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Kinetix VPL Low-inertia Servo Motors



Kinetix VPL servo motors are available with winding options matched to the ratings of Kinetix 5500 drives, Kinetix 5700 dual-axis inverters, and ArmorKinetix DSD modules. Optimized system sizing lowers system cost and improves energy efficiency. The digital feedback device provides real-time motor performance information to the control system and the Kinetix 2090 single cable design between motor and drive simplifies installation. Kinetix VPL servo motors are based on proven Kinetix MPL servo motor technology for dynamic performance, increased reliability, and leverages high volume production.

Kinetix VPL Servo Motor Features

Attribute	Value
Main characteristics	• Developed to match the ratings of Kinetix 5500 drives and Kinetix 5700 dual-axis inverters • Kinetix 2090 single cable technology and ArmorKinetix 2090 cable • Hiperface DSL encoder protocol • High torque to size ratio • Low rotor inertia
Features	• 200V and 400V-class windings • Single-turn and multi-turn absolute feedback • SIL 2 (PLd) rated encoder options • High-energy rare-earth magnets • Shaft-end threaded hole • SpeedTec DIN connector, rotates 325° • Standard IEC 72-1 mounting dimensions
Motor type	Brushless AC synchronous servo motors
Environmental rating	• IP50 minimum, without shaft seal (standard) • IP66 with optional shaft seal and use of environmentally sealed cable connectors • IP67 with connection to ArmorKinetix DSD module
Certifications	Kinetix VPL rotary motors are UL Recognized components to applicable UL and CSA standards. CE and UK marked for all applicable directives. Refer to rok.auto/certifications for the Product Certifications website.
Continuous stall torque	0.46…33 N•m (4…292 lb•in)
Peak stall torque	1.33…79 N•m (12…702 lb•in)
Rated speed	Up to 8000 rpm
Motor rated output	0.19…7.16 kW (0.25…9.60 Hp)
Compatible servo drives	• Kinetix 5700 • Kinetix 5500 • ArmorKinetix DSD
Compatible servo cables	• 2090-CS*x*M1*xx*-*xx*AA/AF*xx* (TPE) cables • 2090-CS*x*M1*xx*-*xx*VA/LF*xx* (PVC and PUR) cables • 2090-CSBM1P7-14AF*xx* (PUR) cables
Typical applications	• Packaging • Converting • Material handling • Electronic assembly • Automotive

Catalog Numbers - Kinetix VPL Servo Motors

Catalog numbers consist of various characters, each of which identifies a specific option for that component. Use the catalog numbering table chart below to understand the configuration of your motor. For questions regarding product availability, contact your Allen-Bradley distributor.

VP L - x xxx x x - x x 1 x A x

Factory Options
A = Standard
S = Shaft seal

Mounting Flange
A = IEC metric, free mounting holes (type FF)

Brake
2 = No brake
4 = 24V DC holding brake

Connector
1 = Single SpeedTec DIN connector, right angle, 325° rotatable

Shaft Key
J = Shaft key
K = Smooth shaft

Feedback
C = 18-bit absolute single-turn digital encoder (Hiperface DSL protocol)
P = 18-bit absolute multi-turn digital encoder (Hiperface DSL protocol)
W = 18-bit absolute multi-turn digital encoder (Hiperface DSL protocol) SIL 2 (PLd) rated, 9-bit secondary safety channel (1)
Q = 23-bit absolute multi-turn digital encoder (Hiperface DSL protocol) SIL 2 (PLd) rated, 12-bit secondary safety channel (2)

Rated Speed (3) (4)
A = 1500 rpmD = 3000 rpmM= 6000 rpm
B = 2000 rpmE = 3500 rpmT = 6750 rpm
C = 2500 rpmF = 4500 rpmU = 8000 rpm

Magnet Stack Length (1, 2, 3, 4, 6 stacks) (4)

Frame Size - Bolt Circle Diameter (BCD)
063 = 63 mm115 = 115 mm
075 = 75 mm130 = 130 mm
100 = 100 mm165 = 165 mm

Voltage Class
A = 200V
B = 400V

Series Type
L = Low inertia

Series
VP = Permanent magnet rotary servo motors that are optimized to Kinetix 5500 and Kinetix 5700 drive ratings

(1) This encoder option is available with only VPL-B063*xx* and VPL-B075*xx* motor frame sizes.
(2) This encoder option is available with only VPL-A/B100*xx*, VPL-A/B115*xx*, VPL-A/B130*xx*, and VPL-B165*xx* motor frame sizes.
(3) Rated speed hierarchy is only for comparative purposes. Use Motion Analyzer software to size and select motors for your application, and/or the torque/speed curves in the Kinetix 5500 Drive System Design Guide, publication KNX-RM009, and the Kinetix 5700 Drive System Design Guide, publication KNX-RM010.
(4) Not all combinations are available. Only the configurations for rated speed and magnet stack length, as listed in Kinetix VPL Servo Motor (200V-class) Performance Specifications on page 7 and Kinetix VPL Servo Motor (400V-class) Performance Specifications on page 8, are available. Use Motion Analyzer software to size and select motors for your application.

Kinetix VPL Servo Motor High-resolution Encoders

Kinetix VPL servo motors are available with high-performance encoders with a choice of single-turn (-C), multi-turn (-P), and SIL 2 rated (-Q and -W) multi-turn high-resolution feedback:

- 18-bit resolution for 262,144 counts per revolution (choice of single-turn or multi-turn)
  - Single-turn encoder (-C) provides absolute position feedback within one turn
  - Multi-turn encoder (-P) provides absolute position feedback within 4096 turns
  - Electromechanical design does not require a battery.
- SIL 2 rated absolute multi-turn digital encoder (Hiperface DSL protocol)
  - 23-bit resolution for 8,388,608 counts per revolution, multi-turn absolute position feedback within 4096 turns (-Q) option has 12-bit secondary safety channel
  - 18-bit resolution for 262,144 multi-turn absolute position feedback within 4096 turns (-W) option has 9-bit secondary safety channel

Kinetix 2090-Series Single Cable Technology

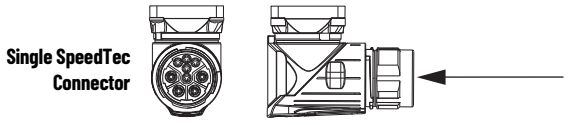
Motor connectivity reduced to a single connector and cable.

- Single cable eliminates hardware and wire terminations
- Purely digital two-wire communication integrated into the motor power cable
- TPE cable material for standard (non-flex) and continuous-flex cable
- PVC cable material for standard (non-flex) and Halogen-free PUR continuous-flex cable
- 2090-CSxM1D*x* cables are available in 1.0 m (3.2 ft) increments up to 50 m (164 ft) for Kinetix 5500 drives, 90 m (295 ft) for Kinetix 5700 drives
- 2090-CSBM1P7-14AFxx are available in 1 m (3.2 ft) increments up to 4 m (13.1 ft) for ArmorKinetix DSD modules

IMPORTANT Due to the unique characteristics of Kinetix 2090 single cable technology, designed for and tested with Kinetix 5500 drives, Kinetix 5700 dual-axis inverters, ArmorKinetix DSD modules, and Kinetix VP servo motors, building your own cables or using third-party cable is not an option.

Motor Connector/Cable Compatibility

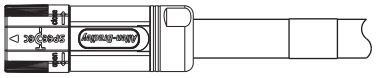
Kinetix VPL servo motors are equipped with SpeedTec DIN connectors.



- VPL-A/B063*xxx*...VPL-B165*xxx* motors
- Receives only single cable plugs
- Attach cable plug with one-quarter turn

- 2090-CSxM1DF cables apply to Kinetix 5500 drives
- 2090-CSxM1DE cables apply to Kinetix 5700 drives
- 2090-CSxM1DG cables apply to Kinetix 5500 or Kinetix 5700 drives
- 2090-CSBM1P7 cables apply to ArmorKinetix DSD modules

SpeedTec DIN (M1) Single Cable Plug



- 2090-CSBM1DF-*xx*AA*xx* (standard, non-flex) power/feedback/brake cables
- 2090-CSWM1DF-*xx*AA*xx* (standard, non-flex) power/feedback cables
- 2090-CSBM1DF-*xx*AF*xx* (continuous-flex) power/feedback/brake cables
- 2090-CSBM1DE-*xxx*A*xx* (standard, non-flex) power/feedback/brake cables
- 2090-CSWM1DE-*xxx*A*xx* (standard, non-flex) power/feedback cables
- 2090-CSBM1DE-*xxx*F*xx* (continuous-flex) power/feedback/brake cables
- 2090-CSBM1DG-*xxx*A*xx* (standard, non-flex) power/feedback/brake cables
- 2090-CSWM1DG-*xxx*A*xx* (standard, non-flex) power/feedback cables
- 2090-CSBM1DG-*xxx*F*xx* (continuous-flex) power/feedback/brake cables



2090-CSBM1P7-14AF*xx* ArmorKinetix motor power/feedback cable

For Kinetix 2090 single motor cable specifications and ArmorKinetix hybrid cable specifications, refer to Kinetix Rotary and Linear Motion Cable Specifications Technical Data, publication KNX-TD004.

Kinetix VPL Servo Motor Options

Kinetix VPL servo motors are available with these configurable options:

- Single-turn or multi-turn encoder.
- 24V DC holding brake.
- Choice of keyed or keyless shaft.
- Shaft seal kits are available, as are replacement kits for field installation. Shaft seals are made of nitrile and kits include a lubricant to reduce wear.

IMPORTANT Shaft seals are subject to wear and require periodic inspection and replacement. Replacement is recommended every 3 months, not to exceed 12 months, depending on use.

Shaft Seal Kit Catalog Numbers

Motor Cat. No.	Shaft Seal Kit Cat. No.
VPL-A063*xx* and VPL-B063*xx*	VPL-SSN-F063075
VPL-A075*xx* and VPL-B075*xx*	
VPL-A100*xx* and VPL-B100*xx*	MPL-SSN-A3B3
VPL-A115*xx* and VPL-B115*xx*	MPL-SSN-A4B4
VPL-A130*xx* and VPL-B130*xx*	MPL-SSN-A5B5
VPL-B165*xx*	MPL-SSN-F165

Refer to the Kinetix VPL Low-inertia Servo Motors Installation Instructions, publication VPL-IN001, for more information on motor accessories.

Technical Specifications - Kinetix VPL Servo Motors

Kinetix VPL Servo Motor (200V-class) Performance Specifications

Motor Cat. No.	Rated Speed rpm	Maximum Speed rpm	Continuous Stall Torque N•m (lb•in)	Peak Stall Torque N•m (lb•in)	Motor Rated Output kW (Hp)	Rotor Inertia (1) kg-m^2 (lb•in•s^2)	Motor Weight, (1) approx kg (lb)
VPL-A0631E	4500	4500	0.46 (4.0)	1.33 (12.0)	0.19 (0.25)	0.0000094 (0.000083)	1.04 (2.30)
VPL-A0631M	7200	7200	0.46 (4.0)	1.33 (12.0)	0.28 (0.38)		
VPL-A0632F	4800	4800	0.93 (8.0)	2.69 (24.0)	0.39 (0.52)	0.000017 (0.00015)	1.36 (3.0)
VPL-A0633C	3000	3000	1.27 (11.0)	4.09 (36.0)	0.37 (0.50)	0.0000247 (0.00022)	1.68 (3.70)
VPL-A0633F	4500	4500	1.27 (11.0)	4.09 (36.0)	0.50 (0.67)		
VPL-A0751E	4800	4800	1.01 (9.0)	2.27 (20.0)	0.44 (0.59)	0.0000136 (0.00012)	1.48 (3.26)
VPL-A0752C	3300	3300	1.61 (14.0)	4.39 (39.0)	0.49 (0.66)	0.000025 (0.00022)	2.03 (4.47)
VPL-A0752E	4800	4800	1.61 (14.0)	4.39 (39.0)	0.66 (0.88)		
VPL-A0753C	3300	3300	2.16 (19.0)	7.02 (62.0)	0.59 (0.79)	0.0000365 (0.00032)	2.59 (5.70)
VPL-A0753E	4600	4600	2.28 (20.0)	7.35 (65.0)	0.80 (1.07)		
VPL-A1001C	2800	2800	1.93 (17.0)	3.78 (33.0)	0.56 (0.75)	0.000044 (0.00039)	2.63 (5.80)
VPL-A1001M	6500	6500	1.95 (17.0)	3.78 (33.0)	1.29 (1.73)		
VPL-A1002C	3000	3000	3.39 (30.0)	7.82 (69.0)	1.03 (1.38)	0.000078 (0.00069)	4.52 (9.95)
VPL-A1002F	5000	5000	3.26 (29.0)	7.82 (69.0)	1.60 (2.14)		
VPL-A1003C	2250	2250	4.18 (37.0)	11.15 (99.0)	0.87 (1.17)	0.00012 (0.0010)	4.45 (9.80)
VPL-A1003E	3750	3750	4.18 (37.0)	11.15 (99.0)	1.31 (1.76)		
VPL-A1003F	5500	5500	4.18 (37.0)	11.15 (99.0)	1.90 (2.55)		
VPL-A1152B	2150	2150	5.10 (45.0)	13.12 (116)	1.02 (1.37)	0.00026 (0.0023)	4.43 (9.75)
VPL-A1152E	3300	3300	5.08 (45.0)	13.12 (116)	1.47 (1.97)		
VPL-A1152F	5000	5000	4.70 (42.0)	13.12 (116)	2.16 (2.90)		
VPL-A1153C	2300	2300	6.55 (58.0)	20.33 (180)	1.35 (1.81)	0.00038 (0.0033)	6.01 (13.23)
VPL-A1303B	1950	1950	8.80 (78.0)	20.72 (183)	1.61 (2.16)	0.00040 (0.0035)	7.54 (16.60)
VPL-A1303F	4000	4000	7.75 (69.0)	20.72 (183)	2.50 (3.35)		
VPL-A1304A	1600	1600	10.29 (91.0)	28.45 (252)	1.55 (2.08)	0.00052 (0.0046)	9.10 (20.05)
VPL-A1304D	3000	3000	10.20 (90.0)	27.10 (240)	2.60 (3.50)		
VPL-A1306C	2000	2000	13.38 (118)	34.62 (306)	2.13 (2.86)	0.00078 (0.0069)	12.21 (26.90)

(1) Refer to Kinetix VPL Servo Motor Brake Specifications on page 9 for brake rotor inertia and brake motor weight.

Kinetix VPL Servo Motor (400V-class) Performance Specifications

Motor Cat. No.	Rated Speed rpm	Maximum Speed rpm	Continuous Stall Torque N•m (lb•in)	Peak Stall Torque N•m (lb•in)	Motor Rated Output kW (Hp)	Rotor Inertia (1) kg-m^2 (lb•in•s^2)	Motor Weight, (1) approx kg (lb)
VPL-B0631T	8000	8000	0.46 (4.0)	1.33 (12.0)	0.31 (0.42)	0.0000094 (0.000083)	1.04 (2.30)
VPL-B0631U	8000	8000	0.46 (4.0)	1.33 (12.0)	0.31 (0.42)		
VPL-B0632F	4600	4600	0.93 (8.0)	2.69 (24.0)	0.37 (0.50)	0.000017 (0.00015)	1.36 (3.00)
VPL-B0632T	8000	8000	0.93 (8.0)	2.69 (24.0)	0.54 (0.72)		
VPL-B0633M	6500	6700	1.27 (11.0)	4.09 (36.0)	0.57 (0.76)	0.0000247 (0.00022)	1.68 (3.70)
VPL-B0633T	6500	8000	1.27 (11.0)	4.09 (36.0)	0.57 (0.76)		
VPL-B0751M	8000	8000	1.01 (9.0)	2.27 (20.0)	0.54 (0.72)	0.0000136 (0.00012)	1.48 (3.26)
VPL-B0752E	4900	4900	1.61 (14.0)	4.39 (39.0)	0.67 (0.90)	0.0000250 (0.00022)	2.03 (4.47)
VPL-B0752F	7000	7000	1.61 (14.0)	4.39 (39.0)	0.80 (1.07)		
VPL-B0752M	8000	8000	1.61 (14.0)	4.39 (39.0)	0.81 (1.09)		
VPL-B0753E	4500	4500	2.28 (20.0)	7.35 (65.0)	0.81 (1.09)	0.0000365 (0.00032)	2.59 (5.70)
VPL-B0753F	4500	6600	2.16 (19.0)	7.02 (62.0)	0.65 (0.87)		
VPL-B0753M	6000	8000	2.28 (20.0)	7.35 (65.0)	0.82 (1.10)		
VPL-B1001M	6000	6000	1.93 (17.0)	3.78 (33.0)	1.14 (1.53)	0.000044 (0.00039)	2.63 (5.80)
VPL-B1002E	3300	3300	3.39 (30.0)	7.82 (69.0)	1.12 (1.50)	0.000078 (0.00069)	3.56 (7.85)
VPL-B1002M	6000	6000	3.39 (30.0)	7.82 (69.0)	1.86 (2.49)		
VPL-B1003C	2500	2500	4.18 (37.0)	11.15 (99.0)	0.96 (1.29)	0.00012 (0.0010)	4.45 (9.80)
VPL-B1003F	4750	4750	4.18 (37.0)	11.15 (99.0)	1.65 (2.21)		
VPL-B1003T	7000	7000	4.18 (37.0)	11.15 (99.0)	1.77 (2.37)		
VPL-B1152C	2250	2250	5.10 (45.0)	13.12 (116)	1.06 (1.42)	0.00026 (0.0023)	5.30 (11.67)
VPL-B1152F	4000	4500	5.10 (45.0)	13.12 (116)	1.40 (1.88)		
VPL-B1152T	6500	6500	5.08 (45.0)	13.12 (116)	2.29 (3.07)		
VPL-B1153E	3200	3200	6.55 (58.0)	20.33 (180)	1.75 (2.35)	0.00038 (0.0033)	6.01 (13.23)
VPL-B1153F	5000	5000	6.55 (58.0)	20.33 (180)	2.30 (3.08)		
VPL-B1303C	2250	2250	8.80 (78.0)	20.72 (183)	1.83 (2.45)	0.00040 (0.0035)	7.54 (16.60)
VPL-B1303F	4000	4000	8.80 (78.0)	20.72 (183)	2.82 (3.78)		
VPL-B1304C	2150	2150	10.29 (91.0)	28.45 (252)	1.75 (2.35)	0.00052 (0.0046)	9.10 (20.05)
VPL-B1304E	3500	3500	10.29 (91.0)	28.45 (252)	2.82 (3.78)		
VPL-B1306C	2500	2500	13.38 (118)	34.62 (306)	2.46 (3.30)	0.00078 (0.0069)	12.21 (26.9)
VPL-B1306F	4250	4250	13.38 (118)	34.62 (306)	2.95 (3.95)		
VPL-B1651C	2750	2750	11.50 (102)	22.45 (199)	2.32 (3.11)	0.000783 (0.0069)	15.30 (33.70)
VPL-B1651F	4750	4750	11.43 (101)	22.45 (199)	4.38 (5.87)		
VPL-B1652C	2700	2700	19.40 (172)	48.60 (430)	4.18 (5.60)	0.00147 (0.013)	17.80 (39.24)
VPL-B1652F	4000	4000	17.60 (156)	48.60 (430)	4.77 (6.40)		
VPL-B1653C	2300	2300	25.76 (228)	66.70 (590)	4.38 (5.87)	0.00213 (0.019)	20.66 (45.50)
VPL-B1653D	3000	3000	24.20 (214)	67.80 (600)	5.50 (7.30)		
VPL-B1654B	1850	1850	32.97 (292)	79.30 (702)	5.55 (7.44)	0.00289 (0.025)	25.65 (56.55)
VPL-B1654D	3000	3000	32.0 (283)	75.30 (666)	7.16 (9.60)		

(1) Refer to Kinetix VPL Servo Motor Brake Specifications on page 9 for brake rotor inertia and brake motor weight.

Kinetix VPL Servo Motor Brake Specifications

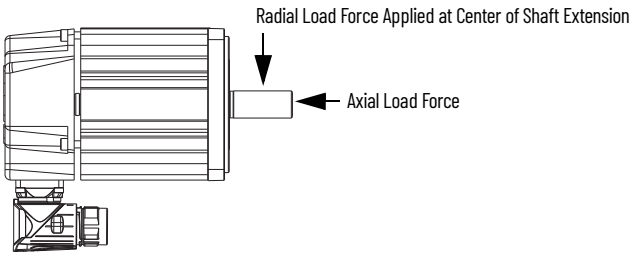
Motor Cat. No.	Backlash, max (brake engaged) arc minutes	Holding Torque N•m (lb•in)	Coil Current at 24V DC A	Brake Response Time		Brake Rotor Inertia kg-m^2 (lb•in•s^2)	Brake Motor Weight, approx kg (lb)
				Release ms	Engage [1] ms		
VPL-A/B0631	30	1.50 (13)	0.297...0.363	38	25	0.0000118 (0.00010)	1.36 (3.0)
VPL-A/B0632						0.0000194 (0.00017)	1.70 (3.74)
VPL-A/B0633						0.0000271 (0.00024)	2.02 (4.45)
VPL-A/B0751		3.0 (27)	0.567...0.693	66	42	0.0000182 (0.00016)	2.06 (4.54)
VPL-A/B0752						0.0000297 (0.00026)	2.62 (5.77)
VPL-A/B0753						0.0000412 (0.00036)	3.18 (7.0)
VPL-A/B1001	30	4.18 (37)	0.45...0.55	90	65	0.000059 (0.00052)	3.26 (7.19)
VPL-A/B1002						0.000093 (0.00082)	4.20 (9.24)
VPL-A/B1003						0.000135(0.0012)	5.08 (11.19)
VPL-A/B1152		6.55 (58)	0.621...0.759	90	95	0.000289 (0.0025)	5.43 (11.95)
VPL-A/B1153						0.000409 (0.0036)	6.88 (15.15)
VPL-A/B1303		14.10 (125)	0.738...0.902	125	120	0.000433 (0.0038)	8.64 (19.03)
VPL-A/B1304						0.000553 (0.0049)	10.21 (22.48)
VPL-A/B1306						0.000813 (0.0072)	13.32 (29.33)
VPL-B1651		32.0 (283)	1.053...1.287	140	120	0.000845 (0.0075)	17.15 (37.78)
VPL-B1652						0.00153 (0.013)	19.65 (43.32)
VPL-B1653						0.00219 (0.019)	22.51 (49.58)
VPL-B1654						0.00295 (0.026)	27.50 (60.63)

(1) By using diode and zener diode as arc suppression device in external control circuit.

Kinetix VPL Servo Motor Load Force Ratings

Kinetix VPL servo motors are capable of operating with the maximum radial or maximum axial shaft loads listed in the following tables. Radial loads listed are applied in the middle of the shaft extension. The tables starting below represent an L_{10} bearing fatigue life of 20,000 hours. This 20,000-hour life does not account for possible application-specific life reduction that can occur due to bearing grease contamination from external sources. Maximum operating speed is limited by motor winding.

Load Forces on Shaft



Kinetix VPL Servo Motors (063...075 frame size)

Radial Load Force Ratings (maximum) for Non-brake Motors

Motor Cat. No. (1)	Maximum Speed rpm	Load (kgf) at Speed (rpm)														
		500 kgf	1000 kgf	1500 kgf	2000 kgf	2500 kgf	3000 kgf	3500 kgf	4000 kgf	4500 kgf	5000 kgf	6000 kgf	6500 kgf	7000 kgf	7500 kgf	8000 kgf
VPL-A0631E	4500	–	26.7	–	–	20.8 *	18.5	–	–	16.2	–	–	–	–	–	–
VPL-A0631M	7200	–	–	23.3	–	19.7	–	–	–	16.7 *	–	–	–	–	13.8	–
VPL-A0632F	4800	–	28.9	25.2	–	–	21.0 *	–	–	–	17.1 *	–	–	–	–	–
VPL-A0633C	3000	38.1	30.3	27.4 *	–	–	21.0	–	–	–	–	–	–	–	–	–
VPL-A0633F	4500	38.1	–	26.4	–	–	21.0	–	–	18.3	–	–	–	–	–	–
VPL-A0751E	4800	33.3	26.4	–	–	20.6 *	–	–	–	–	15.7 *	–	–	–	–	–
VPL-A0752C	3300	36.1	28.6	25.9 *	–	–	–	19.2 *	–	–	–	–	–	–	–	–
VPL-A0752E	4800	36.1	28.6	–	–	21.8 *	–	–	–	–	17.0 *	–	–	–	–	–
VPL-A0753C	3300	37.8	30.0	27.5 *	–	–	–	20.2 *	–	–	–	–	–	–	–	–
VPL-A0753E	4600	37.8	30.0	–	–	23.3 *	–	–	–	–	18.0 *	–	–	–	–	–
VPL-B0631T	8000	–	–	23.3	–	–	18.5	–	–	–	–	14.9 *	–	–	–	13.3
VPL-B0631U	8000	–	–	23.3	–	–	18.5	–	–	–	15.6	–	–	–	–	13.3
VPL-B0632F	4600	–	28.9	25.2	–	–	21.0 *	–	–	–	17.1 *	–	–	–	–	–
VPL-B0632T	8000	–	–	–	22.9	–	–	–	18.2	–	–	–	15.6 *	–	–	14.4
VPL-B0633M	6700	–	30.3	–	24.0	–	–	–	19.2 *	–	–	–	–	15.9 *	–	–
VPL-B0633T	8000	–	–	26.4	–	–	21.0	–	–	–	–	16.8 *	–	–	–	15.1
VPL-B0751M	8000	–	–	23.1	–	–	18.3	–	–	–	15.7 *	–	–	–	–	13.2
VPL-B0752E	4900	36.1	28.6	–	–	22.0 *	–	–	–	–	17.0 *	–	–	–	–	–
VPL-B0752F	7000	–	28.6	–	22.7	–	–	19.3 *	–	–	–	–	–	15.0	–	–
VPL-B0752M	8000	–	–	25.0	–	–	20.8	–	–	–	16.8 *	–	–	–	–	14.3
VPL-B0753E	4500	37.8	30.0	–	23.8	–	–	–	–	18.2	–	–	–	–	–	–
VPL-B0753F	6600	–	30.0	–	23.8	–	–	20.6 *	–	–	–	–	16.1	–	–	–
VPL-B0753M	8000	–	–	26.2	–	–	19.8	–	–	–	18.0 *	–	–	–	–	15.0

(1) 1.0 kgf = 2.2 lbf or 9.8 N. An asterisk (*) indicates a load rating measured at an rpm value that is less than the value listed for that column.

Axial Load Force Ratings (maximum radial load) for Non-brake Motors

Motor Cat. No. (1)	Maximum Speed rpm	Load (kgf) at Speed (rpm)														
		500 kgf	1000 kgf	1500 kgf	2000 kgf	2500 kgf	3000 kgf	3500 kgf	4000 kgf	4500 kgf	5000 kgf	6000 kgf	6500 kgf	7000 kgf	7500 kgf	8000 kgf
VPL-A0631E	4500	–	22.3	–	–	16.1 *	13.8	–	–	11.6	–	–	–	–	–	–
VPL-A0631M	7200	–	–	18.7	–	15.0	–	–	–	12.1 *	–	–	–	–	9.5 *	–
VPL-A0632F	4800	–	23.5	19.7	–	–	15.5 *	–	–	–	11.9 *	–	–	–	–	–
VPL-A0633C	3000	32.7	24.2	21.3 *	–	–	15.0	–	–	–	–	–	–	–	–	–
VPL-A0633F	4500	32.7	–	20.3	–	–	15.0	–	–	12.6	–	–	–	–	–	–
VPL-A0751E	4800	30.0	22.2	–	–	16.1 *	–	–	–	–	11.2 *	–	–	–	–	–
VPL-A0752C	3300	31.5	23.3	20.5 *	–	–	–	13.9 *	–	–	–	–	–	–	–	–
VPL-A0752E	4800	31.5	23.3	–	–	16.4 *	–	–	–	–	11.8 *	–	–	–	–	–
VPL-A0753C	3300	32.5	24.1	21.5 *	–	–	–	14.3 *	–	–	–	–	–	–	–	–
VPL-A0753E	4600	32.5	24.1	–	–	17.3 *	–	–	–	–	12.4 *	–	–	–	–	–
VPL-B0631T	8000	–	–	18.7	–	–	13.8	–	–	–	–	10.5 *	–	–	–	9.0
VPL-B0631U	8000	–	–	18.7	–	–	13.8	–	–	–	11.1	–	–	–	–	9.0
VPL-B0632F	4600	–	23.5	19.7	–	–	15.5 *	–	–	–	11.9 *	–	–	–	–	–
VPL-B0632T	8000	–	–	–	17.4	–	–	–	12.9	–	–	–	10.6	–	–	9.5
VPL-B0633M	6700	–	24.2	–	17.9	–	–	–	13.4 *	–	–	–	–	10.5 *	–	–
VPL-B0633T	8000	–	–	20.3	–	–	15.0	–	–	–	–	11.3 *	–	–	–	9.8
VPL-B0751M	8000	–	–	18.6	–	–	13.8	–	–	–	11.2 *	–	–	–	–	9.0
VPL-B0752E	4900	31.5	23.3	–	–	16.6 *	–	–	–	–	11.8 *	–	–	–	–	–
VPL-B0752F	7000	–	23.3	–	17.3	–	–	14.0 *	–	–	–	–	–	10.0	–	–
VPL-B0752M	8000	–	–	19.6	–	–	14.5	–	–	–	11.7 *	–	–	–	–	9.5
VPL-B0753E	4500	32.5	24.1	–	17.8	–	–	–	–	12.5	–	–	–	–	–	–
VPL-B0753F	6600	–	24.1	–	17.8	–	–	14.7 *	–	–	–	–	10.7	–	–	–
VPL-B0753M	8000	–	–	20.2	–	–	14.9	–	–	–	12.4 *	–	–	–	–	9.8

(1) 1.0 kgf = 2.2 lbf or 9.8 N. An asterisk (*) indicates a load rating measured at an rpm value that is less than the value listed for that column.

Axial Load Force Ratings (zero radial load) for Non-brake Motors

Motor Cat. No. (1)	Maximum Speed rpm	Load (kgf) at Speed (rpm)														
		500 kgf	1000 kgf	1500 kgf	2000 kgf	2500 kgf	3000 kgf	3500 kgf	4000 kgf	4500 kgf	5000 kgf	6000 kgf	6500 kgf	7000 kgf	7500 kgf	8000 kgf
VPL-A0631E	4500	–	27.5	–	–	19.9 *	17.1	–	–	14.3	–	–	–	–	–	–
VPL-A0631M	7200	–	–	23.0	–	18.5	–	–	–	14.9 *	–	–	–	–	11.7 *	–
VPL-A0632F	4800	–	27.5	23.0	–	–	18.1 *	–	–	–	13.9 *	–	–	–	–	–
VPL-A0633C	3000	37.1	27.5	24.1 *	–	–	17.1	–	–	–	–	–	–	–	–	–
VPL-A0633F	4500	37.1	–	23.0	–	–	17.1	–	–	14.3	–	–	–	–	–	–
VPL-A0751E	4800	37.1	27.5	–	–	19.9 *	–	–	–	–	13.9 *	–	–	–	–	–
VPL-A0752C	3300	37.1	27.5	24.1 *	–	–	–	16.4 *	–	–	–	–	–	–	–	–
VPL-A0752E	4800	37.1	27.5	–	–	19.3 *	–	–	–	–	13.9 *	–	–	–	–	–
VPL-A0753C	3300	37.1	27.5	24.5 *	–	–	–	16.4 *	–	–	–	–	–	–	–	–
VPL-A0753E	4600	37.1	27.5	–	–	19.7 *	–	–	–	–	14.2 *	–	–	–	–	–
VPL-B0631T	8000	–	–	23.0	–	–	17.1	–	–	–	–	12.9 *	–	–	–	11.1
VPL-B0631U	8000	–	–	23.0	–	–	17.1	–	–	–	13.7	–	–	–	–	11.1
VPL-B0632F	4600	–	27.5	23.0	–	–	18.1 *	–	–	–	13.9 *	–	–	–	–	–
VPL-B0632T	8000	–	–	–	20.3	–	–	–	15.1	–	–	–	12.4 *	–	–	11.1
VPL-B0633M	6700	–	27.5	–	20.3	–	–	–	15.2 *	–	–	–	–	11.9 *	–	–
VPL-B0633T	8000	–	–	23.0	–	–	17.1	–	–	–	–	12.8 *	–	–	–	11.1
VPL-B0751M	8000	–	–	23.0	–	–	17.1	–	–	–	13.9 *	–	–	–	–	11.1
VPL-B0752E	4900	37.1	27.5	–	–	19.5 *	–	–	–	–	13.9 *	–	–	–	–	–
VPL-B0752F	7000	–	27.5	–	20.3	–	–	16.5 *	–	–	–	–	–	11.8	–	–
VPL-B0752M	8000	–	–	23.0	–	–	17.1	–	–	–	13.8 *	–	–	–	–	11.1
VPL-B0753E	4500	37.1	27.5	–	20.3	–	–	–	–	14.3	–	–	–	–	–	–
VPL-B0753F	6600	–	27.5	–	20.3	–	–	16.8 *	–	–	–	–	12.2	–	–	–
VPL-B0753M	8000	–	–	23.0	–	–	17.1	–	–	–	14.2 *	–	–	–	–	11.1

(1) 1.0 kgf = 2.2 lbf or 9.8 N. An asterisk (*) indicates a load rating measured at an rpm value that is less than the value listed for that column.

Radial Load Force Ratings (maximum) for Brake Motors

Motor Cat. No. (1)	Maximum Speed rpm	Load (kgf) at Speed (rpm)														
		500 kgf	1000 kgf	1500 kgf	2000 kgf	2500 kgf	3000 kgf	3500 kgf	4000 kgf	4500 kgf	5000 kgf	6000 kgf	6500 kgf	7000 kgf	7500 kgf	8000 kgf
VPL-A0631E	4500	–	29.2	–	–	22.8 *	20.3	–	–	17.7	–	–	–	–	–	–
VPL-A0631M	7200	–	–	25.5	–	21.5	–	–	–	18.3 *	–	–	–	–	15.1 *	–
VPL-A0632F	4800	–	30.5	26.6	–	–	22.2 *	–	–	–	18.1 *	–	–	–	–	–
VPL-A0633C	3000	39.5	31.4	28.4 *	–	–	21.8	–	–	–	–	–	–	–	–	–
VPL-A0633F	4500	39.5	–	27.4	–	–	21.8	–	–	19.0	–	–	–	–	–	–
VPL-A0751E	4800	36.5	29.0	–	–	22.6 *	–	–	–	–	17.2 *	–	–	–	–	–
VPL-A0752C	3300	38.1	30.3	27.4	–	–	–	20.3 *	–	–	–	–	–	–	–	–
VPL-A0752E	4800	38.1	30.3	–	–	23.1 *	–	–	–	–	17.9 *	–	–	–	–	–
VPL-A0753C	3300	39.2	31.2	28.5 *	–	–	–	20.9 *	–	–	–	–	–	–	–	–
VPL-A0753E	4600	39.2	31.2	–	–	24.1 *	–	–	–	–	18.7 *	–	–	–	–	–
VPL-B0631T	8000	–	–	25.5	–	–	20.3	–	–	–	–	16.4 *	–	–	–	14.6
VPL-B0631U	8000	–	–	25.5	–	–	20.3	–	–	–	17.1	–	–	–	–	14.6
VPL-B0632F	4600	–	30.5	26.6	–	–	22.2 *	–	–	–	18.1 *	–	–	–	–	–
VPL-B0632T	8000	–	–	–	24.2	–	–	–	19.2	–	–	–	16.5 *	–	–	15.3
VPL-B0633M	6700	–	31.4	–	24.9	–	–	–	19.9 *	–	–	–	–	16.5 *	–	–
VPL-B0633T	8000	–	–	27.4	–	–	21.8	–	–	–	–	17.5 *	–	–	–	15.7
VPL-B0751M	8000	–	–	25.3	–	–	20.1	–	–	–	17.2 *	–	–	–	–	14.5
VPL-B0752E	4900	38.1	30.3	–	–	23.3 *	–	–	–	–	17.9 *	–	–	–	–	–
VPL-B0752F	7000	–	30.3	–	24.0	–	–	20.4 *	–	–	–	–	–	15.8	–	–
VPL-B0752M	8000	–	–	26.4	–	–	21.0	–	–	–	17.8 *	–	–	–	–	15.1
VPL-B0753E	4500	39.2	31.2	–	24.7	–	–	–	–	18.9	–	–	–	–	–	–
VPL-B0753F	6600	–	31.2	–	24.7	–	–	21.4 *	–	–	–	–	16.7	–	–	–
VPL-B0753M	8000	–	–	27.2	–	–	21.6	–	–	–	18.7 *	–	–	–	–	15.6

(1) 1.0 kgf = 2.2 lbf or 9.8 N. An asterisk (*) indicates a load rating measured at an rpm value that is less than the value listed for that column.

Axial Load Force Ratings (maximum radial load) for Brake Motors

Motor Cat. No. (1)	Maximum Speed rpm	Load (kgf) at Speed (rpm)														
		500 kgf	1000 kgf	1500 kgf	2000 kgf	2500 kgf	3000 kgf	3500 kgf	4000 kgf	4500 kgf	5000 kgf	6000 kgf	6500 kgf	7000 kgf	7500 kgf	8000 kgf
VPL-A0631E	4500	–	23.7	–	–	17.2 *	14.7	–	–	12.3	–	–	–	–	–	–
VPL-A0631M	7200	–	–	19.9	–	15.9	–	–	–	12.8	–	–	–	–	10.0 *	–
VPL-A0632F	4800	–	24.3	20.4	–	–	16.1 *	–	–	–	12.3 *	–	–	–	–	–
VPL-A0633C	3000	33.5	24.8	21.8 *	–	–	15.4	–	–	–	–	–	–	–	–	–
VPL-A0633F	4500	33.5	–	20.8	–	–	15.4	–	–	12.9	–	–	–	–	–	–
VPL-A0751E	4800	31.8	23.5	–	–	17.1 *	–	–	–	–	11.9 *	–	–	–	–	–
VPL-A0752C	3300	32.7	24.2	21.3 *	–		–	14.4 *	–	–	–	–	–	–	–	–
VPL-A0752E	4800	32.7	24.2	–	–	17.0 *	–	–	–	–	12.3 *	–	–	–	–	–
VPL-A0753C	3300	33.4	24.7	22.0 *	–		–	14.7 *	–	–	–	–	–	–	–	–
VPL-A0753E	4600	33.4	24.7	–	–	17.7 *	–	–	–	–	12.7 *	–	–	–	–	–
VPL-B0631T	8000	–	–	19.9	–	–	14.7	–	–	–	–	11.1 *	–	–	–	9.6
VPL-B0631U	8000	–	–	19.9	–	–	14.7	–	–	–	11.8	–	–	–	–	9.6
VPL-B0632F	4600	–	24.3	20.4	–	–	16.1 *	–	–	–	12.3 *	–	–	–	–	–
VPL-B0632T	8000	–	–	–	18.0	–	–	–	13.3	–	–	–	11.0 *	–	–	9.9
VPL-B0633M	6700	–	24.8	–	18.4	–	–	–	13.7 *	–	–	–	–	10.7 *	–	–
VPL-B0633T	8000	–	–	20.8	–	–	15.4	–	–	–	–	11.6 *	–	–	–	10.1
VPL-B0751M	8000	–	–	19.7	–	–	14.6	–	–	–	11.9 *	–	–	–	–	9.5
VPL-B0752E	4900	32.7	24.2	–	–	17.2 *	–	–	–	–	12.3 *	–	–	–	–	–
VPL-B0752F	7000	–	24.2	–	17.9	–	–	14.5 *	–	–	–	–	–	10.4	–	–
VPL-B0752M	8000	–	–	20.3	–	–	15.0	–	–	–	12.1 *	–	–	–	–	9.8
VPL-B0753E	4500	33.4	24.7	–	18.3	–	–	–	–	12.9	–	–	–	–	–	–
VPL-B0753F	6600	–	24.7	–	18.3	–	–	15.1 *	–	–	–	–	11.0	–	–	–
VPL-B0753M	8000	–	–	20.7	–	–	15.3	–	–	–	12.7 *	–	–	–	–	10.0

(1) 1.0 kgf = 2.2 lbf or 9.8 N. An asterisk (*) indicates a load rating measured at an rpm value that is less than the value listed for that column.

Axial Load Force Ratings (zero radial load) for Brake Motors

Motor Cat. No. (1)	Maximum Speed rpm	Load (kgf) at Speed (rpm)														
		500 kgf	1000 kgf	1500 kgf	2000 kgf	2500 kgf	3000 kgf	3500 kgf	4000 kgf	4500 kgf	5000 kgf	6000 kgf	6500 kgf	7000 kgf	7500 kgf	8000 kgf
VPL-A0631E	4500	–	27.5	–	–	19.9 *	17.1	–	–	14.3	–	–	–	–	–	–
VPL-A0631M	7200	–	–	23.0	–	18.5	–	–	–	14.9 *	–	–	–	–	11.7 *	–
VPL-A0632F	4800	–	27.5	23.0	–	–	18.1 *	–	–	–	13.9 *	–	–	–	–	–
VPL-A0633C	3000	37.1	27.5	24.1 *	–	–	17.1	–	–	–	–	–	–	–	–	–
VPL-A0633F	4500	37.1	–	23.0	–	–	17.1	–	–	14.3	–	–	–	–	–	–
VPL-A0751E	4800	37.1	27.5	–	–	19.9 *	–	–	–	–	13.9 *	–	–	–	–	–
VPL-A0752C	3300	37.1	27.5	24.1 *	–	–	–	16.4 *	–	–	–	–	–	–	–	–
VPL-A0752E	4800	37.1	27.5	–	–	19.3 *	–	–	–	–	13.9 *	–	–	–	–	–
VPL-A0753C	3300	37.1	27.5	24.5 *	–	–	–	16.4 *	–	–	–	–	–	–	–	–
VPL-A0753E	4600	37.1	27.5	–	–	19.7 *	–	–	–	–	14.2 *	–	–	–	–	–
VPL-B0631T	8000	–	–	23.0	–	–	17.1	–	–	–	–	12.9 *	–	–	–	11.1
VPL-B0631U	8000	–	–	23.0	–	–	17.1	–	–	–	13.7	–	–	–	–	11.1
VPL-B0632F	4600	–	27.5	23.0	–	–	18.1 *	–	–	–	13.9 *	–	–	–	–	–
VPL-B0632T	8000	–	–	–	20.3	–	–	–	15.1	–	–	–	12.4 *	–	–	11.1
VPL-B0633M	6700	–	27.5	–	20.3	–	–	–	15.2 *	–	–	–	–	11.9 *	–	–
VPL-B0633T	8000	–	–	23.0	–	–	17.1	–	–	–	–	12.8 *	–	–	–	11.1
VPL-B0751M	8000	–	–	23.0	–	–	17.1	–	–	–	13.9 *	–	–	–	–	11.1
VPL-B0752E	4900	37.1	27.5	–	–	19.5 *	–	–	–	–	13.9 *	–	–	–	–	–
VPL-B0752F	7000	–	27.5	–	20.3	–	–	16.5 *	–	–	–	–	–	11.8	–	–
VPL-B0752M	8000	–	–	23.0	–	–	17.1	–	–	–	13.8 *	–	–	–	–	11.1
VPL-B0753E	4500	37.1	27.5	–	20.3	–	–	–	–	14.3	–	–	–	–	–	–
VPL-B0753F	6600	–	27.5	–	20.3	–	–	16.8 *	–	–	–	–	12.2	–	–	–
VPL-B0753M	8000	–	–	23.0	–	–	17.1	–	–	–	14.2 *	–	–	–	–	11.1

(1) 1.0 kgf = 2.2 lbf or 9.8 N. An asterisk (*) indicates a load rating measured at an rpm value that is less than the value listed for that column.

Kinetix VPL Servo Motors (100...165 frame size)

Radial Load Force Ratings (maximum) for Non-brake Motors

Motor Cat. No. (1)	Maximum Speed rpm	Load (kgf) at Speed (rpm)														
		500 kgf	750 kgf	1000 kgf	1500 kgf	2000 kgf	2500 kgf	3000 kgf	3500 kgf	4000 kgf	4500 kgf	5000 kgf	5500 kgf	6000 kgf	6500 kgf	7000 kgf
VPL-A1001C	2800	79.1	–	62.8	–	49.8	–	44.6 *	–	–	–	–	–	–	–	–
VPL-A1001M	6500	–	–	–	54.9	–	46.3	–	–	–	38.0	–	–	–	33.6	–
VPL-A1002C	3000	87.9	–	69.7	–	55.4	–	48.4	–	–	–	–	–	–	–	–
VPL-A1002F	5000	–	–	69.7	60.9	–	–	48.4	–	–	–	40.8	–	–	–	–
VPL-A1003C	2250	93.6	–	74.3	64.9	–	56.7 *	–	–	–	–	–	–	–	–	–
VPL-A1003E	3750	93.6	–	74.3	–	59.0	–	–	–	47.8 *	–	–	–	–	–	–
VPL-A1003F	5500	–	–	–	64.9	–	54.8	–	–	46.8	–	–	42.1	–	–	–
VPL-A1152B	2150	98.8	–	78.4	68.5	–	60.8 *	–	–	–	–	–	–	–	–	–
VPL-A1152E	3300	98.8	–	78.4	–	62.2	–	–	52.7 *	–	–	–	–	–	–	–
VPL-A1152F	5000	–	–	78.4	–	62.2	–	54.4	–	–	–	45.9	–	–	–	–
VPL-A1153C	2300	106.4	–	84.5	73.8	–	64.0 *	–	–	–	–	–	–	–	–	–
VPL-A1303B	1950	132.9	–	105.5	92.2	84.4 *	–	–	–	–	–	–	–	–	–	–
VPL-A1303F	4000	–	–	105.5	–	83.7	–	73.1	–	66.5		–	–	–	–	–
VPL-A1304A	1600	140.2	122.5	112.2 *	–	95.2 *	–	–	–	–	–	–	–	–	–	–
VPL-A1304D	3000	140.2	–	111.3	–	88.3	–	77.2	–	–	–	–	–	–	–	–
VPL-A1306C	2000	150.0	–	128.3 *	107.7 *	94.5	–	–	–	–	–	–	–	–	–	–
VPL-B1001M	6000	–	–	–	–	49.8	–	43.5	–	39.6	–	–	–	34.6	–	–
VPL-B1002E	3300	87.9	–	69.7	–	55.4	–	–	46.8 *	–	–	–	–	–	–	–
VPL-B1002M	6000	–	–	–	60.9	–	–	48.4	–	–	42.2	–	–	38.4	–	–
VPL-B1003C	2500	93.6	–	74.3	64.9	–	54.8	–	–	–	–	–	–	–	–	–
VPL-B1003F	4750	–	–	74.3	64.9	–	–	51.5	–	–	–	44.2 *	–	–	–	–
VPL-B1003T	7000	–	–	–	64.9	–	54.8	–	–	–	45.0	–	–	–	–	38.9
VPL-B1152C	2250	98.8	–	78.4	68.5	–	59.8 *	–	–	–	–	–	–	–	–	–
VPL-B1152F	4000	–	–	78.4	–	62.2		54.4	–	–	47.5	–	–	–	–	–
VPL-B1152T	6500	–	–	–	68.5	–	57.8	–	–	49.4	–	–	–	–	42.0	–
VPL-B1153E	3200	106.4	–	84.5	–	67.0	–	–	57.3 *	–	–	–	–	–	–	–
VPL-B1153F	5000	–	–	84.5	–	67.0	–	58.6	–	–	–	49.4	–	–	–	–
VPL-B1303C	2250	132.9	–	105.5	92.2	–	80.5 *	–	–	–	–	–	–	–	–	–
VPL-B1303F	4000	–	–	105.5	–	83.7	–	74.0 *	–	66.5	–	–	–	–	–	–
VPL-B1304C	2150	140.2	–	111.3	99.5 *	–	86.2 *	–	–	–	–	–	–	–	–	–
VPL-B1304E	3500	–	–	111.3	97.2	–	84.3 *	–	73.3	–	–	–	–	–	–	–
VPL-B1306C	2500	150.0	–	119.1	–	100.8 *	87.7	–	–	–	–	–	–	–	–	–
VPL-B1306F	4250	–	–	119.0	–	94.5	–	82.6	–	–	73.5 *	–	–	–	–	–
VPL-B1651C	2750	161.3	–	128.0	–	108.3 *	–	91.4 *	–	–	–	–	–	–	–	–
VPL-B1651F	4750	–	–	128.0	–	101.6	–	88.7	–	–	–	76.1 *	–	–	–	–
VPL-B1652C	2700	180.7	–	143.4	125.3	–	–	103.0 *	–	–	–	–	–	–	–	–
VPL-B1652F	4000	–	–	143.4	125.3		105.7	–	–	90.4	–	–	–	–	–	–
VPL-B1653C	2300	192.4	–	152.7	136.5 *	–	115.7 *	–	–	–	–	–	–	–	–	–
VPL-B1653D	3000	–	–	152.7	139.9 *	125.5 *	–	105.9	–	–	–	–	–	–	–	–
VPL-B1654B	1850	200.1	174.8	–	152.5 *	129.4 *	–	–	–	–	–	–	–	–	–	–
VPL-B1654D	3000	–	–	158.8	138.8	126.1	–	110.1	–	–	–	–	–	–	–	–

(1) 1.0 kgf = 2.2 lbf or 9.8 N. An asterisk (*) indicates a load rating measured at an rpm value that is less than the value listed for that column.

Axial Load Force Ratings (maximum radial load) for Non-brake Motors

Motor Cat. No. (1)	Maximum Speed rpm	Load (kgf) at Speed (rpm)														
		500 kgf	750 kgf	1000 kgf	1500 kgf	2000 kgf	2500 kgf	3000 kgf	3500 kgf	4000 kgf	4500 kgf	5000 kgf	5500 kgf	6000 kgf	6500 kgf	7000 kgf
VPL-A1001C	2800	25.0	–	19.0	–	10.0	–	10.0 *	–	–	–	–	–	–	–	–
VPL-A1001M	6500	–	–	–	15.0	–	12.0	–	–	–	9.0	–	–	–	8.0	–
VPL-A1002C	3000	30.0	–	22.0	–	16.0	–	13.0	–	–	–	–	–	–	–	–
VPL-A1002F	5000	–	–	22.0	18.0	–	–	13.0	–	–	–	11.0	–	–	–	–
VPL-A1003C	2250	33.0	–	24.0	20.0	–	17.0 *	–	–	–	–	–	–	–	–	–
VPL-A1003E	3750	33.0	–	24.0	–	18.0	–	–	–	13.0 *	–	–	–	–	–	–
VPL-A1003F	5500	–	–	–	20.0	–	16.0	–	–	13.0	–	–	11.0	–	–	–
VPL-A1152B	2150	44.0	–	32.0	27.0	–	23.0 *	–	–	–	–	–	–	–	–	–
VPL-A1152E	3300	44.0	–	32.0	–	24.0	–	–	15.0 *	–	–	–	–	–	–	–
VPL-A1152F	5000	–	–	32.0	–	24.0	–	20.0	–	–	–	16.0	–	–	–	–
VPL-A1153C	2300	48.0	–	35.0	29.0	–	24.0 *	–	–	–	–	–	–	–	–	–
VPL-A1303B	1950	39.0	–	29.0	24.0	22.0 *	–	–	–	–	–	–	–	–	–	–
VPL-A1303F	4000	–	–	29.0	–	21.0	–	18.0	–	16.0	–	–	–	–	–	–
VPL-A1304A	1600	43.0	36.0	32.0 *	–	26.0 *	–	–	–	–	–	–	–	–	–	–
VPL-A1304D	3000	43.0	–	32.0	–	23.0	–	20.0	–	–	–	–	–	–	–	–
VPL-A1306C	2000	48.0	–	39.0 *	31.0 *	26.0	–	–	–	–	–	–	–	–	–	–
VPL-B1001M	6000	–	–	–	–	14.0	–	11.0	–	10.0	–	–	–	8.0	–	–
VPL-B1002E	3300	30.0	–	22.0	–	16.0	–	–	13.0 *	–	–	–	–	–	–	–
VPL-B1002M	6000	–	–	–	18.0	–	–	13.0	–	–	11.0	–	–	10.0	–	–
VPL-B1003C	2500	33.0	–	24.0	20.0	–	16.0	–	–	–	–	–	–	–	–	–
VPL-B1003F	4750	–	–	24.0	20.0	–	–	15.0	–	–	–	12.0 *	–	–	–	–
VPL-B1003T	7000	–	–	–	20.0	–	16.0	–	–	–	12.0	–	–	–	–	10.0
VPL-B1152C	2250	44.0	–	32.0	27.0	–	22.0 *	–	–	–	–	–	–	–	–	–
VPL-B1152F	4000	–	–	32.0	–	24.0	–	20.0	–	–	17.0	–	–	–	–	–
VPL-B1152T	6500	–	–	–	27.0	–	21.0	–	–	17.0	–	–	–	–	14.0	–
VPL-B1153E	3200	48.0	–	35.0	–	26.0	–	–	21.0 *	–	–	–	–	–	–	–
VPL-B1153F	5000	–	–	35.0	–	26.0	–	22.0	–	–	–	17.0	–	–	–	–
VPL-B1303C	2250	39.0	–	29.0	–	24.0	20.0 *	–	–	–	–	–	–	–	–	–
VPL-B1303F	4000	–	–	29.0	–	21.0	–	18.0 *	–	16.0	–	–	–	–	–	–
VPL-B1304C	2150	43.0	–	32.0	27.0 *	–	23.0 *	–	–	–	–	–	–	–	–	–
VPL-B1304E	3500	–	–	32.0	27.0	–	22.0 *	–	18.0	–	–	–	–	–	–	–
VPL-B1306C	2500	48.0	–	36.0	–	29.0 *	24.0	–	–	–	–	–	–	–	–	–
VPL-B1306F	4250	–	–	36.0	–	26.0	–	22.0	–	–	19.0 *	–	–	–	–	–
VPL-B1651C	2750	48.0	–	35.0	–	28.0 *	–	23.0 *	–	–	–	–	–	–	–	–
VPL-B1651F	4750	–	–	35.0	–	26.0	–	22.0	–	–	–	18.0 *	–	–	–	–
VPL-B1652C	2700	58.0	–	43.0	36.0	–	–	27.0 *	–	–	–	–	–	–	–	–
VPL-B1652F	4000	–	–	43.1	36.1	–	28.9	–	–	23.6	–	–	–	–	–	–
VPL-B1653C	2300	64.0	–	47.0	41.0 *	–	33.0 *	–	–	–	–	–	–	–	–	–
VPL-B1653D	3000	–	–	47.6	42.5 *	36.9 *	–	29.5	–	–	–	–	–	–	–	–
VPL-B1654B	1850	68.0	–	57.0	48.0 *	38.0 *	–	–	–	–	–	–	–	–	–	–
VPL-B1654D	3000	–	–	50.7	42.5	37.5	–	31.5	–	–	–	–	–	–	–	–

(1) 1.0 kgf = 2.2 lbf or 9.8 N. An asterisk (*) indicates a load rating measured at an rpm value that is less than the value listed for that column.

Axial Load Force Ratings (zero radial load) for Non-brake Motors

Motor Cat. No. (1)	Maximum Speed rpm	Load (kgf) at Speed (rpm)														
		500 kgf	750 kgf	1000 kgf	1500 kgf	2000 kgf	2500 kgf	3000 kgf	3500 kgf	4000 kgf	4500 kgf	5000 kgf	5500 kgf	6000 kgf	6500 kgf	7000 kgf
VPL-A1001C	2800	49.4	–	36.5	–	27.0	–	23.4 *	–	–	–	–	–	–	–	–
VPL-A1001M	6500	–	–	–	30.6	–	24.5	–	–	–	19.0	–	–	–	16.2	–
VPL-A1002C	3000	49.4	–	36.5	–	27.0	–	22.7	–	–	–	–	–	–	–	–
VPL-A1002F	5000	–	–	36.5	30.6	–	–	22.7	–	–	–	18.2	–	–	–	–
VPL-A1003C	2250	49.4	–	36.5	30.6	–	25.7 *	–	–	–	–	–	–	–	–	–
VPL-A1003E	3750	49.4	–	36.5	–	27.0	–	–	–	20.6 *	–	–	–	–	–	–
VPL-A1003F	5500	–	–	–	30.6	–	24.5	–	–	20.0	–	–	17.4	–	–	–
VPL-A1152B	2150	68.3	–	50.5	42.4	–	36.0 *	–	–	–	–	–	–	–	–	–
VPL-A1152E	3300	68.3	–	50.5	–	37.4	–	–	30.1 *	–	–	–	–	–	–	–
VPL-A1152F	5000	–	–	50.5	–	37.4	–	31.4	–	–	–	25.1	–	–	–	–
VPL-A1153C	2300	68.3	–	50.5	42.4		35.2 *	–	–	–	–	–	–	–	–	–
VPL-A1303B	1950	68.3	–	50.5	42.4	37.8 *	–	–	–	–	–	–	–	–	–	–
VPL-A1303F	4000	–	–	50.5	–	37.4	–	31.4	–	27.7	–	–	–	–	–	–
VPL-A1304A	1600	68.3	57.2	51.1 *	–	41.2 *	–	–	–	–	–	–	–	–	–	–
VPL-A1304D	3000	68.3	–	50.5	–	37.4	–	31.4	–	–	–	–	–	–	–	–
VPL-A1306C	2000	68.3	–	55.7 *	44.3 *	37.4	–	–	–	–	–	–	–	–	–	–
VPL-B1001M	6000	–	–	–	–	27.0	–	22.7	–	20.0	–	–	–	16.8	–	–
VPL-B1002E	3300	49.4	–	36.5	–	27.0	–	–	21.8 *	–	–	–	–		–	–
VPL-B1002M	6000	–	–	–	30.6	–	–	22.7	–	–	19.0	–	–	16.8	–	–
VPL-B1003C	2500	49.4	–	36.5	30.6	–	24.5	–	–	–	–	–	–	–	–	–
VPL-B1003F	4750	–	–	36.5	30.6	–	–	22.7	–	–	–	18.6 *	–	–	–	–
VPL-B1003T	7000	–	–	–	30.6	–	24.5	–	–	–	19.0	–	–	–	–	15.7
VPL-B1152C	2250	68.3	–	50.5	42.4	–	35.5 *	–	–	–	–	–	–	–	–	–
VPL-B1152F	4000	–	–	50.5	–	37.4	–	31.4	–	–	26.3	–	–	–	–	–
VPL-B1152T	6500	–	–	–	42.4	–	33.9	–	–	27.7	–	–	–	–	22.4	–
VPL-B1153E	3200	68.3	–	50.5	–	37.4	–	–	30.5 *	–	–	–	–	–	–	–
VPL-B1153F	5000	–	–	50.5	–	37.4	–	31.4	–	–	–	25.1	–	–	–	–
VPL-B1303C	2250	68.3	–	50.5	42.3	–	35.5 *	–	–	–	–	–	–	–	–	–
VPL-B1303F	4000	–	–	50.5	–	37.4	–	31.8 *	–	27.7	–	–	–	–	–	–
VPL-B1304C	2150	68.3	–	50.5	43.6 *	–	36.2 *	–	–	–	–	–	–	–	–	–
VPL-B1304E	3500	–	–	50.5	42.4	–	35.2 *	–	29.3	–	–	–	–	–	–	–
VPL-B1306C	2500	68.3	–	50.5	–	40.6 *	33.9	–	–	–	–	–	–	–	–	–
VPL-B1306F	4250	–	–	50.5	–	37.4	–	31.4	–	–	27.0 *	–	–	–	–	–
VPL-B1651C	2750	90.1	–	66.7	–	53.7 *	–	43.0 *	–	–	–	–	–	–	–	–
VPL-B1651F	4750	–	–	66.7	–	49.4	–	41.4	–	–	–	33.9 *	–	–	–	–
VPL-B1652C	2700	90.1	–	66.7	55.9	–	–	43.3 *	–	–	–	–	–	–	–	–
VPL-B1652F	4000	–	–	66.7	55.9	–	44.8	–	–	36.5	–	–	–	–	–	–
VPL-B1653C	2300	90.1	–	66.7	57.6 *	–	46.4 *	–	–	–	–	–	–	–	–	–
VPL-B1653D	3000	–	–	66.7	59.5 *	51.7 *	–	41.4	–	–	–	–	–	–	–	–
VPL-B1654B	1850	90.1	75.6	–	63.2 *	51.1 *	–	–	–	–	–	–	–	–	–	–
VPL-B1654D	3000	–	–	66.7	55.9	49.4	–	41.4	–	–	–	–	–	–	–	–

(1) 1.0 kgf = 2.2 lbf or 9.8 N. An asterisk (*) indicates a load rating measured at an rpm value that is less than the value listed for that column.

Radial Load Force Ratings (maximum) for Brake Motors

Motor Cat. No. (1)	Maximum Speed rpm	Load (kgf) at Speed (rpm)														
		500 kgf	750 kgf	1000 kgf	1500 kgf	2000 kgf	2500 kgf	3000 kgf	3500 kgf	4000 kgf	4500 kgf	5000 kgf	5500 kgf	6000 kgf	6500 kgf	7000 kgf
VPL-A1001C	2800	90.2	–	71.6	–	56.8	–	50.8 *	–	–	–	–	–	–	–	–
VPL-A1001M	6500	–	–	–	62.5	–	52.7	–	–	–	43.4	–	–	–	38.4	–
VPL-A1002C	3000	95.3	–	75.6	–	60.0	–	52.4	–	–	–	–	–	–	–	–
VPL-A1002F	5000	–	–	75.6	66.1	–	–	52.4	–	–	–	44.2	–	–	–	–
VPL-A1003C	2250	99.0	–	78.5	68.6	–	59.9 *	–	–	–	–	–	–	–	–	–
VPL-A1003E	3750	99.0	–	78.5	–	62.3	–	–	–	50.6 *	–	–	–	–	–	–
VPL-A1003F	5500	–	–	–	68.6	–	57.9	–	–	49.5	–	–	44.5	–	–	–
VPL-A1152B	2150	111.3	–	88.4	77.2	–	68.5 *	–	–	–	–	–	–	–	–	–
VPL-A1152E	3300	111.3	–	88.4	–	70.1	–	–	59.4 *	–	–	–	–	–	–	–
VPL-A1152F	5000	–	–	88.4	–	70.1	–	61.3	–	–	–	51.7	–	–	–	–
VPL-A1153C	2300	115.4	–	91.6	80.0	–	69.4 *	–	–	–	–	–	–	–	–	–
VPL-A1303B	1950	145.3	–	115.3	100.7	92.3 *	–	–	–	–	–	–	–	–	–	–
VPL-A1303F	4000	–	–	115.3	–	91.5	–	80.0	–	72.7	–	–	–	–	–	–
VPL-A1304A	1600	149.7	130.8	119.8 *	–	101.6 *	–	–	–	–	–	–	–	–	–	–
VPL-A1304D	3000	149.5	–	118.6	–	94.2	–	82.3	–	–	–	–	–	–	–	–
VPL-A1306C	2000	156.0	–	133.4 *	112.1 *	98.3	–	–	–	–	–	–	–	–	–	–
VPL-B1001M	6000	–	–	–	–	56.8	–	49.6	–	45.1	–	–	–	39.4	–	–
VPL-B1002E	3300	95.3	–	75.6	–	60.0	–	–	50.8 *	–	–	–	–	–	–	–
VPL-B1002M	6000	–	–	–	66.1	–	–	52.4	–	–	45.8	–	–	41.6	–	–
VPL-B1003C	2500	99.0	–	78.5	68.6	–	57.9	–	–	–	–	–	–	–	–	–
VPL-B1003F	4750	–	–	78.5	68.6	–		54.5	–	–	–	46.7 *	–	–	–	–
VPL-B1003T	7000	–	–	–	68.6	–	57.9	–	–	–	47.6	–	–	–	–	41.1
VPL-B1152C	2250	111.3	–	88.4	77.2	–	67.4 *	–	–	–	–	–	–	–	–	–
VPL-B1152F	4000	–	–	88.4	–	70.1	–	61.3	–	–	53.5	–	–	–	–	–
VPL-B1152T	6500	–	–	–	77.2	–	65.1	–	–	55.7	–	–	–	–	47.4	–
VPL-B1153E	3200	115.4	–	91.6	–	72.7	–	–	62.2 *	–	–	–	–	–	–	–
VPL-B1153F	5000	–	–	91.6	–	72.7	–	63.5	–	–	–	53.6	–	–	–	–
VPL-B1303C	2250	145.3	–	115.3	100.7	–	88.0 *	–	–	–	–	–	–	–	–	–
VPL-B1303F	4000	–	–	115.3	–	91.5	–	80.9 *	–	72.7	–	–	–	–	–	–
VPL-B1304C	2150	149.7	–	118.8	106.2 *	–	92.0 *	–	–	–	–	–	–	–	–	–
VPL-B1304E	3500	–	–	118.8	103.8	–	90.0 *	–	78.2	–	–	–	–	–	–	–
VPL-B1306C	2500	156.0	–	123.8	–	104.8 *	91.2	–	–	–	–	–	–	–	–	–
VPL-B1306F	4250	–	–	123.8	–	98.3	–	85.9	–	–	76.5 *	–	–	–	–	–
VPL-B1651C	2750	180.9	–	143.6	–	121.5 *	–	102.5 *	–	–	–	–	–	–	–	–
VPL-B1651F	4750	–	–	143.6	–	114.0	–	99.6	–	–	–	85.4 *	–	–	–	–
VPL-B1652C	2700	192.5	–	152.8	133.5	–	–	109.7 *	–	–	–	–	–	–	–	–
VPL-B1652F	4000	–	–	152.8	133.5	–	112.6	–	–	96.3	–	–	–	–	–	–
VPL-B1653C	2300	200.2	–	158.9	142.1 *	–	120.4 *	–	–	–	–	–	–	–	–	–
VPL-B1653D	3000	–	–	158.9	145.6 *	130.6 *	–	110.2	–	–	–	–	–	–	–	–
VPL-B1654B	1850	205.7	179.7	–	156.8 *	133.0 *	–	–	–	–	–	–	–	–	–	–
VPL-B1654D	3000	–	–	163.3	142.7	129.6	–	113.2	–	–	–	–	–	–	–	–

(1) 1.0 kgf = 2.2 lbf or 9.8 N. An asterisk (*) indicates a load rating measured at an rpm value that is less than the value listed for that column.

Axial Load Force Ratings (maximum radial load) for Brake Motors

Motor Cat. No. (1)	Maximum Speed rpm	Load (kgf) at Speed (rpm)														
		500 kgf	750 kgf	1000 kgf	1500 kgf	2000 kgf	2500 kgf	3000 kgf	3500 kgf	4000 kgf	4500 kgf	5000 kgf	5500 kgf	6000 kgf	6500 kgf	7000 kgf
VPL-A1001C	2800	31.0	–	23.0	–	17.0	–	14.0 *	–	–	–	–	–	–	–	–
VPL-A1001M	6500	–	–	–	19.0	–	15.0	–	–	–	12.0	–	–	–	10.0	–
VPL-A1002C	3000	34.0	–	25.0	–	18.0	–	15.0	–	–	–	–	–	–	–	–
VPL-A1002F	5000	–	–	25.0	21.0	–	–	15.0	–	–	–	12.0	–	–	–	–
VPL-A1003C	2250	36.0	–	26.0	22.0	–	18.0 *	–	–	–	–	–	–	–	–	–
VPL-A1003E	3750	36.0	–	26.0	–	19.0	–	–	–	15.0 *	–	–	–	–	–	–
VPL-A1003F	5500	–	–	–	22.0	–	18.0	–	–	14.0	–	–	12.0	–	–	–
VPL-A1152B	2150	50.0	–	37.0	31.0	–	26.0 *	–	–	–	–	–	–	–	–	–
VPL-A1152E	3300	51.0	–	37.0	–	27.0	–	–	22.0 *	–	–	–	–	–	–	–
VPL-A1152F	5000	–	–	37.0	–	27.0	–	23.0	–	–	–	18.0	–	–	–	–
VPL-A1153C	2300	53.0	–	39.0	32.0	–	27.0 *	–	–	–	–	–	–	–	–	–
VPL-A1303B	1950	46.0	–	34.0	28.0	25.0 *	–	–	–	–	–	–	–	–	–	–
VPL-A1303F	4000	–	–	34.0	–	25.0	–	21.0	–	18.0	–	–	–	–	–	–
VPL-A1304A	1600	48.0	40.0	36.0 *	–	29.0 *	–	–	–	–	–	–	–	–	–	–
VPL-A1304D	3000	48.0	–	36.0	–	26.0	–	22.0	–	–	–	–	–	–	–	–
VPL-A1306C	2000	52.0	–	42.0 *	33.3 *	28.0	–	–	–	–	–	–	–	–	–	–
VPL-B1001M	6000	–	–	–	–	17.0	–	14.0	–	12.0	–	–	–	10.0	–	–
VPL-B1002E	3300	34.0	–	25.0	–	18.0	–	–	15.0 *	–	–	–	–	–	–	–
VPL-B1002M	6000	–	–	–	21.0	–	–	15.0	–	–	13.0	–	–	11.0	–	–
VPL-B1003C	2500	36.0	–	26.0	22.0	–	18.0	–	–	–	–	–	–	–	–	–
VPL-B1003F	4750	–	–	26.0	22.0	–	–	16.0	–	–	–	13.0 *	–	–	–	–
VPL-B1003T	7000	–	–	–	22.0	–	18.0	–	–	–	13.0	–	–	–	–	11.0
VPL-B1152C	2250	51.0	–	37.0	31.0	–	26.0 *	–	–	–	–	–	–	–	–	–
VPL-B1152F	4000	–	–	37.0	–	27.0	–	23.0	–	–	19.0	–	–	–	–	–
VPL-B1152T	6500	–	–	–	31.0	–	25.0	–	–	20.0	–	–	–	–	16.0	–
VPL-B1153E	3200	53.0	–	39.0	–	29.0	–	–	23.0*	–	–	–	–	–	–	–
VPL-B1153F	5000	–	–	39.0	–	29.0	–	24.0	–	–	–	19.0	–	–	–	–
VPL-B1303C	2250	46.0	–	34.0	28.0	–	24.0 *	–	–	–	–	–	–	–	–	–
VPL-B1303F	4000	–	–	34.0	–	25.0	–	21.0 *	–	18.0	–	–	–	–	–	–
VPL-B1304C	2150	48.0	–	36.0	31.0 *	–	25.0 *	–	–	–	–	–	–	–	–	–
VPL-B1304E	3500	–	–	36.0	30.0	–	25.0 *	–	20.0	–	–	–	–	–	–	–
VPL-B1306C	2500	52.0	–	38.0	–	31.0 *	25.0	–	–	–	–	–	–	–	–	–
VPL-B1306F	4250	–	–	38.0	–	28.0	–	24.0	–	–	20.0 *	–	–	–	–	–
VPL-B1651C	2750	58.0	–	43.0	–	34.0 *	–	27.0 *	–	–	–	–	–	–	–	–
VPL-B1651F	4750	–	–	43.0	–	31.0	–	26.0	–	–	–	21.0 *	–	–	–	–
VPL-B1652C	2700	64.0	–	47.0	39.0	–	–	30.0 *	–	–	–	–	–	–	–	–
VPL-B1652F	4000	–	–	47.6	40.0	–	32.0	–	–	26.1	–	–	–	–	–	–
VPL-B1653C	2300	68.0	–	50.0	43.0 *	–	35.0 *	–	–	–	–	–	–	–	–	–
VPL-B1653D	3000	–	–	50.7	45.3 *	39.3 *	–	31.5	–	–	–	–	–	–	–	–
VPL-B1654B	1850	71.0	59.0	–	50.0 *	40.0 *	–	–	–	–	–	–	–	–	–	–
VPL-B1654D	3000	–	–	52.9	44.4	39.2	–	32.9	–	–	–	–	–	–	–	–

(1) 1.0 kgf = 2.2 lbf or 9.8 N. An asterisk (*) indicates a load rating measured at an rpm value that is less than the value listed for that column.

Axial Load Force Ratings (zero radial load) for Brake Motors

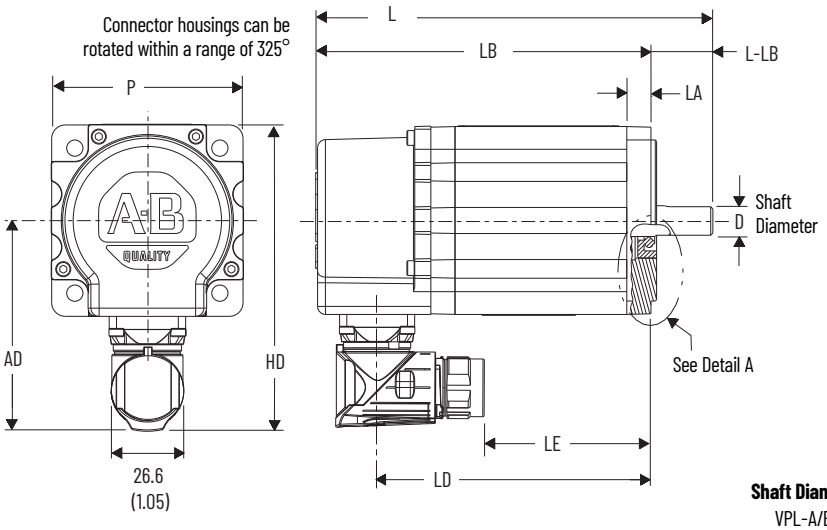
Motor Cat. No. (1)	Maximum Speed rpm	Load (kgf) at Speed (rpm)														
		500 kgf	750 kgf	1000 kgf	1500 kgf	2000 kgf	2500 kgf	3000 kgf	3500 kgf	4000 kgf	4500 kgf	5000 kgf	5500 kgf	6000 kgf	6500 kgf	7000 kgf
VPL-A1001C	2800	49.4	–	36.5	–	27.0	–	23.4 *	–	–	–	–	–	–	–	–
VPL-A1001M	6500	–	–	–	30.6	–	24.5	–	–	–	19.0	–	–	–	16.2	–
VPL-A1002C	3000	49.4	–	36.5	–	27.0	–	22.7	–	–	–	–	–	–	–	–
VPL-A1002F	5000	–	–	36.5	30.6	–	–	22.7	–	–	–	18.2	–	–	–	–
VPL-A1003C	2250	49.4	–	36.5	30.6	–	25.7 *	–	–	–	–	–	–	–	–	–
VPL-A1003E	3750	49.4	–	36.5	–	27.0	–	–	–	20.6 *	–	–	–	–	–	–
VPL-A1003F	5500	–	–		30.6	–	24.5	–	–	20.0	–	–	17.4	–	–	–
VPL-A1152B	2150	68.3	–	50.5	42.4	–	36.2 *	–	–	–	–	–	–	–	–	–
VPL-A1152E	3300	68.3	–	50.5	–	37.4	–	–	30.1 *	–	–	–	–	–	–	–
VPL-A1152F	5000	–	–	50.5	–	37.4	–	31.4	–	–	–	25.1	–	–	–	–
VPL-A1153C	2300	68.3	–	50.5	42.4	–	35.2 *	–	–	–	–	–	–	–	–	–
VPL-A1303B	1950	68.3	–	50.5	42.4	37.8 *	–	–	–	–	–	–	–	–	–	–
VPL-A1303F	4000	–	–	50.5	–	37.4	–	31.4	–	27.7	–	–	–	–	–	–
VPL-A1304A	1600	68.3	57.2	51.1 *	–	41.2 *	–	–	–	–	–	–	–	–	–	–
VPL-A1304D	3000	68.3	–	50.5	–	37.4	–	31.4	–	–	–	–	–	–	–	–
VPL-A1306C	2000	68.3	–	55.7 *	44.3	37.4	–	–	–	–	–	–	–	–	–	–
VPL-B1001M	6000	–	–	–	–	27.0	–	22.7	–	20.0	–	–	–	16.8	–	–
VPL-B1002E	3300	49.4	–	36.5	–	27.0	–	–	21.8 *	–	–	–	–	–	–	–
VPL-B1002M	6000	–	–	–	30.6	–	–	22.7	–	–	19.0	–	–	16.8	–	–
VPL-B1003C	2500	49.4	–	36.5	30.6	–	24.5	–	–	–	–	–	–	–	–	–
VPL-B1003F	4750	–	–	36.5	30.6	–	–	22.7	–	–	–	18.6 *	–	–	–	–
VPL-B1003T	7000	–	–	–	30.6	–	24.5	–	–	–	19.0	–	–	–	–	15.7
VPL-B1152C	2250	68.3	–	50.5	42.4	–	35.5 *	–	–	–		–	–	–	–	–
VPL-B1152F	4000	–	–	50.5	–	37.4	–	31.4	–	–	26.3	–	–	–	–	–
VPL-B1152T	6500	–	–	–	42.4	–	33.9	–	–	27.7	–	–	–	–	22.4	–
VPL-B1153E	3200	68.3	–	50.5	–	37.4	–	–	30.5 *	–	–	–	–	–	–	–
VPL-B1153F	5000	–	–	50.5	–	37.4	–	31.4	–	–	–	25.1	–	–	–	–
VPL-B1303C	2250	68.3	–	50.5	42.4	–	35.5 *	–	–	–	–	–	–	–	–	–
VPL-B1303F	4000	–	–	50.5	–	37.4	–	31.8 *	–	27.7	–	–	–	–	–	–
VPL-B1304C	2150	68.3	–	50.5	43.6 *	–	36.2 *	–	–	–	–	–	–	–	–	–
VPL-B1304E	3500	–	–	50.5	42.4	–	35.2 *	–	29.3	–	–	–	–	–	–	–
VPL-B1306C	2500	68.3	–	50.5	–	40.6 *	33.9	–	–	–	–	–	–	–	–	–
VPL-B1306F	4250	–	–	50.5	–	37.4	–	31.4	–	–	27.0 *	–	–	–	–	–
VPL-B1651C	2750	90.1	–	66.7	–	53.7	–	43.0 *	–	–	–	–	–	–	–	–
VPL-B1651F	4750	–	–	66.7	–	49.4	–	41.4	–	–	–	33.9 *	–	–	–	–
VPL-B1652C	2700	90.1	–	66.7	55.9	–	–	43.3 *	–	–	–	–	–	–	–	–
VPL-B1652F	4000	–	–	66.7	55.9	–	44.8	–	–	36.5	–	–	–	–	–	–
VPL-B1653C	2300	90.1	–	66.7	57.6 *	–	46.4 *	–	–	–	–	–	–	–	–	–
VPL-B1653D	3000	–	–	66.7	59.5 *	51.7 *	–	41.4	–	–	–	–	–	–	–	–
VPL-B1654B	1850	90.1	75.6	–	63.2 *	51.1 *	–	–	–	–	–	–	–	–	–	–
VPL-B1654D	3000	–	–	66.7	55.9	49.4	–	41.4	–	–	–	–	–	–	–	–

(1) 1.0 kgf = 2.2 lbf or 9.8 N. An asterisk (*) indicates a load rating measured at an rpm value that is less than the value listed for that column.

Dimensions - Kinetix VPL Servo Motors

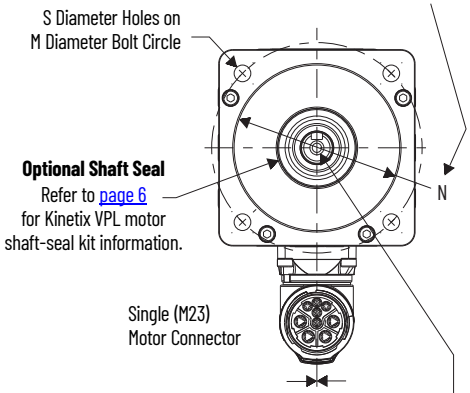
VPL-A/B063*xx* and VPL-A/B075*xx* Motor Dimensions

Dimensions are in mm (in.)



Pilot Diameter Tolerances

VPL-A/B063*xx* Motors:
Ø 39.995...40.011 (1.5746...1.5752)
VPL-A/B075*xx* Motors:
Ø 59.993...60.012 (2.3619...2.3627)



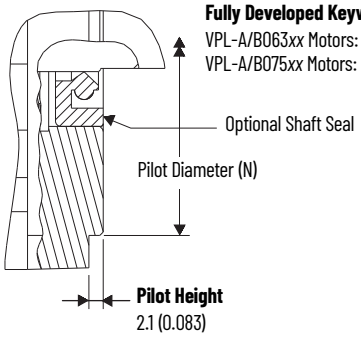
Shaft Diameter Tolerances

VPL-A/B063*xx* Motors:
Ø 8.998...9.007 (0.3543...0.3546)
VPL-A/B075*xx* Motors:
Ø 10.997...11.008 (0.4330...0.4334)

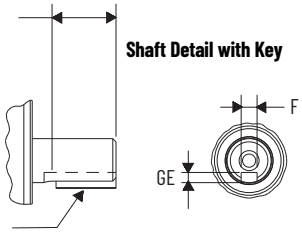
Shaft-end Threaded Hole

VPL-A/B063*xx* Motors:
Thread - M3 x 0.5-6H
Thread Depth - 9.0 (0.354)
VPL-A/B075*xx* Motors:
Thread - M4 x 0.7-6H
Thread Depth - 10.0 (0.393)

Detail A



Shaft Detail with Key



Key Supplied

VPL-A/B063*xx* = $3_{(+0, -0.025)}$ x $3_{(+0, -0.025)}$ x 13 Key
VPL-A/B075*xx* = $4_{(+0, -0.030)}$ x $4_{(+0, -0.030)}$ x 15 Key

Shaft, Pilot, and Keyway Tolerances	VPL-A/B063*xx*	VPL-A/B075*xx*
Shaft Runout (T.I.R.)	0.030 (0.0012)	0.035 (0.0014)
Pilot Eccentricity (T.I.R.)	0.08 (0.0031)	0.08 (0.0031)
Max Face Runout (T.I.R.)	0.08 (0.0031)	0.08 (0.0031)
Keyway Depth (GE)	1.80...1.90 (0.071...0.075)	2.50...2.60 (0.098...0.102)
Keyway Width (F)	2.971...2.996 (0.117...0.118)	3.970...4.000 (0.156...0.158)

VPL-A/B063*xx* and VPL-A/B075*xx* Motor Dimensions

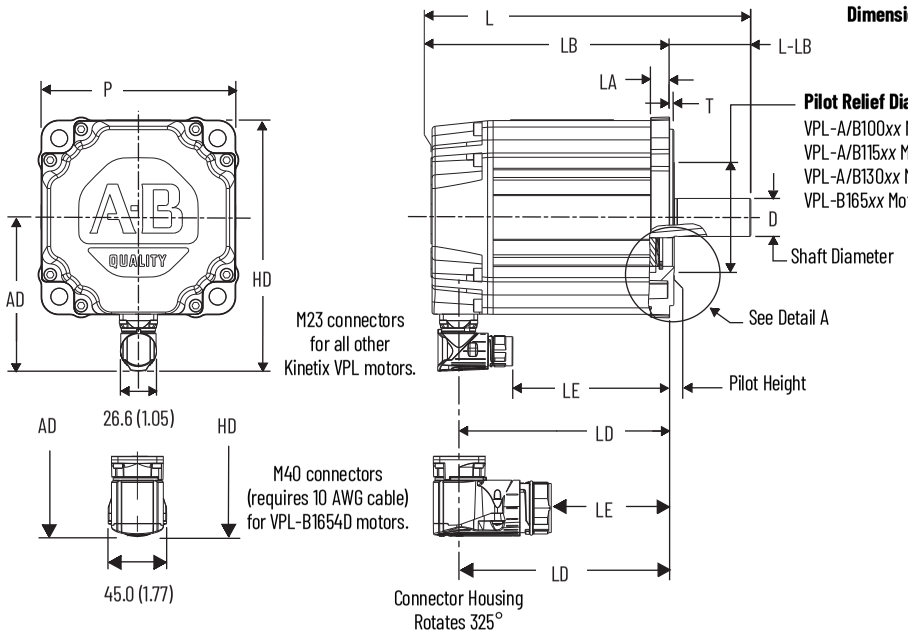
Motor Cat. No.	AD mm (in.)	HD mm (in.)	LA mm (in.)	LD (1) mm (in.)	LE (1) mm (in.)	L (1) mm (in.)	LB (1) mm (in.)	L-LB (2) mm (in.)	D (4) mm (in.)	M mm (in.)	S (3) mm (in.)	N (4) mm (in.)	P mm (in.)	GE (4) mm (in.)	F (4) mm (in.)
VPL-A/B0631	69.5 (2.74)	97.0 (3.82)	9.0 (0.35)	100.2 (3.94)	60.3 (2.37)	143.1 (5.63)	123.1 (4.85)	20.0 (0.787)	9.0 (0.354)	63.0 (2.480)	5.80 (0.234)	40.0 (1.575)	55.0 (2.17)	1.90 (0.075)	3.0 (0.118)
VPL-A/B0632				125.2 (4.93)	85.3 (3.36)	168.1 (6.61)	148.1 (5.83)								
VPL-A/B0633				150.2 (5.91)	110.3 (4.34)	193.1 (7.59)	173.1 (6.81)								
VPL-A/B0751	77.0 (3.03)	112.0 (4.41)	9.0 (0.35)	102.0 (4.02)	62.1 (2.44)	147.9 (5.82)	124.9 (4.92)	23.0 (0.906)	11.0 (0.433)	75.0 (2.953)	5.80 (0.234)	60.0 (2.362)	70.0 (2.76)	2.60 (0.102)	4.0 (0.157)
VPL-A/B0752				127.0 (5.00)	87.1 (3.43)	172.9 (6.80)	149.9 (5.90)								
VPL-A/B0753				152.0 (5.98)	112.1 (4.41)	197.9 (7.79)	174.9 (6.89)								

(1) If ordering an VPL-A/B063*xx* or VPL-A/B075*xx* motor with brake, add 30.6 mm (1.20 in.) to dimension L, LB, LE, and LD.
(2) Tolerance for this dimension is ±0.7 mm (±0.028 in.).
(3) Tolerance for this dimension is +0.3, -0.0 mm (±0.006 in.).
(4) For keyway, shaft diameter, and pilot diameter tolerances, refer to page 22.

Motors are designed to metric dimensions. Inch dimensions are approximate conversions from millimeters. Dimensions without tolerances are for reference.

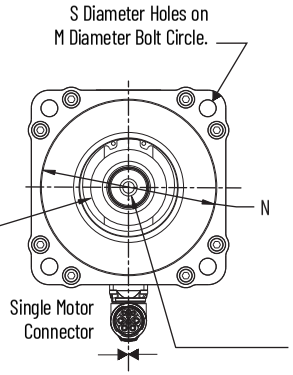
VPL-A/B100*xx*, VPL-A/B115*xx*, VPL-A/B130*xx*, and VPL-B165*xx* Motor Dimensions (SpeedTec DIN connectors)

Dimensions are in mm (in.)



Optional Shaft Seal

Refer to page 6 for Kinetix VPL motor shaft-seal kit information.



Pilot Diameter Tolerances

VPL-A/B100*xx* Motors:
Ø 79.993...80.012 (3.1493...3.1501)
VPL-A/B115*xx* Motors:
Ø 94.991...95.013 (3.7398...3.7407)
VPL-A/B130*xx* Motors:
Ø 109.991...110.013 (4.3303...4.3312)
VPL-B165*xx* Motors:
Ø 129.991...130.014 (5.1178...5.1187)

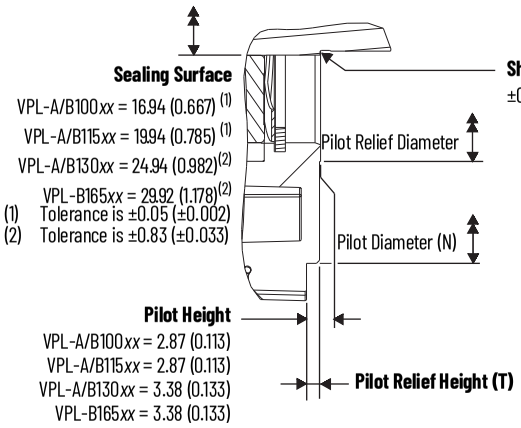
Shaft-end Threaded Hole

VPL-A/B100*xx* Motors:
Thread - M5 x 0.8-6H
Thread Depth - 12.5 (0.49)
VPL-A/B115*xx* Motors:
Thread - M6 x 1.0-6H
Thread Depth - 16.0 (0.63)
VPL-A/B130*xx* Motors:
Thread - M8 x 1.25-6H
Thread Depth - 19.1 (0.75)
VPL-B165*xx* Motors:
Thread - M10 x 1.5-6H
Thread Depth - 22.1 (0.87)

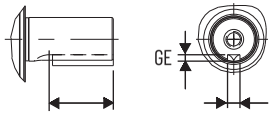
Shaft Diameter Tolerances

VPL-A/B100*xx* = Ø 15.997...16.008 (0.6298...0.6301)
VPL-A/B115*xx* = Ø 18.996...19.009 (0.7479...0.7483)
VPL-A/B130*xx* = Ø 23.996...24.009 (0.9448...0.9451)
VPL-B165*xx* = Ø 27.996...28.009 (1.1022...1.1027)

Detail A



Shaft Detail with Key

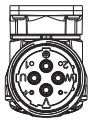


Keyway Length

VPL-A/B100*xx* = 25.4 (1.00)
VPL-A/B115*xx* = 25.4 (1.00)
VPL-A/B130*xx* = 32.3 (1.27)
VPL-B165*xx* = 41.1 (1.62)

Key Supplied

VPL-A/B100*xx* = $5_{(+0,\ -0.030)}$ x $5_{(+0,\ -0.030)}$ x 24 Key
VPL-A/B115*xx* = $6_{(+0,\ -0.030)}$ x $6_{(+0,\ -0.030)}$ x 24 Key
VPL-A/B130*xx* = $8_{(+0,\ -0.036)}$ x $7_{(+0,\ -0.090)}$ x 31 Key
VPL-B165*xx* = $8_{(+0,\ -0.036)}$ x $7_{(+0,\ -0.090)}$ x 39 Key

Motor Connectors on VPL-B165*xx* Motors		Motor Cat. No.
M23 Connector		VPL-B1651*x* VPL-B1652*x* VPL-B1653*x* VPL-B1654B
M40 Connector		VPL-B1654D

Shaft, Pilot, and Keyway Tolerances	VPL-A/B100*xx*	VPL-A/B115*xx*	VPL-A/B130*xx* VPL-B165*xx*
Shaft Runout (T.I.R.)	0.04 (0.0016)		
Pilot Eccentricity (T.I.R.)	0.078 (0.0031)		
Max Face Runout (T.I.R.)	0.078 (0.0031)		
Keyway Depth (GE)	3.00...3.10 (0.118...0.122)	3.50...3.60 (0.138...0.142)	4.00...4.20 (0.158...0.165)
Keyway Width (F)	4.97...5.00 (0.196...0.197)	5.97...6.00 (0.235...0.236)	7.96...8.00 (0.314...0.315)

VPL-A/B100*xx*, VPL-A/B115*xx*, VPL-A/B130*xx*, and VPL-B165*xx* Motor Dimensions (SpeedTec DIN connectors)

Motor Cat. No.	AD mm (in.)	HD mm (in.)	T mm (in.)	LA mm (in.)	LD [1] mm (in.)	LE [1] mm (in.)	L [1] mm (in.)	LB [1] mm (in.)	L-LB [2] mm (in.)	D [3] mm (in.)	M mm (in.)	S mm (in.)	N [3] mm (in.)	P mm (in.)	GE [3] mm (in.)	F [3] mm (in.)
VPL-A/B1001	86.5 (3.40)	131.2 (5.17)	2.74 (0.108)	9.90 (0.39)	108.7 (4.28)	68.9 (2.71)	169.8 (6.68)	129.8 (5.11)	40.0 (1.575)	16.0 (0.630)	100.0 (3.937)	7.00 [4] (0.283)	80.0 (3.15)	89.4 (3.52)	3.0 (0.118)	5.0 (0.197)
VPL-A/B1002					134.1 (5.28)	94.3 (3.71)	195.2 (7.68)	155.2 (6.11)								
VPL-A/B1003					159.5 (6.28)	119.7 (4.71)	220.6 (8.68)	180.6 (7.11)								
VPL-A/B1152	90.8 (3.58)	140.0 (5.51)	2.74 (0.108)	10.16 (0.40)	130.6 (5.14)	90.7 (3.57)	191.6 (7.54)	151.6 (5.97)	40.0 (1.575)	19.0 (0.748)	115.0 (4.528)	10.00 [4] (0.401)	95.0 (3.74)	98.3 (3.87)	3.5 (0.138)	6.0 (0.236)
VPL-A/B1153					156.0 (6.14)	116.1 (4.57)	217.0 (8.54)	177.0 (6.97)								
VPL-A/B1303	98.6 (3.88)	155.4 (6.12)	2.74 (0.108)	12.19 (0.48)	159.3 (6.27)	119.4 (4.70)	230.3 (9.06)	180.3 (7.10)	50.0 (1.969)	24.0 (0.945)	130.0 (5.118)	10.00 [4] (0.401)	110.0 (4.331)	113.7 (4.48)	4.0 (0.158)	8.0 (0.315)
VPL-A/B1304					184.7 (7.27)	144.8 (5.70)	255.7 (10.06)	205.7 (8.10)								
VPL-A/B1306					235.5 (9.27)	195.6 (7.70)	306.5 (12.06)	256.5 (10.10)								
VPL-B1651	113.3 (4.46)	185.0 (7.28)	3.12 (0.123)	14.0 (0.55)	155.4 (6.12)	115.6 (4.55)	235.6 (9.27)	175.6 (6.92)	60.0 (2.362)	28.0 (1.102)	165.0 (6.496)	12.00 [5] (0.481)	130.0 (5.118)	143.5 (5.65)	4.0 (0.158)	8.0 (0.315)
VPL-B1652					206.2 (8.12)	166.4 (6.55)	286.4 (11.27)	226.4 (8.92)								
VPL-B1653					257.0 (10.12)	217.2 (8.55)	337.2 (13.27)	277.2 (10.92)								
VPL-B1654B					307.8 (12.12)	268.0 (10.55)	388.0 (15.28)	328.0 (12.92)								
VPL-B1654D	132.9 (5.23)	204.6 (8.06)			306.8 (12.08)	235.8 (9.28)										

(1) If ordering a VPL-A/B100*xx*-*xxx*4*xx* motor with brake, add 34.5 mm (1.36 in.) to dimensions L, LB, LE, and LD.
If ordering a VPL-A/B115*xx*-*xxx*4*xx* motor with brake, add 48.5 mm (1.91 in.) to dimensions L, LB, LE, and LD.
If ordering a VPL-A/B130*xx*-*xxx*4*xx* motor with brake, add 48.5 mm (1.91 in.) to dimensions L, LB, LE, and LD.
If ordering a VPL-B165*xx*-*xxx*4*xx* motor with brake, add 51.5 mm (2.03 in.) to dimensions L, LB, LE, and LD.
(2) Tolerance for this dimension is ±0.7 mm (±0.028 in.).
(3) For keyway, shaft diameter, and pilot diameter tolerances, refer to page 24.
(4) Tolerance for this dimension is +0.36, -0.0 mm (±0.007 in.).
(5) Tolerance for this dimension is +0.43 -0.0 mm (±0.008 in.).

Motors are designed to metric dimensions. Inch dimensions are approximate conversions from millimeters. Dimensions without tolerances are for reference.

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