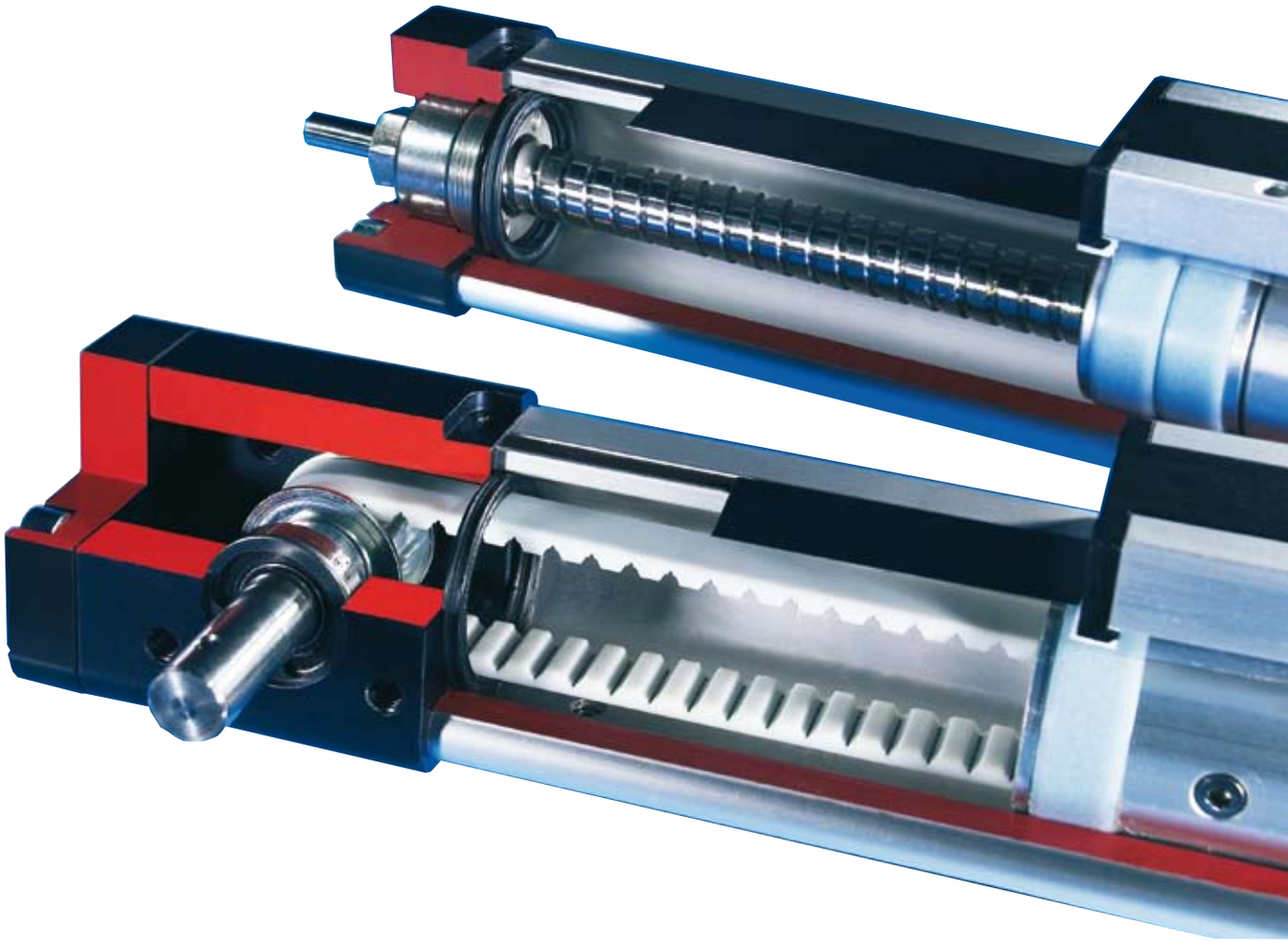

# Modular Electric Actuators OSP-E

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pneumatics
process control
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# Sizing
# Performance Overview
# Maximum Loadings

**Sizing of Actuator**

The following steps are recommended for selection :

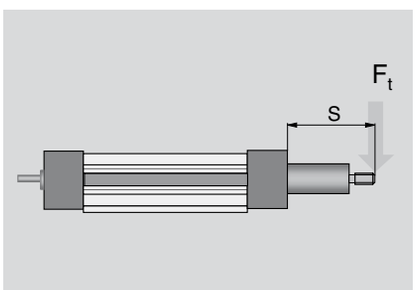
1. Check that the maximum values in the adjacent chart and transverse force/stroke graph below are not exceeded.
2. Check the lifetime/travel distance in graph below.
3. When sizing and specifying the motor, the RMS-average torque must be calculated using the cycle time in application

**Performance Overview**

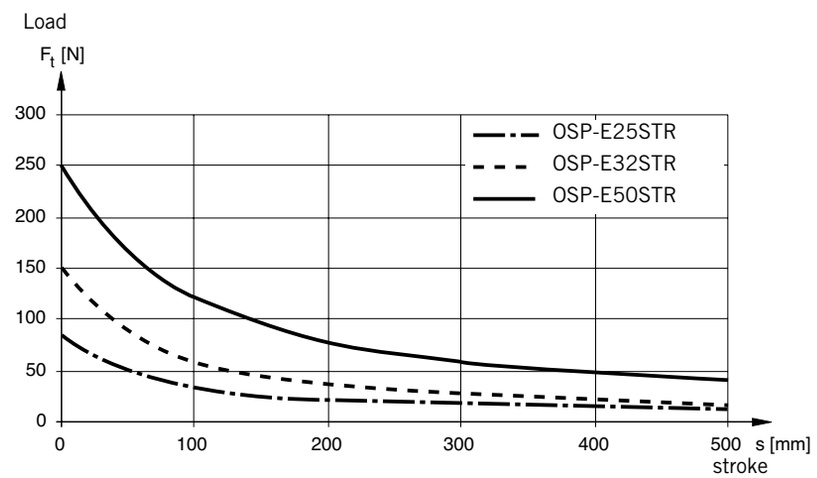
| Characteristics | Unit | Description | | |
|---|---|---|---|---|
| Size | | **OSP-E25STR** | **OSP-E32STR** | **OSP-E50STR** |
| Pitch | [mm] | 3 | 4 | 5 |
| Max. speed | [m/s] | 0.075 | 0.1 | 0.125 |
| Linear motion per revolution, drive shaft | [mm] | 3 | 4 | 5 |
| Max. rpm, drive shaft | [$min^{-1}$] | 1500 [2)] | 1500 | 1500 |
| Max. effective action force $F_A$<br>Corresponding torque on drive shaft | [N]<br>[Nm] | 800<br>1.35 | 1600<br>3.4 | 3300<br>9.25 |
| No-load torque | [Nm] | 0.3 | 0.4 | 0.5 |
| Max. allowable torque on drive shaft | [Nm] | 1.7 | 4.4 | 12 |
| Self-locking force $F_L$ [1)] | [N] | 800 | 1600 | 3300 |
| Typical repeatability | [mm/m] | ±0,5 | ±0,5 | ±0,5 |
| Max.Standard stroke length | [mm] | 500 | 500 | 500 |

[1)] Related to screw types Tr 12x3, Tr 16x4, Tr 24x5
see page 93 – for inertia
[2)] from 0,4 m stroke max. 1200 min-1 permissible

# Transverse
# Force / stroke




**Transverse Force / Stroke**

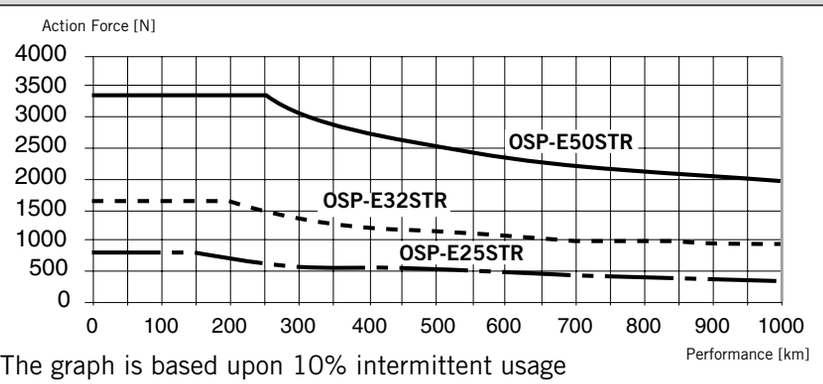



The graph is based upon 10% intermittent usage

# Performance / Action Force

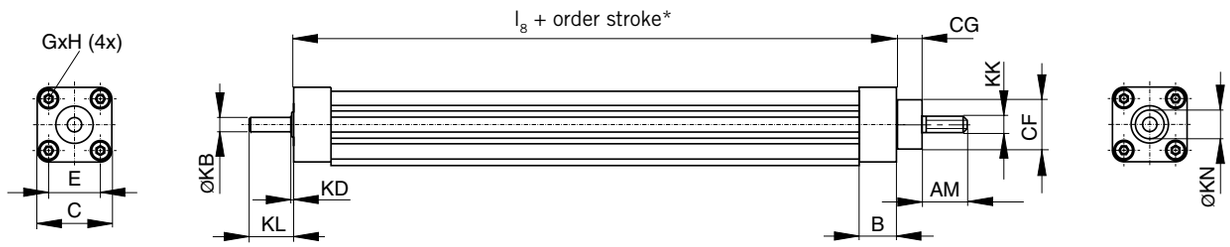
The Actuators are designed for a 10% intermittent usage.
The performance to be expected depends on the maximum required actions force of the application.
An increase of the action force will lead to a reduced performance.

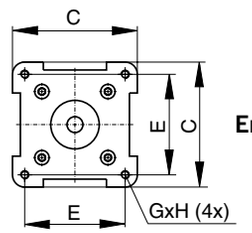
**Performance as a function of the action force**



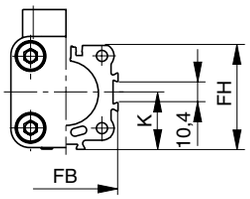

The graph is based upon 10% intermittent usage

**OSP-E..STR**
**Trapezoidal Screw Actuator with internal Plain Bearing Guide and Piston Rod – Basic Unit**

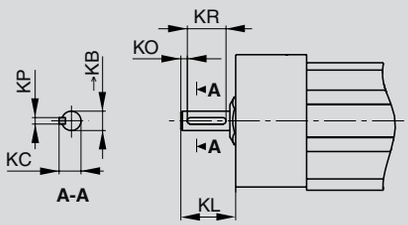



**End Cap Size OSP-E50STR**




**Plain shaft with keyway (Option)**




**Dimension Table [mm]**

| Series | ⌀$KB_{h7}$ | KC | KL Opt.3 | KL Opt.4 | KO | $KP^{P9}$ | KR |
|---|---|---|---|---|---|---|---|
| **OSP-E25STR** | 6 | 6.8 | 17 | 24 | 2 | 2 | 12 |
| **OSP-E32STR** | 10 | 11.2 | 31 | 41 | 5 | 3 | 16 |
| **OSP-E50STR** | 15 | 17 | 43 | 58 | 6 | 5 | 28 |

**Option 3: Keyway**
**Option 4: Keyway long version**

*** NOTE:**
The mechanical end position must not be used as a mechancial end stop. Allow an additional safety clearance at both ends equivalent to the linear movement of one revolution of the drive shaft, but at least 25 mm.

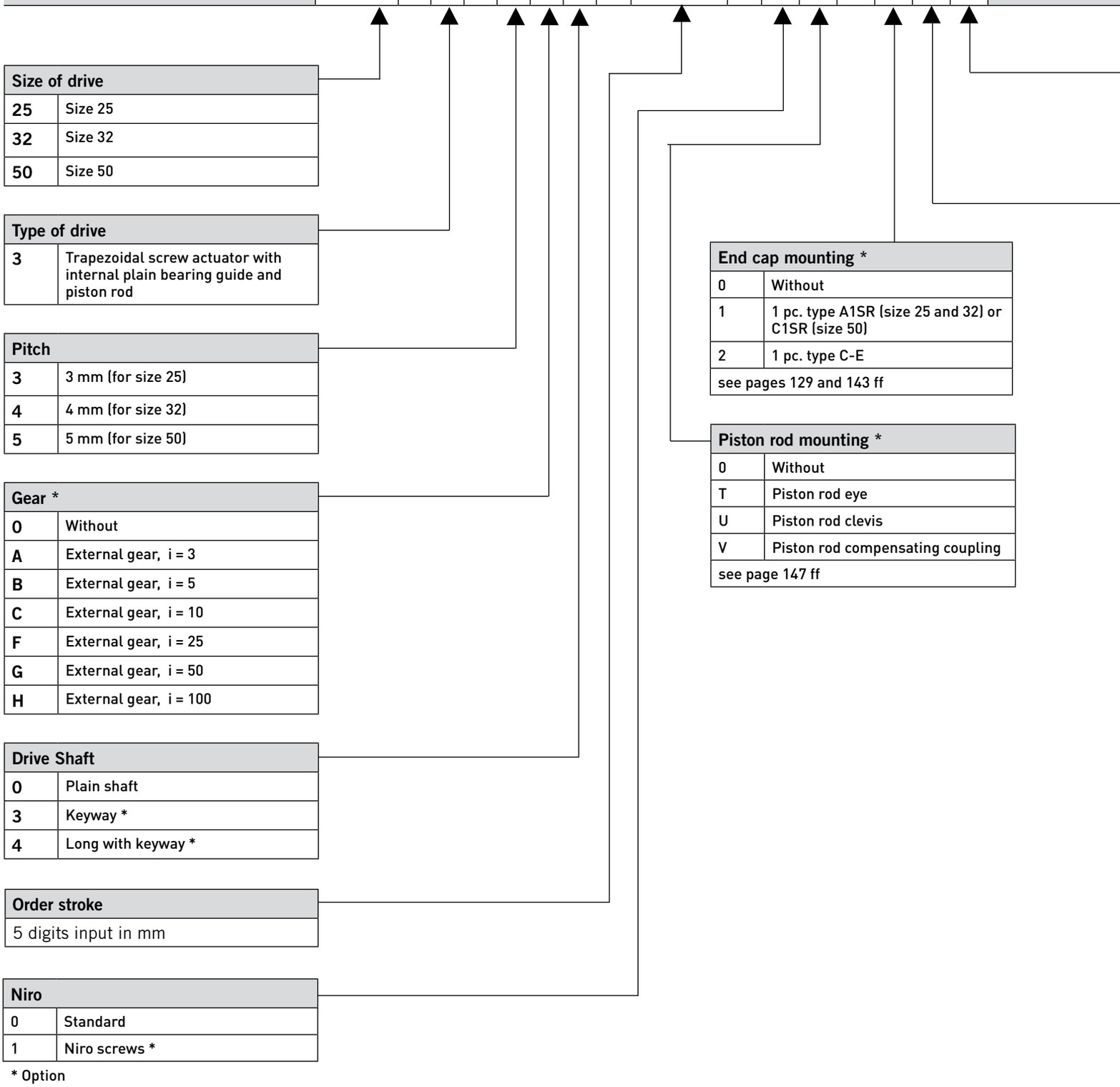
Order stroke = required travel + 2 x safety distance.

The use of an AC motor with frequency converter normally requires a larger safety clearance than that required for servo systems. For further information, please contact your local Parker Origa representative.

**Dimension Table [mm]**

| Series | B | C | E | G x H | K | $l_8$ | AM | CF | CG | FB | FH | KB | KD | KK | KL | KN |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **OSP-E25STR** | 22 | 41 | 27 | M5 x10 | 21.5 | 83 | 20 | 22 | 26 | 40 | 39.5 | $6_{h7}$ | 2 | M10x1.25 | 17 | 13 |
| **OSP-E32STR** | 25.5 | 52 | 36 | M6 x12 | 28.5 | 94 | 20 | 28 | 26 | 52 | 51.7 | $10_{h7}$ | 2 | M10x1.25 | 31 | 20 |
| **OSP-E50STR** | 33 | 87 | 70 | M6 x12 | 43 | 120 | 32 | 38 | 37 | 76 | 77 | $15_{h7}$ | 3 | M16x1,5 | 43 | 28 |

| Order Instructions | OSPE25 | — | 3 | 0 | 3 | 0 | 0 | — | 00000 | — | 0 | 0 | 0 | 0 | 0 | 0 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|



| Size of drive | |
|---|---|
| 25 | Size 25 |
| 32 | Size 32 |
| 50 | Size 50 |

| Type of drive | |
|---|---|
| 3 | Trapezoidal screw actuator with internal plain bearing guide and piston rod |

| Pitch | |
|---|---|
| 3 | 3 mm (for size 25) |
| 4 | 4 mm (for size 32) |
| 5 | 5 mm (for size 50) |

| Gear * | |
|---|---|
| 0 | Without |
| A | External gear, i = 3 |
| B | External gear, i = 5 |
| C | External gear, i = 10 |
| F | External gear, i = 25 |
| G | External gear, i = 50 |
| H | External gear, i = 100 |

| Drive Shaft | |
|---|---|
| 0 | Plain shaft |
| 3 | Keyway * |
| 4 | Long with keyway * |

| Order stroke |
|---|
| 5 digits input in mm |

| Niro | |
|---|---|
| 0 | Standard |
| 1 | Niro screws * |

| End cap mounting * | |
|---|---|
| 0 | Without |
| 1 | 1 pc. type A1SR (size 25 and 32) or C1SR (size 50) |
| 2 | 1 pc. type C-E |
| see pages 129 and 143 ff | |

| Piston rod mounting * | |
|---|---|
| 0 | Without |
| T | Piston rod eye |
| U | Piston rod clevis |
| V | Piston rod compensating coupling |
| see page 147 ff | |

* Option

| Magnetic switches * | |
|---|---|
| 0 | Without |
| 1 | 1 pc. RS-K 2NO / 5m cable |
| 2 | 1 pc. RS-K 2NC / 5m cable |
| 3 | 2 pc. RS-K 2NC / 5m cable |
| 4 | 2 pc. RS-K 2NC,<br>1 pc. RS-K 2NO / 5m cable |
| D | 1 pc. ES-S PNP / M8 plug |
| E | 2 pc. ES-S PNP / M8 plug |
| F | 3 pc. ES-S PNP / M8 plug |
| see page 154 ff | |

| Profile mounting * | |
|---|---|
| 0 | Without |
| 1 | 1 pair type E1 |
| 2 | 1 pair type D1 |
| 3 | 1 pair type MAE |
| 4 | 2 pair type E1 |
| 5 | 2 pair type D1 |
| 6 | 2 pair type MAE |
| 7 | 3 pair type E1 |
| 8 | 3 pair type D1 |
| 9 | 3 pair type MAE |
| see page 135 ff | |
| K | 1 pair trunnion mounting EN |
| L | 1 pair trunnion EN and pivot mounting EL |
| see page 142 | |

**Accessories - please order separately**

| Description | Page |
|---|---|
| Motor mountings | 121 |
| Multi-Axis Systems for actuators | 167 ff |