MODELS A-7000 & B-8000

SINGLE AND TWO-STAGE FUEL UNITS

INSTALLATION INFORMATION Form 2100 12-30-2014

IMPORTANT INFORMATION:

INSTALLATION: This product is not compatible with fuel blends containing more than 5% biodiesel. 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: Inlet and Return Line Pressures

THESE PRESSURES MUST NOT EXCEED 10 PSI, or seal damage can result! NFPA 31 further limits them to 3 PSI MAX.

▲WARNING: Check Valves with Fuel Oil Heating Equipment

Do not use a check valve in the inlet line of a 1-pipe system (with or w/o a boost pump), or in the return line of a 2-pipe system. Check valve flow restriction in a return line can elevate pressures and damage fuel unit seals. Dangerous thermal expansion of oil trapped by an inlet line check valve can create extreme pressures that damage fuel unit seals, fittings, filters, gages and other components. A properly installed vacuum safety valve, such as Suntec PRV-38, having accumulator effect and pressure relief to tank is acceptable in the inlet line.

GENERAL INFORMATION:

1. Most Model A & B units have a pressure regulating valve with cutoff function and may be mounted in any position except upside down for B models. Models without cutoff require an external shutoff valve (noted on decal).

2. See the 1-PIPE or 2-PIPE section for line sizing. Lines must be airtight for proper operation. Pipe sealant may be used.

DO NOT USE TEFLON TAPE OR COMPRESSION FITTINGS.

3. The unit may be primed with lube oil during start-up.

ONE-PIPE SYSTEM INLET LINE ONLY (NO RETURN LINE):

DO NOT INSTALL THE BYPASS PLUG! See 1-P sketch below. Units are shipped without the bypass plug installed; verify it has not been installed! Line length formulas are:

3/8" line: $L = (6-.75H)/.0086Q$ and

1/2" line: $L = (6-.75H)/.00218Q$ where

L = line length (ft.) H = head (ft.) Q = firing rate (gph)

NOTE: If tank is above the pump, change the "-" to a "+".

NOTE: Elbows, valves & filters will further reduce line length.

NOTE: It is recommended to avoid 3/8" lines where feasible.

Inlet line joints must be perfectly tight to maintain prime! Max. recommended 1-P lift is 8' from tank bottom to pump. Prime by opening the easy flow bleed valve one turn CCW. Bleed the unit thoroughly until all air bubbles disappear (hurried bleeding may impair operation), then securely retighten the bleed valve.

TWO-PIPE SYSTEM - INLET AND RETURN LINE:

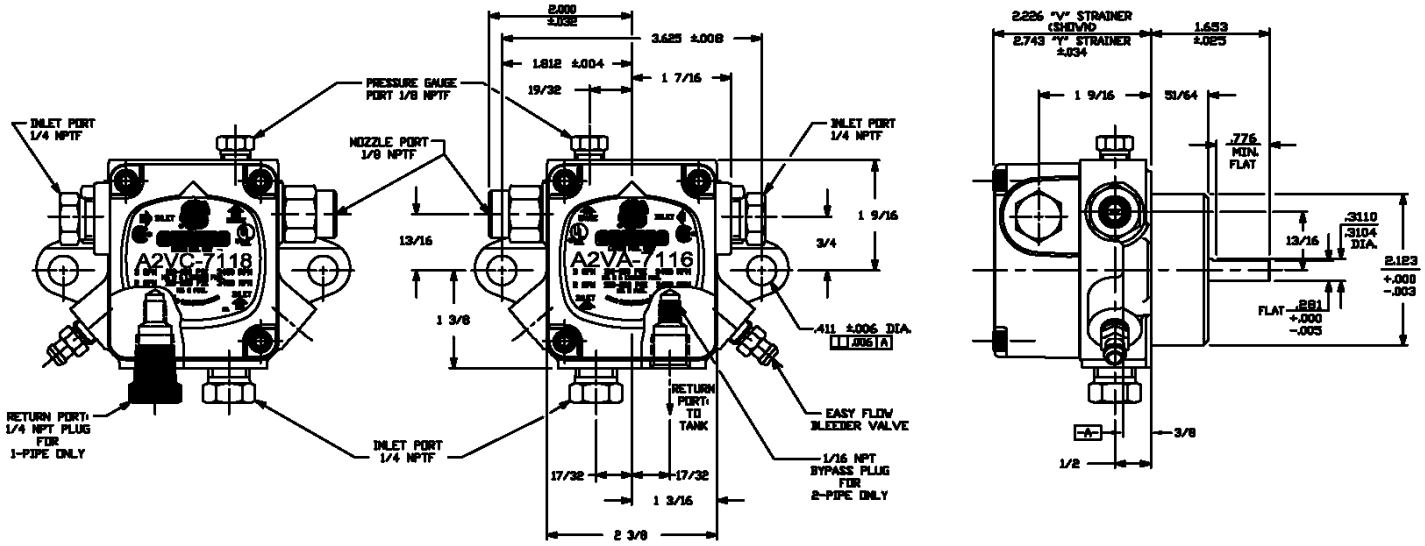
REMOVE THE 1/4" NPT PLUG FROM THE RETURN PORT AND DISCARD.

Then remove the 1/16" NPT bypass plug from the plastic bag attached to the unit and, with a 5/32" Allen wrench, insert it securely into the recessed port inside the return port.

Finally, insert the return line fitting into the 1/4" NPT return port and attach the return line. DO NOT BLOCK OR RESTRICT THE 1/4" NPT RETURN PORT OR THE RETURN LINE!

The return line must terminate in the supply tank 3-4" above the supply inlet, or air can be introduced and cause loss of prime.

Priming is automatic, but may be accelerated by opening the bleed valve. See 2-P sketches below and on p. 2, and see the chart on p. 2 for recommended line sizes and lengths.

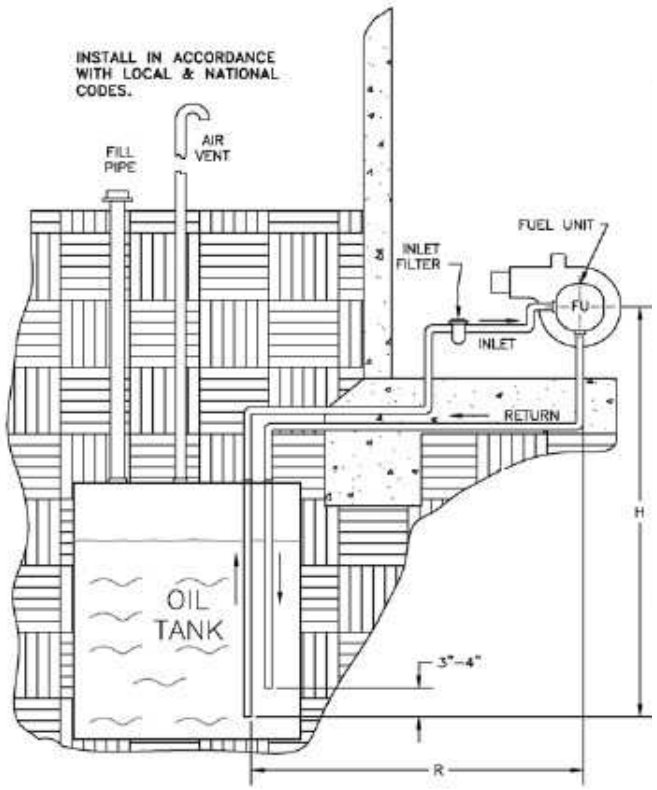


LH NOZZLE PORT
(RH OR LH ROTATION)
1-PIPE HOOK-UP
(do not install bypass plug!)

RH NOZZLE PORT
(RH OR LH ROTATION)
2-PIPE HOOK-UP
(do not block 1/4 NPT return port!)

SIDE VIEW

TWO–PIPE HOOK–UP, INSIDE OR OUTSIDE TANK, FUEL UNIT ABOVE TANK



TWO-PIPE LINE LENGTHS (FT)
(max. total line length L = H + R)
(calculated for fuel viscosity 57 SSU)

Inlet Tubing Size	Lift H (FT.)	Model A Single Stage 1725 RPM 3 GPH	Model A Single Stage 1725 RPM 7 GPH	Model A Single Stage 3450 RPM 3 GPH	Model A Single Stage 3450 RPM 7 GPH	Model B Two-Stage 1725 RPM 3 GPH	Model B Two-Stage 1725 RPM 7 GPH	Model B Two-Stage 3450 RPM 3 GPH	Model B Two-Stage 3450 RPM 7 GPH
3/8" O.D. Copper Tubing	0	86	70	84	71	100	91	93	80
	2	75	60	73	62	100	83	85	73
	4	64	50	63	53	89	75	77	66
	6	54	41	52	44	80	67	69	59
	8	43	32	42	35	70	59	60	52
	10	32	22	31	27	61	51	52	45
	12	21	13	21	18	51	43	44	38
	14	-	-	-	-	41	35	36	31
	16	-	-	-	-	32	27	27	24
	18	-	-	-	-	22	-	-	-
1/2" O.D. Copper Tubing	0	100	100	100	100	100	100	100	100
	2	100	100	100	100	100	100	100	100
	4	100	100	100	100	100	100	100	100
	6	100	100	100	100	100	100	100	100
	8	100	100	100	100	100	100	100	100
	10	100	90	100	100	100	100	100	100
	12	85	60	83	70	100	100	100	100
	14	42	30	41	35	100	100	100	100
	16	-	-	-	-	100	100	100	100
	18	-	-	-	-	88	74	76	65

Pump ID System:

Example: **B 2 Y A - 8916**

- **B** - pump type (1-stage or 2-stage)
  - A - single stage
  - B - two-stage
- **2** - shaft speed
  - 1 - 1725 rpm
  - 2 - 3450 rpm
- **Y** - UL strainer flow rating, #2 fuel
  - V - 3 gph
  - Y - 7 gph
  - T - 23 gph
  - G - 34 gph
  - R - 30x30 mesh waste oil
- **A** - rotation/nozzle location *
  - A - RH/RH
  - B - RH/LH
  - C - LH/LH
  - D - LH/RH
- **8916** - series number

* **NOTE:** rotation (RH = CW) & nozzle location determined by looking at the shaft when unit is oriented with shaft horizontal and decal readable (regulator valve on top).

OPERATING INFORMATION:

Max. Firing Rate: Use the decal nozzle rating, which may be less than the UL strainer rating!

Vacuum Check: A vacuum gage may be installed in either 1/4" NPT INLET PORT. Model A units should be used where the running vacuum does not exceed 6" Hg single pipe or 12" Hg two-pipe. Model B units should be used where the running vacuum does not exceed 17" Hg.

Pressure Check: Use the 1/8" NPT GAGE PORT or 1/8" NPT NOZZLE PORT. DO NOT USE THE EASY FLOW BLEEDER VALVE PORT, as the reading will be too high for nearly all models of this series, resulting in a WRONG operating pressure!

Cutoff Pressure: Units having cutoff can be checked by installing a pressure gage directly into the NOZZLE PORT. Run the unit briefly, shut it off and watch for the pressure to drop and then hold above zero.

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