



#### **Service Around the Corner or Around the World**

Professional technical assistance is readily available through your local Siemens sales office. In addition to providing a complete line of spare parts, Siemens can provide troubleshooting support, preventive maintenance services and repair and upgrades at our highly qualified Norwood, Ohio, service center. Contact your local Siemens sales office for details.

#### **Siemens Motors and Drives – Performance-Matched Systems**

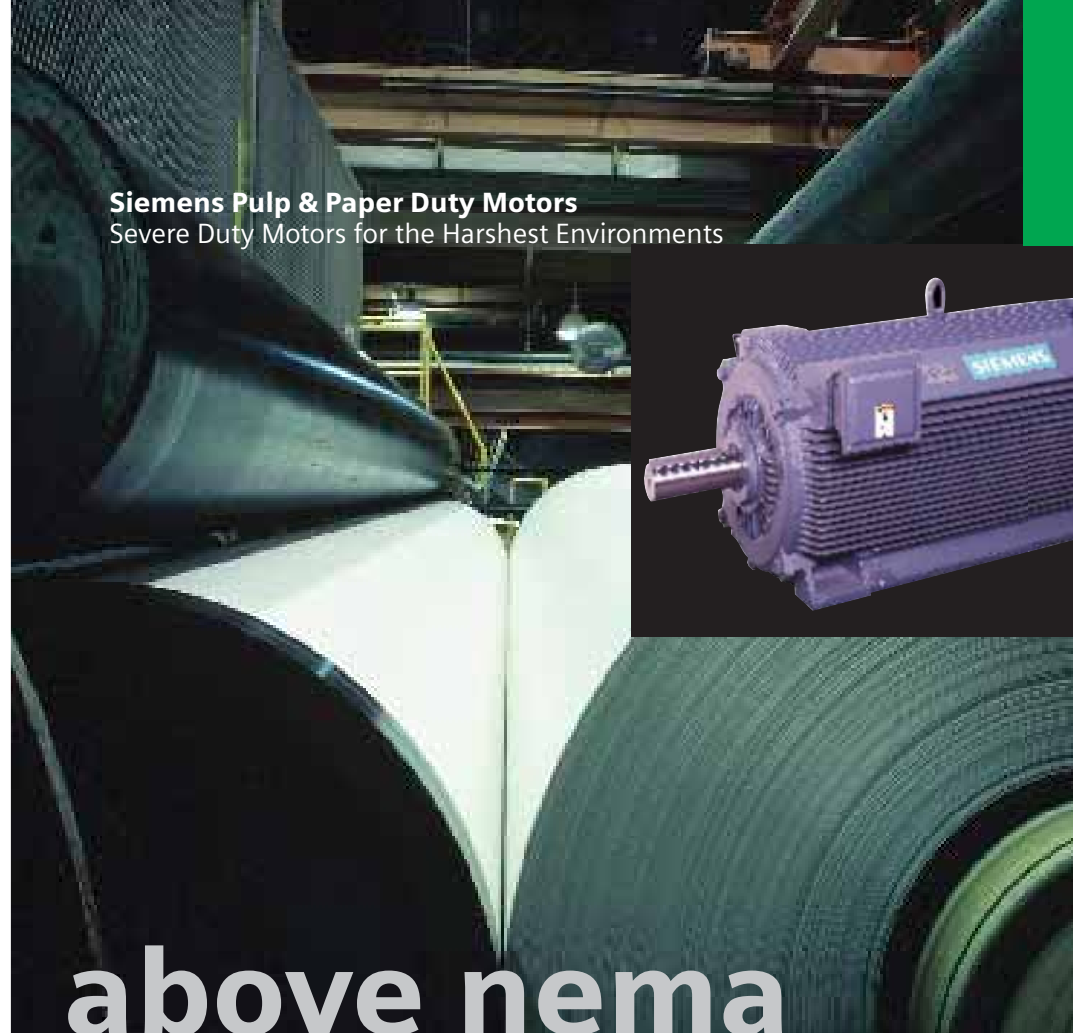
Performance-matched variable-speed motors and drives from Siemens make perfect sense. They are designed to work in harmony for ease of selection and start up, as well as long-term reliability and exceptional performance.

Whether your application requires variable torque or constant torque capability in general purpose or severe duty environments, there is a Siemens motor / drive system ready to go to work for you.

#### **Siemens – A Proud Sponsor of Motor Decisions Matter**

Newer energy-efficient motors are designed to significantly reduce energy consumption through the use of advanced materials, additional copper and tighter manufacturing tolerances. As a result, these motors are more costly to manufacture and buy than conventional motors – yet, pay for themselves quickly through lower energy costs.

Siemens encourages motor users to develop a motor management plan to take advantage of the energy savings available through the use of energy-efficient motors. More information about this campaign is available from your Siemens representative or by visiting the Motor Decisions Matter web site: [www.motorsmatter.org](http://www.motorsmatter.org)



## **Siemens Pulp & Paper Duty Motors** Severe Duty Motors for the Harshest Environments



# above nema MOTORS

#### **Siemens Energy & Automation, Inc.**

3333 Old Milton Parkway  
Alpharetta, GA 30005

For details about typical performance data, technical information or dimensional information, contact your local Siemens sales representative, call **1-800-964-4114**, or go to our web site [www.sea.siemens.com/motors](http://www.sea.siemens.com/motors)

© 2006 Siemens Energy & Automation, Inc. All rights reserved.  
Siemens is a registered trademark of Siemens AG. Product names mentioned may be trademarks or registered trademarks of their respective companies. Specifications subject to change without notice.



Siemens copper rotor technology provides optimum energy efficiency, low vibration levels and high force fans for maximum cooling capacity.



### Solving Unusual Application Problems is Usual at Siemens

For more than 100 years, Siemens has provided the solutions the pulp and paper industry needs for high performance and long service life. Our TEFC motor designs with horsepower ratings up to 2,250, provide a low-profile basic solution for the toughest applications. To this basic design, we add the features needed to exactly match applications from grinders, barking drums, bleaching, filters and deflakers, to refiners, beating lines, pulp pumps, press section and coilers.

### Typical Pulp & Paper Motor Features

The following features are commonly included in Siemens pulp and paper duty motors and are but a sample of the value we offer.

**Copper Rotors** – *The ultimate in energy efficiency and low vibration*

- Induction brazing of end-connectors ensures highest quality braze
- Phosphorous-free brazing materials
- Full-length shims with center swaging to minimize vibration

**Aluminum Rotors** – *Engineered and manufactured for severe duty applications*

- Compressed, stacked, high-grade steel laminations
- High-pressure injection of molten aluminum
- Machine-finished rotor core after aluminum injection

**Shafts** – *High-strength for lasting performance*

- High-strength steel (AISI 1045)
- Close shaft tolerances: 0.0015" TIR for ball bearings, 0.002" for roller bearings

**Stators** – *A complete system engineered for maximum durability*

- C5 core plate electrical steel for maximum efficiency and burnout capability
- Indexed lamination stacking to ensure superior buildup of core
- Fully sealed insulation system with latest VPI technology (Class F)
- Heavy-duty bracing of stator coils and end-turns

**Insulation** – *Proven technology start after start after start....*

- Inverter-rated Class F, fully sealed with double-pass VPI system

- 1.15 service factor capability (on sine wave)
- High surge withstand capability
- Meets or exceeds NEMA MG1-2003, Part 31, making all motors with form-wound insulation systems suitable for operation with variable frequency drives

**Frame & End Shields** – *Cast iron construction for the toughest applications*

- Cast iron construction for exceptional structural integrity
- IP55 degree of protection
- Equipped with integrally cast feet with a foot flatness of 0.005" and a 1.5 degree angle draft on top of the motor feet
- Condensation breather / drains

**Cooling Principle** – *Optimized rib design results in exceptional cooling*

- Transmission of heat from the laminated stator core to the ribbed frame
- Internal cooling circuit provides additional cooling effects
- Design of frame and end shields allows for optimum flow and a high rate of heat dissipation
- Heat dissipation enables evenly distributed winding and bearing temperatures

**Balance & Vibration** – *Innovative processes to ensure low vibration levels*

- Precision balancing procedures to limit residual unbalance

- Dynamically balanced in high-speed balancing machines
- Rotor assemblies balanced at rated speed

**Bearings & Lubrication** – *Cool running for optimum performance and long life*

- Regreasable, oversized, single-shielded with cast iron inner caps
- Alemite grease inlet fittings and automatic grease relief fittings for ease of routine maintenance
- Rotating shaft seals for increased protection
- L10 life of 100,000 hours (direct connected applications)

**Terminal Boxes** – *Wide selection for use in any environment*

- Oversized terminal box for cable connections
- Cast iron construction
- Diagonally split, neoprene-gasketed and rotatable in 90° increments for easy connections
- NEMA 4x auxiliary boxes

**Corrosion Resistance** – *Provides protection for tough environments*

- Cast iron construction, stainless steel hardware and nameplate, and a proven two-part epoxy painting system resist rust and corrosion

**Testing** – *Performance verification to assure long-term durability*

- Routine testing on all motors

**ISO 9001 Quality Assurance**

- Quality designed and manufactured into each motor



Siemens Pulp & Paper Duty TEFC Motors				
Frame Sizes	HP Ratings <sup>(1)</sup>	No. of Poles	Voltages	Mounting
500-580	250-1,250	2-12	460-6,600	Horizontal & Vertical
708-880	1,250-2,250	2-12	2,300-11,000	Horizontal

(1) Horsepower output shown is based on four-pole speeds, 4000 V/60 Hz

### Application-Matched Modifications

- Stator RTDs for thermal protection
- Bearing RTDs
- Vibration sensors
- Tachometers for VFD applications
- Space heaters
- Harsh or severe duty painting systems
- Epoxy coating of rotor for additional corrosion protection
- ANSI Type II terminal box
- Shop inspection
- Vibration recording
- Noise test
- Complete (temperature rise) testing