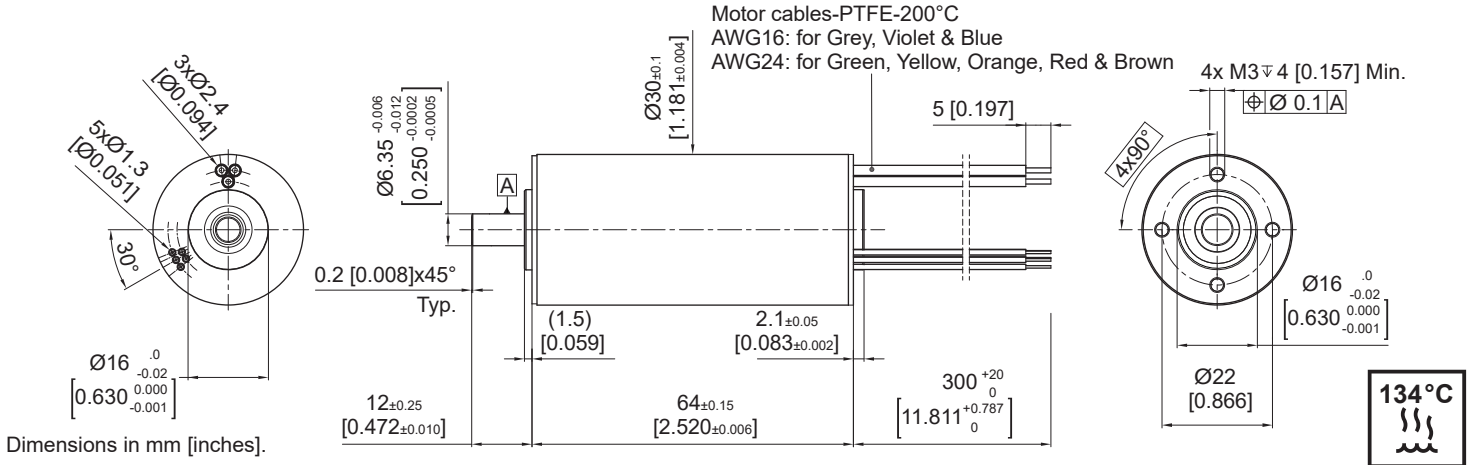


30ECA64 - Large Bone Orthopedic Surgical Motor

Ø30 mm • Brushless Slotless



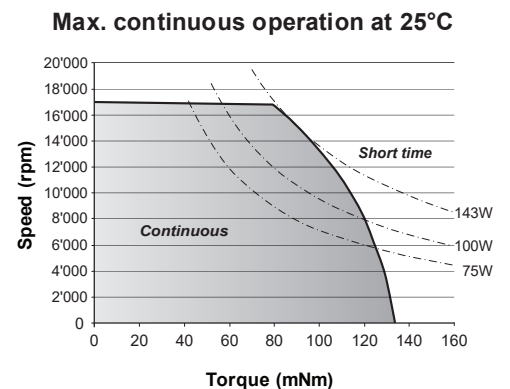
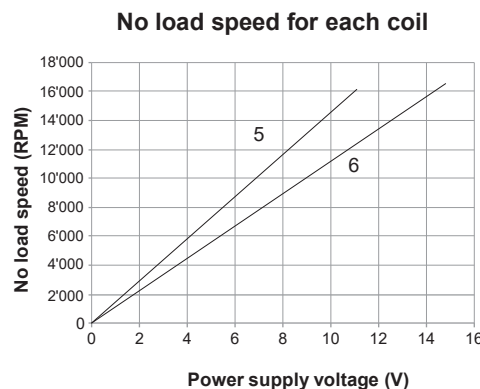
Electrical Data	Symbol	30ECA64 8B XX .205		Unit
		5	6	
1 Nominal Voltage	U_N	11.1	14.8	Volt
2 Optimization Direction	-	Symmetrical	Symmetrical	-
3 No Load Speed	n_0	16'100	16'488	rpm
4 Typical No Load Current	I_0	700	700	mA
5 Max. Continuous Mechanical Power (@25°C)	P_{max}	165	142	W
6 Max. Continuous Current	$I_{e,max}$	18.5	15.6	A
7 Max. Continuous Torque	$M_{e,max}$	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_M	6.6 (0.935)	8.6 (1.218)	mNm/A (oz-in/A)
10 Motor Regulation	R/k^2	0.777	0.612	10 ³ /Nms
11 Internal Resistance - phase to phase	R_l	0.0336	0.045	ohms
12 Line to Line Resistance at Connectors	R_L	0.0426	0.0548	ohms
13 Inductance Phase to Phase	L	0.0077	0.011	mH
14 Mechanical Time Constant	τ_m	2.1	1.6	ms
15 Electrical Time Constant	τ_e	0.23	0.24	ms

General Data				
16 Maximum Motor Speed	n_{max}		30'000	rpm
17 Ambient Working Temperature Range	-		-30 to +135 (-22 to +275)	°C (°F)
18 Ambient Storage Temperature Range	-		-40 to +135 (-30 to +275)	°C (°F)
19 Ball Bearings Preload	-		13.2 (3)	N (lbs)
20 Axial Static Force w/o Shaft Support (max)	-		134 (30)	N (lbs)
21 Maximum Winding Temperature	-		155 (311)	°C (°F)
22 Thermal Resistance	R_{th}		7.9	°C/W
23 Thermal Time Constant	τ_w		1310	s
24 Weight	-		260 (9.2)	g (oz)
25 Rotor Inertia	J		26.6 (376)	gcm ² (oz-in-sec ² 10 ⁻⁶)
26 Hall Sensor Electrical Phasing*	-		120	Electrical °
27 Autoclave Cycles	-		500	Cycles

*Also available without Hall sensor

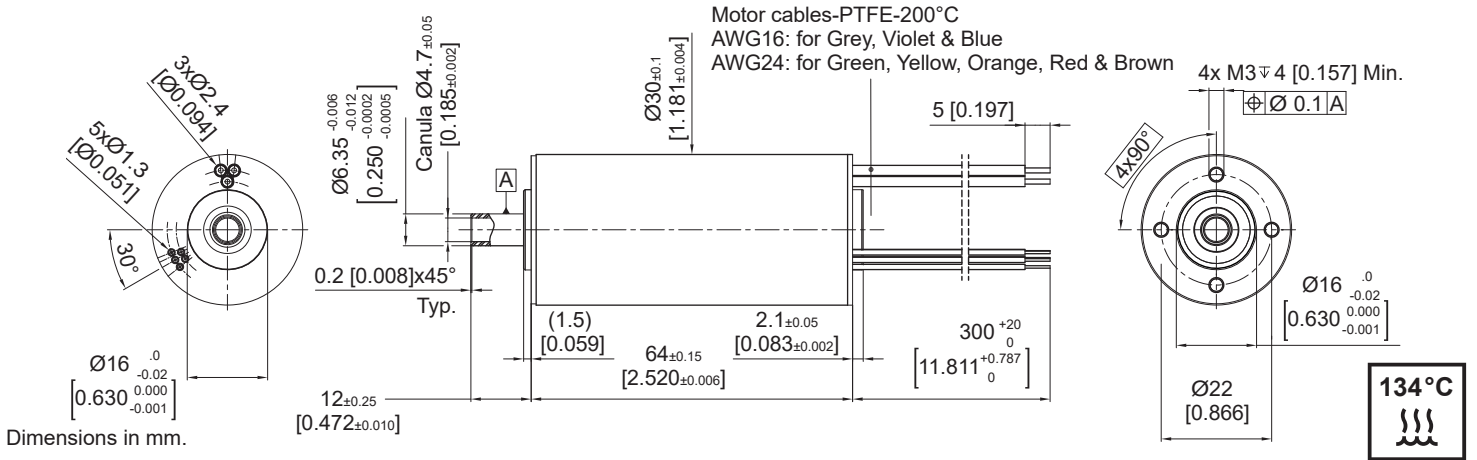
Wire	Description
Gray	Phase 1
Violet	Phase 2
Blue	Phase 3
Green	3.5 to 24V DC
Yellow	GND
Orange	Sensor 1
Red	Sensor 2
Brown	Sensor 3

with Hall effect sensor



30ECA64 - Large Bone Orthopedic Surgical Motor
Cannulated

Ø30 mm • Brushless Slotless



Electrical Data	Symbol	30ECA64 8B XX .206		Unit
		5	6	
1 Nominal Voltage	U_N	11.1	14.8	Volt
2 Optimization Direction	-	Symmetrical	Symmetrical	-
3 No Load Speed	n_0	16'100	16'488	rpm
4 Typical No Load Current	I_0	700	700	mA
5 Max. Continuous Mechanical Power (@25°C)	P_{max}	165	142	W
6 Max. Continuous Current	$I_{e,max}$	18.5	15.6	A
7 Max. Continuous Torque	$M_{e,max}$	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_M	6.6 (0.935)	8.6 (1.218)	mNm/A (oz-in/A)
10 Motor Regulation	R/k^2	0.777	0.612	10 ³ /Nms
11 Internal Resistance - phase to phase	R_i	0.0336	0.045	ohms
12 Line to Line Resistance at Connectors	R_L	0.0426	0.0548	ohms
13 Inductance Phase to Phase	L	0.0077	0.011	mH
14 Mechanical Time Constant	τ_m	2.1	1.6	ms
15 Electrical Time Constant	τ_e	0.23	0.24	ms

General Data			
16 Maximum Motor Speed	n_{max}	30'000	rpm
17 Ambient Working Temperature Range	-	-30 to +135 (-22 to +275)	°C (°F)
18 Ambient Storage Temperature Range	-	-40 to +135 (-30 to +275)	°C (°F)
19 Ball Bearings Preload	-	13.2 (3)	N (lbs)
20 Axial Static Force w/o Shaft Support (max)	-	134 (30)	N (lbs)
21 Maximum Winding Temperature	-	155 (311)	°C (°F)
22 Thermal Resistance	R_{th}	7.9	°C/W
23 Thermal Time Constant	τ_w	1310	s
24 Weight	-	260 (9.2)	g (oz)
25 Rotor Inertia	J	26.6 (376)	gcm ² (oz-in-sec ² 10 ⁻⁶)
26 Hall Sensor Electrical Phasing*	-	120	Electrical °
27 Autoclave Cycles	-	500	Cycles

*Also available without Hall sensor

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

with Hall effect sensor

