

SCHAEFER

Active Harmonic Filters



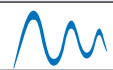
POWER BALANCE

 active filter technology

PRODUCT TYPE

PBAF 690 - 560 liquid cooled

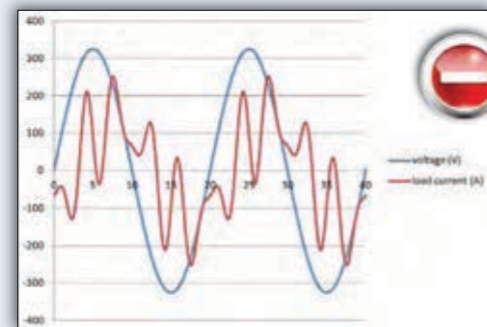
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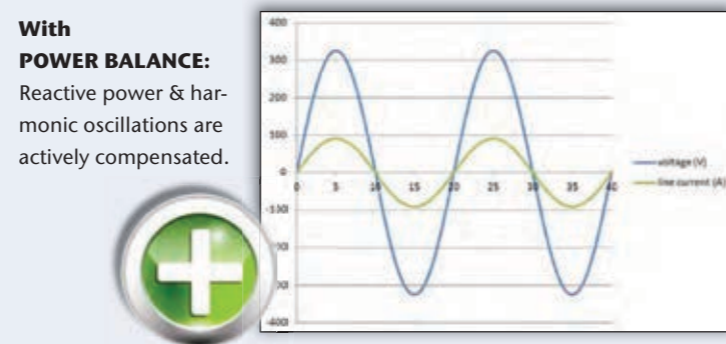
Power Balance Series

Features

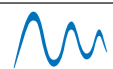
The PB-SERIES is an active harmonic filter system for tower buildings as well as automation, windturbine and various other industrial applications eliminating harmonic oscillations and consequently costs for reactive energy. The filter monitors the current signal and compensates for the unwanted elements of the measured current. Thus, the filter ensures a harmonic suppression independently of the number of loads. Furthermore the filter corrects the power factor, improving the systems' efficiency while reducing harmonic distortion.



Without POWER BALANCE:
Harmonic disturbances caused by e.g. non-linear loads.



With POWER BALANCE:
Reactive power & harmonic oscillations are actively compensated.

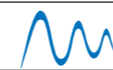


Specifications

Cabinet system	PBAF-R8
Cabinet system	System with max 4 plug-in filter modules
Total compensation current	560 A Phase
Internal cooling	liquid cooled system
External cooling	air heat exchanger or cooling water intake
Protection class	IP65 dust protected against welding metal powder
Pollution level	PD 4
Operating temperature range	-10° C to +45° C full performance, +45° C to +55° C derating
Relative Humidity 3k4	up to 95% non condensing, PCB are coated
Storage conditions class 1K4 and 1K3	-25° C to + 55° C
Dimensions (W x H x D) mm	800 x 2000 x 600
Weight cabinet w/o modules	~ 200 kg
Weight module	~ 140 kg
Altitude	2000 m without derating, 4000 m max with derating

Vibration unit operating	3 Hz to 15.8 Hz, 1 mm peak; 15.8 Hz to 150 Hz, 1g, IEC 60068-2-27
Shock unit transport	15 g/ 11 ms, 1000 cycles, IEC 600068-2-27
Shock unit transport	15 g/ 11 ms, 1000 cycles, IEC 600068-2-27
Electromagnetic Compatibility	EN 61000-6-2, EN 61000-6-4, EN 61800-3 (C2)
Safety	EN 50178, IEC 62477-1, EN 61800-3 class C2, UL508
Certificates	CE, ROHS

Filter Module plug-in	PBAF-AHF-690-M140
Line voltage	340 V - 800 V
Nominal frequency	47 Hz - 63 Hz
Connection type	3 Phase
Mains networks	IT, TT, TN-C, TN-S, TN-C-S
Rated compensation current	140 A Phase
Overload capability	350 A max. Phase for 10 ms
Harmonic current compensation	individual compensation up to 50th order, simultaneously selectable
Load balancing	140 A Phase
Inverter topology	3-Level IGBT

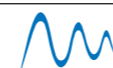
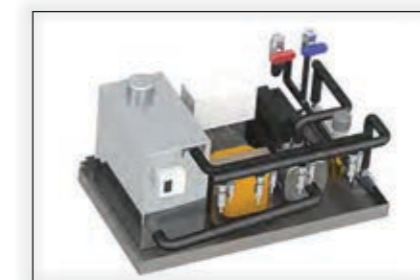


PBAF 690 - 560 liquid cooled modular system



Modular System: 2 cooling loops

- Primary cooling loop: liquid cooled IGBT + filter components
- Secondary cooling loop: liquid cooled heat exchanger, flow control, pressure monitoring
- IGBT flow temperature exactly adjustable
- Primary loop corrosion protected to increase persistence
- Internal cabinet cooling with air/liquid heat exchanger
- Emergency operation feature by loss of secondary cooling loop
- MTTR < 15min
- High redundancy, each filter modul with complete control system



Flexible system from 140A to 560A



Harmonic Filters

Total power electronic solutions



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