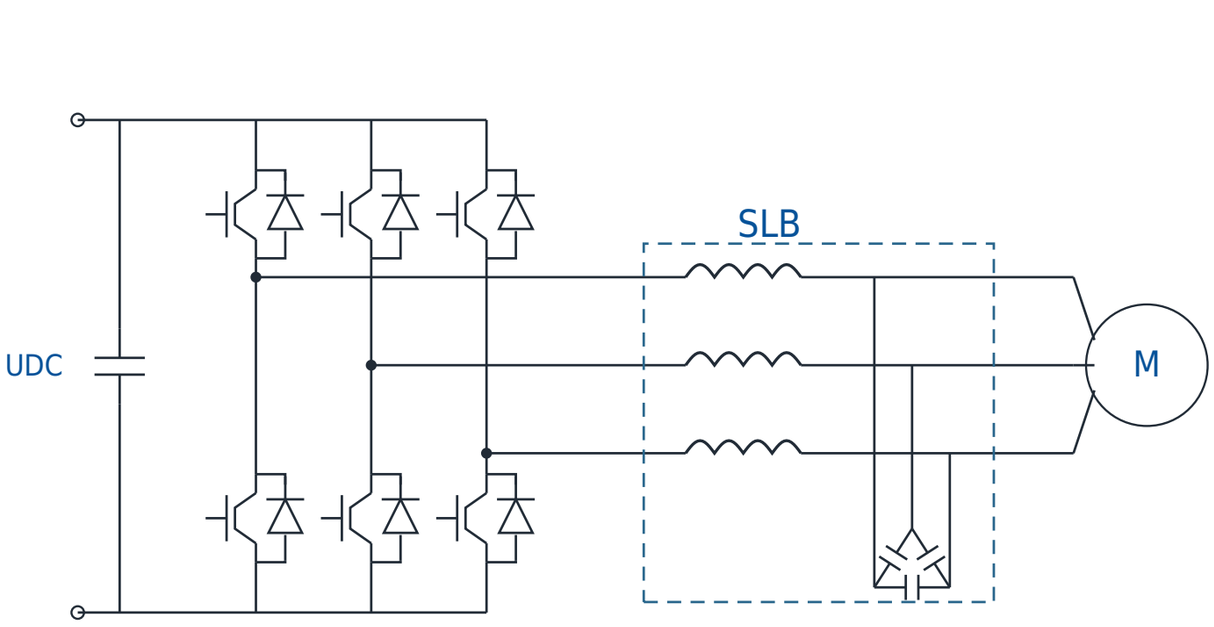
Sine-Wave Filters

Application Circuit

Installed at the VFD output for induction motors to suppress and absorb higher-order harmonics from switching-frequency ripple. Restores a near-sinusoidal waveform, permits substantially longer motor cables, reduces motor eddy-current losses and noise, and protects insulation.





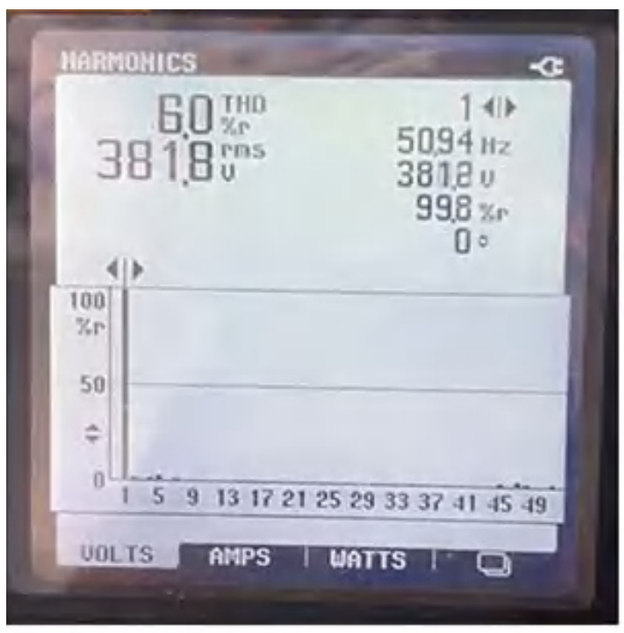
Test Results

Voltage and current waveforms before and after sine-wave filtering:

Before: voltage/current waveforms



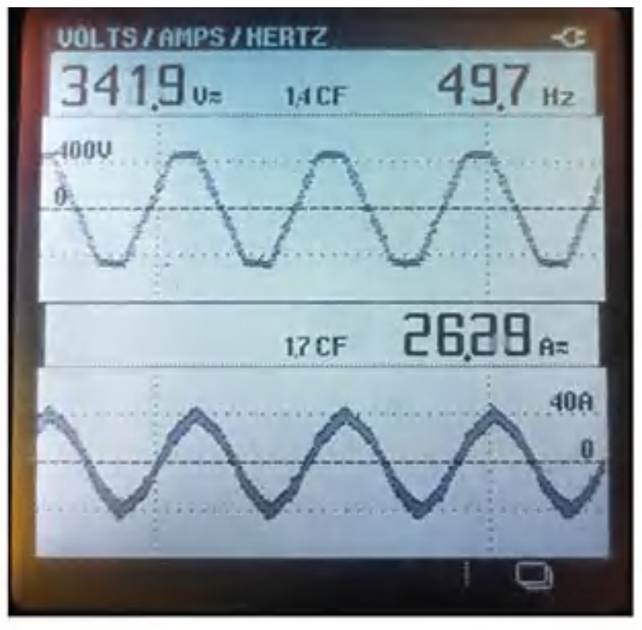
Before: THDv



Before: THDi



After: voltage/current waveforms



After: THDv



After: THDi



Technical Specifications

Rated Voltage	3-AC 400 V / 690 V, 50 Hz
Insulation Class	F/H
Noise Level	≤75 dB
Dielectric Strength	AC 3000 V / AC 4200 V, 50 Hz, 5 s; leakage ≤5 mA (remove capacitors for phase-to-phase test)
Ambient Temperature	−25°C to 55°C
Standards	GB/T 1094.6-2011; IEC 289:1987; GB/T 19212.1-2023

Dimensions and Technical Data

Rated system voltage: 3-AC 400 V; THDv/i ≤5%

Sine-Wave Filter Model	Fig.	Switching Freq. ≥ (kHz)	Drive Power (kW)	Rated Current (A)	Weight (kg)	Dimensions (mm)					
						W	D	H	W0	D0	A×B
SLB-0005-EISC	A-1	5	2.2	5	5.1	150	140	190	60	67	7×11
SLB-0010-EISC		5	3.7	10	6.1	180	155	220	80	67	7×11
SLB-0013-EISC		5	5.5	13	8.8	180	175	220	80	87	7×11
SLB-0016-EISC		5	7.5	16	9.0	180	175	220	80	87	7×11
SLB-0025-EISC	A-2	4	11	25	13.5	230	160	220	110	85	9×18
SLB-0030-EISC		4	15	30	13.8	230	160	220	110	85	9×18
SLB-0040-EISC		4	18.5	40	16.5	230	165	265	110	85	9×18
SLB-0045-EISC		4	22	45	19.3	230	175	265	110	95	9×18
SLB-0060-EISA	B	3	30	60	27.7	260	225	285	140	110	9×18
SLB-0075-EISA		3	37	75	33.8	300	225	295	170	110	11×18
SLB-0090-EISA		3	45	90	35.7	300	230	295	170	110	11×18
SLB-0110-EISA	C	3	55	110	58.5	360	295	380	190	125	13×26
SLB-0150-EISA		3	75	150	67.7	360	305	380	190	135	13×26
SLB-0180-EISA		3	90	180	85.7	430	330	410	240	165	14×28
SLB-0220-EISA		3	110	220	89.4	430	335	410	240	165	14×28
SLB-0260-EISA		3	132	260	115.7	430	360	410	240	195	14×28
SLB-0320-EISA		3	160	320	128.6	430	385	415	240	205	14×28
SLB-0400-EISA		3	200	400	161.9	430	405	515	240	215	14×28
SLB-0480-EISA	D	3	250	480	168.8	430	400	520	240	215	14×28
SLB-0600-EISA		3	315	600	194.3	480	435	545	200	210	14×28
SLB-0800-EISA		2	400	800	266	480	535	655	200	230	14×28
SLB-1000-EISA		2	500	1000	319.6	540	545	685	220	230	14×28
SLB-1200-EISA		2	630	1200	392	600	595	700	240	240	14×28

Fig. A-1

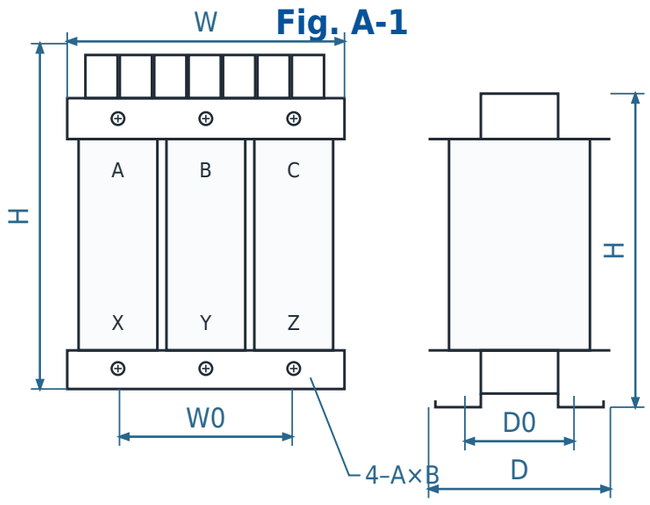


Fig. A-2

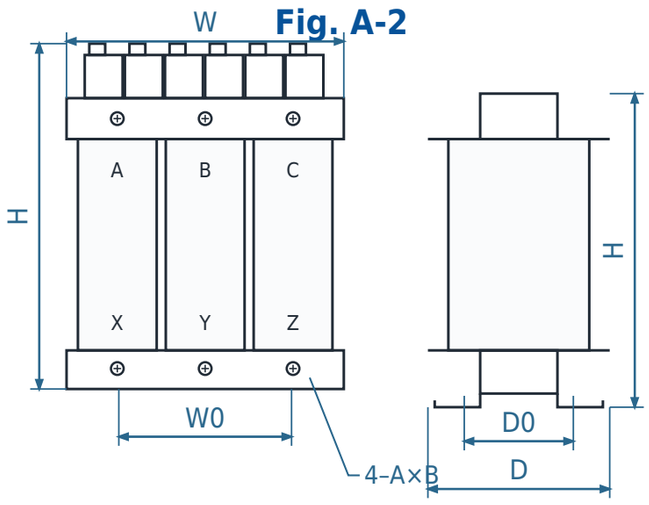


Fig. B

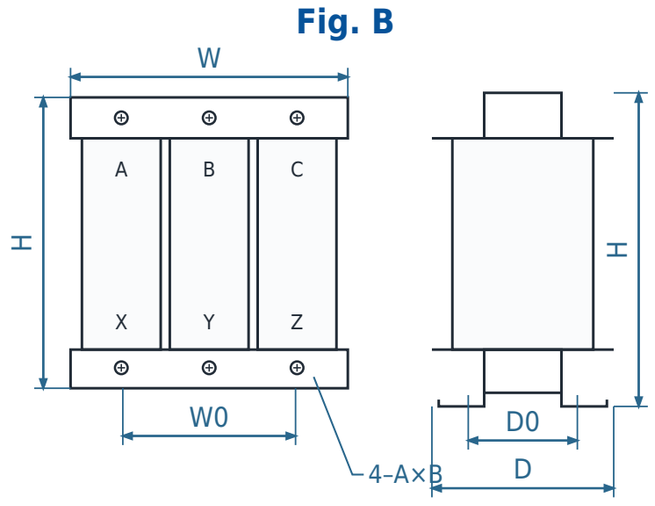


Fig. C

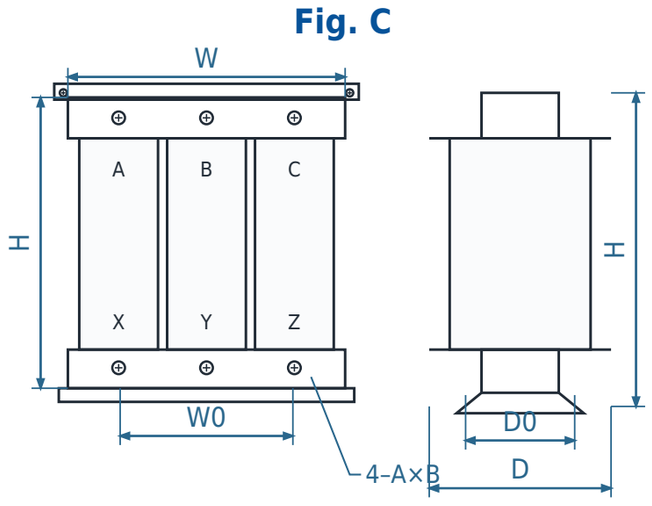
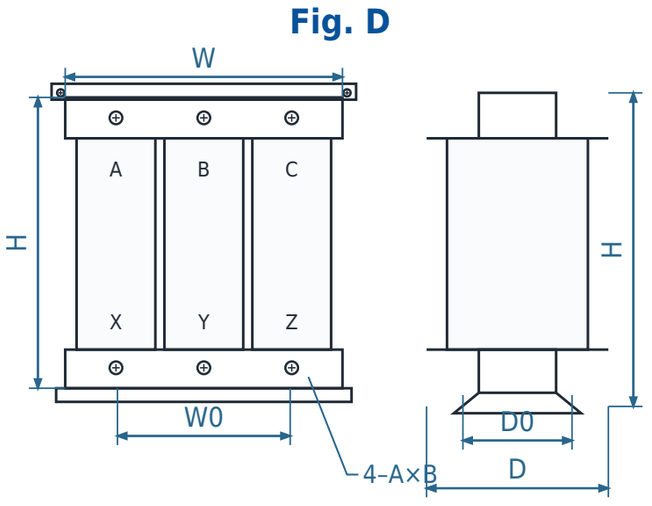


Fig. D



Rated system voltage: 3-AC 690 V; THDv/i ≤5%

Sine-Wave Filter Model	Fig.	Switching Freq. ≥ (kHz)	Drive Power (kW)	Rated Current (A)	Weight (kg)	Dimensions (mm)					
						W	D	H	W0	D0	A×B
SLB-0005-EISC-0690	A-1	3	3.7	5	5.7	180	160	230	80	67	7×11
SLB-0010-EISC-0690		3	7.5	10	7.9	180	165	230	80	67	7×11
SLB-0020-EISA-0690	A-2	2	15	20	20.4	245	190	310	110	100	9×18
SLB-0030-EISA-0690		2	22	30	28.7	260	200	290	140	120	9×18
SLB-0045-EISA-0690	B	2	37	45	50.5	300	280	300	170	145	11×18
SLB-0060-EISA-0690		2	45	60	51.0	300	280	300	170	145	11×18
SLB-0090-EISA-0690	C	2	75	90	90.4	360	345	380	190	170	13×26
SLB-0110-EISA-0690		2	90	110	112.3	430	355	410	240	195	14×28
SLB-0150-EISA-0690		2	110	150	132.4	430	385	410	240	215	14×28
SLB-0200-EISA-0690		2	160	200	163.2	430	385	515	240	215	14×28
SLB-0250-EISA-0690		2	200	250	175.5	430	410	515	240	225	14×28
SLB-0300-EISA-0690	D	2	250	300	204.1	480	450	540	200	220	14×28
SLB-0400-EISA-0690		15	355	400	244.5	480	470	655	200	220	14×28
SLB-0480-EISA-0690		1.5	450	480	297.5	540	480	675	220	220	14×28
SLB-0600-EISA-0690		1.5	560	600	309.7	540	515	680	220	225	14×28
SLB-0800-EISA-0690		1.5	710	800	387.3	600	450 (separate capacitor)	705	240	230	14×28
SLB-1000-EISA-0690		1.5	900	1000	470.6	660	480 (separate capacitor)	725	260	235	14×28
SLB-1100-EISA-0690		1.5	1000	1100	526.6	720	510 (separate capacitor)	750	280	235	14×28

Note: A, B and C are three-phase input terminals; X, Y and Z are three-phase output terminals.