VLT® Advanced Active Filter AAF 005

Danfoss Advanced Active Filters eliminate harmonic distortion from non-linear loads and improve system power factor.

Proven VLT® power electronics re-establish optimal sinusoidal currents and unity power factor by generating and injecting counter phased harmonic and reactive currents.

The modular construction offers the same characteristics as our High Power VLT® family, including high energy efficiency, user-friendly operation, back channel cooling and high enclosure grades.

Danfoss Advanced Active Filters can compensate for individual VLT® drives as a compact integrated solution or can be installed as a compact stand-alone solution at a common point of coupling, compensating for several loads simultaneously. Danfoss Active Filters can operate at medium voltage level by means of step-down transformer.

The perfect solution for
- Restoring weak networks
- Increasing network capacity
- Increasing generator power
- Meeting compact retrofit demands
- Securing sensitive environments
- Utilising energy savings

Voltage range
- 380 – 480 V AC 50 – 60 Hz

Power Range
190 A, 250 A, 310 A, 400 A, 500 A.
Up to 4 units can be paralleled for higher power.

Enclosure degree
- IP 21, IP 54 Hybrid

Features	Benefits
Energy saving	**Lower operating costs**
Power factor correction and control priority dedication Automatically adapts to network changes	Saves energy
Reduced harmonics	Increased transformer efficiency Reduced cable losses
Back-channel cooling (85% heat dissipated via back channel)	Less control room cooling Less fan power consumption
Reliable	**Maximum up time**
Continues operation if overloaded High robustness against background distortion and voltage imbalance Self protection features	More up-time
Optional, mains disconnect switch and fuses	No need of external switches
Back-channel cooling	Lower panel temperature Longer lifetime
Coated PCB board	Increased resistance against dust
Retrofit without dismounting existing equipment	Saves time and cost
User friendly	**Save initial and operation cost**
Standard award-winning control panel (LCP)	Effective commissioning and operation
Same compact wall mount cabinet as drive	Well known and easy installation in small installation spaces
Modular design	Enables fast installation
High component commonality with our drives	Fast and easy service
Automatic current sensor adaptation	Less commissioning effort
Complies with VLT® software	Save commissioning time Enables analysis support

VLT®
THE REAL DRIVE

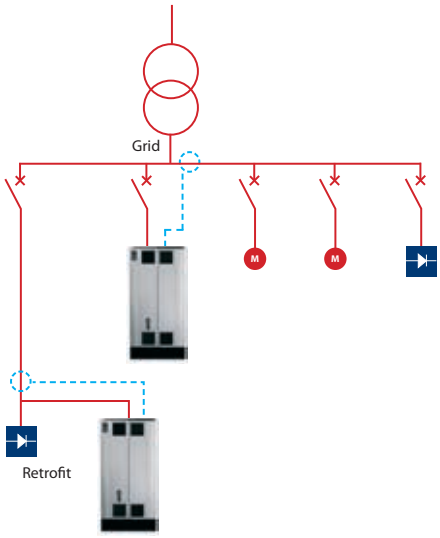
PC software

MCT 10

Ideal for commissioning, servicing, monitoring and performance logging.

RoHS compliant

The VLT® Active Filter is manufactured with respect to the environment, and it complies with the RoHS directive.



Specifications	
CT requirements	Three standard current transformers (CT's), connected during installation at phases L1, L2 and L3
Operation modes	Mode 1: Harmonic mitigation Mode 2: Harmonic mitigation and power factor correction with options to program the task priorities
Harmonic mitigation performance	< 5% THD of the rated non-linear load current at the PCC
Harmonics Control	Individual harmonic control of odd harmonic 5^{th} to 25^{th}. Full compensation of all harmonics 2^{nd} to 25^{th} and power factor correction.
Compatibility	Equipment is compatible for field installation with existing active filters
PC Software & user interface	Commissioning tool function Configuration and installation settings function. User settings and information function. Control panel function. Data logger and event log function. Network monitoring and measurements function. Filter load and status function. Software update function.
LCP Regulation	UL-file. CE marking, cULus (UL508C) and c-tick. (AS/NZS 2064) IEEE519 / EN61000-3-xx Harmonic Mitigation Guidelines IEEE587/ANSI C62.41/ EN61000-4-5 Surge Immunity EN55011 Electromagnetic compatibility EN50178, EN60146 Safety/Design
Ambient temperature	-10°C to +40° C, up to 1000 metres above sea level, with relative humidity of 5% - 85% RH, class 3K3 (functions to be maintained up to 95% RH not condensing)
Power fuses	Optional
RFI filtering	Class A2 RFI; Class A1 RFI optional
Cooling	Air cooled with primary cooling through back channel
Standard Current Transducer	Rated secondary current 1 A and 5 A Rated apparent power > 5 VA Accuracy class 0.5 or better

D

E

F

400 VAC (380 – 480 VAC)															
Total Current [A]	Order No.	Frame	Dimensions H*W*D	Weight	Max. Reactive [A]	Max. Harmonic [A]	Max. individual harmonic compensation [A]							
	RFI A2, IP21, T4		IP 21, IP 54				I_5	I_7	I_{11}	I_{13}	I_{17}	I_{19}	I_{23}	I_{25}
190	AAF005A190T4E21H2GCxx	D	1740*850*378 mm	293 kg	190	170	133	95	61	53	38	34	30	27
250	AAF005A250T4E21H2GCxx	E	2000*850*494 mm	352 kg	250	225	175	125	80	70	50	45	40	35
310	AAF005A315T4E21H2GCxx				310	280	217	155	99	87	62	56	50	43
400	AAF005A400T4E21H2GCxx	F	2200*2300*600 mm	1004 kg	400	360	280	200	128	112	80	72	64	56
500	AAF005A500T4E21H2GCxx				500	450	350	250	160	140	100	90	80	70

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