

TCO-U Series Hot Oil TCU

With rapid response to all your needs for process heating and cooling, our hot oil TCO-U Series high temperature control units are no exception. Engineered to withstand the rigors of high temperature heat transfer fluid recirculation, the TCO-U Series is designed for a wide range of processing applications from 100°F (38°C) to 550°F (288°C).

Several flow and output options are available to accommodate individual process requirements, including optional heat exchangers for cooling in capacities from 3.9 to 21 square feet. The “U” type heat exchanger design offers superior heat transfer and is highly resistant to thermal stress when cooling water enters the system. Cleanable and replaceable tube bundles help to minimize maintenance.

The TCO-U Series is designed for easy maintenance and immediate hook-up to process. A rugged cabinet with removable panels provides easy access to all components.

Standard Features

- 550°F (288°C) maximum operating temperature
- Branch fusing
- Non-fused lockable rotary disconnect switch
- Independent safety thermostat with safety contactor
- Y-strainer on From Process line
- Pressure-activated bypass valve
- To Process pressure gauge
- Immersion heater with IEC contactors
- Simplified internal design delivers efficient heat transfer
- An off-the-shelf, DIN-style, auto-tuning PID fuzzy logic controller accurate to within $\pm 1^\circ\text{F}$
- High-flow pumps with 18 gpm to 50 gpm capacities
- Compact footprint: 24" W (610 mm) x 34" D (864 mm) x 62" H (1575 mm) [²24 kW heater] **Increases to 44" (1117 mm) for heaters up to 48 kW*
- Full 3-year controller warranty
- Removable panels with hand grips for ease of handling
- Positive-seating water supply and drain check valves
- TEFC motor
- Dependable positive displacement gear pump with mechanical seals
- 17 gallon expansion tank with convenient, protected sight glass
- Full-sized water and oil piping connections
- NEMA-12 control enclosure
- Automatic venting sequence
- Low level alarm
- Manual bypass
- Drain valve

Optional Features

- Lexan® cover
- Advanced controller
- U-tube type heat exchangers
- 208/3/60, 230/3/60, 380/3/50, 415/3/50, 575/3/60 operating voltage
- CE certification
- High tank level alarm, general fault visual alarm
- Hour meter
- Analog flow gauge



Specifications

Model		TCOU-xx				2TCOU-xx			
		1 hp	1.5 hp	2 hp	3 hp	1 hp	1.5 hp	2 hp	3 hp
Full Load Amps, 460/3/60 VAC	12 kW heater	17	18	19	20	34	36	38	40
	18 kW heater	25	26	27	28	50	52	54	56
	24 kW heater	32	33	34	35	64	66	68	70
	36 kW heater	47	48	49	50	94	96	98	100
	48 kW heater	62	63	64	65	124	126	128	130
Reservoir Capacity (gal)		17 gallons each zone							
TEFC Pump	HP (kW)	1 (0.75)	1.5 (1.1)	2 (1.5)	3 (2.2)	1 (0.75)	1.5 (1.1)	2 (1.5)	3 (2.2)
	Flow, gpm (lpm)	18 (68)		24 (91)	50 (227)	18 (68)		24 (91)	50 (227)
	Pressure, psig (bar)	30 (2.0)	50 (3.4)	30/50 (2.0/5.4)	50 (5.4)	30 (2.0)	50 (3.4)	30/50 (2.0/5.4)	50 (5.4)
	Connection Size, in.	1"			1.5"	1"			1.5"
Dimensions	Height, in.	62 (1,575)							
	Width, in.	24 (610)				48 (1,220)			
	Depth, in.	34 (864) ≤ 24 kW 44 (1,118) > 24 kW							
Shipping Wt, lbs. (kg)	≤ 24 kW	700 (318)			850 (386)	1400 (635)			1700 (771)
	> 24 kW	950 (431)			1050 (476)	1900 (862)			2100 (953)

Controller Options

Controller	Options
Standard	4 to 20 mA retransmission of process variable (E5CK only) not available with modulating valve. 4 to 20 mA remote setpoint & retransmission of process variable (E5AK only) Communication: RS-232, RS-485, RS-485 SPI (Athena 16 CT) Remote probe: local/remote control (remote probe and internal probe change to 100 ohm RTD)
Advanced	4 to 20 mA remote setpoint and retransmission of process variable, setpoint, or flow rate Communication: RS-232 Modbus, RS-485 Modbus, RS-485 SPI, Ethernet IP via Modbus RTU Remote probe ①
Remote control enclosure with 20 ft. cable (additional cable available at extra charge)	

① Remote probe with advanced controller allows customer to either monitor or control from a customer supplied type J or K thermocouple or 100 or 1000 ohm RTD. Additional cost to have probe supplied by manufacturer.