

AUTOMATIC ELECTRIC GAS HEATERS For Compressed Gases Series 1000

DESCRIPTION

Many liquefied gases cool dramatically under even moderate flow conditions due to the heat of vaporization when the liquid is converted to gas. This effect causes "freezing" in pressure regulators and other equipment resulting in pressure and flow fluctuations. These thermostatically controlled heaters maintain a constant temperature within close limits regardless of load variations, thus assuring a uniform temperature and constant gas flow at all times. All units are completely automatic and can be left on indefinitely, even under no-flow conditions without damage.

APPLICATIONS

- Welding Operations
- Hospitals/Anesthegeology
- Bottling Plants/Wineries
- Foundries
- Food Packaging
- Semiconductor
- Gas Freeze-up Applications

FEATURES

- Prevents regulator freeze-up
 - Thermostatically controlled
 - Double protection against thermal or electrical overload
 - Continuous high pressure tubing -no internal joints
 - Working pressures up to 4600 psig
 - Completely dry - heat exchange medium is aluminum
 - Heavily insulated - cabinet remains "cool"
 - Can be left on, even under no-flow conditions
 - Unlike ambient devices, not affected by adverse atmospheric conditions
 - Flow can be in either direction, without loss of efficiency
 - C.S.A. Approved
- One Year Guarantee on Material & Workmanship

SPECIFICATIONS

- 11" H x 5.5" W x 4.25" D
- 5/16" x .049 continuous copper tubing
- 5/16" x .049 304 stainless tubing optional
- Working pressure: up to 2500 psig (stainless steel: 4600 psig)
- 11 lbs. actual weight; 13 lbs. shipping weight
- 6 3-wire UL/CSA cord
- 120/240 volts A.C., single phase
- 8.3/4.2 amps (1000 watts)
- Mounting holes 3" on center



CAPACITY (FOR CARBON DIOXIDE, CO 2)**

- Heating: 1000 CFH; 17 CFM; 467 liters/minute; 115 lbs./hr. (Heating valves are based on initial gas temperature of 0°F and outlet temperature of 170°F)
 - Vaporizing: 184CFH; 3 CFM; 84 liters/minute; 22 lbs./hr. (Vaporization valves are based upon initial liquid temperature of 0°F and outlet temperature of 170°F)
- *Capacities for other gases will vary, depending on their specific heat.

HOW TO ORDER

1. Select basic model

Model	Number Description
1000	1000 watts, 120 volts A.C., copper tubes
SS11000	1000 watts, 120 volts A.C., stainless steel tubes

2. Select fitting (add to end of basic model#)

Fittings	Suffix Description
-0	Plain tubes (no fittings)
-F	45° flare on 5/16" tubes (11" long)
-FS	45° flare on 5/16" tubes (7" long-for use with #14 manifold)
-4	1/4" NPT male x male (brass)
-4SS	1/4" NPT male x male (stainless)
-320	CGA 320 male x female (Carbon Dioxide, CO 2)
-326	CGA 326 male x female (Nitrous Oxide, N 2 O)
-580	CGA 580 male x female (Nitrogen, N 2)

(Other fittings available on request)

3. Adapter block (add to end of model#)

Adapter Block Suffix	Description
(none)	adapter block not required
14-320	adapter block required with CGA 320 connections
14-580	adapter block required with CGA 580 connections

For example:

1 000-F = 1000 watt, 120 volts, 45° flare fittings (standard model)
SS1 000-4SS = 1000 watt, 120 volts, stainless steel tubes, 1/4" NPT male stainless steel fitting

ELECTRONIC CYLINDER SCALES For Liquefied And Cryogenic Gases

FEATURES

- Controller has large 1" high LCD digital display in water resistant housing
- Rugged load cell weighing technology with 300, 500, or 1000 pound capacity
- Weight resolution up to 0.1 pound
- Accuracy 0.1% of full scale
- Built-in visual alarm and audible alarm with silence function
- Built-in solid state relay
- 0-100% of full scale tare weight adjustment
- 0-100% of full scale alarm set point adjustment
- Both large and small platform sizes available
- Easy unit conversion from pounds to kilograms

DESCRIPTION

The pressure of a liquefied gas remains constant as material is withdrawn as long as a liquid phase remains in the cylinder. When the liquid phase is exhausted the pressure drops very quickly and the cylinder empties without warning. This phenomenon renders a cylinder pressure gauge virtually useless. A similar situation arises when using cryogenic containers of liquid nitrogen, oxygen, and argon. The only way to monitor the contents of a cylinder of liquefied gas or a cryogenic container is by weight.

The Series 620 and 320 electronic scales are designed to give a positive indication of the amount of product remaining in the cylinder as material is being withdrawn. These units allow the user to electronically subtract the tare weight of the cylinder so that only the net contents can be read directly. The built-in alarm can be set for any weight value from 0-100% of the scales capacity. The units provide a red LED visual alarm and an audible alarm with silence function. An integral solid state relay is provided for the activation of external alarms or other equipment when the alarm set point is reached. The scales are ruggedly constructed using one or more load cells in a sturdy stainless steel and/or aluminum diamond plate platform with mechanical stops at 150% of capacity to prevent damage.



320 Series



620G-300

The model 620G-300 with a capacity of 300 pounds has a 9.5" x 9.5" stainless steel platform that accommodates most compressed gas cylinders. For larger diameter cylinders, the 320D-500 is available with a capacity of 500 pounds has a 20" x 27" diamond plate steel platform. The model 320M1000 has a 1000 pound capacity and accommodates cryogenic containers with its 20" x 27" aluminum diamond plate steel platform. A ramp is available for each model so that cylinders can easily be rolled on and off of the scale platform without lifting.

APPLICATIONS

Recommended for use with all liquefied and cryogenic containers in applications where running out of gas will cause a serious disruption in operations or a loss of product.

HOW TO ORDER

Model	Total Capacity Pounds	Resolution Pounds	Platform Dimensions
620G-300	300	0.1	9.25" w x 9.25" d x 1.5" h
320D-500	500	0.1	20" w x 27" d x 1-7/8" h
320M-1 000	1000	0.2	20" w x 27" d x 1-7/8" h
620R	ramp for 620G		9" w x 5.5" d x 1.5" h
320R	ramp for 320D & 320M		20" w x 18" d x 1-7/8" h

CYLINDER SCALE FOR LIQUEFIED GASES Model 900

FEATURES

- Stainless Steel cover
- Dual dial scale - pounds and kilograms
- Color-coded easy to read dial

DESCRIPTION

The pressure of a liquefied gas remains constant as material is withdrawn as long as a liquid phase remains in the cylinder. When the liquid phase is exhausted the pressure drops very quickly and empties without warning. This phenomenon renders a cylinder pressure gauge virtually useless. The only way to monitor the contents of a cylinder containing a liquefied gas is by weight.

The Model 900 cylinder scale is designed to give a positive indication of the amount of product remaining in the cylinder. It allows the user to subtract the tare weight of the cylinder so that the net contents can be read directly. A color coded dial reads in pounds and kilograms. A nonskid ramp is available to make loading cylinders convenient and easy.

The scale is ruggedly constructed and features a stainless steel cover for durability

APPLICATIONS

Recommended for use with all liquefied gases such as carbon dioxide, ammonia, nitrous oxide, fluorocarbons, hydrogen sulfide, sulfur dioxide, propane and heavier hydrocarbon gases.

SPECIFICATIONS

Tare weight range: 0-150 lbs.(0-68 kg.)
Product weight range: 0-150lbs.(0-68kg.)
Total capacity: 300lbs(136kg.) in 5 lb.(2 kg.) divisions.
Readability: 1 lb.(0.5 kg.) by estimation
Dimensions: 10 3/4" x 10 1/4" x 2" high

HOW TO ORDER

Model	Description
900	Scale with non-skid ramp
900-5	Scale only
900-6	Ramp only

