

# With you at every step



## **Empowering Your Steam Engineering Products** and Solutions with Excellence

Bringing you knowledgeable insights and information that will keep your Steam Engineering products up and running during and post lockdown period. Kindly refer to the Start-up Protocols for the product that is applicable to you.

#### **CUSTOMER SERVICE BULLETIN**

DOCUMENT No : SE/Startup Protocol/TCS Rev: 00
PRODUCT : TCS - TEMPERATURE CONTROL SYSTEM

**DIVISION: HEATING - STEAM ENGINEERING** 

|              | Checklist   | Yes | No |
|--------------|---|-----|----|
| Pre Check-up | 1. Remove the condensate in steam line from available drain points and steam trap bypass.                           |     |    |
|              | 2. Clean the suction strainer.  |     |    |
|              | 3. Pneumatic air line should be flushed for 5 to 10 minutes at full pressure before opening the air to instruments. |     |    |
|              | 4. Adjust the air pressure in AFR as mentioned on actuator.   |     |    |
|              | 5. Check the input voltage before starting the electrical panel.  |     |    |
|              | 6. Check the control valve operation in manual mode.  |     |    |

### art-up

- Open isolation valves of all instruments.
- Open the main steam valve and steam trap bypass valve to drain the condensate.
- Close the steam trap bypass valve untill live steam is observed and open the trap upstream valve.
- · Close all the drain valves.
- Close the TCS by-pass and isolation valves.
- Keep SV to "zero" in PID controller and open TCS isolation valves gradually upto its maximum position.
- Set the required temperature in PID controller as per process requirement and observe working of TCS.

|                  | Symptoms                                | Possible Causes                        |
|------------------|---|--|
|                  | Control valve not operating             | No air pressure.                       |
| g<br>D           |   | No 4 -20mA output from PID controller. |
| Trouble Shooting |   | Calibration disturbed.                 |
| e Sh             | Valve jerking during stroke             | Packing nut over tight.                |
| lqno.            | Gland leakage                           | Packing nut loose.                     |
| F                | Control valve passing in close position | Calibration disturbed.                 |
|                  |   | Seat & Plug worn out                   |
|                  |   | Foreign particle accumulated           |

| Do's & Don'ts   |  |  |  |
|---|--|--|--|
| Do's  |  |  |  |
| Close the bypass valve when system is in operation                            |  |  |  |
| Drain the water present if any, inside the AFR daily once.                    |  |  |  |
| Always keep open the instrument isolation valve.                              |  |  |  |
| Don'ts  |  |  |  |
| Never close the pneumatic air line valve during operation.                    |  |  |  |
| Don't change PID values or any parameters in controller except the set value. |  |  |  |







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Thermax Limited Steam Engineering Services recommends customer to get in touch with the local service engineer as per details given below:

#### 1<sup>st</sup> Level

| Region              | Name of Service Engineer         | Email id   | Contact No                 |
|---------------------|----------------------------------|--|----------------------------|
| North (JK, PB, HR)  | Puneet Panchal                   | Puneet.Panchal@Thermaxglobal.com                                     | 9717200940                 |
| North (NCR, RJ)     | Devesh Maurya                    | Devesh.Maurya@thermaxglobal.com                                      | 8880464848                 |
| North (UP)          | Sachin Srivastav                 | Sachin.Srivastav@thermaxglobal.com                                   | 9411953067                 |
| East                | Pranay Mridha                    | Pranay.Mridha@Thermaxglobal.com                                      | 9830240010                 |
| West (MH, CG, GOA)  | Anil Asangi                      | Anil.Asangi@thermaxglobal.com  | 8484856043                 |
| West (GJ, MP)       | Vipul Gohil /<br>Himanshu Vasava | Vipul.Gohil@Thermaxglobal.com /<br>Himanshu.Vasava@thermaxglobal.com | 9662064627 /<br>9033551798 |
| South (AP, KAR, TS) | Sandeep Jampala                  | Sandeep.J@Thermaxglobal.com  | 8008145681                 |
| South (TN, KL)      | Noor Mohammed                    | Noor.Mohammed@Thermaxglobal.com                                      | 8098734264                 |
| MENA, SEA, SAARC    | B Santhanakrishnan               | B.Santhanakrishnan@thermaxglobal.com                                 | 9607971978                 |

### 2<sup>nd</sup> Level

| <b>Contact Person</b> | Designation                    | Email Id                        | Contact No. |
|-----------------------|--------------------------------|---------------------------------|-------------|
| Sathiyababu V.        | Head - Technical Service Group | Sathiyababu.v@Thermaxglobal.com | 9486620370  |