SUNTEC™

Pump up innovation

EXPERT IN LOW CARBON FLUID REGULATION

Low capacity

Pump with integral pressure regulator.

AE

AN

Pump with a combination pressure regulator and piston cut-off valve.

Pump with integral blocking solenoid valve with in-line cut-off function (according to DIN EN ISO23553-1).
ALE version with nozzle line pressure relief device is specially designed for use with a nozzle incorporating a cut-off function.

AL

AS

Pump with integral by-pass solenoid valve which controls the combination pressure regulator and piston cut-off valve (according to DIN EN ISO23553-1).

This pump is specially designed for the after-sales service. It replaces the majority of single step pumps of the market, as well as SUNTEC models AS 47, ASV 47, AL 35, ALV 35, ALE 35 and ALEV 35. This pump is suitable for light oil, Kerosene as well as for B30 applications.

AUV

Basic models — Single step models

Medium capacity

A compact medium capacity fuel unit for light oil, with adjustable pressure regulator.

AJ

J

Sought after traditional engineering, this unit for medium capacity light oil burners incorporates a combination pressure regulator and cut-off valve.

High capacity

This high technology fuel unit adapted for the rigours of industrial applications incorporates an integral pressure regulator and a preheater location.

TA

TAR

Based on TA range and designed for maritime applications (marine boilers), this pump is suitable for Marine Distillate Fuels and Marine Residual Fuels.

Accessories

In-line solenoid valve according to DIN EN ISO23553-1.

SL1

Connectors

For pumps with solenoid valves. Available in lengths from 35 cm to 1 m.

Light oil - Biofuels - Heavy oil - Kerosene

Burner capacity from 10 to 1 000 kW

AP

Basic model with two adjustable pressure ranges and one nozzle outlet.

A2L

Pump with two nozzle outlets and two independent blocking solenoid valves with in-line cut-off function (according to DIN EN ISO23553-1). A single regulator delivers the same pressure for both nozzle lines.

AT

Pump with two adjustable pressure ranges, one nozzle outlet and integral in-line solenoid cut-off (according to DIN EN ISO23553-1).

ATUV

Pump specially designed for the after-sales service. It replaces the majority of two step pumps of the market, as well as SUNTEC models AT2 45, AT2V 45, ATE2 45, ATE2V 45, AT2 55, AT2V 55, ATE2 55, ATE2V 55.

D

This small unit can handle medium grade fuel oils. D pump incorporates an adjustable pressure regulator without cut-off.

Two step models — **Heavy oil compatible**

Burner capacity from 400 to 3 000 kW

E

Perfect for industrial applications (heavy oil) this pump is designed for a longer life. It can receive a preheater to facilitate cold starting.

CJM

Based on AJ range and designed for application with methanol. This pump has been improved for a better stability against corrosion.

Burner capacity from 3 000 to 30 000 kW

T

Same concept as the TA pump, with higher capacity. The pressure regulation is assured by the separate TV Valve.

TV

A separate pressure regulator to suit T unit.

SPM

Pump and motor units for transfer loop or feeding of several burners on the same line.

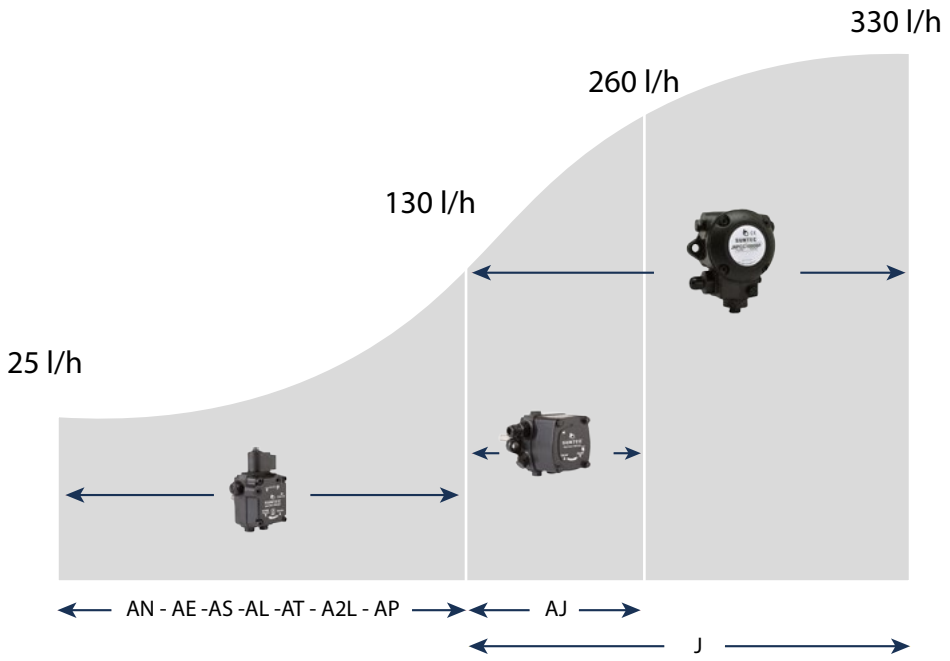
SOLENOID PUMPS

For fuel oil and kerosene applications.

The right model for your application

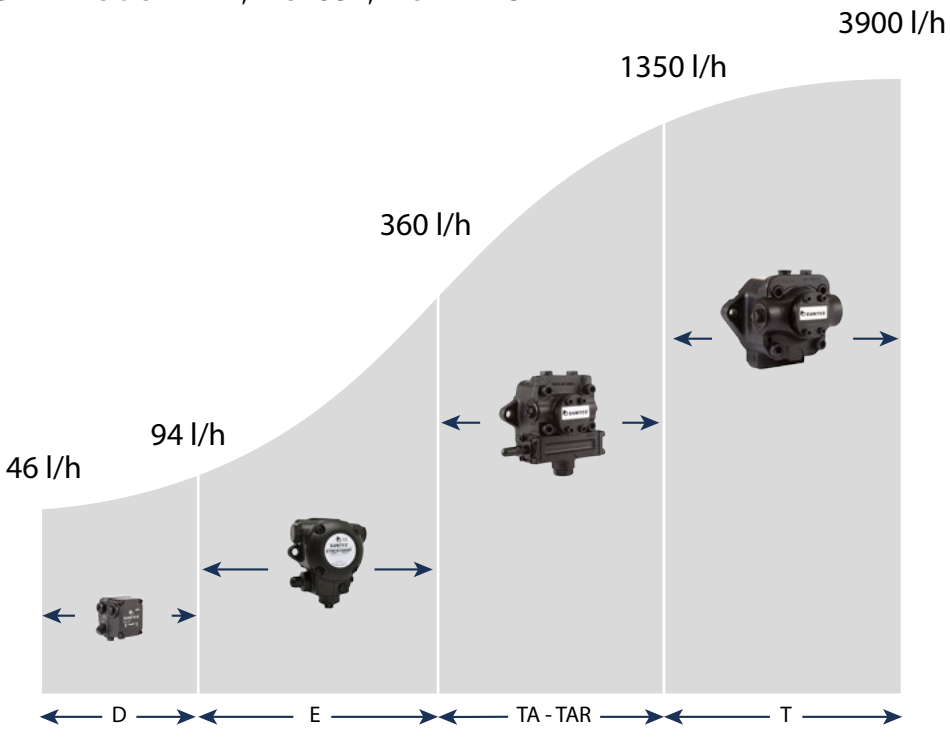
Light oil and Biofuel up to B100

PUMP CAPACITY 2850 RPM, 5 CST, 10 BARS



Heavy oil and B100 Biofuel

PUMP CAPACITY 2850 RPM, 20 CST, 20 BARS



OUR UNIVERSAL RANGE

80% models on the market replaced with 4 references only

UNIVERSAL PUMP TYPE AUV

AUV 47L 9877 6P 0700
AUV 47R 9876 6P 0700

AUV 987x - 11 - Ed 5 - April 2024

These two SUNTEC **AUV** models are specially designed for the replacement market : they replace the majority of one-stage pumps on the market of which most SUNTEC AS 47, AL 35, ALE 35 references. They incorporate a blocking solenoid valve fitted with a built-in return valve ensuring an in-line cut-off function and a nozzle line pressure relief. They feature two nozzle possible outlets.

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.

SPECIAL FEATURES

- Choice of nozzle outlet connection on either side (right or left).
- Nozzle line pressure relief device (only for nozzles with build-in cut-off function).
- Performance and reliability of SUNTEC "AL" pumps, also adapted to kerosene applications.

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. A pressure regulating valve is used to dump all oil which is not required at the nozzle.
In two-pipe operation, the by-pass plug fitted in the return port ensures that the oil dumped by the regulating valve is returned to the tank and the suction line flow is equal to the gear set capacity.
In one-pipe operation , the by-pass plug must be removed and the return plugged, so that the oil which does not go through the nozzle line is returned directly to the gear inlet and the suction line flow is equal to the nozzle flow.

Cut-off

The solenoid valve of the AUV pump is of the "normally closed" type and is situated in the nozzle line. This design ensures extremely fast response and the switching can be selected according to the burner operating sequence and is independent of motor speed. When the solenoid is non-activated, the valve is closed and all oil pressurized by the gear set passes through the regulator to suction or the return line, depending upon pipe arrangement.
As soon as the solenoid is activated, oil passes to the nozzle line at the pressure set by the pressure regulating valve.

Bleed

Caution: The non-used nozzle outlet must be loosened, thoroughly bleeded and retightened, to obtain a perfect cut-off function.

Nozzle line pressure relief (for nozzle incorporating a cut-off function)
The nozzle line pressure relief function operates only when the installation is fitted with a nozzle incorporating a cut-off function which opens at 4 bars or above. Any subsequent expansion of the oil due to residual heat from the preheater or the boiler is discharged through the relief valve in the pump which opens at a lower pressure than the nozzle opening pressure.
Note : For a boosted pump, the overpressure applies to the safety shut-off device and the relief valve.

PUMP IDENTIFICATION

(only for 9877 and 9876 models)

AU : pressure regulation, blocking solenoid valve with in-line cut-off function, two possible nozzle outlets.

V : B100 applications

Gear set capacity (see pump capacity curve)

Shaft rotation (seen from shaft end)
R : clockwise rotation
L : anti-clockwise rotation.

Model number (these 2 models incorporate a nozzle line pressure relief device)

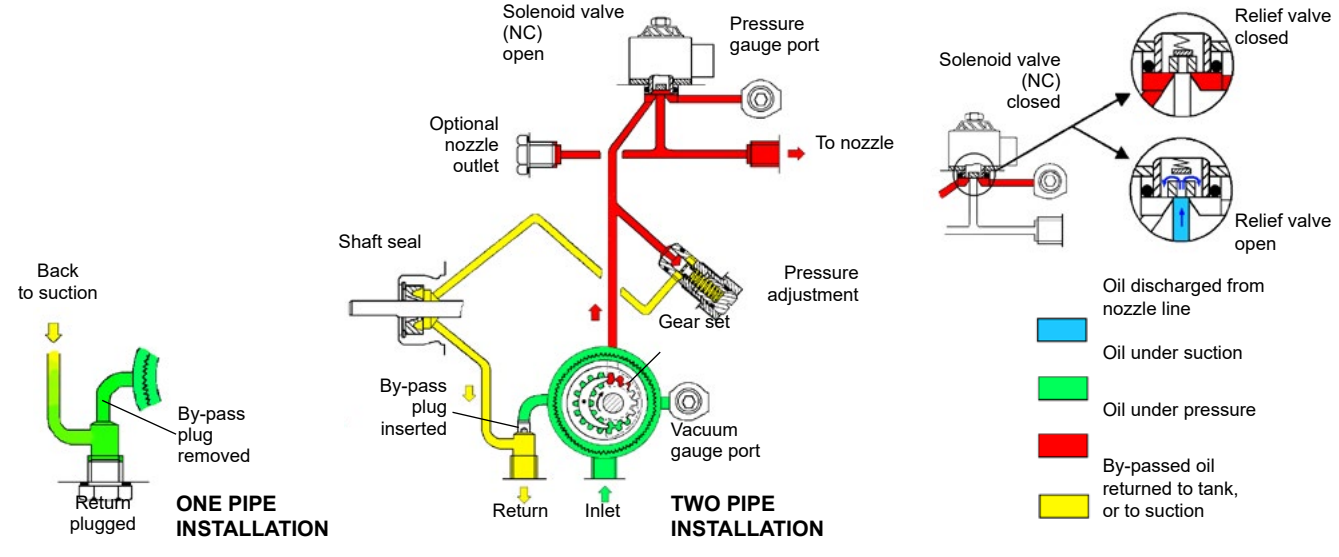
AU	V	47	L	9877	6	P	07	00
AU	V	47	R	9876	6	P	07	00

Revision number

Installation
P : two-pipe operation

Solenoid valve voltage
07 : 220-240 V AC ; 50/60 Hz

Connector cable length
00 : no cable



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)
Nozzle outlets	G 1/8
Pressure gauge port	G 1/8
Vacuum gauge port	G 1/8
Valve function	Pressure regulation
Strainer	open area : 6 cm² - opening size : 150 µm
Shaft	Ø 8 mm with 2 flats
By-pass plug	inserted in return port for two-pipe system; to be removed with a 4mm Allen key for one pipe system.
Weight	1,1 kg

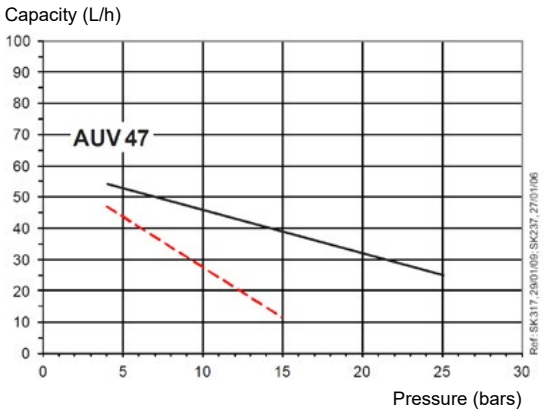
Hydraulic Data

Nozzle pressure range	4 - 25 bars @ 5 cSt (light oil and B10 applications) 4 - 15 bars @ 1,8 cSt (kerosene application)
Delivery pressure setting	9 bars
Viscosity range	1,25 - 12 mm²/s (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

Solenoid valve characteristics

Voltage	220-240 V; 50/60 Hz
Consumption	9 W
Ambient temperature	0 - 80 °C
Maximum pressure	25 bars
Relief valve opening pressure	3,5 bars max. (without booster)
Certified	TÜV - Nr stamped on pump cover
Protection class	IP 54 according to EN 60529, when used with SUNTEC connector cable

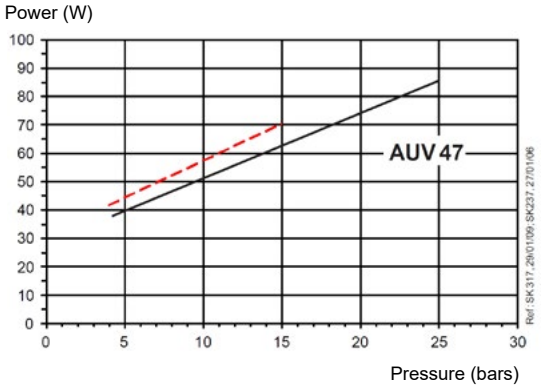
Pump capacity



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

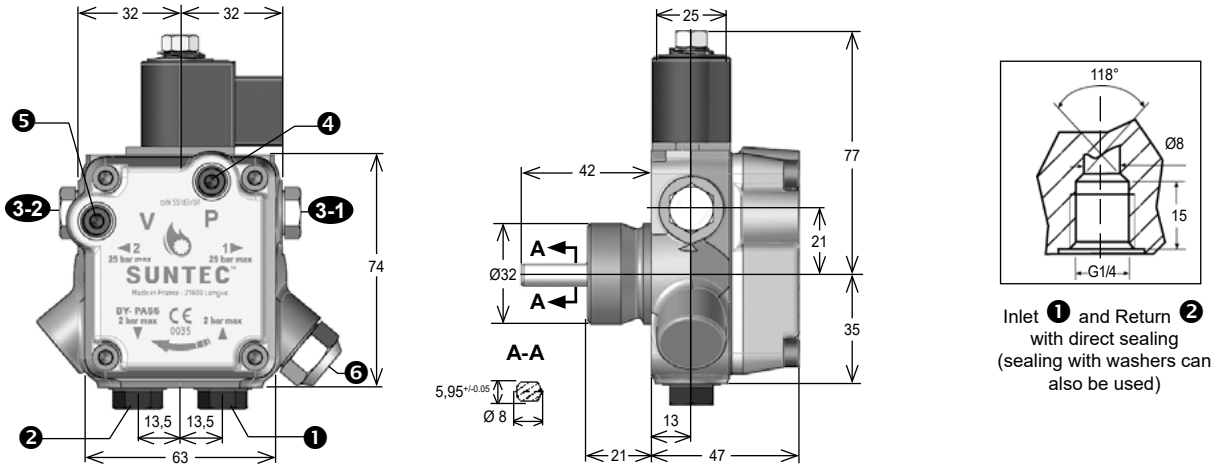


Viscosity = 5 cSt - Rated speed = 2850 rpm
1,8 cSt

Caution: When replacing an AS 47 or an AL(E) 35 pump by an AUV 47, take care of the inlet and return ports location. These ports may be inverted on the AUV model with regard to the replaced model (refer to the arrows on the cover face of the pump)

DIMENSIONS *(in mm)*

Example shows model AUV 47L 9877 6P 0700, for model ref AUV 47R 9876 6P 0700, reverse the rotation direction.



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

❶ Suction
❷ Return and internal by-pass plug
3-1 Nozzle outlet
3-2 Optional Nozzle outlet
❹ Pressure gauge port
❺ Vacuum gauge port
❻ Pressure adjustment

UNIVERSAL PUMP TYPE ATUV

ATUV

ATUV - 11 - Ed 6 - April 2024

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

The SUNTEC **ATUV** oil pump is specially designed for the replacement market : the ATUV replaces the majority of two-stage pumps on the market of which most SUNTEC AT245, ATE245, models; it also can replace AT255, ATE255 models used with nozzles up to 5 GPH. It incorporates a blocking solenoid valve fitted with a built-in return valve ensuring an in-line cut-off function and a nozzle line pressure relief. It features two nozzle possible outlets.

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
- Two-pipe system only (one pipe system not possible)

SPECIAL FEATURES

- Choice of nozzle outlet connection on either side (right or left).
- Nozzle line pressure relief device (for nozzles with build-in cut-off function).
- Performance and reliability of SUNTEC "AT2" pumps, also adapted to kerosene applications.

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.

Cut-off

The blocking solenoid valve of the nozzle line is of the "normally closed" type.
This design ensures extremely fast response and the switching can be selected according to the burner operating sequence and is independent of motor speed.
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 line.
As soon as this solenoid is activated, oil passes to the nozzle line at the pressure set by the pressure regulating valves.

Bleed

Bleeding in two pipe operation is automatic (it is assured by a bleed flat on the piston of the low pressure regulator). It may be accelerated by opening the pressure gauge port.

***Caution*: The non-used nozzle outlet must be loosened, thoroughly bleeded and re-tightened, to obtain a perfect cut-off function.**

Nozzle line pressure relief

The nozzle line pressure relief function operates only when the installation is fitted with a nozzle incorporating a cut-off function which opens at 4 bars or above. Any subsequent expansion of the oil due to residual heat from the preheater or the boiler is discharged through the relief valve in the pump which opens at a lower pressure than the nozzle opening pressure.
Note : For a boosted pump, the overpressure applies to the safety shut-off device and the relief valve.

PUMP IDENTIFICATION

(2 models available)

ATU : Pump for two mode operation (two pressure modes), blocking solenoid valve with in-line cut-off function and nozzle line pressure relief device, two possible nozzle outlets.

V : B100 applications

Gear set capacity (see pump capacity curve)

Shaft rotation (seen from shaft end)
R : clockwise rotation
L : anti-clockwise rotation.

Model number

ATU	V	45	L	9860	6	P	07	00	I
ATU	V	45	R	9861	6	P	07	00	I

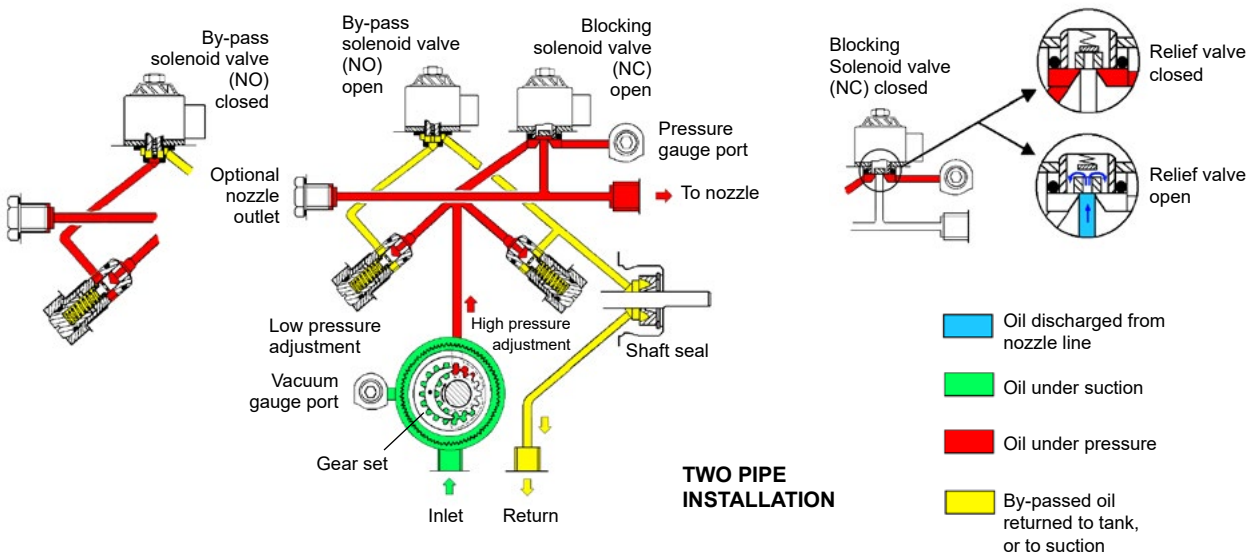
Revision number

Installation
P : two-pipe operation

Solenoid valve voltage
07 : 220-240 V AC ; 50/60 Hz

Connector cable length
00 : no cable

I : Individual packing



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)
Nozzle outlets	G 1/8
Pressure gauge port	G 1/8
Vacuum gauge port	G 1/8
Valve function	Pressure regulation
Strainer	open area : 6 cm² - opening size : 150 µm
Shaft	Ø 8 mm with 2 flats
Weight	1,3 kg

Hydraulic Data

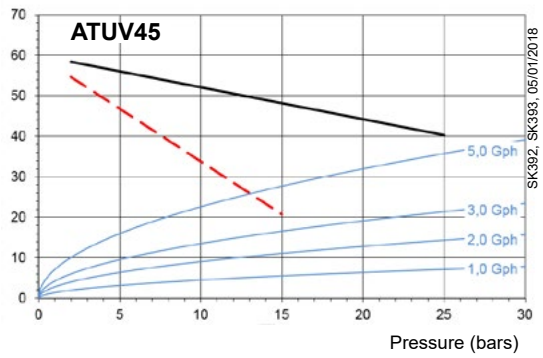
Nozzle pressure ranges	Low mode	High mode
@ 1,8 cSt	2-12 bars	12 - 15 bars
@ 5 cSt	2-12 bars	12 - 25 bars
Delivery pressure settings	Low mode : 9 bars -	High mode : 22 bars
Nozzle size applications	suitable for nozzles up to 3 GPH @1,8 cSt suitable for nozzles up to 5 GPH @ 5 cSt	
Viscosity range	1,25 - 12 mm²/s (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	

Solenoid valve characteristics

Voltage	220-240 V; 50/60 Hz
Consumption	9 W
Ambient temperature	0 - 80 °C
Maximum pressure	25 bars
Relief valve opening pressure	3,5 bars max. (without booster)
Certified	TÜV - Nr stamped on pump cover
Protection class	IP 54 according to EN 60529, when used with SUNTEC connector cable

Pump capacity

Capacity (L/h)

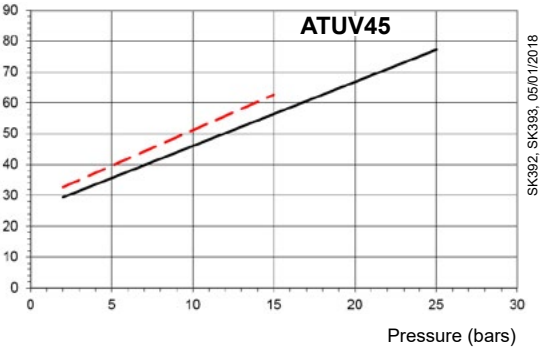


Viscosity = 5 cSt - Rated speed = 2850 rpm
1,8 cSt

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

Power consumption

Power (W)

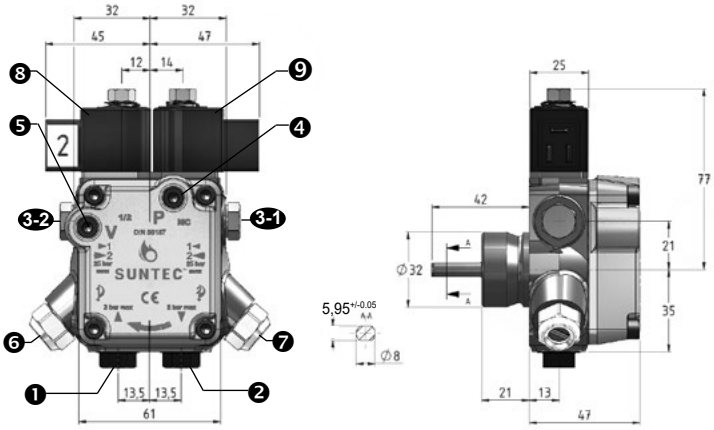


Viscosity = 5 cSt - Rated speed = 2850 rpm
1,8 cSt

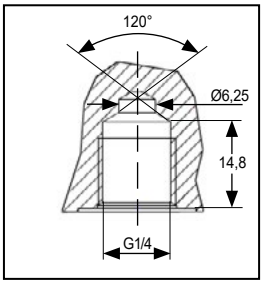
Caution: When replacing an AT2 or ATE2 pump by an ATUV, take care of the inlet and return ports location and of the solenoid valves position.These ports and/or the solenoid valves may be inverted on the ATUV model with regard to the replaced model : refer to the arrows and the marking on the cover face of the pump, solenoid valve for switching low/high modes is identified with a label "2". ATUV models are only intended for two-pipe installations.

DIMENSIONS *(in mm)*

Example shows "L" rotation



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



❶ Suction
❷ Return
❸-1 Nozzle outlet
❸-2 Optional Nozzle outlet
❹ Pressure gauge port
❺ Vacuum gauge port
❻ Low pressure adjustment
❼ High pressure adjustment
❽ Solenoid valve for switching low/high modes (1/2)
❾ Blocking solenoid valve (NC)

We reserve the right to change specifications without prior notice.

AUV

Capacity	Reference	Type	Mounting type	Inlet/ Return (I/R)	Nozzle	Pressure range	Delivery pressure	Remarks
47	98766P0700	AUV 47R	H32	G 1/4 or G 1/8	G 1/8	4 - 25	9,0	Shaft with 2 flats
	98766P0700I	AUV 47R	H32	G 1/4 or G 1/8	G 1/8	4 - 25	9,0	Shaft with 2 flats
	98776P0700	AUV 47L	H32	G 1/4 or G 1/8	G 1/8	4 - 25	9,0	Shaft with 2 flats
	98776P0700I	AUV 47L	H32	G 1/4 or G 1/8	G 1/8	4 - 25	9,0	Shaft with 2 flats

ATUV

Capacity	Reference	Type	Mounting type	Inlet/ Return (I/R)	Nozzle	Pressure range	Delivery pressure	Remarks
45	98606P0700I	ATUV 45L	H32	G 1/4 or G 1/8	G 1/8	2,4 - 25	9,0/22,0	Shaft with 2 flats
	98616P0700I	ATUV 45R	H32	G 1/4 or G 1/8	G 1/8	2,4 - 25	9,0/22,0	Shaft with 2 flats

DISCOVER OUR CASE

Make it easy !

The kit includes two universal service pumps with accessories and enables the installer to make a service replacement of almost all pump types in use today for heating oil or kerosene application, with or without solenoid valve, either rotation, either nozzle outlet position, any mounting.

The kit also includes the commonly used spare parts.

To find out how to replace your current pump (Suntec or other brand) with an AUV pump, download our Technical Manual (also available on our website).

2 SOLUTIONS FOR ALL REPLACEMENTS

991555

AUV 47L 9877

AUV 47R 9876

OR

991561

AUV 47L 9877

ATUV 45L 9860

+

+

Each case includes :

991555 model	991561 model
x1 AUV 47L 9877 6P 0700 pump	x1 AUV 47L 9877 6P 0700 pump
x1 AUV 47R 9876 6P 0700 pump	x1 ATUV 45L 9860 6P 0700 pump
x2 ENC60 connectors	
x2 filters ref. 991530	
x1 solenoid coil 220-240 V, 50/60 Hz ref. 3713871-SAV	
x2 cover gaskets ref. 991523	
x2 cover gaskets ref. 991524	
x1 AUV → AE / AEV pump conversion kit ref. 991401	
x1 32 / 54 mm Ø hub adaptor ref. 3759833	
x1 flange adaptor ref. 3719003 to convert any hub mounting pump (with 32 mm Ø hub) to a two bolt flange mounting pump with 54 mm Ø hub	
x2 connection kits ref. 991557	
x1 universal pump manual	

LOW CAPACITY GEAR PUMPS

AE - 11 - Ed 19 - April 2024

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

The SUNTEC **AE** oil pump is the basic model incorporating a pressure regulating valve. It does not have a cut-off feature, this allows purging of air through the nozzle line.

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.
- System with in-line solenoid valve to assure cut-off function.

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.

Bleed

Bleeding in two pipe operation is automatic.

In one pipe operation, during the starting period, air is purged through the nozzle line : the by-pass hole of the nozzle plug allows air to pass to the nozzle line without opening of the regulator valve.

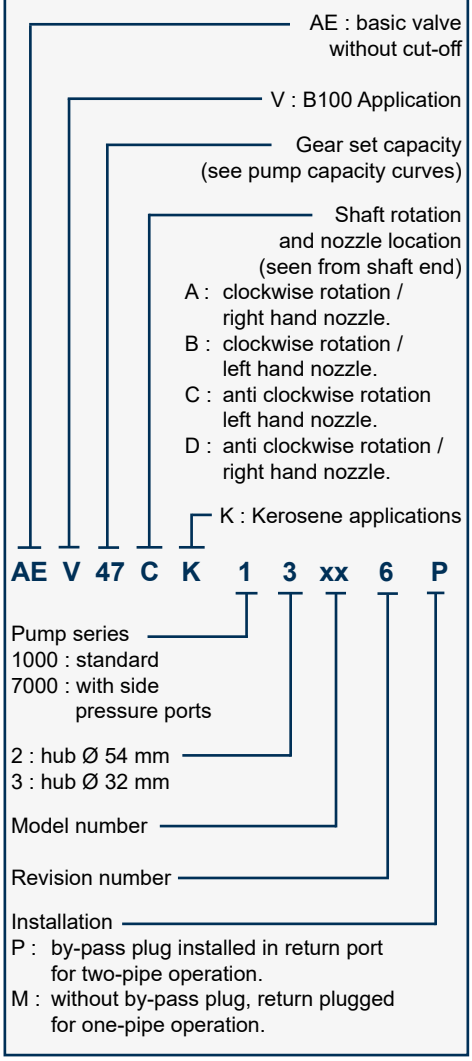
For the first start up, bleeding can be accelerated by loosening the plug in a pressure gauge port.

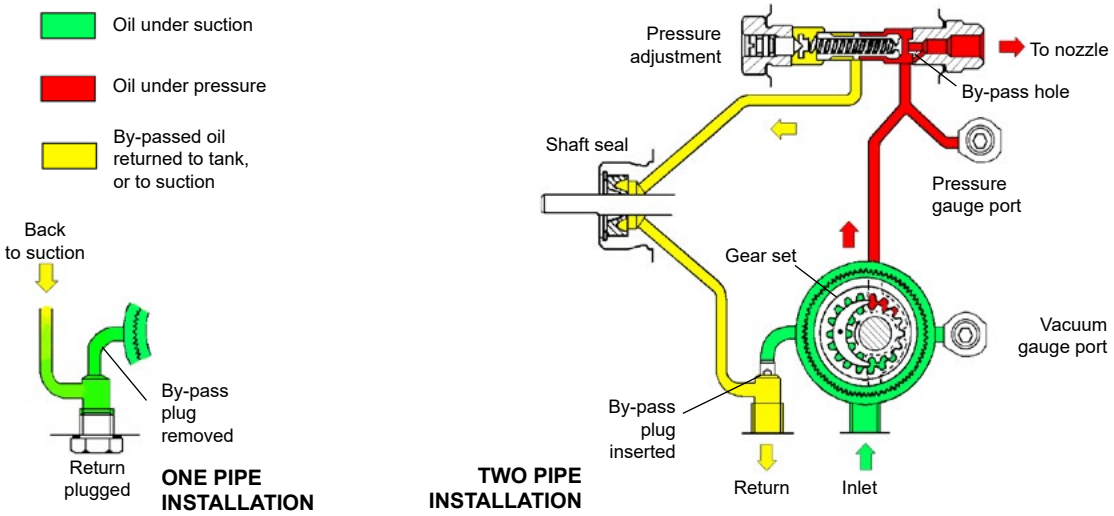
Note

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 (as mentioned in the paragraph APPLICATIONS).

PUMP IDENTIFICATION

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





TECHNICAL DATA

General

Mounting	Flange or hub 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 model)
Nozzle outlet	G 1/8
Pressure gauge ports	G 1/8
Vacuum gauge port	G 1/8
Valve function	Pressure regulating without cut-off
Strainer	Open area : 6 cm² (AE 47/47K, 57/57K, 67/67K) 20 cm² (AE 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)

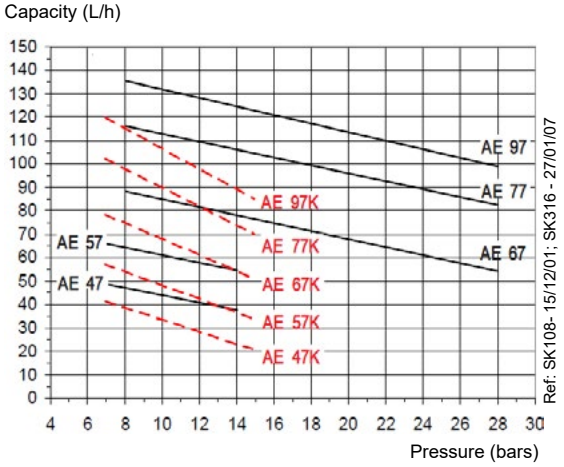
Hydraulic data

Gear size	Nozzle pressure range*	Factory setting
47/57	7 - 14 bars	9 bars
67/77/97	8 - 28 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 AE 47/57/67/77/97 1,25 - 75 mm²/s (cSt) for AE 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 (AE 47/47K, AE 57/57K) 0,12 N.m (AE 67/67K) 0,14 N.m (AE 77/77K) 0,20 N.m (AE 97/97K)

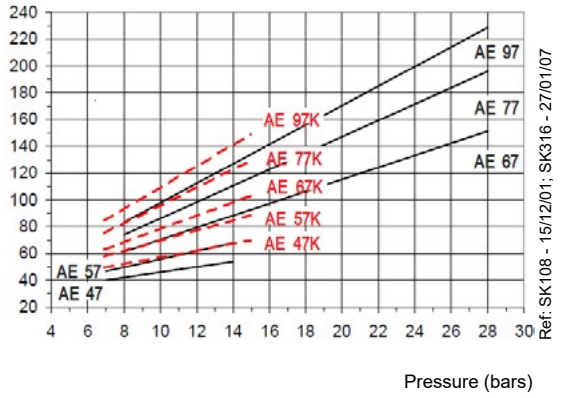
Pump capacity



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

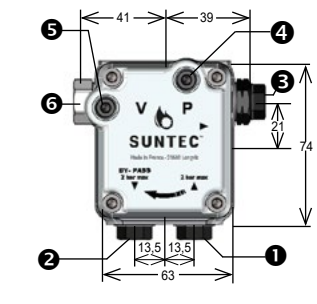


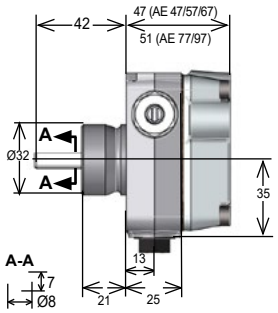
Viscosity = 5 cSt - Rated speed = 2850 rpm
1,8 cSt

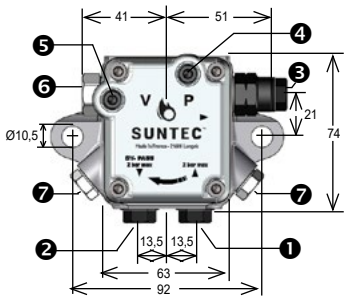
PUMP DIMENSIONS *(in mm)*

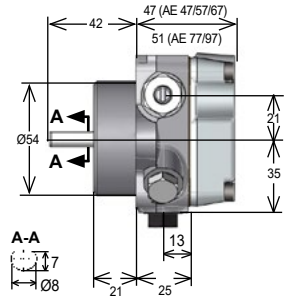
Examples show "C" rotation and nozzle outlet.

Pumps revision 6

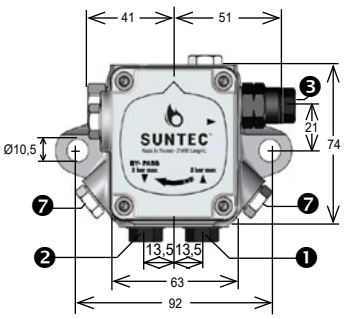


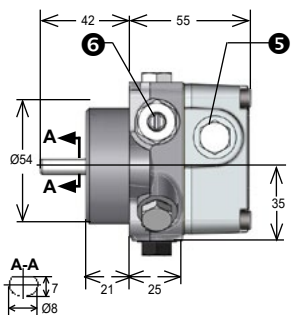


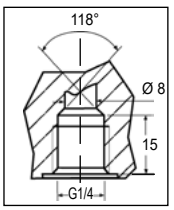




Pumps revision 2







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)

Capacity	Reference	Type	Mounting type	Inlet/ Return (I/R)	Nozzle	Pressure range	Delivery pressure	Remarks	Alternate universal model	Alternate model
45	13016P	AE 45C	H32	G 1/4	G 1/8 Short	7 - 14	12,0		98776P07 - kit 991401	
	13076P	AE 45D	H32	G 1/4	G 1/8 Short	7 - 14	11,5		98776P07 - kit 991401	
	13606P	AE 45C	H32	G 1/4	G 1/8 Short	7 - 14	11,0		98776P07 - kit 991401	
47	13876P	AE 47C	H32	G 1/4	G 1/8 Short	7 - 14	9,0		98776P07 - kit 991401	
	13946P	AEV 47C	H32	G 1/4	G 1/8 Short	3 - 28	9,0		98776P07 - kit 991401	
	17006M	AEV 47C	H32	G 1/4	G 1/8 Long	0,5 - 3	3,0			
	73684P	AE 47C	H32	G 1/4	G 1/8 Short	5 - 12	9,0	2 angled pressure ports on body	98776P07 - AE : 2 pressure ports on body; kit 991401	
	17666P	AEV 47B	H32	G 1/4	G 1/8 Short	7 - 14	9,0		98766P07 - kit 991401	
57	13566P	AE 57D	H32	G 1/4	G 1/8 Short	2 - 12	5,0			
	73734P	AE 57C	H32	G 1/4	G 1/8 Short	8 - 28	14,0	Additional pressure port on top 2 angled pressure ports on body		
67	73074P	AEV 67C	H32	G 1/4	G 1/8 Short	8 - 28	14,0	Additional pressure port on top 2 angled pressure ports on body		
	73214M	AE 67C	H32	G 1/4	G 1/8 Short	0,5 - 3	2,0	2 angled pressure ports on body		
	73614P	AE 67C	H32	G 1/4	G 1/8 Short	8 - 28	14,0	Additional pressure port on top 2 angled pressure ports on body		73074P
77	72702P	AE 77C	F54 / 92	G 1/4	G 1/8 Long	8 - 28	14,0	G1/8 vacuum port on regul side Additional pressure port on top 2 angled pressure ports on body		
	73802P	AE 77C	H32	G 1/4	G 1/8 Short	8 - 28	14,0	G1/8 vacuum port on regul side Additional pressure port on top 2 angled pressure ports on body		
97	72134P	AEV 97C	F54 / 92	G1/4	G1/8 Long	8 - 28	12,0	2 angled pressure ports on body		
	72964P	AE 97C	F54 / 92	G1/4	G1/8 Long	8 - 28	12,0	2 angled pressure ports on body		
	73552P	AE 97D	H32	G 1/4	G 1/8 Short	2,5 - 12	5,5	G1/8 vacuum port on regul side 2 angled pressure ports on body		
	73652M	AE 97D	H32	G 1/4	G 1/8 Short	0,5 - 3	3,0	G1/8 vacuum port on regul side 2 angled pressure ports on body		
	73902P	AE 97C	H32	G 1/4	G 1/8 Long	0,5 - 3	2,0	G1/8 vacuum port on regul side 2 angled pressure ports on body		
	73922M	AE 97C	H32	G 1/4	G 1/8 Long	0,5 - 5,2	5,2	G1/8 vacuum port on regul side 2 angled pressure ports on body		

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

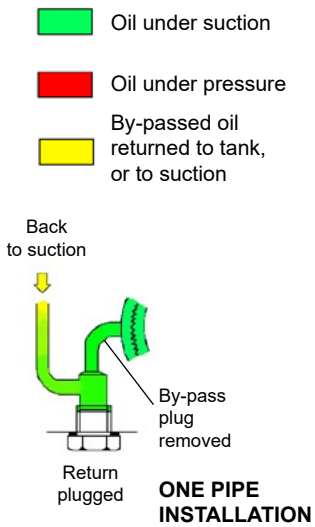
Pump series
1000 : standard
7000 : with side pressure ports

2 : hub Ø 54 mm
3 : hub Ø 32 mm

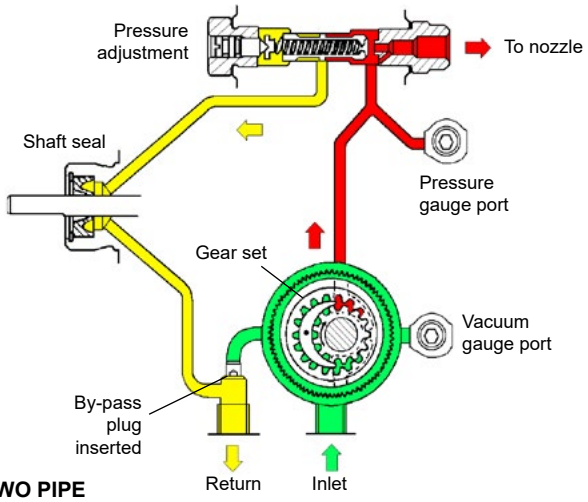
Model number

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)

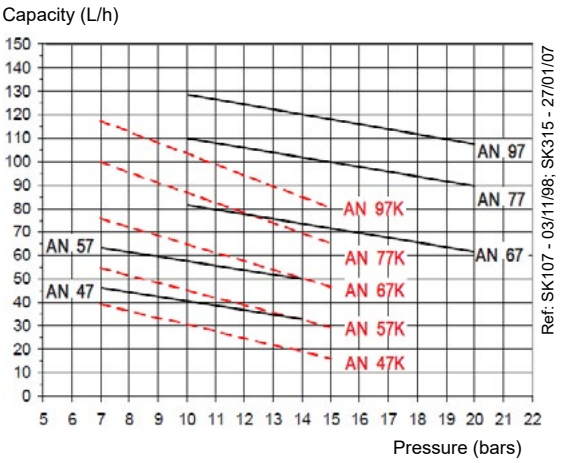
Hydraulic data

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)

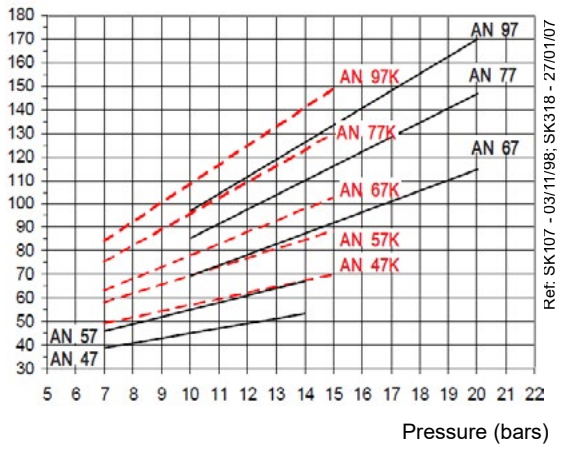
Pump capacity



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

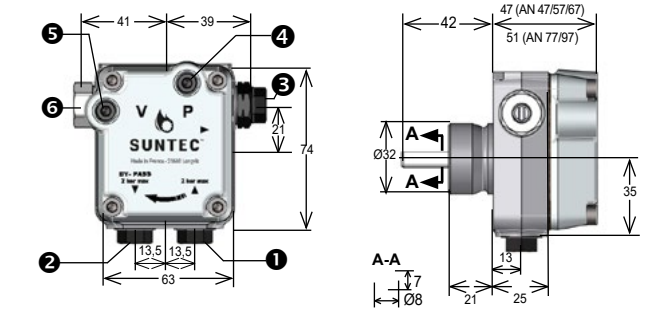


Viscosity = 5 cSt - Rated speed = 2850 rpm
1,8 cSt

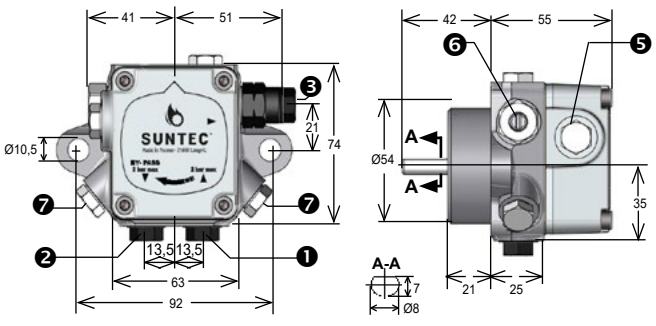
PUMP DIMENSIONS *(in mm)*

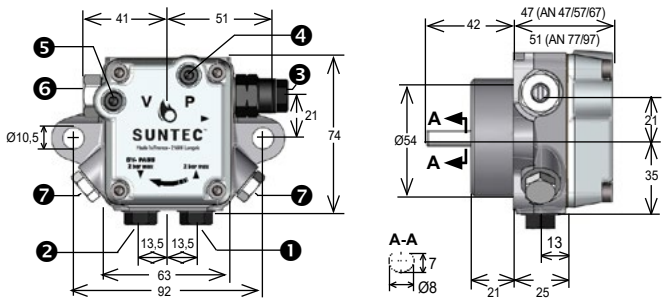
Examples show "C" rotation and nozzle outlet.

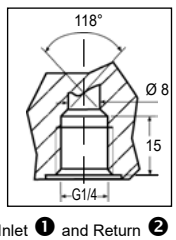
Pumps revision 6



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)

Capacity	Reference	Type	Mounting type	Inlet/ Return (I/R)	Nozzle	Pressure range	Delivery pressure	Remarks	Alternate model
47	13116P	AN 47D K	H32	G 1/4	G 1/8 Short	7 - 12	10,0	Tested and delivery pressure fixed at 3450 rpm	
	13266P	AN 47A	H32	G 1/4	G 1/8 Short	7 - 14	9,0		
	13396P	AN 47D	H32	G 1/4	G 1/8 Short	7 - 14	9,0		
	13426P	AN 47C	H32	G1/4	G1/8 Short	7 - 14	9,0		17446P
	13446P	ANV 47C	H32	G 1/4	G 1/8 Short	7 - 14	9,0		
	13594P	AN 47D K	H32	G 1/8	G 1/8 Short	7 - 12	10,0	Tested and delivery pressure fixed at 3450 rpm	
	72164P	AN 47A	F54 / 92	G 1/4	G 1/8 Long	7 - 14	9,0	2 angled pressure ports on body	
	72184P	AN 47C	F54 / 92	G 1/4	G 1/8 Long	7 - 14	9,0	2 angled pressure ports on body	
	72194P	AN 47D	F54 / 92	G 1/4	G 1/8 Long	7 - 14	9,0	2 angled pressure ports on body	
	72474M	AN 47C K	F54 / 92	G 1/4	G 1/8 Long	7 - 12	9,0	2 angled pressure ports on body	
	73264P	AN 47A	H32	G 1/4	G 1/8 Short	7 - 14	9,0	2 angled pressure ports on body	
	73274P	AN 47B	H32	G 1/4	G 1/8 Short	7 - 14	9,0	2 angled pressure ports on body	
57	13036M	AN 57D K	H32	G 1/4	G 1/8 Short	7 - 14	10,0		
	13036P	AN 57D K	H32	G1/4	G1/8 Short	7 - 12	10,0		
	13096P	AN 57D K	H32	G 1/4	G 1/8 Short	7 - 12	8,0	Tested and delivery pressure fixed at 1750 rpm	
	13306P	AN 57B	H32	G 1/4	G 1/8 Short	10 - 20	14,0		
	72084P	ANV 57C K	F54 / 92	G1/4	G1/8 Long	7 - 15	9,0		
	72202P	AN 57B K	F54 / 92	G 1/4	G 1/8 Long	7 - 15	9,0	Additional 1/4 NPTF inlet on cover regul side Bleeder valve on body 1 angled pressure ports on body Tested and delivery pressure fixed at 3450 rpm	
	72434P	AN 57A	F54 / 92	G 1/4	G 1/8 Long	7 - 14	9,0	2 angled pressure ports on body	
	72724P	ANV 57C	F54 / 92	G 1/4	G 1/8 Long	7 - 14	12,0	2 angled pressure ports on body	
	72824P	AN 57C	F54 / 92	G 1/4	G 1/8 Long	7 - 14	12,0	2 angled pressure ports on body	72724P
	72902M	AN 57A K	F54 / 92	G 1/4	G 1/8 Long	7 - 12	9,0	Additional 1/4 NPTF inlet on cover regul side Steel plug on body inlet Bleeder valve on body 1 angled pressure ports on body	
	72902P	AN 57A K	F54 / 92	G 1/4	G 1/8 Long	7 - 12	9,0	1/4 NPTF vacuum port on regul side 2 angled pressure ports on body	
	73494P	AN 57C	H32	G 1/4	G 1/8 Short	7 - 14	9,0	2 angled pressure ports on body	
	73594P	ANV 57A	H32	G 1/4	G 1/8 Short	7 - 14	9,0		
67	13126P	AN 67D K	H32	G 1/4	G 1/8 Short	7 - 12	8,0	Tested and delivery pressure fixed at 1750 rpm	
	13356P	AN 67B	H32	G 1/4	G 1/8 Short	10 - 20	14,0		
	13366P	AN 67C	H32	G 1/4	G 1/8 Long	7 - 14	9,0		
	72044P	ANV 67C K	F54 / 92	G1/4	G1/8 Long	7 - 15	9,0	2 angled pressure ports on body	
	72304P	AN 67A K	F54 / 92	G1/4	G1/8 Long	7 - 14	10,0	2 angled pressure ports on body Additional pressure port on top Tested and delivery pressure fixed at 3450 rpm	
	72334P	AN 67C	F54 / 92	G 1/4	G 1/8 Long	10 - 20	14,0	2 angled pressure ports on body	72534P
	72384P	AN 67A	F54 / 92	G 1/4	G 1/8 Long	10 - 20	14,0	2 angled pressure ports on body	
	72514P	AN 67B	F54 / 92	G 1/4	G 1/8 Long	10 - 20	14,0	2 angled pressure ports on body	

Capacity	Reference	Type	Mounting type	Inlet/ Return (I/R)	Nozzle	Pressure range	Delivery pressure	Remarks	Alternate model
67	72534P	ANV 67C	F54 / 92	G 1/4	G 1/8 Long	10 - 20	14,0	2 angled pressure ports on body	
	73094P	ANV 67A	H32	G 1/4	G 1/8 Short	10 - 20	14,0	2 angled pressure ports on body	
	73454P	AN 67A	H32	G 1/4	G 1/8 Short	10 - 20	14,0	2 angled pressure ports on body	73094P
	73564P	AN 67A K	H32	G 1/4	G 1/8 Short	7 - 15	9,0	2 angled pressure ports on body	
77	72032P	ANV 77A	H54	G 1/4	G 1/8 Short	10 - 20	14,0	G1/8 vacuum port on nozzle side 2 angled pressure ports on body	
	72142P	ANV 77A	F54 / 92	G 1/4	G 1/8 Short	10 - 20	14,0	G1/8 vacuum port on nozzle side 2 angled pressure ports on body	
	72242P	AN 77C K	F54 / 92	G 1/4	G 1/8 Long	10 - 20	10,0	G1/8 vacuum port on regul side Additional pressure port on top 2 angled pressure ports on body	
	72352P	AN 77C	F54 / 92	G 1/4	G 1/8 Long	10 - 20	14,0	Additional pressure port on top G1/8 vacuum port on regul side 2 angled pressure ports on body	
	72392P	AN 77A J	F54 / 92	G 1/4	G 1/8 Short	10 - 15	14,0	G1/4 vacuum port on regul side 2 angled pressure ports on body	
	72552P	AN 77A	H54	G 1/4	G 1/8 Short	10 - 20	14,0	G1/8 vacuum port on nozzle side 2 angled pressure ports on body	72032P
	72562P	AN 77A	F54 / 92	G 1/4	G 1/8 Short	10 - 20	14,0	G1/8 vacuum port on nozzle side 2 angled pressure ports on body	72142P
	72662M	AN 77A K	F54 / 92	G 1/4	G 1/8 Short	10 - 15	14,0	G1/4 vacuum port on regul side Bleeder valve on body	
	73112P	ANV 77A	H32	G 1/4	G 1/8 Short	10 - 20	14,0	G1/8 vacuum port on nozzle side 2 angled pressure ports on body	
	73412P	AN 77C	H32	G 1/4	G 1/8 Short	10 - 20	14,0	Additional pressure port on top G1/8 vacuum port on regul side 2 angled pressure ports on body	
	73462P	AN 77A	H32	G 1/4	G 1/8 Short	10 - 20	14,0	G1/8 vacuum port on nozzle side 2 angled pressure ports on body	73112P
	73154P	ANV 77C	H54	G 1/4	G 1/8 Short	10 - 20	14,0	G1/8 vacuum port on regul side 2 angled pressure ports on body	
97	13106P	AN 97C K	H32	G1/4	G1/8 Short	7 - 15	9,0		
	72572P	AN 97C	F54 / 92	G 1/4	G 1/8 Long	10 - 20	14,0	G1/8 vacuum port on regul side Additional pressure port on top 2 angled pressure ports on body	
	73912P	AN 97A	H32	G 1/4	G 1/8 Short	10 - 20	12,0	G1/8 vacuum port on regul side 2 angled pressure ports on body	

PUMP TYPE AL

AL

AL - 11 - Ed 20 - April 2024

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

The SUNTEC **AL** oil pump incorporates a blocking solenoid valve with in-line cut-off function.

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.

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. A pressure regulating valve is used to dump all oil which is not required at the nozzle.
In two-pipe operation, the by-pass plug must be fitted in the return port, which ensures that the oil dumped by the regulating valve is returned to the tank and the suction line flow is equal to the gear set capacity.
In one-pipe operation, the oil which does not go through the nozzle line is returned directly to the gear inlet and the suction line flow is equal to the nozzle flow. In that case, the by-pass plug must be removed from the return port, and the return port sealed by steel plug and washer.

Bleed

Bleeding in two-pipe operation is automatic (except for AL 20) : it is assured by a bleed flat on the piston.
For AL 20 in two pipe operation, and for all models in one-pipe configuration the plug of a pressure gauge port must be loosened until the air is evacuated from the system.

Cut-off

The solenoid valve of the AL pump is of the "normally closed" type and is situated in the nozzle line. This design ensures extremely fast response and the switching can be selected according to the burner operating sequence and is independent of motor speed.
When the solenoid is non-activated, the valve is closed and all oil pressurized by the gear set passes through the regulator to the suction or return line, depending upon pipe arrangement.
As soon as the solenoid is activated, oil passes to the nozzle line at the pressure set by the pressure regulating valve.

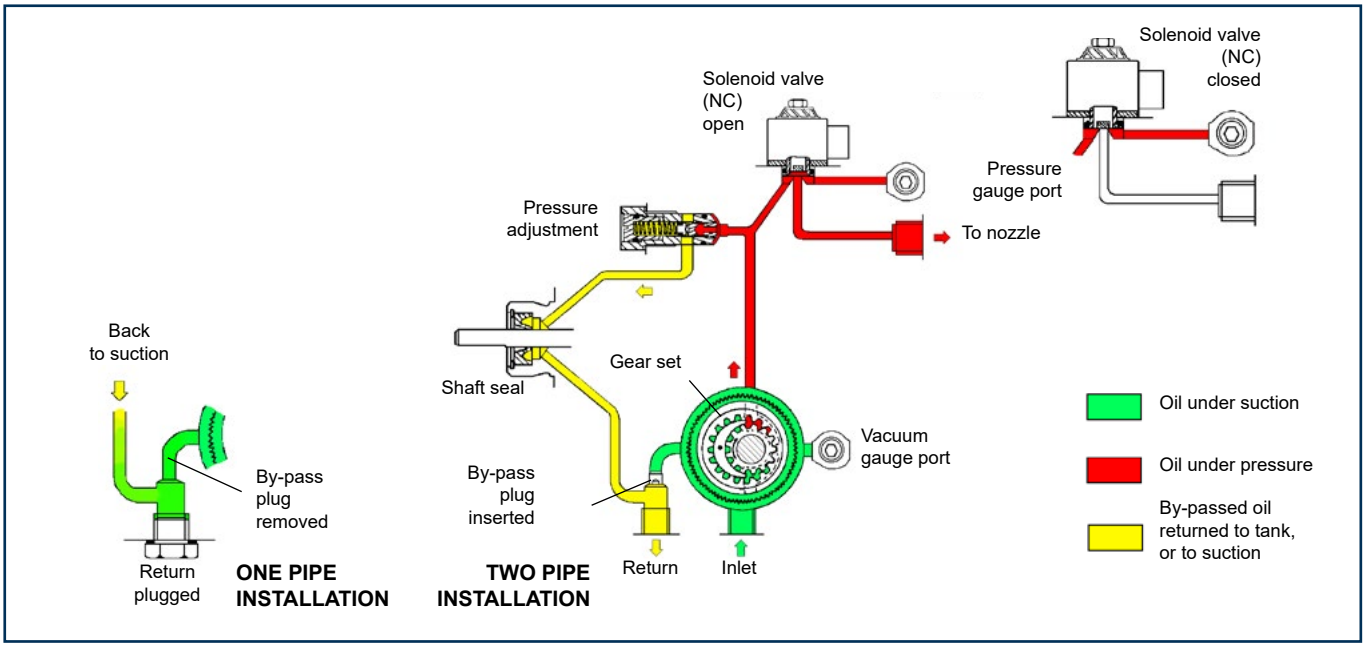
PUMP IDENTIFICATION

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

AL : pressure regulation and blocking solenoid valve with in-line cut-off function
V : B100 applications
Gear set capacity (see pump capacity curve)
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
Pump series
4 : hub Ø 54 mm
6/5 : hub Ø 32 mm
Model number

AL V 35 C K 9 5 xx 6 P 07 00

Revision number
Installation
P : by-pass plug inserted in return port for two-pipe operation
M : without by-pass plug, return plugged, for one-pipe operation
Solenoid valve voltage
05/07 : 220-240 V AC ; 50/60 Hz
06 : 110-120 V AC ; 50/60 Hz
02 : 24 V AC ; 50/60 Hz
03 : 24 V DC
08 : 12 V DC
Connector cable length
00 : no cable
35 : 35 cm cable - 45 : 45 cm cable
60 : 60 cm cable - 10 : 1 m cable



TECHNICAL DATA

General

Mounting	Hub mounting according to EN 225. (Flange mounting available on AL 75/75K/95/95K models)
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 cm² (AL 20/35/35K/55/55K/65/65K) 20 cm² (AL 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 with a 4 mm Allen key for one pipe system.
Weight	1,1- 1,3 kg (depending on the model).

Hydraulic Data

Gear size	Nozzle pressure range*	Factory setting
20/35/55/65/75	4-18, 8-15 or 4-25 bars@ 5 cSt	9 or 12 bars
95	4-18 or 10-20 bars @ 5 cSt	12 bars
35K/55K/65K/75K/95K	8-15 bars @ 1,8 cSt	12 bars

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

Operating viscosity	2 - 12 mm²/s (cSt) for AL 20/35/55/65/75/95 1,25 - 12 mm²/s (cSt) for AL 35K/55K/65K/75K/95K
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 (AL20) 0,10 N.m (AL 35/35K/55/55K) - 0,12 N.m (AL 65/65K) 0,14 N.m (AL 75/75K) - 0,20 N.m (AL 95/95K)

Solenoid valve characteristics

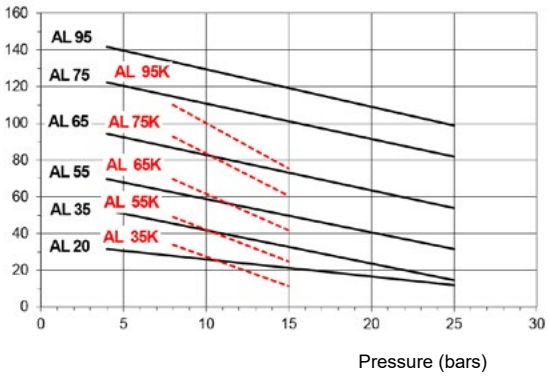
Voltage	220-240 or 110-120 or 24 V; 50/60 Hz
Consumption	9 W max.
Coil Code*	Ambient temperature
06/02/05	0 - 60 °C
07	0 - 80 °C

** Refer to "Pump identification - solenoid coil voltage".*

Maximum pressure	25 bars
Certified	TÜV Nr stamped on pump cover.
Protection class	IP 54 according to EN 60529, when used with SUNTEC connector cable.

Pump capacity

Capacity (L/h)

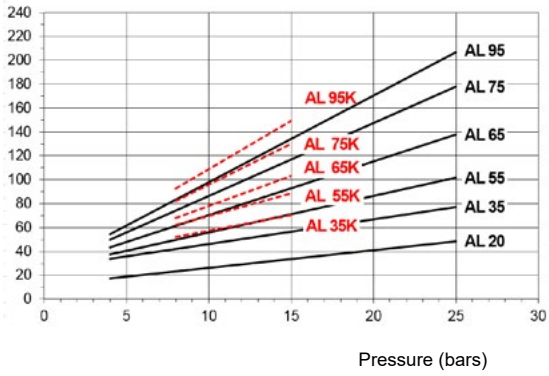


Viscosity = 5 cSt - Rated speed = 2850 rpm
1,8 cSt

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

Power consumption

Power (W)

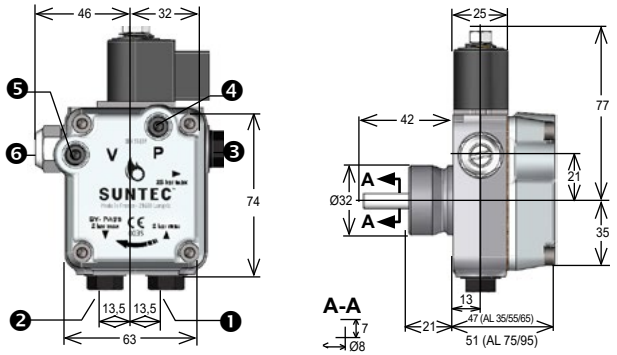


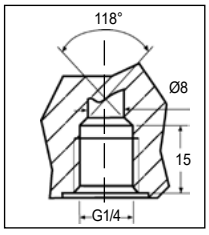
Viscosity = 5 cSt - Rated speed = 2850 rpm
1,8 cSt

PUMP DIMENSIONS *(in mm)*

Examples show "C" rotation and nozzle outlet.

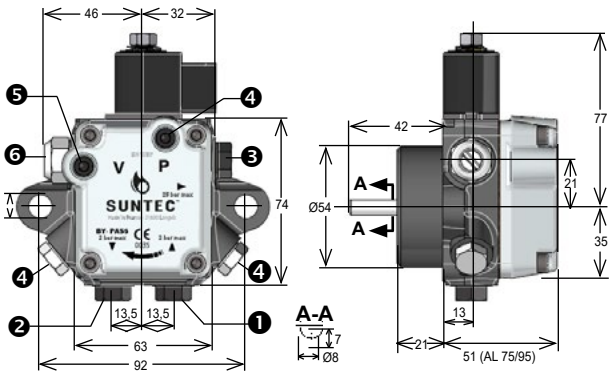
Pumps revision 4,6 - Hub mounting





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

Pumps revision 4 - Flange mounting



❶ Suction

❷ Return and internal by-pass plug

❸ Nozzle outlet

❹ Pressure gauge port

❺ Vacuum gauge port

❻ Pressure adjustment

Capacity	Reference	Type	Mounting type	Inlet/ Return (I/R)	Nozzle	Pressure range	Delivery pressure	Remarks	Alternate universal model	Alternate model
35	94214P0800	AL 35A	F54 / 92	G 1/4	G 1/8	8 - 15	9,0	2 angled pressure ports on body		
	94366P0700	AL 35A J	H32	G 1/4	G 1/8	8 - 15	9,0			
	94386P0700	AL 35C J	H32	G 1/4	G 1/8	8 - 15	9,0			
	94396M0600	AL 35C J	H32	G 1/4	G 1/8	4 - 15	7,0			
	95056P0800	AL 35D	H32	G 1/4	G 1/8	8 - 15	9,0			
	95266M0700	AL 35A	H32	G 1/4	G 1/8	8 - 15	9,0		98766P07 - convert to one-pipe configuration	96266P07 - convert to one-pipe configuration
	95266P0700	AL 35A	H32	G 1/4	G 1/8	8 - 15	9,0		98766P07	96266P07
	95286P0700	AL 35C	H32	G 1/4	G 1/8	8 - 15	9,0		98776P07	96286P07
	95364P0700	AL 35C K	H32	G 1/4	G 1/8	8 - 15	9,0	2 angled pressure ports on body	98776P07 - AL : 2 pressure ports on body	
	95404P0700	AL 35C	H32	G 1/8	G 1/8	8 - 15	9,0		98776P07 - kit 991557 : G1/4-G1/8 adapters	96404P07
	95964P0700	AL 35A	H32	G 1/4	G 1/8	8 - 15	9,0	Angled pressure port on regul side	98766P07 - AL : pressure port on body on nozzle side	
	96266P0700	ALV 35A	H32	G 1/4	G 1/8	8 - 15	9,0		98766P07	
	96286P0700	ALV 35C	H32	G 1/4	G 1/8	8 - 15	9,0		98776P07	
	96356P0300	ALV 35A K	H32	G 1/4	G 1/8	8 - 15	12,0			
	96404P0700	ALV 35C	H32	G 1/8	G 1/8	8 - 15	9,0		98776P07 - kit 991557 : G1/4-G1/8 adapters	
	96956P0700	ALV 35D	H32	G 1/4	G 1/8	7 - 20	9,0	Angled pressure port on nozzle side		
	94396P0600	AL 35C J	H32	G 1/4	G 1/8	4 - 15	7,0			
55	90896P0700	AL 55C J	H32	G 1/4	G 1/8	8 - 15	9,0			
	95274P0700	AL 55A	H32	G 1/4	G 1/8	8 - 15	9,0	One angled pressure port on regul side		
	96446P0700	ALV 55A K	H32	G 1/4	G 1/8	8 - 15	9,0			
65	94104P0700	AL 65C	F54 / 92	G 1/4	G 1/8	4 - 18	12,0	2 angled pressure ports on body		
	95326P0700	AL 65B	H32	G 1/4	G 1/8	4 - 18	12,0			96326P07
	95884P0700	AL 65C	H32	G 1/4	G 1/8	8 - 15	9,0	2 angled pressure ports on body		96884P07
	95896P0700	AL 65C	H32	G 1/4	G 1/8	8 - 15	9,0			
	96326P0700	ALV 65B	H32	G 1/4	G 1/8	4 - 18	12,0			
	96884P0700	ALV 65C	H32	G 1/4	G 1/8	8 - 15	9,0	2 angled pressure ports on body		
75	94114P0700	AL 75C	F54 / 92	G 1/4	G 1/8	4 - 18	12,0	2 angled pressure ports on body		94254P07
	94254P0700	ALV 75C	F54 / 92	G 1/4	G 1/8	4 - 18	12,0	2 angled pressure ports on body		
	95026P0700	ALV 75B K	H32	G 1/4	G 1/8	8 - 15	10,0			
	96346P0700	ALV 75A K	H32	G 1/4	G 1/8	8 - 15	12,0			
95	94124P0700	AL 95C	F54 / 92	G 1/4	G 1/8	10 - 20	12,0	2 angled pressure ports on body		94264P07
	94144P0700	AL 95C	F54 / 92	G 1/4	G 1/8	10 - 20	12,0	2 angled pressure ports on body ; Shaft with 2 flats		94274P07
	94264P0700	ALV 95C K	F54 / 92	G 1/4	G 1/8	10 - 15	12,0	2 angled pressure ports on body		
	94274P0700	ALV 95C	F54 / 92	G 1/4	G 1/8	4 - 18	12,0	2 angled pressure ports on body		

PUMP TYPE ALE

ALE

ALE - 11 - Ed 12 - April 2024

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

The SUNTEC **ALE** oil pump incorporates a blocking solenoid valve fitted with a built-in return valve ensuring an in-line cut-off function and a nozzle line pressure relief. The integration of the return valve into the solenoid valve means that the ALE pump performance and dimensions are identical to the AL pump.

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

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. A pressure regulating valve is used to dump all oil which is not required at the nozzle.
In two-pipe operation, the by-pass plug must be fitted in the return port, which ensures that the oil by-passed by the regulating valve is returned to the tank and the suction line flow is equal to the gear set capacity.
In one-pipe operation, the oil which does not go through the nozzle line is returned directly to the gear inlet and the suction line flow is equal to the nozzle flow. In that case, the by-pass plug must be removed from the return port, and the return port sealed by steel plug and washer.

Bleed
Bleeding in two-pipe operation is automatic : it is assured by a bleed flat on the piston. In one-pipe operation, the plug of a pressure gauge port must be loosened until the air is evacuated from the system.

Cut-off
The solenoid valve of the ALE pump is of the "normally closed" type and is situated in the nozzle line. This design ensures extremely fast response and the switching can be selected according to the burner operating sequence and is independent of motor speed.
When the solenoid is non-activated, the valve is closed and all oil pressurized by the gear set passes through the regulator to the suction or return line, depending upon pipe arrangement.
As soon as the solenoid is activated, oil passes to the nozzle line at the pressure set by the pressure regulating valve.

Nozzle line pressure relief
The nozzle line pressure relief function operates only when the installation is fitted with a nozzle incorporating a cut-off function which opens at 4 bars or above. Any subsequent expansion of the oil due to residual heat from the preheater or the boiler is discharged through the relief valve in the pump which opens at a lower pressure than the nozzle opening pressure.
Note : For a boosted pump, the overpressure applies to the safety shut-off device and the relief valve.

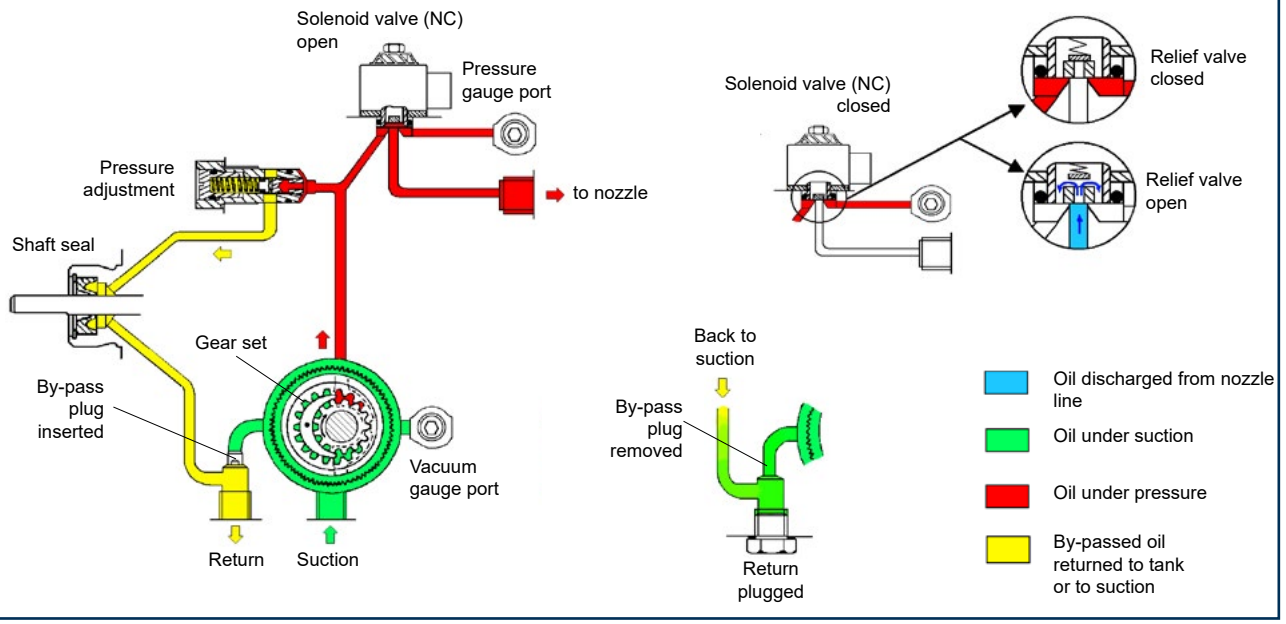
PUMP IDENTIFICATION

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

ALE : blocking solenoid valve with in-line cut-off function and nozzle line pressure relief device
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
Pump series
3 : hub Ø 32 mm
Model number

ALE V 35 C K 9 3 xx 6 P 07 00

Revision number
Installation
P : by-pass plug inserted in return port for two-pipe operation
M : without by-pass plug, return plugged, for one-pipe operation
Solenoid valve voltage
05/07 : 220-240 V AC - 50/60 Hz
06 : 110-120 V AC - 50/60 Hz
02 : 24V AC - 50/60 Hz
Connector cable length
00 : no cable
35 : 35 cm cable - 45 : 45 cm cable
60 : 60 cm cable - 10 : 1 m cable



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 - 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 kg

Hydraulic Data

Gear size	Nozzle pressure range*	Factory setting
35/55	4 - 18 or 7-25 bars @ 5 cSt	9 or 12 bars
35K/55K	8 - 15 bars @ 1,8 cSt	9 bars

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

Viscosity range	1,25 - 12 mm²/s (cSt) for ALE 35K/55K 2 - 12 mm²/s (cSt) for ALE 35/55
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

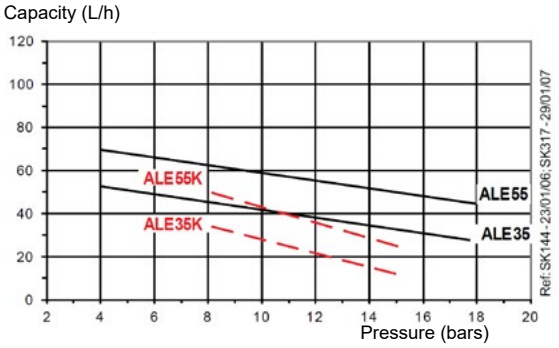
Solenoid valve characteristics

Voltage	220 -240 or 110-120 or 24 V; 50/60 Hz
Consumption	9 W max.
Coil Code*	Ambient temperature
06/02/05	0 - 60 °C
07	0 - 80 °C

**Refer to "Pump identification - solenoid coil voltage".*

Maximum pressure	25 bars
Relief valve	3,5 bars max. (without booster) opening pressure
Certified	TÜV Nr. stamped on pump cover
Protection class	IP 54 according to EN 60529, when used with SUNTEC connector cable.

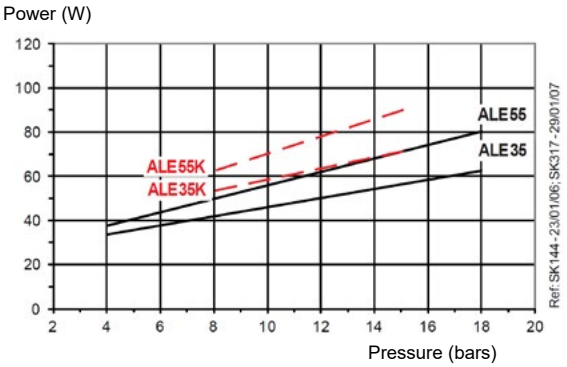
Pump capacity



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

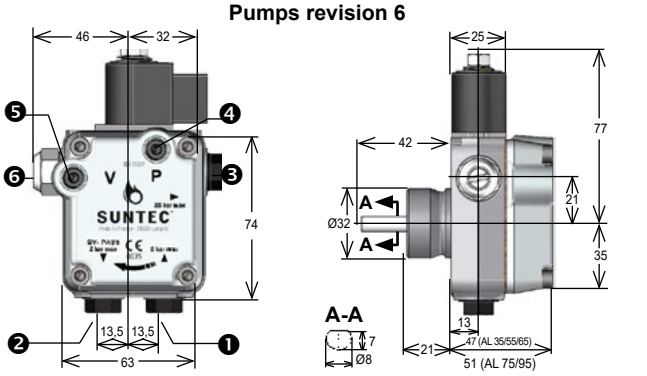


Viscosity = 5 cSt - Rated speed = 2850 rpm
1,8 cSt

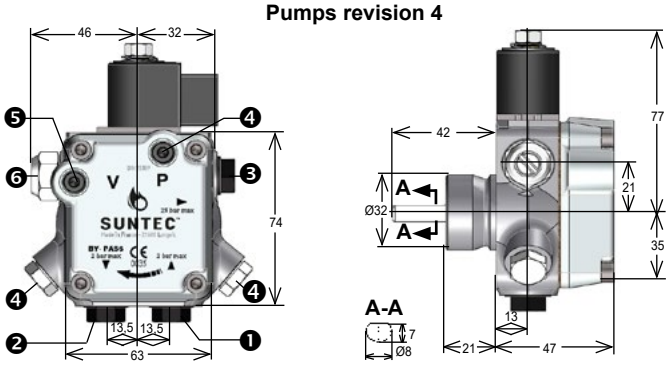
PUMP DIMENSIONS *(in mm)*

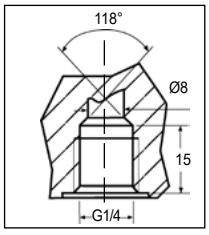
Examples show "C" rotation and nozzle outlet.

Pumps revision 6



Pumps revision 4





Inlet ❶ and Return ❷ with direct sealing for revision 6 models (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

Capacity	Reference	Type	Mounting type	Inlet/ Return (I/R)	Nozzle	Pressure range	Delivery pressure	Remarks	Alternate universal model	Alternate model
35	93144P0700	ALEV 35C	H32	G 1/4	G 1/8	8 - 15	9,0	2 angled pressure ports on body	98776P07 - ALE : 2 pressure ports on body	
	93216P0700	ALE 35C	H32	G 1/4	G 1/8	4 - 18	12,0	Shaft with 2 flats	98776P07	93396P07 - Shaft with 1 flat
	93246P0700	ALE 35C	H32	G 1/4	G 1/8	4 - 18	12,0		98776P07	93396P07
	93296P0700	ALE 35C	H32	G 1/4	G 1/8	7 - 25	12, 0	Pressure adjustement on nozzle side K gear clearance	98776P07	
	93344P0700	ALE 35C	H32	G 1/4	G 1/8	8 - 15	9,0	2 angled pressure ports on body	98776P07 - ALE : 2 pressure ports on body	93144P07
	93376P0700	ALEV 35D	H32	G 1/4	G 1/8	8 - 15	9,0		98776P07	
	93396P0700	ALEV 35C	H32	G 1/4	G 1/8	4 - 18	9,0			
55	93306P0700	ALE 55C	H32	G 1/4	G 1/8	7 - 25	19,0	Pressure adjustement on nozzle side		
75	93604P0700	ALEV 75C K	F54 / 92	G 1/4	G 1/8	4 - 18	14,0	2 angled pressure ports on body		

PUMP TYPE AS

AS

AS - 11 - Ed 24 - April 2024

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

The SUNTEC **AS** oil pump has a built in solenoid valve which controls the regulator cut-off valve giving fast cut-off and cut-on function independent of the rotational speed.

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.

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 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 solenoid valve of the AS pump is of the "normally opened" type.

When the solenoid valve is non-activated, the by-pass channel between the pressure and return sides of the valve is open. No pressure will then be built up to open the valve; it does not matter which speed the gear set has.

When the solenoid is activated, this by-pass channel is closed and because of the full speed of the gear set, the pressure necessary to open the valve will be built up very rapidly, which gives a very sharp cut-on function.

Cut-off

When the burner stops, the solenoid opens the by-pass at the same moment, which drains all the oil down to the return, and the nozzle valve closes immediately. This gives a very sharp cut-off function.

The cut-on and cut-off can be actuated regardless of motor speed and have an extremely fast response.

When the solenoid is not activated, the torque requirement is low up to full motor speed.

Bleed

Bleeding in two pipe operation is automatic, but it may be accelerated by opening a pressure port.

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

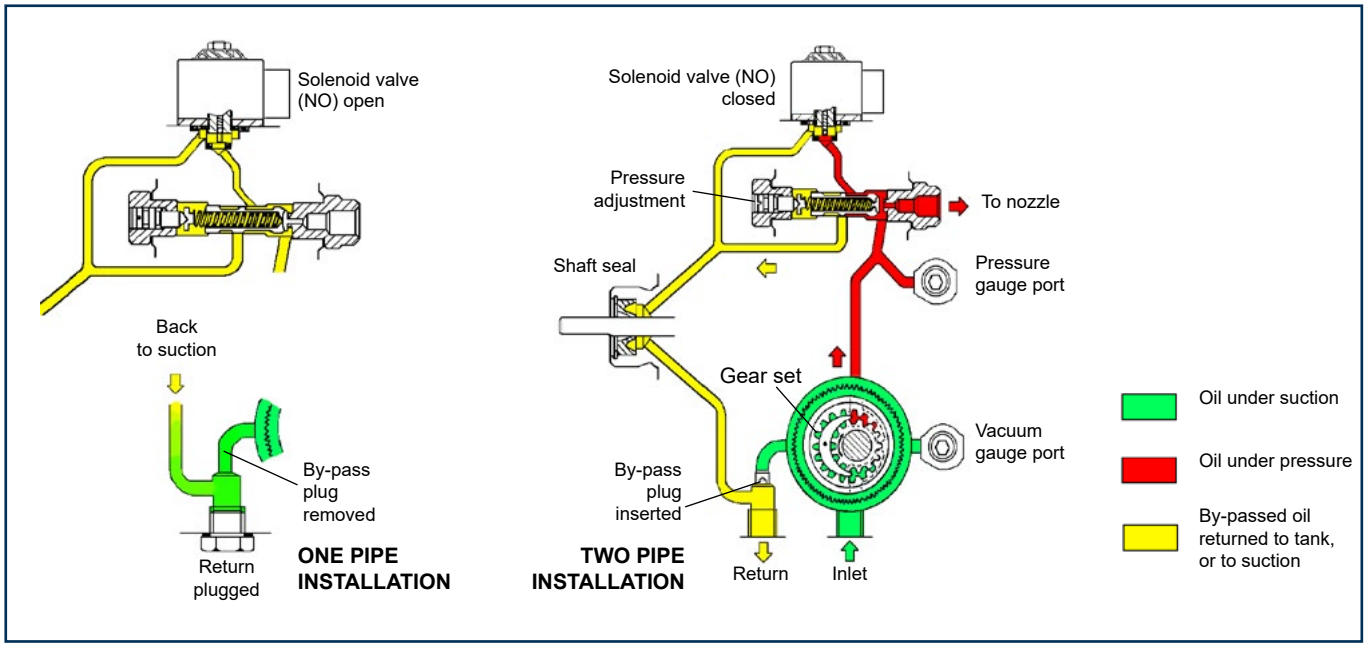
PUMP IDENTIFICATION

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

AS : pressure regulator and piston cut-off valve controlled by integral solenoid valve
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
Pump series
1000 : standard
7000 : with side pressure ports
4 : hub Ø 54 mm
5, 6 : hub Ø 32 mm
Model number

AS V 47 C K 1 5 xx 6 P 07 00

Revision number
Installation
P : by-pass plug inserted in return port for two-pipe operation
M : without by-pass plug;return plugged for one-pipe operation
Solenoid coil voltage
05/07 : 220 - 240 V AC ; 50/60 Hz
06 : 110 - 120 V AC ; 50/60 Hz
02 : 24 V AC ; 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 6)
Nozzle outlet	G 1/8
Pressure gauge ports	G 1/8
Vacuum gauge port	G 1/8
Valve function	Pressure regulation and cut-off*.
**cut-off function only assured for model pressure range.*	
Strainer	open area : 6 cm² - opening size : 150 µm.
Shaft	Ø 8 mm according to European standard 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- 1,5 kg (depending on the model).

Hydraulic Data

Gear size	Nozzle pressure range*	Factory setting
20/47	7 - 14 bars @ 5 cSt	9 or 10 bars
57	7 - 14 bars @ 5 cSt	9 bars
67	10 - 15 bars @ 5 cSt	10 bars
47K/57K	7 - 14 bars @ 1,8 cSt	9 bars
67K	10 - 15 bars @ 1,8 cSt	10 bars

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

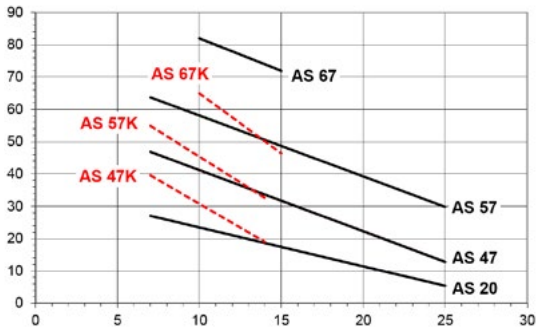
Operating viscosity	2 - 12 mm²/s (cSt) for AS 20/47/57/67 1,25 - 12 mm²/s (cSt) for AS 47K/57K/67K
Oil temperature	0 - 60°C in the pump.
Inlet pressure	2 bars max.
Return pressure	2 bars max.
Suction height	0,45 bars max. vacuum to prevent air separation from oil.
Rated speed	3600 rpm max. for AS 20/47/47K/57/57K 2850 rpm max for AS 67/67K
Torque (@ 45 rpm)	0,09 for AS 20 0,10 N.m for AS 47/47K/57/57K 0,12 N.m for AS 67/67K

Solenoid valve characteristics

Voltage	220-240 or 110-120 or 24 V; 50/60 Hz.
Consumption	9 W max.
Coil Code*	Ambient temperature
06/02/05	0 - 60 °C
07	0 - 80 °C
** Refer to "Pump identification - solenoid coil voltage".*	
Maximum pressure	25 bars
Certified	TÜV Nr. stamped on pump cover.
Protection class	IP 54 according to EN 60529, when used with SUNTEC connector cable.

Pump capacity

Capacity (L/h)

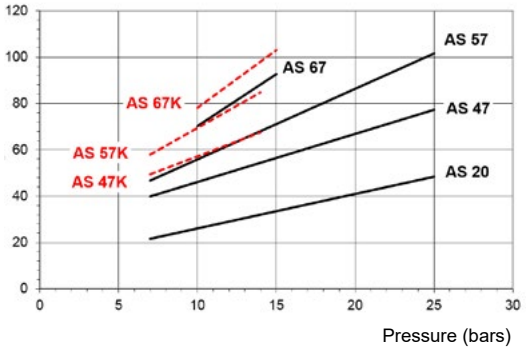


Viscosity = ——— 5 cSt - Rated speed = 2850 rpm
– – – 1,8 cSt

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

Power consumption

Power (W)

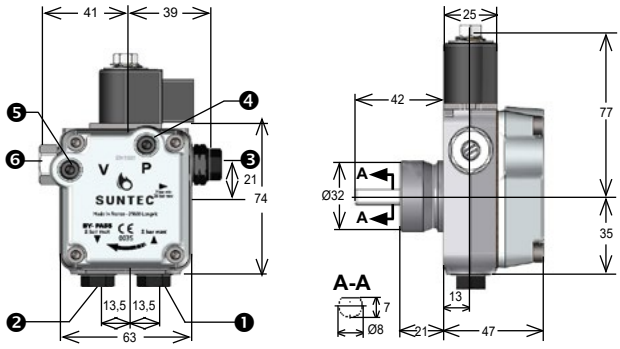


Viscosity = ——— 5 cSt - Rated speed = 2850 rpm
– – – 1,8 cSt

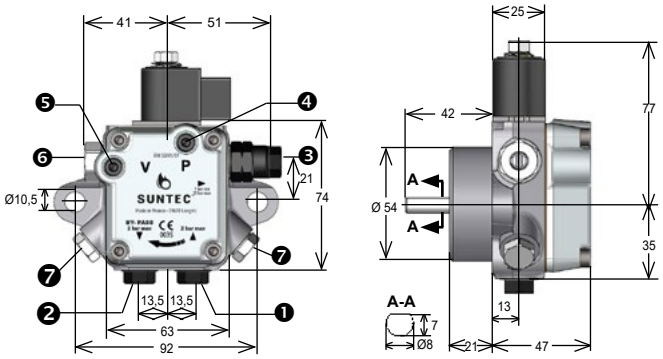
PUMP DIMENSIONS *(in mm)*

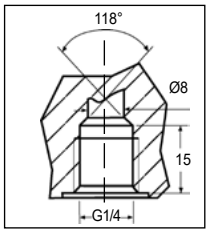
Examples show "C" rotation and nozzle outlet.

Pumps revision 6



Pumps revision 4





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)

Capacity	Reference	Type	Mounting type	Inlet/ Return (I/R)	Nozzle	Pressure range	Delivery pressure	Remarks	Alternate universal model	Alternate model
20	16306P0700	ASV 20C	H32	G 1/4	G 1/8 Short	7 - 25	17,0	Blue tampography		
47	15366M0700	AS 47A	H32	G 1/4	G 1/8 Short	7 - 14	9,0		98766P07	
	15366P0700	AS 47A	H32	G 1/4	G 1/8 Short	7 - 14	9,0		98766P07	17366P07
	15376P0200	AS 47B	H32	G 1/4	G 1/8 Short	7 - 14	9,0		98766P07 - Replace coil by 3713823-SAV (24V AC)	17376P07 - Replace coil by 3713823-SAV (24V AC)
	15376P0700	AS 47B	H32	G 1/4	G 1/8 Short	7 - 14	9,0		98766P07	17376P07
	15386M0700	AS 47C	H32	G 1/4	G 1/8 Short	7 - 14	10,0		98776P07 - Convert to one-pipe configuration	17386P07 - convert to one-pipe configuration
	15386P0200	AS 47C	H32	G 1/4	G 1/8 Short	7 - 14	10,0		98776P07 - Replace coil by 3713823-SAV (24V AC)	17386P07 - Replace coil by 3713823-SAV (24V AC)
	15386P0600	AS 47C	H32	G 1/4	G 1/8 Short	7 - 14	10,0		98776P07 - Replace coil by 3713824-SAV (110V AC)	17386P07 - Replace coil by 3713824-SAV (110V AC)
	15386P0700	AS 47C	H32	G 1/4	G 1/8 Short	7 - 14	10,0		98776P07	17386P07
	15396P0700	AS 47D	H32	G 1/4	G 1/8 Short	7 - 14	9,0		98776P07	17396P07
	15546M0700	AS 47C K	H32	G 1/4	G 1/8 Short	7 - 12	10,0	4mm hex adjusting screw	98776P07 - Convert to one-pipe configuration	
	15546P0700	AS 47C K	H32	G 1/4	G 1/8 Short	7 - 12	10,0	4mm hex adjusting screw	98776P07	
	15576P0700	AS 47D	H32	G 1/4	G 1/8 Short	7 - 25	12,0		98776P07	
	15826M0700	AS 47C K	H32	G 1/4	G 1/8 Short	7 - 12	10,0	Pressure port under nozzle 4mm hex adjusting screw	98776P07 - AS : horizontal pressure port on body	16826M07
	15826P0700	AS 47C K	H32	G 1/4	G 1/8 Short	7 - 12	10,0	Pressure port under nozzle 4mm hex adjusting screw	98776P07 - AS : horizontal pressure port on body	16826P07
	15866P0700	AS 47D K	H32	G 1/4	G 1/8 Short	7 - 25	12,0	Shaft with 2 flats;Limited to 14 bars with kerosene application	98776P07	
	15966P0700	AS 47D	H32	G 1/4	G 1/8 Short	7 - 14	12,0		98776P07	17966P07
	15976M0700	AS 47D K	H32	G 1/4	G 1/8 Short	7 - 12	9,8	Tested and delivery pressure fixed at 3450 rpm	98776P07 - Convert to one-pipe configuration	
	16026P0700	AS 47A K	H32	G 1/4	G 1/8 Short	7 - 12	9,0		98766P07	
	16046P0700	AS 47C	H32	G 1/4	G 1/8 Short	7 - 25	9,0		98776P07	
	16146P0700	AS 47D K	H32	G 1/4	G 1/8 Short	7 - 14	12,0			
	16156P0700	AS 47D	H32	G 1/4	G 1/8 Short	7 - 25	12,0	Viton lip seal	98776P07	
	16166P0700	ASV 47B	H32	G 1/4	G 1/8 Short	7 - 14	9,0		98766P07	17166P07
	16186P0700	ASV 47B	H32	G 1/4	G 1/8 Short	7 - 25	22,0		98766P07	
	16196P0200	AS 47A	H32	G 1/4	G 1/8 Short	7 - 14	9,0		98766P07 - Replace coil by 3713823-SAV (24V AC)	17366P07 - Replace coil by 3713823-SAV (24V AC)
	16226P0200	AS 47D	H32	G 1/4	G 1/8 Short	7 - 14	9,0		98776P07 - Replace coil by 3713823-SAV (24V AC)	17396P02
	16236P0700	AS 47C K	H32	G 1/4	G 1/8 Short	7 - 12	10,0		98776P07	16296P07
	16296P0700	ASV 47C K	H32	G 1/4	G 1/8 Short	7 - 12	10,0		98776P07	
	16316P0200	ASV 47A K	H32	G 1/4	G 1/8 Short	7 - 14	12,0		98766P07 - Replace coil by 3713823-SAV (24V AC)	
	16826M0700	ASV 47C K	H32	G 1/4	G 1/8 Short	7 - 12	10,0	4mm hex adjusting screw	98776P07 - AS : horizontal pressure port on body	
	16826P0700	ASV 47C K	H32	G 1/4	G 1/8 Short	7 - 12	10,0	4mm hex adjusting screw	98776P07 - AS : horizontal pressure port on body	
	16966P0700	ASV 47D	H32	G 1/4	G 1/8 Short	7 - 14	12,0		98776P07	17966P07
	74324P0700	AS 47A	F54 / 92	G 1/4	G 1/8 Long	7 - 14	9,0	2 angled pressure ports on body	98766P07 - AS : 2 pressure ports on body; flange 3719003	74734P07
	74344P0700	AS 47C	F54 / 92	G 1/4	G 1/8 Long	7 - 14	9,0	2 angled pressure ports on body	98776P07 - AS : 2 pressure ports on body; flange 3719003	

Capacity	Reference	Type	Mounting type	Inlet/ Return (I/R)	Nozzle	Pressure range	Delivery pressure	Remarks	Alternate universal model	Alternate model
	74514M0700	AS 47C K	F54 / 92	G 1/4	G 1/8 Long	7 - 12	9,0	2 angled pressure ports on body	98776P07 - AS : 2 pressure ports on body; flange 3719003	
	74652M0700	AS 47A K	F54 / 92	G 1/4	G 1/8 Long	7 - 12	9,0	Additional 1/4 NPTF inlet on cover regul side Steel plug on body inlet 1 angled pressure ports on body Bleeder valve on body		
	74724P0700	ASV 47A	F54 / 92	G 1/4	G 1/8 Long	7 - 14	9,0	2 angled pressure ports on body	98776P07 - AS : 2 pressure ports on the body; flange 3719003	
	75094P0700	AS 47A	H32	G 1/8	G 1/8 Medium	7 - 15,5	9,0	Shaft with 2 flats Angled port for nozzle return	98766P07 - AS: 2 press ports on body; 991557: G1/4-G1/8 adapt	
	75094P0700I	AS 47A	H32	G 1/8	G 1/8 Medium	7 - 15,5	9,0	Shaft with 2 flats Angled port for nozzle return	98766P07 - AS: 2 press ports on body; 991557: G1/4-G1/8 adapt	
	75124P0700	ASV 47A K	H32	G 1/4	G 1/8 Short	7 - 12	9,0	2 angled pressure ports on body	98766P07 - AS : 2 pressure ports on body	
	75364P0700	AS 47A	H32	G 1/4	G 1/8 Short	7 - 14	9,0	2 angled pressure ports on body	98766P07 - AS : 2 pressure ports on body	17366P07 - 7536 : 2 pressure ports on body
	75644P0700	AS 47A K	H32	G 1/4	G 1/8 Short	7 - 12	9,0	2 angled pressure ports on body	98766P07 - AS : 2 pressure ports on body	75994P07
	75924P0700	AS 47A	H32	G 1/4	G 1/8 Short	7 - 25	9,0	2 angled pressure ports on body	98766P07 - AS : 2 pressure ports on body	
	17166P0700	ASV 47B	H32	G 1/4	G 1/8 Short	7 - 14	9,0			
	17366P0700	ASV 47A	H32	G 1/4	G 1/8 Short	7 - 14	9,0		98766P07	
	17376P0700	ASV 47B	H32	G 1/4	G 1/8 Short	7 - 14	9,0		98766P07	
	17386P0700	ASV 47C	H32	G 1/4	G 1/8 Short	7 - 14	10,0		98776P07	
	17396P0200	ASV 47D	H32	G 1/4	G 1/8 Short	7 - 14	9,0		98776P07 - Replace coil by 3713823-SAV (24V AC)	
	17396P0700	ASV 47D	H32	G 1/4	G 1/8 Short	7 - 14	9,0		98776P07	
	17966P0700	ASV 47D	H32	G 1/4	G 1/8 Short	7 - 14	12,0			
57	15446P0700	AS 57C	H32	G 1/4	G 1/8 Short	7 - 14	9,0			
	16176P0700	AS 57D K	H32	G 1/4	G 1/8 Short	8,5 - 14	10,0	Tested and delivery pressure fixed at 3450 rpm		
	74372M0700	AS 57A J	F54 / 92	G 1/4	G 1/8 Long	7 - 12	9,0	Additional 1/4 NPTF inlet on cover regul side Steel plug on body inlet Body with Bleeder valve		
	74414P0700	AS 57C	F54 / 92	G 1/4	G 1/8 Long	7 - 14	9,0	2 angled pressure ports on body		
	75914P0700	AS 57A	H32	G 1/4	G 1/8 Short	7 - 14	9,0	2 angled pressure ports on body		
	16506P0700	ASV 57B	H32	G 1/4	G 1/8 Short	7 - 14	9,0			17506P07
	17506P0700	ASV 57B	H32	G 1/4	G 1/8 Short	7 - 14	9,0			
67	15706P0700	AS 67C	H32	G 1/4	G 1/8 Short	10 - 15	10,0			
	15756P0700	AS 67B	H32	G 1/4	G 1/8 Short	10 - 15	10,0			
	74024P0700	ASV 67A	F54 / 92	G 1/4	G 1/8 Long	10 - 15	10,0	2 angled pressure ports on body		
	74466P0700	AS 67C K	H54	G 1/4	G 1/8 Short	10 - 14	10,0	Only one angled pressure port on nozzle side		
	74494P0700	AS 67B	F54 / 92	G 1/4	G 1/8 Long	10 - 15	10,0	2 angled pressure ports on body		
	74564M0700	AS 67C	F54 / 92	G 1/4	G 1/8 Long	10 - 15	10,0	2 angled pressure ports on body		
	74564P0700	AS 67C	F54 / 92	G 1/4	G 1/8 Long	10 - 15	10,0	2 angled pressure ports on body		
	74634P0700	AS 67A	F54 / 92	G 1/4	G 1/8 Short	10 - 15	10,0	2 angled pressure ports on body		
	74664P0700	AS 67A	F54 / 92	G 1/4	G 1/8 Long	10 - 15	10,0	2 angled pressure ports on body		74024P07

PUMP TYPE AP2

AP2

AP2 - 11 - Ed 14 - April 2024

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

The SUNTEC **AP2** oil pump features 2 mode pressure operation without cut-off function. 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).
- 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.

PUMP IDENTIFICATION

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

AP : Pump for two mode operation (one nozzle line and two pressure modes) without cut-off
2 : Standard model
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
Pump series
5 : hub Ø 32 mm
Model number

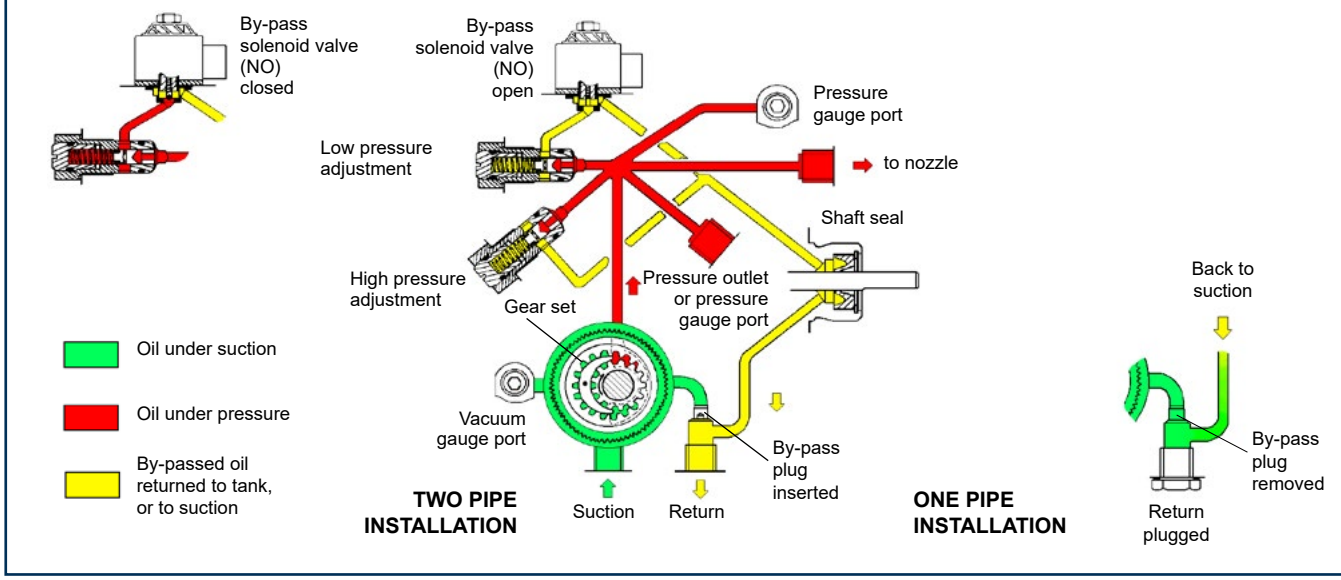
AP 2 V 45 C K 9 5 xx 4 P 07 00

Revision number

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

Solenoid coil voltage
05/07 : 220 - 240 V AC ; 50/60 Hz
06 : 110-120 V AC ; 50/60 Hz
02 : 24 V AC ; 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	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 gauge port	G 1/8
Vacuum gauge port	G 1/8
Valve function	Pressure regulation - no cut-off
Strainer	open area : 6 cm² (AP2 45/45K, 55/55K, 65/65K) 20 cm² (AP2 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	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

** AP2 75/95 : pressure obtained with a 12 GPH nozzle.*

(other ranges available on request, refer to the specified range of the particular fuel unit)

Delivery pressure settings @ 5 cSt	Low mode : 9 bars High mode : 22 bars
Operating viscosity	1,25 - 12 mm²/s (cSt) for AP2 45K/55K/65K/75K/95K 2 - 12 mm²/s (cSt) for AP2 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)	0,10 N.m (AP2 45/45 K, 55/55K) - 0,12 N.m (AP2 65/65K) 0,14 N.m (AP2 75/75K) - 0,20 N.m (AP2 95/95K)

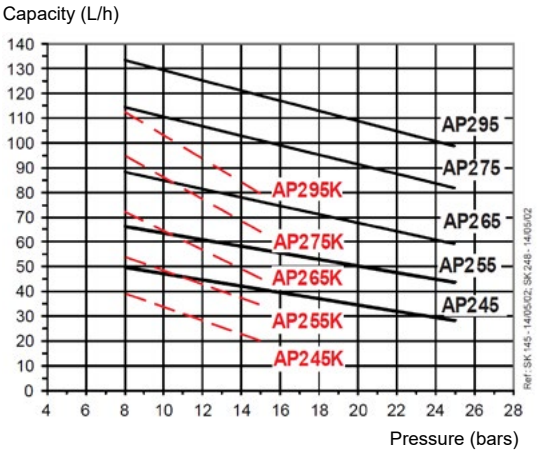
Solenoid valve characteristics

Voltage	220-240 or 110-120 or 24 V; 50/60 Hz
Consumption	9 W max.
Coil Code*	Ambient temperature
06/02/05	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 60529, when used with SUNTEC connector cable.

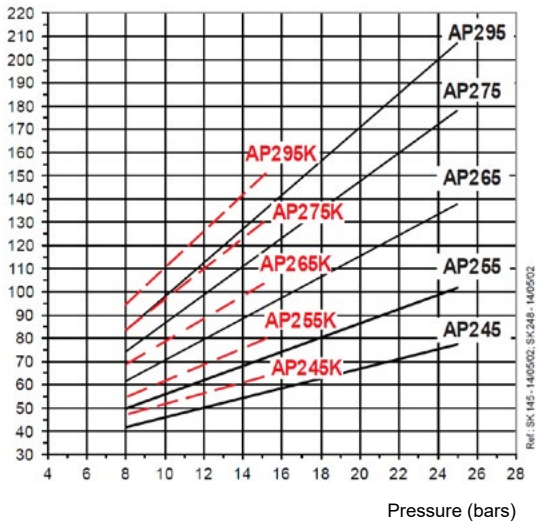
Pump capacity



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

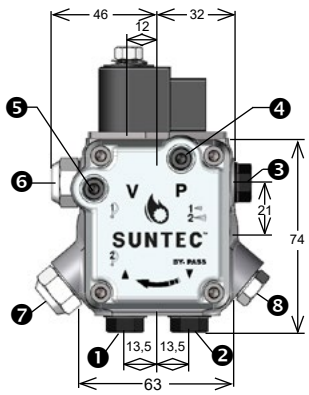


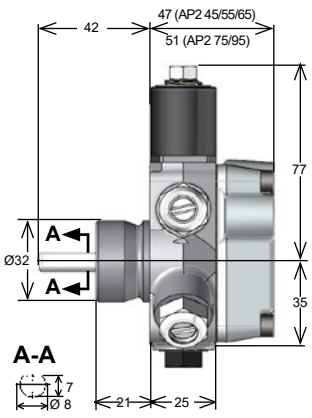
Viscosity = 5 cSt - Rated speed = 2850 rpm
1,8 cSt

PUMP DIMENSIONS *(in mm)*

Examples show "C" rotation and nozzle outlet.

1. Suction
2. Return and internal by-pass plug
3. Nozzle outlet
4. Pressure gauge port
5. Vacuum gauge port
6. Pressure adjustment
7. High pressure adjustment
8. Pressure outlet or pressure gauge port





Capacity	Reference	Type	Mounting type	Inlet/ Return (I/R)	Nozzle	Pressure range	Delivery pressure	Remarks	Alternate model
45	95104P0700	AP3 45C	H32	G 1/4	G 1/8	4 - 25	9,0/22,0		
	95664P0700	AP2 45D	H32	G 1/4	G 1/8	4 - 25	9,0/22,0		
	95694P0700	AP2 45C	H32	G 1/4	G 1/8	8 - 25	9,0/22,0	Shaft with 2 flats	
65	95114P0700	AP2 65C	H32	G 1/4	G 1/8	7 - 25	9,0/22,0		
	92234P0700	AP2V 65B	H32	G 1/4	G 1/8	7 - 25	9,0/22,0		
75	95624P0700	AP2 75C	H32	G 1/4	G 1/8	8 - 25	9,0/22,0		
	95624P0700Z	AP2 75C	H54	G 1/4	G 1/8	8 - 25	9,0/22,0	Hub adaptor factory fitted	
95	91111P0300	AP2 95D K	F54 / 92	1/4 NPTF	G 1/8	6 - 15	9,0/12,5,0		

PUMP TYPE A2L

A2L

A2L - 11 - Ed 15 - April 2024

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

The SUNTEC **A2L** oil pump has two nozzle outlets. It incorporates two blocking solenoid valves with in-line cut-off function, one for each nozzle outlet.

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 nozzle outlets.
- Two independent blocking solenoid valves.
- A sole regulator for both nozzle lines.

PUMP OPERATING PRINCIPLE

The gear set draws oil from the tank through the built-in filter and transfers it to the nozzle lines via the cut-off solenoid valves. A pressure regulating valve is used to bypass all oil which is not required at the nozzles.
In two-pipe operation, the by-pass plug must be fitted in the return port, which ensures that the oil bypassed by the regulating valve is returned to the tank and the suction line flow is equal to the gear set capacity.
In one-pipe operation (by-pass plug removed and return plugged), the oil which does not go through the nozzle lines is returned directly to the gear inlet and the suction line flow is equal to the sum of the 2 nozzle flows.

Bleed

Bleeding in two-pipe operation is automatic : it is assured by a bleed flat on the piston. In one-pipe operation, the plug of a pressure gauge port must be loosened until the air is evacuated from the system.

Cut-off

The solenoid valves of the A2L pump are of the "normally closed" type. Each solenoid valve is situated in one nozzle line. This design ensures extremely fast response and the switching can be selected according to the burner operating sequence and is independent of motor speed.
When the solenoids are non-activated, the valves are closed and all oil pressurized by the gear set passes through the regulator to suction or to the return line, depending upon pipe arrangement.
As soon as the solenoids are activated, oil passes to the nozzle lines at the pressure set by the pressure regulating valve.
The two solenoid valves can be operated independently.

PUMP IDENTIFICATION

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

A2L : 2 nozzle outlets
V : B100 applications
Gear set capacity (see pump capacity curves)
Shaft rotation and pressure regulation location (seen from shaft end)
A : clockwise rotation left hand regulation
B : clockwise rotation right hand regulation
C : anti-clockwise rotation right hand regulation
D : anti-clockwise rotation left hand regulation
K : kerosene applications
Pump series
7 : hub Ø 32 mm
Model number

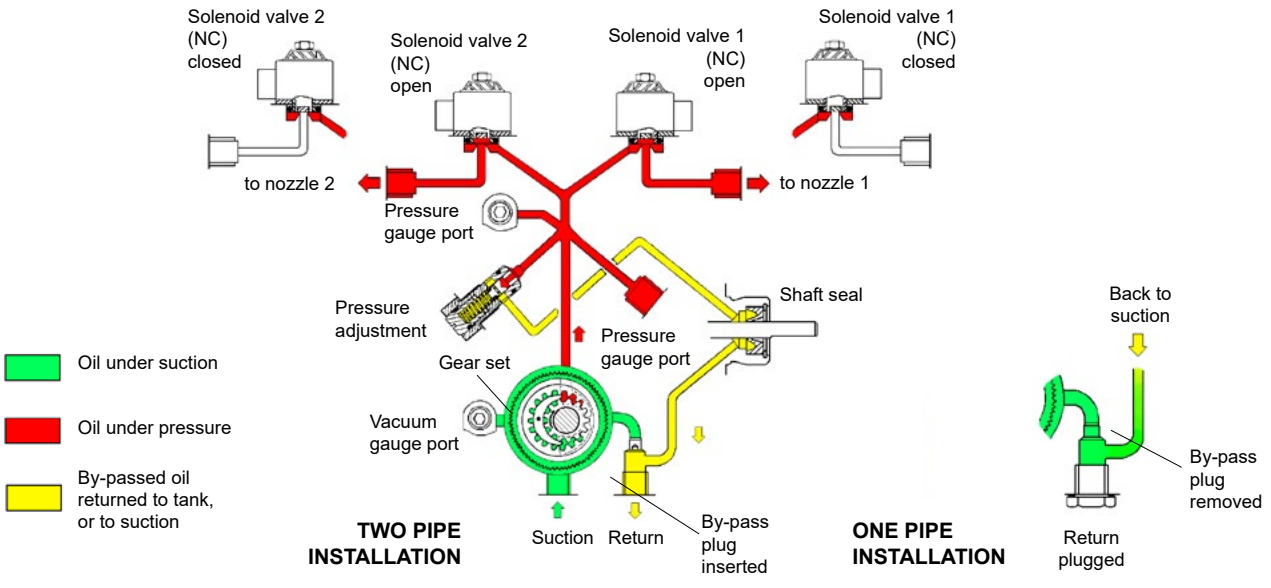
A2L V 35 C K 9 7 xx 4 P 07 00

Revision number

Installation
P : by-pass plug inserted for two-pipe operation
M : by-pass plug removed and return plugged for one-pipe operation

Solenoid valve voltage
05/07 : 220-240 V AC - 50/60 Hz
06 : 110-120 V AC - 50/60 Hz
02 : 24V AC - 50/60 Hz

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



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 gauge port	G 1/8
Vacuum gauge port	G 1/8
Valve function	Pressure regulation
Strainer	Open area : 6 cm² (A2L 35/35K/55/55K/65/65K) 20 cm² (A2L 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 with a 4 mm Allen key for one pipe system.
Weight	1,2 kg

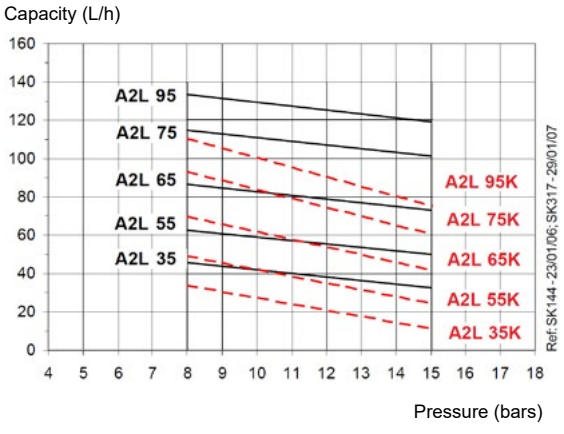
Hydraulic Data

Nozzle pressure range	8 -15 bars *(other ranges available on request, refer to the specified range of the particular fuel unit)*
Delivery pressure setting	9 bars (A2L 35/35K/55/55K/65/65K) 10 bars (A2L 75/75K/95/95K)
Viscosity range	2 -12 mm²/s (cSt) for A2L 35/55/65/75/95 1,25 -12 mm²/s (cSt) for A2L 35K/55K/65K/75K/95K
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 (A2L 35/35K/55/55K) - 0,12 N.m (A2L 65/65K) 0,14 N.m (A2L 75/75K) - 0,20 N.m (A2L 95/95K)

Solenoid valve characteristics

Voltage	220-240 or 110-120 or 24 V; 50/60 Hz
Consumption	9 W max.
Coil Code*	Ambient temperature
06/02/05	0 - 60 °C
07	0 - 80 °C
** Refer to "Pump identification - solenoid coil voltage".*	
Maximum pressure	25 bars
Certified	TÜV Nr. stamped on pump cover.
Protection class	IP 54 according to EN 60529, when used with SUNTEC connector cable.

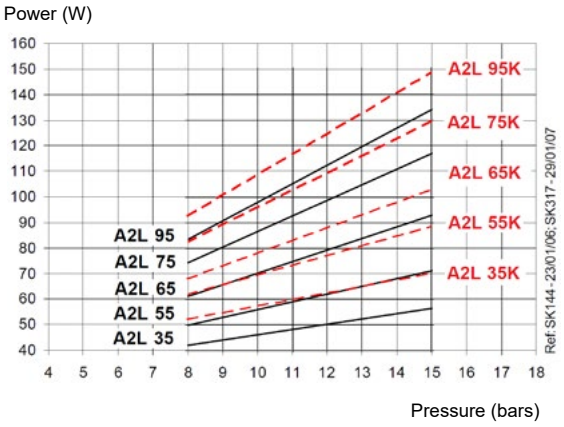
Pump capacity



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.

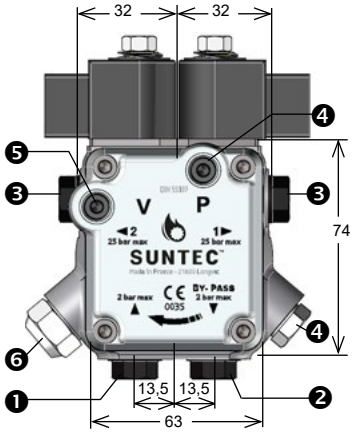
Power consumption

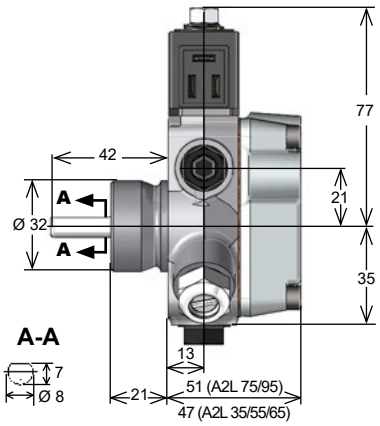


Viscosity = 5 cSt - Rated speed = 2850 rpm
1,8 cSt

PUMP DIMENSIONS *(in mm)*

Example shows "C" configuration.





❶ Suction ❷ Return and internal by-pass plug ❸ Nozzle outlet ❹ Pressure gauge port ❺ Vacuum gauge port ❻ Pressure adjustment

Capacity	Reference	Type	Mounting type	Inlet/ Return (I/R)	Nozzle	Pressure range	Delivery pressure	Remarks	Alternate model
55	97204P0700	A2L 55C J	H32	G 1/4	G 1/8	8 - 15	9,0		
65	97034P0700	A2L 65D	H32	M16 Male	M8 Male	8 - 15	13,0		
	97044P0700	A2L 65C K	H32	G 1/4	G 1/8	4 - 18	14,0		
	97054P0700	A2L 65D	H32	M14 Male	M8 Male	8 - 15	13,0		
	97074P0700	A2L 65B	H32	G 1/4	G 1/8	8 - 15	9,0		
	97084P0700	A2L 65A	H32	G 1/4	G 1/8	8 - 15	12,0		
	97134P0700	A2L 65C	H32	G 1/4 Male	G 1/8	8 - 25	15,0		97194P07
	97194P0700	A2LV 65C	H32	G 1/4 Male	G 1/8	8 - 25	15,0		
	97214P0700	A2L 65C J	H32	G 1/4	G 1/8	8 - 15	9,0		
	97234P0700	A2L 65C	H32	G 1/4	G 1/8	8 - 15	12,0		
75	97014P0700	A2L 75C K	H32	G 1/4	G 1/8	4 - 18	14,0		
	97064P0700	A2L 75C	H32	G 1/4	G 1/8	8 - 15	12,0		
95	97024P0700	A2L 95D	H32	M16 Male	M8 Male	4 - 18	13,0		
	97154P0700	A2L 95C	H32	M16 Male	G 1/8	8 - 25	10,0		
	97224P0700	A2L 95C J	H32	G 1/4	G 1/8	8 - 15	9,0		
	97524P0700	A2LV 95D	H32	M16 Male	M8 Male	4 - 18	13,0		
	97614P0700	A2LV 95B	H32	G 1/4	G 1/8	4 - 18	13,0		

PUMP TYPE AT2

AT2

AT2 - 11 - Ed 17 - April 2024

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

The SUNTEC **AT2** oil pump features 2 mode pressure operation and incorporates a blocking solenoid valve with in-line cut-off function. Switching between low and high modes is assured by a 2nd 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.
- 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.
This design ensures extremely fast response and the switching can be selected according to the burner operating sequence and is independent of motor speed.
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.
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.

PUMP IDENTIFICATION

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

AT : Pump for two mode operation (one nozzle line and two pressure modes) with integral in-line solenoid cut-off
2 : Standard model
V : B100 application
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
Pump series
5/6 : hub Ø 32 mm
Model number

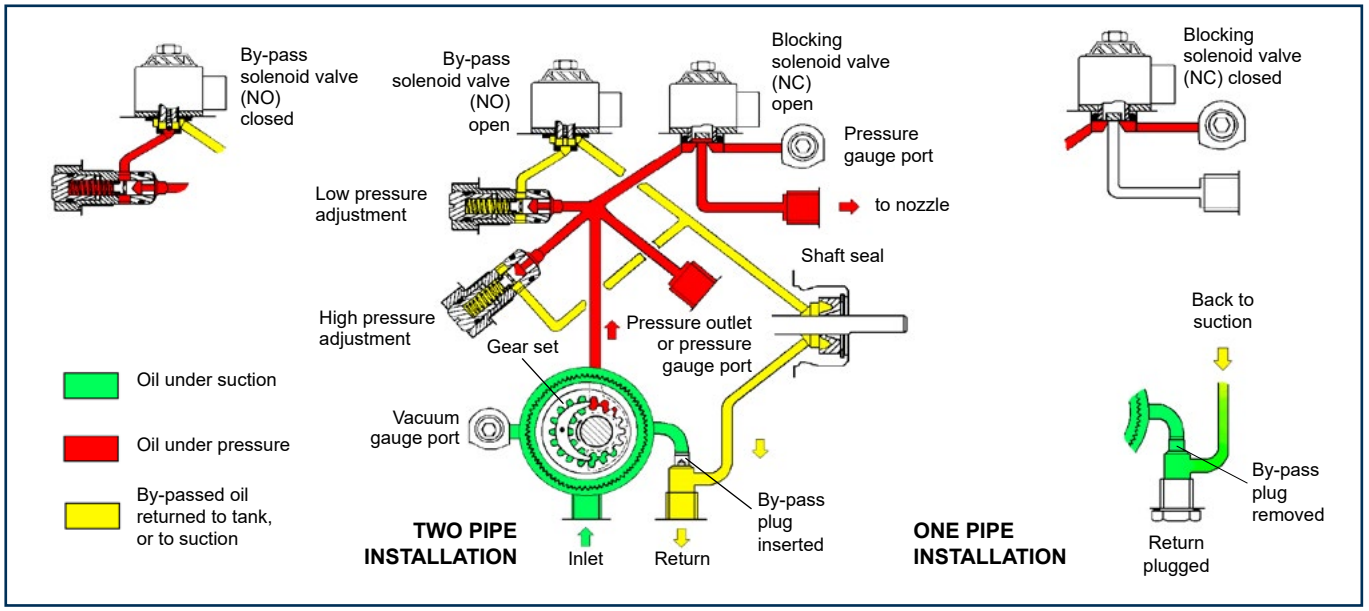
AT	2	V	45	C	K	9	5	xx	4	P	07	00

Revision number

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

Solenoid coil voltage
05/07 : 220 - 240 V AC ; 50/60 Hz
06 : 110 - 120 V AC ; 50/60 Hz
02 : 24 V AC ; 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	Hub mounting according to EN 225.
Connection threads Inlet and return	cylindrical according to ISO 228/1 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 cm² (AT2 20,45/45K, 55/55K, 65/65K) 20 cm² (AT2 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	

** AT2 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 mm²/s (cSt) for AT2 45K/55K/65K/75K/95K 2 - 12 mm²/s (cSt) for AT2 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 (AT2 20) 0,10 N.m (AT2 45/45K, 55/55K) 0,12 N.m (AT2 65/65K) 0,14 N.m (AT2 75/75K) - 0,20 N.m (AT2 95/95K)

Solenoid valve characteristics

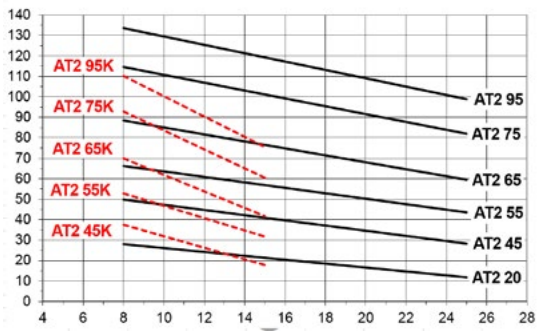
Voltage	220-240 or 110-120 or 24 V; 50/60 Hz
Consumption	9 W max.
Coil Code* 06/02/05 07	Ambient temperature 0 - 60 °C 0 - 80 °C

** Refer to "Pump identification - solenoid coil voltage".*

Maximum pressure	25 bars
Certified	TÜV Nr stamped on pump body.
Protection class	IP 54 according to EN 60529, when used with SUNTEC connector cable.

Pump capacity

Capacity (L/h)

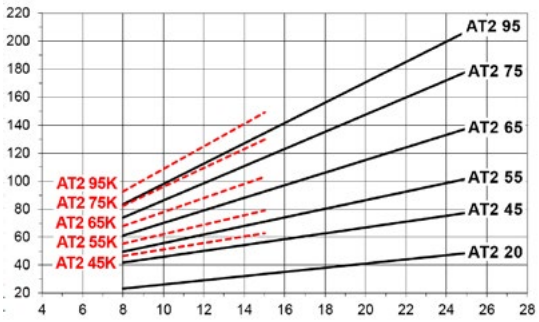


Viscosity = 5 cSt - Rated speed = 2850 rpm
1,8 cSt

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

Power consumption

Power (W)



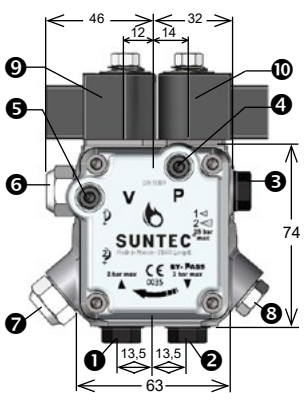
Viscosity = 5 cSt - Rated speed = 2850 rpm
1,8 cSt

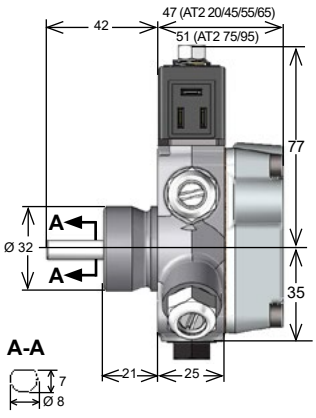
PUMP DIMENSIONS *(in mm)*

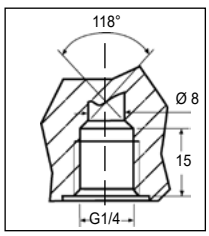
Examples show "C" rotation and nozzle outlet.

Pumps revision 4/6

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
9. Solenoid valve for switching low/high modes
10. Blocking solenoid valve







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

Capacity	Reference	Type	Mounting type	Inlet/ Return (I/R)	Nozzle	Pressure range	Delivery pressure	Remarks	Alternate universal model	Alternate model
45	92014P0700	AT2V 45A	H32	G 1/4	G 1/8	8 - 25	9,0/22,0		98616P07	
	94084P0300	AT2 45C	H32	G 1/4	G 1/8	8 - 25	9,0/22,0			
	94084P0800	AT2 45C	H32	G 1/4	G 1/8	8 - 25	9,0/22,0			
	95074P0700F	AT2 45A K	H32	G 1/4	G 1/8	3 - 15	8,0/12,0	Flange F54 / 92 mounted	98616P07 - Flange 3719003	
	95134P0700	AT2 45D	H32	M14 Male	G 1/8	8 - 25	11,0/22,0		98606P07 - keep I/R and nozzle fittings from old pump	
	95386P0700	AT2 45D	H32	G 1/4	G 1/8	8 - 25	11,0/22,0	No angled pressure port on body	98606P07	96386P07
	95414P0700	AT2 45C	H32	G 1/4	G 1/8	8 - 25	9,0/22,0		98606P07	96044P07
	95444P0700	AT2 45D	H32	G 1/4	G 1/8	8 - 25	9,0/22,0		98606P07	96034P07
	95474P0700	AT2 45A	H32	G 1/4	G 1/8	8 - 25	9,0/22,0		98616P07	96474P07
	95554P0700	AT2 45D	H32	M14 Male	M8 Male	8 - 25	11,0/22,0		98606P07 - keep I/R and nozzle fittings from old pump	
	95844P0700	AT2 45D K	H32	G 1/4	G 1/8	8 - 25	9,0/22,0		98606P07	
	96034P0700	AT2V 45D	H32	G 1/4	G 1/8	8 - 25	9,0/22,0		98606P07	
	96044P0700	AT2V 45C	H32	G 1/4	G 1/8	8 - 25	9,0/22,0		98606P07	
	96304P0800	AT2V 45C K	H32	G 1/4	G 1/8	8 - 22	9,0/22,0			
	96334P0700	AT2V 45D	H32	G 1/4	G 1/8	8 - 25	9,0/22,0	Solenoid valve marked 2	98606P07	
	96386P0700	AT2V 45D	H32	G 1/4	G 1/8	8 - 25	11,0/22,0	No angled pressure port on body	98606P07	
	96474P0700	AT2V 45A	H32	G 1/4	G 1/8	8 - 25	9,0/22,0		98616P07	
	96516P0700	AT2V 45B	H32	G 1/4	G 1/8	8 - 25	9,0/22,0		98616P07	
	96744P0700	AT2V 45A	H32	G 1/8	G 1/8	8 - 25	9,0/22,0		98616P07	
55	95044P0700	AT2 55C	H32	G 1/4	G 1/8	8 - 25	10,0/20,0		98606P07	95494P07 - No B100 compatible
	95494P0700	AT2 55C	H32	G 1/4	G 1/8	8 - 25	9,0/22,0		98606P07	
	96494P0700	AT2V 55C	H32	G 1/4	G 1/8	8 - 25	9,0/22,0		98606P07	
65	92504P0700	AT2V 65D	H32	G 1/4	G 1/8	8 - 25	9,0/22,0			
	95774P0700	AT2 65A	H32	G 1/4	G 1/8	8 - 25	9,0/22,0			
	95824P0700	AT2 65D K	H32	G 1/4	G 1/8	6 - 18	9,0/15,0			
	96564P0700	AT2V 65C	H32	G 1/4	G 1/8	8 - 25	9,0/22,0			
	96874P0700	AT2V 65B	H32	G 1/4	G 1/8	8 - 25	10,0/20,0			
75	95834P0700	AT2 75C	H32	G 1/4	G 1/8	8 - 25	11,0/22,0			
	96914P0700	AT2V 75B	H32	G 1/4	G 1/8	8 - 25	10,0/20,0			
95	95854P0700	AT2 95C	H32	M16 Male	G 1/8	7 - 25	11,0/22,0			96854P07
	96924P0700	AT2V 95B	H32	G 1/4	G 1/8	8 - 25	10,0/20,0			
	96854P0700	AT2V 95C	H32	M16 Male	G 1/8	7 - 25	11,0/22,0			

PUMP TYPE D

D

AD - 11 - Ed 13 - January 2025

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

The SUNTEC **D** oil pump is specially adapted for heavy oil (up to 75 cSt) and high working temperature (up to 90°C).

COMPATIBILITY

- Domestic oil, heavy oil, HVO, B100 (biofuel blend with the addition up to 100% FAME, as defined in DIN SPEC 51603-6 and EN 14214).
- One-pipe 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 valve that regulates the oil pressure to the nozzle line.

All oil which does not go through the nozzle line will be dumped through the valve back to the return line, in a two-pipe installation or, if installation is one-pipe, 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.

Bleed

Bleeding in two pipe operation is automatic.

In one pipe operation, during the starting period, air is purged through the nozzle line : the by-pass hole of the nozzle plug allows air to pass to the nozzle line without opening of the regulator valve.

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

Models gear sizes "45" and "55" have a piston with a bleed slot to avoid build up of pressure in the nozzle and suction lines during shut down due to the expansion of oil caused by nozzle line heaters.

PUMP IDENTIFICATION

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

D : basic valve without cut-off heavy oil applications.

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.

D V 57 C 7 2 xx 3 P

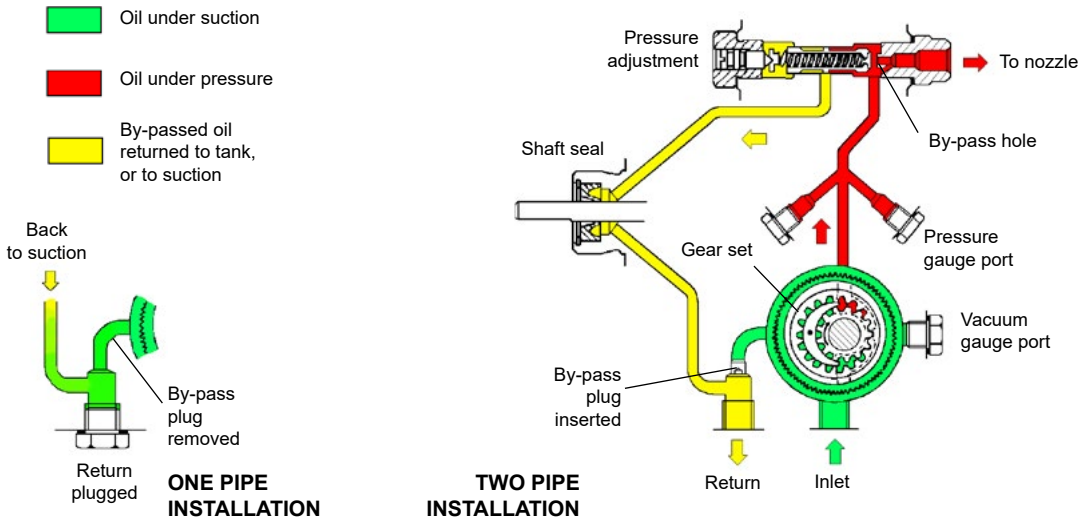
Pump series

2 : hub Ø 54 mm
3 : hub Ø 32 mm

Model number

Revision number

Installation
P : by-pass plug inserted in return port for two-pipe operation.
M : without by-pass plug, return port sealed by steel plug for one-pipe operation.



TECHNICAL DATA

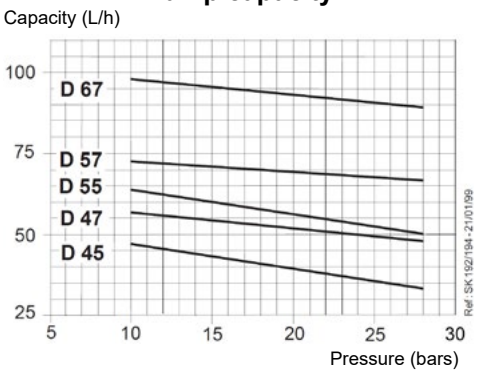
General

Mounting	Flange or hub according to EN 225
Connection threads	Cylindrical according to ISO 228/1
Inlet and return	G 1/4
Nozzle outlet	G 1/8
Pressure gauge port	G 1/8
Vacuum gauge port	G 1/4 or G 1/8
Valve function	Pressure regulating without cut-off
Strainer	Open area : 12 cm^2
	Opening size : 530 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	1,8 - 1,9 kg (depending on the model)

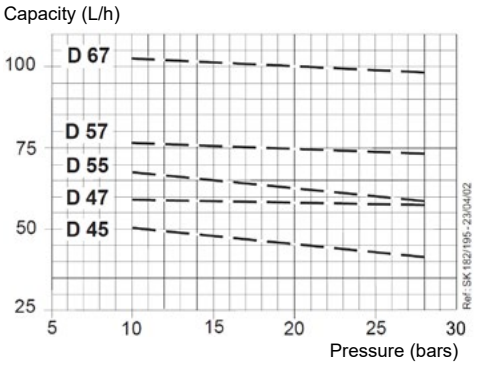
Hydraulic data

Nozzle pressure range	10 - 28 bars
(other ranges available on request, refer to the specified range of the particular fuel unit)	
Factory setting	14 bars
Operating viscosity	2 - 75 mm^2/s (cSt)
	(Higher viscosity oil can be used by feeding the pump or by heating the oil to lower its viscosity under 75 cSt)
Oil temperature	0 - 90°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 (D 45/47/55/57)
	0,12 N.m (D 67)

Pump capacity



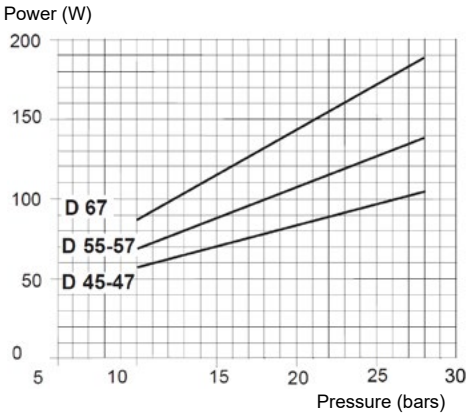
Viscosity = 20 cSt - Rated speed = 2850 rpm



Viscosity = 75 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

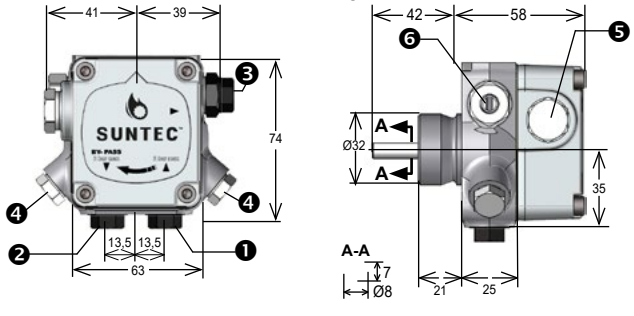


Viscosity = 20-75 cSt - Rated speed = 2850 rpm

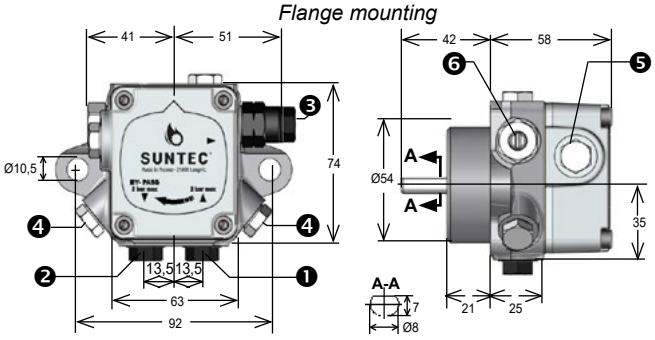
PUMP DIMENSIONS *(in mm)*

Examples show "C" rotation and nozzle outlet.

Hub mounting



Flange mounting



❶ Suction
❷ Return and internal by-pass plug
❸ Nozzle outlet
❹ Pressure gauge port
❺ Vacuum gauge port
❻ Pressure adjustment

Capacity	Reference	Type	Mounting type	Inlet/ Return (I/R)	Nozzle	Pressure range	Delivery pressure	Remarks	Alternate model
45	72813P	D 45C	F54 / 92	G 1/4	G 1/8 Long	10 - 28	14,0	G1/4 vacuum port on regul side Additional pressure port on top 2 angled pressure ports on body	
	73473P	D 45B	H32	G 1/4	G 1/8 Short	10 - 28	14,0	G1/8 vacuum port on regul side	
	73743P	D 45C	H32	G 1/4	G 1/8 Short	10 - 28	14,0	G1/4 vacuum port on regul side Additional pressure port on top	
	73883P	D 45B	H32	G 1/4	G 1/8 Short	0,7 - 3	2,0	G1/8 vacuum port on regul side Viton lip seal	
47	73203P	D 47D	H32	G 1/4	G 1/8 Short	10 - 28	14,0	G1/8 vacuum port on nozzle side Two Lip seals	
	73523P	D 47D	H32	M14 Male	G 1/8 Short	10 - 28	14,0	G1/8 vacuum port on regul side	
	73833P	D 47A	H32	G 1/4	G 1/8 Short	7 - 25	7,0	Double spring with cut-off G1/8 vacuum port on regul side Two Lip seals	
55	73823P	D 55C	H32	G 1/4	G 1/8 Short	10 - 28	14,0	G1/8 vacuum port on nozzle side	
57	72063P	D 57D	F54 / 92	G 1/4	G 1/8 Long	10 - 28	14,0	G1/8 vacuum port on regul side Two Lip seals	
	72103P	D 57B	F54 / 92	G 1/4	G 1/8 Long	10 - 28	14,0	G1/4 vacuum port on regul side	
	72713P	D 57A	F54 / 92	G 1/4	G 1/8 Long	10 - 28	14,0	G1/8 vacuum port on regul side	
	72733P	D 57C	F54 / 92	G 1/4	G 1/8 Long	10 - 28	14,0	G1/8 vacuum port on regul side	
	73123P	DV 57C	F54 / 92	G 1/4	G 1/8 Short	10 - 28	14,0	G1/8 vacuum port on nozzle side	
	73183P	D 57A	H32	G 1/4	G 1/8 Short	10 - 28	14,0	G1/8 vacuum port on regul side Two Lip seals	
	73543P	D 57A	H32	G 1/4	G 1/8 Short	10 - 28	14,0	G1/8 vacuum port on regul side	
	73723P	D 57C	H32	G 1/4	G 1/8 Short	10 - 28	14,0	G1/8 vacuum port on nozzle side Additional pressure port on top	73123P
67	72763P	D 67A	F54 / 92	G 1/4	G 1/8 Long	10 - 28	14,0	G1/4 vacuum port on regul side	
	72843P	D 67C	F54 / 92	G 1/4	G 1/8 Long	10 - 28	14,0	G1/8 vacuum port on regul side	
	73133P	DV 67C	H32	G 1/4	G 1/8 Short	10 - 28	14,0	G1/8 vacuum port on nozzle side Additional pressure port on top	
	73163P	D 67A	H32	G 1/4	G 1/8 Short	16 - 28	20,0	G1/4 vacuum port on regul side Two Lip seals	
	73793P	D 67C	H32	G 1/4	G 1/8 Short	10 - 28	14,0	G1/4 vacuum port on regul side	

MEDIUM CAPACITY GEAR PUMPS

PUMP TYPE AJ

AJ

AJ - 11 - Ed 17 - January 2025

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*.

COMPATIBILITY

- Domestic oil, HVO, B100 (biofuel blend with the addition of 100% FAME, as defined in DIN SPEC 51603-6), 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 that does not go through the nozzle line will be by-passed 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)

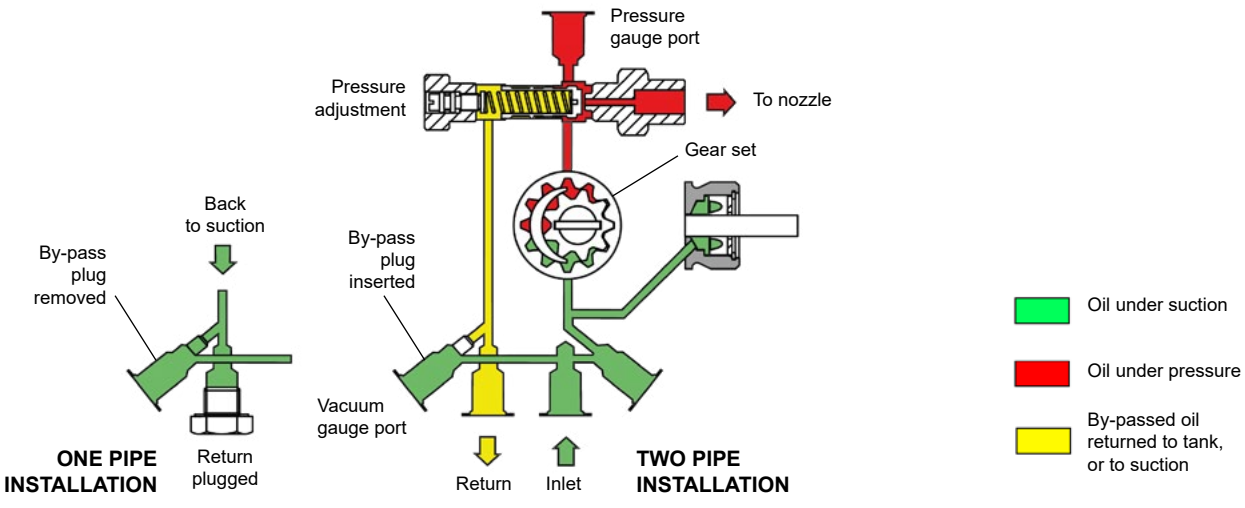
AJ : pressure regulation
V : B100 applications
Gear set capacity (see pump capacity curves)
Shaft rotation and nozzle location (seen from shaft end)
A : clockwise rotation/ right hand nozzle.
B : clockwise rotation/ left hand nozzle.
C : anti clockwise rotation/ left hand nozzle.
D : anti clockwise rotation/ right hand nozzle.
Pressure range
B : 7 - 15 bars
C : 10 - 20 bars
E : 10 - 28 bars
A : 0,5 - 3 bars
K : kerosene applications

AJ V 4 C B K 1000 4 P

1000 : standard model with cut-off function Ø 11 mm shaft
1002 : by-pass nozzle, no cut-off function Ø 11 mm shaft
1003 : standard model with cut-off function Ø 8 mm shaft

Revision number

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



TECHNICAL DATA

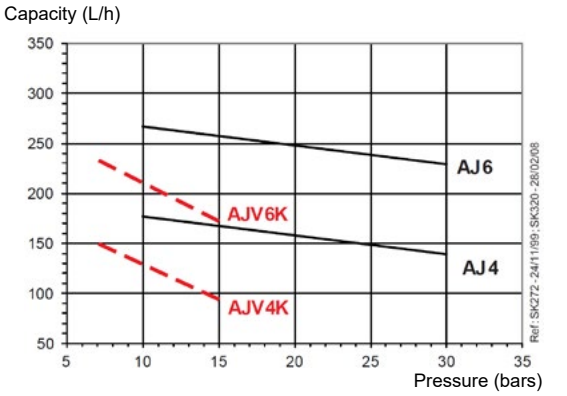
General

Mounting	Flange according to EN 225
Connection threads	Cylindrical according to ISO 228/1
Inlet and return	G 1/4
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	B : 7 - 15 bars C : 10 - 20 bars E : 10 - 30 bars
Delivery pressure setting	12 bars
Operating viscosity	2 - 75 mm²/s (cSt) for AJ4, AJ6 1,25 - 75 mm²/s (cSt) for AJV4K, AJV6K
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 (AJ4/AJ6) - 0,15 N.m (AJV4K, AJV6K)

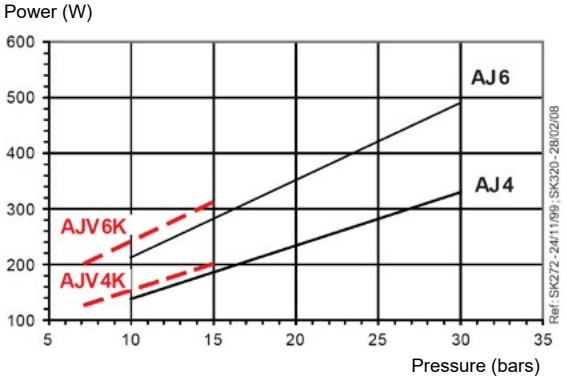
Pump capacity



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.

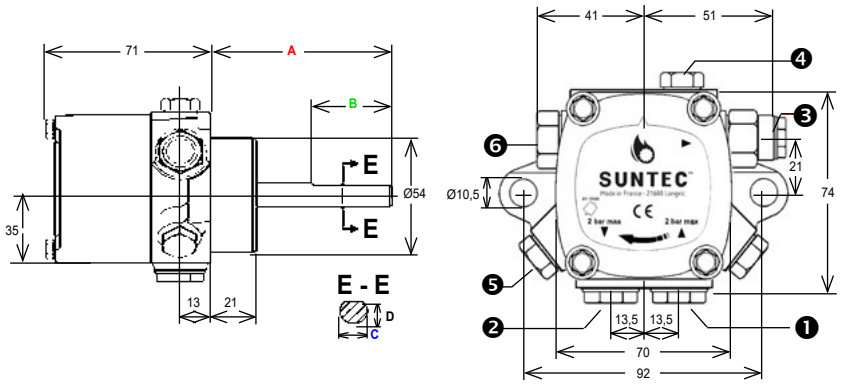
Power consumption



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

PUMP DIMENSIONS *(in mm)*

Example shows "C" rotation and nozzle outlet.



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

❶ Suction ❷ Return ❸ Nozzle outlet ❹ Pressure gauge port ❺ Vacuum gauge port and internal by-pass plug ❻ Pressure adjustment

Capacity	Reference	Mounting type	Inlet/ Return (I/R)	Nozzle	Pressure range	Delivery pressure	Remarks	Alternate model
AJ4	AJ4AC10004P	F54 / 92	G 1/4	G 1/8 Long	10 - 20	12,0		AJV4AC10004P
	AJ4CC10004P	F54 / 92	G 1/4	G 1/8 Long	10 - 20	12,0		
	AJ4CE10024P	F54 / 92	G 1/4	G 1/8 Long	10 - 30	12,0	No cut-off function	AJV4CE10024P
	AJV4ABK10004P	F54 / 92	G 1/4	G 1/8 Long	7 - 15	12,0		
	AJV4AC10004P	F54 / 92	G 1/4	G 1/8 Long	10 - 20	12,0		
	AJV4CE10024P	F54 / 92	G 1/4	G 1/8 Long	10 - 30	12,0	No cut-off function	
	AJV4AA10024P	F54 / 92	G 1/4	G 1/8 Long	0,5 - 5	3,0	No cut-off function	
AJ6	AJ6AC10004P	F54 / 92	G 1/4	G 1/8 Long	10 - 20	12,0		AJV6AC10004P
	AJ6AE10024P	F54 / 92	G 1/4	G 1/8 Long	10 - 30	12,0	No cut-off function	
	AJ6CC10004P	F54 / 92	G 1/4	G 1/8 Long	10 - 20	12,0		AJV6CC10004P
	AJ6CC10024P	F54 / 92	G 1/4	G 1/8 Long	10 - 20	12,0	No cut-off function	
	AJ6CC10034P	F54 / 92	G 1/4	G 1/8 Long	10 - 20	12,0	ø8 mm shaft	AJV6CC10034P
	AJ6CE10024P	F54 / 92	G 1/4	G 1/8 Long	10 - 30	12,0	No cut-off function	AJV6CE10024P
	AJ6DC10004P	F54 / 92	G 1/4	G 1/8 Long	10 - 20	12,0		
	AJ6DE10024P	F54 / 92	G 1/4	G 1/8 Long	10 - 30	12,0	No cut-off function	
	AJV6ABK10004P	F54 / 92	G 1/4	G 1/8 Long	7 - 15	12,0		
	AJV6AC10004P	F54 / 92	G 1/4	G 1/8 Long	10 - 20	12,0		
	AJV6AC10034P	F54 / 92	G 1/4	G 1/8 Long	10 - 20	12,0	ø8 mm shaft	
	AJV6CBK10004P	F54 / 92	G 1/4	G 1/8 Long	7 - 15	12,0		
	AJV6CC10004P	F54 / 92	G 1/4	G 1/8 Long	10 - 20	12,0		
	AJV6CC10044P	F54 / 92	G 1/4	G 1/8 Long	10 - 20	19,0		AJV6CC10004P
	AJV6CC10054P	F54 / 92	G 1/4	G 1/8 Long	10 - 20	12,0		
	AJV6CE10004P	F54 / 92	G 1/4	G 1/8 Long	10 - 30	12,0		
	AJV6CE10024P	F54 / 92	G 1/4	G 1/8 Long	10 - 30	12,0	No cut-off function	

OIL PUMP J

J

J - 11 - Ed 21 - January 2025

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

The SUNTEC **J** oil pump is for medium capacity oil burners from 400 to 3000kW. It incorporates a pressure regulating valve and is avalaible with or without cut-off function.

COMPATIBILITY

- Light and medium oil, HVO, B100 (biofuel blend with the addition up to 100% FAME, as defined in DIN SPEC 51603-6 or EN 14214). For kerosene applications, contact Suntec.
- 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 return port and the return port sealed by steel plug and washer.

Models 1000 & 1001, 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.

Models 1002 & 1003 have no cut-off function. Cut-off must be provided by an external solenoid valve.

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.

PUMP IDENTIFICATION

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

J : Pressure regulation

Gear set capacity (see pump capacity curves)

Strainer

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.

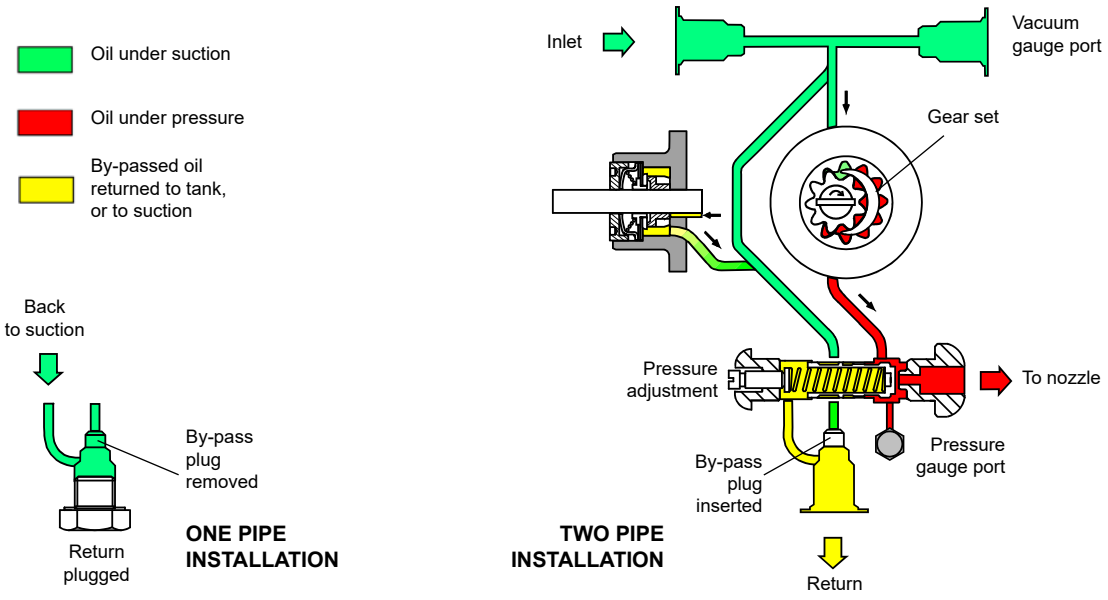
Pressure range

J 6 P A C 1001 8 P

1000 : conical connection threads cut-off function
1001 : cylindrical connection threads cut-off function
1002 : cylindrical connection threads by-pass nozzle, no cut-off function
1003 : conical connection threads by-pass nozzle, no cut-off function

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



TECHNICAL DATA

General

Mounting	Flange mounting according to EN 225.	
	Models 1000/1003	Models 1001/1002
Connection threads	Conical	Cylindrical (according to ISO 228/1)
Inlet and return	1/4 NPTF	G 1/2
Nozzle outlet	1/8 NPTF	G 1/4
Pressure gauge port	1/8 NPSF	G 1/8
Vacuum gauge port	1/4 NPTF	G 1/2
Valve function	Pressure regulating and cut-off (except for 1002 and 1003 models).	

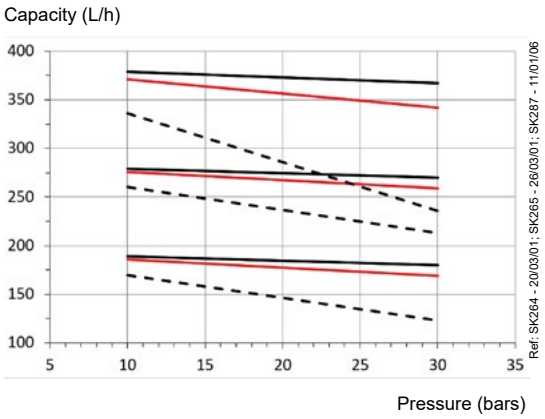
Strainer	Open area	Opening size
P :	97cm²	170µm
N :	45cm²	550µm
L :	No filter	

Shaft	Ø 11mm according to EN 225.
By-pass plug	Inserted in return port for 2 pipe system; to be removed with a 3/16" Allen key for 1 pipe system.
Weight	4 kg
Certified	except J7 and pressure range K : UR certified

Hydraulic data

Pressure range		Delivery pressure setting
	A : 1,4 - 2,8 bars	2,8 bars
	B : 7 - 14 bars	7 bars
	C : 10 - 21 bars	12 bars
	D : 2,8 - 5,5 bars	5,5 bars
	F : 0,7 - 1,4 bars	0,7 bars
	K : 14 - 30 bars	20 bars (for J1000 and J1001)
	10 - 30 bars	12 bars (for J1002 and J1003)
Operating viscosity	2 - 75 mm²/s (cSt) for J4/J6 3 - 75 mm²/s (cSt) for J7 *(For kerosene applications, contact SUNTEC)*	
Oil temperature	0 - 90°C in the pump.	
Inlet pressure	1,5 bars max.	
Return pressure	1,5 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	

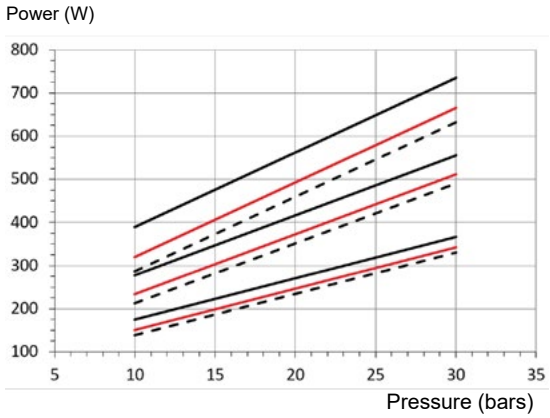
Pump capacity



Viscosity = 75 cSt
20 cSt
5 cSt - Rated speed = 2850 rpm

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

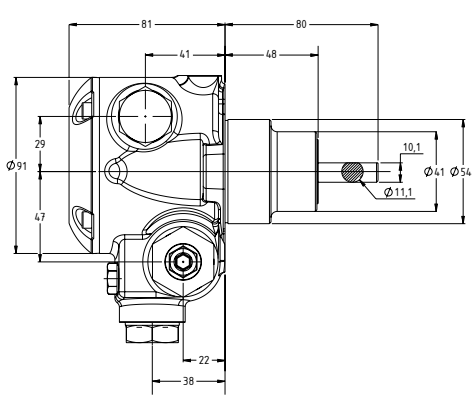
Power consumption

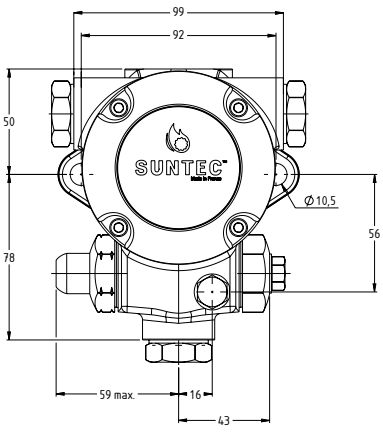


Viscosity = 75 cSt
20 cSt
5 cSt - Rated speed = 2850 rpm

PUMP DIMENSIONS *(in mm)*

Examples shows "C" rotation and nozzle outlet.





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

Capacity	Reference	Mounting type	Inlet/ Return (I/R)	Nozzle	Pressure range	Delivery pressure	Remarks	Alternate model
J4	J4NAK10018P	F54 / 92	G 1/2	G 1/4	14 - 30	20,0		
	J4NBA10008M	F54 / 92	1/4 NPTF	1/8 NPTF	1,4 - 2,8	2,8	kit by-pass included	
	J4NCK10018P	F54 / 92	G 1/2	G 1/4	14 - 30	20,0		
	J4PAB10008M	F54 / 92	1/4 NPTF	1/8 NPTF	7 - 14	7,0	kit by-pass included	
	J4PAC10008M	F54 / 92	1/4 NPTF	1/8 NPTF	10 - 21	12,0	kit by-pass included	
	J4PAC10008P	F54 / 92	1/4 NPTF	1/8 NPTF	10 - 21	12,0		
	J4PAC10038M	F54 / 92	1/4 NPTF	1/8 NPTF	10 - 21	12,0	kit by-pass included	
	J4PAF10008M	F54 / 92	1/4 NPTF	1/8 NPTF	0,55 - 1,4	0,7	kit by-pass included	
	J4PBB10008M	F54 / 92	1/4 NPTF	1/8 NPTF	7 - 14	7,0	kit by-pass included	
	J4PCB10008M	F54 / 92	1/4 NPTF	1/8 NPTF	7 - 14	7,0	kit by-pass included	
	J4PCC10008M	F54 / 92	1/4 NPTF	1/8 NPTF	10 - 21	12,0	kit by-pass included	
	J4PCC10008P	F54 / 92	1/4 NPTF	1/8 NPTF	10 - 21	12,0		
	J4PCC10038P	F54 / 92	1/4 NPTF	1/8 NPTF	10 - 21	12,0		
J6	J6NAK10018P	F54 / 92	G 1/2	G 1/4	14 - 30	20,0		
	J6NBK10018P	F54 / 92	G 1/2	G 1/4	14 - 30	20,0		
	J6NCK10018P	F54 / 92	G 1/2	G 1/4	14 - 30	20,0		
	J6NDK10018P	F54 / 92	G 1/2	G 1/4	14 - 30	20,0		
	J6PAB10008M	F54 / 92	1/4 NPTF	1/8 NPTF	7 - 14	7,0	kit by-pass included	
	J6PAC10008M	F54 / 92	1/4 NPTF	1/8 NPTF	10 - 21	12,0	kit by-pass included	
	J6PAC10008P	F54 / 92	1/4 NPTF	1/8 NPTF	10 - 21	12,0		
	J6PAC10018P	F54 / 92	G 1/2	G 1/4	10 - 21	12,0		
	J6PAC10028P	F54 / 92	G 1/2	G 1/4	10 - 21	12,0		
	J6PAF10008M	F54 / 92	1/4 NPTF	1/8 NPTF	0,55 - 1,4	0,7	kit by-pass included	
	J6PCC10008M	F54 / 92	1/4 NPTF	1/8 NPTF	10 - 21	12,0	kit by-pass included	
	J6PCC10008P	F54 / 92	1/4 NPTF	1/8 NPTF	10 - 21	12,0		
	J6PCC10018P	F54 / 92	G 1/2	G 1/4	10 - 21	12,0		
	J6PCC10028P	F54 / 92	G 1/2	G 1/4	10 - 21	12,0		
	J6PCK10018P	F54 / 92	G 1/2	G 1/4	14 - 30	20,0		
	J6PCK10028P	F54 / 92	G 1/2	G 1/4	10 - 30	12,0		

Capacity	Reference	Mounting type	Inlet/ Return (I/R)	Nozzle	Pressure range	Delivery pressure	Remarks	Alternate model
J7	J7NAK10018P	F54 / 92	G 1/2	G 1/4	14 - 30	20,0		
	J7NCK10018P	F54 / 92	G 1/2	G 1/4	14 - 30	20,0		
	J7PAC10018P	F54 / 92	G 1/2	G 1/4	10 - 21	12,0		
	J7PCC10018M	F54 / 92	G 1/2	G 1/4	10 - 21	12,0		
	J7PCC10018P	F54 / 92	G 1/2	G 1/4	10 - 21	12,0		
	J7PCC10028P	F54 / 92	G 1/2	G 1/4	10 - 21	12,0		
	J7PCK10018P	F54 / 92	G 1/2	G 1/4	14 - 30	20,0		
	J7PCK10028P	F54 / 92	G 1/2	G 1/4	10 - 30	12,0		

PUMP TYPE E

E

E - 11 - Ed 3 - January 2025

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

The SUNTEC **E** oil pump is specially designed for heavy oil applications: it is fitted with a special shaft seal type resisting high temperature and with a preheater location to ease cold starting.

COMPATIBILITY

- Heavy, light and medium oil, HVO, B100 (biofuel blend with the addition up to 100% FAME, as defined in DIN SPEC 51603-6 or EN 14214).
- One or two-pipe system.
- Pump associated with in-line solenoid valve to assure cut-off function.

PREHEATING FACILITY

The body of the E pump includes a drilling to accept an electric preheater. This cavity has been designed to give maximum heat transfer from the heater to the oil in the pump avoiding any direct contact between the heater cartridge and the oil. The heating cartridge can be fitted either by right-hand side or by left-hand side. The preheater should be connected for a period of time prior to starting the pump. When the right temperature is reached, it can be switched off or left permanently switched on to maintain fluid oil in the pump during the periodic burner shut-downs. The oil supply, pipes and filters must be separately heated.

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 by-passed 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 return port and the return port sealed by steel plug and washer.

Bleed :

During the starting period, air is purged through the nozzle line : the by-pass hole of the nozzle plug allows air to pass to the nozzle line without opening of the regulator valve.

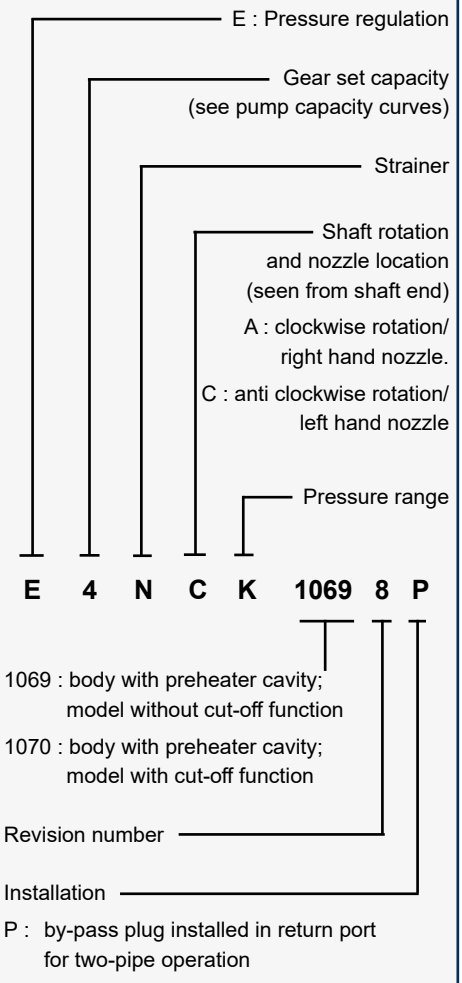
For the first start up, bleeding can be accelerated by loosening the plug in the pressure gauge port.

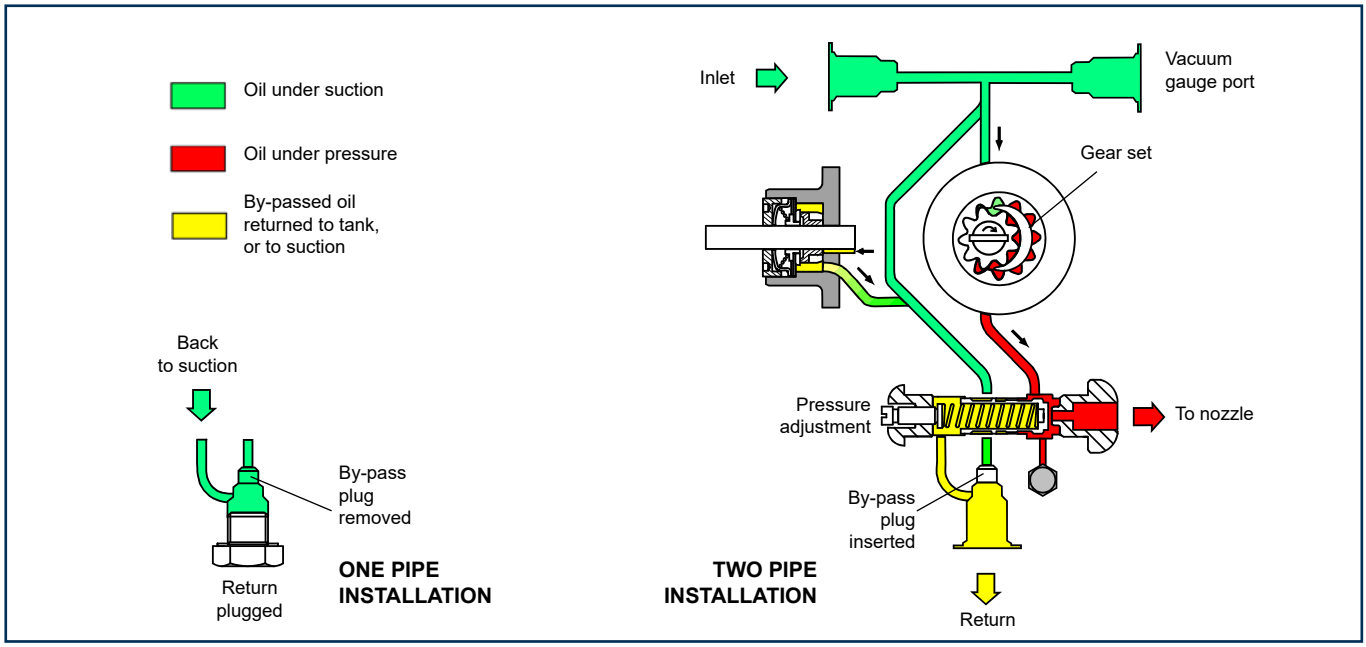
Note :

Models 1069 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

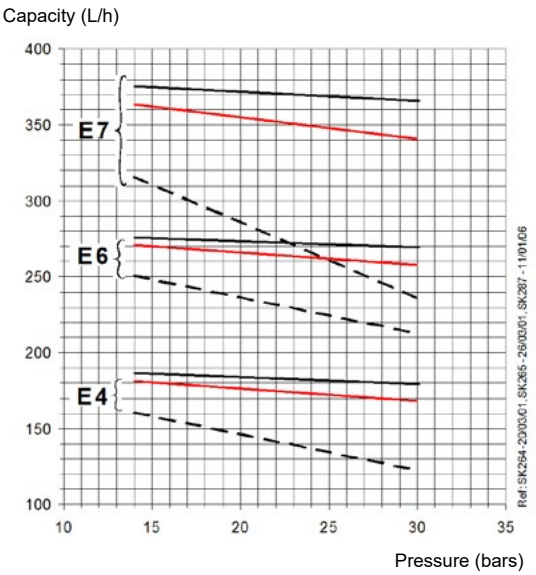
General

Mounting	Flange mounting according to EN 225.
Connection threads	Cylindrical (according to ISO 228/1)
Inlet and return	G 1/2
Nozzle outlet	G 1/4
Pressure gauge port	G 1/8
Vacuum gauge port	G 1/2
Valve function	Pressure regulating and cut-off (except for models 1069)
Strainer	Open area : 45 cm² Opening size : 550 µm
Shaft	Ø 11mm according to EN 225.
By-pass plug	Inserted in return port for 2 pipe system; to be removed with a 3/16" Allen key for 1 pipe system.
Weight	4 kg
Certified	

Hydraulic data

Nozzle pressure range	14 - 30 bars
Delivery pressure setting	20 bars
Operating viscosity	3 - 75 mm²/s (cSt)
(Higher viscosity oil can be used by feeding the pump or by heating the oil to lower its viscosity under 75 cSt)	
Oil temperature	0 - 130°C in the pump.
Inlet pressure	light oil : 0,45 bars max. vacuum to prevent air separation from oil. heavy oil : 3,5 bars max.
Return pressure	light oil : 3,5 bars max. heavy oil : 3,5 bars max.
Rated speed	3600 rpm max.
Torque (@ 40 rpm)	0,30 N.m
Choice of heater	
Cartridge	Ø 12 mm
Fitting	according to EN 50262
Rating	50 - 80 W

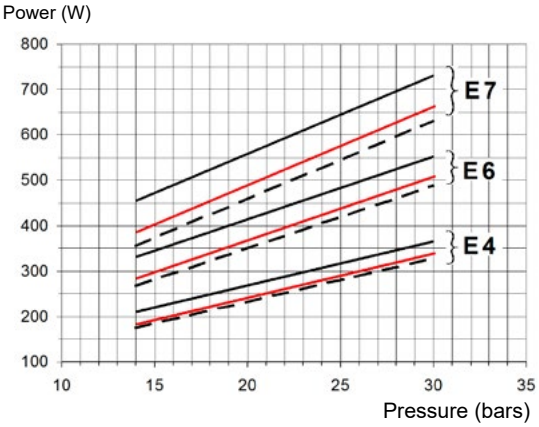
Pump capacity



Viscosity = 75 cSt
20 cSt
5 cSt - Rated speed = 2850 rpm

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

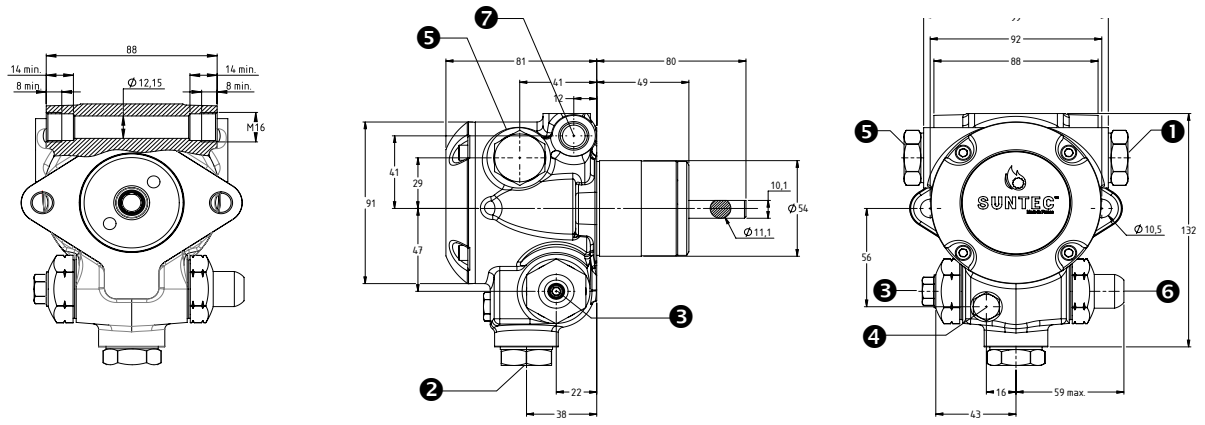
Power consumption



Viscosity = 75 cSt
20 cSt
5 cSt - Rated speed = 2850 rpm

PUMP DIMENSIONS *(in mm)*

Examples shows "A" rotation and nozzle outlet.



❶ Suction or vacuum gauge port
❷ Return and internal by-pass plug
❸ Nozzle outlet
❹ Pressure gauge port
❺ Vacuum gauge port or suction
❻ Pressure adjustment
❼ Preheater cavity

We reserve the right to change specifications without prior notice.

E - 11 - Ed 3 - Jan 2025

Capacity	Reference	Mounting type	Inlet/ Return (I/R)	Nozzle	Pressure range	Delivery pressure	Remarks	Alternate model
E4	E4NAK10698P	F54 / 92	G 1/2	G 1/4	14 - 30	20,0	No cut-off function	
	E4NCK10698P	F54 / 92	G 1/2	G 1/4	14 - 30	20,0	No cut-off function	
	E4NAK10708P	F54 / 92	G 1/2	G 1/4	14 - 30	20,0		
E6	E6NAK10698P	F54 / 92	G 1/2	G 1/4	14 - 30	20,0	No cut-off function	
	E6NCK10698P	F54 / 92	G 1/2	G 1/4	14 - 30	20,0	No cut-off function	
	E6NAK10708P	F54 / 92	G 1/2	G 1/4	14 - 30	20,0		
E7	E7NAK10698P	F54 / 92	G 1/2	G 1/4	10 - 30	20,0	No cut-off function	
	E7NCK10698P	F54 / 92	G 1/2	G 1/4	10 - 30	20,0	No cut-off function	

PUMP TYPE CJM

CJM

CJM - 11 - Ed 3 - July 2024

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

The SUNTEC **CJM** methanol fuel pump incorporates a pressure regulating valve with a cut-off feature.

COMPATIBILITY

- Kerosene, light oil and methanol blends (Pump life time is not guaranteed for this application, test with real methanol blends have to be performed before using the pump in a burner) .
- One or two-pipe system, two-pipe system is strongly recommended.
- Normally associated with in-line solenoid valve.

PUMP OPERATING PRINCIPLE

The gear set draws liquid from the tank through the built-in filter and transfers it to the valve that regulates the liquid pressure to the nozzle line.
All oil that does not go through the nozzle line will be by-passed through the valve back to the suction port in the gear-set.
For a two pipe installation, the by-pass plug must be inserted in the vacuum gauge port, so that the by-passed liquid is transfered to the return.
The valve also has a cut-off function as follows :
During starting period when the gear-set speed is increasing, all the liquid 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 :
In one pipe operation, a pressure port must be opened to bleed the system. Bleeding in two pipe operation is automatic, but it could be accelerated by loosening the plug in a pressure gauge port.

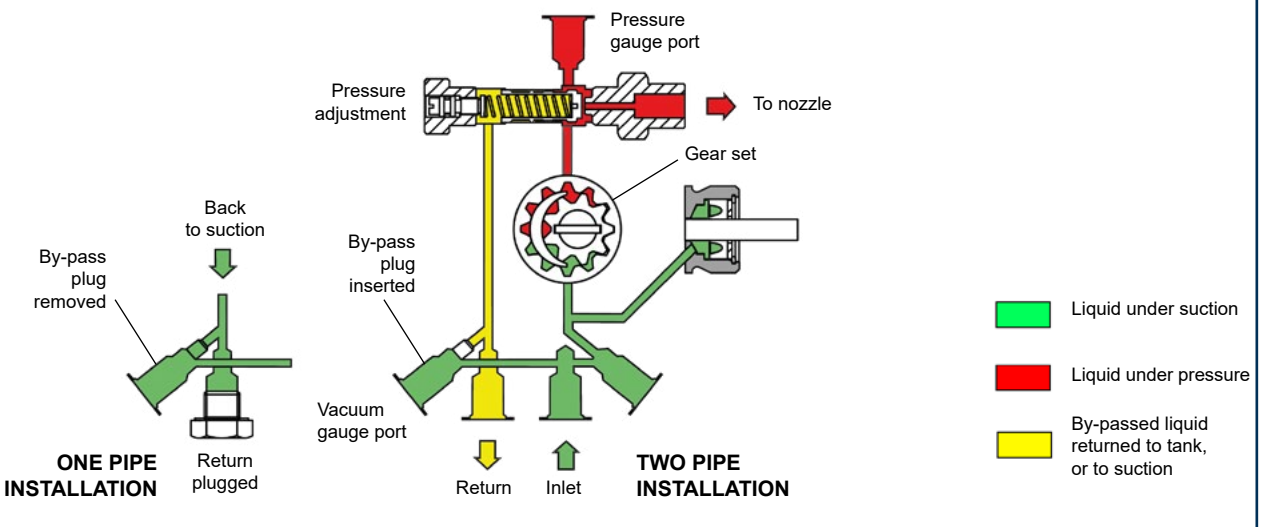
PUMP IDENTIFICATION

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

CJ : Customized Compact Medium Capacity Gear Pump
M : Methanol blend applications
Gear set capacity (see pump capacity curve)
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.
Pressure range
B : 7-15 bars
A : 0.5 - 3 bars

CJ M 4 C B 1 000 4 P

Flange mounting
000 : Hub Ø54 mm
Shaft Ø11 mm, cut-off function
203 : Hub Ø32 mm
Shaft Ø8 mm, cut-off function
Revision number
Installation
P : by-pass plug installed in vacuum gauge port for two-pipe operation



TECHNICAL DATA

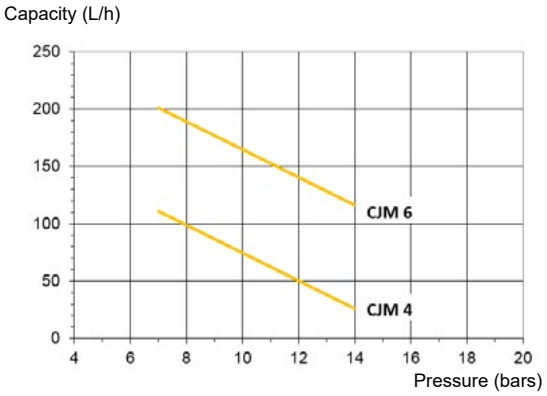
General

Mounting	Flange according to EN 225
Connection threads	Cylindrical according to ISO 228/1
Inlet and return	G 1/4
Nozzle outlet	G 1/8
Pressure gauge port	G 1/8
Vacuum gauge port	G 1/8
Valve function	Pressure regulating and cut-off
Strainer	Open area : 30 cm^2
	Opening size : 120 x 150 μm^2
Shaft	CJM 1000 : Ø11mm (7/16")
	CJM 1203 : Ø8 mm according to EN225.
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

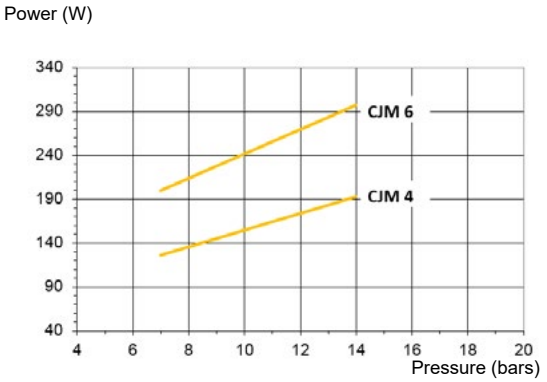
Nozzle pressure range	7 - 15 bars
Delivery pressure setting	12 bars
Operating viscosity	0,75 -12 mm²/s (cSt)
Liquid temperature	0 - 60°C in the pump.
Inlet pressure	2 bars max.
Return pressure	2 bars max.
Suction height	0,45 bars max. vacuum to prevent air separation from liquid.
Rated speed	3600 rpm max.
Torque (@ 45 rpm)	0,15 N.m

Pump capacity



Viscosity= 0,75 cSt - Rated speed = 2850 rpm

Power consumption

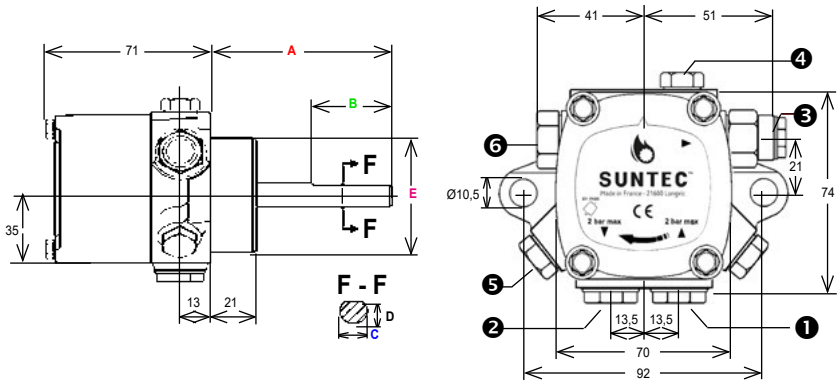


Viscosity= 0,75 cSt - Rated speed = 2850 rpm

* Data given for a Methanol blend with 91% Methanol, 3% Acetone, 3%Xylene, 3% Acetate.
This blend may not be representative of the Methanol blend used in your market.
Tests with local blend have to be performed before using the pump in a burner.

PUMP DIMENSIONS *(in mm)*

Example shows "C" rotation and nozzle outlet.



	A (mm)	B (mm)	C Ø (mm)	D (mm)	E (mm)
CJM 1000	80	32	11(7/16")	10	54
CJM 1203	42	15	8	7	32

❶ Suction ❷ Return ❸ Nozzle outlet ❹ Pressure gauge port ❺ Vacuum gauge port and internal by-pass plug ❻ Pressure adjustment

HIGH CAPACITY GEAR PUMPS

PUMP TYPE TA

TA

TA - 11 - Ed 16 - January 2025

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

The SUNTEC **TA** oil pump is specially designed for industrial heating applications using light or heavy oils. It is fitted with a preheater location to render cold starting easier.

COMPATIBILITY

- Heavy oil, light oil, B100.
- One or two-pipe system.

PUMP OPERATING PRINCIPLE

The gear set draws oil from the tank and transfers it to the valve regulating the oil pressure to the nozzle line. All oil which 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 gear-set.

Bleed

The plug of the pressure gauge port must be loosened until the air is evacuated from the system.

Note

All TA models are delivered for two-pipe system (by-pass plug fitted in vacuum gauge port).

For one-pipe system, the by-pass plug must be removed and the return port sealed by steel plug and washer.

PREHEATING FACILITY

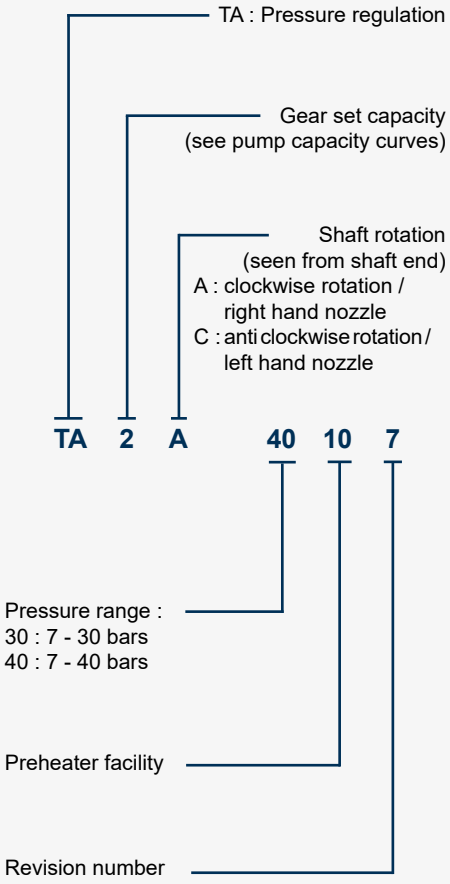
Care should be taken to avoid starting pump with high viscosity cold oil leading to pump and coupling damage. For this reason, the TA pump body includes a cavity to accept an electric preheater. This cavity has been located to give maximum heat transfer from the heater to the oil in the pump without direct contact between the heater cartridge and the oil.

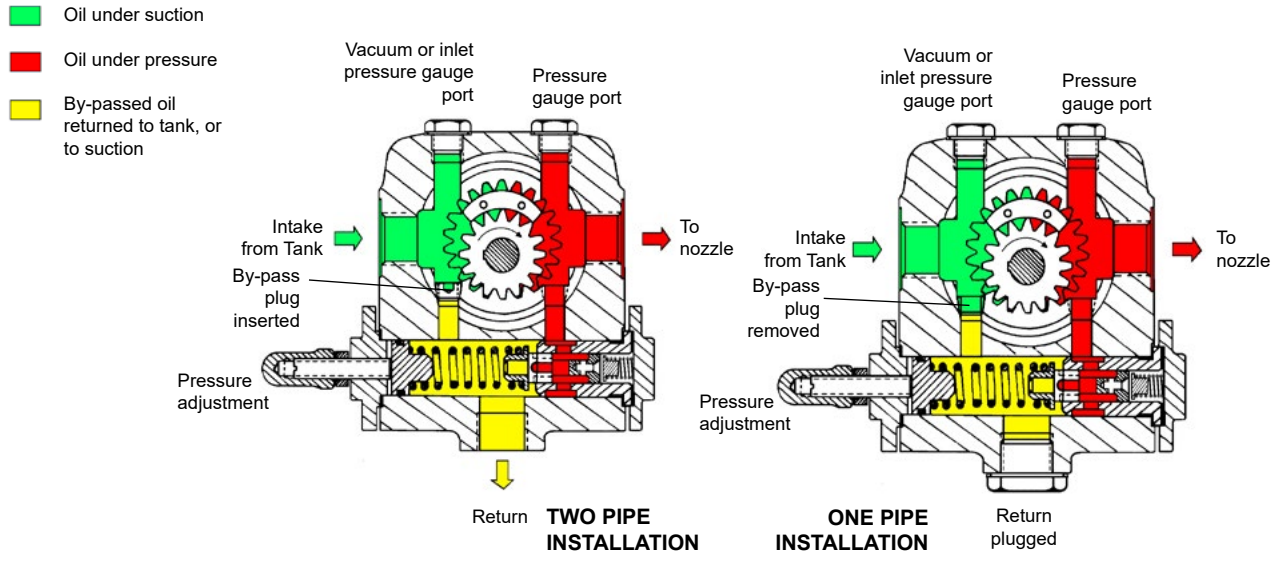
Heaters should be connected for a period of time prior to starting the pump. When the right temperature is reached, they can be switched off or left permanently switched on to maintain fluid oil in the pump during the periodic burner shut-downs.

The oil supply, pipes and filters must be separately heated.

PUMP IDENTIFICATION

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





TECHNICAL DATA

General

Mounting	Flange mounting
Connection threads	Cylindrical according to ISO 228/1
Inlet and return	G 1/2
Nozzle outlet	G 1/2
Pressure gauge port	G 1/4
Vacuum gauge port	G 1/4
Shaft	Ø 12 mm
By-pass plug	Inserted in vacuum gauge port for 2 pipe system; to be removed with a 3/16" Allen key for 1 pipe system
Weight	5,4 kg (TA2) - 5,7 kg (TA3) 6 kg (TA4) - 6,4 kg (TA5)

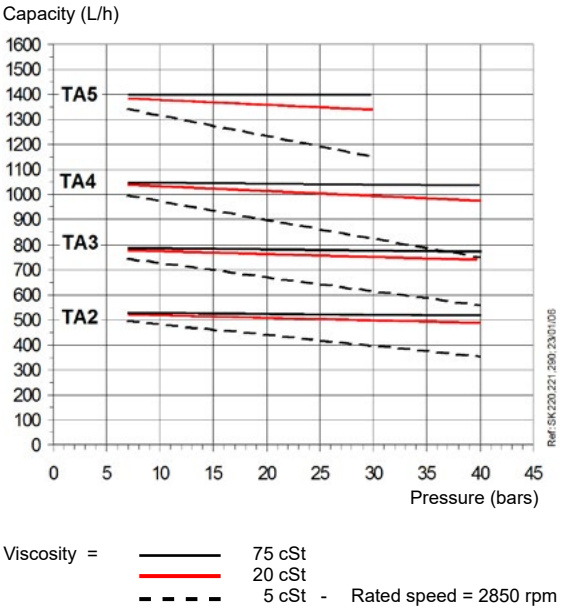
Hydraulic data

Nozzle pressure ranges	30 : 7 - 30 bars 40 : 7 - 40 bars
Delivery pressure setting	30 bars
Operating viscosity	2 - 75 mm²/s (cSt)
(Higher viscosity oil can be used by feeding the pump and by heating the oil to lower its viscosity under 75 cSt. For kerosene applications, contact SUNTEC).	
Oil temperature	0 - 150°C in the pump
Inlet pressure	light oil : 0,45 bars max. vacuum to prevent air separation from oil heavy oil : 5 bars max.
Return pressure	light oil : 5 bars max. heavy oil : 5 bars max.
Rated speed	3600 rpm max.
Torque (@ 40 rpm)	0,3 N.m

Choice of heater

Cartridge	Ø 12 mm
Fitting	according to EN 50262
Rating	80-100 W

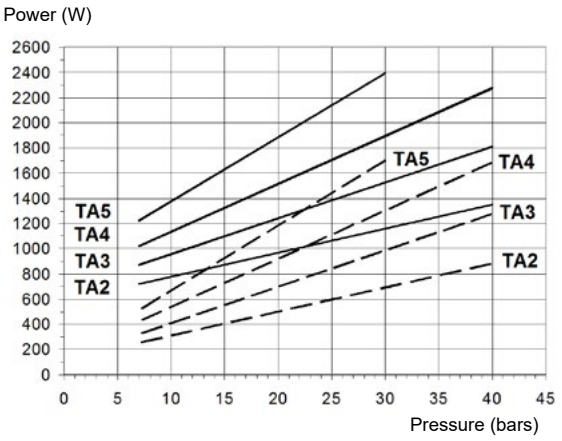
Pump capacity



Viscosity = 75 cSt
20 cSt
5 cSt - Rated speed = 2850 rpm

Data shown are for new pumps, with no allowance for wear.

Power consumption

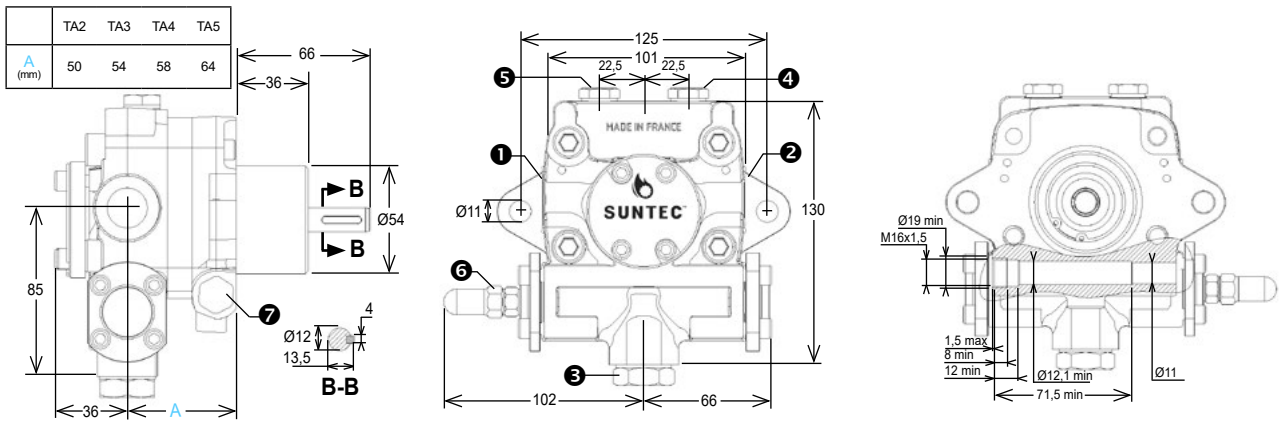


Viscosity = 75 cSt
5 cSt - Rated speed = 2850 rpm

Data shown are for new pumps, with no allowance for wear.

PUMP DIMENSIONS *(in mm)*

Example shows pump with "C" rotation and serial number ³ 500 000. - Reverse all pump connections for "A" rotation.



❶ Suction ❷ Nozzle outlet ❸ Return ❹ Pressure gauge port ❺ Vacuum or inlet pressure gauge port and internal by-pass plug ❻ Pressure adjustment ❼ Preheater cavity

Type	Reference	Mounting type	Inlet/ Return (I/R)	Nozzle	Pressure range	Delivery pressure	Remarks	Alternate model
TA2	TA2A40107	F54 / 125	G 1/2	G 1/2	7 - 40	30,0		
	TA2C40107	F54 / 125	G 1/2	G 1/2	7 - 40	30,0		
TA3	TA3A40107	F54 / 125	G 1/2	G 1/2	7 - 40	30,0		
	TA3C40107	F54 / 125	G 1/2	G 1/2	7 - 40	30,0		
TA4	TA4A40107	F54 / 125	G 1/2	G 1/2	7 - 40	30,0		
	TA4C40107	F54 / 125	G 1/2	G 1/2	7 - 40	30,0		
TA5	TA5A30107	F54 / 125	G 1/2	G 1/2	7 - 30	30,0		
	TA5C30107	F54 / 125	G 1/2	G 1/2	7 - 30	30,0		

PUMP TYPE TAR

TAR

TAR - 11 - Ed 6 - January 2025

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

Designed from the wellknowed TA pump range, the SUNTEC **TAR** oil pump is specially designed for industrial heating applications using Marine Residual Fuels (as defined in ISO 8217 standard). **TAR** pump offer superior resistance to wear and improved pump life for abrasive fuels applications.

COMPATIBILITY

- Marine Residual Fuels (RMG), medium oil and heavy oil.
- Marine Distillate fuels applications possible.
- One or two-pipe system.

PUMP OPERATING PRINCIPLE

The gear set draws oil from the tank and transfers it to the valve regulating the oil pressure to the nozzle line. All oil which 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 gear-set.

Bleed

The plug of the pressure gauge port must be loosened until the air is evacuated from the system.

Note

All TAR models are delivered for two-pipe system (by-pass plug fitted in vacuum gauge port).

For one-pipe system, the by-pass plug must be removed and the return port sealed by steel plug and washer.

PREHEATING FACILITY

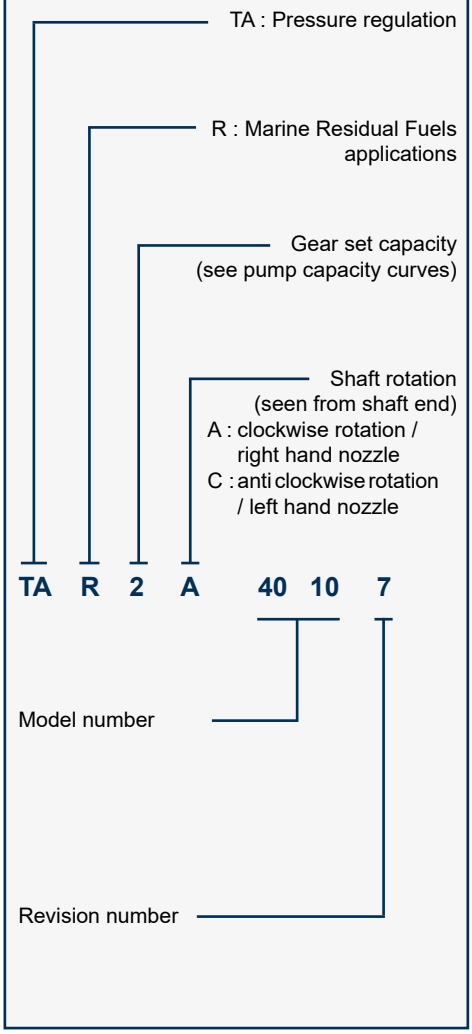
Care should be taken to avoid starting pump with high viscosity cold oil leading to pump and coupling damage. For this reason, the TAR pump body includes a cavity to accept an electric preheater. This cavity has been located to give maximum heat transfer from the heater to the oil in the pump without direct contact between the heater cartridge and the oil.

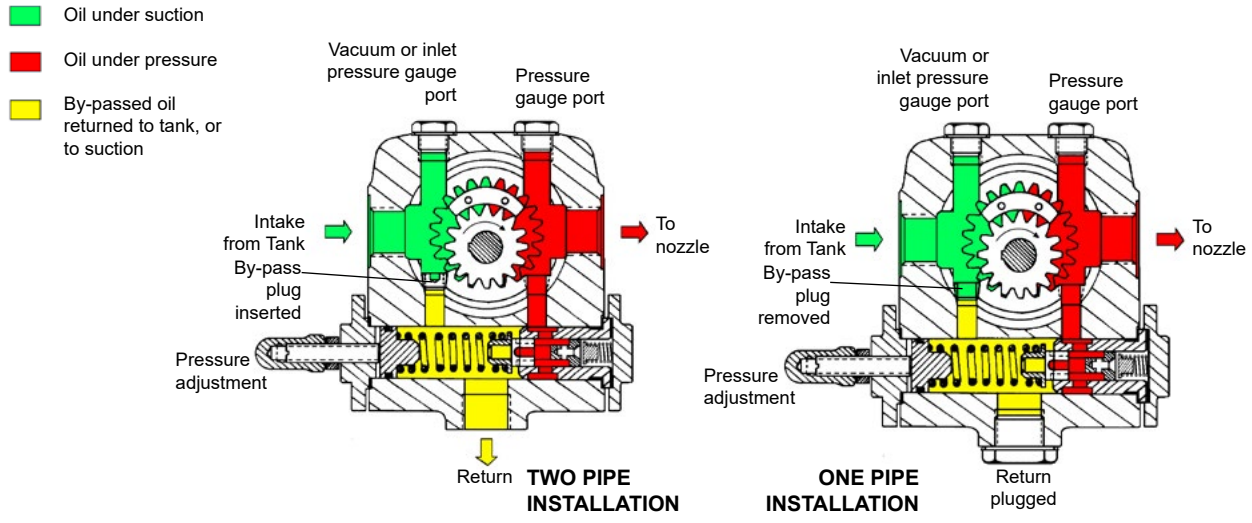
Heaters should be connected for a period of time prior to starting the pump. When the right temperature is reached, they can be switched off or left permanently switched on to maintain fluid oil in the pump during the periodic burner shut-downs.

The oil supply, pipes and filters must be separately heated.

PUMP IDENTIFICATION

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





TECHNICAL DATA

General

Mounting	Flange mounting		
Connection threads	Cylindrical according to ISO 228/1		
Inlet and return	G 1/2		
Nozzle outlet	G 1/2		
Pressure gauge port	G 1/4		
Vacuum gauge port	G 1/4		
Shaft	Ø 12 mm		
By-pass plug	Inserted in vacuum gauge port for 2 pipe system; to be removed with a 3/16" Allen key for 1 pipe system		
Weight	5,4 kg (TAR2)	-	5,7 kg (TAR3)
	6 kg (TAR4)	-	6,4 kg (TAR5)

Hydraulic data

Nozzle pressure range*	@ 2 cSt	@ 5 cSt	@20cst
TAR 2/3/4:	7 - 20 bars	7 - 40 bars	7 - 40 bars
TAR 5:	7 - 17 bars	7 - 30 bars	7 - 30 bars

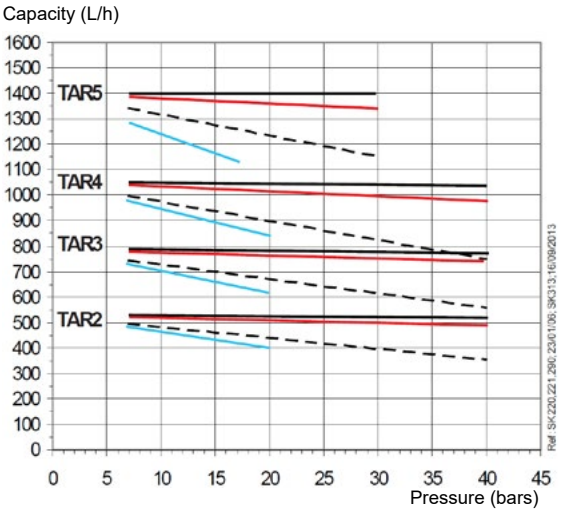
**optional pressure range = 2-7 bars - contact SUNTEC.*

Delivery pressure setting	30 bars
Operating viscosity	1,25 - 75 mm²/s (cSt) *(for viscosity lower than 2 cSt, the maximum pressure has to be reduced to 20 bars for TAR2/3/4 and 17 bars for TAR5).*
Oil temperature	0 - 150°C in the pump
Inlet pressure from oil.	0,45 bars max. vacuum to prevent air separation Inlet feed pressure : 5 bars max.
Return pressure	5 bars max.
Rated speed	3600 rpm max.
Torque (@ 40 rpm)	0,3 N.m

Choice of heater

Cartridge	Ø 12 mm
Fitting	according to EN 50262
Rating	80-100 W

Pump capacity

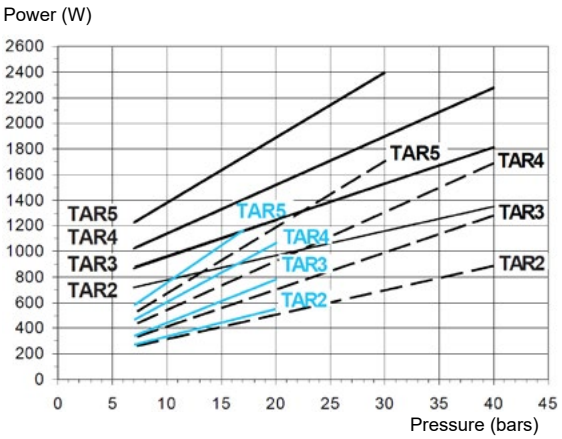


Viscosity = 75 cSt, 20 cSt, 5 cSt, 2 cSt

Rated speed = 2850 rpm

Data shown are for new pumps, with no allowance for wear.

Power consumption



Viscosity = 75 cSt, 5 cSt, 2 cSt

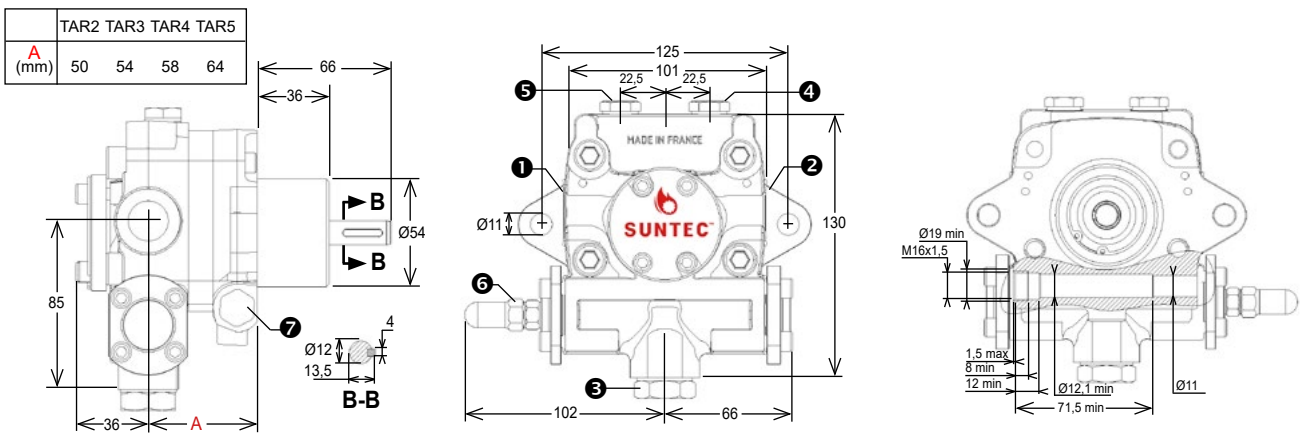
Rated speed = 2850 rpm

Data shown are for new pumps, with no allowance for wear.

PUMP DIMENSIONS *(in mm)*

Example shows pump with "C" rotation - Reverse all pump connections for "A" rotation.

	TAR2	TAR3	TAR4	TAR5
A (mm)	50	54	58	64



❶ Suction ❷ Nozzle outlet ❸ Return ❹ Pressure gauge port ❺ Vacuum or inlet pressure gauge port and internal by-pass plug ❻ Pressure adjustment ❼ Preheater cavity

Type	Reference	Mounting type	Inlet/ Return (I/R)	Nozzle	Pressure range	Delivery pressure	Remarks	Alternate model
TAR2	TAR2A40107	F54 / 125	G 1/2	G 1/2	7 - 40	30,0	Marine Residual Fuels compatible	
	TAR2C40107	F54 / 125	G 1/2	G 1/2	7 - 40	30,0	Marine Residual Fuels compatible	
TAR3	TAR3A40107	F54 / 125	G 1/2	G 1/2	7 - 40	30,0	Marine Residual Fuels compatible	
	TAR3C40107	F54 / 125	G 1/2	G 1/2	7 - 40	30,0	Marine Residual Fuels compatible	
TAR4	TAR4A40107	F54 / 125	G 1/2	G 1/2	7 - 40	30,0	Marine Residual Fuels compatible	
	TAR4C40107	F54 / 125	G 1/2	G 1/2	7 - 40	30,0	Marine Residual Fuels compatible	
TAR5	TAR5A30107	F54 / 125	G 1/2	G 1/2	7 - 30	30,0	Marine Residual Fuels compatible	
	TAR5C30107	F54 / 125	G 1/2	G 1/2	7 - 30	30,0	Marine Residual Fuels compatible	

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

The SUNTEC **T** oil pump is specially designed for industrial heating applications using light or heavy oils with high capacity. It is fitted with a preheater location to render cold starting easier.

COMPATIBILITY

- Domestic oil, HVO, B100.
- SUNTEC recommend the use of a SUNTEC TV valve to regulate the pump pressure.

PUMP OPERATING PRINCIPLE

The gear set draws oil from the tank and transfers it to an external valve that regulates the oil pressure.

Bleed

The plug of the pressure gauge port must be loosened until the air is evacuated from the system.

Note

The bypass plug inserted between high pressure and shaft seal is only intended to change the pump rotation, check the presence of this plug with a 4 mm Allen key in the pressure outlet of the pump.
Caution : changing the direction of pump rotation involves changing all pump connections.

PREHEATING FACILITY

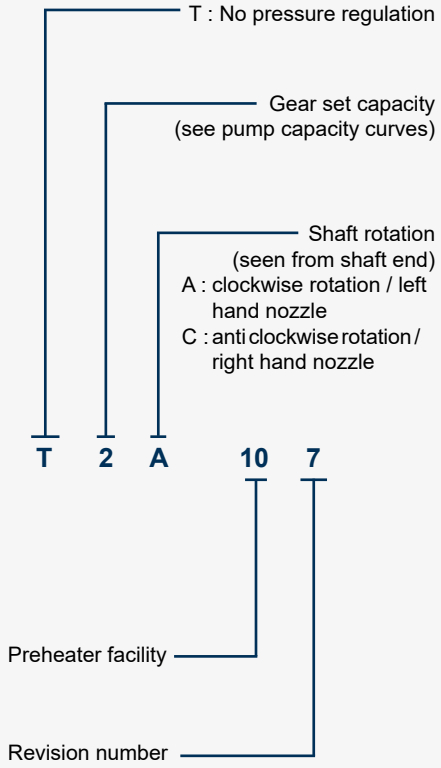
Care should be taken to avoid starting pump with high viscosity cold oil leading to pump and coupling damage. For this reason, the T pump body includes a cavity to accept an electric preheater. This cavity has been located to give maximum heat transfer from the heater to the oil in the pump without direct contact between the heater cartridge and the oil.

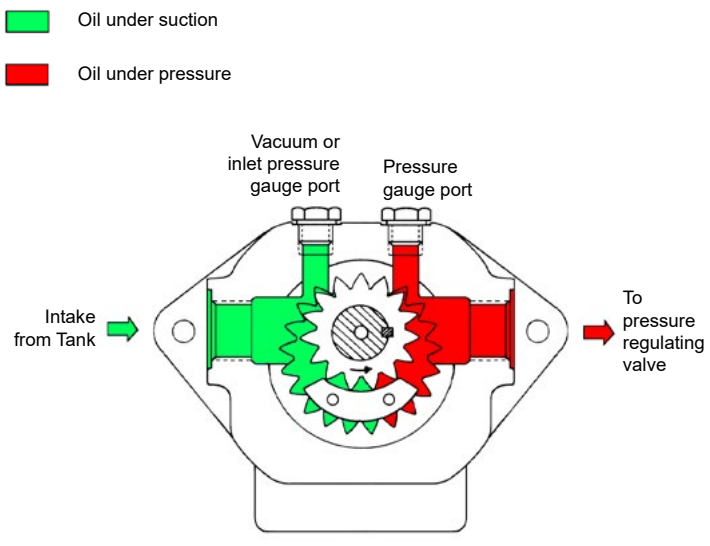
Heaters should be connected for a period of time prior to starting the pump. When the right temperature is reached, they can be switched off or left permanently switched on to maintain fluid oil in the pump during the periodic burner shut-downs.

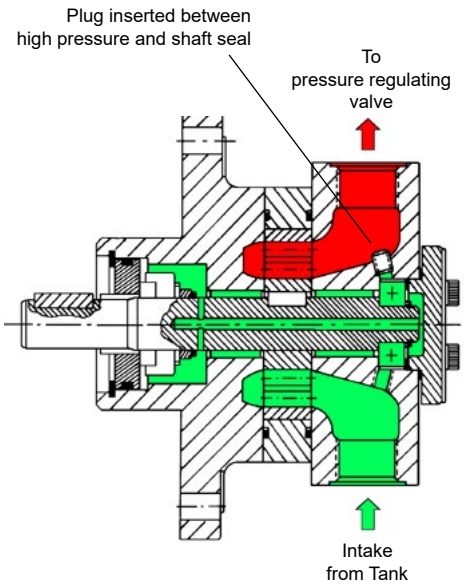
The oil supply, pipes and filters must be separately heated.

PUMP IDENTIFICATION

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







TECHNICAL DATA

General

Mounting	Flange mounting		
Connection threads	Cylindrical according to ISO 228/1		
Inlet	G 3/4		
Pressure outlet	G 3/4		
Pressure gauge port	G 1/4		
Vacuum Gauge port	G 1/4		
Shaft	Ø 20 mm		
Weight	7,8 kg (T2)	-	8,1 kg (T3)
	8,7 kg (T4)	-	9,4 kg (T5)

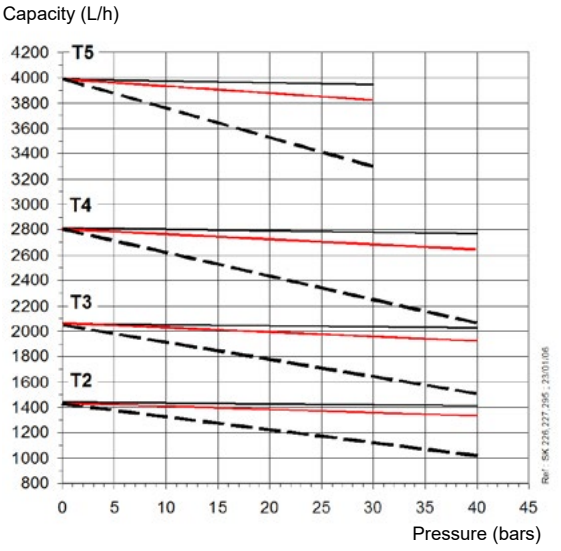
Hydraulic data

Nozzle pressure range	40 bars max. (T2, T3, T4)
	30 bars max. (T5)
Operating viscosity	2 - 75 mm²/s (cSt)
(Higher viscosity oil can be used by feeding the pump and by heating the oil to lower its viscosity under 75 cSt. For kerosene applications, contact SUNTEC).	
Oil temperature	0 - 150°C in the pump
Inlet pressure	light oil : 0,45 bars max. vacuum to prevent air separation from oil.
	heavy oil : 5 bars max.
Rated speed	3600 rpm max.
Torque (@ 40 rpm)	0,4 N.m

Choice of heater

Cartridge	Ø 12 mm
Fitting	according to EN 50262
Rating	80-100 W

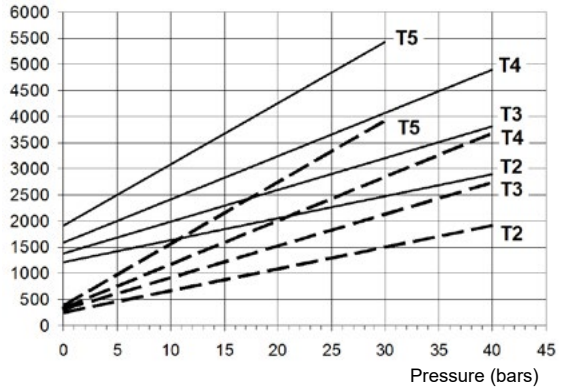
Pump capacity



Viscosity = 75 cSt
20 cSt
5 cSt - Rated speed = 2850 rpm

Data shown are for new pumps, with no allowance for wear.

Power consumption

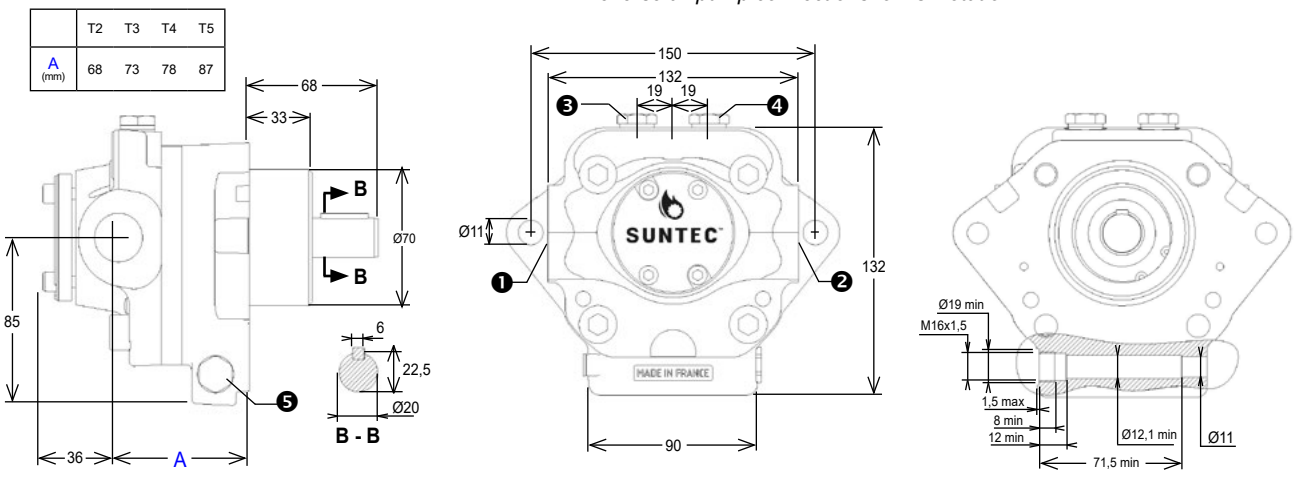


Viscosity = 75 cSt
5 cSt - Rated speed = 2850 rpm

Data shown are for new pumps, with no allowance for wear.

PUMP DIMENSIONS *(in mm)*

Example shows pump with "A" rotation and serial number ≥ 50 000. - Reverse all pump connections for "C" rotation.



❶ Suction

❷ Pressure outlet and internal by-pass plug

❸ Vacuum or inlet pressure gauge port

❹ Pressure gauge port

❺ Preheater cavity

Type	Reference	Mounting type	Inlet/ Return (I/R)	Nozzle	Pressure range	Delivery pressure	Remarks	Alternate model
T2	T2A107	F70 / 125	G 3/4	G 3/4	7 - 40	30,0		
	T2C107	F70 / 125	G 3/4	G 3/4	7 - 40	30,0		
T3	T3A107	F70 / 125	G 3/4	G 3/4	7 - 40	30,0		
	T3C107	F70 / 125	G 3/4	G 3/4	7 - 40	30,0		
T4	T4A107	F70 / 125	G 3/4	G 3/4	7 - 40	30,0		
	T4C107	F70 / 125	G 3/4	G 3/4	7 - 40	30,0		
T5	T5A107	F70 / 125	G 3/4	G 3/4	7 - 30	30,0		
	T5C107	F70 / 125	G 3/4	G 3/4	7 - 30	30,0		

PUMP TYPE TV

TV

TV - 11 - Ed 11 - January 2025

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

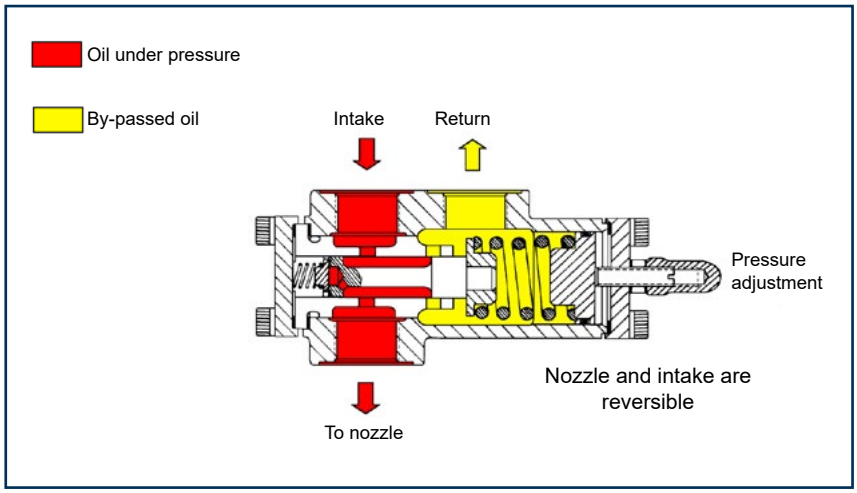
The SUNTEC **TV** valve is a pressure regulating valve.

APPLICATIONS

- Heavy oil, light oil, B100.
- Capacity up to 5000 l/h.
- May be used with the SUNTEC **T** pump.

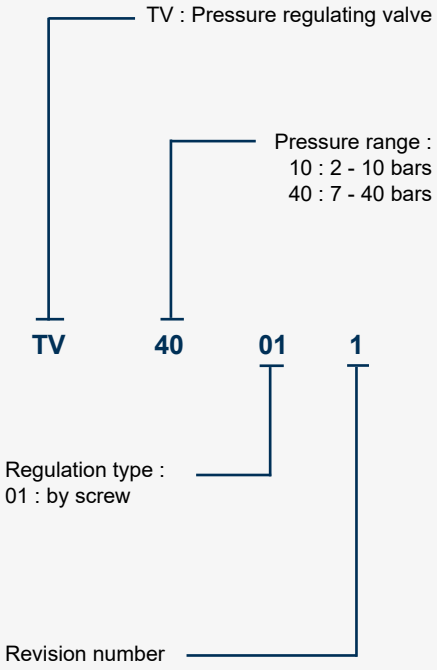
VALVE OPERATING PRINCIPLE

The pressure of the nozzle line is adjusted with the adjusting screw of the TV valve. The oil in excess to nozzle requirement is dumped to the return.



VALVE IDENTIFICATION

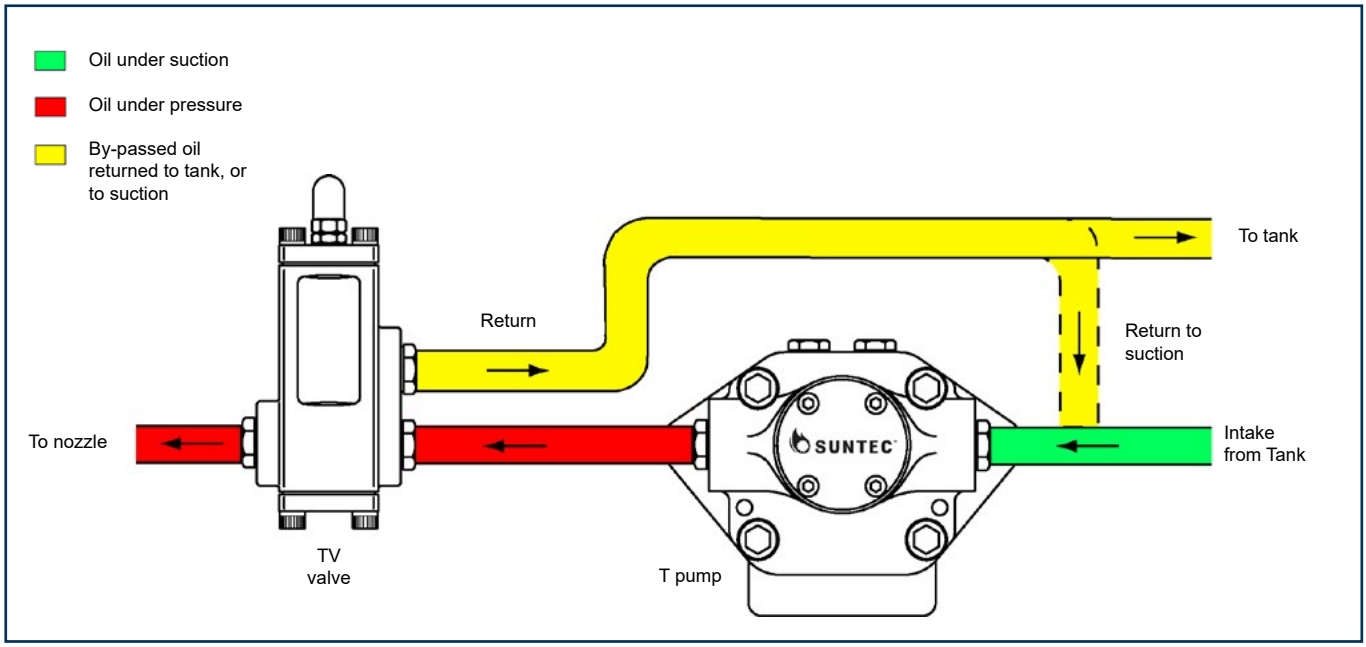
(Not all model combinations are available Consult your Suntec representative)



INSTALLATION

Two pipe system : oil in excess is returned to tank.

One pipe system : oil in excess is returned to pump suction.



TECHNICAL DATA

General

Connection threads	Cylindrical according to ISO 228/1
Inlet	G 3/4
Nozzle outlet	G 3/4
Return	G 3/4
Weight	3 kg

Hydraulic data

Pressure ranges	10 : 2 - 10 bars (delivery pressure setting : 7 bars) 40 : 7 - 40 bars (delivery pressure setting : 20 bars)
Operating viscosity	3 - 75 mm²/s (cSt) *(Higher viscosity oil can be used by heating the oil to lower its viscosity under 75 cSt. For kerosene applications,contact SUNTEC)*
Oil temperature	0 - 150°C max. in the valve.

MOUNTING POSITION

TV valve may be mounted in any position.

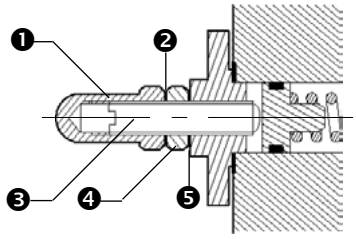
PRESSURE ADJUSTMENT

Remove cap-nut ❶ and washer ❷, unscrew lock-nut ❹.

To increase pressure, turn adjusting screw ❸ clockwise.

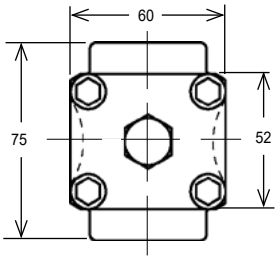
To decrease the pressure, turn screw anticlockwise.

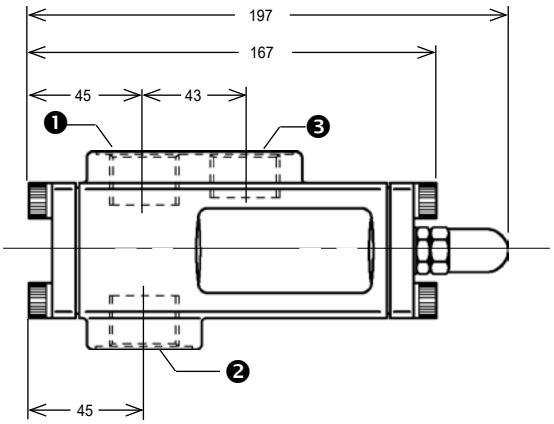
Block lock-nut ❹, refasten washer ❷ and cap-nut ❶.



❶ Cap-nut
❷ Washer
❸ Adjusting screw
❹ Lock nut
❺ Washer

DIMENSIONS *(in mm)*





❶ Intake or nozzle outlet
❷ Nozzle outlet or intake
❸ Return

Reference	Pressure range	Delivery pressure	Remarks	Alternate model
TV10011	2 - 7	7,0		
TV40011	7 - 40	20,0		

GEAR PUMPS ACCESSORIES

Direct operated 2/2 way solenoid valve for liquid fuel

SL1

SL1 - 11 - Ed 3 - April 2024

SUNTEC drew on all of its know-how on pumps with integrated solenoid valves to develop and market a range of independent in-line solenoid valves. The SL1 is an automatic solenoid valve with direct cut-off that meets the requirements of the ISO 23553-1 standard. They are specially designed to fit burners and installations up to 1000 kW using fuel oil, biofuel or kerosene. The SL1 direct operated solenoid valves operate without differential pressure.

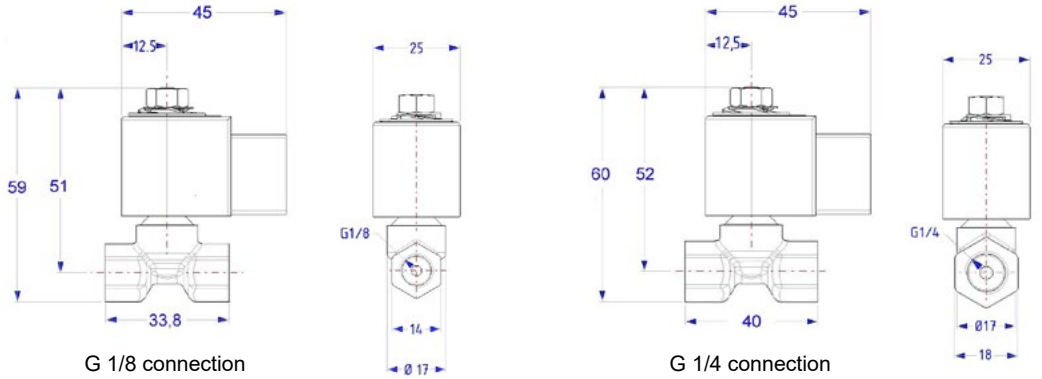
TECHNICAL CHARACTERISTICS

	SL1V						
	2406	**2407**	**2802**	**2803**	**2806**	**2807**	**2808**
Solenoid type	NC	NC	NC	NC	NC	NC	NC
Connectors	DN 8 - G 1/4	DN 8 - G 1/4	DN 6 - G 1/8	DN 6 - G 1/8	DN 6 - G 1/8	DN 6 - G 1/8	DN 6 - G 1/8
Passage opening	Ø 1,8 mm	Ø 1,8 mm	Ø 1,8 mm	Ø 1,8 mm	Ø 1,8 mm	Ø 1,8 mm	Ø 1,8 mm
Loss of load	< 1 bar for a flow rate of 60 l/h at 20 °C / 5 cSt						
Voltage	110 - 120V AC	220 - 240V AC	24V AC	24V DC	110 - 120V AC	220 - 240V AC	12V DC
Pressure range	0 - 25 bars	0 - 25 bars	0 - 25 bars	0 - 15 bars	0 - 25 bars	0 - 25 bars	0 - 15 bars
Oil type	Domestic oil, HVO, B100 (biofuel blend with the addition up to 100% FAME, as defined in DIN SPEC 51603-6 and EN 14214), kerosene.						
Viscosity	1,25 - 12 cSt						
Fluid temperature	60° C						
Ambiant temperature	-10 à +60°C	-10 à +80°C	-10 à +60°C	-10 à +60°C	-10 à +60°C	-10 à +80°C	-10 à +60°C
Sealing gasket	FKM	FKM	FKM	FKM	FKM	FKM	FKM
Body material	Brass						
Coil color	Grey	Black	Green	Orange	Grey	Black	Green
Consumption	9W	9W	9W	8W	9W	9W	9W
Standards and Directives Compliance	- ISO 23 553-1 (Certified by DIN CERTCO) - Pressure Equipment Directive 2014/68/EU (Category IV according to Annex II)						
Protection class	IP54 with a Suntec connector according to EN 60529						

INSTALLATION

All permissible mounting positions, except for downward pointing solenoid tube.

DIMENSIONS *(in mm)*



G 1/8 connection

G 1/4 connection

Reference	Inlet/Return (I/R)	Coil code	Coil voltage	Remarks	Alternate model
SL1V2802	G 1/8	02	24V AC - B30 compatible	25 bars max	
SL1V2803	G 1/8	03	24V DC - B30 compatible	15 bars max	
SL1V2807	G 1/8	07	220-240V AC - B30 compatible	25 bars max	
SL1V2403	G 1/4	03	24V DC - B30 compatible	15 bars max	
SL1V2406	G 1/4	06	110V AC - B30 compatible	25 bars max	
SL1V2407	G 1/4	07	220-240V AC - B30 compatible	25 bars max	
SL1V2806	G 1/8	06	110-120V AC - B30 compatible	25 bars max	
SL1V2808	G 1/8	08	12V DC - B30 compatible	15 bars max	

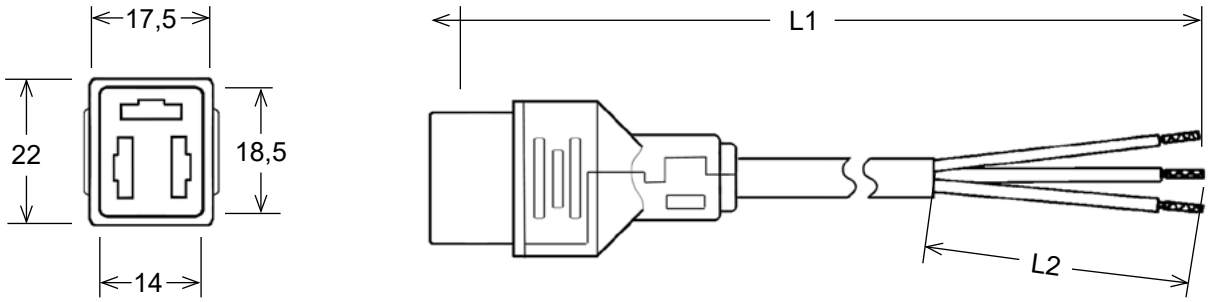
This is a general specification leaflet; for specific applications not covered herein, contact Suntec.

Quality designed for Suntec units with integral solenoids (AS, AL, A2L, ALE, AR, AT, AP pumps), Suntec connector cables are available in various lengths : from 35 to 145 cm.

TECHNICAL DATA

Encapsulation material	Polyamide
Cable type	HO3 VV-F
Cross section area	0,5 mm² per conductor
Wire end terminals	in accordance with DIN 46228 D1-7 Ms

DIMENSIONS *(in mm)*



PART NUMBERS

Total length L1	L2	Connector reference
350 ± 10 mm	70 ± 5 mm	ENC 35
450 ± 10 mm	70 ± 5 mm	ENC 45
610 ± 10 mm	70 ± 5 mm	ENC 60
1000 ± 10 mm	70 ± 5 mm	ENC 100
1080 ± 10 mm	70 ± 5 mm	ENC 108
1450 ± 10 mm	70 ± 5 mm	ENC 145

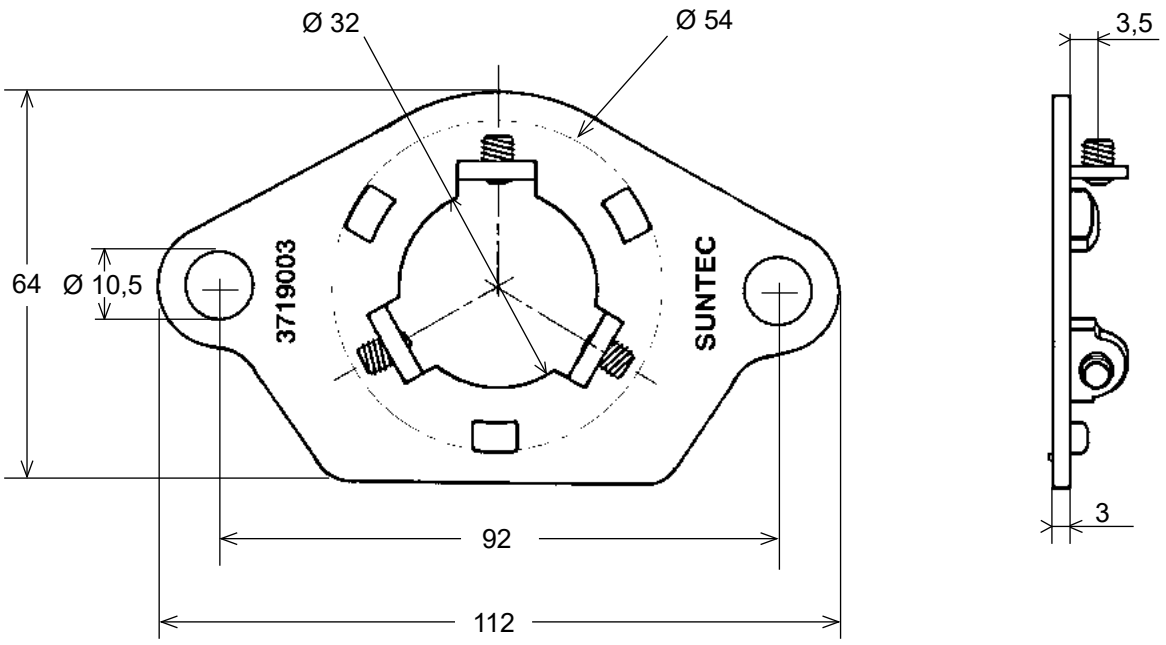
ADAPTOR FLANGE

3719003

3719003 - 11 - Ed 4 - January 2025

The adaptor flange reference : 3719003 allows to convert any hub mounting pump (with 32 mm Ø hub) to a flange mounting pump with 54 mm Ø hub.
The adaptor is fitted with its 3 screws.

DIMENSIONS *(in mm)*



We reserve the right to change specifications without prior notice.

Gas valves

Multifunctional gas control equipped with 2 solenoid valves Class A (according to EN 161) and an outlet gas regulator (EN 88-1). Designed for pressure jet gas burners with a capacity up to 500 kW. Slow opening option available.

M2C / M3C

M2N / M3N

Combined gas control equipped with 2 solenoid valves Class A (according to EN 161) without gas regulator. Designed for pressure jet gas burners with a capacity up to 650 kW. Slow opening option available.

Pressure switches

Settable pressure switch for gas appliance. Especially design to be installed on the multifunctional gas control. Range of pressure up to 500 mbar.

DMG

F

Settable pressure switch for gas (FCG and FSG) and air application (FCA). Range of pressure up to 500 mbar for the gas and up to 50 mbar for air.

Accessories

FLANGE

For the connection to the gas pipe. Available in Rp3/4" or Rp1/2", with pressure tap, pressure switch or a cap.

3 pins connector for the electrical connection of the multifunctional/ combined gas control and pressure switch. Design according to EN 175301-803.

Connector

GAZ VALVES

MULTIFUNCTIONAL GAS VALVE M2C

M2C

M2C - 11 - Ed 7 - September 2024

This is a general documentation; for specific applications not covered by this leaflet, please consult us.

The SUNTEC M2C multifunctional gas valve is a 1-stage system.

This multifunctional gas valve consists of 2 safety valves and constant pressure regulator controlled by a servo-regulator.

APPLICATIONS

The SUNTEC multifunctional gas valve is recommended for collective or industrial pressure jet burners.

The use of the SUNTEC multifunctional gas valve is recommended in all gas installations requiring a safety shutoff and pressure control, for inlet pressure up to 360 mbar.

It is suitable for use with 1st, 2nd and 3rd family gases (according to EN 437).

OPERATION PRINCIPLE

Safety valve

M2C multifunctional gas valve comprises two class A automatic safety valves, direct-acting, electrically operated.

At rest, both safety valves are closed; thus gas cannot flow beyond chamber ①.

When energized, the coils open and release the gas flow from chamber ① to chamber ② for safety valve V1 (from chamber ③ to chamber ④ for V2).

When de-energized, each safety valve closes within 0.2 s.

Pressure regulator

The gas pressure regulator is normally closed type, pneumatically operated by a servo system. The servo system controls the main regulator valve opening to equilibrate – through a diaphragm – the downstream pressure (in chamber ③) to a setpoint adjusted by the screw S.

In relation to this given set point, if the gas pressure in the chamber ③ is :

- Lower, the servo-regulator opens and sends pressure into the chamber ⑤ to lift the main diaphragm. The pressure regulator then opens.

  → The regulated pressure (in chamber ③) increases.

- Upper, the servo-regulator closes and sends less pressure into the chamber ⑤ to lower the main diaphragm. The regulator closes partially.

  → The regulated pressure (in chamber ③) decreases.

- Equal to the set pressure, the servo-regulator maintains its opening to maintain the pressure in the chamber ⑤.

  → The regulated pressure (in chamber ③) remains stable.

This design allows for excellent precision when regulating the downstream pressure, regardless to upstream pressure variation or downstream flow changes.

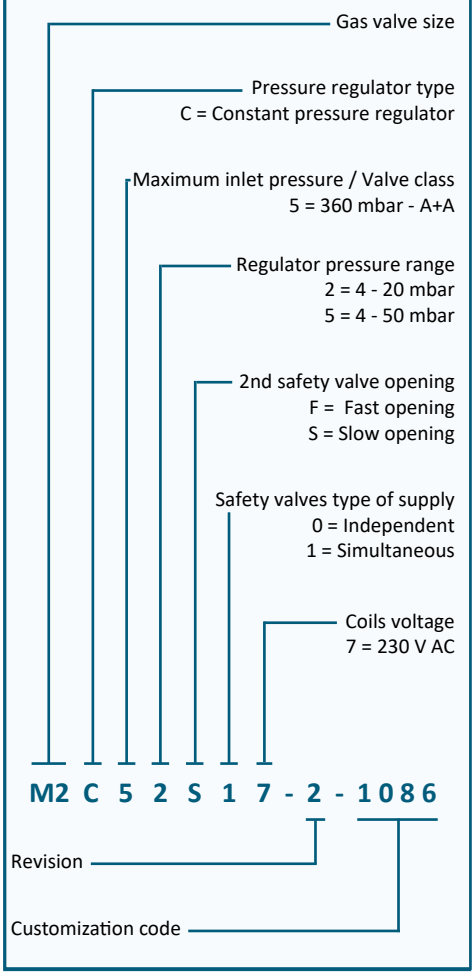
Slow opening (M2CS)**

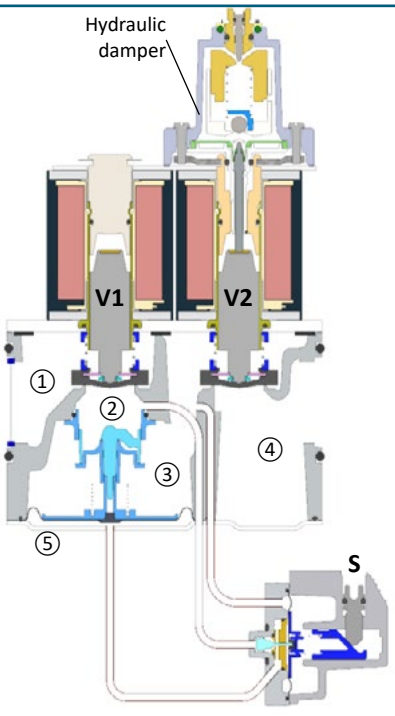
A hydraulic damper, placed above the safety valve V2, offers the possibility to dampen the movement of the safety valve V2 and thus apply a progressive gas flow in the combustion chamber in the starting phases.

This device allows a slow initial opening (ignition flow) of the safety valve V2, adjustable up to 80% of the maximum flow.

MULTIFUNCTIONAL GAS VALVE IDENTIFICATION

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





Sectional drawing of multifunctional gas valve M2C**S

TECHNICAL SPECIFICATIONS

General

Maximum operating pressure	360 mbar
Ambient temperature range	-20°C to +60°C
Operation with	Air and gas of 1st, 2nd and 3rd families
Body	Aluminium
Weight	• M2C**F : 2.3 kg • M2C**S : 2.5 kg
Certification	CE: Certificate n°1312CU6361 UKCA : certificate n°8510/0099
Inlet/outlet flanges	• DN15 (Rp1/2'') • DN20 (Rp3/4'')
Pressure taps	G1/8" connections Supplied in 3 locations on the multifunctional gas valve, and on inlet/outlet flanges.
Inlet strainer	Mesh size : 0.6 mm. Replaceable filter.
Pressure switch (optional)	Factory mounted on inlet flange. When suitable configuration, can be side-mounted.

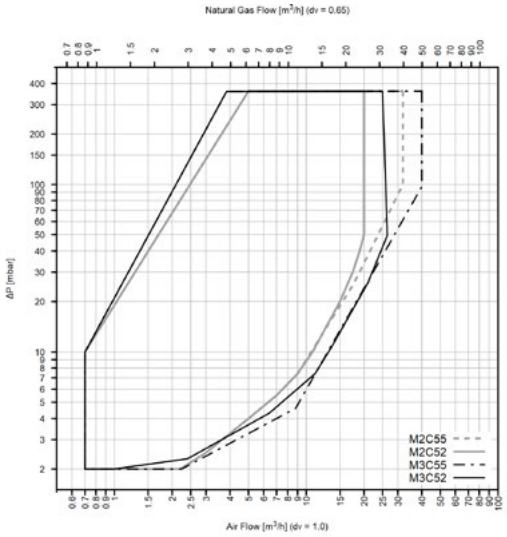
Safety valve characteritics

Leakage class	Class A+A
Opening time (EN 161)	• M2C**F : < 0.5 s • M2C**S : < 10 s (For other setting, contact SUNTEC.)
Closing time (EN 161)	• M2C**F : < 0.2 s • M2C**S : < 0.2 s
Voltage	230 V AC, 50/60 Hz
Consumption	34 VA
IP rating	IP54 (with suitable connector) according to EN 60529 standard.

Pressure regulator

Pressure regulator	Class B according to EN 88-1, placed between the safety valves V1 and V2.
Regulated pressure range	• 4-20 mbar (M2C52**7) • 4-50 mbar (M2C55**7)
Delivery pressure	10 mbar

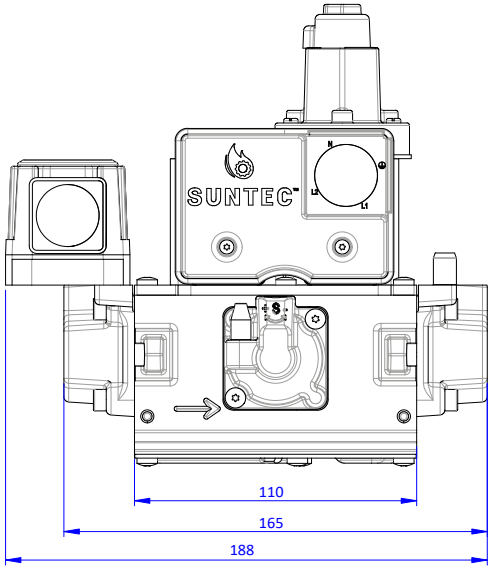
FLOW CURVES

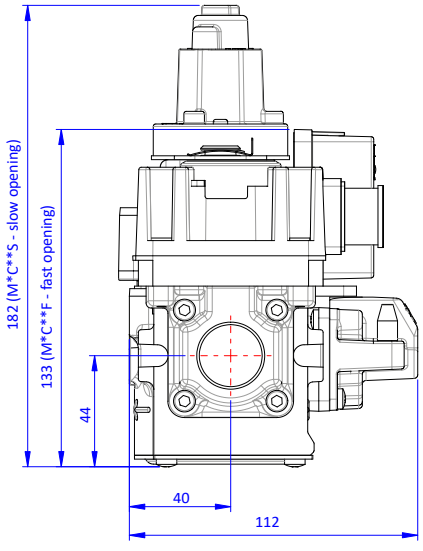


P burner = 3 mbar
Flange = Rp3/4''

Maximum flow can be reduced when other flanges are connected with.

DIMENSIONS *(in mm)*





Type	Reference	Inlet connection	Outlet connection	Pressure range (mbar)	Delivery pressure (mbar)	Inlet pressure (mbar)	Remarks	Alternate model
M2C	M2C52S07-2-1000	-	-	4 - 20	10	360	Slow opening	
	M2C55F07-1-1000	-	-	4 - 50	10	360		
	M2C55S07-2-1000	-	-	4 - 50	10	360	Slow opening	
	M2C55F07-1-1086	G 3/4	G 3/4	4 - 50	10	360		
	M2C52S17-2-1000	-	-	4 - 20	10	360	Slow opening / Simultaneous	

MULTIFUNCTIONAL GAS VALVE M3C

M3C

M3C - 11 - Ed. 4 - September 2024

This is a general documentation; for specific applications not covered by this leaflet, please consult us.

The SUNTEC M3C multifunctional gas valve is a 1-stage system.

This mulfunctional gas valve consists of 2 safety valves and constant pressure regulator controlled by a servo-regulator.

APPLICATIONS

The SUNTEC multifunctional gas valve is recommended for collective or industrial pressure jet burners.

The use of the SUNTEC multifunctional gas valve is recommended in all gas installations requiring a safety shutoff and pressure control, for inlet pressure up to 360 mbar. It is suitable for use with 1st, 2nd and 3rd family gases (according to EN 437).

OPERATION PRINCIPLE

Safety valve

M3C multifunctional gas valve comprises two class A automatic safety valves, direct-acting, electrically operated.

At rest, both safety valves are closed; thus gas cannot flow beyond chamber ①.

When energized, the coils open and release the gas flow from chamber ① to chamber ② for safety valve V1 (from ③ to ④ for safety valve V2).

When de-energized, each safety valve closes within 0.2 s.

Pressure regulator

The gas pressure regulator is normally closed type, pneumatically operated by a servo system. The servo system controls the main regulator valve opening to equilibrate – through a diaphragm – the downstream pressure (in chamber ③) to a setpoint adjusted by the screw S.

In relation to this given set point, if the gas pressure in the chamber ③ is :

- Lower, the servo-regulator opens and sends pressure into the chamber ⑤ to lift the main diaphragm. The pressure regulator then opens.
  → The regulated pressure (in chamber ③) increases.
- Upper, the servo-regulator closes and sends less pressure into the chamber ⑤ to lower the main diaphragm. The regulator closes partially.
  → The regulated pressure (in chamber ③) decreases.
- Equal to the set pressure, the servo-regulator maintains its opening to maintain the pressure in the chamber ⑤.
  → The regulated pressure (in chamber ③) remains stable.

This design allows for excellent precision when regulating the downstream pressure, regardless to upstream pressure variation or downstream flow changes.

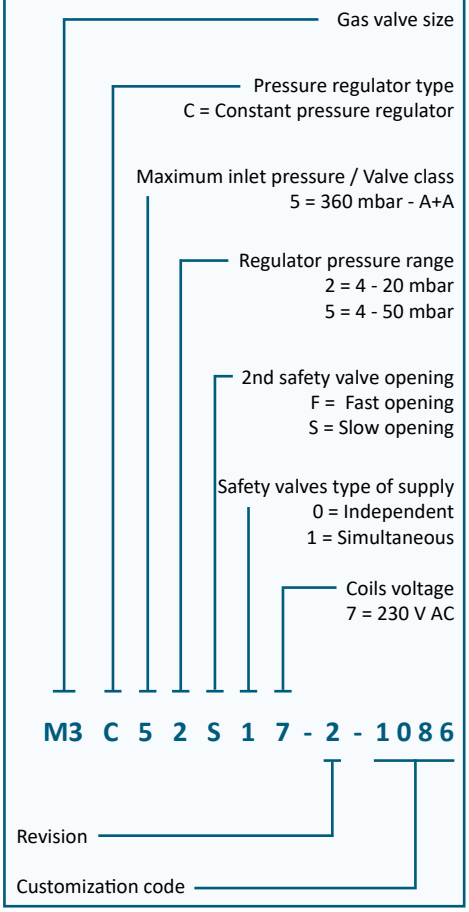
Slow opening (M3C**S)

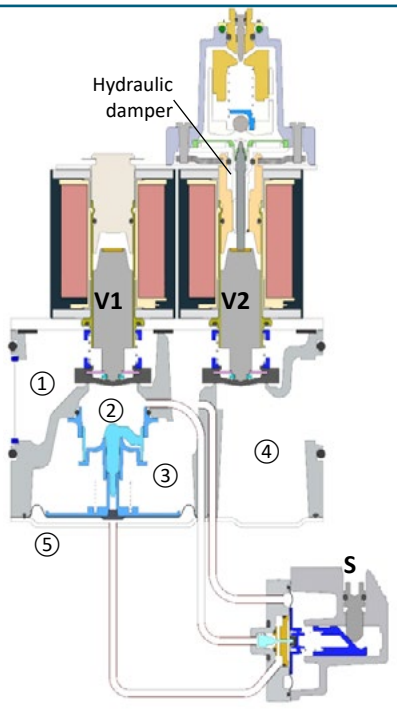
A hydraulic damper, placed above the safety valve V2, offers the possibility to dampen the movement of the safety valve V2 and thus apply a progressive gas flow in the combustion chamber in the starting phases.

This device allows a slow initial opening (ignition flow) of the safety valve V2, adjustable up to 80% of the maximum flow.

MULTIFUNCTIONAL GAS VALVE IDENTIFICATION

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





Sectional drawing of multifunctional gas valve M3C**S

TECHNICAL SPECIFICATIONS

General

Maximum operating pressure	360 mbar
Ambient temperature range	-20°C to +60°C
Operation with	Air and gas of 1st, 2nd and 3rd families
Body	Aluminium
Weight	• M3C**F : 2.3 kg • M3C**S : 2.5 kg
Certification	CE: Certificate n°1312CU6361 UKCA : certificate n°8510/0099
Inlet/outlet flanges	• DN15 (Rp1/2'') • DN20 (Rp3/4'')
Pressure taps	G1/8'' connections Supplied in 3 locations on the multifunctional gas valve, and on inlet/outlet flanges.
Inlet strainer	Mesh size : 0.6 mm. Replaceable filter.
Pressure switch (optional)	Factory mounted on inlet flange. When suitable configuration, can be side-mounted.

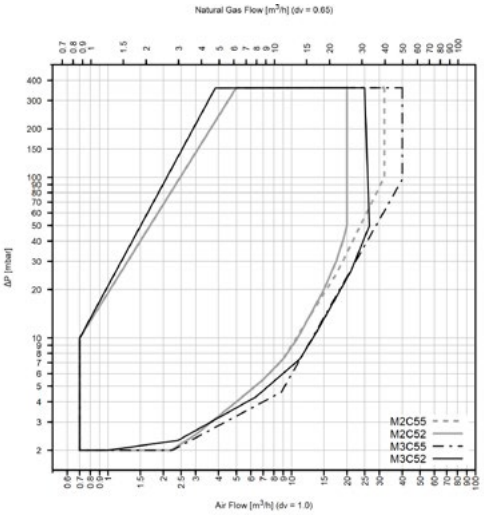
Safety valve characteritics

Leakage class	Class A+A
Opening time (EN 161)	• M3C**F : < 0.5 s • M3C**S : < 10 s (For other setting, contact SUNTEC.)
Closing time (EN 161)	• M3C**F : < 0.2 s • M3C**S : < 0.2 s
Voltage	230 V AC, 50/60 Hz
Consumption	42 VA
IP rating	IP54 (with suitable connector) according to EN 60529 standard.

Pressure regulator

Pressure regulator	Class B according to EN 88-1, placed between the safety valves V1 and V2.
Regulated pressure range	• 4-20 mbar (M3C52**7) • 4-50 mbar (M3C55**7)
Delivery pressure	10 mbar

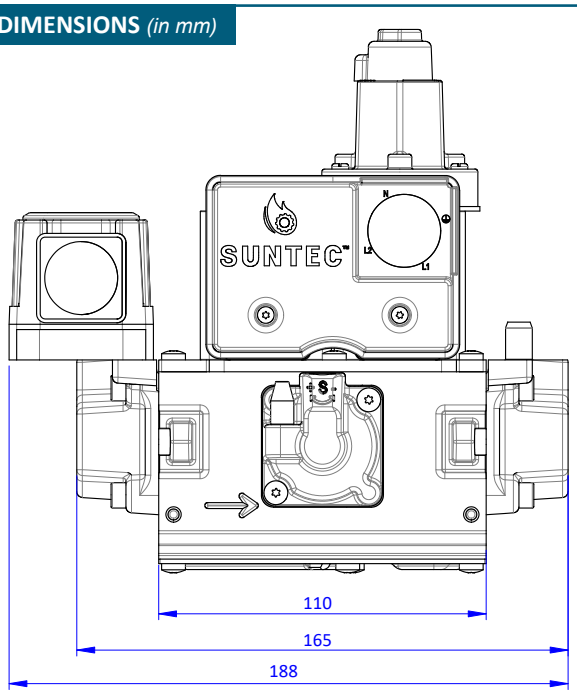
FLOW CURVES

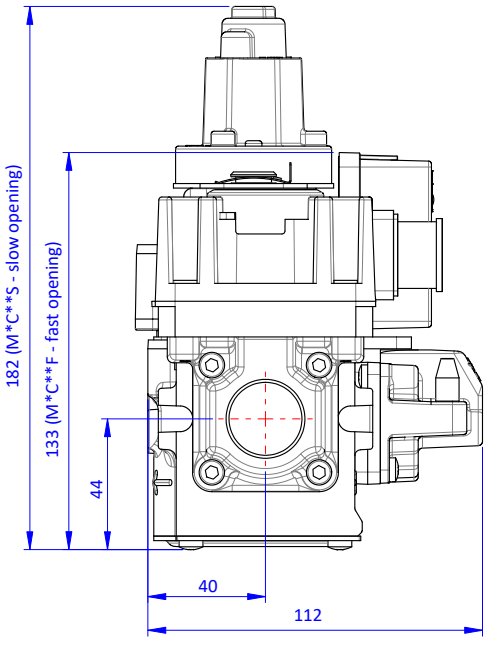


P burner = 3 mbar
Flange = Rp3/4''

Maximum flow can be reduced when other flanges are connected with.

DIMENSIONS *(in mm)*





Type	Reference	Inlet connection	Outlet connec-tion	Pressure range (mbar)	Delivery pressure (mbar)	Inlet pressure (mbar)	Remarks	Alternate model
M3C	M3C42S07-2-1000	-	-	4 - 20	10	160	Slow opening	
	M3C45S07-2-1000	-	-	4 - 50	10	160	Slow opening	
	M3C52S17-2-1000	-	-	4 - 20	10	360	Slow opening / Simultaneous	

M2N

M2N - 11 - Ed 7 - September 2024

This is a general documentation; for specific applications not covered by this leaflet, please consult us.

The SUNTEC M2N combined gas valve is a 1-stage system, with two safety valves.

APPLICATIONS

The SUNTEC combined gas valve is recommended for collective or industrial pressure jet burners.

The use of the SUNTEC combined gas valve is recommended in all gas installations requiring a safety shutoff for inlet pressure up to 360 mbar.

It is suitable for use with 1st, 2nd and 3rd family gases (according to EN 437).

OPERATION PRINCIPLE

M2N combined gas valve comprises two class A automatic safety valves, direct-acting, electrically operated.

At rest, both safety valves are closed; thus gas cannot flow beyond chamber ①.

When energized, the coils open and release the gas flow from chamber ① to chamber ② for safety valve V1 (from chamber ② to chamber ③ for V2).

When de-energized, each safety valve closes within 0.2 s.

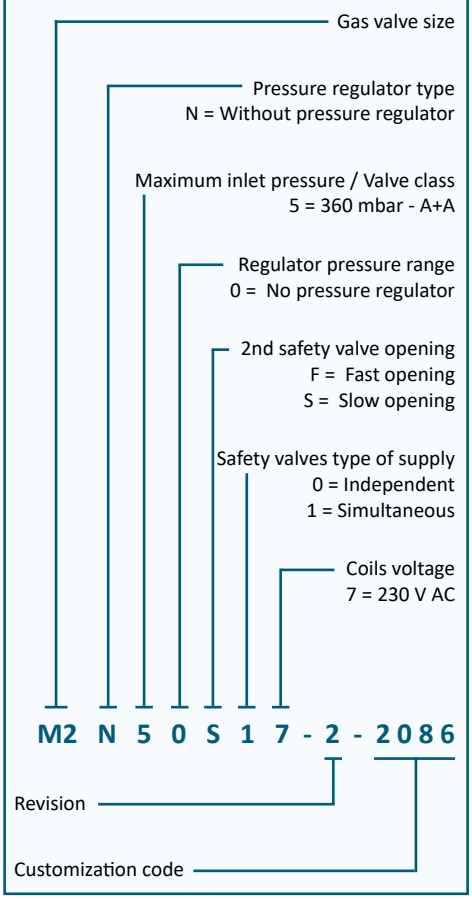
Slow opening (M2N**S)

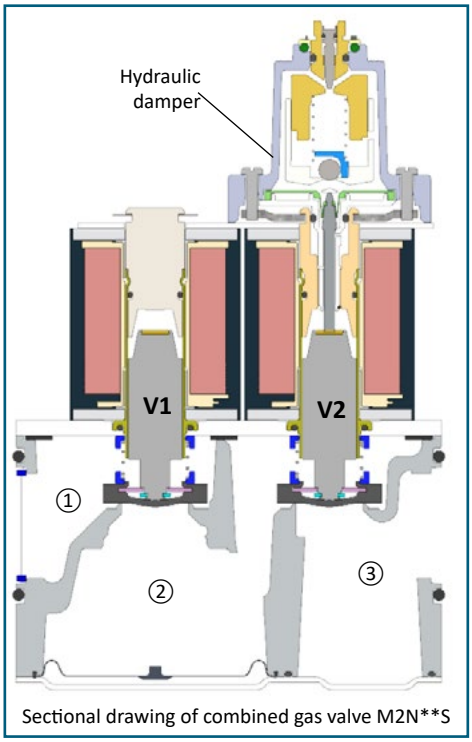
A hydraulic damper, placed above the safety valve V2, offers the possibility to dampen the movement of the safety valve V2 and thus apply a progressive gas flow in the combustion chamber in the starting phases.

This device allows a slow initial opening (ignition flow) of the safety valve V2, adjustable up to 80% of the maximum flow.

COMBINED GAS VALVE IDENTIFICATION

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





Sectional drawing of combined gas valve M2N**S

TECHNICAL SPECIFICATIONS

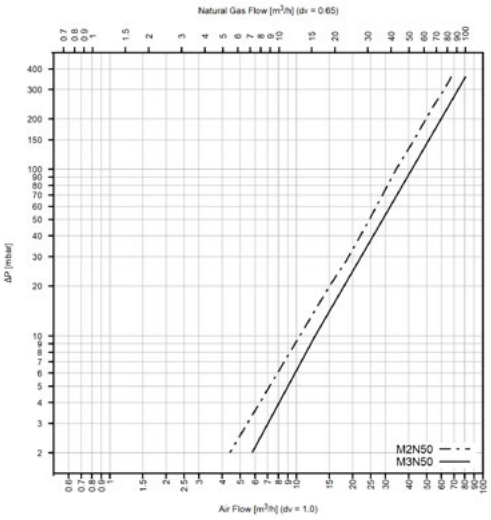
General

Maximum operating pressure	360 mbar
Ambient temperature range	-20°C to +60°C
Operation with	Air and gas of 1st, 2nd and 3rd families
Body	Aluminium
Weight	• M2N**F : 2.3 kg • M2N**S : 2.5 kg
Certification	CE: Certificate n°1312CU6361 UKCA : certificate n°8510/0099
Inlet/outlet flanges	• DN15 (Rp1/2'') • DN20 (Rp3/4'')
Pressure taps	G1/8" connections Supplied in 3 locations on the combined gas valve, and on inlet/outlet flanges.
Inlet strainer	Mesh size : 0.6 mm. Replaceable filter.
Pressure switch (optional)	Factory mounted on inlet flange. When suitable configuration, can be side-mounted.

Safety valve characteritics

Leakage class	Class A+A
Opening time (EN 161)	• M2N**F : < 0.5 s • M2N**S : < 10 s (For other setting, contact SUNTEC.)
Closing time (EN 161)	• M2N**F : < 0.2 s • M2N**S : < 0.2 s
Voltage	230 V AC, 50/60 Hz
Consumption	34 VA
IP rating	IP54 (with suitable connector) according to EN 60529 standard.

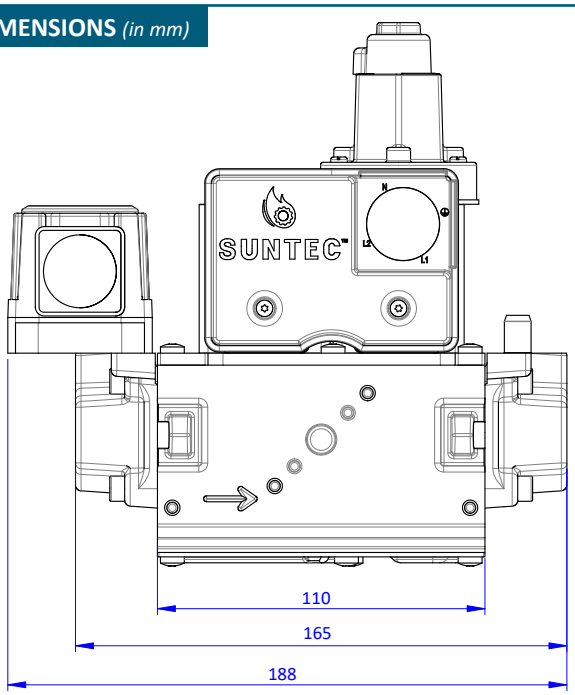
FLOW CURVE

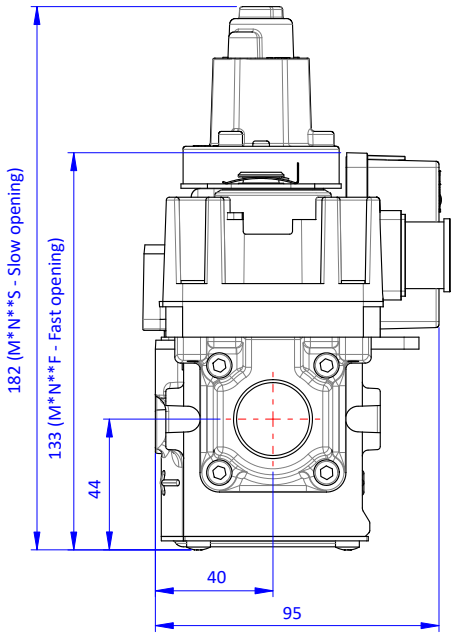


P burner = 3 mbar
Flange = Rp3/4''

Maximum flow can be reduced when other flanges are connected with.

DIMENSIONS *(in mm)*





Type	Reference	Inlet connection	Outlet connection	Pressure range (mbar)	Delivery pressure (mbar)	Inlet pressure (mbar)	Remarks	Alternate model
M2N	M2N50S07-2-2000	-	-	NA	NA	360	Slow opening	
	M2N50F07-1-2000	-	-	NA	NA	360		
	M2N50F07-1-2086	G 3/4	G 3/4	NA	NA	360		

M3N

M3N - 11 - Ed 4 - September 2024

This is a general documentation; for specific applications not covered by this leaflet, please consult us.

The SUNTEC M3N combined gas valve is a 1-stage system, with two safety valves.

APPLICATIONS

The SUNTEC combined gas valve is recommended for collective or industrial pressure jet burners.

The use of the SUNTEC combined gas valve is recommended in all gas installations requiring a safety shutoff for inlet pressure up to 360 mbar.

It is suitable for use with 1st, 2nd and 3rd family gases (according to EN 437).

OPERATION PRINCIPLE

M3N combined gas valve comprises two class A automatic safety valves, direct-acting, electrically operated.

At rest, both safety valves are closed; thus gas cannot flow beyond chamber ①.

When energized, the coils open and release the gas flow from chamber ① to chamber ② for valve V1 (from chamber ② to chamber ③ for V2).

When de-energized, each safety valve closes within 0.2 s.

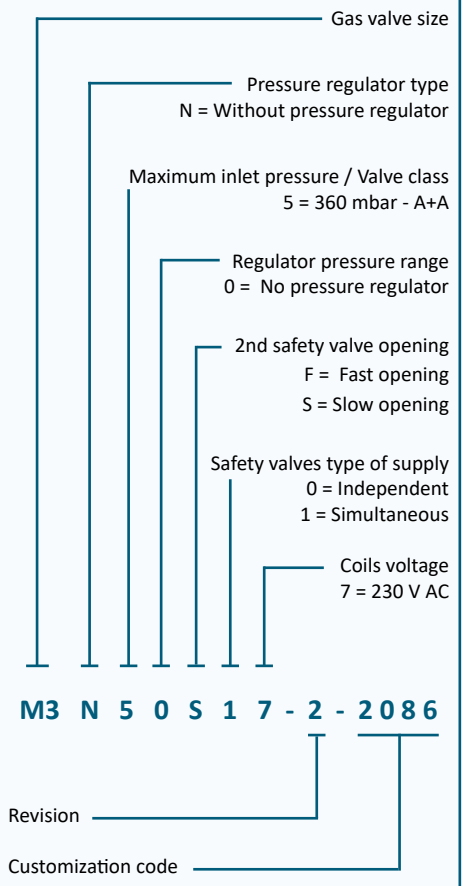
Slow opening (M3N**S)

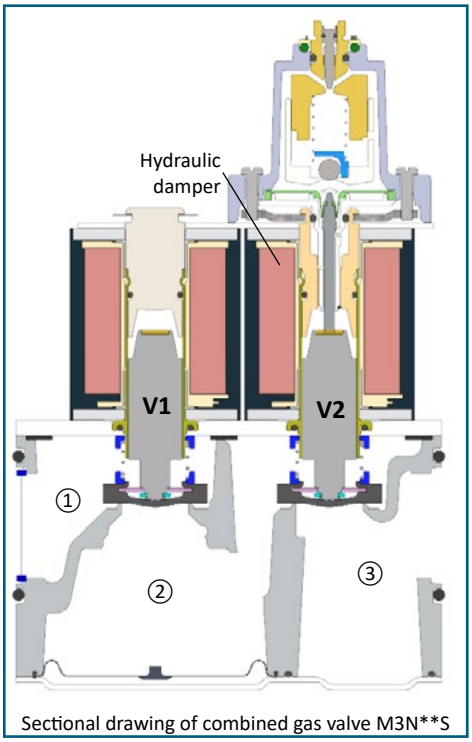
A hydraulic damper, placed above the safety valve V2, offers the possibility to dampen the movement of the safety valve V2 and thus apply a progressive gas flow in the combustion chamber in the starting phases.

This device allows a slow initial opening (ignition flow) of the safety valve V2, adjustable up to 80% of the maximum flow.

COMBINED GAS VALVE IDENTIFICATION

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





Sectional drawing of combined gas valve M3N**S

TECHNICAL SPECIFICATIONS

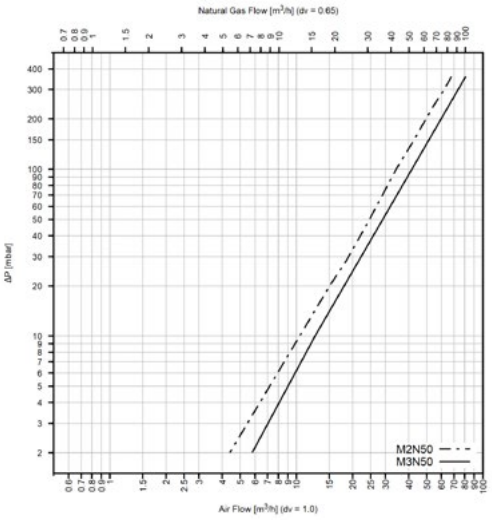
General

Maximum operating pressure	360 mbar
Ambient temperature range	-20°C to +60°C
Operation with	Air and gas of 1st, 2nd and 3rd families
Body	Aluminium
Weight	• M3N**F : 2.3 kg • M3N**S : 2.5 kg
Certification	CE: Certificate n°1312CU6361 UKCA : certificate n°8510/0099
Inlet/outlet flanges	• DN15 (Rp1/2'') • DN20 (Rp3/4'')
Pressure taps	G1/8" connections Supplied in 3 locations on the gas valve, and on inlet/ outlet flanges.
Inlet strainer	Mesh size : 0.6 mm. Replaceable filter.
Pressure switch (optional)	Factory mounted on inlet flange. When suitable configuration, can be side-mounted.

Safety valve characteritics

Leakage class	Class A+A
Opening time (EN 161)	• M3N**F : < 0.5 s • M3N**S : < 10 s (For other setting, contact SUNTEC.)
Closing time (EN 161)	• M3N**F : < 0.2 s • M3N**S : < 0.2 s
Voltage	230 V AC, 50/60 Hz
Consumption	42 VA
IP rating	IP54 (with suitable connector) according to EN 60529 standard.

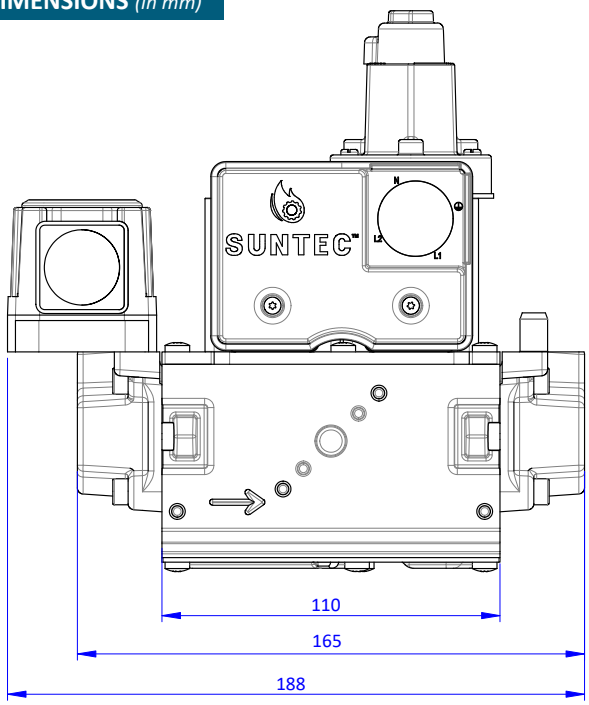
FLOW CURVE

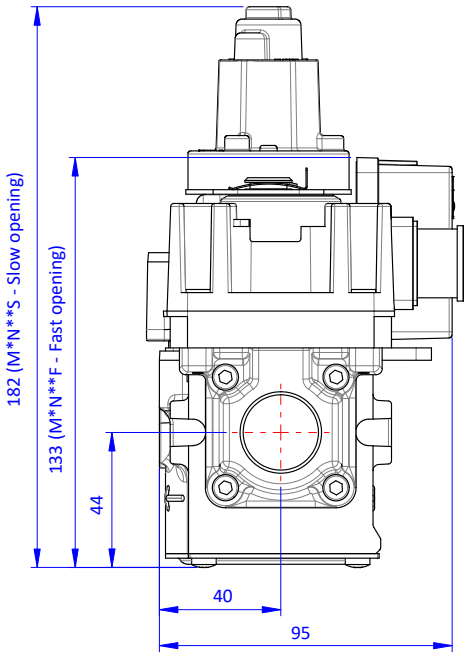


P burner = 3 mbar
Flange = Rp3/4''

Maximum flow can be reduced when other flanges are connected with.

DIMENSIONS *(in mm)*





Type	Reference	Inlet connection	Outlet connec-tion	Pressure range (mbar)	Delivery pressure (mbar)	Inlet pressure (mbar)	Remarks	Alternate model
M3C	M3N40S07-2-2000	-	-	NA	NA	160	Slow opening	

PRESSURE SWITCHES

PRESSURE SWITCH VERSA PRO DMG

DMG

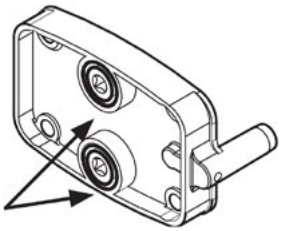
DMG - 11 - Ed. 4 - January 2025

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

The Versa Pro DMG is a line of pressure switches (gas) that monitor pressure and make or break the electrical control circuit when pressure drops below or rises above the desired setpoint. The pressure settings are easy to read and adjust. All models are available in automatic reset operation only.

The Versa Pro is a compact and sturdy switch constructed with a durable plastic electrical enclosure and a die-cast aluminum inlet base.

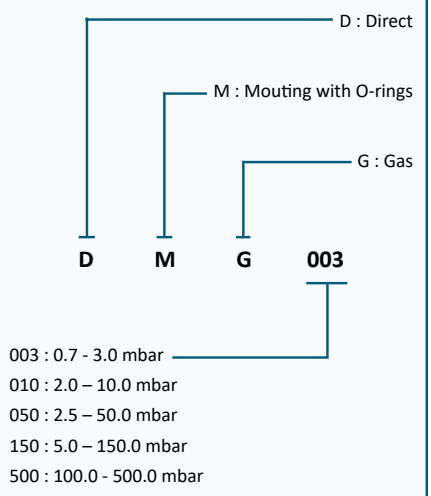
Gas inlets



SPECIFICATIONS

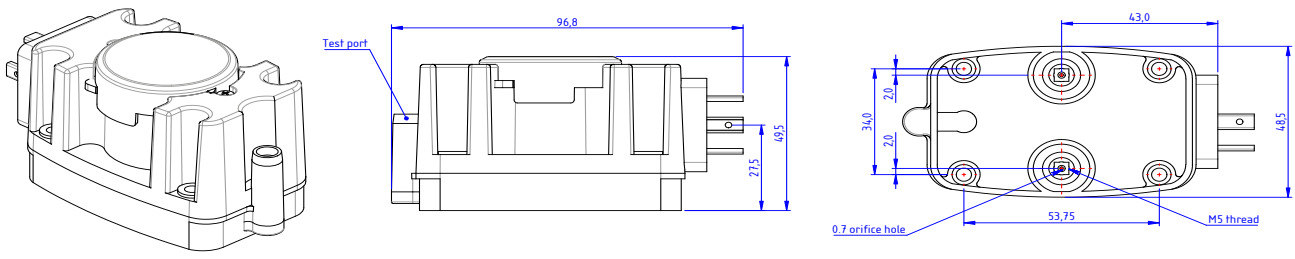
Gas	Gas of 1st, 2nd and 3rd families according to EN 437
Maximum Operating Pressure	690 mbar (69 kPa)
Maximum Surge Pressure	1 bar
Electrical Ratings	6A – 250 VAC
Protection	IP 54 approved to IEC 526 (EN 60529)
Temperature	Ambient : - 15°C to 60°C Storage : - 30°C to 80°C
Weight	0.11 kg
Electrical Connection	3-pin connector (1 NO contact and 1 NC contact) for line sockets as per DIN - EN 175 301 - 803 (without ground protection)
Certification	CE: Certificate n° 1312DP6921

PRESSURE SWITCH IDENTIFICATION



Base type	Version	Part No.	Range	Threshold
DMG : Direct mounting with O-rings and M4 screws (supplied).	DMG 003	8161001003	0.7 – 3.0 mbar	≤ 0.7 mbar
	DMG 010	8161002010	2.0 – 10.0 mbar	≤ 1.0 mbar
	DMG 050	8161006050	2.5 – 50.0 mbar	≤ 2.5 mbar
	DMG 150	8161004150	5.0 – 150.0 mbar	≤ 5.0 mbar
	DMG 500	8161007500	100.0 - 500.0 mbar	≤ 15.0 mbar

DIMENSIONS *(in mm)*



NOTE : Dimensions are for reference only.

Model	Reference	Connection	Pressure range (mbar)	Maximum operating pressure (mbar)	Differential value	Alternate model
DMG 003	8161001003	O-ring	0,7 - 3	690	≤ 0.7 mbar	
DMG 010	8161002010	O-ring	2 - 10	690	≤ 1.0 mbar	
DMG 150	8161004150	O-ring	5 - 150	690	≤ 5.0 mbar	
DMG 050	8161006050	O-ring	2,5 - 50	690	≤ 2.5 mbar	
DMG 500	8161007500	O-ring	100 - 500	690	≤ 15.0 mbar	

PRESSURE SWITCH VERSA PRO F

F

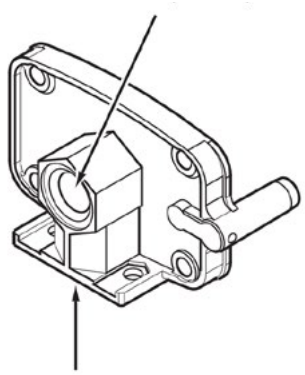
F - 11 - Ed. 7 - January 2025

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

The Versa Pro F is a line of pressure switches (gas and air) that monitor pressure and make or break the electrical control circuit when pressure drops below or rises above the desired setpoint. The pressure settings are easy to read and adjust. All models are available in automatic reset operation only.

The Versa Pro is a compact and sturdy switch constructed with a durable plastic electrical enclosure and a die-cast aluminum inlet base.

Gas Inlet (FCG) or
Air Inlet (FCA)



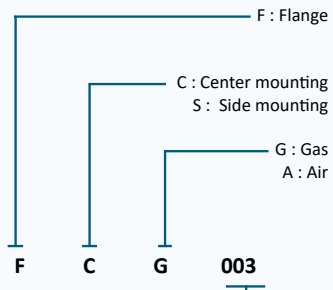
Gas Inlet (FSG)

SPECIFICATIONS

Functionning with	Air and gas of 1st, 2nd and 3rd families according to EN 437
Maximum Operating Pressure	690 mbar (69 kPa)
Maximum Surge Pressure	1 bar
Electrical Ratings	6A – 250 VAC
Protection	IP 54 approved to IEC 529 (EN 60529)
Temperature	Ambient : - 15°C to 60°C Storage : - 30°C to 80°C
Weight	0.11 kg
Electrical Connection	3-pin connector (1 NO contact and 1 NC contact) for line sockets as per DIN - EN 175 301 - 803 (without ground protection)
Thread	G1/4
Certification	CE: Certificate n° 1312DP6921

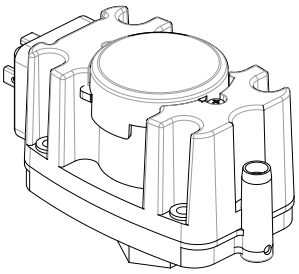
Type	Base type	Version	Part No.	Range	Threshold
Gas	FCG : Center Mount	FCG 003	8171006003	0.7 – 3.0 mbar	≤ 0.7 mbar
		FCG 010	8171007010	2.0 – 10.0 mbar	≤ 1.0 mbar
		FCG 050	8171011050	2.5 - 50.0 mbar	≤ 2.5 mbar
		FCG 150	8171009150	5.0 – 150.0 mbar	≤ 5.0 mbar
		FCG 500	8171010500	100.0 - 500.0 mbar	≤ 15.0 mbar
	FSG : Side Mount	FSG 003	8181011003	0.7 – 3.0 mbar	≤ 0.7 mbar
		FSG 010	8181012010	2.0 – 10.0 mbar	≤ 1.0 mbar
		FSG 050	8181013050	5.0 – 50.0 mbar	≤ 2.5 mbar
		FSG 150	8181014150	5.0 – 150.0 mbar	≤ 5.0 mbar
Air	FCA : Center Mount	FCA 003	8191031003	0.7 – 3.0 mbar	≤ 0.7 mbar
		FCA 010	8191032010	2.0 – 10.0 mbar	≤ 1.0 mbar
		FCA 050	8191033050	5.0 - 50.0 mbar	≤ 2.5 mbar

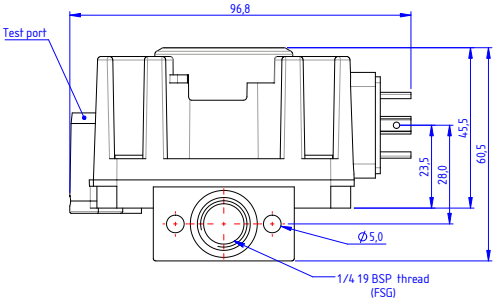
PRESSURE SWITCH IDENTIFICATION

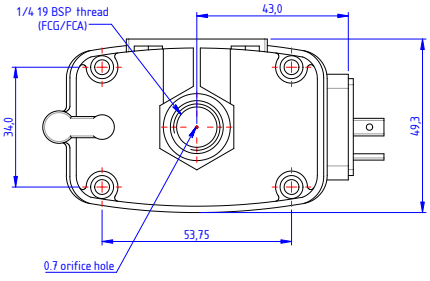


003 : 0.7 - 3.0 mbar
010 : 2.0 – 10.0 mbar
050 : 2.5 – 50.0 mbar for FCG
050 : 5.0 - 50.0 mbar for other configurations
150 : 5.0 – 150.0 mbar
500 : 100.0 - 500.0 mbar for FCG
** For other variants, contact SUNTEC.*

DIMENSIONS *(in mm)*







NOTE : Dimensions are for reference only.

Range	Modele	Reference	Connection	Pressure range (mbar)	Maximum operating pressure (mbar)	Differential value	Alternate model
F_G	FCG 003	8171006003	G 1/4	0,7 - 3	690	≤ 0.7 mbar	
	FCG 010	8171007010	G 1/4	2 - 10	690	≤ 1.0 mbar	
	FCG 150	8171009150	G 1/4	5 - 150	690	≤ 5.0 mbar	
	FCG 500	8171010500	G 1/4	100 - 500	690	≤ 15.0 mbar	
	FCG 050	8171011050	G 1/4	2,5 - 50	690	≤ 2.5 mbar	
	FSG 003	8181011003	G 1/4	0,7 - 3	690	≤ 0.7 mbar	
	FSG 010	8181012010	G 1/4	2 - 10	690	≤ 1.0 mbar	
	FSG 050	8181013050	G 1/4	5 - 50	690	≤ 2.5 mbar	
	F SG 150	8181014150	G 1/4	5 - 150	690	≤ 5.0 mbar	
F_A	FCA 003	8191031003	G 1/4	0,7 - 3	690	≤ 0.7 mbar	
	FCA 010	8191032010	G 1/4	2 - 10	690	≤ 1.0 mbar	
	FCA 050	8191033050	G 1/4	5 - 50	690	≤ 2.5 mbar	

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