MWS

Water and Water/Glycol System

- **Heat Water and Water/Glycol Solutions to 300˚F (150˚C)**
- **50 - 800 kW**
- **240 V, 480 V and 600 V, 3 -Phase, 60 Hz**
- **Compact Footprint for Installation**
- **150# Welded Steel Construction**
- **Long Life 0.475 in. (12.1 mm) dia. Copper Sheath Heating Elements**
- **High Temperature Centrifugal Pump - rated to 300˚F (150˚C)**
- **Electronic Digital Temperature and Process Control**
- **Discharge Pressure Gauge**
- **UL NEMA 12 Electrical Enclosure Complete with Contactors, Temperature Safety Limit, Transformers and Pilot Light(s)**
- **External Cold Expansion Tank (Optional)**
- **External Heat Exchanger (Optional)**

Description

Chromalox MWS - Mid-Size Water/Glycol System - is engineered to operate to 300˚F (150˚C) with either water or water/glycol fluids. Its electric heating core assures responsive and precise temperature control in a space saving package. The system is suitable for a large range of heating needs with a compact design. The MWS operates in a closed loop system using a cold expansion tank (optional).

Applications

Chromalox MWS system is great for applications such as reactors, evaporators, dryers, platen presses, heat excangers, roll heating, or any jacketed kettles / vessels / tanks.

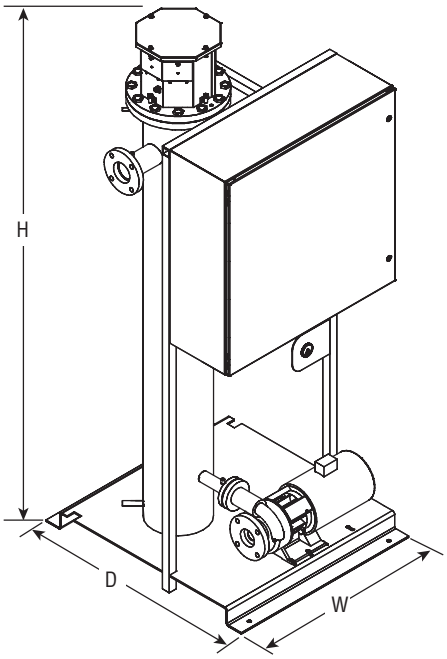
Hot water systems can be used in a variety of industries such as chemical, plastics, cosmetics, automotive, rubber, refining, pharmaceutical, non-woven / textiles/ fibers, aerospace, or any other industrial market.

Construction

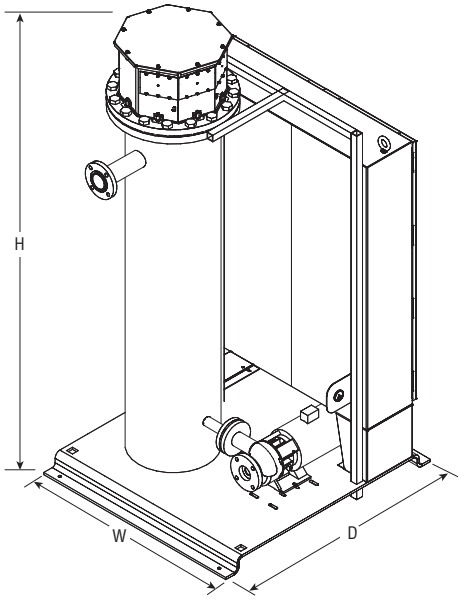
Chromalox MWS systems are ruggedly constructed for industrial applications. The heavy-duty, steel support base features channel grooves for forklift transport. The heater chamber is fully welded and houses Chromalox brand, long-lasting heating elements. The panel is fully UL-listed and assembled in-house. The pump is air-cooled with a mechanical seal, rated to 300˚F (150˚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.

MWS
Water and Water/Glycol System *(cont'd.)*



MWS 50-250 kW Unit (Front View)



MWS 300-600 kW Unit (Rear View)

Options

- Electronic Solid State (SCR) Trim 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 Switch
- Heater On/Off Switch
- Suction Pressure Guage
- Inlet / Outlet 150# Gate Valves
- Drain / Bleed Values
- Digital Overtemperature Controller
- Relief Valve
- ASME Design & Certified, Section VIII, for 100 psi (7 bar) at 300˚F (150˚C)
- High Flow Pump (300 GPM, 450-800 kW only)
- Heat Exchanger (shipped loose for customer installation)
- Expansion Tank (shipped loose for customer installation)
- Liquid Level Switch for Expansion Tank

Unit Proportions

Unit Size	Weight (Lbs.)	Width (In.)	Depth (In.)	Height (In.)	Flow Rate[1] GPM	Pressure[1] TDH	Motor HP	Inlet/Outlet Connection	System Capacity (Gal.)
50 - 150 kW	900	36	42	96	60	100	3	2", 150#	25
175 - 250 kW	1400	36	42	96	120	100	5	3", 150#	35
300 - 400 kW	2000	48	54	96	200	100	10	3", 150#	55
450 - 600 kW	2600	48	54	96	200[2]	100[2]	10[2]	3", 150#[2]	65
650 - 800 kW	3600	61	54	99	200[2]	100[2]	10[2]	3", 150#[2]	85

[1] Refer to Pump Graph in instruction manual for full operating range.
[2] Option for 300 GPM 15 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 300˚F (150˚C) ..... Covers most applications
150# ANSI Flange Connection ..... 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

MWS

Water and Water/Glycol System *(cont'd.)*

Ordering Information

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

MWS — Mid-Size Water and Water Glycol System

Unit Temperature Rating[1]

Code	
300	300˚F (150˚C)

Kilowatts

50	50 kW	**150**	150 kW	**300**	300 kW	**550**	500 kW
75	75 kW	**175**	175 kW	**350**	350 kW	**600**	600 kW
100	100 kW	**200**	200 kW	**400**	400 kW	**800**	800 kW
125	125 kW	**250**	250 kW	**500**	500 kW		

Enclosure Types

Code	
E1	General Purpose
E4	Moisture Resistant
E4X	Moisture / Corrosion Resistant (Stainless Steel)
E4NP	Class 1, Div 2 rating - Nitrogen Purge (by customer)

Option

Code	
(Blank)	No Options
ST	SCR Trim
SR	Strainer[2]
GV	I/O Gate Valves[2]
FC	Dedicated Fill Connection[2]
DB	Drain / Bleed Valves
PD	Panel Disconnect
HW	Heater On/Off Switch
SG	Suction Pressure Guage
DT	Digital Overtemp Control
SV	Safety Relief Valve - 125psi
PC	Power Coated Skins
SS	Stainless Skins
AE	ASME Designed & Certified
HF	300 GPM Pump[3]
XX	Custom Feature

Voltage

Code	
240	240 V (only available for 50 and 75 kW units)
480	480 V
600	600 V

Phase

Code	
3P	Three-Phase

Kilowatts

Code	
150	kW

MWS	- 300	- 150P	- E4	GV	480V	3P	150kW	Typical Model No.

Example of Final Model Description: MWS-300-150P-E4GV 480V 1-3P 150kW

[1] Unit operating temperature based on 104°F (40°C) 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 15 HP motor and 4", 150# inlet/outlet connections.