

dimensions in mm  
mass: 27 g

17N78 • 1

**Winding Type**



-216E

-213E

-210E

-208E

-207E

**Measured Values**

Measured Values	V	6.0	7.5	12.0	18.0	24.0
Measuring voltage	V	6.0	7.5	12.0	18.0	24.0
No-load speed	rpm	8500	8300	8500	8500	8900
Stall torque	mNm (oz-in)	12.5 (1.77)	10.7 (1.52)	9.3 (1.31)	9.4 (1.33)	9.4 (1.33)
Average No-load current	mA	10.5	9.1	7.7	4.9	3.5
Typical starting voltage	V	0.04	0.08	0.08	0.11	0.16

**Max. Recommended Values**

Max. Recommended Values	A	0.86	0.63	0.37	0.25	0.19
Max. continuous current	A	0.86	0.63	0.37	0.25	0.19
Max. continuous torque	mNm (oz-in)	5.69 (0.81)	5.33 (0.75)	4.85 (0.69)	4.89 (0.69)	4.79 (0.68)
Max. angular acceleration	10 <sup>3</sup> rad/s <sup>2</sup>	207	267	243	258	266

**Intrinsic Parameters**

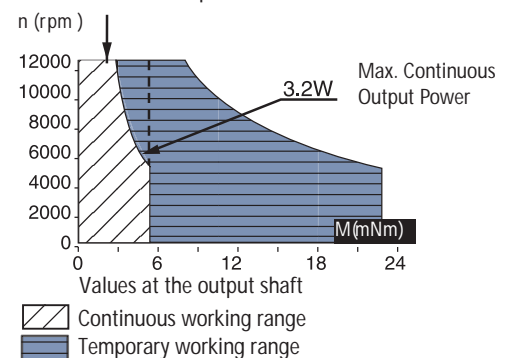
Intrinsic Parameters	V/1000 rpm	0.70	0.90	1.40	2.10	2.67
Back-EMF constant	V/1000 rpm	0.70	0.90	1.40	2.10	2.67
Torque constant	mNm/A (oz-in/A)	6.7 (0.95)	8.6 (1.22)	13.4 (1.89)	20.1 (2.84)	25.5 (3.61)
Terminal resistance	ohm	3.20	6.0	17.3	38.4	65.0
Motor regulation R/k <sup>2</sup>	10 <sup>3</sup> /Nms	72	81	97	95	100
Rotor inductance	mH	0.11	0.14	0.40	0.90	1.41
Rotor inertia	kgm <sup>2</sup> 10 <sup>-7</sup>	1.10	0.80	0.80	0.76	0.72
Mechanical time constant	ms	8	7	8	7	7

**Executions**

		Single Shaft	With F16
Gearbox	Page	17N78	17N78
B16	102	5	5
BA16	103	5	5
R16	104	1	1

- Thermal resistance: rotor-body 10°C/W, body-ambient 30°C/W
- Thermal time constant - rotor / stator: 7 s / 400 s
- Max. rated coil temperature: 100°C (210°F)
- Recom. ambient temperature range: -30°C to +85°C (-22°F to +185°F)
- Viscous damping constant: 0.04 x 10<sup>-6</sup> Nms
- Max. axial static force for press-fit: 100 N
- End play: ≤150 µm
- Radial play: ≤30 µm
- Shaft runout: ≤10 µm
- Max. side load at 5 mm from mounting face:
  - sleeve bearings 1.5 N
  - ball bearings 3 N
- Motor fitted with sleeve bearings (ball bearings optional)

**Max. Recommended Speed**



DANAHER MOTION is a registered trademark of Danaher Corporation. Danaher Motion makes every attempt to ensure accuracy and reliability of the specifications in this publication. Specifications are subject to change without notice. Danaher Motion provides this information "AS IS" and disclaims all warranties, express or implied, including, but not limited to, implied warranties of merchantability and fitness for a particular purpose. It is the responsibility of the product user to determine the suitability of this product for a specific application. ©2004 Danaher Motion.