



SUNTEC™ OIL PUMP TYPE E 1070 GEAR SIZES 4-6-7

E 1070

E 1070 - US - Ed.3 - November 2018

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

The SUNTEC **E 1070** oil pump is specially designed for heavy oil applications: it is fitted with a special type shaft seal resisting high temperature and with a preheater location to render cold starting easier.

APPLICATIONS

- Fuel oil #3 to #6, B6-B20 (blends from 6% up to 20% biodiesel, per ASTM D396).
- One or two-pipe system.
- Pump associated with in-line solenoid valve to assure cut-off function.

PREHEATING FACILITY

The body of the E 1070 unit includes a drilling to accept an electric preheater. This cavity has been designed to give maximum heat transfer from the heater to the oil in the pump without there being direct contact between the heater cartridge and the oil. The heating cartridge can be fitted either by right-hand side or by left-hand side.

The preheater should be connected for a period of time prior to starting the pump. When the right temperature is reached, it can be switched off or left permanently switched on to maintain fluid oil in the pump during the periodic burner shut-downs. The oil supply, pipes and filters must be separately heated.

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 by-passed 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.

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.

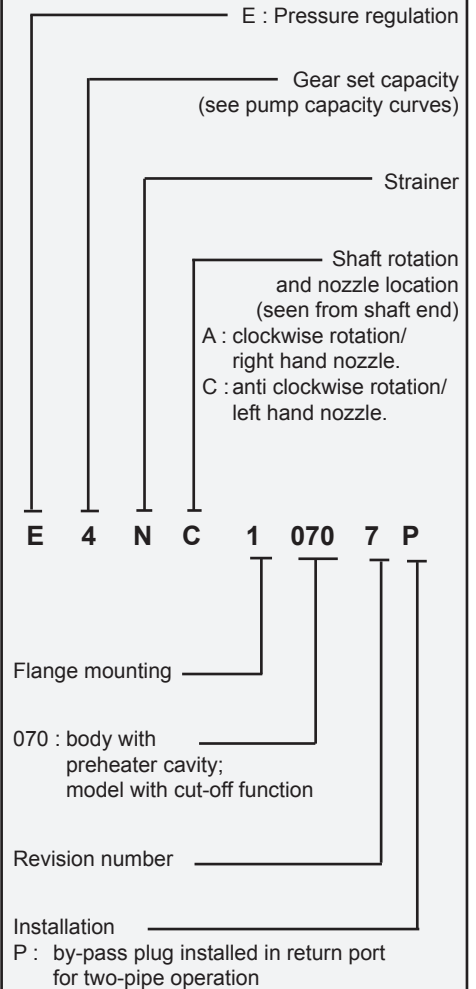
Bleed :

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.

PUMP IDENTIFICATION

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

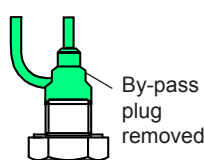


Oil under suction

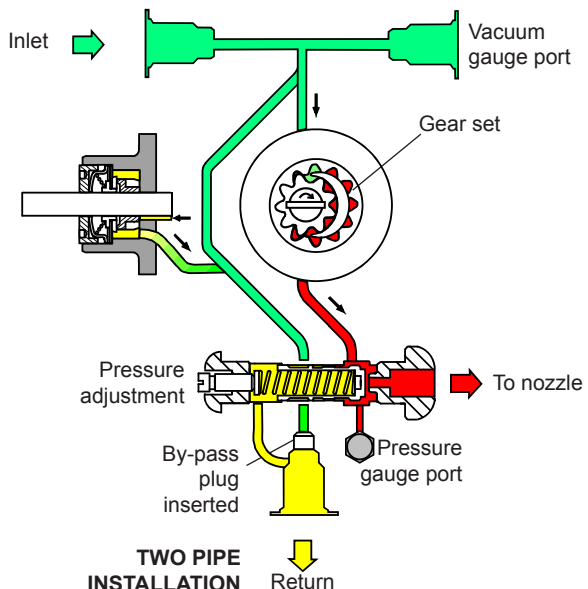
Oil under pressure

By-passed oil returned to tank, or to suction

Back to suction



Return plugged **ONE PIPE INSTALLATION**



TWO PIPE INSTALLATION

TECHNICAL DATA

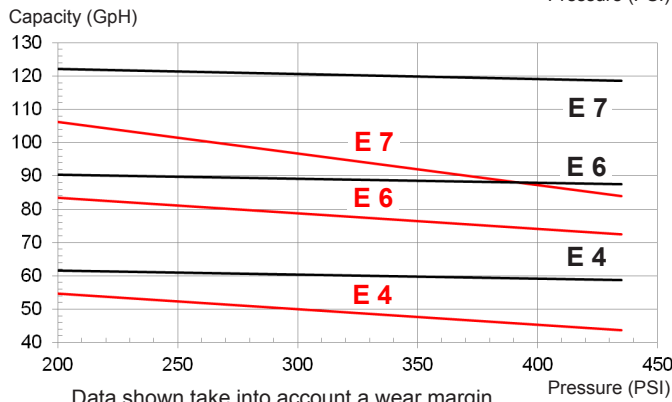
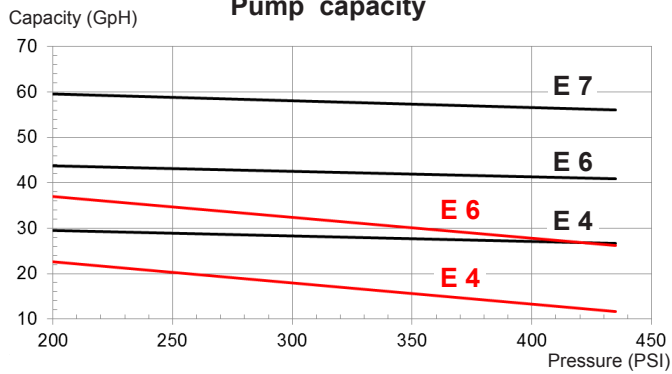
General

Mounting	Flange mounting according to EN 225
Connection threads Inlet and return Nozzle outlet Pressure gauge port Vacuum gauge port	Cylindrical according to ISO 228/1 G 1/2 G 1/4 G 1/8 G 1/2
Valve function	Pressure regulating and cut-off
Strainer	Open area : 45 cm ² Opening size : 550 μm
Shaft	Ø 11mm according to EN 225.
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

Hydraulic data

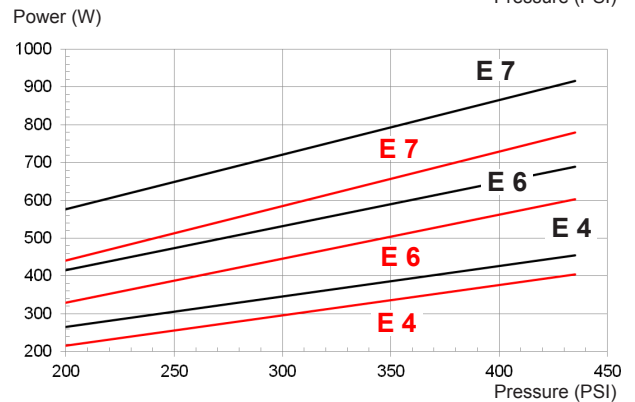
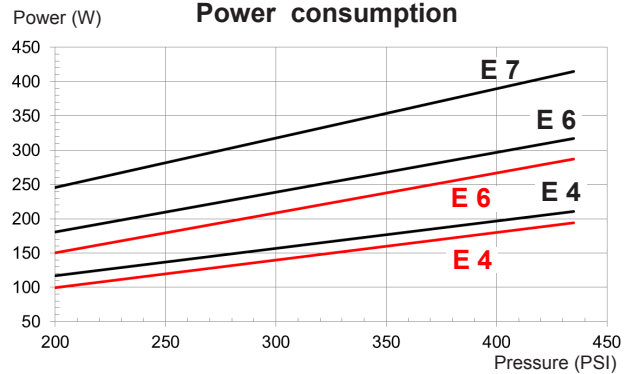
Nozzle pressure range	200 - 435 psi	
Delivery pressure setting	290 bars	
Operating viscosity	3 - 75 mm ² /s (cSt) <i>(Higher viscosity oil can be used by feeding the pump or by heating the oil to lower its viscosity under 75 cSt)</i>	
Oil temperature	32 - 266°F in the pump	
Inlet pressure	light oil :	6,5 psi max. vacuum to prevent air separation from oil.
	heavy oil :	50 psi max.
Return pressure	light oil :	50 psi max.
	heavy oil :	50 psi max.
Rated speed	3600 rpm max.	
Torque (@ 45 rpm)	0.30 N.m	
Choice of heater		
Cartridge	Ø 12 mm	
Fitting	according to EN 50262	
Rating	50 - 80 W	

Pump capacity



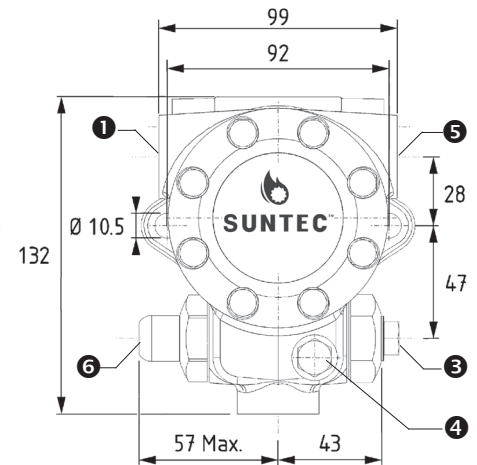
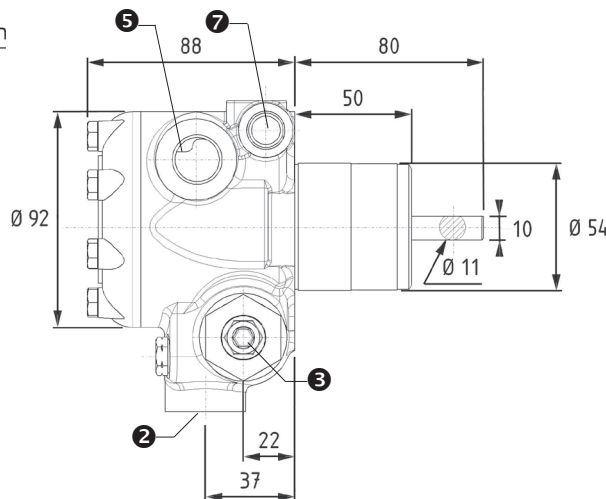
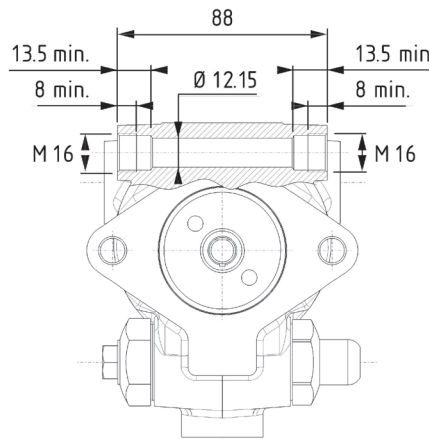
Data shown take into account a wear margin.
Do not oversize the pump when selecting the gear capacity.

Power consumption



PUMP DIMENSIONS

Example shows "C" rotation and nozzle outlet - Dimensions in mm.



- 1 Suction or vacuum gauge port
- 2 Return and internal by-pass plug
- 3 Nozzle outlet
- 4 Pressure gauge port
- 5 Vacuum gauge port or suction
- 6 Pressure adjustment
- 7 Preheater cavity

We reserve the right to change specifications without prior notice.