

Active Filter

AFQ 100 / 200 / 300 / 400

Description

The floor mounted AFQm multilevel active filters are the most complete solution for solving power quality problems in three-phase industrial, commercial or service installations caused by the presence of harmonics and the consumption of reactive power.

- Filtering capacity per module of 100 A, capacity per cabinet between 100 A to 400 A
- Cabinets expandable with small-sized rack modules
- Range for installations with 3 wires (3W model) or 4 wires (4W model)
- Multi-range voltage and dual frequency (50/60 Hz)
- Reduction of harmonic currents up to the fiftieth harmonic (2,500 Hz)
- Selection of harmonic frequencies to be filtered for maximum filter effectiveness

Applications

- Data processing center
- Airports
- Banking institutions
- Telecommunication centers
- Office buildings
- Fuel & gas plants



Technical Data

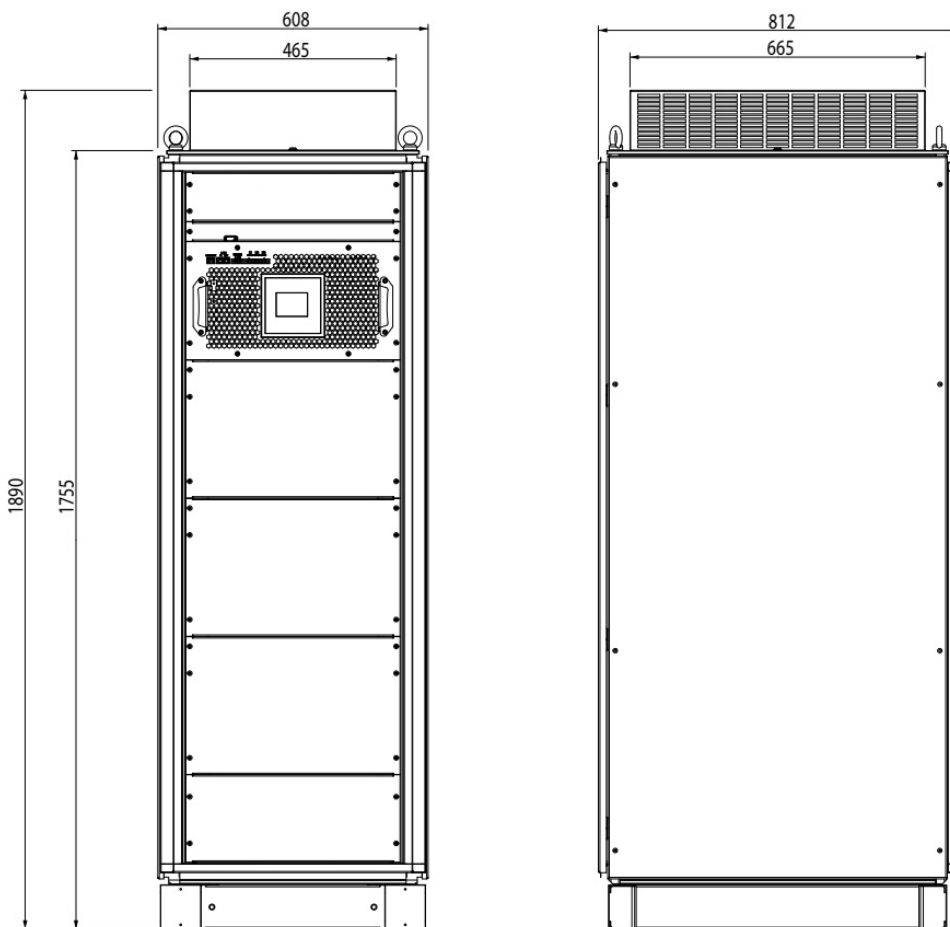
Electrical Parameter	Rated voltage	4 wires (4W) 3P+N: 230...400 V phase-phase ±10 % 3 wires (3W) 3P: 230...480 V phase-phase ±10 %			
	Frequency	50/60 Hz ± 5 %			
	Maximum THDv	25%			
Power	Models	100A	200A	300A	400A
	Maximum power 4W (400V)	69000 VA	138000 VA	207000 W	276000 VA
	Maximum power 3W (480V)	76300 VA	152600 VA	228900 W	305200 VA
	Average efficiency	>97.2%	>97.2%	>97.2%	>97.2%
	Maximum current (phase)	100 A (rms)	200 A (rms)	300 A (rms)	400 A (rms)
	Maximum current (neutral) only 4W	300 A (rms)	600 A (rms)	900 A (rms)	1200 A (rms)

Features	Filtering	From the 2nd to the 50th harmonic, selectable time response < 0.1 ms			
	Phase compensation	Selectable			
	Power factor correction	Selectable from 0.7 inductive to 0.7 capacitive			
	Programming priority	Priority of filtering or balancing / Power factor correction, selectable			
	Models	100A	200A	300A	400A
	Parallel installation	<ul style="list-style-type: none"> Up to 100 devices/racks Connection of CTs to the master unit Allows redundancy (system operation in the event of equipment failure) 			
	Noise level	≤ 60dBA	≤ 63dBA	≤ 66dBA	≤ 69dBA
	User interface	3.5" colour touch screen Web server and data logger			
	RS-485	Modbus RTU, 9600, 1, No parity			
	Ethernet	TCP/IP (Modbus TCP)			
Installation	Category	CAT III (300 V)			
	Pollution rating	2			
	Working temperature	-10...+45°C			
	Storage temperature	-20...+55°C			
	Relative humidity	0...95% non-condensing			
	Altitude	3000 m (2000 m without derating)			
	Protection rating	IP21 (or other protection degree upon request)			
Connection	Grid	M8 Ring terminal Maximum ring width 23 mm Tightening torque 8-10 Nm			
	CT	6-pole connector Maximum cable cross-section 2.5 mm ² Spring clamp terminal block			
	RS485	3-pole connector Maximum cable cross-section 2.5 mm ² Tightening torque 0.5-0.6 Nm			
	Ethernet	RJ45			
Standards	IEC 62477-1:2012, IEC 55011:2011, IEC 61000-6-2, IEC 61000-6-4:2007, IEC 61439-1:2011				

Dimensions

Type	Dimensions (Width x Height x Depth)	Weight (kg)
AFQ-3WF-100C-480	608 x 1890 x 812 mm	190
AFQ-3WF-200C-480		245
AFQ-3WF-300C-480		300
AFQ-3WF-400C-480		355
AFQ-4WF-100C-400		190
AFQ-4WF-200C-400		245
AFQ-4WF-300C-400		300
AFQ-4WF-400C-400		355

Dimensions of cabinet-type AFQ



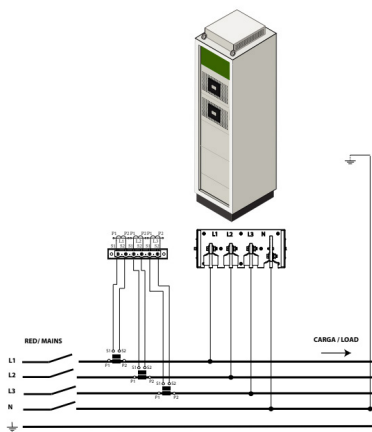
References

Active filters floor mounted cabinets for 3 wires (3W) and 4 wires (4W)

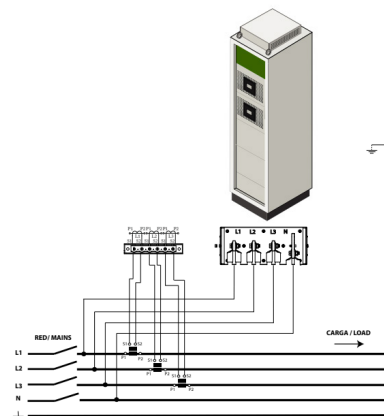
Phase Current	Neutral Current	System	Type	Code
100A	-	3 wires 230V - 480 V	AFQ-3WF-100C-480	APS-AFQ3-100
200A	-		AFQ-3WF-200C-480	APS-AFQ3-200
300A	-		AFQ-3WF-300C-480	APS-AFQ3-300
400A	-		AFQ-3WF-400C-480	APS-AFQ3-400
100A	300A	4 wires 230V - 400 V	AFQ-4WF-100C-400	APS-AFQ4-100
200A	600A		AFQ-4WF-200C-400	APS-AFQ4-200
300A	900A		AFQ-4WF-300C-400	APS-AFQ4-300
400A	1200A		AFQ-4WF-400C-400	APS-AFQ4-400

All active filters incorporate an EMI filter

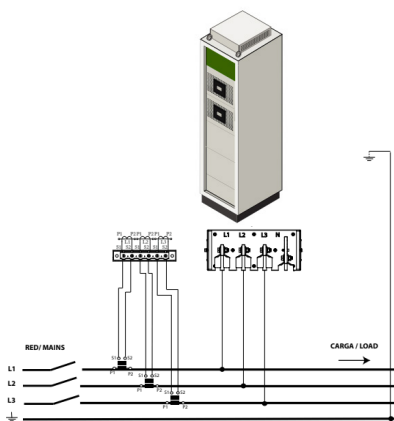
Connections



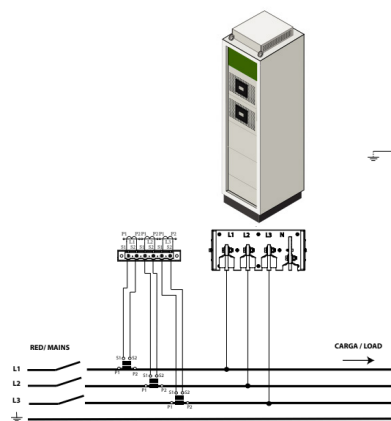
Three-phase measurement with 4 wire power connection and current measurement in mains side.



Three-phase measurement with 4 wire power connection and current measurement in load side.



Three-phase measurement with 3 wire power connection and current measurement in mains side.



Three-phase measurement with 3 wire power connection and current measurement in load side.