

Hazardous Duty Motors



Featuring the
AEGIS® Bearing
Protection Ring

 **MARATHON®
ELECTRIC**

Motors for the Long Run!

Hazardous Duty Motors Designed for

Blue Chip® Severe Duty Explosion Proof Motors...

Marathon Electric has been a pacesetter in the design and production of explosion proof motors for over 50 years. Our **Blue Chip®** family of motor products continue to lead the motor industry in efficiencies and performance in the toughest of industrial applications. Each Marathon Electric motor is a combination of features and materials carefully engineered to provide a reliable, efficient, and long lasting motor. Our **Blue Chip® - Severe Duty explosion proof** motor incorporates all cast iron construction with a 1.15 service factor for use on fans, blowers, pumps, and compressors that require an explosion proof rating. Additional features include a premium efficiency design that meets the requirements of the Energy Policy Act (*EPACT*) and Canadian Federal Energy Efficiency Regulations (*NRCAN*). Single label Class I Group D, dual label Class I Groups C & D, Class II Groups F & G, along with ultra high efficiency designs, are available from stock.

Severe Duty features include epoxy paint for extreme environments where contaminants may cause premature motor failure. Corrosion resistant hardware and a stainless steel nameplate resist rust in the most severe environments. The oversized rotatable National Electrical Code (*NEC*) compliant conduit box provides additional room for field wiring and termination. A ground lug is provided in the conduit box for customer connection.

The improved insulation system utilizes corona resistant magnet wire for improved resistance to voltage spikes. Low loss electrical grade laminations provide for a lower temperature rise that significantly increases the life of the motor. The **Blue Chip®** motor meets UL frame temperature limit code T3B.

Oversized double shielded bearings with an L10 life of 100,000 hours for direct coupled loads, and 50,000 hours for belted loads, enhance the **Blue Chip®**s performance in the most demanding applications. Low bearing temperature rise increases the lubrication life. Marathon Electric's **Blue Chip®** explosion proof motors are not only designed to meet industry standards, but to exceed them.

The **Blue Chip®** motor incorporates an explosion proof drain and breather to prevent condensation build up within the motor. Normally closed thermostats are included as standard on dual label motors.

Marathon Electric's **Blue Chip®** motors are ideally suited for use with PWM drives (*NEMA section 31*) for Class I Groups C & D and Class II Groups F & G for variable or constant torque operation from 6-60 hertz. UL listed and CSA certified for use in hazardous locations.



56/140 Frame Explosion Proof Features

1. Corrosion resistant polypropylene fan and fan cover are non-sparking
2. Group C ratings
3. Explosion proof conduit box included
4. Automatic reset thermal protector
5. Double sealed ball bearings
6. Meets UL temperature code T3B

For Superior Performance ...for the Toughest Applications!



Featuring the
AEGIS® Bearing
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Blue Chip® - Severe Duty Explosion Proof Motor Features

1. **Insulation System** - Class F with Class B temperature rise at 1.0 service factor
2. **Bearing System** - Oversized bearings with bearing caps, L-10 life of 100,000 hours for direct coupled loads
3. **Construction** - Cast iron frame, end brackets, and fan cover, epoxy coating on external surfaces; brass drain and breather
4. **Hardware** - Zinc dichromate hardware
5. 100% copper windings with low loss steel laminations
6. **Inverter Rated** - Variable and constant torque rated

Blue Chip XRI® Premium Severe Duty Explosion Proof Motors...

Marathon Electric's Blue Chip XRI® Premium Severe Duty explosion proof motors exceed EPACT and NRCAN efficiency levels when high performance counts. The Blue Chip XRI® boasts one of the highest overall efficiency levels in the industry. A full Class F insulation system with a low Class B temperature rise, substantially improves both insulation and lubrication life.

Premium severe duty features include an epoxy exterior as well as an epoxy protective coating on all internal machined surfaces for added corrosion protection. A special stainless steel nameplate, 100% cast iron construction and shaft slinger, along with corona resistant magnet wire, further enhance the Blue Chip XRI®'s performance in the most demanding industrial applications. The Blue Chip XRI® motor carries a three year warranty, one of the industries longest!

The Blue Chip XRI® motor is dual labeled for Class I Groups C & D, Class II F & G and for use with PWM inverters. These motors may be **performance matched** with any PWM drive on the market in variable and constant torque applications from 6-60 hertz.

56/140 Frame Explosion Proof Motors...

Marathon Electric's 56/140 frame explosion proof motors are designed and built tough for a variety of hazardous locations: petroleum refineries, chemical processing plants and granaries to name a few. Our 56/140 frame explosion proof motors are available in single and three phase and from 1/4 through 2 horsepower in Class I Groups C & D, Class II Groups F & G construction. Mounting configurations include C-face, rigid base, resilient and through-bolt designs.

The Marathon Electric 56/140 frame explosion proof motors incorporate a heavy duty rolled steel frame with cast iron brackets for increased dependability. A corrosion resistant non-sparking polypropylene fan and cover are standard. An added feature includes an explosion proof, automatic reset, thermal protector. As standard, these motors carry a UL frame temperature limit code T3B. Additional temperature codes are available when lower opening thermostats are used. The 56/140 frame explosion proof product line exceeds industry averages for efficiency as well as providing for a low temperature rise thus ensuring a long life.

Maximum Performance & Protection

Quality Motors That Run The Toughest Applications:

Motors for the Long Run!

| Specifications | Features | SGL | DUAL | XRI-DUAL |
|-------------------------|---|-----|------|----------|
| Enclosures | Explosions proof ■ Fan cooled | ✓ | ✓ | ✓ |
| Division 1 | Class I Group D | ✓ | | |
| Area Classification | Class I Groups C & D ■ Class II Groups F & G | | ✓ | ✓ |
| Temperature Code | T2A | ✓ | | |
| | T3B | | ✓ | ✓ |
| Construction | Cast iron frames & end shields | ✓ | ✓ | ✓ |
| Fan (<i>External</i>) | Conductive polypropylene | ✓ | ✓ | ✓ |
| Fan Guard | Rolled steel on 143T-145T frame | ✓ | ✓ | |
| | Cast iron on 182T-449T frame | ✓ | ✓ | ✓ |
| Conduit Box | Cast iron ■ Rotable to accept conduit from any side | ✓ | ✓ | ✓ |
| Bearings & Lubrication | Double shielded ball ■ Single shielded 2-pole 254T frame & larger ■ Select ratings above 125 HP have roller bearing on drive-end ■ C-3 fit with premium grease rated (-30 Deg. C to + 150 Deg. C) | ✓ | ✓ | ✓ |
| Bearing Caps | Cast iron ■ 254T-449T frame | ✓ | ✓ | ✓ |
| Drains | Corrosion resistant brass drain & breather | ✓ | ✓ | ✓ |
| Slinger | Molded neoprene slinger on shaft end | ✓ | ✓ | ✓ |
| Voltage | 230/460 volt through 100 HP ■ 460 volt 125 HP & above | ✓ | ✓ | ✓ |
| | 575 volt available | ✓ | ✓ | ✓ |
| | Nameplated 50 Hz at next de-rated HP | ✓ | ✓ | ✓ |
| Leads | Lead lugs standard 364T frame & larger | ✓ | ✓ | ✓ |
| | Permanently marked leads with lead separator | ✓ | ✓ | ✓ |
| Service Factor | 1.15 on sinewave power | ✓ | ✓ | ✓ |
| | 1.0 on VFD power | ✓ | ✓ | ✓ |
| Insulation | Non-hygroscopic Class F insulation with Class H components | ✓ | ✓ | ✓ |
| | Corona resistant magnet wire | | ✓ | ✓ |
| Nameplate | Stainless steel ■ Includes NEMA nominal efficiency & power factor | ✓ | ✓ | ✓ |
| Agency Listings | CSA certified under file nos. LR47504 and LR21839 | ✓ | ✓ | ✓ |
| | UL listed under file no. E12044 | ✓ | ✓ | ✓ |
| Epoxy Finish | Internal corrosion resistant epoxy | | | ✓ |
| Paint | Powder paint on 143T & 145T | ✓ | ✓ | |
| | Blue Chip® epoxy over primer on 182T-449T | ✓ | ✓ | ✓ |
| Ground | Ground lug provision in conduit box ■ 182T-449T | ✓ | ✓ | ✓ |
| Balance | Special balance maximum .08 in./sec. | | | ✓ |
| Inverter Rated | Nameplated 10:1 Variable torque / 10:1 Constant torque | | ✓ | ✓ |
| | Nameplated 10:1 Variable torque / 2:1 Constant torque | ✓ | | |
| Warranty | 24 mo. from date of first use / 30 mo. from date of mfg. | ✓ | ✓ | |
| | 36 mo. from date of first use / 42 mo. from date of mfg. | | | ✓ |
| Motor Testing | Actual test data supplied with each motor | | | ✓ |



56/140 Frame Explosion Proof
Class I Groups C & D,
Class II Groups F & G



Blue Chip® Severe Duty
Single Label



Blue Chip® Severe Duty
Dual Label



Blue Chip XRI®
Premium Severe Duty
Dual Label



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