SUNTEC™ SOLENOID PUMP

A2VA-3006-B

A2VA-3006B - US - Ed. 4 - January 2020

The **A2VA-3006-B** model has a unique circuit that contains two separate cut-on and cut-off mechanisms :
- The cone valve – diaphragm valve circuit gives a high speed cut-on regardless of type of control used.
- The solenoid bypassing circuit can be used to achieve cut-on and cut-off at full operation speed. It provides cut-off at full operating speed regardless of which type of control is used.

The pump circuit contains a positive displacement involute gear set and four controlling valves. This model is specially engineered for B20 use (Viton O-rings and lip seal, special materials for piston and diaphragm valve).

APPLICATIONS

- Fuel oil #2 and lighter, B6-B20 (blends from 6% up to 20% biodiesel, per ASTM D396) or fuel oil #4.
- One pipe system (two-pipe system possible).

PUMP OPERATING PRINCIPLE

The fuel from the gear set flows across the cone valve causing a pressure differential sufficient to overcome the spring force of the diaphragm valve. This causes the diaphragm valve to close and the fuel is then routed to the piston chamber.
If the solenoid dumping valve is closed, when the level of this flow causes the piston chamber pressure to rise above that of the opposing spring force, the piston opens and flow passes through the nozzle. The piston spring is adjusted such that a given nozzle pressure can be maintained while any resulting excess fuel is metered back to the inlet on single pipe, and the tank on two pipe installation.
If the solenoid bypassing valve is open (not energized) when the diaphragm circuit closes, the pressure in the piston chamber remains below the level to open the piston until the solenoid valve is energized (closed).
When power is removed from the solenoid, the valve opens, closing the piston at full operating speed, shutting fuel off the nozzle.

Installation :

This unit is supplied for 1-pipe operation, without by-pass plug installed. Please verify before installation.

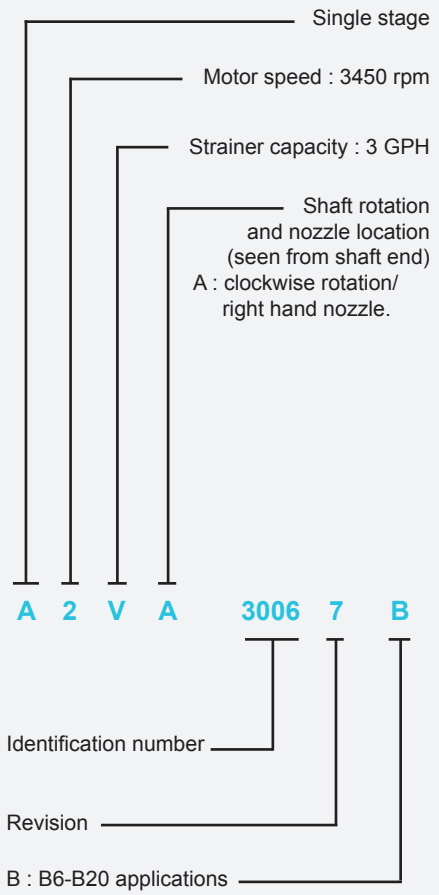
For one pipe installation, the by-pass plug must not be installed. The fuel which is not required at the nozzle is then returned back to the inlet.
For two pipe installation, the steel plug of the return port must be removed and the by-pass plug must be inserted in the return port allowing any fuel not required at the nozzle to be bypassed back to the tank. The return plug must not be reinstalled.

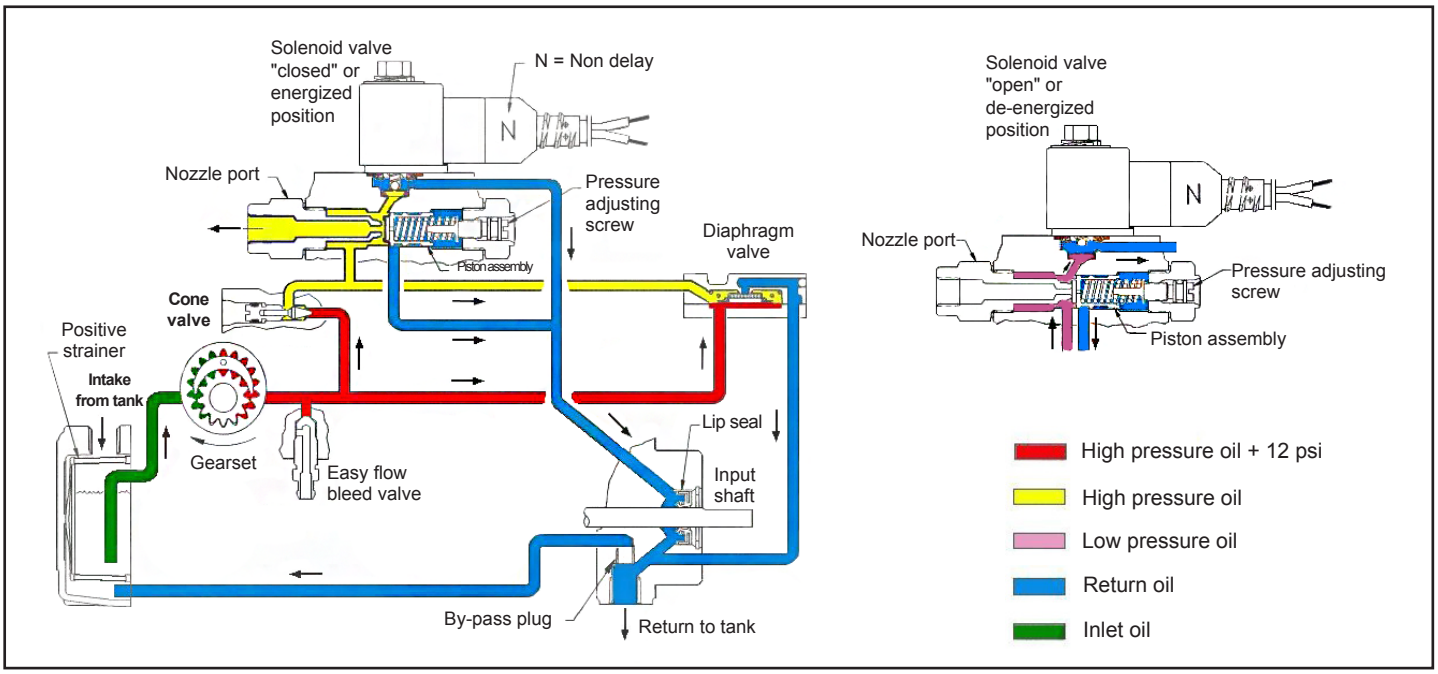
Bleed :

In one pipe operation, the easy flow bleeder valve must be loosened to bleed the system.

Bleeding in two pipe operation is automatic, but it may be accelerated by loosening the easy flow bleeder.

PUMP IDENTIFICATION





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TECHNICAL DATA

General

Mounting	Flange mounting
Connection threads Inlet Nozzle outlet Pressure gauge port Bleeder valve port	 1/4 NPTF 1/8 NPTF 1/8 NPTF 1/8 NPTF
Valve function	Pressure regulation and cut-off (cut-off only assured for specified pressure range
Cut-off	Diaphragm and solenoid
Strainer	3 GPH
Shaft	5/16 in
By-pass plug	Not inserted in return port, for one pipe system.To be inserted in return port with a 5/32 Allen key for two-pipe system.

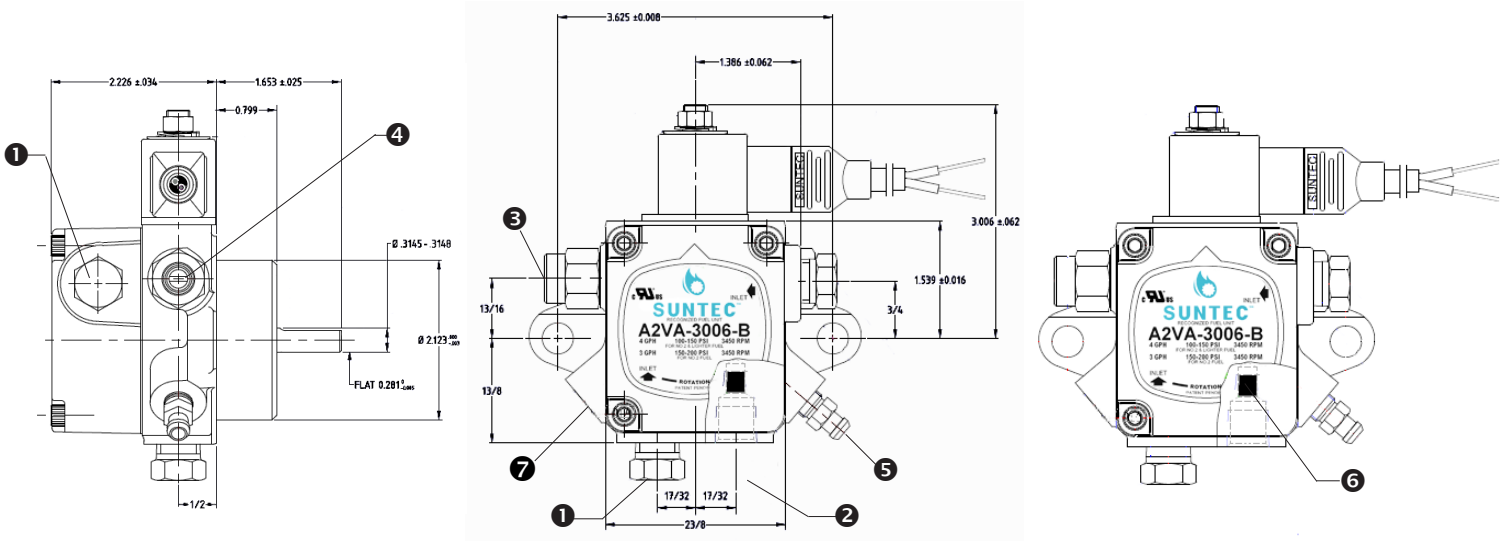
Hydraulic data

Nozzle pressure range	100 - 200 psi
Delivery pressure setting	100 psi
Rated nozzle flow	4 GPH @100 psi, 3450 rpm (#1, #2 and B6-B20 fuel) 3 GPH @200 psi, 3450 rpm (#2 and B6-B20 fuel)
Oil temperature	50 - 115 F
Inlet and return pressures *NFPA limits pressures to 3 psi max*	10 psi max.
Suction height	Single pipe : 6" Hg max. vacuum, Two-pipe : 12" Hg max. vacuum, to prevent air separation from oil
Power consumption	70 W @100 psi 90 W @150 psi
Rated speed	3450 rpm max.
Recommended motor frequency	60 Hz

Solenoid valve characteristics

Solenoid valve voltage	110-120 V ; 50/60 Hz
Consumption	9 W
Ambient temperature	50 - 115 F
Maximum pressure	200 psi

PUMP DIMENSIONS



❶ Inlet ❷ Return ❸ Nozzle outlet ❹ Pressure adjustment ❺ Bleeder valve ❻ Internal by-pass plug ❼ Cone valve