

FOR A-3000 SINGLE STAGE AND B-4000 TWO-STAGE FUEL UNITS 1725 RPM BLACK LABEL 3450 RPM WHITE LABEL

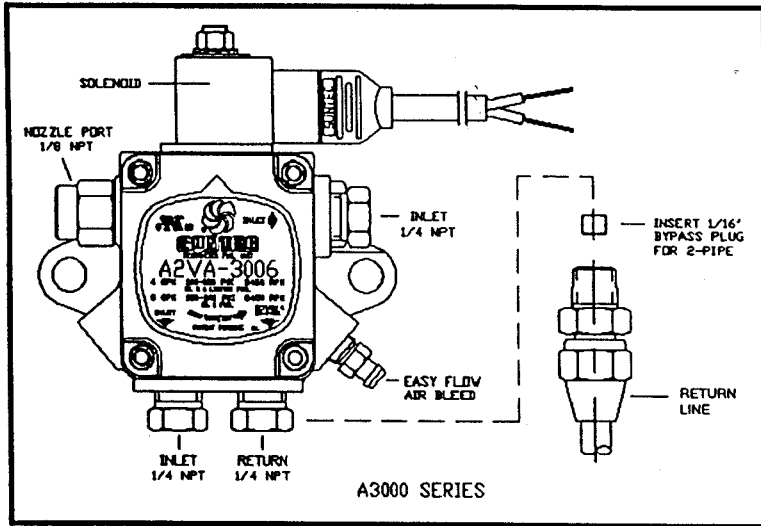


Figure 1

IMPORTANT INFORMATION

Caution: This product must be installed, adjusted and started only by a qualified service technician: an individual or agency, licensed and experienced with all codes and ordinances, who is responsible for the installation and adjustment of the equipment. The installation must comply with all local codes and ordinances and with the National Fire Protection Standard for Liquid Fuel Equipment, NFPA 31 (or CSA B139-M91).

ONE PIPE SYSTEM • Figure 3

Do not install by-pass plug! Connect inlet line to 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 4

Remove 1/16 by-pass plug from plastic bag attached to unit. Remove 1/4" plug from return port. Insert by-pass plug into the threaded port inside of the return port. (Figure 1) Insert return line fitting into return port, and attach return line. Start burner, air bleeding is automatic with two pipe hook up. Return line must terminate in talk 3-4" above the supply line inlet (see Figure 4). Failure to do this may introduce air into the system and could result in the loss of prime.

SOLENOID WIRING • Figure 2

Disconnect power supply before wiring to prevent electrical shock or equipment damage. Lead wires on these devices are long enough to reach the junction box on most burner installations. Note: Check the burner manufacturer's installation sheets for correct solenoid wiring. For all other applications wire solenoid in parallel with burner motor. (See Figure 2). All electrical work should be done according to local and national codes. Solenoids: 115 VAC @ .1A; 230 VAC @ .05A; 24 VAC @ 0.5A; and 12VDC.

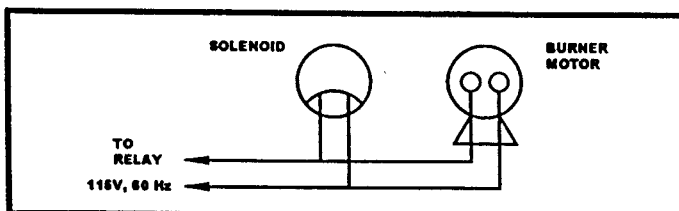


Figure 2

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, lines and fittings must be air tight. To assure this, "Pipe Dope" may be applied to both the used and unused inlet and return fittings. Do not use teflon tape! Do not use compression fittings. Do not use check valves in the inlet or suction line of a gravity feed or positive head single pipe system. Dangerous thermal expansion can occur which can result in damage to the equipment or system!

MOUNTING POSITION Model "A" Single Stage Fuel Unit may be mounted in any position. Model "B" Two Stage Fuel Unit may be mounted in any position except upside down (Solenoid pointed down).

VACUUM CHECK A Vacuum Gage may be installed in either of the 1/4" inlet ports whichever is the most convenient. The Model "A" pump should be used where the vacuum does not exceed 6" hg. single pipe, and 12" hg. two pipe. The Model "B" should be used where the vacuum does not exceed 17" hg. Remember, running vacuum is the total of all pressure drops in the system from tank to inlet of the pump.

PRESSURE CHECK If a pressure check is made use the nozzle port. Do not use the easy flow bleed valve port. The easy flow bleed valve port contains pressure higher than operating pressure. Setting pump pressure with a gage in the easy flow bleed port results in a wrong operating pressure.

CUTOFF PRESSURE Average cutoff pressure is 80 psig. To check cutoff pressure, install pressure gage in nozzle port. Run burner for a short period of time. Shut burner off. Gage shows cutoff pressure.

CAUTION

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

ONE-PIPE SYSTEM • MODEL A

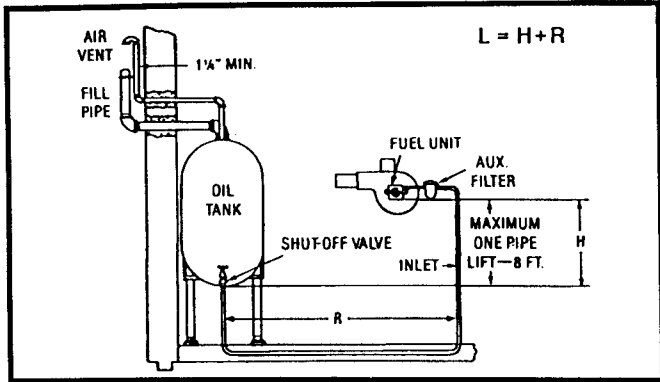


Figure 3

The SUNTEC MODEL "A" - 70 FUEL UNIT may be installed ONE-PIPE with Gravity Feed or Lift.

The maximum allowable lift is 8 ft. - See Figure 3.

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

$$\begin{aligned} 3/8" \text{ line } L &= \frac{6 - .75 H}{.0086 Q} & 1/2" \text{ Line } L &= \frac{6 - .75 H}{.00218 Q} \end{aligned}$$

If tank is above pump, change - to +. Fittings, valves, and filters will reduce total length allowed.

TWO- PIPE SYSTEM • MODEL A AND B

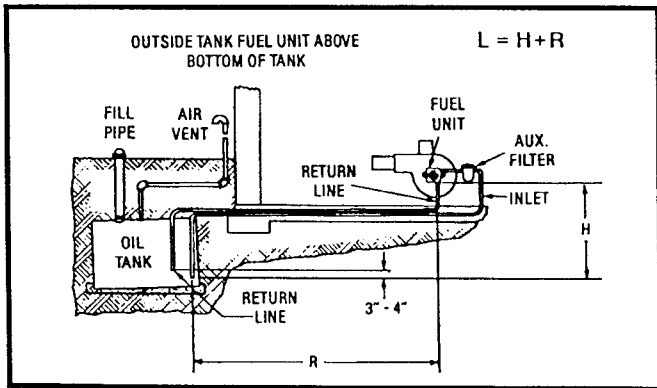


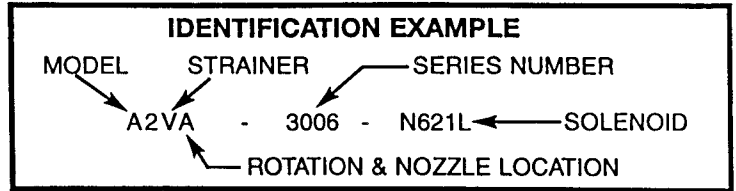
Figure 4

Always terminate return line as shown in Figure 4. Line lengths include both vertical and horizontal lengths.



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PUMP USAGE IDENTIFICATION



A		
MODEL	MAX NOZZLE CAPACITY (GPH) AT 100 PSI	RPM
3002	4	1725
3005	4	1725
3006	4	3450

B		
MODEL	MAX NOZZLE CAPACITY (GPH) AT 100 PSI	RPM
4XXX	4	3450

STRAINER TYPE	Lit. Strainer Rating (GPH)	
	#2 Fuel Oil	#4 Fuel Oil
V	4	7
Y	7	23
T	23	34
G	34	

DESIGNATOR	Rotation/Nozzle Location	
	Rotation	Nozzle Location
A	R/WRH	
B	R/LH	
C	L/WLH	
D	L/WRH	

*Max. firing rate not to exceed max. nozzle capacity or strainer rating whichever is LESS. A greater firing rate requires a suitable external strainer.

ALL INSTALLATIONS SHOULD BE MADE WITH LOCAL AND NATIONAL CODES

A. SINGLE-STAGE • TWO-PIPE MAXIMUM LINE LENGTH (H + R)						
Lift "H" Figure 5	1725 RPM		3450 RPM			
	3/8" OD Tubing	1/2" OD Tubing	3/8" OD Tubing		1/2" OD Tubing	
	3 GPH	3 GPH	3 GPH	7 GPH	3 GPH	7GPH
0'	85'	100'	84'	71'	100'	100'
1'	80'	100'	78'	66'	100'	100'
2'	75'	100'	73'	62'	100'	100'
3'	70'	100'	68'	57'	100'	100'
4'	54'	100'	63'	53'	100'	100'
5'	59'	100'	57'	48'	100'	100'
6'	54'	100'	52'	44'	100'	100'
7'	49'	100'	47'	39'	100'	100'
8'	43'	100'	42'	35'	100'	100'
9'	37'	100'	38'	31'	100'	100'
10'	32'	100'	31'	27'	100'	100'
11'	26'	100'	26'	22'	100'	87'
12'	21'	85'	21'	18'	83'	70'
13	-	63'	-	-	62'	52'
14'	-	42'	-	-	41'	35'

B. TWO-STAGE • TWO-PIPE MAXIMUM LINE LENGTH (H + R)								
Lift "H" Figure 5	1725 RPM				3450 RPM			
	3/8" OD Tubing		1/2" OD Tubing		3/8" OD Tubing		1/2" OD Tubing	
	3 GPH	7 GPH	3 GPH	7 GPH	3 GPH	7 GPH	3 GPH	7 GPH
0'	100'	91'	100'	100'	93'	80'	100'	100'
2'	100'	83'	100'	100'	85'	73'	100'	100'
4'	89'	75'	100'	100'	77'	66'	100'	100'
6'	80'	67'	100'	100'	69'	59'	100'	100'
8'	70'	59'	100'	100'	60'	52'	100'	100'
10'	61'	51'	100'	100'	52'	45'	100'	100'
12'	51'	43'	100'	100'	44'	38'	100'	100'
14'	41'	35'	100'	100'	36'	31'	100'	100'
16'	32'	27'	100'	100'	27'	24'	100'	100'
18'	22'	-	88'	74'	-	-	76'	55'