MOS
Hot Oil System

- **Heat Transfer Fluids to 600˚F (315˚C) or 650˚F (343˚C)**
- **50 - 500 kW**
- **240, 480 and 600 V, 3 Phase, 60 Hz**
- **Compact Footprint for Installation**
- **Non-Pressurized (Atmospheric) Operation**
- **150# Carbon Steel Construction**
- **Long Life 0.475 (12.1 mm) dia. Steel Sheath Heating Elements**
- **High Temperature Centrifugal Pump - Rated to 650˚F (343˚C)**
- **Electronic Digital Temperature and Process Control**
- **Discharge Pressure Gauge**
- **UL NEMA 12 Electrical Enclosure complete with Contactors, Temperature Safety Limit, Transformers, and Pilot Lights**
- **650˚F (343˚C) Operation (Optional)**
- **External Cold Expansion Tank (Optional)**
- **External Heat Exchanger (Optional)**

Description

Chromalox MOS Mid-Size Hot Oil System is engineered to operate to 600˚F (315˚C) standard, with an option for up to 650˚F (343˚C), at atmospheric pressure (non-pressurized). Its electric heating core assures responsive and precise temperature control in a space saving package. The system can be used with most types of heat transfer oils such as Paratherm®, Mobiletherm®, Therminol®, Dow Brands®, etc. The MOS operates in a closed loop system using a cold expansion tank (optional). A cold expansion tank can remove the need for a nitrogen (N2) purge and reduces the degredation of heat transfer fluids.

Applications

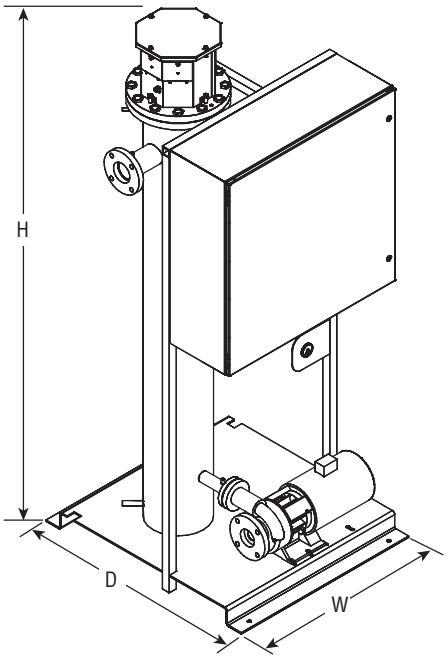
The Chromalox MOS system is great for applications such as reactors, evaporators, dryers, platen presses, heat exchangers, roll heating, or any jacketed kettles / vessels / tanks. Hot oil systems can be used in a variety of industries such as chemical, plastics, cosmetics, automotive, rubber, refining, pharmaceutical, non-woven / textiles/ fibers, aerospace, or any other industrial market.

Construction

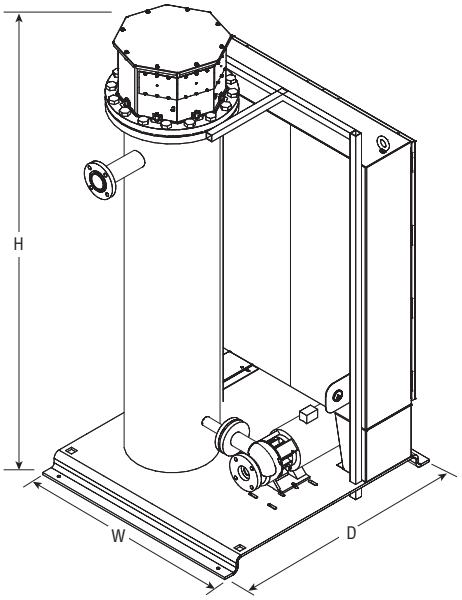
Chromalox MOS systems are ruggedly constructed for industrial applications. The heavy-duty, steel support base features channel grooves for forklift transport. The heater chamber is fully welded and houses only Chromalox brand, long-lasting heating elements. The panel is UL-listed and assembled in-house. The pump is air-cooled with a mechanical seal, rated to 650˚F (343˚C). The final assembly is fully-shop tested prior to shipment.

WARNING — In hazardous areas, pipe surfaces could achieve temperatures high enough to cause auto-ignition of the hazardous material present. Consult Article 500 of the National Electric Code for further information on the maximum allowable temperature for a specific application.

MOS
Hot Oil System
(cont'd.)



MOS 50-150 kW Unit
(Front View)



MOS 175-500 kW Unit
(Rear View)

Options

- 650˚F (343˚C) Operation
- Electronic Solid State (SCR) Power Control
- Strainer
- Powder Coated or Stainless Steel Side Coverings
- Dedicated Fill Connection
- NEMA 4 or 4X (Stainless) Construction
- Class 1, Div 2 Hazardous Area Rating (with purge)
- Panel Disconnect
- Heater On/Off Switch
- Suction Pressure Guage
- Inlet / Outlet #150 ANSI Gate Valves
- Drain / Bleed Valves
- Digital Overtemperature Controller
- ASME Designed and Certified, Section VIII, for 100 psi at 600/650˚F (7 bar at 315/343˚C)
- High Flow Pump (300 GPM, 350-500 kW units only)
- Heat Exchanger (shipped loose for installation)
- Expansion Tank (shipped loose for installation)
- Liquid Level Switch for Expansion Tank

Unit Proportions

Unit Size	Dry Weight (Lbs.)	Width (In.)	Depth (In.)	Height[1] (In.)	Flow Rate[2] GPM	Pressure[2] TDH	Motor HP	Inlet/Outlet Connection	System Capacity (Gal.)
50 & 75 kW	900	36	42	96	80	130	5	2", 150#	25
100 - 150 kW	1400	36	42	96	120	130	7.5	3", 150#	35
175 - 300 kW	2600	48	54	96	200	130	10	3", 150#	65
350 - 500 kW	3500	48	54	96	200[3]	130	10[3]	3", 150#[3]	85

[1] 650˚F Option will add 8" to overall height.
[2] Refer to pump graph for full operating range
[3] Option for 300 GPM 20 HP pump with 4", 150# inlet/outlet

Standard Features — *Benefits*

Electronic Process Control ..... Precise process control
Element Overtemperature Protection ..... Protect elements and fluid from overheating
Air-Cooled Mechanical Seal ..... No external cooling needed
Insulated Heating Chamber ..... Maximize efficiency by minimizing heat loss
Discharge Pressure Gauge ..... Confirm pump operating performance
Compact Footprint ..... Space saving design
Fully Pre-wired & Tested ..... Ready to operate on site
Centrifugal Pump ..... Minimize piping configuration
Temperature rating to 600˚F ..... Covers most applications
150# ANSI Flange Connections ..... Easy fit up to installed piping
Start / Stop buttons with Motor Starter ..... Complete operating system
Pilot Lights for Power, Heater, Pump ..... Visual indication of system operation

MOS
Hot Oil System *(cont'd.)*

Ordering Information

To Order — Complete the Model Number using the Matrix provided.

MOS	Mid-Size Hot Oil System								
	Code	**Unit Temperature Rating**[1]							
	600	600˚F (315˚C)							
	650	650˚F (343˚C)							
		Code	**Kilowatts**						
		50	50 kW	**175**	175 kW		**400**	400 kW	
		75	75 kW	**200**	200 kW		**450**	450 kW	
		100	100 kW	**250**	250 kW		**500**	500 kW	
		125	125 kW	**300**	300 kW				
		150	150 kW	**350**	350 kW				
			Code	**Enclosure Types**					
			E1	General Purpose					
			E4	Moisture Resistant					
			E4X	Moisture Resistant / Corrosion Resistant (Stainless Steel)					
			E4NP	Class 1, Div 2 rating - Nitrogen Purge (by customer)					
				Code	**Option**				
				(Blank)	No Options		**SG**	Suction Gauge	
				ST	SCR Trim		**DT**	Digital Overtemp Control	
				SR	Strainer[2]		**PC**	Powder Coated Skins	
				GV	I/O Gate Valves[2]		**SS**	Stainless Steel Skins	
				FC	Dedicated Fill Connection[2]		**AE**	ASME D&C	
				DB	Drain / Bleed Valve		**HF**	300 GPM Pump[3]	
				PD	Panel Disconnect		**XX**	Custom Feature	
				HW	Heater On/Off Switch				
					Code	**Voltage**			
					240	240 V	(Only available for 50 and 75 kW Units)		
					480	480 V			
					600	600 V			
						Code	**Phase**		
						3P	Three-Phase		
							Code	**Kilowatts**	
							100	kW	
MOS-	**600-**	**100P-**	**E4**	**GV**	**480V**	**- 3P**	**100**	**Typical Model Number**	

Example Description: MOS-600-100P-E4GV 480V 3P 100H

[1] Unit operating temperature based on 40˚C (104˚F) max. ambient, indoor invironment

[2] When ordering more than one of these options, some items will be shipped loose to avoid damage during shipment. Simple assembly will be required for installation.

[3] 300 GPM option comes with 20 HP motor and 4", 150# inlet/outlet connections.