



OIL PUMP TYPE AJ GEAR SIZES 4-6

AJ

AJ - 11 - Ed 8 - Jan. 2005

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

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

APPLICATIONS

- Light oil.
- 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 vacuum gauge 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 bleed slot in the piston, back to the return. Once the speed reaches a certain value and the flow can no longer pass through this bleed slot, 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 bleed slot flow.

The cut-on and cut-off speeds depend on the gear-set size and set pressure.

Bleed :

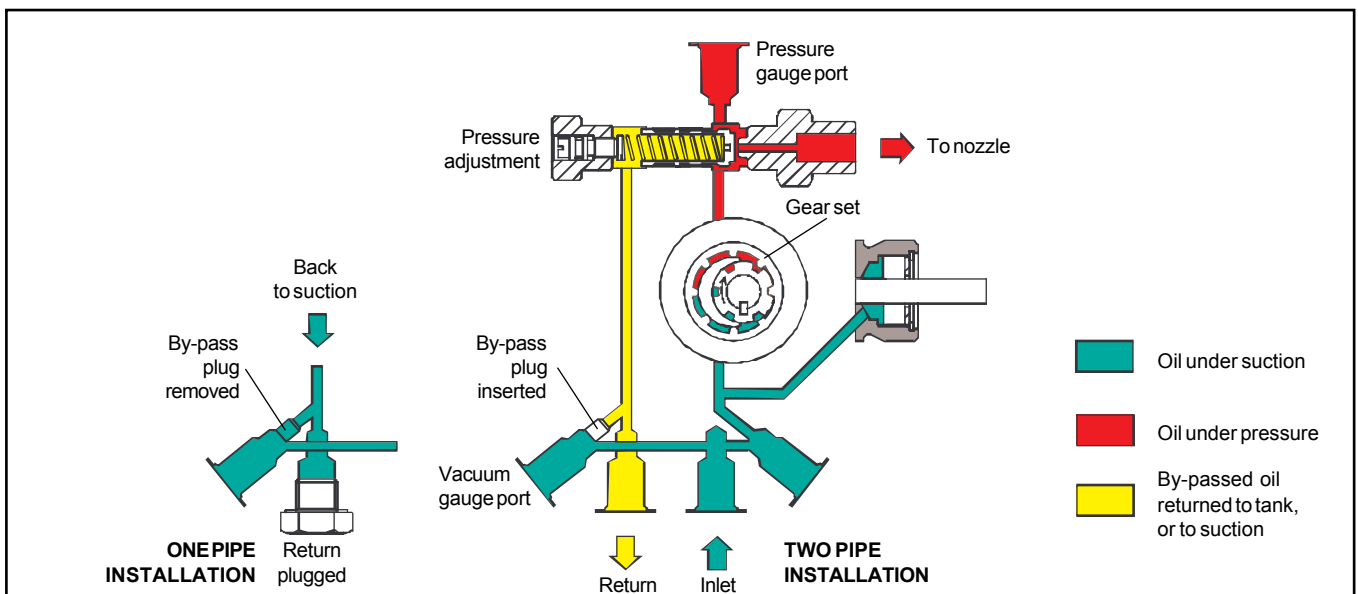
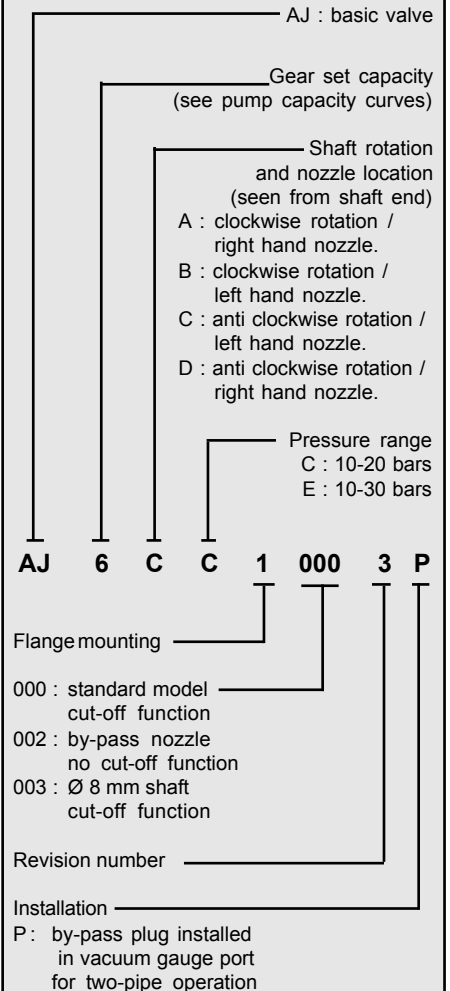
Bleeding in two pipe operation is automatic, but it may be accelerated by loosening the plug in a pressure gauge port.

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

* Owing to the presence of the nozzle by-pass hole, AJ 1002 models have 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)



TECHNICAL DATA

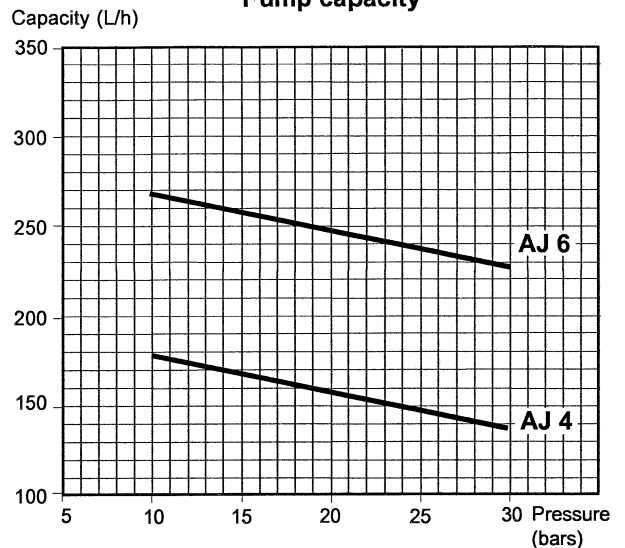
General

| | |
|---------------------|--|
| Mounting | Flange according to EN 225 |
| Connection threads | Cylindrical according to ISO 228/1 |
| Inlet and return | G 1/4 (see "Dimensions") |
| Nozzle outlet | G 1/8 |
| Pressure gauge port | G 1/8 |
| Vacuum gauge port | G 1/8 |
| Valve function | Pressure regulating and cut-off* (* except for 1002 models). |
| Strainer | Open area : 30 cm ² Opening size : 120 x 150 μm ² |
| Shaft | AJ 1000/1002 : Ø 11mm (7/16") AJ 1003 : Ø 8 mm according to EN 225. |
| By-pass plug | Inserted in vacuum gauge port for 2 pipe system; to be removed with a 4 mm Allen key for 1 pipe system. |
| Weight | 1,7 kg |

Hydraulic data

| | |
|---------------------------|---|
| Nozzle pressure range | C : 10 - 20 bars E : 10 - 30 bars |
| Delivery pressure setting | 12 bars |
| Operating viscosity | 2,8 - 75 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) | 0,30 N.m |

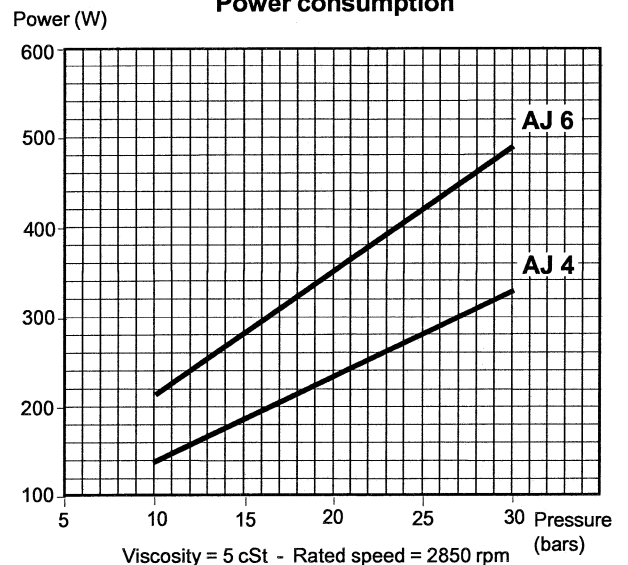
Pump capacity



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.

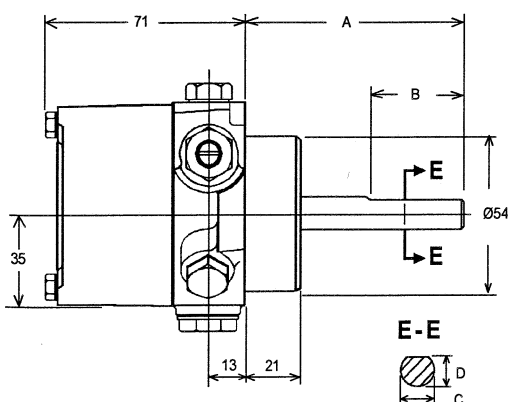
Power consumption



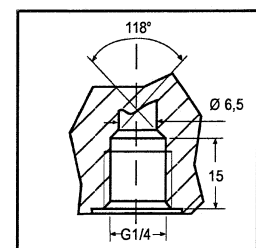
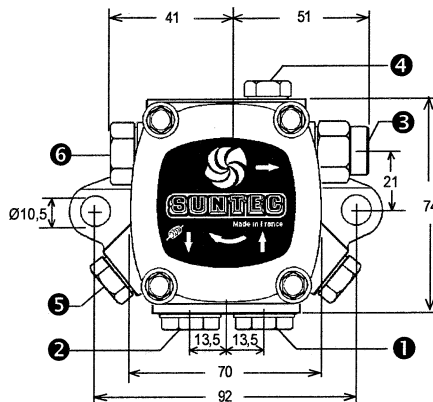
Viscosity = 5 cSt - Rated speed = 2850 rpm

PUMP DIMENSIONS

Example shows "C" rotation and nozzle outlet.



| | A (mm) | B (mm) | C Ø (mm) | D (mm) |
|---------|--------|--------|-----------|--------|
| AJ 1000 | 80 | 32 | 11(7/16") | 10 |
| AJ 1002 | 80 | 32 | 11(7/16") | 10 |
| AJ 1003 | 42 | 15 | 8 | 7 |



Inlet ① and Return ② with direct sealing (sealing washers can be used too)

- ① Suction
- ② Return
- ③ Nozzle outlet
- ④ Pressure gauge port
- ⑤ Vacuum gauge port and internal by-pass plug
- ⑥ Pressure adjustment