

Black Max® Vector Duty Motors



Motor Shipping Schedule *

Same or one day *

Up to 7 days

Up to 10 days

Color indicates shipping lead time in business days. Check stock status online.

* Certain heavy and oversized items can be shipped only via LTL. Check our website for current shipping method constraints by part number.

Features

- Class F MAX GUARD® insulation system
- Constant torque operation from 0 to base speed on vector drive
- Constant horsepower operation to twice base RPM
- Continuous duty at 40° C ambient
- Optimized for operation with IGBT inverter (NEMA Design A)
- Class F N/C thermostats (one per phase)
- Utilizes double shielded ball bearings
- Exxon Polyrex® EM bearing grease
- C-Face with rigid base, except C-Face with removable rigid base as noted
- F1 standard conduit box location, field reversible to F2 (except as noted)
- Available with optional encoder installed on opposite drive end
- Electrically reversible
- UL Recognized, CSA Certified, and CE Mark
- Three year warranty (through Marathon Electric)

Applications

- Designed for inverter or vector applications where up to a 1000:1 constant torque speed range is required.
- Typical uses include: material handling, machine tools, conveyors, crane and hoist, metal processing, test stands, pumps, compressors, textile processing, and other industrial machinery installed in dusty or dirty environments.

230/460V Motor Specifications

Part Number *	Price	HP	Base RPM	Volts	Enclosure	NEMA Frame	Model No.	F.L. Amps	Weight (lb) *	Footnotes	Drawing Links
Y592		1/4	1800	230/460	TENV	56C	56H17T2001	1.2 / 0.6	19	T, S, 13	PDF
Y534		1/2	1800	230/460	TENV	56C	56H17T5301	1.6 / 0.8	28	T, S, 6, 13	PDF
Y535		1	1800	230/460	TENV	56C	56H17T5302	3.0 / 1.5	41	T, S, 6, 13	PDF
Y536		1	1800	230/460	TENV	143TC	143THTR5326	3.0 / 1.5	43	T, S, 6, 13	PDF
Y537		1	1200	230/460	TENV	145TC	145THTR5376	3.8 / 1.9	49	T, S, 6, 13	PDF
Y538		1-1/2	1800	230/460	TENV	145TC	145THTR5326	4.8 / 2.4	50	T, S, 6, 13	PDF
Y551		2	1800	230/460	TENV	145TC	145HTN6046	6.0 / 3.0	72	T, CI	PDF
Y541A		3	1800	230/460	TENV	182TC	182HTY7726	8.2 / 4.1	110	T, AL	PDF
Y543A		5	1800	230/460	TENV	184TC	184HTY7726	13.4 / 6.7	125	T, AL	PDF
Y545		7-1/2	1800	230/460	TENV	213TC	213HTL7726	21.0 / 10.5	146	T, AL	PDF
Y547		10	1800	230/460	TENV	215TC	215HTL7726	27.0 / 13.5	159	T, AL	PDF
Y549		15	1800	230/460	TENV	254TC	254HTL5726	40 / 20	250	T, AL, I	PDF

* Refer to the Motor Shipping Schedule table for shipping information.

Footnotes:

6 Bolt-on, removable base for footless mounting option
 13 F1 Mounting Only, cannot modify to F2
 AL Aluminum Frame Construction

Footnotes (continued):

CI Cast-iron Frame Construction
 I Intermittent duty from 90-120 Hz operation
 S Steel Frame Construction

Footnotes (continued):

T Thermostat overload

Note: Please review the AutomationDirect Terms & Conditions for warranty and service on his 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.

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Motor with Shaft-Mounted Encoder*

A Dynapar Model HS35 shaft-mounted encoder can be supplied pre-installed on the motors as shown in the price table below. The encoder requires a 5–26 VDC power source, provides a count of 1024 pulses per revolution (PPR) differential line driver output, and includes a 10-pin mating connector.

* If connecting the motor to a GS3 DURApulse AC drive, a [GS3-FB Feedback Card](#) is required for the drive.

Motor Accessories

Part Number	Price	Description *
A772		Encoder kit, replacement, for Black Max encoder motors. Dynapar HS35 encoder, 5–26 VDC input, Line Driver output, 1024 pulses per revolution, 5/8-in bore.

* Replacement/spare encoder kit for Black Max Yxxx-A772 motors; can also be field installed on Black Max Yxxx motors without encoders.

Motor with Pre-installed Shaft-Mounted Encoder

230/460V Motors					
Part Number	Price	HP	Part Number	Price	HP
Y592-A772		1/4	Y545-A772		7 1/2
Y534-A772		1/2	Y547-A772		10
Y535-A772		1	Y549-A772		15
Y536-A772		1			
Y538-A772		1 1/2			
Y551-A772		2			
Y541A-A772		3			
Y543A-A772		5			

Note: Please review the AutomationDirect Terms & Conditions for warranty and service on this product.

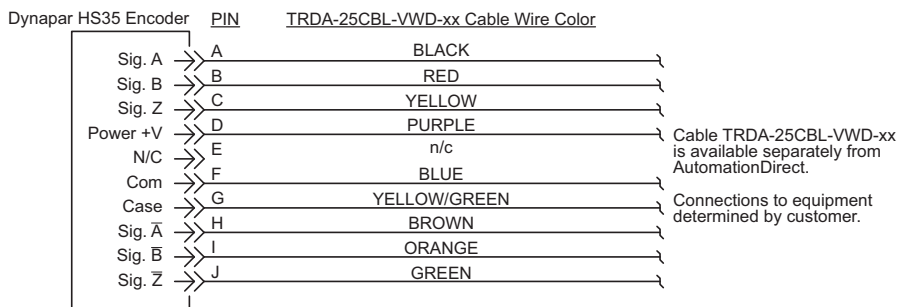
Warranty service can be arranged through numerous Marathon Electric service centers.

See list of service centers on our Web site at www.AutomationDirect.com.

Black Max® Vector Duty Motors

Encoder Connector Pinout

*Note: A mating connector is supplied with the encoder.
Prewired cables TRDA-25CBL-VWD-xx (10, 20, & 30 ft)
and replacement MS connectors TRDA-25CON-VWD
are available from AutomationDirect.*



Motor Performance Data (460 Volt) *

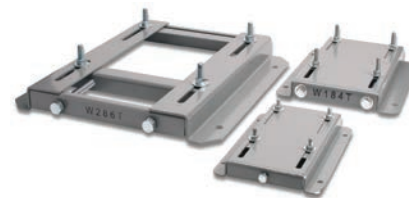
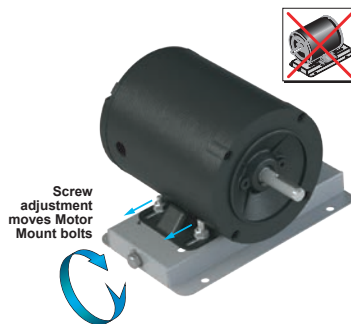
Part Number	HP	F.L. rpm	F.L. Amps @460V	N.L. Amps @460V	F.L. Torque (lb-ft)	B.D. Torque (lb-ft)	Max. C hp rpm *	Max. Safe rpm	F.L. Effic. (%)	F.L. Power Factor	Rotor Inertia (lb-ft ²)	Ohms/Ph - Equiv. Wye Circuit (460 VAC) (at rated operating temp. in 40° C ambient)				
												R1	R2	X1	X2	XM
Y592	1/4	1755	0.6	0.45	0.75	4.5	3540	5400	70.0	58.0	0.045	26.300	23.000	30.240	14.700	572.000
Y534	1/2	1735	0.8	0.52	1.5	5.8	3510	5400	80.0	72.0	0.056	22.307	17.028	24.123	18.163	532.976
Y535	1	1750	1.5	1.0	3.0	15.0	3505	5400	84.0	75.0	0.110	8.378	5.623	10.707	9.912	278.036
Y536	1	1750	1.5	1.0	3.0	15.0	3505	5400	84.0	75.0	0.110	8.378	5.623	10.707	9.912	278.036
Y537	1	1145	1.9	1.3	4.5	16.0	2260	5400	80.0	62.5	0.140	10.302	8.372	13.793	15.325	193.835
Y538	1-1/2	1755	2.4	1.6	4.5	29.0	3518	5400	85.5	69.0	0.140	4.257	3.538	5.998	5.884	161.009
Y551	2	1750	3.0	1.7	6.0	28.5	3525	5400	85.5	78.0	0.130	3.834	2.897	5.950	5.637	154.800
Y541A	3	1755	4.1	2.3	9.0	49.3	3515	5400	87.5	78.5	0.420	1.578	1.802	2.838	2.091	94.13
Y543A	5	1760	6.7	3.2	14.9	61.5	3520	5400	89.5	79	0.520	1.428	1.05	2.09	3.379	63.334
Y545	7-1/2	1765	10.5	5.5	22.3	95.5	3525	4200	90.2	76.0	0.850	0.699	0.567	1.765	2.260	38.178
Y547	10	1774	13.5	7.4	29.5	125.0	3540	4200	90.2	76.0	1.300	0.369	0.334	1.423	2.281	34.932
Y549	15	1765	20	11.0	45.0	170.0	3550	4200	92.4	76.0	1.600	0.134	0.316	1.047	1.569	22.151

* Maximum Constant hp rpm is for direct coupled loads.

STABLE™ Motor Slide Bases

Mounting Slide Bases for 56 to 449T NEMA Motors Features

- Allows adjustment of motor mounting position
- Slide direction is perpendicular to motor shaft
- Double adjusting screws for frames 182T-449T
- Manufactured to precise dimensional standards
- Dimensionally interchangeable with existing major makes
- Heavy-duty steel construction
- Painted with oven-baked primer for better adhesion of customer's paint
- All "D" bolts (motor mounting bolts) are fixed to the exact motor foot pattern
- All "D" bolts are welded into position to prevent spinning and dropping from slots
- Nuts and washers are provided for securing the motor to the slide base



STABLE Motor Slide Bases for 3-Phase Motors

Part Number (MTA-BASE- xxx)	Price	Fits Frame Type	Product Wt. (lb)	Fits Motor						Drawing Links
				IronHorse	Leeson®	WEG (Part number ending in...)	Marathon			
					WashGuard®		microMAX, Max+, Black Max, Blue Max, SyMAX	XRI GP & NEMA Premium, Jet Pump	Globetrotter	
W56		56*	2.8	MTPM-P3x-1x18						
	MTPM-P5x-1x18									
	MTPM-P7x-1x18									
	MTPM-0xx-1x18									
	MTPM-1xx-1x18									
	MTR(2)(P)-xxx-xxxxx*									
	MTRJ(P)-xxx-xxxxxx									
	MTSN-P33-3BD18									
	MTSN-P33-3BD18R			112427.00						
	MTSN-P33-3BD36			112428.00						
	MTSP-P33-3BD18			112429.00						
	MTSP-P33-3BD18R			112430.00						
	MTSP-P33-3BD36			113019.00						
	MTSP-P33-3BD36R			113023.00						
	MTSN-P50-3BD18			113473.00						
	MTSN-P50-3BD18R			113586.00						
	MTSN-P50-3BD36			113590.00						
	MTSP-P50-3BD12			113591.00						
	MTSP-P50-3BD18			113649.00			Y500			
	MTSP-P50-3BD18R			116644.00			Y502			
	MTSP-P50-3BD36			116645.00			Y360	E2000		
	MTSP-P50-3BD36R			119468.00			Y362	K705		
	MTSN-P75-3BD18			119469.00			Y364	G582		
	MTSN-P75-3BD18R			119471.00			Y280	K707		
	MTSN-P75-3BD36			119475.00			Y281	D393A		
	MTSP-P75-3BD12			119476.00			Y282	D394A		
	MTSP-P75-3BD18			119478.00			Y592(-A772)	K721A		
	MTSP-P75-3BD18R			119480.00			Y534(-A772)	G584A		
	MTSP-P75-3BD36			119482.00			Y535(-A772)	D395A		
	MTSP-P75-3BD36R			119483.00			SY001	G585A		
	MTSN-001-3BD18			191202.00			SY003	J066A		
	MTSN-001-3BD18R			191204.00			SY004			
	MTSN-001-3BD36			191205.00			SY005			
	MTSP-001-3BD18			191206.00						
	MTSP-001-3BD18R			191207.00						
	MTSP-001-3BD36			191208.00						
	MTSP-001-3BD36R			191560.00						
	MTSN-1P5-3BD18			191561.00						
	MTSN-1P5-3BD18R			191562.00						
	MTSN-1P5-3BD36			191563.00						
	MTSP-1P5-3BD18			191564.00						
	MTSP-1P5-3BD18R			191569.00						
	MTSP-1P5-3BD36									
	MTSP-1P5-3BD36R									
	MTSN-002-3BD18									
	MTSN-002-3BD18R									
	MTSN-002-3BD36									
	MTSP-002-3BD18									
	MTSP-002-3BD18R									
	MTSP-002-3BD36									
	MTSP-002-3BD36R									

* IronHorse MTR2 56HC motors have double-punched bases to fit on slide base [MTA-BASE-W56](#).

STABLE™ Motor Slide Bases

STABLE Motor Slide Bases for 3-Phase Motors										
Part Number (MTA-BASE- xxx)	Price	Fits Frame Type	Product Wt. (lb)	Fits Motor						Drawing Links
				IronHorse	Leeson®	WEG (Part number ending in...)	Marathon			
					WashGuard®		microMAX, Max+, Black Max, Blue Max, SyMAX	XRI GP & NEMA Premium, Jet Pump	Globetrotter	
W143T		143T/ TC	4.6	MTCP2-001-3BD18(C) MTCP2-1P5-3BD36 MTSN-1P5-3BD36-14 MTSP-1P5-3BD36-14 MTSP-1P5-3BD36R-14	191487.00 191565.00	(…) 145T-S (…) 145TC-S	Y536(-A772)	E2001A	-	PDF
W145T		145T/ TC	5.1	MTCP2-001-3BD12 MTCP2-1P5-3BD18(C) MTCP2-002-3BD18(C) MTCP2-002-3BD36 MTSP-001-3BD12 MTSN-1P5-3BD18-14 MTSN-1P5-3BD18R-14 MTSP-1P5-3BD18-14 MTSP-1P5-3BD18R-14 MTSN-002-3BD18-14 MTSN-002-3BD18R-14 MTSN-002-3BD36-14 MTSP-002-3BD18-14 MTSP-002-3BD18R-14 MTSP-002-3BD36-14 MTSP-002-3BD36R-14	121866.00 121868.00 121870.00 122182.00 122184.00 122185.00 191490.00 191491.00 191570.00		Y366 Y368 Y284 Y285 Y537 Y538(-A772) Y551(-A772)	E2002 E2004A E2007A	-	PDF
W182T		182T/ TC	9.2	MTCP2-1P5-3BD12 MTCP2-003-3BD18(C) MTCP2-003-3BD36 MTSP-1P5-3BD12 MTSN-003-3BD18-18 MTSN-003-3BD36-18 MTSP-003-3BD18-18 MTSP-003-3BD36-18	132196.00 132198.00		Y1999 Y286A Y541A(-A772)	-	GT0010A GT1010A	PDF
W184T		184T/ TC	10	MTCP2-002-3BD12 MTCP2-005-3BD18(C) MTCP2-005-3BD36 MTF-00x-1C18 MTSP-002-3BD12 MTSP-005-3BD18 MTSP-005-3BD36	132197.00 132200.00 132201.00 132440.00		Y1372 Y540(-A772) Y543A(-A772) SY067	-	GT0013A GT1013A GT1210A GT1212A GT1213A	PDF
W213T		213T/ TC	13	MTCP2-003-3BD12 MTCP2-7P5-3BD18(C) MTCP2-7P5-3BD36 MTSP-003-3BD12 MTSP-7P5-3BD18	140819.00 140822.00 141266.00		Y994 Y542(-A772) Y545(-A772) SY068	-	GT0016A GT1016A GT1216A	PDF
W215T		215T/ TC	15	MTCP2-005-3BD12 MTCP2-010-3BD18(C) MTCP2-010-3BD36 MTSP-005-3BD12 MTSP-010-3BD18	140820.00 140821.00		Y996 Y544(-A772) Y547(-A772) SY069	-	GT0019A GT1019A GT1218A GT1219A	PDF
W254T		254T/ TC	18	MTCP2-7P5-3BD12 MTCP2-015-3BD18(C) MTCP2-015-3BD36 MTSP-015-3BD18	-		Y546(-A772) Y549(-A772)	-	GT0059 GT1022A GT1222A	PDF
W256T		256T/ TC	19	MTCP2-010-3BD12 MTCP2-020-3BD18(C) MTCP2-020-3BD36 MTSP-020-3BD18	-		Y548(-A772)	-	GT0062 GT1025A GT1225A	PDF
W284T		284T/ TC	20	MTCP2-015-3BD12 MTCP2-025-3BD18(C)	-		-	-	GT0065 GT1028A	PDF
W286T		286T/ TC	21	MTCP2-020-3BD12 MTCP2-030-3BD18(C)	-		-	-	GT0067 GT1031A	PDF

* IronHorse MTR2 56HC motors have double-punched bases to fit on slide base [MTA-BASE-W56](#).

STABLE™ Motor Slide Bases

STABLE Motor Slide Bases for 3-Phase Motors										
Part Number (MTA-BASE- xxx)	Price	Fits Frame Type	Product Wt. (lb)	Fits Motor						Drawing Links
				IronHorse	Leeson®	WEG (Part number ending in...)	Marathon			
					WashGuard®		microMAX, Max+, Black Max, Blue Max, SyMAX	XRI GP & NEMA Premium, Jet Pump	Globetrotter	
W324T		324T/ TC	30	MTCP2-040-3BD18(C)	–		Y571(-A774) Y513(-A775)	–	GT0073 GT1034A	PDF
W326T		326T/ TC	31	MTCP2-050-3BD18(C)	–		Y572(-A774) Y514(-A775)	–	GT0077 GT1037A	PDF
W364T		364T/ TC	43	MTCP2-060-3BD18(C)	–		Y573(-A774) Y515(-A775)	–	GT1040A	PDF
W365T		365T/ TC	43	MTCP2-075-3BD18(C)	–		Y574(-A774) Y516(-A775)	–	GT1043A	PDF
W404T		404T/ TC	58	–	–		–	–	–	PDF
W405T		405T/ TC	60	MTCP2-100-3BD18(C)	–		Y575(-A774) Y517(-A775)	–	GT1046A	PDF
W444T		444T	63	MTCP2-125-3BD18	–		–	–	–	PDF
W445T		445T	65	MTCP2-150-3BD18	–		–	–	–	PDF
W447T		447T	89	MTCP2-200-3BD18	–		–	–	–	PDF
W449T		449T	94	MTCP2-250-3D18 MTCP2-300-3D18	–		–	–	–	PDF

* IronHorse MTR2 56HC motors have double-punched bases to fit on slide base [MTA-BASE-W56](#).

STABLE™ Motor Slide Bases

Mounting Slide Bases for 56 to 215T NEMA Motors Features

STABLE Motor Slide Bases for 1-phase Motors									
Part Number	Price	Fits Frame Type	Product Wt. (lb)	Fits Motor					
				IronHorse	Leeson®	Marathon			
					Washguard®	Marathon DP GP (NEMA Service Factor)	Marathon DP Air Compressor	Fan & Blower	Marathon TE GP 4-in-1
<u>MTA-BASE-W56</u>		56*	2.8	MTR2-xxx-1AB18 MTR2-xxx-1AB36 MTPM-xxx-1L18 MTPM-xxx-1M18	112431.00 112527.00 112528.00 112529.00 113583.00 114311.00 114313.00 114317.00 191475.00 191477.00 191479.00	G915A C167A C187A E261A E268A	D010	C216 C1153 C1155 B319 D118 C1158 C235 D115 C1160 C1161 B352	G570 D311 G571 D312 G572 D313 G573 D314 G574 D315 G575 D316
<u>MTA-BASE-W143T</u>		143T / TC	4.6	–	–	C188A	–	–	–
<u>MTA-BASE-W145T</u>		145TC / TC	5.1	–	–	I127	–	–	–
<u>MTA-BASE-W182T</u>		182T / TC	9.2	–	–	–	–	–	–
<u>MTA-BASE-W184T</u>		184 / TC	10	MTF-00x-1C18	–	–	–	–	–
<u>MTA-BASE-W213T</u>		213T / TC	13	–	–	–	–	–	–
<u>MTA-BASE-W215T</u>		215T T TC	15	–	–	–	–	–	–

* IronHorse MTR2 56HC motors have double-punched bases to fit on slide base [MTA-BASE-W56](#).