



**ATA**

Makes Life Brighter

*Generators & Switchgear Solutions*

## ATA, Cummins, 6BTAA5.9-G12 175 KVA

| Engine Speed | Standby Power |        | Prime Power |        | Continuous Power |    |    |
|--------------|---------------|--------|-------------|--------|------------------|----|----|
|              | RPM           | Kw/KVA | HP          | Kw/KVA | HP               | kW | HP |
| 1500         | 155/194       | 207    | 140/175     | 187    |                  |    |    |
| 1800         | 165/206       | 220    | 150/187.5   | 200    |                  |    |    |

**Fuel Rating Option used for these Data: FR9266-03**

|  | STANDBY POWER |         | PRIME POWER |         |
|--|---------------|---------|-------------|---------|
|  | 1800          | 1500    | 1800        | 1500    |
| Governed Engine Speed..... -rpm              | 750-850       | 750-850 | 750-850     | 750-850 |
| Engine Idle Speed..... -rpm                  | 165           | 155     | 150         | 140     |
| Gross Engine Power Output.....-kW            | 7.2           | 6       | 7.2         | 6       |
| Piston Speed..... -m/s                       | 16.4          | 12.7    | 16.4        | 12.7    |
| Friction Horsepower..... -kW                 | 2.4           | 2.0     | 2.4         | 2       |
| Engine Water Flow to Engine..... -litre/sec. | 196           | 150     | 182         | 137     |
| Intake Air Flow.....-litre/sec.              | 438           | 357     | 398         | 321     |
| Exhaust Gas Flow..... -litre/sec.            | 458           | 507     | 445         | 495     |
| Exhaust Gas Temperature ..... °C             | 21            | 19      | 19          | 17      |
| Radiated Heat to Ambient..... -kW            | 62            | 58      | 58          | 57      |
| Heat Rejection to Coolant..... -kW           | 140           | 125     | 125         | 113     |
| Heat Rejection to Exhaust.....-kW            |               |         |             |         |

| Engine Performance Data @ 1800 RPM |       |     |                  |     |
|------------------------------------|-------|-----|------------------|-----|
| OUTPUT POWER                       |       |     | FUEL CONSUMPTION |     |
| %                                  | kW    | HP  | g/kW.h           | L/h |
| STANDBY POWER                      |       |     |                  |     |
| 100                                | 165   | 220 | 211              | 42  |
| PRIME POWER                        |       |     |                  |     |
| 100                                | 150   | 200 | 208              | 38  |
| 75                                 | 112.5 | 150 | 205              | 28  |
| 50                                 | 75    | 100 | 214              | 19  |
| 25                                 | 37.5  | 50  | 264              | 11  |

| Engine Performance Data @ 1500 RPM |     |     |                  |     |
|------------------------------------|-----|-----|------------------|-----|
| OUTPUT POWER                       |     |     | FUEL CONSUMPTION |     |
| %                                  | kW  | HP  | g/kW.h           | L/h |
| STANDBY POWER                      |     |     |                  |     |
| 100                                | 155 | 207 | 204              | 38  |
| PRIME POWER                        |     |     |                  |     |
| 100                                | 140 | 187 | 203              | 34  |
| 75                                 | 105 | 140 | 202              | 26  |
| 50                                 | 70  | 93  | 207              | 17  |
| 25                                 | 35  | 47  | 231              | 10  |

**Dimensions**

| Type   | Length (mm) | Width (mm) | Height (mm) | Fuel Tank ( L ) | Weight (KG) |
|--------|-------------|------------|-------------|-----------------|-------------|
| Open   | 2248        | 900        | 1560        | 400             | 1560        |
| Closed | 3562        | 1155       | 1832        | 400             | 2201        |

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**GENERAL ENGINE DATA**

|  |                    |      |
|--|--------------------|------|
| Approximate Engine Weight (dry).....                             | -kg                | 413  |
| Mass Moment of Inertia of Rotating Components (No Flywheel)..... | -kg·m <sup>2</sup> | 0.25 |
| Center of Gravity from Front Face of Block.....                  | -mm                | 391  |
| Center of Gravity above Crankshaft Centerline.....               | -mm                | 140  |

**ENGINE MOUNTING**

|  |                    |      |
|--|--------------------|------|
| Maximum (Static) Bending Moment at Front Support Mounting Surface..... | -N.m               | 435  |
| Maximum (Static) Bending Moment at Side Pad Mounting Surface.....      | -N.m               | TBD  |
| Maximum (Static) Bending Moment at Rear Face of Block.....             | -N.m               | 1356 |
| Moment of Inertia of Complete Engine                                   |                    |      |
| — Roll Axis.....   | -kg·m <sup>2</sup> | 14.8 |
| — Pitch Axis.....  | -kg·m <sup>2</sup> | 36.9 |
| — Yaw Axis.....  | -kg·m <sup>2</sup> | 31.9 |

**EXHAUST SYSTEM**

|  |         |      |
|--|---------|------|
| Maximum Back Pressure.....   | -kPa    | 10   |
| Exhaust Pipe Size Normally Acceptable.....                             | -mm     | 75   |
| Maximum Static Supported Weight at the Turbocharger Outlet Flange..... | -N.m    | 13.5 |
| Exhaust Manifold Insulation Acceptable.....                            | -Yes/No | No   |
| Turbocharger Insulation Acceptable.....                                | -Yes/No | No   |

**CHARGE AIR COOLING SYSTEM**

|  |      |    |
|--|------|----|
| Maximum allowable pressure drop across charge air cooler and OEM CAC piping (IMPD):..... |      |    |
|  | -kPa | 13 |
| Maximum Intake Manifold Temperature Differential (Ambient to IMT) (IMTD) -°C             |      |    |
|  |      | 25 |
| Intake manifold temperature for Fan-ON.....-°C   |      |    |
|  |      | 50 |
| Intake manifold air temperature derate/alarm temperature.....-°C                         |      |    |
|  |      | 58 |

**AIR INTAKE SYSTEM**

|  |        |     |
|--|--------|-----|
| Maximum Intake Air Restriction with Heavy Duty Air Cleaner                 |        |     |
| — Clean Element.....   | -kPa   | 3.7 |
| — Dirty Element.....   | -kPa   | 6.2 |
| Minimum Dirt Holding Capacity with Heavy Duty Air Cleaner.....             |        |     |
|  | -g/cfm | 53  |
| Maximum Temperature Rise from Ambient to the Inlet of the Turbocharger -°C |        |     |
|  |        | 17  |
| Recommended intake piping size (inner diameter).....                       |        |     |
|  | -mm    | 76  |



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**LUBRICATION SYSTEM**

|  |        |           |
|--|--------|-----------|
| Normal Operating Oil Pressure Range  |        |           |
| — minimum low idle.....  | -kPa   | 207       |
| —maximum rated speed.....  | -kPa   | 345       |
| Maximum Oil Temperature .....  | -°C    | 121       |
| Oil Capacity with OP 9006 Oil Pan:High-Low.....                                      | -litre | 14.2-12.3 |
| Minimum Required Lube System Capacity - Sump plus Filters.....                       | -litre | 16.4      |
| Angularity of Standard Oil Pan: (Values stated are for intermittent operation only): |        |           |
| — Front Down.....  | - °    | 40        |
| — Front Up.....  | - °    | 40        |
| — Side to Side.....  | - °    | 40        |

**FUEL SYSTEM**

|   |           |           |
|---|-----------|-----------|
| Type Injection System.....                                  |           | BYC P7100 |
| Maximum Restriction at Lift Pump.....                       | -kPa      | 13.6      |
| Maximum Restriction at the Supply Side of the injector..... | -kPa      | 67.7      |
| Total Drain Flow(constant for all loads).....               | -litre/hr | 30        |

**COOLING SYSTEM**

|   |        |                |
|---|--------|----------------|
| Coolant Capacity-Engine Only.....                         | -litre | 10 Maximum     |
| Coolant Friction Head External to Engine                  |        |                |
| -1800rpm.....   | -kPa   | 35             |
| -1500rpm.....   | -kPa   | 28 Maximum     |
| Static Head of Coolant Above Engine Crank Centerline..... | -m     | 14             |
| Standard Thermostat (Modulating) Range.....               | -°C    | 82-95 Minimum  |
| Pressure Cap.....   | -kPa   | 69 Maximum Top |
| Tank Temperature for Standby/Prime Power.....             | -°C    | 104/100        |

**ELECTRICAL SYSTEM**

|   |          |               |
|---|----------|---------------|
| Cranking Motor (Heavy Duty,Positive Engagement).....  | -volt    | 24V Battery   |
| Charging System,Negative Ground.....                  | -ampere  | 40            |
| Maximum Allowable Resistance of Cranking Circuit..... | -ohm     | 0.002 Minimum |
| Recommended Battery Capacity                          |          |               |
| -Cold Soal @ 10°F (-12°C) and Above.....              | -0°F CCA | 400           |



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### ALTERNATOR SPECIFICATIONS

#### TAL 044 - Three-phase 70 to 200 kVA- 50 Hz / 88 to 250 kVA- 60 Hz

|   |   |   |                      |
|---|---|---|----------------------|
| Insulation class                                    | H   | Excitation system 6-wire                                | SHUNT<br>AREP+ / PMG |
| Winding pitch                                       | 2/3 (wind.6S - 6-wire / wind.6 - 12-wire) | AVR type  | R120 R180            |
| Number of wires                                     | 6 (12 option)                             | Excitation system 12-wire (option)                      | SHUNT<br>AREP+ / PMG |
| Protection  | IP 23                                     | AVR type  | R120 R180            |
| Altitude  | ≤ 1000 m                                  | Voltage regulation (*)                                  | ± 1 % ± 0.5 %        |
| Overspeed   | 2250 R.P.M.                               | Total Harmonic Distortion THD (**) in no-load < 2 %     |                      |
| Air flow 50 Hz                                      | 0.29 m <sup>3</sup> /s                    | Total Harmonic Distortion THD (**) in linear load < 5 % |                      |
| Air flow 60 Hz                                      | 0.34 m <sup>3</sup> /s                    | Waveform: NEMA = TIF (**)                               | < 50                 |
| AREP+/PMG Short-circuit current = 2.7 In : 5 second |   | Waveform: I.E.C. = FHT (**)                             | < 2%                 |

### Control Panel

| DSE6110  |
|--|
| <b>Auto Start Control Module</b>   |
| The DSE6110 MKIII is an Auto Start Control Module suitable for a wide variety of single, diesel or gas, genset applications. |
| <b>OVERALL SIZE</b>  |
| 216 mm x 158 mm x 43 mm (8.5" x 6.2" x 1.5")   |
| <b>PANEL CUTOUT SIZE</b>   |
| 184 mm x 137 mm (7.2" x 5.3")  |
| <b>MAXIMUM PANEL THICKNESS</b>   |
| 8.0 mm (0.3")  |
| <b>WEIGHT</b>  |
| 0.5kg  |
| <b>PRODUCT VARIANTS</b>  |
| 6110-05 - 6110 MKIII Auto Start Control Module   |



### Optional configurations:

#### Engine accessories:

- Heavy-duty air filter
- Coolant heater
- Lubricant oil heater
- Fuel and Water Separator
- Lube oil rotary pump

#### Alternator And Accessories:

- Leroy somer/stamford
- Anti condensation heater
- PMG + AVR ◇ Double bearing
- alternator High voltage \_\_\_\_\_kV
- RTDs for Bearing and winding

#### Cooling System:

- 55 degree Radiator
- Remote Radiator

#### Control System:

- AMF
- Parallel
- Practical type in low temperature environment
- Control Screen Heater
- Remote Annunciators
- Other (ComP, DEIF)

#### Circuit Breaker:

- 3/4 poles
- Fixed/handcart type
- Electric mechanism

#### Automatic Transfer Switch (ATS):

- ATS cabinet
- Contractor type ATS
- Motorized changeover type ATS

#### Start Battery:

- Nickel-cadmium battery
- Maintenance-free battery
- Battery charger and selector switch
- Charging current meter

#### External Fuel Tank:

- Single /double wall fuel tank (500-5000 L)
- Fuel Transfer pump

#### Exhaust Muffler:

- Residential grade
- Critical grade
- Hospital grade

#### Available for voltages :

- 400/230V, 480/277V, 380/220V, 440/254V, 416/240V, 220/127V, 208/120V

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### Prime Rating:

Unlimited hours usage, with an average load factor of 80% over each 24 hours period. 10% overload is available for 1 hour in every 12 hours operation. 0 overload is permitted on standby power.

### Standby Rating:

Limited to 500 hours annual usage, with an average load factor of 80% of the published standby power rating over each 24 hours period. Up to 300 hours of annual usage may be run continuously. No over-load is permitted on standby power.

### Engine:

Cummins, including air filters, fuel filters, oil filter, starting motor and charging alternator etc.

### Warranty policy:

ATA products have a warranty for 12 months or 1000 hours whichever occurs first against any manufacturing defects

Wearing parts (filters), incorrect man-made operation, maintenance failures are excluded from the warranty policy

### Radiator:

50°C, fan protective shroud

### Fuel Tank:

Capacity of fuel tank is for 8– 10 hours running  
Built in fuel tank up to 800 kVA

### Circuit Breaker:

3 pole LS MCCB

### Alternator Type:

brushless AC alternator

### Control system alarms:

Over and Under Speed  
Low and High Battery Volt. Start and Stop Failure Over Current Under / Over Generator Voltage  
Low Oil Pressure  
Emergency stop High engine temperature



**STAMFORD**  
power generation

**DSE**



**LEROI SOMER**

Manufacturer reserves the right to make changes in model, technical specifications, color, equipment and accessories without prior notice. All photos are representative and may not reflect exact mode.

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