

Performance Data

All performance data is based on sine wave tests.

Table 1: MicroMAX™ 20:1 and 1000:1 Constant Torque Motors (all data at 460 Volts)

HP	FL RPM	MIN. RPM	ENCL	NEMA FRAME	FL AMPS 460V	NL AMPS 460V	FL TORQUE (lb-ft)	BD TORQUE (lb-ft)	MAX CHP RPM 1	FL EFFICIENCY	FL POWER FACTOR	OHMS/PHASE - Equivalent Wye Circuit (at rated operating temp. in a 40 °C ambient)					ROTOR INERTIA (lb-ft ²)
												R1	R2	X1	X2	XM	
1/8	1750	0	TENV	56C	0.3	0.3	0.4	2.5	3550	65.5	55	55.6	39.72	51.2	22.68	896.32	0.04
1/4	1725	0	TENV	56C	0.5	0.3	0.8	3.7	3520	72	65	37	28.604	36.32	17.136	681	0.04
1/3	1740	0	TENV	56C	0.6	0.4	1	4.5	3520	74	67	26.16	22.96	30.1	14.62	572.8	0.045
1/2	1730	0	TENV	56C	0.9	0.5	1.5	6.8	3520	80	72	18.144	17.576	22.112	12.756	521.804	0.075
3/4	1725	90	TEFC	56C	1.4	0.9	2.3	9.5	3520	75.5	70.5	13.984	12.588	15.608	8.316	292.572	0.055
1	1725	90	TEFC	56C	1.6	0.9	3	12	3520	78.5	77.5	10.82	10.936	12.356	7.468	292.52	0.09
1.5	1755	0	TENV	145TC	2.4	1.6	4.5	29	3518	85.5	69	4.256	3.536	5.996	5.884	161.008	0.14
2	1740	90	TEFC	145TC	2.9	1.6	6	29	3530	82.5	77	4.244	3.336	6.008	5.88	161.88	0.14
3	1735	90	TEFC	182TC	4.2	2.5	9	35	3540	87.5	76	2.78	1.58	5.23	7.1	98.4	0.3
5	1750	90	TEFC	184TC	6.7	7	15	61	3480	88.5	79	1.688	1.168	3.256	4.792	77.68	0.45
7.5	1750	90	TEFC	213TC	10.7	6.2	22.3	80	3565	89.5	72.5	0.707	0.488	2.39	3.2	41.4	0.75
10	1750	90	TEFC	215TC	14	7.8	30	110	3570	91	74	0.454	0.355	1.68	2.5	33.4	1

1. Maximum Constant Horsepower RPM is for direct coupled loads
2. TEFC motors suitable for 2000:1 constant torque with Vector Drives or 20:1 CT with Volts/Hertz drives

Table 2: BlackMAX® 1000:1 Constant Torque

HP	FL RPM	MIN. RPM	ENCL	NEMA FRAME	FL AMPS 460V	NL AMPS 460V	FL TORQUE (lb-ft)	BD TORQUE (lb-ft)	MAX CHP RPM 1	FL EFFICIENCY	FL POWER FACTOR	OHMS/PHASE - Equivalent Wye Circuit (at rated operating temp. in a 40 °C ambient)					ROTOR INERTIA (lb-ft ²)
												R1	R2	X1	X2	XM	
1/4	1755	0	TENV	56C	0.6	0.45	0.75	4.5	3540	70	58	26.3	23	30.24	14.7	572	0.045
1/3	1740	0	TENV	56C	0.6	0.45	1	4.5	3520	74	67	26.144	23	30.1	14.62	573	0.045
1/2	1735	0	TENV	56C	0.8	0.52	1.5	5.8	3510	80	72	22.307	17.028	24.123	18.163	532.976	0.056
1	1750	0	TENV	56C-143TC	1.5	1	3	15	3505	84	75	8.378	5.623	10.707	9.912	278.036	0.11
	1145	0	TENV	145TC	1.9	1.3	4.5	16	2260	80	62.5	10.302	8.372	13.793	15.325	193.835	0.14
1.5	1755	0	TENV	145TC	2.4	1.6	4.5	29	3518	85.5	69	4.257	3.538	5.998	5.884	161.009	0.14
2	1750	0	TENV	145TC	3	1.7	6	28.5	3525	85.5	78	3.834	2.897	5.95	5.637	154.8	0.13
	1160	0	TENV	184TC	3.3	2.1	9	34	2315	82.5	67.5	3.948	3.436	7.725	12.113	116.9	0.38
3	1755	0	TENV	182TC	4.2	2.2	9	48	3515	85.5	80	2.356	1.731	4.266	4.304	123.93	0.42
	1158	0	TENV	213TC	4.7	3	13.6	49	2300	82.5	72.5	2.469	2.318	6.508	4.125	83.91	0.6

HP	FL RPM	MIN. RPM	ENCL	NEMA FRAME	FL AMPS 460V	NL AMPS 460V	FL TORQUE (lb-ft)	BD TORQUE (lb-ft)	MAX CHP RPM 1	FL EFFICIENCY	FL POWER FACTOR	OHMS/PHASE - Equivalent Wye Circuit (at rated operating temp. in a 40 °C ambient)					ROTOR INERTIA (lb-ft ²)
												R1	R2	X1	X2	XM	
5	1765	0	TENV	184TC	7	4.2	14.8	70	3555	89.5	74.5	1.242	0.947	2.534	4.236	64.128	0.55
	1165	0	TENV	215TC	7.7	4.8	22.5	87	2320	84	71	1.13	1.25	3.709	2.573	51.972	0.9
7.5	1765	0	TENV	213TC	10.5	5.5	22.3	95.5	3525	90.2	76	0.699	0.567	1.765	2.26	38.178	0.85
	1170	0	TENV	254TC	11	6	34	118	2325	87.5	73	0.51	0.68	2.846	3.247	42.714	1.2
10	1774	0	TENV	215TC	13.5	7.4	29.5	125	3540	90.2	76	0.369	0.334	1.423	2.281	34.932	1.3
	1160	0	TENV	256TC	14	7	45.5	135	2320	89.5	75.5	0.534	0.693	2.258	2.323	30.53	1.5
15	1765	0	TENV	254TC	20	11	45	170	3550	92.4	76	0.134	0.316	1.047	1.569	22.151	1.6
20	1768	0	TENV	256TC	25	13.5	59.5	290	3560	93.6	80	0.234	0.213	0.746	0.689	18.204	3.1
25	1770	0	TENV	284TC	31	14	74.2	330	3530	93.6	75	0.143	0.16	0.724	0.678	13.965	4.4
30	1772	0	TENV	286TC	40	23.5	89	375	3560	94.5	74	0.113	0.123	0.543	0.557	11.2	5.5

1. Maximum Constant Horsepower RPM is for direct coupled loads
2. TEFC motors suitable for 2000:1 constant torque with Vector Drives or 20:1 CT with Volts/Hertz drives

Table 3: BlackMAX® Explosion Proof 1000:1 Constant Torque Motor (all data at 460 Volts)

HP	FL RPM	MIN. RPM	ENCL	NEMA FRAME	FL AMPS 460V	NL AMPS 460V	FL TORQUE (lb-ft)	BD TORQUE (lb-ft)	MAX CHP RPM 1	FL EFFICIENCY	FL POWER FACTOR	OHMS/PHASE - Equivalent Wye Circuit (at rated operating temp. in a 40 °C ambient)					ROTOR INERTIA (lb-ft ²)
												R1	R2	X1	X2	XM	
1/4	1725	0	EPNV	56C	0.55	0.4	0.75	3.7	1725	71	61.5	34.01	21.99	32.3	19.3	533.95	0.038
1/3	1725	0	EPNV	56C	0.6	0.4	1	3.7	1725	74.5	71	34.57	24.08	36.55	24.25	675.96	0.038
1/2	1735	0	EPNV	56C	0.8	0.52	1.5	5.8	1735	80	72	22.31	17.02	24.12	18.62	532.98	0.056
3/4	1755	0	EPNV	56C	1.2	0.75	2.25	10.2	1755	82.5	73.5	11	7.41	13.27	12.21	339.82	0.09
1	1750	0	EPNV	56C	1.5	1	3	15	1750	84	75	8.38	5.62	10.71	9.91	278.04	0.11

1. Maximum Constant Horsepower RPM is for direct coupled loads
2. TEFC motors suitable for 2000:1 constant torque with Vector Drives or 20:1 CT with Volts/Hertz drives

Table 4: BlueMAX® 2000:1 Constant Torque Motors (all data at 460 Volts)

HP	FL RPM	MIN. RPM	ENCL	NEMA FRAME	FL AMPS 460V	NL AMPS 460V	FL TORQUE (lb-ft)	BD TORQUE (lb-ft)	MAX CHP RPM 1	FL EFFICIENCY	FL POWER FACTOR	OHMS/PHASE - Equivalent Wye Circuit (at rated operating temp. in a 40 °C ambient)					ROTOR INERTIA (lb-ft ²)
												R1	R2	X1	X2	XM	
1	1756	0	TENV	143TC	1.5	0.85	3	14	3520	85.5	72	8.094	5.481	11.644	10.366	301.04	0.1
1.5	1750	0	TENV	145TC	2.3	1.5	4.5	24	3500	82.5	72	6.294	4.498	7.277	7.088	185.409	0.1
2	1750	0	TENV	145TC	3	1.7	6	28.5	3525	85.5	78	3.834	2.897	5.949	5.637	154.78	0.13
3	1760	0	TENV	182TC	4	2	9	35	3525	90.2	80	2.353	1.616	5.084	7.9	130.41	0.4
5	1750	0	TENV	184TC	6.7	3.5	15	61	3490	88.5	79	1.69	1.168	3.255	4.791	77.679	0.45
7.5	1765	0(2)	TEFC	213TC	9.7	4.2	22.5	89	3525	88.5	81	0.786	0.669	2.51	3.893	63.88	0.8
	1775	0	TENV	213TC	10.5	5.8	22.2	94	3540	90.2	75	0.575	0.461	1.943	2.986	43.848	1.1
10	1765	0(2)	TEFC	215TC	12.7	5.5	29.8	75	2660	90.2	81	0.536	0.446	2.031	3.081	48.422	1.1
	1775	0	TENV	215TC	13	6.5	29.5	119	3460	91	78	0.395	0.361	1.477	2.425	36.92	1.4
	1765	0(2)	TEFC	254TC	18.5	7	44.5	108	2635	90.2	83.5	0.429	0.306	1.446	1.875	35.154	2.2