



# RF Power Capacitors Class1

10-20kV Discs with Moisture Protection

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The CeramTec Group is a world leader in the design and manufacture of complex electronic ceramic components and assemblies used in a wide range of applications and cutting edge technologies. CeramTec UK specialises in the development and production of dielectric and ferroelectric materials and components. This range of high voltage RF discs capacitors is fabricated from very low loss CLASS 1 ceramic dielectric materials which permit them to carry very high electrical loads over a wide frequency range.



### APPLICATIONS INCLUDE

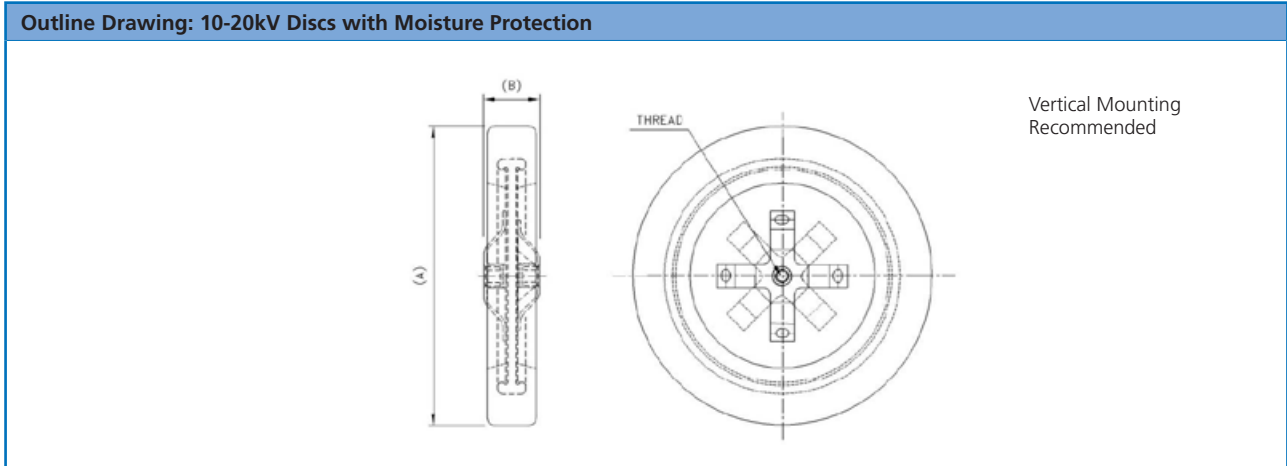
- Radio Broadcast Transmitters
- Induction and Dielectric Heating Equipment
- HF Filter, By-Pass & Coupling Circuits
- High Power Matching Tuned Circuits
- Antenna Circuits
- Industrial Applications
- High Power matching networks –Plasma Generators
- High quality medical imaging systems (MRI)

### FEATURES

- Low loss Class 1 ceramic dielectric materials with noble metal electrodes resulting in low self heating.
- High Voltage / High Reactive Power Ratings
- Very low NPO capacitance-temperature characteristics available that result in correspondingly low tuned frequency drift.
- Low Inductance construction permitting higher frequency use.
- Low magnetic susceptibility

Material Characteristics						
Dielectric Constant @ 20°C / 1 MHz		15	36	77	90	190
Temperature Coefficient of Capacitance	ppm/°C	+100 ±60	0 ±30	0 ±30	-750 ±80	-1300 ±120
Tan δ 1 MHz (Cap ≤ 1000 pF)	x 10 <sup>-4</sup>	≤ 5	≤ 5	≤ 5	≤ 5	≤ 5
Tan δ 1 kHz (Cap > 1000 pF)	x 10 <sup>-4</sup>	≤ 10	≤ 10	≤ 10	≤ 10	≤ 10
Dielectric Strength	kVmm <sup>-1</sup> dc	22	20	15	10	10
Volume Resistivity	Ωm	10 <sup>13</sup>	10 <sup>13</sup>	10 <sup>13</sup>	10 <sup>13</sup>	10 <sup>13</sup>

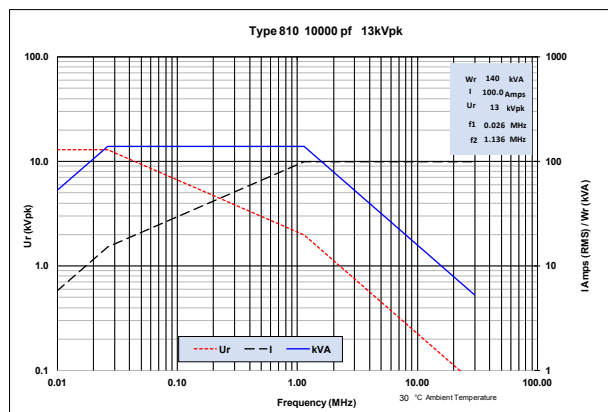
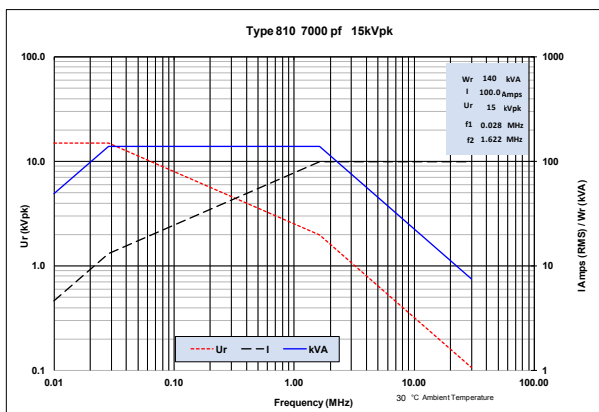
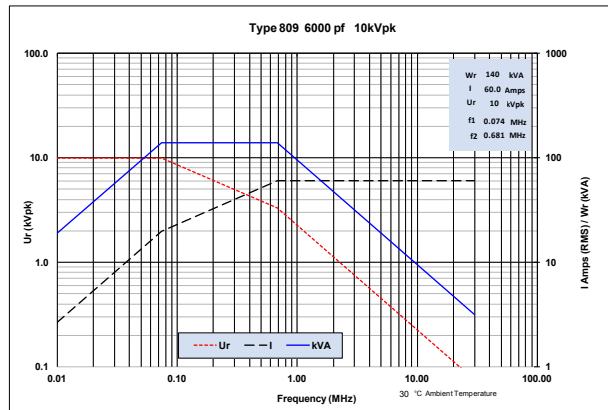
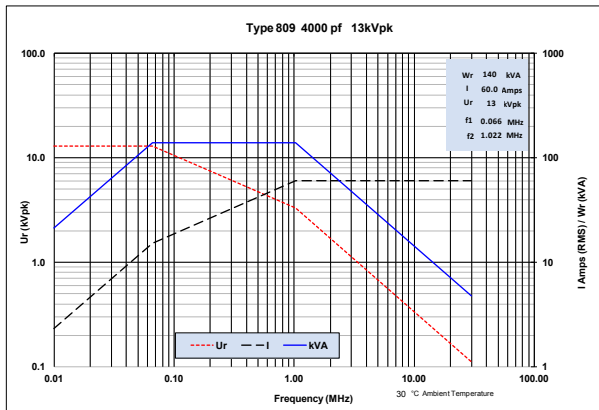
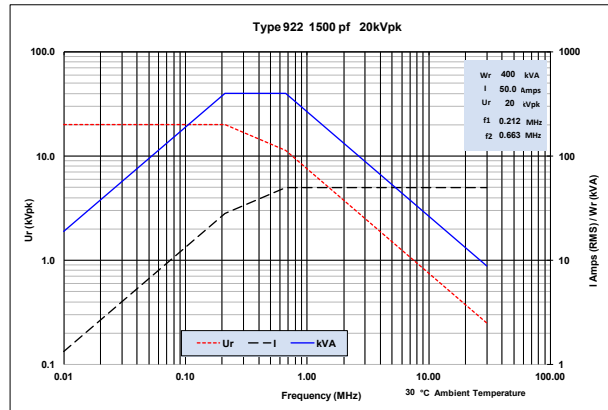
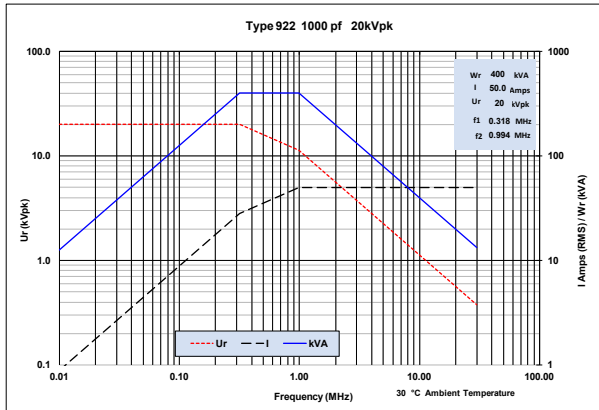
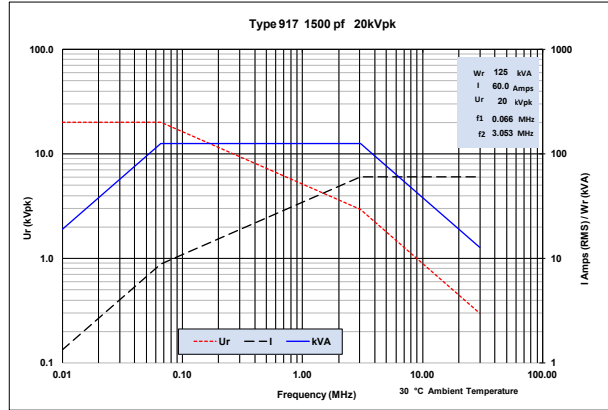
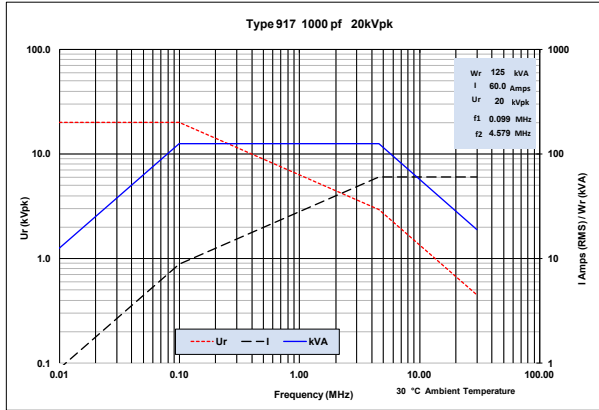
Electrical Specification	
Capacitance Range	350 – 10000pF (see table)
Capacitance Tolerance	±20 % ±10 % Consult factory for other tolerances
Rated RF Voltage	10-20kV pk (see table)
Test Voltage (50 Hz)	√2 x Rated Voltage / 60sec
RF Voltage, Current kVAR & Load v Frequency	See RF rating curves (ref 30°C max ambient temperature)
Operating Temperature Range	-25°C +95°C
Maximum Relative Humidity	75 %



Electrical Characteristics										
Type No	Cap Value pF	TCC ppm/ °C	Rated (ACpk + DC) kVpk	Rated AC kVpk	Test 50 Hz kVrms	Max POWER Rating (kVAR)	Max Current Rating (A rms)	A nom (mm)	B nom (mm)	Thread Size (mm)
926	1000	-750	20	20	20	120	50	152	63.5	M6
926	2000	-750	16	16	16	120	50	152	58.4	M6
809	2000	-750	20	20	20	140	60	225	45	M10
809	2500	-750	20	20	20	140	60	225	45	M10
809	3000	-750	17	17	17	140	60	225	45	M10
809	4000	-750	13	13	13	140	60	225	45	M10
809	5000	-750	12	12	12	140	60	225	45	M10
809	6000	-750	10	10	10	140	60	225	45	M10
810	5000	-1300	20	20	20	140	60	225	45	M10
810	6000	-1300	20	20	20	140	60	225	45	M10
810	7000	-1300	15	15	15	140	60	225	45	M10
810	8000	-1300	15	15	15	140	60	225	45	M10
810	10000	-1300	13	13	13	140	60	225	45	M10
920	150	0	20	20	20	150	25	92	46	M6
920	250	0	20	20	20	150	25	92	42	M6
919	350	0	20	20	20	220	60	152	67	M6
919	500	0	20	20	20	220	60	152	63	M6
919	600	0	20	20	20	220	60	152	59	M6
919	800	0	18	18	18	220	60	152	57	M6
917	1000	0	20	20	20	115	60	152	61	M6
917	1500	0	20	20	20	115	60	152	60	M6
922	1000	0	20	20	20	400	60	225	46	M10
922	1500	0	20	20	20	400	60	225	43	M10
930	2000	0	20	20	20	400	72	225	45	M10
930	2500	0	20	20	20	400	72	225	45	M10

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The above RF load conditions are based on the maximum body temperature rise of 45°C from an ambient temperature of 30°C.



The measured values mentioned before were determined for test samples and are applicable as standard values. The values were determined on the basis of DIN-/DIN-VDE standards and if these were not available, on the basis of CeramTec standards. The values indicated must not be transferred to arbitrary formats, components or parts featuring different surface qualities. They do not constitute a guarantee for certain properties. We expressly reserve the right to make technical changes.

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