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
RELIABLE ENERGY
CM25E Electric Power Generator Set

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 intervals 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

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

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

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

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)

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

### CM25E Electric Power Generator Set

### TECHNICAL DATA

<table>
<thead>
<tr>
<th>Ratings</th>
<th>Units</th>
<th>6CM25E</th>
<th>8CM25E</th>
<th>9CM25E</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>1 940</td>
<td>2 585</td>
<td>2 910</td>
</tr>
<tr>
<td>Engine Rating Range Up To</td>
<td>[kW]</td>
<td>2 010</td>
<td>2 680</td>
<td>3 015</td>
</tr>
<tr>
<td>Frequency At Speed 50 Hz / 60 Hz</td>
<td>[rpm]</td>
<td>50 Hz @ 750 60 Hz @ 720</td>
<td>50 Hz @ 750 60 Hz @ 720</td>
<td>50 Hz @ 750 60 Hz @ 720</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>43.5</td>
<td>43.5</td>
<td>43.5</td>
</tr>
<tr>
<td>Emission Level Up To WB II</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>
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<tr>
<td>Normal Ramp Up To 100% Load</td>
<td>[s]</td>
<td>85</td>
<td>85</td>
<td>85</td>
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<tr>
<td>Emergency Ramp Up 10% To 100% Load</td>
<td>[s]</td>
<td>30</td>
<td>30</td>
<td>30</td>
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<tr>
<td>Bore</td>
<td>[mm / in]</td>
<td>255 / 10.04</td>
<td>255 / 10.04</td>
<td>255 / 10.04</td>
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<tr>
<td>Stroke</td>
<td>[mm / in]</td>
<td>400 / 15.75</td>
<td>400 / 15.75</td>
<td>400 / 15.75</td>
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<tr>
<td>Swept Volume</td>
<td>[l / cu in]</td>
<td>20.4 / 1 247</td>
<td>20.4 / 1 247</td>
<td>20.4 / 1 247</td>
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<tr>
<td>Mean Effective Pressure Up To</td>
<td>[bar / psig]</td>
<td>27.3 / 396</td>
<td>27.3 / 396</td>
<td>27.3 / 396</td>
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<tr>
<td>Aspiration</td>
<td>[-]</td>
<td>turbocharged-</td>
<td>turbocharged-</td>
<td>turbocharged-</td>
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<tr>
<td>Specific Fuel Oil Consumption (SFOC) Up To WB I</td>
<td>[g/kWh] / [lb/kWh]</td>
<td>187 / 0.412</td>
<td>187 / 0.412</td>
<td>187 / 0.412</td>
</tr>
<tr>
<td>Specific Fuel Oil Consumption (SFOC) Up To WB II</td>
<td>[g/kWh] / [lb/kWh]</td>
<td>187 / 0.412</td>
<td>187 / 0.412</td>
<td>187 / 0.412</td>
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<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>
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<tr>
<td>Length</td>
<td>[mm / in]</td>
<td>7 717 / 304</td>
<td>8 283 / 326</td>
<td>8 713 / 343</td>
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<tr>
<td>Width</td>
<td>[mm / in]</td>
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<td>2 357 / 93</td>
<td>2 357 / 93</td>
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<tr>
<td>Height</td>
<td>[mm / in]</td>
<td>3 866 / 152</td>
<td>4 066 / 160</td>
<td>4 066 / 160</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 designed 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

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Leaflet No. S2 EP · 11.17 · e · ndruck, Kiel · MC3
LEHE1458-02