CM25C Electric Power Generator Set
1 735 - 2 600 kWe

FEATURES AND BENEFITS

Reliable Operation
- Intensive cooling of key components including exhaust valve seats, injector cooling integrated into lubricating oil system
- Reliable, proven and high efficient single turbo charging system
- Classification society standards ensure high safety and quality
- Intelligent simplicity ensures a robust engine platform
- Optimized service schedules enable high availability and long durability

Control & Monitoring
- Ultrafast start time and load acceptance
- No engine start limitations
- Continuous power (base and peak load), prime power, stand-by
- Part load with high efficiency
- Monitoring for unattended operation
- Asset intelligence system

Ease Of Installation
- Reduced complexity of standard modular design allows an easy installation
- Low space requirements between the gensets
- Genset is ready for installation
- Generator set designed for direct elastic mounting

Ease Of Operation
- Low fuel and oil consumption
- Low maintenance requirements
- Operator and maintenance training courses available

Intelligent Simplicity
- High reliability, modular design and integral construction reduce the number of components by 40% over conventional designs e.g.:
  - Dry engine block with integrated ducts for lubricating oil and charge air and underslung crankshaft
  - Compact cylinder head design
- Smart maintenance solutions
  - Easily removable cylinder heads, quick removable fluid connections
  - Split connecting rods to allow fast and easy piston removal without disturbing the big end bearing
  - Segmental camshaft design
  - Simplified parts spectrum by using single-pipe exhaust gas
  - Engine block free from cooling water
- State-of-art material ensures long life time

Cat® Engine Specifications
CM25C, 4-Stroke-Cycle-Liquid Fuel

Configuration
6, 8, 9 cylinder

Fuel type
Diesel oil, heavy fuel oil (HFO), crude oil

Genset rating
1 735 - 2 600 kWe

Genset efficiency
up to 44.2 %

Emissions up to
World bank emission certification
(Stage 2)
FEATURES AND BENEFITS

Ease Of Maintenance
• Smart maintenance solutions allow an easy component accessibility
• Large inspection openings afford an easy serviceability to core engine internals
• Core engine components designed for reconditioning and reuse
• Short maintenance times enable high availability
• No engine removal necessary for maintenance and overhauls

Fuel
• Liquid: Light fuel oil (LFO), crude oil and heavy fuel oil (HFO) with fuel quality up to 700 cSt/50°C according to CIMAC H55/K55
• Dual: Light fuel oil (LFO), crude oil and heavy fuel oil (HFO) with fuel quality up to 700 cSt/50°C according to CIMAC H55/K55
• Natural gas with methane number > 80 and lower heating value of 28MJ/Nm3
• Gaseous: Natural gas with methane number > 80 and lower heating value of 31.5 MJ/Nm3

Emission
• World bank (WB) emission certification stage 1 and 2
• Technische Anleitung (TA) Luft 2002 (only gas)
• Post-emission treatment systems for lower emission requirements available

Expertise & Experience
• Assistance for planning - delivery - commissioning - operation and service
• Expertise and experience for solutions to maximize benefits, e.g. combine heat and power systems (CHP)

Worldwide Product Support
• With nearly 200 Cat® dealers we are at home around the globe
• Factory-trained technicians, original parts and support are never out of reach
• Long term service agreements offer back-to-back services from preventive maintenance, scheduled maintenance to full operation and maintenance

EQUIPMENT

Fuel System
• Circulation module
• Pre-pressure module
• Separator module
• Engine ventilation module (only dual fuel (DF) and gas)
• Gas valve unit (GVU) (only dual fuel (DF) and gas)
• Ignition fuel oil module (only dual fuel (DF))

Lubricating Oil System
• Combined module: cooling water system and lubricating oil system
• Lubricating oil separator module
• Piping interface module

Combustion Air System
• Air filter - pocket
• Air filter - oil bath
• Air filter - pulse

Cooling Water System
• Combined module: see lubricating oil system
• Cooling water system with radiators
• Piping interface module

Exhaust System
• Exhaust gas silencer
• Selective catalytic reduction (SCR) system
• Oxidation catalytic (Oxicat) converter system
• Exhaust gas ventilation module (only dual fuel (DF) and gas)

Starting System
• Starting air compressor module
• Starting air receiver module

Control & Monitoring System
• Local control panel (LCP)
• Local data panel (LDP) / generator control panel (GCP)
• Motor control center (MCC) module
• Engine monitoring package
• Gas leak detection per cylinder (only dual fuel (DF) and gas)

Mounting System
• Elastic mounting - genset / engine
# TECHNICAL DATA

## CM25C Electric Power Generator Set

### TECHNICAL DATA

<table>
<thead>
<tr>
<th>Ratings</th>
<th>Units</th>
<th>6CM25C</th>
<th>8CM25C</th>
<th>9CM25C</th>
</tr>
</thead>
<tbody>
<tr>
<td>Engine Type</td>
<td>[-]</td>
<td>4-stroke-cycle</td>
<td>4-stroke-cycle</td>
<td>4-stroke-cycle</td>
</tr>
<tr>
<td>Configuration</td>
<td>[-]</td>
<td>6 cylinder</td>
<td>8 cylinder</td>
<td>9 cylinder</td>
</tr>
<tr>
<td>Fuel Type</td>
<td>[-]</td>
<td>Diesel oil, heavy fuel oil (HFO), crude oil</td>
<td>Diesel oil, heavy fuel oil (HFO), crude oil</td>
<td>Diesel oil, heavy fuel oil (HFO), crude oil</td>
</tr>
<tr>
<td>Genset Rating Range Up To</td>
<td>[kWe]</td>
<td>1 735</td>
<td>2 315</td>
<td>2 600</td>
</tr>
<tr>
<td>Engine Rating Range Up To</td>
<td>[kW]</td>
<td>1 800</td>
<td>2 400</td>
<td>2 700</td>
</tr>
<tr>
<td>Frequency At Speed</td>
<td>[rpm] (50Hz / 60Hz)</td>
<td>50 Hz @ 750</td>
<td>50 Hz @ 750</td>
<td>50 Hz @ 750</td>
</tr>
<tr>
<td>Voltage</td>
<td>[kV]</td>
<td>3-13.8</td>
<td>3-13.8</td>
<td>3-13.8</td>
</tr>
<tr>
<td>Genset Efficiency Up To</td>
<td>[%]</td>
<td>44.2</td>
<td>44.2</td>
<td>44.1</td>
</tr>
<tr>
<td>Emission Level Up To</td>
<td>[-]</td>
<td>WB II</td>
<td>WB II</td>
<td>WB II</td>
</tr>
<tr>
<td>Ready To Accept Loads (Preheated/Vented)</td>
<td>[s]</td>
<td>40</td>
<td>40</td>
<td>40</td>
</tr>
<tr>
<td>Normal Ramp Up To 100% Load</td>
<td>[s]</td>
<td>75</td>
<td>75</td>
<td>75</td>
</tr>
<tr>
<td>Emergency Ramp Up 10% To 100% Load</td>
<td>[s]</td>
<td>20</td>
<td>25</td>
<td>25</td>
</tr>
<tr>
<td>Bore</td>
<td>[mm / in]</td>
<td>255 / 10.04</td>
<td>255 / 10.04</td>
<td>255 / 10.04</td>
</tr>
<tr>
<td>Stroke</td>
<td>[mm / in]</td>
<td>400 / 15.75</td>
<td>400 / 15.75</td>
<td>400 / 15.75</td>
</tr>
<tr>
<td>Mean Effective Pressure Up To</td>
<td>[bar / psig]</td>
<td>24.5 / 355</td>
<td>24.5 / 355</td>
<td>24.5 / 355</td>
</tr>
<tr>
<td>Aspiration</td>
<td>[-]</td>
<td>turbocharged-aftercooled</td>
<td>turbocharged-aftercooled</td>
<td>turbocharged-aftercooled</td>
</tr>
<tr>
<td>Specific Fuel Oil Consumption (SFOC) Up To - World Bank Emission Stage 1 (WB I)</td>
<td>(g/kWh) / (lb/kWh)</td>
<td>184 / 0.406</td>
<td>184 / 0.406</td>
<td>184 / 0.406</td>
</tr>
<tr>
<td>Specific Fuel Oil Consumption (SFOC) Up To World Bank Emission Stage 2 (WB II)</td>
<td>(g/kWh) / (lb/kWh)</td>
<td>185 / 0.408</td>
<td>185 / 0.408</td>
<td>185 / 0.408</td>
</tr>
<tr>
<td>Specific Energy Consumption (BSEC) Up To</td>
<td>(kJ/kWh) / (Btu/kWh)</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Specific Pilot Fuel Consumption (Only Dual Fuel)</td>
<td>(kJ/kWh) / (Btu/kWh)</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Specific Lube Oil Consumption</td>
<td>(g/kWh) / (lb/kWh)</td>
<td>0.6 / 0.0013</td>
<td>0.6 / 0.0013</td>
<td>0.6 / 0.0013</td>
</tr>
<tr>
<td>Length</td>
<td>[mm / in]</td>
<td>8 070 / 318</td>
<td>9 130 / 359</td>
<td>9 516 / 375</td>
</tr>
<tr>
<td>Width</td>
<td>[mm / in]</td>
<td>2 479 / 98</td>
<td>2 534 / 100</td>
<td>2 534 / 100</td>
</tr>
<tr>
<td>Height</td>
<td>[mm / in]</td>
<td>3 911 / 154</td>
<td>3 963 / 156</td>
<td>3 963 / 156</td>
</tr>
<tr>
<td>Dry Weight - Genset</td>
<td>[t / lb]</td>
<td>43.0 / 94 799</td>
<td>53.0 / 116 845</td>
<td>56.0 / 123 459</td>
</tr>
</tbody>
</table>

## Rating Definition And Conditions

Ratings and fuel consumption based on ISO 3046-1 at standard reference conditions.

Lubricating oil consumption tolerance on value +/- 50%.

The Genset rating depends on the efficiency of the final generator specifications.

For liquid: Reference liquid fuel is distillate diesel. Reference lower calorific value: 42700 kJ/kg.

Engine brake specific fuel oil consumption (SFOC) tolerance 5%, without engine driven pumps. For each engine driven pump an additional brake specific fuel consumption of 1% at 100% load has to be calculated.

For dual fuel: Reference gaseous fuel is natural gas with methan number > 80. Minimum lower heating value: 28000 kJ/m³.

Engine brake specific energy consumption (BSEC) tolerance 5%, without engine driven pumps. For each engine driven pump an additional brake specific energy consumption of 1% at 100% load has to be calculated.

Gaseous fuel: Reference gaseous fuel is natural gas with methan number > 80. Minimum lower heating value: 31500 kJ/m³.

Engine brake specific energy consumption (BSEC) tolerance 5%, incl. engine driven lube oil pump.

For each engine driven pump an additional brake specific fuel consumption of 1% at 100% load has to be calculated.
Caterpillar Energy Solutions

medium-speed engines manufactured by:

Caterpillar Motoren GmbH & Co. KG
Falckensteiner Str. 2
24159 Kiel
Germany

For more information:

✆ www.cat.com/electricpower
✉ electricpower@cat.com
📞 +49 431 3995 2020

The information, technical data and reference specifications contained in this brochure are not binding.
Caterpillar Motoren GmbH & Co. KG reserves the right to modify and amend data at any time. Any liability for the accuracy of information provided herein is excluded.
Caterpillar Motoren will supply further detailed and binding data, drawings, diagrams, electrical drawings, etc. in connection with a corresponding sales order.
This brochure supersedes the previous edition of this brochure.

Reproduction or copying of any portion of this document is prohibited without our prior written consent.

© 2017 Caterpillar All Rights Reserved. Printed in Germany.
CAT, CATERPILLAR, BUILT FOR IT, their respective logos, „Caterpillar Yellow“, the „Power Edge“ trade dress, as well as corporate and product identity used herein, are trademarks of Caterpillar and may not be used without permission.

Subject to change without notice.
Leaflet No. 51 EP: 11.17·e·L+S·MC3
LEHE1457-01