

TCU Flushing Manifold and RTD Installation

This instruction is for installing temperature control unit (TCU) flush manifold and RTD assembly onto the heat exchanger for both new systems and existing systems. Follow all safety instructions and steps in this document.



WARNING: Allow only qualified personnel to perform the following tasks. Follow the safety instructions in this document and all other related documentation.



WARNING: Shut off and lock out system electrical power and relieve pressure from TCU system before performing the following tasks. Failure to observe this warning may result in personal injury or death.

Make sure to address the following parts of application:

- TCU is in the off position
- Process water pump and refrigeration system shut off
- Chiller pump shut off by using the *Master Stop* button
- TCU spray lines fully depressurized
- Spray bank shut down

NOTE: The main disconnect switch on the TCU should only be shut off if making repairs or shutting down the system for an extended period of time.



CAUTION: If the TCU has been off for more than two hours, after turning the TCU back on, the operator must wait for four hours for the system to be operational. Failure to observe this caution could result in damage to the refrigeration compressor.

New Installation

Use this procedure when installing the flushing manifold and RTD assembly on new systems.

The following parts are required for this procedure:

- Flushing manifold kit with hoses 1609034 (kit shipped with system)
- RTD with cable assembly (shipped attached to heat exchanger)
- Pipe thread sealant tape (customer-supplied)

NOTE: Apply appropriate amount of pipe thread sealant tape on all threaded fittings.

1. Install all kit items (1 – 11) as shown in Figure 1.
2. Use the Velcro[®] straps (13) to secure the bleed off hose (1) to the heat exchanger.
3. Thread the RTD sensor (12) into the adapter (6).
4. Install the RTD cable connector to the back of the TCU.
5. Continue to follow the installation and startup instructions in the *Temperature Control Unit* manual.
6. Follow standard procedures for starting the high-pressure pumping system and spray line.

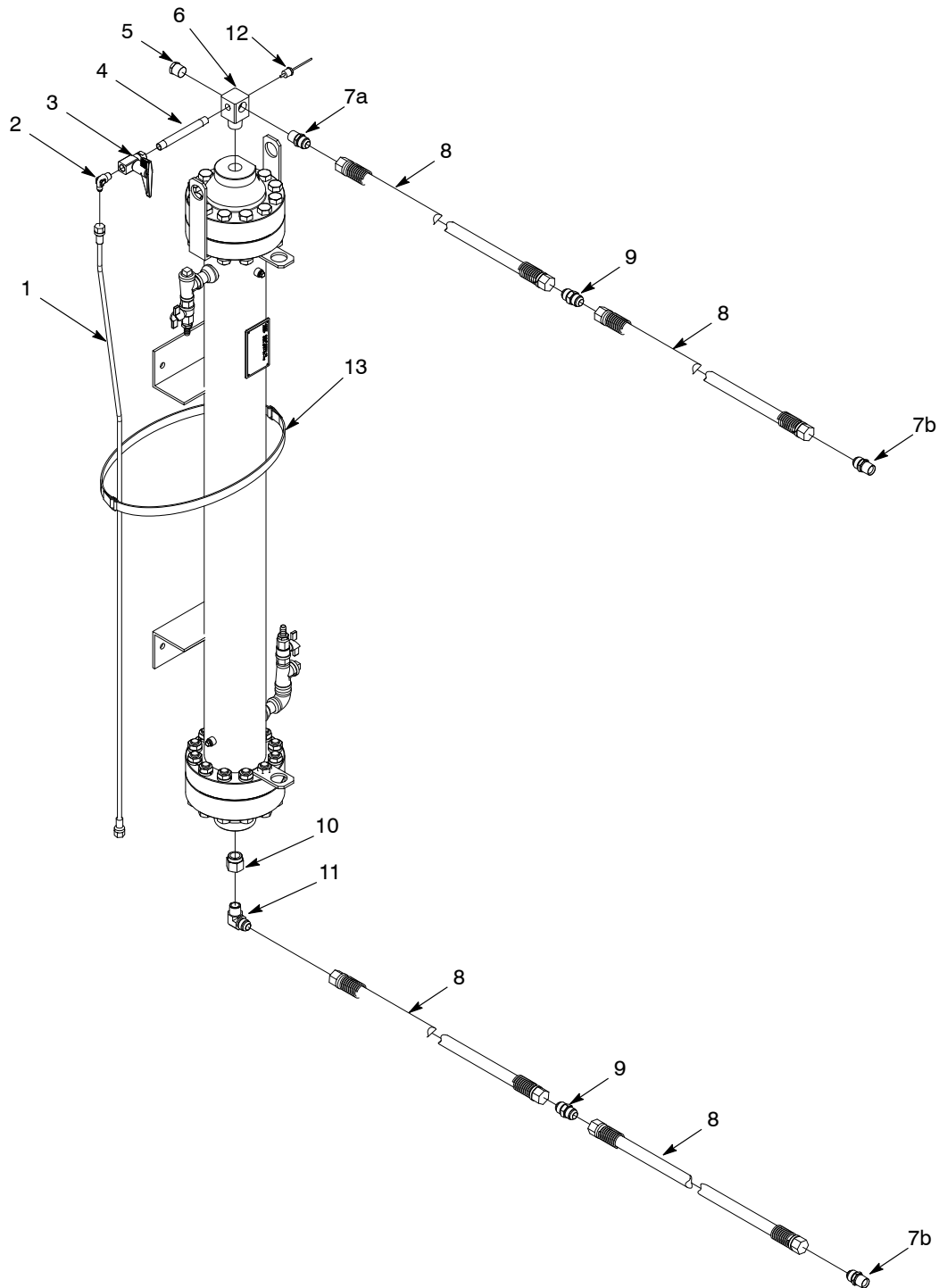


Figure 1 Heater Exchanger Assembly

- | | | |
|-------------------|--|----------------------------|
| 1. Bleed off hose | 5. Pipe fitting (plug) | 9. Fitting (union) |
| 2. Elbow | 6. Adapter | 10. Bushing |
| 3. Valve | 7. Connector | 11. Elbow, stainless steel |
| 4. Nipple | 8. Siphon hose (high-pressure coating) | 12. RTD sensor |
| | | 13. Strap |

Retrofit Installation

Use this procedure when installing the flushing manifold kit and new RTD assembly on existing systems.

The following parts are required for this procedure:

- Flushing manifold kit without hoses – 1614453
- RTD assembly – 1614250
- Stainless steel plug – 973415
- Pipe thread sealant tape (customer supplied)

NOTE: Apply appropriate amount of pipe thread sealant tape on all threaded fittings.

1. Disconnect the old RTD cable from the back of the TCU.
2. See Figure 2. Unscrew and remove the old RTD sensor (13) from the heat exchanger. Discard old RTD assembly.

NOTE: Disassembly of heat exchanger is not necessary to remove RTD sensor.

3. Install the stainless steel plug into the empty RTD port.
4. Install items (1 – 11) as shown in Figure 1.

NOTE: Siphon hoses (8), fittings (9), and connectors (7b) should already be part of customer system, and are not included in kit 1614453.

5. Thread the new RTD sensor (12) into the adapter (6).
6. Install the RTD cable connector to the back of the TCU.
7. Continue to follow setup instructions in the *Temperature Control Unit* manual.
8. Follow standard startup procedures when starting the high-pressure pumping system.

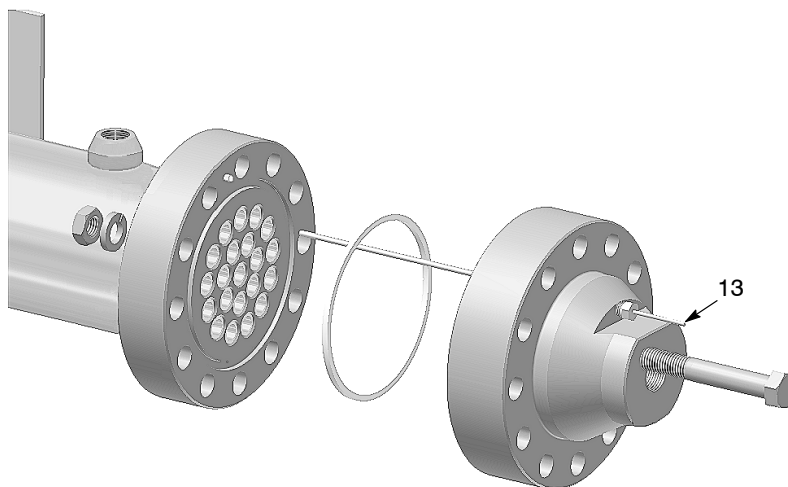


Figure 2 RTD Sensor Location (Previous Configuration)

Parts

Flushing Manifold

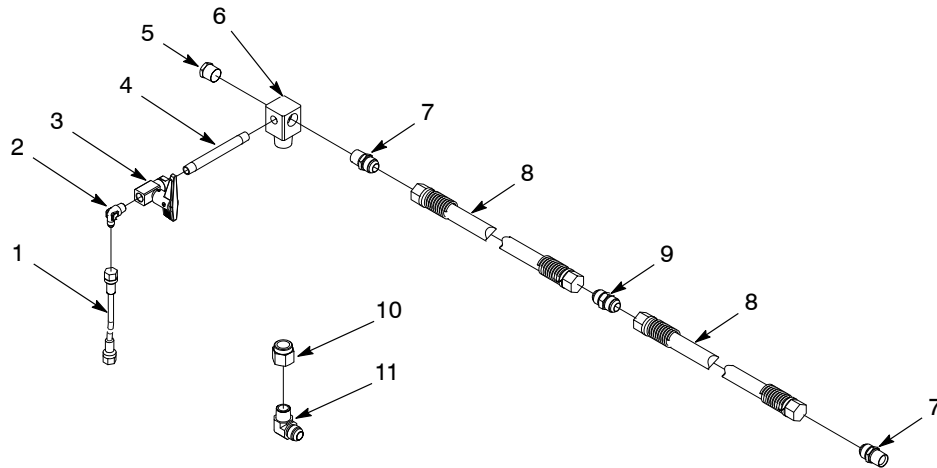


Figure 3 TCU Flush Manifold Kits

Item	Part	Description	Quantity	Note
—	1609034	KIT, flushing, heat exchanger	1	
—	1614453	KIT, flushing, heat exchanger, without hoses	1	
1	-----	• HOSE, PTFE, 0.25 ID, 6 ft	1	
2	-----	• ELBOW, male, 37, 1/2-20 x 3/8 NPT	1	
3	-----	• VALVE, ball, stainless steel	1	
4	-----	• NIPPLE, stainless steel, schedule 40, 3/8 x 6 LG	1	
5	-----	• PIPEFITTING, NPT, plug-socket-thread, male, 3/4, stainless steel	1	
6	-----	• ADAPTER, fitting, TCU, flush kit	1	
7	972110	• CONNECTOR, male, 37, 1 1/16-12 x 3/4, stainless steel	—	A, B
8	829072	• HOSE, siphon, 3/4 ID, 6 ft	4	A
9	1609028	• FITTING, connector, male, 37 degree, 3/4 x 34	2	A
10	-----	• BUSHING, pipe, hydraulic, 1 x 3/4, stainless steel	1	
11	972603	• ELBOW, male, 37, 1-1/16-12 x 3/4, stainless steel	1	
NS	301866	• STRAP, Velcro, with buckle, 41 x 3 cm	2	

NOTE A: Part not included in Kit 1614453.

B: Kit 1609034 contains three connectors. Kit 1614453 contains one connector.

NS: Not Shown

RTD Assembly

Part	Description	Note
1614250	RTD ASSEMBLY, 100 OMH, 36 in., 3 pin, mini, 3/8 NPT	A
NOTE A: Only use on retrofit installations.		

Stainless Steel Plug

Part	Description	Note
973415	PLUG, pipe, socket, standard, 1/4, stainless steel	A
NOTE A: Only use on retrofit installations.		

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