

This SUNTEC **OT2** oil pump features 2 mode pressure operation and incorporates a blocking solenoid valve with in-line cut-off function. Switching between low and high modes is assured by a 2nd integral solenoid valve.

APPLICATIONS

- Fuel oil #2 and lighter, special "B" models for B6-B20, for Kerosene use, please contact SUNTEC.
- Two firing rates (with a sole nozzle line).
- One or two-pipe system.

PUMP OPERATING PRINCIPLE

The gear set draws oil from the tank through the built-in filter and transfers it to the nozzle line via the cut-off solenoid valve. Pressure regulation is assured by two spool valves, one for each pressure mode.

Switching between low and high pressure is assured by a "normally open" by-pass solenoid valve. When this solenoid is non-activated, a by-pass channel is open, allowing the normal functioning of the low pressure regulating valve which sets the nozzle pressure. When this solenoid is activated, the by-pass channel is closed, thus pressure will build up on both sides of the low pressure regulating valve eliminating its effect, and the high pressure regulating valve now determines the nozzle pressure.

The blocking solenoid valve of the nozzle line is of the "normally closed" type. This design ensures extremely fast response and the switching can be selected according to the burner operating sequence and is independent of motor speed.

When this solenoid valve is non-activated, the valve is closed and all oil pressurised by the gear set passes through the regulators to suction or to the return line, depending upon pipe arrangement.

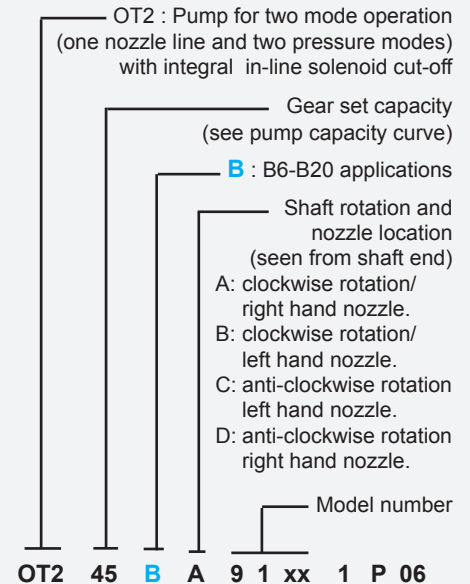
As soon as this solenoid is activated, oil passes to the nozzle line at the pressure set by the pressure regulating valves.

In two pipe operation, the by-pass plug must be fitted in the return port, which ensures that the oil dumped by the regulating valves is returned to the tank and the suction line flow is equal to the gear set capacity. Bleeding in two pipe operation is automatic (it is assured by a bleed flat on the piston of the low pressure regulator), but it may be accelerated by loosening the bleeder valve (or opening a pressure port) until the air is evacuated from the system.

In one pipe operation, the by-pass plug must be removed, and the return plugged. Oil which is not required at the nozzle is returned directly to the gear inlet via the pressure regulating valves, and the suction line flow is equal to the nozzle flow. The bleeder valve must be loosened (or a pressure port must be opened) to bleed the system.

PUMP IDENTIFICATION

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



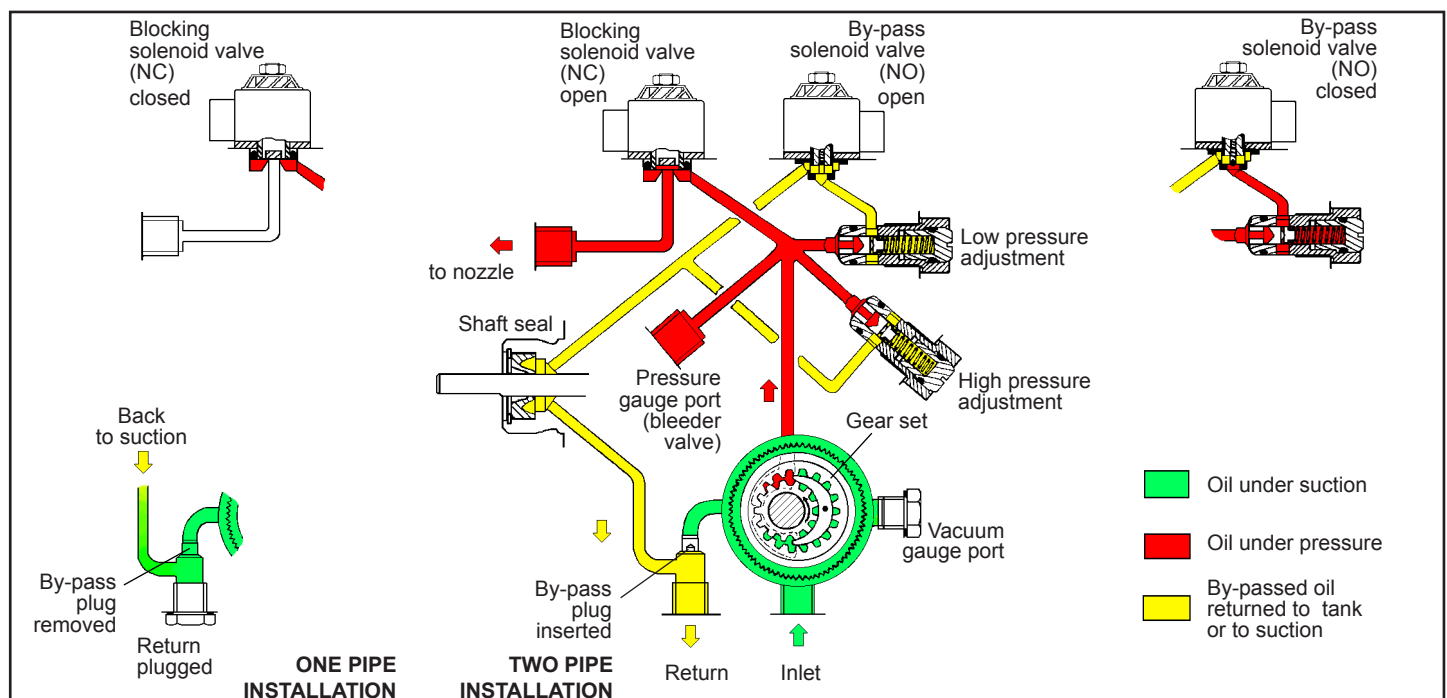
Revision number

Installation

P : by-pass plug inserted in return port for two-pipe operation
M : without by-pass plug, return plugged, for one-pipe operation

Solenoid valve voltage

02 : 24 V ; 50/60 Hz
06 : 110-120 V ; 50/60 Hz
05 : 220-240 V ; 50/60 Hz



TECHNICAL DATA

General

Certification	UR, cUR recognized	
Mounting	Flange mounting	
Connection threads	1/4 NPTF	
Inlet and return	1/8 NPTF	
Nozzle outlet	1/8 NPTF	
Pressure gauge port	1/8 NPTF	
Valve function	Pressure regulation	
Strainer	Open area :	0,93 in ²
	Opening size :	5.90 mil
Shaft	5/16 " dia.	
By-pass plug	Inserted in return port for 2 pipe system; to be removed with a 3/16" Allen key for 1 pipe system.	
Weight	3.44 IBs	

Hydraulic data

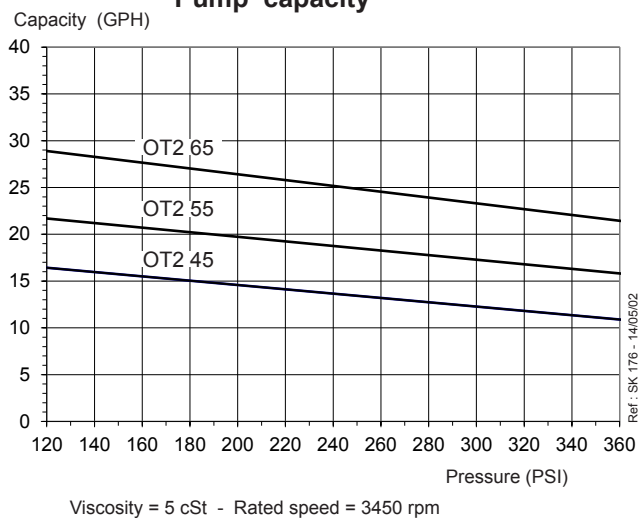
Nozzle pressure range @ 5 cSt	Low mode : 120 - 210 psi High mode : 175 - 360 psi
Factory setting* @ 5 cSt	Low mode : 130 psi High mode : 300 psi
<i>* other ranges (and factory settings) available on request, refer to the specified range of the particular fuel unit.</i>	
Operating viscosity	2 - 12 cSt (for Kerosene use, please contact SUNTEC)
Oil temperature	32 - 140°F in the pump
Suction height	Single pipe : 6" Hg max. vacuum, Two-pipe : 12" Hg max. vacuum, to prevent air separation from oil
Inlet and return pressures	10 psi max. <i>NFPA limits inlet pressure to 3 psi max</i>
Rated speed	3600 rpm max.
Torque (@ 45 rpm)	0.88 lb.in (OT2 45/55) 1.06 lb.in (OT2 65)

Solenoid valve characteristics

Voltage	220-240V or 110 - 120 V or 24V ; 50/60 Hz
Consumption	9 W
Ambient temperature	32 - 140°F
Maximum pressure	300 psi

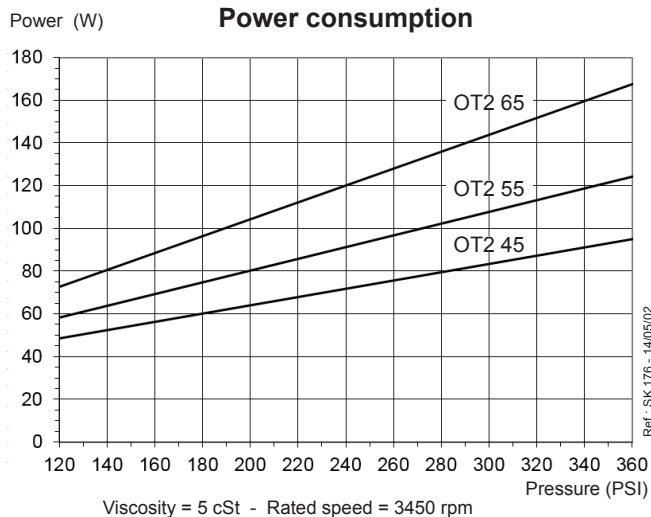
Although pressure adjustment may permit to develop pressure beyond maximum pressure of solenoid valve, pressure should not be adjusted above this value

Pump capacity



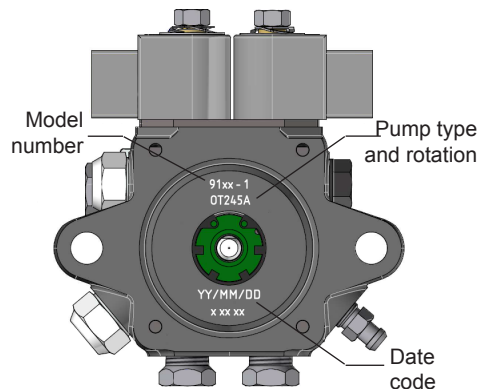
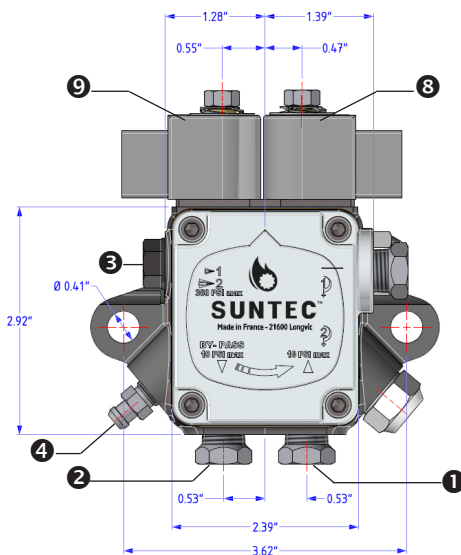
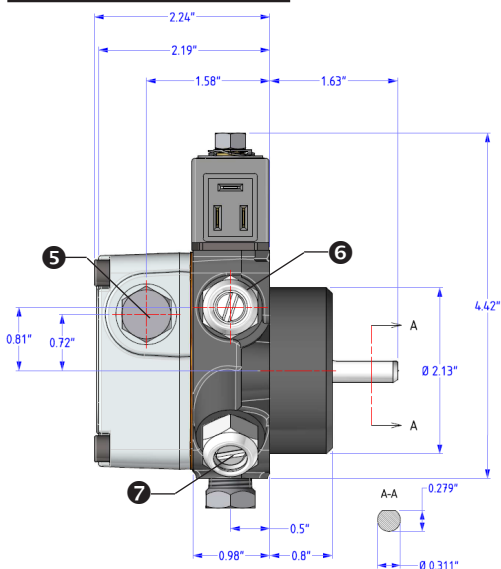
Data shown take into account a wear margin.
Do not oversize the pump when selecting the gear capacity to ensure the optimum operation of the (NO) solenoid valve (switching low/high mode).

Power consumption



PUMP DIMENSIONS

Example shows "A" rotation and nozzle outlet



- 1 Suction
- 2 Return and internal by-pass plug
- 3 Nozzle outlet
- 4 Bleeder valve (Pressure gauge port)
- 5 Vacuum gauge port
- 6 Low pressure adjustment
- 7 High pressure adjustment
- 8 Solenoid valve for switching low/high modes
- 9 Blocking solenoid valve