• Delivers smooth and superior low speed performance and maximum power ratings with low thermal resistance for high speed performance.
• Maximum torque in a smaller package
• Rugged industrial construction
• Continuous torque ratings up to 90 oz.-in with speeds up to 6500 RPM (no load)
• Peak torque ratings up to 450 oz.-in.
• High torque-to-inertia ratio delivers maximum torque per frame size
• Numerous custom options available

Performance Benefits:

 MTI-Torque Systems specializes in the design of high performance brush servo motors that provide efficiency, flexibility of application, and a long and trouble-free service life. Our TORQUEMASTER® 2600 series is no exception, when integrated with high performance brush amplifiers, TORQUEMASTER 2600 Series brush servo motors provide effective and highly efficient motion control solutions for a wide range of applications including factory automation, packaging, robotics, machine tools, medical instrumentation and more.

Design Features:

• Latest in high performance permanent magnet technology, and are available in eight standard windings as well as custom windings
• Motors can be customized to fit your exact application with tachometers, encoders, brakes and other options.
• Specialized machinery designs can install or retrofit servomotor with little or no restrictions
• Multiple configurations accommodate flexible design considerations
• Performance enhancement and feature convenience that allows Torque Systems motors to be incorporated into a broader range of applications
**BRUSH SERVO MOTOR CHARACTERISTICS**

<table>
<thead>
<tr>
<th>SYMBOL</th>
<th>UNITS</th>
<th>2605</th>
<th>2610</th>
<th>2615</th>
<th>2620</th>
<th>2630</th>
<th>2640</th>
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<tbody>
<tr>
<td>T&lt;sub&gt;c&lt;/sub&gt;</td>
<td>Cont. Torque</td>
<td>Oz-In</td>
<td>17</td>
<td>29</td>
<td>42</td>
<td>52</td>
<td>70</td>
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<tr>
<td>T&lt;sub&gt;p&lt;/sub&gt;</td>
<td>Peak Torque</td>
<td>Oz-In</td>
<td>75</td>
<td>150</td>
<td>200</td>
<td>300</td>
<td>350</td>
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<tr>
<td>T&lt;sub&gt;f&lt;/sub&gt;</td>
<td>Static Friction</td>
<td>Oz-In</td>
<td>4.5</td>
<td>4.5</td>
<td>4.5</td>
<td>4.5</td>
<td>4.5</td>
</tr>
<tr>
<td>T&lt;sub&gt;v&lt;/sub&gt;</td>
<td>Viscous Friction</td>
<td>Oz-In/KRPM</td>
<td>0.2</td>
<td>0.2</td>
<td>0.3</td>
<td>0.4</td>
<td>0.5</td>
</tr>
<tr>
<td>T&lt;sub&gt;b&lt;/sub&gt;</td>
<td>Cogging Torque</td>
<td>Oz-In</td>
<td>0.2</td>
<td>0.2</td>
<td>0.3</td>
<td>0.5</td>
<td>0.7</td>
</tr>
<tr>
<td>J&lt;sub&gt;m&lt;/sub&gt;</td>
<td>Inertia</td>
<td>Oz-In/sec&lt;sup&gt;2&lt;/sup&gt;</td>
<td>0.0018</td>
<td>0.0031</td>
<td>0.0044</td>
<td>0.0057</td>
<td>0.0083</td>
</tr>
<tr>
<td>R&lt;sub&gt;b&lt;/sub&gt;</td>
<td>Thermal Res.</td>
<td>Deg C/ Watt</td>
<td>5.9</td>
<td>5</td>
<td>4.5</td>
<td>4</td>
<td>3.5</td>
</tr>
<tr>
<td>t&lt;sub&gt;c&lt;/sub&gt;</td>
<td>Thermal Time</td>
<td>Minute</td>
<td>10</td>
<td>15</td>
<td>20</td>
<td>20</td>
<td>20</td>
</tr>
<tr>
<td>t&lt;sub&gt;m&lt;/sub&gt;</td>
<td>Mech Time</td>
<td>Milisec</td>
<td>8.6</td>
<td>5.9</td>
<td>4.9</td>
<td>4.8</td>
<td>4.6</td>
</tr>
<tr>
<td>t&lt;sub&gt;e&lt;/sub&gt;</td>
<td>Elect Time</td>
<td>Milisec</td>
<td>1.6</td>
<td>1.9</td>
<td>2.1</td>
<td>2.1</td>
<td>2.2</td>
</tr>
<tr>
<td>F&lt;sub&gt;c&lt;/sub&gt;</td>
<td>Commutation</td>
<td>Watts x Oz-In / Amps</td>
<td>890</td>
<td>1300</td>
<td>1750</td>
<td>2100</td>
<td>2870</td>
</tr>
<tr>
<td>W&lt;sub&gt;t&lt;/sub&gt;</td>
<td>Weight</td>
<td>Lbs</td>
<td>2</td>
<td>2.6</td>
<td>3.1</td>
<td>3.6</td>
<td>4.7</td>
</tr>
</tbody>
</table>

Note: Continuous torque specifications obtained with motor mounted to a 10" x 10" x 0.25" alum. plate at 25°C ambient. Typical values are within ±10% of rating. For custom designs please consult factory. All specifications subject to change without notice.

**WINDING**

<table>
<thead>
<tr>
<th>Letter</th>
<th>KT</th>
<th>Torq. Sens. Oz-In/Amp</th>
<th>3.1</th>
<th>5.3</th>
<th>7.5</th>
<th>9.5</th>
<th>13.6</th>
<th>18</th>
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<tbody>
<tr>
<td>R&lt;sub&gt;a&lt;/sub&gt;</td>
<td>Arm. Resis.</td>
<td>Ohms</td>
<td>0.29</td>
<td>0.38</td>
<td>0.47</td>
<td>0.56</td>
<td>0.74</td>
<td>0.92</td>
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<tr>
<td>K&lt;sub&gt;v&lt;/sub&gt;</td>
<td>Back E.M.F.</td>
<td>Volts/KRPM</td>
<td>2.3</td>
<td>3.9</td>
<td>5.5</td>
<td>7.0</td>
<td>10.1</td>
<td>13.3</td>
</tr>
<tr>
<td>f&lt;sub&gt;cr&lt;/sub&gt;</td>
<td>Watts</td>
<td>287</td>
<td>245</td>
<td>233</td>
<td>221</td>
<td>211</td>
<td>210</td>
<td></td>
</tr>
<tr>
<td>R&lt;sub&gt;b&lt;/sub&gt;</td>
<td>Arm. Resis.</td>
<td>Ohms</td>
<td>0.44</td>
<td>0.58</td>
<td>0.63</td>
<td>0.79</td>
<td>1.06</td>
<td>1.34</td>
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<tr>
<td>K&lt;sub&gt;v&lt;/sub&gt;</td>
<td>Back E.M.F.</td>
<td>Volts/KRPM</td>
<td>2.7</td>
<td>4.7</td>
<td>6.7</td>
<td>8.5</td>
<td>12.1</td>
<td>16.0</td>
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<tr>
<td>f&lt;sub&gt;cr&lt;/sub&gt;</td>
<td>Watts</td>
<td>241</td>
<td>203</td>
<td>194</td>
<td>183</td>
<td>175</td>
<td>174</td>
<td></td>
</tr>
</tbody>
</table>

**For custom designs please consult factory.**

All specifications subject to change without notice.
MECHANICAL SPECIFICATIONS*

DIMENSION CHART*

Motor Only Motor Tach
Inches (Metric) Inches (Metric) STD NEMA STD NEMA STD NEMA STD NEMA
2605 3.13 (79.50) 4.72 (119.8) .3750/.3745 .3750/.3745 1.00 1.19 1.000 2.875 0.10 0.06
2610 3.63 (92.20) 5.22 (132.6) .3750/.3745 .3750/.3745 1.00 1.19 1.000 2.875 0.10 0.06
2615 4.13 (104.90) 5.72 (145.3) .3750/.3745 .3750/.3745 1.00 1.19 1.000 2.875 0.10 0.06
2620 4.63 (117.60) 6.22 (158.0) .3750/.3745 .3750/.3745 1.00 1.19 1.000 2.875 0.10 0.06
2630 5.63 (143.01) 7.22 (183.4) .3750/.3745 .3750/.3745 1.00 1.19 1.000 2.875 0.10 0.06
2640 6.63 (168.40) 8.22 (209.0) .3750/.3745 .3750/.3745 1.00 1.19 1.000 2.875 0.10 0.06

METRIC (mm): DIMENSIONS ALL FRAME SIZES

SHAFT: DIA 10 SHAFT MOUNTING: PILOT 25-0
LENGTH 23.0 INCHES 138 INCHES
HOLE SIZE M4

*T TOP TERMINALS ARE 0.070 X 0.030 THICK

TORQUE PERFORMANCE CURVES

Torque Speed Curves of other windings available, consult factory.
VOLTAGE EQUATION FOR MOTORS

\[ V = KT \times RPM + T \times RA + V_B \]

Where:
- \( KT \) = torque constant, oz.-in. per amp
- \( T \) = load torque plus motor friction torque-oz.in.
- \( RA \) = armature resistance + brush resistance
- \( V_B \) = brush voltage drop = 2 volts

Note: For armature resistance at maximum temperature rating, multiply catalog value of \( R \) by 1.5

MOTOR TORQUE RATING VS. SPEED

\[ T = \frac{340}{T_{th} \times \left( 1 - e^{-\frac{A}{B}} \right)} \]

Where:
- \( T \) = rated torque (25°C ambient)-oz.in.
- \( A \) = total cycle time in seconds
- \( B \) = “on” time in seconds per cycle
- \( T_{th} \) = thermal time constant of motors in seconds

To Find: Higher Torque Rating for Intermittent Duty

Let \( T \) = rated torque (25°C ambient)-oz.in.
- \( A \) = total cycle time in seconds
- \( B \) = “on” time in seconds per cycle
- \( T_{th} \) = thermal time constant of motors in seconds

CUSTOMIZE THE 2600 SERIES TO YOUR EXACT REQUIREMENTS

To satisfy various applications with cost-effective solutions, 2600 Series motors are readily available with a wide range of standard capabilities. Final designs are often the result of cooperative efforts between the customer’s engineering department and MTI-Torque Systems. For assistance, call your local distributor or Torque Systems direct. We look forward to meeting your custom requirements.

ORDERING INFORMATION (For Standard Options)

MTG PLATE

A = 2 5/8” Round
C = 3 1/4” Square

WINDINGS

A = 2 5/8” Round
C = 3 1/4” Square

MOTOR TACH

G = None
T = Tach

SHAFT

E = 3/8” dia. x 1” long
F = 3/8” dia. x 1 1/8” long
G = 3/8” dia. x 1 1/2” long

COMBINATION MAGNET

B = STD
C = Mod. Enc. Prep
D = 500
E = 1024
F = 2048
G = 4096
H = Special

ENCODER

Q = None
M0 = Mod. Enc. Prep
QG = 2000
QH = 2048
QJ = 2500
QK = 5000
S = Special

TERMINATION

T = Tab terminals (STD)
U = Screw terminals (optional)
V = 3 foot long leads attached to tab terminals (optional)
Y = 3 foot long leads with cord grip (optional)

SEALING

S = No sealing
T = Tach

BRAKE

W = No Brake
V1 = 15 lb-in, 24 VDC

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