

# J220K

Engine JOHN DEERE , 6068HF475  
Alternator LEROY SOMER , LSA462M5

## STANDARD FEATURES

- Mechanical governor
- Mechanically welded chassis with antivibration suspension
- Power circuit breaker
- Radiator for wiring T° of 50°C [122°F] max with mechanical fan
- Protective grille for fan and rotating parts
- 9dB(A) silencer supplied separately
- Charged DC starting battery with electrolyte
- 12 V charging alternator and starter
- Supplied with oil and coolant -30°C
- User manual and commissioning guide



| Voltage | Power ESP<br>kWe/kVA | Power PRP<br>kWe/kVA | Standby<br>Amps | Dimensions   | Weight   |
|---------|----------------------|----------------------|-----------------|--|--|
| 415/240 | 176 / 220            | 160 / 200            | 306             | Length: 2370mm [93in]<br>Width: 1114mm [44in]<br>Height: 1480mm [58in] | 1790kg [3946 lbs] Net<br>2130kg [4696 lbs] Gross |
| 400/230 | 176 / 220            | 160 / 200            | 318             |  |  |
| 380/220 | 176 / 220            | 160 / 200            | 334             |  |  |
| 240/120 | 176 / 220            | 160 / 200            | 529             |  |  |
| 230/115 | 176 / 220            | 160 / 200            | 552             |  |  |
| 220/110 | 176 / 220            | 160 / 200            | 577             |  |  |
| 200/115 | 176 / 220            | 160 / 200            | 635             |  |  |



## 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 Inlet Temp, 3000 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  |
|--|----------|----------|---|--|-------|
|  M226    | 78.6     | 68.6     | Length: 3508mm [138in]<br>Width: 1200mm [47in]<br>Height: 1830mm [72in] | 2390kg [5269lbs] Net<br>2740kg [6041lbs] Gross | 340 L |
|  M226-DW | 78.6     | 68.8     | Length: 3560mm [140in]<br>Width: 1200mm [47in]<br>Height: 2182mm [86in] | 2760kg [6085lbs] Net<br>3643kg [8031lbs] Gross | 868 L |





## ENGINE SPECIFICATIONS

|                   |                                    |  |
|-------------------|------------------------------------|--|
| STANDARD FEATURES | Manufacturer / Model               | JOHN DEERE 6068HF475 , 4-strokes, Turbo , Air/Air DC 6 X |
|                   | Cylinder Arrangement               | L  |
|                   | Displacement                       | 6.72L [410.1C.I.]  |
|                   | Bore and Stroke                    | 106mm [4.2in.] X 127mm [5.0in.]                          |
|                   | Compression ratio                  | 17 : 1   |
|                   | Rated RPM                          | 1500 Rpm   |
|                   | Piston Speed                       | 6.35m/s [20.8ft./s]                                      |
|                   | Max. stand by Power at rated RPM   | 204kW [273BHP]   |
|                   | Frequency regulation, steady state | +/- 0.5%   |
|                   | BMEP                               | 22bar [319psi]   |
|                   | Governor : type                    | ELEC   |
| EXHAUST SYSTEM    | Exhaust temperature                | 524°C [975°F]  |
|                   | Exhaust gas flow                   | 525L/s [1113cfm]   |
|                   | Max back pressure                  | 750mm CE [30in. WG]                                      |
| FUEL SYSTEM       | 110% (Stand By power )             | 48.6L/h [12.8gal/hr]                                     |
|                   | 100% (of the Prime Power)          | 43.5L/h [11.5gal/hr]                                     |
|                   | 75% (of the Prime Power)           | 32.6L/h [8.6gal/hr]                                      |
|                   | 50% (of the Prime Power)           | 22.0L/h [5.8gal/hr]                                      |
|                   | Max. fuel pump flow                | 82.3L/h [21.7gal/hr]                                     |
| OIL SYSTEM        | Total oil capacity w/filters       | 33L [8.7gal]   |
|                   | Oil Pressure low idle              | 1bar [14.5psi]   |
|                   | Oil Pressure rated RPM             | 5bar [72.5psi]   |
|                   | Oil consumption 100% load          | 0.04L/h [0.011gal/hr]                                    |
|                   | Oil capacity carter                | 32L [8.5gal]   |
| THERMAL BALANCE   | Heat rejection to exhaust          | 131kW [7449Btu/mn]                                       |
|                   | Radiated heat to ambient           | 22kW [1251Btu/mn]  |
|                   | Heat rejection to coolant          | N/A  |
| AIR INTAKE        | Max. intake restriction            | 625mm CE [25in. WG]                                      |
|                   | Engine air flow                    | 202L/s [428cfm]  |
| COOLANT SYSTEM    | Radiator & engine capacity         | 30L [7.9gal]   |
|                   | Max water temperature              | 105°C [221°F]  |
|                   | Outlet water temperature           | 93°C [199°F]   |
|                   | Fan power                          | 3 kW   |
|                   | Fan air flow w/o restriction       | 5.1m <sup>3</sup> /s [10807cfm]                          |
|                   | Available restriction on air flow  | 20mm CE [0.8in. WG]                                      |
|                   | Type of coolant                    | Coolelf sx   |
|                   | Thermostat                         | 82-94 °C   |
| EMISSIONS LEVEL   | PM                                 | 130 mg/Nm <sup>3</sup> Max                               |
|                   | CO                                 | 650 mg/Nm <sup>3</sup> Max                               |
|                   | Nox                                | 4000 mg/Nm <sup>3</sup> Max                              |
|                   | HC                                 | 150 mg/Nm <sup>3</sup> Max                               |





## ALTERNATOR SPECIFICATIONS

|   |   |                       |
|---|---|-----------------------|
| GENERAL<br><br>DATAS                                  | Manufacturer  | LEROY SOMER           |
|   | Type  | LSA462M5              |
|   | 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                  |
|   | Total harmonics (TGH/THC)                           | < 2.5%                |
|   | 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) | N/A   |                       |
| OTHER<br><br>DATAS                                    | Continuous nominal rating @ 40°C                    | 200 kVA               |
|   | Standby rating @ 27°C                               | 223 kVA               |
|   | Efficiencies @ 4/4 load                             | 92.3 %                |
|   | Air flow  | 0.43m3/s [911.11 cfm] |
|   | Short circuit ratio;50 (Kcc)                        | 0.45                  |
|   | Direct axis synchro reactance unsaturated (Xd)      | 301 %                 |
|   | Quadra axis synchro reactance unsaturated (Xq)      | 180 %                 |
|   | Open circuit time constant;50 (T'do)                | 2042 ms               |
|   | Direct axis transient reactance saturated (X'd)     | 14.7 %                |
|   | Short circuit transient time constant (T'd)         | 100 ms                |
|   | Direct axis subtransient reactance saturated (X''d) | 8.8 %                 |
|   | Subtransient time constant (T''d)                   | 10 ms                 |
|   | Quadra axis subtransient reactance saturated (X''q) | 10.9 %                |
|   | Zero sequence reactance unsaturated (Xo)            | 0.8 %                 |
|   | Negative sequence reactance saturated (X2)          | 9.9 %                 |
|   | Armature time constant (Ta)                         | 15 ms                 |
|   | No load excitation current (io)                     | 1 A                   |
|   | Full load excitation current (ic)                   | 3.7 A                 |
|   | Full load excitation voltage (uc)                   | 32 V                  |
|   | Recovery time (Delta U = 20% transitoire)           | 500 ms                |
|   | Motor start (Delta = 20% perm. Or 50% trans.)       | 397 kVA               |
|   | Transient dip (4/4 charge) – PF : 1.8 AR            | 15.4 %                |
| No load losses  | 3.04kW [3.04Kw]                                     |                       |
| Heat rejection  | 13.18 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

