

# Corsair™ Motors

## SUPERIOR RELIABILITY IN CHALLENGING WELL APPLICATIONS

### STANDARD AND OPTIONAL MATERIALS

Component	Standard Materials	Optional Materials
Head/Base	Carbon Steel AISI 1045/1035	Stainless Steel 410/416
Housing	Carbon Steel C45 DOM Tube	Stainless Steel 9Cr1Mo/13Cr
Shaft	Carbon Steel 4140	Carbon Steel 4140
Base Bearing	Tungsten Carbide	Tungsten Carbide
Ring, Retaining	Inconel® 718/UNS N007718	Inconel® 718/UNS N007718
Thrust Runner	Carbon Steel 4140	Carbon Steel 4140
Thrust Bearing-HI	Bronze Deflection Pad	Carbon Steel Base PeekThrust Face
Varnish	Polubutadiene Thermal Set Varnish	Polubutadiene Thermal Set Varnish
Laminations	Semi-Processed Silicon Electrical Steel	Semi-Processed Silicon Electrical Steel
Mag Wire	Soft-Drawn Copper Wire	Soft-Drawn Copper Wire
Mag Wire Insulation	Kapton Double Wrapped	Kapton Double Wrapped
Slot Liner	Polyimide	PEEK

Standard and optional materials continued on next page ...



## STANDARD AND OPTIONAL MATERIALS (CONTINUED)

Component	Standard Materials	Optional Materials
Rotor Bearing	Stainless Steel 304/UNS S30400	Stainless Steel 304/UNS S30400
O-Rings	EPDM	Aflas®
Shipping Cap	Cast Iron F11701	Cast Iron F11701

Features	Benefits
Outboard rotor bearings with positive lock	Provides additional roto-dynamic stability, which eliminates any potential bearing spin
Optimized stator slot and rotor bar design	Improves power density with better starting torque
Slot liner insulation twice that of industry standard	Reduces phase-to-ground and phase-to-phase electrical shorts
Double-wrap mag wire insulation	Reduces phase-to-phase electrical shorts
Rotors independently positioned along the shaft	Eliminates rotor bearing thrust wear
Optimized rotor diameter and air gap	Offers high efficiency with less slip and heat generation

## SYSTEM BENEFITS

- » Improved motor durability in mechanical and insulation systems provides longer run life
- » High-efficiency design enabled by increased copper content, shaped rotor bar, and long rotor design that reduces operating costs
- » Fewer mechanical and electrical losses, resulting in cooler operating temperatures – thus achieving better reliability and run life, and minimizing the need to oversize motors

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