

microMAX™ AC Inverter Duty Motors

1000:1 Constant Torque (TENV), 20:1 Constant Torque (TEFC)



Features

- Constant torque operation from 0 to base speed (TENV ratings)
- Constant torque operation from 1/20 speed to base speed (TEFC ratings)
- Constant horsepower to twice base speed (RPM)
- Class H insulation with CR²⁰⁰ (corona-resistant) magnet wire
- Continuous duty at 40 °C ambient
- Dual Mounting (C-Face with rigid base and C-Face with removable rigid base, as noted)
- Service Factor: 1.0
- Utilizes double shielded ball bearings
- Exxon Polyrex® EM bearing grease
- Eliminates brush and commutator maintenance
- UL recognized and CSA certified
- Three year warranty

Applications

- Replaces 90 volt and 180 volt PMDC motors (when used with AC variable frequency drives)
- Typical uses include: machine tools, conveyors, packaging machines, batching machines, and printing equipment.

Motor Shipping Schedule

Same day	Same to 1 day	1 - 3 days
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Color indicates shipping lead time in business days.

Motor Specifications

Part Number	Price	HP	Base RPM	Volts	Encl.	NEMA Frame	Model No.	F.L. Amps	Weight Lbs.	Footnotes
Y500	<-->	1/4	1800	230	TENV	56C	56H17T2011	1.0	18	N,Q
Y360	<-->	1/2	1800	230/460	TENV	56C	56H17T2017	1.8/0.9	20	N
Y364	<-->	1	1800	230/460	TEFC	56C	56H17F2021	3.2/1.6	28	-
Y368	<-->	2	1800	230/460	TEFC	145TC	145THFR5329	5.8/2.9	51	6
Y999	<-->	3	1800	230/460	TEFC	182TC	182THFR7729	8.4/4.2	70	6
Y372	<-->	5	1800	230/460	TEFC	184TC	184THFR7726	13.0/6.5	88	6
Y994	<-->	7 1/2	1800	230/460	TEFC	213TC	213THFW7726	21.4/10.7	98	6
Y996	<-->	10	1800	230/460	TEFC	215TC	215THFW7726	27.6/13.8	125	6

Footnotes:

N Totally Enclosed Non Ventilated

Q "Quick Connect" terminal board

6 Bolt-on, removable base for footless mounting option

Note: Please review the AutomationDirect Terms & Conditions for this product. Warranty service can be arranged through numerous Marathon Electric service centers. See list of service centers on our Web site at www.automationdirect.com.

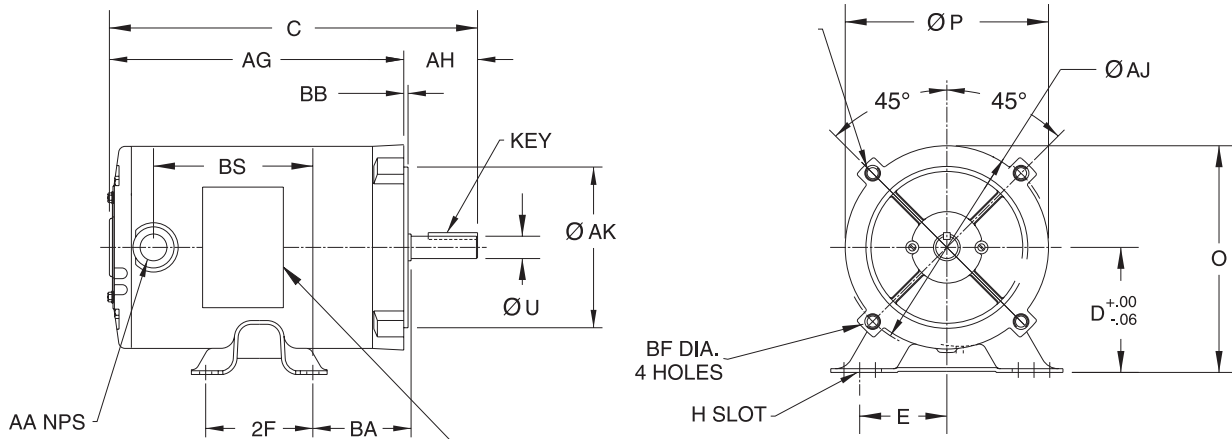
Performance Data (460 Volt except as indicated)

Part Number	HP	NEMA Design	F.L. RPM	Min. RPM	F.L. AMPS 460 V	N.L. AMPS 460 V	F.L. Torque (LB-FT)	B.D. Torque (LB-FT)	Max. CHP RPM*	Max. Safe RPM	F.L. Effic.	F.L. Power Factor	Rotor Inertia (LB-FT ²)
Y500	1/4 (230V)	B	1725	1.8	1.0	0.7	0.75	3.7	3520	5400	72.0	65.0	0.040
Y360	1/2	B	1730	1.8	0.9	0.5	1.5	6.8	3520	5400	80.0	72.0	0.075
Y364	1	B	1725	45	1.6	0.9	3.0	12.0	3520	5400	78.5	77.5	0.090
Y368	2	B	1740	60	2.9	1.6	6.0	29.0	3530	5400	82.5	77.0	0.140
Y999	3	A	1760	80	4.2	2.5	9.0	35.0	3540	5400	87.5	76.0	0.30
Y372	5	A	1750	90	6.7	3.5	15.0	61.0	3480	5400	88.5	79.0	0.45
Y994	7 1/2	A	1770	90	10.7	6.2	22.3	80.0	3565	4200	89.5	72.5	0.75
Y996	10	A	1770	90	13.8	7.8	30.0	110	3570	4200	91.0	74.0	1.00

* Maximum Constant HP RPM is for direct coupled loads.

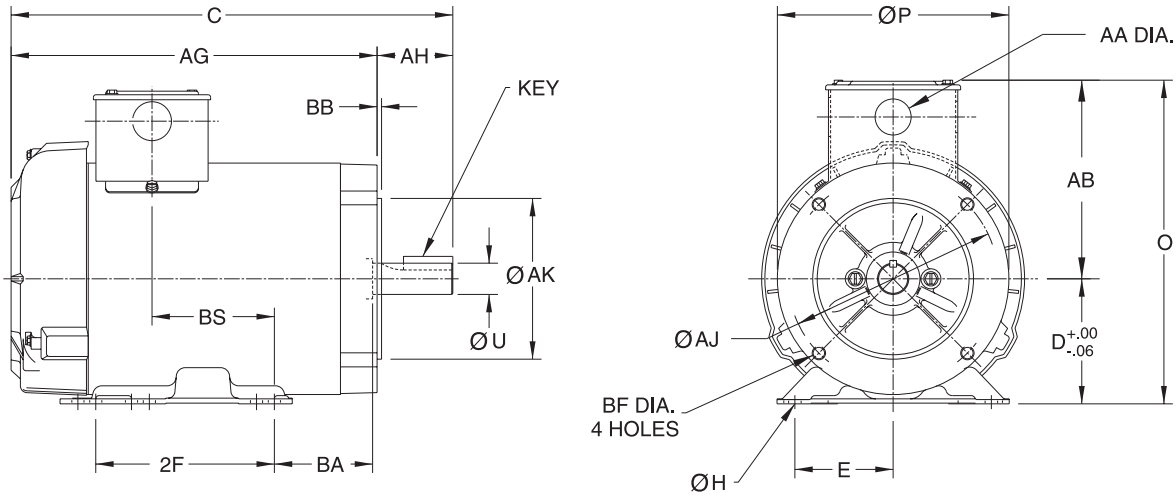
microMAX™ MOTOR DIMENSIONS

Figure 1



Note: conduit box on 1/2 HP only, 1/4 HP motor has "Quick Connect" terminal board.

Figure 2



Motor Dimensions [Inches]																						
Part Number	HP	Fig.	NEMA Frame	C	D	E	2F	H	O Max.	P Max.	U	AA	AB Max.	AG Max.	AH	AJ	AK	BA	BB	BF	BS	Key
Y500	1/4	1	56C	9.80	3.50	2.44	3.00	.34 Slot	6.35	5.69	.625	None	None	7.74	2.06	5.875	4.500	2.75	.12	3/8-16	3.96	.19x.19x1.38
Y360	1/2	1	56C	10.55	3.50	2.44	3.00	.34 Slot	6.35	5.69	.625	None	None	8.49	2.06	5.875	4.500	2.75	.12	3/8-16	4.71	.19x.19x1.38
Y364	1	2	56C	12.44	3.50	2.44	3.00	.35	7.87	5.69	.625	.88	4.44	10.38	2.06	5.875	4.500	2.75	.12	3/8-16	4.06	.19x.19x1.38
Y368	2	2	145TC	14.87	3.50	2.75	5.00	.35	9.06	6.48	.875	1.09	5.56	7.74	2.12	5.875	4.500	2.75	.12	3/8-16	6.36	.19x.19x1.38
Y999	3	2	182TC	16.19	4.50	3.75	5.50	.44	11.65	8.56	1.125	1.09	7.19	13.57	2.62	7.250	8.500	3.50	.27	1/2-13	2.50	.25x.25x1.75
Y372	5	2	184TC	16.69	4.50	3.75	5.50	.44	11.65	10.55	1.125	1.09	7.19	16.07	2.62	7.250	8.500	3.50	.27	1/2-13	3.75	.25x.25x1.75
Y994	7 1/2	2	213TC	20.97	5.25	4.25	7	.46	12.97	11.13	1.375	1.09	7.75	17.85	3.12	7.265	8.500	4.25	.31	1/2-13	6.93	.31x.31x2.38
Y996	10	2	215TC	22.22	5.25	4.25	7	.46	12.97	11.13	1.375	1.09	7.75	19.10	3.12	7.265	8.500	4.25	.31	1/2-13	8.18	.31x.31x2.38

MOTORS - PERFORMANCE & SPECIFICATION COMPARISONS

Characteristic	microMAX™	Black Max®	Blue Max®	Blue Chip XRI®
Electrical Characteristics				
Horsepower range	1/4 - 10	1/4 - 30	40 - 100	15 - 100
Base speed (# Poles)	1800 (4)	1800 (4) and 1200 (6)	1800 (4)	1800 (4)
Standard Voltage	230/460 (1/4 HP is 230 V only)	230/460	230/460	230/460
Insulation Class	H	F	H	F
Insulation System	CR ¹⁰⁰ magnet wire	MAX GUARD®	MAX GUARD®	n/a
Service Factor (inverter power)	1.0	1.0	1.0	1.15
Phase/Base Frequency	3/60	3/60	3/60	3/60
Design Code (NEMA)	A and B for 1/4 - 2 HP	A	A	B
Duty Cycle	Continuous	Continuous	Continuous	Continuous
Thermal protection	None	Class F thermostats	Class F thermostats	None
Mechanical Characteristics				
Frame size (mounting)	56C - 215TC	56C - 286TC	324T(C) - 405T(C)	254T - 405T
Normal NEMA frame size	Yes	Yes	Yes	Yes
Enclosure	TENV and TEFC	TENV	TEFC and TEBC	TEFC
Frame material	Rolled Steel	Rolled Steel, Aluminum & Cast Iron	Cast Iron	Cast Iron
End bracket material	Aluminum	Aluminum, Cast Iron	Cast Iron	Cast Iron
Conduit box material	Steel	Steel	Cast Iron	Cast Iron
Fan guard material	Polypropylene	None (all ratings TENV)	Cast Iron	Cast Iron
Fan material	Polypropylene	None (all ratings TENV)	Polypropylene	Polypropylene
Lead termination	Conduit box (1/4 HP - terminal block)	Conduit box	Conduit box	Conduit box
Standard mounting	C-Face with Rigid Base and C-Face Round Body	C-Face with Rigid Base	C-Face with Rigid Base	Rigid Base
Drive end shaft slinger	No	No	Yes	Yes
Paint	Black powder-coat	Black enamel	Blue enamel	epoxy paint
Bearings	Ball (C3 fit)	Ball (C3 fit)	Ball (C3 fit)	Ball (C3 fit)
Grease	Exxon POLYREX EM	Exxon POLYREX EM	Exxon POLYREX EM	Exxon POLYREX EM
Standard conduit box assembly position	F3	F1, reversible to F2	F1, reversible to F2	F1
Performance Characteristics				
Constant Torque speed range	20:1 (TEFC), 1000:1 (TENV)	1000:1 (TENV)	2000:1 (all enclosures)	20:1
Constant Horsepower speed range	2:1 (90-120 Hz intermittent)	2:1 (90-120 Hz intermittent)	2:1	2:1
Temperature rise	B	F	F (TEFC) and B (TEBC)	B
Encoder provisions	No	Yes	Yes	No
Other Characteristics				
Agency listings	UL Recognized, CSA Certified	UL Recognized, CSA Certified	UL Recognized, CSA Certified	UL Recognized, CSA Certified
Warranty	3 years	3 years	3 years	3 years