

Generator set data sheet



Model: C700D5
Frequency: 50 Hz
Fuel type: Diesel
kW rating: 565 Standby
 512 Prime
 454 Continuous
Emissions level: Unregulated

| | |
|---------------------------------|----------|
| Exhaust emission data sheet: | |
| Sound performance data sheet: | |
| Cooling performance data sheet: | |
| Genset outline: | A041A446 |

| Fuel consumption | Standby | | | | Prime | | | | Continuous | | | |
|------------------|-----------|------|------|------|-----------|------|------|------|------------|------|------|------|
| | kW (kVA) | | | | kW (kVA) | | | | kW (kVA) | | | |
| Ratings | 565 (706) | | | | 512 (640) | | | | 454 (568) | | | |
| Load | 1/4 | 1/2 | 3/4 | Full | 1/4 | 1/2 | 3/4 | Full | 1/4 | 1/2 | 3/4 | Full |
| US gph | 12,2 | 21,1 | 30,4 | 40,7 | 11,4 | 19,3 | 27,5 | 37,0 | 10,6 | 17,2 | 24,3 | 32,2 |
| L/h | 46 | 80 | 115 | 154 | 43 | 73 | 104 | 140 | 40 | 65 | 92 | 122 |

| Engine | Standby rating | Prime rating | Continuous rating |
|--------------------------------------|---------------------------|--------------|-------------------|
| Engine manufacturer | Cummins Inc. | | |
| Engine model | VTA28-G5 | | |
| Configuration | 12-Cylinder | | |
| Aspiration | Turbocharged/ Aftercooled | | |
| Gross engine power output, kWm (bhp) | 612 (820) | 560 (750) | 492 (660) |
| BMEP at set rated load, kPa (psi) | 1751 (254) | 1599 (232) | |
| Bore, mm (in.) | 140 (5,5) | | |
| Stroke, mm (in.) | 152 (6) | | |
| Rated speed, rpm | 1500 | | |
| Piston speed, m/s (ft/min) | 7,6 (1500) | | |
| Compression ratio | 13,1:1 | | |
| Lube oil capacity, L (US gal) | 83 (21,9) | | |
| Overspeed limit, rpm | 1800 ±50 | | |

Fuel flow

| | |
|---------------------------------------------------|-------------|
| Maximum fuel flow, L/hr (US gph) | 337 (89) |
| Maximum fuel inlet restriction, kPa (in Hg) | 27,09 (8) |
| Maximum fuel inlet temperature, °C (°F) | 70 (158) |
| Maximum fuel return line restriction, kPa (in Hg) | 22,01 (6,5) |

Air

| | Standby rating | Prime rating | Continuous rating |
|------------------------------------------------------------|----------------|---------------|-------------------|
| Combustion air, CFM (L/s) | 1860,38 (878) | 1750,19 (826) | |
| Maximum air cleaner restriction, kPa (in H ₂ O) | 6,23 (25) | | |
| Alternator cooling air, m ³ /min (cfm) | 62 (2202) | | |

Exhaust

| | | | |
|--------------------------------------------------|----------------|----------------|--|
| Exhaust flow at set rated load, CFM (L/s) | 4339,47 (2048) | 4210,21 (1987) | |
| Exhaust temperature, °C (°F) | 507 (945) | 493 (920) | |
| Maximum back pressure, kPa (in H ₂ O) | 10,16 (40,83) | | |

Standard set-mounted radiator cooling

| | | | |
|------------------------------------------------------------------------|----------------|---------------|--|
| Ambient design, °C (°F) | 47 (116,6) | | |
| Fan load, kWm (HP) | 30 (40,2) | | |
| Coolant capacity (with radiator), L (US gal) | 163 (43,06) | | |
| Cooling system air flow, m ³ /min (scfm) | 1068 (37486,8) | | |
| Total heat rejection, MJ/min (Btu/min) | 22,8 (21610) | 20,37 (19310) | |
| Maximum cooling air flow static restriction, kPa (in H ₂ O) | 0,12 (0,5) | | |

Weights

| | |
|-------------------------------|------|
| Unit Open dry weight, kgs | 5630 |
| Unit Open wet weight, kgs | 5839 |
| Unit Enclosed dry weight, kgs | |
| Unit enclosed wet weight, kgs | |

Derating factors

| | |
|-------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Standby | Full rated power available up to 1525 m (5000 ft) elevation at ambient temperature of 40 °C (104 °F). Above these conditions, derate by an additional 4% per 300 m (984 ft), and 2% per 11 °C (1% per 10 °F). For other temperature and altitude limits, consult your local Cummins distributor. |
| Prime | Full rated power available up to 1220 m (4000 ft) elevation at ambient temperature of 40 °C (104 °F). Above these conditions, derate by an additional 4% per 300 m (1000 ft), and 2% per 11 °C (1% per 10 °F). For other temperature and altitude limits, consult your local Cummins distributor. |
| Continuous | Full rated power available up to 1220 m (4000 ft) elevation at ambient temperature of 40 °C (104 °F). Above these conditions, derate by an additional 4% per 300 m (1000 ft), and 2% per 11 °C (1% per 10 °F). For other temperature and altitude limits, consult your local Cummins distributor. |

Ratings definitions

| Emergency Standby Power (ESP): | Limited-Time Running Power (LTP): | Prime Power (PRP): | Base Load (Continuous) Power (COP): |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Applicable for supplying power to varying electrical load for the duration of power interruption of a reliable utility source. Emergency Standby Power (ESP) is in accordance with ISO 8528. Fuel stop power in accordance with ISO 3046, AS 2789, DIN 6271 and BS 5514. | Applicable for supplying power to a constant electrical load for limited hours. Limited-Time Running Power (LTP) is in accordance with ISO 8528. | Applicable for supplying power to varying electrical load for unlimited hours. Prime Power (PRP) is in accordance with ISO 8528. Ten percent overload capability is available in accordance with ISO 3046, AS 2789, DIN 6271 and BS 5514. | Applicable for supplying power continuously to a constant electrical load for unlimited hours. Continuous Power (COP) is in accordance with ISO 8528, ISO 3046, AS 2789, DIN 6271 and BS 5514. |

Alternator data

| Voltage | Connection | Temp rise degrees C | Duty¹ | Winding No. | Frame Size |
|----------------|-------------------|----------------------------|-------------------------|--------------------|-------------------|
| 220 | Wye, 3Phase | 150 | S/P/C | 311 | HC5F |
| 380 | Wye, 3Phase | 150 | S/P/C | 311 | HC5F |
| 400 | Wye, 3Phase | 150 | S/P/C | 311 | HC5F |
| 440 | Wye, 3Phase | 150 | S/P/C | 311 | HC5F |

Notes:

¹ Standby (S), Prime (P) and Continuous ratings (C).

Formulas for calculating full load currents:

Three phase output

$$\frac{\text{kW} \times 1000}{\text{Voltage} \times 1.73 \times 0.8}$$

Warning: Back feed to a utility system can cause electrocution and/or property damage. Do not connect to any building's electrical system except through an approved device or after building main switch is open.

**For more information contact your local Cummins distributor
or visit www.ats-power.com**



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