

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

The SUNTEC **AP3** oil pump offers 2 mode pressure operation without cut-off function, plus a special hydraulic outlet on the cover featuring nozzle pressure during high mode and dumping during low mode. Switching between low and high modes is assured by an integral solenoid valve.

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.
- Two firing rates (with a sole nozzle line).
- Hydraulic requirement in high mode only.
- One or two-pipe system.
- System with in-line solenoid valve for cut-off.

PUMP OPERATING PRINCIPLE

The gear set draws oil from the tank through the built-in filter and transfers it to the nozzle line. 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 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 valve eliminating its effect, and the high pressure valve now determines the nozzle pressure.

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 pistons), but it may be accelerated by opening a pressure port.

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.

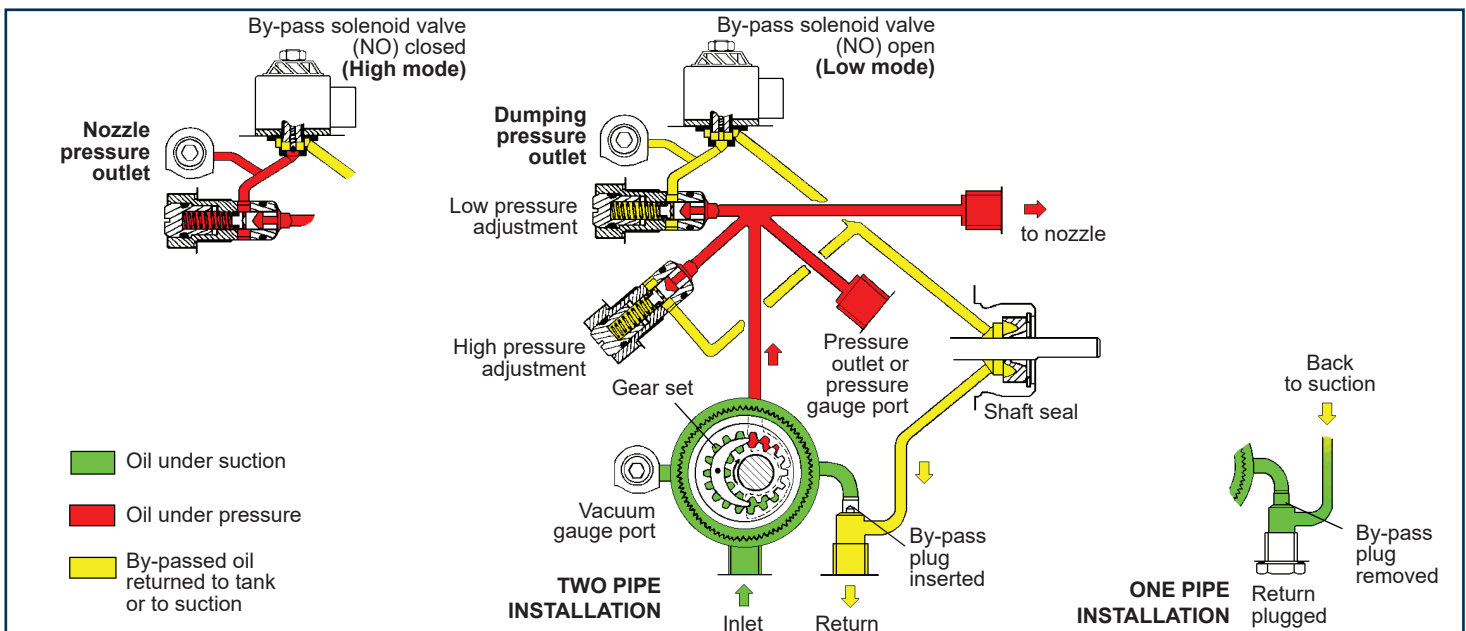
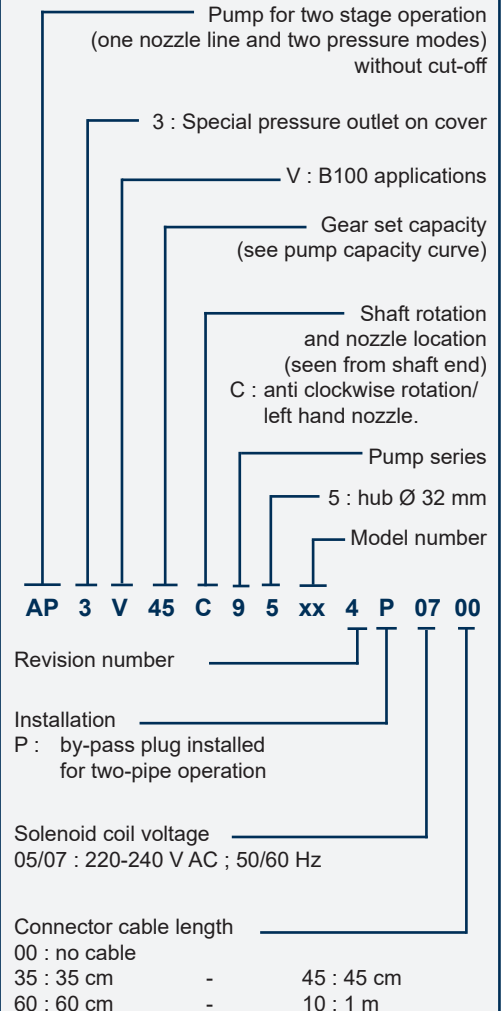
A pressure port must be opened to bleed the system.

SPECIAL FEATURE

Cover pressure port only gives pressure in high mode. In low mode it features dumping pressure.

PUMP IDENTIFICATION

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



TECHNICAL DATA

General

Mounting	Hub mounting according to EN 225
Connection threads	cylindrical according to ISO 228/1
Inlet and return	G 1/4
Nozzle outlet	G 1/8
Pressure outlet	G 1/8
Pressure gauge port	G 1/8
Vacuum gauge port	G 1/8
Valve function	Pressure regulation, no cut-off
Strainer	open area : 6 cm ² 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	1,3 kg

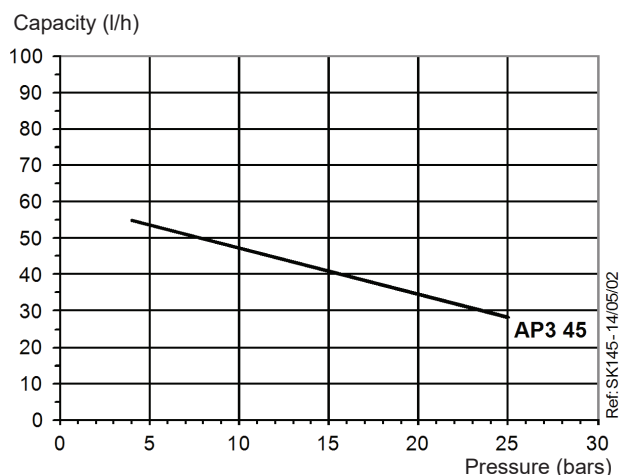
Hydraulic Data

	Nozzle pressure range	Delivery pressure settings
Low mode :	4 - 15 bars	9 bars
High mode :	12 - 25 bars	22 bars
Operating viscosity	2 - 12 mm ² /s (cSt)	
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	

Solenoid valve characteristics

Voltage	220-240 V; 50/60 Hz
Consumption	9 W
Coil Code*	Ambient temperature
05	0 - 60 °C
07	0 - 80 °C
*Refer to "Pump identification - solenoid coil voltage".	
Maximum pressure	25 bars
Protection class	IP 54 according to EN 60 529, when used with SUNTEC connector cable

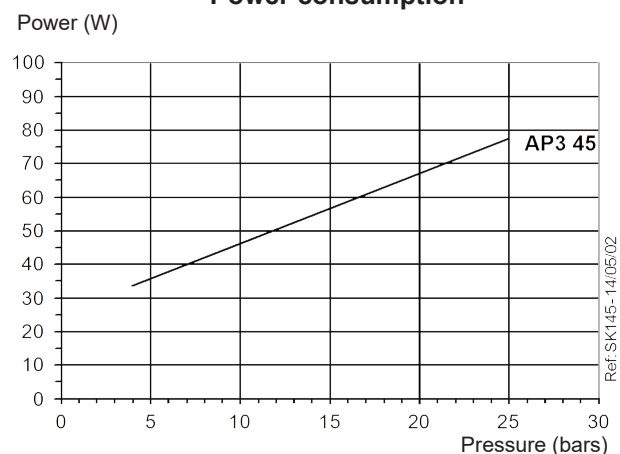
Pump capacity



Viscosity = 5 cSt - Rated speed = 2850 rpm

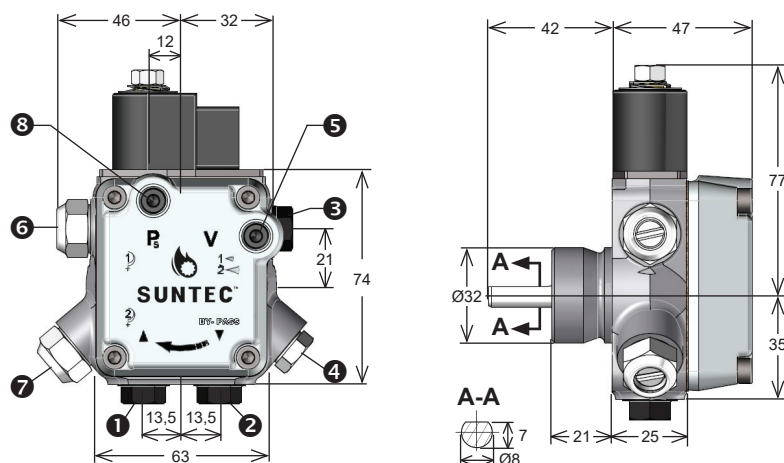
Data shown take into account a wear margin.
Do not oversize the pump when selecting the gear capacity to ensure the optimum operation of the (NO) solenoid valve (switching low/high mode).

Power consumption



Viscosity = 5 cSt - Rated speed = 2850 rpm

PUMP DIMENSIONS (in mm)



- ① Suction
- ② Return and internal by-pass plug
- ③ Nozzle outlet
- ④ Pressure outlet or pressure gauge port
- ⑤ Vacuum gauge port
- ⑥ Low pressure adjustment
- ⑦ High pressure adjustment
- ⑧ Special pressure port
- high mode : *nozzle pressure*
- low mode : *dumping pressure*