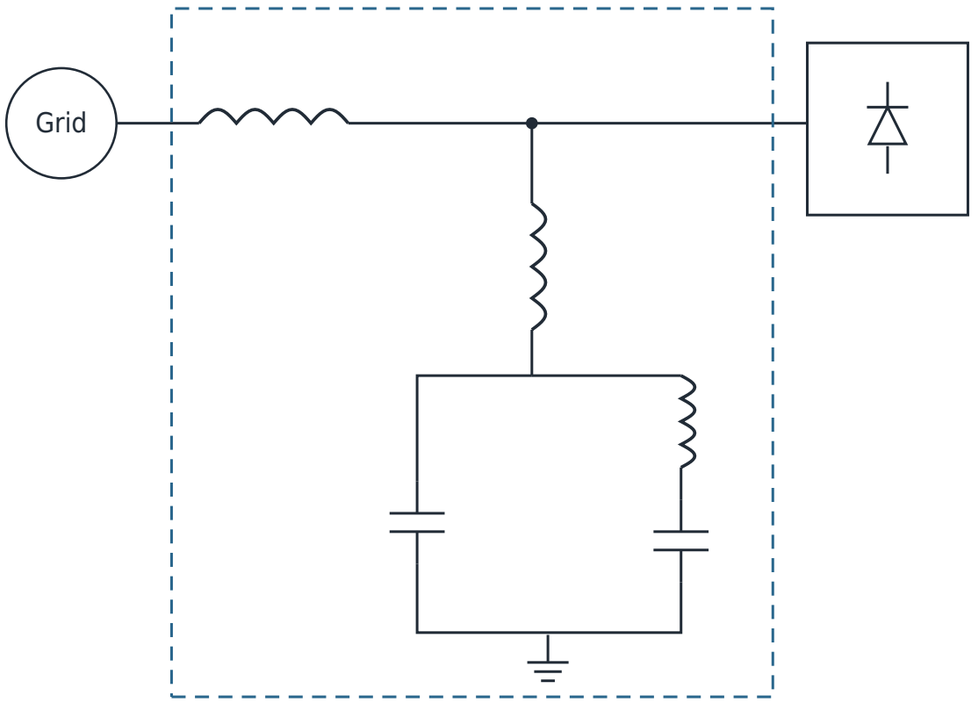
Passive Harmonic Filters

Application Circuit

Installed at the input of six-pulse rectifiers (VFDs, DC drives and centralized EV charging rectifier cabinets) to reduce current distortion and harmonic content and improve equipment power factor.

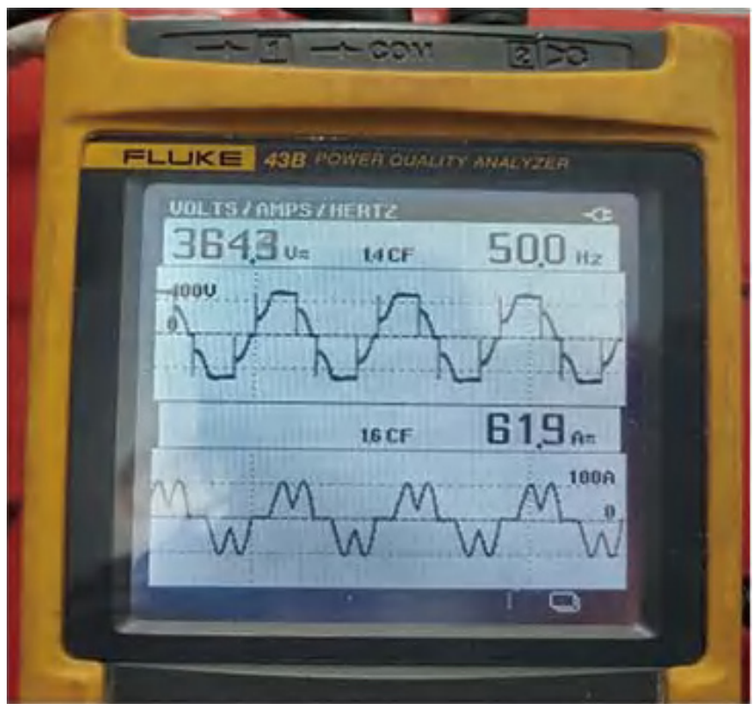




Test Results

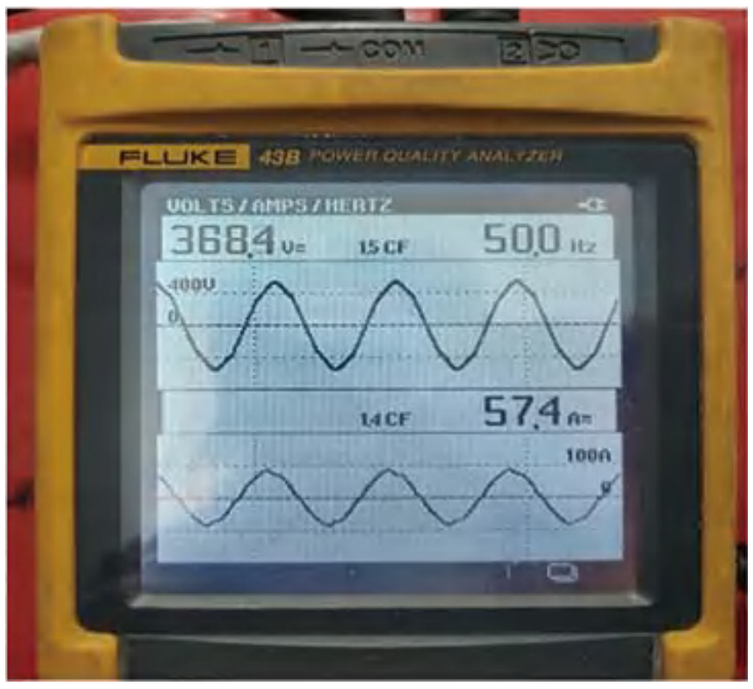
Test results before and after installing a passive harmonic filter at the input of a 30 kW VFD:

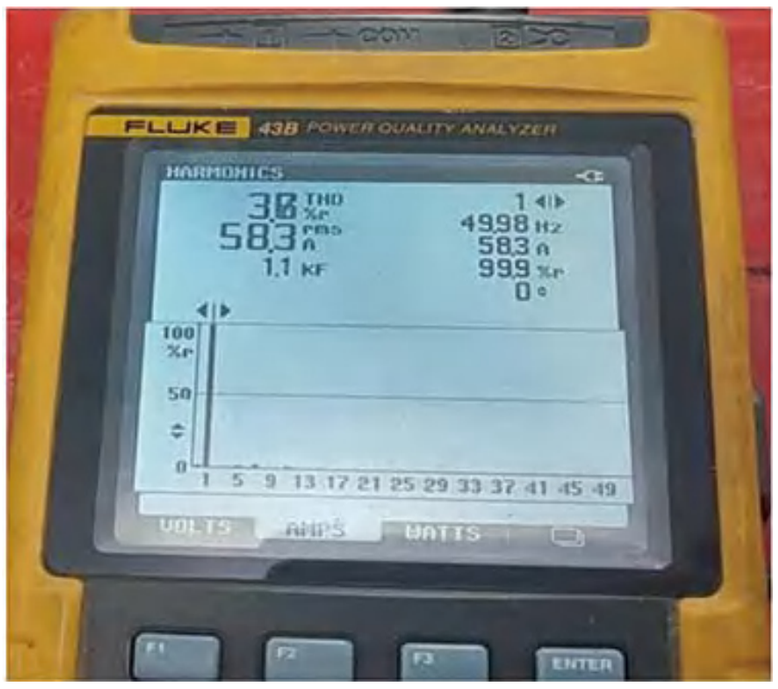
Before filtering: voltage/current waveforms and current THD





After filtering: voltage/current waveforms and current THD





Technical Specifications

Rated Voltage	3-AC 400 V, 50 Hz
Insulation Class	F
Noise Level	≤75 dB
Dielectric Strength	AC 3000 V, 50 Hz, 5 s; leakage ≤5 mA (remove external capacitors for phase-to-phase test)
Power Factor	Improved from 0.8 to 0.9
Current THD	≤5% / 10%
Ambient Temperature	−25°C to 40°C

Dimensions and Technical Data

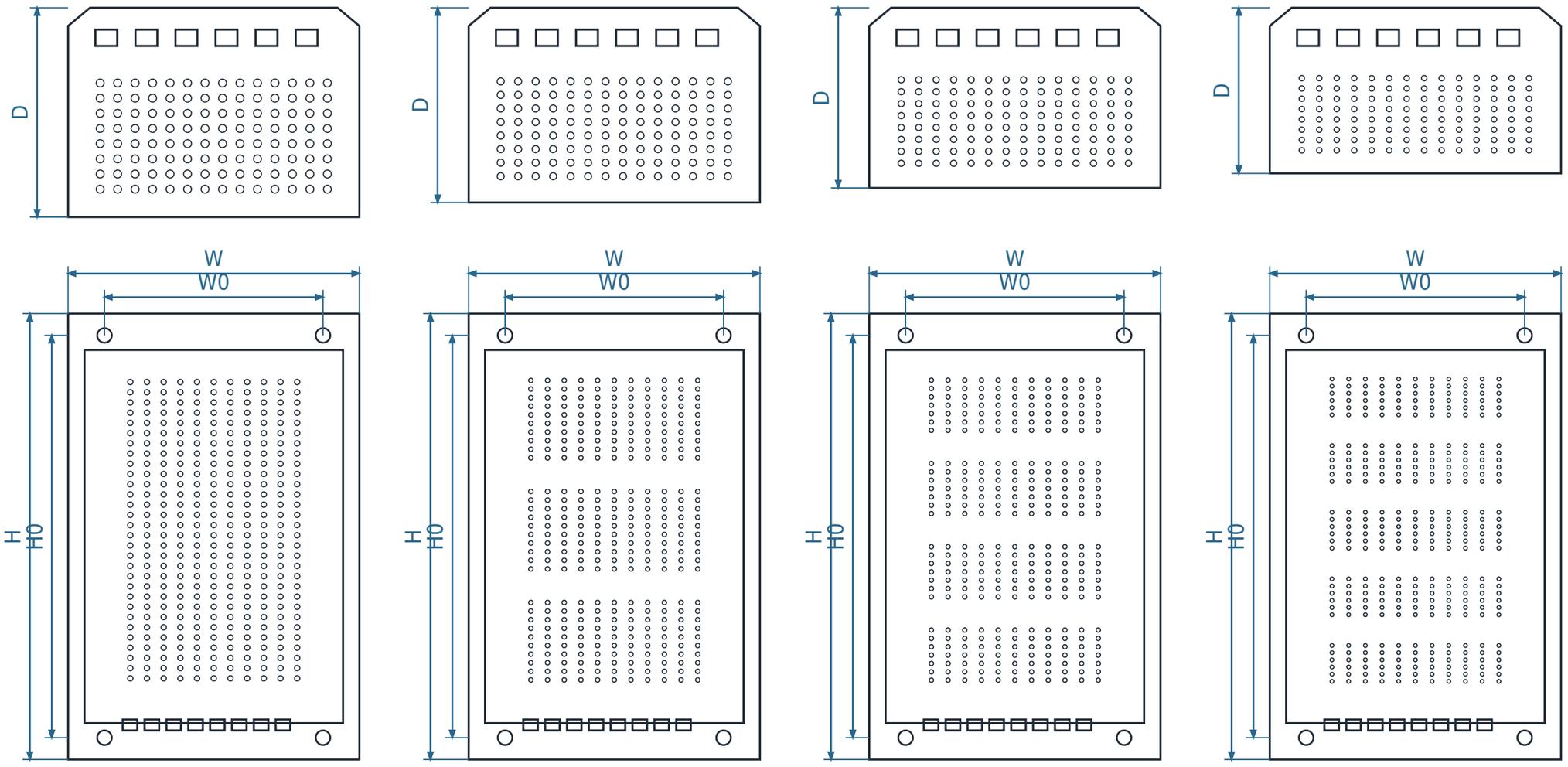


Fig. A **Fig. B** **Fig. C** **Fig. D**

Passive Harmonic Filters — Technical Data

400 V, 50 Hz, six-pulse rectifiers (VFDs, DC drives, UPS and centralized uncontrolled EV charging rectifiers): harmonic content reduced to ≤5%.

Product Model	Fig.	Rated Current (A)	Drive Power (kW)	Branch Current (A)	Heat Loss (W)	Min. Cabinet Airflow (m³/min)	Weight (kg)	Dimensions (mm)					Mounting Screws	Branch Cable (mm²)
								W	D	H	W0	H0		
SHF-0005-5%	A	5	2.2	2.5	176	0.9	19	270	250	480	180	453	M10	1.5
SHF-0010-5%		10	3.7	5	207	1.1	24	270	250	480	180	453		1.5
SHF-0016-5%		16	7.5	8	323	1.7	29	270	250	480	180	453		2.5
SHF-0025-5%		25	11	12.5	386	2.0	35	270	250	480	180	453		4
SHF-0030-5%		30	1.5	15	453	2.4	46	300	220	680	210	653		4
SHF-0045-5%		45	22	22.5	581	3.0	56	300	220	680	210	653		6
SHF-0060-5%	B	60	30	28.7	602	3.1	90	363	280	740	280	713		6
SHF-0075-5%		75	37	35.8	773	4.0	98	363	280	740	280	713	M12	10
SHF-0090-5%	C	90	45	43	909	4.7	125	455	375	950	350	920		10
SHF-0110-5%		110	55	52.5	1007	5.2	140	455	375	950	350	920		16
SHF-0150-5%		150	75	71.6	1061	5.5	170	455	375	950	350	920		25
SHF-0180-5%		180	90	86	1218	6.3	195	455	375	950	350	920		25
SHF-0220-5%		220	110	105	1398	7.2	215	485	415	1085	375	1055		35
SHF-0260-5%		260	132	124.1	1499	7.7	245	485	415	1085	375	1055		50
SHF-0320-5%		320	160	152.8	1577	8.1	300	485	415	1085	375	1055		70
SHF-0400-5%	D	400	200	190.9	1944	9.9	384	485	485	1230	375	1200		95
SHF-0480-5%		480	250	229.2	2291	10.5	417	525	485	1400	415	1370		95
SHF-0600-5%	Cabinet	600	315	286.5	2776	12.8	500	800	800	2000	/	/	/	/

400 V, 50 Hz, six-pulse rectifiers (VFDs, DC drives, UPS and centralized uncontrolled EV charging rectifiers): harmonic content reduced to ≤10%.

Product Model	Fig.	Rated Current (A)	Drive Power (kW)	Branch Current (A)	Heat Loss (W)	Min. Cabinet Airflow (m^3/min)	Weight (kg)	Dimensions (mm)					Mounting Screws	Branch Cable (mm^2)
								W	D	H	W0	H0		
SHF-0005-10%	A	5	2.2	2.5	168	0.9	19	270	250	480	180	453	M10	1.5
SHF-0010-10%		10	3.7	5	196	1.1	24	270	250	480	180	453		1.5
SHF-0013-10%		13	7.5	8	318	1.7	29	270	250	480	180	453		2.5
SHF-0025-10%		25	11	12.5	378	2.0	35	270	250	480	180	453		4
SHF-0030-10%		30	15	15	445	2.4	46	300	220	680	210	653		4
SHF-0045-10%		45	22	22.5	572	3.0	56	300	220	680	210	653		6
SHF-0060-10%	B	60	30	28.7	593	3.1	90	363	280	740	280	713		6
SHF-0075-10%		75	37	35.8	765	4.0	98	363	280	740	280	713	M12	10
SHF-0090-10%	C	90	45	43	900	4.7	125	455	375	950	350	920		10
SHF-0110-10%		110	55	52.5	996	5.2	140	455	375	950	350	920		16
SHF-0150-10%		150	75	71.6	1045	5.5	170	455	375	950	350	920		25
SHF-0180-10%		180	90	86	1200	6.3	195	455	375	950	350	920		25
SHF-0220-10%		220	110	105	1385	7.2	215	485	415	1085	375	1055		35
SHF-0260-10%		260	132	124.1	1490	7.7	245	485	415	1085	375	1055		50
SHF-0320-10%		320	160	152.8	1565	8.1	300	485	415	1085	375	1055		70
SHF-0400-10%	D	400	200	190.9	1935	9.9	384	485	485	1230	187.5×2	1200		95
SHF-0480-10%		480	250	229.2	2282	10.5	417	525	485	1400	207.5×2	1370		95
SHF-0600-10%	Cabinet	600	315	267.4	2766	12.8	500	800	800	2000	/	/	/	/

Note: Contact us for other voltage, frequency or current-THD requirements.