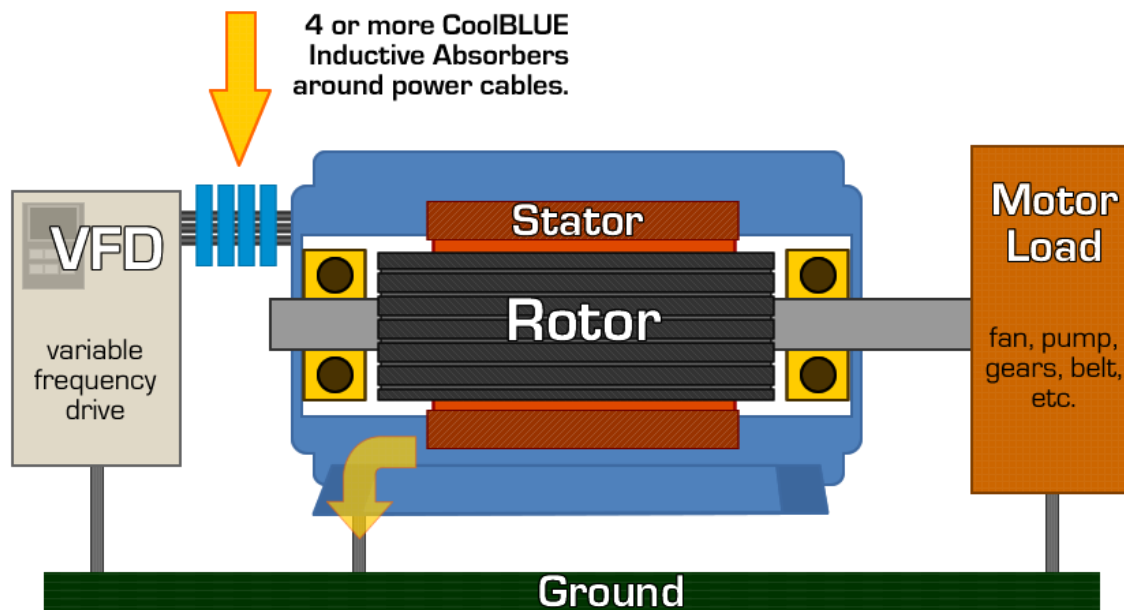


# CoolBLUE<sup>®</sup> and NaLA<sup>®</sup>

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## CoolBLUE and NaLA Installation Guide

CoolBLUE<sup>®</sup> Inductive Absorbers and NaLA<sup>®</sup> Noise Line Absorbers



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CoolBLUE<sup>®</sup> and NaLA toroid are used to reduce damaging motor bearing currents in modern high power inverter systems operating at high switching frequencies. Results of these unwanted currents - Bearings corrugate, leading to electrical breakdown in the lubrication, electrical discharge machining, and ultimately motor bearing failure.

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



**Follow all workplace safety policies and procedures applicable to electrical testing, motor diagnoses, motor and electrical repair, and any other hazardous potentials. Wear all applicable personal protective equipment required by the applicable law including protective eye glasses, safety shoes, and hats if required.**



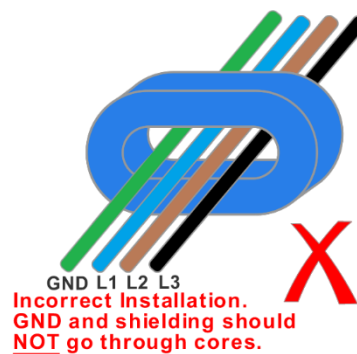
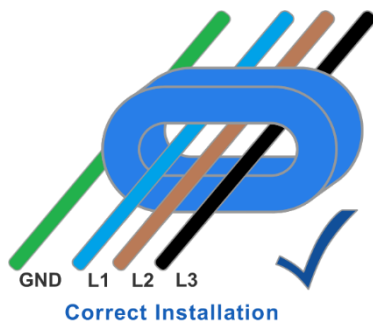
**Employees should be informed of the relevant safety rules and employers should enforce compliance. The manufacturer shall not be liable for any injury, loss or damage, direct or consequential arising out of the use, or attempt to use the product or procedures described in this guide.**

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## Correct Installation of CoolBLUE cores

- 3 power phases must go through cores as shown below.
- No grounding wire or shielding.
- In the case of multiple conductors, all power conductors go through cores. Again, not ground or shielding.



Below is example of multi-conductor cables per phase.



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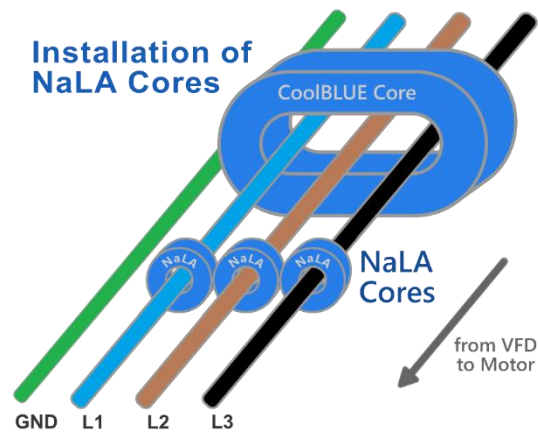
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## Correct Installation of NaLA cores

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- Each power cable must have at least one NaLA core installed, as shown below.
- No grounding wire or shielding.
- In the case of multiple conductors, all power conductors will need at least one core per cable. Again, not ground or shielding.

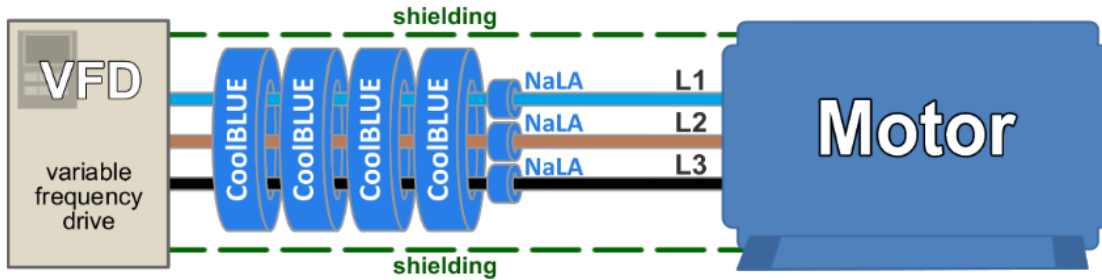


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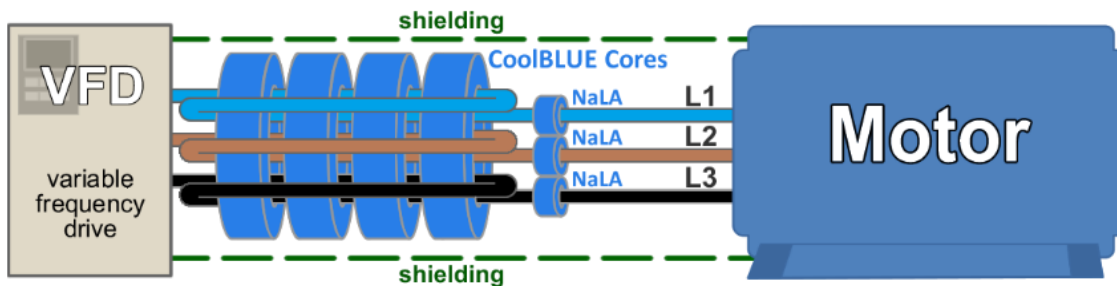
CoolBLUE and NaLA (if applicable) must be installed as closed to the VFD as possible.

CoolBLUE cores are installed first, then NaLA (if applicable), as shown below.



¼ hp to 10hp must have power cables run through CoolBLUE cores twice (two turns) in order to provide enough inductance to properly suppress common mode peak current. NaLA is applicable in all ¼ hp to 10hp motors, and only one turn per NaLA core.

Below is a simple diagram showing two turns through CoolBLUE, and one pass through NaLA after CoolBLUE cores.



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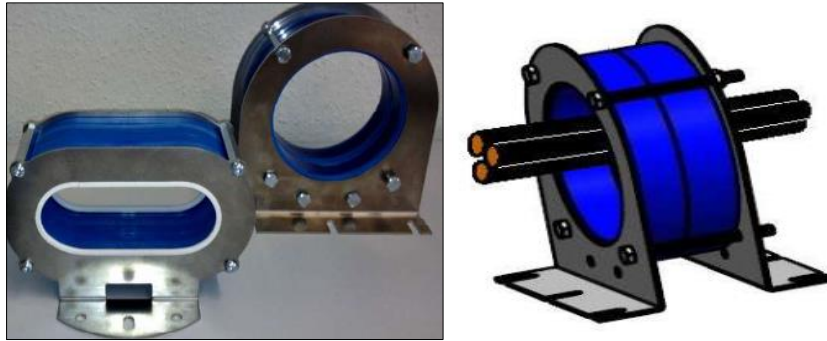
## Mounting CoolBLUE cores

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Because of the size and weight of CoolBLUE cores, it may be necessary to clamp and mount the cores to the wall of the drive, or other area between drive and motor. This is on a per need basis. It is not required, but does make the system look more esthetic, and provides support for heavier cores.

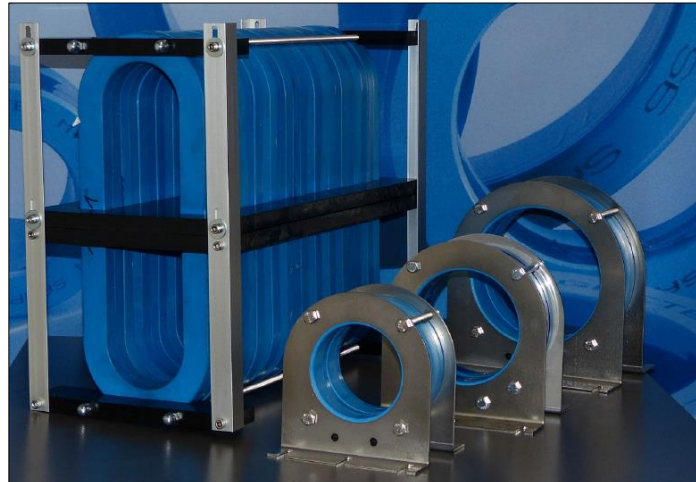
Available are special made brackets, with threaded rod, that can easily clamp and mount the cores to a structure.

Two core bracket configuration example.



There are a variety of bracket sizes to fit all CoolBLUE cores. NaLA cores do not require any type of mounting, because of their size, weight, and how they are installed.

*\*It is very important to note that no metal (other than power cables) passes through the cores. The configuration of CoolBLUE cores is a common mode choke on the power cables. By passing other metals through the cores, except power cables, will negate the effects of absorption.*



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Each kit comes with the appropriate size and amount of CoolBLUE cores per horsepower of system, and length of power cable between drive and motor. ALL cores must be used according to kit.

Power down system according to all applicable guidelines. For safety, insure that all power is off before beginning to work on system.

1. Choose appropriate kit per horsepower of motor, and cable length.
2. CoolBLUE cores come tied together with cable ties. It is best to leave the cores in this configuration. In some cases, there may be a need to remove the cable ties, and mount using brackets, to the inside wall of the drive. See section \_\_\_\_ above for more information.
3. Disconnect the three phases from the drive, carefully identifying the location of each power cable.
4. Place the appropriate type and amount of NaLA cores around each power cable.
5. Place the appropriate type and amount of CoolBLUE cores around ALL power cables.
6. Reconnect the power cables appropriately.

System is now ready to be used.

For more information please call MH&W at **201-891-8800**

or visit <http://www.CoolBLUE-MHW.com>

or email [CoolBLUE@MHW-Intl.com](mailto:CoolBLUE@MHW-Intl.com)

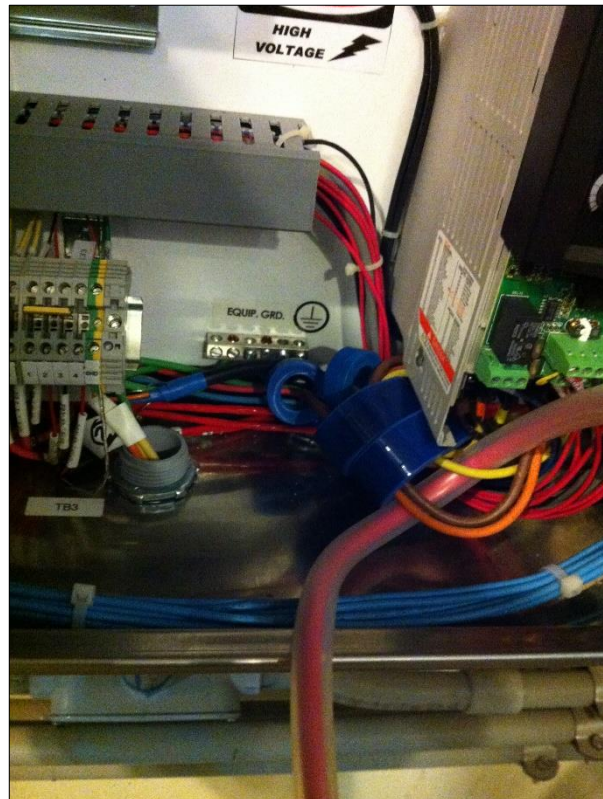
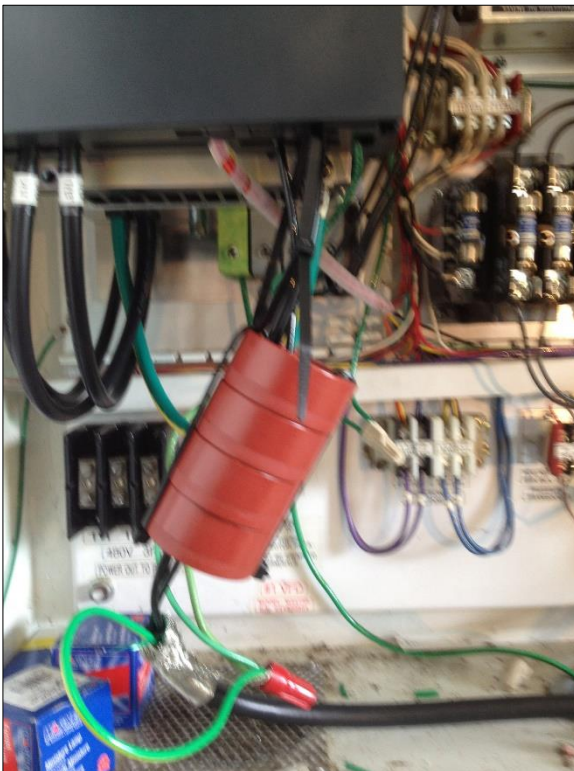
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## Installation Examples

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## Installation Examples

