

POWERNAC Harmonic Filter for VFD

Introduction:

Most of the mentioned filtering techniques have common draw back of higher cost compared to Passive Filtering techniques. Consequently, the harmonic filtering techniques to a large extent are still the most commonly used techniques for current harmonics mitigation of 6-pulse front-end diode rectifier application.

We have developed an efficient Passive Filter, which can suit many such similar loads. Since all filter components are passive they are rugged, maintenance free, reliable and low cost. Moreover, the filter implementation procedure is relatively easy.

With simple structure, our Passive Filters have been extensively used for VFD harmonic mitigation. No involvement of electronic circuits, hardware and complicated control algorithms. Hence, our Passive Harmonic Filters are relatively inexpensive means for eliminating current harmonics distortion and improving the system power factor. Because of these two in one improvement our broad band filters usually have edge over the other effective filtering methods.



Specifications:

Technology Passive Broad Resonant

Type 3P 3W

Output Load Type 6 Pulse Variable Rectified Supply Voltage 415VAC ± 10%, 3 Phase

50Hz ± 1Hz

Frequency I/p Voltage Unbalance 1% Max 6% Max Source Impedance Min Source Impedance 1.5% Continuous Operating Ambient Temp. -20°C to +50°C

Overload 150% for 1-minute duration with

10% output voltage reduction

of nominal voltage

Total Current harmonic <9% at 30% Load <8% at 50-60% Load distortion@THD-V<3%

<8% at 60-90% Load <5% at 90-100% Load

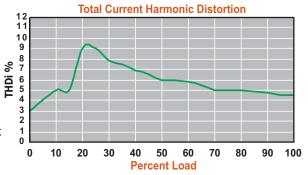
IP 20 Protection

Benefits:

- Helps meet IEEE-519 requirements
- Gurantees THDi performance of 8% Max at 50% load, 5% Max at full load
- Meets the voltage and current distortion limits of IEEE-519
- Saves energy by eliminating the wasted energy associated with harmonics, therefore reducing the true RMS KVA demanded from your power source.
- Suitable for speed controllers or inverters
- Reduces energy costs
- Increases equipment reliability by absorbing transients and voltage surges
- Increases equipments life by reducing heat associated with harmonic currents
- Improves power factor
- Reduces THD-V to meet power quality standards.

Design Features:

- Uses fewer capacitors while maintaining 98% efficiency.
- More consistent power factor across the load range.
- Improves C/L ratio, which decreases potential resonance.
- Lowers capacitance resulting in less voltage rise at no load, at PCC (Point of Common Coupling) and on the DC Bus.



Models for VFD ratings:

- NECPL-11-415-3P3W
- NECPL-15-415-3P3W 15 KW
- NECPL-18.5-415-3P3W 18.5 KW
- NECPL-22-415-3P3W 22 KW
- NECPL-30-415-3P3W -30 KW
- ** Other ratings on request

- NECPL-37-415-3P3W 37 KW
- NECPL-45-415-3P3W 45 KW
- NECPL-55-415-3P3W 55 KW
- NECPL-75-415-3P3W 75 KW
- NECPL-90-415-3P3W 90 KW
- NECPL-110-415-3P3W 110 KW
- NECPL-132-415-3P3W 132 KW
- NECPL-160-415-3P3W 160 KW
- NECPL-185-415-3P3W 185 KW
- NECPL-200-415-3P3W 200 KW



NAAC ENERGY CONTROLS PVT LIMITED

C-135, Hos. Complex, Phase-II Extn., Noida-201305 (UP) INDIA Tel.: 0120-4221631 to 33 Fax: 0120-4221635

Email: info@naacenergy.com Web: www.naacenergy.com