



AGG POWER TECHNOLOGY (FUZHOU) LTD

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Standard Customer Witness Test Options for Diesel Engine Powered Generators

Test Equipment and Conditions

1. Test Equipment

All test instrumentation is calibrated and calibration certificates are available on request.

2. Test Conditions

Ambient conditions for the test will be those existing within the test cell at the time of test. No altitude adjustment is required at the AGG Power factory for any of the product range and the altitude shall be stated as 35 meters.

The engine coolant for the test shall be a 50/50% mix of water and antifreeze plus DCA4 (anti-cavitation & Inhibitor), where applicable, unless otherwise agreed by prior written agreement.

The test fuel shall be standard diesel fuel, which is 0#/ASTM2. The oil used during the test is CF4/SG15W-40.

Standard Witness Test

Inspection of Generator Set prior to Set Test

Pre-test inspection of the plant to be tested will be carried out in the test cell.

A reasonable time will be allowed for the inspection, during which a member of the AGG Power Staff or Test Engineer must accompany the visitors at all times.



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Permission to enter the Test Cell can only be authorized by the Test Technician responsible for conducting the test.

Demonstration of Load Acceptance (at normal operating temperature)

A single step load at unity power factor as determined below, or as agreed between the customer and AGG Power prior to commencement of the test, shall be applied to the generator set when at no load and at normal operating temperature

The initial load to be applied to the generator will be agreed between the customer and AGG Power prior to the day of the Witness Test.

Load Duration Test (Standard testing procedure and time)

| S/N | Load | Time |
|-----|-----------|------------|
| 1 | 0 load | 2 minutes |
| 2 | 25% load | 2 minutes |
| 3 | 50% load | 2 minutes |
| 4 | 75% load | 2 minutes |
| 5 | 100% load | 2 minutes |
| 6 | 110% load | 15 minutes |

Load Duration Test – Readings

During the load test, the following information and generator control parameters shall be recorded every step:

- load power (kw)
- Voltage
- Current
- Steady power factor
- Frequency



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- Water temperature
- Oil Pressure
- Time

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After testing, will issue a testing report, the sample please refer to appendix 1.

Health and Safety

When attending AGG Power for the testing of a generating set, the following Health and Safety rules are in place and must be complied with by all attendees, at all times.

- Personal Protective Equipment must be worn at all times when in the factory production and test areas. Anyone found not wearing full PPE will be requested to leave the production and test areas.
- Entry into the test cells is only permitted with the permission of the Test Engineer conducting the testing. Entry is never permitted once the testing sequence has begun and the generating set is functioning.
- Visitors are not permitted to move around the factory unescorted and must have a AGG Power representative with them at all times.
- Care is to be taken when moving around the factory production areas due to operating cranes and heavy equipment being moved by electric or gas powered units.
- Photography is permitted, but permission is to be sought before taking photographs due to concerns of flash units being used.
- Smoking is only permitted within the confines of the nominated smoking area.

Appendix 1

| AGG Power Solutions | | | | | | | | | | Works Load Test Report | | | |
|--|-----------------|----------------------------|----|--------------------|---|---------------|---|---------------------|----------------|------------------------|--------------------|---------------|--------|
| ISO8528-1995 GB/T2820-1997 | | | | | | | | | | Date of test: | | Test time: | |
| MODEL: | | SERIAL NO.: | | Performance class: | | CUSTOMER: | | Rated current: | | Serial No.: | | | |
| 1. SPECIFICATION | | Line Number/Voltage: | | Speed/Frequency: | | Model: | | Serial No.: | | Serial No.: | | | |
| 2. ENGINE | | Ex-factory: | | Model: | | Serial No.: | | Serial No.: | | Serial No.: | | | |
| 3. ALTERNATOR | | Ex-factory: | | Model: | | Serial No.: | | Serial No.: | | Serial No.: | | | |
| 4. ENVIRONMENT CONDITION | | | | | | | | | | | | | |
| Relative humidity: | | Environmental temperature: | | 12°C | | Atmosphere: | | 95kPa | | | | | |
| Type of oil: | | CF4/SG15W-40 | | Type of fuel: | | 0#/ASTM2 | | Circuit diagram: | | C364005-1000001698 | | | |
| 5. CONTROL SYSTEM | | Control model: | | Serial No.: | | Switch model: | | Serial No.: | | Serial No.: | | | |
| 6. CHECK EVERY INDICATION EQUIPMENT'S WORK CONDITION OF CONTROL SCREEN | | | | | | | | | | | | | |
| overspeed stop: | | high water temperature: | | emergency stop: | | | | | | | | | |
| low oil pressure protection: | | battery charging: | | | | | | | | | | | |
| 7. LOAD TEST | | | | | | | | | | | | | |
| load% | load power (KW) | AB | CA | BC | A | B | C | steady power factor | frequency (Hz) | water temperature (°C) | oil pressure (BAR) | time (minute) | remark |
| 0% | | | | | | | | | | | | | |
| 25% | | | | | | | | | | | | | |
| 50% | | | | | | | | | | | | | |
| 75% | | | | | | | | | | | | | |
| 100% | | | | | | | | | | | | | |
| 110% | | | | | | | | | | | | | |
| 8. 50% rated power load moment capability: | | | | | | | | | | | | | |
| 9. Starting capability in normal temperature(starting machine three times every 2 Mins): | | | | | | | | | | | | | |
| CONCLUSION: | | | | | | | | | | | | | |
| AGG POWER TECHNOLOGY (FUZHOU) CO., LTD | | | | | | | | | | | | | |
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| Tester | | | | | | | | | | | | | |
| Checker | | | | | | | | | | | | | |
| Approver | | | | | | | | | | | | | |