



# TUBULAR GAS-FIRED UNIT HEATERS



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# Model GG Gas-Fired Unit Heaters

The Sterling Model “GG” Low Profile gas-fired unit heater is a highly efficient, extremely versatile product. These propeller units combine the latest tubular heat exchanger technology with a unique single-orifice burner system. Units are available in sizes ranging from 30 to 120 MBH in compact, low profile design.

## Residential Garage Certified

The Sterling Model “GG” unit heater conforms to the latest ETL certification standards for installations in residential garages. Design certification and our low profile design makes the Model “GG” unit ideal for residential, commercial and industrial installations.

## High Efficiency

Standard energy saving features like the direct spark ignition and power venting reduces standby losses and offers improved seasonal efficiencies. “GG” models are certified by ETL as providing over 80% thermal (combustion) efficiency.

## Tubular Heat Exchanger

The Sterling tubular heat exchanger has been designed to provide maximum and uniform heat transfer. The low pressure drop associated with this design enables heated air to be evenly distributed to the conditioned space. This curved, non-welded serpentine design experiences low thermal stress making it more durable for significantly longer service life.

## Single Orifice Burner

Sterling Model “GG” units are built with a proprietary, single orifice burner system: one burner to service and one orifice to change for gas conversion. The stainless steel burner box provides even heat distribution to all heat exchanger tubes.

## Direct Spark Ignition System

Sterling Model “GG” units utilize a direct spark pilotless ignition of the burner, providing fast heat delivery. This highly reliable and efficient ignition system incorporates an integrated electronic control board to regulate the system sequence of operation, including an onboard LED indicator for simple troubleshooting.



Model GG120

## Dual Venting

Sterling Model “GG” units are agency certified for both standard and separated combustion venting. Units are shipped to accommodate either category I or category III horizontal or vertical venting. With the addition of a Sterling concentric vent kit, the unit can be installed as a separated combustion unit.

## 10-Year Warranty

Sterling warranties the heat exchanger, flue collector and burner of the Model “GG” to be free from defects in materials and workmanship for a period of 10 years from the date of manufacture.

## Standard Features

- Residential Certification
- Single Orifice Burner System
- Direct Spark Ignition
- 81% Thermal Efficiency
- 20-GA Steel Cabinet with Baked Enamel Finish.
- 115/1/60 Fan Motor with Internal Overload Protection
- Power Vented
- Redundant Single Stage Gas Valve
- OSHA Fan Guard
- 120/24 Control Transformer
- Right Hand Control Access – Field Convertible to Left Hand
- Field Convertible to Separated Combustion
- Gas Conversion Kit Included
- Easy Access Control Panel
- 321 Stainless Steel Burner Box
- High Limit Switch
- Air Pressure Switch
- 10 Year Heat Exchanger Warranty



Model GG045

# Model GG

## Performance & Dimensional Data



Unit Size	30	45	60	75	90	105	120
<b>PERFORMANCE DATA†</b>							
Input - BTU/Hr. (kW)	30,000 (8.8)	45,000 (13.2)	60,000 (17.6)	75,000 (22.0)	90,000 (26.4)	105,000 (30.8)	120,000 (34.2)
Output - BTU/Hr. (kW)	24,300 (7.1)	36,450 (10.7)	48,600 (14.2)	60,750 (17.8)	72,900 (21.4)	85,050 (24.9)	97,200 (28.5)
Thermal Efficiency (%)	81	81	81	81	81	81	81
Free Air Delivery - CFM (cu. m/s)	370 (.175)	550 (.260)	740 (.349)	920 (.434)	1,100 (.519)	1,300 (.614)	1,475 (.696)
Air Temperature Rise - Deg. F (Deg. C)	60 (15)	60 (15)	60 (15)	60 (15)	60 (15)	60 (15)	60 (15)
Full Load Amps at 120V	3.0	3.0	4.1	4.1	6.4	6.4	6.4
Maximum Circuit Ampacity	3.5	3.5	4.8	4.8	7.5	7.5	7.5
<b>MOTOR DATA:</b>							
Motor HP	1/20	1/20	1/12	1/12	1/10	1/10	1/10
Motor (kW)	(0.04)	(0.04)	(0.06)	(0.06)	(0.075)	(0.075)	(0.075)
Motor Type	SP	SP	SP	SP	SP	SP	SP
R.P.M.	1650	1650	1050	1050	1050	1050	1050
Motor Amps @ 115V	1.9	1.9	2.6	2.6	4.2	4.2	4.2
<b>DIMENSIONAL DATA - inches (mm)</b>							
"A" Jacket Height	12-3/8 (314)	12-3/8 (314)	15-7/8 (403)	15-7/8 (403)	22-5/8 (574)	22-5/8 (574)	22-5/8 (574)
"B" Overall Height	13-1/4 (337)	13-1/4 (337)	16-13/16 (427)	16-13/16 (427)	23-9/16 (598)	23-9/16 (598)	23-9/16 (598)
"C" Overall Depth	25-7/8 (652)	25-7/8 (652)	26-3/16 (665)	26-3/16 (665)	26-3/8 (670)	26-3/8 (670)	26-3/8 (670)
"D1" Center Line Height of Flue*	8-1/2 (216)	8-1/2 (216)	10-3/8 (263)	10-3/8 (263)	13-5/8 (346)	13-5/8 (346)	13-5/8 (346)
"D2" Center Line Height of Air Intake	8-1/2 (216)	8-1/2 (216)	8 (203)	8 (203)	8-5/8 (219)	8-5/8 (219)	8-5/8 (219)
"E" Fan Diameter	10 (254)	10 (254)	14 (356)	14 (356)	16 (406)	16 (406)	16 (406)
"F" Discharge Opening Height	10-13/16 (275)	10-13/16 (275)	14-7/16 (367)	14-7/16 (367)	21-3/16 (538)	21-3/16 (538)	21-3/16 (538)
"G" Vent Connection Diameter	4 (102)	4 (102)	4 (102)	4 (102)	4 (102)	4 (102)	4 (102)
"H1" Center Line of Flue Connection From Side	7-1/4 (184)	7-1/4 (184)	7-1/4 (184)	7-1/4 (184)	7-3/4 (197)	7-3/4 (197)	7-3/4 (197)
"H2" Center Line of Air Intake From Side	2-3/4 (70)	2-3/4 (70)	2-3/4 (70)	2-3/4 (70)	3-1/2 (89)	3-1/2 (89)	3-1/2 (89)
Vent Size Requirements - Standard Combustion							
Category I Horizontal**	4 (102)	4 (102)	4 (102)	5 (127)	5 (127)	5 (127)	5 (127)
Category III Horizontal	4 (102)	4 (102)	4 (102)	4 (102)	4 (102)	4 (102)	4 (102)
Category I & III Vertical	4 (102)	4 (102)	4 (102)	4 (102)	4 (102)	4 (102)	4 (102)
Vent Size Requirements - Separated Combustion							
Exhaust Diameter**	4 (102)	4 (102)	4 (102)	4 (102)	5 (127)	5 (127)	5 (127)
Intake Air Diameter	4 (102)	4 (102)	4 (102)	4 (102)	5 (127)	5 (127)	5 (127)
Unit Weight - lbs. (kgs)	60 (27)	65 (29)	80 (36)	85 (39)	95 (43)	105 (48)	110 (50)
Shipping Weight - lbs. (kgs)	70 (32)	75 (34)	90 (41)	95 (43)	110 (50)	115 (52)	120 (54)

\*For all installations, the flue collar is included with the unit and should be field installed per the instructions included with the unit.

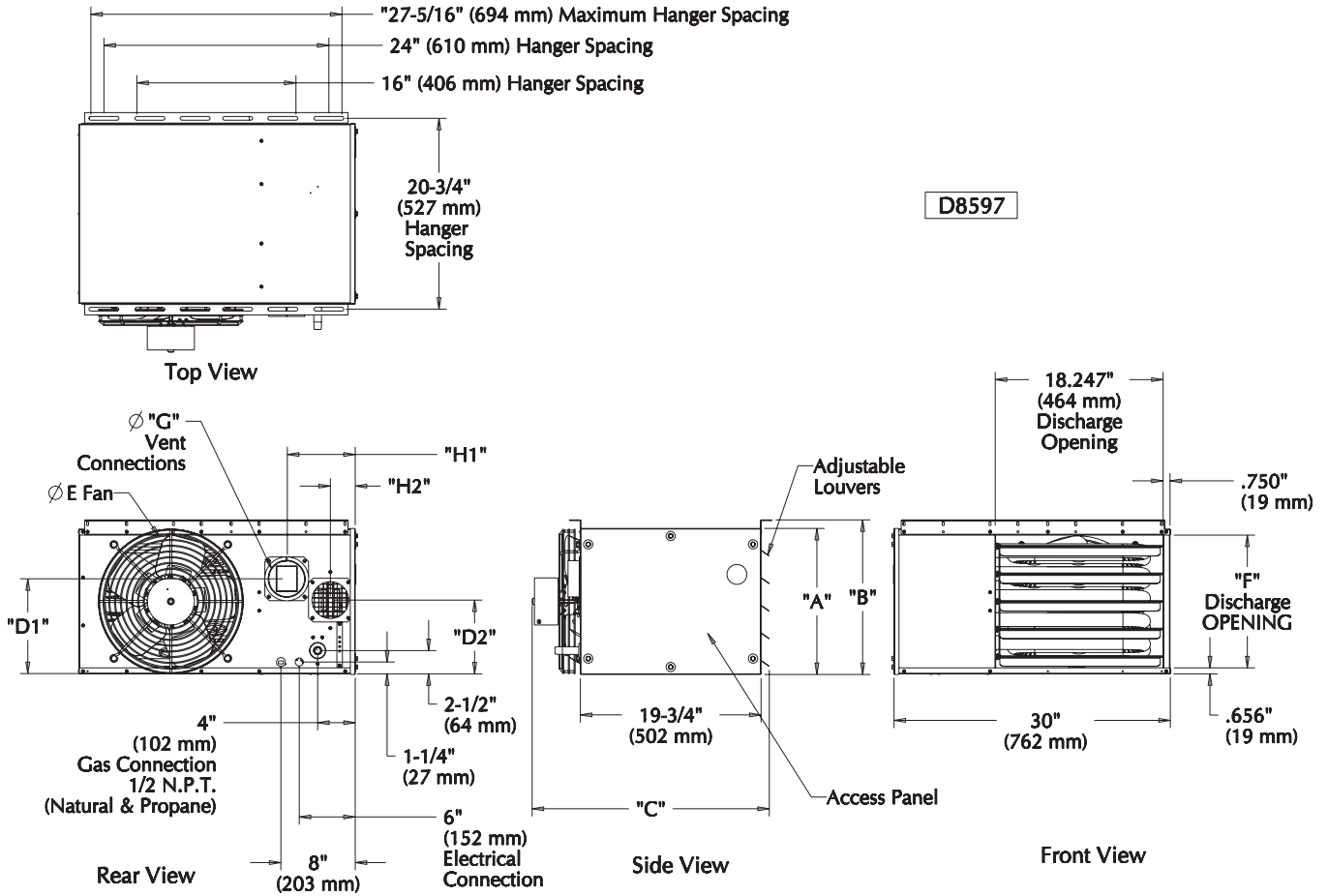
\*\*4-5" reducer supplied where required.

† Ratings shown are for unit installations at elevations between 0 and 2,000 ft (0 to 610m). For unit installations in U.S.A. above 2,000 ft. (610m), the unit input must be derated 4% for each 1,000 ft. (305m) above sea level; refer to local codes, or in absence of local codes, refer to the latest edition of the National Fuel Gas Code, ANSI Standard Z223.1 (N.E.P.A. No. 54).

For installations in Canada, any reference to deration at altitudes in excess of 2,000 ft. (610m) are to be ignored. At altitudes of 2,000 ft. to 4,500 ft. (610 to 1372m), the unit must be derated to 90% of the normal altitude rating, and be so marked in accordance with the ETL certification.

# Model GG

## Dimensional Figures



DIMENSIONS .XXX STANDARD UNITS  
 DIMENSIONS IN PARENTHESIS (XXX) MILLIMETERS

# Model GG

## Model Number Description

<b>Digit</b>	<b>G</b>	<b>S</b>	<b>U</b>	<b>A</b>	—	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>	<b>9</b>	<b>10</b>	<b>11</b>	<b>12</b>	<b>13</b>	<b>14</b>	<b>15</b>	<b>+</b>
<b>Item</b>	<b>Prefix</b>					<b>UT</b>	<b>CA</b>			<b>FT</b>	<b>FM</b>	<b>GT</b>	<b>AL</b>	<b>GC</b>	<b>SV</b>	<b>MT</b>	<b>DL</b>	<b>AS</b>			

(Internal Use Only)

### 1, 2 - Unit Type [UT]

GG - Residential Low Profile Tubular Propeller

Note: Field conversion to Separated Combustion requires a Concentric Vent Kit. See Accessory Options X7-4 and X7-5 for proper unit selection.

### 3, 4, 5 - Capacity [CA]

030 - 30,000 BTU/HR

045 - 45,000 BTU/HR

060 - 60,000 BTU/HR

075 - 75,000 BTU/HR

090 - 90,000 BTU/HR

105 - 105,000 BTU/HR

120 - 120,000 BTU/HR

### 6 - Furnace Type [FT]

A - Right Hand Access

### 7 - Furnace Material [FM]

1 - Standard (Aluminized) Steel

2 - 409 Stainless Steel

### 8 - Gas Type [GT]

N - Natural Gas

P - Propane (LP) Gas

### 9 - Altitude [AL]

P - Canadian High Altitude 2,000-4,500 ft.

S - 0-4,999 ft.

T - 5,000-11,999 ft.

Note: Installations over 2,000 ft. require gas input deration in the field. Refer to unit installation instructions.

### 10 - Gas Control [GC]

A - Single Stage (Standard)

B - Two Stage (Capacities [CA] 060 through 120 only)

### 11 - Supply Voltage [SV]

1 - 115/1/60      5 - 230/3/60

2 - 208/1/60      6 - 460/3/60

3 - 230/1/60      7 - 575/3/60

4 - 208/3/60      Z - Other

Note: Supply Voltage [SV] 2-7 include field mounted step down transformer.

### 12 - Motor Type [MT]

1 - Open Drip Proof (Standard)

2 - Totally Enclosed (Capacities [CA] 060 through 120 only)

### 13 - Development Level [DL]

A - Production Onset

### 14, 15+ - Accessories [AS]

#### FACTORY INSTALLED

S3 - Stainless Steel Flue Collector

Z1 - Special

All Field Installed Accessories are to be entered as a separate line item using new catalog number which places "AS" as a prefix. i.e: A7 becomes AS-A7.

#### FIELD INSTALLED (AS-\_\_\_\_ )

A7 - Pressure Regulator 1/2-2 psi

G1 - 1-Stage T87K Mercury Free Thermostat w/Subbase Kit

G2 - 1-Stage T87K Mercury Free Thermostat w/TG511A Guard Kit

G3 - 1-Stage T834N Mercury Free Thermostat/Fan Switch

G5 - 2-Stage TH5220D Mercury Free Thermostat w/Subbase

G6 - Locking Thermostat Cover

G8 - 1-Stage T6169C Line Voltage Thermostat w/Subbase

G9 - 1-Stage T822K Mercury Free Thermostat

P5 - 24V SPST Relay-Specify Purpose

VC-4 - 4" Vent Cap

VC-5 - 5" Vent Cap (Capacities [CA] 075-120 Cat I Horizontal Vent Only)

X7-4 - Concentric Vent Kit (Capacities [CA] 030-075)

X7-5 - Concentric Vent Kit (Capacities [CA] 090-120)

# Model TF Gas-Fired Unit Heaters

The Sterling Model “TF” gas-fired unit heaters offer a highly efficient, extremely durable alternative to the traditional clam shell design. These propeller type units combine the latest tubular heat exchanger and inshot burner technology with the quality and reliability you have come to know from Sterling. Model “TF” units are certified by ETL for use in commercial and industrial applications. Sizes are available in 150 to 400 MBH.

## High Efficiency

Standard energy saving features like the direct spark ignition and power venting reduces standby losses and offers improved seasonal efficiencies. “TF” models are certified by ETL as providing over 80% thermal (combustion) efficiency.

## Tubular Heat Exchanger

The Sterling tubular heat exchanger has been designed to provide maximum and uniform heat transfer. The low pressure drop associated with this design enables heated air to be evenly distributed to the conditioned space. This curved, non-welded serpentine design experiences less thermally induced stress making it highly durable for significantly longer service life. All Sterling tubular heat exchangers are constructed of heavy duty 20-gauge aluminized steel. Optional 409 stainless steel is available.

## Direct Spark Ignition System

Sterling Model “TF” units utilize a direct spark pilotless ignition of the burner, providing fast heat delivery. This highly reliable and efficient ignition system incorporates an integrated electronic control board to regulate the system sequence of operation, including an onboard LED indicator for simple troubleshooting.

## Venting

Sterling Model “TF” unit heaters are ETL certified in accordance with categories I and III venting requirements. This certification allows units to be vented both vertically and horizontally using either single wall or double wall venting materials. This venting flexibility makes installation easier and more cost effective by allowing the installer to utilize existing venting components.

## Control Accessibility

Designed with the service person in mind, every component of the Sterling gas-fired unit heater is easily accessible. Ignition and fan controls are located in one centrally located control panel. The removable access door provides control isolation as well as a pleasing exterior appearance.

## 10-Year Warranty

Sterling warrants the heat exchanger, flue collector and burners of Model “TF” to be free from defects in materials and workmanship for a period of 10 years from the date of manufacture.

## Standard Features

- Inshot burner design
- Direct Spark Ignition
- Individually adjustable and removable louvers
- 20-gauge steel jacket with baked enamel finish.
- 120/1/60 supply voltage
- Easy access control panel
- Power vented
- Single stage combination gas valve
- 120/24 volt control transformer
- 115/1/60 volt fan motor with internal overload protection
- Right hand control access.



Model TF-150



Model TF-150

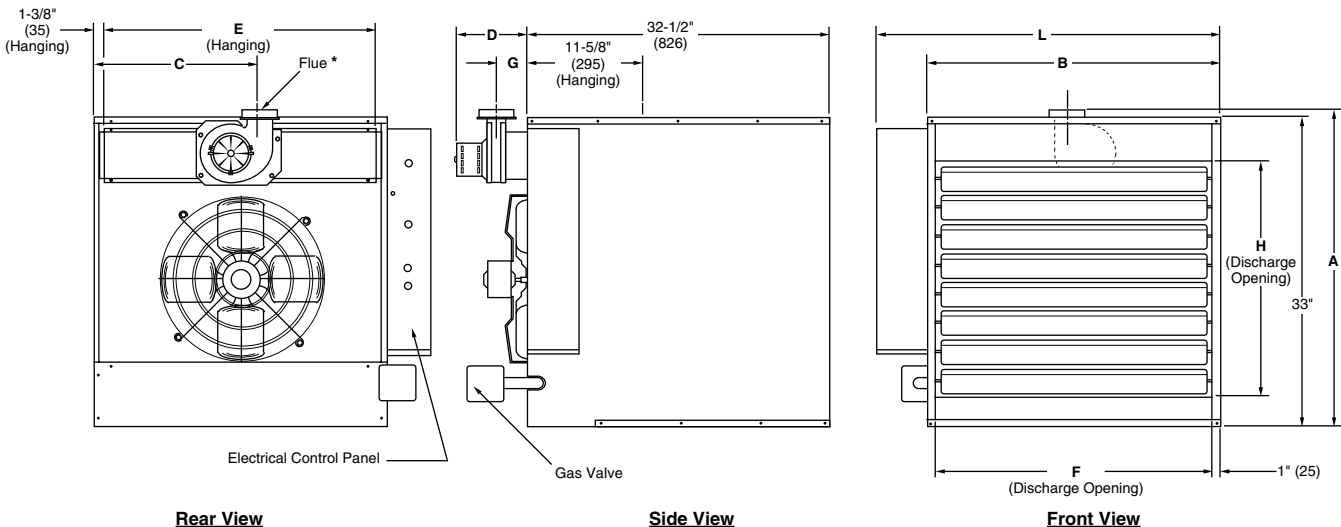
# Model TF Performance & Dimensional Data



Model TF Unit Size	150	175	200	250	300	350	400
<b>PERFORMANCE DATA†</b>							
Input - BTU/Hr. (kW)	150,000 (43.9)	175,000 (51.2)	200,000 (58.6)	250,000 (73.2)	300,000 (87.8)	350,000 (102.5)	400,000 (117.1)
Output - BTU/Hr. (kW)	121,500 (35.6)	141,750 (41.5)	162,000 (47.5)	202,500 (59.3)	243,000 (71.2)	283,500 (83.0)	324,000 (95.0)
Thermal Efficiency (%)	81	81	81	81	81	81	81
Free Air Delivery - CFM (cu. m/s)	2,400 (1.133)	2,850 (1.346)	3,200 (1.511)	3,450 (1.629)	5,000 (2.361)	5,600 (2.644)	5,800 (2.738)
Air Temperature Rise - Deg. F (Deg. C)	47 (26)	46 (26)	47 (26)	54 (30)	45 (24)	47 (26)	51 (28)
Full Load Amps at 120V	5.8	8.0	8.0	8.0	11.3	13.5	13.5
<b>MOTOR DATA:</b> Nominal HP (Qty.)							
	1/4	1/3	1/3	1/3	(2) 1/4	(2) 1/3	(2) 1/3
Actual kW	(.19)	(.25)	(.25)	(.25)	(2) (.19)	(2) (.25)	(2) (.25)
Motor Type	PSC	PSC	PSC	PSC	PSC	PSC	PSC
R.P.M.	1,140	1,140	1,140	1,140	1,140	1,140	1,140
Amps @ 115V	4.7	5.8	5.8	5.8	9.4	11.6	11.6
<b>DIMENSIONAL DATA - inches (mm)</b>							
"A" Overall Height to Top of Flue	33-3/4 (857)	33-3/4 (857)	33-3/4 (857)	33-3/4 (857)	34 (864)	34 (864)	34 (864)
"B" Jacket Width of Unit	20-3/4 (527)	32-3/4 (831)	32-3/4 (831)	32-3/4 (831)	50-3/4 (1289)	50-3/4 (1289)	50-3/4 (1289)
"C" Width to Centerline Flue	13-3/8 (340)	19-3/8 (492)	19-3/8 (492)	19-3/8 (492)	28-3/8 (721)	28-3/8 (721)	28-3/8 (721)
"D" Depth to Rear of Housing	11 (279)	11 (279)	11 (279)	11 (279)	12-1/4 (311)	12-1/4 (311)	12-1/4 (311)
"E" Hanging Distance Width	18-5/8 (473)	30-5/8 (778)	30-5/8 (778)	30-5/8 (778)	48-5/8 (1235)	48-5/8 (1235)	48-5/8 (1235)
"F" Discharge Opening Width	18-3/4 (476)	30-3/4 (781)	30-3/4 (781)	30-3/4 (781)	48-3/4 (1238)	48-3/4 (1238)	48-3/4 (1238)
"G" Depth to Centerline Flue	4-3/4 (121)	4-3/4 (121)	4-3/4 (121)	4-3/4 (121)	5-1/8 (130)	5-1/8 (130)	5-1/8 (130)
"H" Discharge Opening Height	24-1/2 (622)	24-1/2 (622)	24-1/2 (622)	24-1/2 (622)	24-1/2 (622)	24-1/2 (622)	24-1/2 (622)
"L" Overall Unit Width	25-1/4 (641)	37-1/4 (946)	37-1/4 (946)	37-1/4 (946)	55-1/4 (1403)	55-1/4 (1403)	55-1/4 (1403)
*Flue Size Diameter - in. (Dia.-mm)	5 (127)	5 (127)	5 (127)	5 (127)	6 (152)	6 (152)	6 (152)
Fan Diameter - in. (Qty.)	16	18	18	18	(2) 16	(2) 18	(2) 18
Gas Inlet-Natural Gas (in.)	1/2	1/2	1/2	3/4	3/4	3/4	3/4
Gas Inlet-LP Gas (in.)	1/2	1/2	1/2	1/2 OR 3/4	1/2 OR 3/4	1/2 OR 3/4	1/2 OR 3/4
Approximate Unit Weight - lbs. (kg)	155 (70)	191 (87)	201 (91)	211 (96)	307 (139)	321 (145)	335 (152)
Approximate Ship Weight - lbs. (kg)	195 (88)	241 (109)	251 (114)	261 (118)	367 (166)	381 (173)	395 (179)

† Published ratings are shown for elevations up to 2,000 feet (610m) above sea level. For higher elevations derate 4% for each 1,000 feet (305m) above sea level.  
In Canada, derate 10% for altitudes 2,000 to 4,500 feet (610 to 1372m).

\* Flue collar is factory supplied with unit; to be field installed per included instructions.



D4617

DIMENSIONS .XXX STANDARD UNITS  
DIMENSIONS IN PARENTHESIS (XXX) MILLIMETERS



# Model TF

## Model Number Description

<b>Digit</b>	T	X	X	X	1	2	3	4	5	6	7	8	9	10	11	12	13	+
<b>Item</b>	Prefix				UT	CA			FT	FM	GT	AL	GC	SV	MT	AS		

(Internal Use Only)

### 1, 2 - Unit Type [UT]

TF - Tubular Propeller

### 3, 4, 5 - Capacity [CA]

150 - 150,000 BTU/HR

175 - 175,000 BTU/HR

200 - 200,000 BTU/HR

250 - 250,000 BTU/HR

300 - 300,000 BTU/HR

350 - 350,000 BTU/HR

400 - 400,000 BTU/HR

### 6 - Furnace Type [FT]

A - Right Hand Access

### 7 - Furnace Material [FM]\*

1 - Standard (Aluminized) Steel

2 - 409 Stainless Steel

\*Heat Exchanger Tube Material Only

### 8 - Gas Type [GT]

N - Natural Gas

P - Propane (LP) Gas

### 9 - Altitude [AL]

P - Canadian High Altitude 2,000-4,500 ft.

S - 0-4,999 ft.

T - 5,000-11,999 ft.

Note: Installations over 2,000 ft. require gas input deration in the field.

Refer to unit installation instructions.

### 10 - Gas Control [GC]

1 - Single Stage Direct Spark

2 - Two Stage Direct Spark

### 11 - Supply Voltage [SV]

1 - 115/1/60      5 - 230/3/60

2 - 208/1/60      6 - 460/3/60

3 - 230/1/60      7 - 575/3/60

4 - 208/3/60      Z - Other

Note: Supply Voltage [SV] 2-7 include field mounted step down transformer.

### 12 - Motor Type [MT]

1 - Open Drip Proof (Standard)

2 - Totally Enclosed

### 13 - Accessories [AS]

#### FACTORY INSTALLED

M6 - OSHA Type Fan Guard

S5 - Stainless Steel Burners

**All Field Installed Accessories are to be entered as a separate line item using new catalog number which places "AS" as a prefix. i.e: A7 becomes AS-A7.**

#### FIELD INSTALLED (AS-\_\_\_\_)

A7 - Pressure Regulator 1/2-2 psi

G1 - 1-Stage T87K Mercury Free Thermostat w/Subbase Kit

G2 - 1-Stage T87K Mercury Free Thermostat w/TG511A Guard Kit

G3 - 1-Stage T834N Mercury Free Thermostat/Fan Switch

G5 - 2-Stage TH5220D Mercury Free Thermostat w/Subbase

G6 - Locking Thermostat Cover

G8 - 1-Stage T6169C Line Voltage Thermostat w/Subbase

G9 - 1-Stage T822K Mercury Free Thermostat

M2-2 - 5" Vent Cap (Capacities [CA] 150-250)

M2-3 - 6" Vent Cap (Capacities [CA] 300-400)

P5 - 24V SPST Relay-Specify Purpose

X2 - 30 Degree Downturn Nozzle

X3 - 60 Degree Downturn Nozzle

X4 - 90 Degree Downturn Nozzle

X5 - Vertical Louver Kit

# Accessories [AS]

## FACTORY INSTALLED

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### M6- OSHA TYPE FAN GUARD

#### Model TF

#### Factory Installed

Available on model TF only, standard on model GG. Required for installations that must conform to OSHA standards. Also known as fingerproof fan guards.

### S3- STAINLESS STEEL FLUE COLLECTOR

#### Model GG

#### Factory Installed

409 Stainless Steel flue collector in lieu of standard aluminized steel collector.

### S5- STAINLESS STEEL BURNERS

#### Model TF

#### Factory Installed

409 Stainless Steel in-shot burners in lieu of the standard aluminized steel in-shot burners.

## FIELD INSTALLED

---

### A7- PRESSURE REGULATOR 1/2-2 PSI

#### All Models & Sizes

#### Field Installed

Required where main line pressure exceeds 14" W.C. (psig), must specify incoming pressure when ordered. One regulator per unit required, shipped separately.

### G1- ONE STAGE T87K (MERCURY-FREE) THERMOSTAT WITH SUBBASE

#### All Models and Sizes

#### Field Installed

Single stage heating thermostat with subbase. Includes fan switching relay. Standard round styling suitable for any decor. 40-90°F range.

### G2- ONE STAGE T87K (MERCURY-FREE) THERMOSTAT WITH TG511A GUARD

#### All Models and Sizes

#### Field Installed

Same features as "G1" except a tamper proof guard is included.

### G3- ONE STAGE T834N (MERCURY-FREE) THERMOSTAT WITH FAN SWITCH

#### All Models and Sizes

#### Field Installed

Single stage heating thermostat with fan switch. Manufactured exclusively for Sterling with a "Sterling" logo face plate. 50-90°F range. [2-7/8" W x 4-3/4" H x 1-1/2" D]

### G5- TWO STAGE TH5220D (MERCURY-FREE) THERMOSTAT WITH SUBBASE

#### All Models and Sizes

#### Field Installed

Two stage heating and two stage cooling with system and fan switching and built in 10°F heating/cooling differential. Includes fan relay. 40-90°F range. [5-13/16" W x 3-9/16" H x 1-1/2" D]

### G6- LOCKING THERMOSTAT COVER

#### All Models and Sizes

#### Field Installed

Universal locking thermostat cover for use with all thermostats listed.

### G8- ONE STAGE T6169C LINE VOLTAGE STAT WITH SUBBASE

#### All Models and Sizes

#### Field Installed

Single stage heating thermostat only. 115 volt operation.

### G9- ONE STAGE T822K (MERCURY-FREE) THERMOSTAT WITH SUBBASE

#### All Models and Sizes

#### Field Installed

Single stage heating only thermostat with subbase. 24 volt operation.

### M2- 2, 3 - VENT CAP

#### Model TF

#### Field Installed

5 or 6 inch vent cap for use with model TF. Must indicate unit size when ordered.

### P5- 24 VOLT RELAY

#### All Models and Sizes

#### Field Installed

Specify purpose. 24 volt SPST relay.

### VC - 4, 5 VENT CAP

#### Model GG

#### Field Installed

4 or 5 inch vent cap for use with model GG. 5 inch vent cap for capacities 075-120 are Category I Horizontal Vent Only.

### X2 - 30 DEGREE NOZZLE

#### Model TF

#### Sizes 150-400

#### Field Installed

Directs the discharge air at a 30 degree angle. Air can be directed up to 60 degrees by adjusting the horizontal louvers. Louvers are supplied with the unit heater and must be reinstalled in the nozzle discharge.

### X3 - 60 DEGREE NOZZLE

#### Model TF

#### Sizes 150-400

#### Field Installed

Directs the discharge air at a 60 degree angle. Air can be directed up to 90 degrees by adjusting the horizontal louvers. Louvers are supplied with the unit heater and must be reinstalled in the nozzle discharge.

### X4 - 90 DEGREE NOZZLE

#### Model TF

#### Sizes 150-400

#### Field Installed

Directs the discharge air at a 90 degree angle. Louvers are supplied with the unit heater and must be reinstalled in the nozzle discharge.

### X5 - VERTICAL LOUVER KIT

#### Model TF

#### Field Installed

Vertical Louvers to provide 4 way air deflection on model TF units. Must indicate unit size when ordered.

### X7 - 4, 5 CONCENTRIC VENT KIT

#### Model GG

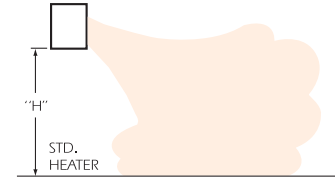
#### Field Installed

Allows for one 6 or 8 inch vent/ combustion air opening through a structure. One kit permits for either horizontal or vertical applications. Kit required for converting a model GG to separated combustion.

# Heat Throw Data

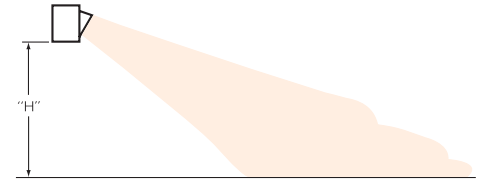
- NOTES:**
1. All throw data figures are approximations. Allowances should be made for optimum performance, altitude, etc.
  2. "NR" - Units not recommended at these mounting heights.
  3. Nozzles are not available for unit heaters below size 150,000 BTU/Hr.
  4. 30°, 60° and 90° nozzles are shipped unassembled.

## STANDARD UNIT HEATER APPLICATIONS



Distance From Floor to Bottom of Unit "H" ft. (m)	UNIT SIZE BTU/Hr (kW)													
	30,000 (8.8)	45,000 (13.2)	60,000 (17.6)	75,000 (22.0)	90,000 (26.4)	105,000 (30.8)	120,000 (34.2)	150,000 (43.9)	175,000 (51.2)	200,000 (58.6)	250,000 (73.2)	300,000 (87.8)	350,000 (102.5)	400,000 (117.1)
	Approximate Distance of Heat Throw - Feet (Meters)													
8 (2.4)	33 (10.1)	33 (10.1)	33 (10.1)	40 (12.2)	40 (12.2)	60 (18.3)	65 (19.8)	70 (21.3)	75 (22.9)	80 (24.4)	90 (27.4)	105 (32.0)	110 (33.5)	120 (36.6)
10 (3.0)	28 (8.5)	28 (8.5)	28 (8.5)	35 (10.7)	35 (10.7)	54 (16.5)	56 (17.1)	60 (18.3)	64 (19.5)	68 (20.7)	78 (23.8)	90 (27.4)	95 (29.0)	100 (30.5)
12 (3.7)	NR	NR	NR	NR	NR	44 (13.4)	46 (14.0)	49 (14.9)	57 (17.4)	61 (18.6)	68 (20.7)	80 (24.4)	84 (25.6)	90 (27.4)
15 (4.6)	NR	NR	NR	NR	NR	NR	NR	45 (13.7)	49 (14.9)	52 (15.8)	60 (18.3)	70 (21.3)	74 (22.6)	80 (24.4)
20 (6.1)	NR	NR	NR	NR	NR	NR	NR	NR	NR	46 (14.0)	54 (16.5)	63 (19.2)	66 (20.1)	70 (21.3)

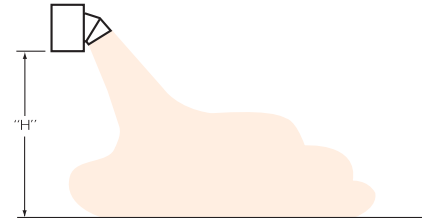
## 30° NOZZLE



Distance From Floor to Bottom of Unit "H" ft. (m)	UNIT SIZE BTU/Hr (kW)														
	30,000 (8.8)	45,000 (13.2)	60,000 (17.6)	75,000 (22.0)	90,000 (26.4)	105,000 (30.8)	120,000 (34.2)	150,000 (43.9)	175,000 (51.2)	200,000 (58.6)	250,000 (73.2)	300,000 (87.8)	350,000 (102.5)	400,000 (117.1)	
	Approximate Distance of Heat Throw - Feet (Meters)														
8 (2.4)	Not Available						75 (22.9)	80 (24.4)	85 (25.9)	95 (29.0)	115 (35.1)	120 (36.6)	125 (38.1)		
10 (3.0)	Not Available						64 (19.5)	68 (20.7)	72 (21.9)	86 (26.2)	99 (30.2)	105 (32.0)	110 (33.5)		
12 (3.7)	Not Available						57 (17.4)	60 (18.3)	64 (19.5)	77 (23.5)	88 (26.8)	94 (28.7)	100 (30.5)		
15 (4.6)	Not Available						48 (14.6)	50 (15.2)	53 (16.2)	64 (19.5)	74 (22.6)	79 (24.1)	84 (25.6)		
20 (6.1)	Not Available						NR		44 (13.4)	47 (14.3)	58 (17.7)	66 (20.1)	71 (21.6)	75 (22.9)	

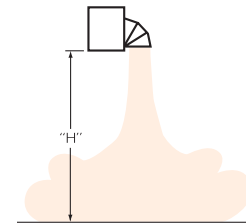
# Heat Throw Data

## 60° NOZZLE



Distance From Floor to Bottom of Unit "H" ft. (m)	UNIT SIZE BTU/Hr (kW)													
	30,000 (8.8)	45,000 (13.2)	60,000 (17.6)	75,000 (22.0)	90,000 (26.4)	105,000 (30.8)	125,000 (36.6)	150,000 (43.9)	175,000 (51.2)	200,000 (58.6)	250,000 (73.2)	300,000 (87.8)	350,000 (102.5)	400,000 (117.1)
Approximate Distance of Heat Throw - Feet (Meters)														
8 (2.4)	Not Available							85 (25.9)	90 (27.4)	95 (29.0)	110 (33.5)	125 (38.1)	130 (39.6)	138 (42.1)
10 (3.0)	Not Available							75 (22.9)	79 (24.1)	83 (25.3)	95 (29.0)	109 (33.2)	115 (35.1)	120 (36.6)
12 (3.7)	Not Available							68 (20.7)	72 (21.9)	76 (23.2)	84 (25.6)	100 (30.5)	103 (31.4)	108 (32.9)
15 (4.6)	Not Available							56 (17.1)	61 (18.6)	65 (19.8)	71 (21.6)	85 (25.9)	88 (26.8)	94 (28.7)
20 (6.1)	Not Available							52 (15.8)	55 (16.8)	59 (18.0)	65 (19.8)	77 (23.5)	81 (24.7)	85 (25.9)

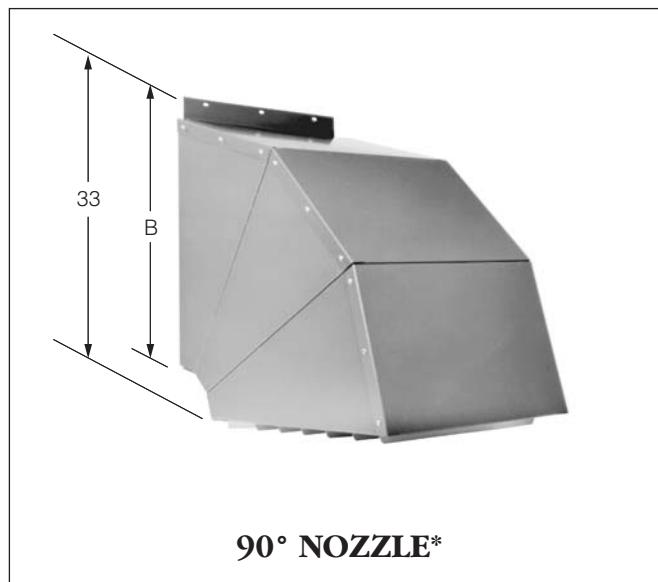
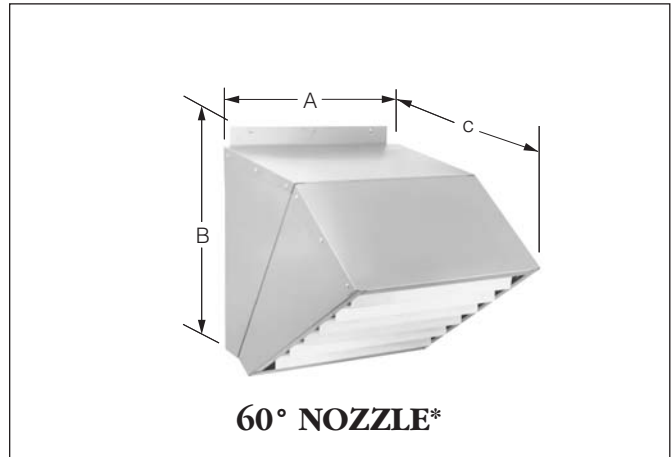
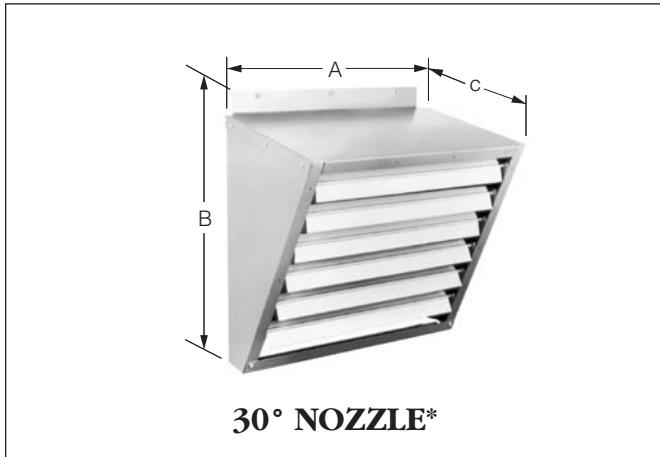
## 90° NOZZLE



Distance From Floor to Bottom of Unit "H" ft. (m)	UNIT SIZE BTU/Hr (kW)													
	150,000 (43.9)		175,000 (51.2)		200,000 (58.6)		250,000 (73.2)		300,000 (87.8)		350,000 (102.5)		400,000 (117.1)	
Approximate Distance of Heat Throw - Feet (Meters)														
10 (3.0)	NR		NR		NR		NR		NR		NR		NR	
15 (4.6)	40 x 35 (12.2) (10.7)	45 x 40 (13.7) (12.2)	50 x 40 (15.2) (12.2)	60 x 45 (18.3) (13.7)	70 x 45 (21.3) (13.7)	80 x 50 (24.4) (15.2)	100 x 50 (30.5) (15.2)							
20 (6.1)	NR		NR		40 x 35 (12.2) (10.7)	56 x 40 (17.1) (12.2)	65 x 40 (19.8) (12.2)	70 x 45 (21.3) (13.7)	80 x 50 (24.4) (15.2)	100 x 50 (30.5) (15.2)				
25 (7.6)	NR		NR		NR		50 x 35 (15.2) (10.7)	60 x 35 (18.3) (10.7)	65 x 40 (19.8) (12.2)	75 x 40 (22.9) (12.2)				
30 (9.1)	NR		NR		NR		NR		55 x 35 (16.8) (10.7)	60 x 35 (18.3) (10.7)	65 x 40 (19.8) (12.2)			

# Nozzle Dimensions

(Model "TF" only)



\*30°, 60° and 90° Nozzles are field assembled.

## NOZZLE DIMENSIONAL DATA CHART

SYMBOL	NOZZLE TYPE	150	175, 200, 250	300, 350, 400
WIDTH	30 DEG.	20-3/4 (527)	32-3/4 (832)	50-3/4 (1289)
A	60 DEG.	20-3/4 (527)	32-3/4 (832)	50-3/4 (1289)
in. (mm)	90 DEG.	20-3/4 (527)	32-3/4 (832)	50-3/4 (1289)
HEIGHT	30 DEG.	31-1/2 (800)	31-1/2 (800)	31-1/2 (800)
B	60 DEG.	31-1/2 (800)	31-1/2 (800)	31-1/2 (800)
in. (mm)	90 DEG.	31-1/2 (800)	31-1/2 (800)	31-1/2 (800)
FURTHEST DEPTH	30 DEG.	15 (381)	15 (381)	15 (381)
C	60 DEG.	25-1/2 (648)	25-1/2 (648)	25-1/2 (648)
in. (mm)	90 DEG.	28-1/4 (718)	28-1/4 (718)	28-1/4 (718)

# Models GG & TF Warranty

## LIMITED WARRANTY Sterling Gas-Fired Unit Heaters - Model "GG" and "TF"

### 1. **STERLING GAS-FIRED TUBULAR UNIT HEATER - MODEL "GG" and "TF"**

Sterling ("the Manufacturer") warrants to the original owner at original installation site that the above models of Sterling Gas-Fired Heaters ("the Product") will be free from defects in material or workmanship for one (1) year from the date of shipment from the factory, or one and one-half (1-1/2) years from the date of manufacture, whichever occurs first. Sterling further warrants that the complete heat exchanger, draft hood assembly, and burners will be free from defects in material or workmanship for a period of ten (10) years from the date of manufacture. If upon examination by the Manufacturer the Product is shown to have a defect in material or workmanship during the warranty period, the Manufacturer will repair or replace, at its option, that part of the Product which is shown to be defective.

### 2. **This limited warranty does not apply:**

- (a) if the Product has been subjected to misuse or neglect, has been accidentally or intentionally damaged, has not been installed, maintained or operated in accordance with the furnished written instructions, or has been altered or modified in any way by any unauthorized person.
- (b) to any expenses, including labor or material, incurred during removal or reinstallation of the Product.
- (c) to any damage due to corrosion by chemicals, including halogenated hydrocarbons, precipitated in the air.
- (d) to any workmanship of the installer of the Product.

### 3. **This limited warranty is conditional upon:**

- (a) advising the installing contractor, who will in turn notify the distributor or manufacturer.
- (b) shipment to the Manufacturer of that part of the Product thought to be defective. Goods can only be returned with prior written approval of the Manufacturer. All returns must be freight prepaid.
- (c) determination in the reasonable opinion of the Manufacturer that there exists a defect in material or workmanship.

### 4. Repair or replacement of any part under this Limited Warranty shall not extend the duration of the warranty with respect to such repaired or replaced part beyond the stated warranty period.

### 5. **THIS LIMITED WARRANTY IS IN LIEU OF ALL OTHER WARRANTIES, EITHER EXPRESS OR IMPLIED, AND ALL SUCH OTHER WARRANTIES, INCLUDING WITHOUT LIMITATION IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, ARE HEREBY DISCLAIMED AND EXCLUDED FROM THIS LIMITED WARRANTY. IN NO EVENT SHALL THE MANUFACTURER BE LIABLE IN ANY WAY FOR ANY CONSEQUENTIAL, SPECIAL, OR INCIDENTAL DAMAGES OF ANY NATURE WHATSOEVER, OR FOR ANY AMOUNTS IN EXCESS OF THE SELLING PRICE OF THE PRODUCT OR ANY PARTS THEREOF FOUND TO BE DEFECTIVE. THIS LIMITED WARRANTY GIVES THE ORIGINAL OWNER OF THE PRODUCT SPECIFIC LEGAL RIGHTS. YOU MAY ALSO HAVE OTHER RIGHTS WHICH MAY VARY BY EACH JURISDICTION.**

## **Model GG**

### **Typical Standard Specification**

Furnish and install, where indicated or scheduled on plans, gas-fired unit heaters manufactured by Sterling HVAC equipment. All heaters are to have a minimum thermal efficiency of 81%. The heat exchanger consists of aluminized steel tubes not lighter than 20-gauge. Burner system is to be of the “single-orifice burner” design. A direct spark ignition system with integrated control and combination gas valve shall be utilized. Flame rectification shall be independent of the spark igniter allowing true indication of complete ignition of the burner. Most cabinetry and trim pieces shall be fabricated of 20-gauge material and finished with a baked gray enamel.

Separated combustion style units must utilize clean air from the outside of the structure for combustion purposes. A concentric type adapter must be used at the point of building termination. This adapter will allow for the outside air to enter and combustion flue gases exit through one opening.

All line voltage wiring shall be completely enclosed in flexible conduit. Heaters shall be equipped with a 120/24 volt transformer; factory wiring shall permit the use of propeller fan for continuous air circulation when combined with manufacturers (optional) 24 volt summer/winter single stage thermostat. The control transformer and pressure switch shall be factory mounted in a main control cabinet located on the side of the unit; the side panel is removed to create easy access and all wiring information will be indicated on the inside control cabinet.

## **Model TF**

### **Typical Standard Specification**

Furnish and install, where indicated or scheduled on plans, gas-fired unit heaters manufactured by Sterling HVAC equipment. All heaters are to have a minimum thermal efficiency of 81%. The heat exchanger consists of aluminized steel tubes not lighter than 20-gauge. Burners are to be of the “inshot” design. A direct spark ignition system with integrated control and combination gas valve shall be utilized. Flame rectification shall be independent of the spark igniter allowing true indication of complete ignition of the burner. Most cabinetry and trim pieces shall be fabricated of 20-gauge material and finished with a baked gray enamel.

All line voltage wiring shall be completely enclosed in flexible conduit. Heaters shall be equipped with a 120/24 volt transformer; factory wiring shall permit the use of propeller fan for continuous air circulation when combined with manufacturers (optional) 24 volt summer/winter single stage thermostat. The control transformer and pressure switch shall be factory mounted in a main control panel located on the side of the unit; this panel creates easy access and all wiring information will be indicated on the inside control panel door.

Units equipped with a low voltage automatic reset high temperature control, wired to de-energize the main gas valve and maintain fan operation until the high temperature control resets. Units will be equipped with 120/1/60 volt motors which include internal automatic reset thermal overload protection. Fans will be hubbed with aluminum blades and have OSHA-approved fan guard protection. Adjustable and individually removable horizontal louver blades shall be provided for directing air flow.

All units and component assemblies shall be warranted for a period of one year from the date of shipment from the factory or 18 months from the date of manufacture, whichever occurs first. All burners, heat exchangers, and flue collectors shall carry a ten year non-prorated limited warranty on materials and workmanship (subject to appropriate disclaimers).

Units equipped with a low voltage automatic reset high temperature control, wired to de-energize the main gas valve and maintain fan operation until the high temperature control resets. Units will be equipped with 120/1/60 volt motors which include internal automatic reset thermal overload protection. Fans will be hubbed with aluminum blades and have fan guard protection. Units with inputs greater than 250,000 BTU’s shall be equipped with dual motors and blades for optimum air distribution. Adjustable and individually removable horizontal louver blades shall be provided for directing air flow.

All units and component assemblies shall be warranted for a period of one year from the date of shipment from the factory or 18 months from the date of manufacture, whichever occurs first. All burners, heat exchangers, and flue collectors shall carry a ten year non-prorated limited warranty on materials and workmanship (subject to appropriate disclaimers).



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