Brushless Motors
1/2 to 400 hp

POWERTEC
INDUSTRIAL MOTORS

When Performance Counts, It Has To Be POWERTEC!
Why Use Brushless?

**Size:** This technology provides the smallest motor capable of continuous duty, high RMS Applications in 40°C ambient, not 25°C like most servo motors.

**Performance:** High torque-to-inertia ratio provides the best performance available in an industrial motor. Available in all NEMA standard base speeds and also custom speeds.

**Efficiency:** No slip losses and a stator design similar to an induction motor assure that Brushless motors with permanent magnet rotors provide the highest efficiency available.

**Genesis Ferrite Permanent Magnet Motors**
- Perfect for trapezoidal output drives
- Non-conductive ferrite magnets—no eddy current losses
- High speed applications (10,000 rpm or more)
- Better inertia match for medium to high-inertia loads
- Ratings from 1/2 to 300 hp Continuous Duty

**PACTORQ Neodymium-Iron-Boron (Rare-Earth) Permanent Magnet Motors**
- Perfect for sinusoidal drives
- Highest torque to inertia ratio
- Lowest mechanical time constant
- World’s smallest frames per HP rating
- High performance, small, lightweight package
- Cost advantage at most power ratings
- Ratings from 5 to 400 hp, continuous duty

**NEMA Standard Frames**
- Foot-mounted
- NEMA C Face
- NEMA D Flange
- Double C Face
- Metric IEC Face
- Metric IEC Flange

Need **Performance, Reliability** and **Size**? Choose **POWERTEC INDUSTRIAL MOTORS**
### Enclosure Choices
- Drip-proof blower ventilated
- Drip-proof fully guarded
- Drip-proof separately ventilated
- Blower ventilated, axial mount
- TE Non-Vent
- TE Fan Cooled
- TE Water Cooled
- Weather, water, chemical duty
- TE Air Over
- TE Explosion Proof

### When Performance Counts, It Has To Be POWERTEC!
POWERTEC can provide both Sinusoidal and Trapezoidal drives for use with our motors or we can help you apply a drive of your choice. Most state-of-the-art drive manufacturers make drives that will operate very well with either the “Genesis” ferrite designs or the PACTORQ rare-earth designs.

### Primary and secondary feedback devices available:
- Thru-shaft original “Genesis” 30 or 60 pole encoder device with comm tracks
- High count 1024, 2048, 4096 or other pole count device with comm tracks + marker pulse
- Thru-shaft resolver for 5 volt supply or with 8 volt supply, one sine per rev
- Sinusoidal encoder
- Custom devices as needed, such as absolute position encoder
- Thermal sensors: Thermal Switches, PTC and NTC Thermistors
- Thru-shaft devices (internal “Genesis” and resolver) have no circuitry and no couplings

### NEMA Frame Size, Weight, and Rotor Inertia Comparison

<table>
<thead>
<tr>
<th>1800 rpm Rated Speed</th>
<th>Induction Motor TEBC 1000:1</th>
<th>Brushless Blower Cooled 1000:1</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Motor HP Rating</td>
<td>AC Frame</td>
</tr>
<tr>
<td>10 hp</td>
<td>10 hp</td>
<td>215T</td>
</tr>
<tr>
<td>15 hp</td>
<td>15 hp</td>
<td>254T</td>
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<tr>
<td>20 hp</td>
<td>20 hp</td>
<td>256T</td>
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<tr>
<td>25 hp</td>
<td>25 hp</td>
<td>284T</td>
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<tr>
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<td>286T</td>
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<tr>
<td>40 hp</td>
<td>40 hp</td>
<td>324T</td>
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<tr>
<td>50 hp</td>
<td>50 hp</td>
<td>326T</td>
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<tr>
<td>60 hp</td>
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<tr>
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<td>200 hp</td>
<td>447T</td>
</tr>
<tr>
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<td>300 hp</td>
<td>x</td>
</tr>
<tr>
<td>400 hp</td>
<td>400 hp</td>
<td>x</td>
</tr>
</tbody>
</table>

***Based on Baldor™ Vector Drive motor catalog BR400
Drive and Motor Service Locations: There are a number of qualified service locations throughout the country for repair and service of POWERTEC motors and drives. Please contact POWERTEC for current information on these locations. We also offer complete motor and drive rebuilding and service at the factory in Rock Hill, SC and can do all the testing to assure that your refurbished product will work to new specifications.

POWERTEC, Genesis and PACTORQ motors can be run by all major drive manufacturers:

- Amicon
- Allen Bradley
- ABB
- Bosch
- Control Technique
- General Electric
- IDM
- Magnetec
- Mimarik
- Pacific Scientific
- POWERTEC
- Saltronic
- Semi-Power
- SEW
- Siemens
- SIEI
- TAE
- TB Woods
- Thor
- Unico
- Yaskawa

POWERTEC INDUSTRIAL MOTORS
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