



V400U

Engine ref.	TAD1344GE
Alternator ref.	AT01741T
Performance class	G3

GENERAL CHARACTERISTICS

Frequency (Hz)	60
Voltage (V)	480/277
Standard Control Panel	TELYS
Optional control panel	APM802

POWER

Voltage	ESP		PRP		Standby Amps
	kWe	kVA	kWe	kVA	
480/277	400	500	364	455	601
440/254	400	500	364	455	656
220/127	400	500	364	455	1312
208/120	400	500	364	455	1388
600/347	400	500	364	455	481

DESCRIPTIVE

- Electronic governor
- Mechanically welded chassis with antivibration suspension
- Main line circuit breaker
- Radiator for wiring temperature of 48/50°C max with mechanical fan
- Protective grille for fan and rotating parts (CE option)
- 9 dB(A) silencer supplied separately
- Charger DC starting battery with electrolyte
- 24 V charge alternator and starter
- Delivered with oil and coolant -30°C
- Manual for use and installation

DIMENSIONS COMPACT VERSION

Length (mm)	3160
Width (mm)	1340
Height (mm)	1805
Dry weight (kg)	3110
Tank capacity (L)	470

DIMENSIONS SOUNDPROOFED VERSION

Commercial reference of the enclosure	M228
Length (mm)	4475
Width (mm)	1410
Height (mm)	2430
Dry weight (kg)	4080
Tank capacity (L)	470
Acoustic pressure level @1m in dB(A)	86
Sound power level guaranteed (Lwa)	0
Acoustic pressure level @7m in dB(A)	76

POWER DEFINITION

PRP : Prime Power is available for an unlimited number of annual operating hours in variable load applications, in accordance with ISO 8528-1. ESP : The standby power rating is applicable for supplying emergency power in variable load applications in accordance with ISO 8528-1. Overload is not allowed.

TERMS OF USE

According to the standard, the nominal power assigned by the genset is given for 25°C Air Inlet Temperature, of a barometric pressure of 100 kPA (100 m A.S.L), and 30 % relative humidity. For particular conditions in your installation, refer to the derating table.

ASSOCIATED UNCERTAINTY

For the generating sets used indoor, where the acoustic pressure levels depends on the installation conditions, it is not possible to specify the ambient noise level in the exploitation and maintenance instructions . You will also find in our exploitation and maintenance instructions a warning concerning the air noise dangers and the need to implement appropriated preventive measures.



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ENGINE CHARACTERISTICS

GENERAL ENGINE DATA

Engine model	VOLVO
Engine ref.	TAD1344GE
Air inlet	Turbo
Cylinders arrangement	L
Number of cylinders	6
Displacement (C.I.)	12.78
Air coolant	Air/Air DC
Bore (mm) x Stroke (mm)	131 x 158
Compression ratio	18.1 : 1
Speed (RPM)	1800
Pistons speed (m/s)	9.48
Maximum stand-by power at rated RPM (kW)	449
Frequency regulation (%)	+/- 0.5%
BMEP (bar)	21.40
Governor type	Electronic

COOLING SYSTEM

Radiator & Engine capacity (L)	44
Max water temperature (°C)	107
Outlet water temperature (°C)	
Fan power (kW)	18
Fan air flow w/o restriction (m3/s)	9.50
Available restriction on air flow (mm Water Column)	
Type of coolant	Glycol-Ethylene
Thermostat (°C)	82-92

EMISSIONS

Emission PM (g/kWh)	
Emission CO (g/kW.h)	
Emission HCNOx (g/kWh)	
Emission HC (g/kW.h)	

EXHAUST

Exhaust gas temperature (°C)	490
Exhaust gas flow (L/s)	1376
Max. exhaust back pressure (mm EC)	1000

FUEL

Fuel consumption 110% load (L/hr)	106.70
Fuel consumption 100% load (L/hr)	97
Fuel consumption 75% (L/h)	72.40
Fuel consumption 50% (L/h)	49.40
Maximum fuel pump flow (L/h)	130

OIL

Oil capacity (L)	36
Min. oil pressure (bar)	
Max. oil pressure (bar)	
Oil consumption 100% load (L/h)	0.05
Carter oil capacity (L)	30

HEAT BALANCE

Heat rejection to exhaust (kW)	324
Radiated heat to ambient (kW)	23
Heat rejection to coolant (kW)	180

AIR INTAKE

Max. intake restriction (mm EC)	510
Intake air flow (L/s)	550



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ALTERNATOR CHARACTERISTICS

GENERAL DATA

Alternator ref.	AT01741T
Number of Phase	Three phase
Power factor (Cos Phi)	0.80
Altitude (m)	0 to 1000
Overspeed (rpm)	2250
Number of pole	4
Capacity for maintaining short circuit at 3 In for 10 s	No
Insulation class	H
T° class, continuous 40°C	H / 125°K
T° class, standby 27°C	H / 163°K
AVR Regulation	Yes
Total Harmonic Distortion in no-load DHT (%)	<1.5
Total Harmonic Distortion, on load DHT (%)	<2
Wave form : NEMA=TIF	<50
Wave form : CEI=FHT	<2
Number of bearing	1
Coupling	Direct
Voltage regulation at established rating (+/- %)	
Recovery time (Delta U = 20% transient) (ms)	500
Indication of protection	IP 23
Technology	Without collar or brush

OTHER DATA

Continuous Nominal Rating 40°C (kVA)	495
Standby Rating 27°C (kVA)	545
Efficiencies 100% of load (%)	93.30
Air flow (m3/s)	1.10
Short circuit ratio (Kcc)	0.29
Direct axis synchro reactance unsaturated (Xd) (%)	405
Quadra axis synchro reactance unsaturated (Xq) (%)	243
Open circuit time constant (T'do) (ms)	1771
Direct axis transient reactance saturated (X'd) (%)	22.80
Short circuit transient time constant (T'd) (ms)	100
Direct axis subtransient reactance saturated (X''d) (%)	16
Subtransient time constant (T''d) (ms)	10
Quadra axis subtransient reactance saturated (X''q) (%)	21.60
Subtransient time constant (T''q) (ms)	
Zero sequence reactance unsaturated (Xo) (%)	1
Negative sequence reactance saturated (X2) (%)	18.80
Armature time constant (Ta) (ms)	15
No load excitation current (io) (A)	0.90
Full load excitation current (ic) (A)	4
Full load excitation voltage (uc) (V)	40
Engine start (Delta U = 20% perm. or 50% trans.) (kVA)	973
Transient dip (4/4 load) - PF : 0,8 AR (%)	18.50
No load losses (W)	8150
Heat rejection (W)	28180
Unbalanced load acceptance ratio (%)	70

DIMENSIONS

Containment DW

Commercial reference of the enclosure	M228 DW
Length (mm)	4527
Width (mm)	1410
Height (mm)	2700
Dry weight (kg)	4740
Tank capacity (L)	1368
Acoustic pressure level @1m in dB(A)	86
Sound power level guaranteed (Lwa)	0
Acoustic pressure level @7m in dB(A)	76

TELYS, ergonomic and user-friendly



The highly versatile TELYS control unit is complex yet accessible, thanks to the particular attention paid to optimising its ergonomics and ease of use. With its large display screen, buttons and scroll wheel, it places the accent on simplicity and communication.

The TELYS offers the following functions:

Electrical measurements: voltmeter, frequency meter, ammeter.

Engine parameters: working hours counter, oil pressure, coolant temperature, fuel level, engine speed, battery voltage.

Alarms and faults: oil pressure, coolant temperature, failure to start, overspeed, alternator min./max., battery voltage min./max., emergency stop, fuel level.

Ergonomics: wheel for navigating around the various menus.

Communication: remote control and operation software, USB connections, PC connection.

For more information on the product and its options, please refer to the sales documentation.

APM802 dedicated to power plant management



The new APM802 command/control system is specifically designed for operating and monitoring power plants for markets including hospitals, data centres, banks, the oil and gas sector, industries, IPP, rental and mining.

This unit is available as standard on all generating sets from 275 Kva designed for coupling. It is optional on the rest of our range.

The Human Machine Interface, designed in collaboration with a company specialising in interface design, facilitates operations with a large 100% touch screen. The pre-configured system for power plant applications features a brand new customisation function which complies with the international standard IEC 61131-3. New communication functions (PLC and regulation), improve the high level of equipment availability in the installation.

Advantages:

- Dedicated to power plant management.
- Specially researched ergonomics.
- High level of equipment availability.
- Modularity and long service life guaranteed.
- Making it easy to extend the installation

For more information, please refer to the sales documentation.

This document is not contractual - The SDMO company reserves the right to modify any of the characteristics stated in this document without notice, in a constant effort to improve the quality of its products. *ISO 8528.

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