

# Power filters

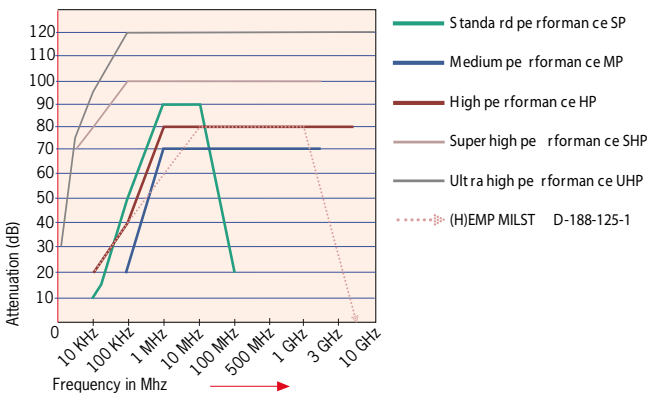
Tubular and box filters



## Shielded power line filters

We offer a selection of RFI signal, power, data transmission filters and EMI filters. Apart from the standard products we have in stock, we also design custom EMI/RFI filters for your specific application. For all (H)EMP and most TEMPEST requirements, our high performance filter is suitable. For the entire range and "Ultra high performance" filters up to 120 dB, please refer to our website.

## Attenuation characteristics



## Standard performance power filters

### General specifications

- High performance single phase filter
- Suitable to meet latest EMC standards (EN55011, -14, UL 1283 and EN133200)
- Applicable in single phase-powered FC-drives with long motor-cables
- Very high insertion loss
- Double stage design
- Shock protected screw type terminals
- Ideal for EMC troubleshooting and EMC refurbishing in the field



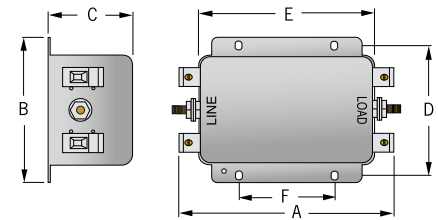
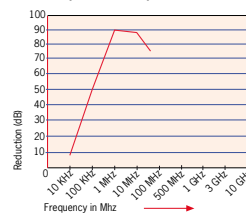
## Mounting

The filter can be directly mounted on the non-painted side of the construction. The SP power line filters feature side flanges for easy mounting and DIN type terminals which eliminate live metal parts, enabling safer and easier connection.

## Typical applications

- Frequency inverters
- Variable speed motor drives
- Medical equipment
- EMC trouble shooting

Standard performance power filter



## Partnumbers and dimensions

Reference	Rated Current	Connection	Inductance	Max. leakage current at 250V/50 Hz	Dimensions in mm					
					(A)	Type	(L)	(mA)	A	B
SP-2-006	6	Terminal block 4mm	8,8 mH	5.2	116,8	78,7	45,21	67,8	94,0	50,8
SP-2-012	12	Terminal block 4mm	5,6 mH	5.2	151,3	100,6	55,4	88,9	114,8	50,8
SP-2-016	16	Terminal block 4mm	5,5 mH	5.2	151,3	100,6	55,4	88,9	114,8	50,8
SP-2-025	25	Terminal block 6mm	5,0 mH	5.2	175,5	139,2	64,77	124,5	150,9	70,0
SP-2-036	36	Terminal block 6mm	2,0 mH	5.2	175,5	139,2	64,77	124,5	150,9	70,0
SP-2-050	50	Terminal block 6mm	2,0 mH	6.5	175,5	139,2	64,77	124,5	150,9	70,0

## Medium performance power filters

Medium performance filters are delivered as tubes or ready for installation on an installation plate. You need as many power filters as you need lines (3 phase + N, means you need 4 tube filters).



## General specifications

- PI structure
- Tinned metal case
- Feed through mounting
- Flame retardant V0
- Insulation resistance under 500 Vdc > 100 M Ohm
- Operation temperature: 50 – 60 Hz : - 40°C to +85°C  
400 Hz : - 40°C to +65°C

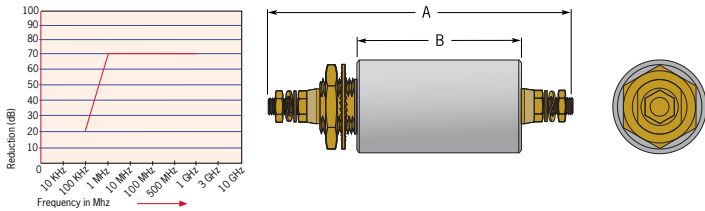
# Power filters

## Tubular and box filters

### Mounting

Attachment by nut and washer : M16  
Torque value max : 20 Nm

Medium performance power filter



### Part numbers and dimensions

Reference (Single phase +N)	Reference (Single phase +N)	Connection	Ohmic resistance	Max. leakage current at 250V/50 Hz	Weight per filter	Dimensions in mm	
						(A)	B
MP-2-003	MP-4-003	3	85	17.3	140	105	60
MP-2-005	MP-4-005	5	22	38	175	105	60
MP-2-010	MP-4-010	10	11	81.2	300	131	86
MP-2-025	MP-4-025	25	5	81.2	420	146	101
MP-2-032	MP-4-032	32	3	81.2	420	146	101
MP-2-050	MP-4-050	50	<1.5	<173	860	192	115
MP-2-100	MP-4-100	100	<0.7	<173	880	199	122
MP-2-200	MP-4-200	200	<0.4	<173	940	217	140

### High performance power filters

These power line filters are designed for mounting on the penetration panel or directly on the non-painted wall of a Faraday cage or shielded enclosure. Fixed with six additional screws, a feed-through nozzle (supplied with filter) is used to ensure high frequency performance. The non-rotation system ensures correct and easy mounting.

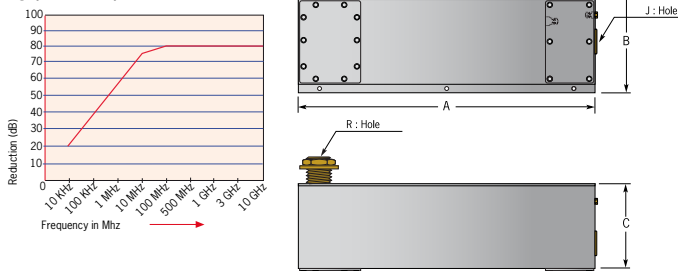
### Applications

- Feed-through shielded box filter
- TEMPEST
- HEMP/NEMP
- EMP
- 250V AC – 50/60 Hz
- 10 to 800 A

### Technical specifications

Attenuation (50 Ω on load) MIL STD 220 B or GAM T21

High performance power filter



Operating temperature : - 40°C to + 40°C  
Test voltage : 1150 VDC (Without varistors)  
Overvoltage protection : Varistors  
In 10 (strokes) : 25 kA (8/20 μs)  
Imax (1 stroke) : 70 kA (8/20 μs)



### Single phase + N

Reference Single phase (+N)	Max. Current	Rated Voltage UR (V rms)*	Max. ohmic resistance per line	Max. leakage current at 250V/50 Hz	Max. residual under 5 kA wave 20/500 ns	Dimensions in mm				
						(A)	B	C max.	J	R
HP-2-010	10	250	35	0.95	2	425	210	110	Ø33	Ø26
HP-2-016	16	250	22	0.95	2	425	210	110	Ø33	Ø26
HP-2-032	32	250	10	0.95	3	425	210	110	Ø33	Ø26
HP-2-064	64	250	4	1.05	4	425	210	110	Ø33	Ø26
HP-2-100	100	250	2	1.05	4	610	240	110	Ø52	Ø50
HP-2-125	125	250	1.5	1.05	4	610	240	110	Ø52	Ø50
HP-2-200	200	250	1	2	5	610	240	110	Ø52	Ø50
HP-2-250	250	250	0.8	2	5	610	240	110	Ø52	Ø50
HP-2-300	300	250	0.6	3.3	6	610	240	200	Ø52	Ø50
HP-2-400	400	250	0.5	4	6	610	360	200	Ø52	Ø50

### Three phase + N

Reference Three phase (+N)	Max. Current	Rated voltage UR (V rms)*	Max. ohmic resistance per line	Max. leakage current at 250V/50 Hz	Max. residual under 5 kA wave 20/500 ns	Dimensions in mm				
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HP-4-010	10	250	35	0.95	2	560	290	110	Ø33	Ø26
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HP-4-400	400	250	0.5	4	6	700	640	200	4xØ40	Ø50
HP-4-800	800	250	0.2	5.5	6	875	690	265	4xØ60	-

### Example

Example order of a shielded power filter.

Typical frequency of all our filters is 50 / 60 Hz; other frequencies on request.

Ordering information

Type	Phases	Amps
SP	2	050
SP : Standard performance MP : Medium performance HP : High performance SHP: Super high performance UHP: Ultra high performance	2 : Single + N 4 : Three + N	The amount in amps (A)

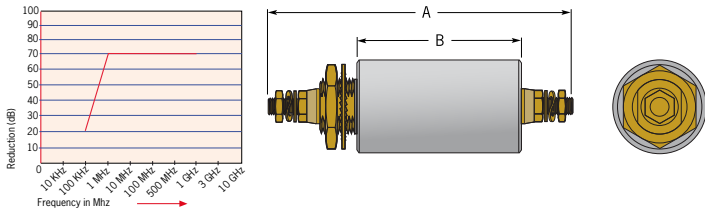
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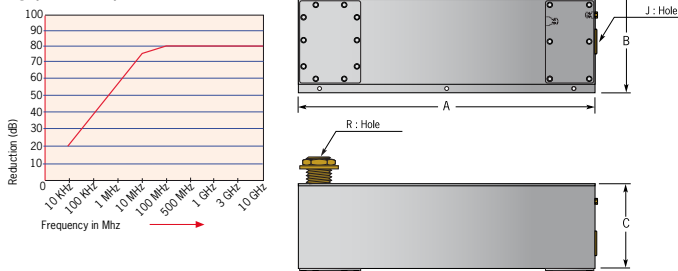
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