

710-730 Series Bolt Style Hermetic Filters

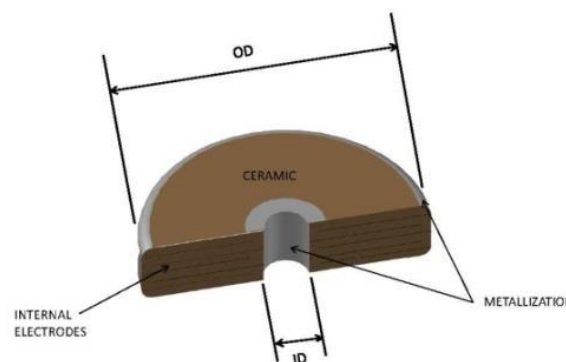


Instec Bolt Style Hermetic Filters are ideal for applications where high performance is critical and a threaded mounting technique is desired. A wide range of electrical characteristics provide effective solutions to many filtering applications. Filters are available in C, L1, L2, PI, T, and Double-T configurations and offer predictable insertion loss over the frequency range. With the more complex circuits, steeper cut offs can be obtained. These bolt style filters and matching hardware are silver plated for better conductivity and superior performance.



Features:

- Utilizes MLC discoidal capacitors, the heart of the filter
- Silver plated case and hardware offer excellent conductivity
- Infinite paths to ground within the capacitor allow for lowest impedance to ground available
- Full part number and date code marking, custom marking available on request
- Designed and can be tested to MIL-PRF-28861 requirements
- Rated to 15 Amps. Higher Current ratings available as non-hermetic designs
- Standard lug leads, others available on request
- 375 case (1/4-28 UNF-2A thread) and 690 case (5/16-24 UNF-2A thread)
- Custom configurations also available—contact factory



Applications:

- Secure Military Communications
- Power supplies
- Medical equipment
- Mining and oil exploration
- Signal lines

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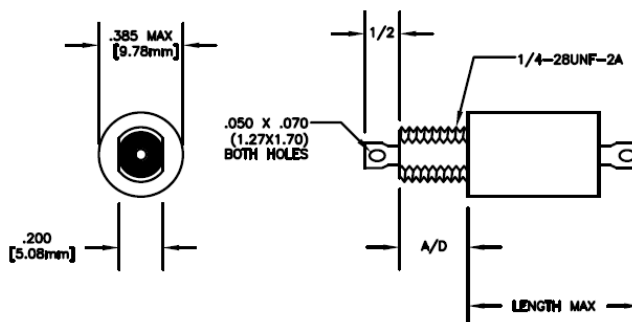
TTE

FILTERS

Instec is now part of TTE Filters.
Please contact TTE for assistance at
+1-716-532-2234, tte@tte.com or
www.tte.com.



710 Series .375" OD (1/4"-25 UNF-2A) Bolt Style Filters:



How to Order:

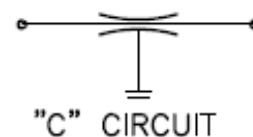
714	--	503	B	P	A	B	2	**
710 = C-filter	placeholder	Capacitance code in PF, 1 st 2 digits are significant, 3 rd digit is number of zeros	Voltage rating	Length (Max)	Current rating	Thread length	Terminal length	Special requirements (to be assigned by the factory)
711 = L1-filter			A =50VDC	A =0.793"	1 =1 AMP	A =0.187"	1 =0.160"	
712 = L2-filter			B =100VDC	B =0.761"	2 =2 AMP	D =0.312"	2 =0.250"	
713 = PI-filter			C =200VDC	C =0.770"	3 =3 AMP			
714 = T-filter			D =300VDC	D =special	4 =4 AMP			
715 = Double-T-filter		P tolerance assumed unless specified	E =400VDC		5 =5 AMP			
			J =500VDC		A =10 AMP			
					B =15 AMP			

Maximum Cap Values:

The below table gives the maximum cap values available and typical Insertion Loss performance by voltage rating:

710 Series .375" Bolt C-Filter

Rated Voltage---->	50V	100V	200V	300V	400V	500V
Max Capacitance (µF) P tolerance assumed	10	8	6	4.8	3	1.5
Typical Insertion Loss (dB)						
30KHz	30	29	26	25	21	15
150KHz	45	43	41	39	35	28
300KHz	51	49	47	45	41	35
1MHz	61	59	57	55	51	45
10MHz	>70	>70	>70	>70	69	63
100MHz	>70	>70	>70	>70	>70	>70
1GHz	>70	>70	>70	>70	>70	>70



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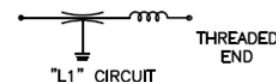
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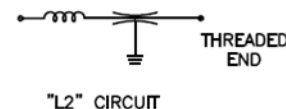
711 Series .375" Bolt L1-Filter

Rated Voltage---->	<u>50V</u>	<u>100V</u>	<u>200V</u>	<u>300V</u>	<u>400V</u>	<u>500V</u>
Max Capacitance (μF) P tolerance assumed	7	5	4	3.2	2	0.8
Typical Insertion Loss (dB)						
30KHz	28	25	24	21	17	9
150KHz	42	39	37	35	31	23
300KHz	48	45	43	41	37	29
1MHz	58	55	54	51	45	39
10MHz	>70	>70	>70	>70	65	58
100MHz	>70	>70	>70	>70	>70	>70
1GHz	>70	>70	>70	>70	>70	>70



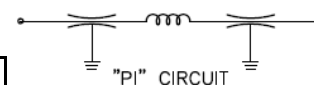
712 Series .375" Bolt L2-Filter

Rated Voltage---->	<u>50V</u>	<u>100V</u>	<u>200V</u>	<u>300V</u>	<u>400V</u>	<u>500V</u>
Max Capacitance (μF) P tolerance assumed	7	5	4	3.2	2	0.8
Typical Insertion Loss (dB)						
30KHz	28	25	24	21	17	9
150KHz	42	39	37	35	31	23
300KHz	48	45	43	41	37	29
1MHz	58	55	54	51	45	39
10MHz	>70	>70	>70	>70	65	58
100MHz	>70	>70	>70	>70	>70	>70
1GHz	>70	>70	>70	>70	>70	>70



713 Series .375" Bolt PI-Filter

Rated Voltage---->	<u>50V</u>	<u>100V</u>	<u>200V</u>	<u>300V</u>	<u>400V</u>	<u>500V</u>
Max Capacitance (μF) P tolerance assumed	7	5	4	3.2	2	0.8
Typical Insertion Loss (dB)						
30KHz	28	27	23	21	17	9
150KHz	40	37	35	35	31	23
300KHz	48	45	43	41	37	30
1MHz	58	55	53	51	47	40
10MHz	>70	>70	>70	>70	>70	51
100MHz	>70	>70	>70	>70	>70	>70
1GHz	>70	>70	>70	>70	>70	>70

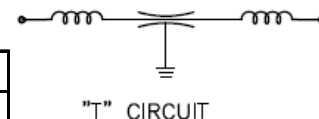


710-730 Series Bolt Style Hermetic Filters



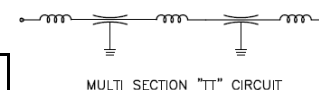
714 Series .375" Bolt T-Filter

Rated Voltage---->	50V	100V	200V	300V	400V	500V
Max Capacitance (μF) P tolerance assumed	7	5	4	3.2	2	0.8
Typical Insertion Loss (dB)						
30KHz	28	25	23	21	17	10
150KHz	42	39	37	35	31	23
300KHz	48	45	43	41	37	30
1MHz	58	56	53	51	47	39
10MHz	>70	>70	>70	>70	65	57
100MHz	>70	>70	>70	>70	>70	>70
1GHz	>70	>70	>70	>70	>70	>70



715 Series .375" Bolt Double-T-Filter

Rated Voltage---->	50V	100V	200V	300V	400V	500V
Max Capacitance (μF) P tolerance assumed	7	5	4	3.2	2	0.8
Typical Insertion Loss (dB)						
30KHz	30	27	25	23	20	11
150KHz	44	41	39	37	33	25
300KHz	50	47	45	43	39	30
1MHz	57	55	55	53	48	41
10MHz	>70	>70	>70	>70	>70	50
100MHz	>70	>70	>70	>70	>70	>70
1GHz	>70	>70	>70	>70	>70	>70



Typical Insertion Loss Performance of Common Filters:

Insertion Loss (dB)											
Instec P/N	Type	Cap Value (μF)	Voltage Rating		30KHz	150KHz	300KHz	1MHz	10MHz	100MHz	1GHz
710-105B	C-Filter	1.0	100VDC		13	27	33	43	62	>70	>70
710-133J	C-Filter	0.013	500VDC					7	26	45	65
710-405B	C-Filter	4.0	100VDC		20	34	39	50	60	>70	>70
711-145B	L1-Filter	1.4	100VDC		15	28	33	44	60	>70	>70
712-255B	L2-Filter	2.5	100VDC		21	34	39	50	60	>70	>70
713-155A	PI-Filter	1.5	50VDC		15	28	34	40	52	>70	>70
713-605A	PI-Filter	6.0	50VDC		28	42	48	58	>70	>70	>70
714-245B	T-Filter	2.4	100VDC			11	18	33	70	>70	>70
714-254C	T-Filter	0.25	200VDC		21	34	40	50	>70	>70	>70
715-205B	TT-Filter	2.0	100VDC		20	33	39	48	>70	>70	>70

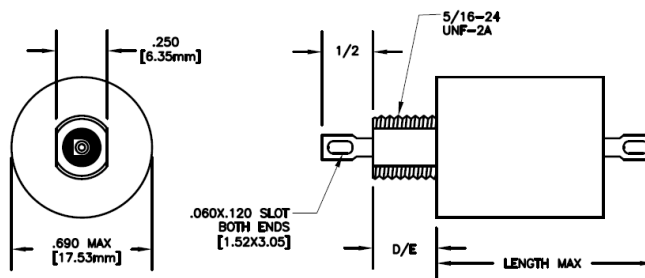
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710-730 Series Bolt Style Hermetic Filters

730 Series .690" OD (5/16"-24 UNF-2A) Bolt Style Filters:



How to Order:

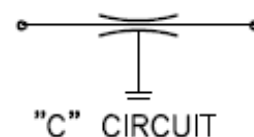
<u>733</u>	--	<u>503</u>	<u>B</u>	<u>P</u>	<u>A</u>	<u>B</u>	<u>2</u>	<u>**</u>
730 = C-filter	placeholder	Capacitance code in PF, 1 st 2 digits are significant, 3 rd digit is number of zeros	Voltage rating	Length (Max)	Current rating	Thread length	Terminal length	Special requirements (to be assigned by the factory)
731 = L1-filter			A =50VDC	A =0.793"	1=1 AMP	A =0.187"	1 =0.160"	
732 = L2-filter			B =100VDC	B =0.761"	2=2 AMP	D =0.312"	2 =0.250"	
733 = PI-filter			C =200VDC	C =0.770"	3=3 AMP			
734 = T-filter			D =300VDC	D =special	4=4 AMP			
735 = Double-T-filter		P tolerance assumed unless specified	E =400VDC		5=5 AMP			
			J =500VDC		A=10 AMP			
			G =1000VDC		B=15 AMP			

Maximum Cap Values:

The below table gives the maximum cap values available and typical Insertion Loss performance by voltage rating:

730 series .690" Bolt C-Filter

Rated Voltage--->	<u>50</u>	<u>100</u>	<u>200</u>	<u>300</u>	<u>400</u>	<u>500</u>	<u>1000</u>
Max Capacitance (µF) P tolerance assumed	35	30	24	18	12	11	4
Typical Ins Loss							
30KHz	44	43	41	38	34	33	24
150KHz	58	56	54	52	49	48	38
300KHz	64	62	60	58	54	53	44
1MHz	>70	>70	70	68	65	64	54
10MHz	>70	>70	>70	>70	>70	>70	>70
100MHz	>70	>70	>70	>70	>70	>70	>70
1GHz	>70	>70	>70	>70	>70	>70	>70



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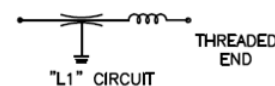
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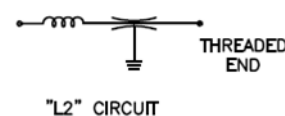
731 series .690" Bolt L1-Filter

Rated Voltage--->	<u>50</u>	<u>100</u>	<u>200</u>	<u>300</u>	<u>400</u>	<u>500</u>	<u>1000</u>
Max Capacitance (μF) P tolerance assumed	24	20	15	12	8	7	2.5
Typical Ins Loss							
30KHz	41	39	37	34	31	30	21
150KHz	54	53	51	49	45	44	35
300KHz	60	59	57	54	51	50	41
1MHz	70	69	67	65	61	60	51
10MHz	>70	>70	>70	>70	>70	>70	70
100MHz	>70	>70	>70	>70	>70	>70	>70
1GHz	>70	>70	>70	>70	>70	>70	>70



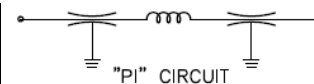
732 series .690" Bolt L2-Filter

Rated Voltage--->	<u>50</u>	<u>100</u>	<u>200</u>	<u>300</u>	<u>400</u>	<u>500</u>	<u>1000</u>
Max Capacitance (μF) P tolerance assumed	24	20	15	12	8	7	2.5
Typical Ins Loss							
30KHz	41	39	37	34	31	30	21
150KHz	54	53	51	49	45	44	35
300KHz	60	59	57	54	51	50	41
1MHz	70	69	67	65	61	60	51
10MHz	>70	>70	>70	>70	>70	>70	70
100MHz	>70	>70	>70	>70	>70	>70	>70
1GHz	>70	>70	>70	>70	>70	>70	>70



733 series .690" Bolt PI-Filter

Rated Voltage--->	<u>50</u>	<u>100</u>	<u>200</u>	<u>300</u>	<u>400</u>	<u>500</u>	<u>1000</u>
Max Capacitance (μF) P tolerance assumed	24	20	15	12	8	7	2.5
Typical Ins Loss							
30KHz	41	39	37	35	31	30	21
150KHz	54	53	51	48	45	44	35
300KHz	60	59	57	54	51	50	41
1MHz	67	66	65	63	60	59	51
10MHz	>70	>70	>70	>70	>70	>70	>70
100MHz	>70	>70	>70	>70	>70	>70	>70
1GHz	>70	>70	>70	>70	>70	>70	>70



710-730 Series Bolt Style Hermetic Filters



734 series .690" Bolt T-Filter

Rated Voltage---->	50	100	200	300	400	500	1000
Max Capacitance (μF)	24	20	15	12	8	7	2.5
P tolerance assumed							
Typical Insertion Loss(dB)							
30KHz	41	39	37	34	31	30	21
150KHz	54	53	51	49	45	44	35
300KHz	60	59	57	54	51	50	41
1MHz	70	69	67	65	61	60	51
10MHz	>70	>70	>70	>70	>70	>70	70
100MHz	>70	>70	>70	>70	>70	>70	>70
1GHz	>70	>70	>70	>70	>70	>70	>70

735 series .690" Bolt Double-T-Filter

Rated Voltage---->	50	100	200	300	400	500	1000
Max Capacitance (μF)	24	20	15	12	8	7	2.5
P tolerance assumed							
Typical Insertion Loss(dB)							
30KHz	41	39	37	35	31	30	21
150KHz	54	53	51	48	45	44	35
300KHz	60	59	57	54	51	50	41
1MHz	67	66	65	63	60	59	51
10MHz	>70	>70	>70	>70	>70	>70	>70
100MHz	>70	>70	>70	>70	>70	>70	>70
1GHz	>70	>70	>70	>70	>70	>70	>70

Typical Insertion Loss for common filters:

		Insertion Loss (dB)							
Instec P/N	Type		30KHz	150KHz	300KHz	1MHz	10MHz	100MHz	1GHz
730-605B	C-Filter		29	42	49	58	>70	>70	>70
731-254C	L1-Filter			15	21	31	50	70	>70
731-754J	L1-Filter		11	25	30	41	61	>70	>70
732-364E	L2-Filter		6	18	24	35	55	>70	>70
733-285B	PI-Filter		22	36	42	52	>70	>70	>70
734-154E	T-Filter			11	17	27	47	65	>70
735-254E	TT-Filter		3	15	21	31	47	>70	>70

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