



Vertical Hollow Shaft Motors Since 1918

Weather Protected Type I
Vertical Hollow Shaft
Frame 213TP—449TP
NEMA Premium Efficiency
High Thrust

**3-YEAR
WARRANTY**



Specifications

Electrical

- ▶ Meets NEMA Premium efficiency (2, 4, 6P)
- ▶ Rating : 5HP up to 300HP
- ▶ Inverter Duty: VT 3:1 with NRR. VT 100:1 with balls removed from NRR.
- ▶ Voltage and frequency : 230 / 460V for 100 HP and below, 460V for 125HP and above, 60Hz.
- ▶ Service factor : 1.15
- ▶ Inverter Duty meets NEMA MG1-Part 31
- ▶ Inverter Duty Spike Resistant Wire
- ▶ Class F insulation
- ▶ Class B temperature rise at SF 1.0

Mechanical

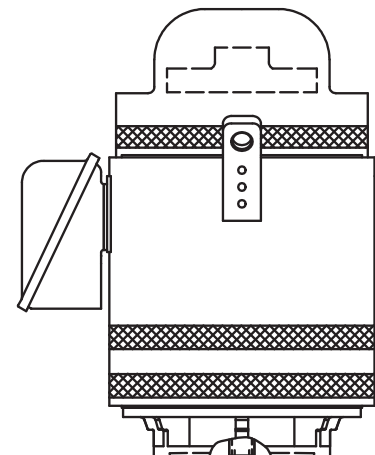
- ▶ Weather Protected Type I (IP23)
- ▶ Alternative coupling as option
- ▶ Stator winding with 2 dips and bakes
- ▶ Rotation : C.C.W. (viewed from top)
- ▶ High thrust performance
- ▶ Shield guide (lower) bearing
- ▶ Lubrication for thrust (top) bearing :
Up to 280T : grease, 320T and above : oil
- ▶ Non-Reverse Ratchet mechanism
- ▶ All cast iron structure
- ▶ Mounting : vertical P-base
- ▶ Corrosion resistant paint system
- ▶ Color : Dark Teal
(Munsell Notation 7.5BG 3/2)
- ▶ Space Heater 115V

Leads

	210T	Up to 100HP		125HP and above	320T And below	360T And above
		3600 (RPM)	1800/1200 (RPM)	1800/1200 (RPM)		
Volts	230/460	230/460		460	575	
Leads	9	12	12	6	3	6
D.O.L.	YES	YES	YES	YES	YES	YES
Y-Δ	N/A	YES	YES	YES	N/A	YES
Part Winding	N/A	N/A	YES(230V)	YES	N/A	N/A

Typical Nameplate Information

HP		kW		MODEL NO.		ENCL.		WPI	
100	75	HH1004VPIIP16		40 °C		230/460		60	
POLE	4	MAX. AMB.	40 °C	VOLTS	230/460	Hz	60		
FRAME	404TP16	TIME RATING	CONT.	AMP.	230/115 A		CONNECTIONS		
INS. CLASS	F	DATE CODE		RPM	1780		T4↑ T9↑ T6↑ T8↑ T5↑ T7↑ T10↑ T11↑ T12↑ T2↑ T3↑ T1↑		
NEMA DES.	B	NOM.	F. L	95.4	SER. NO.		LOW VOLTS		
NEMA CODE	F	EFF. (%)	3/4 F. L	95.8	BRG. NO.	D.E 6314	T4↑ T9↑ T6↑ T8↑ T5↑ T7↑ T10↑ T11↑ T12↑ T2↑ T3↑ T1↑		
S.F.	1.15		1/2 F. L	95.4	O.D.E	7222B	HIGH VOLTS		
NEMA Premium CC014A		P.F.	0.85	IP	23	Wt.	1460	Lbs.	
CE		USABLE AT		AMP.					
E92588		50Hz DATA		75 HP	190/380	VOLTS	214//107	AMP.	
		MEETS NEMA MG1 PART 31		EFF. LEVEL		IE3			



Weather Protected Type I (WPI)

HARVEST SERIES WPI NEMA PREMIUM MOTORS
Squirrel Cage NEMA Design B, 3-phase 60Hz 230/460V or 460V
1.15 S.F., Class F Insulation, 40 Deg. C Ambient

Performance Data

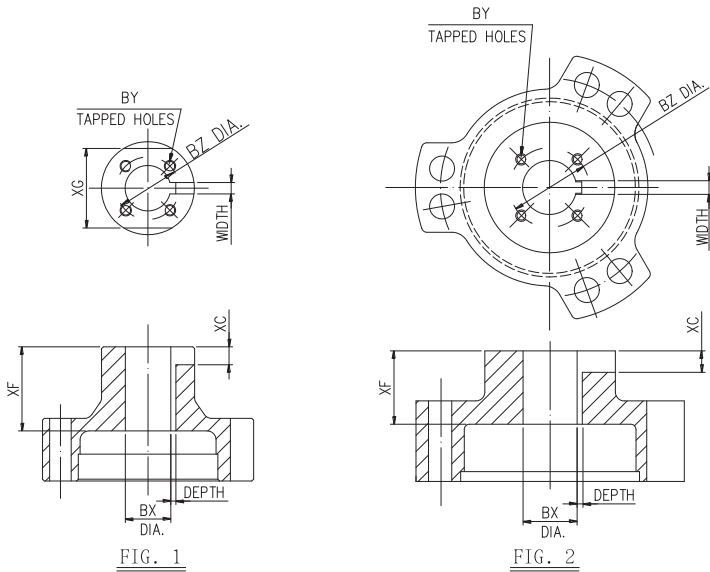
HP	Frame Size	Pole	Full Load (RPM)	Volt.	Current (460V)		Efficiency (%)			Power Factor (%)			Torque			Max. Down Thrust (lbs)
					Full Load (A)	Locked Rotor (A)	100% Load	75% Load	50% Load	100% Load	75% Load	50% Load	Full Load (lb-ft)	Locked Rotor (%)	Break Down (%)	
5	213TP	2	3500	230/460	6.5	44	86.5	85.0	82.0	83.5	81.0	74.0	7.5	200	240	1900
5	213TP	4	1750	230/460	6.5	37	89.5	89.8	88.5	80.0	75.0	65.0	15.0	200	230	2400
7.5	213TP	2	3500	230/460	9.4	56	88.5	89.1	87.9	84.0	81.0	74.0	11.3	200	240	1900
7.5	213TP	4	1760	230/460	9.2	60	91.7	92.0	91.4	83.0	80.0	71.5	22.4	200	230	2300
10	213TP	2	3510	230/460	12.5	86	89.5	90.0	88.0	84.0	81.0	74.0	15.0	200	240	1900
10	215TP	4	1755	230/460	12.5	82	91.7	91.5	91.5	82.0	79.0	70.0	29.9	210	230	2300
10	256TP	6	1175	230/460	13.6	88	91.7	92.2	91.2	75.0	69.0	58.0	44.7	210	230	3800
15	215TP	2	3490	230/460	18.1	110	90.2	90.7	89.5	86.0	85.0	80.0	22.6	200	240	1800
15	254TP	4	1760	230/460	18.4	108	93.0	93.0	91.5	82.0	79.0	70.0	44.8	230	250	3300
15	284TP	6	1175	230/460	18.8	115	92.0	92.0	91.0	81.0	77.0	67.0	67.1	160	220	3700
20	254TP	2	3530	230/460	23.7	145	91.0	90.5	89.5	87.0	83.0	78.0	29.8	200	240	2600
20	256TP	4	1765	230/460	24.9	148	93.0	93.5	93.0	81.0	77.0	67.0	59.6	220	240	3200
20	286TP	6	1175	230/460	24.9	150	92.4	92.5	91.5	81.5	78.0	68.0	89.5	160	220	3700
25	256TP	2	3520	230/460	29.0	182	91.7	91.0	89.5	88.0	87.0	83.0	37.3	200	240	2600
25	284TP	4	1770	230/460	30.9	180	93.6	93.6	93.0	81.0	77.0	69.0	74.2	200	220	3200
25	324TP	6	1175	230/460	33.6	190	93.0	93.2	92.0	75.0	64.0	55.0	112	200	240	6600
30	284TP	2	3540	230/460	35.2	215	91.7	92.0	91.7	87.0	86.0	81.0	44.5	200	240	2600
30	286TP	4	1770	230/460	36.3	220	94.5	95.0	94.5	82.0	78.0	68.0	89.1	200	250	3200
30	326TP	6	1180	230/460	40.0	220	93.6	93.6	92.4	75.0	64.0	55.0	134	200	220	6600
40	286TP	2	3530	230/460	46.1	303	92.4	93.0	92.5	88.0	87.0	83.0	59.6	170	240	2500
40	324TP	4	1775	230/460	48.2	312	94.8	94.9	94.3	82.0	78.0	68.0	118	200	240	5700
40	364TP	6	1180	230/460	49.8	310	94.1	94.6	94.3	80.0	75.0	65.0	178	200	240	6500
50	324TP	2	3545	230/460	58	390	93.0	93.0	92.0	87.0	85.0	79.0	74.1	180	250	4500
50	326TP	4	1780	230/460	60	382	95.0	95.0	94.5	82.0	79.0	70.0	148	200	250	5700
50	365TP	6	1180	230/460	62	388	94.1	94.6	94.0	80.0	75.0	65.0	223	200	240	6400
60	326TP	2	3540	230/460	69	450	93.6	93.6	92.4	87.0	86.0	80.0	89.1	170	240	4500
60	364TP	4	1780	230/460	75	450	95.0	95.0	94.5	79.0	74.0	64.0	177	190	250	5600
60	404TP	6	1180	230/460	74	443	94.5	94.5	93.6	80.5	77.0	69.0	267	180	220	8500
75	364TP	2	3560	230/460	89	585	93.6	92.0	90.5	84.0	80.0	71.5	111	160	240	4500
75	365TP	4	1780	230/460	91	517	95.4	95.5	95.0	81.0	78.0	70.0	221	180	240	5500
75	405TP	6	1185	230/460	93	580	94.5	95.0	94.7	80.0	75.0	64.0	333	200	230	8400
100	365TP	2	3550	230/460	123	780	93.6	92.6	91.0	81.5	76.5	66.5	148	170	240	4500
100	404TP	4	1780	230/460	115	690	95.4	95.8	95.4	85.0	82.0	76.0	295	180	250	7300
100	444TP	6	1185	230/460	123	770	95.0	95.0	94.5	80.0	76.0	66.0	444	180	230	13600
125	405TP	4	1780	460	143	960	95.5	95.4	95.0	86.0	83.0	77.0	369	180	250	7100
125	445TP	6	1185	460	154	915	95.0	95.0	94.5	80.0	76.0	66.0	554	190	230	13400
150	444TP	4	1785	460	174	1115	96.0	96.2	95.8	84.0	83.0	77.0	442	210	240	11800
150	447TP	6	1185	460	184	1120	95.4	95.4	94.7	80.0	76.0	66.0	665	190	230	13300
200	445TP	4	1785	460	227	1425	95.8	96.0	95.4	86.0	85.0	80.0	589	140	200	11600
200	449TP	6	1185	460	242	1460	95.4	95.4	94.7	81.0	77.0	67.0	887	190	220	16200
250	447TP	4	1785	460	287	1950	96.0	96.2	96.0	85.0	83.0	77.0	736	210	240	11300
300	449TP	4	1780	460	344	2330	96.0	96.2	96.0	85.0	82.0	75.0	886	200	240	13800

- (1) Above data are typical values for reference only.
- (2) Maximum down thrust values are based on bearing life 8760 hrs.
- (3) Higher thrust capacity available on request.
- (4) For current at 230V, multiple above values by 2

D167014R1

* All data subject to change without notice
▶ Please contact TATUNG if your need is beyond the range!!

Harvest Series



NEW VHS WP1 210TP—449TP COUPLING KITS LIST(Ball Type)

DIMENSIONS IN INCHES

Frame	Coupling Kits No.	FIG. NO.	BX	KEYWAY		BY	BZ	XC	XF	XG	Top Half-Coupling	Gib Key	Bolt		Spring Washer
				WIDTH	DEPTH								Part No.	Torque (lb-ft)	
210TP	434-59232-91	1	1.001	0.250	0.140	10-32UNF	1.375	0.430	1.650	1.750	434-42896-04	433-12091-02	433-42346-19 (3*5/16"-18UNC) (1 3/4" L)	17	3*7098470002
	434-59232-92	1	0.751" (Blank Coupling)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	434-42896-05	433-12091-01 433-12091-02			
250TP	434-59233-91	1	1.001	0.250	0.140	10-32UNF	1.375	0.430	1.650	1.750	434-42885-03	433-12091-02	433-42346-18 (3*3/8"-16UNC) (2 1/4" L)	30	3*7098500002
	434-59233-92	1	1.188	0.250	0.140	1/4-20UNC	1.750	0.430	1.650	1.750	434-42885-04	433-12091-02			
	434-59233-93	1	1.251	0.250	0.140	1/4-20UNC	1.750	0.430	1.650	1.750	434-42885-05	433-12091-02			
	434-59233-94	1	0.751" (Blank Coupling)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	434-42885-06	433-12091-01 433-12091-02			
280TP	434-59234-91	1	1.001	0.250	0.140	10-32UNF	1.375	0.430	1.850	1.750	434-42905-03	433-12091-02	433-42346-18 (3*3/8"-16UNC) (2 1/4" L)	30	3*7098500002
	434-59234-92	1	1.188	0.250	0.140	1/4-20UNC	1.750	0.430	1.850	1.750	434-42905-04	433-12091-02			
	434-59234-93	1	1.251	0.250	0.140	1/4-20UNC	1.750	0.430	1.850	1.750	434-42905-05	433-12091-02			
	434-59234-94	1	0.751" (Blank Coupling)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	434-42905-06	433-12091-01 433-12091-02			
320TP ~ 360TP	434-59235-91	2	1.001	0.250	0.140	10-32UNF	1.375	0.320	1.610	N/A	433-42793-01	433-12091-07	433-42346-23 (6*1/2"-13UNC) (2 1/2" L)	75	6*7098520002
	434-59235-92	2	1.188	0.250	0.140	1/4-20UNC	1.750	0.320	1.610	N/A	433-42793-05	433-12091-07			
	434-59235-93	2	1.251	0.250	0.140	1/4-20UNC	1.750	0.320	1.610	N/A	433-42793-02	433-12091-07			
	434-59235-94	2	1.251	0.375	0.164	1/4-20UNC	1.750	0.320	1.610	N/A	433-42793-06	433-12091-08			
	434-59235-95	2	1.438	0.375	0.167	1/4-20UNC	2.120	0.320	1.610	N/A	433-42793-03	433-12091-08			
	434-59235-96	2	1.501	0.375	0.168	1/4-20UNC	2.120	0.320	1.610	N/A	433-42793-04	433-12091-08			
400TP	434-59235-97	2	1.001 (Blank Coupling)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	433-42793-10	433-12091-07 433-12091-08	433-42346-09 (6*5/8"-11UNC) (3" L)	150	6*7098570002
	434-59236-91	2	1.188	0.250	0.140	1/4-20UNC	1.750	0.630	2.430	N/A	433-44185-01	433-12091-09			
	434-59236-92	2	1.251	0.375	0.140	1/4-20UNC	1.750	0.630	2.430	N/A	433-44185-02	433-12091-04			
	434-59236-93	2	1.438	0.375	0.140	1/4-20UNC	2.120	0.630	2.430	N/A	433-44185-03	433-12091-04			
	434-59236-94	2	1.501	0.375	0.140	1/4-20UNC	2.120	0.630	2.430	N/A	433-44185-04	433-12091-04			
	434-59236-95	2	1.688	0.375	0.203	1/4-20UNC	2.500	0.630	2.430	N/A	433-44185-05	433-12091-04			
	434-59236-96	2	1.751	0.375	0.203	1/4-20UNC	2.500	0.630	2.430	N/A	433-44185-06	433-12091-04			
440TP	434-59236-97	2	1.001 (Blank Coupling)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	433-44185-11	433-12091-04 433-12091-09	433-42346-09 (6*5/8"-11UNC) (3" L)	150	6*7098570002
	434-59237-91	2	1.188	0.250	0.116	1/4-20UNC	1.750	0.630	2.220	N/A	433-42698-02	433-12091-09			
	434-59237-92	2	1.501	0.375	0.168	1/4-20UNC	2.120	0.630	2.220	N/A	433-42698-05	433-12091-04			
	434-59237-93	2	1.688	0.375	0.171	1/4-20UNC	2.500	0.630	2.220	N/A	433-42698-06	433-12091-04			
	434-59237-94	2	1.751	0.375	0.171	1/4-20UNC	2.500	0.630	2.220	N/A	433-42698-07	433-12091-04			
	434-59237-95	2	1.938	0.500	0.222	1/4-20UNC	2.500	0.630	2.220	N/A	433-42698-08	433-12091-05			
447TP ~ 449TP	434-59237-96	2	1.188 (Blank Coupling)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	433-42698-09	433-12091-04 433-12091-09	433-42346-09 (6*5/8"-11UNC) (3" L)	150	6*7098570002
	434-59238-91	2	1.501	0.375	0.168	1/4-20UNC	2.125	0.547	2.200	N/A	433-45524-13	433-12091-04			
	434-59238-92	2	1.688	0.375	0.171	1/4-20UNC	2.500	0.547	2.200	N/A	433-45524-12	433-12091-04			
	434-59238-93	2	1.938	0.500	0.222	1/4-20UNC	2.500	0.673	2.200	N/A	433-45524-09	433-12091-05			
	434-59238-94	2	2.188	0.500	0.226	3/8-16UNC	3.250	0.673	2.200	N/A	433-45524-05	433-12091-05			
	434-59238-95	2	2.251	0.500	0.226	3/8-16UNC	3.250	0.673	2.200	N/A	433-45524-04	433-12091-05			
434-59238-96	2	1.501 (Blank Coupling)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	433-45524-15	433-12091-04 433-12091-09			

VHS Weather Protected Type I (WPI)

VERTICAL HIGH-THRUST MOTOR(WPI) HOLLOW SHAFT-TP TYPE

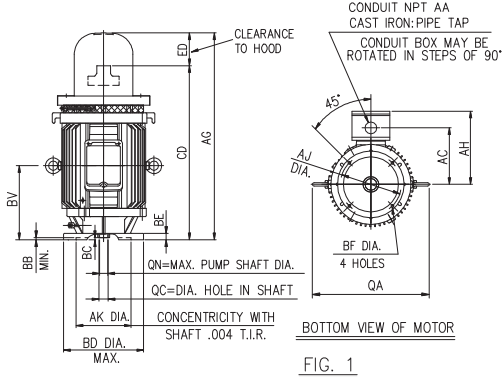


FIG. 1

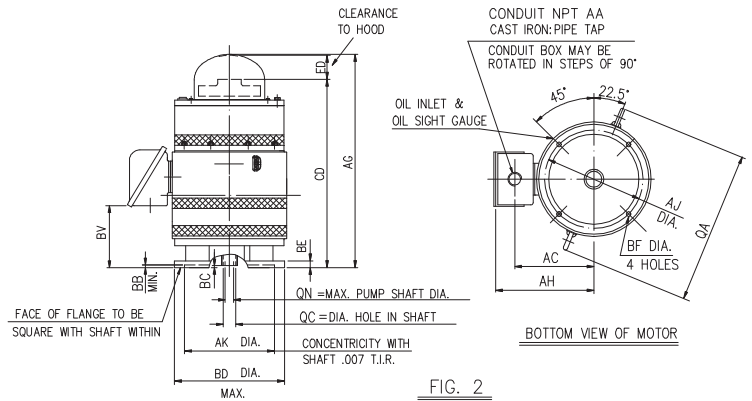


FIG. 2

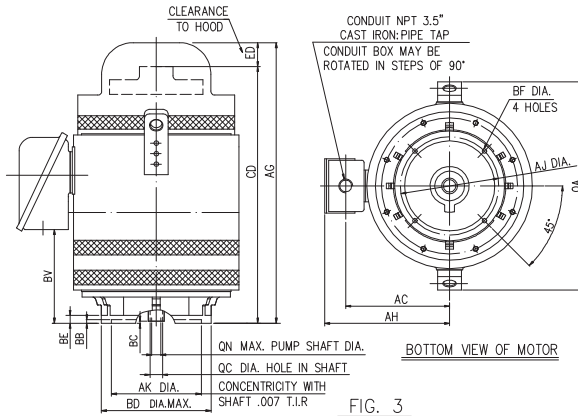


FIG. 3

3RD ANGLE PROJECTION
DIMENSIONS IN INCHES

FRAME NO.	FIG. NO.	AA	AC	AG	AH	AJ	AK	BB	BC	BD	BE	BF	BV	CD	ED	QA	QC	QN	BEARING		APPROXIMATE WEIGHT
																			DE	ODE	
213TP10/215TP10	1	1.00	7.20	24.29	9.30	9.125	8.250-8.253	0.25	0.250	10.00	0.75	0.438	8.14	20.06	4.01	14.17	1.125	1.000	6209	7309B	220 lbs
213TP12/215TP12		1.00	7.20	24.29	9.30	9.125	8.250-8.253	0.25	0.250	12.00	0.75	0.438	8.14	20.06	4.01	14.17	1.125	1.000	6209	7309B	220 lbs
254TP10/256TP10		1.50	8.65	27.85	10.97	9.125	8.250-8.253	0.27	0.120	10.00	0.98	0.438	9.41	23.38	4.47	17.72	1.375	1.250	6309	7311B	370 lbs
254TP12/256TP12		1.50	8.65	27.85	10.97	9.125	8.250-8.253	0.27	0.120	12.00	0.98	0.438	9.41	23.38	4.47	17.72	1.375	1.250	6309	7311B	370 lbs
254TP16/256TP16		1.50	8.65	27.85	10.97	14.75	13.500-13.505	0.27	0.120	16.50	0.98	0.438	9.41	23.38	4.47	17.72	1.375	1.250	6309	7311B	370 lbs
284TP10/286TP10		1.50	11.06	29.25	14.60	9.125	8.250-8.253	0.27	0.310	10.00	0.98	0.438	10.19	24.75	4.50	20.71	1.375	1.250	6311	7311B	490 lbs
284TP12/286TP12		1.50	11.06	29.25	14.60	9.125	8.250-8.253	0.27	0.310	12.00	0.98	0.438	10.19	24.75	4.50	20.71	1.375	1.250	6311	7311B	490 lbs
284TP16/286TP16		1.50	11.06	29.25	14.60	14.75	13.500-13.505	0.27	0.310	16.50	0.98	0.688	10.19	24.75	4.50	20.71	1.375	1.250	6311	7311B	515 lbs
324TP12/326TP12	2	1.50	11.72	32.56	14.93	9.125	8.250-8.253	0.27	0.280	12.00	0.98	0.438	9.25	28.23	4.27	22.36	1.820	1.750	6312	7219B	730 lbs
324TP16/326TP16		1.50	11.72	32.56	14.93	14.75	13.500-13.505	0.27	0.280	16.50	0.98	0.688	9.25	28.23	4.27	22.36	1.820	1.750	6312	7219B	730 lbs
364TP12/365TP12		2.50	13.06	35.49	16.58	9.125	8.250-8.253	0.27	0.310	12.00	0.98	0.438	9.45	31.16	4.27	23.62	1.875	1.750	6313	7219B	1085 lbs
364TP16/365TP16		2.50	13.06	35.49	16.58	14.75	13.500-13.505	0.27	0.310	16.50	0.98	0.688	9.45	31.16	4.27	23.62	1.875	1.750	6313	7219B	1085 lbs
404TP16/405TP16		2.50	14.40	41.95	17.88	14.75	13.500-13.505	0.27	0.350	16.50	0.98	0.688	10.90	36.94	4.94	27.17	2.000	1.938	6314	7222B	1460 lbs
404TP20/405TP20		2.50	14.40	41.95	17.88	14.75	13.500-13.505	0.27	0.350	20.00	0.98	0.688	10.90	36.94	4.94	27.17	2.000	1.938	6314	7222B	1460 lbs
444TP16/445TP16		2.50	16.45	49.96	20.70	14.75	13.500-13.505	0.27	0.275	16.50	1.16	0.688	15.07	44.78	5.15	29.53	2.000	1.949	6314	7222DT	2050 lbs
444TP20/445TP20		2.50	16.45	49.96	20.70	14.75	13.500-13.505	0.27	0.275	20.00	1.16	0.688	15.07	44.78	5.15	29.53	2.000	1.949	6314	7222DT	2050 lbs
444TP24/445TP24	2.50	16.45	49.96	20.70	14.75	13.500-13.505	0.27	0.275	24.00	1.16	0.688	15.07	44.78	5.15	29.53	2.000	1.949	6314	7222DT	2050 lbs	
447TP20	3	3.50	17.04	49.96	21.30	14.75	13.500-13.505	0.27	0.275	20.00	1.16	0.688	15.07	44.78	5.15	31.40	2.000	1.949	6318	7230DT	2480 lbs
449TP20		3.50	17.04	55.00	21.30	14.75	13.500-13.505	0.27	0.275	20.00	1.16	0.688	19.95	49.78	5.15	31.40	2.625	2.501	6318	7230DT	2780 lbs

1. DIRECTION OF ROTATION : COUNTER CLOCKWISE VIEWED FROM TOP (NON-DRIVE END).
2. FOR "BX" DIMENSIONS SEE COUPLING CHART.



Contact Information



TATUNG Sanhsia Motor Factory Facts

TATUNG Company Founded in 1918

Sanhsia Factory Land Area --- 1,800,000 ft²

Total MV Motors Produced --- over 30,000 Units

Continuous Production since 1949

Voltage Range --- thru. 13,800 Volts

Test Facility through 50,000 HP --- IEEE 112 Method F1

Location --- 352 Shi-tong Rd., Sanhsia, New Taipei City 23743,
Taiwan