



## R450C3

Engine ref.	TAD1355GE
Alternator ref.	AT01741T
Canopy	M3228
Performance class	

### GENERAL CHARACTERISTICS

Frequency (Hz)	50
Voltage (V)	400/230
Max power ESP (kVA)	440
Max power ESP (kWe)	352
Max power PRP (kVA)	400
Max power PRP (kWe)	320
Intensity (A)	635
Standard Control Panel	TELYS

### DESCRIPTIVE

- Stage 3a engine
- Four-pole circuit breaker
- Connection terminal box rental type
- Containment fuel tank and large autonomy
- Forks and frame protection pads
- Adjustable earth fault protection and earthing rod
- Inlet air preheating
- Battery isolating switch
- Oil drainage pump
- Heavy duty air filter with interchangeable cartridge
- Primary filter
- Heat hand protections (EC standards)
- Sockets pack : 1x32A 400V - 1x16A MONO indus - 1xMONO SCHUCCO
- Electronic governor with speed adjustment

### SMALL AUTONOMY DIMENSIONS

Length (mm)	5000
Width (mm)	1611
Height (mm)	2600
Dry weight (kg)	5489
Tank capacity (L)	1481
Autonomy @ 75% of load (h)	0
Autonomy @ 50% of load (h)	0

### SOUND LEVELS

Acoustic pressure level @1m in dB(A) (Associated uncertainty)	75 (0,70)
Acoustic pressure level @7m in dB(A) (Associated uncertainty)	65
Sound power level guaranteed (Lwa)	95

### 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.



# R450C3

## ENGINE CHARACTERISTICS

### GENERAL ENGINE DATAS

Engine brand	VOLVO
Engine ref.	TAD1355GE
Air inlet system	Turbo
Cylinders configuration	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)	7,90
Maximum stand-by power at rated RPM (kW)	404
Frequency regulation, steady state (%) +/- 0.5%	
BMEP (bar)	23,10
Governor type	Electronic

### COOLING SYSTEM

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

### EMISSIONS

Emission PM (g/kW.h)	0,14
Emission CO (g/kW.h)	0,93
Emission HC+NOx (g/kWh)	
Emission HC (g/kW.h)	0,10

### EXHAUST

Exhaust gas temperature @ ESP 50Hz (°C)	476
Exhaust gas flow @ ESP 50 Hz (L/s)	970
Max. exhaust back pressure (mm H2O)	1000

### FUEL

Consumption @ 110% load (L/h)	92,70
Consumption @ 100% load (L/h)	83,40
Consumption @ 75% load (L/h)	66,70
Consumption @ 50% load (L/h)	48,20
Maximum fuel pump flow (L/h)	112

### OIL

Oil capacity (L)	36
Min. oil pressure (bar)	
Max. oil pressure (bar)	
Oil consumption 100% load (L/h)	0,04
Oil sump capacity (L)	30

### HEAT BALANCE

Heat rejection to exhaust (kW)	236
Radiated heat to ambient (kW)	12
Heat rejection to coolant (kW)	156

### AIR INTAKE

Max. intake restriction (mm H2O)	510
Intake air flow (L/s)	383



## R450C3

### ALTERNATOR CHARACTERISTICS

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	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% transient) (ms)	500
Indication of protection	IP 23
Technology	Without collar or brush

Continuous Nominal Rating 40°C (kVA)	400
Standby Rating 27°C (kVA)	440
Efficiencies 100% of load (%)	93,10
Air flow (m3/s)	0,90
Short circuit ratio (Kcc)	0,2940
Direct axis synchro reactance unsaturated (Xd) (%)	393
Quadra axis synchro reactance unsaturated (Xq) (%)	200
Open circuit time constant (T'do) (ms)	1771
Direct axis transient reactance saturated (X'd) (%)	22,10
Short circuit transient time constant (T'd) (ms)	100
Direct axis subtransient reactance saturated (X''d) (%)	15,50
Subtransient time constant (T''d) (ms)	10
Quadra axis subtransient reactance saturated (X''q) (%)	20,90
Subtransient time constant (T''q) (ms)	10
Zero sequence reactance unsaturated (Xo) (%)	0,80
Negative sequence reactance saturated (X2) (%)	18,26
Armature time constant (Ta) (ms)	15
No load excitation current (io) (A)	0,85
Full load excitation current (ic) (A)	3,92
Full load excitation voltage (uc) (V)	39
Engine start (Delta U = 20% perm. or 50% trans.) (kVA)	880
Transient dip (4/4 load) - PF : 0,8 AR (%)	17
No load losses (W)	5158,09
Heat rejection (W)	23478,15
Unbalanced load acceptance ratio (%)	70

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.