

# KKT chillers - Training Series Siemens Healthineers Chiller Commissioning Process



## Scheduling

## ☐ Pre Startup checklist

- KKT worked together with Siemens to create a pre-startup checklist
  - Purpose:
    - Ensure site readiness
    - Reduce Delays
    - Eliminate need for return visits
    - Reduce costs
    - Provide contact information
    - Confirm chiller information and site location

#### □ Scheduling

- Completed checklist must be submitted to KKT chillers via email <u>support@kkt-chillersusa.com</u> no less than 5 business days before the requested startup visit.
- For checklists received with less than 5 business days, an additional expedite fee will apply.

## □ Commissioning

 Startup to be performed once the magnet has been fully installed



rie-Startu	p Checklist		KKT
Medical Chillen	š		chillers
Please Complete One Form Pe	rUnit		
Facility Name:			
Address:			
KKT Produce (SN):			
KKT Model:			
The chiller must be installed	the minimum requirements that must be considering all applicable safety practi KKT chillers Installation and Operation	oes as defined by OSHA	installer prior to the scheduled chiller startup.  Each item must be verified by the project loal specifications.
This form must be completed a requested startup visit. Other	and returned to KKT chillers via email <u>su</u> wise, an additional expedite fee will apply	pport@kkt-chillersusa.com y.	no less than 5 business days before the
Note: All Startup visit	ts will be scheduled to be performed dur	ing regular office hours 8	AM - 5 PM Monday through Friday.
Please	place a checkmark in the left colum	n once each Item has	been completed.
Chiller install locati in chiller manual.	on provides adequate clearance for	or airflow and accessi	bility for maintenance as specified
	unted, anchored and supported per	specifications in chille	r manual.
Chiller location is no	t near any other heat sources (i.e.:	condenser exhaust, ver	neration ducts, heating exhaust, etc.).
Configuration of the	fluid piping must adhere to the specific		anual (i.e. pipe sizing and material).
200000000000000000000000000000000000000		and flushed clean with	water prior to connecting to the chiller.
Adequate Glycol (KK for standard installa		te (near chiller) to insu ions in regions with lov	re proper glycol concentration (35% w ambient temperatures). KKT
			ents shown on the chiller data plate.
All field wiring conne	ections verified and match prints. All	wiring terminations ha	we been checked for loose connections.
			e run. If length exceeds 50M (164'), a T# M506106). Splicing is not allowed.
	plied to the chiller crankcase heaters r must be supplied to the unit and m		ours prior to arrival of service technician.  must remain in the ON position.
Chiller visually chec	ked for any signs of shipping damag	e (i.e.; damaged cratin	ng, bent panels, fluid leaks, etc.).
Automatic air-bleede	er valves must be installed at highes	t point of the site pipin	ng to allow air to escape from the system.
Comments:			27-3
accordance with the installa	tion instructions and technical speci	fications provided in th	n this checklist has been completed in the KKT chillers installation and Operation complete or incorrect items are your
responsibility. Failure to o	complete any items on this checklinges incurred as a result of incomplete.	st may result in the n	eed for additional visits and additional
Name of Site Manager:		Company Name:	
Signature of Site Manager:		Phone Number:	
	KKT chille 765 Dillon Drive Wo		
T:847 734	1600   F: 847 734 1601   E: sales@k		www.kkt-chillersusa.com
T:847 734	1600   F: 847 734 1601   E: sales@id		www.kkt-chillersusa.com  Effective Date: 10.21.2015 Revision Date: 03.05.2020

## Site Readiness

## ☐ Challenges

- Site Readiness:
  - Clearance issues
    - Serviceability
    - Airflow
  - Piping length exceeds specifications
  - Incomplete piping
  - Missing automatic air bleeders
  - Site piping not flushed / clogged strainers
  - Site piping not leak checked
  - Site piping leaks
  - Glycol / Distilled Water
    - Incorrect type
    - Not enough available
    - Incorrect concentration
    - Tap water
  - Incomplete wiring
  - No power to unit
  - Remote display / remote cable not installed
  - System filled incorrectly (tap water) or over-pressurized









#### ☐ Installation Guidelines

 KKT provides a detailed installation guideline document to assist the installing contractor

## ■ Documentation portal

 KKT created an online documentation portal to make sure this information is available to Siemens, the installing contractor and our local service partners www.kkt-chillersusa.com/customer/siemens

#### □ Chiller Location

- Must not be located near any other heat sources
- Must allow adequate clearance for airflow and serviceability
  - Min. 40" (1000mm) clearance on each side
  - Min. 8' (2500mm) clearance above unit

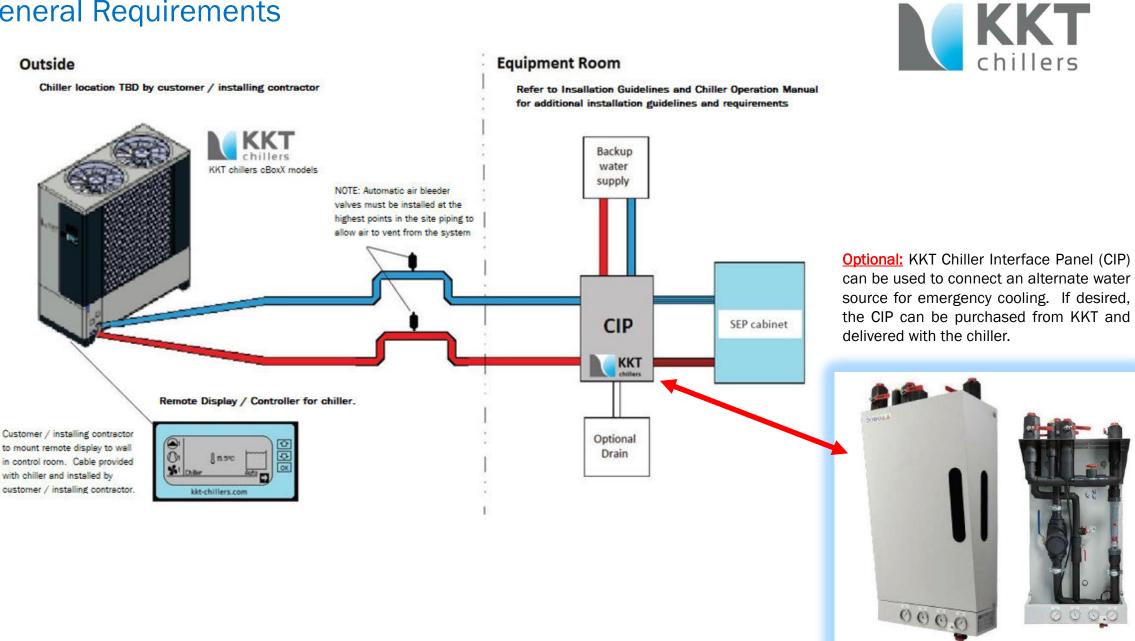
## ■ Mounting / anchoring

 Must meet local building code and specifications provided in manual / installation guidelines









#### ☐ Fluid Piping

- Sized per specifications in manual / installation guidelines
- Piping must be completed and all fluid connections made
- Piping must be flushed with water prior to connecting to chiller.
- Chiller must be isolated and site piping leak checked prior to our arrival

#### □ Air Bleeders

 Automatic air bleeders must be installed at highest point in site piping and in any locations where air might be trapped

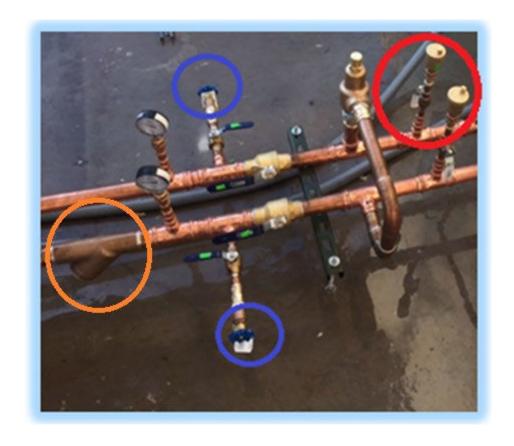
#### ☐ Fill ports

 Hose bib connection to be installed in site piping near chiller for filling purposes

#### □ Strainer

 WYE strainer must be installed in the return line of site piping connecting to the chiller.







## ☐ Glycol

- Proper type and amount of glycol must be provided at filling point near chiller
  - Automotive antifreeze cannot be used.
  - Tap Water cannot be used
- Adequate volume of glycol / distilled water must be on hand to ensure proper concentration
- KKT recommends using KKT Protect (37% premixed Glycol). Glycol to be supplied by the customer / installing contractor, and can be ordered directly from KKT.
- If 100% concentration is purchased, distilled water must also be provided to dilute to the proper concentration.
- KKT to fill system with glycol when onsite for startup







#### ☐ Electrical Service / Field Wiring

- Incoming power service must be sized according to local code based on chiller nameplate requirements
- All field wiring must be verified, connections must be tight and match prints.
- Wiring to the chiller should be routed through provided knockouts / grommets, no additional holes are necessary.
- Power must be supplied to crankcase heaters for a minimum of 8 hours prior to startup
- Remote display panel must be installed in control room
  - 1" conduit for remote display cable must be installed and cable pulled.
  - If total length exceeds 164' (50M), a long distance remote cable (KKT# M506106) must be installed.
    - NOTE: Maximum length allowed is 328' (100M).
    - Splicing is not allowed.
  - KKT will make wiring connections for remote display during startup.







# Warranty



## □ Warranty

- KKT's manufacturer's warranty begins upon completion of startup
  - The warranty covers parts and labor on the chiller <u>only</u>
  - The warranty does <u>not</u> cover leaks external to the chiller cabinet or parts damaged due to improper rigging, installation, over pressurization, contamination or poor water quality.
- Return visits due to site readiness or other issues outside of the chiller cabinet are considered billable events and are <u>not</u> covered under our manufacturer's warranty.



## Service



- ☐ If service is needed during the warranty period, KKT offers 24/7 support:
  - KKT Technical Support :
    - **833.KKT.HELP** (833.558.4357)
    - <u>Techsupport@kkt-chillersusa.com</u>
  - KKT Customer Service \*
    - **877.994.0991**
    - kktservice@kkt-chillersusa.com





\*Note - End Users should contact Siemens to request service.









Thank-you for your partnership and support!