

## Quality Manufacturing

From design to materials to workmanship, quality is built into every Siemens motor, the result of more than 120 years of experience capped with today's advanced quality control procedures used in our Certified Quality Performance Program.

## Comprehensive Service and Support

Siemens warranty, parts and service request call center is available 24/7, providing customers a single point of contact with efficient service and fast response times. Siemens service technicians take pride in finding the right solution, the first time, every time.

## Contact Siemens Services

Telephone: 800-333-7421 (Toll Free)  
423-262-5710 (Outside U.S.)

Online: [www.siemens.com/automation/support-request](http://www.siemens.com/automation/support-request)

## 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 IEC Motors – Worldwide Production for Global Applications

Siemens produces a complete line of IEC motors built in our European factories. The SIMOTICS HV Compact line of motors utilizes torsionally rigid, robust frame design, manufactured from cast iron with external and internal cooling ribs. The SIMOTICS HV Compact line has output up to 7,100 kW.

The SIMOTICS HV MODULAR is available in shaft heights 450mm, 500mm, 560mm, 630mm, 710mm and 800mm. It utilizes a modular cooling concept and is built using a cast iron frame with fabricated steel heat-exchangers. The H-compact Plus is available with outputs up to 19,000kW.

The SIMOTICS HV High-Power, built in Germany, features a high-density and compact design that provides a smaller overall package with an optimized cooling design for exceptional efficiencies. It is available as induction and synchronous and has an output capability beyond 70,000kW.

## Siemens Industry, Inc.

100 Technology Drive  
Alpharetta, GA 30005

1-800-365-8766  
[info.us@siemens.com](mailto:info.us@siemens.com)

Subject to change without prior notice.

Order No.: LDAM-00004-0419

All rights reserved

Printed in the USA

©2019 Siemens Industry, Inc.

The technical data presented in this document is based on an actual case or on as-designed parameters, and therefore should not be relied upon for any specific application and does not constitute a performance guarantee for any projects. Actual results are dependent on variable conditions. Accordingly, Siemens does not make representations, warranties, or assurances as to the accuracy, currency or completeness of the content contained herein. If requested, we will provide specific technical data or specifications with respect to any customer's particular applications. Our company is constantly involved in engineering and development. For that reason, we reserve the right to modify, at any time, the technology and product specifications contained herein.



**SIEMENS**  
*Ingenuity for life*

AboveNEMA motors

Severe Duty Motors  
for the harshest  
environments

Pulp and Paper Duty Motors

[usa.siemens.com/AboveNEMA](http://usa.siemens.com/AboveNEMA)

# Solving unusual application problems is usual at Siemens

For more than 120 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 3,000, provide a low-profile, low maintenance 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 and 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, low vibration, and serviceability

- Induction brazing of end-connectors ensures highest quality braze
- Phosphorous-free brazing materials
- Full-length shims with center swaging to minimize vibration
- Copper Bar rotors allow for repairs to be made more quickly and easily

### 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

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

### Insulation

Proven technology start after start after start....

- Inverter-rated Class F, fully sealed VPI system
- 1.15 service factor capability (on sine wave)
- High surge withstand capability
- Meets or exceeds NEMA MG1- 2011 Part 31, requiring all motors with form-wound insulation systems to be suitable for operation with variable frequency drives

### Frame and end shields

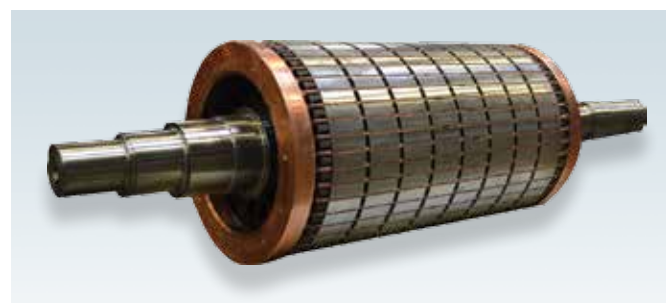
Cast iron construction for the toughest applications

- 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 and vibration

Innovative processes to ensure low vibration levels

- Precision balancing procedures to limit residual unbalance
- Dynamically balanced in high-speed balancing machines

### Bearings and 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 or 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

### Application-matched modifications

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

Frame sizes	HP ratings*	No. of poles	Voltages	Mounting
500 - 580	250 - 1,000	2 - 12	460 - 6,600	Horizontal and Vertical
SH400 - SH560	1,000 - 3,000	2 - 12	2,300 - 11,000	Horizontal

\*Horsepower output shown is based on four pole speeds, 4kV/60Hz/1.0 SF