

# Wrap-It-Heat

## Thermostat Controlled Drum Heater For Metal Drums



### GENERAL CONSIDERATIONS

Wrap-It-Heat, Model TRX-30 Drum Heater is designed for heating materials with GOOD HEAT RECEPTIVITY. The thermostat bulb senses the temperature in an area remote from the active heating element. You have the choice of two thermostat ranges: **HIGH**, 200°F to 400°F and **LOW**, 60°F to 250°F. Standard units come in 120 volt rating. The three heat switch allows three wattage settings per thermostat setting and voltage rating. They are **HIGH**: for maximum watts; **MEDIUM**: for ½ maximum watts; and **LOW**: for ¼ maximum watts. TRX-30 comes with a spring loaded toggle clamp for a snug fit to drum, a six foot power cord and three pin plug for grounded electrical operations. TRX-30 is to be used on **METAL** drums only. TRX-30 cannot be used on plastic, plastic lined or fiber drums.

### SET UP INSTRUCTIONS

After reviewing the **Warning Sheet** included with the operating instruction and the enclosed brochure sheet, place the TRX-30 over the drum rim. Mount the TRX-30 near the drum base. Tighten the clamp spring nuts after closing the clamp to ensure you have a snug fit between the drum heater and the metal drum. **CAUTION:** Failure to secure an absolute tight fit between the drum heater and the drum may result in heater failure. If two TRX-30's are placed upon the same drum, be sure that the power cord of the uppermost drum heater falls upon an unheated section (clamping area) of the lower drum heater.

Before energizing your drum heater, make sure that the content level in the drum you are heating is **above** the top edge of the heater band. Should the material fall below the band, the heater may not cycle, eventually decreasing heater service life. Model TRX-30 is equipped with two pilot lights; one green and the other red. The **green** pilot light will glow continuously as long as the heater is plugged into an active electrical outlet. The **red** pilot light will glow until the heater reaches the thermostat set temperature and then will go on and off as the thermostat cycles.

When you are heating **non-flammable, non-hazardous**, material for the first time using your new model TRX-30, the material temperature should be monitored with a thermometer. Record the thermostat setting position for future reference.

The thermostat setting you have determined for one material and set of environmental conditions, may not be accurate for a different material. Please repeat the entire set-up procedure with the new material to ensure the best results with your new Wrap-It-Heat, Model TRX-30.

### TRX-30 SPECIFICATIONS

DIAMETER.....	18-1/2"
SHIP WEIGHT.....	12 LBS
OPERATING VOLTS.....	120V AC SINGLE PHASE
POWER OUTPUT.....	1920W @120V (6551 BTU/HR)
THERMOSTAT RANGE.....	60°F-250°F OR 200°F-400°F

In addition to Model TRX-30 for 30 gallon drums, the following sizes are also available in the TRX Series: TRX-55 for 55 gallon drums, TRX-16 for 16 gallon drums and TRX-05 for 5 gallon pails.

**Expo Engineered Wrap-It-Heat TRX Series Drum and Pail Heaters are U.L. Listed and C.S.A. Certified.**

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# Wrap-It-Heat Model TRX-30

## OPERATING INSTRUCTIONS

CAPACITY (GAL.)	55	55	30	16	5
VOLTS	120V	240V	120V	120V	120V
WATTS	1920W	3000W	1920W	1500W	1500W
TEMPERATURE CHANGE IN DEGREES FAHRENHEIT					
	TIME IN HOURS FOR TEMPERATURE CHANGE				
10	0.88	0.56	0.48	0.33	0.10
20	1.76	1.13	0.96	0.66	0.21
30	2.64	1.69	1.44	0.98	0.31
40	3.53	2.26	1.92	1.31	0.41
50	4.41	2.82	2.40	1.64	0.51
60	5.29	3.38	2.88	1.97	0.62
70	6.17	3.95	3.37	2.30	0.72
80	7.05	4.51	3.85	2.63	0.82
90	7.93	5.08	4.33	2.95	0.92
100	8.81	5.64	4.81	3.28	1.03
110	9.70	6.21	5.29	3.61	1.13
120	10.58	6.77	5.77	3.94	1.23
130	11.46	7.33	6.25	4.27	1.33
140	12.34	7.90	6.73	4.59	1.44

### NOTES:

THESE TIMES ARE FOR WATER. FOR OTHER MATERIALS, MULTIPLY THE ABOVE TIMES BY THE SPECIFIC HEAT.

THESE **MINIMUM** TIMES ASSUME THAT ALL THE BAND HEAT ENTERS THE DRUM AND THAT NO HEAT IS LOSS.

THE IDEAL CONDITIONS CAN BE APPROACHED BY:

- 1) COVERING THE TOP
- 2) INSULATING THE SIDES, TOP AND BOTTOM
- 3) INSULATING THE HEATER BAND. DO NOT COVER THE CONTROL BOX.
- 4) KEEPING THE DRUM OUT OF THE WIND
- 5) STIRRING THE DRUM CONTENTS OCCASSIONALLY
- 6) THE SURROUNDING ENVIRONMENT IS AT LEAST AT THE SAME TEMPERATURE AS THE DRUMS CONTENTS.

All material being heated with Model TRX-30 should be mixed during the heating process to secure an accurate temperature reading. The material near the outside of the drum and adjacent to the heater will heat faster than the material near the center of the drum.

You should not be heating heat sensitive materials with Model TRX-30. Heat the material to the desired temperature then turn the control back (c.c.w.) to the point where the thermostat just turns off and indicated by the red pilot light no longer glowing. The control will then maintain the desired temperature within plus or minus 20 degrees Fahrenheit. The thermostat is more accurate when the required material temperature is above that of the surrounding air. The temperature of the material in the drum depends upon drum placement (drafts, etc.), heater placement upon the drum (snug fit) and the heat receptive properties of the material being heated. The drum seam, or any other defect in the drum should be spanned by the gap in the heater (clamping area).

If your material is not heat sensitive the above procedure should be accomplished with the three heat switch set in the **HIGH** position, thus allowing the transfer of the maximum wattage determined by the voltage rating of your unit. **CAUTION:** Be aware the fact that the temperature of the heat band adjacent to the drum surface can reach 450°F to 500°F when the three heat switch is in the high position. These band temperatures were determined while heating a 30 gallon drum full of water. The heat band temperatures may vary when heating your material. If the material that you are heating accepts heat readily, you may maintain your desired temperature with the three heat switch set on the **MEDIUM** or even **LOW** position.

Expo's 120 volt/1920 watt drum heater is equipped with a special, electrically grounded, three pin plug. **Under no circumstances should the plug be altered or removed; your warranty will automatically be voided.** For 120 volt/1920 watt units use a Hubbell Single Outlet #HBL5361.

## UNDERSTANDING THE DRUM HEATER CONTROLS

Each TRX Model drum heater is equipped with (1) three heat switch and (1) thermostat. Depending on which model you purchased, this will either be **LOW** range or **HIGH** range.

The three heat switch is provided to allow you to heat materials that can or cannot be damaged by heat. When heating materials such as honey or similar materials which can char by excessive heat, the switch must be turned to **LOW**. This will reduce the input wattage to **25%** of the heaters capability and allows you to heat **non-flammable**, viscous materials without ruining them. The **MEDIUM** setting will generate **50%** of the heaters capability. This setting is used for less viscous materials. The **HIGH** setting naturally will generate the heaters total capability. This setting is used on **non-flammable** material which as the ability to absorb heat very rapidly such as **non-flammable** oils, water oil mix, water, etc.

The thermostat on the heaters comes in either **LOW** range (60°F-250°F) or **HIGH** range (200°F-400°F)

The thermostat control knob is numbered **OFF** and then numbers **1** thru **7** and not with degrees. Be aware that the thermostat **does not** sense the temperature of the heater, but does sense the drum temperature. While assembling the drum heater to the drum, it is important that it is a snug fit against the drum so that the thermostat and receptacle area lay flat against the drum after assembling. **NOTE:** The metal sleeve located on top of the receptacle is to prevent damage during shipping. Whether it is left on or removed has no effect on the drum heaters performance.

You are now ready to start. Set the three heat switch to either **Low**, **Medium** or **High** depending on your material you are heating. Slowly increase the thermostat setting until it turns on. During the heat process it is important to stir or airrate the material and monitor its temperature. If the thermostat turns off before you reach your desired temperature, increase the thermostat setting and monitor the material with a thermometer until you achieve the desire temperature. Then turn the thermostat knob (c.c.w.) back slowly until the thermostat shuts off. Record the knob setting for future use on this material. Let the thermostat cycle until you use the material. This procedure is to be done with any material you are heating for the first time and is to be recorded for future use.

**NOTE: Do not leave heater on unless the unit is attended to by you or your personnel. Do not leave heater on overnight or over the weekend unattended.**

**NOTE: The chart above shows temperature change vs time in hours on water.**

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# WARNING

## READ THIS WARNING BEFORE OPERATING THE DRUM HEATER FOR METAL DRUMS AND PAILS!

**THE FOLLOWING PRECAUTIONS MUST BE OBSERVED TO AVOID POSSIBLE INJURY OR PROPERTY DAMAGE!!**

THE DRUM OR PAIL HEATER **MUST NOT** BE USED IN AREA WHERE **FLAMMABLE VAPORS** MAY, **AT ANY TIME**, BE PRESENT. FAILURE TO OBSERVE THIS CAUTION CAN RESULT IN FIRE OR EXPLOSION.

### **MONITOR THE TEMPERATURE WHILE HEATING YOUR MATERIAL!**

DO NOT USE DRUM OR PAIL HEATER TO HEAT **FLAMMABLE MATERIALS**. EXPLOSION OR FIRE COULD RESULT. THE DRUM OR PAIL HEATER SURFACE IS **HOT** DURING OPERATION. DO NOT USE DRUM OR PAIL HEATER ON OR NEAR WHERE COMBUSTIBLE SUBSTANCES CAN BE IGNITED, RESULTING IN A FIRE.

### **NEVER USE THE DRUM HEATER TO HEAT FLAMMABLE MATERIALS OR USE IN A HAZARDOUS AREA!**

TO AVOID HEATER FAILURE, DO NOT ALLOW THE HEATER AND/OR CONTROLS TO BECOME WET OR SPILL UPON THEM.

THE DRUM OR PAIL HEATER MUST BE **ELECTRICALLY GROUNDED** TO AVOID THE POSSIBILITY OF ELECTRICAL SHOCK TO THE OPERATOR. NEVER ALTER OR REMOVE THE SPECIAL HIGH AMPERE, THREE PIN, ELECTRICALLY GROUNDED PLUG SUPPLIED AS AN INTEGRAL PART OF THE HEATER.

THE **USER** MUST DETERMINE THE SUITABILITY OF THE DRUM OR PAIL HEATER FOR THE INTENDED HEATING APPLICATION. **DO NOT LEAVE** THE DRUM OR PAIL HEATER **UNATTENDED** DURING THE HEATING CYCLE. DISCONNECT THE HEATER FROM THE WALL RECEPTACLE WHEN IT IS **NOT** IN USE.

THE DRUM OR PAIL HEATER IS FOR **INDOOR USE ONLY**.

THE LEVEL OF THE MATERIAL BEING HEATED MUST BE ABOVE THE TOP EDGE OF THE DRUM AND PAIL HEATER TO ENSURE THE BEST TEMPERATURE SENSING AND INSURE LONG HEATER LIFE.

### **VENT CONTAINER WHILE HEATING OR IT MAY EXPLODE (OPEN VENT PLUG).**

**DO NOT** USE DRAIN SPOUTS OR VALVES ON DRUMS OR PAILS THAT CAN FAIL AT ELEVATED TEMPERATURES, CAUSING LEAKS, LOSS OF MATERIAL AND/OR POSSIBLE PERSONAL INJURY TO THE OPERATOR.

### **MAKE ABSOLUTELY SURE THAT THE DRUM OR PAIL HEATER IS TIGHTLY CLAMPED UPON THE CONTAINER!**

**NEVER** USE A DRUM OR PAIL HEATER INSIDE OR ADJACENT TO **HEAVY AIRBORNE DUST LOCATIONS** SUCH AS GRAIN ELEVATORS, GRAIN SILOS, HAY STORAGE AREAS, ETC....

KNOW HOW APPLIED HEAT WILL AFFECT YOUR MATERIAL BEFORE USING THE DRUM OR PAIL HEATER. IF YOU ARE NOT SURE HOW TO HEAT YOUR MATERIAL, DO NOT USE THE DRUM OR PAIL HEATER UNTIL YOU ARE INFORMED AS TO HOW THE APPLICATION OF HEAT WILL AFFECT YOUR MATERIAL – CONTACT YOUR MATERIAL SUPPLIER.

# EXPO ENGINEERED PRODUCT WARRANTY

YOUR EXPO ENGINEERED PRODUCT IS GUARANTEED AGAINST DEFECTIVE MATERIALS AND WORKMANSHIP FOR **ONE YEAR** FROM THE DATE OF ORIGINAL PURCHASE. THIS GUARANTEE **DOES NOT** COVER FAILURE DUE TO WATER SOAKING, SPILLAGE, ABUSE, ALTERATION TO PRODUCT OR MISAPPLICATION.

IN CASE OF FAILURE, CONTACT EXPO ENGINEERED INCORPORATED. DETERMINATION OF THE SUITABILITY OF THE GOODS DESCRIBED ON THE FACE, HEREOF, FOR THE USE CONTEMPLATED BY BUYER OR BUYER'S CUSTOMERS FOR SUCH GOODS IS THE SOLE RESPONSIBILITY OF BUYER OR BUYER'S CUSTOMERS, WHICHEVER THE CASE MAY BE. EXPO ENGINEERED SHALL HAVE NO RESPONSIBILITY IN CONNECTION, THEREWITH.

BUYER ASSUMES ALL RISK AND LIABILITY FOR LOSS, DAMAGE OR INJURY TO PROPERTY OF BUYER OR OTHER, ARISING OUT OF THE USE OR POSSESSION OF THE GOODS FURNISHED, HEREUNDER.

EXPO ENGINEERED INCORPORATED WARRANTS ONLY THAT THE GOODS SUPPLIED, HEREUNDER, SHALL MEET THE DESCRIPTION OR SPECIFICATIONS STATED, HEREIN. BUYER'S EXCLUSIVE REMEDY AND EXPO ENGINEERED'S SOLE LIABILITY, HEREUNDER, SHALL BE LIMITED TO REFUND OF THE PURCHASE PRICE OF, OR REPLACEMENT OF, ALL GOODS SHOWN TO BE OTHERWISE THAN AS WARRANTED.

EXPO ENGINEERED INCORPORATED SHALL IN NO CASE BE LIABLE OTHERWISE, OR FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES, PROVIDED THAT NOTHING CONTAINED, HEREIN, SHALL LIMIT BUYER'S RIGHT TO RECOVER CONSEQUENTIAL DAMAGES FOR INJURY TO HIS PERSON WHEN THE GOODS PURCHASED ARE CONSUMER GOODS.

REFUND OR REPLACEMENT IS CONDITIONAL UPON GIVING EXPO ENGINEERED INCORPORATED NOTICE WITHIN **ONE YEAR** FROM DATE OF SHIPMENT BY EXPO ENGINEERED INCORPORATED THAT SAID GOODS ARE OTHERWISE THAN AS WARRANTED. FAILURE BY BUYER TO GIVE SAID NOTICE WITHIN SAID **ONE YEAR** PERIOD SHALL CONSTITUTE WAIVER BY BUYER OF ALL CLAIMS, HEREUNDER, WITH RESPECT TO SAID GOODS.

IF REQUESTED BY EXPO ENGINEERED INCORPORATED, BUYER SHALL PROMPTLY RETURN TO EXPO ENGINEERED'S PLANT ALL UNCONSUMED GOODS ALLEGED BY BUYER TO BE OTHERWISE THAN AS WARRANTED AND EXPO ENGINEERED INCORPORATED WILL PAY FREIGHT THEREON.

**THE WARRANTY IS IN LIEU OF ALL OTHER WRITTEN OR UNWRITTEN EXPRESS OR IMPLIED WARRANTIES AND EXPO ENGINEERED HEREBY EXPRESSLY DISCLAIMS ANY EXPRESS OR IMPLIED WARRANTY AGAINST INFRINGEMENT OF MERCHANTABILITY OR FITNESS FOR PURPOSE OF THE GOODS SUPPLIED, HEREUNDER, ALL SAID GOODS BEING SUPPLIED "AS IS".**

IN THE UNLIKELY EVENT THAT A PROBLEM SHOULD ARISE THROUGH THE USE OF YOUR EXPO ENGINEERED HEAT PRODUCT, PLEASE CONTACT THE CUSTOMER SERVICE DEPARTMENT AT EXPO ENGINEERED INCORPORATED BY DIALING 708-780-7155 OR FAX 708-780-7125.

PLEASE REFER TO THE **WARNINGS** AND THE **OPERATING INSTRUCTIONS** ACCOMPANYING THIS WARRANTY BEFORE OPERATING YOUR NEW EXPO ENGINEERED PRODUCT.