

PREMIUM EFFICIENCY HIGH/MEDIUM VOLTAGE  
LARGE HP INDUSTRIAL MOTORS

# CROWN SERIES



MOTOR PRODUCTS

**TECO**   **Westinghouse**

MOTORS (CANADA) INC.

# CROWN SERIES



TECO-Westinghouse's position as a world leader in the design and manufacturing of large induction motors is secured by an unfailing commitment to engineering excellence and technological innovation. For a half a century TECO-Westinghouse motors have been recognized as industry leaders in dependability and quality.

BUILT TO THE MOST INTENSIVE REQUIREMENTS OF HEAVY INDUSTRY CROWN SERIES MOTORS ARE ONE OF THE LARGEST INDUCTION MOTORS IN THE TECO-WESTINGHOUSE PRODUCT LINE

## APPLICATION

Crown Series motors are custom designed to each customer's specific application. Because of their design versatility and high operating efficiencies, Crown Series motors are the logical choice for a multitude of industries including oil and gas, petrochemical, pulp and paper, electric utility, water and waste water, marine, steel, mining and air separation.

## TYPICAL APPLICATION OF CROWN SERIES MOTORS INCLUDE:

AGITATORS, BLOWERS, MILLS, PUMPS, CONVEYORS, CRUSHERS, FANS, AND MANY MORE.



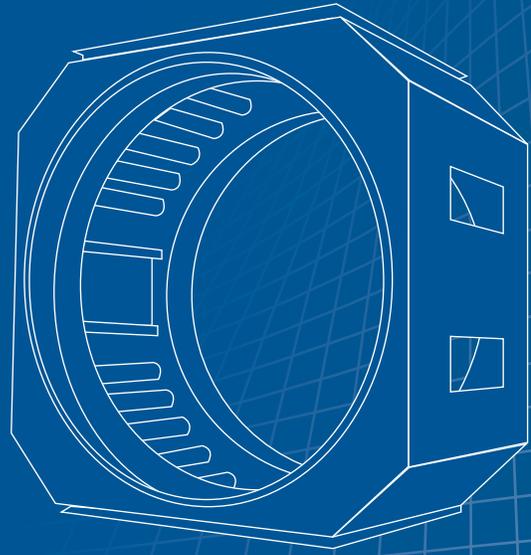
CROWN SERIES MOTORS CAN ALSO BE BUILT TO MEET MANY SPECIALTY APPLICATIONS INCLUDING VFD OPERATION, CSA CLASS I - DIVISION 2 HAZARDOUS LOCATIONS, VERTICAL MOUNT APPLICATIONS AND API541/547 STANDARDS.





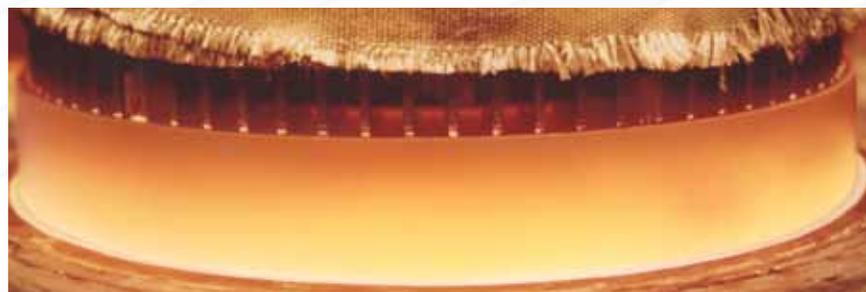
## STATOR FRAME CONSTRUCTION

Crown Series motors use box frame construction to provide frames that have the mechanical strength and stability to assure years of dependable, economical performance. The fabricated steel frames are braced by heavy steel plate bulkheads and end plates to make the frames both laterally and torsionally stable. End brackets are reinforced to give the bearings rigid support and to minimize bearing stiffness.



## ROTOR CONSTRUCTION

TECO-Westinghouse induction motor rotors are recognized as the most reliable in the industry, and their high performance standards are a hallmark of the Crown Series motors. Standard construction utilizes copper/ copper-alloy rotor bars, a time-proven choice for rotor construction providing maximum performance and reliability; high quality silicon steel laminations minimize losses resulting in high efficiency values. Connection between rotor bars and end rings are joined together using high frequency induction brazing for maximum strength and performance, the rotor bars are swaged to minimize movement and vibration which can cause fatigue and failure. The rotors are then balanced to "N" grade as per IEC and NEMA standards. Higher precision balancing is available on request."



- 1| COPPER / COPPER ALLOY ROTOR BAR CONSTRUCTION
- 2| HIGH / PREMIUM EFFICIENCY
- 3| SWAGED ROTOR BARS
- 4| THRU-BOLT CONSTRUCTION
- 5| HIGH FREQUENCY INDUCTION BRAZING ON END RINGS
- 6| HIGH QUALITY SILICON STEEL LAMINATIONS WITH C5 INSULATION AS STANDARD
- 7| STANDARD SHAFT MATERIAL AISI 1045 STEEL
- 8| "N" GRADE BALANCING TO MEET IEC AND NEMA STANDARDS

## STATOR WINDING BRACING

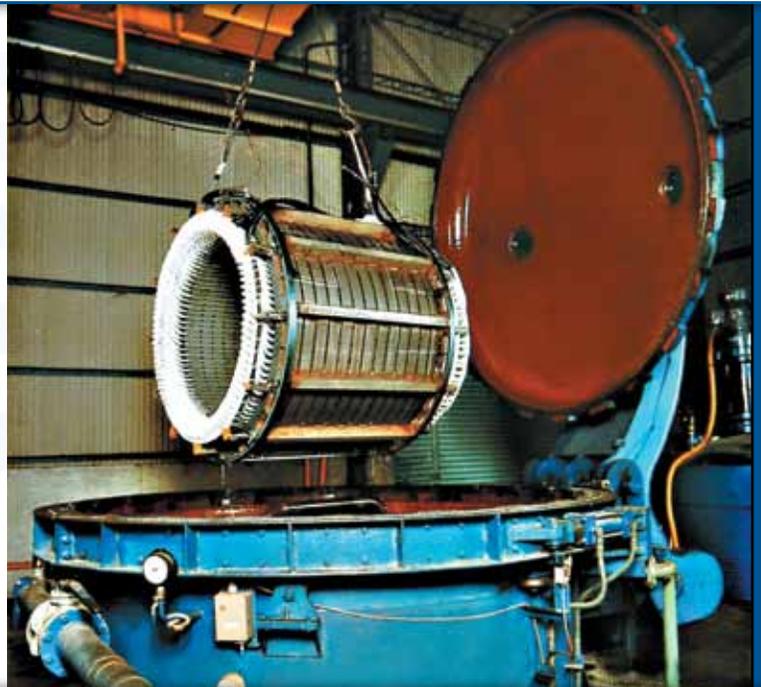
Bracing rings of insulated steel or epoxy glass yarn are used. Individual coils are lashed to the ring with glass cord. Impregnated felt packers are used between coil sides. Support of the coil ends is designed to restrain shock and vibration of the coil ends under heavy overload conditions such as those which occur during full voltage starting.



## WINDING/INSULATION – FORM WOUND V.P.I. CLASS ‘F’ SYSTEM

The insulation system determines the ‘life’ of a motor. Motor capacity is influenced by the quality of insulation.

TECO-Westinghouse utilizes mica tape as its base material, which is impregnated with a special epoxy resin. Impregnation is accomplished by immersion of the completely assembled stator in the special resin using a vacuum pressure cycle. This ensures outstanding resistance to heat, moisture, and chemicals, and guarantees safe operation even under the most severe environmental conditions. The Crown Series windings are considered sealed and capable of passing a complete water immersion test.



## TERMINAL BOXES

Crown Series motors feature main lead terminal boxes constructed of 12-gauge steel. Each terminal box is gasketed for air-tight, dust-free and weatherproof protection of terminal leads. Available for F1 or F2 locations, terminal boxes can be modified to include any customer terminations and accessory devices.

The main lead terminal box provides termination of the motor’s main power leads. Available terminal box options include lightning arresters, surge capacitors, current transformers, special grounding devices, cable or bus bar terminations, and top or bottom lead entry.

## ADVANCED BEARING SYSTEM FOR RELIABLE PERFORMANCE

The bearing system used in Crown Series motors has been designed and engineered in cooperation with Renk for continuous, reliable performance and easy maintenance. Both anti-friction and split-sleeve bearings are offered. When required, bearing insulation can be added to either bearing type.

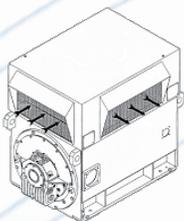
Our split-sleeve bearings are spherically seated and self aligning, thus easy to service in all field conditions. They also feature a high-tin content Babbitt material and a heavy-duty, two-piece bronze oil ring. The oil ring lubrication process is easily modified for flood lubrication.

This bearing unit employs a sophisticated sealing system that is designed to prevent oil leakage along the shaft. An optional buffered seal can be provided when pressurization is required to keep hostile environments from entering the bearing.

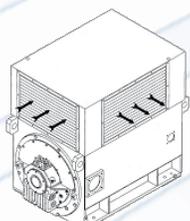
The bearings can be inspected visually through an oil ring sight gauge and an oil level sight gauge on the housing. Bearing caps can be removed easily for bearing inspection without uncoupling the motor from the driven machine. No special tools are required for the inspection procedure.



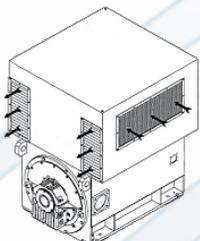
OPEN DRIP PROOF GUARDED (ODPG)



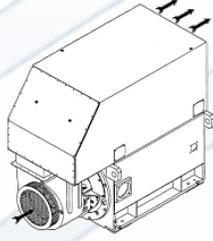
WEATHER PROTECTED TYPE I (WPI)



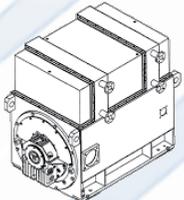
WEATHER PROTECTED TYPE II (WPII)



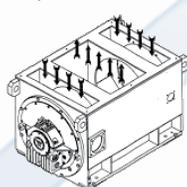
TOTALLY ENCLOSED AIR-TO-AIR COOLED (TEEAC)



TOTALLY ENCLOSED WATER-TO-AIR COOLED (TEWAC)



PIPE/FORCE VENTILATED (TEFV)



## AVAILABLE NEMA ENCLOSURES

Crown Series motors are offered in a complete range of NEMA and IEC enclosures to meet the toughest demands of industry. Available enclosures include the following configurations:

## 100% ROUTINE TEST

Quality is emphasized at each step as a motor proceeds through each stage of design, assembly and testing.

Each motor is given a routine test as required by IEC 60034 or NEMA MG 1 to determine that it is free from electrical or mechanical defects.

Additional special tests beyond the routine test are available on request. Tests may be witnessed if required.

## VOLTAGE OPTIONS:

- \* LOW VOLTAGE (<690V) UP TO 2500KW
- \* 3.3KV FROM 75KW
- \* 6.6KV FROM 110KW
- \* 11KV FROM 250KW
- \* 13.2KV FROM 500KW

## ACCESSORIES

INSULATED BEARINGS

BEARING SEALS/SHAFT GROUNDING  
BEARING SEALS

WINDING RTD'S

BEARING RTD'S

SLEEVE BEARINGS

SUMP HEATERS

VIBRATION MONITORING

SURGE CAPACITORS

LIGHTENING ARRESTORS

DIFFERENTIAL CT'S

METERING CT'S

AIR FILTERS

DIFFERENTIAL PRESSURE SWITCHES

NON SPARKING FANS

SOLEPLATES

JACKING BOLTS

STAINLESS STEEL HARDWARE

NON REVERSE RATCHETS (PIN OR BALL)

STEADY BUSHINGS FOR VHS

4140 SHAFT

SPACE HEATERS

AUTO GREASERS

CONSTANT LEVEL OILERS

FLOOD LUBE PROVISIONS

KEY PHASER

\* MORE AVAILABLE UPON REQUEST

# Your Industry, Our Legacy.

We Sell Quality - We Deliver Service

**TECO**   **Westinghouse**

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