



Washguard®
Industrial-Duty
Electric Motors



The motor line that stands up
to washdown.

A Regal Brand

REGAL

Nothing sheds water

LEESON Washguard® Industrial-Duty Motors.



like a duck.

LEESON Washguard® motors deliver something most motors can't—the confidence to know your applications will be up and running no matter what you throw at them. Whether you need a motor that handles an occasional splash, or a solution that handles continuous washdown 24/7, LEESON's broad range of Washguard® industrial-duty motors can take it.

Choose a solution that's USDA approved, FDA approved, BISSC Certified, or a motor with IP55 enclosure protection—to name just a few. If you're looking for answers to tough application issues, LEESON is ready when you bring it on.





WhiteDuck

Suited for an occasional washdown, White Duck is the LEESON Washguard® Series that started it all. Choose AC and DC ratings, 1/3–15HP.

RATINGS:

IP55 enclosure protection
USDA-approved white epoxy finish



The White Duck series is geared for applications exposed to an occasional washdown. Coated in a high-gloss, high-durability, FDA-approved white epoxy finish, White Duck Washguard® Motors find a perfect fit in conveying, bottling, food packaging, pumping and fan applications—wherever batch or process requirements demand reliable performance.

BENEFITS:

- Durable white epoxy finish for superior protection
- Stainless steel shaft, hardware, conduit box, cover and nameplate
- Buna-N gaskets and Viton® shaft seals on both ends of TEFC designs
- Drains for all mounting orientations enable flexible installation
- NEMA Premium—140 Frame and higher
- Moisture-resistant interior coating inhibits corrosion
- Inverter-rated IRIS™ insulation system—1HP and higher
- Single-phase motors feature an electronic solid-state switch for worry-free starting in high-vibration installations





Jet Pump & JM Pump

- 3/4–3HP designs
- 1–15HP JM Pump designs
- C-Face, with and without base
- EPACT efficient



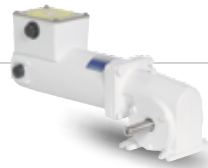
Brakemotor Designs

- 1/2–2HP designs
- 208–230/460 Volt Three-Phase
- Stearns® brakes
- Optional washdown brake kits



NEMA Three-Phase Designs

- 1/4–15HP designs
- 230/460 and 575 Volts
- Rigid base and C-Face designs
- EPACT and Premium efficient
- Inverter rated



DC Gearmotor Designs

- P300, PE350 and Right-angle Series
- 90 and 12 Volt designs
- Stainless steel exterior hardware
- Precision-machined gears



NEMA Single-Phase Designs

- 1/3–2HP designs
- C-Face, with and without base
- Solid-state starting switch



AC Gearmotors

- P240 and Right-angle Series
- 115/230 Volt Single-Phase designs
- 230 Volt Three-Phase designs
- 304 Series stainless output shafts
- Needle bearings for high-output torque



NEMA DC Designs

- 1–1.5HP designs
- 90 and 180 Volts
- Removable base
- IEC B5 flange ratings available
- 1/8–1/4HP 12 Volt designs



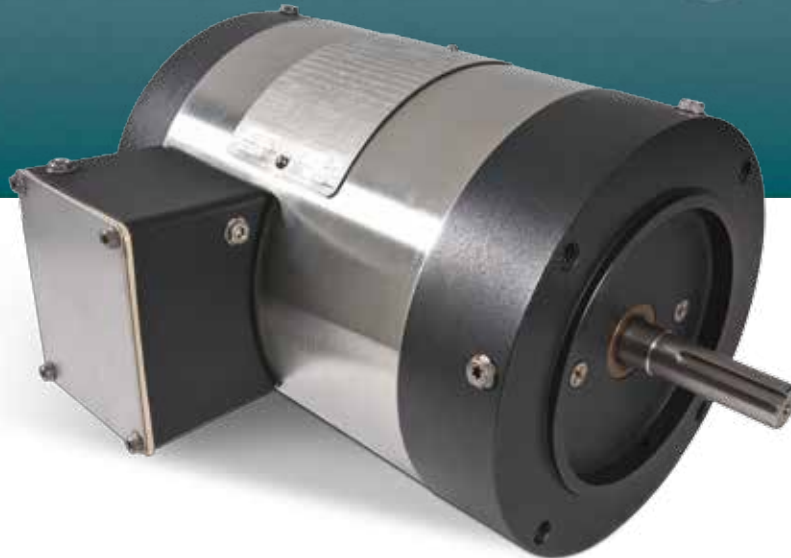
Washguard® II Stainless Duck

The Washguard® II Series is an ideal solution for conveying applications in bakeries and food-processing plants with its paint-free finish. AC ratings from 1/2–2HP.

RATINGS:

IP55 enclosure protection

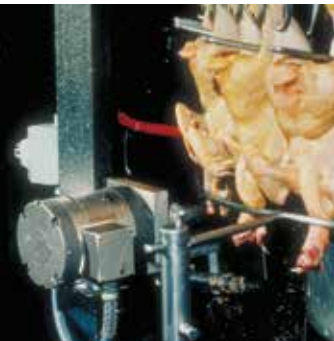
BISSC certified for the baking industry, authorization no. 769



Tested and approved to handle 2,500 hours of diluted salt spray, the Washguard® II Series—with its paint-free design—is well suited for the demanding environments of bakeries and food processing facilities, as well as conveying.

BENEFITS:

- Paint-free exterior
- Moisture-resistant interior coating inhibits corrosion
- IRIS™ insulation system—1HP and higher
- Stainless steel shaft, hardware, conduit box, cover, nameplate and fan guard
- Specially-processed endshields and conduit box housing
- Buna-N gaskets and Viton® shaft seals
- Drains for all mounting orientations enable flexible installation



Three-Phase Designs

- Three-Phase, C-Face motors with base, 1/2–2HP
- Three-Phase, C-Face motors less base, 1/2–2HP
- TENV designs
- Inverter rated



When a paint-free motor is needed for ultra-clean operations in the food processing, bottling and pharmaceutical industries, count on LEESON SST Duck motors to meet the need—at a price that defines value.

BENEFITS:

- All stainless steel exterior
- Moisture-resistant interior coating inhibits corrosion
- Full-face nameplate is laser etched in the motor frame
- Buna-N gaskets and Viton® shaft seals on both ends
- Drains for all mounting orientations enable flexible installation

The SST Duck Series is our value line of stainless steel motors that is appropriate for use in food processing, pharmaceutical, conveying and bottling applications. 1/3–3HP single- and three-phase designs.

RATINGS:

IP55 enclosure protection
Inverter rated
10:1 constant torque



Single-Phase Designs

- 1/2–2HP, Single-Phase, C-Face with base
- 1/2–2HP, Single-Phase, C-Face less base
- High starting torque
- 115/230 Volt



Three-Phase Designs

- 1/3–3HP, Three-Phase, C-Face with base
- 1/3–3HP, Three-Phase, C-Face less base
- Inverter rated
- 10:1 constant torque





Premium Stainless Duck



Our Premium Stainless Duck motor line meets IEEE-841 severe duty requirements and passes IP56 test requirements. These motors are proven performers in frequent washdown applications. AC and DC ratings available.

RATINGS:

IP56 enclosure protection
300 series stainless steel
3-year warranty—Premium efficiency

Look to the Premium Stainless Duck Series for proven durability in frequent washdown applications that you may find in food processing, pharmaceutical, dairy, chemical-processing and beverage and bottling industries.

BENEFITS:

- All exterior components are 300-series stainless steel
- Full-fact nameplate is laser etched in the motor frame
- Endshields are O-ring sealed to motor frame
- Double lipped Viton® shaft seals
- Interior components are coated to protect against corrosion
- Hydrophobic breather plugs are used on AC designs
- Inverter-rated IRIS™ insulation system—AC designs
- IP56 enclosure protection
- 3-year warranty—Premium efficient models
- Shaft grounding rings (SGR) designs available – 1/2–2HP



General Purpose Premium Stainless



- Three-Phase, C-Face with base, 1/2–10HP
- Three-Phase, C-Face less base, 1/2–5HP
- Single-Phase, C-Face with base, 1/3–2HP
- Single-Phase, C-Face less base, 1/3–2HP

IEC Stainless



- B5 Flange: Round Body, 0.25KW (1/3HP)–1.5KW (2HP) 71 Frame, 80 Frame and 90 Frame
- B5 Flange: Rigid Base, 0.25KW (1/3HP)–0.55KW (3/4HP), 80 Frame
- B14 Flange: Round Body, 0.25KW (1/3HP)–0.55KW (3/4HP), 71 Frame and 80 Frame
- B14 Flange: Round Body, 0.25KW (1/3HP)–0.55KW (3/4HP), 80 Frame

Stainless Brake Motor



- Three-Phase, TENV, C-Face with base, 1/2–2HP
- Stearns® stainless steel brakes, 3- and 6-ft lb. rated

Stainless JP Pump Motors



- Three-Phase, TEFC, 1–10HP
- 1800 and 3600 RPMs
- EPACT efficient



Our Hydro Sealed System HS² protects from the “outside-in” by reducing entrance points of contaminants. The innovative design eliminates the needs for drain plugs or breathers. This design also minimizes exterior hardware and reduces surfaces that may trap application elements. Put Extreme Duck motors to work in food processing and pharmaceutical applications, as well as sewage treatment plants, beverage and bottling industries.

BENEFITS:

- Maximum interior encapsulation eliminates contamination of windings
- Rotor/Cartridge, “Q-CAR™” design for quick access to motor interior
- Protech bearing isolator used for output shaft seal
- Full-face nameplate is laser etched in the motor frame
- O-ring sealed, screw-on conduit box covers
- IP66 enclosure protection
- 3-year warranty
- Shaft grounding rings (SGR) designs available – 1/2–2HP

Our Extreme Duck stainless steel motors take washdown motor solutions to a whole new level. The encapsulated design of these motors was built using “voice of the customer” criteria to withstand severe washdown and sanitation requirements.

RATINGS:

- IP66 enclosure protection
- Maximum interior encapsulation
- Minimal exterior hardware
- 3-year warranty



Three-Phase Designs

- 1/3–3HP, Three-Phase, C-Face with base
- 1/3–3HP, Three-Phase, C-Face less base
- Inverter rated
- 10:1 constant torque



Milk Transfer Pump & Milk Tank Washer Motors



Our milk transfer pump motors are replacements for Surge® milk pumps. These motors have Washguard® motor features that withstand high pressure washdown applications.

RATINGS:

Epoxy painted
300 series
stainless steel
3-year warranty

LEESON has introduced a line of milk transfer pump and milk tank washer duty motors available in both epoxy paint and stainless steel. These motors are designed to withstand the frequent washdown conditions found in these applications and to meet the sanitation requirements that are practiced in this industry. They have the design features that will mount up to either a Surge®, Delaval® or Bou-Matic® dairy milk pumps.

BENEFITS:

- Epoxy painted motors
- Stainless motors have exterior components that are 300-series stainless steel
- Double sealed ball bearings
- Three-Phase motors are inverter rated
- Capacitor supplied loose with PSC motor

Milk Transfer Pump Motors

- Replacements for Surge® milk pumps
- ½HP and 1HP
- Epoxy painted and stainless steel
- Single and Three-Phase designs
- 3450 RPMs

Threaded Shaft Milk Pump Motors

- Replacements for Bou-Matic® milk pumps
- ½HP and 1HP
- Epoxy painted and stainless steel
- 1 & 3-Phase designs
- 3450 RPMs

Keyed Shaft Milk Pump Motors

- Replacements for Delaval® milk pumps
- ½ HP through 2HP
- Stainless steel
- Single and Three-Phase designs
- 3450 RPMs

Tanker Washer Motor

- Epoxy painted
- 1HP – Single-Phase
- Threaded shaft
- C-Face less base
- Solid state encapsulated starting switch



All Stainless DC Motors



Our Washguard® DC stainless steel motors hold up in frequent washdown applications.

RATINGS:

IP55 enclosure protection
NEMA & IEC Washguard®
3-year warranty

The stainless steel, Washguard® duty, DC motors meet IP-55 test requirements. These SCR rated DC motors have proven to hold up when used in frequent washdown applications. The conduit box is located at the 12:00 position, making electrical connections accessible in various mounting positions. Maximize your application requirements by using one of our washdown duty DC motor controls that are matched to optimize performance with these stainless steel DC motors.

BENEFITS:

- All exterior components are 300-series stainless steel
- Full fact nameplates are laser etched in motor frame
- Endshields are O-ring sealed to motor frame
- Double lipped Viton® shaft seals
- Constant torque throughout speed range
- Oversized brushes for long brush life



C-Face With Base and C-Face Less Base

- ¼HP to 1HP
- 90 Volt and 180 Volt



Washdown Duty AC & DC Controls

These AC and DC controls are matched to our Washguard® motors for optimal performance.

RATINGS:

IP65 on stainless steel and vector series

IP65/IP54 on epoxy coated

White epoxy and stainless steel finishes



We have AC and DC controls that are performance matched to our Washguard® 3-Phase AC and DC motors. Our AC inverter offering includes white epoxy, stainless steel or plastic enclosures that meet IP65/IP54 enclosure protection. We offer both our Micro Series line and our Vector duty series line having washdown duty protection. Our DC washdown duty controls are SCR rated for either permanent magnet or shunt wound DC motors. We also offer a washdown duty regenerative SCR control that is designed for high cycling and forward and reverse applications.



WASHGUARD® AC CONTROL BENEFITS:

- Stainless steel, epoxy painted or plastic enclosure protection
- Micro series controls have an intuitive alphanumeric display
- Vector Series have a 6-button display interface
- Multiple pre-set speed function
- Forward and reverse
- Programmable acceleration and deceleration times
- Password protected
- Serial communication port for interface
- Designs for both Single-Phase and Three-Phase input – Three-Phase output



White Epoxy Washguard® AC Controls

- ½HP to 125HP
- 200-240 / 400-480 and 480-590 input voltage



Stainless Steel Washguard® AC Controls

- ½HP to 20HP
- 200-240 / 400-480 and 480-590 input voltage



Vector Series Washguard® AC Controls

- Plastic enclosure
- ½HP to 30HP
- 200-240 / 400-480 and 480-590 voltage

WASHGUARD® DC CONTROL BENEFITS:

- SCR type controls
- NEMA 4X enclosure protection
- Reversing and non-reversing designs
- Regenerative – four quadrant designs



Washguard® DC Controls

- 1/8HP to 3HP
- 10 amp and 15 amp output
- Single-Phase – 115V and 230V input
- DC – 90V and 180V output



DE-FEATHERING



SCALDING



FEEDING



CUTTING



PROCESSING



SLICING



INSPECTION



DE-BONING

There's a LEESON Washguard[®] Motor for every location in your facility.

LEESON offers more than 200 off-the-shelf solutions to everyday washdown motor needs. What's more, LEESON offers washdown-rated gear reducers and AC and DC controls to compliment our washdown motor line. And, when you need a specially engineered custom solution to your washdown application, think LEESON. Our flexible manufacturing processes enable custom products to be manufactured in small or large quantities.

Washdown Motor Selection Guide



| Feature | White Duck | Washguard® II Stainless Duck | SST Duck | Premium Stainless Duck | Extreme Duck |
|---|------------|------------------------------|----------|------------------------|------------------------------------|
| Sealed Bearings | ■ | ■ | ■ | ■ | ■ |
| Potted Lead Entrance | | | | | ■ |
| Complete Motor Encapsulation | | | | | ■ |
| Nameplate Etched in Frame | ■ | ■ | ■ | ■ | ■ |
| Interior Corrosion Protected | ■ | ■ | ■ | ■ | |
| Motor Breathe Plugs/Drain Plugs | ■ | ■ | ■ | ■ | Not Needed for total encapsulation |
| Internally Locked Shaft-End Bearing | ■ | ■ | ■ | ■ | ■ |
| Shaft Seals on Both Ends of TEFC Motors | ■ | ■ | ■ | ■ | ■ |
| Viton® Seals Between Endbells and Frame | | | | ■ | ■ |
| UL, CSA Listed | ■ | ■ | ■ | ■ | ■ |
| 60Hz and 50Hz Data on Nameplate | ■ | ■ | ■ | ■ | ■ |
| CE Mark on Nameplate | ■ | ■ | ■ | ■ | ■ |
| O-Ring Sealed Openings | | | | ■ | ■ |
| Standard Motors Include Inverter-Rated Insulation System and Marked on Nameplate—1HP and Higher | ■ | ■ | ■ | ■ | ■ |
| Local Inventory Support | ■ | ■ | ■ | ■ | |
| Rotor Cartridge Change-Out | | | | ■ ① | ■ |
| BISSE Approved | | ■ | | | ■ |
| 3-Year Warranty | ■ ② | ■ ② | ■ ② | ■ ② | ■ |
| Screw On Conduit Box Cover | | | | ■ ① | ■ |
| Pump Motor Designs | ■ | | | ■ | |
| Breakmotor Designs | ■ | | | ■ | |
| DC Motors Available | ■ | | | ■ | |
| Metric Designs Available | | | | ■ | |

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

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 |



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A Regal Brand

The logo for REGAL, featuring the word "REGAL" in a bold, italicized, sans-serif font. The text is white and set against a dark gray, trapezoidal background that tapers to the right.

www.regalbeloit.com