

Vacuum capacitors overview

Capacitor selection guides

Capacitor type	Capacity max. (pF)	Test voltage (kV) at 60/50 Hz	Model no. series	Page number
Vacuum variable	30	7.5, 10, 15	CVDD-30	16
	100	7.5, 10, 15	CVDD-100	16
	100	7.5, 10, 15	C/GCS-100	17
	250	3, 5	CVCD-250	17
	250	45, 50, 55	CVHP-250	18
	450	45, 50, 55	CVHP-450	18
	500	3, 5	CSV1-500	19
	500	7.5, 10, 15	CVDD-500	19
	500	7.5, 10, 15	M/CSVF-500	20
	500	5, 8	M/CSV5-500	20
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	750	7.5, 10, 15	CVDD-750	23
	900	3, 5, 6	CSV4-900	23
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	1000	3, 5	CSV1-1000	24
	1000	7.5, 10, 15	CVDD-1000	25
	1000	40, 45, 50	CVHP-1000	25
	1000	40, 45, 50	CWV5-1000	26
	1000	3, 5	M/CVCJ-1000	26
	1000	3, 5	M/CSV5-1000	26
	1000	5	PV4-1000	27
	1500	3, 5	CVCD-1500	28
	1500	7.5, 10, 15	CVDP-1500	28
	1600	55, 60	CWV1-1600	29
	1600	30, 35, 40	CWV2-1600	29
	1600	35, 40	CWV3-1600	30
	1600	50, 55, 60	CWV4-1600	30
	2000	3, 5	CVCD-2000	27
2050	40, 45, 50	CWV4-2050	31	
2300	7.5, 10, 15	CVDP-2300	31	
3000	3, 5	CVCD-3000	32	
4000	5	CMV1-4000	32	

Vacuum capacitors overview

Jennings vacuum capacitors

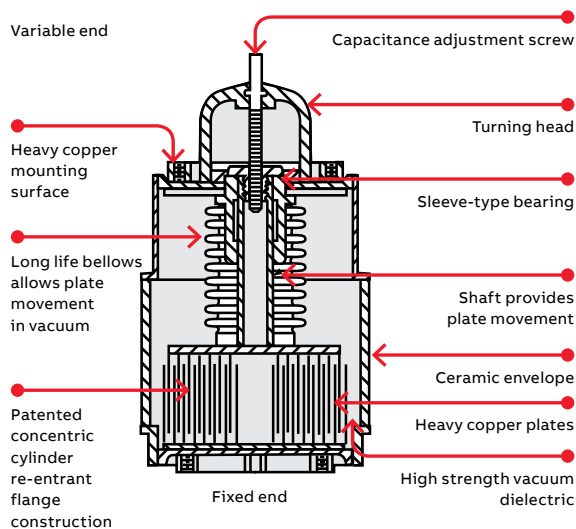
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01 Figure 1 – typical
Jennings variable
vacuum capacitor

Features

- High voltage rating – The dielectric strength of the vacuum permits optimized voltage rating for a given size and capacity, in addition to freedom from contamination, humidity and oxidation.
- High current rating – Low losses and rugged copper construction permit the handling of high RF currents with convection cooling only. Some of our designs offer water and air cooling for extraordinary load conditions.
- Wide tuning ranges – High ratio of maximum to minimum capacity makes Jennings vacuum capacitors desirable for wide tuning ranges.
- Low losses – Losses in a vacuum capacitor are so small that for most applications they can be considered as negligible. Construction materials and the vacuum dielectric permit the handling of large RF currents at high RF frequencies that would destroy capacitors with other dielectrics.
- Self-healing – Jennings vacuum capacitors can withstand momentary overloads that would permanently damage other dielectric materials.
- High altitude operation – Vacuum sealing permits the operation of Jennings vacuum capacitors at high altitudes without the degradation that occurs with other types.

Description and general specification

Figure 1 illustrates the construction of a typical Jennings variable vacuum capacitor. Two sets of



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concentric cylinder plates, one adjustable and the other fixed, are enclosed in an evacuated ceramic envelope with OFHC copper seals at both ends. A flexible metal bellows, attached to a sleeve-type bearing, maintains vacuum while allowing capacitance to vary.

The linear sliding motion required to vary capacitance is converted to rotary tuning via an adjustment screw; in many capacitors, direct pull tuning is an alternative.

Internal breakdown voltage is primarily determined by the spacing of the opposing plates and a high vacuum level.

The following are general specifications pertaining to Jennings vacuum capacitors. Current ratings are for normal convection cooling in ambient temperature of 25 °C unless otherwise specified.

- Maximum allowable operating temperature – 125 °C (257 °F) for ceramic capacitor
- Cooling – Natural convection unless otherwise specified
- Mounting position – Any
- Rotation to increase capacity – Counterclockwise

If none of our standard catalog models meet your needs, our engineers will work with you to design a custom solution to meet your specific needs.

Current/voltage

Maximum operating current for vacuum capacitors is limited by temperature rise and working voltage. At lower frequencies, a capacitor is a current-limiting device as a result of its capacitive reactance. At some frequencies, the internal generation of heat exceeds the device's heat-sinking capabilities, and its current-carrying capacity is limited by thermal considerations. A current vs. frequency chart is provided for each capacitor listed.

Peak voltage is limited by mechanical design of the capacitor. It does not vary with frequency.

Two voltage ratings are provided in our product specifications: AC test voltage and working voltage.

Temperature

Jennings Technology vacuum capacitors are rated for a maximum operating temperature of 125 °C (257 °F) with normal convection cooling at an ambient temperature of 25 °C (72 °F).

Capacitance

Fixed capacitors with a nominal capacitance above 50pF shall be within $\pm 5\%$. Capacitors with a nominal capacitance of 50pF or less shall be within $\pm 10\%$, or 0.5pF, whichever is greater. For variable capacitors, the low end will be equal to or less than minimum rating. The capacitance change is substantially uniform with rotation, and there are no capacitance reversals. Capacitance is within $\pm 10\%$ of the nominal value of the curves shown (capacity vs. turns), in the linear portion of this curve.

Torque/direct pull

In variable capacitors, the linear sliding motion of the moving electrode assembly is converted to rotary tuning via a threaded shaft. The torque values given in the tables are the maximum torque needed to reach minimum capacitance when rotated with a standard lead screw; the torque required to tune away from minimum may be less than half this value.

For most variable capacitors, direct pull tuning is an available option to rotary tuning. Maximum required direct pull force values are also given in the tables.

Capacitance range end-stops are built into every variable capacitor. It is recommended that the user install their own external stops to prevent damage from gear-reduction drives.

Mechanical life

The mechanical life of variable capacitors is related to length of stroke, speed of operation, bellows material and total number of cycles. Extensive mechanical life tests have been run, operating units for complete cycles from maximum to minimum and back to maximum capacity covering 95% of the full stroke of the movable plates. Capacitors with a large bellows and a short stroke will have the greatest life expectancy under cycling operation. Our most recent variable capacitor models are rated for >2 million cycles, ideal for the semiconductor processing industry.

Testing standards**Factory**

All capacitors are tested for dielectric strength on a 100% basis prior to shipment. Upon customer request, certified test reports will be made available.

Dielectric strength is tested using a low current, high potential source at 60 Hz voltage.

Capacitors for applications involving applied DC voltage should be tested on a DC dielectric strength meter for voltage and emission current. Jennings will test capacitors to this measure if specified by the customer.

User

Most users will find the 60 Hz dielectric strength test adequate and relatively inexpensive. Jennings does not recommend DC testing being performed by the user because of safety considerations. If DC testing is performed, care should be taken not to exceed 60% of the peak test voltage rating of the capacitor.



Variable capacitors

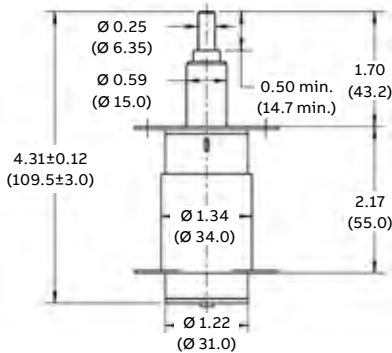
CVDD series

CVDD series vacuum variable capacitors, 30–100 pF

Cat. no.	Capacitance (pF)		Voltage peak (kV)		Current (amps)	Nominal dimensions				Torque in.-lbs.	Weight lb.
	Max.	Min.	Test	Working		Length (in.)	Dia. (in.)	Length (mm)	Dia. (mm)		
CVDD-30-0007	30	3	7.5	4.5	18	4.31	2.31	109.5	54	1.5	0.44
CVDD-30-0010	30	3	10	6	30	4.31	2.31	109.5	54	1.5	0.44
CVDD-30-0015	30	3	15	9	30	4.31	2.31	109.5	54	1.5	0.44
CVDD-100-7.5S	100	10	7.5	4.5	55	6.36	2.44	168	61.96	1.2	1.98
CVDD-100-10S	100	10	10	6	60	6.36	2.44	168	61.96	1.2	1.98
CVDD-100-15S	100	10	15	9	77	6.36	2.44	168	61.96	1.2	1.98

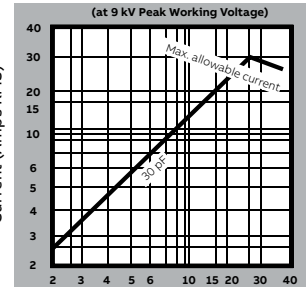
01 CVDD-30-0007
CVDD-30-0010
CVDD-30-0015

02 CVDD-100-7.5S
CVDD-100-10S
CVDD-100-15S



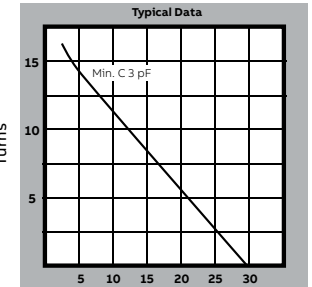
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Continuous RMS amperes vs frequency

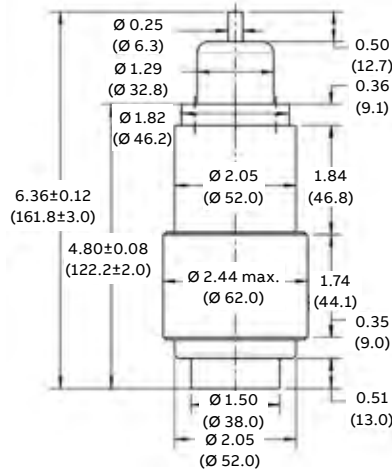


Frequency (MHz)
Mounting: Flanges both ends.

Capacity vs turns

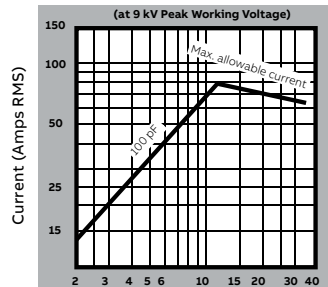


Capacitance (pF)



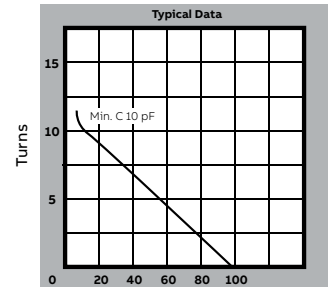
02

Continuous RMS amperes vs frequency



Frequency (MHz)
Mounting: Variable end tapped holes.

Capacity vs turns



Capacitance (pF)
Mounting: Variable end tapped holes.

Dimensions shown are in inches (mm).

Variable capacitors

C/GCS and CVCD series

C/GCS and CVCD series vacuum variable capacitors, 100–250 pF

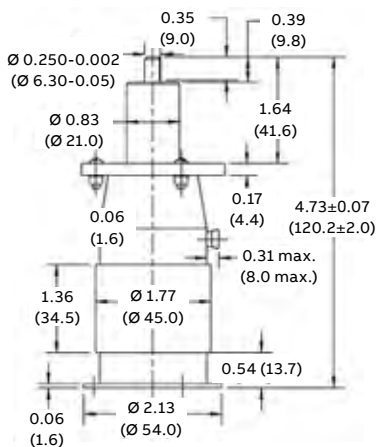
Cat. no.	Capacitance (pF)		Voltage peak (kV)		Current (amps)	Nominal dimensions				Torque in.-lbs.	Weight lb.
	Max.	Min.	Test	Working		Length (in.)	Dia. (in.)	Length (mm)	Dia. (mm)		
C/GCS-100-7.5S	100	5	7.5	4.5	40	4.73	2.13	120.2	54	0.75	0.88
C/GCS-100-10S	100	5	10	6	40	4.73	2.13	120.2	54	0.75	0.88
C/GCS-100-15S	100	5	15	9	45	4.73	2.13	120.2	54	0.75	0.88
CVCD-250-3S	250	5	3	1.8	50	6	2.44	152.4	61.98	2.6	1.98
CVCD-250-5S	250	5	5	3.5	50	6	2.44	152.4	61.98	2.6	1.98

01 C/GCS-100-7.5S
C/GCS-100-10S
C/GCS-100-15S

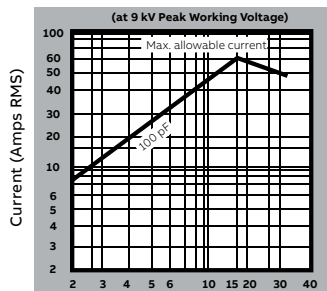
02 CVCD-250-3S
CVCD-250-5S



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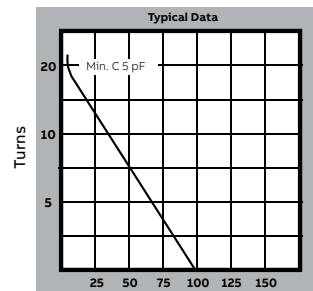


Continuous RMS amperes vs frequency



Frequency (MHz)
Mounting: Both ends have tapped holes.

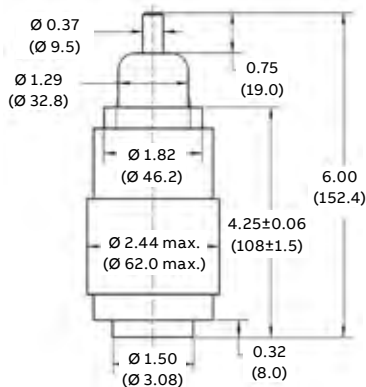
Capacity vs turns



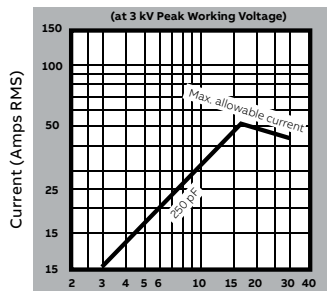
Capacitance (pF)



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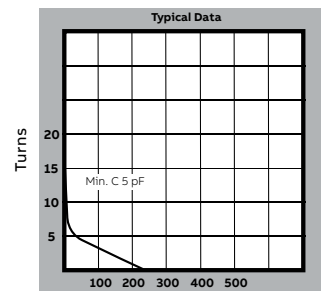


Continuous RMS amperes vs frequency



Frequency (MHz)
Mounting: Variable end tapped holes.

Capacity vs turns



Capacitance (pF)

Dimensions shown are in inches (mm).

Variable capacitors

CVHP series

CVHP series vacuum variable capacitors, 250–450 pF

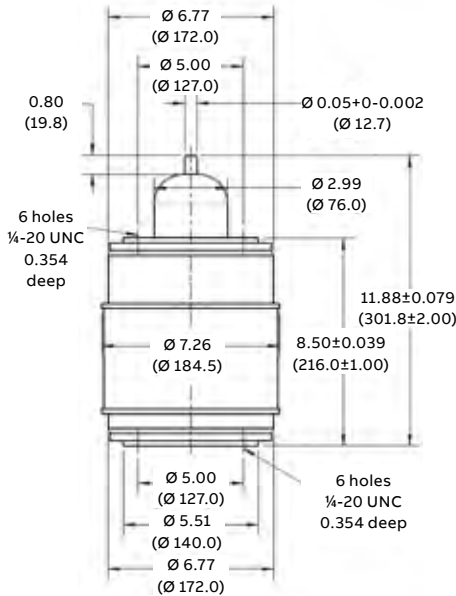
Cat. no.	Capacitance (pF)		Voltage peak (kV)		Current (amps)	Nominal dimensions				Torque in.-lbs.	Weight lb.
	Max.	Min.	Test	Working		Length (in.)	Dia. (in.)	Length (mm)	Dia. (mm)		
CVHP-250-45S	250	10	45	27	190	11.88	7.26	302	185	12.9	26.4
CVHP-250-50S	250	10	50	30	200	11.88	7.26	302	185	12.9	26.4
CVHP-250-55S	250	10	55	33	210	11.88	7.26	302	185	12.9	26.4
CVHP-450-45S	450	25	45	27	200	11.88	7.28	302	185	13.2	24.5
CVHP-450-50S	450	25	50	30	210	11.88	7.28	302	185	13.2	24.5
CVHP-450-55S	450	25	55	33	220	11.88	7.28	302	185	13.2	24.5

01 CVHP-250-45S
CVHP-250-50S
CVHP-250-55S

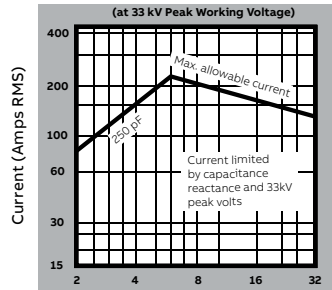
02 CVHP-450-45S
CVHP-450-50S
CVHP-450-55S



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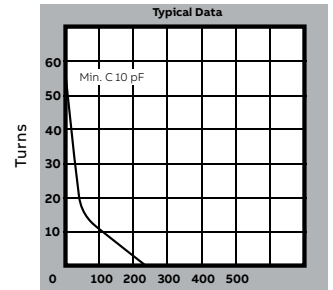


Continuous RMS amperes vs frequency



Frequency (MHz)
Mounting: Both ends have tapped holes.

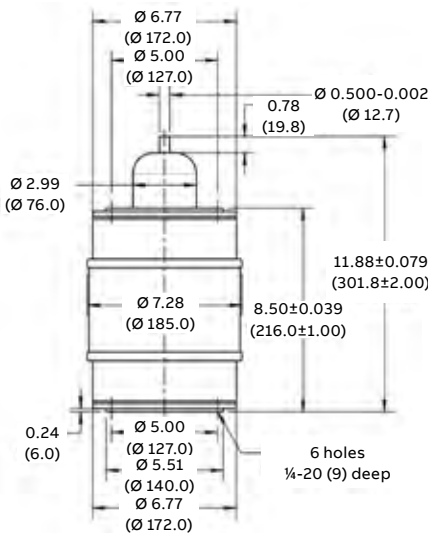
Capacity vs turns



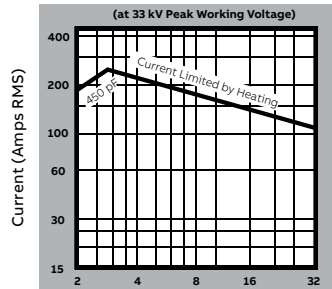
Capacitance (pF)



02

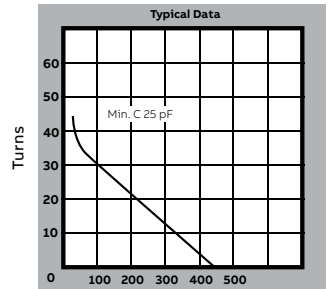


Continuous RMS amperes vs frequency



Frequency (MHz)
Mounting: Both ends have tapped holes.

Capacity vs turns



Capacitance (pF)

Dimensions shown are in inches (mm).

Variable capacitors

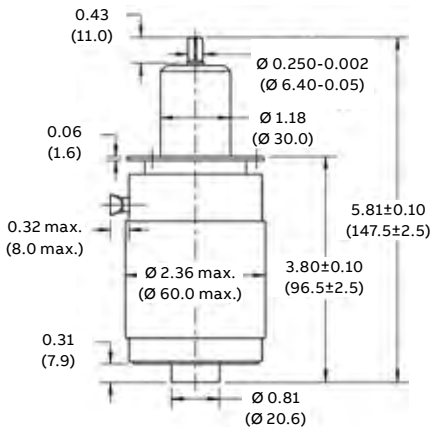
CSV1 and CVDD series

CSV1 and CVDD series vacuum variable capacitors, 500 pF

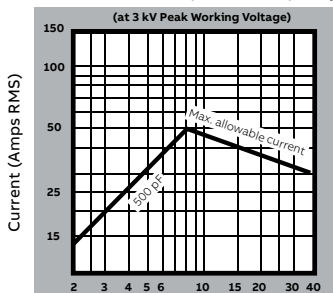
Cat. no.	Capacitance (pF)		Voltage peak (kV)		Current (amps)	Nominal dimensions				Torque in.-lbs.	Weight lb.
	Max.	Min.	Test	Working		Length (in.)	Dia. (in.)	Length (mm)	Dia. (mm)		
CSV1-500-0003	500	5	3	1.8	40	5.75	2.35	147.5	60	2	1.76
CSV1-500-0005	500	5	5	3	45	5.81	2.36	147.5	60	2	1.76
CVDD-500-7.5S	500	20	7.5	4.5	80	7.51	3.39	190.7	86	1.8	3.96
CVDD-500-10S	500	20	10	6	90	7.51	3.39	190.7	86	1.8	3.96
CVDD-500-15S	500	20	15	9	95	7.51	3.39	190.7	86	1.8	3.96

01 CSV1-500-0003
CSV1-500-0005

02 CVDD-500-7.5S
CVDD-500-10S
CVDD-500-15S

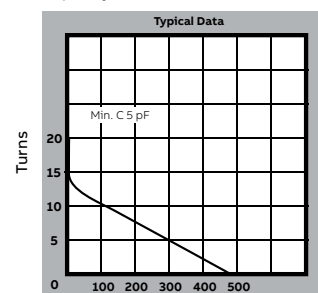


Continuous RMS amperes vs frequency



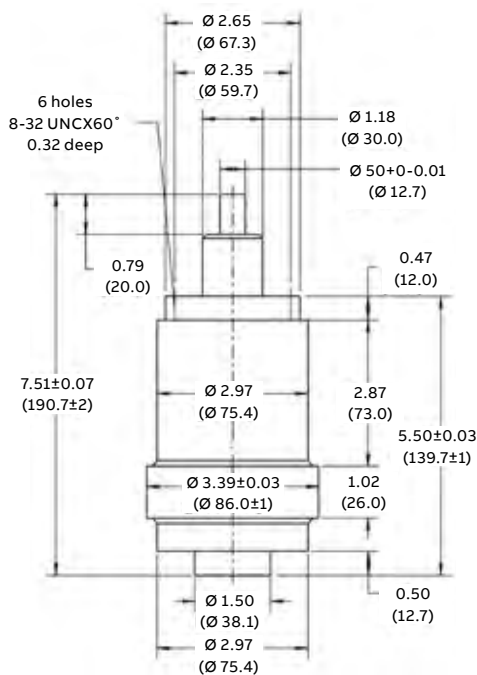
Frequency (MHz)
Mounting: Variable end has flange soldered on.

Capacity vs turns

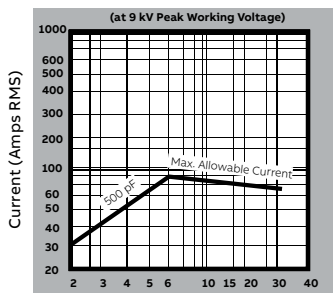


Capacitance (pF)

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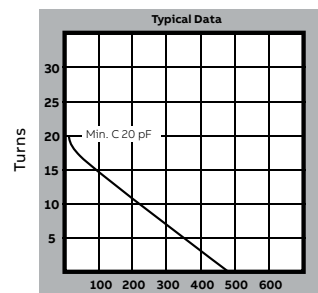


Continuous RMS amperes vs frequency



Frequency (MHz)
Mounting: Tapped holes on variable end.

Capacity vs turns



Capacitance (pF)

02

Dimensions shown are in inches (mm).

Variable capacitors

M/CSVF and M/CSV5 series

M/CSVF and M/CSV5 series vacuum variable capacitors, 500 pF

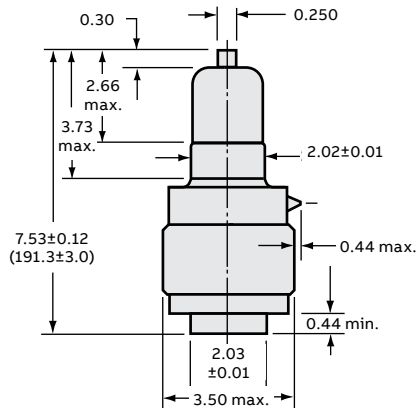
Cat. no.	Capacitance (pF)		Voltage peak (kV)		Current (amps)	Nominal dimensions				Torque in.-lbs.	Weight lb.
	Max.	Min.	Test	Working		Length (in.)	Dia. (in.)	Length (mm)	Dia. (mm)		
M/CSVF-500-0007	500	12	7	4.2	100	7.53	3.39	191.3	86	2.3	3.3
M/CSVF-500-0010	500	12	10	6	100	7.53	3.39	191.3	86	2.3	3.3
M/CSVF-500-0015	500	12	15	9	100	7.53	3.39	191.3	86	2.3	3.3
M/CSV5-500-0005	500	50	5	3	47	5.18	2.17	131.6	55	1.8	1.1
M/CSV5-500-0008	500	50	8	4.8	47	5.18	2.17	131.6	55	1.8	1.1

01 M/CSVF-500

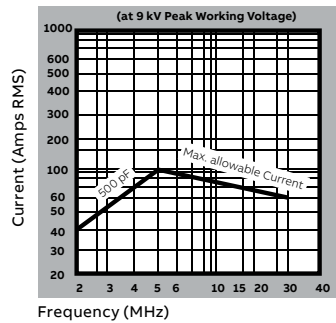
02 M/CSV5-500



01

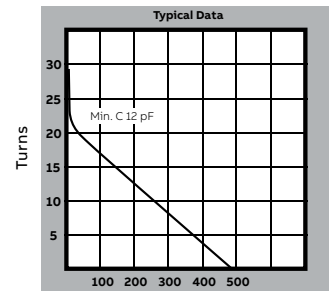


Continuous RMS amperes vs frequency



Mounting: Use flange FM2S on fixed end.

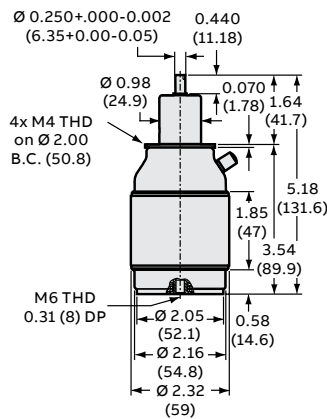
Capacity vs turns



Mounting: Use flange FM2S on fixed end.

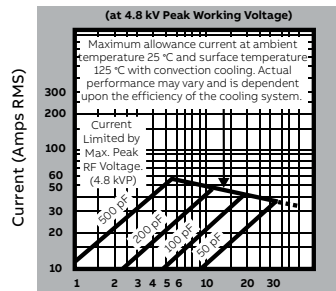


02



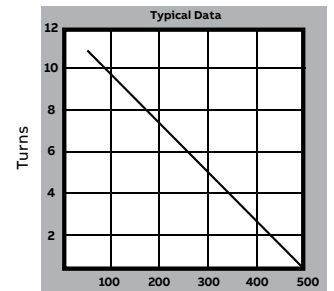
Dimensions shown are in inches (mm).

Continuous RMS amperes vs frequency



Mounting: Both ends have tapped holes.

Capacity vs turns



Mounting: Both ends have tapped holes.

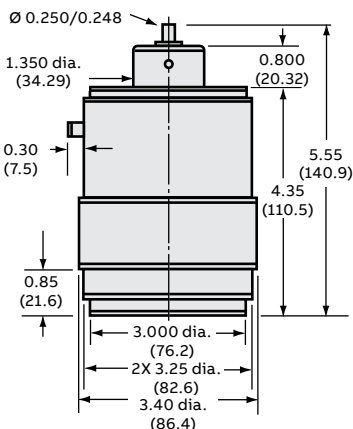
Variable capacitors

PV4, CMV1 and CMV3 series

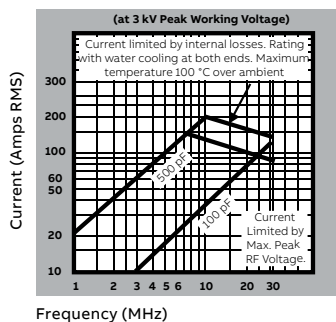
PV4, CMV1 AND CMV3 series vacuum variable capacitors, 500–650 pF

Cat. no.	Capacitance (pF)		Voltage peak (kV)		Current (amps)	Nominal dimensions				Torque in.-lbs.	Weight lb.
	Max.	Min.	Test	Working		Length (in.)	Dia. (in.)	Length (mm)	Dia. (mm)		
PV4-500-15S	500	40	15	9	110	5.55	3.4	141	86	2.0625	3.3
CMV1-650-0005	650	8	5	3	35	5.24	1.81	133	46	1.1	0.88
CMV3-650-0008	650	10	8	4.8	40	4.5	1.76	114.3	44.7	1.1	0.88

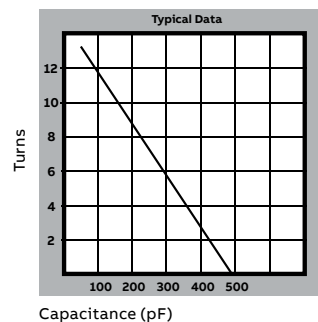
- 01 PV4-500
- 02 CMV1-650
- 03 CMV3-650-0008



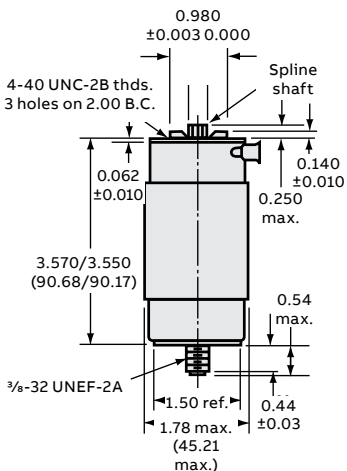
Continuous RMS amperes vs frequency



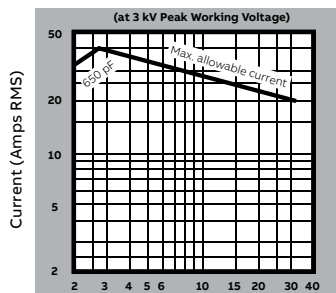
Capacity vs turns



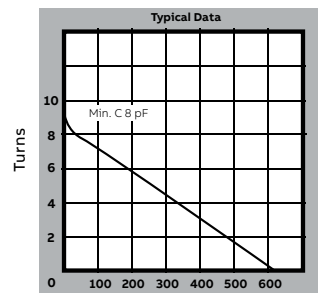
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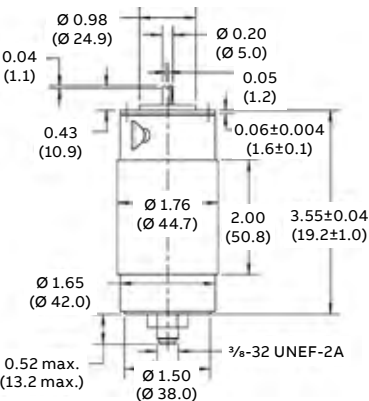
Continuous RMS amperes vs frequency



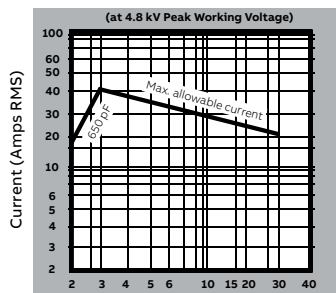
Capacity vs turns



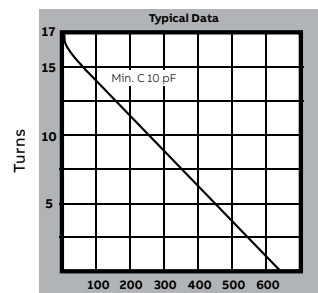
02



Continuous RMS amperes vs frequency



Capacity vs turns



03

Dimensions shown are in inches (mm).

Mounting: Both ends have tapped holes.

Mounting: Both ends have tapped holes.

Frequency (MHz)

Mounting: Both ends have tapped holes.
6X M5 thread on 2.350 B.C.
6X M4 thread on 2.350 B.C.
Both ends.
Water cooling disk available: FMWVP, 1 each end.
Conservative limit with unit in dead airspace.
Maximum temperature 100 °C over ambient.

Frequency (MHz)

Mounting: Fixed end threaded stud. Variable end tapped holes.

Frequency (MHz)

Mounting: Both ends have tapped holes.

Variable capacitors

CVHP and CWV3 series

CVHP and CWV3 series vacuum variable capacitors, 650 pF

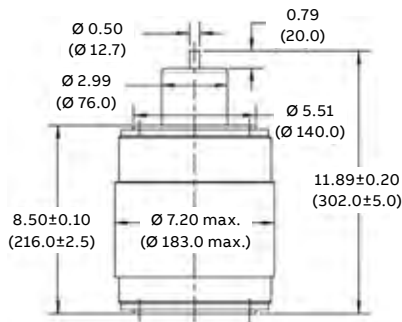
Cat. no.	Capacitance (pF)		Voltage peak (kV)		Current (amps)	Nominal dimensions			Torque in.-lbs.	Weight lb.	
	Max.	Min.	Test	Working		Length (in.)	Dia. (in.)	Length (mm)			Dia. (mm)
CVHP-650-45S	650	30	45	27	220	11.89	7.28	302	185	13	24.2
CVHP-650-50S	650	30	50	30	230	11.89	7.28	302	185	13	24.2
CVHP-650-55S	650	30	55	33	240	11.89	7.28	302	185	13	24.2
CWV3-650-0140	650	30	40	24	760	16.5	7.28	420	185	17	26.4
CWV3-650-0145	650	30	45	27	780	16.5	7.28	420	185	17	26.4
CWV3-650-0150	650	30	50	30	800	16.5	7.28	420	185	17	26.4

01 CVHP-650-45S
CVHP-650-50S
CVHP-650-55S

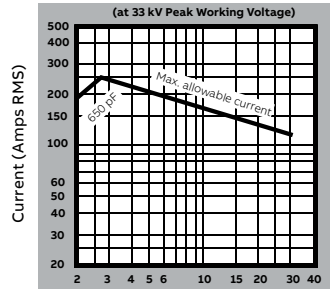
02 CWV3-650-0140
CWV3-650-0145
CWV3-650-0150



01

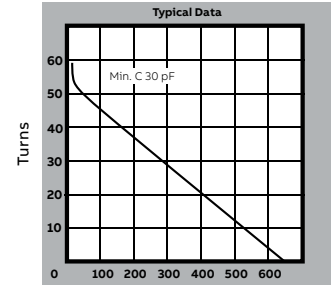


Continuous RMS amperes vs frequency



Frequency (MHz)
Mounting: Both ends have tapped holes.

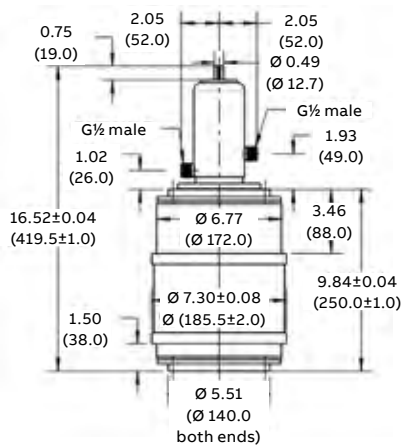
Capacity vs turns



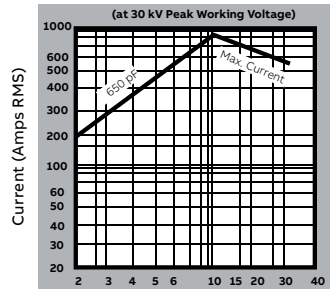
Capacitance (pF)



02

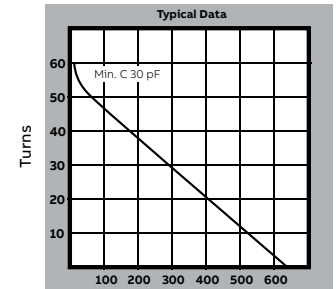


Continuous RMS amperes vs frequency



Frequency (MHz)
Mounting: Both ends have tapped holes.

Capacity vs turns



Capacitance (pF)

Dimensions shown are in inches (mm).

Variable capacitors

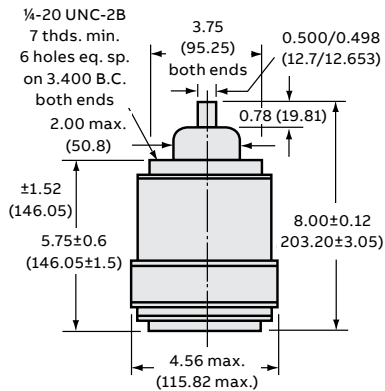
CVDD and CSV4 series

CVDD and CSV4 series vacuum variable capacitors, 750–900 pF

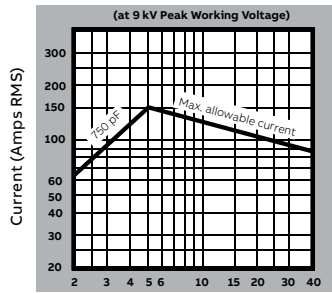
Cat. no.	Capacitance (pF)		Voltage peak (kV)		Current (amps)	Nominal dimensions				Torque in.-lbs.	Weight lb.
	Max.	Min.	Test	Working		Length (in.)	Dia. (in.)	Length (mm)	Dia. (mm)		
CVDD-750-7.5S	750	25	7.5	4.5	130	7.99	4.53	203	115	4.2	6.6
CVDD-750-10S	750	25	10	6	140	7.99	4.53	203	115	4.2	6.6
CVDD-750-15S	750	25	15	9	150	7.99	4.53	203	115	4.2	6.6
CSV4-900-0103	900	500	3	1.8	40	6.24	2.17	159.2	55	25	1.32
CSV4-900-0106	900	500	5	3	40	6.27	2.17	159.2	55	1.5	1.32
CSV4-900-0206	900	10	6	3.6	45	6.27	2.17	159.2	55	1.5	1.32

01 CVDD-750

02 CSV4-900-0103
CSV4-900-0106
CSV4-900-0206

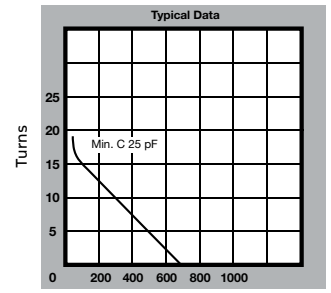


Continuous RMS amperes vs frequency

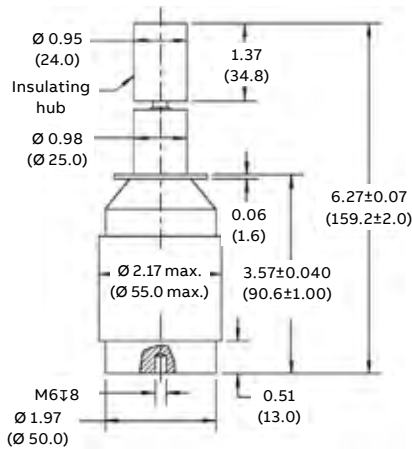


Mounting: Both ends have tapped holes.

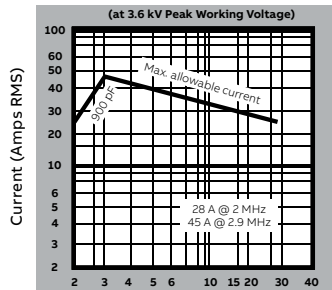
Capacity vs turns



01

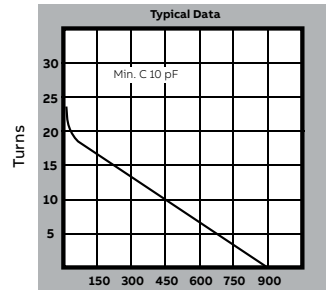


Continuous RMS amperes vs frequency



Mounting: Both ends have tapped holes.

Capacity vs turns



02

Dimensions shown are in inches (mm).

Variable capacitors

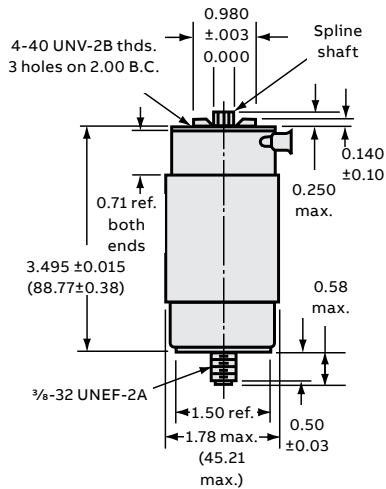
CMV1 and CSV1 series

CMV1 and CSV1 series vacuum variable capacitors, 1000 pF

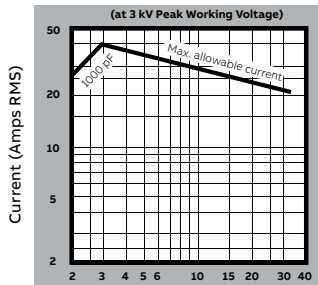
Cat. no.	Capacitance (pF)		Voltage peak (kV)		Current (amps)	Nominal dimensions		Torque in.-lbs.	Weight lb.		
	Max.	Min.	Test	Working		Length (in.)	Dia. (in.)			Length (mm)	Dia. (mm)
CMV1-1000-0003	1000	8	3	1.8	25	3.495	1.78	88.9	45.21	18	0.88
CSV1-1000-0003	1000	10	3	1.8	65	5	3.12	127	79.2	2.5	1.32
CSV1-1000-0005	1000	10	5	3	70	5	3.12	127	79.2	2.5	1.32

01 CMV1-1000

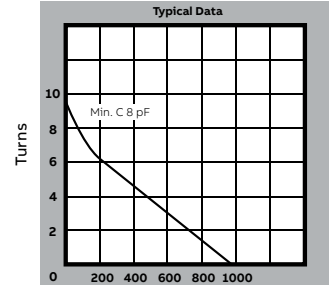
02 CSV1-1000-0003
CSV1-1000-0005



Continuous RMS amperes vs frequency

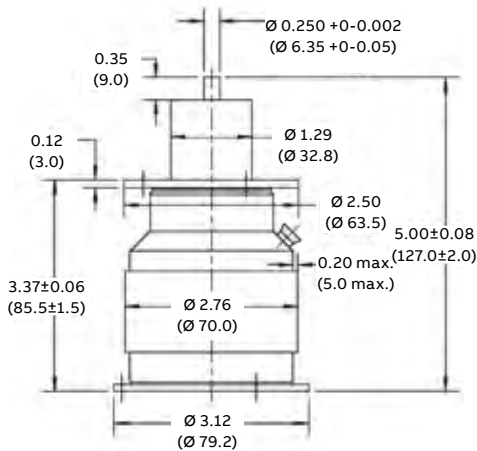


Capacity vs turns

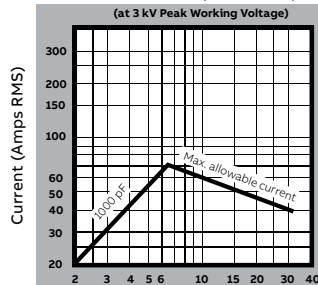


Mounting: Fixed end threaded stud. Variable end tapped holes.

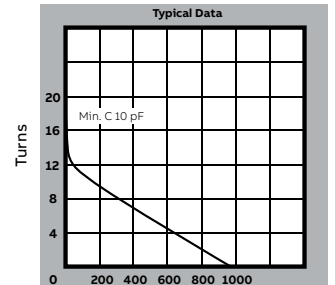
01



Continuous RMS amperes vs frequency



Capacity vs turns



Mounting: Both ends have flanges soldered on.

02

Dimensions shown are in inches (mm).

Variable capacitors

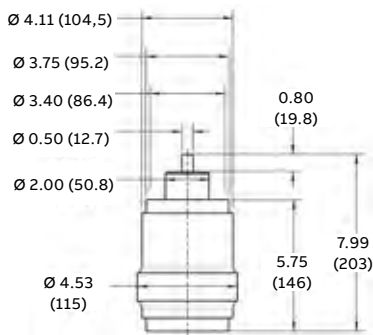
CVDD and CVHP series

CVDD and CVHP series vacuum variable capacitors, 1000 pF

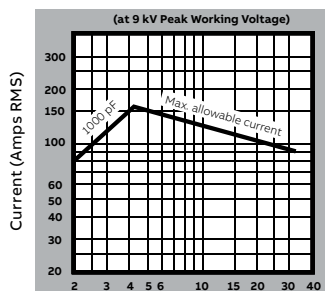
Cat. no.	Capacitance (pF)		Voltage peak (kV)		Current (amps)	Nominal dimensions				Torque in.-lbs.	Weight lb.
	Max.	Min.	Test	Working		Length (in.)	Dia. (in.)	Length (mm)	Dia. (mm)		
CVDD-1000-7.5S	1000	25	7.5	4.5	130	7.99	4.53	203	115	1.6	6.6
CVDD-1000-10S	1000	25	10	6	140	7.99	4.53	203	115	1.6	6.6
CVDD-1000-15S	1000	25	15	9	150	7.99	4.53	203	115	1.6	6.6
CVHP-1000-40S	1000	60	40	24	230	14.57	8.19	370	210	11.7	29.92
CVHP-1000-45S	1000	60	45	27	240	14.57	8.19	370	210	11.7	29.92
CVHP-1000-50S	1000	60	50	30	250	14.57	8.19	370	210	11.7	29.92

01 CVDD-1000-7.5S
CVDD-1000-10S
CVDD-1000-15S

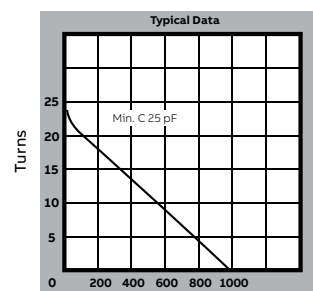
02 CVHP-1000-40S
CVHP-1000-45S
CVHP-1000-50S



Continuous RMS amperes vs frequency

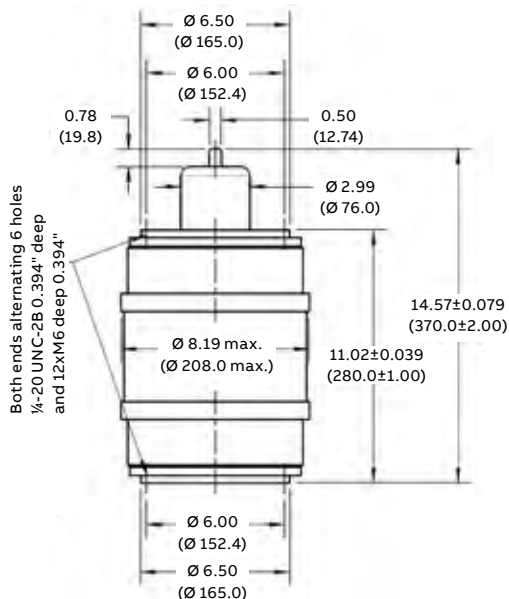


Capacity vs turns

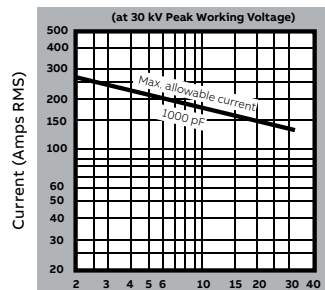


Frequency (MHz)
Mounting: Both ends have tapped holes.

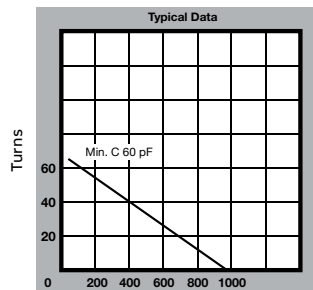
01



Continuous RMS amperes vs frequency



Capacity vs turns



Frequency (MHz)
Mounting: Both ends have tapped holes.

02

Dimensions shown are in inches (mm).

Variable capacitors

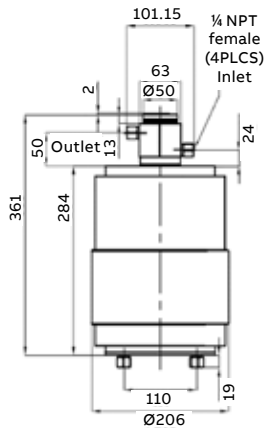
CWV5, M/CVCJ and M/CSV5 series

CWV5, M/CVCJ and M/CSV5 series vacuum variable capacitors, 1000 pF

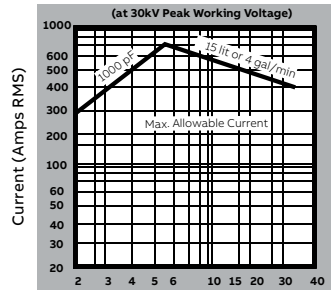
Cat. no.	Capacitance (pF)		Voltage peak (kV)		Current (amps)	Nominal dimensions				Torque in.-lbs.	Weight lb.
	Max.	Min.	Test	Working		Length (in.)	Dia. (in.)	Length (mm)	Dia. (mm)		
CWV5-1000-0040	1000	100	40	24	700	18.03	8.54	458	217	13.3	46.2
CWV5-1000-0045	1000	100	45	27	700	18.03	8.54	458	217	13.3	46.2
CWV5-1000-0050	1000	100	50	30	700	18.03	8.54	458	217	13.3	46.2
M/CVCJ-1000-3S	1000	7	3	1.8	70	7.29	2.76	185.1	70	2.6	2.86
M/CVCJ-1000-5S	1000	7	5	3	70	7.29	2.76	185.1	70	2.6	2.86
M/CSV5-1000-0003	1000	100	3	1.8	89	5.17	2.17	131.6	55	1.8	1.32
M/CSV5-1000-0005	1000	100	5	3	89	5.17	2.17	131.6	55	1.8	1.32

01 CWV5-1000-0040
CWV5-1000-0045
CWV5-1000-0050

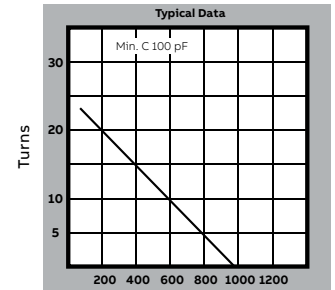
02 M/CVCJ-1000
03 M/CSV5-1000



Continuous RMS amperes vs frequency

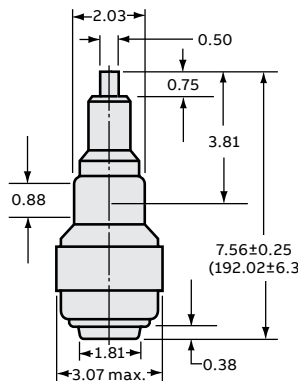


Capacity vs turns

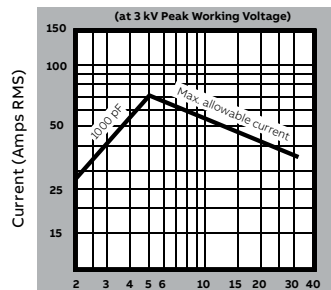


Frequency (MHz)
Mounting: Both ends have tapped holes.

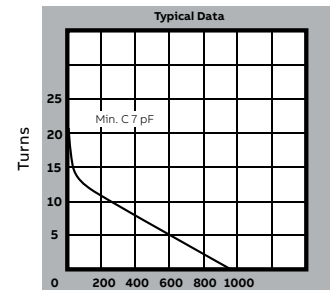
01



Continuous RMS amperes vs frequency

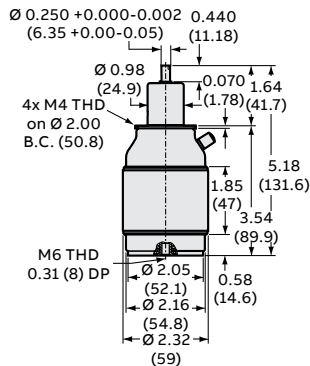


Capacity vs turns

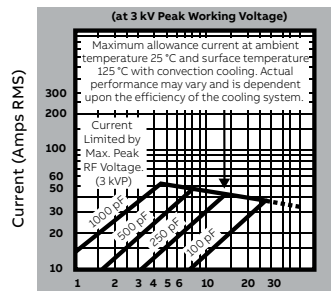


Frequency (MHz)
Mounting: Use flange FM1C on fixed end.

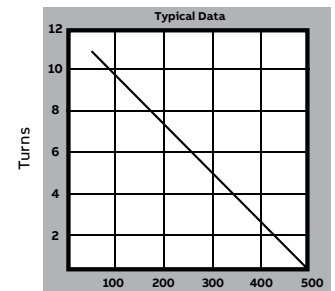
02



Continuous RMS amperes vs frequency



Capacity vs turns



Frequency (MHz)
Mounting: Both ends have tapped holes.

03

Dimensions shown are in inches (mm).

Variable capacitors

PV4 and CVCD series

PV4 and CVCD series vacuum variable capacitors, 1000–2000 pF

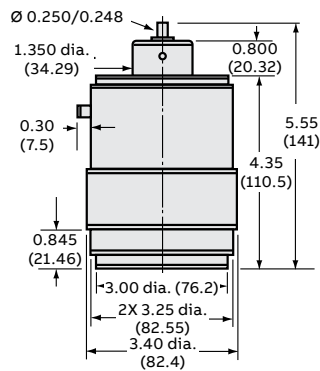
Cat. no.	Capacitance (pF)		Voltage peak (kV)		Current (amps)	Nominal dimensions				Torque in.-lbs.	Weight lb.
	Max.	Min.	Test	Working		Length (in.)	Dia. (in.)	Length (mm)	Dia. (mm)		
PV4-1000-05	1000	80	5	3	180	5.55	3.4	141	86	2.0625	3.3
CVCD-2000-3S	2000	20	3	1.8	63	7.1	3.39	180	86	2.6	3.52
CVCD-2000-5S	2000	20	5	3	63	7.1	3.39	180	86	2.6	3.52

01 PV4-1000

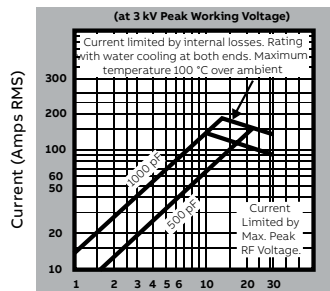
02 CVCD-2000-3S
CVCD-2000-5S



01

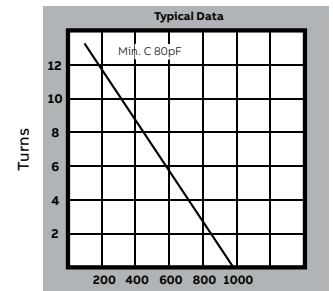


Continuous RMS amperes vs frequency



Frequency (MHz)
Mounting: Both ends have tapped holes.

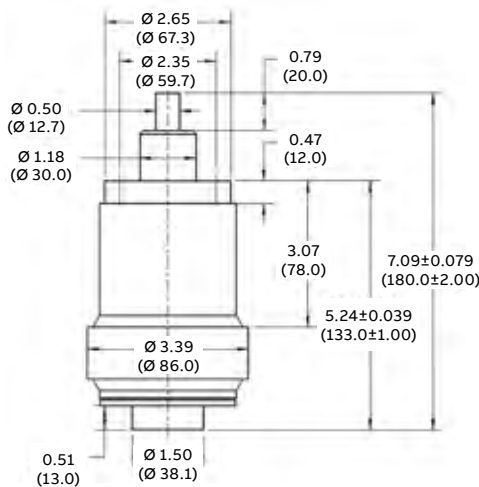
Capacity vs turns



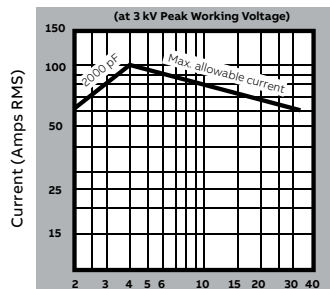
Capacitance (pF)



02

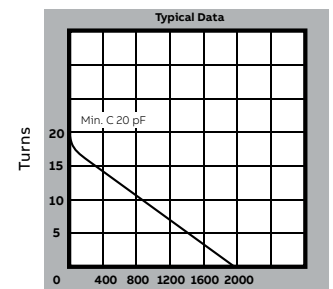


Continuous RMS amperes vs frequency



Frequency (MHz)
Mounting: Variable end tapped holes.

Capacity vs turns



Capacitance (pF)

Dimensions shown are in inches (mm).

Variable capacitors

CVCD and CVDP series

CVCD and CVDP series vacuum variable capacitors, 1500 pF

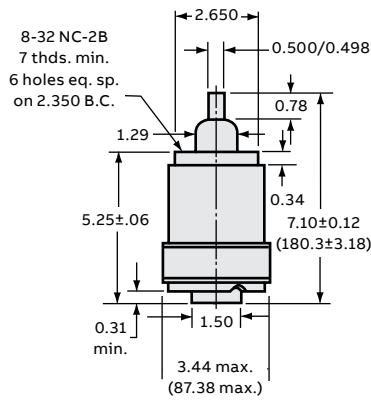
Cat. no.	Capacitance (pF)		Voltage peak (kV)		Current (amps)	Nominal dimensions		Torque in.-lbs.	Weight lb.		
	Max.	Min.	Test	Working		Length (in.)	Dia. (in.)				
CVCD-1500-3S	1500	10	3	1.8	80	7.1	3.46	180	86	1.8	3.52
CVCD-1500-5S	1500	10	5	3	109	7.1	3.46	180	86	1.8	3.52
CVDP-1500-7.5S	1500	35	7.5	4.5	150	9.84	5.61	250	142.5	6.6	13.2
CVDP-1500-10S	1500	35	10	6	155	9.84	5.61	250	142.5	6.6	13.2
CVDP-1500-15S	1500	35	15	9	108	9.84	5.61	250	142.5	6.6	13.2

01 CVCD-1500

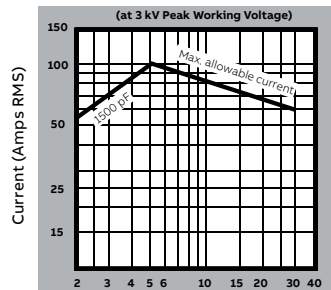
02 CVDP-1500-7.5S
CVDP-1500-10S
CVDP-1500-15S



01

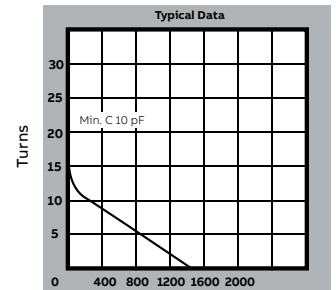


Continuous RMS amperes vs frequency

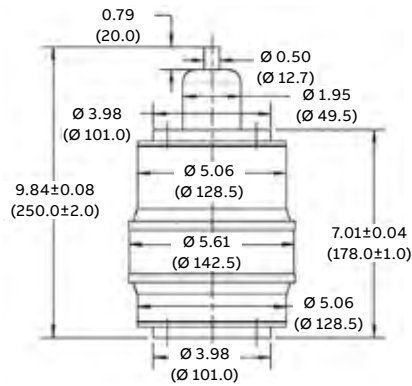


Mounting: Variable end tapped holes.

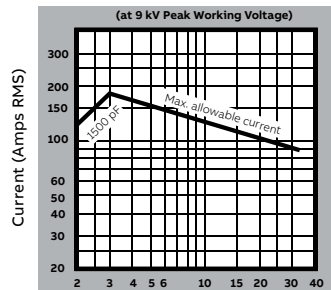
Capacity vs turns



02

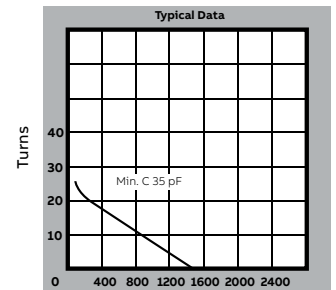


Continuous RMS amperes vs frequency



Mounting: Both ends have tapped holes.

Capacity vs turns



Dimensions shown are in inches (mm).

Variable capacitors

CWV1 and CWV2 series

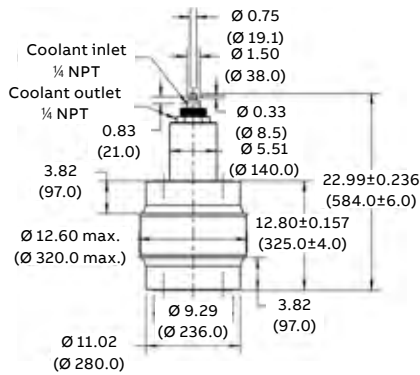
CWV1 and CWV2 series vacuum variable capacitors, 1600 pF

Cat. no.	Capacitance (pF)		Voltage peak (kV)		Current (amps)	Nominal dimensions				Torque in.-lbs.	Weight lb.
	Max.	Min.	Test	Working		Length (in.)	Dia. (in.)	Length (mm)	Dia. (mm)		
CWV1-1600-0055	1600	100	55	33	1000	23	12.9	584	330	13	145.2
CWV1-1600-0060	1600	100	60	36	1000	23	12.9	584	330	13	145.2
CWV2-1600-0030	1600	100	30	18	633	25	8.35	635	212	13	53.0
CWV2-1600-0035	1600	100	35	21	633	25	8.35	635	212	13	53.0
CWV2-1600-0040	1600	100	40	24	633	25	8.35	635	212	13	53.0

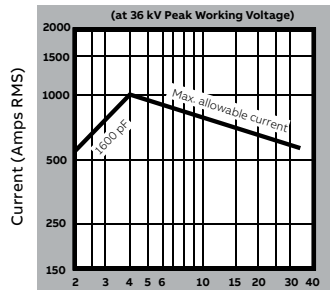
- 01 CWV1-1600-0055
CWV1-1600-0060
- 02 CWV2-1600-0030
CWV2-1600-0035
CWV2-1600-0040



01

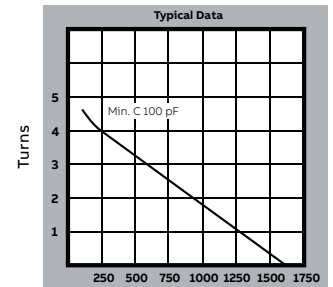


Continuous RMS amperes vs frequency



Mounting: Both ends have tapped holes.

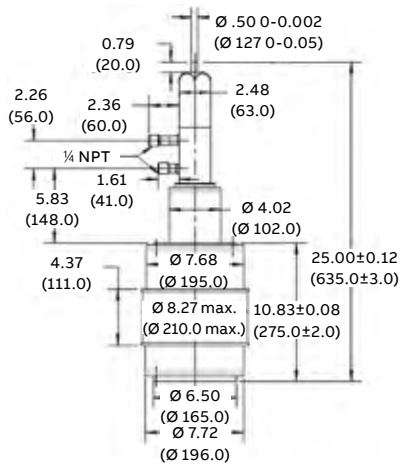
Capacity vs turns



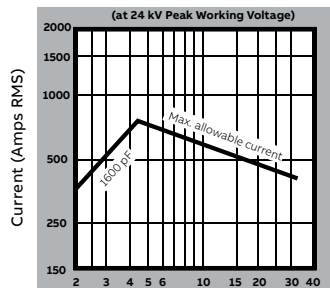
Capacitance (pF)



02

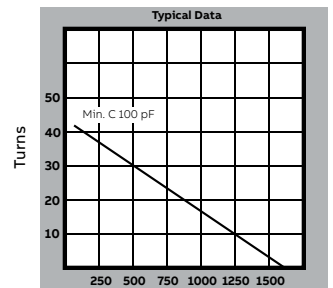


Continuous RMS amperes vs frequency



Mounting: Both ends have tapped holes.

Capacity vs turns



Capacitance (pF)

Dimensions shown are in inches (mm).

Variable capacitors

CWV3 and CWV4 series

CWV3 and CWV4 series vacuum variable capacitors, 1600 pF

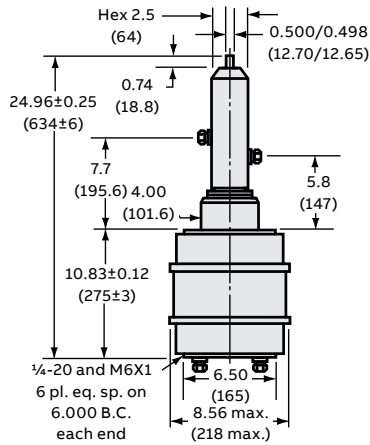
Cat. no.	Capacitance (pF)		Voltage peak (kV)		Current (amps)	Nominal dimensions				Torque in.-lbs.	Weight lb.
	Max.	Min.	Test	Working		Length (in.)	Dia. (in.)	Length (mm)	Dia. (mm)		
CWV3-1600-0035	1600	100	35	24	633	25	8.35	635	212	13	123.2
CWV3-1600-0040	1600	100	40	24	633	25	8.35	635	212	13	123.2
CWV4-1600-0050	1600	100	50	30	700	21.5	12.91	546	328	15	123.2
CWV4-1600-0055	1600	100	55	33	700	21.5	12.91	546	328	15	123.2
CWV4-1600-0060	1600	100	60	36	700	21.5	12.91	546	328	15	123.2

01 CWV3-1600

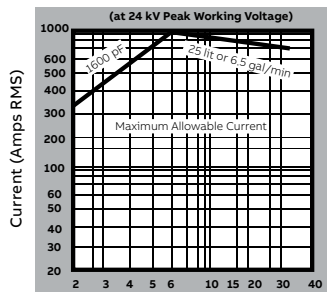
02 CWV4-1600



01

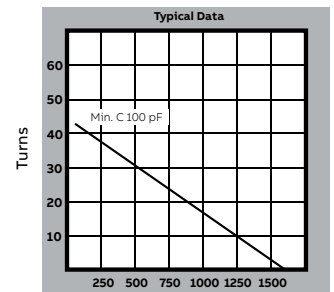


Continuous RMS amperes vs frequency

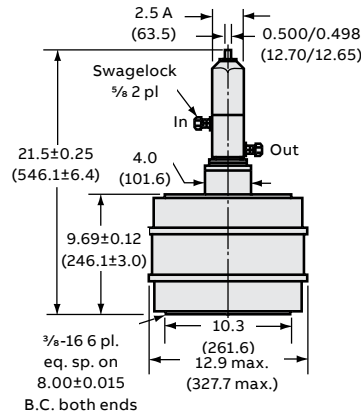


Mounting: Both ends have tapped holes.

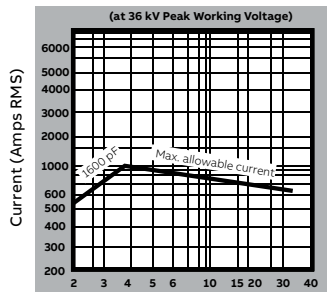
Capacity vs turns



02

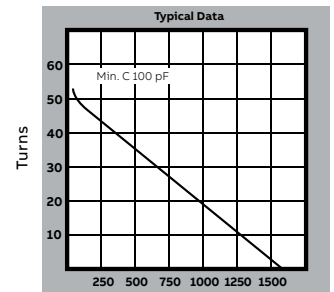


Continuous RMS amperes vs frequency



Mounting: Both ends have tapped holes.

Capacity vs turns



Dimensions shown are in inches (mm).

Variable capacitors

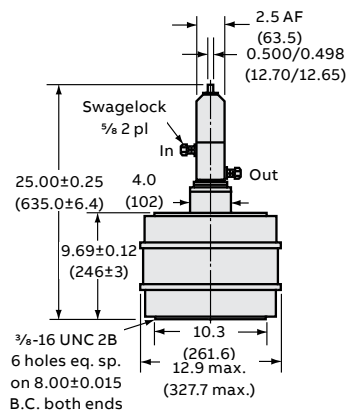
CWV4 and CVDP series

CWV4 and CVDP series vacuum variable capacitors, 2050–2300 pF

Cat. no.	Capacitance (pF)		Voltage peak (kV)		Current (amps)	Nominal dimensions				Torque in.-lbs.	Weight lb.
	Max.	Min.	Test	Working		Length (in.)	Dia. (in.)	Length (mm)	Dia. (mm)		
CWV4-2050-0040	2050	100	40	24	940	24	12.9	610	330	18	132
CWV4-2050-0045	2050	100	45	27	960	24	12.9	610	330	18	132
CWV4-2050-0050	2050	100	50	30	1000	24	12.9	610	330	18	132
CVDP-2300-7.5S	2300	50	7.5	4.5	160	9.84	5.69	250	144.5	6	12.1
CVDP-2300-10S	2300	50	10	60	180	9.84	5.69	250	144.5	6	12.1
CVDP-2300-15S	2300	50	15	9	200	9.84	5.69	250	144.5	6	12.1

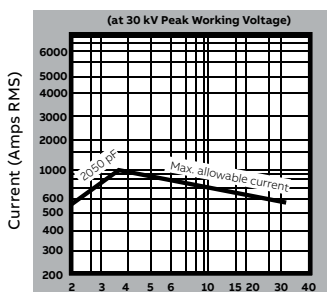
01 CWV4-2050

02 CVDP-2300-7.5S
CVDP-2300-10S
CVDP-2300-15S



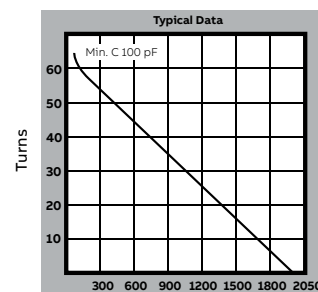
01

Continuous RMS amperes vs frequency

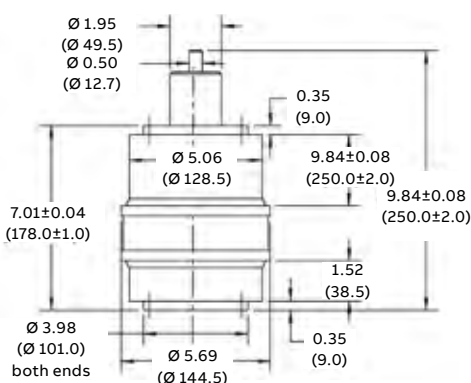


Frequency (MHz)
Mounting: Both ends have tapped holes.

Capacity vs turns

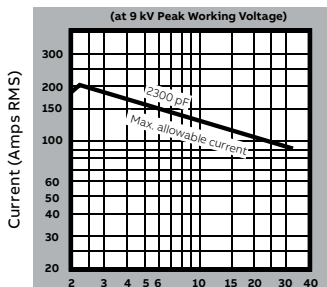


Capacitance (pF)



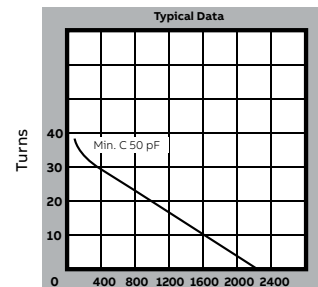
02

Continuous RMS amperes vs frequency



Frequency (MHz)
Mounting: Both ends have tapped holes.

Capacity vs turns



Capacitance (pF)

Dimensions shown are in inches (mm).

Variable capacitors

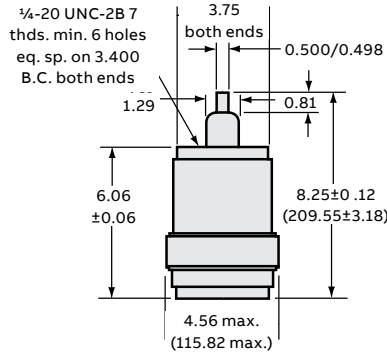
CVCD and CMV1 series

CVCD and CMV1 series vacuum variable capacitors, 3000–4000 pF

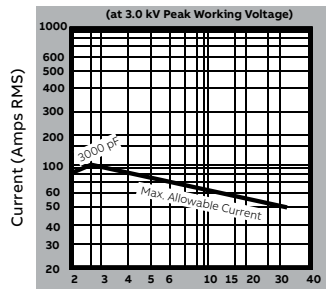
Cat. no.	Capacitance (pF)		Voltage peak (kV)		Current (amps)	Nominal dimensions		Torque in.-lbs.	Weight lb.		
	Max.	Min.	Test	Working		Length (in.)	Dia. (in.)			Length (mm)	Dia. (mm)
CVCD-3000-3S	3000	50	3	1.8	100	8.19	4.53	208	115	1.6	6.6
CVCD-3000-5S	3000	50	5	3	100	8.19	4.53	208	115	1.6	6.6
CMV1-4000-0005	4000	25	5	3	45	5.5	3.39	139.7	86	1.875	4.4

01 CVCD-3000

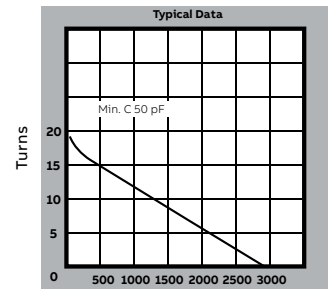
02 CMV1-4000



Continuous RMS amperes vs frequency

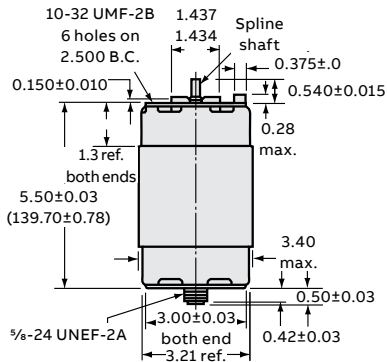


Capacity vs turns

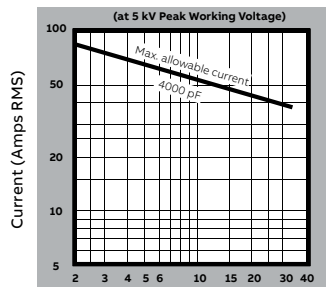


01

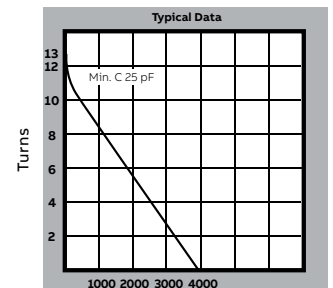
Frequency (MHz)
Mounting: Both ends have tapped holes.



Continuous RMS amperes vs frequency



Capacity vs turns



02

Frequency (MHz)
Mounting: Fixed end threaded stud. Variable end tapped hole.

Dimensions shown are in inches (mm).