

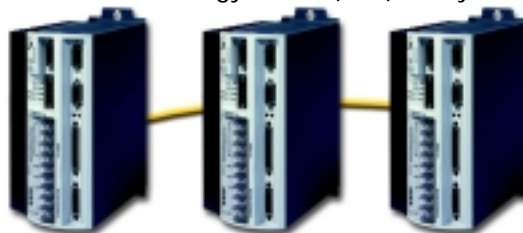
O & R Series Stepper Motor Specifications
Size 23, 34, & 42 Frame Sizes

| Parameters | | Size 23 Frame | | | Size 34 Frame | | | Size 42 Frame | |
|----------------------------------|-----------------------|---------------|-----------|-----------|---------------|-----------|-----------|---------------|-----------|
| | | OS2HB | OS21B | OS22B | RS31B | RS32B | RS33B | RS42B | RE42B |
| Static torque | oz-in | 43 | 82 | 155 | 133 | 267 | 392 | 985 | 1907 |
| | (Nm) | (0.30) | (0.58) | (1.09) | (0.93) | (1.87) | (2.74) | (6.90) | (13.35) |
| Rotor inertia | oz-in ² | 0.39 | 0.66 | 1.39 | 3.02 | 6.56 | 9.65 | 61.76 | 61.76 |
| | (kg-cm ²) | (0.07) | (0.12) | (0.25) | (0.55) | (1.20) | (1.77) | (11.30) | (11.30) |
| Drive Current (Apk)(Arms) | Series | 1.5 (1.0) | 1.8 (1.3) | 2.2 (1.5) | 2.3 (1.6) | 2.8 (2.0) | 3.4 (2.4) | 6.1 (4.3) | 3.4 (2.4) |
| | Parallel | 3.0 (2.1) | 4.0 (2.8) | 4.0 (2.8) | 4.6 (3.3) | 5.6 (4.0) | 6.9 (4.9) | 12.0 (8.5) | 7.2 (5.1) |
| Phase Inductance (mH) | Series | 8.6 | 12 | 16.6 | 9.4 | 11.6 | 9.6 | 8.2 | 42.6 |
| | Parallel | 2.2 | 3 | 4.2 | 2.4 | 2.9 | 2.4 | 2.1 | 10.7 |
| Drive Bus Voltage | (VDC) | 170 | 170 | 170 | 170 | 170 | 170 | 170 | 170 |
| Detent Torque | oz-in | 2.5 | 4.0 | 7.0 | 8.8 | 18.0 | 27.0 | 50 | 81.0 |
| | (N-m) | (0.02) | (0.03) | (0.05) | (0.06) | (0.13) | (0.19) | (0.35) | (0.57) |
| Bearings Information Thrust Load | lb | 13 | 13 | 13 | 180 | 180 | 180 | 400 | 400 |
| | (kg) | (5.9) | (5.9) | (5.9) | (81.6) | (81.6) | (81.6) | (182) | (182) |
| Radial Load | lb | 20 | 20 | 20 | 35 | 35 | 35 | 140 | 140 |
| | (kg) | (9.1) | (9.1) | (9.1) | (15.9) | (15.9) | (15.9) | 63.6) | (63.6) |
| End Play | in | 0.001 | 0.001 | 0.001 | 0.001 | 0.001 | 0.001 | 0.001 | 0.001 |
| | (mm) | (0.025) | (0.025) | (0.025) | (0.025) | (0.025) | (0.025) | (0.025) | (0.025) |
| Radial Play (Per 0.5 lb load) | in | 0.0008 | 0.0008 | 0.0008 | 0.0008 | 0.0008 | 0.0008 | 0.0008 | 0.0008 |
| | (mm) | (0.02) | (0.02) | (0.02) | (0.02) | (0.02) | (0.02) | (0.02) | (0.02) |
| Motor Weight | lb | 1 | 1.5 | 2.5 | 3.2 | 5.3 | 7.6 | 18.2 | 18.2 |
| | (kg) | (0.5) | (0.7) | (1.1) | (1.5) | (2.4) | (3.5) | (8.3) | (8.3) |
| Certifications | UL recognized | No | No | No | Yes | Yes | Yes | Yes | Yes |
| | CE (LVD) | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| | CE (EMC & LVD)* | No | No | No | * | * | * | * | * |

* To comply with EMC and low-noise (CISPR22/EN55022 Class A or FCC Class A emissions) standards, the following items are required:

- Gemini GT or GT6 Drives
- CE(LVD) motor for LVD, Compumotor recommends a terminal board (NPS) motor construction for easier EMC installation
- C10(CH10) motor accessory (LVD/EMC cable kit)
- Mains filter as indicated in the User Guide

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**T Series Stepper Motor Specifications
(Size 34 Frame & 42 Frame)**

| | | Size 34 Frame | | | Size 42 Frame | | |
|---------------------------------------|--|----------------|----------------|----------------|----------------|----------------|----------------|
| | | TS31B | TS32B | TS33B | TS41B | TS42B | TS43B |
| Static torque** | oz-in (N-m) | 455 (3.19) | 647 (4.53) | 1525 (10.68) | 1332 (9.32) | 2515 (17.61) | 3479 (24.35) |
| Rotor inertia | oz-in ² (kg-cm ²) | 7.80 (1.43) | 14.67 (2.68) | 21.89 (4.01) | 30.22 (5.53) | 59.68 (10.92) | 88.51 (16.20) |
| Drive Current (Apk)(Arms)** | Series | 3.3 (2.3) | 3.1 (2.2) | 5.6 (4.0) | 6.4 (4.5) | 6.7 (4.7) | 6.9 (4.9) |
| | Parallel | 6.7 (4.7) | 6.2 (4.4) | 12.0 (8.5) | 12.0 (8.5) | 12.0 (8.5) | 12.0 (8.5) |
| Drive Bus Voltage | (VDC) | 170 | 170 | 170 | 170 | 170 | 170 |
| Phase Inductance (mH)*** | Series | 10.3 | 10.3 | 13.6 | 15.8 | 22.0 | 30.7 |
| | Parallel | 2.6 | 2.6 | 3.4 | 3.9 | 5.5 | 7.7 |
| Detent Torque | oz-in (Nm) | 18 (0.13) | 36 (0.25) | 54 (0.38) | 42 (0.30) | 84 (0.59) | 106 (0.75) |
| Bearings Information | | | | | | | |
| Thrust Load | lb (kg) | 305 (139) | 305 (139) | 305 (139) | 404 (184) | 404 (184) | 404 (184) |
| Radial Load | lb (kg) | 65 (30) | 65 (30) | 110 (50) | 125 (57) | 110 (50) | 110 (50) |
| End Play (Reversing load equals 1 lb) | in (mm) | 0.001 (0.025) | 0.001 (0.025) | 0.001 (0.025) | 0.001 (0.025) | 0.001 (0.025) | 0.001 (0.025) |
| Radial Play (Per 0.5 lb load) | in (mm) | 0.0008 (0.020) | 0.0008 (0.020) | 0.0008 (0.020) | 0.0008 (0.020) | 0.0008 (0.020) | 0.0008 (0.020) |
| Motor Weight | lb (kg) | 5.0 (2.3) | 8.4 (3.8) | 11.9 (5.4) | 11.0 (5.0) | 18.4 (8.4) | 25.7 (11.7) |
| Certifications | UL recognized | Yes | Yes | Yes | Yes | Yes | Yes |
| | CE (LVD) | Yes | Yes | Yes | Yes | Yes | Yes |
| | CE (EMC & LVD)* | * | * | * | * | * | * |

* To comply with EMC and low-noise (CISPR22/EN55022 Class A or FCC Class A emissions) standards, the following items are required:
 • Gemini GT or GT6 Drive
 • CE(LVD) motor for LVD. Compumotor recommends a terminal board

(NPS) motor construction for easier EMC installation
 • C10(CH10) motor accessory (LVD/EMC cable kit)
 • Mains Filter as indicated in the User Guide

** Values shown in speed-torque curves
 *** Small signal values

**E Series Stepper Motor Specifications
(Size 23 Frame & 34 Frame)**

| | | Size 23 Frame | | | Size 34 Frame | | | |
|--|--|--------------------|----------------|----------------|----------------|----------------|----------------|-----|
| | | ES21B | ES22B | ES23B | ES31B | ES32B | ES33B | |
| | | (ZETA57-51) | (ZETA57-83) | (ZETA57-102) | (ZETA83-62) | (ZETA83-93) | (ZETA83-135) | |
| Static torque | oz-in (N-m) | 65 (0.46) | 125 (0.71) | 145 (0.89) | 145 (1.14) | 300 (2.14) | 380 (2.80) | |
| Rotor inertia | oz-in ² (kg-cm ²) | 0.546 (9.998) | 1.1 (20.1) | 1.69 (30.9) | 3.47 (63.4) | 6.76 (124) | 10.47 (191) | |
| Inductance | Series | mH (small signal*) | 17.37 | 18.5 | 17 | 10 | 10.5 | 9.2 |
| | Parallel | mH (small signal*) | 4.34 | 4.62 | 4.25 | 2.5 | 2.62 | 2.3 |
| Bearings Information | | | | | | | | |
| Thrust Load | lb (kg) | 25 (11.3) | 25 (11.3) | 25 (11.3) | 50 (22.6) | 50 (22.6) | 50 (22.6) | |
| Radial Load (Reverse load equal to 1 lb) | lb (kg) | 15 (6.8) | 15 (6.8) | 15 (6.8) | 25 (11.3) | 25 (11.3) | 25 (11.3) | |
| End Play | in (mm) | 0.001 (0.025) | 0.001 (0.025) | 0.001 (0.025) | 0.001 (0.025) | 0.001 (0.025) | 0.001 (0.025) | |
| Radial Play (Per 0.5 lb load) | in (cm) | 0.0008 (0.020) | 0.0008 (0.020) | 0.0008 (0.020) | 0.0008 (0.020) | 0.0008 (0.020) | 0.0008 (0.020) | |
| Net Weight Motor + Cable + Connector | lb (kg) | 1.6 (0.7) | 2.4 (1.1) | 3.2 (1.5) | 3.8 (1.7) | 5.1 (2.3) | 8.3 (3.8) | |
| Motor Cable*** Wire Size | AWG (mm ²) | 24 (0.25) | 24 (0.25) | 24 (0.25) | 22 (0.34) | 22 (0.34) | 22 (0.34) | |

* Small Signal Inductance is found by using an inductance bridge or meter.
 *** All Motors Cable length = 10 feet (3m); attached connector is prewired for series current