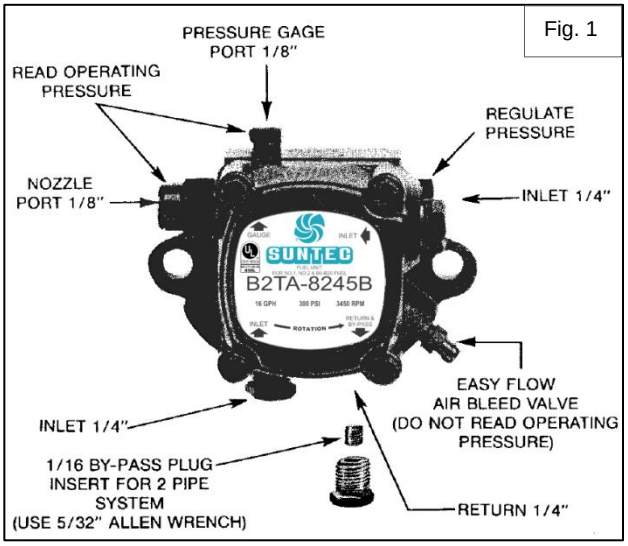
Fig. 1




## *IMPORTANT INFORMATION*

This product is compatible with Fuel oil #2 and lighter, B6-B20 (blends from 6% up to 20% biodiesel, per ASTM D396). This product must be installed, adjusted and started only by a qualified and licensed technician and done so in accordance with all appropriate local and national codes and ordinances, such as National Fire Protection Standard for Liquid Fuel Equipment, NFPA 31, CSA B139-M91, etc.

**⚠WARNING:**

Different aspects of the oil fired heating system can be affected by the use of a fuel/biodiesel blend (storage, piping system between the tank and the burner, burner components).

These units are designed to handle B6 to B20 biodiesel blends (fuel oil according to ASTM D396 with 6% to 20% biodiesel according to ASTMD 6751 standard). Ensure that all components of the heating system, supply line and burner components are B20 compatible. Before first start-up, ensure that the oil storage tank has been thoroughly cleaned prior to the biodiesel blend delivery.

Biodiesel blends are likely to have reduced long-term storage stability performance. Aging and oxidation can lead to high acid numbers, high viscosity, and the formation of gums and sediments that may cause filter clogging and pump seizing.

## *ONE-PIPE SYSTEM – FIGURE 2*

**DO NOT INSTALL BY-PASS PLUG!** Connect inlet line to the pump inlet. Start burner. Arrange primary burner control for continuous operation during purging. Open easy flow bleed valve 1 turn CCW. Bleed unit until all air bubbles disappear – HURRIED BLEEDING WILL IMPAIR EFFICIENT OPERATION OF UNIT. Tighten easy flow bleed valve securely.

## *TWO-PIPE SYSTEM – FIGURE 3*

REMOVE 1/16" BY-PASS PLUG FROM PLASTIC BAG ATTACHED TO UNIT. Remove 1/4" plug from return port. Insert by-pass plug (See Figure 1), tighten plug. Attach return and inlet lines. Start burner – Air bleeding is automatic. Opening Easy Flow Air Bleed Valve will allow a faster bleed if desired. Return line must terminate 3-4" above supply line inlet. (See Figure 3). Failure to do this may introduce air into the system and could result in loss of prime.

## *GENERAL INFORMATION – ALL SYSTEMS*

**IMPORTANT INFORMATION:** long or oversized inlet lines may require the pump to operate dry during initial bleeding period. In such cases, the priming may be assisted by injecting fuel oil into the pump gearset. Under lift conditions, oil lines and fittings must be air tight. To assure this, "Pipe Dope" may be applied to both the used and unused inlet and both return fittings. DO NOT USE TEFLON TAPE! DO NOT USE COMPRESSION FITTINGS!

**MOUNTING POSITION:** Model "B" Two Stage Fuel Unit may be mounted in any position except upside down or shaft pointing upwards.

**VACUUM CHECK:** a vacuum gage may be installed in either of the 1/4" inlet ports or in the 1/4" return port (on single pipe installations), whichever is most convenient. The model "B" pump should be used where vacuum does not exceed 17" hg. Running vacuum is the total of all pressure drops (ΔP) from the tank to the inlet of the pump.

### CAUTION

Pressurized or gravity feed installations must not exceed 10 PSI on inlet line or return line at the pump. A pressure greater than 10 PSI may cause damage to the shaft seal.

Models B2TA 8249B, B2TA 8265B and B2TA 8930B have no internal nozzle line cut-off and require external shut-off valves.

### *ONE-PIPE SYSTEM*

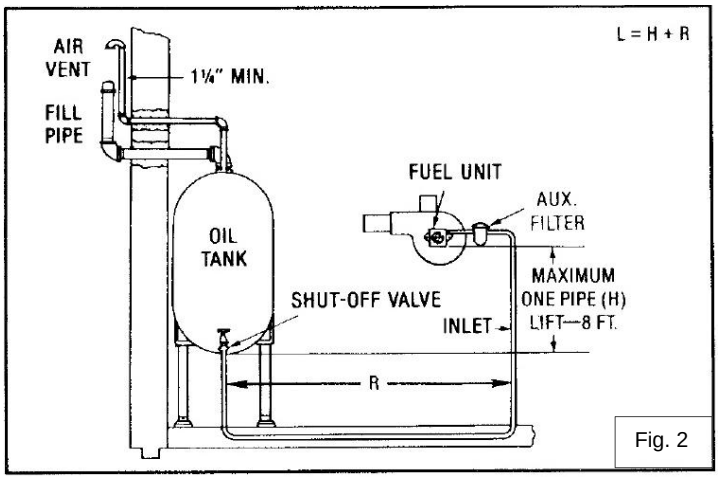


Fig. 2

### *TWO-PIPE SYSTEM*

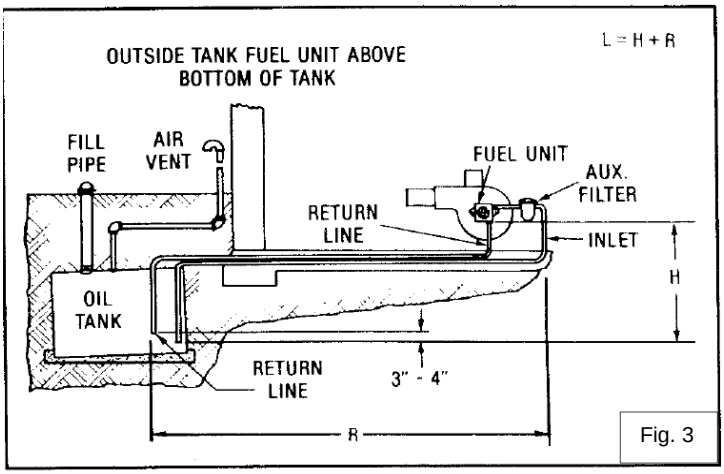


Fig. 3

This SUNTEC Model may be installed one-pipe with gravity feed or lift.

The maximum allowable lift is 8 ft. – See Figure 2.

**IMPORTANT:** One-pipe installations must be absolutely air tight or leaks or loss of prime may result. Bleed line and fuel unit completely.
**Bleed for 15 seconds after last air is seen from easy flow to be certain lines are air free.**

L = Line length in feet H = Head in feet Q = Firing Rate in GPH

| | Tank below pump | Tank above pump |
|---|---|---|
| 3/8" line | $L = \frac{6 - .75H}{.0086\ Q}$ | $L = \frac{6 + .75H}{.0086\ Q}$ |
| 1/2" line | $L = \frac{6 - .75H}{.00218\ Q}$ | $L = \frac{6 + .75H}{.00218\ Q}$ |

Fittings, valves, and filters will reduce total length allowed.

**MODEL B TWO-STAGE, HIGH-PRESSURE**
TWO-PIPE MAXIMUM LINE LENGTH (H+R)

| Lift "H" Figure 3 | 3450 RPM | | | | | |
|---|---|---|---|---|---|---|
| | 3/8" O.D. Tubing | | 1/2" O.D. Tubing | | | 5/8" O.D. Tubing |
| | 10 GPH | 16 GPH | 10 GPH | 16 GPH | 23 GPH | 23 GPH |
| 0' | 70' | 60' | 100' | 100' | 100' | 100' |
| 2' | 64' | 55' | 100' | 100' | 100' | 100' |
| 4' | 58' | 50' | 100' | 100' | 100' | 100' |
| 6' | 52' | 44' | 100' | 100' | 100' | 100' |
| 8' | 45' | 39' | 100' | 100' | 100' | 100' |
| 10' | 39' | 34' | 100' | 100' | 100' | 100' |
| 12' | 33' | 28' | 100' | 100' | 94' | 100' |
| 14' | 27' | 23' | 100' | 91' | 76' | 100' |
| 16' | 21' | 18' | 81' | 70' | 59' | 100' |
| 18' | - | - | 57' | 49' | 41' | 100' |
| - | - | - | - | - | - | - |

**Always terminate return line as shown in Figure 3. Line lengths include both vertical and horizontal lengths.**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