KOHLER
Power Systems

KV400C2

Engine type	TAD1342GE
Alternator type	AT01630T
Performance class	G3

GENERAL CHARACTERISTICS

Frequency (Hz)	50
Voltage (V)	400/230
Standard control panel	DEC4000
Optional control panel	APM802
Optional control panel	Basic terminal block

POWER

Voltage	ESP		PRP		Standby Amps
	kWe	kVA	kWe	kVA	
200/115	310	387	281	352	1117
240 TRI	310	387	281	352	931
230 TRI	310	387	281	352	971
220 TRI	310	387	281	352	1016
415/240	310	387	281	352	538
400/230	310	387	281	352	559
380/220	310	387	281	352	588

DIMENSIONS COMPACT VERSION

Length (mm)	3160
Width (mm)	1340
Height (mm)	1761
Dry weight (kg)	3060
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)	4170
Tank capacity (L)	470
Acoustic pressure level @1m in dB(A)	77
Sound power level guaranteed (Lwa)	97
Acoustic pressure level @7m in dB(A)	67

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- Electronic governor
- Mechanically welded chassis with antivibration suspension
- Main line circuit breaker
- Radiator for core 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

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ENGINE CHARACTERISTICS

GENERAL ENGINE DATA

Engine model	VOLVO
Engine type	TAD1342GE
Air inlet	Turbo
Cylinders arrangement	L
Number of cylinders	6
Displacement (L)	12.78
Charge Air coolant	Air/Air DC
Bore (mm) x Stroke (mm)	131 x 158
Compression ratio	18.1 : 1
Speed (RPM)	1500
Pistons speed (m/s)	7.9
Maximum stand-by power at rated RPM (kW)	343
Frequency regulation, steady state (%)	+/- 0.5%
BMEP (bar)	18.97
Governor type	Electronic

COOLING SYSTEM

Radiator & Engine capacity (L)	44
Max water temperature (°C)	107
Outlet water temperature (°C)	92
Fan power (kW)	10
Fan air flow w/o restriction (m3/s)	7.5
Available restriction on air flow (mm H2O)	20
Type of coolant	Glycol-Ethylene
Thermostat modulating range HT (°C)	82-92

EMISSIONS

Emission PM (g/kW.h)	0.075
Emission CO (g/kW.h)	0.47
Emission HCNOx (g/kWh)	N/A
Emission HC (g/kW.h)	0.2

EXHAUST

Exhaust gas temperature @ ESP 50Hz (°C)	408
Exhaust gas flow @ ESP 50Hz (L/s)	950
Max. exhaust back pressure (mm H2O)	1000

FUEL

Consumption @ 110% load (L/h)	84
Consumption @ 100% load (L/h)	76
Consumption @ 75% load (L/h)	58
Consumption @ 50% load (L/h)	40
Maximum fuel pump flow (L/h)	120

OIL

Oil capacity (L)	36
Min. oil pressure (bar)	N/A
Max. oil pressure (bar)	N/A
Oil consumption 100% load (L/h)	0.04
Oil sump capacity (L)	30

HEAT BALANCE

Heat rejection to exhaust (kW)	213
Radiated heat to ambiant (kW)	N/A
Heat rejection to coolant (kW)	144

AIR INTAKE

Max. intake restriction (mm H2O)	510
Intake air flow (L/s)	431

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ALTERNATOR CHARACTERISTICS

GENERAL DATA

Alternator type	AT01630T
Number of Phase	Three phase
Power factor (Cos Phi)	0.8
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 (H/125°), 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 (+/- %)	0.5
Recovery time (Delta U = 20% transient) (ms)	500
Protection class	IP 23
Technology	Without collar or brush

OTHER DATA

Continuous Nominal Rating 40°C (kVA)	365
Standby Rating 27°C (kVA)	420
Efficiencies 100% of load (%)	93.3
Air flow (m3/s)	0.9
Short circuit ratio (Kcc)	0.376
Direct axis synchro reactance unsaturated (Xd) (%)	336
Quadrature-axis synchro reactance unsaturated (Xq) (%)	201
Open circuit time constant (T"do) (ms)	1738
Direct axis transient reactance saturated (X'd) (%)	19.3
Short circuit transcient time constant (T'd) (ms)	100
Direct axis subtransient reactance saturated (X"d) (%)	13.5
Subtransient time constant (T"d) (ms)	10
Quadrature-axis subtransient reactance saturated (X"q) (%)	18.3
Subtransient time constant (T"q) (ms)	10
Zero sequence reactance unsaturated (Xo) (%)	0.5
Negative sequence reactance saturated (X2) (%)	15.95
Armature time constant (Ta) (ms)	15
No load excitation current (io) (A)	0.99
Full load excitation current (ic) (A)	3.85
Full load excitation voltage (uc) (V)	39
Engine start (Delta U = 20% perm. or 50% trans.) (kVA)	728.33
Transient dip (4/4 load) - PF : 0,8 AR (%)	13.7
No load losses (W)	5456.37
Heat rejection (W)	20910.42
Unbalanced load acceptance ratio (%)	70

DIMENSIONS

BASE AND CANOPY SPECIFICATIONS

Commercial reference of the enclosure	M228
Length (mm)	4475
Width (mm)	1410
Height (mm)	2430
Dry weight (kg)	4170
Tank capacity (L)	470
Acoustic pressure level @1m in dB(A)	81
Sound power level guaranteed (Lwa)	100
Acosutic pressure level @7m in dB(A)	71

CONTAINEMENT in compliance with the 2000-14-CE standard

Commercial reference of the enclosure	M228 DW
Length (mm)	4527
Width (mm)	1410
Height (mm)	2700
Dry weight (kg)	4700
Tank capacity (L)	1368
Acoustic pressure level @1m in dB(A)	76
Sound power level guaranteed (Lwa)	97
Acoustic pressure level @7m in dB(A)	67

CONTAINMENT DW

Commercial reference of the enclosure	M228 DW
Length (mm)	4527
Width (mm)	1410
Height (mm)	2700
Dry weight (kg)	4700
Tank capacity (L)	1368
Acoustic pressure level @1m in dB(A)	80
Sound power level guaranteed (Lwa)	100
Acoustic pressure level @7m in dB(A)	70

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CONTROL PANEL

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.

The DEC4000 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.