

RT-55 Drum Heater

Ordinary Areas—120 Vac

Application . . .

The RT-55 Drum heater provides a clean and fast method of applying 1000 watts of temporary, low watt density heat to 55 gallon metal drums. The heater is equipped with mounting springs and a 6 foot (1.83 m) power cord for easy hook-up. Heater efficiency is improved through the use of the DH-55H insulation blanket.

Ratings/Specifications . . .

Heater Model No.

RT-55-130 130°F (54°C) switch

RT-55-180 180°F (82°C) switch

RT-55-320 320°F (160°C) switch

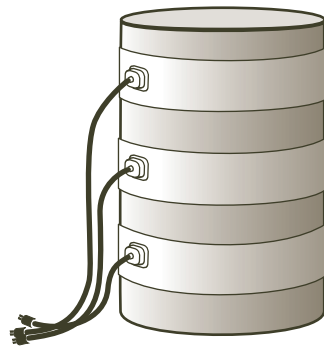
Size 9" x 64" (229 mm x 1626 mm)

Power Output 1000 watts @ 120 Vac, 8.3 amps

Watt Density 1.8 w/in² (2790 w/m²)

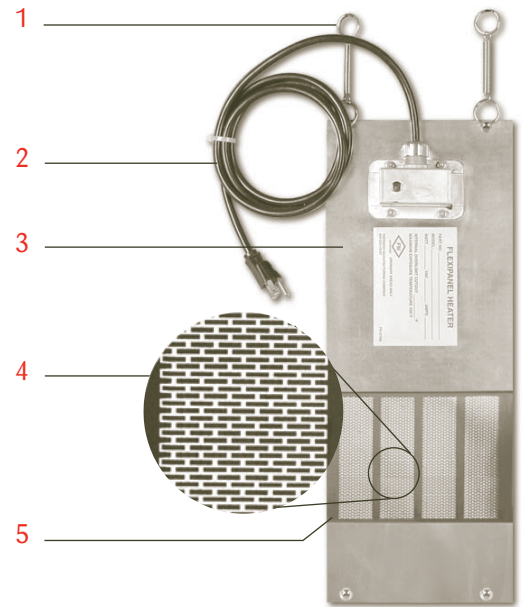
Attachment Method.....quick release spring system

Ground Plane.....hardened 10mil aluminum sheet



Typical Installation

Product Specifications



Construction . . .

- 1 Quick Release Spring System
- 2 6' Cordset with 120 Vac Plug
- 3 Protective Metal Jacket
- 4 Parallel Circuit High Temperature Alloy Heating Element
- 5 Heat-Laminated, High Temperature Silicone Rubber Insulation

Product Features . . .

- Operates at less than 2.0 w/in² (3100 w/m²) allowing for even heat distribution and maintenance of a stable temperature over the entire surface.
- A choice of three thermal cut-out thermostats 130°F (54°C), 180°F (82°C) or 320°F (160°C).
- Proprietary heating element is stamped from a high-temperature alloy, INCONEL 600. Multiple electrical paths (minimum of six) eliminate series wire burnouts.
- INCONEL heating element is laminated in silicone rubber and encased in a metal jacket providing a tough, watertight seal.
- Spring mounting for quick installation and removal.



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Product Specifications

Application Information . . .

To provide temporary heating to 55 gallon drums, one, two or three RT-55 Drum Heaters can be installed on the drum.

Temperature Maintenance: For simple indoor temperature maintenance applications where the maintenance temperature does not exceed 110°F (43°C), and no insulation blanket is used, one RT-55 Drum Heater is required. For outdoor locations or maintenance temperatures in excess of 110°F (43°C), one heater and a DH-55 insulation blanket are required.

Heat-Up: When the fluid temperature must be increased, use the following calculation procedure to determine heat-up time.

With no insulation, indoors

$$\text{Heat-up time} = \frac{140 \times \text{S.G.} \times c_p \times (T_1 - T_2) \text{ hrs}}{Q - 12 \times (T_1 - T_3)}$$

With DH-55 insulation blanket, indoors or outdoors

$$\text{Heat-up time} = \frac{140 \times \text{S.G.} \times c_p \times (T_1 - T_2) \text{ hrs}}{[Q - (T_1 - T_3)]}$$

Example . . .

Calculate heat-up time for a light oil drum brought inside with a desired fluid temperature of 120°F (49°C). The outdoor temperature (drum temperature) is 20°F (-7°C) and the indoor (ambient) temperature is 50°F (10°C). The specific gravity is 0.85 and the specific heat is 0.5 Btu/lb - °F. Three RT-55 heaters are installed with a DH-55 insulation blanket.

$$\begin{aligned} \text{Heat-up time} &= \frac{140 \times 0.85 \times 0.5 \times (120-20) \text{ hrs}}{[3000 - (120-50)]} \\ &= 2.0 \text{ hours} \end{aligned}$$

Where:

- S.G. = Fluid specific gravity
- c_p = Fluid specific heat (Btu/lb - °F)
- T_1 = Fluid temperature desired (°F)
- T_2 = Fluid temperature at start of heating (°F)
- T_3 = Ambient temperature (°F)
- Q = Heat input (1000, 2000 or 3000 watts, depending on number of heaters)

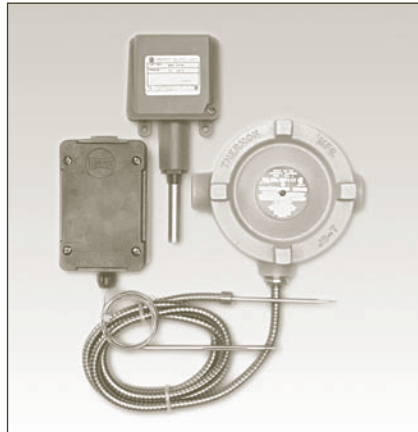
Note . . .

1. For viscous oil-based fluids contact Thermon. When rapid heat-up is required 2 or 3 heaters should be used.

Accessories . . .



DH 55 Blanket is manufactured from silicone coated glass cloth with 1-1/2" fiberglass insulation. The drum blanket conserves heat and maximizes heat transfer into the drum.



Control Thermostats: Thermon offers a complete line of mechanical thermostats and electronic control and monitoring modules designed and approved specifically for electric heat tracing applications. For complete details, refer to the Controls and Monitoring section of the Electric Heat Tracing catalog or contact Thermon.

Certifications/Approvals¹ . . .



FM Approvals
Ordinary Locations



Canadian Standards Association
Ordinary Locations

Note . . .

1. Contact Thermon for design assistance for applications other than 120Vac, for hazardous (classified) area applications and for non-metallic drums.

