

STERL-TRONIC MODEL 10424-GX  
TEMPERATURE CONTROL UNIT  
SERVICE AND INSTRUCTION MANUAL

STERLING, INC.  
5200 West Clinton Avenue  
Milwaukee, Wisconsin 53223

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MODEL 10424-GX

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STARTER, MOTOR ---- SQUARE "D" #8536

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RELAY ----- SQUARE "D" #8501

PARTS LIST #594

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MODEL NO.

SUFFIX LETTER

HORSEPOWER PUMP

10424	B	1/2 H.P.
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---	D	1 H.P.
---	E	1-1/2 H.P.
---	F	2 H.P.
---	G	3 H.P.

MODEL 10424-GX

DESCRIPTION

This unit is a two zone, high capacity, water-circulating temperature control system. The unit is a completely portable design with full sheet metal cabinet, with service doors, large casters and power cable with plug.

HEATING - Each zone is provided by a 4500 watt electric immersion heater, 3 phase low-watt density, of the flanged type. The heater is energized through a 3 pole relay, upon demand by the temperature controller.

PUMPING - For each zone is provided by a straight centrifugal pump, bronze-fitted, 3450 RPM.

COOLING - Is accomplished by the direct injection method which blends cooling water directly into the circulating system under carefully controlled thermostatic conditions. This method of cooling provides for a very great cooling capacity and allows the user to make very efficient use of his cooling water. Because the total amount of cooling water entering the system is directed through the work area by employment of a check valve.

THERMOSTATIC CONTROL of the system is maintained by a controller with heating and cooling output. The single-set controller energizes either the heater or the cooling, and indicates system temperature.

WATER PROTECTION has been provided in the form of a pressure switch. The pressure switch will keep the unit from operating until it has been sufficiently pressurized by the user's water supply. This will help to protect the heater and the pump seal from damage through operation without water. This switch is adjustable.

**NOTE: IF THIS UNIT IS TO BE OPERATED TO 300° F., THE PRESSURE SWITCH SHOULD BE ADJUSTED TO A MINIMUM OF 60 PSI.**  
This will assure the unit of having sufficient pressure at that temperature to eliminate possibilities of internal boiling.

## MODEL 10424-GX

### INSTALLATION

The unit should be placed into position at the press. The user's manifolds for raw water and drain should be brought to the back of the unit.

DELIVERY AND RETURN connections are located at the rear of the unit. If the water must travel some considerable distance to the work area, the piping should be kept the same size as that of the connections in order to minimize losses in flow resulting from fluid resistance.

WATER SUPPLY AND DRAIN are located at the rear of the unit. If 300° F. water temperatures are to be maintained, a minimum of 60 psig pressure must be maintained on the water supply line to each zone, from the user's water supply. If the water temperatures will not exceed 250° F. then the user need only provide a 25 psig minimum water supply pressure. The importance of these pressure/temperature relationships cannot be OVERLY STRESSED and the user must supply a sufficient water supply pressure.

Back pressure from the drain, if any, should not approach or exceed the pressure of the water supply, since in large measure the cooling capacity of the unit is directly related to the difference in pressure between the water supply and drain.

ELECTRIC POWER is brought to the unit through the power cable which is supplied with it. This cable is fitted with a Russell & Stoll plug for quick attachment to a corresponding outlet at the press. A ground line is brought out from each zone through the cable and power plug and the user should exercise care to insure that a safe and secure ground connection is made.

THE UNIT should be rolled into position and service connections installed. Water supply and drain connections are attached and the delivery and return connections should be made. With the disconnect switch "OFF", the user should attach the power-cable to the power supply connection at the press.

## MODEL 10424-GX

### OPERATION

After all the water supply, drain, electrical, and delivery and return connections have been made, the following steps should be taken to place the unit into service.

- 1.) Turn on the electrical power at the disconnect switch of the unit.
- 2.) Turn on the water supply to provide water for each zone. This should remain open and under sufficient pressure (see installation instructions) at all times. The drain line should also be open and should remain so.
- 3.) Set each thermostat at approximately 100° F.
- 4.) Hold the vent button of each zone for at least 45 seconds in order that all entrapped air be expelled to the drain and a steady flow of water to the drain established. This should be done one zone at a time, NOT ALL AT ONCE.
- 5.) After air purge, the start button should be pushed. If the water supply connections to the press and mold allow sufficient pressure, the unit will continue to run when the start button is released. The green pilot light will indicate whether or not the pump is running. MOTOR ROTATION SHOULD BE CHECKED IMMEDIATELY and corrected immediately if necessary. If the motor does not continue to run when the start button is released, the user should check to be sure that the water supply is turned on.
- 6.) Set the thermostat for the desired operating temperature. The unit will operate automatically and continuously from this point.

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SPARE PARTS LIST

MODEL 10424-GX

<u>PART NO.</u>	<u>DESCRIPTION</u>
729-00072	Contactor, Immersion Heater
724-00168	Controller, Thermostat
728-00009	Disconnect Switch
728-00014	Operating Mechanism
725-00539	Fuse, Control
725-00603	Sol. Fuse
725-00546	Fuse, Main
725-00547	Fuse, Motor
722-00048-01	Heater, Electric Immersion (4.5KW @ 480V)
037-00074	Gauge, Pressure
720-09012	Motor, Electric
715-03005	Pilot Light
C605-00086-03	Pump & Motor Ass'y Complete
721-03001	Push Button, STOP
721-03003	Push Button, START
714-00050	Relay
726-00105	Starter, Motor Control
603-00025-03	Strainer, "Y" w/Screen
733-00015	Switch, Pressure
704-00048	Transformer, Control
044-00138	Valve, Safety Pressure Relief
732-00017	Valve, Solenoid w/Coil (1")
732-00056	Valve, Solenoid w/Coil (1/4")
717-00027	Switch, Selector
732-00065	Valve, Solenoid w/Coil (1-1/2")

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