

The pump circuit contains two positive displacement involute gear sets and two separate cut-on and cut-off mechanisms. The first stage gear set sucks the fuel from the line, and the second stage gear set pressurizes the fuel.

## APPLICATIONS

- Fuel oil #2 and lighter, not compatible for use with blends higher than 5% biodiesel.
- One pipe system (two-pipe system possible).

## PUMP OPERATING PRINCIPLE

The fuel from the second stage 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 :

For one pipe installation, the by-pass plug is removed from the return port and the return port is plugged. The fuel which is not required at the nozzle is then returned back to the inlet.

For two pipe installation, the by-pass plug must be fitted 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

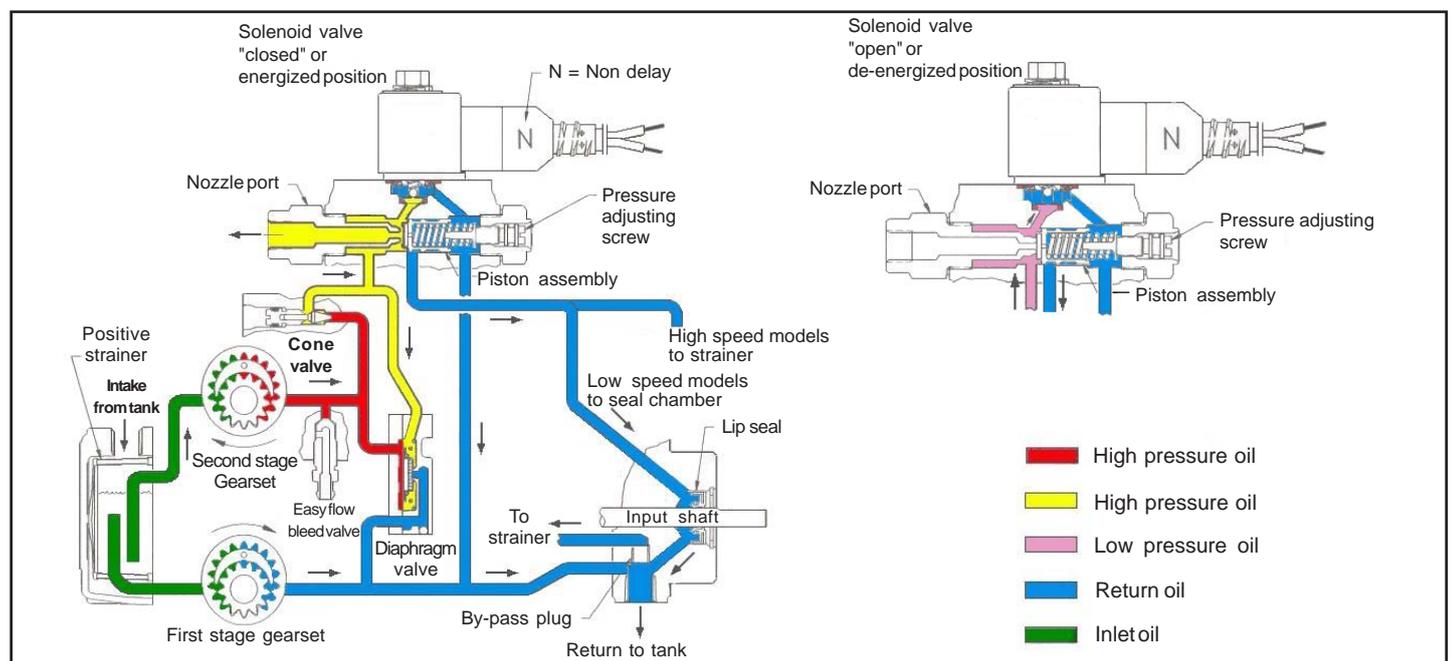
*(Not all model combinations are available  
Consult your Suntec representative)*

- Two stages
- Motor speed : 3450 rpm
- Strainer capacity : 7 GPH
- Shaft rotation and nozzle location (seen from shaft end)
  - A : clockwise rotation / right hand nozzle.
  - B : clockwise rotation / left hand nozzle.
  - C : anti clockwise rotation / left hand nozzle.
  - D : anti clockwise rotation / right hand nozzle.

**B 2 V A 4006 8**

Identification number

Revision



## TECHNICAL DATA

### General

Mounting	Flange mounting
Connection threads	
Inlet and return	1/4NPTF
Nozzle outlet	1/8NPTF
Pressure gauge port	1/8NPTF
Bleeder valve port	1/8NPTF
Valve function	Pressure regulation and cut-off
Cut-off	Diaphragm and solenoid
Strainer	7GPH
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.

### Solenoid valve characteristics

When coil as B2VA-4006-N621L

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

Certified

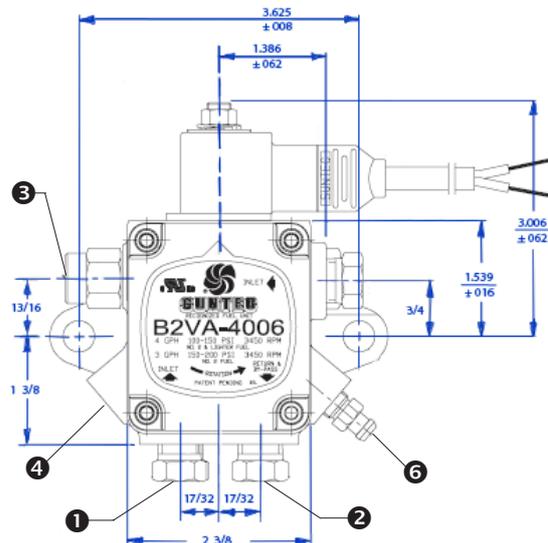
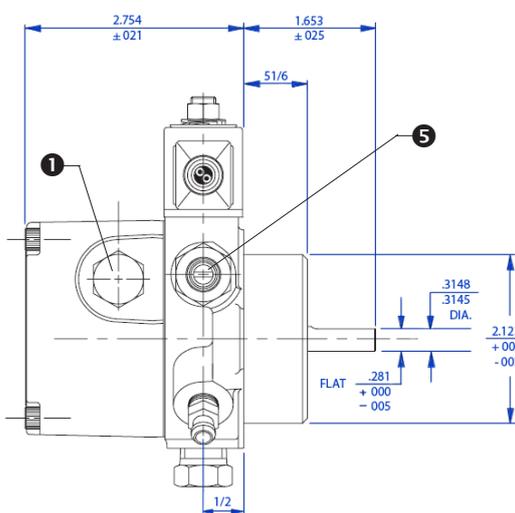


### Hydraulic data

Nozzle pressure range	100 - 150 psi (#2 fuel and lighter) 150 - 200 psi (#2 fuel)
Delivery pressure setting	100 psi
Rate nozzle flow	4 GPH @ 100 - 150 psi (#2 fuel oil and lighter fuel) 3 GPH @ 150 - 200 psi (#2 fuel oil)
Oil temperature	50 - 115 F
Inlet pressure	10 psi max.
Return pressure	10 psi max.
Suction height	Single pipe : 6" Hg max. vacuum, two-pipe : 17" Hg max. vacuum, to prevent air separation from oil
Power consumption	100 W @ 100 psi 140 W @ 200 psi
Rated speed	3450 rpm max.

## PUMP DIMENSIONS

Example shows "A" rotation and nozzle outlet - Dimensions in inch.



- ① Inlet
- ② Return and internal by-pass plug
- ③ Nozzle outlet
- ④ Cone valve
- ⑤ Pressure adjustment
- ⑥ Bleeder valve