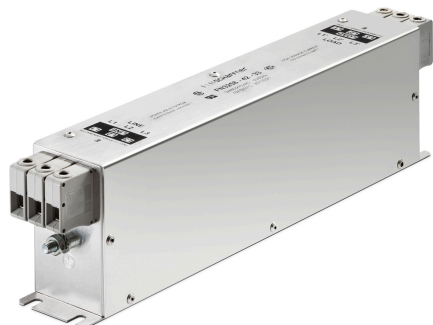


# Ultra-compact EMC/RFI Filter for Motor Drives Applications



- New: solid safety connector blocks available for the whole range
- Exceptional attenuation performance from 150 kHz to 30 MHz
- Excellent saturation resistance up to 50 m cable length
- Most compact and slim filter design in its class

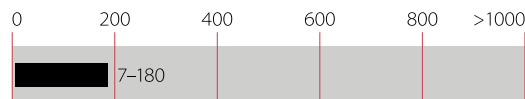


### Performance indicators

Attenuation performance



Rated current [A]



## Technical Specifications

<b>Maximum continuous operating voltage</b>	3x 520/300 VAC (FN 3258 H) 3x 480/277 VAC (FN 3258)
<b>Operating frequency</b>	DC to 60 Hz
<b>Rated currents</b>	7 to 180 A
<b>High potential test voltage</b>	P → E 2650 / 2750 VDC for 2 sec (FN 3258 / FN 3258H) P → P 2100 / 2250 VDC for 2 sec (FN 3258 / FN 3258H)
<b>Protection category</b>	IP 20
<b>Overload capability</b>	4x rated current at switch on, 1.5x rated current for 1 minute, once per hour
<b>Temperature range (operation and storage)</b>	-25°C to +100°C (25/100/21)
<b>Flammability corresponding to</b>	UL 94 V-2 or better
<b>Design corresponding to</b>	UL 1283, CSA 22.2 No. 8 1986, IEC/EN 60939
<b>MTBF @ 50°C/400 V (Mil-HB-217F)</b>	300,000 hours

### Approvals & Compliances



### Features and Benefits






- The extremely compact and slim filter design allows a trouble-free installation even where the available mounting space is minimal
- With new additional filter types providing safety terminal blocks, the most preferred connection style can be chosen fast and easy. This helps to stay in line with the electrical connection concept of a given application
- FN 3258 filters ensure compliance with Class A limits according to EN 55011 up to 50 m cable length and beyond. Further they can contribute significantly to meet conducted emission limits according to Class B
- Filter operation on the mains input side of consumers increases their reliability and conducted immunity significant
- Chokes with exceptional saturation resistance and excellent thermal behavior are a vital part of FN 3258 design. Thus, all filters retain the expected filter performance even in very noisy applications and under full load conditions

### Typical Applications

- Three-phase variable speed motor drives, servo drives, inverters and converters
- Applications comprising energy conversion devices like machines or process automation equipment
- HVAC equipment, elevators, power supplies, UPS and further three-phase applications

### Typical electrical schematic

### Filter Selection Table

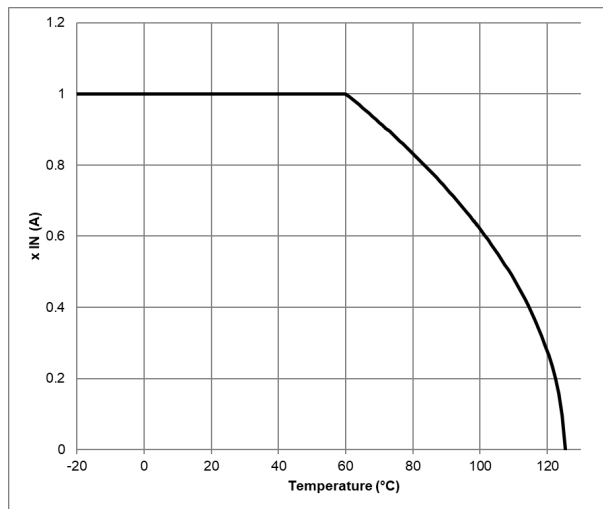
Filter	Buy	Rated current @ 50°C (40°C)	Typical drive Power Rating*	Leakage current** @ 480/520 VAC/50 Hz	Power loss @ 25°C/50 Hz	Input/Output Connections	Weight
		[A]	[kW]	[mA]	[W]		[kg]
<b>FN3258-7-44</b>		7 (7.7)	4	4.3	3.8	-44	0.5
<b>FN3258-16-44</b>		16 (17.5)	7.5	4.3	6.1	-44	0.8
<b>FN3258-30-33</b>		30 (32.9)	15	4.3	11.8	-33	1.2
<b>FN3258-42-33</b>		42 (46.0)	22	4.3	15.7	-33	1.4
<b>FN3258-55-34</b>		55 (60.2)	30	4.3	25.9	-34	2.0
<b>FN3258-75-34</b>		75 (82.2)	37	4.3	32.2	-34	2.7
<b>FN3258-100-35</b>		100 (109.5)	55	4.3	34.5	-35	4.3
<b>FN3258-130-35</b>		130 (142.4)	75	4.3	43.1	-35	4.5
<b>FN3258-180-40</b>		180 (197.1)	90	4.3	58.3	-40	6.0
<b>FN3258H-7-44</b>		7 (7.7)	4	4.7	3.8	-44	0.5
<b>FN3258H-16-44</b>		16 (17.5)	7.5	4.7	6.1	-44	0.8
<b>FN3258H-30-33</b>		30 (32.9)	18.5	4.7	11.8	-33	1.2
<b>FN3258H-42-33</b>		42 (46.0)	22	4.7	15.7	-33	1.4
<b>FN3258H-55-34</b>		55 (60.2)	37	4.7	25.9	-34	2.0
<b>FN3258H-75-34</b>		75 (82.2)	45	4.7	32.2	-34	2.7
<b>FN3258H-100-35</b>		100 (109.5)	55	4.7	34.5	-35	4.3
<b>FN3258H-130-35</b>		130 (142.4)	75	4.7	43.1	-35	4.5
<b>FN3258H-180-40</b>		180 (197.1)	110	4.7	58.3	-40	6.0

\* Calculated at rated current, 440 VAC (FN3258)/480 VAC (FN3258H) and cos phi=0.8. The exact value depends upon the efficiency of the drive, the motor and the entire application.

\*\* Standardized calculated leakage current acc. IEC60939 under normal operating conditions (FN3258 at 480 VAC and FN3258H at 520 VAC).

### Thermal Derating

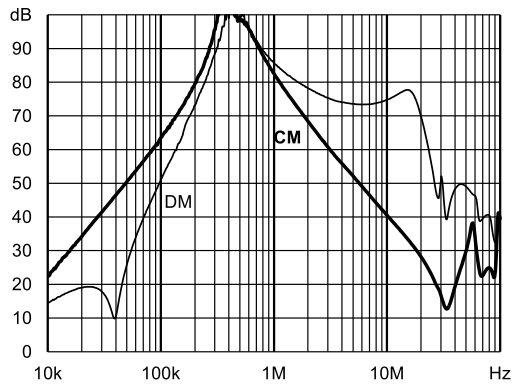
If higher ambient temperatures than the specified apply, the nominal current needs to be reduced according to the graph below.



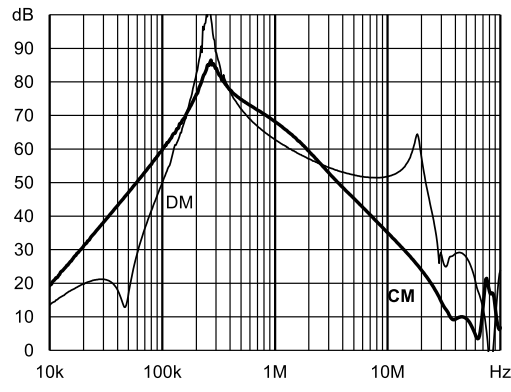
### Typical Filter Attenuation

Per CISPR 17; DM=50/50 sym; CM=50/50 asym

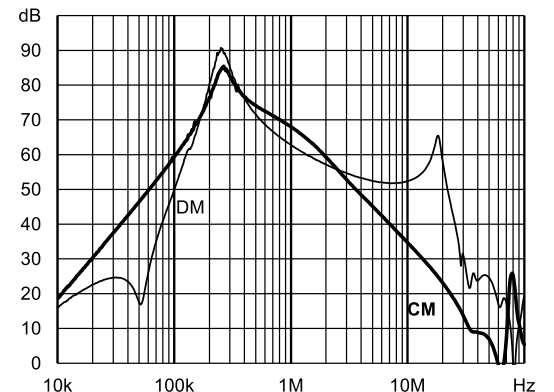
7 A type



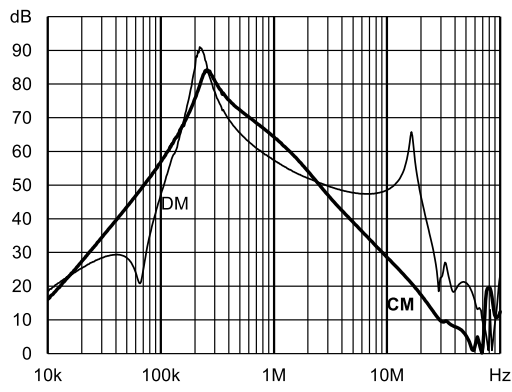
16 A type



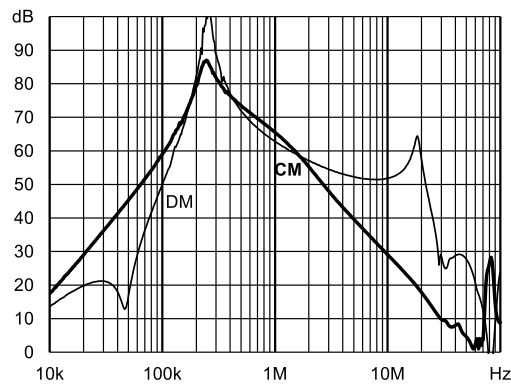
30 A type



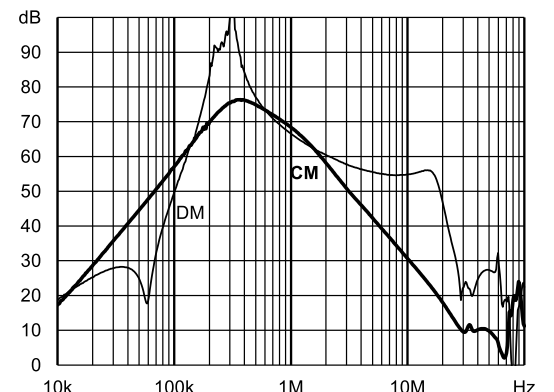
42 A type



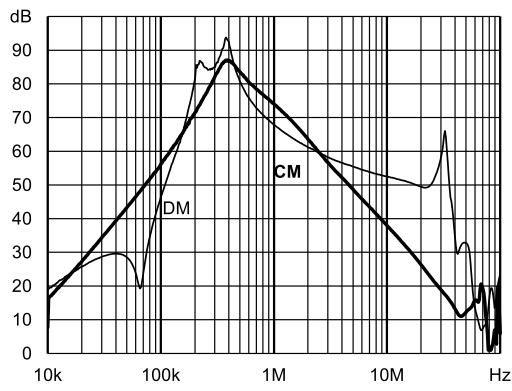
55 A type



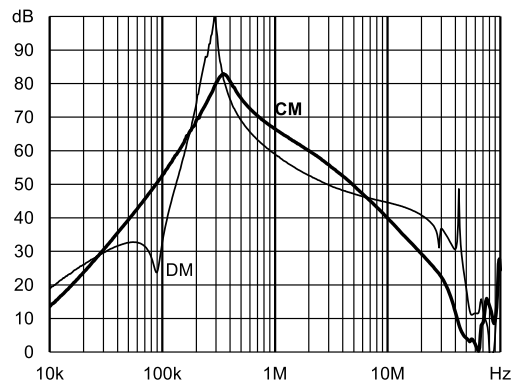
75 A type



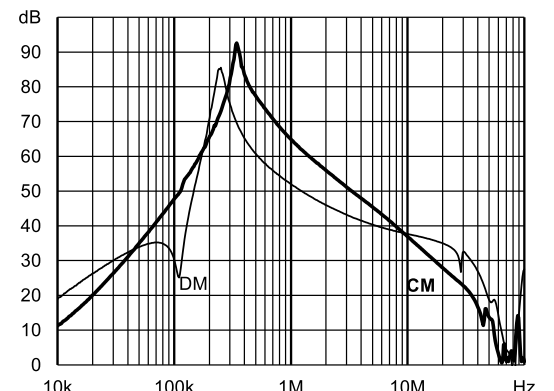
100 A type

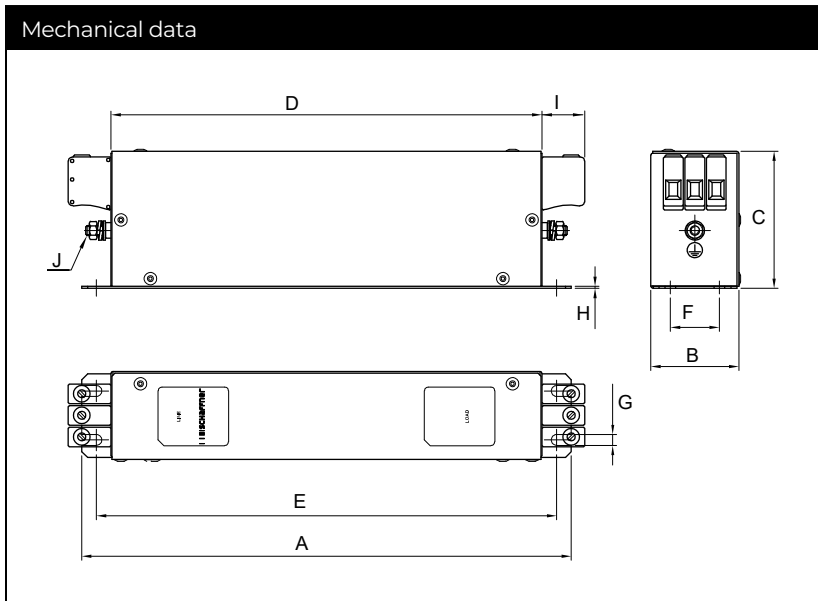


130 A type



180 A type





Note: in favour of a better readability, connectors and earth studs are not shown in the horizontal projection.

### Dimensions

	7 A	16 A	30 A	42 A	55 A	75 A	100 A	130 A	180 A
<b>A</b>	190	250	270	310	250	270	270	270	380
<b>B</b>	40	45	50	50	85	80	90	90	120
<b>C</b>	70	70	85	85	90	135	150	150	170
<b>D</b>	160	220	240	280	220	240	240	240	350
<b>E</b>	180	235	255	295	235	255	255	255	365
<b>F</b>	20	25	30	30	60	60	65	65	102
<b>G</b>	4.5	5.4	5.4	5.4	5.4	6.5	6.5	6.5	6.5
<b>H</b>	1	1	1	1	1	1.5	1.5	1.5	1.5
<b>I</b>	22	22	25	25	39	39	45	45	51
<b>J</b>	M5	M5	M5	M6	M6	M6	M10	M10	M10
<b>K</b>	20	22.5	25	25	42.5	40	45	45	60
<b>L2</b>	29.5	29.5	39.5	37.5	26.5	70.5	64	64	47

All dimensions in mm; 1 inch = 25.4 mm

Tolerances according: ISO 2768-m/EN 22768-m

### Filter Input/Output Connector Cross Sections

	-33	-34	-35	-40	-44
<b>Solid wire</b>	16 mm <sup>2</sup>	35 mm <sup>2</sup>	50 mm <sup>2</sup>	95 mm <sup>2</sup>	10 mm <sup>2</sup>
<b>Flex wire</b>	10 mm <sup>2</sup>	25 mm <sup>2</sup>	50 mm <sup>2</sup>	95 mm <sup>2</sup>	6 mm <sup>2</sup>
<b>AWG type wire</b>	AWG 6	AWG 2	AWG 1/0	AWG 4/0	AWG 8
<b>Recommended torque</b>	1.5-1.8 Nm	4.0-4.5 Nm	7-8 Nm	17-20 Nm	1.0-1.2 Nm

Please visit [www.schaffner.com](http://www.schaffner.com) to find more details on filter connectors.

## Headquarters, Global Innovation and Development

### Switzerland

#### Schaffner Holding AG

Industrie Nord  
 Nordstrasse 11e  
 4542  
 Luterbach  
 +41 32 681 66 26  
[info@schaffner.com](mailto:info@schaffner.com)

## Sales and Application Centers

### China

#### Schaffner EMC Ltd. Shanghai

T20-3 C, No 565 Chuangye Road, Pudong district  
 201201  
 Shanghai  
 +86 2138139500  
[cschina@schaffner.com](mailto:cschina@schaffner.com)

### Finland

#### Schaffner Oy

Sauvonrinne 19 H  
 8500  
 Lohja  
 +358 50 468 7284  
[finlandsales@schaffner.com](mailto:finlandsales@schaffner.com)

### France

#### Schaffner EMC S.A.S.

16-20 Rue Louis Rameau  
 95875  
 Bezons  
 +33 1 34 34 30 60  
[francesales@schaffner.com](mailto:francesales@schaffner.com)

### Germany

#### Schaffner Deutschland GmbH

Schoemperlenstrasse 12B  
 76185  
 Karlsruhe  
 +49 721 56910  
[germanysales@schaffner.com](mailto:germanysales@schaffner.com)

### India

#### Schaffner India Pvt. Ltd

Regus World Trade Centre  
 WTC, 22nd Floor Unit No 2238, Brigade Gateway Campus, 26/1, Dr. Rajkumar Road Malleshwaram (W)  
 560055  
 Bangalore  
 +91 8067935355  
[indiasales@schaffner.com](mailto:indiasales@schaffner.com)

### Italy

#### Schaffner EMC S.r.l.

Via Ticino, 30  
 20900  
 Monza (MB)  
 +39 039 21 41 070  
[italysales@schaffner.com](mailto:italysales@schaffner.com)

### Japan

#### Schaffner EMC K.K.

ISM Sangenjaya 7F  
 1-32-12 Kamiyama, Setagaya-ku  
 154-0011  
 Tokyo  
 +81 3 5712 3650  
[japansales@schaffner.com](mailto:japansales@schaffner.com)

### Singapore

#### Schaffner EMC Pte Ltd.

Blk 3015A Ubi Road 1, #05-09, Kampong Ubi Industrial Estate  
 408705  
 Singapore  
 +65 63773283  
[singaporesales@schaffner.com](mailto:singaporesales@schaffner.com)

### Spain

#### Schaffner EMC España

Calle Caléndula 93, Miniparc III, Edificio E El Soto de Moraleja, Alcobendas  
 28109  
 Madrid  
 +34 917 912 900  
[spainsales@schaffner.com](mailto:spainsales@schaffner.com)

### Sweden

#### Schaffner EMC AB

Östermalmstrorg 1  
 114 42  
 Stockholm  
 +46 8 5050 2425  
[swedensales@schaffner.com](mailto:swedensales@schaffner.com)

### Switzerland

#### Schaffner EMV AG

Industrie Nord  
 Nordstrasse 11e  
 4542  
 Luterbach  
 +41 32 681 66 26  
[switzerlandsales@schaffner.com](mailto:switzerlandsales@schaffner.com)

### Taiwan

#### Schaffner EMV Ltd.

U-Town  
 20 Floor-2, No 97, Section 1, XinTai 5th Road, XiZhi District  
 22175  
 New Taipei City  
 +886 226975500  
[taiwansales@schaffner.com](mailto:taiwansales@schaffner.com)

### Thailand

#### Schaffner EMC Co. Ltd.

Sathorn Square Tower  
 Room 3780, 37FL, 98 North-Sathorn Rd, Silom, Bangrak  
 10500  
 Bangkok  
 +66 621056397  
[thailandsales@schaffner.com](mailto:thailandsales@schaffner.com)

### United Kingdom

#### Schaffner Ltd.

1, Oakmede Place  
 Terrace Road  
 RG42 4JF  
 Binfield  
 +44 118 9770070  
[uksales@schaffner.com](mailto:uksales@schaffner.com)

### United States

#### Schaffner EMC Inc.

52 Mayfield Avenue  
 Edison, New Jersey  
 +1 732 225 9533  
[usasales@schaffner.com](mailto:usasales@schaffner.com)

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