

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 \pm 10%, 3 Phase
Frequency	50Hz \pm 1Hz
I/p Voltage Unbalance	1% Max
Max Source Impedance	6%
Min Source Impedance	1.5%
Duty	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 distortion @ THD-V <3%	<9% at 30% Load <8% at 50-60% Load <8% at 60-90% Load <5% at 90-100% Load
Protection	IP 20

Benefits :

- Helps meet IEEE-519 requirements
- Guarantees 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 - 11 KW	● NECPL-37-415-3P3W - 37 KW	● NECPL-110-415-3P3W - 110 KW
● NECPL-15-415-3P3W - 15 KW	● NECPL-45-415-3P3W - 45 KW	● NECPL-132-415-3P3W - 132 KW
● NECPL-18.5-415-3P3W - 18.5 KW	● NECPL-55-415-3P3W - 55 KW	● NECPL-160-415-3P3W - 160 KW
● NECPL-22-415-3P3W - 22 KW	● NECPL-75-415-3P3W - 75 KW	● NECPL-185-415-3P3W - 185 KW
● NECPL-30-415-3P3W - 30 KW	● NECPL-90-415-3P3W - 90 KW	● NECPL-200-415-3P3W - 200 KW

** Other ratings on request

