

R90C2

Engine JOHN DEERE , 4045HFS72 Stage 2
 Alternator LEROY SOMER , LSA432L8

STANDARD FEATURES

- Analog engine
- Simplified connection terminal block
- Four-pole breaker
- Central lifting ring
- Rental specific soundproofed canopy
- Diesel low level
- AREP Leroy-Somer Alternator
- Easy radiator access
- Rain cap



| Voltage | Power ESP kWe/kVA | Power PRP kWe/kVA | Standby Amps |
|---------|----------------------|----------------------|--------------|
| 400/230 | 70 / 88 | 64 / 80 | 127 |



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. A 10% overload capability is available for a period of 1 hour within 12-hour period of operation, in accordance with ISO 3046-1 –

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.

TERM OF USE

Standard reference conditions 25 °C Air Intlet Temp, 1000 m A.S.L. 60 % relative humidity. All engine performance data based on the above mentioned maximum continuous ratings.

| Type | | dB(A)@1m | dB(A)@7m | Dimensions | Weight | Tank |
|---|---------|----------|----------|--|--|-------|
|  | M129-DW | 77 | 67 | Long: 2602mm [102in] Wide: 1170mm [46in] Height: 1900mm [75in] | 1984kg [lbs] Net 2489kg [lbs] Gross | 505 L |
|  | M129 | 77 | 67 | Long: 2554mm [101in] Wide: 1170mm [46in] Height: 1680mm [66in] | 1700kg [lbs] Net 1890kg [lbs] Gross | 190 L |

Base Rental Power + options suivantes = Full Rental Power

| | |
|-------------------------------------|---|
| Double wall and great autonomy tank | Air inlet manifold preheating |
| Hire type terminals box | Water separator pre-filter |
| Voltage trimmer | Fixed earth leakage protection with spike |
| Battery cut-out | Lub oil drain pump |



ENGINE SPECIFICATIONS

| | | |
|----------------------|------------------------------------|--|
| STANDARD FEATURES | Manufacturer / Model | JOHN DEERE 4045HFS72 , 4-strokes, Turbo , 4 X |
| | Cylinder Arrangement | L |
| | Displacement | 4.5L [274.6C.I.] |
| | Bore and Stroke | 127mm [5.0in.] X 106mm [4.2in.] |
| | Compression ratio | 17 : 1 |
| | Rated RPM | 1500 Rpm |
| | Piston Speed | 6.35m/s [20.8ft./s] |
| | Max. stand by Power at rated RPM | 83kW [111BHP] |
| | Frequency regulation, steady state | +/- 0.5% |
| | BMEP | 14.77bar [214psi] |
| Governor : type | ELEC | |
| EXHAUST SYSTEM | Exhaust gas flow | 281.67L/s [597cfm] |
| | Exhaust temperature | 509°C [948°F] |
| | Max back pressure | 750mm CE [30in. WG] |
| FUEL SYSTEM | 110% (Stand By power) | 21.68L/h [5.7gal/hr] |
| | 100% (of the Prime Power) | 19.32L/h [5.1gal/hr] |
| | 75% (of the Prime Power) | 14.76L/h [3.9gal/hr] |
| | 50% (of the Prime Power) | 9.97L/h [2.6gal/hr] |
| | Max. fuel pump flow | 88.24L/h [23.3gal/hr] |
| OIL SYSTEM | Total oil capacity w/filters | 17L [4.5gal] |
| | Oil Pressure low idle | 1.38bar [20.0psi] |
| | Oil Pressure rated RPM | 2.75bar [39.8psi] |
| | Oil consumption 100% load | 0.05L/h [0.0gal/hr] |
| | Oil capacity carter | 16L [4.2gal] |
| THERMAL BALANCE | Heat rejection to exhaust | 62.76kW [3569Btu/mn] |
| | Radiated heat to ambient | 10.12kW [575Btu/mn] |
| | Heat rejection to coolant | N/A |
| AIR INTAKE | Max. intake restriction | 300mm CE [12in. WG] |
| | Engine air flow | 125.00L/s [265cfm] |
| COOLANT SYSTEM | Radiator & engine capacity | 8.5L [2.246gal] |
| | Max water temperature | 105.00°C [221°F] |
| | Outlet water temperature | N/A |
| | Fan power | 4.57 kW |
| | Fan air flow w/o restriction | N/A |
| | Available restriction on air flow | 20mm CE [0.8in. WG] |
| | Type of coolant | Gencool |
| | Thermostat | 82-94 °C |
| GAS SYSTEM | HC | 0.43 g/KW.h |
| | CO | 1.05 g/KW.h |
| | Nox | 5.46 g/KW.h |
| | PM | 0.198 g/KW.h |



ALTERNATOR SPECIFICATIONS

| | | |
|---|---|----------------------|
| GENERAL DATAS | Manufacturer / Type | LEROY SOMER LSA432L8 |
| | Number of phase | 3 |
| | Power factor (Cos Phi) | 0.8 |
| | Altitude | < 1000 m |
| | Overspeed | 2250 rpm |
| | Pole : number | 4 |
| | Exciter type | SHUNT |
| | Insulation : class, temperature rise | H / H |
| | Voltage regulator | R230 |
| | Sustained short circuit current | 1.6 AC |
| | Total harmonics (TGH/THC) | < 2% |
| | Wave form : NEMA = TIF – TGH/THC | < 50 |
| | Wave form : CEI = FHT – TGH/THC | < 2% |
| | Bearing : number | 1 |
| | Coupling | Direct |
| | Voltage regulation 0 to 100% load | +/- 0.5% |
| | Recovery time (20% Volt dip) ms | 500 ms |
| SkVA with 90% of nominal sustained voltage (at 0.4PF) | skva | |
| OTHER DATAS | Continuous nominal rating @ 40°C | 80 kVA |
| | Standby rating @ 27°C | 88 kVA |
| | Efficiencies @ 4/4 load | 90.5 % |
| | Air flow | 0.27m3/s [572.09cfm] |
| | Short circuit ratio;50 (Kcc) | 0.41 |
| | Direct axis synchro reactance unsaturated (Xd) | 284 % |
| | Quadra axis synchro reactance unsaturated (Xq) | 170 % |
| | Open circuit time constant;50 (T'do) | 1431 ms |
| | Direct axis transient reactance saturated (X'd) | 9.9 % |
| | Short circuit transient time constant (T'd) | 50 ms |
| | Direct axis subtransient reactance saturated (X''d) | 5 % |
| | Subtransient time constant (T''d) | 5 ms |
| | Quadra axis subtransient reactance saturated (X''q) | 6.3 % |
| | Zero sequence reactance unsaturated (Xo) | 0.1 % |
| | Negative sequence reactance saturated (X2) | 5.7 % |
| | Armature time constant (Ta) | 8 ms |
| | No load excitation current (io) | 0.4 A |
| | Full load excitation current (ic) | ic |
| | Full load excitation voltage (uc) | 29 V |
| | Recovery time (Delta U = 20% transitoire) | 500 ms |
| Motor start (Delta = 20% perm. Or 50% trans.) | 240 kVA | |
| Transient dip (4/4 charge) – PF : 1.8 AR | 11.6 % | |
| No load losses | 1.41kW [1.41Kw] | |
| Heat rejection | 6.64 kW | |

CONTROL PANEL

Standard



NEXYS

Specifications :

Frequency meter, Ammeter, Voltmeter
 Alarms and faults Oil pressure, water temperature, Overcrank, Overspeed (>60 kVA), Min/max alternator, Low fuel level, Emergency stop
 Engine parameters Hours counter, Engine speed, Battery voltage, Fuel level, Air preheating

Option



TELYS

Specifications :

Frequency meter, Ammeter, Voltmeter
 Alarms and faults Oil pressure, water temperature, No start-up, Overspeed, Min/max alternator, Min/max battery voltage, Low fuel level, Emergency stop
 Engine parameters Hours counter, Oil pressure, Water temperature, Engine speed, Battery voltage, Fuel level