

## Compact high performance filters for shielding room



### Compact high performance power line filters for shielded rooms 8020

For shielded rooms where the effective suppression of radiated emission is required. Shielding performance: 100 dB @ 14 kHz-40 GHz (MIL-STD-285)

The Compact high performance power line filters are capable of providing a radiated transmission loss of 100 dB at 14 kHz up to 40 GHz. The leakage current is in milliamperere level and the voltage drop is less than 1 V.

The filter is made to withstand the harshest environment, and is very economical. Because of the custom design for your own filter, the assembly is very simple and always with very low leakage. This filter is also a stock item and therefore always available quickly.

This series is offered as a two line filter (single phase and neutral) or as a four line filter (three phases and neutral). The two line filter can withstand up to 230 Volt, 1-1000 amp and 46 kW. If you are looking for a filter that can withstand more power we have the four line filter, this filter delivers up to 400 Volt, 1-1600 amp and 138 kW. The neutral line is always attenuated and all conductors are decoupled from each other. This allows the conductors to operate independently without attenuation loss.

The circuit is designed as a symmetrical double- circuit with high quality rod cores providing inductance. These cores do not saturate due to their large air gap and they are insensitive to asymmetrical load.

Foil capacitors ensure a long operating life by their self healing feature even after voltage transients. A seamless fixing of the filter casing to the shielded room is very important to ensure correct operation. The filter is housed in a casing that has a base flange which provides stable mounting and excellent earthing when bolted to the shielded room via the mounting bolts.

Please note: EMP protection is available on request.

Also check our Ultra high performance filters

### Technical data

Rated voltage $V_R$ for two-line filters	250 VAC/500 VDC	line-line or line-case
Rated voltage $V_R$ for four-line filters	440 VAC	line-line
	250 VAC	line-case
Rated Frequency $f_R$	DC -60 Hz	
Rated Current $I_R$	See characteristics	referred to +40 °C ambient temperature
Number of lines	2/4	
Test voltage	1200 VDC / 2 s	Line-line or line-case
Voltage drop/phase $\Delta V$	<1%	of VR at 50 Hz and IR
Leakage current $I_{Leakage}$	See characteristics	at 380 V / 220 V and 50 Hz
Reactive current $I_{Reactive}$	See characteristics	at 380 V / 220 V and 50 Hz
Discharge Time to Below 34 V	30 s	
Climatic category	25/070/21	
Shielding performance	100 dB @	14 kHz ~ 40 GHz
Insertion loss	100 dB @	50 kHz ~ 40 GHz

## Compact high performance filters for shielding room

### Advantages

- Applicable in very low frequency (VLF) applications
- Can be delivered EMP-proof
- Suitable for use under extreme conditions (military applications)
- Wear resistant
- Insensitive to corrosion

### Applications

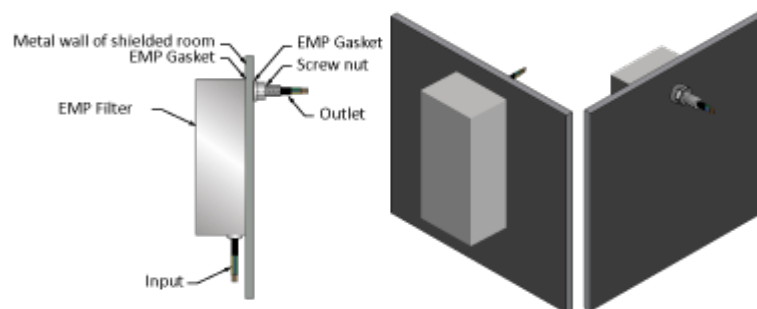
- Shielded rooms
- Shielded chambers
- Anechoic chambers
- Military applications
- Medical applications

### Mounting

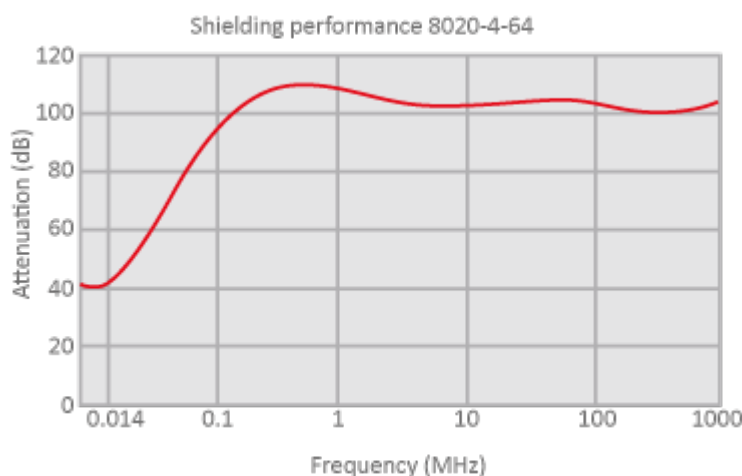
These protections are designed for mounting on the penetration panel or directly on the non-painted wall of the Faraday cage. Mounting terminals dependent on the amount of power. Please see Connection in the Product range table.

### Installation diagram

The technical drawing below shows how a power line filter is mounted on the wall a your Faraday cage.



### Shielding performance



**Please note :** These values are measured under laboratory conditions. Results may vary in other situations; please read our Guarantee

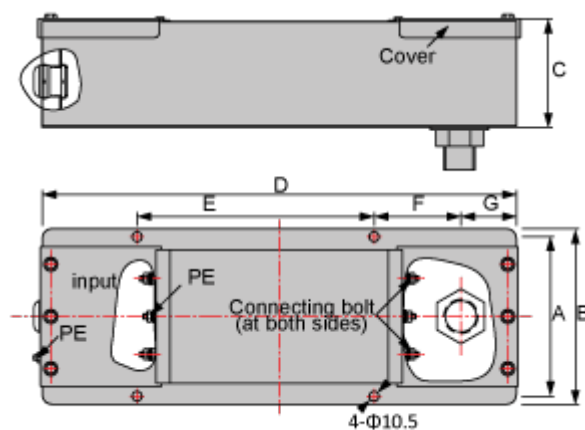
## Compact high performance filters for shielding room



### Available dimensions

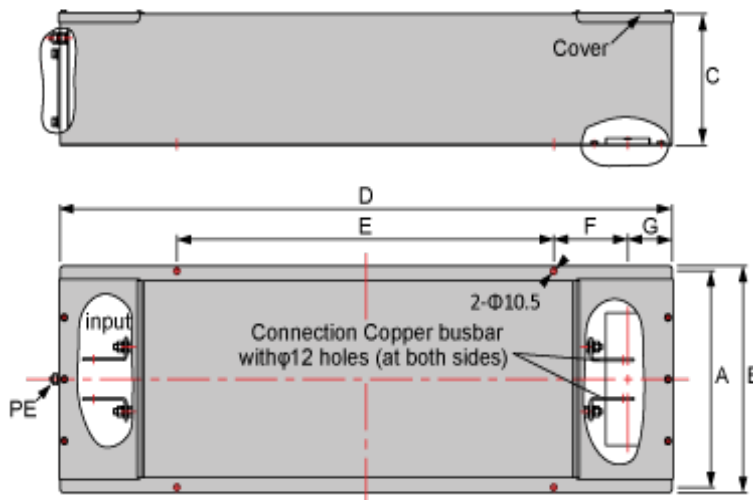
#### Single phase and neutral filter types:

230 Volt, 1-1000 amp and 230 kVA



Outline drawing 1

## Compact high performance filters for shielding room

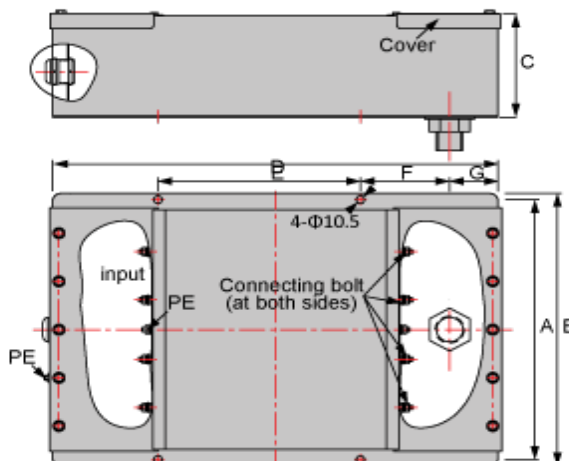


Outline drawing 2

Type	A	B	C	D	E	F	G	Installation instructions	Outline drawing	$I_R$ (A)	$I_{Leakage}$ (A)*	$I_{Reactive}$ (A)	Terminal connection		Shielding Effectiveness (dB)
													In	Out	
8020-2-16	188	205	120	750	450	110	80	M24 conduit screw	1	2×16	0.02	1.7	M6 Screw	M6 Screw	100 dB, 14 kHz ~ 40 GHz
8020-2-32	188	205	120	750	450	110	80	M24 conduit screw	1	2×32	0.02	1.7	M6 Screw	M6 Screw	
8020-2-63	188	205	140	920	620	110	80	M33 conduit screw	1	2×63	0.02	1.7	M6 Screw	M6 Screw	
8020-2-100	228	245	155	960	450	205	80	M60 conduit screw	1	2×100	0.15	7.0	M12 Screw	M12 Screw	
8020-2-200	228	245	155	960	450	205	80	M60 conduit screw	1	2×200	0.15	7.0	M12 Screw	M12 Screw	
8020-2-250	228	245	155	960	450	205	80	M60 conduit screw	1	2×250	0.15	7.0	M12 Screw	M12 Screw	
8020-2-400	320	340	205	1360	850	170	120		2	2×400	0.30	7.0	Bus bar	Bus bar	
8020-2-630	370	390	225	1300	800	170	105		2	2×630	0.45	7.0	Bus bar	Bus bar	
8020-2-800	485	505	255	1450	900	185	115		2	2×800	0.58	7.0	Bus bar	Bus bar	
8020-2-1000	510	530	255	1450	900	185	115		2	2×1000	0.58	7.0	Bus bar	Bus bar	

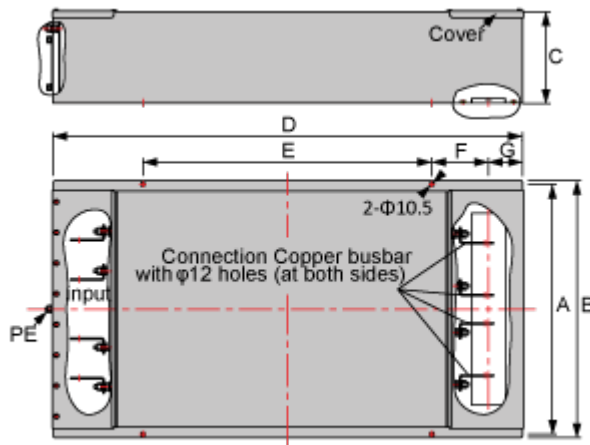
### Three phases and neutral filter types:

400 Volt, 1-1600 amp and 1100 kVA



## Compact high performance filters for shielding room

Outline drawing 3



Outline drawing 4

Type	A	B	C	D	E	F	G	Installation instructions	Outline drawing	IR (A)	I Leakage (A)*	I Reactive (A)	Terminal connection In	Terminal connection Out	Shielding Effectiveness (dB)
8020-4-16	288	305	120	750	450	110	80	M33 conduit screw	3	4×16	0.005	1.7	M6 Screw	M6 Screw	<b>100 dB, 14 kHz ~ 40 GHz</b>
8020-4-32	288	305	120	750	450	110	80	M33 conduit screw	3	4×32	0.005	1.7	M6 Screw	M6 Screw	
8020-4-63	348	365	140	920	620	110	80	M33 conduit screw	3	4×63	0.005	1.7	M6 Screw	M6 Screw	
8020-4-100	348	365	155	960	450	205	80	M60 conduit screw	3	4×100	0.05	7.0	M12 Screw	M12 Screw	
8020-4-200	348	365	155	960	450	205	80	M60 conduit screw	3	4×200	0.05	7.0	M12 Screw	M12 Screw	
8020-4-250	536	556	205	1360	850	170	120		4	4×250	0.08	7.0	Bus bar	Bus bar	
8020-4-400	670	690	225	1300	800	170	105		4	4×400	0.1	7.0	Bus bar	Bus bar	
8020-4-630	900	920	225	1450	900	185	115		4	4×630	0.12	7.0	Bus bar	Bus bar	
8020-4-800	945	965	255	1450	900	185	115		4	4×800	0.12	7.0	Bus bar	Bus bar	
8020-4-1000	910	930	275	1790	1150	270	125		4	4×1000	0.18	7.0	Bus bar	Bus bar	
8020-4-1200	910	930	275	1790	1200	280	110		4	4×1200	0.18	7.0	Bus bar	Bus bar	

Series	Number of lines	Rated current (A)
8020	Select an option:	Select an option:
	2 : 2 lines	16 : 16 ampere
	4 : 4 lines	32 : 32 ampere
		63 : 63 ampere
		100 : 100 ampere
		200 : 200 ampere
		250 : 250 ampere
		400 : 400 ampere
		630 : 630 ampere
		800 : 800 ampere
		1000 : 1000 ampere
		1200 : 1200 ampere
		1400 : 1400 ampere
		1600 : 1600 ampere