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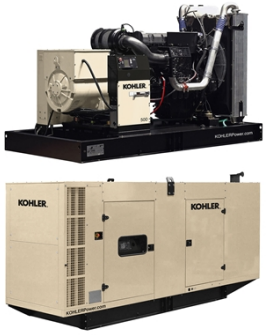

Engine ref.	TAD1641GE
Alternator ref.	KH02450T
Performance class	G3

GENERAL CHARACTERISTICS

Frequency (Hz)	50 Hz
Voltage (V)	400/230
Standard Control Panel	APM403
Optional control panel	APM802
Optional control panel	M80
Optional control panel	DEC 4000

POWER

Voltage	ESP		PRP		Standby Amps
	kWe	kVA	kWe	kVA	
415/240	440	550	400	500	765
400/230	440	550	400	500	794
380/220	440	550	400	500	836
200/115	440	550	400	500	1588
240 TRI	440	550	400	500	1323
230 TRI	440	550	400	500	1381
220 TRI	440	550	400	500	1443

DIMENSIONS COMPACT VERSION

Length (mm)	3470
Width (mm)	1500
Height (mm)	2043
Dry weight (kg)	3620
Tank capacity (L)	500

DIMENSIONS SOUNDPROOFED VERSION

Type soundproofing	M229
Length (mm)	5031
Width (mm)	1560
Height (mm)	2435
Dry weight (kg)	4870
Tank capacity (L)	500
Acoustic pressure level @1m in dB(A)	76
Sound power level guaranteed (Lwa)	97
Acoustic pressure level @7m in dB(A)	66

DESCRIPTIVE

- Kohler Co. Provides one-source responsibility for the generating system and accessories.
- The generator set and its components are prototype-tested, factory-built, and production-tested.
- A one-year limited warranty covers all systems and components
- 24 V charge alternator and starter
- Single-bearing alternator with insulation class H.
- Radiator for core temperature of 48/50°C max with mechanical fan
- Skid and vibration isolators.
- Dry type air filter.
- Main line circuit breaker.
- Microprocessor controller.
- 9 dB(A) silencer supplied separately
- Operation and installation literature.

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 Intlet 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 brand	VOLVO
Engine ref.	TAD1641GE
Air inlet system	Turbo
Cylinders configuration	L
Number of cylinders	6
Displacement (L)	16.12
Charge Air coolant	Air/Air DC
Bore (mm) x Stroke (mm)	144 x 165
Compression ratio	16.5 : 1
Speed (RPM)	1500
Pistons speed (m/s)	8.25
Maximum stand-by power at rated RPM (kW)	484
Frequency regulation, steady state (%)	+/- 0.25%
BMEP (bar)	21.8
Governor type	Electronic

COOLING SYSTEM

Radiator & Engine capacity (L)	60
Fan power (kW)	11
Fan air flow w/o restriction (m3/s)	8.8
Available restriction on air flow (mm H2O)	20
Type of coolant	Glycol-Ethylene

EMISSIONS

Emission PM (g/kW.h)	0.09
Emission CO (g/kW.h)	1.15
Emission HC+NOx (g/kWh)	5.46
Emission HC (g/kW.h)	0.12

EXHAUST

Exhaust gas temperature @ ESP 50Hz (°C)	455
Exhaust gas flow @ ESP 50 Hz (L/s)	1533
Max. exhaust back pressure (mm H2O)	1000

FUEL

Consumption @ 110% load (L/h)	112.6
Consumption @ 100% load (L/h)	102
Consumption @ 75% load (L/h)	75.4
Consumption @ 50% load (L/h)	51
Maximum fuel pump flow (L/h)	170

OIL

Oil capacity (L)	48
Min. oil pressure (bar)	0.7
Max. oil pressure (bar)	6.5
Oil consumption 100% ESP (L/h)	0.1
Oil sump capacity (L)	42

HEAT BALANCE

Heat rejection to exhaust (kW)	326
Radiated heat to ambiant (kW)	20
Haet rejection to coolant HT (kW)	184

AIR INTAKE

Max. intake restriction (mm H2O)	500
Intake air flow (L/s)	633

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ALTERNATOR CHARACTERISTICS

GENERAL DATA

Alternator ref.	KH02450T
Number of Phase	Three phase
Power factor (Cos Phi)	0.8
Altitude (m)	0 à 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 (H/125°), continuous 40°C	H / 125°K
T° class (H/163°C), standby 27°C	H / 163°K
AVR Regulation	Yes
Total Harmonic Distortion in no-load DHT (%)	<2
Total Harmonic Distortion, on linear load DHT (%)	<2
Wave form : NEMA=TIF	<50
Wave form : CEI=FHT	<2
Number of bearing	1
Coupling	Direct
Voltage regulation at established rating (+/- %)	0.5
Recovery time (Delta U = 20% transcient) (ms)	500
Indication of protection	IP 23
Technology	Without collar or brush

OTHER DATA

Continuous Nominal Rating 40°C (kVA)	500
Standby Rating 27°C (kVA)	570
Efficiencies 100% of load (%)	94.5
Air flow (m3/s)	0.9
Short circuit ratio (Kcc)	0.411
Direct axis synchro reactance unsaturated (Xd) (%)	307
Quadra axis synchro reactance unsaturated (Xq) (%)	156
Open circuit time constant (T'do) (ms)	1930
Direct axis transcient reactance saturated (X'd) (%)	15.9
Short circuit transcient time constant (T'd) (ms)	100
Direct axis subtranscient reactance saturated (X"d) (%)	11.1
Subtranscient time constant (T"d) (ms)	10
Quadra axis subtranscient reactance saturated (X"q) (%)	14.7
Subtranscient time constant (T"q) (ms)	10
Zero sequence reactance unsaturated (Xo) (%)	0.6
Negative sequence reactance saturated (X2) (%)	12.95
Armature time constant (Ta) (ms)	15
No load excitation current (io) (A)	0.99
Full load excitation current (ic) (A)	3.59
Full load excitation voltage (uc) (V)	61.3
Engine start (Delta U = 20% perm. or 30% trans.) (kVA)	996.49
Transcient dip (4/4 load) - PF : 0,8 AR (%)	15
No load losses (W)	6551.63
Heat rejection (W)	23152.85
Unbalanced load acceptance ratio (%)	70

DIMENSIONS

Dimensions soundproofed version

Type soundproofing	M229
Length (mm)	5031
Width (mm)	1560
Height (mm)	2435
Dry weight (kg)	4870
Tank capacity (L)	500
Acoustic pressure level @1m in dB(A)	76
Sound power level guaranteed (Lwa)	97
Acoustic pressure level @7m in dB(A)	66

Dimensions DW soundproofed version

Type soundproofing	M229 DW
Length (mm)	5083
Width (mm)	1560
Height (mm)	2303
Dry weight (kg)	4262
Tank capacity (L)	1770
Acoustic pressure level @1m in dB(A)	

Dimensions DW compact version

Type soundproofing	
Length (mm)	5083
Width (mm)	1560
Height (mm)	2303
Dry weight (kg)	4262
Tank capacity (L)	1770
Acoustic pressure level @1m in dB(A)	
Sound power level guaranteed (Lwa)	
Acoustic pressure level @7m in dB(A)	

Sound power level guaranteed (Lwa)
Acoustic pressure level @7m in dB(A)

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CONTROL PANEL

APM403, basic generating set and power plant control

The APM403 is a versatile control unit which allows operation in manual or automatic mode
Measurements : voltage and current
kW/kWh/kVA power meters
Standard specifications: Voltmeter, Frequency meter.
Optional : Battery ammeter.
J1939 CAN ECU engine control
Alarms and faults: Oil pressure, Coolant temperature, Overspeed, Start-up failure, alternator min/max, Emergency stop button.
Engine parameters: Fuel level, hour counter, battery voltage.
Optional (standard at 24V): Oil pressure, water temperature.
Event log/ Management of the last 300 genset events.
Mains and genset protection
Clock management
USB connections, USB Host and PC,
Communications : RS485 INTERFACE
ModBUS protocol /SNMP
Optional : Ethernet, GPRS, remote control, 3G, 4G, Websupervisor, SMS, E-mails

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.

M80, transfer of information

The M80 is a dual-function control unit. It can be used as a basic terminal block for connecting a control box and as an instrument panel with a direct read facility, with displays giving a global view of your generating set's basic parameters.

Offers the following functions:

Engine parameters: tachometer, working hours counter, coolant temperature indicator, oil pressure indicator, emergency stop button, customer connection terminal block, CE.

DEC4000, ergonomic and user-friendly

The highly versatile DEC4000 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.

It 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.

Automatic control: automatic start.

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