

# INSTALLATION & OPERATION MANUAL



#### **MODELS**

1500DP 2600DP 700DP

For additional information on Thermodyne Foodservice Products, Inc., or to locate an authorized parts and service provider in your area, visit our website at www.tdyne.com.

Please visit our website to Register your Thermodyne unit. Registration ensures that you get up-to-date warranty and product information, along with fast and convenient service.

http://www.tdyne.com/register.aspx

Thermodyne Foodservice Products, Inc. 4418 New Haven Avenue Fort Wayne, IN 46803

1-800-526-9182 www.tdyne.com

### IMPORTANT FOR YOUR SAFETY

THIS MANUAL HAS BEEN PREPARED FOR PERSONNEL QUALIFIED TO INSTALL ELECTRICAL EQUIPMENT, WHO SHOULD PERFORM THE INITIAL FIELD STARTUP AND ADJUSTMENTS OF THE EQUIPMENT COVERED BY THIS MANUAL.

READ THIS MANUAL THOROUGHLY BEFORE OPERATING, INSTALLING OR PERFORMING MAINTENANCE ON THE EQUIPMENT.

▲ WARNING: Failure to follow all the instructions in this manual can cause property damage, injury or death.

<u>A WARNING</u>: Improper installation, adjustment, alteration, service or maintenance can cause property damage, injury or death.

**A** WARNING: Electrical connections should be performed only by a certified professional.

▲ WARNING: Electrical and grounding connections must comply with the applicable portions of the National Electric Code and/or all local electric codes. Failure to comply with this procedure can cause property damage, injury or death.

▲ WARNING: Before connecting the unit to the electrical supply, verify that the electrical and grounding connections comply with the applicable portions of the National Electric Code and/or other local electrical codes. Failure to comply with this procedure can cause property damage, injury or death.

▲ WARNING: Before connecting the unit to the electrical supply, verify that the electrical connection agrees with the specifications on the data plate. Failure to comply with this procedure can cause property damage, injury or death.

▲ WARNING: UL73 grounding instructions: This appliance must be connected to a grounded, metal, permanent wiring system. Or an equipment-grounding conductor must be run with the circuit conductors and connected to the equipment-grounding terminal or lead on the appliance. Failure to comply with this procedure can cause property damage, injury or death.

▲ WARNING: Appliances equipped with a flexible electric supply cord, are provided with a three-prong grounding plug. It is imperative that this plug be connected into a properly grounded three-prong receptacle. Failure to comply with this procedure can cause property damage, injury or death.

▲ WARNING: If the receptacle is not the proper grounding type, contact an electrician. Do not remove the grounding prong from the plug. Failure to comply with this procedure can cause property damage, injury or death.

▲ WARNING: Before performing any service that involves electrical connection or disconnection and/or exposure to electrical components, always perform the Electrical LOCKOUT/TAGOUT Procedure. Disconnect all circuits. Failure to comply with this procedure can cause property damage, injury or death.

▲ WARNING: Before removing any sheet metal panels or servicing this equipment, always perform the Electrical LOCKOUT/TAGOUT Procedure. Be sure all circuits are disconnected. Failure to comply with this procedure can cause property damage, injury or death.

▲ WARNING: Do not operate this equipment without properly placing and securing all covers and access panels. Failure to comply with this procedure can cause property damage, injury or death.

▲ WARNING: Do not use or store gasoline or other flammable vapors or liquids in the vicinity of this or any other appliance. Failure to comply can cause property damage, injury or death.

**A** WARNING: In the event of a power failure, do not attempt to operate this appliance. Failure to comply can cause property damage, injury or death.

CAUTION: These models have glass doors. Remove carton carefully.

#### **FOR YOUR SAFETY**

DO NOT STORE OR USE GASOLINE OR OTHER FLAMMABLE VAPORS OR LIQUIDS IN THE VICINITY OF THIS OR ANY OTHER APPLIANCE. FAILURE TO COMPLY CAN CAUSE PROPERTY DAMAGE, INJURY OR DEATH.

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### INTRODUCTION

#### **GENERAL**

Thermodyne cabinets are produced with quality workmanship and materials. Proper installation, operation and maintenance will result in many years of satisfactory performance. It is suggested that you thoroughly read this manual in its entirety

and carefully follow all of the instructions provided. The cabinets described in this manual are programmable for the desired holding temperature. Each shelf in the cabinet maintains an exact temperature, allowing for extended holding times without sacrificing appearance or taste.

#### **SPECIFICATIONS**

#### **DIMENSIONS AND MAXIMUM TEMPERATURE**

Model	Ext. Width inches	Ext. Depth inches	Ext. Height inches	Int. Width inches	Int. Depth inches	Int. Height inches	Max Oper. Temp °F
2600DP	87.38	40.38	39.50	13.5 each	21.50	27.50	230
1500DP	35.00	29.56	74.50	26.50	25.00	45.50	230
700DP	35.00	29.56	51.25	26.50	25.00	22.75	230

#### **WEIGHT**

		•
Model	Net Weight Ibs	Shipping Weight Ibs
2600DP	725	1000
1500DP	583	660
700DP	432	510

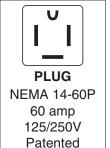
# FLUID CAPACITIES (STANDARD SHELF CONFIGURATION)

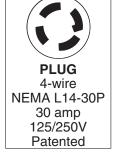
Model	Gallons	Liters	Per Shelf (Oz)
2600DP	4.0	15.1	34.1
1500DP	3.01	11.39	14.0
700DP	2.25	8.52	14.0



PLUG 4-wire NEMA L21-30P 30 amp 125/250V

NEMA Plug for Model 2600DP Model 1500DP Only Only





NEMA Plug for Model 700DP Only

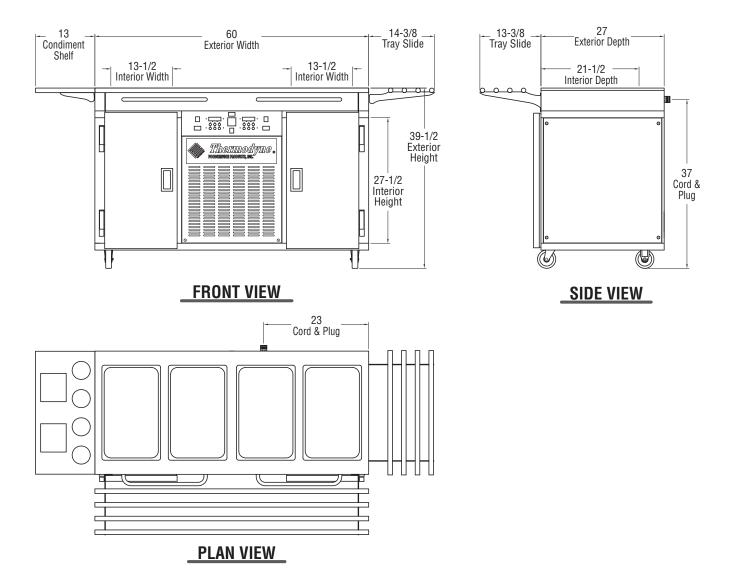


Figure 1: Outline Dimensional Drawing, 2600DP

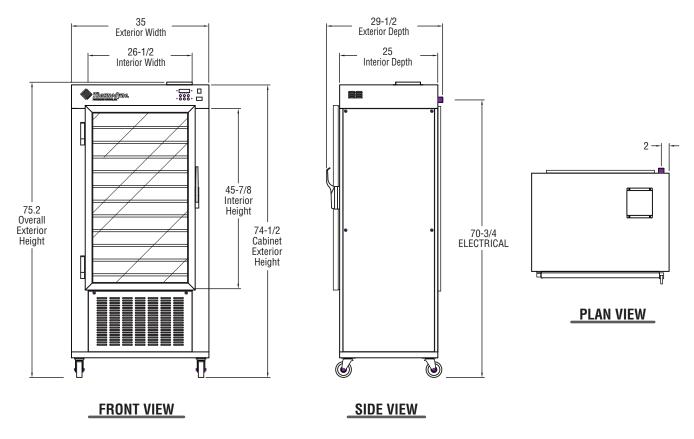


Figure 2: Outline Dimensional Drawing, 1500DP

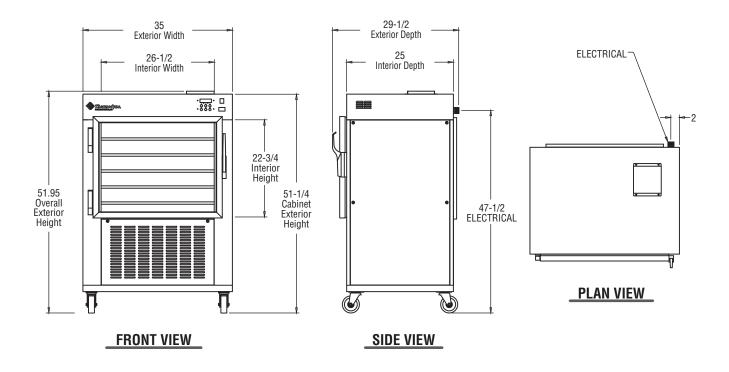


Figure 3: Outline Dimensional Drawing, 700DP

#### **UNPACKING**

All Thermodyne cabinets are factory tested for performance and certified free from defects.

#### **Thermodyne Damaged Goods Policy**

There are two types of damaged merchandise: A. Visible Damage and B. Concealed Damage.

- **A. Visible Damage**: The product being received is visibly damaged.
  - 1. The receiver should refuse the damaged merchandise.
  - 2. Receiver should sign the bill of lading indicating which merchandise is being refused due to damage.
  - 3. Contact Thermodyne Customer Service Representatives immediately.
- **B.** Concealed Damage: Damaged merchandise cannot be externally detected.

Your receiving operation should inspect for this type of damage. Please inspect your delivery carefully.

If the product is damaged:

- 1. Save all packing material.
- Contact Thermodyne Customer Service Representatives immediately.
- 3. Receiver must call the carrier to schedule an inspection of the damaged merchandise within 5 business days.

# INSTALLATION CODES AND STANDARDS

These installation instructions are for the use of qualified installation and service personnel only.

- Installation or service by other than qualified personnel may result in damage to the Thermodyne cabinet and/or injury to the operator.
- National Electrical Code (ANSI/NFPA No. 70, latest edition) available from the National Fire Protection Association, Batterymarch Park, Quincy, MA 02269.

In Canada, the cabinet must be installed in accordance with:

- Local codes.
- 2. Canadian Electrical Code (CSA C22.2 No. 3, latest edition) available from the Canadian Standards Association, 5060 Spectrum Way, Mississauga, Ontario, Canada L4W 5N6.

### **INSTALLATION**

Before installing, verify the required electrical supply agrees with the specifications on the data plate located on the back or side of the unit. If the supply and equipment requirements do not agree, do not proceed with installation. Contact your dealer or Thermodyne Foodservice Products, Inc. immediately.

# CAUTION: These models may have glass doors. Remove carton carefully.

- 1. Allow ample overhead clearance for removal of carton.
- 2. Cut banding (2 pieces) and remove nails (not for all units).
- 3. To remove cabinet from carton, slide carton up and off the cabinet.
- 4. Check packing list against items received:
  - A. Thermodyne Heat Transfer Fluid
  - B. Installation & Operation Manual
  - C. 32 oz Fill Bottle
- 5. Use proper lifting equipment to raise the cabinet.
- 6. Remove the plastic covering from glass door frames and hinges.
- 7. Mount doors on cabinet, and then check doors for alignment.
- 8. Set cabinet on a level surface.
- 9. Plug in oven, let sit for 24 hours before putting power switch to the on position.
- 10. Check all connections for leaking and make sure the fans in the interior of the walls function during the cooling cycle.
- 11. The Set Point Temperature will be reached in approximately 30 minutes.

#### **LOCATION**

Allow adequate space for electrical connections. The electrical cord and plug are located at the right rear of the unit. The minimum clearance for proper air circulation on back should be 4", and 2" on at least one side. Allow adequate access space for operating and servicing the unit.

NOTICE: Louvers on the sides of the oven are used to circulate cool air throughout the electrical components. The unit must not be placed where extensive airborne grease is present, such as near deep fryers or griddles.

#### **ELECTRICAL CONNECTION**

▲ WARNING: Electrical and grounding connections must comply with applicable portions of the National Electrical Code and/ or other local electrical codes.

▲ WARNING: Disconnect the electrical power to the Thermodyne unit and follow LOCKOUT/TAGOUT procedures.

Refer to the wiring diagrams in this manual for wiring information.

#### **ELECTRICAL SPECIFICATIONS**

Model	Volts	Amps	Watts	Hertz	Phase	Plug
2600DP	125/250	24/27	8739/10740	50/60	3	*NEMA L21-30P**
1500DP	208/240	52/59	10688/14250	50/60	1	*NEMA 14-60P
700DP	208/240	26/30	5438/7250	50/60	1	*NEMA L14-30P

<sup>\*</sup>Plugs are 4-wires with ground, 2 hot and neutral.

<sup>\*\*</sup>Optional 110V 20 Amp plug for hold mode

### **OPERATION**

#### **CABINET STARTUP**

▲ WARNING: The oven cabinet and hot wells are hot. Use care when operating, cleaning or servicing this equipment.

Once the cabinet is installed and electrical connections have been made, thoroughly test the Thermodyne cabinet before operation.

- 1. Check that all packing materials and other items have been removed from the cabinet.
- 2. Press the Power ON/OFF Switches to the ON position. The operating temperature will be reached in approximately 30 minutes.
- 3. Check ADD FLUID Light.
- 4. The controller readout will light up and indicate the temperature of the fluid in the tank (not the food temperature) at present time.
  - Cooling temperatures will be between 34–41 °F.
  - Heating cycles will have a maximum temperature of 230 °F.
  - Holding cycles temperatures can be set between 160–210 °F.
- 5. The operating temperature will be reached in approximately 30 minutes. This time will vary as the beginning fluid temperature and operating temperature are varied.
- 6. To turn the oven off, turn the red power switch to the OFF position.

#### **OVEN CONTROLLER**

#### SYSTEM DESCRIPTION

The Oven Controller is designed to provide a complete embedded system to run the different oven configurations manufactured at Thermodyne. The Oven Controller provides a simple, yet powerful user friendly LCD display with touch screen interface to start, stop, and program cooking recipes. Along with stored recipes, the Oven Controller contains a WiFi chip that allows the Oven Controller to upload and download recipes and control the oven remotely.

#### MAIN OPERATOR INTERFACE

The operator interface panel contains a number of control switches and indicators. These are explained as follows:

#### **Oven Controller Main Screen:**



#### Oven Controller Main Screen

This screen is main view of all operations that occur during the operation of the oven. From here one may load recipes, start/stop the recipes, and perform other miscellaneous operations.

This screen shows the date/time, active recipe (blue text), what step of the recipe that is currently running, the temperature of the oven/shelf and food probe if connected, and the minutes until the recipe is complete. The Oven State will contain one of the following values: Off, Preheat, Bake, Hold, and Done. These will

be discussed in the Recipes section of this manual. The Oven State will contain the value of "Basic" if the oven is being used as a basic oven. Only when the recipe has completed the green box with "RECIPE COMPLETE" will be displayed. Otherwise the box is hidden from sight.

- The temperatures that are displayed are the current temperature of the oven/shelf and probe. When the recipe is running the [] area of the temperature will be populated with the actual temperature set point for the given recipe step. Recipe steps will be defined in the Recipes section of this manual.
- Touching the "Oven Control" button will display the Oven Control screen. This button will be disabled when the oven is running in Basic Oven mode.
- Touching the "Basic Oven" button will display the Basic Oven screen. This button will be disabled when the oven is running a recipe.
- Touching the "Recipes" button will display the Oven Recipes screen.
- Touching the "Utilities" button will display the Oven Utilities screen once the correct password has been entered.

#### **Oven Control Screen:**



**Oven Control Screen** 

This screen will allow the starting and stopping of the active recipe. The current state of the oven is displayed in the "Oven State" line. This will display either "OFF" or "ON".

- The "Turn ON" button will start the oven running the recipe. This button is available for both Timer and Clock based recipes. Refer to the Recipes section of this manual for the definition of Timer and Clock recipes.
- The "Loop ON" button will start the oven running the recipe in a looping mode. This button is only available for Clock based recipes.
- The "**Turn OFF**" button will stop the oven running the recipe.
- The "Cancel" button will return to the previous screen without performing any actions.
- Buttons that have a blue background and light gray text are disabled and cannot be activated based upon the current state of the oven.

#### **Basic Oven Control Screen:**



**Basic Oven Screen** 

This screen will allow the turning on and off of the oven in a basic mode (like a standard oven in a home). The current state of the oven is displayed in the "Oven State" line. This will display either "Off" or "Basic".

- The "Turn ON" button will turn the oven on using the temperature set point (in this case 88 degrees).
- The "Turn OFF" button will turn the oven off.
- The "Cancel" button will return to the previous screen without performing any actions.
- The "Temperature" field may be used to enter the desired temperature to operate the oven. This may be changed any time regardless if the oven is turned on or off.
- The "Up/Down" buttons will allow adjusting the temperature of the oven in 5 degree increments. Touching the button will make a 5 degree change every second and if held for more than 2 seconds will start to increment/ decrement rapidly. Once either of the buttons are released for a few seconds the oven will be automatically set to the new temperature. The oven does not require turning off and then back on to make the new temperature active.
- Buttons that have a blue background and light gray text are disabled and cannot be activated based upon the current state of the oven.

#### 2600DP HOT WELL CONTROLS AND INDICATORS

All controls are located at the top middle front of the Thermodyne cabinet:

- The control in the top middle of the powerhead controls the Hot Well.
- The controls on the left and right of the Hot Well control, operate the left and right oven cabinets.

ITEM	FUNCTION
ON/OFF Switch	When lit, it indicates the unit is turned on.
ADD FLUID Light (Red)	When lit, it indicates additional fluid is required.
Controller	Provides readout of actual temperature and desired temperature. It has increase and decrease buttons for setting the desired temperature.
	In addition, a red OUT light blinks indicating the desired temperature is being maintained.

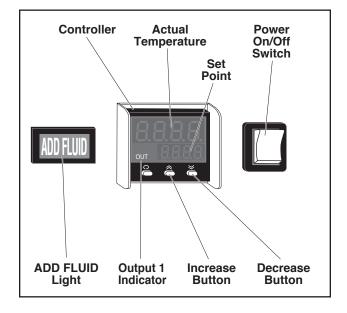


Figure 4: 2600DP Hot Well Control Panel

#### 2600DP HOT WELL STARTUP

▲ WARNING: The oven cabinet and hot wells are hot. Use care when operating, cleaning or servicing this equipment.

Once the cabinet is installed and electrical connections have been made, thoroughly test the Thermodyne cabinet before operation.

- 1. Check that all packing materials and other items have been removed from the cabinet.
- 2. Press the Power ON/OFF Switches to the ON position. The operating temperature will be reached in approximately 30 minutes.
- 3. Check ADD FLUID Light.
- HOT WELL CONTROL: The light will come on if there is no water in at least one of the wells or the water drops below the water level sensors. Add water to about <sup>3</sup>/<sub>4</sub>" above the water sensors.

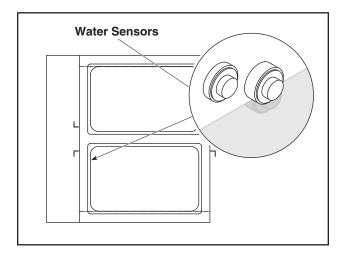


Figure 5: Location of Water Sensors

**NOTE:** The controller has an OUT light (red lamp). This light blinks as the controller maintains the desired temperature.

Size, weight, pan loading, and product quality will affect cooking times and should be adjusted to fit the requirements of your operation.

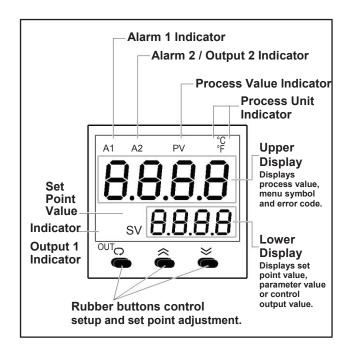
#### **Setting Temperature**

1. To set temperature:

KEY	FUNCTION
Up Key	Press and release quickly to increase the value of the displayed parameter. Press and hold to accelerate increment speed.
Down Key	Press and release quickly to decrease the value of the displayed parameter. Press and hold to accelerate decrement speed.

- OUT light will illuminate while cabinet is warming up.
- 3. When OUT light is blinking, the cabinet has reached the desired temperature.

**NOTE:** The controller is not an indicator of fluid level in the heater or reservoir tank.



**Figure 6: Control Panel Functions** 

#### **Preheating**

Preheat the Thermodyne cabinet when first used for the day or whenever the unit is cold. Preheating takes approximately 30 minutes at which time the temperature set point and the actual temperature will display the same temperature. If the cabinet has door(s), keep the doors closed during the preheat cycle.

### **CLEANING AND MAINTENANCE**

# PROCEDURE

▲ WARNING: Before performing any cleaning or maintenance that involves electrical connection or disconnection and/or exposure to electrical components, always follow the Electrical LOCKOUT/ TAGOUT Procedure. Disconnect all circuits. Failure to comply can cause property damage, injury or death.

The Electrical LOCKOUT/TAGOUT Procedure is used to protect personnel working on an electrical appliance. Before performing any maintenance or service that requires exposure to electrical components, follow these steps:

- 1. In electrical box, place appliance circuit breaker into OFF position.
- 2. Place a lock or other device on electrical box cover to prevent someone from placing circuit breaker ON.
- Place a tag on electrical box cover to indicate that appliance has been disconnected for service and power should not be restored until tag is removed by maintenance personnel.
- 4. Disconnect appliance power cord from electrical outlet.
- Place a tag on the cord to indicate that unit has been disconnected for service and power should not be restored until tag is removed by maintenance personnel.

#### WHEN TO CLEAN

It is recommended that all stainless steel equipment be cleaned on a regular basis. Any piece of stainless steel equipment that is soiled should be cleaned daily to ensure the long life of the equipment. Routine cleaning will also lessen stainless steel abrasion.

#### STAINLESS STEEL CARE

#### Cleaning

Stainless steel contains 70-80% iron, which will rust if not properly maintained. It also contains 12-30% chromium, which forms an invisible passive, protective film that shields against corrosion. If the film remains intact, the stainless steel will remain intact. However, if the film is damaged, the stainless steel can break down and rust. To prevent stainless steel breakdown, follow these steps:

CAUTION: Never use any metal tools. Scrapers, files, wire brushes or scouring pads (except for stainless steel scouring pads) will mar the surface.

CAUTION: Never use steel wool, which will leave behind particles that rust.

CAUTION: Never use acid-based or chloridecontaining cleaning solutions, which will break down the protective film.

CAUTION: Never rub in a circular motion.

CAUTION: Never leave any food products or salt on the surface. Many foods are acidic. Salt contains chloride.

For routine cleaning, use warm water, mild soap or detergent and a sponge or soft cloth.

For heavy-duty cleaning, use warm water, a degreaser and a plastic, stainless steel or Scotch-Brite pad.

Always rinse thoroughly. Always rub gently in the direction of the steel grain.

#### **Preserving & Restoring**

Special stainless steel polishing cleaners can preserve and restore the protective film.

Preserve the life of stainless steel with a regular application of a high quality stainless steel polishing cleaner as a final step to daily cleaning.

If signs of breakdown appear, restore the stainless steel surface. First, thoroughly clean, rinse and dry the surface. Then, on a daily basis, apply a high-quality stainless steel polish according to manufacturer's instructions.

#### **Heat Tint**

Darkened areas, called heat tint, may appear on stainless steel exposed to excessive heat, which causes the protective film to thicken. It is unsightly but is not a sign of permanent damage.

To remove heat tint, follow the routine cleaning procedure. Stubborn heat tint will require heavyduty cleaning.

To reduce heat tint, limit the exposure of equipment to excessive heat.

#### **CLEANING HEAT TRANSFER PLATES**

The Thermodyne unit operates on the principle of conduction, rather than convection. Therefore, it is very important to keep the heat transfer shelves clean, so heat transfer may take place with maximum efficiency. It is also very important to keep the bottom contact surfaces of pots and pans as clean as possible to ensure even and complete heat transfer. The surface and flat coating of the thermal heat transfer shelf is extremely hard, but will react with strong caustic cleaning solutions and deteriorate.

# CAUTION: Most concentrated soaps and ammonia cleaners are too caustic to be used on the Thermodyne unit.

If the coating is destroyed, the heat transfer shelves will lose their non-stick properties and their surface hardness.

The cleaners should always be used at the recommended concentrations. In the case of dry powders, the powders must not be placed directly on the surface of the heat transfer plate. Care must be taken not to scratch the shelf surfaces when using brushes or pads. If harsh scouring is needed, use a nylon type scouring pad. NEVER use steel wool.

It is recommended that a weekly cleaning schedule be followed to avoid the buildup of heavy food product deposits. In the event heavy deposits occur that are difficult to remove with ordinary cleaning procedures, stronger chemical cleaning agents may be applied if the products are intended for food service use and are also compatible with hard coat anodized aluminum surfaces. When using these stronger solvents, it is very important that heat

transfer shelves are rinsed thoroughly with clean potable water after cleaning. Be sure to remove all traces of the cleaning agent. Between the regular scheduled cleaning, wipe off the anodized aluminum surfaces periodically with a clean damp cloth.

#### **CLEANING DOOR GASKETS**

Clean the gasket-sealing surface of the Thermodyne doors to remove food product acids for maximum gasket life. Do not use any solvents or sharp instruments as these will damage the gasket. Wash with a cloth moistened in a solution of mild detergent and warm water. Rinse with a fresh cloth moistened with warm water to remove all traces of detergent. Wipe dry with a clean cloth. Never apply food product oils or petroleum lubricants directly to the door gasket as these will reduce gasket life.

#### **FLUID REPLENISHMENT**

- 1. Turn the unit off and unplug the unit from the receptacle.
- Using a Phillips head screwdriver remove the four Phillips head screws from the back cover.
- 3. Locate the fill cap on the top of the reservoir. This cap is similar to an automotive radiator cap.

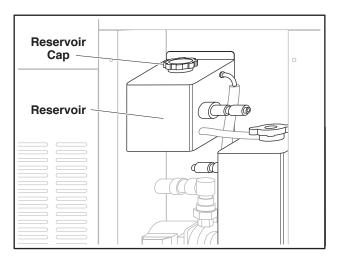


Figure 7: Reservoir Cap Location

- 4. Unscrew the reservoir fill cap.
- 5. Using the fill bottle of heat transfer fluid provided with the unit, pour transfer fluid into the reservoir just until the "Add Fluid" light goes off or when the level is 1" from the top.
- 6. After filling, be sure to screw the fill cap firmly back into place.

- 7. Replace the back cover and replace the four Phillips head screws securely.
- 8. Plug the unit into receptacle and turn red power switch to the on position.

#### **IMPORTANT:**

Add fluid only when oven is cold! - With oven temperature between 34°F. and 45°F.

**NOTE:** After filling, be sure to screw cap firmly back into place.

**NOTE:** If the fluid indicator light remains on after the unit has been filled, contact the Thermodyne service department.

#### **CHANGING FLUID for 2600DP ONLY**

NOTICE:The Thermodyne Heat Transfer Fluid has lubricating additives, anticorrosion additives, and heat transfer properties that may decrease with the passing of time. Thermodyne Heat Transfer Fluid will protect the unit indefinitely if the fluid is changed on an annual basis.

CAUTION: The following procedure is to be performed by a qualified service technician only.

▲ WARNING: Before removing any sheet metal panels or servicing this equipment, always perform the Electrical LOCKOUT/TAGOUT Procedure. Be sure all circuits are disconnected. Failure to comply with this procedure can cause property damage, injury or death.

- Move Power ON/OFF switches to the OFF position and perform LOCKOUT/TAGOUT procedures.
- 2. Drain all water from the hot wells.

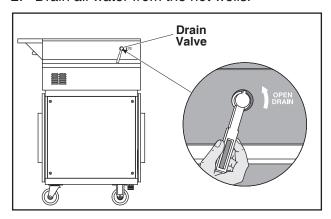


Figure 8: 2600DP Drain Valve

- 3. Allow the unit to cool completely.
- 4. Using a Phillips head screwdriver remove the 4 Phillips head screws from the back panel.
- 5. Locate the heater tank and remove cap.

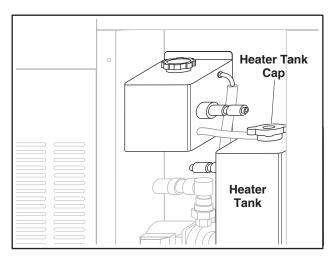


Figure 9: 2600DP Heater Tank Cap Location

- 6. Remove the side panel of the side you are working on to gain access to drain plug.
- 7. Place a pan or bucket beside drain plug in order to catch drained fluid.

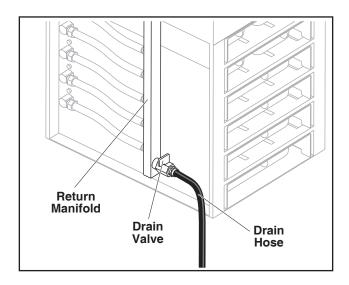


Figure 10: 2600DP Drain Hose

- 8. Place drain hose into pan or bucket and turn valve to open position.
- 9. Once unit has drained completely turn valve to off position and tuck drain hose back into cabinet.
- 10. Reattach the left side panel.

- 11. Refill the unit with Thermodyne Heat Transfer Fluid only. Never substitute with water or other liquids.
- 12. Reattach the heater tank cap.
- 13. Restore power to the unit and place the Power ON/OFF switch in its ON position.

**NOTE:** Unit may run briefly and shut off due to low fluid level.

14. Remove reservoir cap and heater tank cap and fill heater tank.

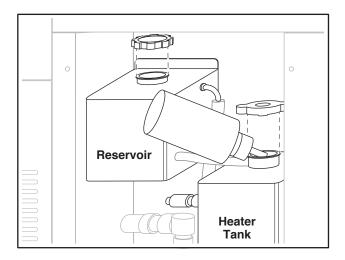


Figure 11: 2600DP Fill Heater Tank

- 16. Repeat steps 12-14 until unit is completely full of fluid.
- 17. Once unit is completely filled, reattach the heater tank cap and the powerhead lid.

**NOTE:** If ADD FLUID light is on, add fluid to reservoir tank until light goes out.

- 18. Allow the unit to heat until set temperature is reached.
- 19. Once set temperature is reached, place the power switch in the OFF position and let the unit cool down to at least 100°F.
- Turn unit back on, and if ADD FLUID light is on again, add fluid to reservoir tank until light goes out.

**NOTE:** Steps 18-20 are very critical in order to purge any trapped air from the unit.

# CHANGING FLUID MODELS 1500DP AND 700DP ONLY

NOTE: The Thermodyne Heat Transfer Fluid has lubricating additives, anticorrosion additives, and heat transfer properties that may decrease with the passing of time. Thermodyne Heat Transfer Fluid will protect the unit indefinitely if the fluid is changed on an annual basis.



#### **CAUTION**

The following procedure is to be performed by a qualified service technician only.



#### WARNING

DISCONNECT THE ELECTRICAL POWER TO THE THERMODYNE UNIT AND FOLLOW LOCKOUT/TAGOUT PROCEDURES.



#### **CAUTION**

Stainless Steel Powerhead Lids may have sharp edges; handle with extreme care.

- 1. Disconnect the unit from its power source and *allow the unit to cool completely*.
- 2. Remove the stainless steel panel covering the left side of the unit.
- 3. Remove the powerhead lid; 4 screws.

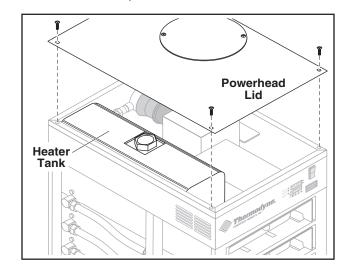


Figure 12: Powerhead Lid

4. Place a pan or bucket beside drain hose in order to catch drained fluid.

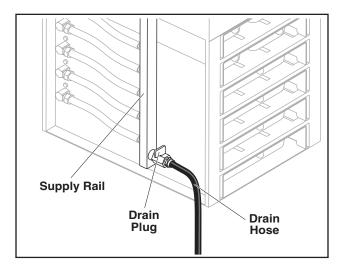


Figure 13: Drain Hose

- 5. Aim drain hose into pan or bucket and turn valve to open position.
- 6. Locate heater tank and remove cap.

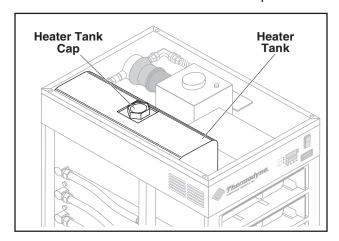


Figure 14: Heater Tank Cap

- Once oven has drained completely turn valve to OFF position and place drain hose back in cabinet.
- 8. Return stainless steel panel to left side.
- Refill the unit with Thermodyne Heat Transfer Fluid only. Never substitute with water or other liquids.

- 10. Return heater tank cap.
- 11. Place lid back on, but do not tighten screws.
- 12. Plug unit in and place the Power ON/OFF switch in its ON position.
- 13. Unit will run briefly and shut off due to low fluid level.
- 14. Remove powerhead lid and heater tank cap and fill heater tank.

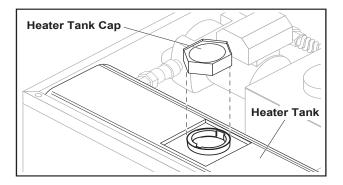


Figure 15: Heater Tank Fill

- Repeat steps 11-15 until unit is completely full of fluid.
- 16. Once unit is completely filled, place powerhead lid back on unit and tighten screws snug.
- 17. If ADD FLUID light is on, add fluid to reservoir tank until light goes out.
- 18. Let unit run until maximum temperature is reached.
- 19. Once full temperature is reached, shut unit down and let it cool down to at least 100°F.
- 20. Turn unit back on. If ADD FLUID light is on again, continue adding fluid to reservoir tank until light goes out.

**NOTE:** Steps are critical in order to eliminate air trapped in unit.

## **TROUBLESHOOTING**

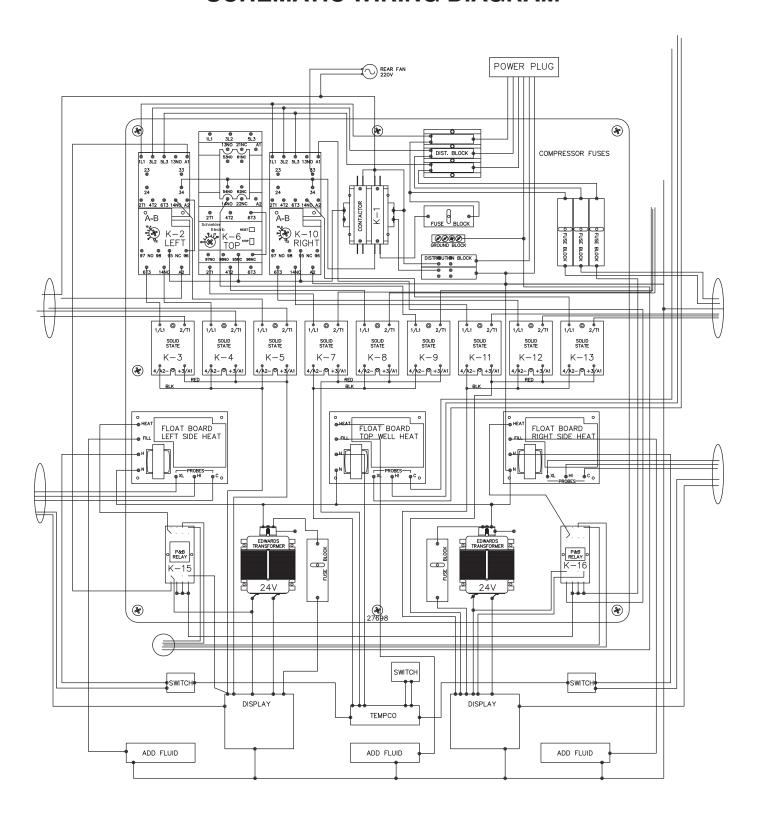
Most problems associated with the holding cabinet are due to low fluid level. Always check fluid level first.

PROBLEM	POSSIBLE CAUSE	SOLUTION
No Power:	1. Main power switch off.	1. Turn switch on.
	2. Not plugged in.	2. Check plug.
	3. Breaker off or tripped.	3. Check breaker.
	4. Bad contactor.	4. Replace contactor.
LOW FLUID light is on – Oven heating properly:	1. Oven is low on fluid.	Add Thermodyne Heat Transfer     Fluid per instructions.
LOW FLUID light is on –	1. Hot Well is low on water	1. Add water to 3/4" above water
Hot Well heating properly.	The verile lew en water	level sensors.
LOW FLUID light is on – Oven not heating properly:	Oven disabled due to low fluid level cut out.	Main heater tanks low on fluid. Add     Thermodyne Heat Transfer Fluid     and determine cause of fluid loss.
	2. Fluid level probe defective.	2. Repair or replace.*
	3. System leak.	3. Repair leak.*
Heater(s) not working:	1. Unit not properly wired.	1. Check wiring.*
-	2. Bad heater(s).	2. Replace heater(s).*
	3. Contactor or solid state relays not working.	3. Repair or replace.*
	4. Off due to low fluid cut out.	4. Add Thermodyne Heat Transfer Fluid per instructions.
	5. Failed temperature controller.	5. Replace temperature controller.*
	6. High limit snap disc tripped.	6. Reset snap disc and check for cause.*
Shelves hotter than set point:	Temperature controller out of calibration.	Recalibrate temperature controller.*
·	2. Thermocouple defective.	2. Replace thermocouple.*
	3. Solid state relay(s) stuck on.	3. Replace solid state relay(s).*
	4. Failed temperature controller.	4. Replace temperature controller.*
Shelves colder than	1. Low fluid in tank. (LOW FLUID	Add Thermodyne Heat Transfer
set point:	light should be lit)	Fluid per instructions.
-	2. Failed temperature controller.	2. Replace temperature controller.*
	3. Heater(s) not working.	3. See "Heater(s) not working".
	4. Pump failure.	4. Repair or replace pump.*
	5. Thermocouple failure.	5. Replace thermocouple.*
Oven heats up too slow:	1. Heater(s) not working.	1. See "Heater(s) not working".

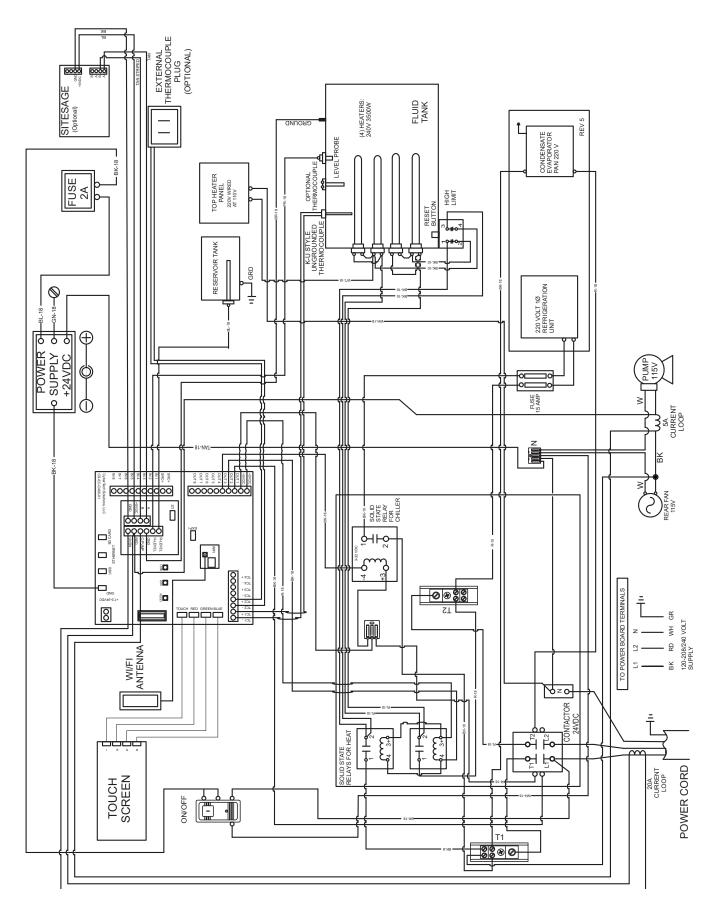
<sup>\*</sup>Recommended service to be done by a qualified service agency.

**NOTE:** Most problems associated with the Thermodyne cabinet are due to failure to add Thermodyne Heat Transfer Fluid. Check fluid level first. In the event service is required on your Thermodyne cabinet, please call: (800) 526-9182.

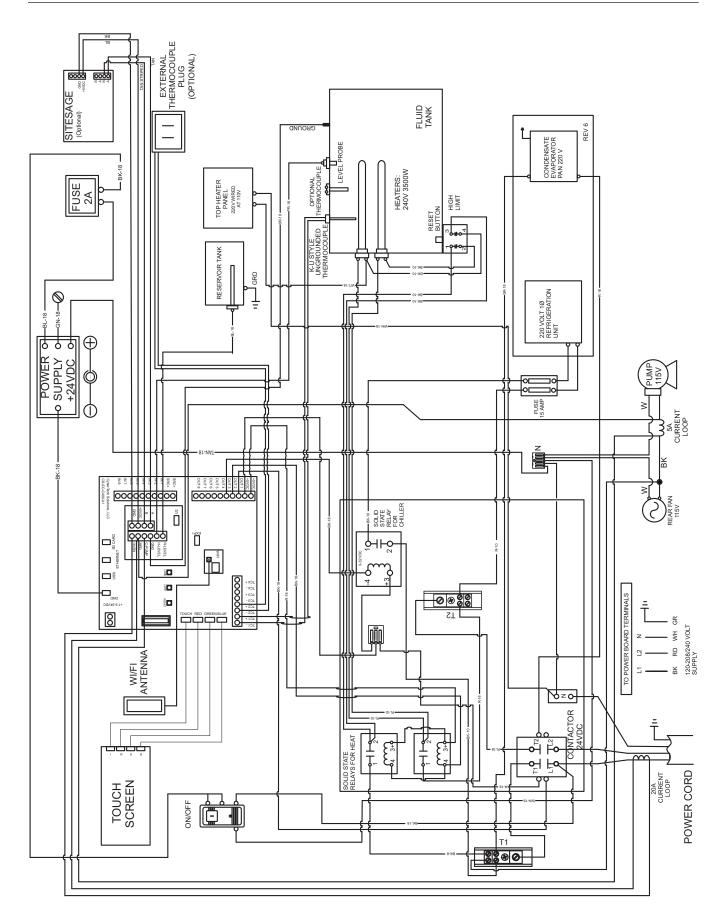
### **SCHEMATIC WIRING DIAGRAM**



### 2600DP Wiring Diagram



1500DP Wiring Diagram



**700DP Wiring Diagram** 

#### WARRANTY

Thermodyne Foodservice Products, Inc. warrants to the original purchaser for use of each new Thermodyne Conductive Cooking/ Holding Oven the following: Any part which proves to be defective in materials or workmanship within the warranty period will, subject to the terms of this warranty, be repaired or replaced at Thermodyne Foodservice, Inc.'s option. Claims under this warranty must be presented to Thermodyne Foodservice Products, Inc. in writing, promptly.

Thermodyne stainless steel cabinets are warranted for 5 years and all other original equipment parts such as heat transfer plates, doors, casters, fluid system components and electrical components are warranted against defect for one year from the date of purchase.

This warranty applies only to Thermodyne Conductive Cooking/Holding Ovens in the Continental United States. This warranty shall not apply if the oven or any part is subjected to accident, casualty, alteration, misuse, abuse, neglect, faulty installation, or if the date of manufacture is altered or removed.

The obligation of Thermodyne Foodservice Products, Inc. is limited specifically to the aforementioned. No additional guarantees or warranty, expressed or implied, to include without limitation warranties of Fitness or Merchantability with respect to Thermodyne Conduction Ovens and Thermodyne Foodservice Products, Inc. regarding other liability with respect thereto including, without limitation, liability for incidental, special, or consequential damages.

#### RESPONSIBILITIES OF PURCHASER

It is the responsibility of the purchaser to:

- Arrange on site electrical services in accordance with Thermodyne specifications.
- Receive shipment of Thermodyne conduction oven to include unloading, uncrating, inspecting for damage in shipment, and installation of the oven in its proper location; in accordance with installation instructions.
- Arrange that the electric services are connected properly by a qualified technician. All such connections must be in accordance with applicable code requirements and Thermodyne installation procedures.

Please note the specific details on the Warranty and make certain that service connections are made to the proper utility services. This warranty and purchasers responsibility information should be retained for future reference.

#### For assistance please call:

Toll Free: (800) 526-9182 Local: (260) 428-2535

#### **HEAT TRANSFER FLUID MSDS**

Dow Chemical U.S.A. Midland, MI 48674

Emergency Phone: 517-636-4400

Product Code: 23545

Product Name: PROPYLENE GLYCOL

HEAT TRANSFER FLUID Effective Date: 03-02-88 Date Printed: 06/02/88 MSDS: 000130

#### 1. INGREDIENTS:

Propylene glycol CAS# 000057-55-6

95%

Dipotassium phosphate CAS# 007758-

11-4 <5%

Deionized water CAS# 007732-18-5 < 5%

This document is prepared pursuant to the OSHA Hazard Communication Standard (29CFR 1910.1200). In addition, other substances not 'Hazardous' per this OSHA Standard may be listed. Where proprietary ingredient shows, the identity may be made available as provided in this standard.

- 2. PHYSICAL DATA:
  BOILING POINT: 370F, 188C
  VAP. PRESS: 0.22 mmHg @ 20C, 68F
  VAP. DENSITY: 2.62
  SOL. IN WATER; Complete
  SP. Gravity: 1,050 @ 60/60F, 16C
  APPEARANCE: Colorless.
  ODOR: Odorless liquid.
- 3. FIRE AND EXPLOSION HAZARD DATA: FLASH POINT: 215F, 102C METHOD USED: COC FLAMMABLE LIMITS LFL: 2.6% @ 100C UFL: 12.5% @ 130C EXTINGUISHING MEDIA: Water fog, alcohol foam, dry chemical FIRE AND EXPLOSION HAZARDS: None. FIRE-FIGHTING EQUIPMENT: None.
- REACTIVITY DATA: STABILITY: (CONDITIONS TO AVOID) Stable over normal Operating temperature range of –30F to 250F.

INCOMPATIBILITY: (SPECIFIC MATERIALS TO AVOID)

Oxidizing material.

HAZARDOUS DECOMPOSITION
PRODUCTS: None
HAZARDOUS POLYMERIZATION: Will
not occur,

- ENVIROMENTAL AND DISPOSAL INFORMATION: ACTIONTOTAKE FOR SPILLS/LEAKS: Cover with absorbent material, soak up and sweep into bag.
- 6. HEALTH HAZARD DATA:
  EYE: May cause slight transient eye irritation. Corneal injury is unlikely.
  SKIN CONTACT: Essentially nonirritating to skin on prolonged contact.
  SKIN ABSORPTION: A single prolonged skin exposure is not likely to result in absorption of harmful amounts. The LD50 for skin absorption in rabbits is

>10,000 mg/kg.

Repeated exposures may cause slight flaking, tenderness and softening of skin. INGESTION: Single does oral toxicity is low. The LD50 for female rats is about 20.3 g/kg

INHALATION: A single prolonged (hours) inhalation exposure is not likely to cause adverse side effects. Mists are not to be hazardous.

SYSTEMIC & OTHER EFFECTS: Repeated excessive ingestion may cause central nervous system effects. No carcinogenic effects have been seen in long-term animal studies. Birth defects are unlikely. Exposures having no adverse effects on the mother should have no effect on the fetus. In animal studies, has been shown not to interfere with reproduction. Results of mutagenicity tests in vitro (test tube) and in animals have been negative.

#### 7. FIRST AID

EYES: Irrigate immediately with water for at least 5 minutes.

SKIN: wash off in flowing water or shower INGESTION: Induce vomiting if large amounts are ingested, consult medical INHALATION: Remove to fresh air if effects occur. Consult medical.

NOTE TO PHYSICIAN: No specific antidote. Supportive care. Treatment based on judgment of the physician in response to reactions of the patient.

8. HANDLING PRECAUTIONS:

EXPOSURE GUIDELINE (S): Dow IHG is 10mg/m3 for propylene glycol mist. Dow IHG 440 ppm for propylene glycol vapors.

VENTILATION; Good general ventilation sufficient.

RESPIRATORY PROTECTION: No respiratory protection should be needed. SKIN PROTECTION: No precautions other than clean body covering should be needed.

EYE PROTECTION: Use safety glasses.

9. ADDITIONAL INFORMATION:
REGULATORY REQUIREMENTS:
SARA HAZARD CATEGORY: This
product has been reviewed according
to the EPA 'Hazard Categories'
promulgated under Section 311 and
312 of the Superfund Amendment and
Reauthorization Act of 1986 (SARA
Title III) and is considered, under
applicable definitions, to meet the
following categories: A delayed hazard.
SPECIAL PRECAUTIONSTO BETAKEN
IN HANDLING AND STORAGE: Exercise
reasonable care and caution.

MSDS STATUS: Revised Section 9