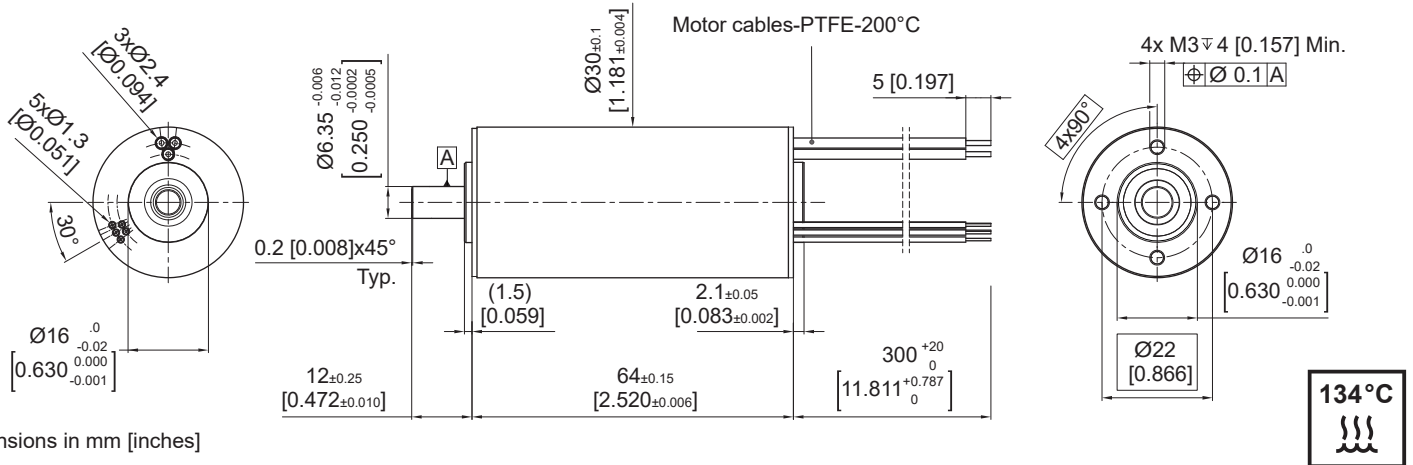


**30ECA64 Large Bone Orthopedic Surgical Motor**

Ø30 mm • Brushless Slotless



Dimensions in mm [inches]

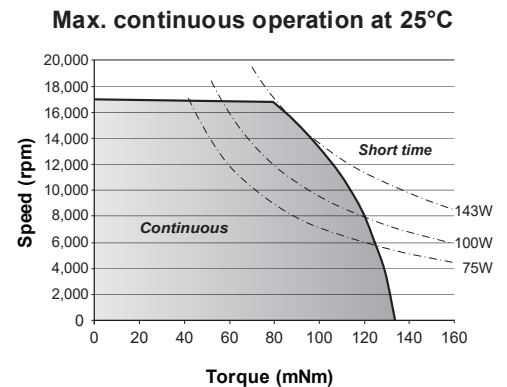
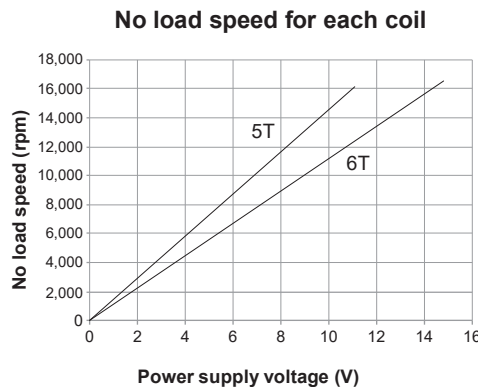
Electrical Data	Symbol	30ECA64 8B XX.01		Unit
		5T	6T	
1 Nominal Voltage	$U_N$	11.1	14.8	Volt
2 Optimization Direction	-	Symmetrical	Symmetrical	-
3 No Load Speed	$n_o$	16'100	16'488	rpm
4 Typical No Load Current	$I_o$	700	700	mA
5 Max. Continuous Mechanical Power (@25°C)	$P_{max}$	165	142	W
6 Max. Continuous Current	$I_{cs}$	18.5	15.6	A
7 Max. Continuous Torque	$T_{cs}$	121.4 (17.19)	133.5 (18.91)	mNm (oz-in)
8 Back EMF Constant	$k_E$	0.69	0.9	V/1000 rpm
9 Torque Constant	$k_T$	6.6 (0.935)	8.6 (1.218)	mNm/A (oz-in/A)
10 Motor Regulation	$R/k^2$	0.777	0.612	10 <sup>3</sup> /Nms
11 Peak Torque	$T_{pk}$	N/A	N/A	mNm (oz-in)
12 Motor Constant	$k_M$	32 (4.54)	36.7 (5.12)	mNm/W <sup>1/2</sup> (oz-in/W <sup>1/2</sup> )
13 Line to Line Resistance	$R_L$	0.0426	0.0548	ohms
14 Inductance Phase to Phase	$L$	0.0077	0.011	mH
15 Mechanical Time Constant	$T_m$	2.1	1.6	ms
16 Electrical Time Constant	$T_e$	0.23	0.24	ms

General Data			
17 Gearhead Ratio	-	N/A	Ratio
18 Ambient Working Temperature Range	-	-30 to +135 (-22 to +275)	°C (°F)
19 Maximum Winding Temperature	-	155 (311)	°C (°F)
20 Radial Static Force w/o Shaft Support (max)	-	294 (66) @10mm from front mounting face	N (lbs)
21 Axial Static Force w/o Shaft Support (max)	-	134 (30)	N (lbs)
22 Thermal Resistance	$R_{th}$	7.9	°C/W
23 Thermal Time Constant	$T_w$	1310	s
24 Weight	-	260 (9.2)	g (oz)
25 Rotor Inertia	$J_m$	266 (377)	kg-cm <sup>2</sup> 10 <sup>-4</sup> (oz-in-sec <sup>2</sup> 10 <sup>-6</sup> )
26 Hall Sensor Electrical Phasing*	-	120	Electrical °
27 Autoclave Cycles	-	500	Cycles

\*Also available without Hall sensors

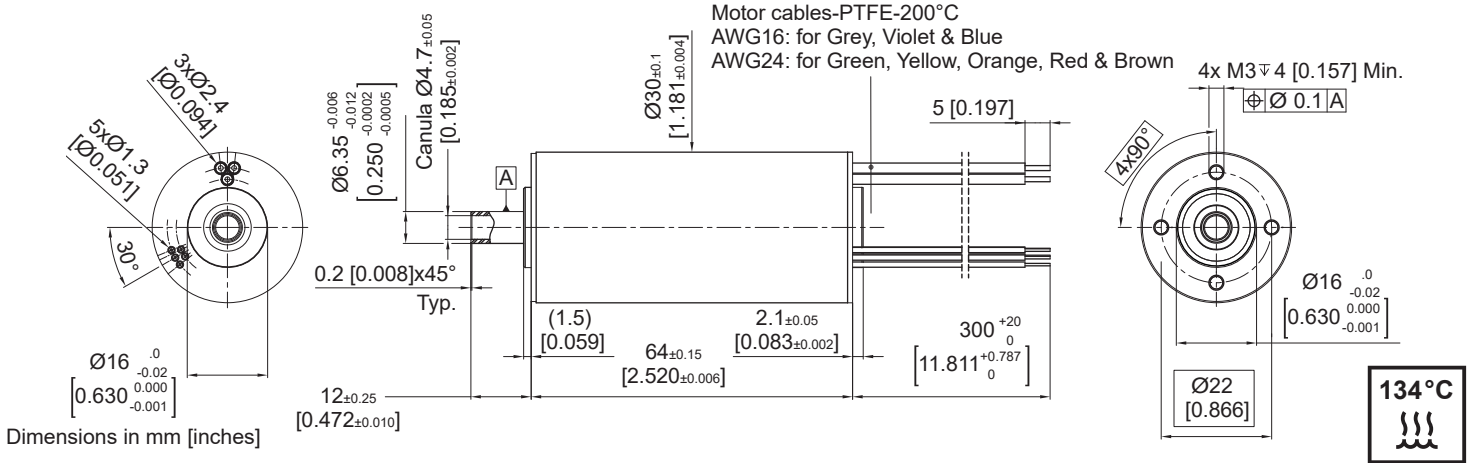
Wire	Description
Gray	Phase 1 (AWG16)
Violet	Phase 2 (AWG16)
Blue	Phase 3 (AWG16)
Green	3.5 to 24V DC (AWG24)
Yellow	GND (AWG24)
Orange	Sensor 1 (AWG24)
Red	Sensor 2 (AWG24)
Brown	Sensor 3 (AWG24)

**with hall effect sensor**



**30ECA64 Large Bone Orthopedic Surgical Motor**  
**Cannulated**

Ø30 mm • Brushless Slotless



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		5T	6T	
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2 Optimization Direction	-	Symmetrical	Symmetrical	-
3 No Load Speed	$n_o$	16'100	16'488	rpm
4 Typical No Load Current	$I_o$	700	700	mA
5 Max. Continuous Mechanical Power (@25°C)	$P_{max}$	165	142	W
6 Max. Continuous Current	$I_{cs}$	18.5	15.6	A
7 Max. Continuous Torque	$T_{cs}$	121.4 (17.19)	133.5 (18.91)	mNm (oz-in)
8 Back EMF Constant	$k_E$	0.69	0.9	V/1000 rpm
9 Torque Constant	$k_T$	6.6 (0.935)	8.6 (1.218)	mNm/A (oz-in/A)
10 Motor Regulation	$R/k^2$	0.777	0.612	10 <sup>3</sup> /Nms
11 Peak Torque	$T_{pk}$	N/A	N/A	mNm (oz-in)
12 Motor Constant	$k_M$	32 (4.54)	36.7 (5.12)	mNm/W <sup>1/2</sup> (oz-in/W <sup>1/2</sup> )
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14 Inductance Phase to Phase	$L$	0.0077	0.011	mH
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16 Electrical Time Constant	$T_e$	0.23	0.24	ms

General Data			
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Brown	Sensor 3 (AWG24)

**with hall effect sensor**

