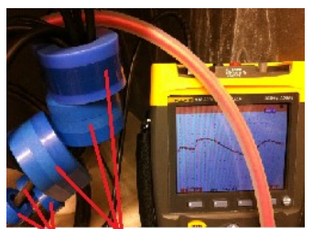
CoolBLUE®
Inductive Absorbers

Testing is simplified with the MH&W DCM100 Damaging Current Meter.

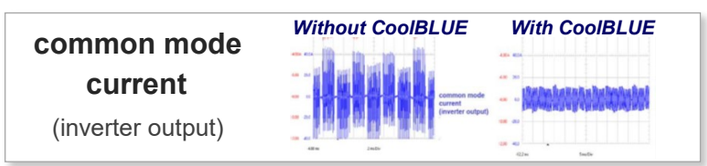
DCM100 is comprised of an integrated oscilloscope, Rogowski coil, coil integrator, and Windows tablet. Software of the DCM100 has everything you need to diagnose your system for the exact CoolBLUE system solution.



NaLA CoolBLUE

Other tools are available for test and evaluation.

Certified engineers are available for onsite testing. *Contact Wolters for more information.*



For More Information,
Please Contact Scott Blake at Wolters

Call us: **888-965-8377**

Email us: ***scott@woltersmotors.com***

Visit: ***http://www.CoolBLUE-MHW.com***

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Duluth, GA 30096

Motor control and motor bearing protection for the real world.

CoolBLUE® Inductive Absorbers

Common Mode Choke VFD Design Guide for Reducing Motor Bearing Currents

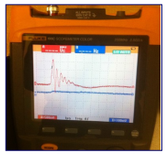
NEW FROM WOLTERS

Wolters 888-965-8377
678-417-5830
CoolBlue@MHW-Intl.com

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.



High frequency noise generated by VFD

Fluting from CM currents

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!

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

Product Features

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

CoolBLUE® and NaLA® solutions are used in:

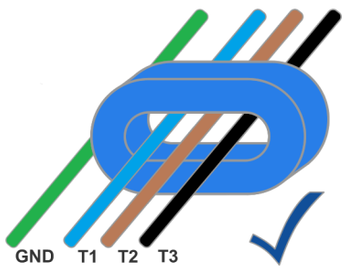
- OEM manufacturers of HVAC equipment.
- All International VFD manufacturers.
- Paper mill manufacturing
- Hospitals
- Automotive manufacturing
- All types of pumps and fans
- Alternative energy

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.



Correct Installation

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-248**
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

Note 1 *– CoolBLUE normal operation is below 158°F/70°C. It is important to use the correct number of cores to avoid saturation.*
****Note 2*** *– On motors up to **10hp**, two turns are needed through the cores (pass cable through cores twice).*
Note 3 *– Data above is for information and guideline purposes. Contact MH&W Engineering for detailed information.*
Note 4 *– Round and oval shaped cores are for ease of installation and mechanical functionality. Round and oval cores have same basic electrical absorption.*
Note 5 *– Cores must be installed on the load side of the drive only. If possible, installing cores in a drive cabinet is preferred.*
Note 6 *– Do not place conductive wires through the cores for holding cores in place. MH&W offers brackets, and cable ties to hold cores in place.*

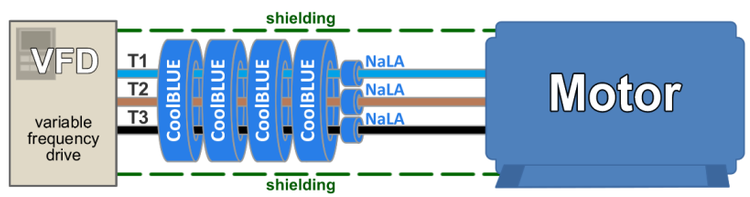
NaLA® - VFD Application Guide

NaLA® Cores per Horsepower and Cable Length

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.

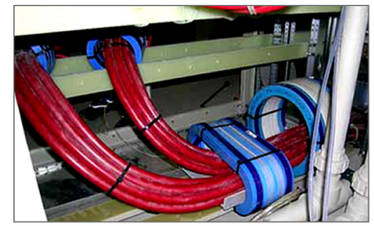
NaLA® Part#	M-053	M-102	M-381	M-613	M-614	M-616
Power Range (hp)	1/4 to 10	11 to 40	41 to 102	103 to 428	429 to 1631	1632+
Cable Length	# Cores	# Cores	# Cores	# Cores	# Cores	# Cores
150ft/50M	2	1	1	1	1	1
300ft/100M	3	2	2	2	2	2
450ft/150M	4	3	3	3	3	3
900ft/300M	5	4	4	4	4	4

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

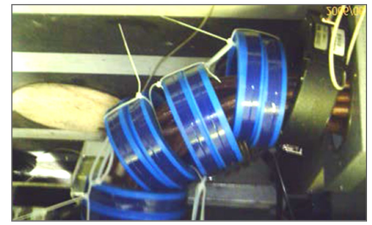


Installation Examples

High Voltage (HV)



800 hp



Flat Wire

Multiconductor

Typical VFD Drive Installations