# 1326AS Series 460V, Low Inertia, Brushless Servo Motors

***Product Data***



This publication provides product information for the 0.49 to 49.3 N-m (4.33 to 436 lb-in.) 1326AS Series 460V, Low Inertia, Brushless Servo Motors. This publication includes:

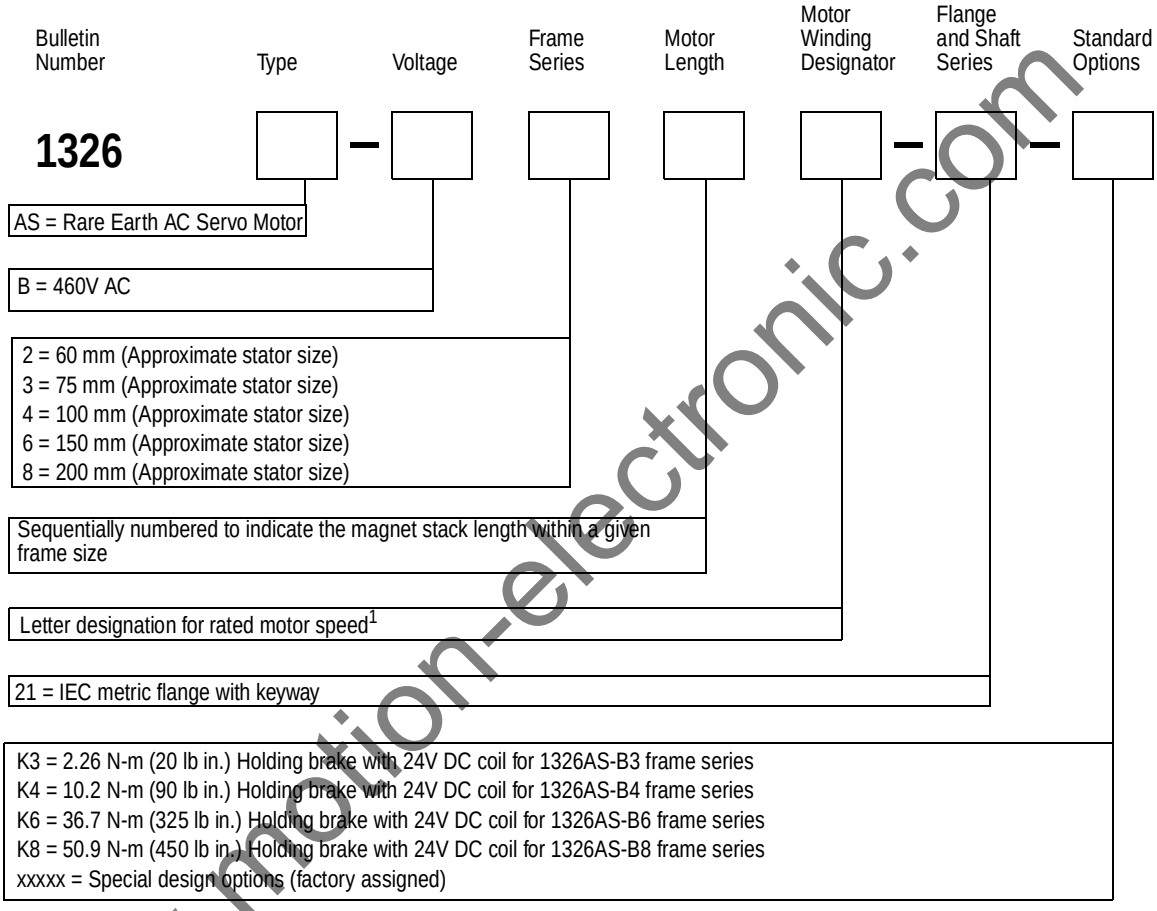
- Detailed lists of the features and options available for 1326AS Series 460V, Low Inertia, Brushless Servo Motors
- Tables that show how to determine the catalog numbers for the motors and options you need
- Performance data and speed-torque curves for the entire 1326AS Series servo motor family
- Servo motor dimensions
- Details on holding brakes, shaft oil seal kits and junction boxes

Rockwell Automation
Allen-Bradley

## Determining Catalog Numbers

1326AS Series catalog numbers are made of various components. Each character of the catalog number identifies a specific version or option for that component. Use the selection tables below to assemble the catalog numbers for the motors and options you need.

### 1326AS Series Servo Motor




[1] See the table in the Servo Motor Performance Data section for the rated speeds of the entire 1326AS Series family of motors.

## Servo Motor Performance Data

This section contains 1326AS performance data. Included is a selection list detailing the performance data of selected amplifier/motor combinations, general speed-torque curve definitions and typical speed-torque curves.

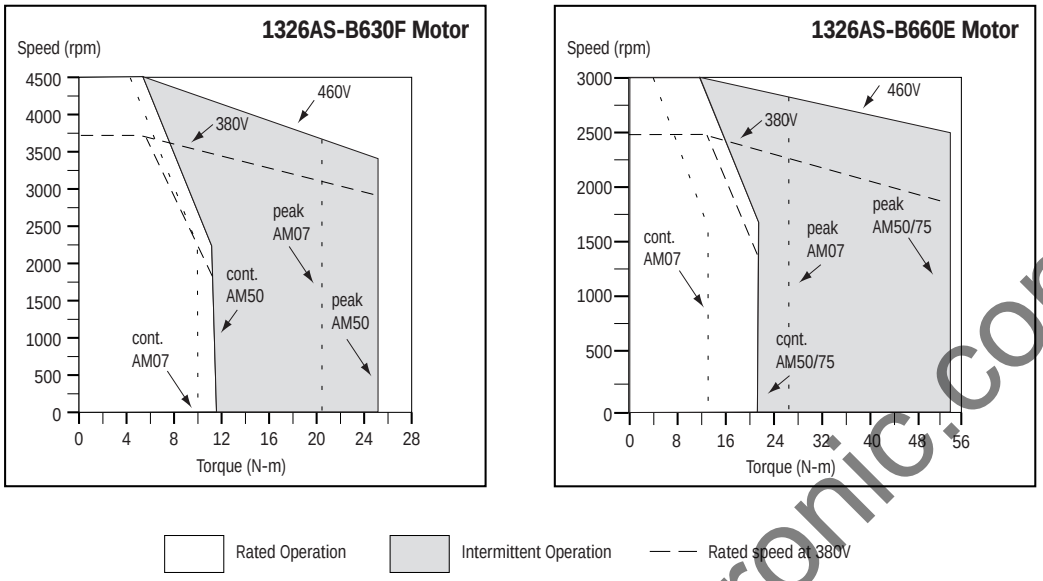
| Motor Catalog Number[1] | Rated Speed rpm | | Motor Rated Torque N-m (lb-in.) | Motor Rated Output kW | Rotor Inertia kg-m$^2$ (lb-in.-s$^2$) | System Continuous Torque N-m (lb-in.) | System Peak Stall Torque N-m (lb-in.) | System Continuous Stall Current Amperes | System Peak Stall Current Amperes | 1394 Axis Module |
|---|---|---|---|---|---|---|---|---|---|---|
| | 460V | 380V | | | | | | | | |
| 1326AS-B220H | 5500 | 5000 | 0.49 (4.3) | 0.17 | 0.00003 (0.0003) | 0.49 (4.3) | 1.24 (11.0) | 0.57 | 1.7 | AM03 |
| 1326AS-B310H | 6200 | 5120 | 0.7 (6.1) | 0.3 | 0.000045 (0.0004) | 0.7 (6.1) | 2.1 (18) | 0.8 | 2.4 | AM03 |
| 1326AS-B330H | 6500 | 5370 | 2.0 (18.0) | 0.9 | 0.00009 (0.0008) | 2.1 (18) | 5.6 (50) | 2.1 | 6.0 | AM03 |
| | | | | | | | | | | AM04 |
| 1326AS-B420G | 5250 | 4340 | 3.2 (28.0) | 1.2 | 0.0003 (0.0027) | 3.2 (28) | 7.3 (65)[3] | 2.6 | 6.0[3] | AM03 |
| | | | | | | | 9.6 (84) | | 7.8 | AM04 |
| | | | | | | | | | | AM07 |
| 1326AS-B440G | 5250 | 4340 | 6.4 (56.0) | 2.0 | 0.0005 (0.0046) | 5.3 (47)[2] | 10.5 (93)[3] | 4.5[2] | 9.0[3] | AM04 |
| | | | | | | 6.4 (56) | 17.6 (156) | 5.4 | 15.0 | AM07 |
| | | | | | | | 19.0 (168) | | 16.2 | AM50 |
| 1326AS-B460F | 4300 | 3550 | 9.0 (80.0) | 2.8 | 0.00075 (0.0066) | 6.6 (58)[2] | 13.1 (116)[3] | 4.5[2] | 9.0[3] | AM04 |
| | | | | | | 9.0 (80) | 21.9 (194) | 6.2 | 15.0 | AM07 |
| | | | | | | | 27.1 (240) | | 18.6 | AM50 |
| 1326AS-B630F | 4500 | 3720 | 10.7 (95.0) | 2.4 | 0.0014 (0.012) | 10.3 (91)[2] | 20.6 (182)[3] | 7.5[2] | 15.0[3] | AM07 |
| | | | | | | 10.7 (95) | 25.4 (225) | 7.8 | 18.5 | AM50 |
| 1326AS-B660E | 3000 | 2480 | 21.5 (190) | 3.4 | 0.0025 (0.022) | 13.7 (121)[2] | 27.3 (242)[3] | 7.5[2] | 15.0[3] | AM07 |
| | | | | | | 21.5 (190) | 54.2 (480) | 11.8 | 29.8 | AM50 |
| | | | | | | | 54.2 (480) | | 29.8 | AM75 |
| 1326AS-B690E | 3000 | 2480 | 36.4 (322) | 5.0 | 0.0036 (0.032) | 36.4 (322) | 63.6 (563)[3] | 19.0 | 33.2[3] | AM50 |
| | | | | | | | 79.1 (700) | | 41.3 | AM75 |
| 1326AS-B840E | 3000 | 2480 | 37.6 (333) | 4.7 | 0.0063 (0.056) | 37.6 (333) | 59.0 (522)[3] | 21.2 | 33.2[3] | AM50 |
| | | | | | | | 70.0 (620) | | 39.5 | AM75 |
| 1326AS-B860C | 2000 | 1650 | 49.3 (436) | 6.0 | 0.0094 (0.083) | 49.3 (436) | 93.0 (823)[3] | 17.6 | 33.2[3] | AM50 |
| | | | | | | | 124.0 (1100) | | 44.4 | AM75 |

[1] All ratings are for 40° C (104° F) motor ambient, 100° C (212° F) case and 50° C (122° F) amplifier ambient. For extended ratings at lower ambient temperatures, contact Allen-Bradley.

[2] Limited by the axis module continuous current.

[3] Limited by axis module peak current.

**Figure 5**
**1326AS-B630F and 1326AS-B660E Speed-Torque Curves**

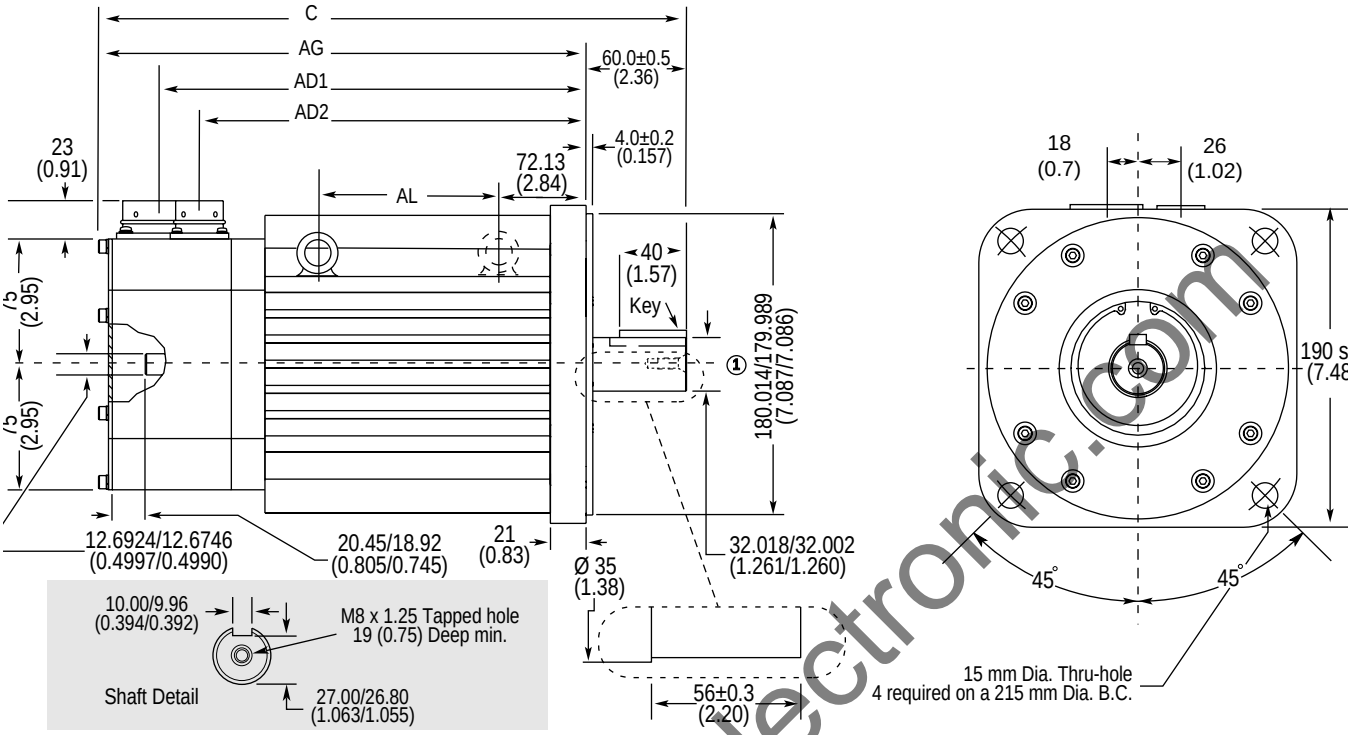



**Important:** The Servo Motor Performance Data section provides system ratings for specific motor/amplifier combinations.
The motor was tested at a line voltage of 460V AC, in an environment where the ambient temperature was 40° C (104° F). The case temperature was approximately 100° C (212° F) with the motor windings at an 85° C (185° F) rise over ambient. Torque ratings were determined when the motor was mounted to a 304.8 mm x 304.8 mm x 25.4 mm (12 in. x 12 in. x 1 in.) steel mounting bracket. The motor contains a normally closed thermal switch that opens when the internal motor temperature reaches 140° C (284° F) ± 5° C (± 9° F). The thermal switch has a maximum current rating of 2.5A at 250V AC. All values shown below have a tolerance of ± 10%.

| Category | Parameter | Ambient Temperature | Units | 1326AS-B630F | 1326AS-B660E |
|---|---|---|---|---|---|
| General | Continuous Stall Torque-AM07/50/75 | at 40° C (104° F) | N-m (lb-in.) | NA/10.3 (91)/ 10.7 (95)/NA | 13.7 (121)/21.5 (190)/ 21.5 (190) |
| | Rated Output | | kW | 2.4 | 3.4 |
| | Peak Stall Torque-AM07/50/75 | at 40° C (104° F) | N-m (lb-in.) | NA/20.6 (182)/ 25.4 (225)/NA | 27.3 (242)/54.2 (480)/ 54.2 (480) |
| | Continuous Stall Current AM07/50/75 | at 40° C (104° F) | amperes | NA/7.5/7.8/NA | 7.5/11.8/11.8 |
| | Peak Stall Current-AM07/50/75 | at 40° C (104° F) | amperes | NA/15.0/18.5/NA | 15.0/29.8/29.8 |
| | Mechanical Time Constant | at 40° C (104° F) | milliseconds | 0.89 | 0.65 |
| | Electrical Time Constant | at 40° C (104° F) | milliseconds | 8.7 | 11.3 |
| | Rated Speed - 460V/380V | at 40° C (104° F) | rpm | 4500/3720 | 3000/2480 |
| Thermal | Maximum Ambient Temperature (without derating) | | degrees C | 40 | 40 |
| | Insulation Class | | | B | B |
| | Thermal Time Constant | | minutes | 50 | 60 |
| Winding | Torque Constant | at 25° C (77° F) | N-m (lb-in.)/A | 1.58 (14.0) | 2.09 (18.5) |
| | Voltage Constant | RMS (L-L) at 25° C (77° F) | volts/1000 rpm | 96 | 127 |
| | Terminal Resistance | ohms (L-L) at 25° C (77° F) | ohms | 1.1 | 0.76 |
| | Inductance | mH (L-L) at 25° C (77° F) | millihenry | 9.5 | 8.6 |
| Mechanical | Rotor Polar Moment of Inertia | | $kg\text{-}m^2$ ($lb\text{-}in.\text{-}s^2$) | 0.0014 (0.012) | 0.0025 (0.022) |
| | Motor Weight | | kg (lb) | 18.3 (40.4) | 26.9 (59.4) |
| | Balance[1] | | mm (in.) | 0.0178 (0.0007) | 0.0178 (0.0007) |

[1] To obtain vibration velocity in inches (mm)/second, use the following formula: Vv = Dp-p x rpm/27.01
where: $V_v$ = Vibration velocity in mm (in.)/second
$D_{p\text{-}p}$ = Peak-peak displacement in mm (in.)
rpm = Motor speed

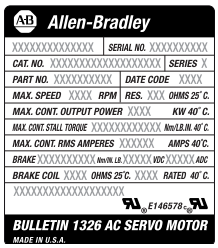
**Figure 11**
**Motor Dimensions - 1326AS-B6 Series Servo Motor**




**①Shaft and Pilot Tolerances**

| | |
|---|---|
| Shaft Runout | 0.05 (0.002) T.I.R |
| Shaft Endplay | 0.025 (0.001) |
| Pilot Eccentricity | 0.10 (0.004) T.I.R |
| Maximum Face Runout | 0.10 (0.004) T.I.R |

**Motor Name Plate**




| Flange Mount in millimeters and (inches) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **Catalog number** | **Description** | **AL** | **AD1** | **AD2** | **AG** | **C** | **Key** | **End milled keyway (full depth)** |
| 1326AS-B630*x*-21 | without brake[1] | 69 (2.71) | 255 (10.03) | 231 (9.09) | 291 (11.45) | 351 (13.81) | 10 x 8 x 40 (0.394 x 0.315 x 1.57) | 40 (1.57) |
| 1326AS-B660*x*-21 | without brake[1] | 145 (5.71) | 331 (13.03) | 307 (12.09) | 367 (14.45) | 427 (16.81) | 10 x 8 x 40 (0.394 x 0.315 x 1.57) | 40 (1.57) |
| 1326AS-B690*x*-21 | without brake[1] | 221 (8.71) | 407 (16.03) | 383 (15.09) | 443 (17.45) | 503 (19.81) | 10 x 8 x 40 (0.394 x 0.315 x 1.57) | 40 (1.57) |

[1] If you are ordering a 1326AS-B6*xxx*-21-K6 with an optional 24V DC 36.7 N-m (325 lb-in.) brake, add 54 mm (2.13 in.) to AL, AD1, AD2, AG and C.

Dimensions are per NEMA Standards MG 7-2.4.1.3 and IEC 72-1. Shaft and pilot tolerances are per DIN 42955, N tolerance. The eye bolt diameter is 30.48 mm (1.20 in) O.D. x 19.05 mm (0.75 in) I.D.