

You need motor control and motor bearing protection

◆ NOT Mechanical

Mechanical solutions wear out and have to be replaced.

◆ Easy to Install

Installation can be anywhere on the three phase lines leading to the motor.

◆ Last a Lifetime! Recyclable!

These cores can be moved from motor to motor, line to line, as needed. They will not wear out.



MH&W *DIRECT*

B2B E-Commerce Site

buy samples and small quantities online

<http://direct.mhw-intl.com>

For More Information, Please Contact MH&W

Call us: **201-891-8800**

Email us: **CoolBlue@MHW-Intl.com**

MH&W International Corp.

575 Corporate Drive Mahwah, NJ 07430



Motor control and motor bearing protection for the real world.

CoolBLUE[®] Inductive Absorbers

Common Mode Choke
Design Guide for Reducing
Motor Bearing Currents



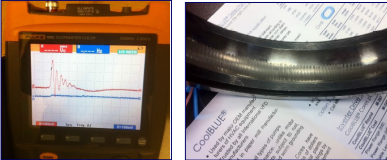
MH&W 201-891-8800

CoolBlue@MHW-Intl.com

Common Mode Choke Design Guide for Reducing Motor Bearing Currents

MH&W presents CoolBLUE® inductive absorbers.

High power inverter drive systems create damaging motor bearing currents. If these currents aren't attenuated or "choked" – bearing fluting and frosting, breakdown of lubrication, electrical discharge machining (EDM), and motor bearing failure will result. CoolBLUE® cores absorb this damaging current before it gets to the motor.



High frequency noise generated by VFD

Fluting from CM currents

CoolBLUE® cores act as a single turn 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 common mode choke?

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.

Easy, fast installation in all applications!

CoolBLUE® solutions are very easy to install, and last a lifetime.

CoolBLUE® cores never need replacing or maintenance.

CoolBLUE® Applications

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

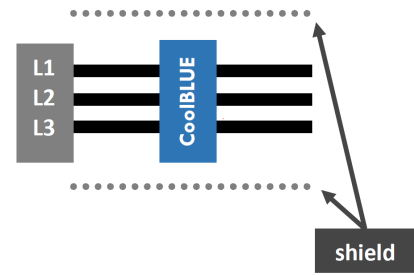
No Maintenance...unlike motor shaft products subject to rust, dirt, grease, and worn grounding brushes.

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.

Product Features

- Single Turn Common Mode Suppression Choke
- Available for all power ranges
- Large variety of sizes
- Available in toroid and oval shapes
- Simple selection and installation

In order to achieve an effective reduction in destructive currents, four or more CoolBLUE® 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® Selector Guide

How to choose the right core for your application.

- Option 1
Inverter Drive Application Guide
- Select a set of CoolBLUE® cores according to rated HP/ KW of motor and drive.
 - Use minimum of 4 cores per system.
 - Cores must be between drive and motor.
 - Install the cores on load side as close to drive as possible per table below.



- Option 2
- Call MH&W Engineering at **201-891-8800**
- or-
- Send an email to CoolBlue@mhw-intl.com

Inverter Drive Application Guide

CoolBLUE® Cores per Power Range and Cable Length

CoolBLUE® Round	M-367	M-367	M-367	M-113	M-116	M-117	
CoolBLUE® Oval	M-049	M-049	M-049	M-283	M-302	M-111	M-248
Power Range (KW)	0.185 - 5.60	7.5 - 29	30	75	315	1200	Larger
Power Range (HP)	1/4 - 7.4	7.5 - 49	50	100	428	1632	Larger
Cable Length	# Cores	# Cores	# Cores	# Cores	# Cores	# Cores	# Cores
150ft/50M	Call Us	Call Us	4	4	4	4	4
300ft/100M	Call Us	Call Us	6	4	4	4	4
450ft/150M	Call Us	Call Us	6	6	6	6	6
900ft/300M	Call Us	Call Us	8	8	8	8	8

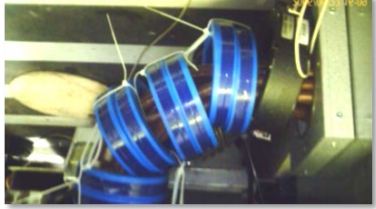
- Note 1** Normal operation of CoolBLUE® cores are below 158°F/70°C. However, if the cores are saturated they can get hot – reaching temperatures above 158°F/70°C. Saturation can occur if the motor cables are too long, motor cables are paralleled or high capacitance motor cables not suitable for frequency converter operation are used. It is important to use the correct number of cores to avoid saturation.
- Note 2** Data above is for information and guideline purposes. Please contact MH&W Engineering for detailed information.
- Note 3** Round and oval shape cores are for ease of installation and mechanical functionality. Round and oval cores listed above have same basic electrical absorption
- Note 4** Cores must be installed on the load side of drive only. If possible, installing cores in a drive cabinet is preferred.
- Note 5** 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.

Installation Examples

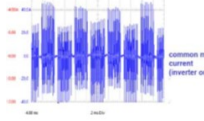
DC Link



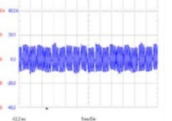
Flat Wire



Without CoolBLUE



With CoolBLUE



Current OEM Customers of CoolBLUE®

