PUMP TYPE AN

AN

AN - 11 - Ed 18 - April 2024

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

The SUNTEC **AN** oil pump is the basic model incorporating a pressure regulating valve with cut-off.

COMPATIBILITY

- Domestic oil, HVO, B100 (biofuel blend with the addition up to 100% FAME, as defined in DIN SPEC 51603-6 and EN 14214), kerosene.
- 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 which does not go through the nozzle line will be by-passed through the valve back to the return line, in a 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 could 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)

AN : basic valve with cut-off
V : B100 applications
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.
K : Kerosene applications

AN V 47 C K 1 3 xx 6 P

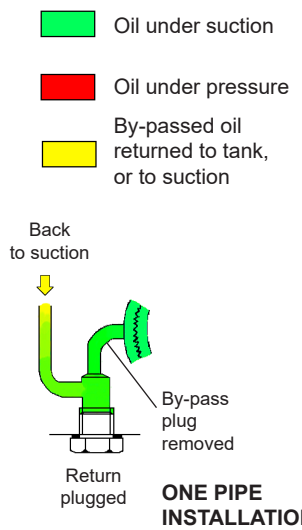
Pump series
1000 : standard
7000 : with side pressure ports

2 : hub Ø 54 mm
3 : hub Ø 32 mm

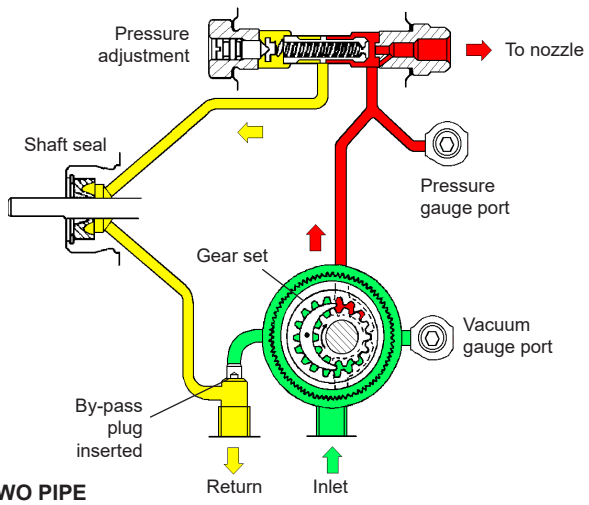
Model number

Revision number

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



ONE PIPE INSTALLATION



TWO PIPE INSTALLATION

TECHNICAL DATA

General

Mounting	Flange or hub according to EN 225
Connection threads	Cylindrical according to ISO 228/1
Inlet and return models)	G 1/4 (with facilities for conical sealing on revision 6
Nozzle outlet	G 1/8
Pressure gauge ports	G 1/8
Vacuum gauge port	G 1/8
Valve function	Pressure regulating and cut-off
Strainer	Open area : 6 cm² (AN 47/47K, 57/57K, 67/67K) 20 cm² (AN 77/77K, 97/97K) 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 with a 4 mm Allen key for one-pipe system
Weight	1 - 1,3 kg (depending on the model)

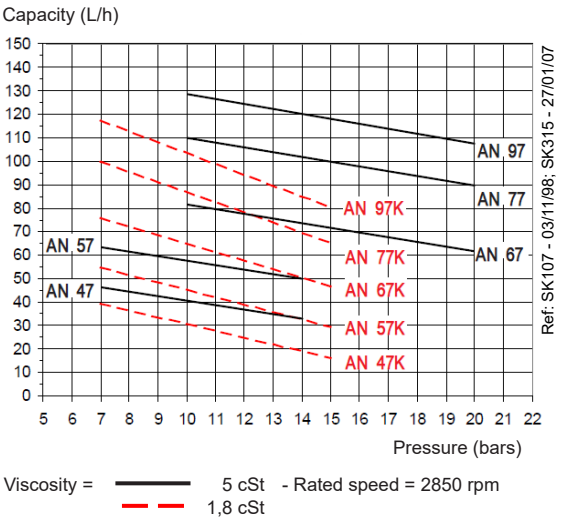
Hydraulic data

Gear size	Nozzle pressure range*	Factory setting
47/57	7 - 14 bars	9 bars
67/77/97	10 - 20 bars	14 bars
47K/57K/67K/77K/97K	7 - 15 bars	9 bars

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

Operating viscosity	2 - 75 mm²/s (cSt) for AN 47/57/67/77/97 1,25 - 75 mm²/s (cSt) for AN 47K/57K/67K/77K/97K
Oil temperature	0 - 60°C 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 (AN 47/47K, AN 57/57K) 0,12 N.m (AN 67/67K) 0,14 N.m (AN 77/77K) 0,20 N.m (AN 97/97K)

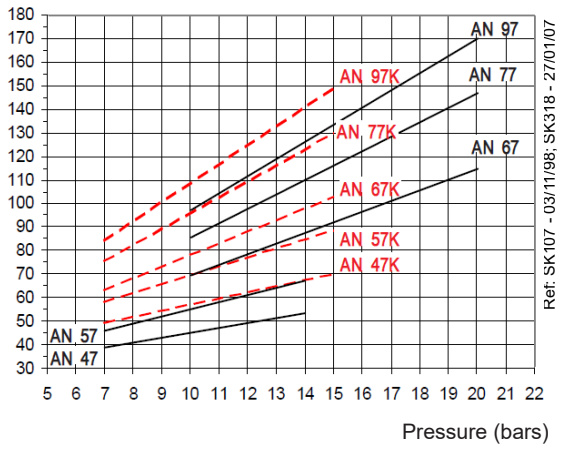
Pump capacity



Viscosity = 5 cSt - Rated speed = 2850 rpm
1,8 cSt

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

Power consumption

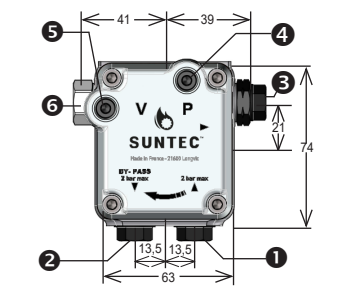


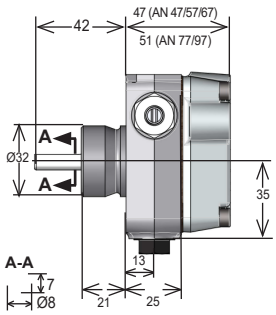
Viscosity = 5 cSt - Rated speed = 2850 rpm
1,8 cSt

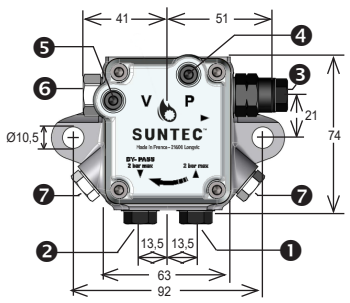
PUMP DIMENSIONS *(in mm)*

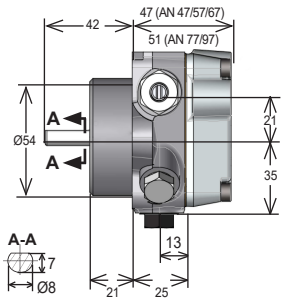
Examples show "C" rotation and nozzle outlet.

Pumps revision 6

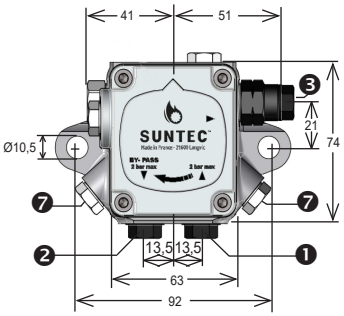


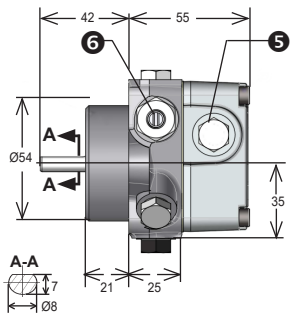


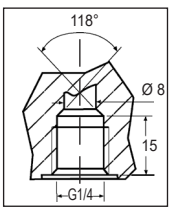




Pumps revision 2







Inlet ❶ and Return ❷ with direct sealing for revision 6 (sealing with washers can also be used)

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