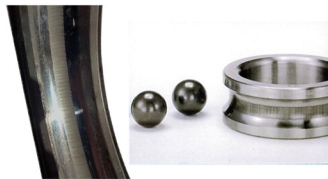




Filter Design Guide for Reducing Motor Bearing and Stray Ground Currents

MH&W presents CoolBLUE® inductive absorbers, and NaLA® differential mode line absorbers for the highest reliability and longevity of your motor!

Variable frequency drive (VFD) systems create damaging motor bearing currents. If these currents aren't filtered or "choked" – bearing fluting, frosting, breakdown of lubrication, electrical discharge machining (EDM), and motor bearing failure will result. CoolBLUE® with NaLA® absorbs this damaging current before it gets to the motor.



What is a common mode choke?

A common mode choke is an inductor that is used to prevent unwanted electric signals and energy from being transmitted along undesired paths or into inappropriate parts of an electric circuit or system.

CoolBLUE® cores act as a common mode choke, absorbing the high frequency noise, so you can maximize equipment reliability, reduce maintenance costs and minimize or avoid unscheduled downtime.

What is a differential mode line absorber?

NaLA® differential mode line absorbers further reduce the current and slow the frequency down to even lower levels for the highest reliability of your system!



Product Features

- Common Mode Choke
- All power ranges in oval or round shape
- Simple selection
- Easy installation
- Lasts a lifetime
- No maintenance.



CoolBLUE® and NaLA® solutions are used in:

- OEM manufacturers of HVAC equipment
- All International VFD manufacturers
- Paper manufacturing
- Hospital, office, and commercial buildings
- Automotive manufacturing
- All types of pumps and fans
- Wind, solar, and other renewable energies



No Maintenance...unlike motor shaft products subject to rust, dirt, grease, and worn grounding brushes.

The CoolBLUE® cores have already saved millions of \$\$ in the world's industrial plants, hospitals, and office buildings by avoiding down time and equipment failures.

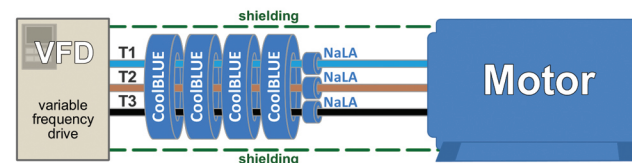
In order to achieve an effective reduction in destructive currents, four or more CoolBLUE® cores have to be placed in series over the line power cables at the inverter output. In this configuration, the cores operate as a common mode choke.

This method significantly increases the service life of the motor bearings and thus reduces maintenance costs and standstill periods.

CoolBLUE® - VFD Application Guide

CoolBLUE Cores per Horsepower and Cable Length

CoolBLUE Round				M-116	M-117	
CoolBLUE Oval	M-049 use with NaLA	M-049 use with NaLA	M-283	M-302	M-111	M-283
Power Range (hp)	1/4 to 10	11 to 50	51 to 100	101 to 428	429 to 1632	1632+
Cable Length	# Cores	# Cores	# Cores	# Cores	# Cores	# Cores
150ft/50m	2	4	4	4	4	4
300ft/100m	2	4	4	4	4	4
450ft/150m	2	4	6	6	6	6
900ft/300m	4	8	8	8	8	8



In applications where high reliability is needed, or 10hp motors and below, the use of NaLA® differential mode line absorber is necessary. The use of NaLA® increases the reliability of these systems by further reducing the noise and peak values. These cores must be placed around each individual cable.

NaLA® - VFD Application Guide

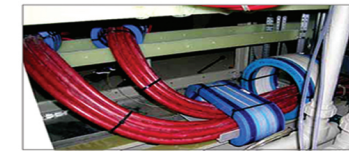
NaLA® Cores per Horsepower and Cable Length

NaLA Part#	M-053	M-102	M-381	M-613	M-614	M-616
Power Range (hp)	1/4 to 10	11 to 40	41 to 102	103 to 428	429 to 1632	1632+
Cable Length	# Cores	# Cores	# Cores	# Cores	# Cores	# Cores
150ft/50m	2	1	1	1	1	1
300ft/100m	3	2	2	2	2	2
450ft/150m	4	3	3	3	3	3
900ft/300m	6	4	4	4	4	4

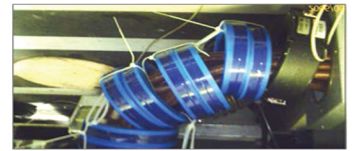
It is important to use the correct number of cores to prevent the cores from getting too hot.

CoolBLUE® and NaLA® are easy to choose, with fast installation in all VFD applications!

High Voltage (HV)



800 hp



Flat Wire



Multiconductor



Typical VFD Drive Installations



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