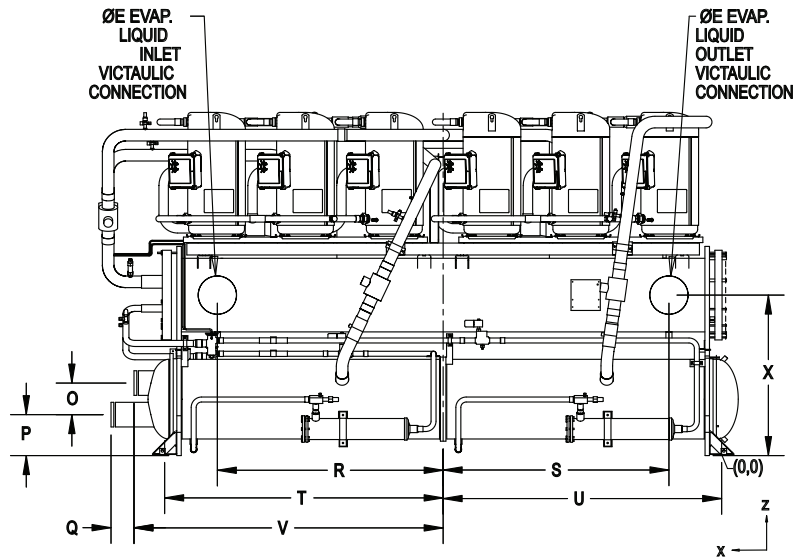
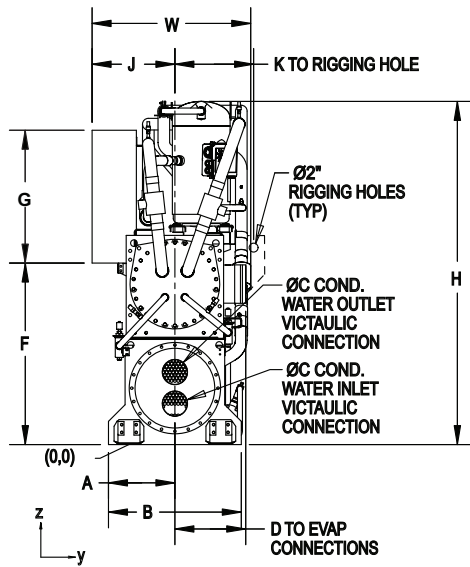
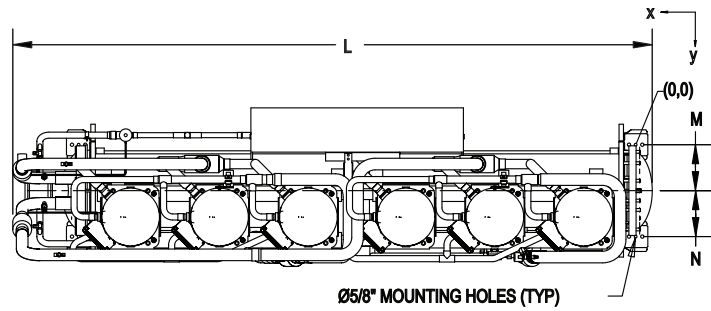
YCWL (4 Comp)	0056SE	0064SE	0074SE	0084SE	0094SE	0104SE	0118SE	0132SE
W	33 7/8	33 7/8	33 7/8	33 7/8	33 7/8	33 7/8	33 7/8	33 7/8
H	64 1/2	64 1/2	69	69	72 1/4	71 3/4	71 3/4	74 1/2
L	126	126	126	126	126	124 1/8	124 1/8	123 7/8
A	14 1/2	14 1/2	14 1/2	14 1/2	14 1/2	14 1/2	14 1/2	14 1/2
B	29	29	29	29	29	29	29	29
C	4	4	4	4	4	4	4	5
D	11 3/4	11 3/4	11 3/4	15 1/2	11 3/4	15 1/2	15 1/2	16 1/16
E	6	6	6	6	6	6	6	8
F	35 1/2	35 1/2	35 1/2	35 1/2	35 1/2	38 1/2	38 1/2	40
G	29	29	29	29	29	29	29	29
J	17 11/16	17 11/16	17 11/16	17 11/16	17 11/16	17 11/16	17 11/16	17 11/16
K	12 1/4	12 1/4	12 1/4	8 15/16	12 1/4	12 1/4	12 1/4	12 3/4
M	9 7/8	9 7/8	9 7/8	9 7/8	9 7/8	9 7/8	9 7/8	9 7/8
N	9 7/8	9 7/8	9 7/8	9 7/8	9 7/8	9 7/8	9 7/8	9 7/8
O	7 1/8	7 1/8	7 1/8	7 1/8	7 1/8	7 1/8	7 1/8	7 1/8
P	8 1/4	8 1/4	8 1/4	8 1/4	8 1/4	8 1/4	8 1/4	8 1/4
Q	5 1/8	5 1/8	5 1/8	5 1/8	5 1/8	5 1/8	5 1/8	5 1/4
R	42 1/2	42 1/2	42 1/2	42 1/2	42 1/2	42 1/2	42 1/2	42 1/2
S	42 1/2	42 1/2	42 1/2	42 1/2	42 1/2	42 1/2	42 1/2	42 1/2
T	50 7/8	50 7/8	50 7/8	50 15/16	50 15/16	50 15/16	50 15/16	50 15/16
U	50 7/8	50 7/8	50 7/8	50 15/16	50 15/16	50 15/16	50 15/16	50 15/16
V	56 7/8	56 7/8	56 7/8	56 7/8	56 7/8	56 7/8	56 7/8	57 5/16
X	32	32	32	30 3/8	32	32	32	33 1/4

High Efficiency (HE)

0064HE	0074HE	0084HE	0094HE	0118HE
33 7/8	33 7/8	33 7/8	33 7/8	33 7/8
64 1/2	74 5/8	74 5/8	76 5/8	76 5/8
126	123 3/8	123 3/8	124 3/8	124 3/8
14 1/2	14 1/2	14 1/2	15	15
29	29	29	30	30
4	4	4	5	5
11 3/4	16 1/16	16 1/16	16 1/16	16 1/16
6	8	8	8	8
35 1/2	39 7/8	39 7/8	41 7/8	41 7/8
29	29	29	29	29
17 11/16	17 11/16	17 11/16	17 11/16	17 11/16
12 1/4	12 3/4	12 3/4	12 3/4	12 3/4
9 7/8	9 7/8	9 7/8	9 7/8	9 7/8
9 7/8	9 7/8	9 7/8	9 7/8	9 7/8
7 1/8	7 1/8	7 1/8	7 1/8	7 1/8
8 1/4	8 1/4	8 1/4	9 1/4	9 1/4
5 1/8	5 1/8	5 1/8	5 3/16	5 3/16
42 1/2	41 1/2	41 1/2	41 1/2	41 1/2
42 1/2	41 1/2	41 1/2	41 1/2	41 1/2
50 15/16	50 15/16	50 15/16	50 15/16	50 15/16
50 15/16	50 15/16	50 15/16	50 15/16	50 15/16
56 7/8	56 7/8	56 7/8	57 7/8	57 7/8
32	33 1/4	33 1/4	36 1/4	36 1/4

NOTES:

- Recommended service clearances.
 Rear to wall: 20" (508mm)
 Front to wall: 36" (915mm)
 Top: 43" (1092mm)
 Tube cleaning and removal: 156" (3963 mm) either end
- Relief valve connection sizes.
 Low side (suction line): 1/2" flare
 High side (condenser): 1" NPTI



Standard Efficiency (SE)

YCWL (6 Comp)	0156SE
W	35 7/8
H	76 3/4
L	144 1/2
A	15
B	30
C	5
D	16
E	8
F	41
G	30
J	18 11/16
K	17 13/16
M	10 3/8
N	10 3/8
O	7 1/8
P	9 1/4
Q	5 3/16
R	51
S	51
T	62 7/8
U	62 7/8
V	69 13/16
X	36 1/4

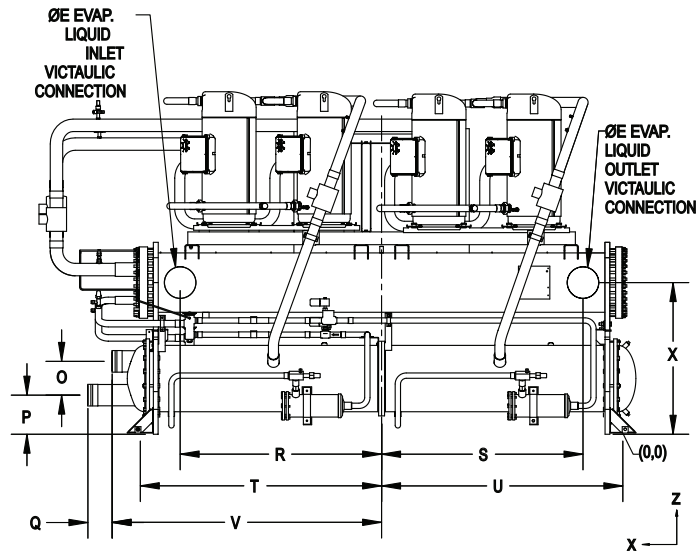
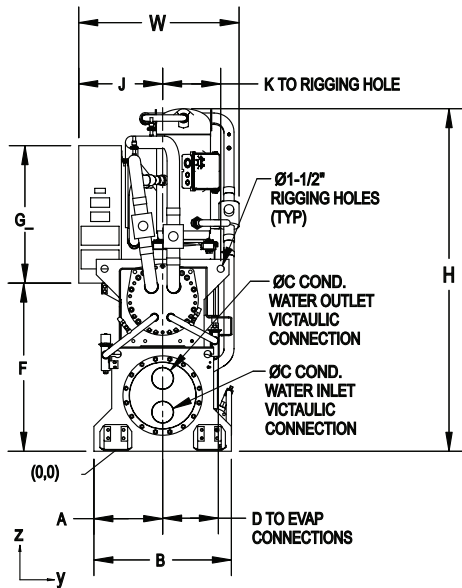
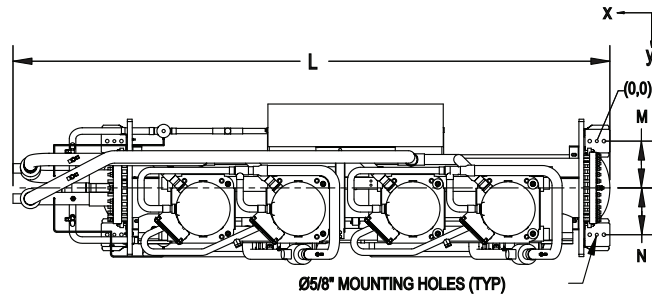
High Efficiency (HE)

0096HE	0126HE	0156HE
35 7/8	35 7/8	35 7/8
72 1/8	77 5/8	77 1/2
144 1/2	144 1/2	144 1/2
15	15	15
30	30	30
5	5	5
16	16	16
8	8	8
41	41	41
30	30	30
18 11/16	18 11/16	18 11/16
17 13/16	17 13/16	17 13/16
10 3/8	10 3/8	10 3/8
10 3/8	10 3/8	10 3/8
7 1/8	7 1/8	7 1/8
9 1/4	9 1/4	9 1/4
5 3/16	5 3/16	5 3/16
51	51	51
51	51	51
62 7/8	62 7/8	62 7/8
62 7/8	62 7/8	62 7/8
69 13/16	69 13/16	69 13/16
36 1/4	36 1/4	36 1/4

Unit Dimensions - SI

NOTES:

- Recommended service clearances.
Rear to wall: 20" (508mm)
Front to wall: 36" (915mm)
Top: 43" (1092mm)
Tube cleaning and removal: 132" (3353 mm) either end
- Relief valve connection sizes.
Low side (suction line): 1/2" flare
High side (condenser): 1" NPTI

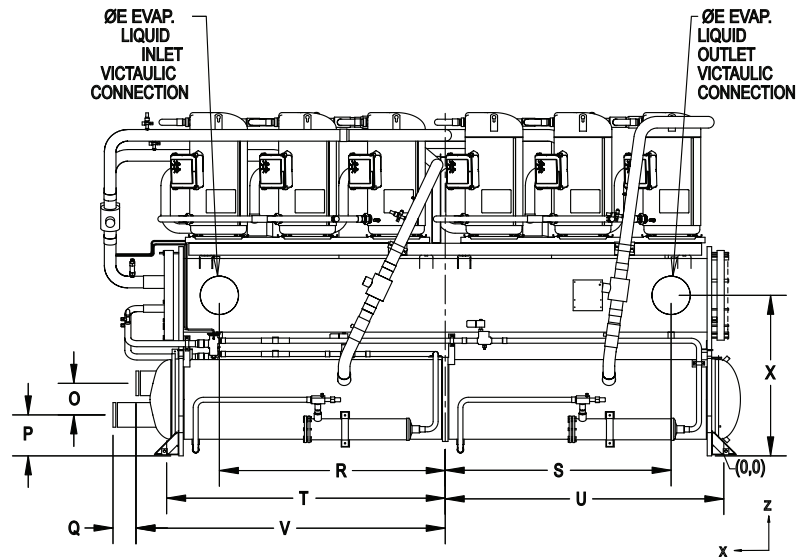
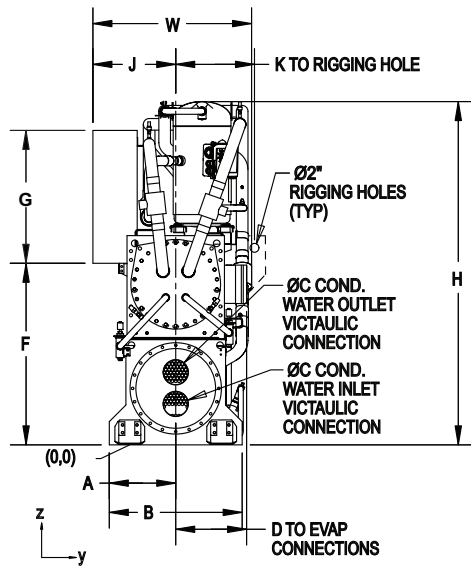
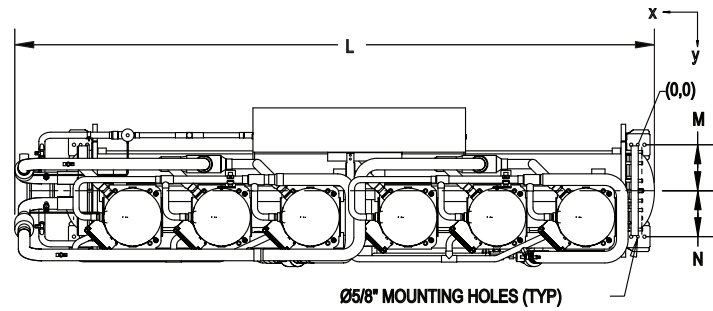


YCWL (4 Comp)	Standard Efficiency (SE)							
	0056SE	0064SE	0074SE	0084SE	0094SE	0104SE	0118SE	0132SE
W	860	860	860	860	860	860	860	860
H	1638	1638	1753	1753	1835	1822	1822	1892
L	3200	3200	3200	3200	3200	3153	3153	3146
A	368	368	368	368	368	368	368	368
B	737	737	737	737	737	737	737	737
C	102	102	102	102	102	102	102	127
D	298	298	298	394	298	394	394	408
E	152	152	152	152	152	152	152	203
F	902	902	902	902	902	978	978	1016
G	737	737	737	737	737	737	737	737
J	449	449	449	449	449	449	449	449
K	311	311	311	227	311	311	311	324
M	251	251	251	251	251	251	251	251
N	251	251	251	251	251	251	251	251
O	181	181	181	181	181	181	181	181
P	210	210	210	210	210	210	210	210
Q	130	130	130	130	130	130	130	133
R	1080	1080	1080	1080	1080	1080	1080	1080
S	1080	1080	1080	1080	1080	1080	1080	1080
T	1292	1292	1292	1294	1294	1294	1294	1294
U	1292	1292	1292	1294	1294	1294	1294	1294
V	1445	1445	1445	1445	1445	1445	1445	1456
X	813	813	813	772	813	813	813	845

High Efficiency (HE)				
0064HE	0074HE	0084HE	0094HE	0118HE
860	860	860	860	860
1638	1895	1895	1946	1946
3200	3134	3134	3159	3159
368	368	368	381	381
737	737	737	762	762
102	102	102	127	127
298	408	408	408	408
152	203	203	203	203
902	1013	1013	1064	1064
737	737	737	737	737
449	449	449	449	449
311	324	324	324	324
251	251	251	251	251
251	251	251	251	251
181	181	181	181	181
210	210	210	235	235
130	130	130	132	132
1080	1054	1054	1054	1054
1080	1054	1054	1054	1054
1294	1294	1294	1294	1294
1294	1294	1294	1294	1294
1445	1445	1445	1470	1470
813	845	845	921	921

NOTES:

- Recommended service clearances.
 Rear to wall: 20" (508mm)
 Front to wall: 36" (915mm)
 Top: 43" (1092mm)
 Tube cleaning and removal: 156" (3963 mm) either end
- Relief valve connection sizes.
 Low side (suction line): 1/2" flare
 High side (condenser): 1" NPTI



YCWL (6 Comp)	Standard Efficiency (SE)
	0156SE
W	911
H	1949
L	3670
A	381
B	762
C	127
D	406
E	203
F	1041
G	762
J	475
K	452
M	264
N	264
O	181
P	235
Q	132
R	1295
S	1295
T	1597
U	1597
V	1773
X	921

High Efficiency (HE)		
0096HE	0126HE	0156HE
911	911	911
1832	1972	1969
3670	3670	3670
381	381	381
762	762	762
127	127	127
406	406	406
203	203	203
1041	1041	1041
762	762	762
475	475	475
452	452	452
264	264	264
264	264	264
181	181	181
235	235	235
132	132	132
1295	1295	1295
1295	1295	1295
1597	1597	1597
1597	1597	1597
1773	1773	1773
921	921	921

Electrical Data

STANDARD EFFICIENCY W/O OPTIONAL EXTERNAL COMPRESSOR OVERLOADS

MODEL YCWL	VOLT	HZ	MINIMUM CIRCUIT AMPS MCA	MIN N/F DISC SW MDSW	MIN DUAL ELEM FUSE & MIN CB	MAX DUAL ELEM FUSE & MAX CB	LUGS PER PHASE					
							DISCONNECT SWITCH LUG SIZE (OPT)		CIRCUIT BREAKER LUG SIZE (OPT)		TERMINAL BLOCK LUG SIZE (STD)	
							QTY/Ø	LUG INFO	QTY/Ø	LUG INFO	QTY/Ø	LUG INFO
0056SE	208	60	218	250	250	250	1	# 6 - 350 KCM	1	# 6 - 350 KCM	1	# 10 - 300 KCM
	230	60	218	250	250	250	1	# 6 - 350 KCM	1	# 6 - 350 KCM	1	# 10 - 300 KCM
	380	60	114	150	125	125	1	# 4 - 300 KCM	1	# 2 - 4/0 AWG	1	#10 - 3/0AWG
	460	60	98	150	110	110	1	# 4 - 300 KCM	1	# 14 - 1/0 AWG	1	# 12 - 1 AWG
	575	60	85	100	90	100	1	# 4 - 300 KCM	1	# 14 - 1/0 AWG	1	# 12 - 1 AWG
0064SE	208	60	237	400	300	300	1	250 - 500 KCM	1	250 - 500 KCM	1	# 4 - 500 KCM
	230	60	237	400	300	300	1	250 - 500 KCM	1	250 - 500 KCM	1	# 4 - 500 KCM
	380	60	153	200	175	175	1	# 6 - 350 KCM	1	# 4 - 300 KCM	1	# 10 - 300 KCM
	460	60	114	150	125	125	1	# 6 - 350 KCM	1	# 2 - 4/0 AWG	1	# 10 - 300 KCM
	575	60	101	150	110	110	1	# 6 - 350 KCM	1	# 2 - 4/0 AWG	1	# 10 - 300 KCM
0074SE	208	60	278	400	300	350	1	250 - 500 KCM	1	250 - 500 KCM	1	# 4 - 500 KCM
	230	60	278	400	300	350	1	250 - 500 KCM	1	250 - 500 KCM	1	# 4 - 500 KCM
	380	60	158	200	175	175	1	# 6 - 350 KCM	1	# 4 - 300 KCM	1	# 10 - 300 KCM
	460	60	122	150	150	150	1	# 6 - 350 KCM	1	# 2 - 4/0 AWG	1	# 10 - 300 KCM
	575	60	103	150	110	125	1	# 6 - 350 KCM	1	# 2 - 4/0 AWG	1	# 10 - 300 KCM
0084SE	208	60	314	400	350	350	1	250 - 500 KCM	1	250 - 500 KCM	1	# 4 - 500 KCM
	230	60	314	400	350	350	1	250 - 500 KCM	1	250 - 500 KCM	1	# 4 - 500 KCM
	380	60	162	200	175	200	1	# 6 - 350 KCM	1	# 4 - 300 KCM	1	# 10 - 300 KCM
	460	60	129	150	150	150	1	# 6 - 350 KCM	1	# 2 - 4/0 AWG	1	# 10 - 300 KCM
	575	60	105	150	125	125	1	# 6 - 350 KCM	1	# 2 - 4/0 AWG	1	# 10 - 300 KCM
0094SE	208	60	348	400	400	400	1	250 - 500 KCM	1	250 - 500 KCM	2	# 10 - 300 KCM
	230	60	348	400	400	400	1	250 - 500 KCM	1	250 - 500 KCM	2	# 10 - 300 KCM
	380	60	199	250	225	250	1	# 6 - 350 KCM	1	# 6 - 350 KCM	1	# 10 - 300 KCM
	460	60	157	200	175	200	1	# 6 - 350 KCM	1	# 4 - 300 KCM	1	# 10 - 300 KCM
	575	60	121	150	150	150	1	# 6 - 350 KCM	1	# 2 - 4/0 AWG	1	# 10 - 300 KCM
0104SE	208	60	379	600	450	450	2	250 - 500 KCM	2	250 - 500 KCM	2	# 10 - 300 KCM
	230	60	379	600	450	450	2	250 - 500 KCM	2	250 - 500 KCM	2	# 10 - 300 KCM
	380	60	232	400	250	250	1	250 - 500 KCM	1	250 - 500 KCM	1	# 4 - 500 KCM
	460	60	182	200	200	225	1	# 6 - 350 KCM	1	# 6 - 350 KCM	1	# 4 - 500 KCM
	575	60	136	150	150	150	1	# 6 - 350 KCM	1	2AWG - 4/0	1	# 4 - 500 KCM
0118SE	208	60	425	600	500	500	2	250 - 500 KCM	2	250 - 500 KCM	2	# 10 - 300 KCM
	230	60	425	600	500	500	2	250 - 500 KCM	2	250 - 500 KCM	2	# 10 - 300 KCM
	380	60	265	400	300	300	1	250 - 500 KCM	1	250 - 500 KCM	1	# 4 - 500 KCM
	460	60	208	250	225	250	1	# 6 - 350 KCM	1	# 6 - 350 KCM	1	# 4 - 500 KCM
	575	60	175	200	200	200	1	# 6 - 350 KCM	1	# 6 - 350 KCM	1	# 4 - 500 KCM
0132SE	208	60	466	600	500	500	2	250 - 500 KCM	2	250 - 500 KCM	2	# 4 - 500 KCM
	230	60	466	600	500	500	2	250 - 500 KCM	2	250 - 500 KCM	2	# 4 - 500 KCM
	380	60	294	400	350	350	1	250 - 500 KCM	1	250 - 500 KCM	1	# 4 - 500 KCM
	460	60	232	400	250	250	1	250 - 500 KCM	1	250 - 500 KCM	1	# 4 - 500 KCM
	575	60	210	250	225	250	1	# 6 - 350 KCM	1	# 6 - 350 KCM	1	# 4 - 500 KCM
0156SE	208	60	557	800	600	600	2	250 - 500 KCM	2	250 - 500 KCM	2	# 4 - 500 KCM
	230	60	557	800	600	600	2	250 - 500 KCM	2	250 - 500 KCM	2	# 4 - 500 KCM
	380	60	341	400	400	400	1	250 - 500 KCM	1	250 - 500 KCM	2	# 10 - 300 KCM
	460	60	268	400	300	300	1	250 - 500 KCM	1	250 - 500 KCM	1	# 4 - 500 KCM
	575	60	201	250	225	225	1	250 - 500 KCM	1	250 - 500 KCM	1	# 4 - 500 KCM

STANDARD EFFICIENCY W/O OPTIONAL EXTERNAL COMPRESSOR OVERLOADS

SYSTEM # 1						SYSTEM # 2					
COMPR 1		COMPR 2		COMPR 3		COMPR 1		COMPR 2		COMPR 3	
RLA	LRA	RLA	LRA	RLA	LRA	RLA	LRA	RLA	LRA	RLA	LRA
41.1	270	41.1	270			41.1	270	41.1	270		
41.1	270	41.1	270			41.1	270	41.1	270		
24.9	163	24.9	163			24.9	163	24.9	163		
20.5	135	20.5	135			20.5	135	20.5	135		
16.4	108	16.4	108			16.4	108	16.4	108		
52.9	425	52.9	425			52.9	425	52.9	425		
52.9	425	52.9	425			52.9	425	52.9	425		
36.0	239	36.0	239			36.0	239	36.0	239		
25.1	192	25.1	192			25.1	192	25.1	192		
23.3	154	23.3	154			23.3	154	23.3	154		
60.8	450	60.8	450			52.9	425	52.9	425		
60.8	450	60.8	450			52.9	425	52.9	425		
36.8	272	36.8	272			36.0	239	36.0	239		
30.4	225	30.4	225			25.1	192	25.1	192		
24.3	180	24.3	180			23.3	154	23.3	154		
60.8	450	60.8	450			60.8	450	60.8	450		
60.8	450	60.8	450			60.8	450	60.8	450		
36.8	272	36.8	272			36.8	272	36.8	272		
30.4	225	30.4	225			30.4	225	30.4	225		
24.3	180	24.3	180			24.3	180	24.3	180		
85.8	500	85.8	500			60.8	450	60.8	450		
85.8	500	85.8	500			60.8	450	60.8	450		
51.9	303	51.9	303			36.8	272	36.8	272		
42.9	250	42.9	250			30.4	225	30.4	225		
34.3	200	34.3	200			24.3	180	24.3	180		
85.8	500	85.8	500			85.8	500	85.8	500		
85.8	500	85.8	500			85.8	500	85.8	500		
51.9	303	51.9	303			51.9	303	51.9	303		
42.9	250	42.9	250			42.9	250	42.9	250		
34.3	200	34.3	200			34.3	200	34.3	200		
108.8	620	108.8	620			85.8	500	85.8	500		
108.8	620	108.8	620			85.8	500	85.8	500		
65.8	375	65.8	375			51.9	303	51.9	303		
54.4	310	54.4	310			42.9	250	42.9	250		
43.5	248	43.5	248			34.3	200	34.3	200		
108.8	620	108.8	620			108.8	620	108.8	620		
108.8	620	108.8	620			108.8	620	108.8	620		
65.8	375	65.8	375			65.8	375	65.8	375		
54.4	310	54.4	310			54.4	310	54.4	310		
43.5	248	43.5	248			43.5	248	43.5	248		
85.8	500	85.8	500	85.8	500	85.8	500	85.8	500	85.8	500
85.8	500	85.8	500	85.8	500	85.8	500	85.8	500	85.8	500
51.9	303	51.9	303	51.9	303	51.9	303	51.9	303	51.9	303
42.9	250	42.9	250	42.9	250	42.9	250	42.9	250	42.9	250
34.3	200	34.3	200	34.3	200	34.3	200	34.3	200	34.3	200

Electrical Data – continued

HIGH EFFICIENCY W/O OPTIONAL EXTERNAL COMPRESSOR OVERLOADS

MODEL YCWL	VOLT	HZ	MINIMUM CIRCUIT AMPS MCA	MIN N/F DISC SW MDSW	MIN DUAL ELEM FUSE & MIN CB	MAX DUAL ELEM FUSE & MAX CB	LUGS PER PHASE					
							DISCONNECT SWITCH LUG SIZE (OPT)		CIRCUIT BREAKER LUG SIZE (OPT)		TERMINAL BLOCK LUG SIZE (STD)	
							QTY/ ∅	LUG INFO	QTY/ ∅	LUG INFO	QTY/ ∅	LUG INFO
0064HE	208	60	237	400	300	300	1	250 - 500 KCM	1	250 - 500 KCM	1	# 4 - 500 KCM
	230	60	237	400	300	300	1	250 - 500 KCM	1	250 - 500 KCM	1	# 4 - 500 KCM
	380	60	153	200	175	175	1	# 6 - 350 KCM	1	# 4 - 300 KCM	1	# 10 - 300 KCM
	460	60	114	150	125	125	1	# 6 - 350 KCM	1	# 2 - 4/0 AWG	1	# 10 - 300 KCM
	575	60	101	150	110	110	1	# 6 - 350 KCM	1	# 2 - 4/0 AWG	1	# 10 - 300 KCM
0074HE	208	60	278	400	300	350	1	250 - 500 KCM	1	250 - 500 KCM	1	# 4 - 500 KCM
	230	60	278	400	300	350	1	250 - 500 KCM	1	250 - 500 KCM	1	# 4 - 500 KCM
	380	60	158	200	175	175	1	# 6 - 350 KCM	1	# 4 - 300 KCM	1	# 10 - 300 KCM
	460	60	122	150	150	150	1	# 6 - 350 KCM	1	# 2 - 4/0 AWG	1	# 10 - 300 KCM
	575	60	103	150	110	125	1	# 6 - 350 KCM	1	# 2 - 4/0 AWG	1	# 10 - 300 KCM
0084HE	208	60	314	400	350	350	1	250 - 500 KCM	1	250 - 500 KCM	1	250 - 500 KCM
	230	60	314	400	350	350	1	250 - 500 KCM	1	250 - 500 KCM	1	250 - 500 KCM
	380	60	162	200	175	200	1	# 6 - 350 KCM	1	# 4 - 300 KCM	1	# 10 - 300 KCM
	460	60	129	150	150	150	1	# 6 - 350 KCM	1	# 2 - 4/0 AWG	1	# 10 - 300 KCM
	575	60	105	150	125	125	1	# 6 - 350 KCM	1	# 2 - 4/0 AWG	1	# 10 - 300 KCM
0094HE	208	60	348	400	400	400	1	250 - 500 KCM	1	250 - 500 KCM	2	# 10 - 300 KCM
	230	60	348	400	400	400	1	250 - 500 KCM	1	250 - 500 KCM	2	# 10 - 300 KCM
	380	60	199	250	225	250	1	# 6 - 350 KCM	1	# 6 - 350 KCM	1	# 10 - 300 KCM
	460	60	157	200	175	200	1	# 6 - 350 KCM	1	# 4 - 300 KCM	1	# 10 - 300 KCM
	575	60	121	150	150	150	1	# 6 - 350 KCM	1	# 2 - 4/0 AWG	1	# 10 - 300 KCM
0096HE	208	60	349	400	400	400	1	250 - 500 KCM	1	250 - 500 KCM	2	# 10 - 300 KCM
	230	60	349	400	400	400	1	250 - 500 KCM	1	250 - 500 KCM	2	# 10 - 300 KCM
	380	60	225	250	250	250	1	# 6 - 350 KCM	1	# 6 - 350 KCM	1	# 4 - 500 KCM
	460	60	168	200	175	175	1	# 6 - 350 KCM	1	# 4 - 300 KCM	1	# 4 - 500 KCM
	575	60	148	200	175	175	1	# 6 - 350 KCM	1	# 6 - 350 KCM	1	# 4 - 500 KCM
0118HE	208	60	417	600	500	500	2	250 - 500 KCM	2	250 - 500 KCM	2	# 10 - 300 KCM
	230	60	417	600	500	500	2	250 - 500 KCM	2	250 - 500 KCM	2	# 10 - 300 KCM
	380	60	265	400	300	300	1	250 - 500 KCM	1	250 - 500 KCM	1	# 4 - 500 KCM
	460	60	208	250	225	250	1	# 6 - 350 KCM	1	# 6 - 350 KCM	1	# 4 - 500 KCM
	575	60	175	200	200	200	1	# 6 - 350 KCM	1	# 6 - 350 KCM	1	# 4 - 500 KCM
0126HE	208	60	462	600	500	500	3	# 2/0 - 400 KCM	3	250 - 500 KCM	2	# 10 - 300 KCM
	230	60	462	600	500	500	3	# 2/0 - 400 KCM	3	250 - 500 KCM	2	# 10 - 300 KCM
	380	60	239	400	250	250	1	250 - 500 KCM	1	# 6 - 350 KCM	1	# 4 - 500 KCM
	460	60	190	250	200	200	1	# 6 - 350 KCM	1	# 6 - 350 KCM	1	# 4 - 500 KCM
	575	60	154	200	175	175	1	# 6 - 350 KCM	1	# 6 - 350 KCM	1	# 4 - 500 KCM
0156HE	208	60	557	800	600	600	2	250 - 500 KCM	2	250 - 500 KCM	2	# 4 - 500 KCM
	230	60	557	800	600	600	2	250 - 500 KCM	2	250 - 500 KCM	2	# 4 - 500 KCM
	380	60	341	400	400	400	1	250 - 500 KCM	1	250 - 500 KCM	2	# 10 - 300 KCM
	460	60	268	400	300	300	1	250 - 500 KCM	1	250 - 500 KCM	1	# 4 - 500 KCM
	575	60	201	250	225	225	1	250 - 500 KCM	1	250 - 500 KCM	1	# 4 - 500 KCM

HIGH EFFICIENCY W/O OPTIONAL EXTERNAL COMPRESSOR OVERLOADS

SYSTEM # 1						SYSTEM # 2					
COMPR 1		COMPR 2		COMPR 3		COMPR 1		COMPR 2		COMPR 3	
RLA	LRA	RLA	LRA	RLA	LRA	RLA	LRA	RLA	LRA	RLA	LRA
55.8	425	55.8	425			55.8	425	55.8	425		
55.8	425	55.8	425			55.8	425	55.8	425		
36.0	239	36.0	239			36.0	239	36.0	239		
26.9	187	26.9	187			26.9	187	26.9	187		
23.7	148	23.7	148			23.7	148	23.7	148		
73.9	505	73.9	505			55.8	425	55.8	425		
73.9	505	73.9	505			55.8	425	55.8	425		
38.2	290	38.2	290			36.0	239	36.0	239		
30.4	225	30.4	225			26.9	187	26.9	187		
24.6	180	24.6	180			23.7	148	23.7	148		
73.9	505	73.9	505			73.9	505	73.9	505		
73.9	505	73.9	505			73.9	505	73.9	505		
38.2	290	38.2	290			38.2	290	38.2	290		
30.4	225	30.4	225			30.4	225	30.4	225		
24.6	180	24.6	180			24.6	180	24.6	180		
89.1	500	89.1	500			73.9	505	73.9	505		
89.1	500	89.1	500			73.9	505	73.9	505		
54.5	305	54.5	305			38.2	290	38.2	290		
42.9	250	42.9	250			30.4	225	30.4	225		
32.1	198	32.1	198			24.6	180	24.6	180		
55.8	425	55.8	425	55.8	425	55.8	425	55.8	425	55.8	425
55.8	425	55.8	425	55.8	425	55.8	425	55.8	425	55.8	425
36.0	239	36.0	239	36.0	239	36.0	239	36.0	239	36.0	239
26.9	187	26.9	187	26.9	187	26.9	187	26.9	187	26.9	187
23.7	148	23.7	148	23.7	148	23.7	148	23.7	148	23.7	148
109.6	599	109.6	599			89.1	500	89.1	500		
109.6	599	109.6	599			89.1	500	89.1	500		
69.2	358	69.2	358			54.5	305	54.5	305		
54.5	310	54.5	310			42.9	250	42.9	250		
49.4	239	49.4	239			32.1	198	32.1	198		
73.9	505	73.9	505	73.9	505	73.9	505	73.9	505	73.9	505
73.9	505	73.9	505	73.9	505	73.9	505	73.9	505	73.9	505
38.2	290	38.2	290	38.2	290	38.2	290	38.2	290	38.2	290
30.4	225	30.4	225	30.4	225	30.4	225	30.4	225	30.4	225
24.6	180	24.6	180	24.6	180	24.6	180	24.6	180	24.6	180
89.1	500	89.1	500	89.1	500	89.1	500	89.1	500	89.1	500
89.1	500	89.1	500	89.1	500	89.1	500	89.1	500	89.1	500
54.5	305	54.5	305	54.5	305	54.5	305	54.5	305	54.5	305
42.9	250	42.9	250	42.9	250	42.9	250	42.9	250	42.9	250
32.1	198	32.1	198	32.1	198	32.1	198	32.1	198	32.1	198

Electrical Data – continued

STANDARD EFFICIENCY - W/ OPTIONAL EXTERNAL COMPRESSOR OVERLOADS

MODEL YCWL	VOLT	HZ	MINIMUM CIRCUIT AMPS MCA	MIN N/F DISC SW MDSW	MIN DUAL ELEM FUSE & MIN CB	MAX DUAL ELEM FUSE & MAX CB	LUGS PER PHASE					
							DISCONNECT SWITCH LUG SIZE (OPT)		CIRCUIT BREAKER LUG SIZE (OPT)		TERMINAL BLOCK LUG SIZE (STD)	
							QTY/ Ø	LUG INFO	QTY/ Ø	LUG INFO	QTY/ Ø	LUG INFO
0056SE	208	60	145	200	175	175	1	# 6 - 350 KCM	1	# 4 - 300 KCM	1	# 10 - 300 KCM
	230	60	145	200	175	175	1	# 6 - 350 KCM	1	# 4 - 300 KCM	1	# 10 - 300 KCM
	380	60	84	100	90	100	1	# 14 - 1/0 AWG	1	# 14 - 1/0 AWG	1	# 12 - 1 AWG
	460	60	69	100	80	80	1	# 14 - 1/0 AWG	1	# 14 - 1/0 AWG	1	# 12 - 1 AWG
	575	60	61	100	70	70	1	# 14 - 1/0 AWG	1	# 14 - 1/0 AWG	1	# 12 - 1 AWG
0064SE	208	60	179	200	200	200	1	# 6 - 350 KCM	1	# 4 - 300 KCM	1	# 10 - 300 KCM
	230	60	179	200	200	200	1	# 6 - 350 KCM	1	# 4 - 300 KCM	1	# 10 - 300 KCM
	380	60	109	150	125	125	1	# 2 - 4/0 AWG	1	# 2 - 4/0 AWG	1	# 10 - 3/0 AWG
	460	60	91	100	100	110	1	# 14 - 1/0 AWG	1	# 14 - 1/0 AWG	1	# 12 - 1 AWG
	575	60	74	100	80	90	1	# 14 - 1/0 AWG	1	# 14 - 1/0 AWG	1	# 12 - 1 AWG
0074SE	208	60	195	250	225	225	1	# 6 - 350 KCM	1	# 4 - 300 KCM	1	# 10 - 300 KCM
	230	60	195	250	225	225	1	# 6 - 350 KCM	1	# 4 - 300 KCM	1	# 10 - 300 KCM
	380	60	115	150	125	125	1	# 2 - 4/0 AWG	1	# 2 - 4/0 AWG	1	# 10 - 3/0 AWG
	460	60	95	150	110	110	1	# 2 - 4/0 AWG	1	# 14 - 1/0 AWG	1	# 12 - 1 AWG
	575	60	77	100	90	90	1	# 14 - 1/0 AWG	1	# 14 - 1/0 AWG	1	# 12 - 1 AWG
0084SE	208	60	209	250	225	250	1	# 6 - 350 KCM	1	# 6 - 350 KCM	1	# 10 - 300 KCM
	230	60	209	250	225	250	1	# 6 - 350 KCM	1	# 6 - 350 KCM	1	# 10 - 300 KCM
	380	60	120	150	150	150	1	# 2 - 4/0 AWG	1	# 2 - 4/0 AWG	1	# 10 - 3/0 AWG
	460	60	99	150	110	110	1	# 2 - 4/0 AWG	1	# 14 - 1/0 AWG	1	# 10 - 3/0 AWG
	575	60	80	100	90	90	1	# 14 - 1/0 AWG	1	# 14 - 1/0 AWG	1	# 10 - 3/0 AWG
0094SE	208	60	228	250	250	250	1	# 6 - 350 KCM	1	# 6 - 350 KCM	1	# 4 - 500 KCM
	230	60	228	250	250	250	1	# 6 - 350 KCM	1	# 6 - 350 KCM	1	# 4 - 500 KCM
	380	60	132	150	150	150	1	# 2 - 4/0 AWG	1	# 2 - 4/0 AWG	1	# 10 - 3/0 AWG
	460	60	109	150	125	125	1	# 2 - 4/0 AWG	1	# 2 - 4/0 AWG	1	# 10 - 3/0 AWG
	575	60	87	100	100	100	1	# 14 - 1/0 AWG	1	# 14 - 1/0 AWG	1	# 10 - 3/0 AWG
0104SE	208	60	245	400	300	300	1	# 250 - 500 KCM	1	# 250 - 500 KCM	1	# 4 - 500 KCM
	230	60	245	400	300	300	1	# 250 - 500 KCM	1	# 250 - 500 KCM	1	# 4 - 500 KCM
	380	60	141	200	150	150	1	# 6 - 350 KCM	1	# 4 - 300 KCM	1	# 10 - 3/0 AWG
	460	60	117	150	125	125	1	# 2 - 4/0 AWG	1	# 2 - 4/0 AWG	1	# 10 - 3/0 AWG
	575	60	94	150	100	110	1	# 14 - 1/0 AWG	1	# 14 - 1/0 AWG	1	# 10 - 3/0 AWG
0118SE	208	60	293	400	350	350	1	# 250 - 500 KCM	1	# 250 - 500 KCM	1	# 4 - 500 KCM
	230	60	293	400	350	350	1	# 250 - 500 KCM	1	# 250 - 500 KCM	1	# 4 - 500 KCM
	380	60	169	200	200	200	1	# 6 - 350 KCM	1	# 4 - 300 KCM	1	# 10 - 300 KCM
	460	60	140	150	150	175	1	# 6 - 350 KCM	1	# 4 - 300 KCM	1	# 10 - 3/0 AWG
	575	60	112	150	125	125	1	# 2 - 4/0 AWG	1	# 2 - 4/0 AWG	1	# 10 - 3/0 AWG
0132SE	208	60	336	400	400	400	1	# 250 - 500 KCM	1	# 250 - 500 KCM	2	# 10 - 300 KCM
	230	60	336	400	400	400	1	# 250 - 500 KCM	1	# 250 - 500 KCM	2	# 10 - 300 KCM
	380	60	193	250	225	225	1	# 6 - 350 KCM	1	# 4 - 300 KCM	1	# 10 - 300 KCM
	460	60	160	200	175	175	1	# 6 - 350 KCM	1	# 4 - 300 KCM	1	# 10 - 300 KCM
	575	60	128	150	150	150	1	# 2 - 4/0 AWG	1	# 2 - 4/0 AWG	1	# 10 - 3/0 AWG
0156SE	208	60	361	400	400	400	1	# 250 - 500 KCM	1	# 250 - 500 KCM	2	# 10 - 300 KCM
	230	60	361	400	400	400	1	# 250 - 500 KCM	1	# 250 - 500 KCM	2	# 10 - 300 KCM
	380	60	208	250	225	225	1	# 6 - 350 KCM	1	# 4 - 300 KCM	1	# 10 - 300 KCM
	460	60	172	200	200	200	1	# 6 - 350 KCM	1	# 4 - 300 KCM	1	# 10 - 300 KCM
	575	60	138	200	150	150	1	# 6 - 350 KCM	1	# 2 - 4/0 AWG	1	# 10 - 300 KCM

STANDARD EFFICIENCY - W/ OPTIONAL EXTERNAL COMPRESSOR OVERLOADS

SYSTEM # 1						SYSTEM # 2					
COMPR 1		COMPR 2		COMPR 3		COMPR 1		COMPR 2		COMPR 3	
RLA	LRA	RLA	LRA	RLA	LRA	RLA	LRA	RLA	LRA	RLA	LRA
34.2	270	34.2	270			34.2	270	34.2	270		
34.2	270	34.2	270			34.2	270	34.2	270		
19.7	163	19.7	163			19.7	163	19.7	163		
16.3	135	16.3	135			16.3	135	16.3	135		
13.0	108	13.0	108			13.0	108	13.0	108		
41.4	425	41.4	425			41.4	425	41.4	425		
41.4	425	41.4	425			41.4	425	41.4	425		
23.8	239	23.8	239			23.8	239	23.8	239		
19.7	192	19.7	192			19.7	192	19.7	192		
15.8	154	15.8	154			15.8	154	15.8	154		
49.1	450	49.1	450			41.4	425	41.4	425		
49.1	450	49.1	450			41.4	425	41.4	425		
28.3	272	28.3	272			23.8	239	23.8	239		
23.4	225	23.4	225			19.7	192	19.7	192		
18.7	180	18.7	180			15.8	154	15.8	154		
49.1	450	49.1	450			49.1	450	49.1	450		
49.1	450	49.1	450			49.1	450	49.1	450		
28.3	272	28.3	272			28.3	272	28.3	272		
23.4	225	23.4	225			23.4	225	23.4	225		
18.7	180	18.7	180			18.7	180	18.7	180		
57.8	500	57.8	500			49.1	450	49.1	450		
57.8	500	57.8	500			49.1	450	49.1	450		
33.3	303	33.3	303			28.3	272	28.3	272		
27.5	250	27.5	250			23.4	225	23.4	225		
22.0	200	22.0	200			18.7	180	18.7	180		
57.8	500	57.8	500			57.8	500	57.8	500		
57.8	500	57.8	500			57.8	500	57.8	500		
33.3	303	33.3	303			33.3	303	33.3	303		
27.5	250	27.5	250			27.5	250	27.5	250		
22.0	200	22.0	200			22.0	200	22.0	200		
79.0	599	79.0	599			79.0	599	79.0	599		
79.0	599	79.0	599			79.0	599	79.0	599		
45.5	375	45.5	375			33.3	303	33.3	303		
37.6	310	37.6	310			27.5	250	27.5	250		
30.1	248	30.1	248			22.0	200	22.0	200		
79.0	599	79.0	599			79.0	599	79.0	599		
79.0	599	79.0	599			79.0	599	79.0	599		
45.5	375	45.5	375			45.5	375	45.5	375		
37.6	310	37.6	310			37.6	310	37.6	310		
30.1	248	30.1	248			30.1	248	30.1	248		
57.8	500	57.8	500	57.8	500	57.8	500	57.8	500	57.8	500
57.8	500	57.8	500	57.8	500	57.8	500	57.8	500	57.8	500
33.3	303	33.3	303	33.3	303	33.3	303	33.3	303	33.3	303
27.5	250	27.5	250	27.5	250	27.5	250	27.5	250	27.5	250
22.0	200	22.0	200	22.0	200	22.0	200	22.0	200	22.0	200

Electrical Data – continued

HIGH EFFICIENCY - W/ OPTIONAL EXTERNAL COMPRESSOR OVERLOADS

MODEL YCWL	VOLT	HZ	MINIMUM CIRCUIT AMPS MCA	MIN N/F DISC SW MDSW	MIN DUAL ELEM FUSE & MIN CB	MAX DUAL ELEM FUSE & MAX CB	LUGS PER PHASE					
							DISCONNECT SWITCH LUG SIZE (OPT)		CIRCUIT BREAKER LUG SIZE (OPT)		TERMINAL BLOCK LUG SIZE (STD)	
							QTY/ Ø	LUG INFO	QTY/ Ø	LUG INFO	QTY/ Ø	LUG INFO
0064HE	208	60	179	200	200	200	1	# 6 - 350 KCM	1	# 4 - 300 KCM	1	# 10 - 300 KCM
	230	60	179	200	200	200	1	# 6 - 350 KCM	1	# 4 - 300 KCM	1	# 10 - 300 KCM
	380	60	109	150	125	125	1	# 2 - 4/0 AWG	1	# 2 - 4/0 AWG	1	#10 - 3/0AWG
	460	60	91	100	100	110	1	# 14 - 1/0 AWG	1	# 14 - 1/0 AWG	1	# 12 - 1 AWG
	575	60	74	100	80	90	1	# 14 - 1/0 AWG	1	# 14 - 1/0 AWG	1	# 12 - 1 AWG
0074HE	208	60	195	250	225	225	1	# 6 - 350 KCM	1	# 4 - 300 KCM	1	# 10 - 300 KCM
	230	60	195	250	225	225	1	# 6 - 350 KCM	1	# 4 - 300 KCM	1	# 10 - 300 KCM
	380	60	115	150	125	125	1	# 2 - 4/0 AWG	1	# 2 - 4/0 AWG	1	#10 - 3/0AWG
	460	60	95	150	110	110	1	# 2 - 4/0 AWG	1	# 14 - 1/0 AWG	1	# 12 - 1 AWG
	575	60	77	100	90	90	1	# 14 - 1/0 AWG	1	# 14 - 1/0 AWG	1	# 12 - 1 AWG
0084HE	208	60	209	250	225	250	1	# 6 - 350 KCM	1	# 6 - 350 KCM	1	# 10 - 300 KCM
	230	60	209	250	225	250	1	# 6 - 350 KCM	1	# 6 - 350 KCM	1	# 10 - 300 KCM
	380	60	120	150	150	150	1	# 2 - 4/0 AWG	1	# 2 - 4/0 AWG	1	# 10 - 3/0 AWG
	460	60	99	150	110	110	1	# 2 - 4/0 AWG	1	# 14 - 1/0 AWG	1	# 10 - 3/0 AWG
	575	60	80	100	90	90	1	# 14 - 1/0 AWG	1	# 14 - 1/0 AWG	1	# 10 - 3/0 AWG
0094HE	208	60	228	250	250	250	1	# 6 - 350 KCM	1	# 6 - 350 KCM	1	# 4 - 500 KCM
	230	60	228	250	250	250	1	# 6 - 350 KCM	1	# 6 - 350 KCM	1	# 4 - 500 KCM
	380	60	132	150	150	150	1	# 2 - 4/0 AWG	1	# 2 - 4/0 AWG	1	# 10 - 3/0 AWG
	460	60	109	150	125	125	1	# 2 - 4/0 AWG	1	# 2 - 4/0 AWG	1	# 10 - 3/0 AWG
	575	60	87	100	100	100	1	# 14 - 1/0 AWG	1	# 14 - 1/0 AWG	1	# 10 - 3/0 AWG
0096HE	208	60	264	400	300	300	1	# 250 - 500 KCM	1	# 250 - 500 KCM	1	# 4 - 500 KCM
	230	60	264	400	300	300	1	# 250 - 500 KCM	1	# 250 - 500 KCM	1	# 4 - 500 KCM
	380	60	161	200	175	175	1	# 6 - 350 KCM	1	# 4 - 300 KCM	1	# 10 - 300 KCM
	460	60	133	150	150	150	1	# 6 - 350 KCM	1	# 2 - 4/0 AWG	1	# 10 - 300 KCM
	575	60	109	150	125	125	1	# 2 - 4/0 AWG	1	# 2 - 4/0 AWG	1	#10 - 3/0AWG
0118HE	208	60	293	400	350	350	2	# 250 - 500 KCM	2	# 250 - 500 KCM	2	# 4 - 500 KCM
	230	60	293	400	350	350	2	# 250 - 500 KCM	2	# 250 - 500 KCM	2	# 4 - 500 KCM
	380	60	169	200	200	200	1	# 6 - 350 KCM	1	# 4 - 300 KCM	1	# 10 - 300 KCM
	460	60	140	150	150	175	1	# 6 - 350 KCM	1	# 4 - 300 KCM	1	# 10 - 3/0 AWG
	575	60	112	150	125	125	1	# 2 - 4/0 AWG	1	# 2 - 4/0 AWG	1	# 10 - 3/0 AWG
0126HE	208	60	307	400	350	350	1	# 250 - 500 KCM	1	# 250 - 500 KCM	1	# 4 - 500 KCM
	230	60	307	400	350	350	1	# 250 - 500 KCM	1	# 250 - 500 KCM	1	# 4 - 500 KCM
	380	60	177	200	200	200	1	# 6 - 350 KCM	1	# 4 - 300 KCM	1	# 10 - 300 KCM
	460	60	146	200	175	175	1	# 6 - 350 KCM	1	# 4 - 300 KCM	1	# 10 - 300 KCM
	575	60	117	150	125	125	1	# 6 - 350 KCM	1	# 2 - 4/0 AWG	1	# 10 - 300 KCM
0156HE	208	60	361	400	400	400	2	# 250 - 500 KCM	2	# 250 - 500 KCM	2	# 10 - 300 KCM
	230	60	361	400	400	400	2	# 250 - 500 KCM	2	# 250 - 500 KCM	2	# 10 - 300 KCM
	380	60	208	250	225	225	1	# 6 - 350 KCM	1	# 4 - 300 KCM	1	# 10 - 300 KCM
	460	60	172	200	200	200	1	# 6 - 350 KCM	1	# 4 - 300 KCM	1	# 10 - 300 KCM
	575	60	138	200	150	150	1	# 6 - 350 KCM	1	# 2 - 4/0 AWG	1	# 10 - 300 KCM

HIGH EFFICIENCY - W/ OPTIONAL EXTERNAL COMPRESSOR OVERLOADS

SYSTEM # 1						SYSTEM # 2					
COMPR 1		COMPR 2		COMPR 3		COMPR 1		COMPR 2		COMPR 3	
RLA	LRA	RLA	LRA	RLA	LRA	RLA	LRA	RLA	LRA	RLA	LRA
41.4	425	41.4	425			41.4	425	41.4	425		
41.4	425	41.4	425			41.4	425	41.4	425		
23.8	239	23.8	239			23.8	239	23.8	239		
19.7	192	19.7	192			19.7	192	19.7	192		
15.8	154	15.8	154			15.8	154	15.8	154		
49.1	450	49.1	450			41.4	425	41.4	425		
49.1	450	49.1	450			41.4	425	41.4	425		
28.3	272	28.3	272			23.8	239	23.8	239		
23.4	225	23.4	225			19.7	192	19.7	192		
18.7	180	18.7	180			15.8	154	15.8	154		
49.1	450	49.1	450			49.1	450	49.1	450		
49.1	450	49.1	450			49.1	450	49.1	450		
28.3	272	28.3	272			28.3	272	28.3	272		
23.4	225	23.4	225			23.4	225	23.4	225		
18.7	180	18.7	180			18.7	180	18.7	180		
57.8	500	57.8	500			49.1	450	49.1	450		
57.8	500	57.8	500			49.1	450	49.1	450		
33.3	303	33.3	303			28.3	272	28.3	272		
27.5	250	27.5	250			23.4	225	23.4	225		
22.0	200	22.0	200			18.7	180	18.7	180		
41.4	384	41.4	425	41.4	425	41.4	425	41.4	425	41.4	425
41.4	384	41.4	425	41.4	425	41.4	425	41.4	425	41.4	425
23.8	232	23.8	239	23.8	239	23.8	239	23.8	239	23.8	239
19.7	192	19.7	192	19.7	192	19.7	192	19.7	192	19.7	192
15.8	154	15.8	154	15.8	154	15.8	154	15.8	154	15.8	154
79.0	599	79.0	599			57.8	500	57.8	500		
79.0	599	79.0	599			57.8	500	57.8	500		
45.5	375	45.5	375			33.3	303	33.3	303		
37.6	310	37.6	310			27.5	250	27.5	250		
30.1	248	30.1	248			22.0	200	22.0	200		
49.1	450	49.1	450	49.1	450	49.1	450	49.1	450	49.1	450
49.1	450	49.1	450	49.1	450	49.1	450	49.1	450	49.1	450
28.3	272	28.3	272	28.3	272	28.3	272	28.3	272	28.3	272
23.4	225	23.4	225	23.4	225	23.4	225	23.4	225	23.4	225
18.7	180	18.7	180	18.7	180	18.7	180	18.7	180	18.7	180
57.8	500	57.8	500	57.8	500	57.8	500	57.8	500	57.8	500
57.8	500	57.8	500	57.8	500	57.8	500	57.8	500	57.8	500
33.3	303	33.3	303	33.3	303	33.3	303	33.3	303	33.3	303
27.5	250	27.5	250	27.5	250	27.5	250	27.5	250	27.5	250
22.0	200	22.0	200	22.0	200	22.0	200	22.0	200	22.0	200

Electrical Notes

1. Minimum Circuit Ampacity (MCA) is based on 125% of the rated load amps for the largest motor plus 100% of the rated load amps for all other loads included in the circuit, per N.E.C. Article 430.24. If the optional Factory Mounted Control Transformer is provided, add the following MCA values to the electrical tables for the system providing power to the transformer: 17, add 2.5 amps; 28, add 2.3 amps; 40, add 1.5 amps; 46, add 1.3 amps; 58, add 1 amp.
2. The minimum recommended disconnect switch is based on 115% of the rated load amps for all loads included in the circuit, per N.E.C. Article 440.
3. Minimum fuse size is based upon 150% of the rated load amps for the largest motor plus 100% of the rated load amps for all other loads included in the circuit to avoid nuisance trips at startup due to lock rotor amps. It is not recommended in applications where brown outs, frequent starting and stopping of the unit, and/or operation at ambient temperatures in excess of 95°F (35°C) is anticipated.
4. Maximum fuse size is based upon 225% of the rated load amps for the largest motor plus 100% of the rated load amps for all other loads included in the circuit, per N.E.C. Article 440-22.
5. Circuit breakers must be UL listed and CSA certified and maximum size is based on 225% of the rated load amps for the largest motor plus 100% of the rated load amps for all other loads included in the circuit. Otherwise, an HACR type circuit breakers must be used. Maximum HACR circuit breaker rating is based on 225% of the rated load amps for the largest motor plus 100% of the rated load amps for all other loads included in the circuit.
6. The "INCOMING WIRE RANGE" is the minimum and maximum wire size that can be accommodated by the unit wiring lugs. The (2) preceding the wire range indicates the number of termination points available per phase of the wire range specified. Actual wire size and number of wires per phase must be determined based on the National Electrical Code, **using copper connectors only**. Field wiring must also comply with local codes.
7. A ground lug is provided for each compressor system to accommodate a field grounding conductor per N.E.C. Table 250.95. A control circuit grounding lug is also supplied.
8. The supplied disconnect is a "Disconnecting Means" as defined in the N.E.C. 100, and is intended for isolating the unit for the available power supply to perform maintenance and troubleshooting. This disconnect is not intended to be a Load Break Device.
9. Field Wiring by others which complies to the National Electrical Code & Local Codes.

10. Voltage Utilization Range

Rated Voltage	Utilization Range
200/60/3	180 - 220
230/60/3	208 - 254
380/60/3	342 - 402
460/60/3	414 - 508
575/60/3	520 - 635

LEGEND

ACR	ACROSS THE LINE START
C.B.	CIRCUIT BREAKER
D.E.	DUAL ELEMENT FUSE
DISC SW	DISCONNECT SWITCH
FACT MOUNT CB	FACTORY MOUNTED CIRCUIT BREAKER
FLA	FULL LOAD AMPS
HZ	HERTZ
MAX	MAXIMUM
MCA	MINIMUM CIRCUIT AMPACITY
MIN	MINIMUM
MIN NF	MINIMUM NON FUSED
RLA	RATED LOAD AMPS
S.P. WIRE	SINGLE POINT WIRING
UNIT MTD SERV SW	UNIT MOUNTED SERVICE (NON-FUSED DISCONNECT SWITCH)
LRA	LOCKED ROTOR AMPS
ECWT	ENTERING CONDENSER WATER TEMPERATURE

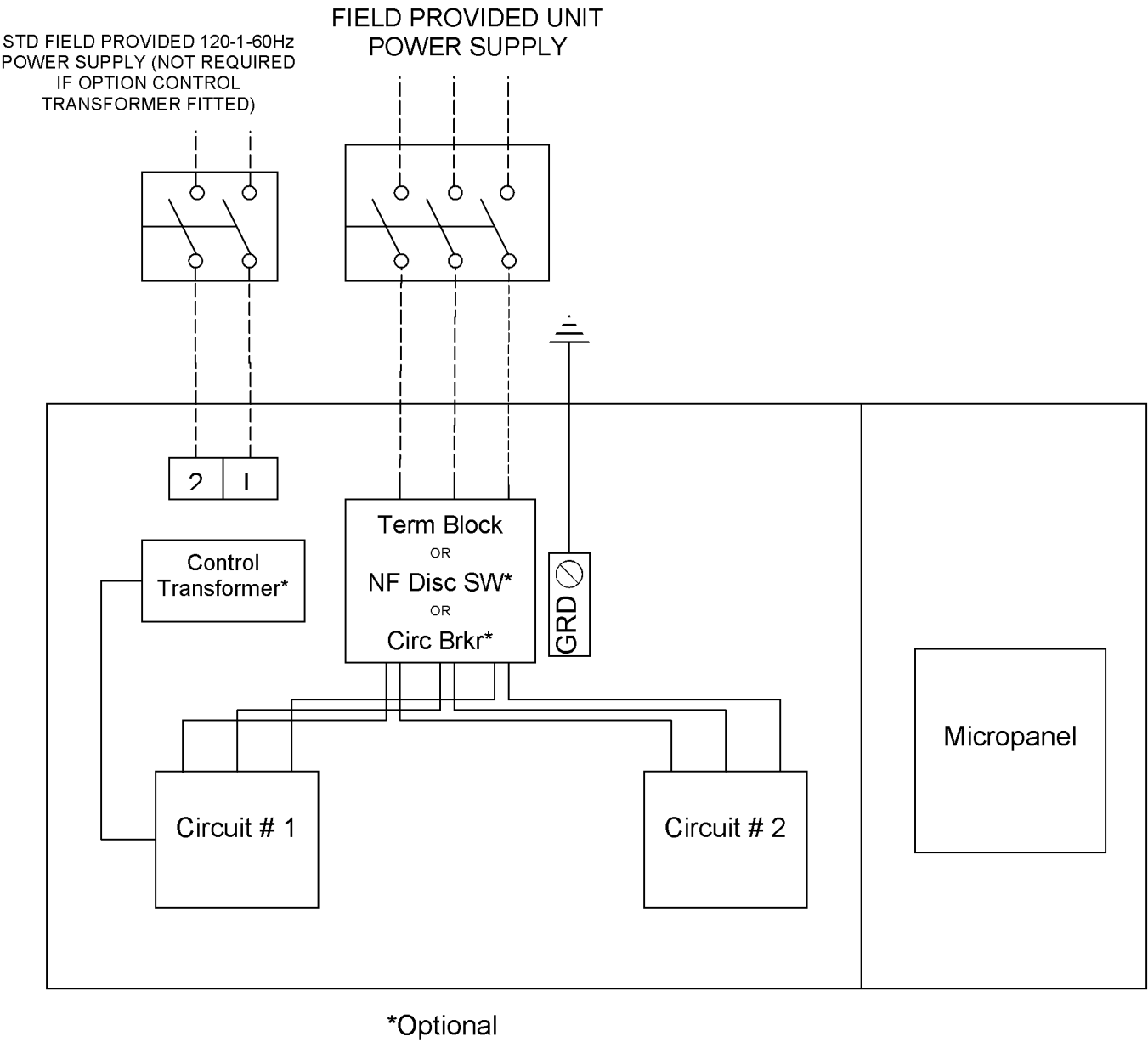
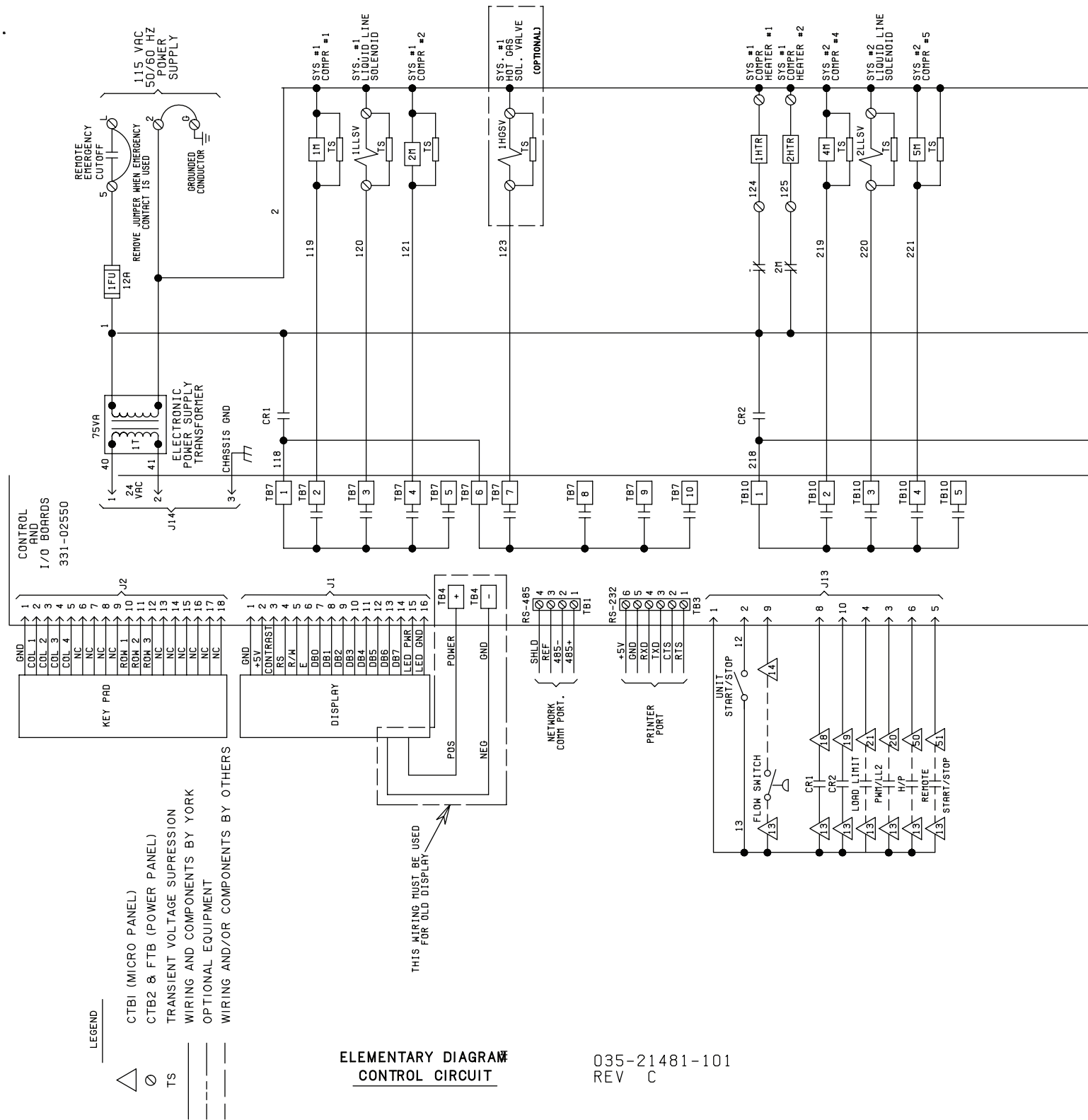
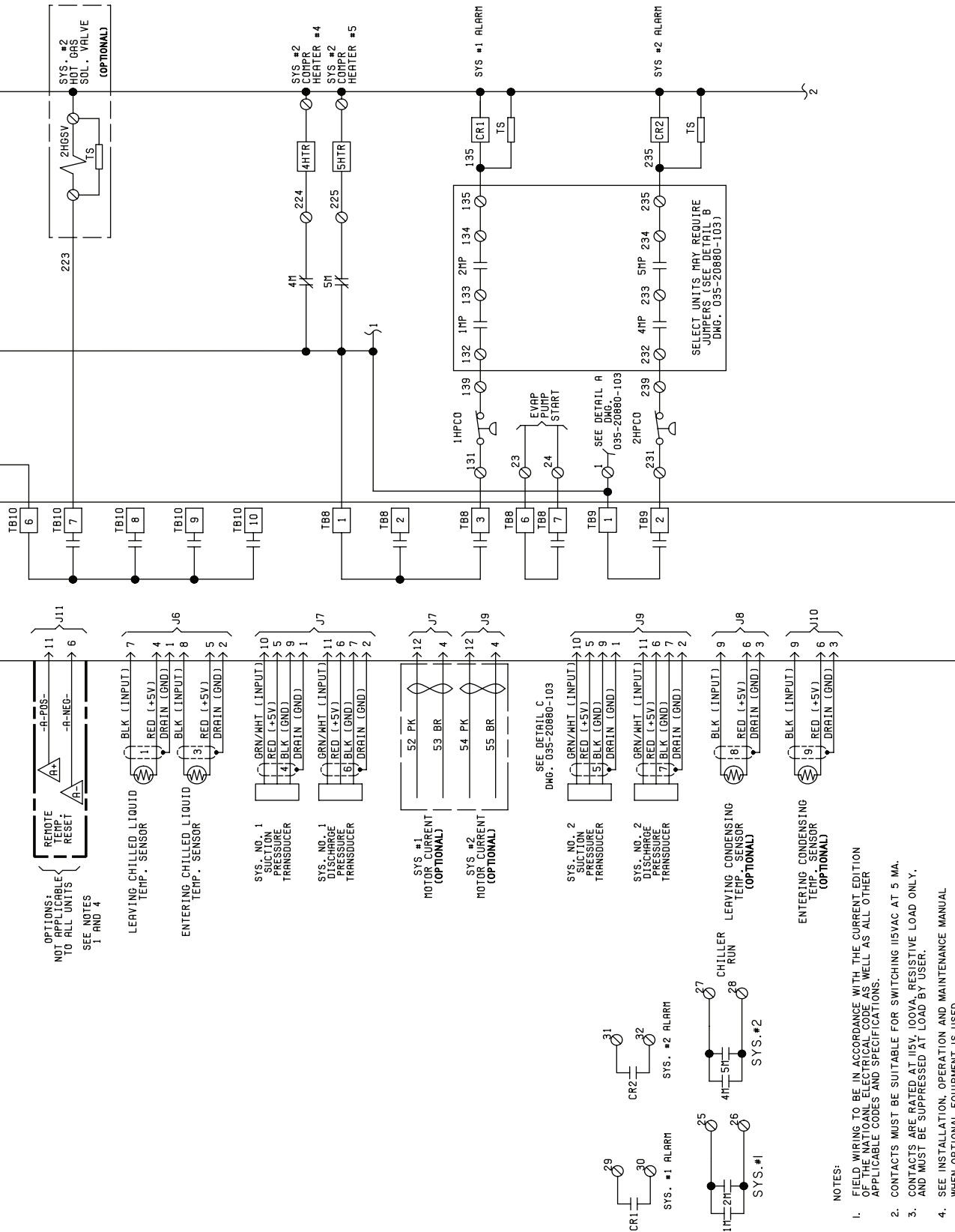


FIGURE 1: SINGLE POINT POWER SUPPLY CONNECTION – STANDARD UNIT

Typical Control Panel Wiring – 4 Compressor

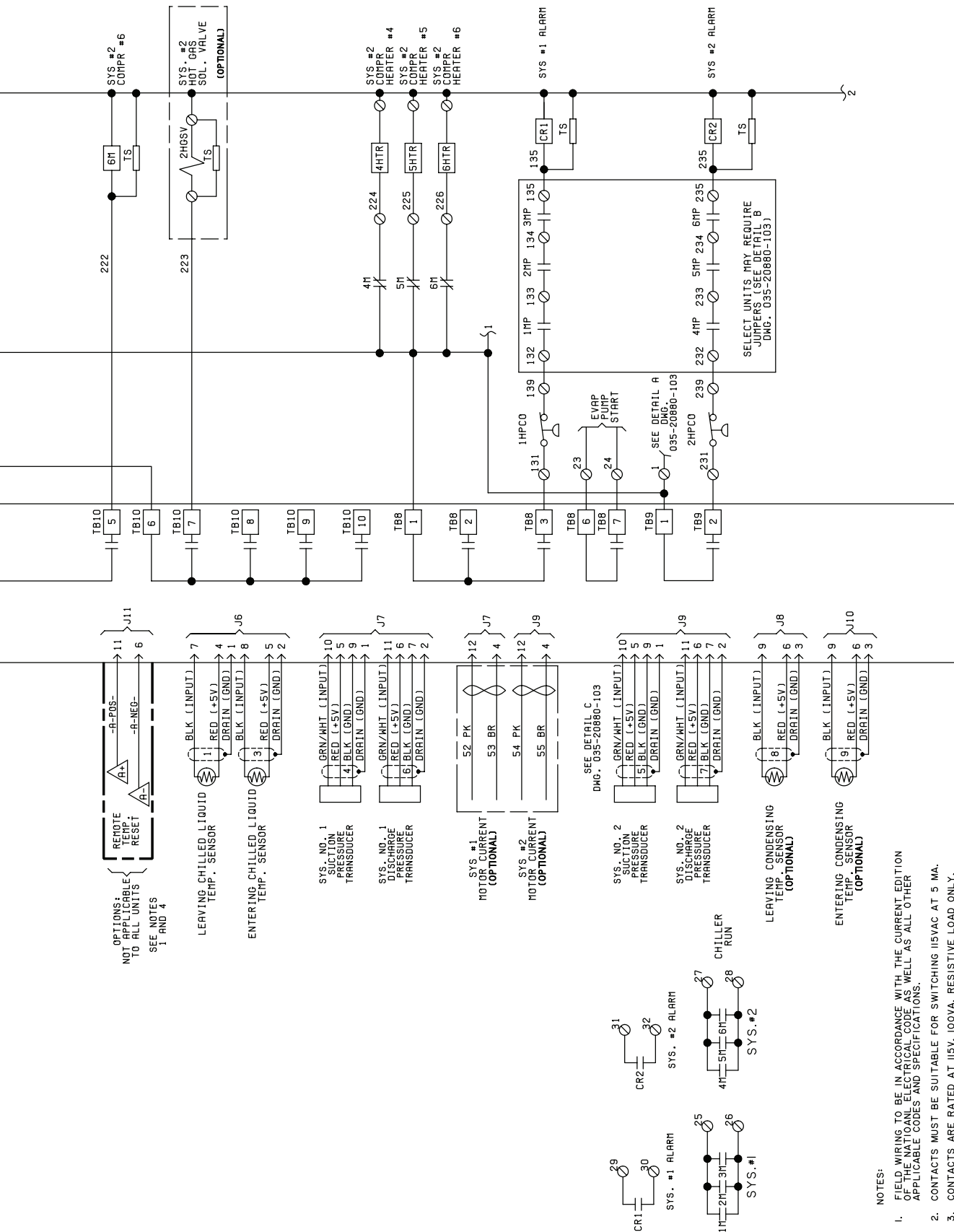




- NOTES:
1. FIELD WIRING TO BE IN ACCORDANCE WITH THE CURRENT EDITION OF THE NATIONAL ELECTRICAL CODE AS WELL AS ALL OTHER APPLICABLE CODES AND SPECIFICATIONS.
 2. CONTACTS MUST BE SUITABLE FOR SWITCHING IISVAC AT 5 MA.
 3. CONTACTS ARE RATED AT IISV, 100VA, RESISTIVE LOAD ONLY, AND MUST BE SUPPRESSED AT LOAD BY USER.
 4. SEE INSTALLATION, OPERATION AND MAINTENANCE MANUAL WHEN OPTIONAL EQUIPMENT IS USED.
 5. WIRING BY OTHERS ON REMOTE EVAP. UNITS

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NOTES:

1. FIELD WIRING TO BE IN ACCORDANCE WITH THE CURRENT EDITION OF THE NATIONAL ELECTRICAL CODE AS WELL AS ALL OTHER APPLICABLE CODES AND SPECIFICATIONS.
2. CONTACTS MUST BE SUITABLE FOR SWITCHING 115VAC AT 5 MA.
3. CONTACTS ARE RATED AT 115V, 100VA, RESISTIVE LOAD ONLY, AND MUST BE SUPPRESSED AT LOAD BY USER.
4. SEE INSTALLATION, OPERATION AND MAINTENANCE MANUAL WHEN OPTIONAL EQUIPMENT IS USED.
5. WIRING BY OTHERS ON REMOTE EVAP. UNITS

Application Data

UNIT LOCATION

Chillers are designed for indoor installation. Units should be located away from noise-critical areas. Service clearance must be allowed and include space for removing condenser tubes. A doorway or window can sometimes provide space for tube removal. Units should be installed indoors where they are not exposed to rain or water splash. Chillers should be located near a drain. The use of chillers in corrosive, dusty or explosive atmospheres should be avoided unless the unit is properly protected. A unit located in a clean room will run best, require least maintenance, and last longest. Heat or ventilation may be required to maintain the ambient between 40°F and 115°F (4.4°C and 46.1°C).

UNIT ISOLATION

The chiller foundation must be rigid to reduce vibration transmission to a minimum. All upper story installations should use vibration isolators under the unit base. To maintain isolator efficiency, no mechanical ties should be made to the building. Properly selected flexible connectors and piping isolators are recommended. All the above recommendations will help to reduce vibration transmission and result in a quieter operation.

FIELD CONNECTED WATER PIPING

Piping must comply in all respects with applicable local plumbing codes and ordinances. In no case should the unit support the weight of connecting piping. Since elbows, tees, and valves increase pressure drop, all piping should be kept as simple as possible. Hand stop valves should be installed where required to facilitate servicing. Piping to the inlet and outlet connections of the evaporator and condenser may include high-pressure rubber hose or piping loops to ensure against water pump transmission of vibration.

Facilities should be provided for measuring temperature and pressure in the evaporator and condenser field water piping. Drain connections should be provided at all low points to permit complete drainage of the evaporator(s), condenser(s), and system piping. This is especially important if the unit is located in an unheated room where freezing could prevail. Water lines subjected to ambient temperatures below freezing may require heater cables or antifreeze (by others).

Water loops should contain provisions for venting. A strainer, preferably 40 mesh, should be installed in the evaporator and condenser inlet lines, and located where

it will protect the circulating pump and the heat exchanger tube bundles. It should be determined that the maximum water pressure at the evaporator or condenser does not exceed the maximum design working pressure of the evaporator or condenser.

The water circulating pumps should be located on the inlet side of the heat exchangers. If, however, space does not permit this, the pumps may be located in the outlet water piping. The net positive suction head must be considered when applying pumps.

FIELD WIRING

All field wiring must comply with the National Electric Code and all applicable local codes. YORK liquid chiller units are factory wired for optimum reliability. Therefore the unit controls must not be modified without expressed written consent by Johnson Controls. The use of a simple switch or timer from a remote point is permitted; but it must be connected to the unit panel at points expressly indicated for that purpose.

CONDENSER WATER

The chiller is engineered for maximum efficiency at both design and part-load operation by taking advantage of the colder cooling tower water temperatures which naturally occur during the winter months. Appreciable power savings are realized from these reduced heads. For stable unit performance, continuous operation with entering condenser water temperature below 65F (18C) is not recommended. For operation with entering condenser water temperature below this, it is recommended that some type of condenser water temperature control be used.

REFRIGERANT RELIEF PIPING

Each chiller is equipped with pressure relief valves. The purpose of the relief valves is to quickly relieve excess pressure of the refrigerant charge as a safety precaution in the event of an emergency such as a fire. Sized to the requirements of applicable local codes, a vent line must be run from the relief valve to the outside of the building. Vent piping must be arranged to avoid imposing a strain on the relief valves and should include flexible connections.

The low side relief valve is located on the suction line. It has a pressure setting of 400 psig (27.6 barg) and a capacity of 28.6 lbs. air/min (13.4 l/s). The high side relief valve is located on the condenser shell. It has a pressure setting of 560 psig (38.6 barg) and a capacity of 22.0 lbs air/min (10.4 l/s).

Guide Specifications

PART 1 – GENERAL

1.01 SCOPE

- A. The requirements of the General Conditions, Supplementary Conditions, Division 1, and Drawings apply to all Work herein.
- B. Provide Microprocessor controlled, multiple-scroll compressor, water-cooled, liquid chillers of the scheduled capacities as shown and indicated on the Drawings, including but not limited to:
 - 1. Chiller package
 - 2. Electrical power and control connections
 - 3. Chilled water connections
 - 4. Charge of refrigerant and oil
 - 5. Factory start-up

1.02 QUALITY ASSURANCE

- A. Products shall be Designed, Tested, Rated and Certified in accordance with, and installed in compliance with applicable sections of the following Standards and Codes:
 - 1. ANSI/ASHRAE Standard 15 – *Safety Code for Mechanical Refrigeration*
 - 2. ASHRAE 90.1– *Energy Efficiency compliance.*
 - 3. ANSI/NFPA Standard 70 – *National Electrical Code (N.E.C.)*
 - 4. *ASME Boiler & Pressure Vessel Code, Section VIII, Division 1*
 - 5. *ASHRAE 34 – Number Designation and Safety Classification of Refrigerants*
 - 6. *ARI Standard 550/590 – Positive Displacement Compressors and Water Cooled Rotary Screw Water-Chilling Packages*
 - 7. Conform to UL code 1995 for construction of chillers and provide ETL/cETL Listing label
 - 8. Manufactured in facility registered to ISO 9001
 - 9. OSHA - Occupational Safety and Health Act
- B. Factory Test: Chiller shall be pressure-tested, evacuated and fully charged with refrigerant and oil, and shall be factory operational run tested with water flowing through the vessels.
- C. Chiller manufacturer shall have a factory trained and supported service organization that is within a 50 mile radius of the site.
- D. Warranty: Manufacturer shall Warrant all equipment and material of its manufacture against defects in workmanship and material for a period of one year from date of initial start-up or eighteen (18) months

from date of shipment, whichever occurs first.

1.03 DELIVERY AND HANDLING

- A. Unit shall be delivered to job site fully assembled, and charged with refrigerant and oil by the Manufacturer.
- B. Unit shall be stored and handled per Manufacturer's instructions.
- C. Unit and its accessories shall be protected from the weather and dirt exposure during shipment.
- D. During shipment, a covering shall be provided over vulnerable components. Nozzles and open ends shall be fitted with plastic enclosures.

PART 2 – PRODUCTS

2.01 CHILLER MATERIALS AND COMPONENTS

- A. General: Install and commission, as shown on the schedules and plans, factory assembled, charged, and tested water-cooled scroll compressor chiller(s) as specified herein. Chiller shall be designed, selected, and constructed using a refrigerant with Flammability rating of "1", as defined by ANSI/ASHRAE STANDARD - 34 Number Designation and Safety Classification of Refrigerants. Chiller shall include, but is not limited to: a complete system with not less than two refrigerant circuits, scroll compressors, direct expansion type evaporator, water-cooled condenser, refrigerant, lubrication system, interconnecting wiring, safety and operating controls including capacity controller, control center, motor starting components, and special features as specified herein or required for safe, automatic operation.

2.02 COMPRESSORS

Compressors Shall be hermetic, scroll-type, including:

- 1. Compliant design for axial and radial sealing
- 2. Refrigerant flow through the compressor with 100% suction cooled motor.
- 3. Large suction side free volume and oil sump to provide liquid handling capability.
- 4. Compressor crankcase heaters to provide extra liquid migration protection.
- 5. Annular discharge check valve and reverse vent assembly to provide low pressure drop, silent shutdown and reverse rotation protection.
- 6. Initial Oil charge.

Guide Specifications – continued

7. Oil Level sightglass.
8. Vibration isolator mounts for compressors.
9. Brazed-type connections for fully hermetic refrigerant circuits.
10. Microprocessor controlled, Factory installed Across-the-Line type compressor motor starters

2.03 REFRIGERANT CIRCUIT COMPONENTS

Each refrigerant circuit shall include: liquid line shutoff valve with charging port, low side pressure relief device, filter-drier, solenoid valve, discharge service valve, system high pressure relief device, sight glass with moisture indicator, expansion valves, and flexible, closed-cell foam insulated suction line.

2.04 HEAT EXCHANGERS

A. Evaporator:

1. Evaporator shall be a direct expansion shell and tube construction, dual circuit heat exchanger capable of refrigerant working pressure of 450 PSIG (3103 kPa) and liquid side pressure of 150 psig (1034 kPa).
2. Evaporator shall be covered with 3/4" (19mm), flexible, closed-cell insulation, thermal conductivity of 0.26k ([BTU/HR-Ft2-°F]/in.) maximum. Water nozzles shall be insulated by Contractor after pipe installation.
3. Heat exchangers shall be ASME pressure vessel code certified.
4. Installing contractor must include accommodations in the chilled water piping to allow proper drainage and venting of the heat exchanger.
5. The water connections shall be fully accessible and grooved to accept ANSI/AWWA C-606 couplings if used (by others).

B. Condenser:

1. Condenser shall be a cleanable thru-tube construction with removable heads and integral subcooling. Heat exchanger shall be capable of a refrigerant side working pressure of 560 PSIG (45 bar) and liquid side pressure of 150 psig (1034 kPa).
2. The condenser shall be equipped with relief valves and be capable of holding the full refrigerant charge for pumpdown.
3. The water connections shall be fully accessible and grooved to accept ANSI/AWWA C-606 couplings if used (by others).

2.05 CONTROLS

- ### A. General: Automatic start, stop, operating, and protection sequences across the range of scheduled

conditions and transients.

- ### B. Microprocessor Enclosure: NEMA 1 (IP32) powder painted steel cabinet with hinged, latched, and gasket sealed door.

C. Microprocessor Control Center:

1. Automatic control of compressor start/stop, anti coincidence and anti-recycle timers, automatic pumpdown on shutdown, evaporator pump, and unit alarm contacts. Automatic reset to normal chiller operation after power failure.
2. Remote water temperature reset via a Pulse Width Modulated (PWM) input signal or up to two steps of demand (load) limiting.
3. Software stored in non-volatile memory, with programmed setpoints retained in lithium battery backed regulated time clock (RTC) memory for minimum 5 years.
4. Forty character liquid crystal display, numeric data in English (or Metric) units. Sealed keypad with sections for Setpoints, Display/Print, Entry, Unit Options & clock, and On/Off Switch. Display descriptions and membrane keypad graphics shown in English language.
5. Programmable Setpoints (within Manufacturer limits): display language; chilled liquid temperature setpoint and range, remote reset temperature range, set daily schedule/holiday for start/stop, manual override for servicing, number of compressors, low liquid temperature cutout, low suction pressure cutout, high discharge pressure cutout, anti-recycle timer (compressor start cycle time), and anti-coincident timer (delay compressor starts).
6. Display Data: Return and leaving evaporator liquid temperatures, low leaving liquid temperature cutout setting, English or metric data, suction pressure cutout setting, each system suction pressure, discharge pressure, liquid temperature reset via a PWM input as standard or a 4-20milliamp or 0- 10 VDC input or contact closure, anti-recycle timer status for each compressor, anti-coincident system start timer condition, compressor run status, no cooling load condition, day, date and time, daily start/ stop times, holiday status, automatic or manual system lead/lag control, lead system definition, compressor starts/operating hours (each), status of hot gas valves (if supplied), run permissive status, number of compressors running, liquid solenoid valve status, load & unload timer status, water pump status.
7. System Safeties: Shall cause individual compressor systems to perform auto shut down; manual reset required after the third trip in 90 minutes. Includes: high discharge pressure, low suction pressure, high pressure switch, and motor protector. Compressor motor protector shall protect against damage due to high input current or thermal overload of windings.
8. Unit Safeties: Shall be automatic reset and cause

compressors to shut down if low ambient, low leaving chilled liquid temperature, under voltage, and flow switch operation. Contractor shall provide flow switch installation and wiring per chiller manufacturer requirements.

9. Alarm Contacts: Low ambient, low leaving chilled liquid temperature, low voltage, low battery, and (per compressor circuit): high discharge pressure, and low suction pressure.
10. BAS/EMS Temperature Reset: Chiller to accept 4 to 20mA, 0 to 10 VDC, or discrete contact closure input to reset the leaving chilled liquid temperature.

D. Pressure Transducers and Readout Capability

1. Discharge Pressure Transducers: Permits unit to sense and display discharge pressure.
2. Suction Pressure Transducers: Permits unit to sense and display suction pressure.

E. Manufacturer shall provide any controls not listed above, necessary for automatic chiller operation. Mechanical Contractor shall provide field control wiring necessary to interface sensors to the chiller control system.

2.06 POWER CONNECTION AND DISTRIBUTION

A. Power Panels:

1. NEMA 1 (IP32), powder painted steel cabinets with hinged, latched, and gasket sealed outer doors. Provide main power connection(s), control power connections, compressor start contactors, current overloads, and factory wiring.
2. Power supply shall enter unit at a single location, be 3 phase of scheduled voltage, and connect to individual terminal blocks per compressor. Separate disconnecting means and/ or external branch circuit protection (by Contractor) required per applicable local or national codes.

B. Exposed compressor and control power wiring shall be routed through liquid tight conduit.

C. Power Supply Connection shall be:

Single Point Power Supply: Single point Terminal Block for field connection and interconnecting wiring to the compressors. Separate external protection must be supplied, by others, in the incoming power wiring, which must comply with the National Electric Code and/or local codes.

2.07 ACCESSORIES AND OPTIONS

Some accessories and options supersede standard product features. Your Johnson Controls sales representative will be pleased to provide assistance.

A. Power Supply Connections (Factory Mounted):

1. Single Point Disconnect Switch: Single point Non-Fused Disconnect and lockable external handle (in compliance with Article 440-14 of N.E.C.) can be supplied to isolate the unit power voltage for servicing. Separate external fusing must be supplied, by others, in the incoming power wiring, which must comply with the National Electric Code and/or local codes.
2. Single Point Circuit Breaker: Single point Terminal Block with Circuit Breaker and lockable external handle (in compliance with Article 440 14 of N.E.C.) can be supplied to isolate power voltage for servicing. Incoming power wiring must comply with the National Electric Code and/or local codes.

B. Control Power Transformer (Factory Mounted): Converts unit power voltage to 120-1-60 (500 VA capacity). Factory mounting includes primary and secondary wiring between the transformer and the control panel.

C. Flow Switch (Field-mounted): Vapor proof SPDT, NEMA 3R switch (150 PSIG), -20°F to 250°F. Available with evaporator.

D. Differential Pressure Switch (Field mounted): Alternative to the paddle-type flow switch. 0-45 PSIG (0-3 bar) range with 1/4" NPTE pressure connections. Available with evaporator.

E. Double Thick Evaporator Insulation (Factory Mounted): Evaporator covered with double thick (1-1/2") flexible, closed-cell Insulation in lieu of standard (3/4") insulation. Water nozzles shall be insulated by Contractor after pipe installation.

F. ANSI/AWWA C-606 Flange Kit (Field Mounted): ANSI/AWWA C-606 flange adapters included with the water connections on the evaporator and condenser providing raised face flanges for field piping connection.

G. Service Isolation valves (Factory Mounted): Service suction (ball type) isolation valves are added to unit per circuit in addition to the standard discharge service valve. (Factory-mounted.)

H. Hot Gas By-Pass (Factory Mounted): Permits continuous, stable operation at capacities below the minimum step of unloading to as low as 5% capacity (depending on both the unit & operating conditions) by introducing an artificial load on the evaporator. Hot gas by-pass is installed on only one refrigerant circuit (System #1).

I. Microprocessor Membrane Keypad Graphics on in lieu of Standard English:

1. Spanish language.

-
- 2. French language.
 - 3. German language.
 - 4. Italian language.
- J. Chicago Code Relief Valves (Factory Mounted): Relief valves provided to meet Chicago Code requirements.
- K. Sound Reduction (Factory-mounted):
- 1. Each compressors is individually enclosed in an acoustic sound blankets.
- L. Vibration Isolation (Field-mounted):
- 1. Neoprene Pad Isolators.
 - 2. 1 Inch Deflection Spring Isolators: Level adjustable, spring and cage type isolators for mounting under the unit base.
 - 3. 2 Inch Deflection Seismic Isolators: Level adjustable, restrained isolators, mounts in rugged welded steel housing with vertical and horizontal limit stops. Housings shall be designed to withstand a minimum 1.0g accelerated force in all directions to 2 inches.
- M. Final Paint Overspray: Overspray painting of assembled unit with Caribbean blue enamel.

PART 3 – EXECUTION

3.01 INSTALLATION

- A. General: Rig and Install in full accordance with Manufacturers requirements, Project drawings, and Contract documents.
- B. Location: Locate chiller as indicated on drawings, including cleaning and service maintenance clearance per Manufacturer instructions. Adjust and level chiller on support structure. If equipment provided exceeds height of scheduled chiller, installing contractor is responsible for additional costs associated with extending the height of parapet or screening walls/enclosures
- C. Components: Installing Contractor shall provide and install all auxiliary devices and accessories for fully operational chiller.
- D. Electrical: Coordinate electrical requirements and connections for all power feeds with Electrical Contractor.
- E. Controls: Coordinate all control requirements and connections with Controls Contractor.
- F. Finish: Installing Contractor shall paint damaged and abraded factory finish with touch-up paint matching factory finish.



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