2016U SERIES
Oil Temperature Control Unit

Technical Specifications

The 2016U Series Oil Temperature Control Units provides accurate temperature control with a range up to 550°F (288°C). The 2016U Series Oil Temperature Control Units include operator-friendly features such as single-pass tank design and an easy-to-use controller for simple, precise operation.

Features

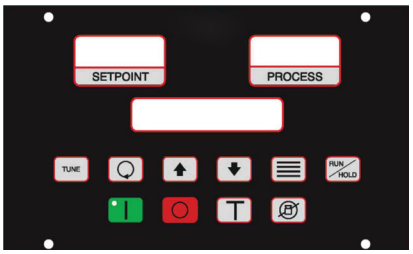
Standard Features

- Temperature range from 100°F to 550°F (38°C to 288°C)
- Available Heaters: 12 kW, 18 kW, 24 kW, 36 kW, 48 kW
- M2B+ microprocessor controller, includes diagnostic features with LCD Display
- Positive displacement pump capable of reversing to evacuate the process
- Easily removable panels for quick access to internal components
- Pressure activated bypass valve
- Configurable auto vent sequence to automatically vent air from the system at start-up
- Independent high temperature safety thermostat to protect from heater overload
- Motor branch circuit overcurrent protection with phase loss and overload trip detection
- Y-strainer on the From Process line
- Forward-facing "To Process" pressure gauge
- Pressure switch for low pump pressure shutdown
- Audible alarms
- Low level alarm for reservoir
- Drain valve for heat transfer fluid removal and change
- 1 year parts and labor warranty at the factory
- 3 year controller warranty
- UL Listed sub-panel
- 460v/3ph standard

Optional Features

- Operating voltages: 575/3/60, 380/3/50, 415/3/50, 208/3/60, 230/3/60
- 3216 Eurotherm Controller
- Remote Controls enclosure to allow operators full access to unit control from a desired location
- Hour meter to monitor pump run time
- Closed loop heat exchanger for the ability to cool the heat transfer fluid
- General fault visual alarm to alert operators of unit issues
- Multi-zone capable in various design styles that include common wiring and/or piping
- Protective Lexan® controls cover for additional protection in harsh environments

M2B+ Controller



- PID control for both heating and cooling
- Built-in Ramp/Soak feature
- Setpoint, To Process, From Process and DT displays
- Autovent sequence (adjustable from 1 to 10 minutes)
- 2 line by 20 character LCD to display status information and alarms
- Auto shut down feature cools the unit in stages
- Built-in Auto-tuning feature to optimize unit performance
- Communication Options: 4-20 mA remote set point and retransmission of PV; SPI protocol, RS-485; Ethernet IP via Modbus RTU;

Specifications

Model		Full Load Amps, 460/3/60 VAC					Reservoir Capacity , gal (L)
		12 kW	18 kW	24 kW	36 kW	48kW	
2016U	1 hp	17	25	32	47	62	17 each zone (64)
	1.5 hp	18	26	33	48	63	
	2 hp	19	27	34	49	64	
	3 hp	20	28	35	50	65	
2026U	1 hp	34	50	64	94	124	
	1.5 hp	36	52	66	96	126	
	2 hp	38	54	68	98	128	
	3 hp	40	56	70	100	130	

Model		TEFC Pump			
		HP (kW)	Flow, gpm (lpm)	Pressure, psig (bar)	Connection Size
2016U	1 hp	1 (0.75)	18 (68)	30 (2.0)	1"
	1.5 hp	1.5 (1.1)		50 (3.4)	
	2 hp	2 (1.5)	24 (91)	30/50 (2.0/3.4)	
	3 hp	3 (2.2)	50 (189)	50 (3.4)	1.5"
2026U	1 hp	1 (0.75)	18 (68)	30 (2.0)	1"
	1.5 hp	1.5 (1.1)		50 (3.4)	
	2 hp	2 (1.5)	24 (91)	30/50 (2.0/3.4)	
	3 hp	3 (2.2)	50 (189)	50 (3.4)	1.5"

Model		Dimensions			Shipping Weight, lbs. (kgs).	
		Height, in. (cm)	Width, in. (cm)	Depth, in. (cm)	≤ 24 kW	> 24 kW
2016U	1 hp	62 (158)	24 (61)	34 (86) ≤ 24 kW, 44 (112) > 24 kW	700 (317)	950 (430)
	1.5 hp					
	2 hp					
	3 hp				850 (385)	1050 (680)
2026U	1 hp		48 (122)		1400 (635)	1900 (861)
	1.5 hp					
	2 hp					
	3 hp				1700 (771)	2100 (952)

Side Stream Filtration

For Oil Temperature Control Units

INCREASE EFFICIENCY

This side-stream filter could increase the heat transfer efficiency by as much as 20 percent by reducing the amount of insolubles such as sludge and coke circulated through your process. This reduction of efficiency causes the system to take longer to heat up and cool down increasing your energy costs.

REDUCE MAINTENANCE COSTS

The same insoluble contaminants that cause a decrease in efficiency can also result in wear on rotating components and plug up spring loaded relief valves. The wear on the rotating components can also lead to costly material repairs, machine downtime and labor costs. The plugging of the relief valve can result in a safety hazard due to the valve not opening properly and being able to keep a constant flow of fluid circulating through the heater(s).

Features

Standard Features

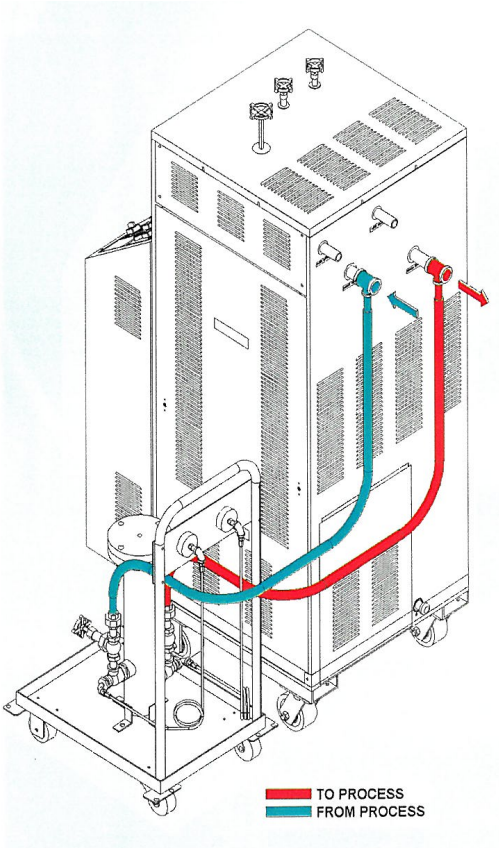
- 550°F maximum operating temperature
- 3 gpm maximum side-stream filtration
- Differential pressure gauge
- Isolation valves for filter change
- Includes 50 micron filter (25 & 100 micron filters available)
- Cart mounted on casters for mobility
- Cart size: 22" deep x 16" wide x 38" tall

Fluid Degradation

Heat transfer fluid in the presence of oxygen and heat degrades forming contaminants such as coke and sludge.
These contaminants can cause the following problems in temperature control systems.

- Wear of rotating components such as pump impellers, gears and shafts, mechanical seals and valve stems
- Reduce capacity of heaters and heat exchangers by adhering to these surfaces
- Increased viscosity due to increased solids
- Increased energy consumption due to longer heat up or cool down time

Side Stream Filtration



Side Stream
Filtration System

Portable Design

Spare Filters Available in cases of 30

- 25 Micron
- 50 Micron
- 100 Micron

TECH TIP: Heat Transfer Fluid Analysis

Your fluid should be analyzed at least every 2,000 hours of operation as part of a regular maintenance program. If you are operating at elevated temperatures (above 400°F) this analysis should be performed quarterly to determine the condition of the fluid.

Analysis Should Include:

- Specific gravity
- Total acid number (TAN)
- Viscosity
- Insolubles
- Flash point of the fluid

Once the analysis is done, a comparison can be made to the original specifications from the manufacturer.

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