

SAN ANTONIO WATER SYSTEM PURCHASING DEPARTMENT

Issued By: **D. Anthony Rubin**
BID NO.: 19-19108

Date Issued: August 27, 2019

**FORMAL INVITATION FOR BIDS
CONTRACT FOR EMERGENCY REPLACEMENT CHILLER PURCHASE AND
INSTALLATION FOR THE PORT OF SAN ANTONIO
ADDENDUM NO. 2**

Sealed bids addressed to the Purchasing Director, San Antonio Water System, 2800 US Hwy 281 North, Administration Bldg., 5th Floor, San Antonio, TX 78212 will be received until **3:00 p.m., September 3, 2019** and then publicly opened and read aloud for furnishing materials or services as described herein below,

The San Antonio Water System Purchasing Department is willing to assist any bidder(s) in the interpretation of bid provisions or explanation of how bid forms are to be completed. Assistance may be received by visiting the Purchasing Office in the SAWS Main Office, 2800 US Hwy 281 North, San Antonio, TX 78212, or by calling (210) 233-3819.

(Contractor's Insurance Requirements Attached)

This invitation includes the following:

Invitation for Bids
Terms and Conditions of Invitation for Bids

Specifications and General Requirements
Price Schedule

The undersigned, by his/her signature, represents that he/she is authorized to bind the Bidder to fully comply with the Specifications and General Requirements for the amount(s) shown on the accompanying bid sheet(s). By signing below, Bidder has read the entire document and agreed to the terms therein.

Signer's Name: _____ Firm Name: _____
(Please Print or Type)

Address: _____

Signature of Person Authorized to Sign Bid _____ City, State, Zip Code: _____

Email Address: _____ Telephone No.: _____

Fax No.: _____

Please complete the following:

Prompt Payment Discount: _____% _____days. (If no discount is offered, Net 30 will apply.)

Please check the following blanks which apply to your company:

Ownership of firm (51% or more):

Non-minority Hispanic African-American Other Minority (specify) _____

Female Owned Handicapped Owned Small Business (less than \$1 million annual receipts or 100 employees)

Indicate Status: Partnership Corporation Sole Proprietorship Other (specify) _____

Tax Identification Number: _____

To report suspected ethics violations impacting the San Antonio Water System, please call 1-800-687-1918.

This **Addendum no. 2** is being issued to respond to question submitted and to add the specification for item 2. Which is for the replacement of Chiller no. 2 at the Cherry Street Chill Water Plant. This change order will also include a revised price schedule.

QUESTIONS: Emergency Purchase and Installation of Replacement Chiller for the Port of San Antonio.

1.) What type of Automation system is currently installed at Building 356?

Answer: None-Computrol in the near future-we just to make sure the communication card is in place.

2.) Kindly provide info from page 15 - Section 2.0 – Submittals – "i. Please see YK MAXE CHILLER PERFORMANCE SPECIFICATION ATTACHMENT SHEET" (Need design flow rates and pressure drop for both evaporator and condenser and supply/return temps for condenser)

Answer: Contractors bidding on this bid must make sure the existing chill water and condenser pumps can deliver the flow rates of asking York Chiller.

3.) Please clarify start-up & owner training. In spec it requires 3 days of start-up and price sheet requires 5 days.

Answer: This will be 5 days of Start-up and training as it states on the Price sheet.

4.) Is it possible to get the existing flow, head, & pressure drop before the pre-bid? **Answer: This will be 5 days of Start-up and training as it states on the Price sheet.**

5.) Can we get the design data of the asking York chiller? **Answer: That is the full responsibility of the Bidder, there are no current flow rates or head pressure drop data.**

6.) I would like to confirm that Trane may provide a bid on a Trane manufactured chiller as equal to the York chiller specified? **Answer: Yes**

7.) The Chiller Performance Specification Attachment Sheet referenced in Section 1.0.i does not appear in the data provided. Please provide data sheet? **Answer:**

8.) Item #1 requires the contractor to have installed for the last 3 years comparably sized chillers with magnetic bearing technology. The chiller on this project is not Mag Bearing most likely because of its size. Thus, we do not see where this item is relevant to this scope. Do you concur? **Answer: Yes, please continue with bidding process-there's no issue with not having Magnetic bearing technology.**

9.) Note 3.2 in the project statement of work identifies mechanical inspection, test and balance for CHWP 3. The project proposal suggests a cost for replacing the pump and motor and a separate value for installation. Please provide equipment specifics for your desire on replacement pump IE: Horse Power, Amp draw, flow rate and pressures for replacement valuation. **Answer: This is solely the responsibility of the Contractor observation to meet the New Chiller specifications and existing piping infrastructure.**

10.) Will the unpainted exposed metal and concrete materials need surface coating (painting) to match existing? **Answer: NO**

11.) Will temporary cooling be required as a component of this project? **Answer: NO**

12.) Concrete addition will be required to manage house-keeping pads for the machines and drives. Please share uniform specific measurements and materials required by SAWS for concrete placement? **Answer: SAWS has no specific measurements-it up to the Contractor to measuring and oversee concrete requirements and suggest installation**

- 13.) a. We are wondering if the isolation valves for the CHW and CW lines are functional and will hold bubble tight. **Answer:** 13b. If not those valve should be changed and a pipe freeze provided for each? **Answer:** Yes, they are tight-if not SAWS will replace valve.
- 14.) A harmonic filter for the VSD wasn't specified in the RFP is this needed, due to any issues with power quality? **Answer:** Yes..
- 15.) It wasn't specified in the RFP – does SAWS want temperature protection on the motor using RTDs on the windings and bearings? **Answer:** No-will be installed buy SAWS staff
- 16.) Is it permissible to widen the current 8' door that aligns with the chiller being replaced? **Answer:** No-we would need engineering plans for this remodel and Boeing/Port Authority permission for this.
- 17.) Is a Bid Bond required for this bid? **Answer:** Non bid Bond is required for this project.
- 18.) Will this project need to be permitted through the Port Authority or the City of San Antonio? **Answer:** NO
- 19.) What are the badging requirements and costs? Will we be allowed to enter or leave once badged or check-in & out with Security daily? **Answer:** No cost-first there will be pre-registration on all individuals working on this Chiller Replacement, then they will have to be ESCORTED by SAWS Staff at all times [leaving and Going to Bldg. 356]
- 20.) Are any engineered permit drawings required for the increase in tonnage? **Answer:** NO
- 21.) Is the original design data available for the existing Chilled Water Pump #3? **Answer:** NO
- 22.) What is the existing breaker size for both the existing chiller #3 and chilled water pump #3? **Answer:** Chiller Breaker size 400 amp Chill Water Pump Breaker Size 225 amp
- 23.) The existing housekeeping pad will need to be enlarged. Are there any specific structural specifications needed? Demo existing slab and pour new? Add on to existing? **Answer:** This will be determined by the Awarded Contractor by making sure it's with the Mechanical Code or by the Specification of total weight of the new chiller specifications.
- 24.) Does a contingency need to be added if existing valves do not hold? **Answer:** No, SAWS will replace any valve needing replacement.
- 25.) Under Submittals – “Delivery and Handling – a. Chillers shall be delivered to the job site completely assembled – unless otherwise specified.” Assume the factory FORM 7 is acceptable to bring the new chiller in pieces and reassembled? **Answer:** NO issue-just specified in full or in sections.
- 26.) Equipment & Refrigerant Salvage – Will the existing chillers and refrigerant need to be removed from premises? Will it become the property of the successful contractor? **Answer:** There is no Refrigerant in the System.
- 27.) Can SAWS provide specifications for the chilled water pump and new chiller? **Answer:** NO, this is entirely up to the Bidding Contractor-SAWS does not have the expertise in this field-we are counting on the Contractor experience.
- 28.) We noticed a refrigerant recovery machine next to the chillers, has the refrigerant on this chiller been recovered? **Answer:** Yes
- 29.) Is the mechanical/general contractor to carry Electrical for this project? **Answer:** NO

- 30.) Is the mechanical/general contractor to carry Controls for this project? **Answer: NO**
- 31.) Is the mechanical/general contractor to carry Test and Balance? Or is this going to be done by SAWS?
Answer: By Contractor
- 32.) If new valve is required on suction side of pump, when can shut down of system occur? **Answer: This will be a coordination between SAWS and Awarded Contractor during off peak hours**
- 33.) Is painting of pipe and equipment required? If so, can you provide colors for different systems and equipment? **Answer: NO need for painting-this will be done by SAWS staff**
- 34.) If chiller is provided with spring Isolators, Is an inertia housekeeping pad required? **Answer: Please follow Mechanical Code or by the Manufactures guidelines**
- 35.) **What is the duration for this project?** **Answer: It's up to the Chiller and Pump availability and coordination between SAWS and the Awarded Contractor**
- 36.) Can SAWS provide specifications for the new chiller to be installed? **Answer: The specification for the Cherry Street chiller is part of addendum 2.**
- 37.) Has the refrigerant on this chiller been recovered (Cherry St. Chiller)? **Answer: Yes**
- 38.) Is the mechanical/general contractor to carry Electrical for this project (Cherry St. Chiller)? **Answer: NO, all electrical will be done in house by SAWS Electrical Staff**
- 39.) Is the mechanical/general contractor to carry Controls for this project (Cherry St. Chiller)? **Answer: NO.**
- 40.) Is the mechanical/general contractor to carry Test and Balance? Or is this going to be done by SAWS (Cherry St. Chiller)? **Answer: By Contractor**
- 41.) Does SAWS require the same factory options installed on chiller #2 that was installed on chiller #4? **Answer: Yes**
- 42.) Does SAWS require that the same third party sensors/meters – Rosemont temperature sensors, flow meters and pressure sensors, which are installed on chiller #4. Currently Chiller #2 doesn't have these items?
Answer: Yes
- 43.) Who will be responsible for controls and controls integration? **Answer: Contactor but, only @ Cherry St. Cooling Plant-not Port SA Bldg. 356**
- 44.) Does SAWS require that the pneumatic isolation valves be replaced? **Answer: No**

IT IS NECESSARY TO RETURN THIS ADDENDUM TOGETHER WITH YOUR ORIGINAL BID DOCUMENT.

SPECIFICATIONS AND SCOPE OF WORK:

San Antonio Water System
Cherry St. Chill Water Plant
725 S. Cherry Street
San Antonio Texas 78226

Scope: San Antonio Water System is soliciting bids for the purchase of an YKX4X4K4-DHGS 2000 ton York for the replacement of the existing YKWHVDJ4-DHES 2000 ton chiller. This solicitation is for a turnkey replacement and must include plumbing, refrigerant, disposal, crane support, concrete foundation [housekeeping pads], rigging if needed, welding, piping, vent piping, control valves and any other associated material for a professional quality installation.

NOTE: Vendors will be given the opportunity to take measurements, and to access the level of difficulty required in performing the work. Only bids submitted by those that attend the site visit will be considered for award.

1.0 General Requirements

- a. Contractor must carry a Class A license for Heating & Air Conditioning by TDLR
- b. Contractor shall, at his/her expense, procure all necessary licenses, memberships, certifications and permits required to conduct the work required under the terms of this contract including proper disposal of all debris.

2.0 Guide Specification

Section includes design, performance criteria, refrigerants, controls, and installation requirement for water-cooled Chiller

Submittals

- a. Dimensioned plans and elevation drawings, including required service clearances and location of all field piping and electrical connections.
- b. Electrical and water quality requirements during operation, standby and shutdown.
- c. Control system diagram showing points for field interface and connection to external BMS system.
- d. Installation and Operating Manuals
- e. Manufacturers certified performance data as per AHRI at full load and IPLV or NPLV
- f. Submittals on Color Touch Screen Controller features associated with points and history
- g. All work is subject to inspection while services are being performed, as well as after the work is completed, and must meet the satisfaction of the Facilities Maintenance Representative, or designated representative.
- h. The Contractor will be responsible for performing all work and or supplying all materials as specified and insure proper conduct of the work as specified herein.
- i. As a condition of award contractor shall furnish all materials, equipment, tools, supplies and labor required to successfully perform contract serviceable and shall be kept in first class operating condition. I, in the opinion of the SAWS representative, the condition of any machinery or equipment is such that it would adversely affect the workmanships of the completed jobsite(s), retard progress or be unsafe, it shall be repaired or replaced with satisfactory equipment at no cost to SAWS.

j.

Delivery and Handling

- a. Chillers shall be delivered to the job site completely assembled - unless otherwise specified

1.1 Warranty and Maintenance

- a. The chiller manufactures warranty shall be for a period of 24 months from date of equipment start up or the manufactures valid checklist performance approval for start up
- b. Factory Start up Services: Provide factory supervised start up on site for a minimum of three working days ensuring proper operation of the equipment.

- c. During the period of start up the factory authorized technician shall give proper training and care and operation of the equipment.

Present Optional Pricing for Warranty Extensions:

1. 2 year chiller and compressor parts and labor extended maintenance warranty.
2. 5 year chiller and compressor parts and labor extended maintenance warranty
3. 10 year chiller and compressor parts and labor extended maintenance warranty
4. Warranty for Refrigerant Loss due to Manufacture Equipment defect or mishandling

2.0 Design Requirements

- a. Hinges on Condenser & Evaporator Water Boxes
- b. Communication Card for BAS System
- c. The evaporator, condenser, and expansion valve shall be configured to operate as a single refrigerant circuit unless otherwise specified. The chiller unit compressors shall be designed for mechanical and electrical isolation to facilitate services and removal.
- d. Opti-Sound Design
- e. Minimum entering condenser water temperature shall be 12 degrees above chilled water temperature. Chiller shall be able to operate in these conditions for at least 8 hours to provide condenser water relief and allow compressor energy savings. Chiller shall be able to vary the condenser water temperature to the minimum conditions independently of condenser water flow rate and chilled water flow rate.
- f. Chiller must compose of having a VSD [Variable Speed Drive] for easy startup and maximizing startup efficiency
- g. Chiller must come fully charge with Refrigerant for proper operation

4.0 Special Add On's

- a. One complete Kit- (SKF) 8 Multiport Automatic Lubricator TLMP Series with all accessories
- b. Pressure Gauges on Supply & Return Water Lines
- c. Install Dry Wells for Supply and Return Water temperatures

3.0 Evaporator:

- a. Evaporator shall be shell and tube type and have separate shells. Heat exchangers shall be designed constructed, tested and stamped according to the requirements of the ASME Code 1571-They shall have a copper shall have a copper wall of 0.025 in. wall thickness minimum. The watersides shall be designed for a minimum of 150 psig. All water connections of the evaporator and condenser shall be of flanged and not Victaulic Couplings.
- b. Tubes shall be individually replaceable and have internally and externally enhanced surfaces designed for refrigeration.
- c. Minimum evaporator exiting water temperature shall be 38 degrees.
- d. Provide thermal dispersion switches for water flow switches on evaporator to prevent unit operation with no water flow
- c. Provide water pressure gauges on supply and return or one pressure gauge with transfer tubing to trouble shoot water differential between supply and return
- d. Provide Hinge style door opening on Water Box Housing for easy opening for maintenance

3.1 Condenser:

- a. Condenser shall be shell and tube type and have separate shells. Heat exchangers shall be designed constructed, tested and stamped according to the requirements of the ASME Code 1571-They shall have a copper shall have a copper wall of 0.025 in. wall thickness minimum. The watersides shall be designed for a minimum of 150 psig. All water connections of the evaporator and condenser shall be of flanged and not Victaulic Couplings. Vents and drains shall be provided.

- b. Provide thermal dispersion switches for water flow switches on evaporator to prevent unit operation with no water
- c. Provide water pressure gauges on supply and return or one pressure gauge with transfer tubing to trouble shoot water differential between supply and return
- d. Provide sacrificial anode of 1 inch screw in's on supply and return on piping to prevent corrosion of the steel
- e. Provide Hinge style door opening Water Box Housing for easy opening for maintenance

4.0 Chiller Controls

- a. Has the service ability to access operating history through remote monitoring and set points that are all accessible thru the existing BAS system [Computrol's] which uses BACnet Protocol.
- b. Chiller control system shall have full Web based remote control capability including the capability for remote operation and software updates.
- c. Must have a Graphic Control Center
- c. BMS interface module for the interface with BacNet MSTP & BacNET IP & Modbus

4.1 Installation:

- a. Provide all material required for a fully operational and functional chiller
- b. Arrange piping to enable dismantling and permit head removal for tube cleaning.
- c. Install per manufacturer's IOM documentation, shop drawings and submittal documents.
- d. Installation of new Butterfly valves & Gaskets on Supply and Return piping
- e. Drain valves of on evaporator and condenser for preventive maintenance
- f. Add 1" inch drain valves with full port ball valve on Supply & Return lines for drainage
- g. Have proper adjusting bolt Vibration Spring Isolators to caring Manufacture weight of Chiller

4.2 Work Scheduling and Hours

All preparation and installations of chiller & piping may be done during regular business hours or schedule around work load with no interruptions of the daily operations of SAWS personal daily functions. Daily schedule starts from Monday thru Sunday from 6.00am to 5.00pm.

ESTIMATED DELIVERY

Delivery will be completed within _____ calendar days after receipt of order for **item 1** Emergency.

PRICE SCHEDULE ITEM 1

Item1: Replacement of the 1250 Ton McQuay Chiller no. 3

Item	Description	Quantity	Unit of Measure	Unit Price	Extended Price
1	Removal and disposal of 1250 Ton Chiller and all appurtenances	1	LS	\$	\$
2	Installation of new 1500 Ton Chiller and all appurtenances	1	LS	\$	\$
3	Building Management System Integration Module	1	EA	\$	\$
4	Factory Supervised Start Up on Site for A Minimum of Five Working Days	1	LS	\$	\$
5	8 hours maintenance and operation overview training performed by a Factory Authorized Technician	1	LS	\$	\$
6	Chill Water Motor & Pump Replacement	1	LS	\$	\$
7	Installation for Chill Water Motor & Pump	1	LS	\$	\$
TOTAL ITEM 1				\$	
8a	Optional additional two year extended warranty	2	YR	\$	\$
8b	Optional additional five year extended warranty	5	YR	\$	\$
8c	Optional additional ten year extended warranty	10	YR	\$	\$

Delivery will be completed within _____ calendar days after receipt of order for **item 2** Emergency.

PRICE SCHEDULE ITEM 2

Item2: Replacement of the 2000 Ton York Chiller no. 2

Item	Description	Quantity	Unit of Measure	Unit Price	Extended Price
1	Removal and disposal of 2000 Ton Chiller and all appurtenances	1	LS	\$	\$
2	Installation of new 2000 Ton Chiller and all appurtenances	1	LS	\$	\$

3	Building Management System Integration Module	1	EA	\$	\$
4	Factory Supervised Start Up on Site for A Minimum of Five Working Days	1	LS	\$	\$
5	8 hours maintenance and operation overview training performed by a Factory Authorized Technician	1	LS	\$	\$
6	Installation for Chill Water Motor & Pump	1	LS	\$	\$
				TOTAL ITEM 2	\$

8a	Optional additional two year extended warranty	2	YR	\$	\$
8b	Optional additional five year extended warranty	5	YR	\$	\$
8c	Optional additional ten year extended warranty	10	YR	\$	\$

TOTAL ITEMS 1 & 2				\$	
------------------------------	--	--	--	-----------	--



YK MILLENNIUM CHILLER PERFORMANCE SPECIFICATION

Unit Tag CH-1	Qty. 2	Model No. YKWHVDJ4-DHES	Capacity (tons) 2000	Volts/Ph/Hz 4160/3/60	Refrigerant R-134A
-------------------------	------------------	-----------------------------------	--------------------------------	---------------------------------	------------------------------

Unit Data	Evaporator	Condenser
EWT (deg F.)	50.00	86.00
LWT (deg F.)	40.00	95.44
Flow Rate (gpm)	4800.0	6000.0
Pressure Drop (ft)	17.7	20.8
Fluid Type (%)	WATER	WATER
Circuit # of Passes	2	2
Fouling Factor (ft ² °F hr / Btu)	0.00010	0.00025
Tube No. / Description:	183 - 0.035" Enhanced Copper	232 - 0.035" Enhanced Copper
Design Working Pressure(psig)	300	150
Entering Water Nozzle @ Location:	2	17
Leaving Water Nozzle @ Location:	3	18
Water Box Weight, ea (lbs) (1):	3033*	1620*
Cover Plate Weight, ea (lbs):	2950	1466
Return Head Weight (lbs):	1504	459
Water Weight (lbs):	5907	7062

Performance Data	
KW	1287
KW/Ton	0.643
NPLV	0.554
Shaft HP	1657

Electrical Data	
FLA	204
LRA	1441
Inrush Amps	1441
Oil Pump Volts	460/3/60
Oil Pump FLA	3.6
Min Circuit Amps	255
Max Fuse/Breaker	450
Type Starter: None	

Other	
Operating Wt. (lbs)	89815
Refrigerant Wt. (lbs)	4460
Oil Charge (gal)	20
Motor Wt. (lbs)	7500
Compressor Wt. (lbs)	5000
Starter Wt. (lbs)	
Shipping Wt.	72386

Notes:

- (1) Not including cover plate on marine boxes.
- * with applicable water flanges

Project Name: SAWS DISTRICT COOLING PLANT	Sold To:
Location: San Antonio, TX	Cust. Purch. Order No.:
Engineer:	York Contract No.: 00155617
Contractor:	Date: Revision Date:



YK MAXE CHILLER PERFORMANCE SPECIFICATION

Unit Tag	Qty	Model No.	Net Capacity (tons)	Power	Refrigerant
	1	YKVKV9K3-DAH	1446	4160/3/60.0	R-134a

PIN					
YKVKV9K3-DAHXPZYPE4VVD1446560363CRARR1CRGBXW00XH1CRGBXW00XXXXXXXX3EAUSXXXXXXXXSMXYBBBBAXXXXXXXXXXXBXBXAXSXXXX					
Basic Model	Extended Model	Evaporator Heat Exchanger	Condenser Heat Exchanger		
Y K V K V 9 K 3 - D A H X P Z Y P E 4 V V D 1 4 4 6 5 6 0 3 6 3 C R A R R 1 C R G B X W 0 0 X H 1 C R G B X W					
5 10 15 20 25 30 35 40 45 50 55					
Condenser Heat Exchanger (Cont)	Unit Options	Motor Options	Power Options	Doc & Testing Options	Ship Options
Warranty Options	Misc Options				
0 0 X X X X X X N 3 E A U S X X X X X X S M X Y X B B B X A X X X X X X X X X X X X X X X B X X B X X A X S X X X X X					
60 65 70 75 80 85 90 95 100 105 110					

Unit Data	Evaporator	Condenser
EWT (°F):	51.64	85.00
LWT (°F):	42.00	94.01
Flow Rate (gpm):	3588	4438
Pressure Drop (ft H2O):	12.8	8.77
Fluid Type (%):	WATER	WATER
Circuit No. of Passes:	2	2
Fouling Factor (ft ² °F hr / Btu):	0.000100	0.000250
Tube No. / Description:	371 - 0.025" Turbo-ESP Copper (3/4")	266 - 0.025" CSL Enhanced Copper (1")
Design Working Pressure (psig):	150	150
Entering Water Nozzle @ Location:	R	R
Leaving Water Nozzle @ Location:	R	R
Water Box Weight, ea (lb) :	713	644
Cover Plate Weight , ea (lb):	N/A	N/A
Return Head Weight (lb):	540	451
Water Weight (lb):	6767	6252
Water Volume(gal):	812	751

Performance Data		Electrical Data		Other	
Heat Rejection Capacity(mbtu/hr):	19.90	Job FLA:	115	Operating Wt. (lb):	75920
Job KW:	810.3	Motor FLA:	125	Per Isolator (lb):	18980
Motor KW:	780.5	LRA:	811	Refrigerant Wt. (lb):	3933
KW/Ton.R:	0.5603			Oil Charge (gal):	20
NPLV.IP(KW/Ton.R):	0.3631	Min Circuit Ampacity (Amps):	144	Motor Wt. (lb):	7420
Gear Code:	PZ	Max Fuse/Breaker:	250	Compressor Wt. (lb):	6500
OptiSound Cntrl:	YES			Starter Wt. (lb):	N/A
Shaft HP:	999			Ship Wt (lb):	62901
Isolation Valves:	YES				
Oil Cooler Type:	Standard				
Condenser Inlet:	Diffuser	Type Starter: Variable Speed Drive			



YK MAXE CHILLER PERFORMANCE SPECIFICATION

	VSD Model: MVVSD1000RK-8412LZ-46A	
--	-----------------------------------	--

AHRI Message:

Auxiliary components included in total KW - oil pump & heater, chiller controls.

Certified in accordance with the AHRI Water-Cooled Water Chilling and Heat Pump Water-Heating Packages Using Vapor Compression Cycle Certification Program, which is based on AHRI Standard 550/590 (I-P) and AHRI Standard 551/591 (SI). Certified units may be found in the AHRI Directory at www.ahridirectory.org.

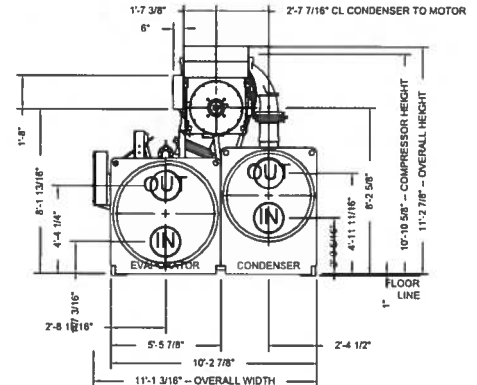
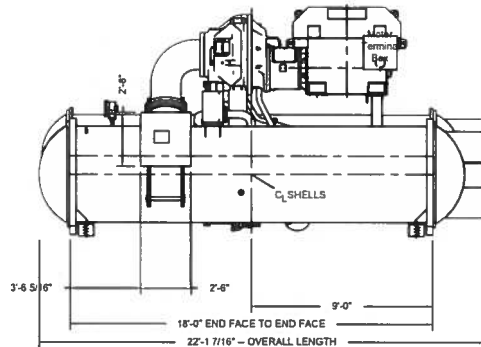
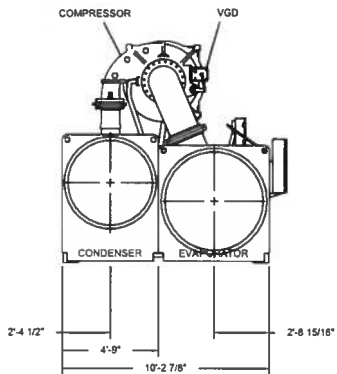
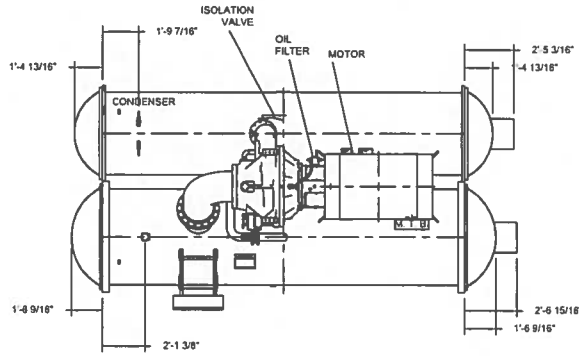
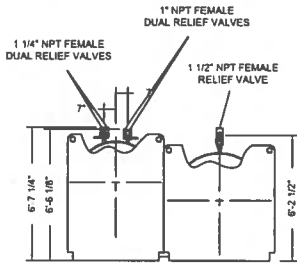


NOZZLE LEGEND

EVAPORATOR INLET RIGHT END 2 PASS 18 DIA. (150Paig DWP)
 EVAPORATOR OUTLET RIGHT END 2 PASS 18 DIA. (150Paig DWP)
 CONDENSER INLET RIGHT END 2 PASS 18 DIA. (150Paig DWP)
 CONDENSER OUTLET RIGHT END 2 PASS 18 DIA. (150Paig DWP)

Victaulic Grooved Nozzles (per ANSI / AWWA C-606)

Optional water box hinges not shown.
 Overall unit width and inlet nozzle length may increase.



SHIPPING WT 62,901 LBS OPERATING WT 75,920 LBS LOAD PER ISOLATOR 18,960 LBS

PRODUCT DRAWING
 MaxE Centrifugal Liquid Chiller
 MODEL: YK VK V9 K3 - DA H
NOT FOR CONSTRUCTION

Project Name: SAWS
 Location:
 Engineer:
 Contractor:
 For:

Sold To:
 Cust Purch Order#:
 Contract#:
 UNIT
 TAG:

Date: August 08, 2019
 Rev. Date: August 08, 2019
 Form No.: 160,76-EG1
 Dwg. Lev.: 1215
 Dwg. Scale: NTS



YORKworks Version: