# PE Series: INLINE — Shaft Output

## PE Features

- 3:1 to 100:1 ratios
- Helical gearing produces more torque while running quieter compared to spur tooth gearing
- Input coupling design transfers more torque with lower inertia for vibration free operation
- Large motor input option to accept bigger diameter motor shafts so you don't use an oversized gearbox
- Error free motor mounting and quick changeover with toleranced pilot on motor plate
- Low no load running torque, giving you more torque for your application
- Optional food grade grease (Contact STOBER.)
- Build and ship in one day
- Assembled in the USA

*STOBER PE Series Servo Precision Planetary Gearheads are available for applications where very low backlash is not important. They are an economical helical tooth planetary, comparable in quality to other STOBER units. Every gearbox is made to order. STOBER will custom whatever you need to fit your application. Contact us today to learn more*

SHIPS in 1 DAY!
NO EXPEDITE FEE FOR 24 HOUR SERVICE

## General Specifications

| | |
|---|---|
| **Ambient Temperature** | 0°C to +40°C (104°F) [Unit temperature <90°C Max] |
| **Backlash** | ≤8 arcmins, see performance overview chart page |
| **Coating** | Black (RAL-9005) |
| **Degree of Protection** | IP64 |
| **Direction of Rotation** | Input and output rotate the SAME direction |
| **Efficiency** | 1 stage 97%; 2 stage 95% |
| **Input RPM** | Up to 8,000 RPM |
| **Installation** | Requires 10.9 fasteners. See page 306 for more information |
| **Grease** | Synthetic grease (NLGI 2)/ Food grease - lubricated for life |
| **Mounting Position** | Unrestricted |
| **Warranty** | 5 Year Limited (2 Years on normal wear items: bearings, seals, etc.) |

## Options

### Large Input (MEL)

- Accommodates a larger diameter motor shaft without going to a larger size gearbox.

### Coating Option

- Available with multi-layer, industrial 316 stainless steel epoxy coating. Contact factory for this option.

## Selection Options *At-a-Glance*

Using the **Selection Data** table later in this section, select the PE Series Gearhead with the appropriate performance and design options tailored to your motor choice and exact application requirements. Use the part number guide below as a reference to build a part number for the complete gearhead assembly.

**Part Number Examples:**

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
|---|---|---|---|---|---|---|---|---|---|
| PE | 3 | 2 | 1 | S | P | S | S | 0030 | ME |

| | Design Option | Part Number Code | Description |
|---|---|---|---|
| 1 | **Series** | **PE** | Economical planetary |
| 2 | **Size** | **2 3 4 5** | 4 sizes of gearhead |
| 3 | **Generation** | **2** | Version of gearhead |
| 4 | **# of Stages** | **1**<br>**2** | One stage for ratios of ≤ 10:1<br>Two stage for ratios >10:1 |
| 5 | **Housing** | **S** | Standard mounting style |
| 6 | **Output** | **P** | Shaft with key |
| 7 | **Bearings** | **S** | Standard |
| 8 | **Backlash** | **S** | Standard Backlash |
| 9 | **Ratio** | **0030** | Ratios range from 3:1 to 100:1<br>(0030=3:1; 0200=20:1; 1000=100:1, etc.) |
| 10 | **Motor Adapter** | **ME**<br>**MEL** | Motor adapter w/standard input*<br>Motor adapter w/large Input*<br>*See Motor Mounting Plate Option, page 64 |

## PE Series Performance Overview

PE Series performance is dependent on several factors including duty cycle, bearing design, gearhead size and stage configuration, among others. Use the chart below for preliminary evaluation, then use the following performance chart and selection information on the following pages for specific performance sizing and selection.

| Size/Generation | | PE22 | | PE32 | | PE42 | | PE52 | |
|---|---|---|---|---|---|---|---|---|---|
| # of Stages | | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 |
| **Permissible Acceleration Torque** $M_{2ACCMAX}$ | Nm | 20 | 20 | 53 | 50 | 109 | 104 | 250 | 250 |
| **Output Torque Nom.** [1] $M_{2NMAX}$ | Nm | 8 | 10 | 26 | 30 | 60 | 65 | 130 | 160 |
| **Torsional Stiffness** $C_{2MAX}$ | Nm/arcmin | 1.4 | 1.4 | 4.4 | 4.2 | 14 | 13 | 35 | 33 |
| **Torsional Backlash** [2] $\Delta\phi$ | arcmin | ≤10 | ≤13 | ≤8 | ≤10 | ≤8 | ≤10 | ≤8 | ≤10 |
| **Input Speed Max.** $n_{1MAX}$ | Continuous<br>Cyclic | 4500<br>8000 | | 4000<br>7000 | 4500<br>8000 | 3600<br>6000 | 4000<br>7000 | 3000<br>5000 | 3600<br>6000 |
| **Efficiency (@nom torque)** | % | 1 Stage = 97; 2 Stage = 95 | | | | | | | |
| **Weight** | kg<br>lbs | 1.3<br>2.87 | 1.4<br>3.09 | 2.5<br>5.51 | 2.4<br>5.29 | 4.7<br>10.36 | 5.1<br>11.24 | 8.8<br>19.40 | 10.0<br>22.05 |
| **Noise** [3] | dB(A) | ≤60 | ≤60 | ≤62 | ≤61 | ≤64 | ≤63 | ≤65 | ≤64 |

[1] *Ratings based on input speed ($n_1$) of 1500 RPM.*

*For torque at higher input speeds ($M_{2NX}$) solve the formula:*

$$M_{2NX} = \frac{M_{2N}}{\sqrt[3]{\frac{n_1}{1500}}}$$

*where $n_1$ = Actual Input Speed.*

[2] *Tested at 1.5% of nominal torque and recorded on the output side of the gearhead. For lower backlash, contact STOBER technical support.*

[3] *Measurement at one (1) meter distance with input speed ($n_1$) of 2000 RPM.*

## PE Series Motor Mounting Plate Option (Motor information required with Motor Adapter option)

STOBER Servo Gearheads fit the motor of your choice with the appropriate motor mounting plate assembled between the motor and the gearhead.

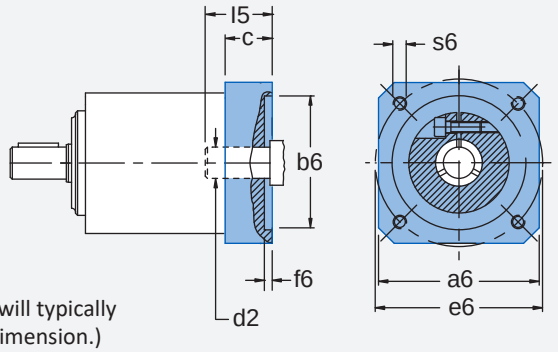
**NOTE: When ordering a gearhead:**

- Specify the motor manufacturer and part number
- Provide the motor drawing with dimensions, or specify the motor mounting dimensions (per the list shown at right)

For a precise dimension on a specific motor, or for general assistance, we recommend you contact STOBER Technical Support.

### Customer Required Dimensions for Properly Sized Motor Mounting Plate

| | |
|---|---|
| d2 | Motor Shaft Diameter (If an adapter bushing is required it will be supplied with the motor plate.) |
| b6 | Pilot Diameter |
| e6 | Bolt Circle Diameter |
| s6 | Bolt Diameter |
| l5 | Motor Shaft Length |
| f6 | Pilot Length |
| a6 | Square Flange (Optional – motor plate will typically be made to match this dimension.) |

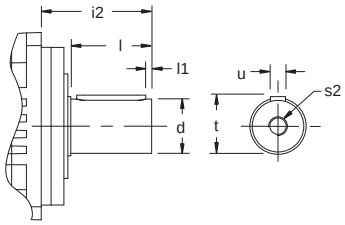



| Motor Mounting Plate Dimensions — mm (Gearhead Part Number Specific) | PE221<br>PE222<br>PE322 | PE221...L<br>PE321<br>PE422 | PE321...L<br>PE421<br>PE522 | PE421...L<br>PE521 | PE521...L |
|---|---|---|---|---|---|
| Maximum Allowed Motor Shaft Dia. d2 | 14 | 19 | 24 | 32 | 38 |
| Minimum Allowed Motor Plate Thickness c* | 15 | 18 | 21 | 24 | 26 |

** Note that the c motor plate thickness is determined by the motor shaft length. The minimum motor plate thickness is the value listed.*

## PE Series Output Shaft Options ("P" designated in part number, for example: PE221S P 0040 MEL)

**P Shaft with Key**




| Unit | d k6 | | i2 | l | l1 | s2 (1) | t | u (2) |
|---|---|---|---|---|---|---|---|---|
| | mm | | mm | mm | mm | | mm | W x H x L |
| PE2 | 12 | +0.012/+0.001 | 24.5 | 18 | 2 | M4 | 13.5 | A4x4x14 |
| PE3 | 16 | +0.012/+0.001 | 36 | 28 | 2 | M5 | 18.0 | A5x5x22 |
| PE4 | 22 | +0.015/+0.002 | 46 | 36 | 2 | M8 | 24.5 | A6x6x32 |
| PE5 | 32 | +0.018/+0.002 | 70 | 58 | 4 | M12 | 35.0 | A10x8x50 |

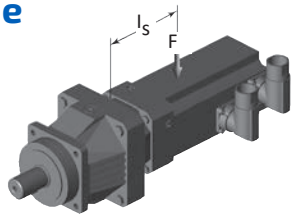
(1) *The center hole in shafts with keys (Option "P") are machined to DIN 332 T2 shape DR.*

(2) *Feather keys are toleranced according to standard DIN 6885.*

# Overview

## Permissible Motor Tilting Torque

The permissible tilting torque of the motor attached to the gear unit is a result of the static and dynamic load "F" from the motor weight, mass acceleration, and vibration multiplied by the distance from the center of gravity "$l_S$" of the motor.




$$M_{1k} = F \times l_S \leq M_{1K}$$

| $M_{1K}$ | PE221<br>PE222<br>PE322 | PE321<br>PE322 | PE421<br>PE422 | PE521 |
|---|---|---|---|---|
| Nm | 10 | 20 | 40 | 80 |

## PE Permissible Output Shaft Load and Tilting Moments*

| | $Z_2$<br>Distance of Shaft Shoulder to Center of Output Bearing | $F_{2ax100}$<br>Permitted Axial Force | $F_{2rad100}$<br>Permitted Radial Force ≤100RPM | $M_{2K100}$<br>Permitted Tilting Torque ≤100RPM |
|---|---|---|---|---|
| **Unit** | mm | N | N | Nm |
| **PE221, PE222** | 8 | 400 | 800 | 13 |
| **PE321, PE322** | 11 | 800 | 1600 | 40 |
| **PE421, PE422** | 13 | 1900 | 2400 | 73 |
| **PE521, PE522** | 16 | 4000 | 4600 | 206 |

** Refer to illustration and definitions below. During EMERGENCY OFF operation (maximum stops per gearhead = 1000) the permissible values in the table for $F_{2A}$, $F_{2R}$, and $M_{2K}$ can be multiplied by a factor of 2. Rating based on output speed ($n_2$) of 100 RPM. For values at other speeds see below.*

## PE Series Load/Life/Speed Calculations

**All formulas shown are based on METRIC values**

*Upper case letters are permissible values. Lower case letters are for existing values.*

The permissible load and tilting moment values are based on an output speed of 100 RPM. For higher speeds the following applies, where $n_2$ is the desired speed:

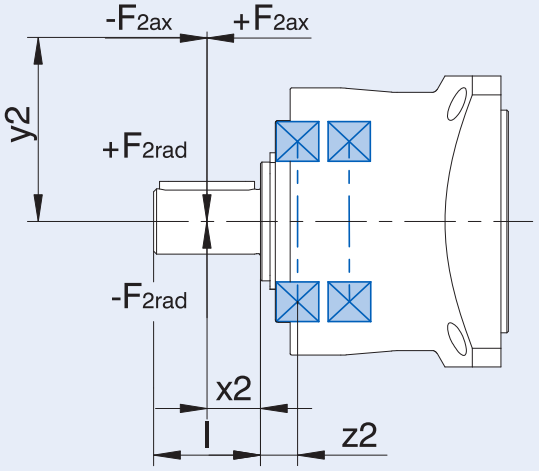
$$F_{2AX} = \frac{F_{2ax100}}{\sqrt[3]{\frac{n_2}{100}}} \qquad F_{2RX} = \frac{F_{2rad100}}{\sqrt[3]{\frac{n_2}{100}}} \qquad M_{2KX} = \frac{M_{2K100}}{\sqrt[3]{\frac{n_2}{100}}}$$

The application output tilting moment should be determined by the following formula:

$$M_{2k,acc*} = \frac{2 \bullet F_{2ax*} \bullet Y_2 + F_{2rad,acc*} \bullet (x_2+z_2)}{1000} \leq M_{2k,acc}$$

Where:

| | |
|---|---|
| $Z_2$ | Distance of Shaft Shoulder to Center of Output Bearing |
| $n_2$ | Actual Average Output Speed |
| $X_2$ | Distance of the Shaft Shoulder to the Force Application Point |
| $Y_2$ | Distance of the Shaft Axis to the Axial Force Application Point |
| $F_{2ax*}$ | Actual Axial Force at Gear Unit Output |
| $F_{2ax100}$ | Permitted Axial Force |
| $F_{2rad100}$ | Permitted Radial Force ≤100RPM |
| $F_{2rad,acc}$ | Radial Acceleration Force |
| $F_{2rad,acc*}$ | Radial Acceleration Force at Gear Unit Output |
| $M_{2K100}$ | Permitted Tilting Torque ≤100RPM |
| $M_{2K,acc}$ | Permitted Acceleration Tilting Torque |
| $M_{2k,acc*}$ | Permitted Acceleration Tilting Torque at Gear Unit Output |
| $C_{2K}$ | Tilting Stiffness |




**The following apply to the bearing service life L10h (ED10≤40%):**

$L_{10h} > 10{,}000h$ with $1 < M_{2kN}/M_{2k*} < 1.25$

$L_{10h} > 20{,}000h$ with $1.25 < M_{2kN}/M_{2k*} < 1.5$

$L_{10h} > 30{,}000h$ with $1.5 < M_{2kN}/M_{2k*}$

**For different duty cycles:**

$L_{10h} > L_{10h(ED_{10}=40\%)} \ (40\%/ED_{10})$

| Exact Ratio (i) | Output Torque: Nom. [1] $M_{2N}$ Nm | Output Torque: Accel. $M_{2acc}$ Nm | Output Torque: Peak [2] $M_{2NOT}$ Nm | Back-lash $\Delta\phi_2$ arcmin | Part Number* (Gearhead + Input) | Max. Input Speed RPM (n1): Cont. | Max. Input Speed RPM (n1): Cyclic | Motor Shaft Max Ø $d_{MW}$ mm | Input Inertia [3] $J_1$ kgcm² | Tors. Stiffness $C_2$ Nm/arcmin | Oper. Noise $L_{pA}$ dB(A) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **PE2** | | | | | | | | | | | |
| 4.000 | 8.0 | 20 | 32 | 10 | **PE221_0040 ME** | 4000 | 8000 | ≤14 | 0.12 | 1.4 | 60 |
| | | | | | **PE221_0040 MEL** | | | ≤19 | 0.41 | | |
| 5.000 | 8.0 | 20 | 32 | 10 | **PE221_0050 ME** | 4000 | 8000 | ≤14 | 0.11 | 1.4 | 58 |
| | | | | | **PE221_0050 MEL** | | | ≤19 | 0.40 | | |
| 7.000 | 8.0 | 18 | 32 | 10 | **PE221_0070 ME** | 4500 | 8000 | ≤14 | 0.10 | 1.3 | 56 |
| | | | | | **PE221_0070 MEL** | | | ≤19 | 0.39 | | |
| 10.00 | 8.0 | 17 | 32 | 10 | **PE221_0100 ME** | 4500 | 8000 | ≤14 | 0.10 | 1.2 | 54 |
| | | | | | **PE221_0100 MEL** | | | ≤19 | 0.39 | | |
| 16.00 | 10 | 19 | 32 | 13 | **PE222_0160 ME** | 4000 | 8000 | ≤14 | 0.14 | 1.4 | 60 |
| 20.00 | 10 | 20 | 32 | 13 | **PE222_0200 ME** | 4000 | 8000 | ≤14 | 0.12 | 1.4 | 60 |
| 25.00 | 10 | 20 | 32 | 13 | **PE222_0250 ME** | 4000 | 8000 | ≤14 | 0.12 | 1.4 | 59 |
| 28.00 | 10 | 19 | 32 | 13 | **PE222_0280 ME** | 4000 | 8000 | ≤14 | 0.11 | 1.4 | 59 |
| 35.00 | 10 | 20 | 32 | 13 | **PE222_0350 ME** | 4000 | 8000 | ≤14 | 0.11 | 1.4 | 58 |
| 40.00 | 10 | 19 | 32 | 13 | **PE222_0400 ME** | 4500 | 8000 | ≤14 | 0.10 | 1.4 | 58 |
| 50.00 | 10 | 20 | 32 | 13 | **PE222_0500 ME** | 4500 | 8000 | ≤14 | 0.10 | 1.4 | 57 |
| 70.00 | 10 | 18 | 32 | 13 | **PE222_0700 ME** | 4500 | 8000 | ≤14 | 0.10 | 1.3 | 56 |
| 100.0 | 10 | 17 | 32 | 13 | **PE222_1000 ME** | 4500 | 8000 | ≤14 | 0.10 | 1.2 | 55 |

[1] *Based on input speed of 1500 RPM. See page 63 for details on torque calculations.*
[2] *Maximum momentary torque for emergency stops or heavy shock load. (Admissible stops per life of gearhead = 1,000 stops maximum.)*
[3] *Inertia based on maximum input. For lower inertia, using smaller diameter input, contact STOBER.*
* *ME = Motor Accurate L = Large Input Option*

# Selection Data

| Exact Ratio (i) | Output Torque: Nom. [1] $M_{2N}$ | Output Torque: Accel. $M_{2acc}$ | Output Torque: Peak [2] $M_{2NOT}$ | Back-lash $\Delta\phi_2$ | Part Number* (Gearhead + Input) | Max. Input Speed RPM (n1): Cont. | Max. Input Speed RPM (n1): Cyclic | Motor Shaft Max Ø $d_{MW}$ | Input Inertia [3] $J_1$ | Tors. Stiffness $C_2$ | Oper. Noise $L_{pA}$ |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Nm | Nm | Nm | arcmin | | | | mm | kgcm² | Nm/arcmin | dB(A) |
| **PE3** | | | | | | | | | | | |
| 3.000 | 21 | 40 | 80 | 8 | PE321_0030 ME | 3500 | 6000 | ≤19 | 0.56 | 3.4 | 62 |
| | | | | | PE321_0030 MEL | | | ≤24 | 0.99 | | |
| 4.000 | 24 | 46 | 90 | 8 | PE321_0040 ME | 3700 | 7000 | ≤19 | 0.47 | 4.3 | 61 |
| | | | | | PE321_0040 MEL | | | ≤24 | 0.90 | | |
| 5.000 | 25 | 53 | 90 | 8 | PE321_0050 ME | 3700 | 7000 | ≤19 | 0.44 | 4.4 | 59 |
| | | | | | PE321_0050 MEL | | | ≤24 | 0.87 | | |
| 7.000 | 26 | 40 | 75 | 8 | PE321_0070 ME | 4000 | 7000 | ≤19 | 0.41 | 4.1 | 57 |
| | | | | | PE321_0070 MEL | | | ≤24 | 0.84 | | |
| 10.00 | 26 | 48 | 90 | 8 | PE321_0100 ME | 4000 | 7000 | ≤19 | 0.40 | 3.7 | 55 |
| | | | | | PE321_0100 MEL | | | ≤24 | 0.83 | | |
| 16.00 | 30 | 45 | 90 | 10 | PE322_0160 ME | 4000 | 8000 | ≤14 | 0.16 | 4.0 | 61 |
| 20.00 | 30 | 50 | 90 | 10 | PE322_0200 ME | 4000 | 8000 | ≤14 | 0.16 | 4.0 | 61 |
| 25.00 | 30 | 50 | 90 | 10 | PE322_0250 ME | 4000 | 8000 | ≤14 | 0.13 | 4.2 | 60 |
| 28.00 | 30 | 44 | 88 | 10 | PE322_0280 ME | 4000 | 8000 | ≤14 | 0.12 | 4.0 | 60 |
| 35.00 | 30 | 50 | 90 | 10 | PE322_0350 ME | 4000 | 8000 | ≤14 | 0.11 | 4.2 | 59 |
| 40.00 | 30 | 44 | 88 | 10 | PE322_0400 ME | 4500 | 8000 | ≤14 | 0.10 | 3.9 | 59 |
| 50.00 | 30 | 50 | 90 | 10 | PE322_0500 ME | 4500 | 8000 | ≤14 | 0.10 | 4.1 | 58 |
| 70.00 | 30 | 50 | 90 | 10 | PE322_0700 ME | 4500 | 8000 | ≤14 | 0.10 | 4.0 | 57 |
| 100.0 | 30 | 48 | 90 | 10 | PE322_1000 ME | 4500 | 8000 | ≤14 | 0.10 | 3.6 | 56 |



[1] *Based on input speed of 1500 RPM. See page 63 for details on torque calculations.*
[2] *Maximum momentary torque for emergency stops or heavy shock load. (Admissible stops per life of gearhead = 1,000 stops maximum.)*
[3] *Inertia based on maximum input. For lower inertia, using smaller diameter input, contact STOBER.*
* *ME = Motor Accurate  L = Large Input Option*

| Exact Ratio (i) | Output Torque: Nom. [1] $M_{2N}$ Nm | Output Torque: Accel. $M_{2acc}$ Nm | Output Torque: Peak [2] $M_{2NOT}$ Nm | Back-lash $\Delta\phi_2$ arcmin | Part Number* (Gearhead + Input) | Max. Input Speed RPM (n1): Cont. | Max. Input Speed RPM (n1): Cyclic | Motor Shaft Max Ø $d_{MW}$ mm | Input Inertia [3] $J_1$ kgcm² | Tors. Stiffness $C_2$ Nm/arcmin | Oper. Noise $L_{pA}$ dB(A) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **PE4** | | | | | | | | | | | |
| 3.000 | 45 | 90 | 180 | 8 | PE421_0030 ME | 3000 | 5500 | ≤24 | 1.4 | 12 | 64 |
| | | | | | PE421_0030 MEL | | | ≤32 | 3.0 | | |
| 4.000 | 55 | 100 | 200 | 8 | PE421_0040 ME | 3400 | 6000 | ≤24 | 1.1 | 14 | 63 |
| | | | | | PE421_0040 MEL | | | ≤32 | 2.7 | | |
| 5.000 | 56 | 109 | 200 | 8 | PE421_0050 ME | 3400 | 6000 | ≤24 | 1.0 | 14 | 61 |
| | | | | | PE421_0050 MEL | | | ≤32 | 2.6 | | |
| 7.000 | 60 | 100 | 200 | 8 | PE421_0070 ME | 3600 | 6000 | ≤24 | 0.91 | 12 | 59 |
| | | | | | PE421_0070 MEL | | | ≤32 | 2.5 | | |
| 10.00 | 60 | 92 | 184 | 8 | PE421_0100 ME | 3600 | 6000 | ≤24 | 0.87 | 10 | 57 |
| | | | | | PE421_0100 MEL | | | ≤32 | 2.5 | | |
| 16.00 | 65 | 95 | 190 | 10 | PE422_0160 ME | 3700 | 7000 | ≤19 | 0.52 | 13 | 63 |
| | | | | | PE422_0160 MEL | | | ≤24 | 0.95 | | |
| 20.00 | 65 | 104 | 200 | 10 | PE422_0200 ME | 3700 | 7000 | ≤19 | 0.51 | 13 | 63 |
| | | | | | PE422_0200 MEL | | | ≤24 | 0.94 | | |
| 25.00 | 65 | 103 | 200 | 10 | PE422_0250 ME | 3700 | 7000 | ≤19 | 0.47 | 13 | 62 |
| | | | | | PE422_0250 MEL | | | ≤24 | 0.90 | | |
| 28.00 | 65 | 95 | 190 | 10 | PE422_0280 ME | 4000 | 7000 | ≤19 | 0.43 | 13 | 62 |
| | | | | | PE422_0280 MEL | | | ≤24 | 0.86 | | |
| 35.00 | 65 | 103 | 200 | 10 | PE422_0350 ME | 4000 | 7000 | ≤19 | 0.42 | 13 | 61 |
| | | | | | PE422_0350 MEL | | | ≤24 | 0.85 | | |
| 40.00 | 65 | 95 | 190 | 10 | PE422_0400 ME | 4000 | 7000 | ≤19 | 0.41 | 13 | 61 |
| | | | | | PE422_0400 MEL | | | ≤24 | 0.84 | | |
| 50.00 | 65 | 102 | 200 | 10 | PE422_0500 ME | 4000 | 7000 | ≤19 | 0.41 | 13 | 60 |
| | | | | | PE422_0500 MEL | | | ≤24 | 0.83 | | |
| 70.00 | 65 | 90 | 180 | 10 | PE422_0700 ME | 4000 | 7000 | ≤19 | 0.42 | 10 | 59 |
| | | | | | PE422_0700 MEL | | | ≤24 | 0.85 | | |
| 100.0 | 65 | 90 | 180 | 10 | PE422_1000 ME | 4000 | 7000 | ≤19 | 0.40 | 10 | 58 |
| | | | | | PE422_1000 MEL | | | ≤24 | 0.83 | | |

[1] *Based on input speed of 1500 RPM. See page 63 for details on torque calculations.*
[2] *Maximum momentary torque for emergency stops or heavy shock load. (Admissible stops per life of gearhead = 1,000 stops maximum.)*
[3] *Inertia based on maximum input. For lower inertia, using smaller diameter input, contact STOBER.*
* *ME = Motor Accurate  L = Large Input Option*

# Selection Data

| Exact Ratio (i) | Output Torque: Nom. [1] $M_{2N}$ Nm | Output Torque: Accel. $M_{2acc}$ Nm | Output Torque: Peak [2] $M_{2NOT}$ Nm | Back-lash $\Delta\phi_2$ arcmin | Part Number* (Gearhead + Input) | Max. Input Speed RPM (n1): Cont. | Max. Input Speed RPM (n1): Cyclic | Motor Shaft Max Ø $d_{MW}$ mm | Input Inertia [3] $J_1$ kgcm² | Tors. Stiffness $C_2$ Nm/arcmin | Oper. Noise $L_{pA}$ dB(A) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **PE5** | | | | | | | | | | | |
| 3.000 | 90 | 180 | 360 | 8 | PE521_0030 ME | 2500 | 4500 | ≤32 | 4.4 | 31 | 65 |
| | | | | | PE521_0030 MEL | | | ≤38 | 7.9 | | |
| 4.000 | 130 | 250 | 500 | 8 | PE521_0040 ME | 2600 | 5000 | ≤32 | 3.5 | 35 | 64 |
| | | | | | PE521_0040 MEL | | | ≤38 | 7.0 | | |
| 5.000 | 130 | 250 | 500 | 8 | PE521_0050 ME | 2600 | 5000 | ≤32 | 3.1 | 35 | 62 |
| | | | | | PE521_0050 MEL | | | ≤38 | 6.6 | | |
| 7.000 | 130 | 250 | 500 | 8 | PE521_0070 ME | 2800 | 5000 | ≤32 | 2.8 | 32 | 60 |
| | | | | | PE521_0070 MEL | | | ≤38 | 6.3 | | |
| 10.00 | 130 | 220 | 440 | 8 | PE521_0100 ME | 3000 | 5000 | ≤32 | 2.7 | 27 | 58 |
| | | | | | PE521_0100 MEL | | | ≤38 | 6.2 | | |
| 16.00 | 160 | 240 | 480 | 10 | PE522_0160 ME | 3400 | 6000 | ≤24 | 1.2 | 33 | 64 |
| | | | | | PE522_0160 MEL | | | ≤32 | 2.8 | | |
| 20.00 | 160 | 250 | 500 | 10 | PE522_0200 ME | 3400 | 6000 | ≤24 | 1.2 | 33 | 64 |
| | | | | | PE522_0200 MEL | | | ≤32 | 2.8 | | |
| 25.00 | 160 | 250 | 500 | 10 | PE522_0250 ME | 3400 | 6000 | ≤24 | 1.0 | 33 | 63 |
| | | | | | PE522_0250 MEL | | | ≤32 | 2.7 | | |
| 28.00 | 160 | 240 | 480 | 10 | PE522_0280 ME | 3600 | 6000 | ≤24 | 0.95 | 33 | 63 |
| | | | | | PE522_0280 MEL | | | ≤32 | 2.6 | | |
| 35.00 | 160 | 250 | 500 | 10 | PE522_0350 ME | 3600 | 6000 | ≤24 | 0.94 | 33 | 62 |
| | | | | | PE522_0350 MEL | | | ≤32 | 2.5 | | |
| 40.00 | 160 | 240 | 480 | 10 | PE522_0400 ME | 3600 | 6000 | ≤24 | 0.89 | 33 | 62 |
| | | | | | PE522_0400 MEL | | | ≤32 | 2.5 | | |
| 50.00 | 160 | 250 | 500 | 10 | PE522_0500 ME | 3600 | 6000 | ≤24 | 0.89 | 33 | 61 |
| | | | | | PE522_0500 MEL | | | ≤32 | 2.5 | | |
| 70.00 | 160 | 220 | 440 | 10 | PE522_0700 ME | 3600 | 6000 | ≤24 | 0.93 | 27 | 60 |
| | | | | | PE522_0700 MEL | | | ≤32 | 2.5 | | |
| 100.0 | 160 | 220 | 440 | 10 | PE522_1000 ME | 3600 | 6000 | ≤24 | 0.88 | 27 | 59 |
| | | | | | PE522_1000 MEL | | | ≤32 | 2.5 | | |

[1] *Based on input speed of 1500 RPM. See page 63 for details on torque calculations.*
[2] *Maximum momentary torque for emergency stops or heavy shock load. (Admissible stops per life of gearhead = 1,000 stops maximum.)*
[3] *Inertia based on maximum input. For lower inertia, using smaller diameter input, contact STOBER.*
* *ME = Motor Accurate  L = Large Input Option*