



# INSTRUCTIONS FOR MOFLO™ - MOLD FLUID TEMPERATURE CONTROL

MODEL NO.

MFT

SERIAL NO.



PPE Mold Fluid Temperature Controls are manufactured and sold direct by Plastic Process Equipment, Inc. We are not associated with any other manufacturer except Budget Molder's Supply, Inc. Always specify genuine PPE or Budget Machinery! Do not accept substitutes.

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**PLASTIC PROCESS EQUIPMENT, INC.**

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SOUTH**

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8303 CORPORATE PARK DRIVE, MACEDONIA (Cleveland), OHIO 44056, USA

216-367-7000 • Toll Free: 800-321-0562 • Fax: 216-367-7022 • Order Fax: 800-223-8305

Toll Free: USA, Canada & Mexico  
**800-362-0706**

## SPECIFICATIONS

TEMPERATURE RANGE .....	Approx 50°F to 250°F ±4°F
Controls .....	Fast acting Thermocouple sensor
Voltage .....	230/60/1
Required Full Load Amps (pump & heater) .....	17.8 amps
Temperature Readout .....	Large LCD
Pump Motor .....	Centrifugal pump
.....	Stainless Steel housing
.....	O.D.P - NEMA 56Y
.....	1/2 HP
.....	30gpm @ 70' head
.....	3450 RPM
Heater .....	3kw Immersion Type
Tank .....	Welded Stainless Steel
.....	5 gallons
Mold Connections	
Mold Supply .....	1" NPT
Mold Return .....	1" NPT
Boxed Dimensions	25 1/2" wide x 17 1/2" deep x 22" high
Crated Shipping Weight .....	90 lbs.

Thank you for purchasing a MOFLO Mold Temperature Control from Plastic Process Equipment. This instruction booklet is intended as a guide for your new product. If you have additional questions, contact Plastic Process Equipment, Inc. at 1-800-321-0562.

## RECEIVING

Please thoroughly inspect your PPE Mold Fluid Temperature Control Unit and report any damage to the motor freight carrier before uncrating for set up. They are responsible for any damage incurred during transit. Uncrate and remove any protective wrap, retain information package and note unit serial number.

## ATTENTION!!

Please read through the entire booklet first.

You must be trained and authorized by your employer in the proper installation operation, maintenance and setup of your new MOFLO Mold Temperature Control. **Safety First Always!**

## INSTALLATION

To provide you with a safe and efficient system, the following rules must be followed:

- Employer should place and locate this new MOFLO Mold Temperature Control Unit in the plant and provide any additional safeguarding which becomes necessary because of equipment location.
- A safe, well grounded electrical service connection is to be made.
- Adequate water lines and fittings must be installed to allow a good volume of water to flow through the system.
- Sufficient water supply pressure to the system and a drain line having very low back pressure must be installed for cooling coil option.

By following these simple rules, a safe and efficient system having good temperature control and response will result.

## ELECTRICAL

The main power supplied to the unit is single-phase. On units supplied with a power cord, the cord is brought out of the side of the unit. **THESE UNITS MUST BE GROUNDED!**

## LINE CONNECTIONS

**Water Supply and Drain for Cooling Coil:** These connections are brought out of the rear of the unit. The supply pressure to the unit must be 25-45psig to guarantee satisfactory operation from 50 to 250 degrees Fahrenheit. The drain line, if not run to an open drain, must have a back pressure far less than the supply pressure. A ball valve control should be installed on the inlet connection.

**Delivery and Return Lines:** The return line is connected to the top of the tank. The delivery line comes off the pump housing. The delivery and return lines from the unit to the process should be kept as short as possible and should be of the same size as those on the unit. This will minimize loss of flow due to the resistance and will give better flow rates through the process. Hoses must be rated for 250°F and Ethylene Glycol service.

## GENERAL

The MOFLO Mold Fluid Temperature Control unit is a circulating hot water temperature control unit. It maintains the fluid at a set temperature by heating it whenever it falls below that setpoint. The pump runs as long as the unit is switched on, circulating water thru your mold. The heater element receives power whenever the type J thermocouple senses that the temperature of the fluid has fallen below the setpoint.

## COOLING COIL OPTION

Once the mold temperature has stabilized the cooling coil is used to manually regulate and remove temperature from the system. A ball valve is attached to one side of the coil on the cold water supply. The other side of the coil leads to the drain. Slightly opening the cold water supply valve allows heat to be removed from the system. This balancing allows you to stabilize the temperature of your mold and avoid excessive heat build-up in the mold. Your temperature setting may need to be reduced once the mold has come up to temperature.

## PUMPING

All pumps used in the PPE MOFLO system are centrifugal type pumps having enclosed impeller with unique floating seal ring design which maintains maximum efficiencies over the life of the pump. Casing is 316 Stainless Steel. Mechanical seal is John Crane seal with carbon ceramic faces, Viton elastomers, and stainless metal parts. **WARNING: Pump should not operate at pressures higher than 25psi. Higher pressure may cause seals to leak.**

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## MOTOR

NEMA standard open drip proof, fan cooled. Rugged ball bearing design for continuous duty under all operating conditions.

## SETUP

Locate the MOFLO unit as close to mold as possible making sure not to place it near controls or other material that might be damaged by heat from the unit.

Connect hose from pump discharge to mold inlet water passage, if mold has multiple inlets use a manifold near the mold to split the water flow evenly between the mold inlets.

Connect hose from Tank inlet to mold outlet for return water flow. Hoses should be sized so as not to restrict the water flow and hose selection should support water/glycol temperatures of at least 250°F. **WARNING:** Hot fluid will be passing thru these hoses and if a hose should burst the hot fluid could burn you.

Make sure unit is unplugged from electrical supply. Loosen vent plug on pump. Fill tank about 3/4 full of water/glycol mixture. Be sure to use a mixture of no less than 30% and no more than 80% glycol. Do not overfill the tank as the mixture will expand when heated. Tighten vent plug on pump.

Check all water connections to make sure they are secure. Connect the pump to 240/60/1 power with at least 20 amp capacity.

## STARTUP

Set the temperature setting to minimum. Make sure all hoses are connected. Turn the Power switch to ON, the POWER light should come on and the unit should begin circulating fluid thru the mold. Check all hoses and connections for leaks while unit is circulating. If there are any leaks, stop the unit, disconnect the power, and correct the leaks before restarting the unit.

Stop the unit, allow fluid to drain back into tank and again check the fluid level making sure not to fill it more than 3/4 full of cold liquid. Fluid will expand when heated.

Start the unit again. When fluid is circulating set the thermostat to desired temperature setting. HEATER light should come on indicating that the heater element is powered and heating the fluid.

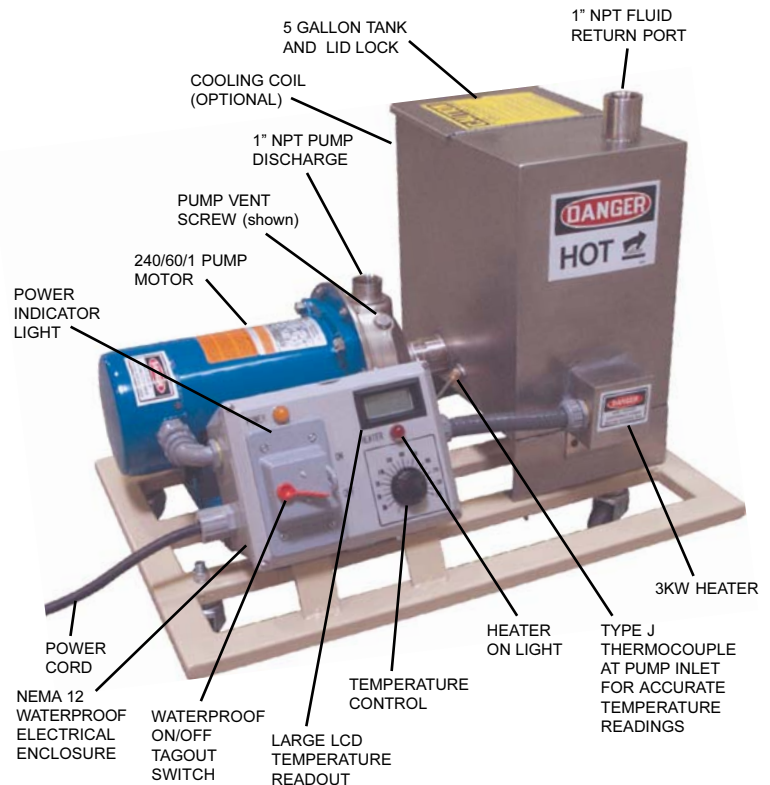
When fluid reaches setpoint temperature the HEATER light should go off and only come back on when fluid temperature drops below setpoint. You can see the temperature in the LED readout on the control panel.

Watch the unit to be sure it is operating properly. Occasionally (daily) you should shut the unit down, lockout and tagout the power, and after it has cooled to the point where you can touch the tank without burning yourself, check the fluid level which should be about 3/4 tank. Running the unit out of fluid can damage both the heating element and the pump.

**WARNING: NEVER OPEN THE TANK WHILE THE UNIT IS HOT OR IN OPERATION. BOTH THE TANK AND THE FLUID ARE VERY HOT AND COULD BURN YOU!**

## SHUTDOWN

Turn the temperature dial down to the minimum setting, if unit is equipped with a cooling coil open the ball valve and allow the unit to quickly cool while pump is still running, if no cooling coil option is installed then allow the unit to run without heat for 5 minutes to allow the heating element to cool down. Turn the power off, lockout and tagout the power switch.



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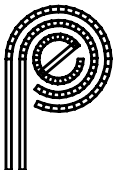
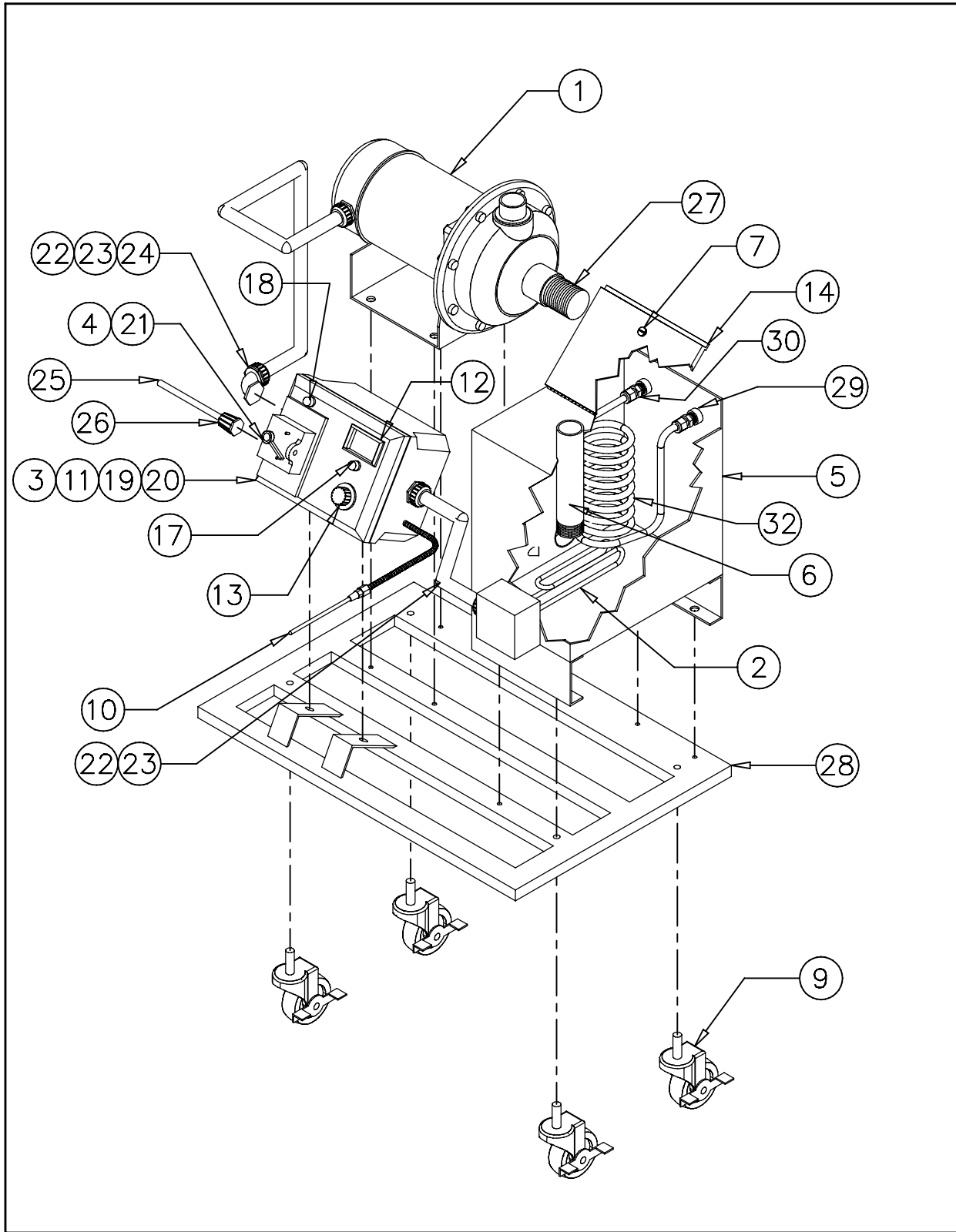
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# MOFLO MOLD TEMP PARTS



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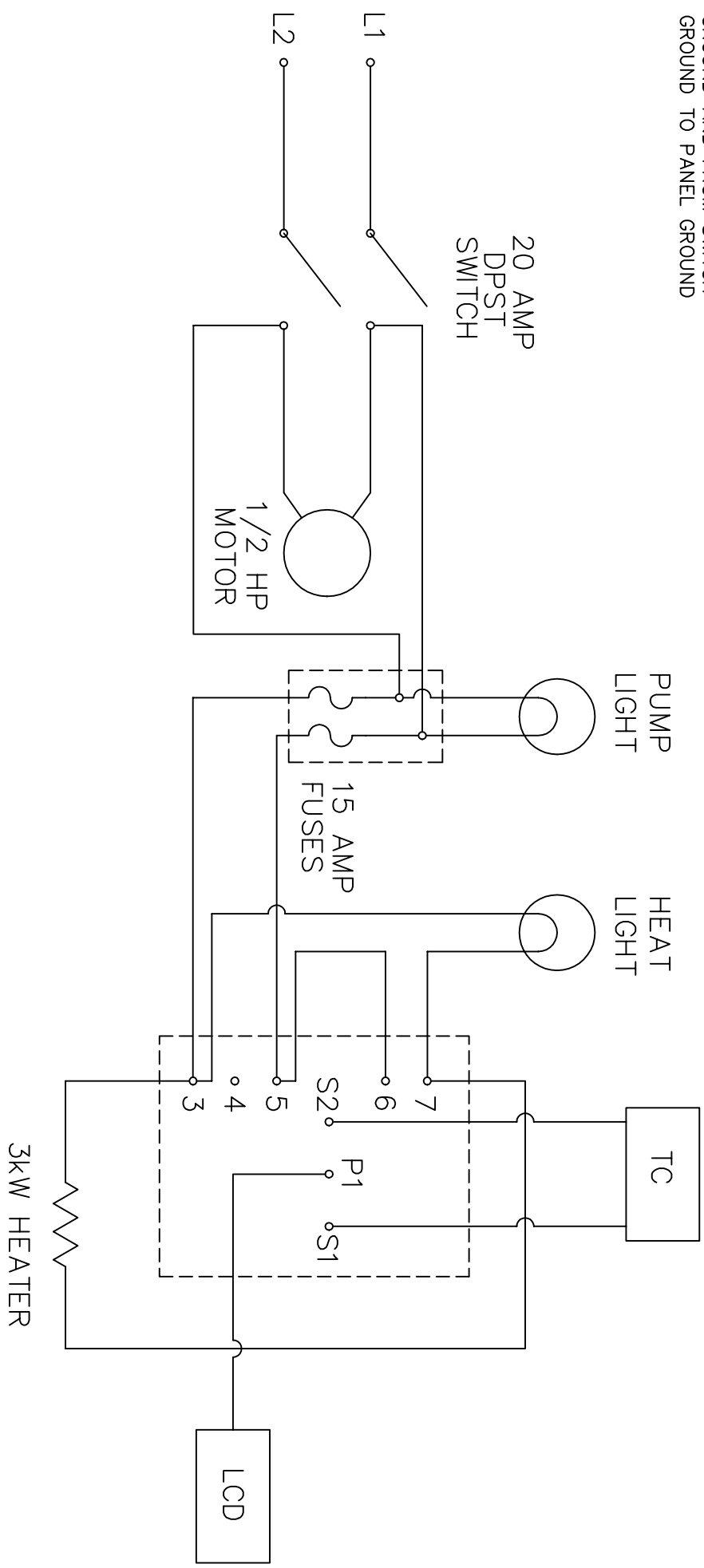
# MOFLO Mold Temp

05/20/15

Item	Part Number	Description	
1	MT100	PUMP AND MOTOR	
2	MT101	HEATER	
3	MT102	CONTROL BOX MACHINED AND ENGRAVED	
4	MT103	SWITCH FOR MOLD TEMP	
5	MT104	TANK	
6	215PNL-16-60Z	1"X6" BRASS NIPPLE	
7	MT106	SPRING LATCH	
9	MT108	CASTER FOR MOLD TEMP	
10	MT127	THERMOCOUPLE FOR MOLD TEMP	
11	MT110	CONTROLLER FOR MOLD TEMP	
12	MT111	LCD FOR MOLD TEMP	
13	MT112	KNOB FOR MOLD TEMP	
14	MT113	GASKET FOR MOLD TEMP	
17	MT116	RED LIGHT FOR MOLD TEMP	
18	MT117	AMBER LIGHT FOR MOLD TEMP	
19	MT118	FUSE BLOCK FOR MOLD TEMP	
20	BAF-15	15 AMP FUSE	
21	MT120	COVER FOR MOLD TEMP SWITCH E98TSC	
22	MT121	LIQUIDTIGHT CONDUIT FOR MOLD TEMP PER FT	
23	MT128	STRAIGHT LIQUID TIGHT FITTING FOR MOLD TEMP	
24	MT122	90° LIQUID TYPE FITTING FOR MOLD TEMP	
25	MT123	12/3 CABLE FOR MOLD TEMP 10'	
26	MT124	PLASTIC CORD GRIP FOR MOLD TEMP	
27	215PN-20Z	1-1/4" BRASS CLOSE NIPPLE	
28	MT126	BASE FOR MOLD TEMP	
		<b>cooling coil parts (optional)</b>	
29	MT130	3/8" 316SS COUPLING WELDED TO TANK	
30	MT131	3/8" BRASS MALE COMPRESSION FITTING	
32	MT133	3/8" COPPER TUBING 8.5 FEET	

DATE	S/N	REVISION RECORD	AUTH	DR	CK

NOTES:  
 POWER LEAD GROUND TO BOX PANEL  
 GREEN FROM MOTOR TO SWITCH  
 GROUND AND FROM SWITCH GROUND TO PANEL GROUND



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TOLERANCES UNLESS OTHERWISE SPECIFIED	PLASTIC PROCESS EQUIPMENT, INC.	
DECIMAL	± .005	MOLD TEMP
FRACTIONAL	± 1/16	SCALE
ANGULAR	± 1/2°	DRAWN BY DE
DATE	5/31/01	APPROVED BY
TITLE		WIRING DIAGRAM
DRAWING NUMBER		A-7790