

# Definite Purpose Series

## Totally Enclosed Fan Cooled Vertical P-Base Motors

Toshiba's definite purpose, totally enclosed fan cooled, Vertical P-Base Footless motors are designed with the petrochemical and material processing industries in mind. These motors are built to withstand the toughest conditions and offer some of the highest efficiency and torque ratings—leading to longer life and greater reliability. In addition, our LP design meets API 610 specifications for chemical processing applications and all motors include a patent-pending lubrication system that provides improved flow and circulation of grease and oil for longer bearing life. The Vertical P-Base motor can be used in indoor and outdoor applications, exceeds NEMA MG1 Part 31 requirements, and is available in normal, medium, and high thrust. For high thrust ratings contact Toshiba.

### Standard Features:

- Totally Enclosed Fan Cooled
- Mill & Chemical Duty
- NEMA Premium® Efficiency
- 60 Hz: 460 V
- Three-Phase
- 60 Hz Design
- 1.15 Service Factor
- NEMA Design B
- Class F Insulation; Inverter Duty, Exceeds NEMA MG1 Part 31
- IP55 Protection
- All Cast Iron Construction
- HP (Normal Thrust), LP (Medium Thrust)
- Positive Displacement Grease Lubrication System
- Labyrinth Seal on Top Bracket (Option for Drive End)
- Base Brackets in Various Diameters
- Low-Friction Internal Double-Lip Seal for Grease & Oil Mist Designs
- 260 to 3780 lbs. Down Thrust (Minimum L-10 at 17,500 Hours)
- IEEE 841 Design Available
- See Appendix C for ASD and Division 2 Capabilities

### Applications:

- Booster Pumps
- Centrifugal Pumps
- Non-Clog pumps
- In-Line Pumps
- Vertical Turbine Pumps



# Totally Enclosed Fan Cooled Vertical P-Base Footless Normal & Medium Thrust NEMA Premium® Efficiency



## 3 YEAR WARRANTY

Toshiba's definite purpose, totally enclosed fan cooled, premium efficiency, Vertical P-Base Footless normal, medium, and high thrust motors are designed with the petrochemical and material processing industries in mind. These motors are built to withstand the toughest conditions and offer some of the highest efficiency and torque ratings—leading to a longer life and greater reliability. In addition, our medium thrust design meets API 610 specifications for chemical processing applications and all motors include a patent-pending lubrication system that provides improved flow and circulation of grease and oil for longer bearing life.

### Product Scope:

<b>Horsepower:</b>	3 to 350 HP
<b>Speed (60 Hz):</b>	3600, 1800, or 1200 RPM
<b>Volt (60 Hz):</b>	460 V
<b>Enclosure:</b>	Totally Enclosed Fan Cooled
<b>Frame Size:</b>	180HP10 through N449LP20
<b>Construction:</b>	All Cast Iron
<b>Thrust Ratings:</b>	260 to 3780 Pounds
<b>Insulation:</b>	Class F Inverter Duty, Exceeds NEMA MG1 Part 31 (Voltage Withstand Capability of 2000 V in 0.1 μs)

HP	Speed (RPM)	Volts	Frame	BD Dimension	Max DownThrust Cap (lbs.)	Weight (lbs.)	Model Number	FL Amps	Nominal FL EFF	Notes	Discount Symbol
<b>NORMAL THRUST</b>											
3	3600	460	180HP10	10"	260	125	0032FTVB3PW-A	3.4	88.5		MXTFCV
3	1800	460	180HP10	10"	390	125	0034FTVB3PW-A	3.7	89.5		MXTFCV
5	3600	460	180HP10	10"	310	150	0052FTVB3PW-A	5.7	89.5		MXTFCV
5	1800	460	180HP10	10"	490	150	0054FTVB3PW-A	6.1	89.5		MXTFCV
7.5	3600	460	210HP10	10"	310	200	Y752FTVB3PW-A	8.7	90.2		MXTFCV
7.5	1800	460	210HP10	10"	560	200	Y754FTVB3PW-A	9.1	91.7		MXTFCV
10	3600	460	210HP10	10"	380	250	0102FTVB3PW-A	11.4	90.2		MXTFCV
10	1800	460	210HP10	10"	640	250	0104FTVB3PW-A	12.0	91.7		MXTFCV
15	3600	460	250HP10	10"	760	350	0152FTVB3PW-A	16.6	91.7		MXTFCV
15	1800	460	250HP10	10"	1050	400	0154FTVB3PW-A	18.2	92.4		MXTFCV
15	1200	460	280HP10	10"	1200	500	0156FTVB3PW-A	18.6	92.4		MXTFCV
20	3600	460	250HP10	10"	750	370	0202FTVB3PW-A	21	92.4		MXTFCV
20	1800	460	250HP10	10"	1040	400	0204FTVB3PW-A	24	93.0		MXTFCV
20	1200	460	280HP10	10"	1200	500	0206FTVB3PW-A	25	91.7		MXTFCV
25	3600	460	280HP10	10"	740	360	0252FTVB3PW-A	28	92.4		MXTFCV
25	1800	460	280HP10	10"	1050	500	0254FTVB3PW-A	29	93.6		MXTFCV
25	1200	460	320HP16	16"	1335	650	0256FTVB3RW-A	62	93.0		MXTFCV
30	3600	460	280HP10	10"	730	550	0302FTVB3PW-A	33	92.4		MXTFCV
30	1800	460	280HP10	10"	1050	500	0304FTVB3PW-A	34	93.6		MXTFCV
30	1200	460	320HP16	16"	1335	700	0306FTVB3RW-A	37	93.6		MXTFCV
40	3600	460	320HP16	16"	850	600	0402FTVB3RW-A	45	93.0		MXTFCV
40	1800	460	320HP16	16"	1170	650	0404FTVB3RW-A	47	94.1		MXTFCV
40	1200	460	360HP16	16"	1335	850	0406FTVB3RW-A	48	94.1		MXTFCV
50	3600	460	320HP16	16"	830	600	0502FTVB3RW-A	56	93.0		MXTFCV

ODP General Purpose  
 TEFC General Purpose  
 Explosion Proof  
 IEC  
 Definite Purpose  
 LV Mods. (Stock & Prod.)  
 MV General Purpose Open  
 MV Gen. Purp. Enclosed  
 MV Modifications

ODP General Purpose

# Totally Enclosed Fan Cooled Vertical P-Base Footless Normal & Medium Thrust NEMA Premium® Efficiency



TEFC General Purpose

Explosion Proof

IEC

Definite Purpose

LV Mods. (Stock &amp; Prod.)

MV General Purpose Open

MV Gen. Purp. Enclosed

MV Modifications

HP	Speed (RPM)	Volts	Frame	BD Dimension	Max DownThrust Cap (lbs.)	Weight (lbs.)	Model Number	FL Amps	Nominal FL EFF	Notes	Discount Symbol
50	1800	460	320HP16	16"	1150	700	0504FTVB3RW-A	60	94.5		MXTFCV
50	1200	460	360HP16	16"	1335	920	0506FTVB3RW-A	61	94.1		MXTFCV
60	3600	460	360HP16	16"	940	780	0602FTVB3RW-A	69	93.6		MXTFCV
60	1800	460	360HP16	16"	1290	950	0604FTVB3RW-A	70	95.0		MXTFCV
60	1200	460	400HP16	16"	1690	1500	0606FTVB3RW-A	72	95.0		MXTFCV
75	3600	460	360HP16	16"	930	900	0752FTVB3RW-A	85	93.6		MXTFCV
75	1800	460	360HP16	16"	1270	950	0754FTVB3RW-A	88	95.4		MXTFCV
75	1200	460	400HP16	16"	1640	1500	0756FTVB3RW-A	91	95.0		MXTFCV
100	3600	460	400HP16	16"	1300	990	1002FTVB3RW-A	112	95.0		MXTFCV
100	1800	460	400HP16	16"	1500	1370	1004FTVB3RW-A	116	95.4		MXTFCV
100	1200	460	440HP16	16"	2020	1780	1006FTVB3RW-A	123	95.4		MXTFCV
125	3600	460	440HP16	16"	1985	1030	1251FTVB3RW-A	139	95.4	5	MXTFCV
125	1800	460	440HP16	16"	1900	1480	1254FTVB3RW-A	144	95.8		MXTFCV
125	1200	460	440HP16	16"	2175	1740	1256FTVB3RW-A	156	95.4		MXTFCV
150	3600	460	440HP16	16"	2200	1000	1501FTVB3RW-A	168	95.8	5	MXTFCV
150	1800	460	440HP16	16"	2916	1430	1504FTVB3RW-A	176	95.8		MXTFCV
150	1200	460	440HP16	16"	2470	1670	1506FTVB3RW-A	181	95.8		MXTFCV
200	3600	460	440HP16	16"	2400	940	2001FTVB3RW-A	221	95.8	5	MXTFCV
200	1800	460	440HP16	16"	2600	1350	2004FTVB3RW-A	232	96.2		MXTFCV
200	1200	460	N449HP20	20"	3200	1710	2006FTVB3SW-A	234	96.2		MXTFCV
250	3600	460	N449HP20	20"	4050	860	2501FTVB3SW-A	270	95.8	5	MXTFCV
250	1800	460	N449HP20	20"	3600	1360	2504FTVB3SW-A	276	96.2		MXTFCV
250	1200	460	N449HP20	20"	3200	1610	2506FTVB3SW-A	295	96.2		MXTFCV
300	3600	460	N449HP20	20"	4100	820	3001FTVB3SW-A	325	95.6	5	MXTFCV
300	1800	460	N449HP20	20"	3600	1340	3004FTVB3SW-A	328	95.4		MXTFCV
300	1200	460	N449HP20	20"	3200	1570	3006FTVB3SW-A	354	96.2		MXTFCV
350	3600	460	N449HP20	20"	4100	820	3501FTVB3SW-A	382	95.8	5	MXTFCV
350	1800	460	N449HP20	20"	3600	1340	3504FTVB3SW-A	380	96.2		MXTFCV

## MEDIUM THRUST

3	3600	460	180LP10	10"	500	125	0032FTVB3PX-A	3.4	88.5		MXTFCV
3	1800	460	180LP10	10"	500	125	0034FTVB3PX-A	3.7	89.5		MXTFCV
5	3600	460	180LP10	10"	500	150	0052FTVB3PX-A	5.7	89.5		MXTFCV
5	1800	460	180LP10	10"	750	150	0054FTVB3PX-A	6.1	89.5		MXTFCV
7.5	3600	460	210LP10	10"	580	200	Y752FTVB3PX-A	8.7	90.2		MXTFCV
7.5	1800	460	210LP10	10"	850	200	Y754FTVB3PX-A	9.1	91.7		MXTFCV
10	3600	460	210LP10	10"	640	250	0102FTVB3PX-A	11.4	90.2		MXTFCV
10	1800	460	210LP10	10"	900	250	0104FTVB3PX-A	12.0	91.7		MXTFCV
15	3600	460	250LP10	10"	1250	542	0152FTVB3PX-A	16.6	91.7		MXTFCV
15	1800	460	250LP10	10"	1580	400	0154FTVB3PX-A	18.2	92.4		MXTFCV
15	1200	460	280LP10	10"	2000	500	0156FTVB3PX-A	18.6	92.4		MXTFCV
20	3600	460	250LP10	10"	1240	425	0202FTVB3PX-A	21	92.4		MXTFCV
20	1800	460	250LP10	10"	1560	400	0204FTVB3PX-A	24	93.0		MXTFCV
20	1200	460	280LP10	10"	2200	500	0206FTVB3PX-A	25	91.7		MXTFCV
25	3600	460	280LP10	10"	1230	475	0252FTVB3PX-A	28	92.4		MXTFCV
25	1800	460	280LP10	10"	1570	500	0254FTVB3PX-A	29	93.6		MXTFCV
25	1200	460	320LP16	16"	2290	650	0256FTVB3RX-A	62	93.0		MXTFCV

# Totally Enclosed Fan Cooled Vertical P-Base Footless Normal & Medium Thrust NEMA Premium® Efficiency



HP	Speed (RPM)	Volts	Frame	BD Dimension	Max DownThrust Cap (lbs.)	Weight (lbs.)	Model Number	FL Amps	Nominal FL EFF	Notes	Discount Symbol
30	3600	460	280LP10	10"	1220	550	0302FTVB3PX-A	33	92.4		MXTFCV
30	1800	460	280LP10	10"	1580	500	0304FTVB3PX-A	34	93.6		MXTFCV
30	1200	460	320LP16	16"	2380	700	0306FTVB3RX-A	37	93.6		MXTFCV
40	3600	460	320LP16	16"	1840	600	0402FTVB3RX-A	45	93.0		MXTFCV
40	1800	460	320LP16	16"	2320	650	0404FTVB3RX-A	47	94.1		MXTFCV
40	1200	460	360LP16	16"	2540	850	0406FTVB3RX-A	48	94.1		MXTFCV
50	3600	460	320LP16	16"	1830	600	0502FTVB3RX-A	56	93.0		MXTFCV
50	1800	460	320LP16	16"	2300	700	0504FTVB3RX-A	60	94.5		MXTFCV
50	1200	460	360LP16	16"	2670	920	0506FTVB3RX-A	61	94.1		MXTFCV
60	3600	460	360LP16	16"	2080	780	0602FTVB3RX-A	69	93.6		MXTFCV
60	1800	460	360LP16	16"	2610	1137	0604FTVB3RX-A	70	95.0		MXTFCV
60	1200	460	400LP16	16"	3330	1500	0606FTVB3RX-A	72	95.0		MXTFCV
75	3600	460	360LP16	16"	2070	900	0752FTVB3RX-A	85	93.6		MXTFCV
75	1800	460	360LP16	16"	2600	950	0754FTVB3RX-A	88	95.4		MXTFCV
75	1200	460	400LP16	16"	3280	1500	0756FTVB3RX-A	92	95.0		MXTFCV
100	3600	460	400LP16	16"	2290	1300	1002FTVB3RX-A	112	95.0		MXTFCV
100	1800	460	400LP16	16"	2880	1500	1004FTVB3RX-A	116	95.4		MXTFCV
100	1200	460	440LP16	16"	3620	2020	1006FTVB3RX-A	123	95.4		MXTFCV
125	3600	460	440LP16	16"	2480	1985	1251FTVB3RX-A	139	95.4	5	MXTFCV
125	1800	460	440LP16	16"	3180	1900	1254FTVB3RX-A	144	95.8		MXTFCV
125	1200	460	440LP16	16"	3580	2175	1256FTVB3RX-A	156	95.4		MXTFCV
150	3600	460	440LP16	16"	2704	2450	1501FTVB3RX-A	168	95.8	5	MXTFCV
150	1800	460	440LP16	16"	3130	2658	1504FTVB3RX-A	176	95.8		MXTFCV
150	1200	460	440LP16	16"	3510	2470	1506FTVB3RX-A	181	95.8		MXTFCV
200	3600	460	440LP16	16"	2400	2390	2001FTVB3RX-A	221	95.8	5	MXTFCV
200	1800	460	440LP16	16"	3050	2600	2004FTVB3RX-A	232	96.2		MXTFCV
200	1200	460	N449LP20	20"	3780	3200	2006FTVB3SX-A	234	96.2		MXTFCV
250	3600	460	N449LP20	20"	4050	2490	2501FTVB3SX-A	270	95.8	5	MXTFCV
250	1800	460	N449LP20	20"	3600	3270	2504FTVB3SX-A	276	96.2		MXTFCV
250	1200	460	N449LP20	20"	3680	3200	2506FTVB3SX-A	295	96.2		MXTFCV
300	3600	460	N449LP20	20"	4100	2440	3001FTVB3SX-A	325	95.6	5	MXTFCV
300	1800	460	N449LP20	20"	3600	3250	3004FTVB3SX-A	328	95.4		MXTFCV
300	1200	460	N449LP20	20"	3630	3200	3006FTVB3SX-A	354	96.2		MXTFCV
350	3600	460	N449LP20	20"	4100	2440	3501FTVB3SX-A	382	95.8	5	MXTFCV
350	1800	460	N449LP20	20"	3600	3250	3504FTVB3SX-A	380	96.2		MXTFCV
350	1200	460	N449LP20	20"	3560	3200	3506FTVB3SX-A	414	96.2		MXTFCV

FL Amps and FL EFF are average expected design values and not guaranteed.  
The weights listed above are estimated.  
Please contact Toshiba for information on product availability.  
"CF" = Consult Factory

ODP General Purpose  
TEFC General Purpose  
Explosion Proof  
IEC  
Definite Purpose  
LV Mod. (Stock & Prod.)  
MV General Purpose Open  
MV Gen. Purp. Enclosed  
MV Modifications