



Stock Product Quick Reference Guide



Thousands of solutions.
One matched perfectly to your needs.

A Regal Brand

REGAL

transparent
involve
ng EXTERNALLY
FOCUSED
power
QUESTIONING
ENTREPRENEURIAL
CONNECTED TALEM
unique think
proud engaged
inspired
positive values
INTERNALLY DRIVEN ACCUR
solution
sustainability
RELIABLE passionate
listening MAKING A DIFFERENCE
connected
efficient
STRAIGHT FORWARD performance
MOTION
driven
en
EXPERTISE friendly open
aspirational excited
understanding
quick OBJECTIVE RELIABLE
collaborative

More than 6,000 stock motors, gearmotors, gear reducers and control designs available.

Yes, there's an industrial strength LEESON solution for your application.

LEESON offers over 6,000 AC and DC stock motors, gearmotors, gear reducers and variable speed control solutions. All built for commercial and industrial use with the features you expect for new installation requirements and convenient replacement. Twenty-three stocking warehouses in the USA. LEESON also provides custom innovative solutions, for more information see page 10.

Application Issues? Contact your local sales office for a solution.

Whether you require a motor that withstands extreme temperatures, requires a unique mount or other requirements, LEESON's sales team has solutions.

To turn your idea or project into reality, call your local LEESON sales office or visit leeson.com

AC & DC Motors of all types

Our stock motor lineup includes AC and DC designs in sub-fractional through hundreds of horsepower sizes for general purpose use and specific-duty applications. All popular enclosures and configurations are available, along with some not-so-easy-to-find items. For an extra margin of protection from inverter-induced voltage spikes, LEESON's Inverter-Rated Insulation System (IRIS™) comes standard—at no extra cost—on all stock NEMA three-phase motors (1 HP and larger). Similarly, Lincoln Motors offers "Ultimate Spike Defense™" inverter-rated insulation system on its 1HP and larger frame three-phase motors.

Adjustable speed drives

Speedmaster drives are a perfect fit with many types of LEESON and Lincoln three-phase motors. Our Micro Series inverter line is available through 60 HP at 230 Volts, and through 150 HP at 460 Volts. Micro Series offers easy-to-use, English programming with built in PID software, making them closed-loop drives, if needed. For applications through 25 HP, choose the SM-Plus Inverter, with its minuscule footprint, big-drive features and wide range of accessories. If you require a simple "Shaft-turner," select economical SM-Series drives, which feature the same small footprint and many features of our SM-Plus Series. Vector inverters with 200% starting torque—when run with a vector duty motor—provide full output torque down to 1Hz, in both NEMA 1 and NEMA 4X enclosures.

And look to LEESON for a competitive line of SCR, PWM, Regenerative and Low Voltage DC Controls.

Gearing products

Recognized worldwide as a leader in the industrial-duty, gear-reducer marketplace, Grove Gear offers solutions to meet any application requirement. Our IRONMAN product line includes right angle worm gear reducers as well as high efficiency options. The revolutionary E Series is a high efficiency right angle gear reducer that meets the increasing demand for efficiency in the compact footprint of traditional worm gear products.

Electra-Gear is the only industrial-duty aluminum worm reducer line designed and built in the USA. Featuring the same premium features as the IRONMAN line, Electra-Gear products are perfect for washdown applications.

LeCENTRIC™ and Bravo® reducers are compact and lightweight alternatives to traditional cast iron units.

Combine Grove Gear or Electra-Gear reducers with LEESON or Lincoln c-face motors to create a performance-matched GEAR+MOTOR™ or integral gearmotor.

For more info, visit www.grovegear.com

1-Phase General Purpose Motors

Hundreds of Industrial Designed "Off-the-Shelf" Solutions

- 42–215T Frame
- 1/12–10 HP
- Totally enclosed and drip-proof designs
- Rigid base, C-face, Rigid C-face and Resilient base
- Overload protection available



Applications:

Pumps	Material Handling
Machine Tools	Compressors
Fans and Blowers	Conveyors



Agricultural Motors

High Torque Rugged Industrial Designs

- 48–286T Frame
- Designed especially for the ag customer or the OEM
- Extra-high starting torque designs: General Purpose, Crop Dryer, Auger Drive, Fan Ventilation, Grain Stirring and more
- Manual and auto reset overload thermal protection
- Sealed bearings
- Premium efficient models – "Eco-Ag" single-phase and three-phase
- **NEW!** 16 HP single-phase crop dryer motor



Applications:

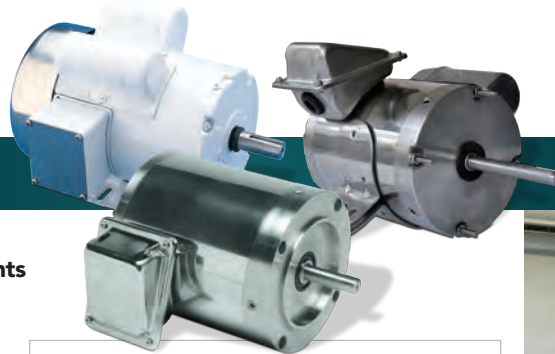
Poultry Feeders	Conveyors
Silo Uploaders	Pumps
Crop Drying	Barn Cleaners
Compressors	Grain Stirrers
Tobacco Barns	



Washdown Motors

Broadest Industry Solutions for Maximum Service in Harsh Environments

- USDA-approved white epoxy paint
- Cast conduit box with stainless steel cover
- Internal corrosion resistant coatings on frame, base, end shields, rotor and stator
- 100% stainless steel single-phase and three-phase designs available
- 1/2–10 HP
- Stainless motors with shaft grounding rings available
- Encapsulated washdown motors
- **NEW!** Stainless steel pedestal fan motors



Applications:

Dairies	Pump Industry
Beverage Plants	Bakeries
Food Processing	Pharmaceutical Plants
Slaughter Houses	Car Washes
Feather Pickers	



Fan & Blower Motors



Industrial and Commercial Fan Motors Available

- General Purpose 1/4–3 HP
- PSC Type: 1/4–1 HP
- Two-speed: 1/4–1 HP
- TEAO: 3/4–3 HP
- Condenser Fan: 1–1.5 HP
- Commercial Duty: 1/4–1/2 HP
- Furnace & Air Conditioner: 1/4–3/4 HP
- Fan & Heat Pump: 1/6–3/4 HP
- Outdoor Condenser Fan: 1/6–3/4 HP
- Cooling Tower: 3–250 HP
- Stainless pedestal fan 1/4–1/2 HP

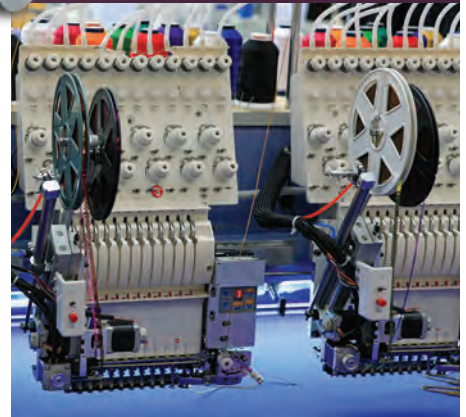
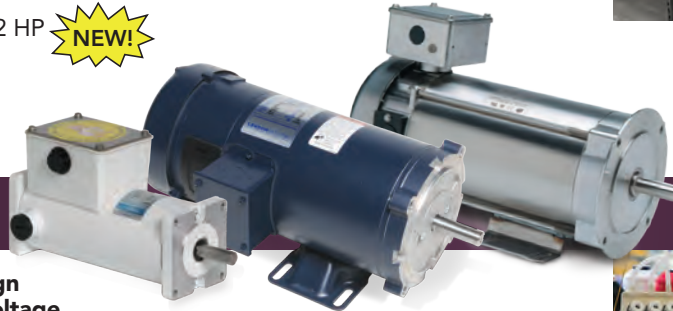
Applications:

Direct and Belt-drive Air Handlers	Cooling Towers
Exhaust Fans	Industrial Fans
Pedestal Fans	Commercial Fans
	Two-speed Fans

NEW!

NEW!

DC Motors



Industrial & Commercial Design DC motors for Low & High Voltage Applications

- 1/20–3 HP
- Permanent magnet designs
- Removable bolt-on base
- NEMA C-face designs
- 12, 24, 36, 48, 90 and 180 Volt designs
- PWM or SCR type controller rated
- High starting torque
- Permanently lubricated sealed bearings
- Washdown, explosion proof and IEC models

Applications:

Pumps	Reeling Equipment
Conveyors	Medical Equipment
Turntables	Treadmills
Textile Machinery	Solar Panels

AC & DC Gearmotors



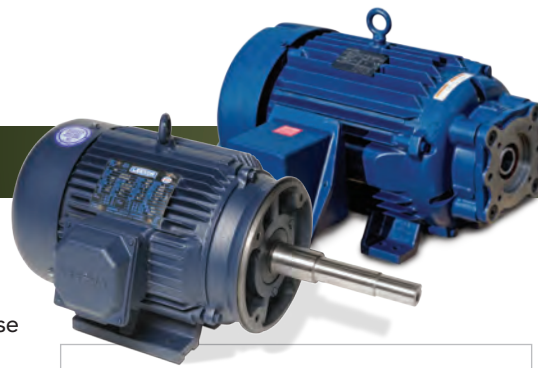
Little Motors, Big Solutions with Industry Interchange Designs

- AC: 115/230V single-phase and 230/460V three-phase designs
- DC: 90, 180 and low voltage designs
- Right-angle and parallel shaft designs
- Most common F.L. torque and RPM designs
- AC and DC washdown designs
- Bison, Bodine and Dayton Direct Interchange

Applications:

Conveyors
Turntables
Packaging Equipment
Augers
Food Processing Equipment

Pump Motors



Commercial, Washdown and Explosion Proof Ratings Available

- JM/JP close coupled
- Jet Pump in single- and three-phase from 1/2–3 HP
- UL listed fire pump—Lincoln
- Drip-proof, totally enclosed, washdown duty
- EPACT efficient designs
- Stainless steel washdown
- Carbonator pump designs
- SAE pump motors
- Premium efficiency JM/JP pump available 1st Qtr 2015

NEW!

NEW!

Applications:

- | | |
|--------------------|----------------------|
| Centrifugal Pumps | Turbine Pumps |
| Hydraulic Pumps | Vertical end Suction |
| Water System Pumps | Propeller Pumps |
| Fire Pumps | |

Explosion Proof Motors



Industrial & Commercial Application Designs

- 56–449T Frame
- Single-phase 1/3 thru 2 HP
- Three-phase fractional to severe duty 449T frame
- Three-phase 1/3–350 HP
- DC: 1/3–3/4 HP, 90 & 180 VDC
- Class I Group D or Class I Groups C & D or Class II Groups F & G
- 1.15 service factor
- UL listed for use with inverters
- Available in EPAct & NEMA Premium™ efficiency
- Severe duty features
- Rigid and C-face mounts available
- ATEX certified available 2nd Qtr 2015

Applications:

- | | |
|---------------|------------------------|
| Pumps | Petroleum and Gasoline |
| Compressors | Grain Elevators |
| Gear Reducers | Paint Booths |
| Machine Tools | |
| Conveyors | |

IEC—Metric Motors



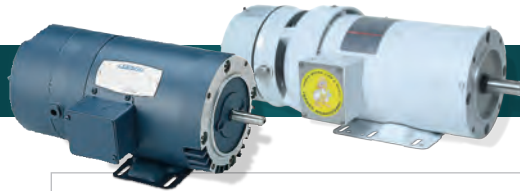
IEC Global Designs to Meet International Specifications

- 63–250 IEC frame
- 0.18KW (1/4 HP)–37W (50 HP)
- 208–230/460 and 575 Volt 3-Phase
- TEFC, Aluminum, Cast Iron & Stainless Steel frame construction
- B3, B3/B5 and B3/B14 Mountings
- Removable bases—90 frame and lower
- IP 55 enclosure protection
- Premium efficient 90 frame and higher
- DC: .06 kW to 2.2 kW, 180 volts

Applications:

- | |
|-------------------|
| Machine Tools |
| Textile Machinery |
| Conveyors |
| Pumps |
| Food Processing |

Brakemotors



Dependable Stopping and Holding Brakemotors

- 1-Phase: 1/3–2 HP
- 3-Phase: 1/3–10 HP
- Totally enclosed and drip-proof designs
- Rigid base, Rigid C-Face and C-Face mounts available
- Washguard and stainless
- High cycle brake motors
- Brake kits and coupler brakes

NEW!

Applications:

Conveyors
Machine Tools
Door Openers
Elevators
Hoists
Baggage Handling
Packaging Equipment



AC & DC Controls

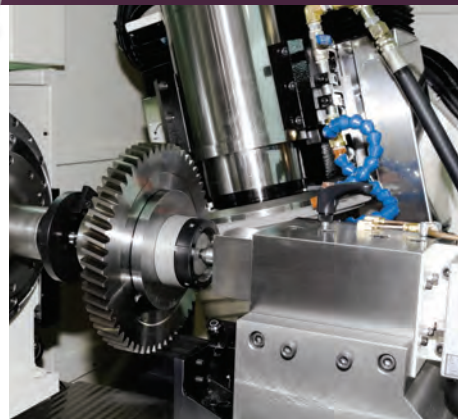


Energy Saving and Precision Speed Controllers

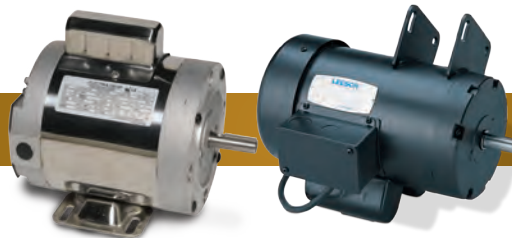
- DC Controls
- Open Chassis, NEMA 1 and NEMA 4/12 enclosures
- SCR and PWM and Regenerative Controls
- 1/40–3 HP rated
- Low voltage 16–120 Amps
- AC Controls
- IP20, IP31 and IP65 enclosures
- 1/4–150 HP
- 115 volt, 1-Phase input–3 HP, (3-Phase output)
- 230, 460 & 575 Volt ratings
- Standard V/Hz and Vector Duty designs available

Applications:

Conveyors
Handling Equipment
Hoists
Packaging Equipment
Fans
Machine Tools



Special Duty Motors



High Quality, Short Run Specials—Application Specific Solutions

- Boat Hoist Duty: 1/2–2 HP
- Instant Reversing: 1/3–1 HP
- Woodworking: 3/4–4 HP
- Two-speed: 1/.25–10/2.5 HP
- Compressor Duty: 1–20 HP
- Severe Duty IEEE-841: 1–100 HP
- 50 HZ Motors: 1-Phase, 1/3–5 HP, 3-Phase, 1/4–5 HP
- 200–400 Volt : 1–10 HP
- 575 Volt: 1/3–450 HP
- Medium Voltage: 150–700 HP
- Elevator Duty: 15–100 HP
- Automotive Duty: 3/4–100 HP

Applications:

Boat Hoist
Woodworking Equipment
Compressors
Fans and Blowers
Parking Gates
Foundries
Elevators/Escalators



3-Phase General Purpose Motors

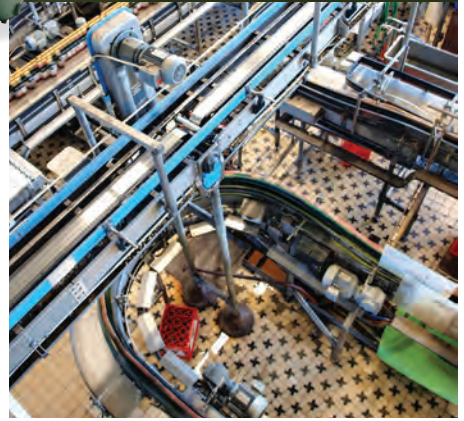


NEMA Premium—Meets IE3 Specifications—Inverter Duty

- 1/4–700 HP
- 143–449T frame offers high efficiency levels that meet NEMA Premium™
- Built for high cycle or long run-time applications
- Drip-proof & totally enclosed, enclosures
- IRIS™ insulation system—WATTSAYERe
- Premium efficient motors with 3-year warranty
- Inverter rated

Applications:

- Pumps
- Gear Reducers
- Conveyors
- Compressors
- HVAC



Inverter/Vector Duty Motors



Constant Torque Speed Control

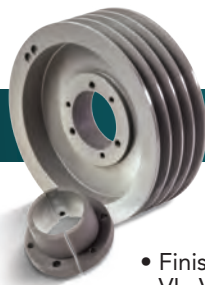
- 1–350 HP
- Class F thermostat protection
- Precision balanced
- ODP, TENV and TEBC designs
- 3-year warranty
- With encoders or encoder provisions
- 2000:1 constant torque
- 10:1 constant torque – ODP designs
- IRIS™ insulation system

Applications:

- Material Handling
- Extruders
- Conveyors
- Machine Tools
- Transportation



Pulleys & Sheaves



Thousands of Stock Power Transmission Solutions

Product Types:

Taper Bushings

- BTL - Bushing Taper Lock 1008, 1108, 1210, 1215 and more
- QTL - Quick Detachable JA, SJ, SDS and more
- STL - Split Taper Lock G, H and more

V-Pulleys

- Finished Bore AK, 2AK, BK, 2BK
- Taper Bore - STL/H AK-H, 2AK-H, BK-H, 2BK-H

- Finished Bore – Adjustable Speed VL, VM, 1VP, 2VP
- Taper Bore - QTL A/B-C-D
- Finished Bore – Light Duty – AL

Applications:

- Conveyor Belts
- Fans
- Air Handling
- Farm / Ag Equipment
- Compressors



Permanent Magnet - PMAC Motors



Fractional HP Designs

High Efficient Motors Throughout Speed Range

- NEMA 48 & 56 (IEC 80 & 90)
- 72 - 132 in-lbs torque (4 - 7.5 HP) Typ.
- 10-Pole design
- 5000 RPM Max
- TENV IP-54
- Rolled Steel construction
- Interior PM, NdFeB magnets
- With and Without Feedback
- Open loop: 100:1VT, 20:1CT
- Closed loop: Infinity:1CT
- Constant Power to 125% of base
- 120% Reserve Torque capability
- 3-Year Warranty

Applications:

Pumps	Extruders
Fans/blowers	Presses
HVAC	Process applications
Compressors	Generators
Conveyors	

Platinum



Permanent Magnet - PMAC Motors



IHP Designs

High Efficient Motors Throughout Speed Range

- NEMA182-286T (IEC132-180)
- 5-100 lb-ft torque (3-30 HP) Typ.
- 10-Pole design
- 1800rpm (150Hz), 1200 & 3600
- TEFC Severe Duty, IP55
- Cast Iron construction
- Interior PM, NdFeB magnets
- Open loop: 100:1VT, 20:1CT
- Closed loop: Infinity:1CT
- Constant Power to 125% of base
- 120% Reserve Torque capability
- Thermostat protection (N/C 1/ph)
- 3-Year Warranty

Applications:

Pumps
Fans/blowers
HVAC
Compressors
Conveyors
Extruders
Presses
Process applications
Generators



Permanent Magnet - PMAC Motors



VSDM Designs

High Efficient Motor/Drive Package

- 56 thru 180 frame NEMA rigid base
- IP54 enclosure
- Custom shaft extension and mounting available
- Rolled steel frame construction
- Powder paint exterior
- Rare earth Neodymium magnets, embedded construction
- Integrated custom control
- Class F insulation
- Anti-cogging technology
- 3-Year Warranty

Applications:

Variable Torque – Pumps
Variable Torque – Fans
Low Inertial Starting Torque
Condenser Fan Application
Evaporator Fan Application

Platinum VSDM
VARIABLE SPEED DRIVE MOTOR



Training

LEESON University. It's everything you need to know.

Subjects Covered:

Regal Overview

AC Electric Motor Principles

DC Electric Motor Principles

PMAC Electric
Motor Principles



Motor Applications

Power Transmission

Gear Reducer Principles

LEESON.com review

Manufacturing Plant Workshop

Contact your local LEESON Sales office for more information

Searchable Catalog

LEESON's new catalog is available in both printed copies as well as online. The online catalog is searchable by item number or item type, with electronic links to the current motor data for a specific product. It is available on leeson.com.

The screenshot displays the Leeson Product Catalog 1050 website. The main content area shows a list of 'Single Phase ODP Motors' with columns for HP, SYN RPM 60 Hz, NEMA Frame, Catalog Number, Stock, List Price, Model Number, and App. Wgt. (lbs). A detailed product view is overlaid on the right, showing 'ELECTRIC MOTORS, GEARMOTORS AND DRIVES' and 'Product Features' for a specific motor model, including 'Catalog No. 110004.00', 'Product Type AC MOTOR', and 'Description 1HP, 1725RPM, 56DP, JV, 1PH, 60HZ, CONT. NOT. ASC-L, 155F, RUGID, GENERAL PURPOSE, CAC170B31'. The detailed view also includes 'Engineering Data' with specifications for Volts, F.L. Amper, and S.F. Amper.

Product Catalog 1050
ELECTRIC MOTORS, GEARMOTORS AND DRIVES
Sub-Fractional to 700 HP

Customized and Modified Products



Custom Motors, Gearboxes & Gearmotors

LEESON is a leading designer and manufacturer of application-specific AC and DC motors and gearmotors in sub-fractional, fractional and integral horsepower sizes. We offer a database of over 30,000 custom designs, experienced application and design engineering teams to ensure the best, most cost-effective custom motor solution.

Custom Multi-Speed & Low-Speed Motors

LEESON's PDQ Modular Production Program utilizes specially designed and standard components to make almost any imaginable NEMA frame multi-speed or low-speed motor available when you need it. We pride ourselves on fast turnaround times on highly customized motors.

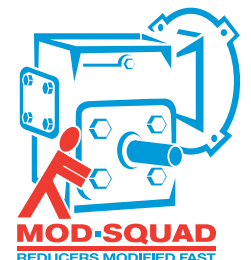
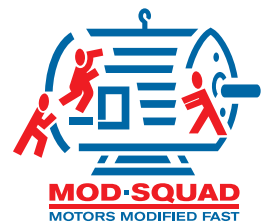
Custom motors include two, three and four-speed motors and speed ranges of 900, 720, 600, 450 and 300 RPMs. We also specialize in non-standard shaft designs.

For quotations, availability and application assistance, phone toll-free to our Canadian manufacturing facility at 1-800-463-1797.

Mod-Squad Program

Quick-turnaround stock motor modifications are available through the LEESON Motor Mod-Squad. Adding cords or switches, changing mountings, extending leads and incorporating various severe-duty features are among the many standard modifications offered.

Modified stock gear reducers are offered on a quick-ship basis through the LEESON Gear Mod-Squad. A wide array of mountings, shaft extensions and other changes are available for 600 Series IRONMAN® reducers. In addition, modified stock Gear+Motor™ packages can be created, drawing on LEESON's extensive range of NEMA C face motors.



For complete stock products information, visit our online technical database at www.leeson.com/findaproduct.

Two great tools, now at your fingertips.

The all new LEESON Mobile Experience puts all of the information you need available everywhere you are with our easy-to-use mobile app.



Scan this code to download app



Available on Apple or Android



LEEBiz PLUS gives you real-time access to all of your most important account information.

- Real time inventory visibility
- Shipment tracking
- PDF product packet information
- Alternative product suggestions

www.leeson.com

For product information, news and instructional tools, there's no better resource than leeson.com



Also see us on **YouTube**



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www.leeson.com

A Regal Brand

The logo for Regal, featuring the word "REGAL" in white, bold, italicized uppercase letters inside a dark gray trapezoidal shape.

www.regalbeloit.com