



15 kVA

220 kV

890 kVA

2500 kVA

## SPECIFICATIONS

### ENGINE

- SD heavy duty diesel engine
- 12V / 24 V starter and charge alternator
- Replaceable air, fuel and oil filters
- Mechanical or electronic governor control
- Tropical type radiator
- Flexible fuel hose
- Oil drain valve and extension hose
- Industrial type silencer and steel compensator
- Maintenance-free starter battery
- Water jacket heater
- 1500 rpm engine speed

### ALTERNATOR

- IP 21-23 Protection Standard
- H Insulation Class
- 50 Hz Frequency
- 4 pole brushless synchronous type alternator
- Automatic Voltage Regulator (AVR)
- 400/230V AC Output Voltage - 1500 rpm

### SOUND PROOF CANOPY AND CHASSIS

- Convenient design for easy lifting and carrying
- High standard sound proof canopy design
- Modular design with easily removable nuts - bolts
- Lockable doors
- Transparent window for watching Control Panel
- Electrostatic powder painted, providing protection against harsh weather conditions
- Emergency STOP button
- Fuel tank inside the chassis
- Anti-vibration wedges (engine - chassis and chassis - ground)

### OPTIONAL

- Thermal magnetic CB (for automatic models)
- Super Silent Canopy
- Mobile Generator Sets
- Automatic fuel filling system
- Synchronization panel
- 3 Pole and 4 Pole ATS (Automatic Transfer Switch)
- Fuel Heater, Oil Heater
- External fuel tank and automatic fuel filling system
- Fuel - water separator filter
- Remote monitoring and control system

# FG Series

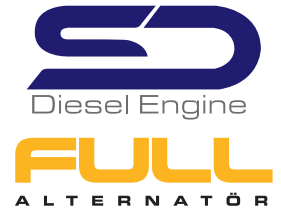
## SD Engine



| MODEL      |                              |           | FG 220                   | FG 250      | FG 275      | FG 330      |
|------------|------------------------------|-----------|--------------------------|-------------|-------------|-------------|
| GROUP      | Stand By                     | kVA       | 220                      | 250         | 275         | 330         |
|            |                              | kW        | 176                      | 200         | 220         | 264         |
|            | Prime                        | kVA       | 200                      | 227         | 250         | 300         |
|            |                              | kW        | 160                      | 182         | 200         | 240         |
|            | Rated Current                | A         | 288                      | 327         | 360         | 432         |
| ENGINE     | Engine                       |           | SD                       |             |             |             |
|            | Engine Model                 |           | SD6L180TAD               | SD6L206TAD  | SD6L227TAD  | SD13G355D   |
|            | Number of Cylinders          |           | 6 - Inline               |             |             |             |
|            | Injection System             |           | Direct                   |             |             |             |
|            | Compression Ratio            |           | 18                       | 18          | 18          | 17 : 1      |
|            | Bore                         | mm        | 114                      | 114         | 114         | 135         |
|            | Stroke                       | mm        | 135                      | 135         | 135         | 150         |
|            | Displacement                 | lt        | 8.27                     | 8.27        | 8.27        | 12.88       |
|            | Air Intake                   |           | Turbocharged Intercooler |             |             |             |
|            | Speed (RPM)                  | rpm       | 1500                     |             |             |             |
|            | Oil Capacity                 | lt        | 19                       | 19          | 19          | 35          |
|            | Standby Power                | Kw / Hp   | 180 / 245                | 206 / 280   | 227 / 309   | 263 / 355   |
|            | Prime Power                  | Kw / Hp   | 164 / 223                | 187 / 254   | 206 / 280   | 235 / 317   |
|            | Fuel Type                    |           | Euro Diesel              |             |             |             |
|            | Governor System              |           | Electronic               |             |             |             |
|            | Cooling System               |           | Water Cooling            |             |             |             |
|            | Coolant Capacity             | lt        | 48                       | 48          | 48          | 60          |
|            | Fuel Consumption (lt / h)    | Full Load | 41                       | 46.2        | 52.7        | 58.7        |
|            |                              | 75% Load  | 31.5                     | 35.5        | 39.8        | 44          |
|            |                              | 50% Load  | 21.3                     | 23.7        | 26.4        | 29.4        |
| ALTERNATOR | Alternator Model             |           | FLYS274H                 | FLYS274J    | FLYS274K    | FLL315C     |
|            | Frequency                    | Hz        | 50                       |             |             |             |
|            | Power                        | kVA       | 220                      | 250         | 275         | 334         |
|            | Voltage                      | V         | 400                      |             |             |             |
|            | Number of Phases             |           | 3                        |             |             |             |
|            | Aut. Voltage Regulator (AVR) |           | AS440                    |             |             |             |
|            | Voltage Regulation           |           | ±1%                      |             |             |             |
|            | Insulation Class             |           | H                        |             |             |             |
|            | Protection Standard          |           | IP23                     |             |             |             |
|            | Power Factor                 | Cos       | 0.8                      |             |             |             |
| DIMENSIONS | Weight Silent (Open)         | Kg        | 2260 (1920)              | 2280 (1940) | 2530 (2190) | 3480 (3070) |
|            | Width Silent (Open)          | mm        | 1200 (1200)              | 1200 (1200) | 1200 (1200) | 1200 (1200) |
|            | Length Silent (Open)         | mm        | 3500 (2900)              | 3500 (2900) | 3500 (2900) | 3900 (3275) |
|            | Height Silent (Open)         | mm        | 1850 (2100)              | 1850 (2100) | 1850 (2100) | 2050 (2250) |
|            | Fuel Tank Capacity           | lt        | 360                      | 360         | 360         | 520         |

- 1) Standby power: The max power available during a variable electrical power sequence, under the stated operating conditions, for which a generating set is capable of delivering in the event of a utility power outage. Overloading isn't permissible.
- 2) Prime Power: The maximum power which a generating set is capable of delivering continuously whilst supplying a variable electrical load. Average load should be 70%. The generator can be overloaded 10% for 1 hour per 12 hrs.

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| MODEL      |                              |          |           | FG 385  | FG 450                   | FG 500      | FG 550      |             |
|------------|------------------------------|----------|-----------|---------|--------------------------|-------------|-------------|-------------|
| GROUP      |                              | Stand By | kVA       | 385     | 450                      | 500         | 550         |             |
|            |                              |          | kW        | 308     | 360                      | 400         | 440         |             |
|            |                              | Prime    | kVA       | 350     | 409                      | 454         | 500         |             |
|            |                              |          | kW        | 280     | 327                      | 363         | 400         |             |
|            | Rated Current                |          |           | A       | 504                      | 588         | 653         | 720         |
| ENGINE     | Engine                       |          |           |         | SD                       |             |             |             |
|            | Engine Model                 |          |           |         | SD13G420D                | SD15G500D   | SD15G550D   | SD27G612TLD |
|            | Number of Cylinders          |          |           |         | 6 - Inline               |             |             | V-12        |
|            | Injection System             |          |           |         | Direct                   |             |             |             |
|            | Compression Ratio            |          |           |         | 17 : 1                   | 15.75       | 17 : 1      | 16 : 1      |
|            | Bore                         |          |           | mm      | 135                      | 135         | 138         | 135         |
|            | Stroke                       |          |           | mm      | 150                      | 165         | 170         | 155         |
|            | Displacement                 |          |           | lt      | 12.88                    | 14.2        | 15.2        | 26.6        |
|            | Air Intake                   |          |           |         | Turbocharged Intercooler |             |             |             |
|            | Speed (RPM)                  |          |           | rpm     | 1500                     |             |             |             |
|            | Oil Capacity                 |          |           | lt      | 35                       | 32.5        | 41          | 48          |
|            | Standby Power                |          |           | Kw / Hp | 308 / 419                | 373 / 503   | 405 / 543   | 450 / 607   |
|            | Prime Power                  |          |           | Kw / Hp | 280 / 381                | 335 / 450   | 365 / 489   | 405 / 546   |
|            | Fuel Type                    |          |           |         | Euro Diesel              |             |             |             |
|            | Governor System              |          |           |         | Electronic               |             |             |             |
|            | Cooling System               |          |           |         | Water Cooling            |             |             |             |
|            | Coolant Capacity             |          |           | lt      | 60                       | 60          | 75          | 151         |
|            | Fuel Consumption (lt / h)    |          | Full Load |         | 70                       | 83.7        | 98          | 113.6       |
|            |                              |          | 75% Load  |         | 52.5                     | 62.8        | 73.5        | 87.2        |
|            |                              |          | 50% Load  |         | 35                       | 41.9        | 49          | 58.7        |
| ALTERNATOR | Alternator Model             |          |           |         | FLL315E                  | FLL315G     | FLL355BS    | FLL355CSL   |
|            | Frequency                    |          |           | Hz      | 50                       |             |             |             |
|            | Power                        |          |           | kVA     | 405                      | 451         | 510         | 578         |
|            | Voltage                      |          |           | V       | 400                      |             |             |             |
|            | Number of Phases             |          |           |         | 3                        |             |             |             |
|            | Aut. Voltage Regulator (AVR) |          |           |         | AS440                    |             |             |             |
|            | Voltage Regulation           |          |           |         | ±1%                      |             |             |             |
|            | Insulation Class             |          |           |         | H                        |             |             |             |
|            | Protection Standard          |          |           |         | IP23                     |             |             |             |
|            | Power Factor                 |          |           | Cos     | 0.8                      |             |             |             |
| DIMENSIONS | Weight Silent (Open)         |          |           | Kg      | 3940 (3280)              | 4070 (3400) | 4070 (3400) | 5500 (4700) |
|            | Width Silent (Open)          |          |           | mm      | 1500 (1500)              | 1500 (1500) | 1500 (1500) | 1900 (1900) |
|            | Length Silent (Open)         |          |           | mm      | 4000 (3300)              | 4000 (3300) | 4000 (3300) | 4500 (3850) |
|            | Height Silent (Open)         |          |           | mm      | 2200 (2500)              | 2200 (2500) | 2200 (2500) | 2550 (2900) |
|            | Fuel Tank Capacity           |          |           | lt      | 630                      | 630         | 630         | 1300        |

# FG Series

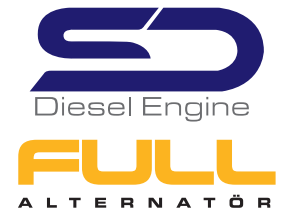
## SD Engine



| MODEL      |                              |          |           | FG 600                   | FG 660      | FG 725      | FG 790      |
|------------|------------------------------|----------|-----------|--------------------------|-------------|-------------|-------------|
| GROUP      |                              | Stand By | kVA       | 600                      | 660         | 725         | 790         |
|            |                              |          | kW        | 480                      | 528         | 580         | 632         |
|            |                              | Prime    | kVA       | 545                      | 600         | 659         | 718         |
|            |                              |          | kW        | 436                      | 480         | 527         | 574         |
|            | Rated Current                |          |           | A                        | 784         | 864         | 948         |
| ENGINE     | Engine                       |          |           | SD                       |             |             |             |
|            | Engine Model                 |          |           | SD27G700TLD              | SD27G755TLD | SD29G843TLD | SD29G925TLD |
|            | Number of Cylinders          |          |           | V-12                     |             |             |             |
|            | Injection System             |          |           | Direct                   |             |             |             |
|            | Compression Ratio            |          |           | 16 : 1                   | 16 : 1      | 17.6 : 1    | 17.6 : 1    |
|            | Bore                         |          | mm        | 135                      | 135         | 138         | 138         |
|            | Stroke                       |          | mm        | 155                      | 155         | 158         | 158         |
|            | Displacement                 |          | lt        | 26.6                     | 26.6        | 28.3        | 28.3        |
|            | Air Intake                   |          |           | Turbocharged Intercooler |             |             |             |
|            | Speed (RPM)                  |          | rpm       | 1500                     |             |             |             |
|            | Oil Capacity                 |          | lt        | 48                       | 48          | 65          | 65          |
|            | Standby Power                |          | kW / hp   | 510 / 688                | 555 / 750   | 620 / 837   | 680 / 918   |
|            | Prime Power                  |          | kW / hp   | 465 / 628                | 500 / 675.6 | 558 / 753   | 612 / 826   |
|            | Fuel Type                    |          |           | Euro Diesel              |             |             |             |
|            | Governor System              |          |           | Electronic               |             |             |             |
|            | Cooling System               |          |           | Water Cooling            |             |             |             |
|            | Coolant Capacity             |          | lt        | 151                      |             |             |             |
|            | Fuel Consumption (lt / h)    |          | Full Load | 125.6                    | 135.2       | 143.2       | 156.9       |
|            |                              |          | 75% Load  | 96.7                     | 101.4       | 109.2       | 119.2       |
|            |                              |          | 50% Load  | 64.2                     | 76.1        | 73.5        | 79.8        |
| ALTERNATOR | Alternator Model             |          |           | FLL355DS                 | FLL355D     | FLL355E     | FLL355G     |
|            | Frequency                    |          | Hz        | 50                       |             |             |             |
|            | Power                        |          | kVA       | 615                      | 665         | 738         | 792         |
|            | Voltage                      |          | V         | 400                      |             |             |             |
|            | Number of Phases             |          |           | 3                        |             |             |             |
|            | Aut. Voltage Regulator (AVR) |          |           | AS440                    |             |             |             |
|            | Voltage Regulation           |          |           | ±1%                      |             |             |             |
|            | Insulation Class             |          |           | H                        |             |             |             |
|            | Protection Standard          |          |           | IP23                     |             |             |             |
|            | Power Factor                 |          | Cos       | 0.8                      |             |             |             |
| DIMENSIONS | Weight Silent (Open)         |          | Kg        | 5650 (4850)              | 5670 (4870) | 6100 (5060) | 6200 (5160) |
|            | Width Silent (Open)          |          | mm        | 1900 (1900)              | 1900 (1900) | 1900 (1900) | 1900 (1900) |
|            | Length Silent (Open)         |          | mm        | 4500 (3850)              | 4500 (3850) | 4800 (4150) | 4800 (4150) |
|            | Height Silent (Open)         |          | mm        | 2550 (2900)              | 2550 (2900) | 2700 (3150) | 2700 (3150) |
|            | Fuel Tank Capacity           |          | lt        | 1300                     | 1300        | 1350        | 1350        |

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| MODEL      |                              |          |           | FG 840                   | FG 925       | FG 1000      | FG 1125      |
|------------|------------------------------|----------|-----------|--------------------------|--------------|--------------|--------------|
| GROUP      |                              | Stand By | kVA       | 840                      | 925          | 1000         | 1125         |
|            |                              |          | kW        | 672                      | 740          | 800          | 900          |
|            |                              | Prime    | kVA       | 763                      | 840          | 909          | 1022         |
|            |                              |          | kW        | 610                      | 672          | 727          | 817          |
|            | Rated Current                |          |           | A                        | 1098         | 1210         | 1300         |
| ENGINE     | Engine                       |          |           | SD                       |              |              |              |
|            | Engine Model                 |          |           | SD30G1020TLD             | SD30G1115TLD | SD30G1200TLD | SD30G1380TLD |
|            | Number of Cylinders          |          |           | V-12                     |              |              |              |
|            | Injection System             |          |           | Direct                   |              |              |              |
|            | Compression Ratio            |          |           | 17.6 : 1                 | 17.6 : 1     | 17.6 : 1     | 17.6 : 1     |
|            | Bore                         |          | mm        | 138                      | 138          | 138          | 138          |
|            | Stroke                       |          | mm        | 168                      | 168          | 168          | 168          |
|            | Displacement                 |          | lt        | 30.1                     |              |              |              |
|            | Air Intake                   |          |           | Turbocharged Intercooler |              |              |              |
|            | Speed (RPM)                  |          | rpm       | 1500                     |              |              |              |
|            | Oil Capacity                 |          | lt        | 65                       | 65           | 80           | 100          |
|            | Standby Power                |          | kW / hp   | 750 / 1015               | 820 / 1107   | 880 / 1188   | 1020 / 1377  |
|            | Prime Power                  |          | kW / hp   | 675 / 912                | 738 / 996    | 790 / 1066   | 910 / 1228   |
|            | Fuel Type                    |          |           | Euro Diesel              |              |              |              |
|            | Governor System              |          |           | Electronic               |              |              |              |
|            | Cooling System               |          |           | Water Cooling            |              |              |              |
|            | Coolant Capacity             |          | lt        | 151                      |              |              |              |
|            | Fuel Consumption (lt / h)    |          | Full Load | 173.4                    | 187.1        | 202          | 233          |
|            |                              |          | 75% Load  | 132.1                    | 142.3        | 153          | 175          |
|            |                              |          | 50% Load  | 88.3                     | 95.6         | 103.5        | 117          |
| ALTERNATOR | Alternator Model             |          |           | FLL400C                  | FLL400D      | FLL400E      | FLL400F      |
|            | Frequency                    |          | Hz        | 50                       |              |              |              |
|            | Power                        |          | kVA       | 840                      | 958          | 1055         | 1200         |
|            | Voltage                      |          | V         | 400                      |              |              |              |
|            | Number of Phases             |          |           | 3                        |              |              |              |
|            | Aut. Voltage Regulator (AVR) |          |           | MX341                    |              |              |              |
|            | Voltage Regulation           |          |           | ±1%                      |              |              |              |
|            | Insulation Class             |          |           | H                        |              |              |              |
|            | Protection Standard          |          |           | IP23                     |              |              |              |
|            | Power Factor                 |          | Cos       | 0.8                      |              |              |              |
| DIMENSIONS | Weight Silent (Open)         |          | Kg        | 6270 (5230)              | 6270 (5230)  | 6600 (5720)  | 6650 (5770)  |
|            | Width Silent (Open)          |          | mm        | 1900 (1900)              | 1900 (1900)  | 1900 (1900)  | 1900 (1900)  |
|            | Length Silent (Open)         |          | mm        | 4800 (4150)              | 4800 (4150)  | 4800 (4150)  | 4800 (4150)  |
|            | Height Silent (Open)         |          | mm        | 2700 (3150)              | 2700 (3150)  | 3385 (3385)  | 3385 (3385)  |
|            | Fuel Tank Capacity           |          | lt        | 1350                     | 1350         | 1350         | 1350         |

# D 300

## Web based Next Generation Controller



### SPECIFICATIONS

- Diesel and gas genset support
- 400Hz operation support
- 400 event logs, full snapshot
- All parameters front panel editable
- 3 level configuration password
- 128x64 graphical LCD display
- Downloadable languages
- Waveform display of V & I
- Harmonic analysis of V & I
- 16Amp MCB & GCB outputs
- 8 configurable digital inputs
- 6 configurable digital outputs
- 3 configurable analog inputs
- Both CANBUS-J1939 & MPU
- 3 configurable service alarms
- Multiple automatic exerciser
- Weekly operation schedule
- Dual mutual standby with equal aging of gensets
- Manual "speed fine adjust" on selected ECUs
- Automatic fuel pump control
- Disable protections feature
- Excess power protection
- Reverse power protection
- Overload IDMT protection
- Load shedding, dummy load
- Multiple load management
- Current unbalance protection
- Voltage unbalance protection
- Fuel filling & fuel theft alarms
- Battery back-up real time clock
- Idle speed control
- Battery charge run enabled
- Combat mode support
- Multiple nominal conditions
- Contactor & MCB drive
- 4 quadrant genset power counters
- Mains power counters
- Fuel filling counter
- Fuel consumption counter
- Modem diagnostics display
- Configurable through USB, RS-232 and GPRS
- Free configuration program
- Allows SMS controls
- Ready for central monitoring
- Mobile genset support
- Automatic GSM geo-location
- GPS connectivity (RS232)
- Easy USB firmware upgrade
- IP65 rating with optional gasket

### MEASUREMENTS

- Mains & genset PN/PP voltages
- Mains & genset frequency
- Mains & genset phase currents
- Mains & genset neutral currents
- Mains & genset, phase & total, kW, kVA, kVAR, pf
- Engine speed
- Battery voltage

### FUNCTIONALITIES

- AMF unit
- ATS unit
- Remote start controller
- Manual start controller
- Engine controller
- Remote display panel

### COMMUNICATION

- USB Device
- RS-232 (2400-57600baud)
- J1939-CANBUS
- Geo-locating through GSM
- GPS support (RS-232)
- Internet Central Monitoring
- SMS message sending
- E-mail sending
- Free PC software: Rainbow Plus
- Modbus RTU
- Modbus TCP/IP

