R650C2

Engine ref.	TAD1642GE
Alternator ref.	#desc_altt#
Canopy	M230C
Performance class	G3

GENERAL CHARACTERISTICS

Frequency (Hz)	50
Voltage (V)	400/230
Max power ESP (kVA)	650
Max power ESP (kWe)	520
Max power PRP (kVA)	590,90
Max power PRP (kWe)	472,70
Intensity (A)	938
Standard Control Panel	TELYS
Optional control panel	KERYS

FULL VERSION DIMENSION

Length (mm)	5083
Width (mm)	1690
Height (mm)	2955
Dry weight (kg)	5910
Tank capacity (L)	1950
Autonomy @ 75% of load (h)	0
Autonomy @ 50% of load (h)	0

STANDARD VERSION DIMENSION

Length (mm)	5031
Width (mm)	1690
Height (mm)	2932
Dry weight (kg)	5300
Tank capacity (L)	610
Autonomy @ 75% of load (h)	0
Autonomy @ 50% of load (h)	0

SOUND LEVELS

Acoustic pressure level @1m in dB(A) (Associated uncertainty)	80 (0,70)
Acoustic pressure level @7m in dB(A) (Associated uncertainty)	70 (0,70)
Acoustic pressure level @15m in dB(A) (Associated uncertainty)	65 (0,70)
Sound power level guaranteed (Lwa)	100

Full version

BASE ADDITIONNAL EQUIPMENTS

- Analog engine
- Connection terminal box rental type
- Four-pole circuit breaker
- Integrated ladder
- soundproofed enclosure dedicated to rental
- low fuel level alarm
- Easy access to the radiator
- Swing valve

ADDITIONAL EQUIPMENT - FULL

- #GEN_PLUS_AV_1_Valeur#
- #GEN_PLUS_AV_2_Valeur#
- #GEN_PLUS_AV_3_Valeur#
- #GEN_PLUS_AV_4_Valeur#
- #GEN_PLUS_AV_5_Valeur#
- #GEN_PLUS_AV_6_Valeur#
- #GEN_PLUS_AV_7_Valeur#
- #GEN_PLUS_AV_8_Valeur#
- #GEN_PLUS_AV_9_Valeur#
- #GEN_PLUS_AV_10_Valeur#
- #GEN_PLUS_AV_11_Valeur#
- #GEN_PLUS_AV_12_Valeur#
- #GEN_PLUS_AV_13_Valeur#
- #GEN_PLUS_AV_14_Valeur#
- #GEN_PLUS_AV_15_Valeur#

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.

R650C2

ENGINE CHARACTERISTICS

GENERAL ENGINE DATAS

Engine brand	VOLVO
Engine ref.	TAD1642GE
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)	565
Frequency regulation, steady state (%)	+/- 0.5%
BMEP (bar)	25,50
Governor type	Electronic

COOLING SYSTEM

Radiator & Engine capacity (L)	60
Max water temperature (°C)	103
Outlet water temperature (°C)	93
Fan power (kW)	11
Fan air flow w/o restriction (m3/s)	10
Available restriction on air flow (mm H2O)	30
Type of coolant	Glycol-Ethylene
Thermostat modulating range HT (°C)	86-96

EMISSIONS

Emission PM (g/kW.h)	0,10
Emission CO (g/kW.h)	1,20
Emission HC+NOx (g/kWh)	
Emission HC (g/kW.h)	0,12

EXHAUST

Exhaust gas temperature @ ESP 50Hz (°C)	494
Exhaust gas flow @ ESP 50 Hz (L/s)	1678
Max. exhaust back pressure (mm H2O)	1000

FUEL

Consumption @ 110% load (L/h)	129,75
Consumption @ 100% load (L/h)	115,93
Consumption @ 75% load (L/h)	85,21
Consumption @ 50% load (L/h)	57,10
Maximum fuel pump flow (L/h)	180

OIL

Oil capacity (L)	48
Min. oil pressure (bar)	0,70
Max. oil pressure (bar)	6,50
Oil consumption 100% load (L/h)	0,10
Oil sump capacity (L)	42

HEAT BALANCE

Heat rejection to exhaust (kW)	426
Radiated heat to ambiant (kW)	20
Haet rejection to coolant (kW)	218

AIR INTAKE

Max. intake restriction (mm H2O)	500
Intake air flow (L/s)	676

R650C2

ALTERNATOR CHARACTERISTICS

Alternator ref.	AT02880T
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	Yes
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 (+/- %)	0,50
Recovery time (Delta U = 20% transcient) (ms)	500
Indication of protection	IP 23
Technology	Without collar or brush

Continuous Nominal Rating 40°C (kVA)	600
Standby Rating 27°C (kVA)	660
Efficiencies 100% of load (%)	94,50
Air flow (m3/s)	0,90
Short circuit ratio (Kcc)	0,3650
Direct axis synchro reactance unsaturated (Xd) (%)	330
Quadra axis synchro reactance unsaturated (Xq) (%)	198
Open circuit time constant (T'do) (ms)	1997
Direct axis transcient reactance saturated (X'd) (%)	16,50
Short circuit transcient time constant (T'd) (ms)	100
Direct axis subtranscient reactance saturated (X"d) (%)	11,50
Subtranscient time constant (T"d) (ms)	10
Quadra axis subtranscient reactance saturated (X"q) (%)	15,20
Subtranscient time constant (T"q) (ms)	10
Zero sequence reactance unsaturated (Xo) (%)	0,90
Negative sequence reactance saturated (X2) (%)	13,43
Armature time constant (Ta) (ms)	15
No load excitation current (io) (A)	0,92
Full load excitation current (ic) (A)	3,66
Full load excitation voltage (uc) (V)	36
Engine start (Delta U = 20% perm. or 50% trans.) (kVA)	1400
Transcient dip (4/4 load) - PF : 0,8 AR (%)	13
No load losses (W)	6794,24
Heat rejection (W)	27590,48
Unbalanced load acceptance ratio (%)	70

R650C2

CONTROL PANEL

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.

Automatic control: automatic start.

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

KERYS, synchronisation and adaptability

The KERYS Rental control unit has been designed to meet the specific requirements of professionals in terms of operating and monitoring mobile generating sets. It therefore offers a wide range of functions.This control unit is fitted as standard to all generating sets designed to be used for synchronisation and is offered as an option across the rest of our range. This ultra-comprehensive control unit enables highly precise management of the genset parameters. Its multifunction switch can be used to easily select the type of synchronisation adapted to the user's needs (solo, synchronisation between gensets and a single genset coupled to the grid).

The 3 coupling modes available are as follows:

Genset in SOLO use (A612)
Genset coupled in Power plant configuration (A632)
Genset coupled to the grid (1)

(1) In this position, it is possible to select the coupling mode on the screen:

Generating set with permanent grid coupling without normal/emergency switching - grid coupling + resale (A641)
Generating set with permanent grid coupling without normal/emergency switching + 0 Kw power step on grid (A642)
Generating set with temporary grid coupling and normal/emergency switching (A651)
Generating set with permanent grid coupling and normal/emergency switching (A661).