

Advanced design sized
to fit your application



15, 25, 35kV Class
Shunt Capacitors



The high performance, high reliability solution.

The Trinetics family of shunt power factor capacitors incorporate features for top performance and high field reliability, including polypropylene film and foil element construction, rugged stainless steel cases protected with multi-coat epoxy finishes, and heavy-duty terminals with bolt-down connectors.

Shunt capacitors are ideal for applications requiring power factor correction, voltage regulation and loss reduction.

Externally fused ratings (standard):

50–600kVAR, 2.4–19.92kV

Internally fused ratings (optional):

100–750kVAR, 2.4–14.62kV

- For distribution and substation applications
- 50 through 400kVAR standard; other sizes available
- Conforms with IEEE-18/IEC60871-1
- Current technology design includes all polypropylene film, foil element construction, stainless steel enclosure, and non-PCB dielectric fluid
- Proven reliable performance
- High current withstand capability



Configurations

- 1- or 2-bushing designs
- 50, 100, 150, 200, 300, 400kVAR standard sizes
- 500, 600kVAR and other sizes available*
- 95, 110 or 125kV BIL (150kV BIL upon request)

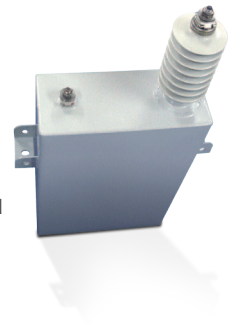
*Note: Custom kVAR ratings for power factor correction and harmonic filter bank applications are available.

Construction

- 409 series stainless steel case
- Finish allows superior heat dissipation and offers excellent protection against corrosion in outdoor environments
- Sand blasted prior to painting
- Epoxy primer and two coats of polyurethane top coat
- Paint thickness exceeds 85 microns
- Welded terminals are mechanically stronger and provide more consistent mounting than soldered terminals
- Heavy-duty bolted connections provide superior performance to tab-and-crimp
- Solid stud eliminates inconsistencies associated with solder-filled studs

Applications

- Distribution and substation
- Pole or pad banks
- Power capacitor banks
- Metal enclosed banks
- Harmonic filter banks



Technical Specifications

Applicable standards:	IEEE-18/IEC60871-1
Rated voltage range:	2 to 22kV
Rated kVAR range:	50kVAR to 750kVAR
Phases:	1 Ph/3 Ph
Rated frequency:	60Hz or 50Hz
Fuse protection:	External (optional internal fuses)
Discharge device:	Internally fitted discharge resistor
Dielectric type:	All polypropylene film
Impregnating oil:	Non-PCB, non-toxic oil
Ground connection:	Unpainted area under mounting bracket
Case material:	Stainless steel 409 series/CRCA
Paint:	Gray ANSI-70 polyurethane paint suitable for outdoor application

Bushing

Material:	Wet process porcelain
Standard creepage (min):	14.96" (380 mm) up to 15kV (95kV BIL)* 23.6" (600mm) up to 24 kV (110 or 125kV BIL) 30" (762 mm) for 150kV BIL upon request
Special creepage:	30" (762 mm) (upon request)
Insulation level:	95kV or 110kV up to 15kV
(1.2 x 50 μ sec wave):	125kV or 150kV up to 24kV

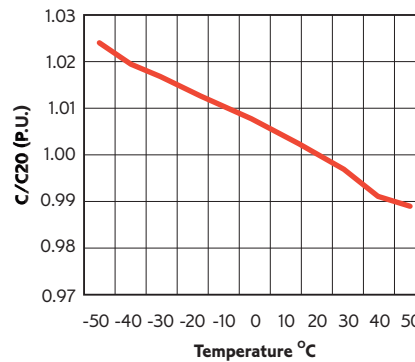
Permissible overloads

Current:	180%
Voltage:	110%
kVAR:	135%
Capacitance tolerance:	Per respective standard
Weight:	Unit specific
Temperature category:	-40°C (-40°F) to +55°C (130°F)
Routine over voltage test:	4.3 times rated voltage DC

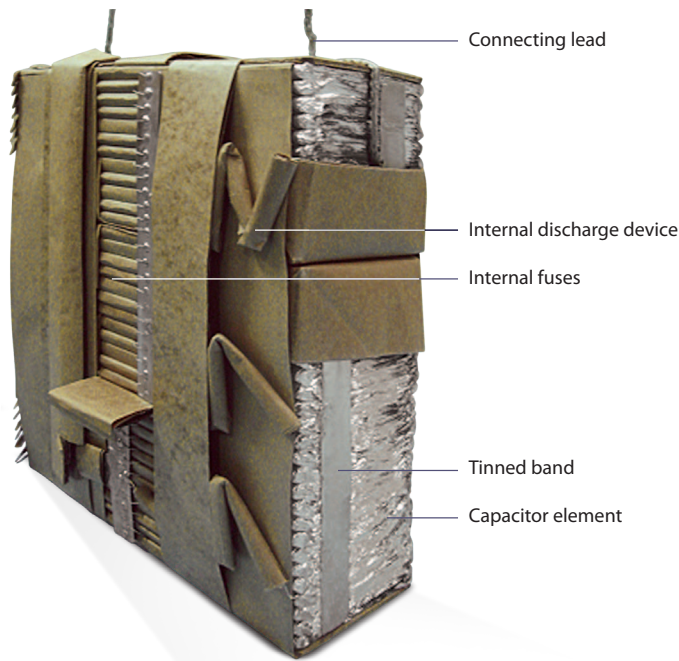
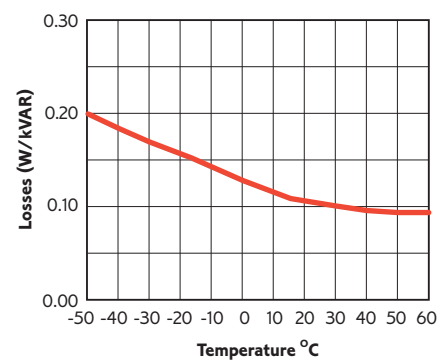
*If using an 18kV, 450mm bushing for 95kV BIL, total height of 95kV BIL capacitors will be increased by one inch.

Performance Curves

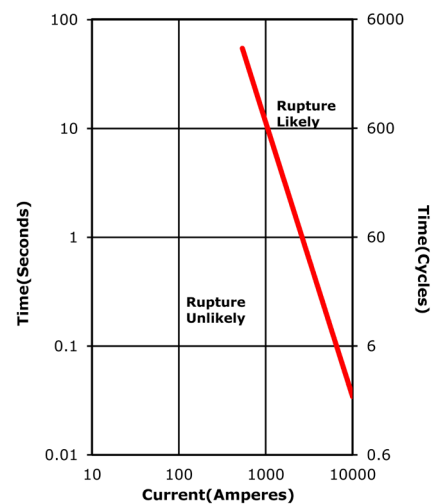
Capacitance vs. Temperature



Losses vs. Temperature



Probability of Case Rupture Curve

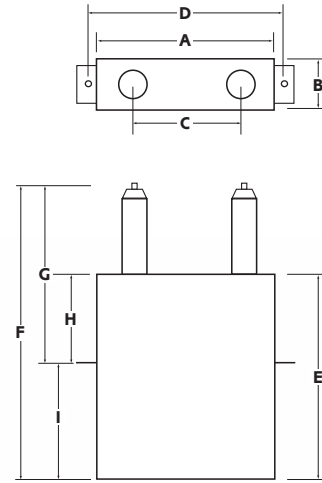


NOTE: Minimum i^2t for 100kVAR and larger capacitors is 3,500,000 Amps²seconds for fault currents less than 10,000 amperes.

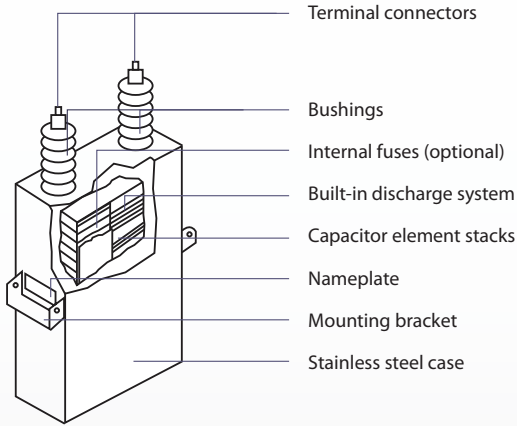
Capacitor Dimensions

Class	15kV		15kV		25kV		35kV	
kV BIL	95		110		125		150	
kV	7.62		7.62		14.4		19.92	
kVAR	200	400	200	400	200	400	200	400
A	13.7	13.7	13.7	13.7	13.7	13.7	13.7	13.7
B	5.83	6.69	5.83	6.69	5.83	5.83	5.83	5.83
C	9.06	9.06	9.06	9.06	9.06	9.06	9.06	9.06
D	15.63	15.63	15.63	15.63	15.63	15.63	15.63	15.63
E	14.37	22.13	14.37	22.13	14.96	26.38	15.35	27.56
F	23.81	31.57	25	32.76	26.38	37.8	26.77	38.98
G	16.69	22.82	17.88	22.82	18.5	22.82	18.5	22.82
H	7.24	13.39	7.24	12.21	7.09	11.42	7.09	11.42
I	7.12	8.74	7.12	9.92	7.87	14.96	8.27	16.14

NOTE: Dimensions are approximate and subject to change without notice.



Capacitor Components



Fusing Options

