

COMPACT DESIGN FLUID HEAT TRANSFER SYSTEMS

WM AND WMS SERIES

SPECIFICATIONS

- Electrically operated
- Centrifugal pump
- 150 lb. flanged construction
- 208 thru 575 volts, 3 phase

WM 450 and WMS 450 series only

- Temperatures to 450°F
- 9,18, 27, and 36 kW
- Flow rates to 40 gpm and 40 psi

WM 550 and WMS 550 series only

- Temperatures to 550°F
- 9,18, 27, and 36 and 48 kW
- Flow rates to 80 gpm and 50 psi



DESCRIPTION

The WM Series of heat transfer systems is designed for closed loop temperature control of common heat transfer fluids. The WMS Series is similar in design, but includes a parallel cooling circuit. These units are completely packaged systems designed for a maximum operating temperature of either 450°F or 550°F. WM Series standard components include an electric heater, centrifugal oil circulation pump with mechanical seal, thermal expansion tank (shipped separately), and a control center all mounted on a drip proof base. The WMS Series is constructed using all of the above components with the addition of a shell and tube heat exchanger and three way diverting valve. Each unit is furnished completely piped and wired and includes foam glass insulation on internal piping and heater chamber. The system is given an operating test prior to shipment. WM and WMS Series are available with a variety of standard options listed on page 4 of this bulletin.

FEATURES

- All welded construction
- Closed cell insulation
- Drip proof base
- Sheet metal panels on 3 sides and top of system
- Discharge pressure gauge
- Water cooled mechanical seal on pump
- Digital temperature controller
- High limit device with manual reset on heater circuit
- Expansion tank shipped loose for mounting at the highest point in the piping system
- Operating test of system prior to shipment



HEAT EXCHANGE AND TRANSFER, INC.

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STANDARD MODEL SPECIFICATIONS

COMMON SPECIFICATIONS

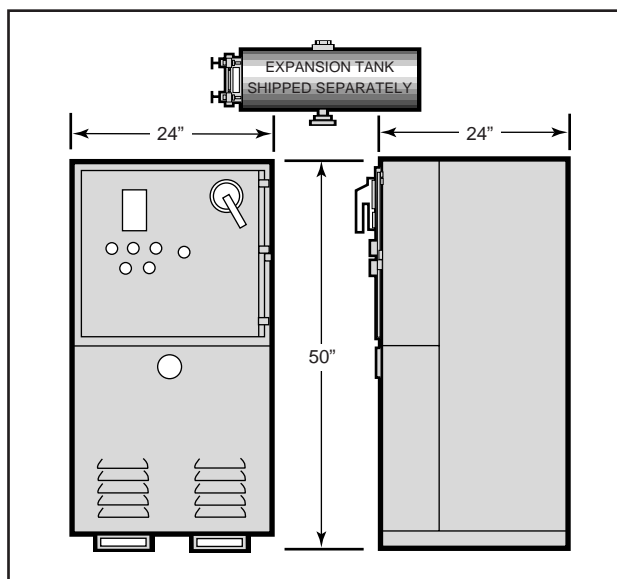
SERIES	DESIGN TEMP. °F	DESIGN PRESSURE PSI	PIPE SIZE 150#	PUMP/MOTOR			EXP. TANK		DIMENSIONS			APPROX. WEIGHT LBS.
				FLOW (GPM)	HP	TDH (FT)	LINE SIZE	SIZE (GAL)	W	D	H*	
WM450	450	100	1 1/2	40	2	100	3/4	10	24	24	50	600
WM550	550	100	1 1/2	80	5	124	3/4	10	24	24	50	750

* Height dimension does not include expansion tank
 ** TDH (FT) = (PSI x 2.31)/SG

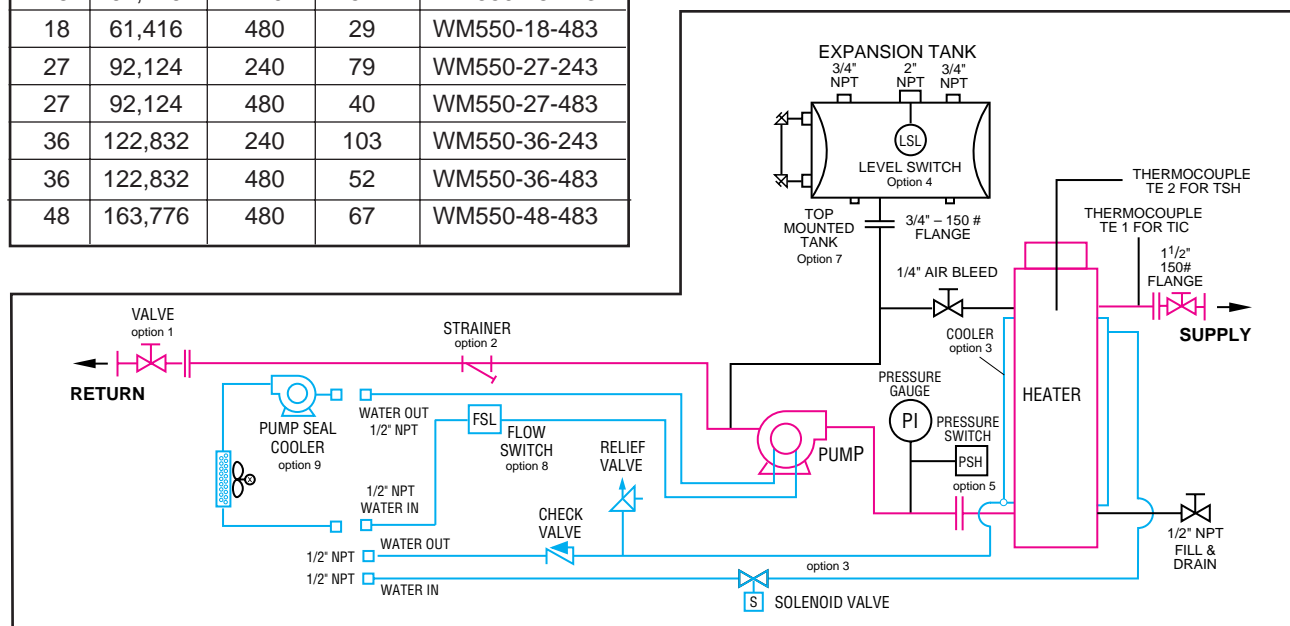
SERIES SPECIFICATIONS

HEATER OUTPUT		VOLTS	TOTAL AMPS	MODEL NO.
KW	BTU/HR			
WM450 SERIES				
9	30,708	240	28	WM450-9-243
9	30,708	480	15	WM450-9-483
18	61,416	240	49	WM450-18-243
18	61,416	480	25	WM450-18-483
27	92,124	240	71	WM450-27-243
27	92,124	480	36	WM450-27-483
36	122,832	240	95	WM450-36-243
36	122,832	480	48	WM450-36-483
WM550 SERIES				
9	30,708	240	36	WM550-9-243
9	30,708	480	19	WM550-9-483
18	61,416	240	57	WM550-18-243
18	61,416	480	29	WM550-18-483
27	92,124	240	79	WM550-27-243
27	92,124	480	40	WM550-27-483
36	122,832	240	103	WM550-36-243
36	122,832	480	52	WM550-36-483
48	163,776	480	67	WM550-48-483

DIMENSIONS



FLOW SCHEMATIC



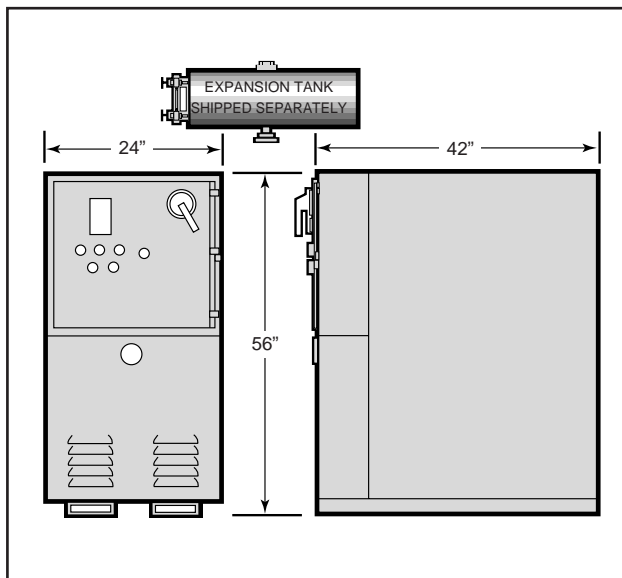
STANDARD MODEL SPECIFICATIONS

COMMON SPECIFICATIONS

SERIES	DESIGN TEMP. °F	DESIGN PRESSURE PSI	PIPE SIZE 150#	PUMP/MOTOR			EXP. TANK		EXCH. SURFACE AREA	DIMENSIONS			APPROX. WEIGHT LBS.
				FLOW (GPM)	HP	TDH (FT)	LINE SIZE	SIZE (GAL)		W	D	H*	
WMS450	450	100	1 1/2	40	2	92	3/4	10	10 Sq. Ft.	24	42	56	800
WMS550	550	100	1 1/2	80	5	124	3/4	10	10 Sq. Ft.	24	42	56	950

* Height dimension does not include expansion tank
 ** TDH (FT) = (PSI x 2.31)/SG

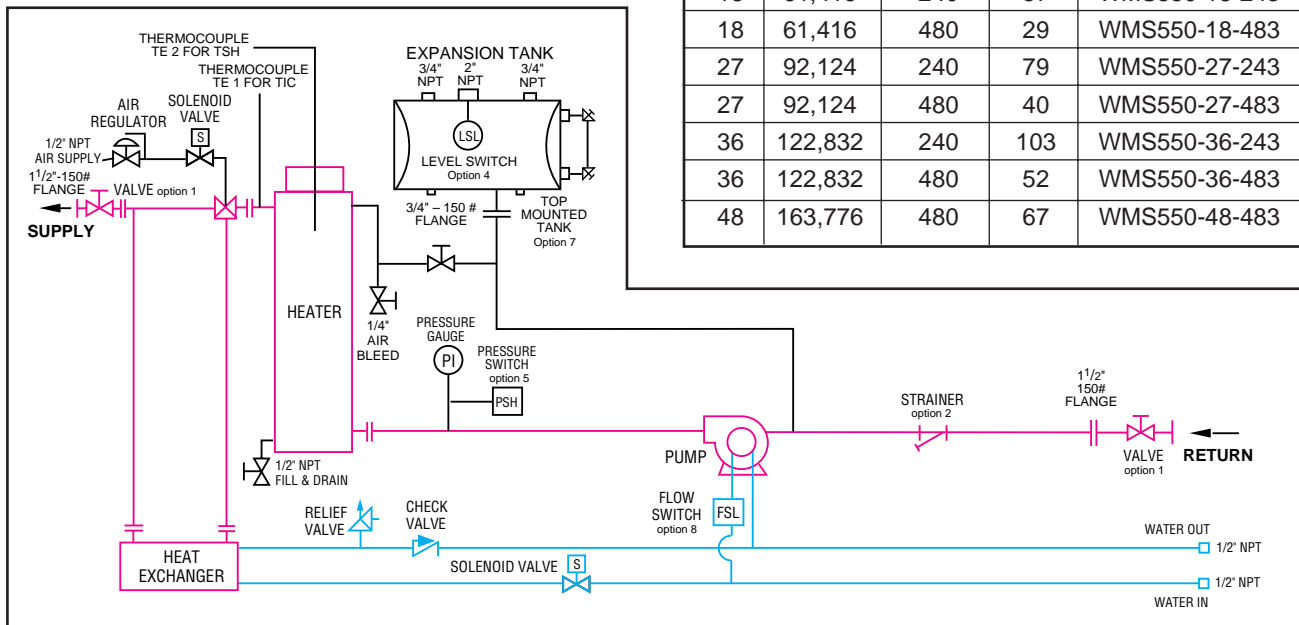
DIMENSIONS



SERIES SPECIFICATIONS

HEATER OUTPUT		VOLTS	TOTAL AMPS	MODEL NO.
KW	BTU/HR			
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27	92,124	480	36	WMS450-27-483
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9	30,708	480	19	WMS550-9-483
18	61,416	240	57	WMS550-18-243
18	61,416	480	29	WMS550-18-483
27	92,124	240	79	WMS550-27-243
27	92,124	480	40	WMS550-27-483
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FLOW SCHEMATIC



OPTIONS

The numbered options listed below are indicated on the WM Series Flow Schematic on page 2 of this bulletin.

1. **BLOCK VALVES** are used on the supply and return lines for isolating the system from the process.
2. **RETURN LINE STRAINER** will remove coarse particles of rust, millscale and organic debris.
3. **4.2 SQ. FT. INTERNAL COOLER** can be used to drop the temperature at the end of a production run. The cooling is accomplished when cold water flows through a cooling coil wrapped around the heating chamber. The water flow is controlled by a solenoid valve in the incoming line.
4. **LOW LEVEL FLUID ALARM**, is mounted in the expansion tank, automatically shuts the system down and turns an alarm light "ON", if the expansion tank fluid drops below the desired level.
5. **HIGH PRESSURE ALARM** automatically shuts the system down and turns an alarm light "ON", if the system's pressure rises above the desired level.
6. **SCR POWER CONTROLLER (not shown on schematic)** will proportionally control the heater output depending upon the difference between the actual temperature and the system's controller set point. Maximum rating is 44 Amps (18 kW @ 240 Volt or 36 kW @ 480 Volt).
7. **TOP MOUNTED EXPANSION TANK** is installed on top of the system frame when remote mounting is undesirable. Note: Refer to service Manual SM-100 for additional information needed for reliable operation.
8. **PUMP COOLING WATER FLOW SWITCH** will automatically turn the heater "OFF" and turn an alarm light "ON", if the pump's cooling water drops below 0.5 gpm.
9. **MODEL WC250-9-121 SEAL COOLING SYSTEM** eliminates the need for a separate supply of cooling water to the high temperature process pump cooling circuit. The package circulates a cooling fluid (water/glycol mixture) in a closed loop to the pump seal cooling cavity. Option 8, Pump Cooling Water Flow Switch, is included with this option. Request Bulletin SO-1.
10. **MODEL PFS-1 PORTABLE PUMPING AND FILTERING OIL SYSTEM** is a compact, self contained, portable unit. It is equipped with high efficiency, high capacity disposable elements capable of removing both particulate contaminants and water from oils. Maximum fluid temperature is 200°F. Request Bulletin SO-1.

APPLICATIONS

- REACTORS
- KETTLES
- DRYERS
- PLATENS
- MOLDS
- DIES
- EXTRUDERS
- TANKS
- EXCHANGERS
- LINE TRACING
- ROLLS
- PRESSES