GENERAL

There has been some confusion on which units use thermal expansion valves (TXV's). The table below summarizes, by chiller model, also which products use TXVs.

The following table defines which units use the TXV vs. EEV, and the illustrations will show you their physical locations within the unit.

<table>
<thead>
<tr>
<th>CHILLER / PRODUCT</th>
<th>REFRIGERANT</th>
<th>TXV / EEV</th>
</tr>
</thead>
<tbody>
<tr>
<td>YCAL0014-80</td>
<td>R-22</td>
<td>TXV Standard with ETRE (old) used as an option on some units. Brine units use TXV and SOL.</td>
</tr>
<tr>
<td>YCAL0019-66</td>
<td>R-410A</td>
<td>TXV's only</td>
</tr>
<tr>
<td>YCAL0090-134</td>
<td>R-22</td>
<td>ETRE (old) standard on these units. Replace with TXV and SOL.</td>
</tr>
<tr>
<td>YLAA0070-175</td>
<td>R-410A</td>
<td>Sporlan EEV</td>
</tr>
<tr>
<td>YCWS / YCRS</td>
<td>R-22</td>
<td>TXV's only</td>
</tr>
<tr>
<td>YCAS, Style &quot;F&quot;</td>
<td>R-22</td>
<td>TXV's only</td>
</tr>
<tr>
<td>YCAS, Style &quot;G&quot;</td>
<td>R-22</td>
<td>ETRE (old) Replace with TXV and SOL.</td>
</tr>
<tr>
<td>YCAS</td>
<td>407C OPTIMIZED</td>
<td>TXV's only</td>
</tr>
<tr>
<td>YCWL0056-198</td>
<td>R-410A</td>
<td>Sporlan EEV</td>
</tr>
<tr>
<td>YCRL0056-198</td>
<td>R-410A</td>
<td>TXV's Standard, EEV's (ETS new series) optional</td>
</tr>
</tbody>
</table>

NOTES:
1. The TXV requires a Liquid Line Solenoid Valve.
   Note: Relocate EEV Solenoid plug to TXV Liquid Line Solenoid Valve when conversion is made.
   Heat motor plug is no longer used.
2. We recommend not having a TXV and EEV on the same chiller.
3. This procedure excludes the EEV controller type = EKD316 which is shown on the last page of this SI bulletin.

Work on this equipment should only be done by properly trained personnel who are qualified to work on this type of equipment. Failure to comply with this requirement could expose the worker, the equipment and the building and its inhabitants to the risk of injury or property damage.

The instructions on this service bulletin are written assuming the individual who will perform this work is a fully trained HVAC & R journeyman or equivalent, certified in refrigerant handling and recovery techniques, and knowledgeable with regard to electrical lock out/tag out procedures. The individual performing this work should be aware of and comply with all Johnson Controls, national, state and local safety and environmental regulations while carrying out this work. Before attempting to work on any equipment, the individual should be thoroughly familiar with the equipment by reading and understanding the associated service literature applicable to the equipment. If you do not have this literature, you may obtain it by contacting a Johnson Controls Service Office.

Should there be any question concerning any aspect of the tasks outlined in this bulletin, please consult a Johnson Controls Service Office prior to attempting the work. Please be aware that this information may be time sensitive and that Johnson Controls reserves the right to revise this information at any time. Be certain you are working with the latest information.
“ETS” (NEW) EEV - Now being used (Thermal) Does not use a Solenoid due to No pump down on System shutdown

“ETRE” (OLD) EEV - No longer being used (Electronic) has solenoid built in.

Liquid Line Solenoid Valve is used on Scroll Chillers only with EEV’s.

YCAL EEV with conversion to a Thermal Expansion Valve (TXV)

Conversion Notes:
- Move Electrical Wire from EEV Solenoid Coil to new Liquid Line Solenoid Coil.

Locate new TXVs here
Locate new Liquid Line Solenoid Valve here

Locate bulb on suction line and pipe equalizer line after the bulb
YCAS with Electronic Expansion Valve (EEV)

Conversion Notes:
- New Solenoid Valves located up stream of TXV so that the system can pump down.
- New EEV Solenoid Coil Wire should be moved to new Liquid Line Solenoid.

Locate bulb on suction line and pipe equalizer line after the bulb

YCAS with Thermal Expansion Valve (TXV)
YCAS WITH EEV'S

EEV used may differ from representation shown

EEV Heater Insulation Detail

Sys. 1

Sys. 2

Sys. 1

Sys. 2

Sys. 1

Sys. 2

EEV
YCAS UNITS WITH TXV’S

Locate TXVs Here

Locate Solenoid Valve Here

Move Electrical Wire From EEV Solenoid Coil to New Liquid Line Solenoid Coil

Valve Area Detail
Solenoid Valves Located Up Stream Of Plate HT-X So That System Can Pump Down

YCAS UNITS WITH TXV’S

EEV Solenoid Coil Wire Should Be Moved To Liquid Line Solenoid

Solenoid Valves

TXVs

(Refer to page 3 for capillary piping)

(Remark to page 3 for capillary piping)
EVE RELAY/COL

SUPER HEAT conversion is done "inside" the EEV controller. This is done with voltage from the Micro PCB & Sensor reading.

P7 & P9 wiring is tied into the Suction Pressure Transducer wiring harness for that system.

If you cannot adjust the Exp. Valve Type (YLAA Example). It stays in the Thermostatic Type. The EEV is a stand alone device that is installed and we DO NOT recognize it thru our software. See below:
NOTES:
Within the kit there are new schematics that show the installation of the wiring for the J15 connection. Both the VSD connections and the EEV connections will work on the J15 connection. The only change would be that the shield wiring would connect in the same position as the BLACK wire. The separate shield connections are from older units that have since been corrected in current production.

The best way is to use the connector wiring from the new kit and remove and reinstall the VSD wiring. Red and Black wiring will fit in the open positions.

EXAMPLE
• Showing of YCWL/YLAA Kit Schematic
• You will receive the appropriate wiring diagram in your kit for your chiller model number.
• Reference SI0333