

REGAL

MARATHON MOTORS

REGAL BELOIT CORPORATION



30th July 2020





REGAL

CREATING
A BETTER
TOMORROW™...

Rotor is a leading supplier for over 60 years of standard and customized motors for marine and offshore application. High quality, full service and flexibility according to the customer's needs have always been our primary focus. Rotor is part of Regal Beloit cooperation - a leading manufacturer of electrical and mechanical motion control and power generation products

Integrity

Responsibility

- Safety
- Sustainability
- Community

Diversity & Inclusion

- Engaged Associates
- Talent development
- One team

Customer success

Innovation with purpose

Continuous improvement

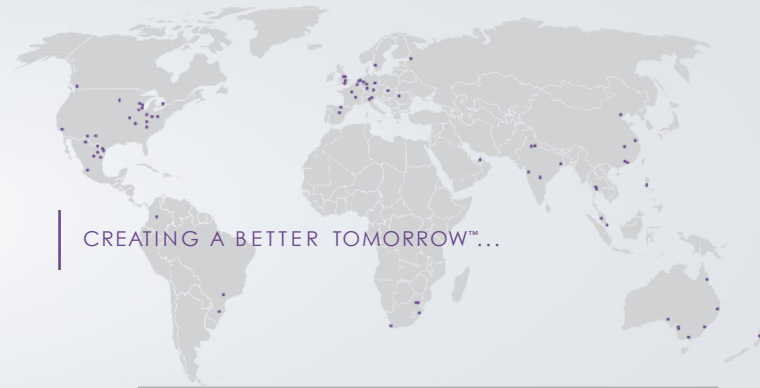
Performance

- Transparency
- Data driven decisions
- Accountability

Passion to Win

...with a sense of urgency





CREATING A BETTER TOMORROW™...



1955
Founded



\$3.7B
Net Sales




\$331M
Operating Income



\$3.7B
Market Capitalization



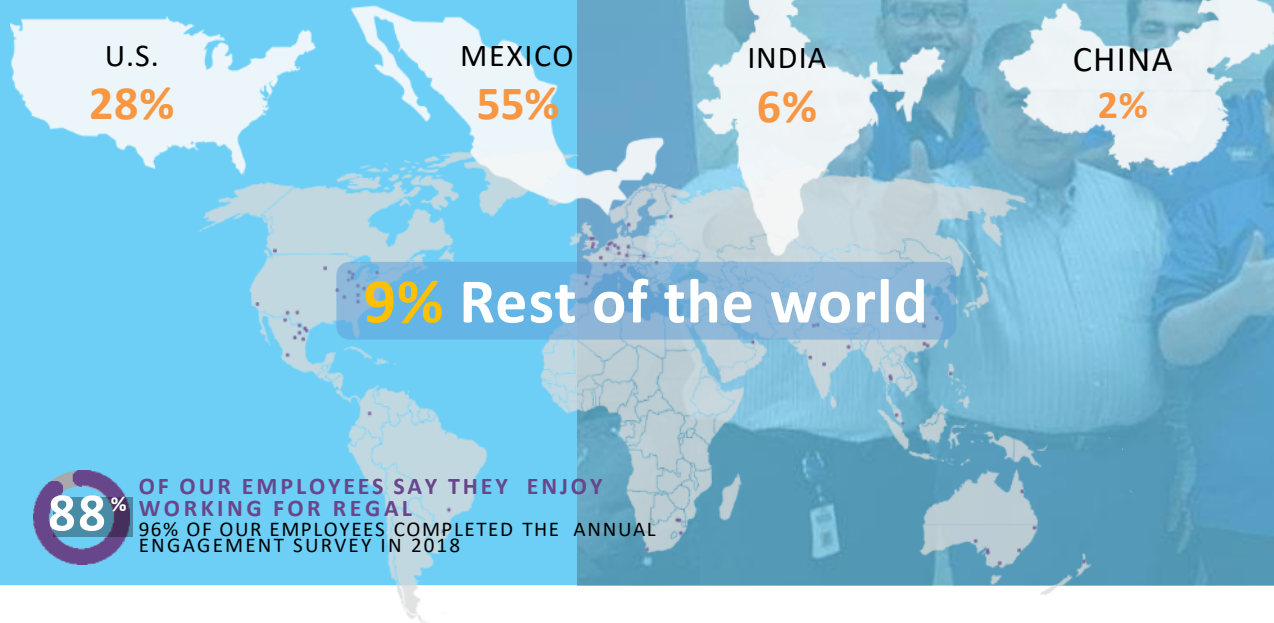
\$213M
Net Income



\$30M
R&D Spend

Financial data presented in this report are from fiscal year 2018 (U.S. GAAP). Market Capitalization was calculated as of December 31, 2017.

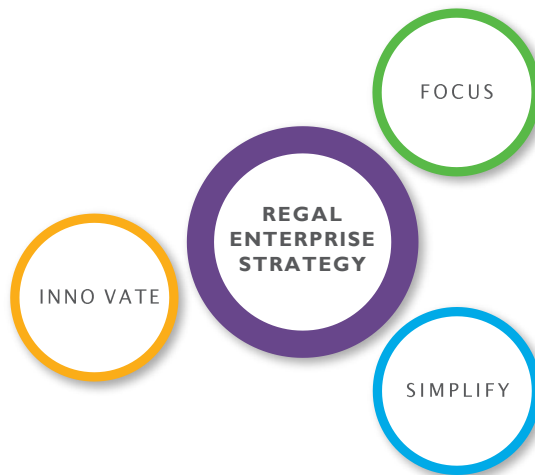
REGAL EMPLOYS more than 19,000 talented team members



88% OF OUR EMPLOYEES SAY THEY ENJOY WORKING FOR REGAL
96% OF OUR EMPLOYEES COMPLETED THE ANNUAL ENGAGEMENT SURVEY IN 2018

A VISION FOR THE LONG-TERM WITH RESULTS IN THE SHORT-TERM.

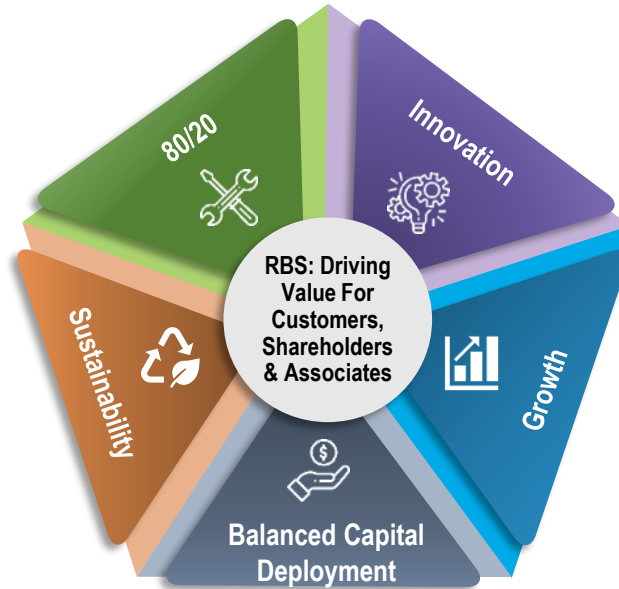
INNOVATE Regal has a reputation for innovation. We will continue to innovate around the central theme of “making it easier for our customers.” We view energy efficiency and the Internet of Things as long-term growth opportunities for innovation.



FOCUS We will focus our resources where we have the greatest opportunities to meet customers’ expectations, while we grow the company’s sales and profitability. Smaller, high efficiency motors with integrated controls, larger energy efficient motors and power transmission products are what we do best.




















SIMPLIFY We are on a continuous journey to simplify every aspect of our operations to increase speed, improve responsiveness, and reduce costs.

Regal’s Enterprise Strategy—based on three themes—outlines our long-term direction. It sets forth financial targets designed to deliver increased value to customers and stronger returns for shareholders, and to create a better tomorrow for our employees and their communities. We focus resources on businesses that have the greatest opportunity to meet customer expectations while simultaneously growing profitability.



Strategy and Structure Are Fundamental to How We Operate

REGAL OVERVIEW

	Products	Brands
Climate Solutions	<ul style="list-style-type: none"> Fractional HP Motors Small Fans and Blowers 	  
Commercial Systems	<ul style="list-style-type: none"> Fractional to 5 HP Motors Fans and Blowers Hermetic Motors 5 to 3,000 HP 	    
Power Transmission Solutions	<ul style="list-style-type: none"> Mounted and Unmounted Bearings Drives, Gearboxes and Gearing Sets High Performance Couplings Conveying Products and Components 	      
Industrial Systems	<ul style="list-style-type: none"> Motors from 3 to 12,000 HP Alternators from 5 to 4,000 Kilowatts Automatic Transfer Switches & Paralleling Switchgear 	   

Incredibly Strong Brands with a Wealth of History

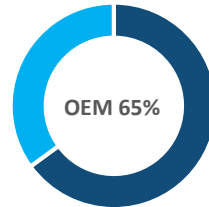


**Differentiated
Technology**

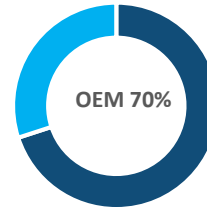


OEM & Distribution Access

Distribution 35%



Aftermarket 30%



- Strong Brand Recognition, Large Installed Base
- Superior OEM and Distribution Access
- Like-for-Like Replacement Drives Recurring Sales

Leading with Technology, Global Footprint, and Distribution/OEM Access



marathon[®]
Motors

LEESON[®]

rotor nl[®]

Industrial Motor
Rotor B.V



Motor Type:

Low & Medium Voltage for Mission Critical application with focus in Marine & Offshore



Annual Modification Capacity:

45,000 pcs/year (65% Customized)



Total Area:

14,000 Sqm



Core Competence:

Application know how
Engineer to Order
LV -MV Test Facility
Coating System
Leadtime



Key Brands:

Rotor / Marathon / Leeson

**THE RIGHT MOTOR.
THE OPTIMAL FIT.
THE PERFECT SOLUTION.**

Engineering

- Strong Application Engineering knowledge
- Ability to Engineer custom winding designs
- Engineer special mechanical designs
- Understanding of related Standards and Certifications

Manufacturing

- PK > 95%
- Paint to customers specification
- Type testing up to 1 MW -LV/MV

Service

- Quote Expert Team with strong application knowledge
- Best in Class All Round Customer Support : Quick Response
- Added Support for key customers : Strong Commitment

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Motors

marathon[™]
Generators



PRODUCTS

TerraMAX®

- Common Platform for NEMA and IEC Motors
- Reduces Complexity and SKUs
- Leverages Best Value Country Supply Base
- Reduces Motor Platforms from 14 to 4
- Available as IE2,IE3 & IE4



Platform Consolidation Drives 10% to 25% Cost Savings and Market Competitiveness

FEATURES

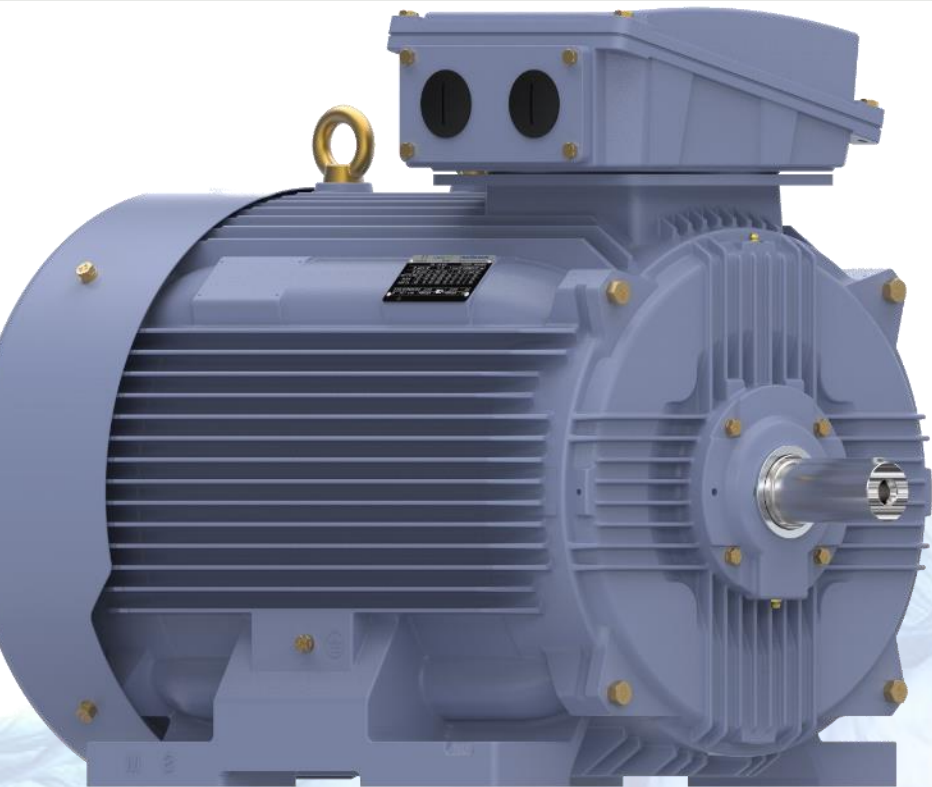
- *Cast Iron IEC 80 – IEC 355*
- *0.75Kw – 375Kw*
- *2 / 4 / 6 / 8 poles*
- *IE2 efficiency level*
- *IP55 enclosure*
- *Insulation class F, Rise B*
- *220 to 690V*
- *Thermistors 160FR and above as standard*
- *Tropic proof winding as standard*



FEATURES

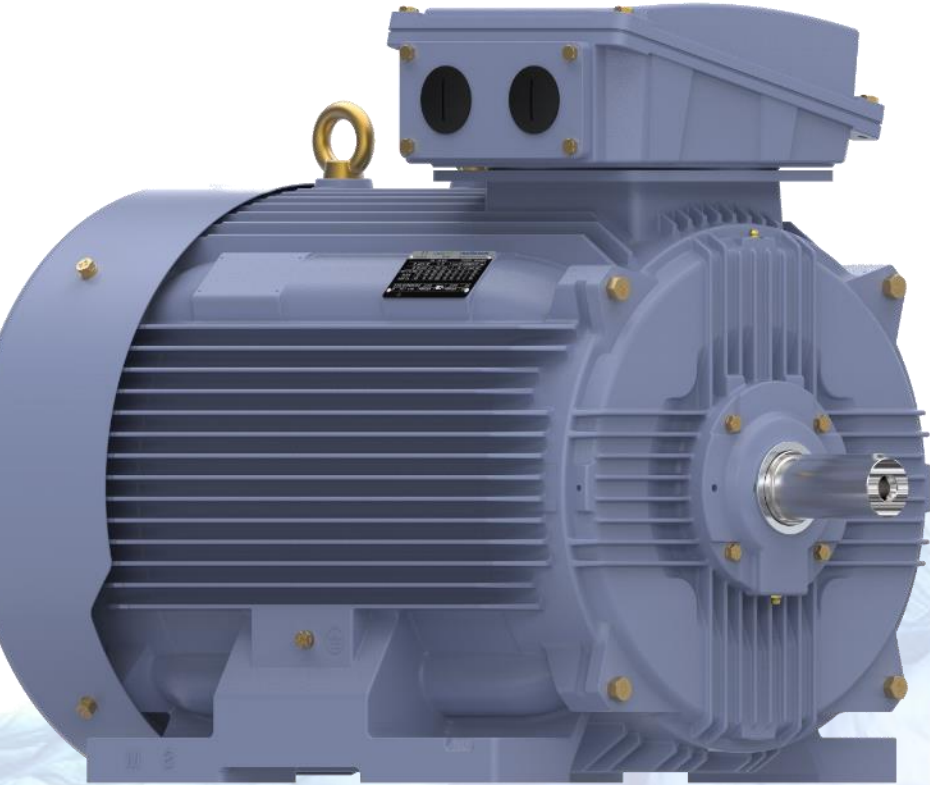
- *Industries' broadest product offering that is designed for tough environments*
- *User friendly terminal boxes*
- *Low operation cost*
- *Low CO2 emissions & environmental friendly*
- *Wide voltage/frequency range meeting global requirements*
- *“Performance Matched” to all leading brands of PWM drives guaranteeing years of trouble free operation*
- *Direct drop-in replacement*





FEATURES

- Output: **0.75kW to 375kW (1HP to 425HP)**
- Pole: **2 to 8 pole**
- Frame: **IEC 80 – 355**
- Power supply: **Available for voltages between 200V to 690V and frequency 50 or 60Hz**
- Ambient: **40°C (Higher ambient on request)**
- Construction: **Cast iron with integrally cast feet**
- Terminal box: **Cast iron with special captive screws and metric cable entry**
- Insulation: **Class F with class B temperature rise**
- Mounting: **All standard mountings B3, B5, B35, V1 (B14 and B34 for IEC 80-132)**



BENEFITS

- *Industries' broadest product offering that is designed for tough environments*
- *User friendly terminal boxes*
- *Low operation cost*
- *Low CO2 emissions & environmental friendly*
- *Wide voltage/frequency range meeting global requirements*
- *“Performance Matched” to all leading brands of PWM drives guaranteeing years of trouble free operation*
- *Direct drop-in replacement*

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**BUREAU
VERITAS**



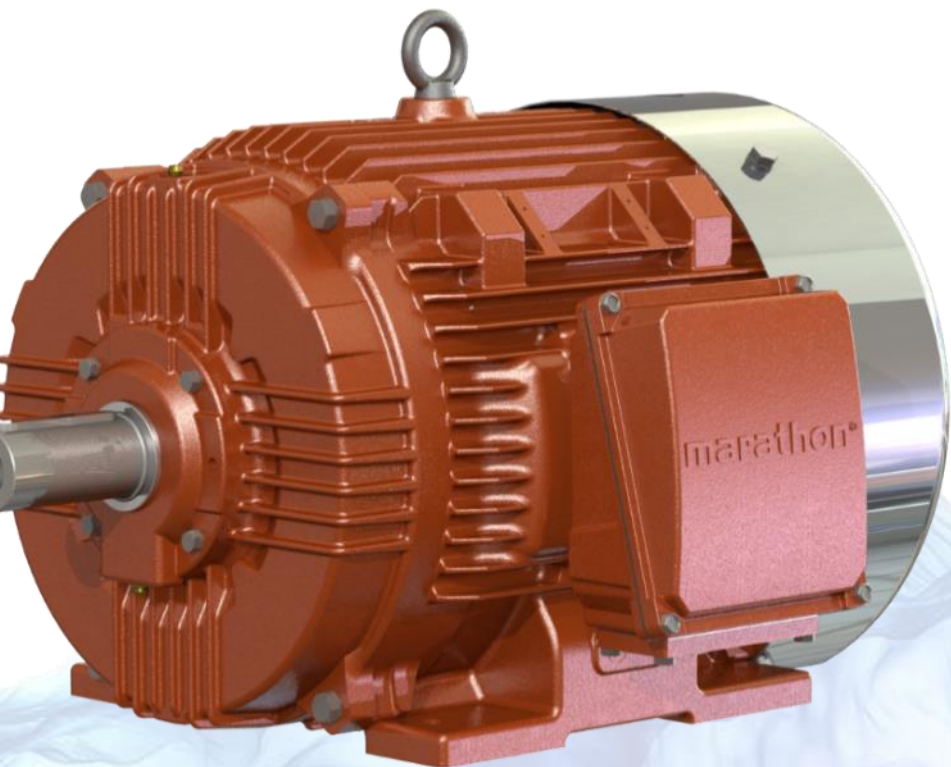
**Lloyd's
Register**

KR
KOREAN REGISTER



ABS
FOUNDED 1862

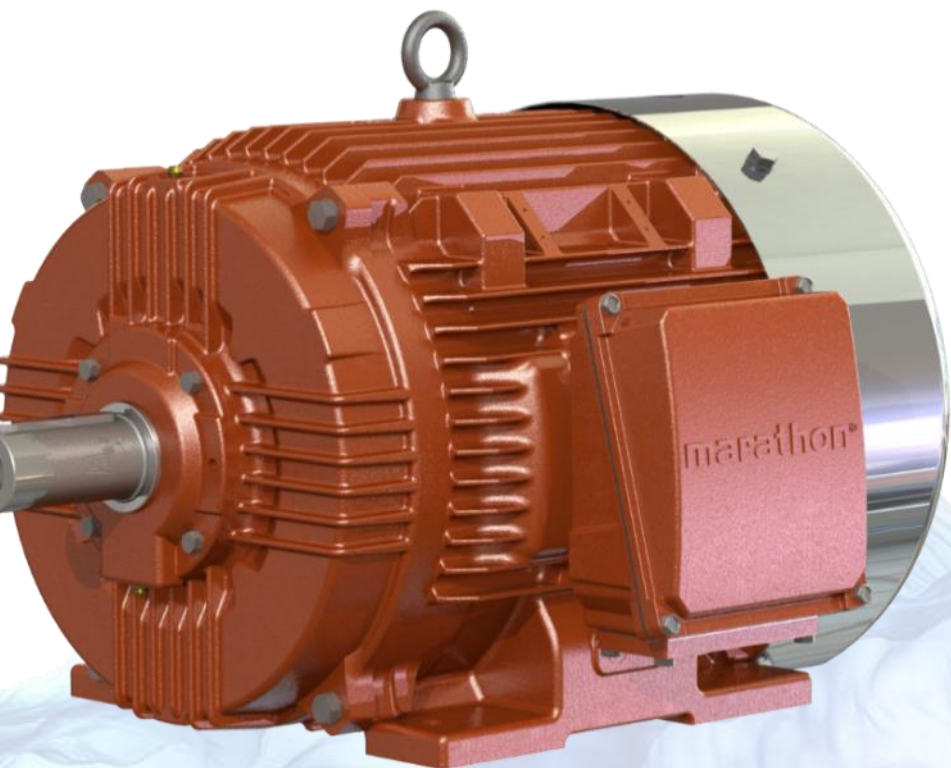




BENEFITS

- Industries' **broadest product offering** that is designed for tough Mining environments
- User **friendly terminal boxes**
- **Low operation cost**
- **Low CO2 emissions** & environmental friendly
- **Wide voltage/frequency range** meeting Mining requirements
- **"Performance Matched"** to all leading brands of PWM drives guaranteeing years of trouble free operation
- **Direct drop-in replacement**

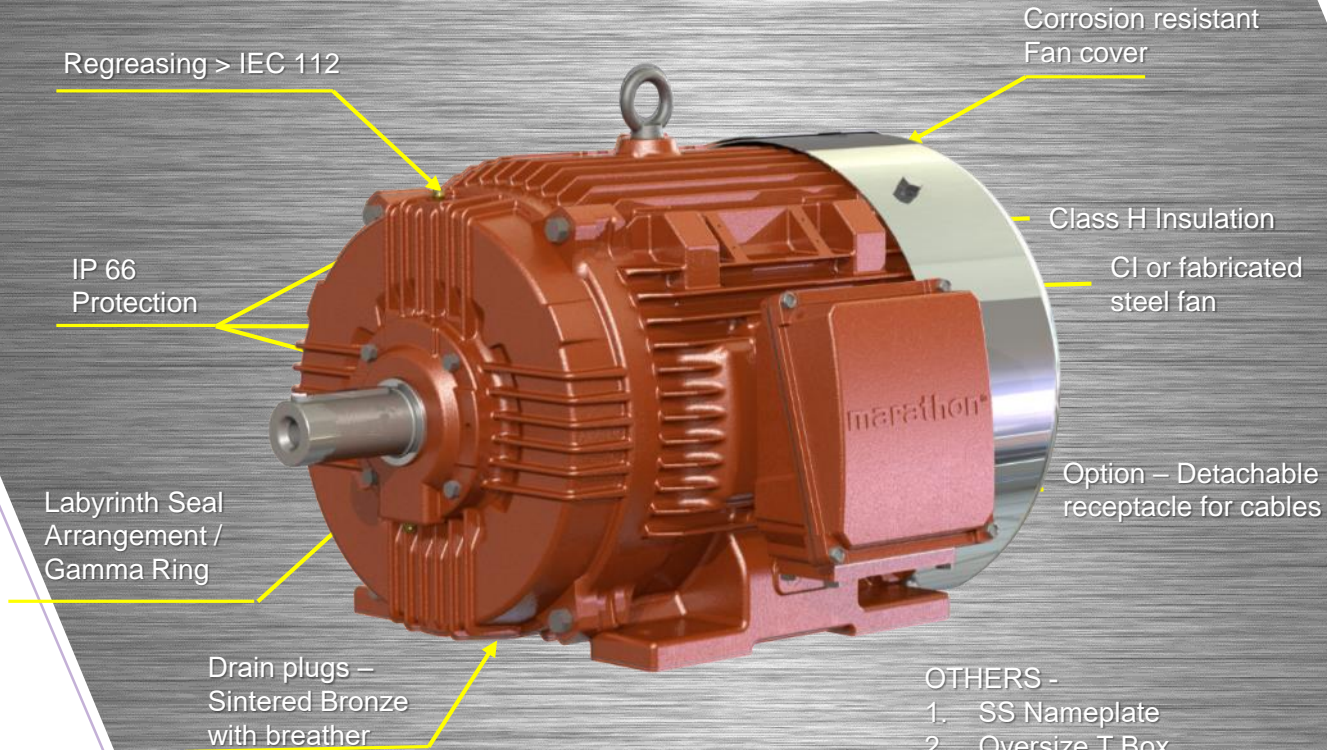
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Motors



FEATURES

- **Output: 0.75kW to 900kW & 1HP to 200HP for NEMA**
- **Pole: 2 to 8 pole**
- **Frame: IEC 80 – 450 & NEMA 180-449**
- **Power supply: Available for voltages between 200V to 690V**
- **Construction: Cast iron with integrally cast feet**
- **Terminal box: Cast iron with metric cable entry**
- **Insulation: Class F with class B temperature rise**
- **Bearings: Shielded bearing for IEC 80-112 & NEMA 180-280**
- **Mounting: All standard mountings B3, B5, B35, V1 (B14 and B34 for IEC 80-132)**

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OTHERS -

1. SS Nameplate
2. Oversize T Box
3. Roller bearing > IEC 250
4. Steel Hardware



FEATURES

- Insulation class H
- Enclosure **IP55, TEAO**
- Inverter duty
- Voltage **200-690V 50/60Hz** available
- IE1, IE2, IE3 and IE4
- Frame 80-280
- Up to 355kW
- Class **F250, F300 and F400**

Frame Size 160 - 355

IP23 –IC01

Integral Feet

IE1 - Marine, Type Approved

Adaptable for modifications

Brake, Encoder, Force Cooling option

Multiple mounting options

Inverter capable



BENEFITS

- Choice - More than 34 stock models ranging from 5–420 kVA (50 Hz). All three-phase generators are 12-lead reconnectable, providing voltage and phase flexibility.
- Easy Mount SAE Adapters
- Class H Insulation System
- Linkboards
- SE350 Voltage regulator
- Optimized electrical design
- Enhanced ventilation
- Fully guarded
- Heavy duty bearings
- Design Specs and agency Approvals. All MagnaPLUS® units meet NEMA MG1-32, BS5000, and IEC 34-1 requirements. MagnaPLUS® generators are also CE Certified, CSA Certified and fully UL Listed. Marine versions are available to meet American Bureau of Shipping, Lloyds, Det Norske Veritas, or Nippon Kaiji Kyokai requirements.



MAGNAPLUS™

BENEFITS

- 5-425 kVA
- Class “H” Insulation
- 50 and 60 Hertz
- 12 lead reconnectable 4-pole brushless
- Single or double bearing
- Prime power or standby appls.
- SE350 AVR
- Optional PMG & DVR or PM300
- Easy mount adapters to simplify mounting to all popular engines



MAGNAPLUS™

BENEFITS

- Choice - Ranging from 135-3,500 kVA
- Exclusive Unirotor construction
- Single piece lamination, die cast rotor core and amortisseur winding
- Winding is layer wound with thermo setting epoxy
- Class H Insulation system
- Cast Aluminum fan
- Field winding is layer wound with thermo setting epoxy
- Heavy duty shielded ball bearings
- PMG excitation support as standard



MAGNAMAX™

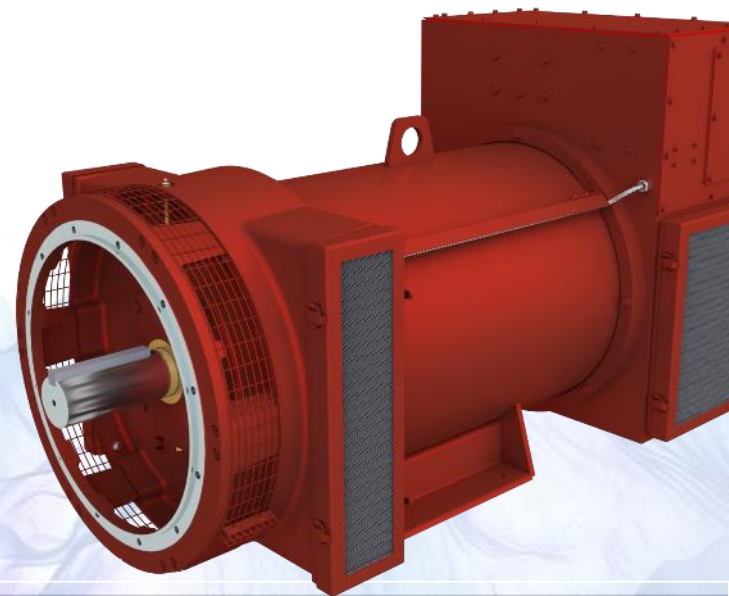
BENEFITS



MAGNAMAX™

- 150 to 2400 kW
- DVR2000E / PMG
- Ranges in size from 135-3,500 kVA
- Class “H” Insulation
- Both 50 and 60 Hertz
- 10 & 12 lead reconnectable, 4 bus bar, 4-pole brushless
- Single or double bearing
- Prime power or standby appls.
- PMG & DVR standard

- ATEX Class 1, Division 2, T3 nA
 - Gases or Dusts not normally present, but may accidentally exist
 - All surface temperatures below T3 temperatures (200°C)
 - Classified as a non-sparking device
- IECEx
 - Hazardous specs seem to be harmonizing towards this spec
- CSA Class 1 Group A, B, C, D; Division 2/Zone 2 Group IIA, IIB, IIC
Temperature Code T3
- Optional Certifications:
 - Marine (ex. ABS, DNV, Lloyds...)



Triple Certified



BENEFITS

Medium Voltage Insulation System

- 2,300 to 6,600 Volt Systems
- Double Daglass over HPT Film Magnet Wire
- Multiple Wraps of Mica Tape w/Glass Overwrap
- 180° C Material for Slot Liner
- Vacuum Pressure Impregnation - Epoxy Resin

High Voltage Insulation System

- 7,200 to 13,800 Volt Systems
- Mica Wrapped Film over HPT Magnet Wire
- Multiple Wraps of Mica Tape
- Conductive Wrap in Slot Area
- Gradient Tape on End turns
- Vacuum Pressure Impregnation - Epoxy Resin



BENEFITS

Medium Voltage Insulation System

- 2,300 to 6,600 Volt Systems
- Double Daglass over HPT Film Magnet Wire
- Multiple Wraps of Mica Tape w/Glass Overwrap
- 180° C Material for Slot Liner
- Vacuum Pressure Impregnation - Epoxy Resin

High Voltage Insulation System

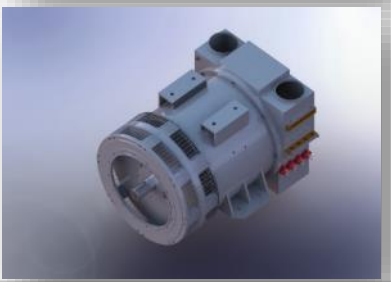
- 7,200 to 13,800 Volt Systems
- Mica Wrapped Film over HPT Magnet Wire
- Multiple Wraps of Mica Tape
- Conductive Wrap in Slot Area
- Gradient Tape on End turns
- Vacuum Pressure Impregnation - Epoxy Resin



- **Reefer Duty**
- **Crane / Drill Rig Duty**
- **Rail Duty**
- **Marine Duty / Mariner**
- **Marine DEP / SS TEWAC (IP54) and Drip Proof (IP23)**
- **Hazardous Duty**
 - **CSA Class 1 Div 2**
 - **ATEX / IECEx**
- **Data Center Products (Mission Critical Standby)**
- **6-Pole Product**



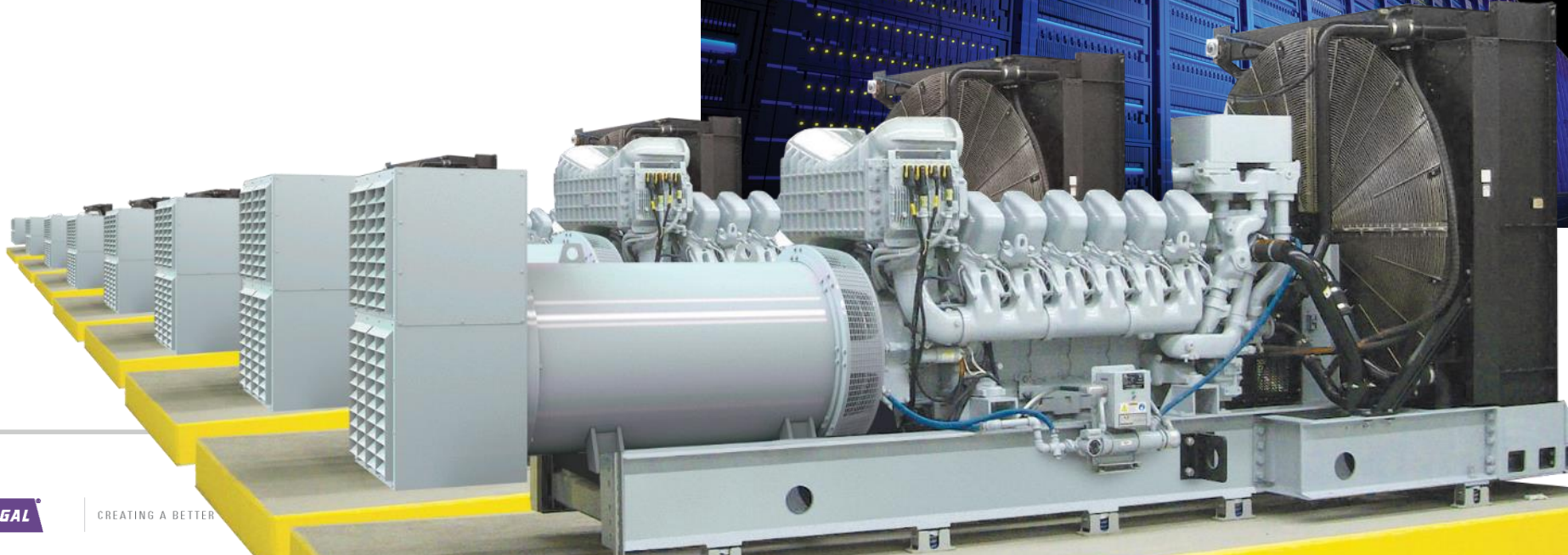
ABS, Lloyds, DNV, RINA,
BV, and others



Application Specific design for low X"d
480V – 13.8kV

Optimized for Key Power Nodes

Partnership with Thompson Power Systems for
highly engineered switchgear offering



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 end-bells and frame				•	•
O-ring sealed openings				•	•
Potted lead entrance					•





LEESON WASHGUARD MOTORS FEATURES AT A GLANCE

FEATURE	WHITE DUCK	WASHGU ARD II	SST DUCK	STAINLES S DUCK	EXTREME DUCK ULTRA
INSTALLATION AND MAINTENANCE					
Color-coded leads					•
Non-wicking lead wires					•
Sealed bearings	•	•	•	•	•
Internally locked shaft-end bearing	•	•	•	•	•
Screw-on conduit box cover				•	•
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	IP69
UL, CSA listed	•	•	•	•	•
BISCC approved		•			•

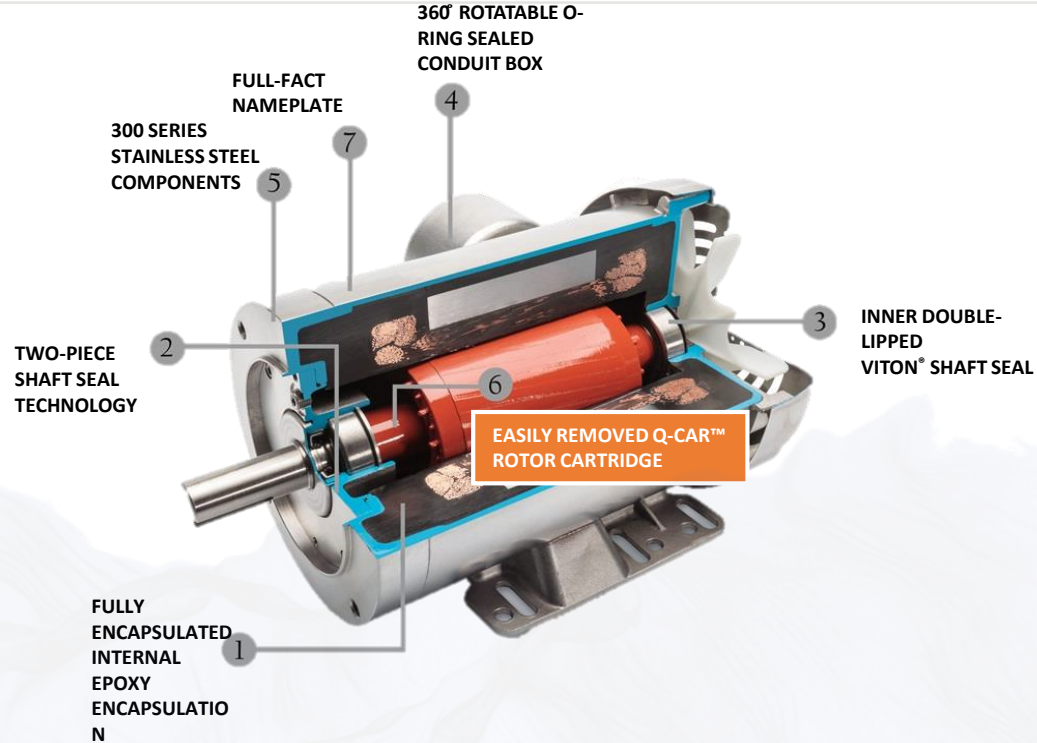
LEESON WASHGUARD MOTORS FEATURES AT A GLANCE

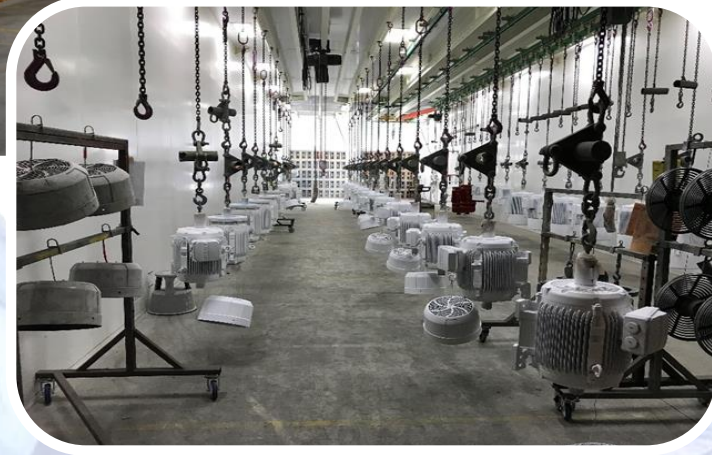
FEATURE	WHITE DUCK	WASHGUARD II	SST DUCK	STAINLESS DUCK	EXTREME DUCK ULTRA
SPECIAL CONSIDERATIONS					
Pump motor designs	•			•	
Brakemotor designs	•			•	
DC motors available	•			•	
Metric designs available				•	•
Local Inventory Support	•	•	•	•	•



FEATURES

- **NOW up to 10 HP**
- **IP69 certified enclosure protection**
- **Q-Car™ rotor cartridge**
- **Vacuum assisted internal epoxy encapsulation**
- **Full body epoxy encapsulation**
- **Enhanced shaft seal technology to handle installation in any orientation**
- **360° rotatable conduit box**
- **Color-coded, non-wicking motor leads**
- **300-Series Stainless Steel used on all exterior surfaces**
- **Inverter-rated IRIS® insulation system — AC designs 1HP and higher**
- **10:1 constant torque operation**
- **Shaft grounding rings (SGR) designs available — ½ -2HP**
- **BISSC Certified, UL, CSA listed, CE**





Dolly tests

Salt/scratch test

Measurement of Thickness

ISO 12944 paint-reports

C5M Coating



Full Load test up to 1 MW ; 500-3600 rpm;
up to 13.8kV

Available Test Benches : 5, 50, 100, 600, 2000,
6400, 18000 Nm capacity with 160% overloading
capacity for 2 minutes

Capability for testing Motors under water (IP68)



Stock up to 1000kW

- Quote Turnaround up to 3 working days
- All quotes supplied with Technical Data and Drawings
- Requests For Quotes to be sent to :
sales.nl@regalbeloit.com
Copy to rob.verhagen@regalbeloit.com
- Key point of contact : Rob Verhagen - Sales Leader

- Strong Knowledge of electric motors and marine-industry
- Product Certification
- High Quality products
- Best in Class Specialised integrations
- Fast response across the business processes
- Stock availability
- Competitive pricing
- Motivated Team Committed to deliver
- Global footprint

THANK YOU

