

## Description of VHS Motor



### APPLICATION:

VHS Series Vertical hollow shaft three-phase asynchronous induction motor is suitable to be used with deep-well pumps. The motor complies to NEMA standard, capable of high axial load and with Non-Reverse Ratchet to prevent reversely running when stopped.

### WORKING CONDITIONS:

Ambient temperature: -4°F (-20°C) to 122°F (50°C)

Altitude: Less than 1000m

### FEATURES:

- Three-phase asynchronous motors
- Power: 15HP~400HP
- Speed: 3000/3600RPM, 1500/1800RPM
- Voltage & Frequency: 380~415V, 50/60Hz,  
230/460V,60Hz
- S.F.: 1.15
- Insulation: Class F
- High locked rotor torque
- Efficiency: Standard Efficiency  
High Efficiency  
Premium Efficiency

### STRUCTURE:

- IP: WP I
- FRAME: 254TP~447TP
- Non-Reverse Ratchet
- High axial load design
- (If higher load required, please contact with us)
- Bigger lubrication oil chamber
- Standard PTC
- Standard Heat
- Low noise, low vibration
- lubricating for bearing  
254TP-286TP frame: Grease  
324TP and above frame: Oil

# Vertical Hollow Shaft Motors (WPI)

IEC MOTOR

FIRE PUMP MOTOR

GOST MOTOR

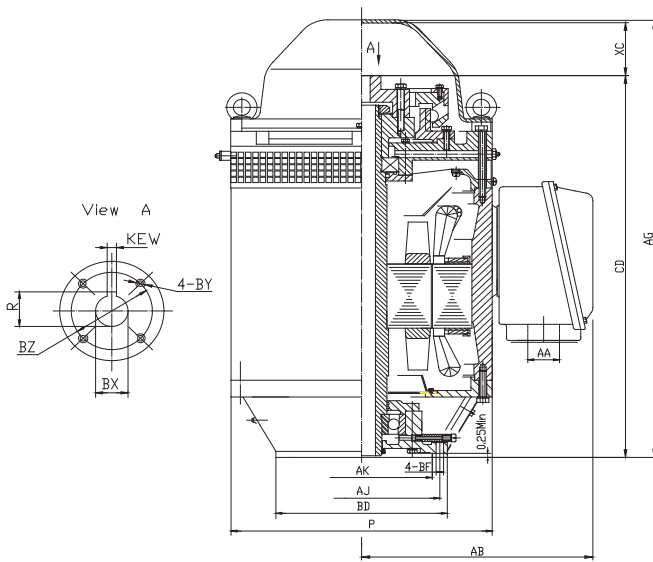
VHS MOTOR

H.T. MOTOR

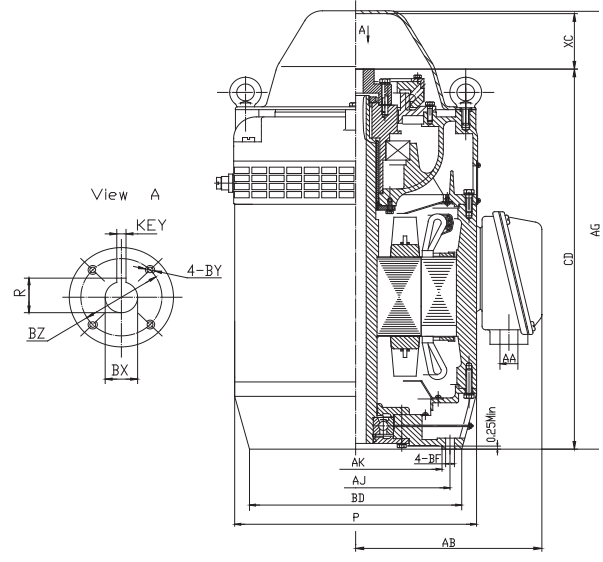
S.S. MOTOR

NEMA MOTOR

EC MOTOR



254TP ~ 286TP Figure 1

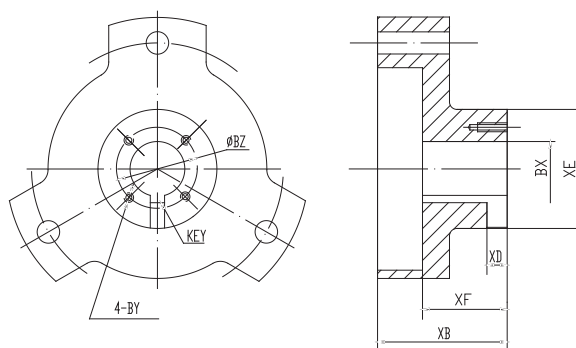


324TP ~ 447TP Figure 2

Model	Frame Size	Power (HP)	Mounting Dimension (Inch)										Outline Dimension (Inch)																	
			BD	AJ	AK	BF	BX*	BZ	KEY	R	BY	CD	XC>	AA	P	AB	AG													
VHS254TP20U2B	254TP	20	10	9.125	8.25	0.44	1	1.38	0.25	1.11	10-32	3.25	16.2	1-1/4"	14.25	27.4														
VHS256TP25U2B	256TP	25																												
VHS284TP30U2B	284TP	30																												
VHS286TP40U2B	286TP	40																												
VHS254TP15U4B	254TP	15												1-1/2"																
VHS256TP20U4B	256TP	20												1-1/4"																
VHS284TP25U4B	284TP	25												1-1/2"																
VHS286TP30U4B	286TP	30												1-1/2"																
VHS324TP50U2B	324TP	50	16.5	14.75	13.5	0.69	1.5	2.125	0.375	1.668	1/4-20	4.69	NPT 3"	18.8	15.75	33.5														
VHS326TP60U2B	326TP	60																												
VHS324TP40U4B	324TP	40																												
VHS326TP50U4B	326TP	50																												
VHS364TP75U2B	364TP	75															31.16	4.69	20.4	16.73	36.5									
VHS365TP100U2B	365TP	100															NPT 3"													
VHS364TP60U4B	364TP	60																20.4	16.73	36.5										
VHS365TP75U4B	365TP	75																												
VHS404TP100U4B	404TP	100															36.94	5.5	22.5	19	43									
VHS405TP125U4B	405TP	125															1.5	2.125	0.375	1.668	1/4-20	44.78	5.13	24.4	21.85	50.4				
VHS444TP150U4B	444TP	150																												
VHS445TP200U4B	445TP	200																												
VHS447TP250U4B	447TP	250																									NPT 3-1/2"			
VHS447TP300U4B	447TP	300																										28	24	55.5
VHS447TP350U4B	447TP	350																												
VHS447TP400U4B	447TP	400																												

\*Note: Please refer BX different dimensions in the following table

# Coupling For Vertical Hollow Shaft Motors



Frame	Part no.	BX*	BY	BZ	XB	XD	XE	XF	KEY
254TP-256TP	CY250-0.75	0.75	10-32	1-3/8	2-9/16	11/32	2-1/4	1-5/8	3/16
254TP-256TP	CY250-0.875	0.875	10-32	1-3/8	2-9/16	11/32	2-1/4	1-5/8	3/16
254TP-256TP	CY250-1.0	1.0	10-32	1-3/8	2-9/16	13/32	2-1/4	1-5/8	1/4
254TP-256TP	CY250-1.188	1.188	1/4-20	1-3/4	2-9/16	13/32	2-1/4	1-5/8	1/4
254TP-256TP	CY250-1.25-1	1.25	1/4-20	1-3/4	2-9/16	13/32	2-1/4	1-5/8	1/4
254TP-256TP	CY250-1.25-2	1.25	1/4-20	1-3/4	2-9/16	17/32	2-1/4	1-5/8	3/8
254TP-256TP	CY250	0.751 BLANK	---	---	2-9/16	---	2-1/4	1-5/8	---
284TP-286TP	CY280-0.75	0.75	10-32	1-3/8	2-9/16	11/32	2-1/4	1-5/8	3/16
284TP-286TP	CY280-0.875	0.875	10-32	1-3/8	2-9/16	11/32	2-1/4	1-5/8	3/16
284TP-286TP	CY280-1.0	1.0	10-32	1-3/8	2-9/16	13/32	2-1/4	1-5/8	1/4
284TP-286TP	CY280-1.188	1.188	1/4-20	1-3/4	2-9/16	13/32	2-1/4	1-5/8	1/4
284TP-286TP	CY280-1.25-1	1.25	1/4-20	1-3/4	2-9/16	13/32	2-1/4	1-5/8	1/4
284TP-286TP	CY280-1.25-2	1.25	1/4-20	1-3/4	2-9/16	17/32	2-1/4	1-5/8	3/8
284TP-286TP	CY280	0.751 BLANK	---	---	2-9/16	---	2-1/4	1-5/8	---
324TP-326TP	CY320-1.0	1.0	10-32	1-3/8	2-15/16	13/32	2-7/8	1-15/16	1/4
324TP-326TP	CY320-1.188	1.188	1/4-20	1-3/4	2-15/16	13/32	2-7/8	1-15/16	1/4
324TP-326TP	CY320-1.25-1	1.25	1/4-20	1-3/4	2-15/16	17/32	2-7/8	1-15/16	3/8
324TP-326TP	CY320-1.25-2	1.25	1/4-20	1-3/4	2-15/16	13/32	2-7/8	1-15/16	1/4
324TP-326TP	CY320-1.438	1.438	1/4-20	2-1/8	2-15/16	17/32	2-7/8	1-15/16	3/8
324TP-326TP	CY320-1.5	1.5	1/4-20	2-1/8	2-15/16	17/32	2-7/8	1-15/16	3/8
324TP-326TP	CY320	0.751 BLANK	---	---	2-15/16	---	2-7/8	1-15/16	---
364TP-365TP	CY360-1.0	1.0	10-32	1-3/8	2-15/16	13/32	2-7/8	1-15/16	1/4
364TP-365TP	CY360-1.188	1.188	1/4-20	1-3/4	2-15/16	13/32	2-7/8	1-15/16	1/4
364TP-365TP	CY360-1.25-1	1.25	1/4-20	1-3/4	2-15/16	17/32	2-7/8	1-15/16	3/8
364TP-365TP	CY360-1.25-2	1.25	1/4-20	1-3/4	2-15/16	13/32	2-7/8	1-15/16	1/4
364TP-365TP	CY360-1.438	1.438	1/4-20	2-1/8	2-15/16	17/32	2-7/8	1-15/16	3/8
364TP-365TP	CY360-1.5	1.5	1/4-20	2-1/8	2-15/16	17/32	2-7/8	1-15/16	3/8
364TP-365TP	CY360	0.751 BLANK	---	---	2-15/16	---	2-7/8	1-15/16	---
404TP-405TP	CY400-1.188	1.188	1/4-20	1-3/4	3-15/32	13/32	3-1/8	2-13/32	1/4
404TP-405TP	CY400-1.25-1	1.25	1/4-20	1-3/4	3-15/32	13/32	3-1/8	2-13/32	1/4
404TP-405TP	CY400-1.25-2	1.25	1/4-20	1-3/4	3-15/32	17/32	3-1/8	2-13/32	3/8
404TP-405TP	CY400-1.438	1.438	1/4-20	2-1/8	3-15/32	17/32	3-1/8	2-13/32	3/8
404TP-405TP	CY400-1.5	1.5	1/4-20	2-1/8	3-15/32	17/32	3-1/8	2-13/32	3/8
404TP-405TP	CY400-1.563	1.563	1/4-20	2-1/2	3-15/32	17/32	3-1/8	2-13/32	3/8
404TP-405TP	CY400-1.688	1.688	1/4-20	2-1/2	3-15/32	17/32	3-1/8	2-13/32	3/8
404TP-405TP	CY400-1.813	1.813	1/4-20	2-1/2	3-15/32	17/32	3-1/8	2-13/32	3/8
404TP-405TP	CY400	0.751 BLANK	---	---	3-15/32	---	3-1/8	2-13/32	---
444TP-447TP	CY440-1.438	1.438	1/4-20	2-1/8	4-1/7	11/16	3-11/16	2-7/8	3/8
444TP-447TP	CY440-1.5	1.5	1/4-20	2-1/8	4-1/7	17/32	3-11/16	2-7/8	3/8
444TP-447TP	CY440-1.688	1.688	1/4-20	2-1/2	4-1/7	17/32	3-11/16	2-7/8	3/8
444TP-447TP	CY440-1.75	1.75	1/4-20	2-1/2	4-1/7	17/32	3-11/16	2-7/8	3/8
444TP-447TP	CY440-1.938	1.938	1/4-20	2-1/2	4-1/7	11/16	3-11/16	2-7/8	1/2
444TP-447TP	CY440-2.188	2.188	3/8-16	3-1/4	4-1/7	11/16	4	2-7/8	1/2
444TP-447TP	CY440-2.25	2.25	3/8-16	3-1/4	4-1/7	11/16	4	2-7/8	1/2
444TP-447TP	CY440	0.751 BLANK	---	---	4-1/7	---	3-11/16	2-7/8	---



# Vertical Hollow Shaft Motors' Main Performance Parameter

Model	Volts (V)	Output (HP)	Speed (r/min) (50Hz)	Speed (r/min) (60Hz)	Frame Size	EFF (%)	Power Factor (%)	Torque				Rated Current (A)	Locked Current (A)	Axial Force (Lbs)
								Rated Torque (lb-ft) (50Hz)	Rated Torque (lb-ft) (60Hz)	Locked Torque/ Rated Torque (%)	Breakdown Torque/ Rated Torque (%)			
VHS254TP20U2B	380	20	2950	3540	254TP	87.5	86	35.6	29.7	180	230	30.6	213.5	2700
VHS256TP25U2B		25	2950	3540	256TP	88.5	86	44.5	37.1	180	230	36.9	258.3	
VHS284TP30U2B		30	2950	3540	284TP	87.5	86.5	53.4	44.5	170	230	44.2	309.4	
VHS286TP40U2B		40	2943	3532	286TP	88.5	86.5	71.4	59.5	170	230	59.5	416.5	
VHS324TP50U2B		50	2958	3550	324TP	89.5	87	88.7	73.9	170	220	72.2	505.4	4600
VHS326TP60U2B		60	2958	3550	326TP	90.2	87	106.5	88.7	170	220	87.1	609.7	
VHS364TP75U2B		75	2952	3542	364TP	89.5	88	133.4	111.2	170	210	106.1	743.4	4800
VHS365TP100U2B		100	2948	3538	365TP	90.2	88	178.1	148.4	170	210	143.6	1004.5	
VHS254TP15U4B		15	1466	1759	254TP	89.5	85	53.7	44.8	180	230	22	154	3400
VHS256TP20U4B		20	1466	1759	256TP	89.5	85	71.6	59.7	180	230	30	212.1	
VHS284TP25U4B		25	1466	1759	284TP	89.5	86	89.5	74.6	170	230	36.5	255.5	
VHS286TP30U4B		30	1471	1765	286TP	90.2	86	107.1	89.2	170	230	43.1	301.7	
VHS324TP40U4B		40	1480	1775	324TP	91	87	141.9	118.3	170	230	57.6	403.2	5700
VHS326TP50U4B		50	1480	1775	326TP	91	87	177.4	147.9	170	230	71	497	
VHS364TP60U4B		60	1480	1775	364TP	91	87	212.8	177.5	180	220	86.4	604.8	6100
VHS365TP75U4B		75	1480	1775	365TP	93	87	266	221.8	180	220	103.3	723.1	
VHS404TP100U4B		100	1486	1783	404TP	93	88	353.3	294.4	180	210	139.2	974.4	7000
VHS405TP125U4B		125	1486	1783	405TP	93.6	88	441.6	368.1	180	210	166	1162	
VHS444TP150U4B		150	1486	1783	444TP	94.1	88	529.9	441.7	170	210	201.8	1412.6	9800
VHS445TP200U4B		200	1486	1783	445TP	94.1	88	706.6	588.9	170	200	275.2	1926.4	
VHS447TP250U4B	250	1486	1783	447TP	94.5	88	883.2	736.1	170	200	338	2366		
VHS447TP300U4B	300	1486	1783	447TP	94.5	89	1059.9	883.3	170	200	397.4	2781.8		
VHS447TP350U4B	350	1486	1783	447TP	94.5	89	1236.5	1030.6	170	200	469.7	3287.9	17150	
VHS447TP400U4B	400	1486	1783	447TP	95	89	1413.2	1177.8	170	200	539.1	3773.7		
VHS254TP20U2B	415	20	2937	3524	254TP	87.5	86	35.8	29.8	180	230	27.9	195.4	2700
VHS256TP25U2B		25	2937	3524	256TP	88.5	86	44.7	37.2	180	230	34.1	238.7	
VHS284TP30U2B		30	2935	3522	284TP	87.5	86.5	53.7	44.7	170	230	41.2	288.4	
VHS286TP40U2B		40	2929	3514	286TP	88.5	86.5	71.7	59.8	170	230	54.3	380.1	
VHS324TP50U2B		50	2941	3529	324TP	89.5	87	89.3	74.4	170	220	66.7	466.9	4600
VHS326TP60U2B		60	2940	3528	326TP	90.2	87	107.1	89.3	170	220	79.4	555.8	
VHS364TP75U2B		75	2941	3529	364TP	89.5	88	133.9	111.6	170	210	98.9	692.3	4800
VHS365TP100U2B		100	2932	3518	365TP	90.2	88	179.1	149.2	170	210	131.1	917.7	
VHS254TP15U4B		15	1466	1759	254TP	89.5	85	53.7	44.8	180	230	20.1	140.7	3400
VHS256TP20U4B		20	1466	1759	256TP	89.5	85	71.6	59.7	180	230	27.4	191.8	
VHS284TP25U4B		25	1466	1759	284TP	89.5	86	89.5	74.6	170	230	33.4	233.8	
VHS286TP30U4B		30	1466	1759	286TP	90.2	86	107.4	89.5	170	230	39	273	
VHS324TP40U4B		40	1475	1770	324TP	91	87	142.4	118.6	170	230	52.7	368.9	5700
VHS326TP50U4B		50	1475	1770	326TP	91	87	178	148.3	170	230	65	455	
VHS364TP60U4B		60	1473	1768	364TP	91	87	213.8	178.2	180	220	78.7	550.9	6100
VHS365TP75U4B		75	1472	1766	365TP	93	87	267.5	223	180	220	96.3	674.1	
VHS404TP100U4B		100	1482	1778	404TP	93	88	354.3	295.3	180	210	127	889	7000
VHS405TP125U4B		125	1484	1781	405TP	93.6	88	442.2	368.5	180	210	157.7	1103.9	
VHS444TP150U4B		150	1484	1781	444TP	94.1	88	530.7	442.2	170	210	188.2	1317.4	9800
VHS445TP200U4B		200	1484	1781	445TP	94.1	88	707.5	589.6	170	200	251	1757	
VHS447TP250U4B	250	1484	1781	447TP	94.5	88	884.4	736.9	170	200	312.4	2186.8		
VHS447TP300U4B	300	1488	1786	447TP	94.5	89	1058.5	881.9	170	200	370.6	2594.2		
VHS447TP350U4B	350	1488	1786	447TP	94.5	89	1234.9	1028.8	170	200	432.4	3026.8	17150	
VHS447TP400U4B	400	1488	1786	447TP	95	89	1411.3	1175.8	170	200	491.6	3441.2		

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Model	Volts (V)	Hz (Hz)	Output (HP)	Speed (r/min)	Frame	EFF (%)	Power Factor (%)	Torque			Rated Current (A)	Locked Current (A)	Axial Force (Lbs)	
								Rated Torque (lb-ft)	Locked Torque/Rated (%)	Breakdown Torque/Rated Torque (%)				
VHS254TP15U4B	230/460	60	15	1776	254TP	91.7	85.0	44.3	180	230	33.8/16.9	236.6/118.3	3400	
VHS256TP20U4B			20	1776	256TP	92.4	85.0	59.1	180	230	45.8/22.9			320.6/160.3
VHS284TP25U4B			25	1776	284TP	92.4	86.0	73.9	170	230	55.8/27.9			390.6/195.3
VHS286TP30U4B			30	1776	286TP	92.4	86.0	88.7	170	230	65.6/32.8	459.2/229.6	5700	
VHS324TP40U4B			40	1779	324TP	94.1	87.0	118	170	230	90.6/45.3	634.2/317.1		
VHS326TP50U4B			50	1779	326TP	94.5	87.0	147.6	170	230	110.4/55.2	772.8/386.4	6100	
VHS364TP60U4B			60	1782	364TP	94.5	87.0	176.8	180	220	133.6/66.8	935.2/467.6		
VHS365TP75U4B			75	1782	365TP	95.0	87.0	221	180	220	167/83.5	1169/584.5	7000	
VHS404TP100U4B			100	1786	404TP	95.4	88.0	293.5	180	210	270/135	1890/945		
VHS405TP125U4B			125	1789	405TP	95.4	88.0	366.8	180	210	271.4/135.7	1899.8/949.9	9800	
VHS444TP150U4B			150	1787	444TP	95.8	88.0	440.7	170	210	321/160.5	2247/1123.5		
VHS445TP200U4B			200	1787	445TP	95.8	88.0	587.6	170	200	435.4/217.7	3047.8/1523.9		
VHS447TP250U4B			250	1779	447TP	95.8	88.0	737.4	170	200	538/269	3766/1883	9800	
VHS447TP300U4B			300	1779	447TP	95.8	89.0	885.3	170	200	639.2/319.6	4474.4/2237.2		
VHS447TP350U4B			350	1779	447TP	95.8	89.0	1032.9	170	200	747.2/373.6	5230.4/2615.2		
VHS447TP400U4B			400	1782	447TP	95.8	89.0	1178.5	170	200	863.4/431.7	6043.8/3021.9		