

| Model                     | MP450-M                    |        | MP500@6-M                  |          |                            |        |
|---------------------------|----------------------------|--------|----------------------------|----------|----------------------------|--------|
| Frequency/Speed - Voltage | 50HZ/1500 RPM-<br>230/400V |        | 60HZ/1800 RPM-<br>230/400V |          | 60HZ/1800 RPM-<br>277/480V |        |
| Prime Power               | 450 KVA                    | 360 KW | 470 KVA                    | 376 KW   | 500 KVA                    | 400 KW |
| Standby Power             | 495 KVA                    | 396 KW | 517 KVA                    | 413.6 KW | 550 KVA                    | 440 KW |



Image for illustration purposes only.

## Features

|                           |  |
|---------------------------|--|
| <b>Engine</b>             | Perkins ,2506A-E15TAG1 , Made in UK, in accordance to ISO3046 ,ISO8528,DIN6271   |
| <b>Alternator</b>         | Meccalte, ECO40 -2S/4 , Made in UK, complying to the following norms:CEE/ CEI2-3/ EN60034-1/ IEC34-1/ VDE/ BS/ CAN/ CSA  |
| <b>Control Panel</b>      | Deep sea, M-DCM-317B ,Made in UK, complying to the norms: comply to the norms BS EN 61000, BS EN 60950, BS EN 60068  |
| <b>Base Frame</b>         | Black steel with Anti-vibration pads, Built in fuel tank   |
| <b>Sound Proof Canopy</b> | Modular SPC, Powder Coated, Extremely Durable, Designed to Reduce Sound Level with Maximum Service Accessibility and Minimum Foot Prints   |
| <b>Worldwide Support</b>  | Mets Energy Products are distributed through its PowerMets International Network<br>For more information kindly check our website <a href="http://www.metsenergy.com">www.metsenergy.com</a> |

## Rating Definitions and Conditions

|                       |  |
|-----------------------|--|
| <b>Prime Rating</b>   | The power available for an unlimited hour usage with an average load factor of 80% of the published prime power over each 24 hours period. A 10 % overload is available for 1Hr every 12 hours.  |
| <b>Standby Rating</b> | The power limited to 500 hours annual usage with an average load factor of 80% of the published standby power rating over each 24-hour period. Up to 300 hours of annual usage may be run continuously. No overload is permitted on standby power. |


**KVA Rating @ 0.8 P.F**

| <b>Engine Perkins, 2506A-E15TAG1, 4 Stroke Cycle, Diesel</b> |   |                             |                            |
|--|---|-----------------------------|----------------------------|
| <b>Structure</b>   | <b>Number of Cylinders</b>  | 6                           |                            |
|  | <b>Engine Build</b>   | In line                     |                            |
|  | <b>Bore</b>   | 137 mm                      |                            |
|  | <b>Stroke</b>   | 171 mm                      |                            |
|  | <b>Displacement</b>   | 15.2 L                      |                            |
|  | <b>Compression Ratio</b>  | 16 /1                       |                            |
|  | <b>Aspiration</b>   | Turbocharged                |                            |
|  | <b>Cooling</b>  | A /A                        |                            |
| <b>Fuel</b>  | <b>Fuel Tank</b>  | <b>1500 rpm</b>             | <b>1800 rpm</b>            |
|  |   | Built in fuel tank<br>587 L | Built in fuel tank<br>587L |
|  | <b>Fuel System</b>  | Direct injection            |                            |
|  | <b>Fuel Recommended</b>   | N°2 Diesel                  |                            |
|  | <b>Fuel System Make (ECM)</b>   | -                           |                            |
|  |   | <b>1500 rpm</b>             | <b>1800 rpm</b>            |
|  | <b>Delivery Flow Rate (l/hr)</b>  | TBA                         | NA                         |
|  | <b>Fuel Consumption</b>   |                             |                            |
|  | <b>100% Load (g/kWh-L/hr)</b>   | 199 (95)                    | 203 (102)                  |
|  | <b>75% Load (g/kWh-L/hr)</b>  | 200 (72)                    | 206 (78)                   |
| <b>50% Load (g/kWh-L/hr)</b>                                 | 210 (50)  | 212 (52)                    |                            |
| <b>Cooling system</b>  | <b>Engine Coolant Capacity</b>  | 58L                         |                            |
|  | <b>Air Flow-Radiator</b>  | 12033.3 l/s                 | 14433.3 l/s                |
|  | radiator with 50 degree ambient capability<br>Cooling Package & Air Cleaner Kit<br>Thermostatically-controlled system |                             |                            |
| <b>Air Inlet</b>   | <b>Air Intake Engine</b> (Clean Filter/Dirty)   | 3.7 /6.2 kPa                |                            |
| <b>Exhaust System</b>  | <b>Exhaust Gas Temperature (Prime)</b>  | NA                          | NA                         |
|  | <b>Exhaust Gas Flow (Prime)</b>   | 1190 l/s                    | 1600 l/s                   |
|  | <b>Maximum Exhaust System Back Pressure</b>   | 6.8 kPa                     | 6.8 kPa                    |
|  | <b>Muffler</b> residential (20→25 dB) industrial(15→25 dB)<br>Stainless Steel exhaust flex-fittings                   |                             |                            |
| <b>DC System-Starting/Charging</b>                           | <b>Cranking Battery Voltage</b>   | 24 V                        |                            |
|  | <b>Battery Charging Alternator</b>  | 70 A                        |                            |
|  | Dc Voltage Monitoring via control panel   |                             |                            |
| <b>Heat Rejection(prime)</b>                                 | <b>Radiated Heat to Ambient (Prime)</b>   | 27.2 kW                     | 30.5 kW                    |
|  | <b>Heat Rejection to Coolant (Prime)</b>  | 134 kW                      | 143 kW                     |
|  | <b>Heat Rejection to Exhaust (Prime)</b>  | 286 kW                      | 310 kW                     |
|  | <b>Heat Rejection to intercooler (prime)</b>  | 60 kW                       | 93 kW                      |
| <b>Lube System</b>   | <b>Lubricating System Oil Capacity</b>  | 62 L                        |                            |
| <b>Governor</b>  | Electronic  |                             |                            |

### Alternator Meccalte, ECO40 -2S/4

|  |  |  |                 |
|--|--|--|-----------------|
| <b>Structure</b>                       | <b>Insulation System</b>   | Class H  |                 |
|  | <b>Winding Pitch</b>   | 2/3 to minimize harmonics effects                                |                 |
|  | <b>Number of Poles</b>   | 4  |                 |
|  | <b>Number of Bearings</b>  | Single bearing   |                 |
|  | <b>Winding Leads</b>   | 12   |                 |
|  | <b>Power Factor</b>  | 0,8  |                 |
|  | <b>Over Speed Capability (% of Rated)</b>                        | 2250 Rpm (150%)  |                 |
|  | <b>Wave Form Distortion</b>                                      | 2.3/2 % @ full Load , 2.6/2.6% @ no Load                         |                 |
|  | <b>Telephone Interference</b>                                    | THF< 2%  |                 |
|  | <b>IP Rating (Protection)</b>                                    | IP21(other Protection on request)                                |                 |
| <b>AVR</b>                             | DSR (1-phase sensing/ additional equipment for 3-phase sensing ) |  |                 |
|  | Synchronous, 3 phase, Brushless & Self ventilated                |  |                 |
|  |  | <b>1500 rpm</b>  | <b>1800 rpm</b> |
| <b>Power Switching</b>                 | 3-P Circuit Breaker, MCCB  | 800A   | 800A            |
| <b>Temperature</b>                     | <b>Temperature Rise</b>  | 125/40 °C  |                 |
| <b>Control &amp; Voltage Regulator</b> | <b>Control System (Standard)</b>                                 | MAUX excitation  |                 |
|  | <b>Voltage Regulator (AVR)</b>                                   | DSR (1-phase sensing/ additional equipment for 3-phase sensing ) |                 |
|  | <b>% Of Voltage Regulation</b>                                   | ± 1.0 %  |                 |
| <b>Motor Starting Capacity@30%</b>     | if voltage 230/400V  | TBA  |                 |
| <b>Voltage Dip</b>                     | if voltage 277/480V  | TBA  |                 |

### Standard Controller, M-DCM-317B(CAN)

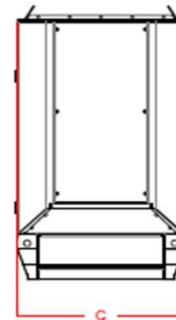
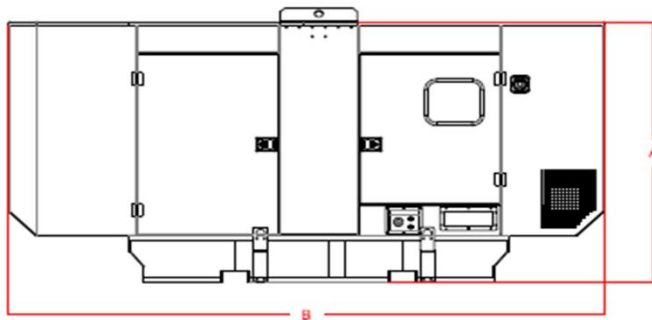
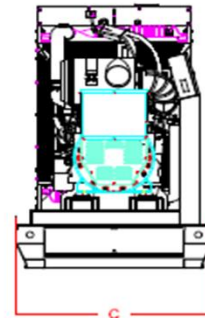
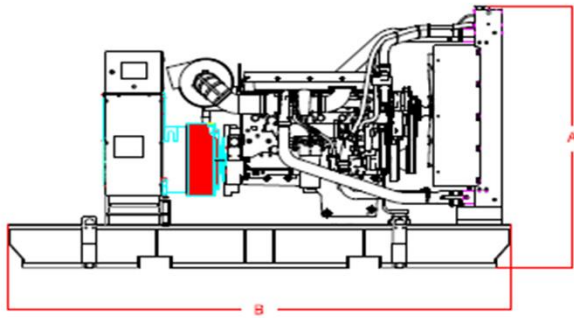
|                                      |  |   |
|--------------------------------------|--|---|
| <b>Control</b>                       | <ul style="list-style-type: none"> <li>Fuel tank monitoring</li> <li>Emergency Stop Pushbutton/ Alarm Acknowledge</li> <li>Engine Cool Down Timer</li> <li>Warm-up Timer</li> <li>Load Switching Timer</li> <li>Engine Cycle Crank</li> </ul>  |  |
| <b>Indications</b>                   | <ul style="list-style-type: none"> <li>Operating Hours</li> <li>3 Phase Generator Voltage Sensing &amp; Monitoring</li> <li>Current Protection &amp; Monitoring</li> <li>Power Measurement (kW, kVA, kVA<sub>r</sub>, kWh, kVAh, kVA<sub>r</sub>h, pf)</li> <li>Frequency Monitoring (Hz)</li> <li>Oil Pressure/Coolant Temperature/Fuel Level Monitoring</li> <li>Battery Voltage Monitoring (DC)</li> <li>Alarm Acknowledge</li> </ul> |   |
| <b>Warning &amp; Shutdown Alarms</b> | <ul style="list-style-type: none"> <li>Generator Over/Under Voltage &amp; Frequency</li> <li>Crank Disconnect (Failure to Start)</li> <li>Under/Over Speed</li> <li>Over Current</li> <li>Low oil pressure</li> <li>High Water Temperature</li> <li>Low Fuel Level</li> <li>Low Water Level</li> </ul>   |   |
| <b>Features</b>                      | <ul style="list-style-type: none"> <li>IP 65 (if ordered with gasket)</li> <li>Basic Scheduler</li> <li>8-35 VDC Supply</li> <li>Digital Inputs(4)- Outputs(4 MPU/ 6 CAN)</li> <li>Event Log (5 shutdowns)</li> </ul>  |   |
| <b>Optional Accessories</b>          |  |   |
| <b>Alternator</b>                    | <ul style="list-style-type: none"> <li>AVR (3 phase Sensing)</li> <li>Reactive Droop</li> <li>Winding Temperature Detectors</li> <li>Anti- Condensation Heaters</li> <li>Excitation with auxiliary exciter (PMG)</li> </ul>  |   |
| <b>Power Switching</b>               | <ul style="list-style-type: none"> <li>4-P Circuit Breaker</li> <li>Special Brands (ABB- MG- Siemens...)</li> <li>Motorized Operation</li> <li>Shunt Trip</li> <li>Under Voltage Trip UVT</li> <li>Residual Current Protection</li> <li>Ground Fault Protection</li> <li>Earthing Kit</li> <li>Surge Arrestor</li> </ul>   |   |

**Optional Accessories** <sup>(continues)</sup>

|               |                                      |   |
|---------------|--------------------------------------|---|
| <b>Engine</b> | <b>Fuel</b>                          | Micro-Diesel Filter for Micro-Particles Filtration<br>Automatic Fuel Refilling System<br>Fuel Water Separator <b>(2000/18)</b><br>Mechanical Fuel Level Kit<br>Oversize Fuel Tank Upon Custom Requirements<br>Fuel Tanks-Pipes Heater   |
|               | <b>Air Inlet</b>                     | Sy-klone Air Cleaner Installed @ Air Intake System  |
|               | <b>Exhaust</b>                       | Muffler: Critical (25→30 dB) Hospital (35→40 dB)<br>Elbow, Flanges, Expanders & Y Adaptors  |
|               | <b>Cooling / Heating</b>             | Radiator with 35 °C or 60 °C Ambient Capability<br>Jacket Water Heater  |
|               | <b>Lube</b>                          | Manual Sump Drain Pump<br>Semi-Rotator Hand Pump  |
|               | <b>DC System - Starting/Changing</b> | Mains Battery Charger 24 V DC-5A<br>Battery Charger 10A-20A on Request<br>Automatic Battery Charger on Request<br>Battery Disconnect Switch<br>DC/AC Current Monitoring (Ammeter)<br>Oversize Battery   |
|               | <b>Control Panel</b>                 | DSE 7310/7320/7410/7420-More Inputs & Outputs-Advanced Communications Features;<br>DSE 8610/8710/8810- Load Share Module;<br>Digital & Analogues Inputs Module DSE 2130 (for 7000 Series & Above);<br>Analogue Inputs advanced Module DSE 2131-2133(for 7410 &Above);<br>Digital relay Outputs Module DSE 2157 (for 7000 Series &Above);<br>Analogue Outputs Module DSE 2152 (for 7410 & Above);<br>Local & Remote enunciator Module DSE 2548 (for 7000 Series & Above);<br>Display Modules DSE 2510/2520 (with 7310-7320);<br>Remote Monitoring via: Web Interface (All Series), GSM (for 7000 Series & Above), RS485 (for 7000<br>Dry Contacts Alarm Indication for Customer Use<br>Audible Alarm (Option for 6010/20; Standard for 7000 Series & Above);<br>Voltage Adjust Potentiometer;<br>Speed Adjust Potentiometer; |

## Dimensions & Weights

|                      | Length (mm) | Width (mm) | "C" | Height (mm) | Weight Dry |
|----------------------|-------------|------------|-----|-------------|------------|
| <b>Open set (NB)</b> | 3600        | 1410       |     | 2187        | 3433       |
| <b>SPC Type S</b>    | 5623        | 1410       |     | 2484        | 4712       |



Drawings for illustration purposes only.

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