

SEP 100-400 Gas Fired Propeller Unit Heaters Engineering & Specification Guide



FEATURES/BENEFITS

EFFICIENCY - The SEP series gas-fired propeller unit heaters deliver 80% thermal efficiency and 78% seasonal efficiency using natural gas or LPG in all models. This excellent efficiency sets a new standard for savings when using gas-fired unit heaters.

RELIABILITY - The design of this unit heater has proven itself to be superior during the fourteen years and hundreds of thousands of hours of tough winter climate and laboratory life cycle testing under extreme conditions. The SEP has been designed to provide a long, trouble-free service life.

QUALITY - Every heater undergoes continuous quality checks at all stages of manufacturing. After assembly, each heater is test fired and functionally tested to provide final assurance that it is performing in accordance with ADP's rigorous quality standards.

APPROVALS - All ADP heaters are built in our ISO 9001:2000 facility. The rating plate of each heater carries the mark signifying that the SEP heater is designed certified by CSA. In addition, the heater series is listed by the California Energy Code (CEC).

POWER EXHAUST - All heaters have a sealed flue collector and a power exhaust system that enables conventional vertical venting or horizontal venting up to 35 feet. Power exhaust, when used with horizontal venting, lowers operating cost because it reduces stack losses. It also allows the option of not penetrating the roof, or multiple floors. The versatile SEP series power exhaust reduces installation cost further by allowing the exhaust to be directed upward, left or right, just by rotating the exhaust assembly on certain models.

TUBULAR HEAT EXCHANGERS - Constructed of aluminized steel for superior resistance to corrosion and oxidation. Additional protection is available with an optional stainless steel heat exchanger. The curving design provides for complete exposure of the heating surface to the supply air stream. Rounded surfaces minimize air resistance and permit air to surround all heat transfer surfaces for excellent heat transfer. Tubular design means lighter weight and significantly

longer service life due to lower thermal-induced stresses. Further, the tubular exchangers create less resistance to air flowing through the unit, therefore providing higher airflow and great throw distance of the heated air to the space.

INSHOT BURNERS - These lightweight aluminized steel burners are maintenance-free and never require adjustment. The burning venturi mixes air and gas in the correct proportion for efficient combustion. The entire burner assembly is removable as one piece for ease of service.

DIRECT SPARK IGNITION - In combination with the 24-volt main gas valve with 100% shutoff for safety, the direct spark ignition control provides positive, reliable and safe main burner ignition. This eliminates the need for a pilot light, improving system efficiency and reliability. A separate flame sensor proves main burner ignition. If loss of main burner flame should occur, the control will reinitiate ignition 3 times before locking out for one hour, thus reducing nuisance service calls. The unit will reinitiate ignition after the one hour lockout.

AIR DISTRIBUTION - All models are equipped with efficient, quiet, direct-drive propeller fans, which have been dynamically balanced for quiet, smooth operation. Heated air flows easily through the tubular heat exchangers and is effectively directed to the heated space by means of aerodynamically shaped outlet louvers.

CABINET - Constructed on 18- to 22-gauge cold rolled steel, each cabinet has a pre-painted finish for superior resistance to corrosive elements. Each cabinet has a two-point (3/8" X 16" spotnut) suspension system for easy installation. The two fan models have four-point suspensions. Generous use of inside cabinet insulation keeps the outer surface temperatures low. The wiring junction box is conveniently located on the side of the cabinet for easy access and adequate protection.

WARRANTY - All components have a limited warranty for two full years. The aluminized steel heat exchangers have a limited warranty for ten years. The stainless steel heat exchangers have a limited warranty for fifteen years. Consult the warranty certificate for details.

SEP SERIES HEATERS

| TECHNICAL DATA | | | | | | | | | | |
|---|----------------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| MODEL NUMBER: SEP- | 100 (A,S) | 115 (A,S) | 145 (A,S) | 175 (A,S) | 200 (A,S) | 230 (A,S) | 250 (A,S) | 300 (A,S) | 345 (A,S) | 400 (A,S) |
| TOTAL INPUT, BTUH* | 100,000 | 115,000 | 145,000 | 172,500 | 195,000 | 230,000 | 250,000 | 300,000 | 345,000 | 390,000 |
| TOTAL OUTPUT, BTUH | 80,500 | 92,000 | 116,000 | 138,000 | 156,000 | 184,000 | 201,250 | 241,500 | 276,000 | 312,000 |
| AIR VOLUME, CFM | 1900 | 1900 | 1900 | 2200 | 2200 | 4400 | 4400 | 4400 | 4400 | 4400 |
| AIR THROW AT 8 FT. MTNG. HEIGHT, FEET | 60 | 60 | 60 | 65 | 65 | 80 | 80 | 80 | 80 | 80 |
| RECOMMENDED MOUNTING HEIGHT, FEET | 16 | 16 | 20 | 20 | 20 | 30 | 30 | 30 | 30 | 30 |
| FAN DIAMETER, INCHES/ NUMBER OF FANS | 16/1 | 16/1 | 16/1 | 16/1 | 16/1 | 16/2 | 16/2 | 16/2 | 16/2 | 16/2 |
| SHIP WEIGHT, POUNDS | 140 | 140 | 150 | 165 | 175 | 260 | 285 | 305 | 310 | 310 |
| NET WEIGHT, POUNDS | 125 | 125 | 130 | 145 | 145 | 225 | 270 | 280 | 285 | 285 |
| FAN | HORSEPOWER | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 (2) | 1/8 (2) | 1/8 (2) | 1/8 (2) | 1/8 (2) |
| MOTOR DATA | AMPS @ 115V/1PH/60Hz | 2.1 | 2.1 | 2.1 | 2.1 | 4.2 | 4.2 | 4.2 | 4.2 | 4.2 |
| | RPM | 1075 | 1075 | 1075 | 1075 | 1075 | 1075 | 1075 | 1075 | 1075 |
| | MOTOR TYPE | PSC | PSC | PSC | PSC | PSC | PSC | PSC | PSC | PSC |
| TOTAL UNIT AMPS | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | 9.0 | 9.0 | 9.0 | 9.0 | 9.0 |
| FLUE CONNECTION SIZE, INCHES** | 4 | 4 | 4 | 5 | 5 | 5 | 5 | 5 | 6 | 6 |
| GAS CONNECTION, INCHES | 1/2 | 1/2 | 1/2 | 1/2 | 1/2 | 3/4 | 3/4 | 3/4 | 3/4 | 3/4 |

* Ratings shown are for elevations up to 2,000 feet. For elevations above 2,000 feet, ratings should be reduced at the rate of 4% for each 1,000 feet above sea level.

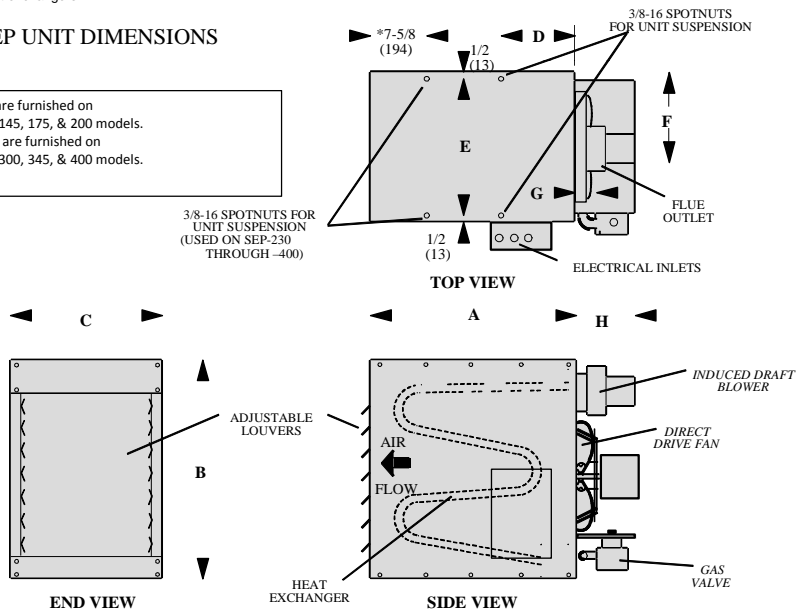
** Diameter of round pipe - adaptor furnished with heater.

A,S - Aluminized or Stainless Steel heat exchangers



SEP UNIT DIMENSIONS

*NOTE - Two spotnuts are furnished on SEP 100, 115, 145, 175, & 200 models.
-Four spotnuts are furnished on SEP 230, 250, 300, 345, & 400 models.



| DIMENSIONAL DATA | | | | | | | | | | | | | |
|-----------------------|---------|---------|---------|---------|---------|--------|-------|---------|--------------------|-----|-------|------|------|
| MODEL NUMBER: SEP- | A | B | C | D | E | F | G | H | MINIMUM CLEARANCES | | | | |
| | | | | | | | | | BOTTOM | TOP | SIDES | REAR | FLUE |
| 100, 115, 145 | 31-5/16 | 32-3/16 | 20-3/16 | 11-1/2 | 19-1/16 | 11-3/4 | 3-1/4 | 7-7/8 | 0 | 6 | 6 | 18 | 6 |
| 175, 200 | 31-5/16 | 32-3/16 | 23-1/8 | 11-1/2 | 22-1/16 | 8-1/2 | 3-1/4 | 7-7/8 | 0 | 6 | 6 | 18 | 6 |
| 230*, 250*, 300* | 31-5/16 | 32-3/16 | 41-1/8 | 3-11/16 | 40 | 17-3/4 | 3-1/2 | 8-11/16 | 0 | 6 | 6 | 18 | 6 |
| 345* | 31-5/16 | 32-3/16 | 41-1/8 | 3-11/16 | 40 | 17-1/2 | 3-1/2 | 9-13/16 | 0 | 6 | 6 | 18 | 6 |
| 400* | 31-5/16 | 32-3/16 | 41-1/8 | 3-11/16 | 40 | 17-1/2 | 3-1/2 | 9-13/16 | 0 | 6 | 6 | 18 | 6 |

NOTE: All dimensions are in inches. Provide 24-inch service clearance on electrical control box side and at rear of unit

* Unit contains dual fans.