

# Blue Max<sup>®</sup> 2000 Vector Duty Motors



**marathon**  
Motors

## Features

- Class H MAX GUARD<sup>®</sup> insulation system
- Constant torque operation from 0 to base speed on vector drive, including TEFC (on V/Hz drives, TEFC motors are limited to 20:1 constant torque)
- Constant horsepower operation to 1.5 times base RPM
- Continuous duty at 40°C ambient
- Optimized for operation with IGBT inverter (NEMA Design A)
- C-Face foot mount through 100 HP (NEMA frame type TC motors)
- Class F N/C thermostats (one per phase)
- Cast iron frame and brackets
- Utilizes double shielded ball bearings with Exxon Polyrex<sup>®</sup> EM grease
- “Class B” temperature rise on blower-cooled motors
- F1 standard conduit box location, field reversible to F2
- 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. 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 where cast iron construction is required.

### Motor Shipping Schedule

<b>Same or one day *</b>	<b>Up to 7 days</b>	<b>Up to 10 days</b>
<i>Color indicates shipping lead time in business days. Check stock status online.</i>		
<i>* Certain heavy and oversized items can be shipped only via LTL. Check our web site for current shipping method constraints by part number.</i>		

### Motor Specifications

Part Number *	Price	HP	Base RPM	Volts	Encl.	NEMA Frame	Model No.	F.L. Amps	Weight (lb) *
Y571	\$4,183.00	40	1800	230/460	TEFC	324T	324THFA8028	100 / 50.0	540
Y513	\$5,217.00	40	1800	230/460	TEBC	324TC	324THFA8038	100 / 50.0	620
Y572	\$5,175.00	50	1800	230/460	TEFC	326T	326THFS8028	121 / 60.5	540
Y514	\$5,979.00	50	1800	230/460	TEBC	326TC	326THFA8038	120 / 60.0	640
Y573	\$6,671.00	60	1800	230/460	TEFC	364T	364THFS8036	147 / 73.5	965
Y515	\$7,321.00	60	1800	230/460	TEBC	364TC	364THFS8046	147 / 73.5	1062
Y574	\$7,560.00	75	1800	230/460	TEFC	365T	365THFS8036	184 / 92.0	1006
Y516	\$8,752.00	75	1800	230/460	TEBC	365TC	365THFS8046	180 / 90.0	1106
Y575	\$10,225.00	100	1800	230/460	TEFC	405T	405THFS8036	230 / 115	1308
Y517	\$12,216.00	100	1800	230/460	TEBC	405TC	405THFS8046	230 / 115	1429

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

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

Warranty service can be arranged through Marathon Electric service centers. See list of service centers on our Web site at [www.AutomationDirect.com](http://www.AutomationDirect.com).

### 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. CHP RPM*	Max. Safe RPM	F.L. Effic.	F.L. Power Factor	Rotor Inertia (lb-ft <sup>2</sup> )	Ohms/Ph - Equiv. Wye Circuit (460 VAC) (at rated operating temp. in 40° C ambient)				
												R1	R2	X1	X2	XM
Y571	40	1770	50.0	20.0	118.0	320.0	2642	3600	91.7	81.5	5.000	0.082	0.077	0.435	0.592	10.280
Y513	40	1770	50.0	20.0	118.0	320.0	2642	3600	91.7	81.5	5.000	0.082	0.077	0.435	0.592	10.280
Y572	50	1780	60.5	26.5	148.0	400.0	2675	3600	92.4	81.0	10.000	0.063	0.046	0.424	0.596	10.000
Y514	50	1765	60.0	25.0	149.0	525.0	3525	3600	93.0	83.5	5.500	0.088	0.092	0.437	0.358	9.662
Y573	60	1782	73.5	28.0	177.0	525.0	2665	2700	91.7	83.0	14.500	0.063	0.042	0.338	0.455	8.850
Y515	60	1782	74.0	28.0	177.0	525.0	2665	2700	91.7	83.0	14.500	0.063	0.042	0.338	0.455	8.850
Y574	75	1780	92.0	40.0	221.0	740.0	2665	2700	94.1	82.0	16.500	0.047	0.031	0.267	0.313	6.275
Y516	75	1780	90.0	33.0	222.0	645.0	2685	2700	93.0	84.0	16.000	0.054	0.038	0.299	0.420	8.203
Y575	100	1785	115.0	38.0	295.0	900.0	2675	2700	94.5	86.5	27.500	0.034	0.021	0.236	0.219	6.820
Y517	100	1785	115.0	38.0	295.0	900.0	2675	2700	94.5	86.5	27.500	0.034	0.021	0.236	0.219	6.816

\* Maximum Constant HP RPM is for direct coupled loads.

# Blue Max<sup>®</sup> 2000 Vector Duty Motors

Blower Motor Performance Data (for TEBC Blower Cooled Motors)										
Blower Fits Motor Type				Blower Motor Characteristics						
Part Number	Model No.	NEMA Frame	Encl.	HP (60/50Hz)	RPM (60/50Hz)	Volts	Hz	F.L. Amps	Sound Pressure	Watts
<b>Y513</b>	324THFPA8038	324TC	TEBC	1 / 0.75	1735 / 1460	230/460 – 190/380	60 / 50	3.0 / 1.5	40	850
<b>Y513-A775</b>										850
<b>Y514</b>	326THFPA8038	326TC								851
<b>Y514-A775</b>										852
<b>Y515</b>	364THFS8046	364TC						853		
<b>Y515-A775</b>								854		
<b>Y516</b>	365THFS8046	365TC						3.7 / 1.85	68	855
<b>Y516-A775</b>										856
<b>Y517</b>	405THFS8046	405TC								857
<b>Y517-A775</b>										858

## Encoder shaft-mounted to motor\*

A Dynapar Model HS35/HSD38 shaft-mounted encoder can be supplied pre-installed on the selected motor, either TEFC or TEBC type, as shown in the 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 connector. A mating connector is supplied with TEFC (totally enclosed fan cooled) motor encoders; the customer is responsible for supplying the wiring cable and determining the connections to the equipment being used in the application. The encoder adds 1 inch to the TEFC motor's "C" dimension as shown in the dimensional diagram.

The TEBC (totally enclosed blower cooled) motor encoders have the mating connector pre-wired, installed and ending in a pigtail located inside a conduit box mounted on the motor. (See Figure 2 under the motor dimensional information on the next page.) The customer is responsible for determining the connections to the equipment being used in their application.

\* If connecting the motor to a DURApulse AC drive, a GS3-FB Feedback Card is required for the drive.

\*\* When used with a GS3-FB equipped DURApulse AC drive, the GS3-FB will supply power to the encoder.

## Motor Shipping Schedule

Same or one day *	Up to 7 days	Up to 10 days
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Color indicates shipping lead time in business days. Check stock status online.  
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Check our web site for current shipping method constraints by part number.

## Motor Accessories

Part Number	Price	Description *
<b>A774</b>	\$837.00	Encoder kit, replacement, for Blue Max TEFC encoder motors. Dynapar HS35 encoder, 5–26 VDC input, Line Driver output, 1024 pulses per revolution, 1-in bore.
<b>A775</b>	\$837.00	Encoder kit, replacement, for Blue Max TEBC encoder motors. Dynapar HSD38 encoder, 5–26 VDC input, Line Driver output, 1024 pulses per revolution, 1-in bore.

\* Replacement/spare encoder kit for Blue Max Y5xx-A774 and Y5xx-A775 motors; can also be field installed on Blue Max Y5xx motors; select appropriate encoder kit per motor fan type (TEFC or TEBC).

## Motor with Pre-installed Shaft-Mounted Encoder

Part Number	Price	HP	Part Number	Price	HP
<b>Y571-A774</b>	\$5,190.00	40 (TEFC)	<b>Y574-A774</b>	\$8,496.00	75 (TEFC)
<b>Y513-A775</b>	\$6,308.00	40 (TEBC)	<b>Y516-A775</b>	\$9,843.00	75 (TEBC)
<b>Y572-A774</b>	\$6,111.00	50 (TEFC)	<b>Y575-A774</b>	\$11,317.00	100 (TEFC)
<b>Y514-A775</b>	\$7,071.00	50 (TEBC)	<b>Y517-A775</b>	\$13,307.00	100 (TEBC)
<b>Y573-A774</b>	\$7,606.00	60 (TEFC)			
<b>Y515-A775</b>	\$8,412.00	60 (TEBC)			

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## Encoder Connector Pinout

Note: A mating connector is supplied loose for the customer's wiring on encoder equipped TEFC motors and a mating connector pre-wired to a cable and pigtailed in a conduit box on encoder equipped TEBC motors.

Prewired cables TRDA-25CBL-VWD-xx (10, 20, & 30 ft) and replacement MS connectors TRDA-25CON-VWD are available from AutomationDirect.

Dynapar HS35/HSD38 Encoder



# Blue Max<sup>®</sup> 2000 Vector Duty Motors

## Motor Dimensions

Figure 1 (TEFC)

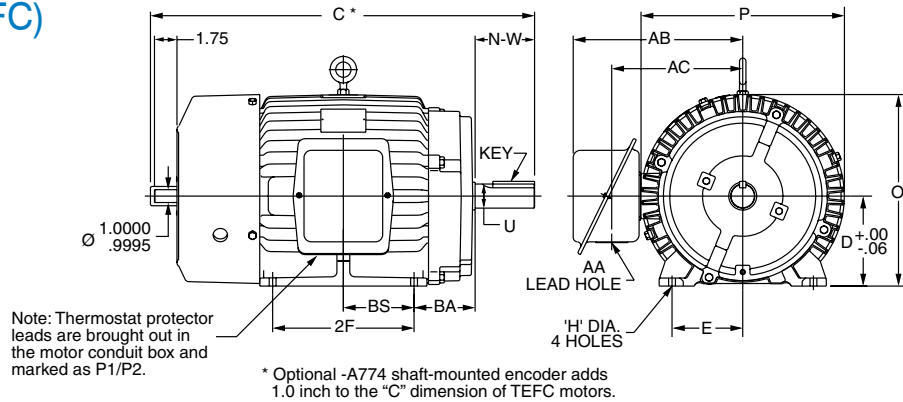
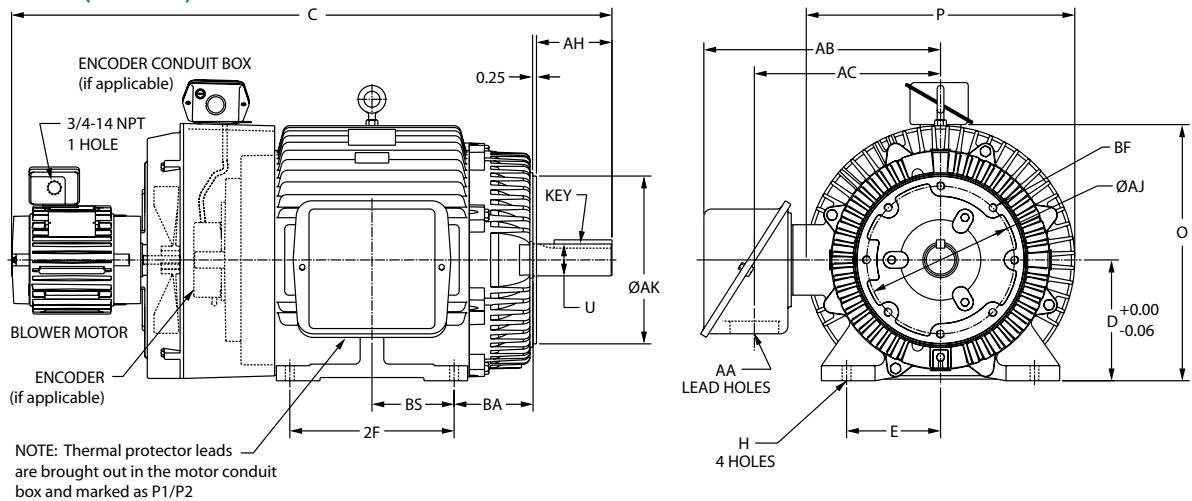


Figure 2 (TEBC)



Motor Dimensions [Inches]																										
Part No.	HP	Fig.	NEMA Frame	C*	D	E	2F	H Min.	O Max.	P Max.	U	AA	AB Max.	AC Max.	AH	AJ	AK	BA	BF	BS	N-W	Key				
Y571	40	1*	324T	30.7	8.00	6.25	10.50	0.66	16.6	15.9	2.125	2.0	13.7	10.5	-	-	-	5.25	-	5.3	5.25	50x.50x3.88				
Y513	40	2	324TC	40.4									13.5	10.4	5.00	11.00	12.50		5/8-11				-			
Y572	50	1*	326T	32.4									12.00	17.1	18.3	14.8	11.8		-				-	-	6.0	-
Y514	50	2	326TC	41.9									16.6	15.9	13.5	10.4	5.00		11.00				12.50	5/8-11	-	
Y573	60	1*	364T	33.7	9.00	7.00	11.25	0.66	19.0	20.0	2.375	3.6	14.6	-	-	-	5.88	-	5.6	5.88	62x.62x4.25					
Y515	60	2	364TC	42.7									13.9	5.62	11.00	12.50		5/8-11				-				
Y574	75	1*	365T	34.7									19.0	-	-	-		-				6.1	-			
Y516	75	2	365TC	43.7									22.6	5.62	11.00	12.50		5/8-11				-				
Y575	100	1*	405T	39.3	10.00	8.00	13.75	0.81	20.9	21.8	2.875	3.6	19.8	16.3	-	-	-	6.62	-	6.9	7.25	.75x.75x5.62				
Y517	100	2	405TC	49.7									18.8	14.8	7.00	11.00	12.50		5/8-11				-			

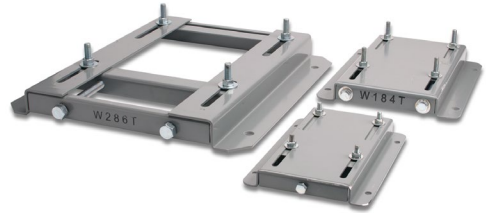
\* Optional shaft-mounted encoder adds 1.0 inch to the "C" dimension of TEFC motors # Y57x-A774.

Note: Dimensions are for reference only. For complete dimensional information, refer to Marathon Electric at [www.marathonelectric.com](http://www.marathonelectric.com).

# 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



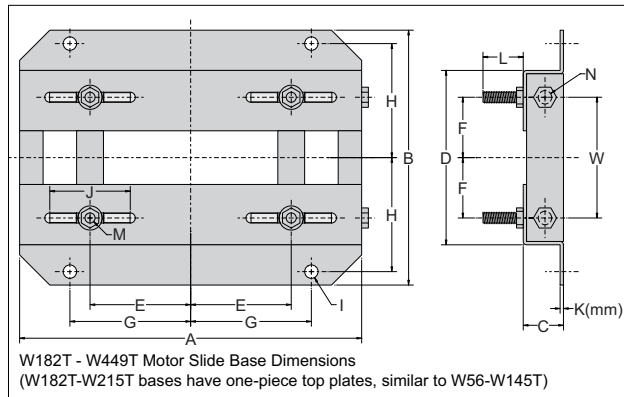
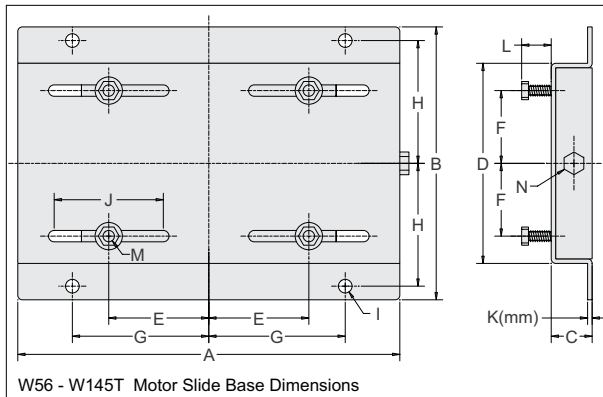
STABLE Motor Slide Bases												
Part Number	Price	Fits Frame Type	Product Weight (lb)	Fits Motor								
				IronHorse	Marathon						Blue Chip XRI 230/460V	Blue Chip XRI 575V
					micro-MAX	MAX+	Black Max 230/460V	Black Max 575V	Blue Max	NEMA Premium XRI		
<b>MTA-BASE-W56*</b>	\$10.00	56*	2.8	MTPM-P3x-1x18 MTPM-P5x-1x18 MTPM-P7x-1x18 MTPM-0xx-1x18 MTPM-1xx-1x18 MTR(2)(P)-xxx-xxxx*	Y500 Y502 Y360 Y362 Y364	Y280 Y281 Y282	Y592(-A772) Y534(-A772) Y535(-A772)	Y555(-A772) Y556(-A772)	-	E2000	-	
<b>MTA-BASE-W143T</b>	\$18.50	143T/TC	4.6	MTCP-001-3BD18(C)(CK) MTCP-1P5-3BD36	-	-	Y536(-A772)	-	-	E2001A E2003	-	
<b>MTA-BASE-W145T</b>	\$18.50	145T/TC	5.1	MTCP-001-3BD12 MTCP-1P5-3BD18(C)(CK) MTCP-002-3BD18(C)(CK) MTCP-002-3BD36	Y366 Y368	Y284 Y285	Y537(-A772) Y538(-A772) Y551(-A772)	Y557(-A772)	-	E2002 E2004A E2006 E2007A	-	
<b>MTA-BASE-W182T</b>	\$24.50	182T/TC	9.2	MTCP-1P5-3BD12 MTCP-003-3BD18(C)(CK) MTCP-003-3BD36 MTF-002-1C18-182	Y1999	Y286A	Y541A(-A772)	Y558A(-A772)	-	E2005 E2009 E2010	-	
<b>MTA-BASE-W184T</b>	\$24.50	184T/TC	10	MTCP-002-3BD12 MTCP-005-3BD18(C)(CK) MTCP-005-3BD36 MTF-00x-1C18	Y1372	Y287A	Y540(-A772) Y543A(-A772)	Y559A(-A772)	-	E2008 E2012 E2013	-	
<b>MTA-BASE-W213T</b>	\$36.00	213T/TC	13	MTCP-003-3BD12 MTCP-7P5-3BD18(C)(CK) MTCP-7P5-3BD36	Y994	-	Y542(-A772) Y545(-A772)	Y560(-A772)	-	E2011 E2015 E2016A	-	
<b>MTA-BASE-W215T</b>	\$36.00	215T/TC	15	MTCP-005-3BD12 MTCP-010-3BD18(C)(CK) MTCP-010-3BD36	Y996	-	Y544(-A772) Y547(-A772)	Y561(-A772)	-	E2014 E2018 E2019A	-	
<b>MTA-BASE-W254T</b>	\$50.00	254T/TC	18	MTCP-7P5-3BD12 MTCP-015-3BD18(C)(CK) MTCP-015-3BD36	-	-	Y546(-A772) Y549(-A772)	Y562(-A772)	-	-	E205 E307	
<b>MTA-BASE-W256T</b>	\$50.00	256T/TC	19	MTCP-010-3BD12 MTCP-020-3BD18(C)(CK) MTCP-20-3BD36	-	-	Y548(-A772) Y552(-A772)	Y563(-A772)	-	-	E206 E308	
<b>MTA-BASE-W284T</b>	\$55.00	284T/TC	20	MTCP-015-3BD12 MTCP-025-3BD18(C)(CK)	-	-	Y553(-A772)	-	-	-	E207 E309	
<b>MTA-BASE-W286T</b>	\$55.00	286T/TC	21	MTCP-20-3BD12 MTCP-030-3BD18(C)(CK)	-	-	Y393(-A772)	-	-	-	E208 E310	
<b>MTA-BASE-W324T</b>	\$83.00	324T/TC	30	MTCP-040-3BD18(C)(CK)	-	-	-	-	Y571(-A774) Y513(-A775)	-	E209 E311	
<b>MTA-BASE-W326T</b>	\$83.00	326T/TC	31	MTCP-050-3BD18(C)(CK)	-	-	-	-	Y572(-A774) Y514(-A775)	-	E210 E312	
<b>MTA-BASE-W364T</b>	\$113.00	364T/TC	43	MTCP-060-3BD18(C)(CK)	-	-	-	-	Y573(-A774) Y515(-A775)	-	E211 E313	
<b>MTA-BASE-W365T</b>	\$113.00	365T/TC	43	MTCP-075-3BD18(C)(CK)	-	-	-	-	Y574(-A774) Y516(-A775)	-	E212 E315	
<b>MTA-BASE-W404T</b>	\$139.00	404T/TC	58	-	-	-	-	-	-	-	-	
<b>MTA-BASE-W405T</b>	\$139.00	405T/TC	60	MTCP-100-3BD18(C)(CK)	-	-	-	-	Y575(-A774) Y517(-A775)	-	E213 E314	
<b>MTA-BASE-W444T</b>	\$161.00	444T	63	MTCP-125-3BD18	-	-	-	-	-	-	-	
<b>MTA-BASE-W445T</b>	\$161.00	445T	65	MTCP-150-3BD18	-	-	-	-	-	-	-	
<b>MTA-BASE-W447T</b>	\$212.00	447T	89	MTCP-200-3BD18	-	-	-	-	-	-	-	
<b>MTA-BASE-W449T</b>	\$212.00	449T	94	MTC-250-3D18** MTC-300-3D18**	-	-	-	-	-	-	-	

\* IronHorse MTR2 56HC motors have double-punched bases to fit on slide base MTA-BASE-W56.

\*\* Motors MTC-250-3D18 and MTC-300-3D18 are obsolete, and no longer available.

# STABLE Motor Slide Bases

## Dimensions – Mounting Slide Bases for NEMA Motors



Dimensions [inches, except as noted] - STABLE Motor Slide Bases															
MTA-BASE-Wxxxx	A	B	C	D	E	F	G	H	I	J	K(mm)	L	M	N	W
<b>56</b>	10-5/8	6-1/2	1-1/8	4-1/2	2-7/16	1-1/2	3-13/16	2-7/8	3/8	3	2 mm	7/8	5/16 x 1	3/8 x 4	n/a
<b>143T</b>	10-1/2	7-1/2	1-1/8	5-1/2	2-3/4	2	3-3/4	3-3/8	3/8	3	3 mm	13/16	5/16 x 1	3/8 x 4	n/a
<b>145T</b>	10-1/2	8-1/2	1-1/8	6-1/2	2-3/4	2-1/2	3-3/4	3-7/8	3/8	3	3 mm	13/16	5/16 x 1	3/8 x 4	n/a
<b>182T</b>	12-3/4	9-1/2	1-1/2	6-1/2	3-3/4	2-1/4	4-1/2	4-1/4	1/2	3	3.5 mm	1-1/2	3/8 x 1-3/4	1/2 x 6	4-1/2
<b>184T</b>	12-3/4	10-1/2	1-1/2	7-1/2	3-3/4	2-3/4	4-1/2	4-3/4	1/2	3	3.5 mm	1-1/2	3/8 x 1-3/4	1/2 x 6	5-1/2
<b>213T</b>	15	11	1-3/4	7-1/2	4-1/4	2-3/4	5-1/4	4-3/4	1/2	3-1/2	3.8 mm	1-1/2	3/8 x 1-3/4	1/2 x 6	5-1/2
<b>215T</b>	15	12-1/2	1-3/4	9	4-1/4	3-1/2	5-1/4	5-1/2	1/2	3-1/2	3.8 mm	1-1/2	3/8 x 1-3/4	1/2 x 6	7
<b>254T</b>	17-3/4	15-1/8	2	10-3/4	5	4-1/8	6-1/4	6-5/8	5/8	4	4.6 mm	1-7/16	1/2 x 1-3/4	5/8 x 6	5-5/16
<b>256T</b>	17-3/4	16-7/8	2	12-1/2	5	5	6-1/4	7-1/2	5/8	4	4.6 mm	1-7/16	1/2 x 1-3/4	5/8 x 6	7
<b>284T</b>	19-3/4	16-7/8	2	12-1/2	5-1/2	4-3/4	7	7-1/2	5/8	4-1/2	4.6 mm	1-11/16	1/2 x 2	5/8 x 6	7
<b>286T</b>	19-3/4	18-3/8	2	14	5-1/2	5-1/2	7	8-1/4	5/8	4-1/2	4.6 mm	1-11/16	1/2 x 2	5/8 x 6	8
<b>324T</b>	22-3/4	19-1/4	2-1/2	14	6-1/4	5-1/4	8	8-1/2	3/4	5-1/4	4.6 mm	2-3/16	5/8 x 2-1/2	3/4 x 9	7
<b>326T</b>	22-3/4	20-3/4	2-1/2	15-1/2	6-1/4	6	8	9-1/4	3/4	5-1/4	4.6 mm	2-3/16	5/8 x 2-1/2	3/4 x 9	8-1/2
<b>364T</b>	25-1/2	20-1/2	2-1/2	15-1/2	7	5-5/8	9	9-1/8	3/4	6	5.8 mm	2-1/16	5/8 x 2-1/2	3/4 x 9	7-3/4
<b>365T</b>	25-1/2	21-1/2	2-1/2	16-1/2	7	6-1/8	9	9-5/8	3/4	6	5.8 mm	2-1/16	5/8 x 2-1/2	3/4 x 9	8-3/4
<b>404T</b>	28-3/4	22-3/8	3	16-1/2	8	6-1/8	10	9-7/8	7/8	7	5.8 mm	2-1/2	3/4 x 3	3/4 x 11	8-3/4
<b>405T</b>	28-3/4	23-7/8	3	18	8	6-7/8	10	10-5/8	7/8	7	5.8 mm	2-1/2	3/4 x 3	3/4 x 11	10-1/4
<b>444T</b>	31-1/4	24-5/8	3	19-1/4	9	7-1/4	11	11	7/8	7-1/2	5.8 mm	2-1/2	3/4 x 3	3/4 x 11	11
<b>445T</b>	31-1/4	26-5/8	3	21-1/4	9	8-1/4	11	12	7/8	7-1/2	5.8 mm	2-1/2	3/4 x 3	3/4 x 11	13
<b>447T</b>	31-1/4	30-1/8	3	24-3/4	9	10	11	13-3/4	7/8	7-1/2	8 mm	3	3/4 x 3-1/2	3/4 x 11	16-1/2
<b>449T</b>	31-1/4	35-1/8	3	29-3/4	9	12-1/2	11	16-1/4	7/8	7-1/2	8 mm	3	3/4 x 3-1/2	3/4 x 11	21-1/2