

# Three Phase AC Filter Capacitors

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## 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 disconnector 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 disconnector.

Characteristics	MP005147	MP005207	MP005208	MP005148	MP005149	MP005150
Capacitance (C <sub>N</sub> )	3 × 200µF, ±5%	3 × 65µF, ±5%		3 × 100µF, ±5%	3 × 102µF, ±5%	3 × 55.7µF, ±5%
Voltage AC rms (sinusoidal) (U <sub>RMS</sub> )	450V		530V		600V	850V
Voltage AC (U <sub>AC</sub> )	640V AC		750V AC		850V AC	1200V AC
Voltage DC (U <sub>DC</sub> )	-					1800V DC
Non-recurrent surge voltage (u <sub>s</sub> )	1480V			-	1480V	2700V
Maximum RMS Current (I <sub>max</sub> )	3 × 80A	3 × 43A		3 × 80A	3 × 60A	3 × 80A
Maximum Peak Current (Î)	3 × 8.8kA	3 × 1.4kA	3 × 2.3kA	3 × 3.6kA	3 × 8.7kA	3 × 4.3kA
Maximum Surge Current (i <sub>s</sub> )	3 × 24kA	3 × 3.9kA	3 × 6,8kA	3 × 11kA	3 × 24kA	3 × 12.7kA
Series Resistance (R <sub>s</sub> )	3 × 0.6mΩ	3 × 1.1mΩ	3 × 1.3mΩ	3 × 0.8mΩ	3 × 0.55mΩ	3 × 0.5mΩ
Dielectric Dissipation Factor (tan <sup>o</sup> δ)	2 × 10 <sup>-4</sup>					
Self Inductance (L <sub>s</sub> )	130nH	90nH	110nH		130nH	
<b>Thermal Conditions</b>						
Case Temperature (Θ <sub>min/max</sub> )	-40°C to +85°C					
Maximum Hotspot Temperature (Θ <sub>HS</sub> )	85°C					
Storage Temperature (Θ <sub>storage</sub> )	-40 to +85°C					
Thermal Resistance (Θ <sub>HS-Θcase</sub> ) (R <sub>th</sub> )	1.6 K/W	3.3 K/W	2.1 K/W	1.9 K/W	1.6 K/W	1.6 K/W
<b>Service Life</b>						
Lifetime Expectancy (h)	150000					
at Hotspot Temperature	+65°C					

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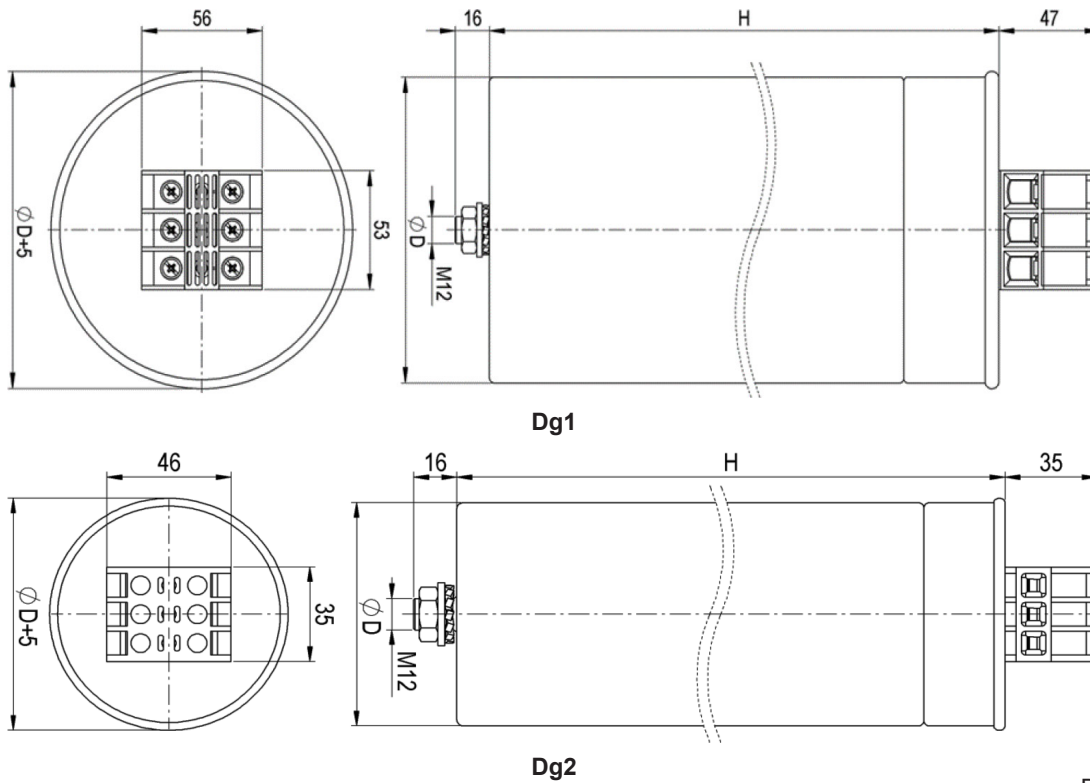
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Characteristics	MP005147	MP005207	MP005208	MP005148	MP005149	MP005150
Failure Rate (FIT)	100					
<b>Dimensions</b>						
Diameter "D"	136mm	85mm	110mm	136mm		
Height "H"	261mm	220mm	220mm	220mm	261mm	
Terminal Height	47mm	35mm	35mm	47mm		
Terminal	3 phase, double way, Delta connection					
Weight	3.8kg	1.5kg	2.2kg	3.3kg	3.8kg	
<b>Torques</b>						
Torque for M5 - Screw	-		2.5 Nm	-		
Max. Torque for M7 Screw	5 Nm	2.5 Nm	-	5Nm		
Max. Torque for M12 - Bolt	7 Nm					
<b>Test Data (Routine Test)</b>						
Test Voltage Between Terminals ( $U_{T/T}$ ) (V AC)	675V AC/10s		795V AC/10s		900V AC/10s	1275V AC/10s
Test Voltage Terminals-Case ( $U_{T/C}$ ) (V AC)	3600V AC /10s					4000V AC /10s
<b>Drawing Diagram</b>	Dg1	Dg2			Dg1	

## Diagram



Dimensions : Millimetres

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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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