OIL PUMP TYPE AP
GEAR SIZES 47-57-67

AP

AP - 11 - Ed 6 - June 2001

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

The SUNTEC **AP** oil pump has a built-in solenoid which provides a two-mode pressure operation.

APPLICATIONS

- Light oil.
- 2 firing rates (with a sole nozzle line).
- Two-pipe or one-pipe system.
- Requires a separate cut-off valve.

PUMP OPERATING PRINCIPLE

The gear-set draws oil from the tank through the built-in filter and transfers it to the pressure regulating valve.

The high pressure mode is obtained with the solenoid valve activated (ie. closed); activating this solenoid valve closes the by-pass channel to the return. Oil is then transferred to the nozzle line at the pressure given by the high pressure regulating valve.

The low pressure mode is obtained with the solenoid valve open (ie. non activated); the by-pass channel is open, the oil is supplied to the nozzle line via the by-pass hole and the low pressure adjustment is made by the screw on the solenoid tube.

It is preferable to set the high pressure given by the pump valve (with solenoid activated) before the low pressure, with solenoid non activated. Care should be taken not to overtighten the low pressure adjusting screw of the solenoid tube, as this may eliminate the low pressure range.

For two pipe installation, the by-pass plug fitted in the return port allows any oil not required at the nozzle to be dumped back to the tank. For one pipe installation, the by-pass plug must be removed and the return port plugged, oil which is not required at the nozzle is then returned back to the suction port in the gear set .

Bleed :

Bleeding is assured by the by-pass hole of the nozzle plug.

For the first start up, bleeding can be accelerated by loosening the plug of a pressure port .

Note :

Owing to the presence of the nozzle by-pass hole, the pump has no cut-off function; cut-off must be provided by an external solenoid valve.

PUMP IDENTIFICATION

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

AP : two step model (one nozzle line and two pressure modes) without cut-off

Gear set capacity (see pump capacity curves)

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.

Pump series
1000 : standard
7000 : with side pressure ports

4 : hub Ø 54 mm
5 : hub Ø 32 mm

model number

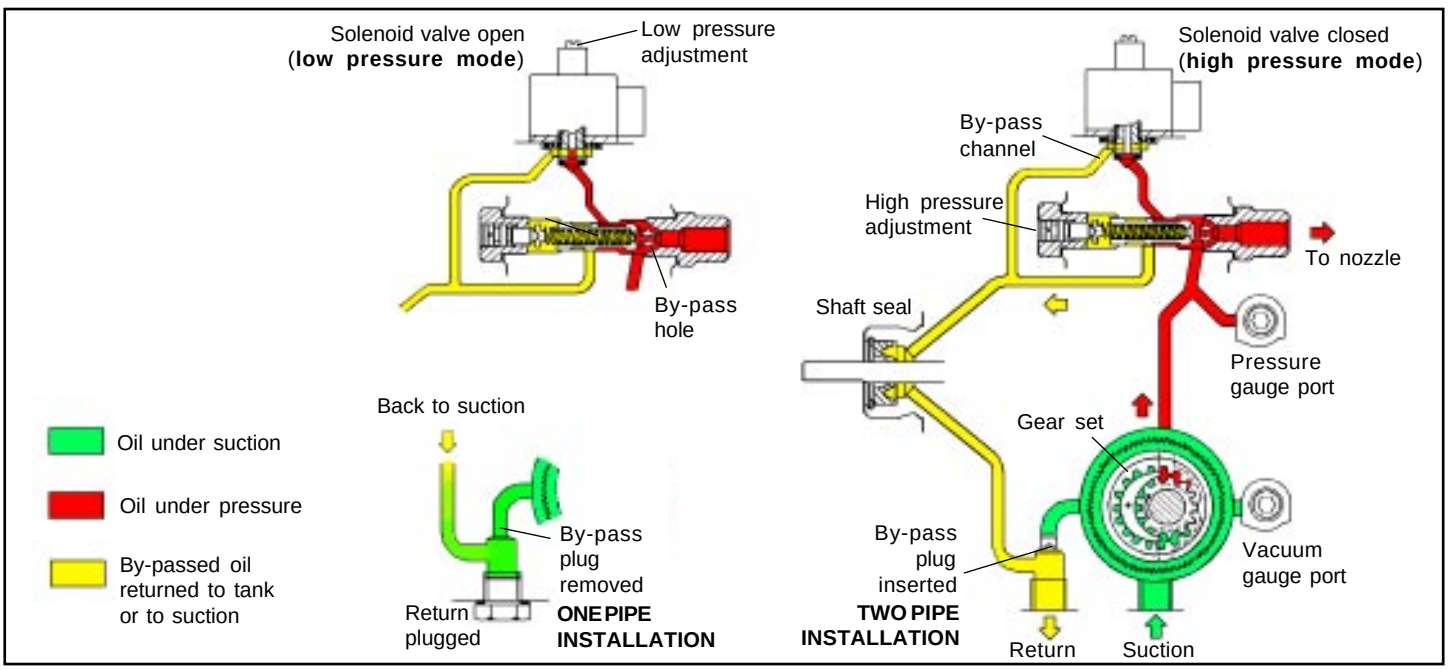
AP	47	C	1	5	xx	1	P	05	00

Revision number

Installation
P : by-pass plug installed in return port for two-pipe operation

Solenoid coil voltage
01 : 110 - 120 V ; 50/60 Hz
02 : 24 V ; 50/60 Hz
05 : 220 - 240 V ; 50/60 Hz

Connector cable length
00 : no cable
35 : 35 cm - 45 : 45 cm
60 : 60 cm - 10 : 1 m



TECHNICAL DATA

General

Mounting	Flange or hub mounting according to EN 225
Connection threads	cylindrical according to ISO 228/1
Inlet and return	G 1/4 (with facilities for conical sealing on revision 5 models)
Nozzle outlet	G 1/8
Pressure gauge port	G 1/8
Vacuum gauge port	G 1/8
Valve function	Pressure regulation
Strainer	open area :14 cm² - opening size : 150 µm
Shaft	Ø 8 mm according to EN 225
By-pass plug	inserted in return port for two-pipe system ; to be removed from return port with a 4 mm Allen key for one pipe system.
Weight	1,1 - 1,5 kg (depending on the model)

Hydraulic Data

Gear size		Nozzle pressure range*	Delivery pressure settings
47/57	Low mode :	3 -15 bars	9 bars
	High mode :	10 - 28 bars	22 bars
67	Low mode :	5 -15 bars	9 bars
	High mode :	10 - 28 bars	22 bars

** Other ranges available on request, refer to the specified range of the particular fuel unit.*

Operating viscosity	2-12 cSt
Oil temperature	0 - 60°C max. in the pump
Inlet pressure	2 bars max.
Return pressure	2 bars max.
Suction height	0,45 bars max. vacuum to prevent air separation from oil
Rated speed	3600 rpm max.
Torque (@ 45 rpm)	0,10 N.m (AP 47/57) - 0,12 N.m (AP 67)

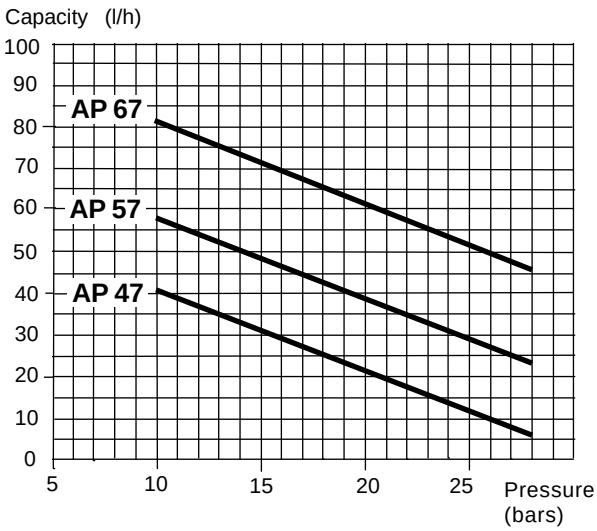
Solenoid valve characteristics

Voltage	220 - 240 or 110 - 120 or 24 V; 50/60 Hz
Consumption	9 V.A (@ voltage = 230 or 110 or 24 V)
Ambient temperature	0 - 60°C
Maximum pressure	28 bars
Protection class	IP 41 according to IEC 529, when used with SUNTEC connector cable

Connector characteristics

Material	Polyamide
Cable type	H03 VV-F
Cross section area	0,5 mm² per conductor
Wire end terminals	in accordance with DIN 46228 D1-7Ms

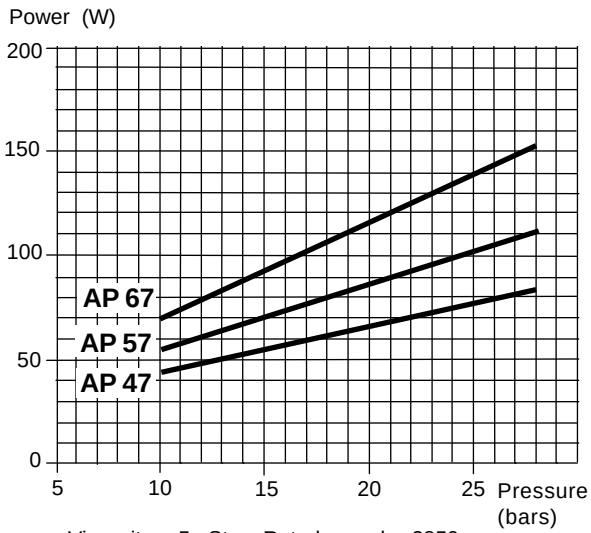
Pump capacity - High mode



Viscosity= 5 cSt - Rated speed = 2850 rpm

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

Power consumption



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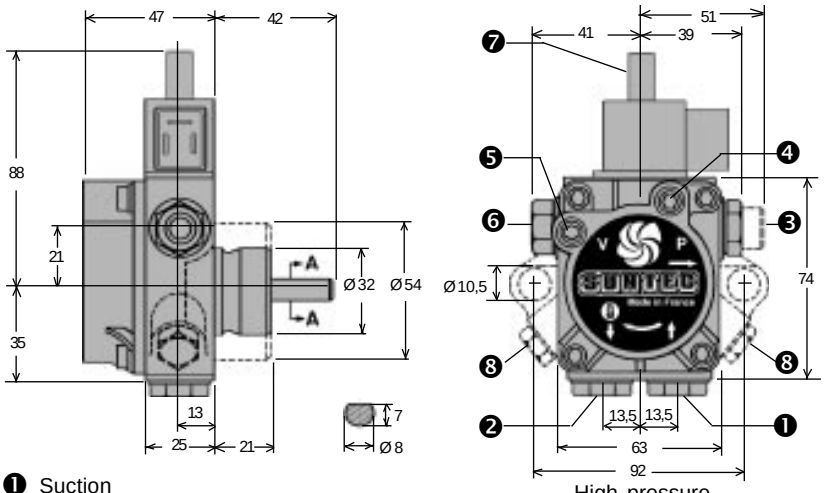
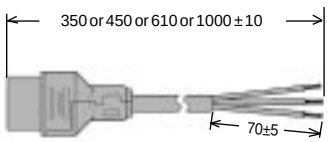
DIMENSIONS

PUMP *(Example shows "C" rotation and nozzle outlet)*



❶ Suction
❷ Return and internal by-pass plug
❸ Nozzle outlet
❹ Pressure gauge port
❺ Vacuum gauge port
❻ High pressure adjustment
❼ Low pressure adjustment
❽ Pressure port (only for "7000" series)

CONNECTOR



Inlet ❶ and Return ❷
with direct sealing for revision 5 models
(sealing with washers can also be used)