

Advanced Scroll Temperature Protection Goals

- Discharge Temperature (Overheat) Protection That Is:
 - Internal
 - In Direct Contact With Key Components
 - Unable To Be Bypassed
 - Automatic
 - No Wires, Relays, Or Circuitry To Deal With
 - Reliable
 - Protects Against All Typical Causes Of Scroll Overheating

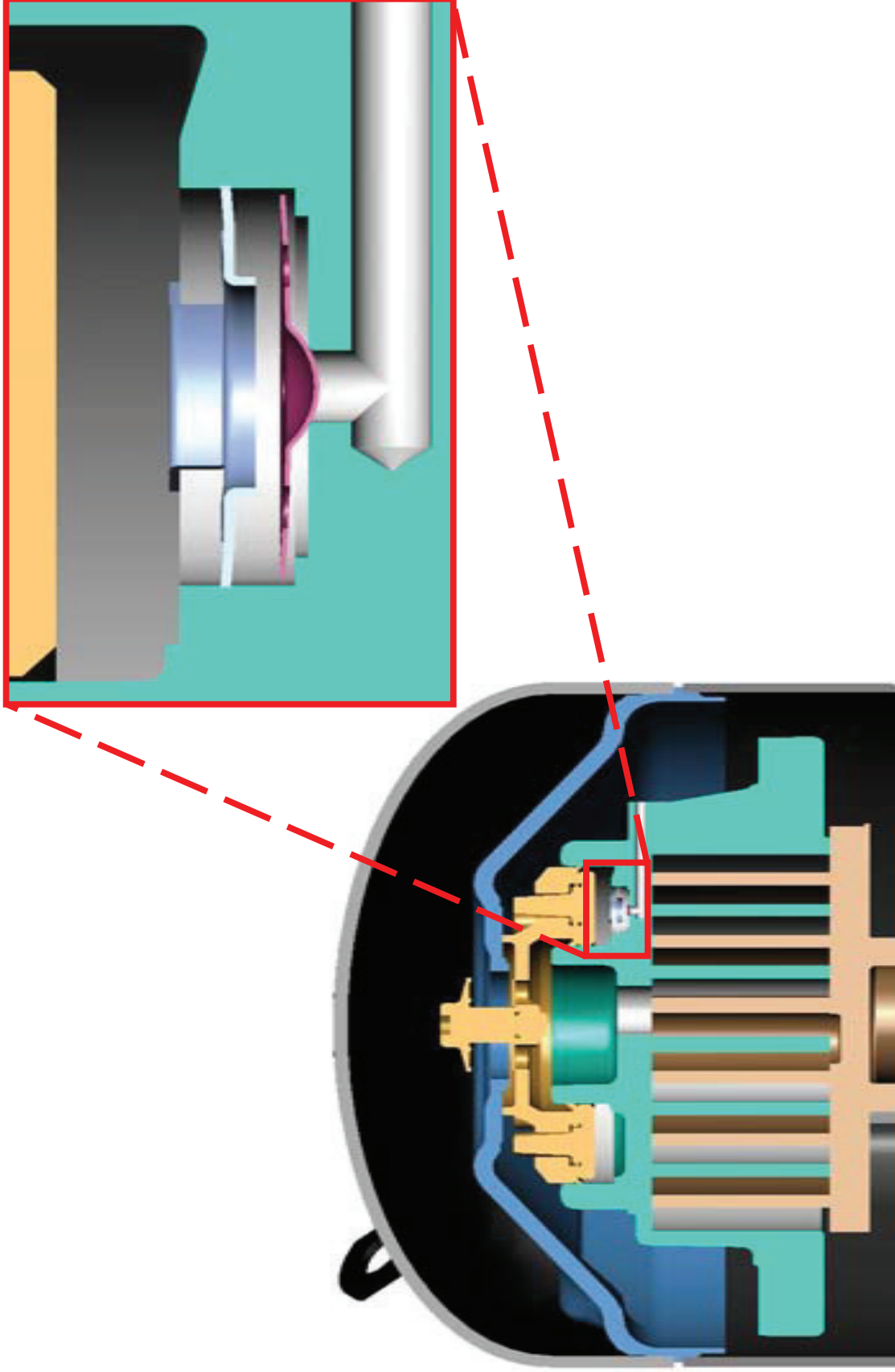
Advanced Scroll Temperature Protection

Causes Of Scroll Overheating

- **Typical Causes Of Scroll Overheating:**
 - System Malfunctions
 - Fan Failures, Loss Of Charge, Blocked Expansion Devices
 - Low Suction Pressures (No Gas Flow; Heat Not Carried Away)
 - Improper System Charging (See Page 8)
 - Out Of Envelope Operation
 - Bypassed Low Pressure Cutouts
 - Missing, Bypassed, Or Poorly Placed External Protection Devices
 - External Devices Inaccurate, Internal Temps. Often Much Higher
 - Temporarily Bypassing Devices Leads To Damage
 - Initial Damage Results In Failures Later

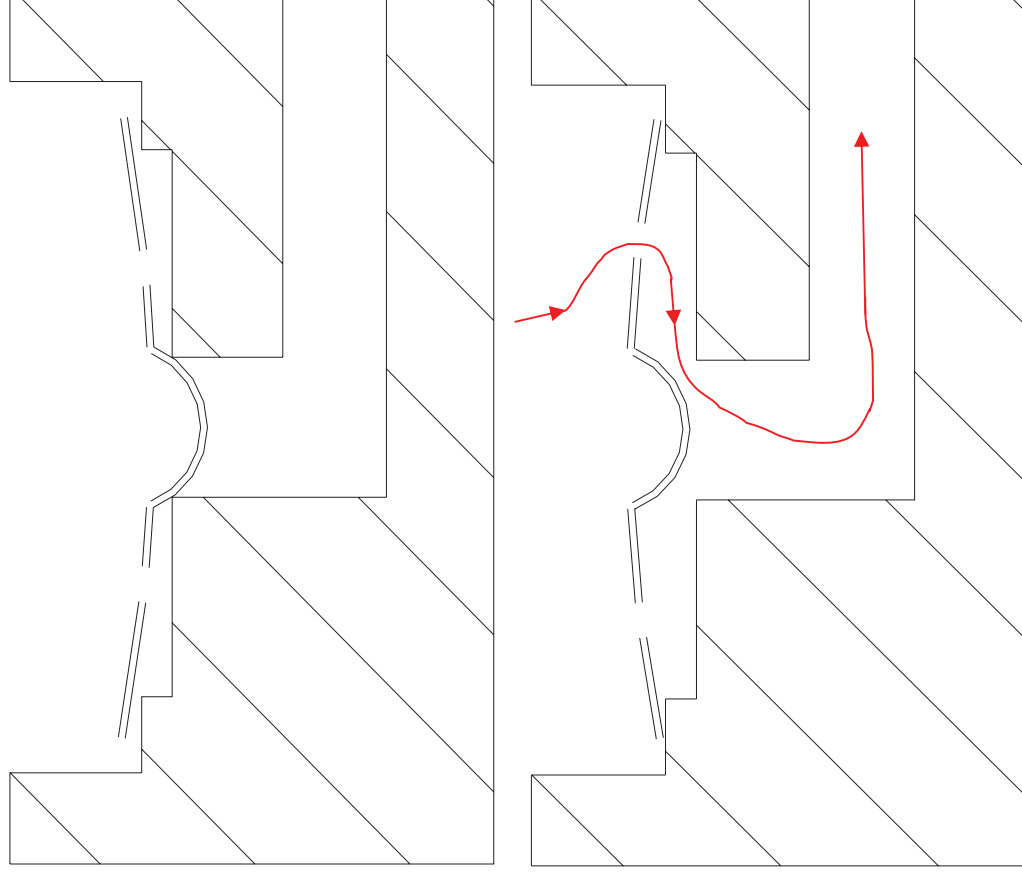
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Internal View



Advanced Scroll Temperature Protection

Bi-Metal Disk Positions



Closed

Open

Advanced Scroll Temperature Protection Operation

1. Bi-Metal Disk Opens When Critical Internal Temp. Is Reached
Around 300°F/150°C
2. Compressor “Unloads” But Continues To Run
 - “Balanced Pressure” Operation
 - Motor Heat Builds Inside Compressor
 - No Refrigerant Flow To Carry Motor Heat Away
3. Motor Protector Opens
 - Compressor Turns Off, Cools
4. Motor Protector Resets, Compressor Restarts
 - Bi-Metal Disk Resets Before Motor Protector
 - Cycle Will Continue Until Cause Of Overheat Is Fixed

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What To Do?

- **If A Protected Compressor Is Identified:**
 - 1. Stop The Compressor**
 - 2. Allow To Cool Thoroughly**
 - 3. Restart Pump & Check For Normal Operation**

- **DO NOT ASSUME A COMPRESSOR RUNNING UNLOADED (BALANCED PRESSURES) IS A FAILURE.**