

# All-Pole Sinewave-Filters for VLT® FC 100 / FC 200 / FC 300



### **All-Pole Sinewave Filters**

All-pole sinusoidal filters enable the generation of pure sinusoidal voltages not only phase-to-phase but also with respect to ground. While conventional sine filters form the phase-to-phase voltage of frequency converter's output, for all-pole sinusoidal voltages a switching frequency filter for Common-Mode is required additionally. All-pole sinusoidal filters attenuate the switching frequency and higher frequencies completely.

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#### **Typical Applications**

The application of all-pole sine filters pays for itself by saving the cable shield with long motor cables. Another application relates to sensitive and difficult-to-maintain motors. Bearing currents are completely prevented, and the winding insulation is no longer strained by rapid voltage changes.

Examples: pumps, which are buried deep in the ground. Some fan motors.



#### Benefits

- Fulfills EMC class B/C1 for public areas grid bound and emitted (Frequency converter needs to have a H1 filter for unlimited cable length without screen)
- Unlimited motor cale lenght
- No screend motor cables necessary
- No special installation for parallel motors
- No bearing currents through EDM
- Avoids HF leakage currents over the motor cables
- All pole sinusodial tensions
- No damaging voltage peaks and slew rate
- Reduced leakage current



100% sinusodil output on the motor cables and also against ground

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## **Technical Data and dimensions**

Output Voltage DC-Bus Voltage Speed Frequency Climatic Category Ambient Temp. Protection Class Terminals Motor cable length RFI class max. 3x 400 V~ +25 %, sinusoidal max. 650 Vdc max. 120 Hz min. 6 kHz 25/085/21 max. + 40 °C IP20 Touch Protected Screwing Terminals unlimited C1 (without cable screening)



Туре	Filter nominal current	Frequency minimal	Typical VLT <sup>®</sup> nominal output and -current FC 302		Power loss	Weight	Height (A)	Width (B)	Depth (C)
	50-120 Hz	kHz	kW	Aı	W	kg	mm	mm	mm
192H5410	2.5	6	1,1	3	80	8	268	118	193
192H5411	4	6	1.5 - 2.2	4.1 - 5.6	95	9	268	118	193
192H5412	7	6	3 - 4	7.2 - 10	110	12	268	147	205
192H5413	10	6	5,5	13	140	13	268	147	205
192H5414	13	6	7,5	16	200	17	268	176	205
192H5415	16	6	11	24	245	18	268	176	205
192H5416	25	6	15	32	270	28	399	230	245
192H5417	35	6	18	37.5	330	30	399	230	245
192H5418	40	6	22	44	345	31	399	230	245
192H5419	50	6	30	61	390	71	545	325	242

<sup>1</sup>Nominal current of the frequency converter without derating

• Overload: 1.6 times Ir for 60s every 10 minutes

Please ask, if you need higher voltage or higher power sizes



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