

Three Phase AC Filter Capacitors

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**RoHS
Compliant**



Application

These capacitors are for use on AC/DC power converters and inverters (drives) that are very common today in the field of power electronics. Traction drives, wind power converters and solar inverters are examples of those applications. Capacitors are usually used in AC filters but also non-sinusoidal and pulsed currents are suitable for them.

Construction

Self-healing process, technology MKP and special metallizing patterns ensure low stray inductance and subsequently very high reliability. Capacitor elements are enclosed in Al cylindrical case filled with non toxic soft resin. Overpressure disconnecter assures safe operation and right disconnection at the extreme conditions (high temperature, overloading) and at the end of operating life. three phase units with plastic terminal. Discharge resistors are not used.

Installation instruction

Capacitors should be mounted in vertical position. Max torques are mentioned in table below. Flexible connection cables have to ensure movement of the capacitor top about 20 mm due to right function of the overpressure disconnecter.

| Characteristics | MP005147 | MP005207 | MP005208 | MP005148 | MP005149 | MP005150 |
|---|----------------|---------------|----------|-----------------|-----------------|-----------------|
| Capacitance (C _N) | 3 × 200μF, ±5% | 3 × 65μF, ±5% | | 3 × 100 uF, ±5% | 3 × 102 uF, ±5% | 3 × 55.7μF, ±5% |
| Voltage AC rms (sinusoidal) (V _{RMS}) | 450 | | 530 | | 600 | 850 |
| Voltage AC (V _{AC}) | 640 | | 750 | | 850 | 1200 |
| Voltage DC (U _{DC}) | | | | | | 1800 |
| Non-recurrent surge voltage (u _s) | 1 480 V | | - | | 2700 | |
| Current 50/60Hz | - | 3 × 18.7/22.5 | | 3 × 28.8/34.6 | 3 × 33.3/39.9 | - |
| Current I _{max} | - | | | 3 × 80 | 3 × 60 | - |
| Current I _n | - | 3 × 43 | | - | | |
| i _{max} periodic (kA) | - | 3 × 2.4 | | 2.8 | 3 × 8,7 | - |
| U _{max} periodic (V) | - | 1200 | | | 1 375 | - |
| u _s non-periodic (V) | - | 1500 | | | 1 720 | - |
| i _s peak non-periodic (kA) | - | 3 × 8.8 | | | - | |
| Self inductance (nH) | - | <100 | | | <130 | - |
| Maximum RMS Current (I _{max}) | 3 × 80 A | 3 × 43 A | - | - | - | 3 × 80A |
| Maximum Peak Current (Î) | 3 × 8.8kA | 3 × 1.4kA | - | - | - | 3 × 4.3kA |
| Maximum Surge Current (i _s) | 3 × 24kA | 3 × 3.9kA | - | - | - | 3 × 12.7kA |
| Series Resistance (R _s) | 3 × 0.55mΩ | 3 × 1.1mΩ | - | - | - | 3 × 0.5mΩ |
| Dielectric Dissipation Factor (tano) | 2 × 10 | 2 × 10 | - | - | - | 2 × 10 |
| Self Inductance (L _s) | 130nH | 130nH | <110 | - | - | 130nH |
| Drawing | Dg1 | Dg2 | | Dg1 | | |

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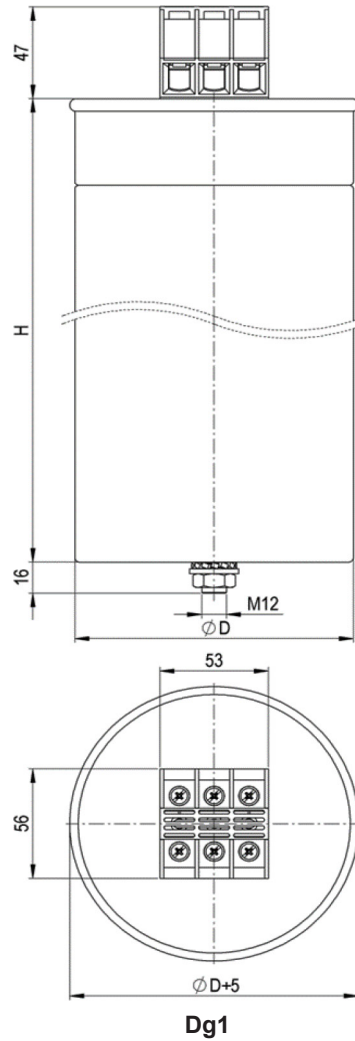
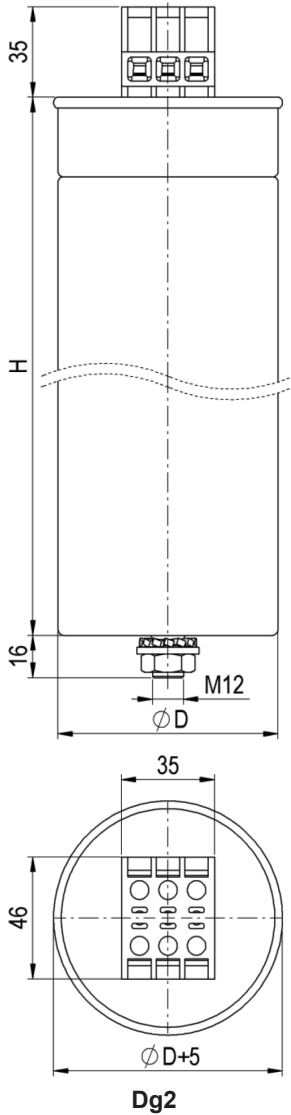
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| Characteristics | MP005147 | MP005207 | MP005208 | MP005148 | MP005149 | MP005150 |
|---|---------------------------------------|---------------|---------------|--------------|----------|---------------------------------------|
| Thermal Conditions | | | | | | |
| Dielectric losses (W/kvar) | - | | 0.2 | | | |
| Total losses (W/kvar) | - | | 0.5 | | | |
| Case Temperature (Θ_{max}) | -40°C to +70°C | | | | | -40° to +85°C |
| Maximum Hotspot Temperature (Θ_{HS}) | 85°C | | | | | |
| Storage Temperature ($\Theta_{storage}$) | -40 to +85°C | | -40° to +70°C | -40 to +85°C | | |
| Thermal Resistance ($\Theta_{HS}-\Theta_{case}$) (R_{th}) | 1.8 K/W | 3.3 K/W | - | | | 1.6K/W |
| Service Life | | | | | | |
| Lifetime Expectancy (h) | 150000 | | 120000 | 200000 | 120000 | 150000 |
| at Hotspot Temperature | 65°C | | 55°C | 45°C | 55°C | 65°C |
| Failure Rate (FIT) | 100 | | 300 | 100 | 300 | 100 |
| Dimensions | | | | | | |
| Diameter (mm) D | 136 | 85 | 110 | 136 | | |
| Height (mm) H | 261 | 220 | 220 | 220 | 261 | |
| Terminal Height | 47 mm | | 35mm | | | 47 mm |
| Terminal | 3 phase, double way, Delta connection | | - | | | 3 phase, double way, Delta connection |
| Weight | 3.8 kg | 1.5 kg | 2.2kg | 3.3kg | 3.8kg | |
| Torques | | | | | | |
| Torque for M5 - Screw | - | | 2.5 | | | |
| Max. Torque for M7 Screw | 5 Nm | 2.5 Nm | - | 5Nm | | 5 Nm |
| Max. Torque for M12 - Bolt | 5 Nm | | | | | 7 Nm |
| TEST DATA (Routine Test) | | | | | | |
| Test Voltage Between Terminals ($U_{T/T}$) (V AC) | 675V AC/10s | | 800/10s | 795/10s | 900/10s | 1 275V AC/10s |
| Test time (sec) | - | | 10 | - | | |
| Test Voltage Terminals-Case ($U_{T/C}$) (V AC) | 3600V AC /10s | 3000 VAC /10s | 3600 / 10s | 3600/10s | 4000/10s | 4000V AC /10s |

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| Part Number Table | | |
|--|---------|-------------|
| Description | Drawing | Part Number |
| AC Filter Capacitor, 3 Phase, 3 × 200µF, 450V | Dg1 | MP005147 |
| AC Filter Capacitor, 3 Phase, 3 × 65µF, 450V | Dg2 | MP005207 |
| AC Filter Capacitor, 3 Phase, 3 × 65µF, 530V | Dg2 | MP005208 |
| AC Filter Capacitor, 3 Phase, 3 × 100µF, 530V | Dg1 | MP005148 |
| AC Filter Capacitor, 3 Phase, 3 × 102µF, 600V | Dg1 | MP005149 |
| AC Filter Capacitor, 3 Phase, 3 × 55.7µF, 850V | Dg1 | MP005150 |

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