

# Blue Chip<sup>®</sup> Crusher Duty Motors

Motors Built Like a ROCK!



Blue Chip<sup>®</sup> -  
Crusher Duty

Our Blue Chip<sup>®</sup> Crusher Duty motor is built tough for the toughest environments and applications in the aggregate industry. Totally enclosed cast iron construction protects against moisture, dust, and other contaminants, thus prolonging life and reducing unnecessary downtime. Additional epoxy coatings on the rotor and interior walls of the stator protect against corrosion and rust.

Rugged die cast aluminum rotors are precision balanced. This reduces overall system vibrations, thereby increasing equipment longevity. Vibration tests are documented and shipped with each motor as standard.

Our cool running bearings are designed to exceed a minimum B-10 life of 100,000 hours for direct coupled loads and meet the IEEE 841 standard of 26,300 hours for NEMA belted loads.

## The Marathon Insulation System Creates Unequaled Performance...

Our Blue Chip<sup>®</sup> Crusher Duty motor extends the motor's winding life by using a Class F insulation system that is designed to operate with a Class B temperature rise at full load. Consequently, a motor that operates cooler has a prolonged life.

Our insulation system incorporates additional coil bracing with two dips and bakes of 100% solids insulating varnish for additional durability and long life. An epoxy overcoat is then layered on the stator windings for added protection.

## An Advanced Bearing System For Reliable Performance...

The bearing system used in the Blue Chip<sup>®</sup> Crusher Duty motor has been designed and engineered for continuous, reliable performance and easy maintenance. An oversize roller bearing is offered as standard on the drive end. A ball bearing on the drive end is available for direct connected applications.

Our bearing system incorporates a high temperature urea based grease for dependable operation along with grease inlet and relief fittings for ease of maintenance. The shaft seals are Inpro<sup>®</sup> Smart Ring Plus, rotating shaft seals, that prevent entry of contaminants into the bearings. A preload bearing spring is mounted on the nondrive end to offset creepage and reduce wear. Internal bearing caps are provided for added protection.

## Designed For Crusher Applications...

The Blue Chip<sup>®</sup> Crusher Duty motor is specifically designed for crusher applications such as cone, jaw, roller crushers, impactors, and pulverizers. The Blue Chip<sup>®</sup> Crusher Duty motor is a TEFC severe duty design suitable for across the line start and available for wye-delta or part winding start.

The Blue Chip<sup>®</sup> Crusher Duty motor has NEMA Design C torques for hard to start loads. A 4140 shaft steel is used for added strength for severe belt loads.

Marathon's custom sheave sizing software for belted installations takes all the guess work out of the application.



Epoxy Overcoat



Inpro<sup>®</sup> Smart Ring Plus



Made in the U.S.A.

*Motors for the Long Run!*

**MARATHON<sup>®</sup>**  
**ELECTRIC**  
Marathon Electric Manufacturing Corporation

# Blue Chip<sup>®</sup> Crusher Duty Motors...*Built Like a ROCK!*

Specifications	Features
Enclosures	TEFC severe duty for outdoor environments
Construction	Cast iron frame and end shields ensure rigidity
Cast Iron	Class 20, 20000 PSI, same material as used in explosion proof motors
Fan ( <i>External</i> )	Non-sparking polypropylene will not corrode
Fan Guard	Cast iron, heavy duty service
Conduit Box	Cast iron with NPT threaded entry
Bearings & Lubrication	Roller bearing on drive end and deep groove Conrad ball bearings on non-drive end, with extended grease fittings
Bearing Caps	Cast iron forms a generously sized lubricant cavity
Drains	Corrosion resistant brass drain and breathers, one per end, allowing condensation to escape
Voltage	460 volt or 575 volt
Leads	Glass braided silicone rubber lead lugs with lead separator
Temperature Rise	80° C at rated load, well below the insulation thermal limit
Service Factor	1.15 for overload capability
Insulation	Class F temperature rating and non-hygroscopic
Varnish System	100% solids, polyester based system • Resilient, less prone to cracking
End Turn Bracing	Each coil individually tied off to restraint system
Nameplate	Stainless steel, does not corrode, stays legible
Seals	Inpro <sup>®</sup> Smart Ring Plus on both ends are superior to slingers and non-rotating seals
Finish	Internal and external corrosion resistant epoxy
Hardware	Corrosion resistant zinc dichromate plated hex head hardware • Grade 5
Ground	Ground lug in the conduit box
Torque	NEMA Design C for high starting and breakdown torque
Shaft Material	4140 high strength steel for belted applications
Rotors	Die Cast Aluminum ensures even thermal distribution
Laminations	Low loss electrical grade steel allows motor to run efficiently
Lubrication	Urea based for temperature range -30° C to 150° C
Finish Paint	Two part high solids epoxy holds up to harsh outdoor environments
Mounting	Floor mounted F-1 or F-2 • Available for wall mounting W-6 or W-7
Tests	Each motor is given a routine test with vibration recordings
Tests Results	Attached to each motor at shipment

*Motors for the Long Run!*

For more information contact :



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**RUNS.  
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