

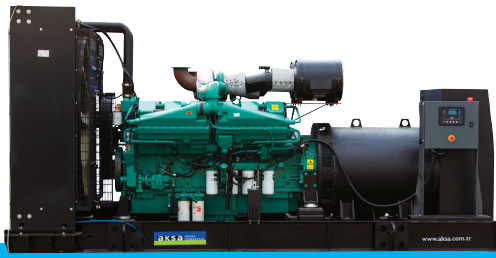


# DIESEL POWERED GENERATING SETS

**aksa** POWER GENERATION

1650  
3000 kVA

1320  
2400 kW



| Generating Set Model | Power Pf.0,8<br>400 / 230 V - 50 Hz |           |
|----------------------|-------------------------------------|-----------|
|                      | Standby kVA                         | Prime kVA |
|                      | AC 1650                             | 1650      |
| AC 1675              | 1675                                | 1400      |
| AC 1675              | 1675                                | 1500      |
| AC 2250              | 2250                                | 2045      |
| AC 2500              | 2500                                | 2000      |
| AC 3000              | 3000                                | 2750      |

**Standby:** Continuous running at variable load for duration of an emergency.No overload is permitted on these ratings.

**Prime:** Continuous running at variable load for unlimited periods with 10% overload available for 1 hour in any 12 hour period. Contact us for the other running periods.

## STANDARD GENSET SPECIFICATIONS

### ENGINE

- CUMMINS heavy duty diesel engine
- Four cycle, water cooled, turbo charged
- Direct injection fuel system
- Electronic governor control system
- Replaceable wet type cylinder liners
- 24 V.D.C.starter and charge alternator
- Replaceable fuel filter, oil filter and dry element air filter
- Cooling radiator and fan
- Flexible fuel connection hoses and manual sump oil drain pump
- Industrial capacity exhaust silencer and steel bellows
- Starter battery (with lead acid) including Rack and Cables
- Jacket water heater
- Manual for use and installation

### ALTERNATOR

- Brushless, single bearing system, 4 poles, flexible disc
- Insulation class H
- Standard degree of protection IP23
- Self-exciting and self-regulating
- Solid state automatic voltage regulator
- Screen protected and drip proof
- Impregnation with tropicalized epoxy varnished
- Stator winding with 2/3 pitch for improved harmonics
- Close voltage regulation

### CHASSIS

- Steel chassis and antivibration pads
- The generating set can be lifted or carefully pushed / pulled by the base frame
- Separate fuel tank
- Lifting eyes allow is the transportation by a crane

### ENCLOSURE

- All canopy parts are designed with modular principles
- All metal canopy parts are painted by electrostatic polyester powder paint
- Lockable doors on each side
- Acoustic fire retardant foam is covered in side the enclosure
- Aluminium internal floor (AK99 except)
- Residential silencer
- The enclosure have four lifting points
- Easy maintenance and operation
- Model AK99 enclosure is droop over style
- Colour black/yellow (RAL 9005 / RAL 1003)
- Emergency stop push button is installed outside of canopy

### QUALITY STANDARDS

- ISO 9001:2008, TS ISO 8528-4, TS ISO 8528-5, TS ISO 8528-8, BS EN ISO 14001:2004, BS OHSAS 18001:2007, TS 12650
- Generators Sets' voltage and frequency regulation comply with ISO 8528-5
- Generators Sets' can take 100% load at one step according to NFPA110

### CONTROL SYSTEM

#### 1) Auto. Mains Failure control panel - P732

Control, supervision and protection panel is mounted on the gen-set base frame. The control panel is equipped as follows:

##### Equipments:

- Control with DSE, model 7320 module
- Static battery charger
- Emergency stop push button.

#### a) Control Module DSE 7320 Features

- The module monitors a mains supply and controls a standby generating set with automatic transfer switch
- Module indicates operational status and fault conditions by means of its LCD display
- Microprocessor controlled
- Front panel programming and also via PC software
- 132 x 64 pixel LCD display makes information easy to read
- Soft touch membrane keypad and five key menu navigation
- Remote communication via RS 232, RS 485 and Ethernet and SMS messaging
- Event logging (50) showing date and time
- Multiple date and time engine exercise mode and maintenance scheduler

##### Controls

Stop - Manual - Auto - Test - Start - Mute/Lamp test - Transfer to generator - Transfer to mains - Menu navigations buttons

#### b) Instruments via LCD display

##### Engine

- Oil pressure (PSI & Bar)
- Temperature (°C & °F )
- Speed RPM
- Run time
- Battery volts
- Maintenance due

##### Mains

- Volts (L-L / L-N)
- Frequency (Hz)

##### Generator

- Volts (L-L / L-N)
- Currents (L1, L2, L3)
- Frequency (Hz)
- kW
- Cos φ
- kVA, kVAR,
- kWh, kVAh, kVAh
- Phase sequence

#### c) Protections

##### Warning

- Charge failure
- Battery under voltage
- Fail to stop
- Low fuel level (opt.)
- kW over load
- Negative phase sequence
- Loss of speed signal

##### Pre-alarms

- Low oil pressure
- High engine temperature
- Low engine temperature
- Over/Under speed
- Under/over generator frequency
- Under/over generator voltage
- ECU warning

#### d) Led Indication

- Mains available
- Mains on load
- Generator available
- Generator on load

##### Shut Downs

- Fail to start
- Emergency stop
- Low oil pressure
- High engine temperature
- Low coolant level
- Over/under speed
- Under/over generator frequency
- Under/over generator voltage
- Oil pressure sensor open
- Phase rotation

##### Electrical trip

- Earth fault
- kW over load
- Generator over current
- Negative phase sequence



**ESD 7320**

**DIESEL GENERATING SETS**  
**400 / 230 V - 50Hz**
**GROUP**
**DIESEL ENGINE**

| Model                                       |                     | AC 1650                       | AC 1675 | AC 1675                          | AC 2250                       | AC 2500    | AC 3000   |      |
|---|---------------------|-------------------------------|---------|----------------------------------|-------------------------------|------------|-----------|------|
| Power                                       | Standby             | kVA                           | 1650    | 1675                             | 1675                          | 2250       | 2500      | 3000 |
|   |                     | kW                            | 1320    | 1340                             | 1340                          | 1800       | 2000      | 2400 |
| Pf. 0,8                                     | Prime               | kVA                           | 1400    | 1400                             | 1500                          | 2045       | 2000      | 2750 |
|   |                     | kW                            | 1200    | 1120                             | 1200                          | 1636       | 1600      | 2200 |
| Engine Make                                 |                     | Cummins                       |         |                                  |                               |            |           |      |
| Model                                       |                     | KTA 50 G8                     |         | KTA 50 GS8                       | QSK 60 G4                     | QSK 60 G13 | QSK 78 G9 |      |
| Gross Engine Power Output<br>(at rated rpm) | kW                  | 1429                          |         |                                  | 1915                          | 2164       | 2539      |      |
|   | HP                  | 1915                          |         |                                  | 2567                          | 2901       | 3404      |      |
| Aspiration and Cooling                      |                     | Turbo charged 2 Pump & 2 Loop |         | Turbo charged<br>1 Pump & 2 Loop | Turbo charged 2 Pump & 2 Loop |            |           |      |
| Total Displacement                          | Liter               | 50,3                          |         |                                  | 60,2                          |            | 77,6      |      |
| No. of Cylinders and Build                  |                     | 16 V                          |         |                                  |                               |            | 18 V      |      |
| Engine Speed                                |                     | 1500 rpm                      |         |                                  |                               |            |           |      |
| Bore ve Stroke                              |                     | 159 x 159 mmxmm               |         |                                  | 159 x 190                     |            | 170 x 190 |      |
| Compression Ratio                           |                     | 14,9 : 1                      |         |                                  | 14,5 : 1                      |            | 15,5 : 1  |      |
| Governor Type                               |                     | Electronic                    |         |                                  |                               |            |           |      |
| Fuel Consumption (L/h) Load                 | 1 / 2               | 155                           | 167     | 200                              | 210                           | 291        |           |      |
|   | 3 / 4               | 222                           | 238     | 291                              | 302                           | 406        |           |      |
|   | Full                | 289                           | 309     | 394                              | 399                           | 528        |           |      |
| Fuel Tank Capacity                          | Liter               | 2000                          |         |                                  |                               |            | N/A       |      |
| Total Oil Capacity                          | Liter               | 204                           |         |                                  | 280                           |            | 466       |      |
| Coolant Capacity<br>(Engine and radiator)   | Liter               | 420                           |         |                                  | 500                           | N/A        | N/A       |      |
| Radiator Cooling Air                        | m <sup>3</sup> /min | 2631                          |         |                                  | 2374                          | N/A        | N/A       |      |
| Air intake - Engine                         | m <sup>3</sup> /min | 99,3                          |         |                                  | 144,3                         | 154,4      | 193,14    |      |
| Exhaust Gas Flow                            | m <sup>3</sup> /min | 261                           |         |                                  | 336,6                         | 393,2      | 432,5     |      |
| Exhaust Gas Temperature                     | °C                  | 510                           |         |                                  | 450                           | 507        | 427       |      |

IC: Inter Cooler  
AC: After Cooler

**Open Types**

| Dimensions (Lenght x Width x Height) | m   | 5,45 x 1,95 x 2,45 | 5,68 x 2,28 x 2,97 | 6,0 x 2,5 x 3,22 | N/A |
|--------------------------------------|-----|--------------------|--------------------|------------------|-----|
| Dry Weight                           | kg. | 10100              | 15500              | 17200            | N/A |

Manufacturer reserves the right to make changes in model, technical specifications, color, equipment and accessories without prior notice.

**Sound Attenuated Types**

| Canopy Model                         |       | AK 98                   | AK 99                  | N/A   |
|--------------------------------------|-------|-------------------------|------------------------|-------|
| Dimensions (Lenght x Width x Height) | m     | 9,0 x 2,27 x 2,55 / 3,2 | 9,0 x 2,8 x 3,3 / 4,80 | N/A   |
| Dry Weight                           | kg.   | 15100                   | 21100                  | 22800 |
| Fuel Tank Capacity                   | Liter | 1900                    | 2200                   | N/A   |

**Optional Equipments**
**Diesel Engine**

- Oil heater
- Remote radiator (Except AC3000)

**Alternator**

- 3 pole output circuit breaker
  - Anti-condensation heater
  - Oversized alternator

**Panel**

- Charge ammeter
- Transfer switch 3 pole
- Transfer switch 4 pole
- Earth fault, single set
- Remote communications

**Accessories**

- Bulk fuel tank
- Automatic or manual fuel filling system
- Fuel - water separator filter
- Low fuel level alarm
- Residential silencer
- Enclosure or soundproof container
- Tool kit for maintenance



Aksa makes its sound attenuated generator sets sound pressure level tests in accordance with Directive 2000/14/EC.

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