

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

The SUNTEC **ATE2** oil pump features 2 mode pressure operation and incorporates a blocking solenoid valve with a built-in return valve ensuring an in-line cut-off function and the nozzle line pressure relief. Switching between low and high modes is assured by a 2nd integral solenoid valve. These models are perfectly suited for nozzle with a built-in cut-off valve.

COMPATIBILITY

- Domestic oil, HVO, B100 (biofuel blend with the addition up to 100% FAME, as defined in DIN SPEC 51603-6), kerosene.
- One or two-pipe system.

PUMP OPERATING PRINCIPLE

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

The blocking solenoid valve of the nozzle line is of the "normally closed" type.

When this solenoid valve is non-activated, the valve is closed and all oil pressurized by the gear set passes through the regulators to suction or to the return line, depending upon pipe arrangement. When fitted with the appropriate nozzle, the nozzle line pressure relief valve discharge any expansion of the oil due to residual heat into the pump; thus preventing the nozzle to open.

As soon as this solenoid is activated, oil passes to the nozzle line at the pressure set by the pressure regulating valves.

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 piston of the low pressure regulator), 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.

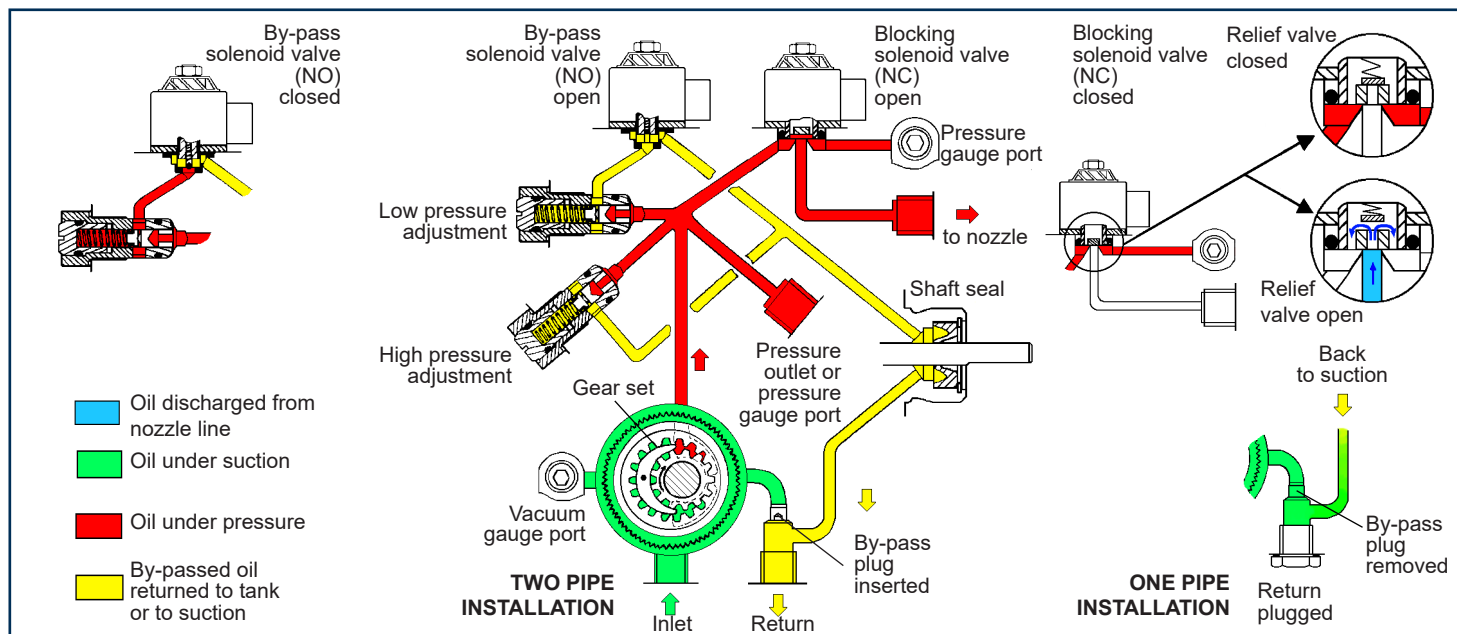
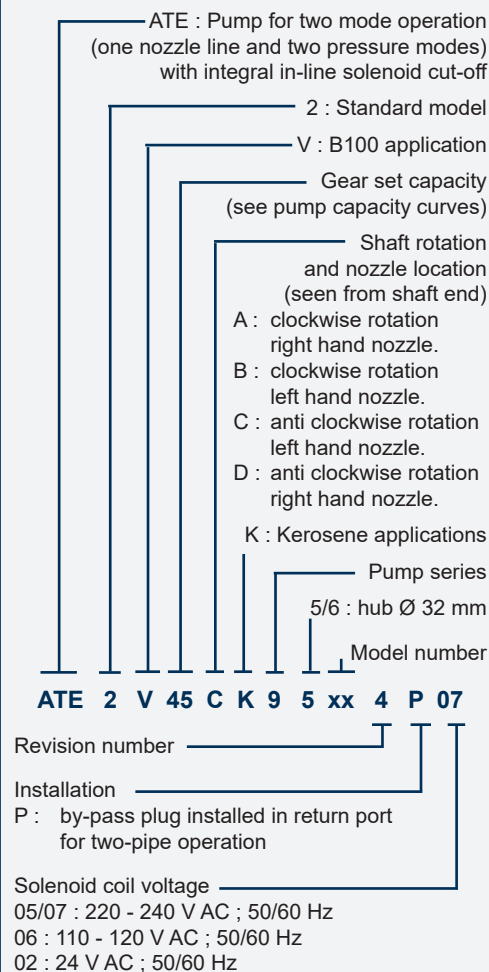
A pressure port must be opened to bleed the system.

ATE2

ATE2 - 11 - Ed. 2 - March 2025

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 (with facilities for conical sealing on revision 6 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 : 6 cm ² (ATE2 20,45/45K, 55/55K, 65/65K) 20 cm ² (ATE2 75/75K, 95/95K) 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

Gear size	45K/55K/65K/75K/95K	20/45/55/65/75/95
Nozzle pressure range*	@ 1,8 cSt	@ 5 cSt
Low mode :	8 - 15 bars	8 - 15 bars
High mode :	12 - 15 bars	12 - 25 bars

Delivery pressure settings*
Low mode : 9 bars
High mode : 22 bars

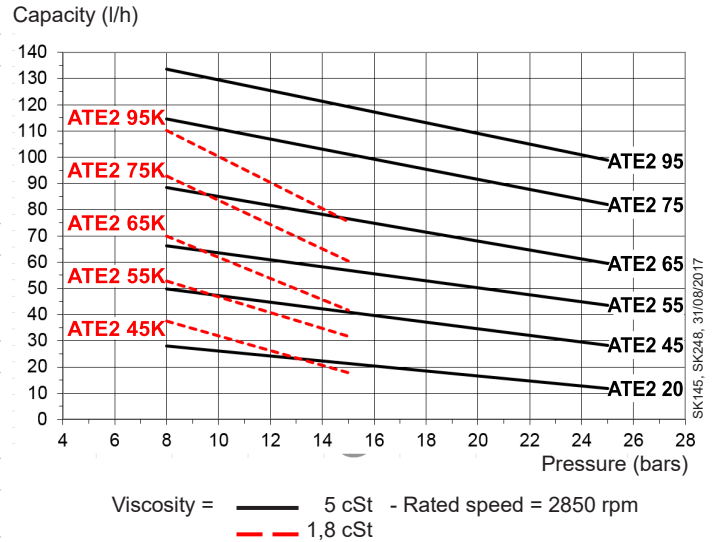
* ATE2 75/95 : pressure obtained with a 12 GPH nozzle. Other ranges available on request, refer to the specified range of the particular fuel unit.

Operating viscosity	1,25 - 12 mm ² /s (cSt) for ATE2 45K/55K/65K/75K/95K 2 - 12 mm ² /s (cSt) for ATE2 20/45/55/65/75/95
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)	0,09 N.m (ATE2 20) 0,10 N.m (ATE2 45/45K, 55/55K) 0,12 N.m (ATE2 65/65K) 0,14 N.m (ATE2 75/75K) - 0,20 N.m (ATE2 95/95K)

Solenoid valve characteristics

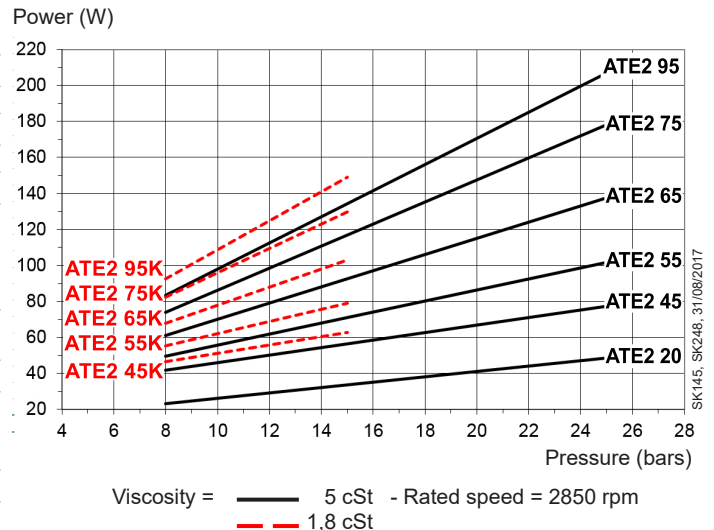
Consumption	9 W max.
Coil Code	Ambient temperature
06/02/05	0 - 60 °C
07	0 - 80 °C
Maximum pressure	25 bars
Relief valve	3,5 bar max. (plus booster pressure, if any)
opening pressure	
Certified	TÜV Nr stamped on pump body.
Protection class	IP 54 according to EN 60529, when used with SUNTEC connector cable.

Pump capacity



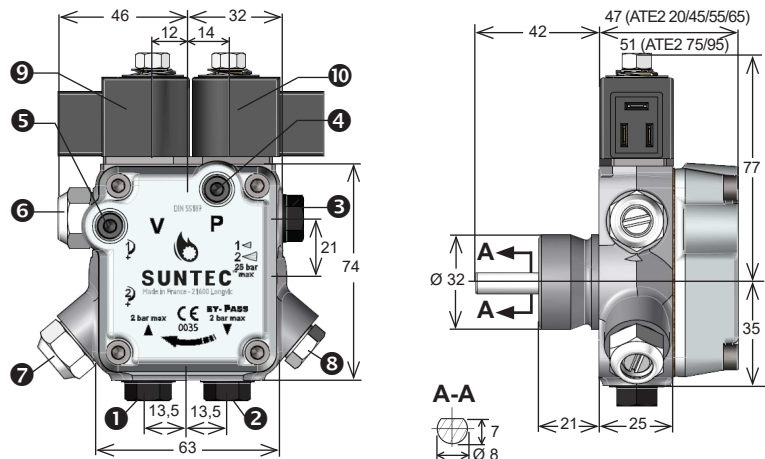
Data shown take into account a wear margin. Do not oversize the pump when selecting the gear capacity to ensure the optimum operation of the (NO) solenoid valve (switching low/high mode).

Power consumption

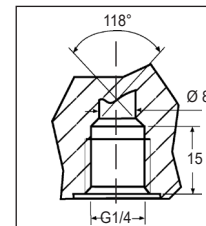


DIMENSIONS (in mm)

Pumps revision 4/6 Example shows "C" rotation and nozzle outlet.



Inlet ① and Return ②
with direct sealing
for revision 6 models
(sealing with washers
can also be used)



- ① Suction
- ② Return and internal by-pass plug
- ③ Nozzle outlet
- ④ Pressure gauge port
- ⑤ Vacuum gauge port
- ⑥ Low pressure adjustment
- ⑦ High pressure adjustment
- ⑧ Pressure outlet or pressure gauge port (only for rev 4 models)
- ⑨ Solenoid valve for switching low/high modes
- ⑩ Blocking solenoid valve