



EXTREME DUCK® ULTRA WASHGUARD® INDUSTRIAL-DUTY ELECTRIC MOTORS

REGAL®





Extreme DUCK® ULTRA

from LEESON®

HIT IT WITH YOUR BEST SHOT.

There's a new, higher bar to cross in the washdown motor category, and LEESON just raised it—again. Building on the success of the industry-leading Extreme Duck series, we took it a giant leap forward with sealing enhancements you just won't find everywhere. We're talking major improvements to the shaft seal technology to handle installation in any orientation, a welded conduit connection to the stainless steel body, and an exclusive vacuum epoxy encapsulation system that ensures whatever is trying to get into the windings is effectively kept out. Water, oil, cutting fluid—go ahead, give it your best shot.

PHOTOS CLOCKWISE FROM TOP.

1. The new Extreme Duck ULTRA is rated IP69k for the most demanding installations. 2. The O-ring sealed conduit box protects non-wicking lead wires. 3. New, two-piece shaft seal technology provides three points of protection. 4. For ingress protection, the conduit box is welded to the stainless steel frame. 5. Four bolts secure the Q-Car™ rotor cartridge assembly to a dual O-ring seal design.

WE TOOK TIME TO WATCH YOUR INSTALLATION PROCESS.

ALL TO TAKE TIME AND EFFORT OUT OF IT.

The finest product design should never get in the way of your ability to install it. That's true whether it's an OEM installation in a controlled environment, a retrofit on the production line floor, or in-line maintenance when every lost minute counts. So we watched how you install, noted where time adds up, and asked how we could help improve it. The result? Smart design features such as color-coded leads, a conduit box that rotates to enable convenient wire entry, and exclusive Q-Car™ rotor cartridge design for interior access without removing the motor from the installation.

SPECIFICATIONS

PERFORMANCE

1/3–3 HP, three-phase, C-Face with base

1/3–3 HP, three-phase, C-Face less base

2-, 4- and 6-pole

TENV and TEFC

NEMA Premium efficiency design

IRIS®—Inverter-Rated Insulation System

10:1 constant torque

Full-fact nameplate, laser etched in the motor frame

Q-Car™ rotor cartridge design for quick access to the interior

Low-stress winding design

SEALING

IP69K enclosure protection

Shaft grounding rings on 1/2–3 HP, 4-pole, Rigid C-Face

Enhanced encapsulation process

Non-wicking lead wires

Two-piece shaft seal with flinger

INSTALLATION

Color-coded motor leads

Chemical and abrasion-resistant lead markers

Welded pipe nipple at ingress on TEFC models

Conduit box rotates 360 degrees on TEFC models



The entire motor housing—including the end bells—is encapsulated for unsurpassed sealing. LEESON's unique Q-Car™ rotor cartridge design makes it possible.

The two-piece shaft seal with flinger resists water, oil and chemicals for improved performance in vertical installations.



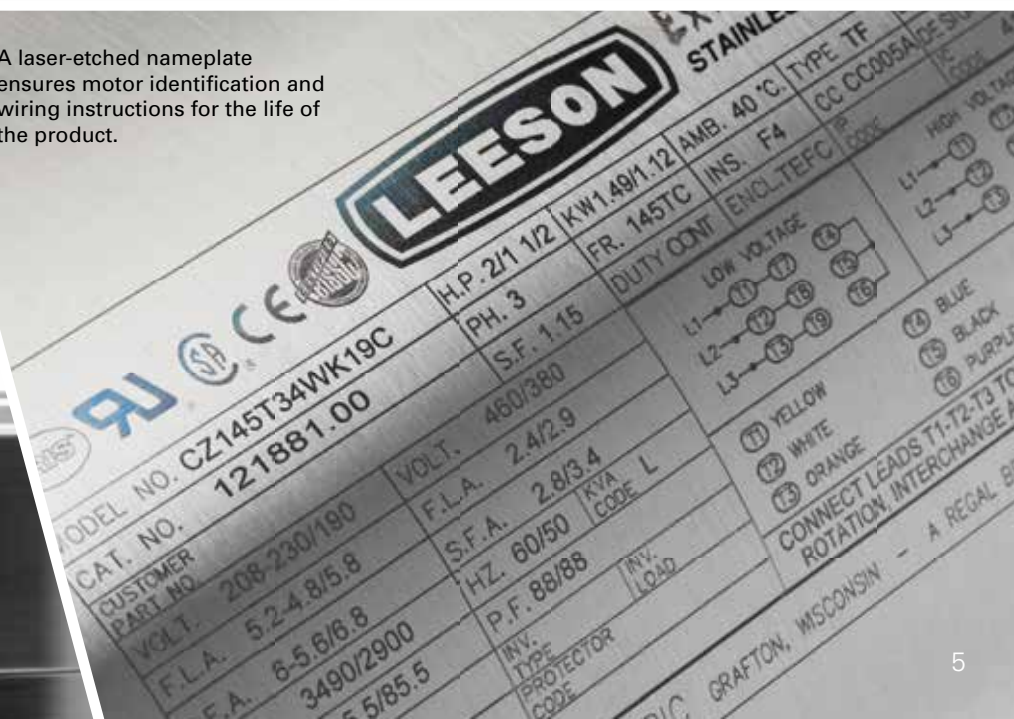
Non-wicking, color-coded leads match industry standards and feature abrasion and chemical resistant markers.



The conduit box rotates 360° on TEFC models.



A laser-etched nameplate ensures motor identification and wiring instructions for the life of the product.



THERE'S NO MOTOR SEALED LIKE

TEFC motor design shown.

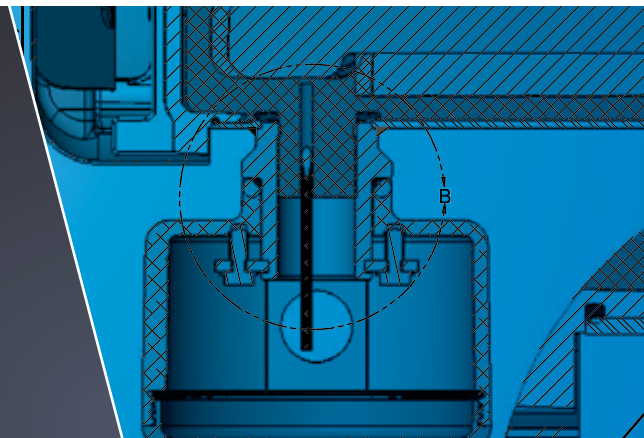
300 Series stainless steel components include the frame, base, conduit box cover, endshields and bearing carrier cover. It's the perfect motor design for extreme washdown conditions.

Vacuum assisted internal epoxy encapsulation—including both endbells—reduces interior air pockets where condensation can occur. This minimizes points of entry for contaminants and eliminates the need for drain plugs and breathers.

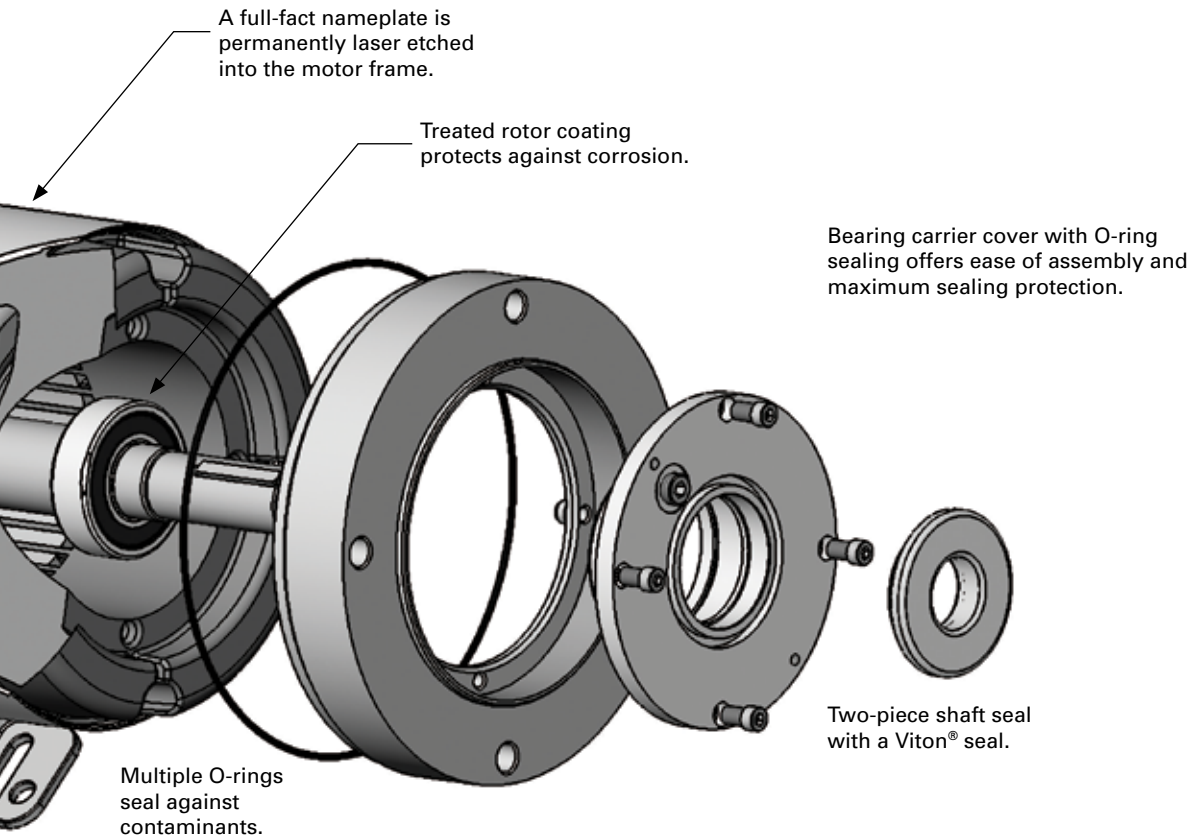
A round, stainless steel conduit box rotates 360° for convenient wire placement.

Water-tight welded conduit nipple filled with encapsulant.

Where water, oil, cutting fluid and other contaminants can find their way in, LEESON has an answer to keep them out. Our patented solutions ensure greater reliability and uptime in the most demanding installations.

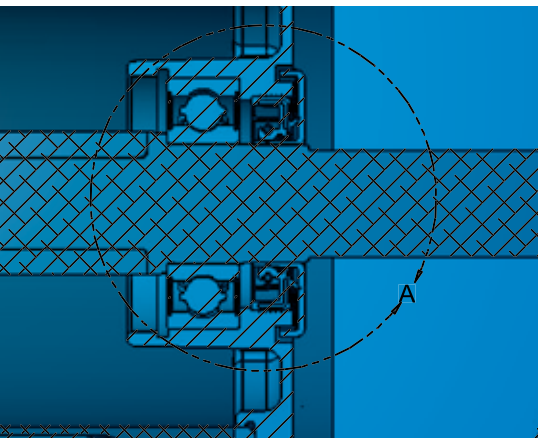


EXTREME DUCK® ULTRA FROM LEESON.®



When our engineering team embarked on taking the original Extreme Duck to the next level, one concept kept coming into play: How do we make this product ultra simple to install and ultra tight at every sealing point? With that, a new motor was born and the name was a natural fit. Extreme Duck ULTRA from LEESON is the new model for mission critical performance in the toughest environments. The way it's built says it all.

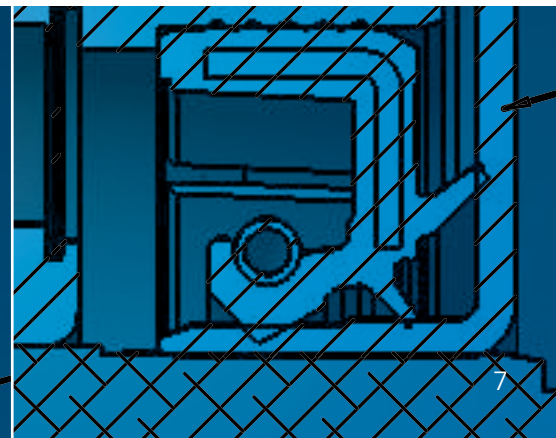
Two-piece shaft seal with wear seal and flinger.



Shaft seal has physical contact on shaft and housing.



Viton® shaft seal material is impervious to most solvents.





THE MOTORS THAT STAND UP TO WASHDOWN.

LEESON® WASHGUARD™ MOTORS FEATURES AT A GLANCE



| FEATURE | WHITE DUCK | WASHGUARD II | SST DUCK | STAINLESS DUCK | EXTREME DUCK® ULTRA |
|---|------------|--------------|----------|----------------|------------------------------------|
| SEALING ADVANTAGES | | | | | |
| Complete motor encapsulation | | | | | ■ |
| Interior corrosion protection | ■ | ■ | ■ | ■ | ■ |
| Motor breather plugs/drain plugs | ■ | ■ | ■ | ■ | Not needed for total encapsulation |
| Shaft seals on both ends of TEFC motors | ■ | ■ | ■ | ■ | ■ |
| Two-piece shaft seal | | | | | ■ |
| Viton®* seals between endbells and frame | | | | ■ | ■ |
| O-ring sealed openings | | | | ■ | ■ |
| Potted lead entrance | | | | | ■ |
| INSTALLATION AND MAINTENANCE | | | | | |
| Color-coded leads | | | | | ■ |
| Non-wicking lead wires | | | | | ■ |
| Sealed bearings | ■ | ■ | ■ | ■ | ■ |
| Internally locked shaft-end bearing | ■ | ■ | ■ | ■ | ■ |
| Screw-on conduit box cover | | | | ■ ① | ■ |
| 360° rotatable conduit box | | | | | ■ |
| Q-Car™ rotor cartridge change-out | | | | ■ | ■ |
| CERTIFICATIONS | | | | | |
| Nameplate permanently etched in frame | | | ■ | ■ | ■ |
| 60Hz and 50Hz data on nameplate | ■ | ■ | ■ | ■ | ■ |
| CE mark on nameplate | ■ | ■ | ■ | ■ | ■ |
| Standard motors built with Inverter-rated Insulation System and marked on nameplate (1 HP and higher) | ■ | ■ | ■ | ■ | ■ |
| IP Ratings | IP55 | IP55 | IP55 | IP56 | IP69k |
| UL, CSA listed | ■ | ■ | ■ | ■ | ■ |
| BISCC approved | | ■ | | | ■ |
| SPECIAL CONSIDERATIONS | | | | | |
| Pump motor designs | ■ | | | ■ | |
| Brakemotor designs | ■ | | | ■ | |
| DC motors available | ■ | | | ■ | |
| Metric designs available | | | | ■ | |
| 3-year warranty | ■ ② | ■ ② | ■ ② | ■ ② | ■ |
| Local inventory support | ■ | ■ | ■ | ■ | ■ |

① 56/143/145T Frame Ratings ② Premium Efficient Motors

EXTREME DUCK ULTRA HANDLES THE HARSHTEST WASHDOWN ENVIRONMENTS.

1. Poultry processing plants.
2. Cheese processing plants.
3. Water bottling plants.
4. Conveying for bottling industry for breweries.
5. Chemical processing plants.
6. Pharmaceutical plants.
7. Brewery equipment.
8. Seafood processing plants.

CHEMICAL RESISTANCE COMPARISON

| CHEMICAL NAME | % CONCENTRATION | EXPOSURE | WHITE EPOXY | STAINLESS STEEL |
|------------------------------|-----------------|--------------|-------------|-----------------|
| Fresh Water | 100 | Continuous | Excellent | Excellent |
| Salt Water | 5 | Continuous | Excellent | Excellent |
| Salt Brine | Dilute | Continuous | Fair | Good |
| Ammonium Hydroxide | Dilute | Continuous | Good | Excellent |
| Calcium Hydroxide (Lime) | 100 | Intermittent | Good | Excellent |
| Citric Acid | 10 | Continuous | Good | Excellent |
| Ethylene Glycol | 100 | Continuous | Excellent | Excellent |
| Hydrochloric Acid | 37 | Intermittent | Good | Poor |
| Lactic Acid | Dilute | Intermittent | Excellent | Excellent |
| Lactic Acid | 100 | Intermittent | Fair | Fair |
| Mineral Spirits | 100 | Continuous | Excellent | Excellent |
| Potassium Hydroxide | 50 | Intermittent | Fair | Fair |
| Sodium Hydroxide | 5 | Continuous | Fair | Excellent |
| Sodium Hydroxide | 20 | Continuous | Fair | Excellent |
| Sodium Hydroxide | 50 | Continuous | Excellent | Excellent |
| Sodium Hypochlorite (Bleach) | 15 | Intermittent | Excellent | Excellent |
| Sulfuric Acid | 10 | Intermittent | Fair | Fair |
| Toluene | 100 | Continuous | Fair | Fair |
| Animal Fats | NA | Continuous | Excellent | Excellent |
| Mineral Oils | NA | Continuous | Excellent | Excellent |
| Vegetable Oils | NA | Continuous | Excellent | Excellent |
| Cutting Oils | NA | Continuous | Excellent | Excellent |
| Detergents | NA | Continuous | Excellent | Excellent |
| Gasoline | NA | Continuous | Fair | Fair |
| Hydraulic Fluid | NA | Continuous | Excellent | Excellent |
| Lubricating Oils | NA | Continuous | Excellent | Excellent |
| General Weathering | NA | Continuous | Fair | Excellent |
| Mold/Mildew | NA | Continuous | Excellent | Excellent |
| Light Abrasion | NA | Continuous | Excellent | Excellent |
| Heavy Abrasion | NA | Continuous | Fair | Excellent |



WASHDOWN MOTORS COMPETITOR CROSS REFERENCE

| HP | RPM | FRAME | BASE | LEESON EXTREME DUCK® CAT # | ENCL | BLUFFTON MOTOR* WORKS HYDRODUTY MODEL # | ENCL | BALDOR* SSE MODEL # | ENCL |
|------|------|-------|------|----------------------------------|------|---|------|---------------------|------|
| 0.5 | 3600 | 56C | Yes | 117118 | TENV | 1323007112 | TENV | CSSEWDM3537 | TENV |
| 0.5 | 3600 | 56C | No | 117126 | TENV | 1323007113 | TENV | VSSEWDM3537 | TENV |
| 0.5 | 1800 | 56C | Yes | 117119 | TENV | 1321007115 | TENV | CSSEWDM3538 | TENV |
| 0.5 | 1800 | 56C | No | 117127 | TENV | 1321007121 | TENV | VSSEWDM3538 | TENV |
| 0.5 | 1200 | 56C | Yes | 119266 | TENV | 1311017133 | TEFC | NA | |
| 0.75 | 3600 | 56C | Yes | 117120 | TENV | 1323007110 | TENV | CSSEWDM3541 | TENV |
| 0.75 | 3600 | 56C | No | 117128 | TENV | 1323007114 | TENV | VSSEWDM3541 | TENV |
| 0.75 | 1800 | 56C | Yes | 117121 | TENV | 1321007113 | TENV | CSSEWDM3542 | TENV |
| 0.75 | 1800 | 56C | Yes | 103412 | TEFC | 1311017121 | TEFC | NA | |
| 0.75 | 1800 | 56C | No | 117129 | TENV | 1321007117 | TENV | VSSEWDM3542 | TENV |
| 0.75 | 1800 | 56C | No | 103414 | TEFC | 1311017122 | TEFC | NA | |
| 0.75 | 1200 | 56C | Yes | 119267 | TENV | 1311017134 | TEFC | CSSEWDM3543 | TEFC |
| 1 | 3600 | 56C | Yes | 117122 | TENV | 1313017156 | TEFC | CSSEWDM3545 | TEFC |
| 1 | 3600 | 56C | No | 117130 | TENV | 1313017161 | TEFC | VSSEWDM3545 | TEFC |
| 1 | 1800 | 56C | Yes | 117123 | TENV | 1321007112 | TENV | CSSEWDM3546 | TENV |
| 1 | 1800 | 56C | Yes | 119511 | TEFC | NA | | CSSEWDM3546 | TENV |
| 1 | 1800 | 56C | No | 117131 | TENV | 1321007125 | TENV | VSSEWDM3546 | TENV |
| 1 | 1200 | 56C | Yes | 119268 | TEFC | 1311017138 | TEFC | CSSEWDM3556 | TEFC |
| 1 | 1200 | 56C | Yes | 119513 | TEFC | NA | | CSSEWDM3556 | TEFC |
| 1.5 | 3600 | 143TC | Yes | 121879 | TEFC | 1313017155 | TEFC | CSSEWDM3550T | TENV |
| 1 | 1800 | 56C | No | 119512 | TEFC | NA | | VSSEWDM3546 | TEFC |
| 1.5 | 3600 | 143TC | No | 121750 | TEFC | 1313017160 | TEFC | VSSEWDM3550T | TENV |
| 1.5 | 1800 | 145TC | Yes | 121880 | TEFC | 1311017111 | TEFC | CSSEWDM3554T | TEFC |
| 1.5 | 3600 | 143TC | No | 121908 | TEFC | NA | | VSSEWDM3550T | TENV |
| 1.5 | 1800 | 145TC | No | 121751 | TEFC | 1311017118 | TEFC | VSSEWDM3554T | TEFC |
| 1.5 | 1800 | 56C | Yes | 117296 | TEFC | 1311017110 | TEFC | CSSEWDM3554 | TEFC |
| 1.5 | 1800 | 56C | Yes | 119522 | TEFC | NA | TEFC | CSSEWDM3554 | TEFC |
| 1.5 | 1800 | 145TC | No | 121909 | TEFC | NA | | VSSEWDM3554T | TEFC |
| 1.5 | 1800 | 56C | No | 117297 | TEFC | 1311017117 | TEFC | VSSEWDM3554 | TEFC |
| 1.5 | 1200 | 56C | Yes | 119269 | TEFC | 1311017127 | TEFC | NA | |
| 1.5 | 1200 | 56C | Yes | 119781 | TEFC | NA | | NA | |
| 2 | 3600 | 145TC | Yes | 121881 | TEFC | 1313017153 | TEFC | CSSEWDM3555T | TEFC |
| 1.5 | 1800 | 56C | No | 119520 | TEFC | NA | | VSSEWDM3554 | TEFC |
| 2 | 3600 | 145TC | No | 121742 | TEFC | 1313017158 | TEFC | VSSEWDM3555T | TEFC |
| 2 | 1800 | 145TC | Yes | 121882 | TEFC | 1311017113 | TEFC | CSSEWDM3558T | TEFC |
| 2 | 3600 | 145TC | No | 121910 | TEFC | NA | | VSSEWDM3555T | TEFC |
| 2 | 1800 | 145TC | No | 121743 | TEFC | 1311017120 | TEFC | VSSEWDM3558T | TEFC |
| 2 | 1800 | 56C | Yes | 117299 | TEFC | 1311017114 | TEFC | CSSEWDM3558 | TEFC |
| 2 | 1800 | 56C | Yes | 119523 | TEFC | NA | | CSSEWDM3558 | TEFC |
| 2 | 1800 | 145TC | No | 121911 | TEFC | NA | | VSSEWDM3558T | TEFC |
| 2 | 1800 | 56C | No | 117298 | TEFC | 1311017119 | TEFC | VSSEWDM3558 | TEFC |
| 2 | 1800 | 56C | No | 119524 | TEFC | NA | | VSSEWDM3558 | TEFC |

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APPLICATION CONSIDERATIONS

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