

# KKT chillers - Training Series Philips Healthcare Chiller Commissioning Process



### Commissioning

#### □ Commissioning

- Philips and KKT have agreed to a two stage process for chiller startups:
  - Phase 1 Starting the chiller in a bypass loop before magnet is installed
  - Phase 2 Return visit to top off glycol and adjust fluid flow / pressure after magnet is fully installed

#### □ Pre Startup checklist

- Philips and KKT worked together 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

#### □ 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 Philips, your installing contractor and our local service partners.
- o www.kkt-chillersusa.com/philips



### Scheduling

- □ Scheduling Phase 1
  - Checklist must be completed and returned to KKT no later than 5 business days before requested date for Phase 1
  - An expedite fee applies if Phase 1 is requested / checklist is returned in less than 5 business days due to short notice.
  - Completed checklist indicates that all items are complete and chiller is ready for startup.
  - Return visits due to site readiness may be billable

#### □ Scheduling – Phase 2

- Philips to provide proposed date for Phase 2 when scheduling Phase 1.
- Philips to contact KKT 48 hours prior to requested date with any changes

#### □ Contact:

- o support@kkt-chillersusa.com
- $\circ$  877.994.0991

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Automatic air-bleeder valves must be	of shipping damage	(i.e.; damaged cratin	g, bent panels, fluid leaks, etc.).	
	installed at highest	point of the site pipin	g to allow air to escape from the	system.
omments:				
signing below, you acknowledge that you	have personally v	verified each item or	this checklist has been comple	eted in
coordance with the installation instructions a anual. Additionally, you acknowledge th sponsibility. Failure to complete any iten arges. Any additional charges incurred as a	nd technical specifi at any delays ca is on this checklist result of incomplet	cations provided in th aused due to inci t may result in the n te items are your resp	e KKT chillers installation and Op omplete or incorrect items ar eed for additional visits and add oonsibility.	eration e your ditional
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gnature of Site Manager:		Phone Number:		



### Site Readiness

### □ Challenges

- $\circ~$  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









### □ 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











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- 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 recommended 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 can be ordered directly from KKT and delivered with the chiller.
- 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 phase 1 and will top off as needed during phase 2









#### 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
- o 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 <u>not</u> allowed.
  - KKT will make wiring connections for remote display during startup.







### Warranty

#### □ Warranty

- KKT's manufacturer's warranty begins upon completion of Phase 1
  - 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 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:

- $\circ~$  KKT Technical Support :
  - 833.KKT.HELP (833.558.4357)
  - Techsupport@kkt-chillersusa.com
- $\circ~$  KKT Customer Service \*
  - 877.994.0991
  - kktservice@kkt-chillersusa.com





\*Note – End Users should contact Philips to request service.









## Thank-you for your partnership and support!