



**TRANE®**

# General Service Bulletin

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## CH530 Software Mandatory Retrofit for All Field Units CVHE, CVHF, CVHG

ORDER No: CVHE-SVB09A-EN

DATE: July 31, 2002

### Introduction

The purpose of this bulletin is to advise customers of a problem associated with Tracer CH530 Controller used on CenTraVac™ units. This bulletin is to inform the field of the failures and to describe the corrective action. Typical product applications include the CVHE, CVHF and CVHG family of chillers. The action described in this bulletin is being taken to address a equipment hazard concern.

**NOTICE:** Warnings and Cautions appear at appropriate sections throughout this literature. Read these carefully.

**⚠ WARNING** *indicates* a potentially hazardous situation which, if not avoided, could result in death or serious injury.

**⚠ CAUTION** *indicates* a potentially hazardous situation which, if not avoided, may result in minor or moderate injury. It may also be used to alert against unsafe practices.

**CAUTION** *indicates* a situation that may result in equipment or property-damage only accidents.



## Discussion

### CAUTION

#### Equipment Damage!

Due to software failure DynaView™ controllers are locking up. While in this locked up state the compressor is off which creates operation problems such as all the oil being pumped out of the sump. Failure to download new software could result in equipment damage.

The potential for this hazard is severe oil pump and compressor damage.

#### Operational Problems are:

- DynaView Main Processor Lockups; Oil Pump remains ON after post lube, and Display does not report valid information.

The Main Processor problem occurs randomly during chiller post lube shutdowns. The oil pump will be found running after the post lube time expires. This problem only occurs when the Earthwise™ Purge is in Auto or Stop. **To temporarily avoid the potential problem select ADAPTIVE Purge mode (Default) until new software can be downloaded.**

- Purge Liquid Level nuisance alarms; chillers are encountering many “ High Liquid level warnings and alarms” . The purge software has been modified to prevent these nuisance indications.
- AFDD Inlet Guide Vanes and Drive Speed Stability (Hunting). The rate of motor speed change has been modified to better match the rate of IGV changes.
- Additional enhancements with the new software:  
Gauge Refrigerant Pressure choice on DynaView  
Improved Restart Inhibit Feature

#### CTV Main Processor 4.0 Software (6200-344-04-00) Details

##### 1) Chiller :

- a) Corrected the Main Processor lockups as seen in the field. (Root cause was discovered to be caused by a purge control function. See Purge item a)
- b) Add new restart inhibit function.
- c) Added new setpoints for Restart Inhibit Free Starts, Restart Inhibit Start to Start and, Restart Inhibit Diagnostic enable/disable.
- d) Added gauge/absolute switch to pressure display for DynaView
- e) Added Amps and Volts to the ASHRAE Chiller Log menu.
- f) Added a new sub-mode for min capacity time remaining.
- g) Change HGBP Valve Travel Time setpoint max to 180 seconds.



## 2) Purge:

- a) Set the processing of the Purge Liquid Level Switch transitions. This corrects the MP lockups seen in the field.
- b) Corrected the nuisance Purge Liquid Level Too High diagnostics being seen in the field by changing;
  - Purge Liquid Level Too High Warning diagnostic being called out from 30 seconds to 20 minutes
  - Purge Liquid Level Too High Continuously diagnostic being called out from 15 minutes to 20 minutes.
  - Purge Liquid Level Too High Continuously diagnostic being called out with four warnings in 2 hours to four warnings in 4 hours.
- c) Auto carbon regeneration is no longer allowed in Purge stop mode. Previously it was allowed in all modes. Manual carbon regeneration while in the Purge stop mode can be initiated from TechView™.
- d) The Purge Carbon Regeneration Temperature Not Satisfied diagnostic is now called out at the Carbon Regeneration Temperature setpoint – 30 F and lower after 4 hours. It used to be called out at the Carbon Regeneration Temp setpoint and lower. If the Purge Carbon Regeneration Temperature Not Satisfied diagnostic occurs, regeneration cycle will now continue as if it met the setpoint. Regeneration cycle used to stop upon occurrence of the diagnostic.

## 3) AFD/IGV Control:

- a) AFDD Chillers- AFD/IGV Control: These items will correct the “ hunting” issue being seen in the field on AFD chillers.
  - Implemented scaling factor between IGV/AFD Control.
  - Filtered the IGV/AFD speed change in response to field data.
  - Added filter to slow down AFD speed changes. This allows time for the IGV to position before the speed suddenly changes.
  - Surge recovery algorithm now increases speed 1 Hz every 5 seconds.
  - Added minimum pressure coefficient setpoint to TechView. Compressor is not allowed to drop below minimum pressure coefficient at startup.

## Repair Procedure

Install CTV Main Processor Software, version 4.0 and associated TechView™ Software version 4.03 posted to TRANE.COM July 17, 2002.

**Please note that this retrofit applies to already STARTED chillers, chillers not already started can be software upgraded as part of the normal startup.**

**If the unit has started prior to the software release arrangements should be made to immediately complete the retrofit.**

## Parts Ordering Information

No parts need to be ordered.

## Material Disposition

No disposition necessary in the field.



## Product Changes

All CVHE, CVHF, CVHG units shipped after July 17, 2002 will have new CTV Main Processor Software, version 4.0 installed.



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[www.trane.com](http://www.trane.com)

For more information, contact your local district office or e-mail us at [comfort@trane.com](mailto:comfort@trane.com)

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Literature Order Number	CVHE-SVB09A-EN
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*Trane has a policy of continuous product data and product improvement and reserves the right to change design and specifications without notice. Only qualified technicians should perform the installation and servicing of equipment referred to in this bulletin.*