



BRAND: AEM

MODEL: VP410SP

TYPE: SOUNDPROOFED

RANGE: VOLVO SOUNDPROOFED

Description : 410 KVA Soundproofed Genset

SOUNDPROOFED SERIES

General Specifications of the Generating Set

GENSET DATA	CONTINUOUS POWER (PRP)	EMERGENCY POWER (LTP)
Power in KVA	410	450
Power in KW	328	360
Revolutions [RPM]	1500	
Voltage [V]	400/230	
Frequency [Hz]	50	
Cos (φ) [0 - 1]	0.8	

(Measurements for 25°C and up to 1000m height)

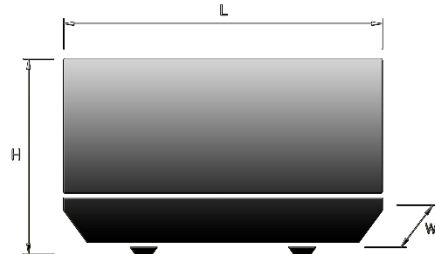
CONSUMPTION

Load [%]	25%	50%	75%	100%
Consumption [L/H]	23.30	42.55	62.86	82.54

(Approximate information given by the engine manufacturer)

MEASUREMENTS AND WEIGHT

Length (L) [mm]	4190
Width (W) [mm]	1650
Height (H) [mm]	1900
Volume [m3]	13.14
Weight [KG]	4470
Fuel Tank [L]	440
Autonomy 75% [H]	7



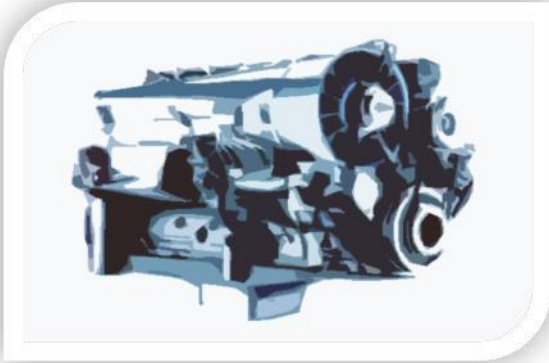
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ENGINE SPECIFICATIONS



BRAND: VOLVO

MODEL: TAD1344GE

REFRIGERATION: WATER

ENGINE DATA	CONTINUOUS POWER (PRP)	EMERGENCY POWER (LTP)
Nominal Power [KWM]	354	398
Engine Type	4 Stroke	
Revolutions [RPM]	1500	
Number of Cylinders	6 in line	
Displacement [L]	12.78	
Oil Capacity [L]	36	
Oil Consumption (100%) [% Comb]	0.04	
Fuel Consumption (100%) [gr/KWh]	194	
Bore / Stroke [mm]	131 X 158	
Compression	18.1	
Aspiration	Turbo Intercooler	
Start-up System	Electric	
Type of Regulation	Electronic EMS	
Starter [KW]	-	
Battery [Ah]	-	

FLOW - INSTALLATION

Refrigeration Air Flow [m ³ /h]	24120
Combustión Air Volume [m ³ /h]	1620
Exhaust Gas Flow[m ³ /h]	3810
Exhaust Gas Temperature [°C]	440

(Information given by the manufacturer)

Additional information will be included in the ENGINE MANUAL supplied with the AEM Generating Set.

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ALTERNATOR SPECIFICATIONS



TYPE: Standard

ALTERNATOR DATA

Poles [nº]	4 Poles
Standard Type of Connection	Series Star
Type of Coupling	S.A.E.
Insulation	Type H
Protection	IP23
Excitation	Self-excited Brushless
Regulation	Electronic (A.V.R)
Type of Support	Single-Bearing
Coupling System	Flexible Disc
Cos (φ)	0.8

(Genesis Data)
First brand Alternator, depending on availability.

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Available Control Panels

MANUAL CONTROL PANELS



Basic Operation	The user is responsible for the start and stop of the machine depending on his needs. It is usually installed where there is no electric grid.
Shape Factor	The control panel is usually installed in the machine.
Equipment	Switchboard HK1B. Voltmeters, Ammeters, Frequency Meter, Fuel Gauge and Hour-Counter.
Protections	<ul style="list-style-type: none"> - <u>Engine Protections</u>: Low Battery Level, Fuel Reserve, Low Oil Pressure, High Engine Temperature. - Differential Protection.

START-UP SIGNAL CONTROL PANELS



Basic Operation	An external signal is responsible for the start and stop of the machine. It is usually used with level sensors of water pumps, watering control, time programmers, etc.
Shape Factor	The control panel is usually installed in the machine.
Equipment	Switchboard type InteliNano-NT MRS with readings of Genset Voltage, Frequency, Fuel Level, Battery Voltage. Voltmeters, Ammeters, Frequency Meters, Fuel Gauge and Hour-Counter.
Protections	<ul style="list-style-type: none"> - <u>Engine Protections</u>: Low Battery Level, Fuel Reserve, Over Speed, Under Speed, Low Oil Pressure, High Engine Temperature, Start-up Failure, Stop Failure. - <u>Alternator Protections</u>: Over Voltage, Low Generator Voltage, Over Frequency, Low Frequency, Turn Direction. - Differential Protection.

CONTROL PANELS WITH AUTOMATIC SWITCHBOARD Without Commutation



Basic Operation	This control panel is intended for users who already have a commutation panel or who will install it once they have electric grid. Manual or automatic mode operation. It is able to control the generating set and the electric grid.
Shape Factor	The control panel is usually installed in the machine.
Equipment	Switchboard type InteliLite-NT AMF25 with readings of Genset Voltage, Frequency, Intensities, Active and Reactive Power, Fuel Level, Oil Pressure, Engine Temperature, Battery Voltage, Hour-Counter.
Protections	<ul style="list-style-type: none"> - <u>Engine Protections</u>: Low Battery Level, Fuel Reserve, Over Speed, Under Speed, Low Oil Pressure, High Engine Temperature, Start-up Failure, Stop Failure. - <u>Alternator Protections</u>: Over Voltage, Low Generator Voltage, Over Frequency, Low Frequency, Turn Direction, Unbalance between Phases. - Differential Protection.

CONTROL PANELS OF SEPARATE COMMUTATION



Basic Operation

It is basically intended to automatically change the input of electricity supply between the Electric Grid and the Generating Set that is working as emergency of it, or between two Grids.

Shape Factor

This control panel is not installed in the machine, but supplied as a separate part.

Equipment Protections

With or without Switchboard.
 Protections from the commutator itself are included in this type of control panels. May or may not have control of the Genset and the Electric Grid depending on whether they include or not a switchboard.

AUTOMATIC AMF CONTROL PANELS With Commutation



Basic Operation

It is installed in Generating Sets that work as emergency of the Grid. In the event of any failure in the Electric Grid the machine starts automatically and carries out the commutation. Once the Grid's parameters are stabilized the commutation will come back to Grid position and the Generating Set will automatically stop. It also includes the option of Manual Mode operation.

Shape Factor

This control panel is not installed in the machine, but supplied as a separate part.

Equipment

It includes Switchboard and Commutation. Switchboard type IntelliLite-NT AMF25 with readings of Voltages, Frequencies, Intensities, Active and Reactive Power (both of Genset and Electric Grid), Fuel Level, Oil Pressure, Engine Temperature, Battery Voltage, Hour-Counter.

Protections

- Engine Protections: Low Battery Level, Fuel Reserve, Over Speed, Under Speed, Low Oil Pressure, High Engine Temperature, Start-up Failure, Stop Failure.
- Alternator Protections: Over Voltage, Low Generator Voltage, Over Frequency, Low Frequency, Turn Direction, Unbalance between Phases.
- Electric Grid Protections: Over Voltage, Low Grid Voltage, Over Frequency, Low Frequency.
- Differential Protection.

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SYNCHRONISING CONTROL PANELS - PARALLEL



Basic Operation

These control panels are mainly used for the synchronization or parallel operation of one or several machines between them or with an existing electric grid, getting these machines working together. They are used in hospitals, generating plants, and as support to Grid supply. They can work in Manual or Automatic Mode.

Shape Factor

This control panel can be integrated in the machine or supplied as a separate part.

Equipment

Switchboard type InteliGen-NT with readings of Genset Voltage, Frequency, Intensities, Active and Reactive Power, Fuel Level, Oil Pressure, Engine Temperature, Battery Voltage, Hour-Counter.

Protections

- Engine Protections: Low Battery Level, Fuel Reserve, Over Speed, Under Speed, Low Oil Pressure, High Engine Temperature, Start-up Failure, Stop Failure.
- Alternator Protections: Over Voltage, Low Generator Voltage, Over Frequency, Low Frequency, Turn Direction, Unbalance between Phases.
- Differential Protections.

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Scope of Standard Supply

(It may vary depending on the model)

Diesel Engine	Alternator	Battery
Control Panel with Electric Instrumentation	Emergency Stop	Differential and Magneto thermal Protection
Lifting Hooks	Mufflers	Electronic Alternator Regulation
Steel Base Plate	Refrigeration Systems	Filters
Engine and Alternator Silent Blocks	Oil Extraction Kit	Fuel Tank
Fuel Level Sensor	Filler Neck + Caps	Opening Control Panel Keys
Generating Set Documentation	Identification Plate	Engine/Alternator Wiring
Powder Paint	Fuel Drainage Neck	Warning Signals
Earth Bar (without earth rod)	Battery Charger	Battery

Some Basic Options

Engine Water Heater	Alternator Heater	Battery Disconnecter
Electronic Engine Regulation	Water Temperature Gauge	Oil Temperature Gauge
Diesel Filter Separator	Cyclone Air Filters	Oil Microfiltration
Centrifuge Filters	Engine Oil Heater	Automatic Transfer System
Quick Plugs	Microswitch	Tropicalized Alternator
Special Painting Treatments	Heat Shield Insulated Exhausts	Additional Works Panel

Soundproofing

The soundproofed machine is made up of a canopy or soundproofed structure of 2mm thickness. Punched, folded, electric welded and bolted in specific parts for a better maintenance and access to the interior of the generating set, and suitably treated for its later painting in polymerization ovens. It is made up of a modular structure with steel frames and covered with appropriate sound-absorbing and sound-insulating fireproof kaolin wood materials. The sound-absorbing can be optionally supplied with perforated plate.

Assembly

The assembly of engine and alternator is carried out directly by means of discs. Up to 150 KVA a base of 4mm thickness cold laminated steel profiles is mounted, from 150 KVA a skid base of UPN-260 or UPN-300 profiles is mounted. The monoblock is fastened to the base or bench by means of antivibration spring plates. A fuel tank and a 15dB attenuation exhaust muffler are also supplied.

Your Generating Set

The AEM Generating Set is basically characterized by its robustness, versatility and reliability. It is built with first quality materials and using the most innovative technologies in order to obtain an enviable quality product close to zero mistakes. All our generating sets are supervised during the manufacturing process and they follow a series of tests to secure that the customer is acquiring a machine ready to work in perfect conditions immediately after its installation.

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Custom-built

With more than 25 years experience Alternativas Energéticas Murcia S.L. offers commercial and engineering services able to study and design power generating systems based in generating sets, giving answer to any project or specifications whatever complex they are, and giving functional solutions to them.

Warranty

AEM Generating Sets offer a standard warranty against any manufacturing fault which is valid for 1 year or 2000 working hours and it expires once any of the two previous conditions takes place. (Please contact us for further information about complete warranty conditions).

Regulations and Quality Systems

Alternativas Energéticas Murcia S.L. manufactures its standard brand of products introducing the following regulations:

- CE Marking
- 2006/42/CE – Machinery Safety Directive
- 2006/95/CE – Low Voltage Directive, relating to electrical equipment designed for use within certain voltage limits.
- 2004/108/CE – Directive relating to Electromagnetic Compatibility (Repealing Directive 89/336/CEE).
- 2002/88/CE y 2004/26/CE – Relating to measures against the emission of gaseous and particulate pollutants from internal combustion engines to be installed in non-road mobile (Amending directive 97/68/CE).
- 2005/88/CE – Relating to the noise emission in the environment by equipment for use outdoors (Amending directive 2000/14/CE).
- EN 12100, EN13857, EN60204.

Powers are for environmental conditions given as reference: 100 KPa of barometrical pressure, 25º C and 30% of relative humidity. They are defined as per ISO 8528 and ISO 3046.

Contact

For further information please do not hesitate to contact us without any obligation. We will be pleased to attend you. Our professionals team will be at your entire disposal. You can contact us by telephone, fax, e-mail, web or Skype (See end page).

Reliable and Intelligent Energy



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