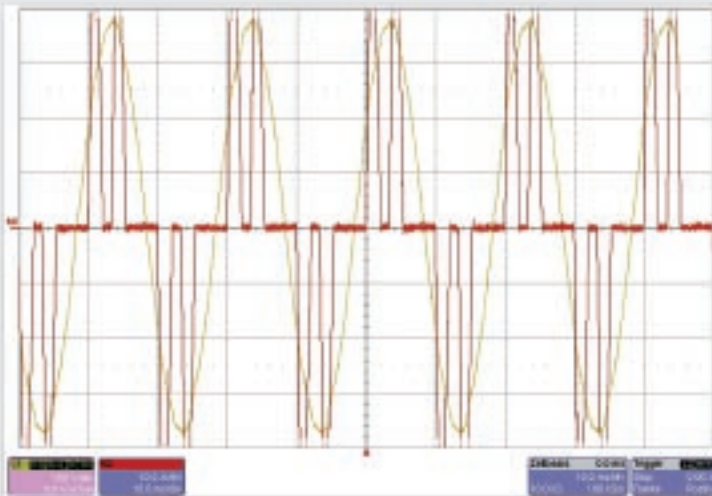
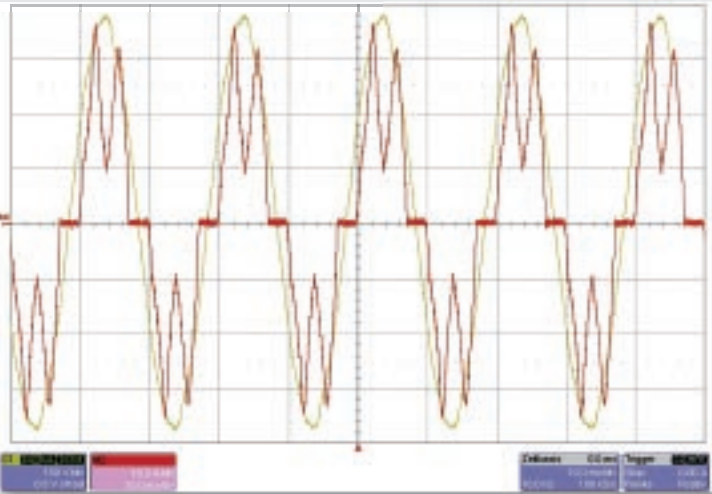


Voltage and current at main

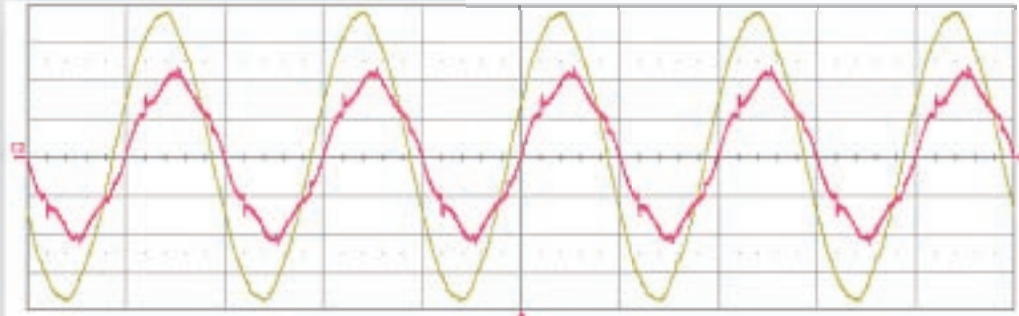
1.) direct feed in



2.) with Mains Input Chokes uk = 4%

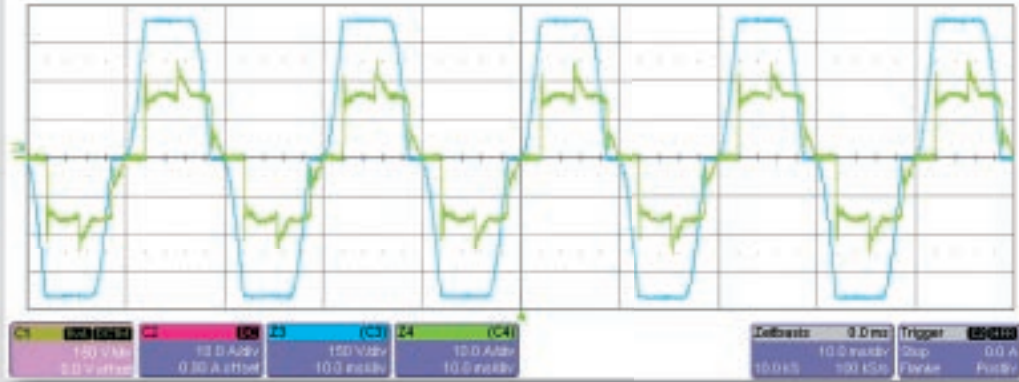


3.) with Harmonic Filter THD ≤ 8%



Input

Voltage and current to the inverter/servo



Output

people in motion



KEB Antriebstechnik Austria GmbH • Ritzstraße 8 • A - 4614 Marchtrenk
Tel.: +43 7243 53586-0 • FAX: +43 (0) 7243 53586-21
Internet: www.keb.at • E-Mail: info@keb.at

KEB Antriebstechnik Austria GmbH / Organizacni slozka • K. Weise 1675/5 • CZ - 37004 České Budějovice
Tel.: +420 38 76991-11 • FAX: +420 38 76991-19
Internet: www.keb.at • E-Mail: info@seznam.cz

KEB Antriebstechnik • Herenveld 2 • B - 9500 Geraardsbergen
Tel.: +32 5443 7860 • FAX: +32 5443 7898
E-Mail: vb.belgien@keb.de

KEB Power Transmission Technology (Shanghai) Co., Ltd - Office Room 401
No. 665 North Songwei Road (New Husong Road), Songjiang District • CHN - 201613 Shanghai, P.R. China
Tel.: +86 21 51095995 • FAX: +86 21 54450115 • Internet: www.keb.cn • E-Mail: info@keb.cn

Société Française KEB • Z.I. de la Croix St. Nicolas • 14, rue Gustave Eiffel • F - 94510 LA QUEUE EN BRIE
Tél.: +33 1 49620101 • FAX: +33 1 45767495
Internet: www.keb.fr • E-Mail: info@keb.fr

KEB (UK) Ltd. • 6 Chieftain Buisness Park, Morris Close • Park Farm, Wellingborough, GB - Northants, NN8 6 XF
Tel.: +44 1933 402220 • FAX: +44 1933 400724
Internet: www.keb-uk.co.uk • E-Mail: info@keb-uk.co.uk

KEB Italia S.r.l. • Via Newton, 2 • I - 20019 Settimo Milanese (Milano)
Tel.: +39 02 33535311 • FAX: +39 02 33500790
Internet: www.keb.it • E-Mail: info@keb.it

KEB - Japan Ltd. • 15 - 16, 2-Chome • Takanawa Minato-ku • J - Tokyo 108 - 0074
Tel.: +81 33 445-8515 • FAX: +81 33 445-8215
Internet: www.keb.jp • E-Mail: info@keb.jp

KEB KOREA • Representative Office, Room 1709, 415 Missy 2000, 725 Su Seo Dong, Gang Nam Gu
ROK - 135-757 Seoul / South Korea
Tel.: +82 2 6253-6771 • FAX: + 82 (0) 2 6253-6770 • Internet: www.kebkorea.com • E-Mail: vb.korea@keb.de

KEB - RUS Ltd. • Dolgorukovskaja str. 33, Building 8 • RUS - 127006 Moscow / Russia
Telefon + 7 499 9723162 • Telefax +7 499 9789573
E-Mail: info@keb.ru

KEB Sverige • Box 265 (Bergavägen 19) • S - 43093 Hälsö
Tel.: +46 31 961520 • FAX: +46 31 961124
E-Mail: vb.schweden@keb.de

KEB España • C / Mitjer, Nave 8 Poligono Industrial "La masia" • E - 08798 Sant Cugat Segrarriques (Barcelona)
Tel.: +34 93 8970268 • FAX: +34 93 8992035
E-Mail: vb.espana@keb.de

KEB America, Inc. • 5100 Valley Industrial Blvd. South • USA - Shakopee, MN 55379
Tel.: +1 952 2241400 • FAX: +1 952 2241499
Internet: www.kebamerica.com • E-Mail: info@kebamerica.com

KEB Antriebstechnik GmbH • Wildbacher Str. 5 • D - 08289 Schneeberg
Telefon +49 3772 67-0 • Telefax +49 3772 67-281
Internet: www.keb.de • E-Mail: info@keb-combidrive.de

Karl E. Brinkmann GmbH
Försterweg 36 - 38 • D - 32683 Barntrup
Telefon 05263 401-0 • Telefax 401-116
Internet: www.keb.de • Email: info@keb.de

COMBILINE

HARMONIC
FILTER
SOLUTIONS

© KEB 00.00.000-5HFS 09/2006 - Subject to technical changes -



patent pending



The sinusoidal current input

Of electrical equipment with a B6 rectifier as a front end has traditionally meant having complex external 'front end' compensation components to rectify the waveform, which are commonly located in a facility installations, until now.

The new **KEB COMBILINE HARMONIC FILTER** is the latest innovative solution designed by our team of highly skilled engineers to combat such problems. It can be designed in at the planning stage and simply replace the traditional line reactor. With this solution compliance to the following standards.

- IEEE 519 - 1992 (USA)
- G5/4 Engineering Recommendation (GB)
- EN 61000-3-2; bis16 A
- EN 61000-3-12; 16 A bis 75 A
- EN 61000-3-4
- EN 12015 (lift norm Europa)
- AS 2279 (Australia)
- COP, supply rules (Hongkong)
- Quality of Electric Energy Supply, Harmonics in Public Supply Network (China)

Through this new concept of filter design 'network friendly' energy consumption is achieved at an affordable cost. In short,

the **KEB COMBILINE HARMONIC FILTER**

is the new universal product for all consumers with B6 inputs.



The unique characteristics are

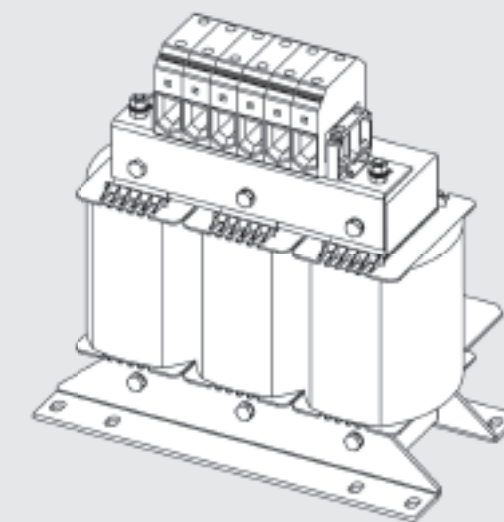
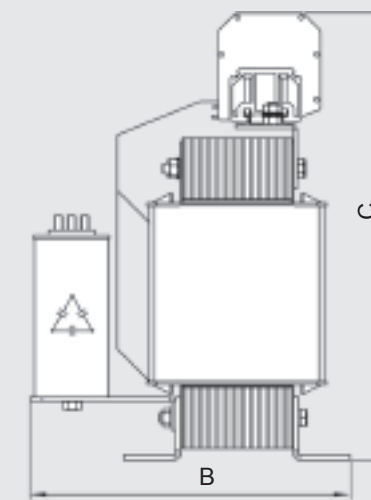
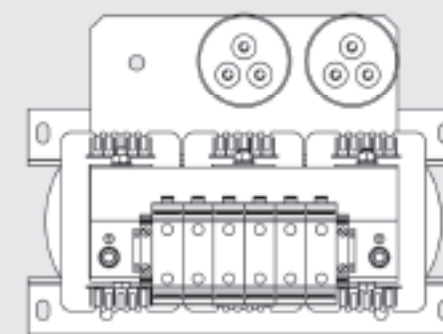
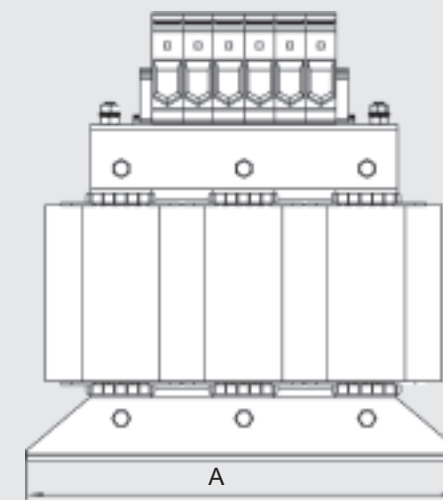
- **compliance with the specified standards - sinusoidal current to the mains**
- **installation solution ready-for-connection, very small design**
- **no oscillation at load changes**
- **minor voltage drop compared to the line reactor**
- **unlimited number of parallel consumers per unit possible**
- **optimised design for generators in stand-alone operation**
- **protection of drives in case of „weak“ and „oscillating“ mains**
- **increased lifetime of inverter DC bus capacitors**
- **For plant modernization / upgrading**
no further compensation equipment necessary

Rating Table 400V-class Harmonic Filter- THD ≤ 8 % / PWHD ≤ 15 %					
Part number	I _{rating} [A]	A [mm]	B [mm]	C [mm]	weight [kg]
09.Z1.C04-1000	4,3	178	142	170	5,8
12.Z1.C04-1000	10	219	170	233	11,5
13.Z1.C04-1000	12,6	243	195	230	13,4
14.Z1.C04-1000	17,3	291	192	256	18,2
15.Z1.C04-1000	25,2	291	214	257	25,5
16.Z1.C04-1000	34,7	352	240	324	38,5
17.Z1.C04-1000	44,1	352	261	324	47,1
18.Z1.C04-1000	52,5	352	260	337	54,6
19.Z1.C04-1000	63	352	307	326	63
20.Z1.C04-1000	79	388	296	360	72,8
21.Z1.C04-1000	95	412	320	405	96
22.Z1.C04-1000	121	412	378	404	108
23.Z1.C04-1000	158	480	416	475	162
24.Z1.C04-1000	189	552	481	472	172
25.Z1.C04-1000	221	552	550	520	244
26.Z1.C04-1000	263	552	567	545	242
27.Z1.C04-1000	315	552	635	550	294
28.Z1.C04-1000	390	651	530	629	252
29.Z1.C04-1000	460	660	670	650	513

- further ratings by parallel operation of similar sizes
- input voltage 460 V / 60 Hz: $I_{\text{rating}} \times 0,86$

Rating Table 400V-class Harmonic Filter- THD ≤ 15 % / PWHD ≤ 38 %					
Part number	I _{rating} [A]	A [mm]	B [mm]	C [mm]	weight [kg]
07.Z1.C04-1001	2,4	148	134	163	2,6
10.Z1.C04-1001	6,1	178	128	168	4,8
12.Z1.C04-1001	10	175	145	220	6,8
13.Z1.C04-1001	12,6	220	155	250	8,7
14.Z1.C04-1001	17,3	243	185	260	12,2
15.Z1.C04-1001	25,2	267	171	285	16,3
16.Z1.C04-1001	34,7	291	205	275	22,6
17.Z1.C04-1001	44,1	291	215	280	27
18.Z1.C04-1001	52,5	316	256	300	33
19.Z1.C04-1001	63	316	242	297	35,8

- further ratings by parallel operation of similar sizes
- input voltage 460 V / 60 Hz: $I_{\text{rating}} \times 0,86$



Technical data

protection class	IP20, open style
cooling	convection
max. leakage current	0 mA (option with HF Filter ≤ 7 mA)

efficiency	> 98 %
overload	150 % - 60 Sec.
temperature	storage -25 ...70 °C operation -10 ...45 °C

climatic category	3K3 (EN 60721-3-3)
enviroment (IEC 664-1)	degree of pollution 2
vibration / shock	Germanic Lloyd, EN 50155
installation position	vertical / horizontal with arrangement of the capacitor beneath the choke

techn. bases	EN 61558-2-20, VDE 0160
in preparation	UL-, cUL- acceptance

subject to technical changes

