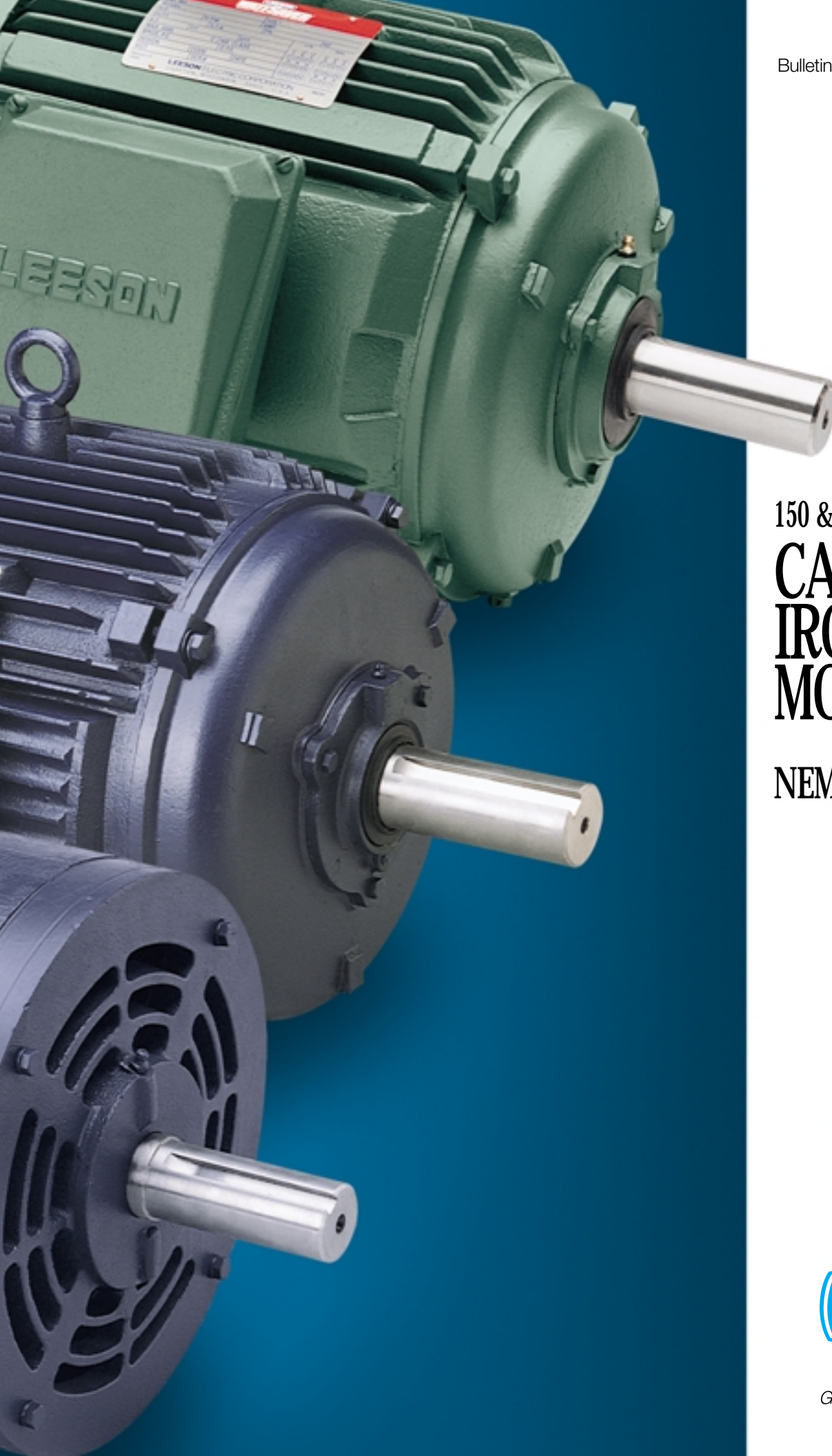


Bulletin 1700



150 & 170 SERIES

CAST IRON MOTORS

NEMA 182T-449T Frame



*ELECTRIC MOTORS
GEARMOTORS AND DRIVES*

Premium Features For Extra Durability

LEESON's Inverter Rated Insulation System (IRIS™) provides superior motor protection against voltage spikes and is standard at no extra cost on our 150 and 170 Series cast iron frame motors.


LEESON motors comply with EPACT, the U.S. Department of Energy efficiency standards. The standards, which became effective in October, 1997, dictate that most types of base-mounted three phase motors, 1 through 200 HP, meet minimum full load efficiencies.

Steel fan cover for optimum strength. Cast iron cover available for severe service.

Stainless steel "full fact" nameplate with information on motor efficiency and power factor. Includes wiring diagram, bearing sizes, and motor weight. Unique serial number.

Heavy-duty cast iron frame and endbells for maximum durability and structural rigidity.

High torques for hard-to-start loads. Torques exceed NEMA performance standards.

Energy performance verified by an independent testing laboratory. 

1.15 Service Factor provides extra margin of power. Class F insulation system with Class B or lower temperature rise. Most suitable for 50 Hz operation at 1.0 service factor. Contact factory for details.

100% copper winding double-dipped and baked. Stator press-fitted and pinned to housing. Inverter rated insulation system.

Locked shaft-end bearing (254T frame and larger) makes motor suitable for all-angle mounting. Bearing cap protects against entry of grease into the motor.

Lubrication fittings on each end of motor (254T frame and larger). Shell Dolium R lubricant with -20°F to +350°F temperature range; single shield, oversized bearings.

Neoprene shaft slinger (TEFC models) protects bearings by repelling moisture and other contaminants. Internal protection against rust and corrosion.

Modification to meet IEEE 841 standard. Factory modification through LEESON's ModSquad™ "quick-ship" service. Features include addition of shaft seals, two-part epoxy finish and motor test card.

Small size fan reduces noise and enhances efficiency. Non-sparking. Fan keyed to shaft.

12-Lead Delta windings (254T frame and larger, 150 and 170 Series) for across-the-line or wye delta starts. Permanently marked leads with lugs for easy connection. Normally-closed thermostat standard on WATTS-AVER® designs.

Oversized cast iron conduit box is gasketed and may be rotated in 90° increments. NPT threaded entrance. Meets latest NEC requirements.

Cast iron mounting feet. Precision-machined for accurate alignment. Dual mounting provisions for field replacement flexibility. Six mounting holes on all 184, 215, 256, 286, 326, 365, 405, 445, 447 and 449T frame motors (except drip-proof 326, 365 and 405T frames).

Cast iron endplates for maximum rigidity and long bearing life.
One-way, corrosion resistant condensate drains. (TEFC models) release condensation and moisture.

KITS AND ACCESSORIES

A variety of bolt-on kits and accessories are available for use with LEESON 150 and 170 Series cast iron motors.

BrakeKit™ – Includes components needed to convert TEFC motor to brakemotor: Stearns AC brake, replacement cast iron fan cover, shaft extension, fan, and hardware.

Severe Duty Conversion Kit – Cast iron fan cover converts standard cast iron motor to chemical service/severe duty motor. Full conversion to meet IEEE 841 available as modification through Mod-Squad™.

NEMA C Face Kit – Includes all parts needed to convert standard rigid base cast iron motor to C face with base.

NEMA D Flange Kit – Includes all parts needed to convert standard rigid base cast iron motor to D flange with base.

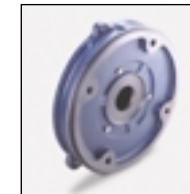
Motor Bases – Heavy-gauge steel, adjustable motor bases simplify the tensioning, maintenance and replacement of belts. Transition bases allow NEMA T frame motors to replace NEMA U frame motors. Heavy-duty steel construction.



BrakeKit™



Severe Duty Conversion Kit



NEMA C Face and D Flange Kits



The Strength of Cast Iron... Plus Low First-Cost



150 Series General Purpose Inverter-Rated Motors (5 through 200 HP)

The original LEESON "heavyweights," available in drip-proof and TEFC enclosures. Cast iron frame, endplates and conduit box. EPACT compliant. Inverter-rated for continuous duty with constant torque from 20 through 90 Hz and 5 through 90 Hz (182T - 326T), using optional Blower Kit on TEFC motors. Inverter protected against voltage spikes by LEESON's exclusive IRIS™ insulation system, at no extra cost. Also stocked in NEMA C face designs, with and without rigid base through 75 HP, including "TS" designs for close coupling of pumps. NEMA C face, D flange, Cast Iron Fan Cover and BrakeKits™ are available. Factory modification to IEEE 841 standards offered on a quick-ship basis through LEESON's ModSquad™ program.

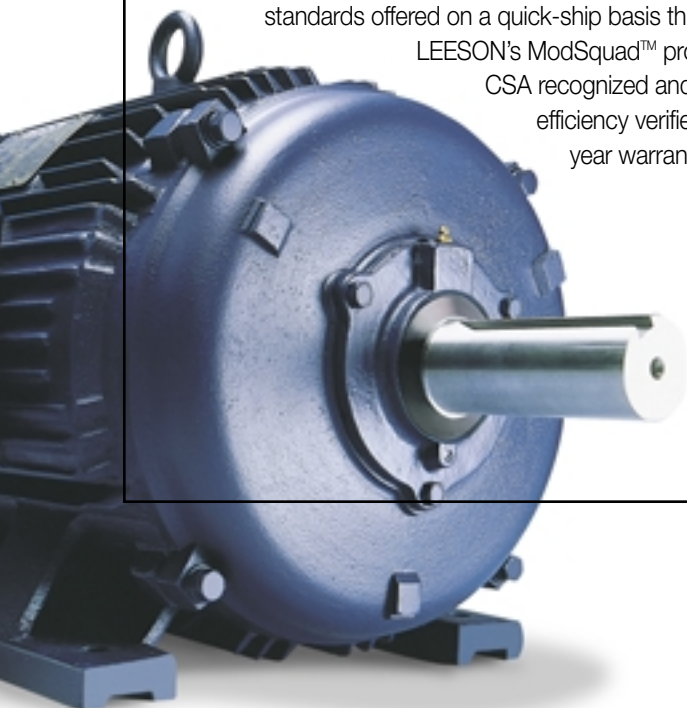
CSA recognized and energy efficiency verified. Two-year warranty.



170 Series WATTSaver® Inverter-Duty Premium Efficiency Motors (3 through 100 HP)

Premium efficiency, inverter-duty motors offered in both drip-proof and TEFC enclosures. Mechanically identical to the 150 Series. Designed for inverter use with continuous duty at constant torque from 15 through 90 Hz or better and full torque at zero speed with vector drive input and optional Blower Kit on 182T - 326T frame TEFC motors. Inverter protected against voltage spikes by LEESON's exclusive IRIS™ insulation system. Efficiencies meet or exceed EPACT and most utility rebate programs. Also stocked in NEMA C face designs, with and without rigid base through 75 HP, including "TS" designs for close coupling of pumps. NEMA C face, D flange, Cast Iron Fan Cover and BrakeKits™ are available. Factory modification to IEEE 841 standards offered on a quick-ship basis through LEESON's ModSquad™ program. CSA recognized and energy efficiency verified. Three-year warranty.

Optional constant-velocity cooling fan can be field or factory installed.



CAST IRON TOUGH!

Inverter-Duty, Premium Efficiency WATTSAVER® Motors

When it comes to protecting the motor in a variable frequency drive (inverter) application, look to LEESON for the answer. Our premium efficiency, inverter-duty WATTSAVER® motors are doubly capable.

IRIS™ Insulation System

WATTSAVER® motors use second-generation, 200°C magnet wire and an extra-heavy varnish system—as part of our exclusive Inverter-Rated Insulation System (IRIS™), standard at no extra cost. This *total insulation system* includes specially-formed phase insulation, cushioned and sleeved connections (from the leads all the way into the turns), and deep-penetrating, non-hygroscopic, high-temperature varnish.

More Protection with WATTSAVER®

In addition, the premium efficiency design of the WATTSAVER® provides more copper and steel—an extra margin of operating safety to protect against excessive heating. As an additional assurance, the premium efficiency ratings of WATTSAVER® motors have been independently verified to IEEE 112B test standards.

LEESON Inverters & Accessories

Speedmaster® Inverters offer premium performance features—yet are some of the industry's most compact and cost-effective units. With “big drive” features and plain-English programming, LEESON Micro Series Drives (shown at lower left) are an easy choice when it comes to selecting an inverter for industrial applications.

Inverter accessory items available through LEESON include Encoder Kits (upper left), Blower Fan Kits (upper right), and Remote Keypad (lower right).

For full details on any of the Inverters, Accessories or Kits, please see Stock Catalog 1050.



Product Features

	Drip-Proof		TEFC	
	150 Series	170 Series	150 Series	170 Series
Mechanical Construction				
Cast iron frame and endplates	●	●	●	●
Cast iron conduit box	●	●	●	●
Convertible to F2 mounting	●	●	●	●
Pressed steel fan guard	●	●	●	●
Lifting eyebolt	●	●	●	●
Dual mounting provision (see photo on inside spread for details)	●	●	●	●
Electrical Performance				
1.15 Service Factor	●	●	●	●
Exceeds NEMA Design B torque standards	●	●	●	●
Insulation System and Windings				
Inverter Rated Insulation System (IRIS™)	●	●	●	●
100% Copper windings	●	●	●	●
Double-dipped and baked	●	●	●	●
Class F insulation	●	●	●	●
Voltage and Leads				
Permanently marked leads	●	●	●	●
Nine (9) leads - NEMA 213T and smaller	●	●	●	●
Twelve (12) leads - NEMA 254T - 405T Wye Delta	●	●	●	●
Six (6) leads - NEMA 444T - 447T Wye Delta	●	●	●	●
Conduit Box				
Cast iron box	●	●	●	●
Rotates in 90° increments	●	●	●	●
NPT threaded hole	●	●	●	●
Operating Efficiency				
Energy Efficiency Verification by Canadian Standards Association	●	●	●	●
Full load efficiency & power factor on nameplate	●	●	●	●
Service Factor				
1.15 Service Factor at 60 Hz	●	●	●	●
Bearings				
Double-shielded bearings-NEMA 215T and smaller	●	●	●	●
Single-shielded bearings-NEMA 254T and larger	●	●	●	●
Shell Dolium R lubricant, -40°F to +320°F	●	●	●	●
Moisture Resistance (TEFC Only)				
One-way condensate drains			●	●
Neoprene shaft slinger			●	●
Neoprene gland between conduit box and frame	●	●	●	●
Fully gasketed conduit box	●	●	●	●
Internal components protected against corrosion	●	●	●	●
Paint Finish				
Blue paint	●		●	
Green epoxy paint		●		●
Nameplate				
Stainless steel	●	●	●	●
Unique serial number	●	●	●	●
Connection diagram	●	●	●	●
Agency Listings				
Canadian Standards Association certification LR62104	●	●	●	●
Canadian Standards Association #EEV78720-1 Energy Efficiency Verification	●	●	●	●
Warranty				
Two-year, materials and workmanship	●		●	
Three-year, materials and workmanship		●		●



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