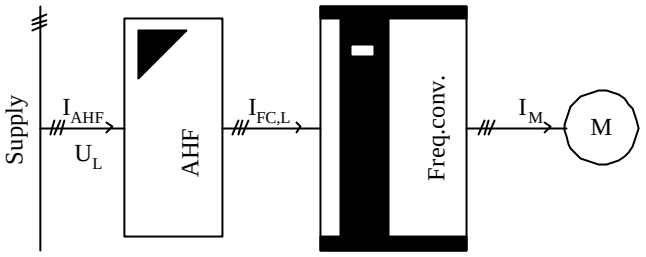
Advanced Harmonic Filter



We are Frequency Converter specialists. Our knowledgeable sales & service staff offer comprehensive application support combined with worldwide service.

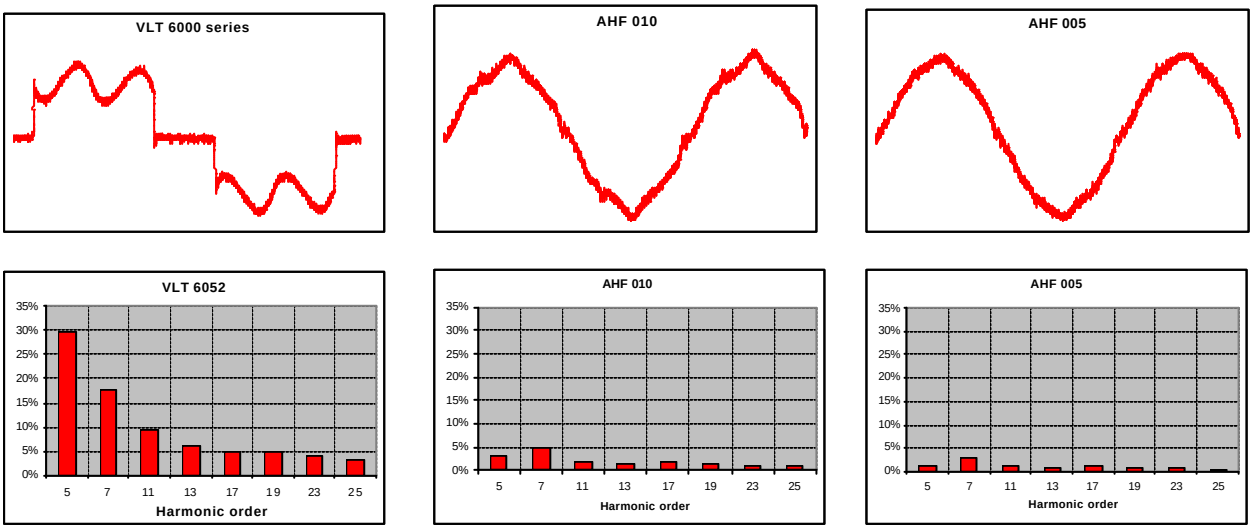
We offer Drives Solutions – with our specialist knowledge on applications and drives we can offer drive solutions that guarantees minimum harmonic current emission and allow you to comply with IEEE 519-1992 and stage 1 of future EN 61000-3-12.

The Danfoss solution

The Danfoss AHF 005 and AHF 010 are advanced harmonic filters not to be compared with traditional harmonic trap filters. The Danfoss harmonic filters have been specially designed to match the Danfoss frequency converters.

By connecting the Danfoss harmonic filters AHF 005 or AHF 010 in front of a Danfoss frequency converter the harmonic current distortion generated back to the mains is reduced to a minimum.

Current and Distortion Spectrum at Full Load



AHF 010 and AHF 005 characteristics:

- Small compact housing that fits into a panel
- Easy to use in retrofit applications
- One filter module can be used for several frequency converters
- AHF 010 reduces the total harmonic current distortion to 10%
- AHF 005 reduces the total harmonic current distortion to 5%
- User-friendly commissioning – no adjustment necessary
- No routine maintenance required

Product range

Line Voltage	380 - 415 V AC (50 Hz) or 440 - 480 V AC (60 Hz)
Filter Current	10A – 325A (For higher power modules can be paralleled)
Enclosure degree	IP 20

Technical specification

Line voltage	+/- 10%
Frequency	+/- 5%
Overload current	160% for 60s
Efficiency	0.98
True power factor	0.85 @ 50% load 0.99 @100 % load 1.0 @150% load
Ambient temperature	5°C - 40°C without derating

380V – 415V, 50Hz

$I_{AHF,N}$	Typical Motor Used [kW]	Danfoss ordering number		Typical Danfoss frequency converter series*		
		AHF 005	AHF 010	VLT® 5000	VLT® 6000	VLT® 8000
10A	4, 5.5	175G6600	175G6622	5006, 5008	6006, 6008	8006, 8008
19 A	7.5	175G6601	175G6623	5011	6011	8011
26 A	11	175G6602	175G6624	5016	6016	8016
35 A	15, 18.5	175G6603	175G6625	5022, 5027	6022, 6027	8022, 8027
43 A	22	175G6604	175G6626	5032	6032	8032
72 A	30, 37	175G6605	175G6627	5042, 5052	6042, 6052	8042, 8052
101 A	45, 55	175G6606	175G6628	5062, 5075	6062, 6072	8062, 8072
144 A	75	175G6607	175G6629	5102	6102	8102
180 A	90	175G6608	175G6630	5125	6122	8122
217 A	110	175G6609	175G6631	5150	6150	8150
289 A	132, 160	175G6610	175G6632	5200, 5250	6175, 6225	8200, 8250
324 A		175G6611	175G6633			
Higher ratings can be achieved by paralleling the filter units						
397 A	200	Two 180 A units		5300	6275	8300
469 A	250	Two 217 A units		5350	6350	8350
578 A	315	Two 289 A units		5450	6400	8450
648 A	355	289 A and 324 A units		5500	6500	8500

440V – 480V, 60Hz

$I_{AHF,N}$	Typical Motor Used [HP]	Danfoss ordering number		Typical Danfoss frequency converter series*		
		AHF 005	AHF 010	VLT® 5000	VLT® 6000	VLT® 8000
19 A	10, 15	175G6612	175G6634	5011, 5016	6011, 6016	8011, 8016
26 A	20	175G6613	175G6635	5022	6022	8022
35 A	25, 30	175G6614	175G6636	5027, 5032	6027, 6032	8027, 8032
43 A	40	175G6615	175G6637	5042	6042	8042
72 A	50, 60	175G6616	175G6638	5052, 5062	6052, 6062	8052, 8062
101 A	75	175G6617	175G6639	5072	6072	8072
144 A	100, 125	175G6618	175G6640	5100, 5125	6100, 6125	8100, 8125
180 A	150	175G6619	175G6641	5150	6150	8150
217 A	200	175G6620	175G6642	5200	6175	8200
289 A	250	175G6621	175G6643	5250	6225	8250
Higher ratings can be achieved by paralleling the filter units						
324 A	300	144 A and 180 A unit		5300	6275	8300
397 A	350	180 A and 217 A unit		5350	6350	8350
506 A	450	217 A and 289A unit		5450	6400	8450
578 A	500	Two 289A units		5500	6500	8500

* please note that the matching of the typical Danfoss frequency converter and filter is pre-calculated based on 400V/480V and assuming typical motor load (4 pole). VLT 5000 series is based on a 160 % torque application, while VLT 6000 and 8000 series are based on 110% torque application.
The pre-calculated filter current may be different than the input current ratings of VLT 5000, VLT 6000 and VLT 8000 series as stated in the respective operating instructions, as these numbers are based on different operating conditions.