

## New Generation of VLT® Advanced Harmonic Filters

**A new generation of VLT® Advanced Harmonic Filters (AHF) has been developed to replace the successful VLT® 5000 Advanced Harmonic Filters range. The new filters have been presented to the market at the SPS exhibition in Nuremberg, Germany in November 2009 and will be released in February 2010.**

The new generation is designed for and thoroughly tested with the VLT® Frequency Converter series drives. The harmonic mitigation performance remains the same as for the existing versions with 5% and 10% THD.

### Compact design

A new and patented coil design allows a much more compact design without compromising the harmonic performance. Compared to both the existing AHF's and the competition, this new generation of filters is up to 60% smaller, reducing the wall space necessary for installation. The reduced size and weight also allows the power range to be extended to cover the full D-frame VLT® Frequency Converter-series with one single filter. E and F-frame drives can still be mitigated with parallel connected filters.

### New features

The IP20 enclosures are completely re-designed to match the VLT® Frequency Converter series drive enclosures in size and design. Side-by-side mounting is now possible and all cable entries are in the bottom for easier installation. Additionally, the new generation AHF's will, in all power sizes across the voltage ranges, be available in IP00. This allows mounting and installation in industrial panels of higher enclosure rating, such as IP54.



### Better performance

The new generation AHF's have been extended so that a 5% and 10% variant exists for each VLT® Frequency Converter series power size. Because of a perfect match between the VLT® Frequency Converter current and the filter current a better harmonic mitigation can be guaranteed. A reduction of the capacitive current of up to 30% is possible due to an improved coil design which results in smaller capacitor values. This improves the filter performance,

removes the changes of over-voltage tripping and lowers the capacitive current at partial load.

### Accessories

To achieve NEMA1 and IP21 enclosure ratings kits will be available for mounting on the IP20 enclosures. As a novelty, a capacitor disconnect contactor will be available and built into the NEMA1 terminal cover. This will make installation easier as the customer will no longer need to deal with the capacitor disconnect. Of course, a NEMA1 kit without capacitor disconnect contactor will be offered as well.

**Harmonic Performance**

- 5% THiD
- 10%THiD

**Power and Voltages ranges**

- 10-480 A @380 V, 60 Hz
- 10-480 A @400 V, 50 Hz
- 10-436 A @460 V, 60 Hz
- 690 V to be released mid 2010

**Enclosure**

- IP00 and IP20 (IP21 and NEMA1 optional)

**Accessories**

- NEMA1 kit with/without capacitor disconnect contactor
- IP21 kit

**Spare parts**

- Terminals
- IP20 enclosure

Drive Current [A]	AHF010				AHF010 – new generation			
	Current [A]	Height [mm]	Width [mm]	Depth [mm]	Current [A]	Height [mm]	Width [mm]	Depth [mm]
9	10	453	165	242	10	246	190	205
14	19	453	165	242	14	246	190	205
22	26	453	165	242	22	350	230	248
29	35	698	368	220	29	350	230	248
34	35	698	368	220	34	460	330	242
40	43	698	368	220	40	460	330	242
55	72	938	368	220	55	460	330	242
66	72	938	368	220	66	490	330	333
82	101	938	368	230	82	490	330	333
96	144	938	368	230	96	600	370	333
133	144	938	368	230	133	600	370	333
171	180	1046	390	400	171	600	370	400
204	217	1046	390	400	204	600	370	400
251	289	1152	400	419	251	713	420	450
304	324	1152	400	419	304	713	420	450
325	324	1152	400	419	325	713	420	450
381	370	1322	400	419	381	713	420	450
472	-	-	-	-	480	713	420	450

Design dimensions of the new generation Advanced Harmonic Filters compared to the existing AHF010 version