



#### DESCRIPTIVE

- ➔ Stage 3a engine
- ➔ Leroy-Somer AREP (TS26-S004) Alternator
- ➔ 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 standard)
- ➔ Sockets pack : 1x32A 400V - 1x16A MONO indus - 1xMONO SCHUCCO
- ➔ Electronic governor with speed ajustement



#### 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(CE)

Engine type	TAD1355GE
Alternator type	LSA 47.2 VS3
Canopy Type	N/A

#### 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

#### LARGE AUTONOMY DIMENSIONS

Length (mm).	5000
Width (mm).	1611
Height (mm).	2600
Dry weight (kg).	5489
Tank capacity (L).	1481
Autonomy @ 75% of load (h)	22.20
Autonomy @ 50% of load (h)	30.70

#### SOUND LEVELS

Acoustic pressure level @1m in dB(A) ( )	75 (0.70)
Acoustic pressure level @7m in dB(A) ( )	65 (0.70)
Sound power level guaranteed (Lwa)	95

### GENERAL ENGINE DATAS

Description	TAD1355GE
Engine model	VOLVO
Cylinder arrangement	L
Number of cylinders	6
Displacement (C.I.)	12.78
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 (%)	+/- 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)	N/A
Fan power (kW)	10
Fan air flow w/o restriction (m3/s)	N/A
Available restriction on air flow (mm EC)	N/A
Type of coolant	Glycol-Ethylene

### EMISSIONS

Emission HC (g/kW.h)	0.1
Emission HCNOx (mg/Nm3)	N/A
Emission CO (g/kW.h)	0.93
Emission PM (g/kW.h)	0.144

### EXHAUST

Exhaust gas flow (L/s)	970
Exhaust gas temperature (°C)	476
Max. exhaust back pressure (mm EC)	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)	N/A
Max. oil pressure (bar)	N/A
Oil consumption 100% load (L/h)	0.04
Carter oil capacity (L)	30

### HEAT BALANCE

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

### AIR INTAKE

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

### GENERAL DATAS

Description	LSA 47.2 VS3
Alternator brand	LEROY SOMER
Number of phase	3
Altitude (m)	0 à 1000
Overspeed (rpm)	2250
Number of pole	4
Excitation system	AREP
Insulation class	H
AVR	R450
Sustained short circuit current	3 IN for 10S
Harmonic factor, no load TGH/THC (%)	<1.5
Harmonic factor, on load TGH/THC (%)	<1.5C
Wave form : CEI=FHT-(TGH/THC)	<2
Wave form : NEMA=TIF-(TGH/THC)	<50
Number of bearing	1
Coupling	Direct
Voltage regulation at established rating (%)	+/- 0.5%
Air flow (m3/s)	0.90

### OTHER DATAS

No load excitation current (io) (A)	0.90
Full load excitation current (ic) (A)	3.90
Full load excitation voltage (uc) (V)	39
Recovery time (Delta U = 20% transient) (ms)	500 ms
Engine start (Delta U = 20% perm. or 50% trans.) (kVA)	880
Transient dip (4/4 load) - PF : 0,8 AR (%)	15.10
No load losses (W)	5150
Heat rejection (W)	23340

### REACTANCES (R) - TIME CONSTANT(CT)

Short circuit ratio (Kcc)	0.29
Direct axis synchro reactance unsaturated (Xd) (%)	393
Quadra axis synchro reactance unsaturated (Xq) (%)	235
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
Zero sequence reactance unsaturated (Xo) (%)	0.80
Negative sequence reactance saturated (X2) (%)	18.20
Armature time constant (Ta) (ms)	15

### POWERS

Power factor (Cos Phi)	N/A
Continuous Nominal Rating 40°C (kVA)	400
Standby Nominal Rating 40°C (kVA)	420
Standby Rating 27°C (kVA)	440
Efficiencies 4/4 load (%)	93.10

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.