OIL PUMP TYPE J

J

J - US - Ed 4 - November 2023

This is a general specification leaflet; for specific applications not covered herein, contact Suntec.

The SUNTEC $\bf J$ oil pump is for medium capacity oil burners from 400 to 3000kW. It incorporates a pressure regulating valve and is avalaible with or without cut-off function.

COMPATIBILITY

- Fuel oil #4 and lighter, B6-B20 (blends from 6% up to 20% biodiesel, per ASTM D396)
- One or two-pipe system.
- Normally associated with in-line solenoid valve.

PUMP OPERATING PRINCIPLE

The gear set draws oil from the tank through the built-in filter and transfers it to the valve that regulates the oil pressure to the nozzle line. All oil that does not go through the nozzle line will be dumped through the valve back to the return line in two pipe installation or, if it is a one-pipe installation, back to the suction port in the gear-set. In that case, the by-pass plug must be removed from the return port and the return port sealed by steel plug and washer.

Models 1000 & 1001, the valve also has a cut-off function as follows:

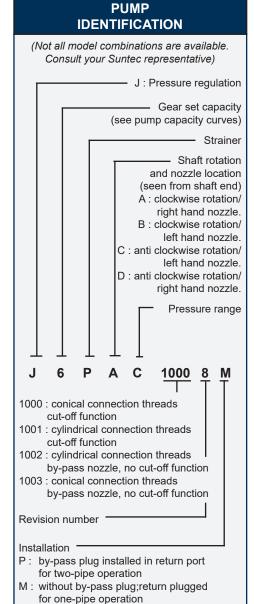
- During starting period when the gear-set speed is increasing, all the oil
 passes through a special flat on the piston, back to the return. Once the
 speed reaches a certain value and the flow can no longer pass through
 this flat, then the pressure increases rapidly overcoming the valve spring
 force and opens the valve.
- During the stop sequence, the gear-set speed slows down and the valve closes when the gear-set capacity is lower than the flat flow.

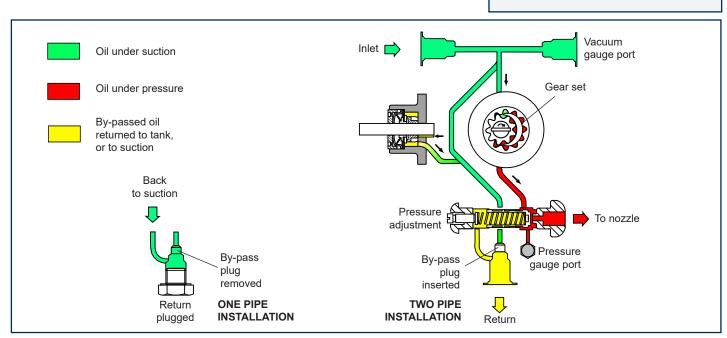
The cut-on and cut-off speeds depend on the gear-set size and set pressure. Models 1002 & 1003 have no cut-off function. Cut-off must be provided by an external solenoid valve.

Bleed:

Bleeding in two pipe operation is automatic, but it may be accelerated by loosening the plug in a pressure gauge port.

In one pipe operation, a pressure port must be opened to bleed the system.



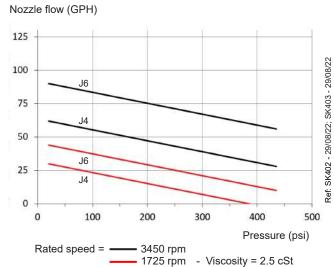


TECHNICAL DATA

General

Mounting	Flange mounting according to EN 225.		
	Models 1000/1003	Models 1001/1002	
Connection threads	Conical	Cylindrical (according to ISO 228/1)	
Inlet and return	1/4 NPTF	G 1/2	
Nozzle outlet	1/8 NPTF	G 1/4	
Pressure gauge port	1/8 NPSF	G 1/8	
Vacuum gauge port	1/4 NPTF	G 1/2	
Valve function	Pressure regulating and cut-off (except for 1002 and 1003 models).		
Strainer	Open area	Opening size	
P:	97cm ²	170µm	
N :	45cm ²	550µm	
Shaft	7/16" (Ø 0.4365" - flat 0.396").		
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	8.8 IBs		
Certified		except pressure range K UR	

Pump capacity



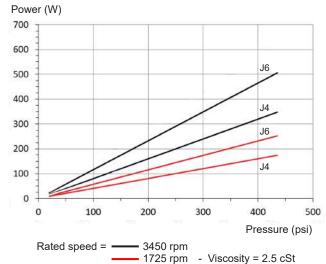
Data shown take into account a wear margin.

Do not oversize the pump when selecting the gear capacity

Hydraulic data

Pressure range		Delivery pressure setting	
	A: 20 - 40 psi	40 psi	
	B : 100 - 200 psi	100 psi	
	C : 150 - 300 psi	175 psi	
	D : 40 - 80 psi	80 psi	
	F : 10 - 20 psi	10 psi	
	K : 200 - 435 psi	290 psi (for J1000 and J1001)	
	150 - 435 psi	175 psi (for J1002 and J1003)	
	K pressure range is only	UR	
Operating viscosity	2 - 75 mm²/s (cSt) for J4/J6		
Oil temperature	32 - 194°F in the pump.		
Inlet pressure	10 psi max (NFPA limits pressures to 3 psi max).		
Return pressure	10 psi max (NFPA limits pressures to 3 psi max).		
Suction height	6,5 psi max. vacuum to prevent air separation from oil.		
Rated speed	3600 rpm max.		
Torque (@ 45 rpm)	0,30 N.m		

Power consumption



PUMP DIMENSIONS

Example shows "C" rotation and nozzle outlet.

