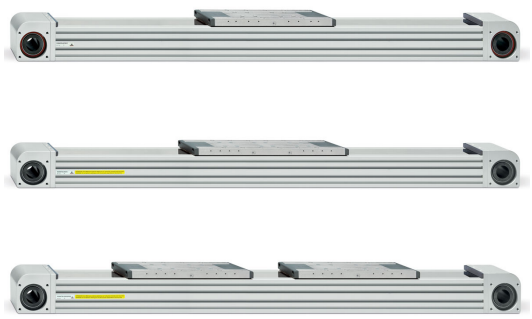
# ELECTROMECHANICAL AXIS
## SERIES 5ES...TBL

Sizes 50, 65, 80
Available versions: standard axis, support axis, reinforced axis



- Multiposition system with transmission of the movement with toothed belt
- Suitable for high dynamics
- Possibility to connect the motor on 4 sides
- Large range of motor interfaces
- Possibility to use magnetic proximity switches and/or inductive sensors
- IP 40
- Supplied with protection plugs for end caps and slider's cetering bushings
- Max stroke 6 meters
- Plates to realize multiaxis systems
- Presence of internal channels for re-lubrification
- Greasing nipples included
- Large range of axis mounting accessories
- Sliders available:
  - standard
  - long
  - double

Series 5E axes are mechanical linear actuators in which the rotary movement generated by a motor is converted into a linear movement by means of a toothed belt.
The Series 5E, available in 3 sizes, 50, 65 and 80, is realized by means of a special self-supporting square profile, in which the components have been completely integrated, assuring compactness and light weight.
The presence of a recirculating ball guide grants high stiffness and resistance to external loads.

To protect the internal elements from potential contaminants from the external environment, the profile has been closed with a stainless steel plate. The axis is equipped with a magnet that makes it possible to use external proximity switches (Series CSH), allowing operations like homing or extra-stroke readings to be performed. Moreover, these actuators also have accessories in order to be used with inductive sensors.
The Series 5E is equipped with specific interface kits making it possible to connect the motor on 4 sides. The use with high dynamics and the possibility to realize multi-axis systems, make the Series 5E particularly suitable for the packaging and assembly sectors.

## General Data

| | |
|---|---|
| **Construction** | Electromechanical cylinder with recirculating ball screw |
| **Design** | Profile with thread rolling screws based on the ISO 15552 standard |
| **Operation** | Multi-position actuator with high precision linear movement |
| **Sizes** | 32, 40, 50, 63, 80, 100 |
| **Strokes min - max** | 100 ÷ 1500 mm |
| **Anti-rotation function** | With anti-friction pads in technopolymer |
| **Mounting** | Front / rear flange, with feet, with front / rear / swivel trunnion |
| **Mounting motor** | In line and parallel |
| **Operating temperature** | 0°C ÷ 50°C |
| **Storage temperature** | -20°C ÷ 80°C |
| **Protection class** | IP40 / IP65 |
| **Lubrication** | Not necessary. A pre-lubrication is performed on the cylinder. |
| **Max. Reversing backlash** | 0,02 mm |
| **Repeatability [% FS]** | ± 0,02 |
| **Duty cycle** | 100% |
| **Max rotation play** | ± 0,4° |
| **Use with external sensors** | Nlots on three sides for sensors model CST |



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ELECTROMECHANICAL AXIS
SERIES 5ES...TBL - CODING EXAMPLE

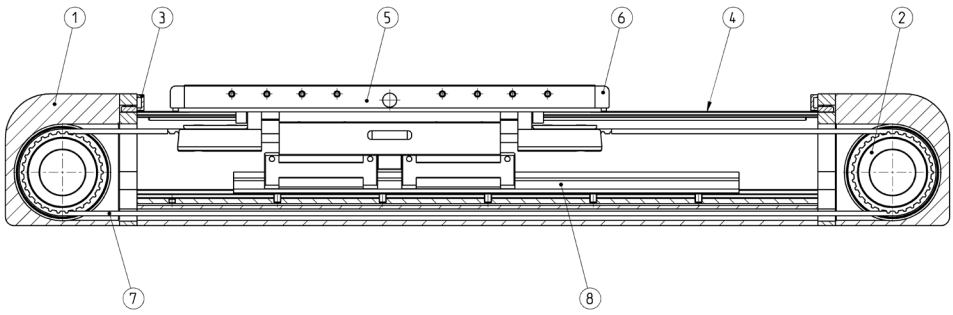


## CODING EXAMPLE

| 5E | S | 050 | TBL | 0200 | A | S | 2(500) |
|---|---|---|---|---|---|---|---|

| | |
|---|---|
| **5E** | **SERIES** |
| **S** | **PROFILE**<br>S = square section |
| **050** | **FRAME SIZE**<br>050 = 50x50 mm<br>065 = 65x65 mm<br>080 = 80x80 mm |
| **TBL** | **TRANSMISSION**<br>TBL = toothed belt |
| **0200** | **STROKE**<br>0050 ÷ 4000 mm for size 050<br>0050 ÷ 6000 mm for sizes 065 and 080 |
| **A** | **VERSIONS**<br>A = standard axis<br>D = support axis<br>H = reinforced axis (for sizes 65 and 80 only) |
| **S** | **TYPE OF SLIDER**<br>S = standard<br>L = long - only for standard axis (A version) |
| **2(500)** | **NUMBER OF SLIDERS**<br>1 = 1 slider<br>2(____) = 2 sliders at (____) mm step - only for standard axis (A) and standard slider (S) |

## SERIES 5ES...TBL MATERIALS




| COMPONENTS | Materials |
|---|---|
| **1. End cap** | Aluminium alloy |
| **2. Pulley** | Steel |
| **3. End cap bumper** | Technopolymer |
| **4. Protection plate** | Steel |
| **5. Slider** | Aluminium alloy |
| **6. Bumper** | Technopolymer |
| **7. Toothed belt** | PU + Steel |
| **8. Recirculating ball guide** | Steel |



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## MECHANICAL CHARACTERISTICS

| SCREW AND GUIDE | | Size 50 | Size 50 | Size 50 |
|---|---|---|---|---|
| Version | | A | A | D |
| Type of slider | | S | L | S |
| Number of guides | | 1 | 1 | 1 |
| Number of RDS blocks | pcs | 2 | 3 | 2 |
| Fy, eq [A] | N | 3400 | 5100 | 3400 |
| Fz, eq [A] | N | 3400 | 5100 | 3400 |
| Mx, eq [A] | Nm | 19,4 | 29 | 19,4 |
| My, eq [A] | Nm | 91,7 | 183,5 | 91,7 |
| Mz, eq [A] | Nm | 91,7 | 183,5 | 91,7 |
| Max linear speed of mechanics ($V_{max}$) | m/s | 5 | 2,5[B] | 5 |
| Max linear acceleration of mechanics ($a_{max}$) | m/s$^2$ | 50 | 20[B] | 50 |
| PROFILE | | | | |
| Moment of surface inertia $I_y$ | mm$^4$ | $1,89 \cdot 10^5$ | $1,89 \cdot 10^5$ | $1,89 \cdot 10^5$ |
| Moment of surface inertia $I_z$ | mm$^4$ | $2,48 \cdot 10^5$ | $2.48 \cdot 10^5$ | $2.48 \cdot 10^5$ |
| TOOTHED BELT | | | | |
| Type | | 20 AT 5 HP | 20 AT 5 HP | - |
| Pitch | mm | 5 | 5 | - |
| Max transmittable load | N | See the diagram | See the diagram | - |
| PULLEY | | | | |
| Effective diameter of the pulley | mm | 31,83 | 31,83 | - |
| Number of teeth | z | 20 | 20 | - |
| Linear movement per pulley round | mm/round | 100 | 100 | - |

| SCREW AND GUIDE | | Size 65 | Size 65 | Size 65 | Size 65 |
|---|---|---|---|---|---|
| Version | | A | A | D | H |
| Type of slider | | S | L | S | S |
| Number of guides | | 1 | 1 | 1 | 2 |
| Number of RDS blocks | pcs | 2 | 3 | 2 | 4 |
| Fy, eq [A] | N | 8300 | 12450 | 8300 | 16600 |
| Fz, eq [A] | N | 8300 | 12450 | 8300 | 16600 |
| Mx, eq [A] | Nm | 47,7 | 71,6 | 47,7 | 234,7 |
| My, eq [A] | Nm | 282,3 | 564,7 | 282,3 | 564,7 |
| Mz, eq [A] | Nm | 282,3 | 564,7 | 282,3 | 564,7 |
| Max linear speed of mechanics ($V_{max}$) | m/s | 5 | 2,5[B] | 5 | 2,5[B] |
| Max linear acceleration of mechanics ($a_{max}$) | m/s$^2$ | 50 | 20[B] | 50 | 20[B] |
| PROFILE | | | | | |
| Moment of surface inertia $I_y$ | mm$^4$ | $4,94 \cdot 10^5$ | $4,94 \cdot 10^5$ | $4,94 \cdot 10^5$ | $4,94 \cdot 10^5$ |
| Moment of surface inertia $I_{max}$ | mm$^4$ | $6,97 \cdot 10^5$ | $6,97 \cdot 10^5$ | $6,97 \cdot 10^5$ | $6,97 \cdot 10^5$ |
| TOOTHED BELT | | | | | |
| Type | | 32 AT 5 HP | 32 AT 5 HP | - | 32 AT 5 HP |
| Pitch | mm | 5 | 5 | - | 5 |
| Max transmittable load | N | See the diagram | See the diagram | - | See the diagram |
| PULLEY | | | | | |
| Effective diameter of the pulley | mm | 47,75 | 47,75 | - | 47,75 |
| Number of teeth | z | 30 | 30 | - | 30 |
| Linear movement per pulley round | mm/round | 150 | 150 | - | 150 |

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| SCREW AND GUIDE | | Size 80 | Size 80 | Size 80 | Size 80 |
|---|---|---|---|---|---|
| **Version** | | A | A | D | H |
| **Type of slider** | | S | L | S | S |
| **Number of guides** | | 1 | 1 | 1 | 2 |
| **Number of RDS blocks** | pcs | 2 | 3 | 2 | 4 |
| **Fy, eq [A]** | N | 13000 | 19500 | 13000 | 26000 |
| **Fz, eq [A]** | N | 13000 | 19500 | 13000 | 26000 |
| **Mx, eq [A]** | Nm | 106 | 160 | 106 | 454 |
| **My, eq [A]** | Nm | 626 | 1252 | 626 | 1252 |
| **Mz, eq [A]** | Nm | 626 | 1252 | 626 | 1252 |
| **Max linear speed of mechanics ($V_{max}$)** | m/s | 5 | 2,5[B] | 5 | 2,5[B] |
| **Max linear acceleration of mechanics ($a_{max}$)** | $m/s^2$ | 50 | 20[B] | 50 | 20[B] |
| **PROFILE** | | | | | |
| **Moment of surface inertia $I_y$** | $mm^4$ | $1{,}23 \cdot 10^6$ | $1{,}23 \cdot 10^6$ | $1{,}23 \cdot 10^6$ | $1{,}23 \cdot 10^6$ |
| **Moment of surface inertia $I_z$** | $mm^4$ | $1{,}68 \cdot 10^6$ | $1{,}68 \cdot 10^6$ | $1{,}68 \cdot 10^6$ | $1{,}68 \cdot 10^6$ |
| **TOOTHED BELT** | | | | | |
| **Type** | | 32 AT 10 HP | 32 AT 10 HP | - | 32 AT 10 HP |
| **Pitch** | mm | 10 | 10 | - | 10 |
| **Max transmittable load** | N | See the diagram | See the diagram | - | See the diagram |
| **PULLEY** | | | | | |
| **Effective diameter of the pulley** | mm | 63,66 | 63,66 | - | 63,66 |
| **Number of teeth** | z | 20 | 20 | - | 20 |
| **Linear movement per pulley round** | mm/round | 200 | 200 | - | 200 |

[A] Value refers to a covered distance of 2000 Km with fully supported system.
[B] The "suggested" speed is not the mechanical limit of the unit but represents the best compromise between high load applied and high dynamics. In case of particular requirements, please contact our technical assistance (service@camozzi.com).
1. Check the nominal admissible torque of the used motion transmission devices.
2. Details about directions of loads and moments can be found in the "EQUIVALENT LOAD" section.

## HOW TO CALCULATE THE LIFE OF SERIES 5E AXIS

The correct dimensioning of the Series 5E axis, used individually or in a cartesian system with several axes, you need to consider some facts, both static and dynamic.

CALCULATION OF LIFE [km]

$L_{eq}$ =Life of the axis [km]
$f_l$ = load coefficient
$f_w$ = safety coefficient according to the working conditions

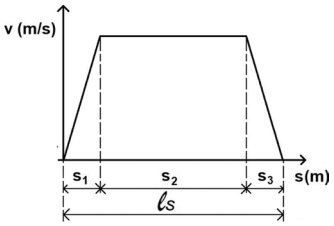
The loads acting on the actuator (Fy, Fz, Mx, My and Mz) that appear in the fl calculation are the average ones on the cycle. These are calculated by averaging the loads of each single phase as indicated in the equation of P.

ls = stroke
$s_1$ = acc. phase;
$s_2$ = constant speed phase;
$s_3$ = deceleration phase
P = Mx / My / Mz /Fy / Fz

$$f_l = \frac{|Fy|}{Fy,eq} + \frac{|Fz|}{Fz,eq} + \frac{|Mx|}{Mx,eq} + \frac{|My|}{My,eq} + \frac{|Mz|}{Mz,eq}$$

$$L_{eq} = \left(\frac{1}{f_l \cdot f_w}\right)^3 \cdot 2000$$

$$P = \sqrt[3]{\frac{1}{ls} \cdot \sum_{i=1}^{n} (P_i{}^3 \cdot s_i)}$$




$$P = \sqrt[3]{\frac{1}{ls} \cdot (P_1{}^3 \cdot s_1 + P_2{}^3 \cdot s_2 + P_3{}^3 \cdot s_3)}$$

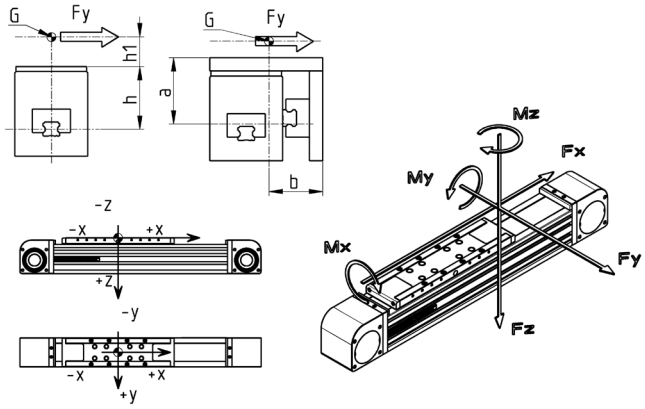

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## EQUIVALENT LOAD

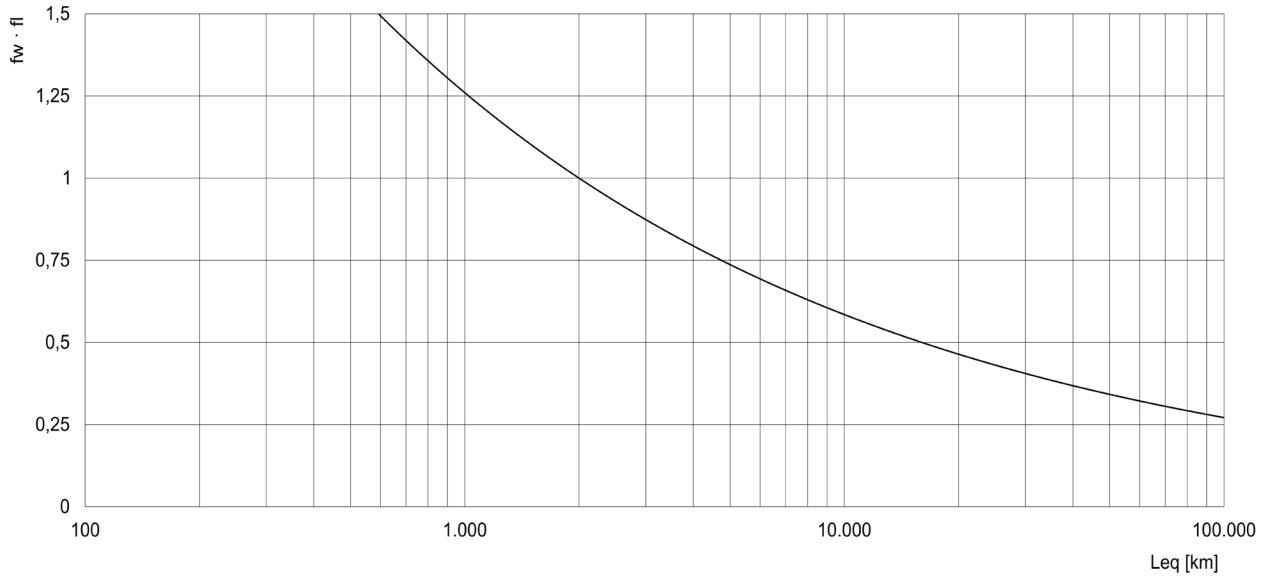
Fy = Force acting along the Y-axis [N]
Fz = Force acting along the Z-axis [N]
h = fixed distance for 5E axis [mm]
Mx = Moment along X-axis [Nm]
My = Moment along Y-axis [Nm]
Mz = Moment along Z-axis Z [Nm]

Here you can find the "h" values, valid for version A:
- h = 45,5 mm (5ES050)
- h = 56,0 mm (5ES065)
- h = 69,5 mm (5ES080)

Here you can find the "A" and "B" values, valid for version H:
"A" = 56,0 mm "B" 32,9 mm (5ES050)
"A" = 57,0 mm "B" 45,0 mm (5ES065)
"A" = 71,6 mm "B" 51,6 mm (5ES080)



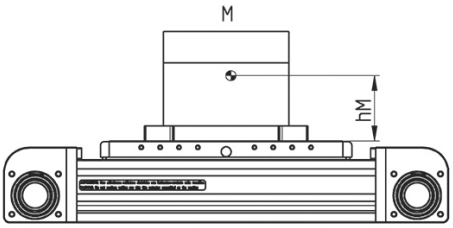

## GRAPH OF THE SERVICE LIFE

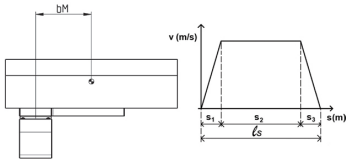



| APPLICATION | ACCELERATION [m/s²] | SPEED [m/s] | fw COEFFICIENT |
|---|---|---|---|
| **light** | < 10,0 | < 1,0 | 1,0 ÷ 1,5 |
| **normal** | 10,0 ÷ 25,0 | 1,0 ÷ 2,0 | 1,5 ÷ 2,5 |
| **heavy** | > 25,0 | > 2,0 | 2,5 ÷ 3,5 |

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## HOW TO CALCULATE THE SERVICE LIFE OF 5ES050TBL0500AS1 - HORIZONTAL MOUNTING




**Application data:**
**M = 15 kg**
**bM = 86 mm**
**hM = 50 mm**

**acc = dec = 6 m/s$_2$**
**s$_1$ = s$_3$ = 30 mm**
**ls = 500 mm**
**f$_w$ = 1**
**v = 0,6 m/s**

## CALCULATION OF APPLIED LOADS

$$F_y = 0$$

$$F_z = M \cdot g = 15 \cdot 9.81 = 147\ N$$

$$M_{x_{1;2;3}} = F_z \cdot b_M = 147 \cdot 0.086 = 12.7\ Nm$$

$$M_{y_{1;3}} = F_x \cdot (h_M + h) = M \cdot a \cdot (h_M + h) =$$
$$= 15 \cdot 6 \cdot (0.05 + 0.045) = 8.55\ Nm$$

$$M_{y_2} = F_x \cdot (h_M + h) = M \cdot a \cdot (h_M + h) =$$
$$= 15 \cdot 0 \cdot (0.05 + 0.045) = 0\ Nm$$

$$M_{z_{1;3}} = F_x \cdot b_M = M \cdot a \cdot b_M =$$
$$= 15 \cdot 6 \cdot 0.086 = 7.74\ Nm$$

$$M_{z_2} = F_x \cdot b_M = M \cdot a \cdot b_M =$$
$$= 15 \cdot 0 \cdot 0.086 = 0\ Nm$$

$$M_y = \sqrt[3]{\frac{1}{ls} \cdot (My_1{}^3 \cdot s1 + My_2{}^3 \cdot s2 + My_3{}^3 \cdot s3 + \cdots + My_n{}^3 \cdot sn)} =$$

$$= \sqrt[3]{\frac{1}{500} \cdot (8.55^{\,3} \cdot 30 + 0 \cdot 440 + 8.55^{\,3} \cdot 30)} = 4.22\ Nm$$

$$M_z = \sqrt[3]{\frac{1}{500} \cdot (7.74^{\,3} \cdot 30 + 0 \cdot 440 + 7.74^{\,3} \cdot 30)} = 3.82\ Nm$$

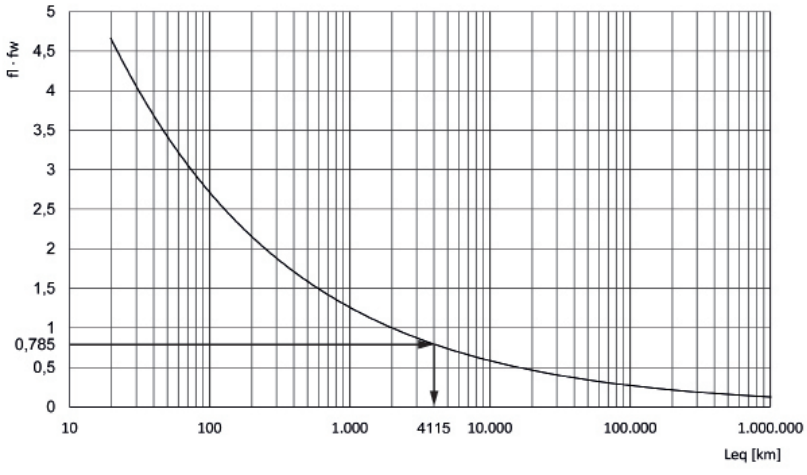
$$fl = \frac{|Fy|}{Fy,eq} + \frac{|Fz|}{Fz,eq} + \frac{|Mx|}{Mx,eq} + \frac{|My|}{My,eq} + \frac{|Mz|}{Mz,eq} =$$

$$= \frac{0}{3400} + \frac{147}{3400} + \frac{12.7}{19.4} + \frac{4.22}{91.7} + \frac{3.82}{91.7} = 0.785$$

## HOW TO CALCULATE THE SERVICE LIFE

Once the fl value has been calculated, the service life value can be obtained from the graph or by using the formula:

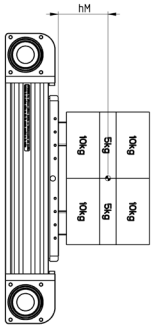
$$Leq = \left(\frac{1}{fl \cdot fw}\right)^3 \times 2000 = \left(\frac{1}{0.785 \cdot 1}\right)^3 \times 2000 = 4115\ \text{km}$$

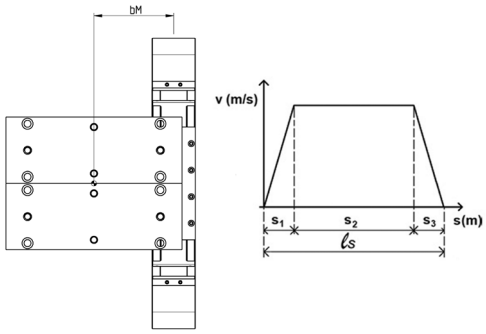





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## HOW TO CALCULATE THE SERVICE LIFE OF 5ES065TBL0750AS1 - VERTICAL MOUNTING




**Application data:**
**M = 50 kg**
**bM = 120 mm**
**hM = 79,5 mm**

**acc = dec = 10 m/s$_2$**
**$s_1$ = $s_3$ = 32 mm**
**Ls = 750 mm**
**$f_w$ = 1,5**
**v = 0,8 m/s**

## CALCULATION OF APPLIED LOADS

$F_y = 0\ N$

$F_z = 0\ N$

$M_{x_{1;2;3}} = 0\ Nm$

$M_{y_1} = F_x \cdot (h_M + h) = M \cdot (g + a) \cdot (h_M + h) =$

$= 50 \cdot (9.81 + 10) \cdot (0.056 + 0.0795) = 134.2\ Nm$

$M_{y_2} = F_x \cdot (h_M + h) = M \cdot (g + a) \cdot (h_M + h) =$

$= 50 \cdot (9.81 + 0) \cdot (0.056 + 0.0795) = 66.5\ Nm$

$M_{y_3} = F_x \cdot (h_M + h) = M \cdot (g + a) \cdot (h_M + h) =$

$= 50 \cdot (9.81 - 10) \cdot (0.056 + 0.0795) = 1.3\ Nm^*$

$M_{z_1} = F_x \cdot b_M = M \cdot (g + a) \cdot b_M =$

$= 50 \cdot (9.81 + 10) \cdot 0.12 = 118.9\ Nm$

$M_{z_2} = F_x \cdot b_M = M \cdot (g + a) \cdot b_M =$

$= 50 \cdot (9.81 + 0) \cdot 0.12 = 58.9\ Nm$

$M_{z_3} = F_x \cdot b_M = M \cdot (g + a) \cdot b_M =$

$= 50 \cdot (9.81 - 10) \cdot 0.12 = 1.14\ Nm^*$

$$M_y = \sqrt[3]{\frac{1}{750} \cdot (134.2^{\,3} \cdot 32 + 66.5^{\,3} \cdot 686 + 1.3^{\,3} \cdot 32)} = 71.9\ Nm$$

$$M_z = \sqrt[3]{\frac{1}{750} \cdot (118.9^{\,3} \cdot 32 + 58.9^{\,3} \cdot 686 + 1.14^{\,3} \cdot 32)} = 63.7\ Nm$$

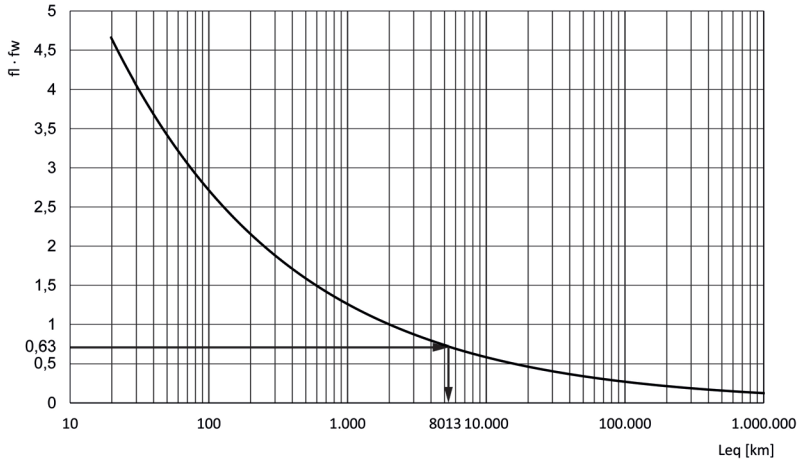
$$fl = \frac{|Fy|}{Fy,eq} + \frac{|Fz|}{Fz,eq} + \frac{|Mx|}{Mx,eq} + \frac{|My|}{My,eq} + \frac{|Mz|}{Mz,eq} =$$

$$= \frac{0}{8300} + \frac{0}{8300} + \frac{71.9}{324} + \frac{63.7}{324} + \frac{0}{55} = 0.42$$

## HOW TO CALCULATE THE SERVICE LIFE

Once the fl value has been calculated, the service life value can be obtained from the graph or by using the formula:

$$Leq = \left(\frac{1}{fl \cdot fw}\right)^3 \times 2000 = \left(\frac{1}{0.42 \cdot 1.5}\right)^3 \times 2000 = 8013\ \text{km}$$



## HOW TO CALCULATE THE DRIVING TORQUE [Nm]

$F_A$ = Total force acting from outside [N]
$F_E$ = Force to be applied externally [N]
g = Gravitational acceleration [9,81 m/s$^2$]
$m_E$ = Mass of the body to move [kg]
$D_P$ = Pulley pitch diameter [mm]
$C_{M1}$ = Driving torque due to external agents [Nm]

$$C_{TOT} = C_{M1} + C_{M2} + C_{M3}$$

$$F_A = F_E + m_E \cdot g$$

$$C_{M1} = \frac{F_A \cdot D_P}{2}$$

$J_{TOT}$= Moment of inertia of rotating components [kg·m$^2$]
$\dot{\omega}$ = Angular acceleration [rad/s$^2$]
a = Axis linear acceleration [m/s$^2$]
$C_{M2}$ = Driving torque due to rotating components [Nm]

$$\dot{\omega} = \frac{2 \cdot a}{D_P}$$

$$C_{M2} = J_{TOT} \cdot \dot{\omega}$$

$F_{TT}$ = Force needed to move sliding components [N]
$F_{TF}$ = Force needed to move fixed-length sliding components [N]
$F_{TV}$ = Force needed to move variable-length sliding components [N]
$m_{C1}$ = Mass of fixed-length sliding components [kg]
$K_{TV}$ = Mass coefficient of variable-length sliding components [kg/mm]
$C_{M3}$ = Driving torque due to sliding components [Nm]
$K_{TI}$ = Mass coefficient of variable-length components with the interaxis [kg/mm]
C = Stroke [mm]
I = Interaxis [mm]

$$F_{TT} = F_{TF} + F_{TV}$$

$$F_{TF} = m_{C1} \cdot a$$

$$F_{TV} = K_{TV} \cdot C \cdot a$$

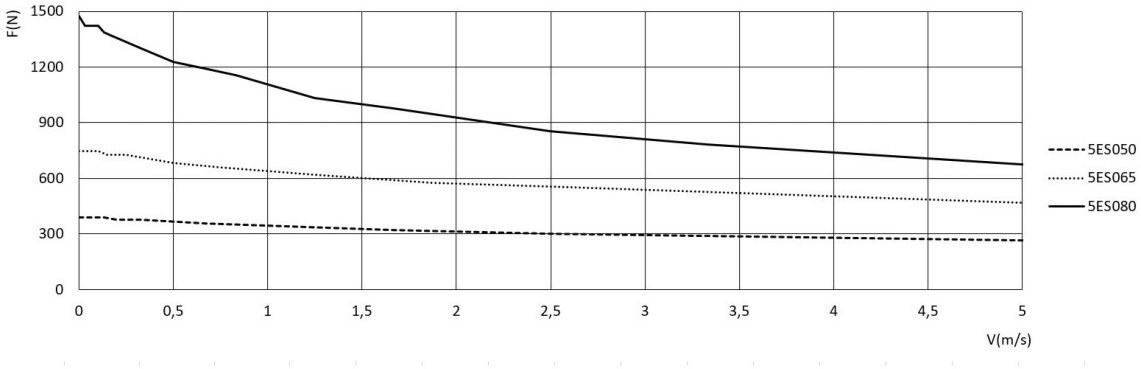
$$C_{M3} = \frac{F_{TT} \cdot D_P}{2}$$

| Mod. | $J_{tot}$ [ Kg·mm$^2$ ] | $m_{C1}$ [ kg ] | $K_{TV}$ [ Kg·m ] | $K_{TI}$ [ Kg/m ] |
|---|---|---|---|---|
| **5E050...AS1** | 48,76 | 0,51 | 0,14 | 0,00 |
| **5E050...AL1** | 48,76 | 0,80 | 0,14 | 0,00 |
| **5E050...AS2** | 48,76 | 1,01 | 0,14 | 0,38 |
| **5E050...DS1** | 0,00 | 0,40 | 0,00 | 0,00 |
| **5E050...DS2** | 0,00 | 0,87 | 0,00 | 0,31 |
| **5E065...AS1** | 372,07 | 1,27 | 0,21 | 0,00 |
| **5E065...AL1** | 372,07 | 1,83 | 0,21 | 0,00 |
| **5E065...AS2** | 372,07 | 2,53 | 0,21 | 0,41 |
| **5E065...DS1** | 0,00 | 1,01 | 0,00 | 0,00 |
| **5E065...HS1** | 372,07 | 2,84 | 0,21 | 0,00 |
| **5E065...DS2** | 0,00 | 2,1 | 0,00 | 0,31 |
| **5E080...AS1** | 1130,28 | 2,69 | 0,34 | 0,00 |
| **5E080...AL1** | 1130,28 | 3,84 | 0,34 | 0,00 |
| **5E080...AS2** | 1130,28 | 5,38 | 0,34 | 0,48 |
| **5E080...DS1** | 0,00 | 2,15 | 0,00 | 0,00 |
| **5E080...HS1** | 1130,28 | 5,61 | 0,34 | 0,00 |
| **5E080...DS2** | 0,00 | 4,41 | 0,00 | 0,31 |

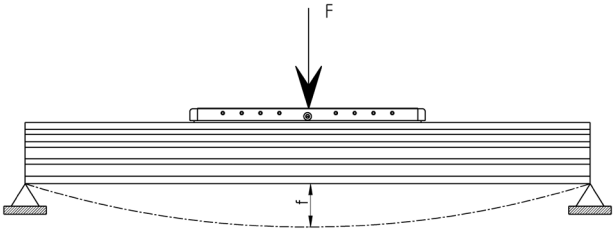

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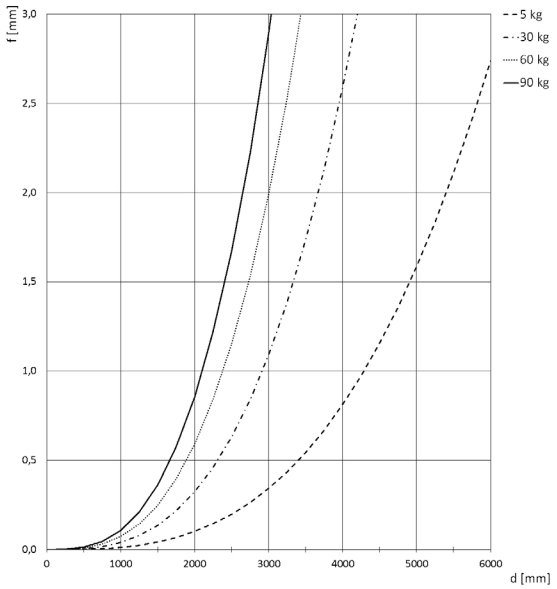
## TRANSMISSIBLE FORCE

According to axis size and speeds chosen, force that can be transmitted from the toothed belt has these limits.



## Deflection according to the distance of the supports - Version A



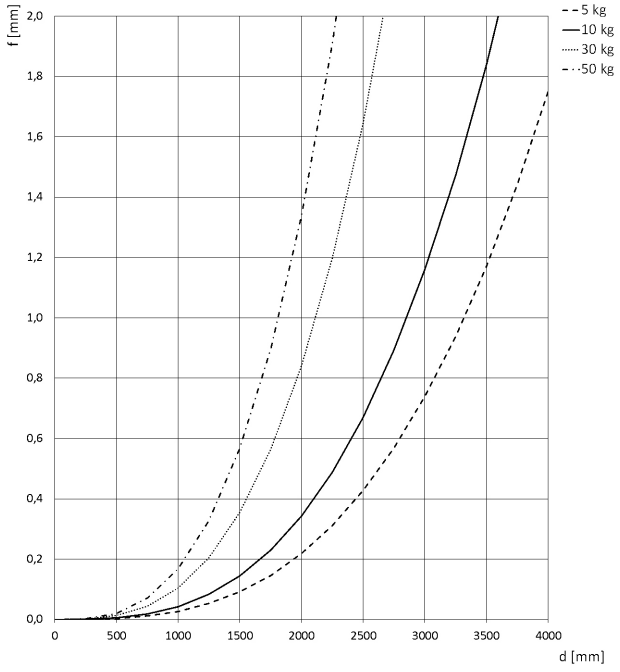




$$f_{max} = c_{max} \cdot 5 \cdot 10^{-4}$$

**$f_{max}$ = Maximum admissible deflection [mm]**
**$c_{max}$ = Maximum stroke of axis 5E [mm]**

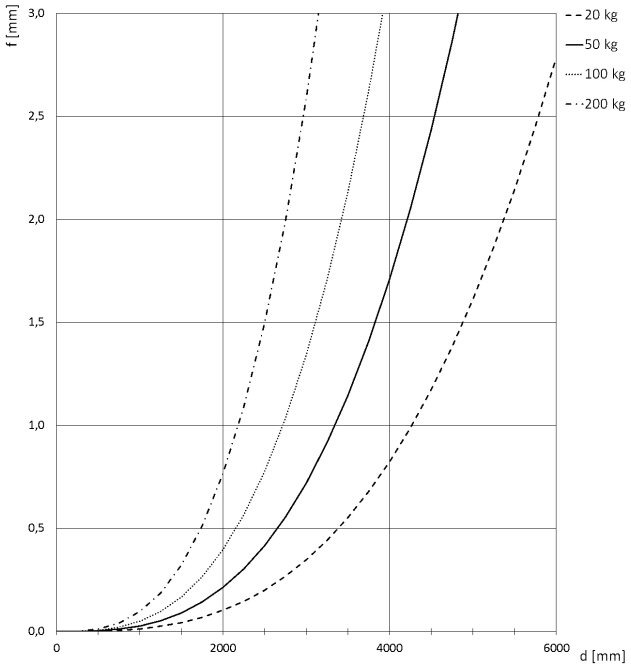
**Size 065**

**f = deflection generated between the supports [mm]**
**d = distance between the supports [mm]**




**Size 050**

**f = deflection generated between the supports [mm]**
**d = distance between the supports [mm]**



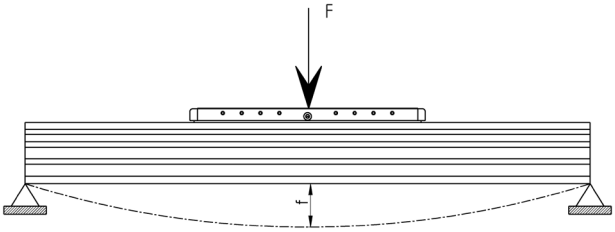

**Size 080**

**f = deflection generated between the supports [mm]**
**d = distance between the supports [mm]**



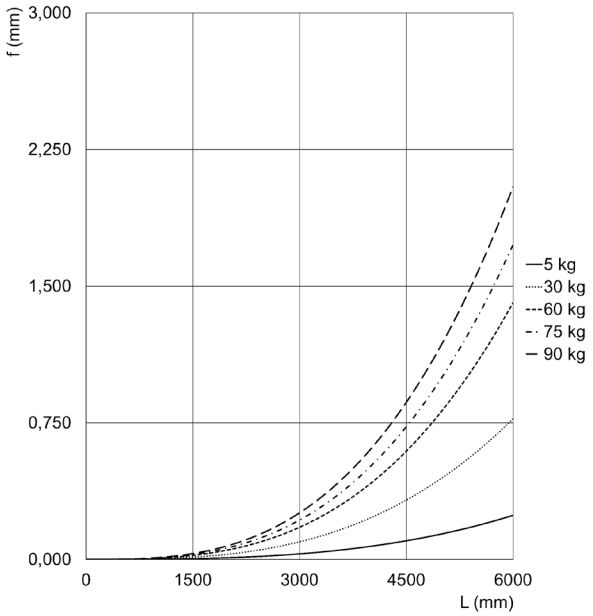
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## Deflection according to the distance of the supports - Version H



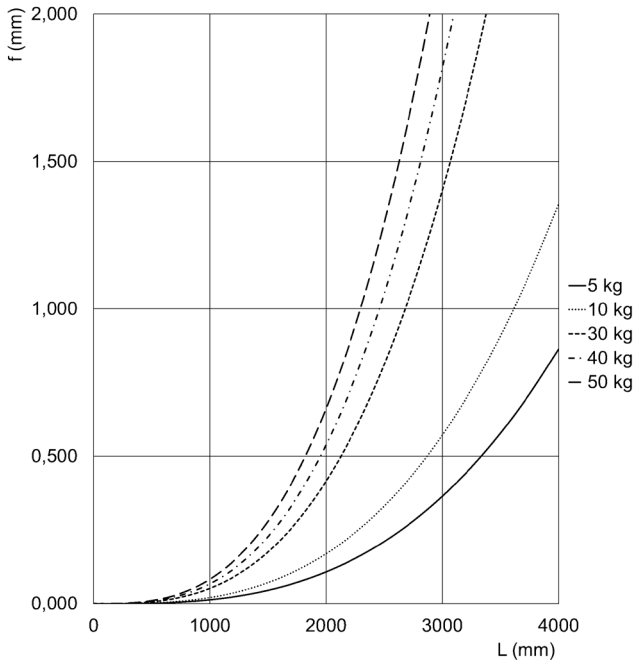

$$f_{max} = c_{max} \cdot 5 \cdot 10^{-4}$$

**$f_{max}$ = Maximum admissible deflection [mm]**
**$c_{max}$ = Maximum stroke of axis 5E [mm]**



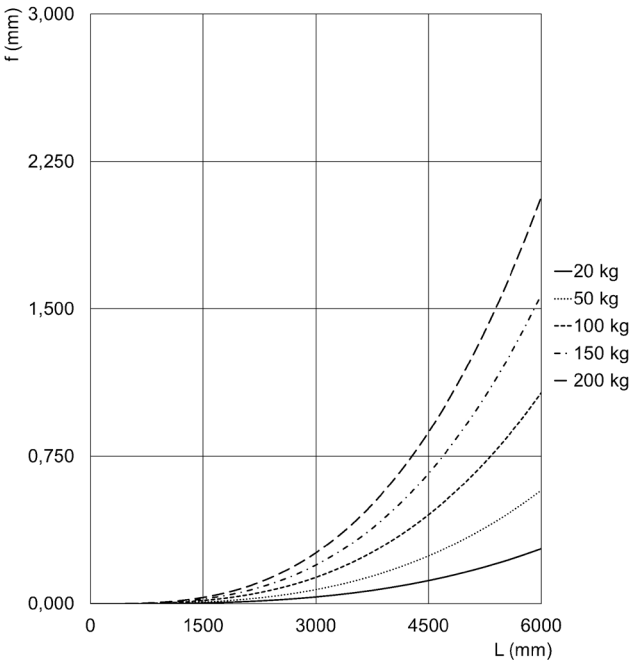

**Size 065**

**f = deflection generated between the supports [mm]**
**d = distance between the supports [mm]**




**Size 050**

**f = deflection generated between the supports [mm]**
**d = distance between the supports [mm]**




**Size 080**

**f = deflection generated between the supports [mm]**
**d = distance between the supports [mm]**

## ACCESSORIES FOR SERIES 5E

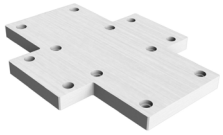
**Side clamping bracket Mod. BGS**



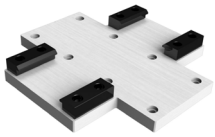
**Perforated side clamping bracket Mod. BGA**



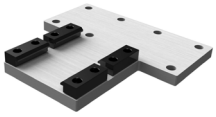
**Interface plate - slider on slider**



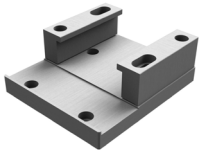
**Interface plate - profile on slider**



**Interface plate - profile on slider - long arm**



**Interface plate - Series 6E cylinder on slider**



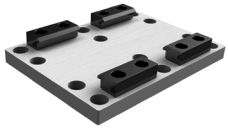
**Interface plate - profile side on slider, left pos.**



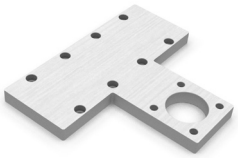
**Interf. plate - profile side on slider, right pos.**



**Fixed interface plate**



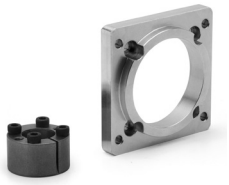
**Interface plate - Guide S. 45 / Cyl. S. 6E**



**Kit to fix the inductive sensor**



**Kit to connect the gearbox GB Mod. FR**



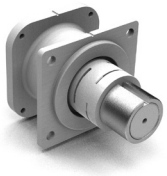
**Kit to connect the gearbox, enhanced series**



**Kit to connect the gearbox, enhanced series**



**Direct connection kit for Stepper motor**



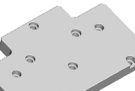
**Parallel connection kit**



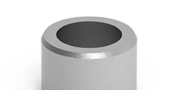
**Nuts for slots**



**Connection flange Mod. YZ**



**Centering sleeve Mod. TR-CG**









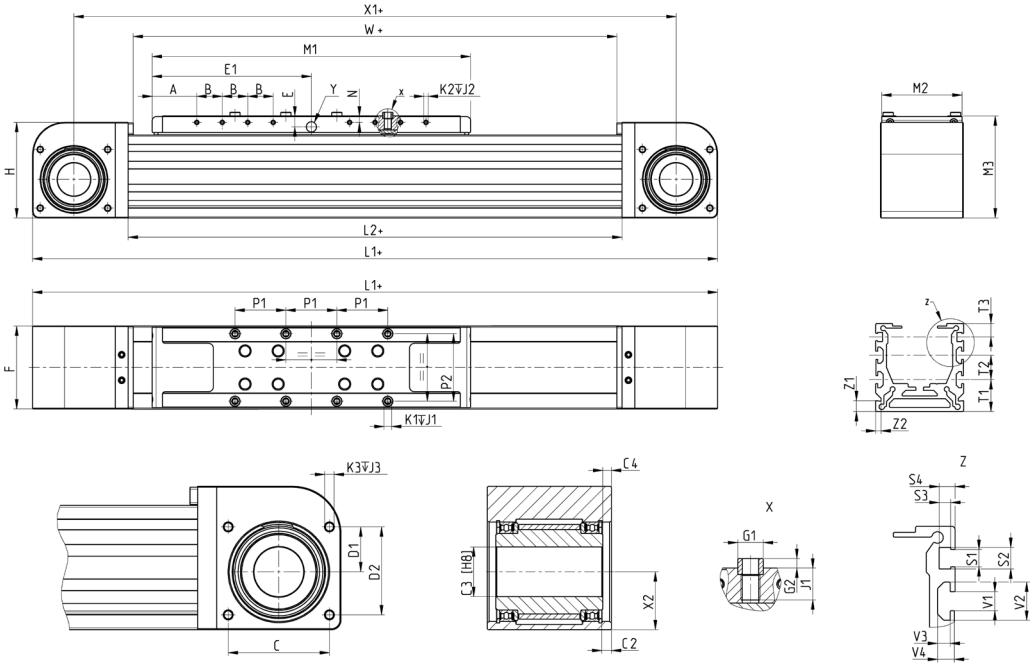




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# Electromechanical axis Mod. 5E...AS1





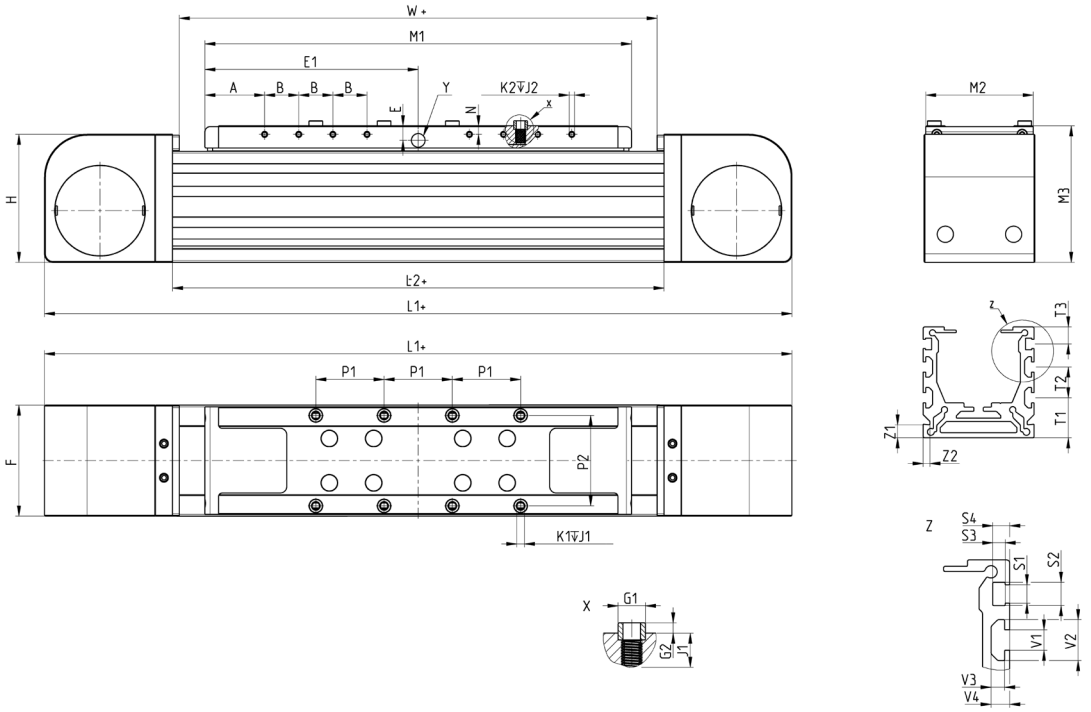

| Size | A | B | C | øC1 | C2 | øC3(h8) | C4 | D1 | D2 | E | E1 | F | øG1(h8) | G2 | H | L1 | L2 | M1 | M2 | M3 | N | P1 | P2 | K1 | J1 | K2 | J2 | K3 | J3 | T1 | T2 | T3 | Y | X1 | X2 | W | Z1 | Z2 | S1 | S2 | S3 | S4 | V1 | V2 | V3 | V4 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **50** | 32,5 | 15 | 37 | 37 | 4,5 | 20 | 2 | 17 | 32 | 8,5 | 100 | 50 | 6 | 2 | 60 | 354 | 238 | 200 | 48 | 65 | 5 | 30 | 40 | M4 | 7 | M3 | 5 | M4 | 8 | 20 | ■ | 10 | ● | 304 | 21,8 | 230 | 8 | 4 | 5,4 | 6,8 | 3,65 | 5 | 6 | 12 | 4 | 5,5 |
| **65** | 35 | 20 | 53 | 52 | 2 | 26 | 4,5 | 23,5 | 46 | 8,5 | 125 | 65 | 8 | 3 | 75 | 438 | 288 | 250 | 63 | 80 | 5 | 40 | 53 | M5 | 8 | M3 | 6 | M5 | 10 | 23,5 | 18 | 10 | ● | 373 | 30,5 | 280 | 8 | 4 | 5,4 | 6,8 | 3,65 | 5 | 6 | 12 | 4 | 5,5 |
| **80** | 35 | 30 | 68 | 68 | 6,5 | 38 | 6 | 30,5 | 60,5 | 11,5 | 165 | 80 | 10 | 3 | 95 | 548 | 368 | 330 | 78 | 100 | 8 | 55 | 64 | M6 | 12 | M4 | 8,5 | M5 | 10 | 25 | 25 | 10 | ● | 468 | 40,5 | 360 | 8 | 4 | 5,4 | 6,8 | 3,65 | 5 | 8 | 16,5 | 6,8 | 9 |

* We recommend a coupling with a shaft of tolerance h8.
■ Dimension T2 in size 50 is not indicated because there is only one slot.
● Dimension Y indicates the hole for centralized lubrication by means of grease.

| Size | Weight stroke zero [kg] | Stroke weight per meter [kg/m] |
|---|---|---|
| **50** | 2,15 | 3,35 |
| **65** | 4,6 | 5,4 |
| **80** | 8,9 | 5,9 |

## Electromechanical axis Mod. 5E...DS1






| Size | A | B | E | E1 | F | ø G1 | G2 | H | L1 | L2 | M1 | M2 | M3 | N | P1 | P2 | K1 | J1 | K2 | J2 | T1 | T2 | T3 | Y | W | Z1 | Z2 | S1 | S2 | S3 | S4 | V1 | V2 | V3 | V4 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **50** | 32,5 | 15 | 8,5 | 100 | 50 | 6 | 2 | 60 | 354 | 238 | 200 | 200 | 48 | 5 | 30 | 40 | M4 | 7 | M3 | 5 | 20 | ■ | 10 | ● | 230 | 8 | 4 | 5,4 | 6,8 | 3,65 | 5 | 6 | 12 | 4 | 5,5 |
| **65** | 35 | 20 | 8,5 | 125 | 65 | 8 | 3 | 75 | 438 | 288 | 250 | 250 | 63 | 5 | 40 | 53 | M5 | 8 | M3 | 6 | 23,5 | 18 | 10 | ● | 280 | 8 | 4 | 5,4 | 6,8 | 3,65 | 5 | 6 | 12 | 4 | 5,5 |
| **80** | 35 | 30 | 11,5 | 165 | 80 | 10 | 3 | 95 | 548 | 368 | 330 | 330 | 78 | 8 | 55 | 64 | M6 | 12 | M4 | 8,5 | 25 | 25 | 10 | ● | 360 | 8 | 4 | 5,4 | 6,8 | 3,65 | 5 | 8 | 16,5 | 6,8 | 9 |

* We recommend a coupling with a shaft of tolerance h8.
■ Dimension T2 in size 50 is not indicated because there is only one slot.
● Dimension Y indicates the hole for centralized lubrication by means of grease.

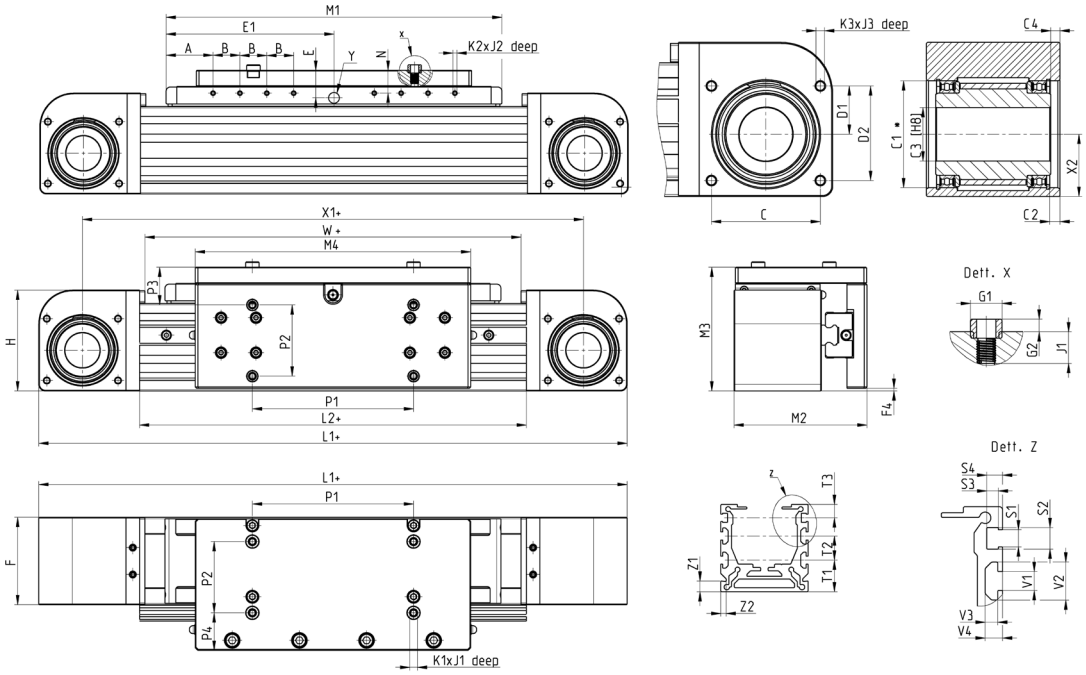
| Size | Weight stroke zero [kg] | Stroke weight per meter [kg/m] |
|---|---|---|
| **50** | 1,81 | 3,00 |
| **65** | 3,58 | 4,88 |
| **80** | 7,05 | 5,31 |



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# Electromechanical axis Mod. 5E...HS1





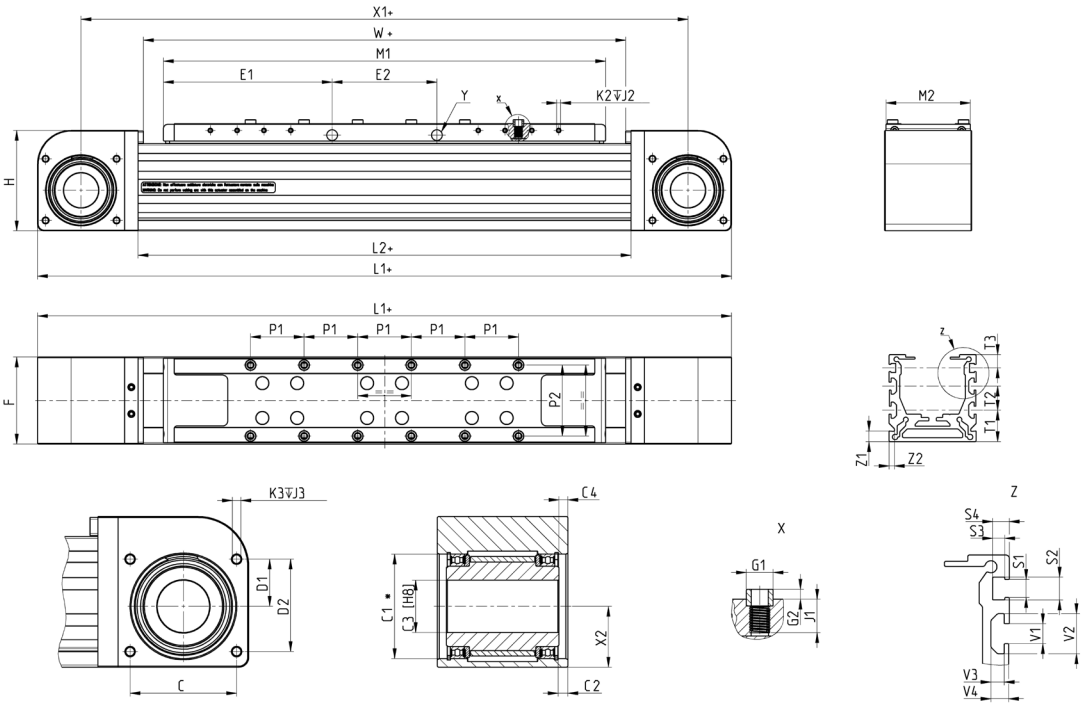

| Size | A | B | C | ⌀C1 | C2 | ⌀C3 | C4 | D1 | D2 | E | E1 | F | F4 | ⌀G1 | G2 | H | L1 | L2 | M1 | M2 | M3 | N | P1 | P2 | P3 | P4 | K1 | J1 | K2 | J2 | K3 | J3 | T1 | T2 | T3 | Y | X1 | X2 | W | Z1 | Z2 | S1 | S2 | S3 | S4 | V1 | V2 | V3 | V4 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **65** | 35 | 20 | 53 | 52 | 5 | 26 | 4,5 | 23,5 | 46 | 20,5 | 125 | 65 | 2 | 8 | 3 | 75 | 438 | 288 | 250 | 99 | 92 | 17 | 120 | 53 | 28 | 28 | M5 | 8 | M3 | 6 | M5 | 10 | 23,5 | 18 | 10 | ● | 373 | 30,5 | 280 | 8 | 4 | 5,4 | 6,8 | 3,65 | 5 | 6 | 12 | 4 | 5,5 |
| **80** | 35 | 30 | 68 | 68 | 6,5 | 38 | 6 | 30,5 | 60,5 | 26,5 | 165 | 80 | 1 | 10 | 3 | 95 | 548 | 368 | 330 | 119 | 115 | 23 | 165 | 64 | 31 | 33,5 | M5 | 12 | M4 | 8,5 | M5 | 10 | 25 | 25 | 10 | ● | 468 | 40,5 | 360 | 8 | 4 | 5,4 | 6,8 | 3,65 | 5 | 8 | 16,5 | 6,8 | 9 |

* We recommend a coupling with a shaft of tolerance h8.
● Dimension Y indicates the hole for centralized lubrication by means of grease.

| Size | Weight stroke zero [kg] | Stroke weight per meter [kg/m] |
|---|---|---|
| **65** | 7,08 | 6,86 |
| **80** | 14,86 | 8,34 |

## Electromechanical axis Mod. 5E...AL1






| Size | A | B | C | ⌀C1 | C2 | ⌀C3 (h8) | C4 | D1 | D2 | E | E1 | E2 | F | ⌀G1 (h8) | G2 | H | L1 | L2 | M1 | M2 | M3 | N | P1 | P2 | K1 | J1 | K2 | J2 | K3 | J3 | T1 | T2 | T3 | Y | X1 | X2 | W | Z1 | Z2 | S1 | S2 | S3 | S4 | V1 | V2 | V3 | V4 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **50** | 32,5 | 15 | 37 | 37 | 4,5 | 20 | 2 | 17 | 32 | 8,5 | 101,5 | 62 | 50 | 6 | 2 | 60 | 419 | 303 | 265 | 48 | 65 | 5 | 30 | 40 | M4 | 7 | M3 | 5 | M4 | 8 | 20,0 | ■ | 10 | ● | 369 | 21,8 | 295 | 8 | 4 | 5,4 | 6,8 | 3,65 | 5 | 6 | 12 | 4 | 5,5 |
| **65** | 35,0 | 20 | 53 | 52 | 5 | 26 | 4,5 | 23,5 | 46 | 8,5 | 126,0 | 78 | 65 | 8 | 3 | 75 | 518 | 368 | 330 | 63 | 80 | 5 | 40 | 53 | M5 | 8 | M3 | 6 | M5 | 10 | 23,5 | 18 | 10 | ● | 453 | 30,5 | 360 | 8 | 4 | 5,4 | 6,8 | 3,65 | 5 | 6 | 12 | 4 | 5,5 |
| **80** | 37,5 | 30 | 68 | 68 | 6,5 | 38 | 6 | 30,5 | 60,5 | 11,5 | 167,5 | 110 | 80 | 10 | 3 | 95 | 663 | 483 | 445 | 78 | 100 | 8 | 55 | 64 | M6 | 12 | M4 | 8,5 | M5 | 10 | 25,0 | 25 | 10 | ● | 583 | 40,5 | 475 | 8 | 4 | 5,4 | 6,8 | 3,65 | 5 | 6 | 16,5 | 6,8 | 9 |

* We recommend a coupling with a shaft of tolerance h8.
■ Dimension T2 in size 50 is not indicated because there is only one slot.
● Dimension Y indicates the hole for centralized lubrication by means of grease.

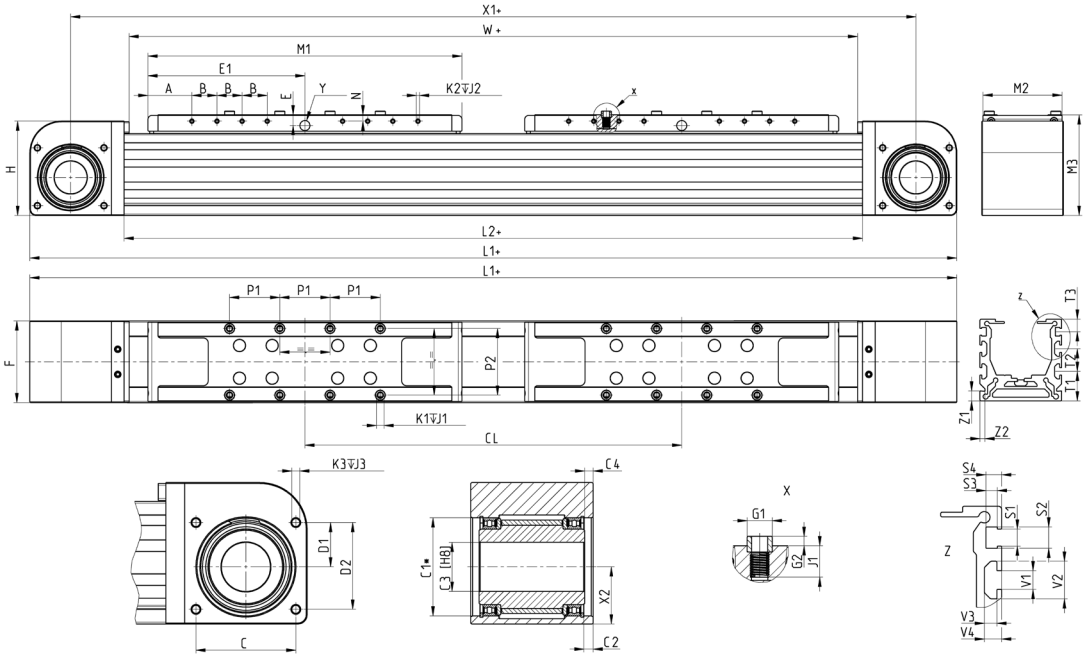
| Size | Weight stroke zero [kg] | Stroke weight per meter [kg/m] |
|---|---|---|
| **50** | 2,58 | 3,35 |
| **65** | 5,56 | 5,4 |
| **80** | 11,10 | 5,9 |



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# Electromechanical axis Mod. 5E...AS2






| Size | A | B | C | øC1 | C2 | øC3(h8) | C4 | D1 | D2 | E | E1 | F | øG1(h8) | G2 | H | L1 | L2 | M1 | M2 | M3 | N | P1 | P2 | K1 | J1 | K2 | J2 | K3 | J3 | T1 | T2 | T3 | Y | X1 | X2 | W | Z1 | Z2 | S1 | S2 | S3 | S4 | V1 | V2 | V3 | V4 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **50** | 32,5 | 15 | 37 | 37 | 4,5 | 20 | 2 | 17 | 32 | 8,5 | 100 | 50 | 6 | 2 | 60 | 604 | 488 | 200 | 48 | 65 | 5 | 30 | 40 | M4 | 7 | M3 | 5 | M4 | 8 | 20 | ■ | 10 | ● | 304 | 21,8 | 230 | 8 | 4 | 5,4 | 6,8 | 3,65 | 5 | 6 | 12 | 4 | 5,5 |
| **65** | 35 | 20 | 53 | 52 | 5 | 26 | 4,5 | 23,5 | 46 | 8,5 | 125 | 65 | 8 | 3 | 75 | 738 | 588 | 250 | 63 | 80 | 5 | 40 | 53 | M5 | 8 | M3 | 6 | M5 | 10 | 23,5 | 18 | 10 | ● | 373 | 30,5 | 280 | 8 | 4 | 5,4 | 6,8 | 3,65 | 5 | 6 | 12 | 4 | 5,5 |
| **80** | 35 | 30 | 68 | 68 | 6,5 | 38 | 6 | 30,5 | 60,5 | 11,5 | 165 | 80 | 10 | 3 | 95 | 948 | 768 | 330 | 78 | 100 | 8 | 55 | 64 | M6 | 12 | M4 | 8,5 | M5 | 10 | 25 | 25 | 10 | ● | 468 | 40,5 | 360 | 8 | 4 | 5,4 | 6,8 | 3,65 | 5 | 8 | 17 | 6,8 | 9 |

* We recommend a coupling with a shaft of tolerance h8.
■ Dimension T2 in size 50 is not indicated because there is only one slot.
● Dimension Y indicates the hole for centralized lubrication by means of grease

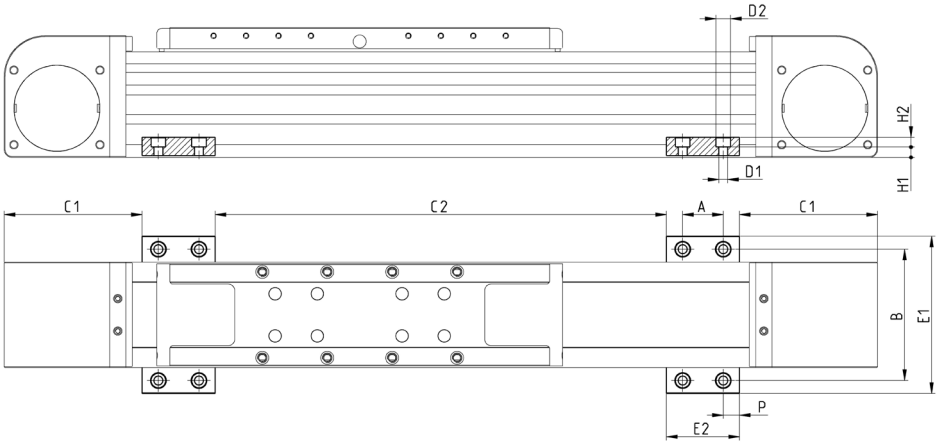
| Size | CL min | CL max | Max applicable stroke | Weight stroke zero [kg] | WEIGHT PER METER [kg/m] (valid for stroke and interaxis increases) |
|---|---|---|---|---|---|
| **50** | 250 | 2000 | Smax = 4262 - CL | 3,49 | 3,35 |
| **65** | 300 | 2000 | Smax = 6212 - CL | 7,35 | 5,4 |
| **80** | 400 | 2000 | Smax = 6132 - CL | 14,68 | 5,9 |

## Side clamping bracket Mod. BGS



**Material:**
aluminium

Supplied with:
2x clamps




| Mod. | Size | A | B | C1 | C2 | øD1 | øD2 | E1 | E2 | H1 | H2 | P | Weight (g) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **BGS-5E-M5** | 50 | 25 | 66 | 68 | * | 5,5 | 9 | 82 | 45 | 6,4 | 6 | 10 | 45 |
| **BGS-5E-M5** | 65 | 25 | 81 | 85 | * | 5,5 | 9 | 97 | 45 | 6,4 | 6 | 10 | 45 |
| **BGS-5E-M5** | 80 | 25 | 96 | 100 | * | 5,5 | 9 | 112 | 45 | 6,4 | 6 | 10 | 45 |
| **BGS-5E-M6** | 50 | 25 | 66 | 68 | * | 6,5 | 10,5 | 82 | 45 | 5,4 | 7 | 10 | 40 |
| **BGS-5E-M6** | 65 | 25 | 81 | 85 | * | 6,5 | 10,5 | 97 | 45 | 5,4 | 7 | 10 | 40 |
| **BGS-5E-M6** | 80 | 25 | 96 | 100 | * | 6,5 | 10,5 | 112 | 45 | 5,4 | 7 | 10 | 40 |

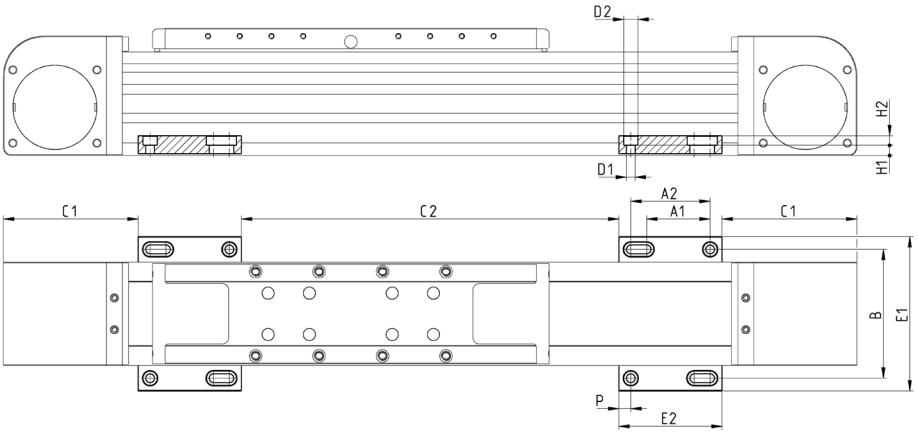
*according to the span (max admissible deflection) recommended value 500 mm

## Perforated side clamping bracket Mod. BGA



**Material:**
aluminium

Supplied with:
2x clamps with perforation



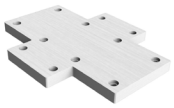

| Mod. | Size | A1 | A2 | B | C1 | C2 | øD1 | øD2 | E1 | E2 | H1 | H2 | P | Weight (g) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **BGA-5E-M5** | 50 | 40 | 50 | 66 | 68 | * | 5,5 | 9 | 82 | 65 | 6,4 | 6 | 7,5 | 60 |
| **BGA-5E-M5** | 65 | 40 | 50 | 81 | 85 | * | 5,5 | 9 | 97 | 65 | 6,4 | 6 | 7,5 | 60 |
| **BGA-5E-M5** | 80 | 40 | 50 | 96 | 100 | * | 5,5 | 9 | 112 | 65 | 6,4 | 6 | 7,5 | 60 |
| **BGA-5E-M6** | 50 | 40 | 50 | 66 | 68 | * | 6,5 | 10,5 | 82 | 65 | 5,4 | 7 | 7,5 | 55 |
| **BGA-5E-M6** | 65 | 40 | 50 | 81 | 85 | * | 6,5 | 10,5 | 97 | 65 | 5,4 | 7 | 7,5 | 55 |
| **BGA-5E-M6** | 80 | 40 | 50 | 96 | 100 | * | 6,5 | 10,5 | 112 | 65 | 5,4 | 7 | 7,5 | 55 |

*according to the span (max admissible deflection) recommended value 500 mm

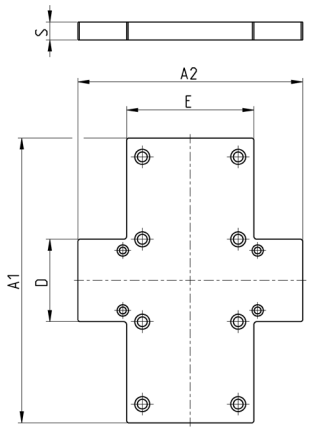


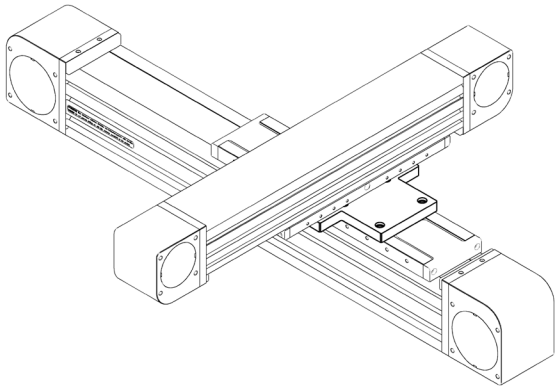
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## Interface plate - slider on slider



**Supplied with:**
1x interface plate
8x screws + 8x lock washers to connect the plate on the slider of the main axis
4x screws + 4x lock washers to connect the plate on the slider of the secondary axis



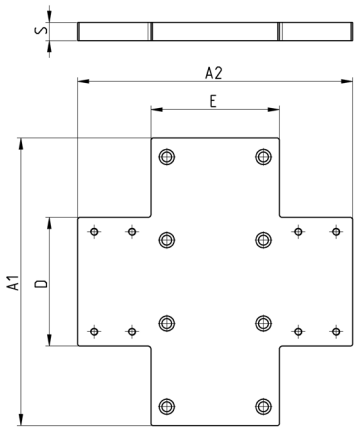



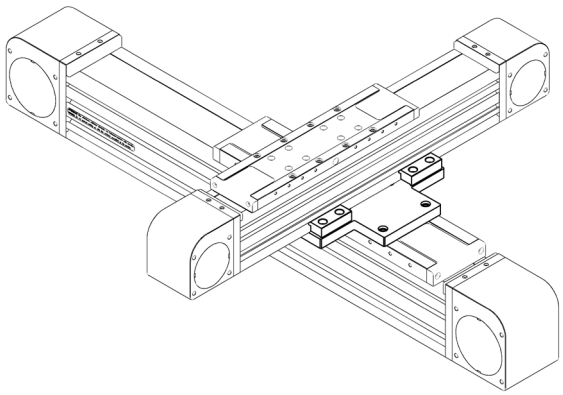
| Mod. | Size | A1 | A2 | D | E | S | Weight [g] |
|---|---|---|---|---|---|---|---|
| **XY-S65-S50** | 65 | 150 | 150 | 55 | 70 | 12 | 515 |
| **XY-S80-S50** | 80 | 190 | 150 | 55 | 85 | 12 | 690 |
| **XY-S80-S65** | 80 | 190 | 150 | 70 | 85 | 12 | 720 |

## Interface plate - profile on slider



**Supplied with:**
1x interface plate
8x screws + 8x lock washers to connect the plate on the slider of the main axis
4x clamps
8x screws + 8x lock washers to connect the secondary axis on the plate by means of clamps



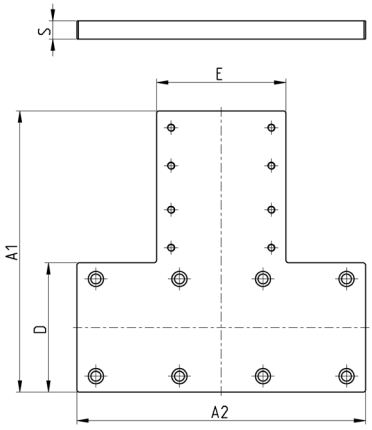
| Mod. | Size | A1 | A2 | D | E | S | Weight [g] |
|---|---|---|---|---|---|---|---|
| **XY-S65-P50** | 65 | 150 | 162 | 85 | 70 | 12 | 730 |
| **XY-S80-P50** | 80 | 190 | 182 | 85 | 85 | 12 | 945 |
| **XY-S80-P65** | 80 | 190 | 185 | 100 | 85 | 12 | 1000 |

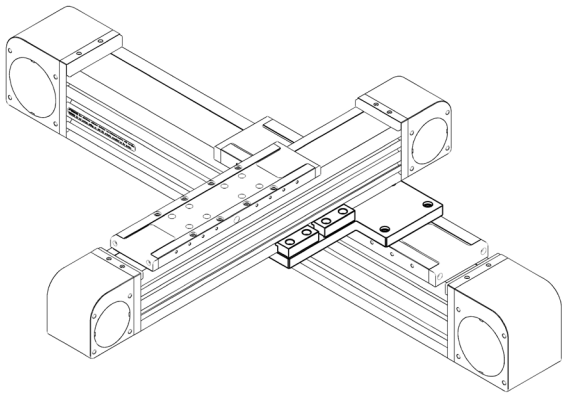
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## Interface plate - profile on slider - long arm



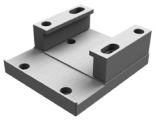
**Supplied with:**
1x interface plate
8x screws + 8x lock washers to connect plate on the slider of the main axis
4x clamps
8x screws + 8x lock washers to connect plate on the slider of the secondary axis by means of clamps



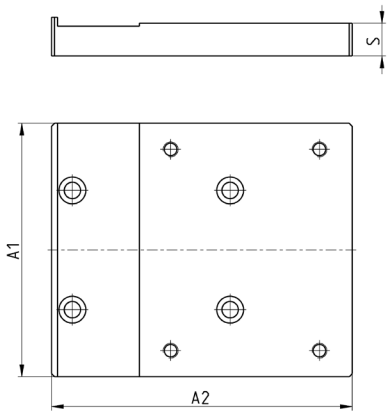



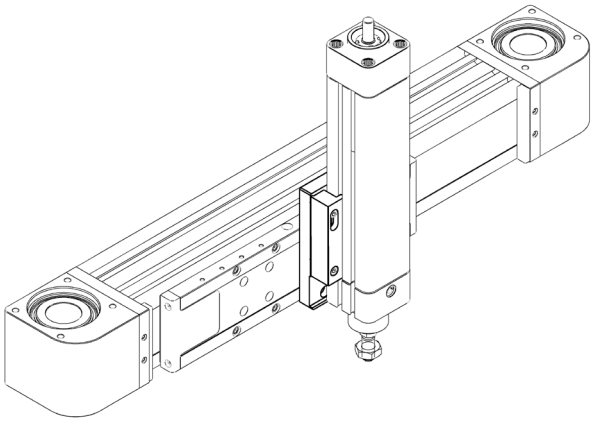
| Mod. | Size | A1 | A2 | D | E | S | Weight [g] |
|---|---|---|---|---|---|---|---|
| **XY-S50-P50-T** | 50 | 162 | 130 | 50 | 85 | 12 | 600 |
| **XY-S65-P50-T** | 65 | 170 | 150 | 65 | 85 | 12 | 750 |
| **XY-S65-P65-T** | 65 | 185 | 170 | 65 | 100 | 12 | 800 |
| **XY-S80-P50-T** | 80 | 185 | 190 | 85 | 85 | 12 | 960 |
| **XY-S80-P65-T** | 80 | 185 | 190 | 85 | 100 | 12 | 1010 |
| **XY-S80-P80-T** | 80 | 200 | 190 | 85 | 120 | 12 | 1100 |

## Interface plate - Series 6E cylinder on slider



**Supplied with:**
1x interface plate
4x screws + 4x lock washers to connect the plate on the slider of the axis
2x clamps
4x screws + 4x lock washers to fix the Series 6E cylinder by means of clamps



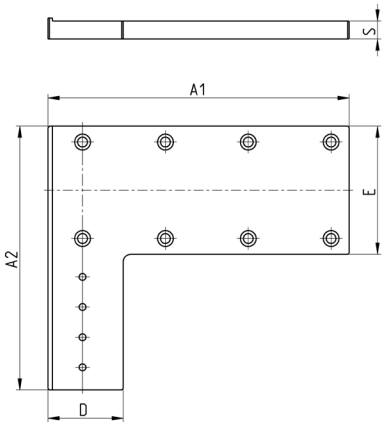
| Mod. | Size | A1 | A2 | S | Weight [g] |
|---|---|---|---|---|---|
| **XY S50-6E32** | 50 | 72 | 101 | 11 | 315 |
| **XY-S65-6E32** | 65 | 72 | 101 | 11 | 315 |
| **XY-S65-6E40** | 65 | 85 | 101 | 11 | 350 |
| **XY S65-6E50** | 65 | 95 | 110 | 12 | 510 |
| **XY-S80-6E32** | 80 | 75 | 101 | 12 | 385 |
| **XY-S80-6E40** | 80 | 85 | 101 | 12 | 410 |
| **XY-S80-6E50** | 80 | 95 | 110 | 12 | 510 |
| **XY S80-6E63** | 80 | 106 | 110 | 12 | 560 |

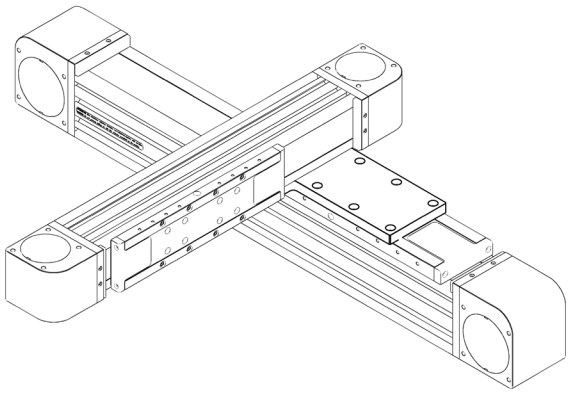

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## Interface plate - profile side on slider - left position



**Supplied with:**
1x interface plate
8x screws + 8x lock washers to connect the plate on the slider of the main axis, screws and nuts for slot to connect the plate on the slider of the secondary axis



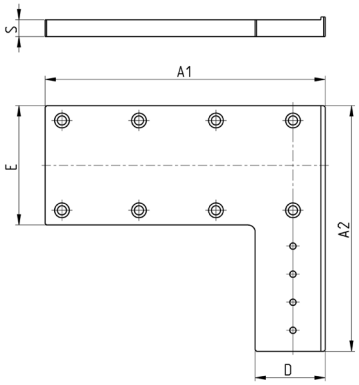



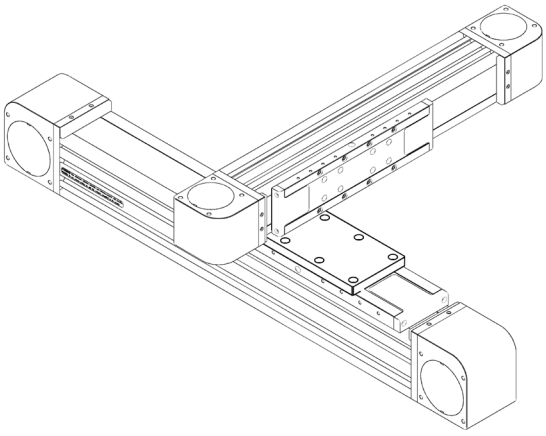
| Mod. | Size | A1 | A2 | D | E | S | N° of holes | Weight [g] |
|---|---|---|---|---|---|---|---|---|
| **XY-S50-LL50** | 50 | 130 | 145 | 50 | 55 | 11 | 4 | 450 |
| **XY-S65-LL50** | 65 | 160 | 160 | 50 | 70 | 11 | 4 | 500 |
| **XY-S65-LL65** | 65 | 170 | 180 | 65 | 70 | 12 | 8 | 550 |
| **XY-S80-LL50** | 80 | 200 | 175 | 50 | 85 | 12 | 4 | 750 |
| **XY-S80-LL65** | 80 | 210 | 195 | 65 | 85 | 12 | 8 | 870 |
| **XY-S80-LL80** | 80 | 210 | 195 | 80 | 85 | 12 | 8 | 900 |

## Interface plate - profile side on slider - right position



**Supplied with:**
1x interface plate
8x screws + 8x lock washers to connect the plate on the slider of the main axis, screws and nuts for slot to connect the plate on the slider of the secondary axis



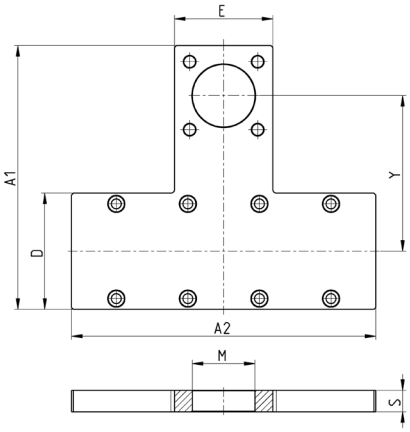
| Mod. | Size | A1 | A2 | D | E | S | N° of holes | Weight [g] |
|---|---|---|---|---|---|---|---|---|
| **XY-S50-LR50** | 50 | 130 | 145 | 50 | 55 | 11 | 4 | 450 |
| **XY-S65-LR50** | 65 | 160 | 160 | 50 | 70 | 11 | 4 | 500 |
| **XY-S65-LR65** | 65 | 170 | 180 | 65 | 70 | 12 | 8 | 550 |
| **XY-S80-LR50** | 80 | 200 | 175 | 50 | 85 | 12 | 4 | 750 |
| **XY-S80-LR65** | 80 | 210 | 195 | 65 | 85 | 12 | 8 | 870 |
| **XY-S80-LR80** | 80 | 210 | 195 | 80 | 85 | 12 | 8 | 900 |

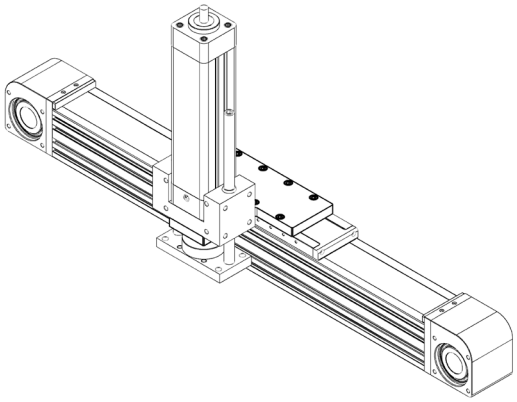
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## Interface plate - Anti-rotation guides S. 45 / Cylinders S. 6E on slider



**Supplied with:**
1x interface plate
8x screws + 8x lock washers to connect the plate on the slider
4x screws to connect the cylinder



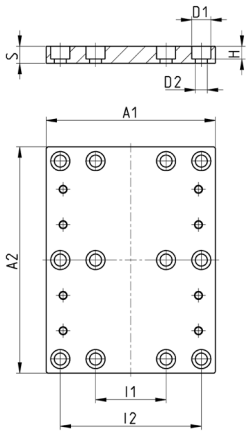



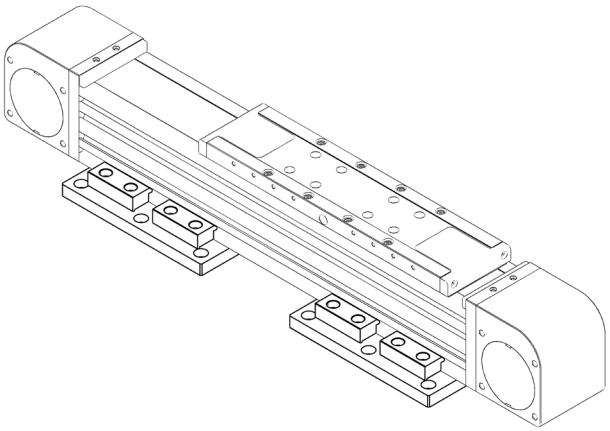
| Mod. | Size | A1 | A2 | D | E | S | øM(h10) | Y | Weight [g] |
|---|---|---|---|---|---|---|---|---|---|
| **XY-S50-45N32** | 50 | 124 | 130 | 50 | 49 | 12 | 30 | 75 | 350 |
| **XY-S65-45N32** | 65 | 139 | 170 | 65 | 49 | 12 | 30 | 82,5 | 480 |
| **XY-S65-45N40** | 65 | 147,5 | 170 | 65 | 55 | 12 | 35 | 87 | 500 |
| **XY-S65-45N50** | 65 | 157 | 170 | 65 | 66,5 | 12 | 40 | 91,5 | 530 |
| **XY-S80-45N40** | 80 | 167,5 | 190 | 85 | 55 | 12 | 35 | 97 | 660 |
| **XY-S80-45N50** | 80 | 177 | 190 | 85 | 65 | 12 | 40 | 101,5 | 690 |
| **XY-S80-45N63** | 80 | 190,5 | 190 | 85 | 75 | 12 | 45 | 110 | 740 |

## Fixed interface plate



**Supplied with:**
1x interface plate
4x clamps
8x screws to connect the clamps on the plate



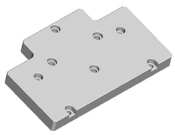



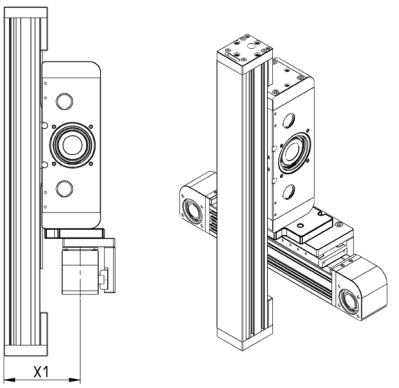
| Mod. | Size | A1 | A2 | øD1 | øD2 | H | l1 | l2 | S | Weight [g] |
|---|---|---|---|---|---|---|---|---|---|---|
| **X-P50** | 50 | 95 | 140 | 9 | 5,5 | 6 | 45 | 80 | 8 | 275 |
| **X-P65** | 65 | 120 | 140 | 10,5 | 6,5 | 7 | 50 | 100 | 10 | 430 |
| **X-P80** | 80 | 120 | 160 | 13,5 | 8,5 | 9 | 50 | 100 | 12 | 570 |

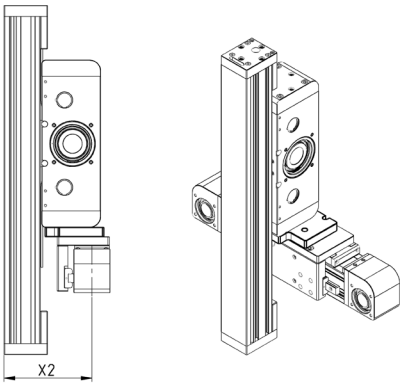


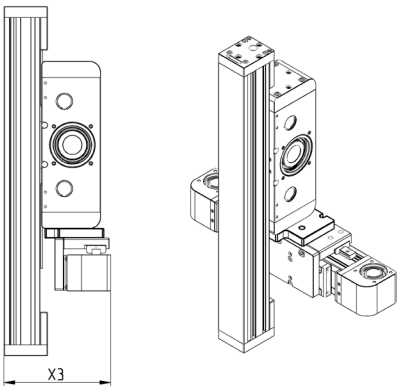
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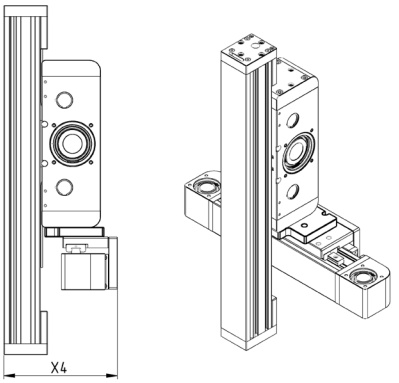
## Connection flange

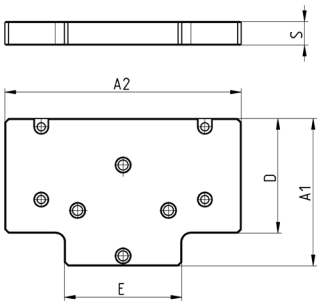


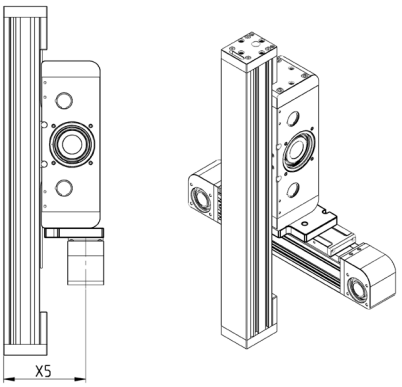


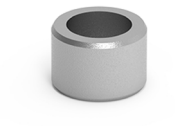



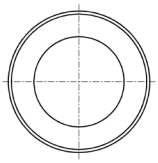



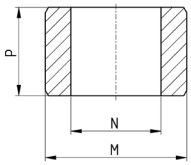

| Mod. | Size | X1 | X2 | X3 | X4 | X5 | A1 | A2 | E | D | S | Weight [g] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **YZ-50-5V50** | 50 | 105 | 121 | 147 | 79 | - | 81 | 130 | 64,5 | 63 | 13 | 335 |
| **YZ-65-5V50** | 65 | 112,5 | 136,5 | 16 | 87 | 124,5 | 99,5 | 140 | 64,5 | 76,5 | 13 | 445 |
| **YZ-65-5V65** | 65 | 130 | 154 | 179,5 | 104,5 | - | 101,5 | 140 | 84,5 | 76,5 | 13 | 460 |
| **YZ-80-5V50** | 80 | 120,5 | 146,5 | 185,5 | 81,5 | 133,5 | 118 | 190 | 64,5 | 78 | 13 | 635 |
| **YZ-80-5V65** | 80 | 137,5 | 163,5 | 202,5 | 98,5 | 150,5 | 118 | 190 | 84,5 | 78 | 15 | 770 |
| **YZ-80-5V80** | 80 | 141 | 183,5 | 222,5 | 118,5 | - | 120 | 190 | 99,5 | 78 | 15 | 825 |

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## Centring sleeve





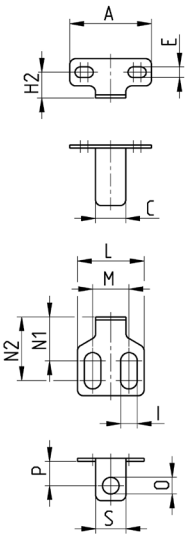


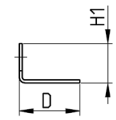

**Supplied with:**
2x centring rings in steel

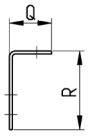
| Mod. | M (h8) | N | P |
|---|---|---|---|
| **TR-CG-04** | Ø4 | Ø2,6 | 2.5 |
| **TR-CG-05** | Ø5 | Ø3,1 | 3 |
| **TR-CG-06** | Ø6 | Ø4,1 | 4 |
| **TR-CG-08** | Ø8 | Ø5,1 | 5 |
| **TR-CG-10** | Ø10 | Ø6,1 | 6 |
| **TR-CG-12** | Ø12 | Ø8,1 | 6 |

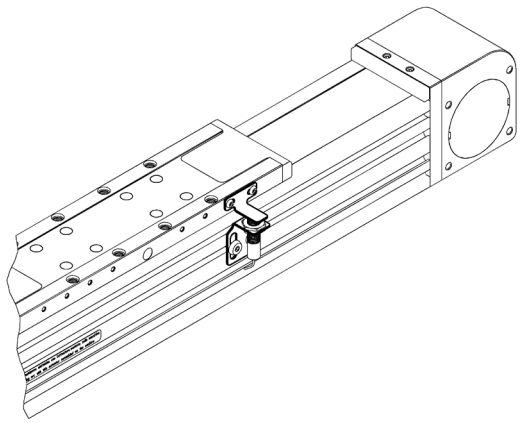
## Kit to fix the inductive sensor Mod. SIS





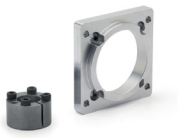
**Supplied with:**
1x sensor dog
2x screws to fix the sensor dog
1x sensor supporting plate
2x screws to connect the sensor supporting plate
2x nuts for the slot

| Mod. | Size | A | C | D | E | H1 | H2 | I | L | M | N1 | N2 | ØO | P | Q | R | S | Weight (g) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **SIS-M5-50/65** | 50-65 | 27 | 10 | 20 | 3.5 | 13 | 8.5 | 5,5 | 22 | 12 | 14,5 | 21 | 5,5 | 8 | 14 | 26 | 10 | 10 |
| **SIS-M8-65** | 65 | 27 | 10 | 20 | 3.5 | 13 | 8.5 | 5,5 | 25 | 15 | 10,5 | 24 | 8,5 | 10 | 18,5 | 30 | 15 | 10 |
| **SIS-M5-80** | 80 | 45 | 15 | 20 | 4.5 | 16 | 10.5 | 5,5 | 22 | 12 | 14,5 | 21 | 5,5 | 8 | 14 | 26 | 10 | 15 |
| **SIS-M8-80** | 80 | 45 | 15 | 20 | 4.5 | 16 | 10.5 | 5,5 | 25 | 15 | 10,5 | 24 | 8,5 | 10 | 18,5 | 30 | 15 | 15 |

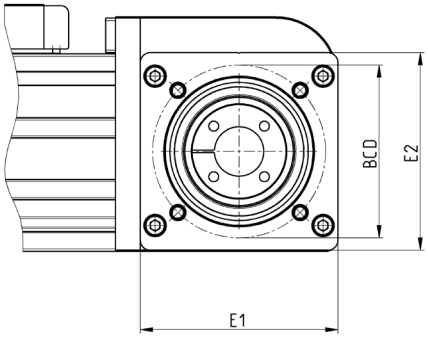


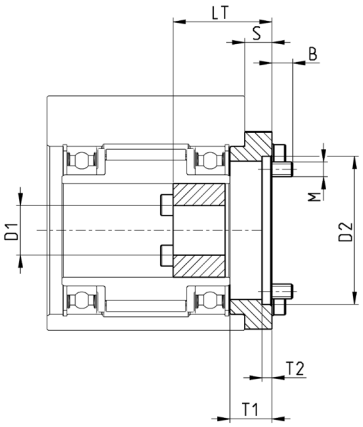
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## Kit to connect the gearbox Mod. FR-5E



**Supplied with:**
1x connection flange
4x screws + 4x lock washers
to connect the flange
1x locking set
4x screws + 4x lock washers
to connect the gearbox



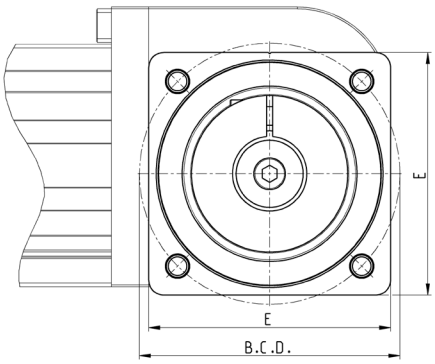

| Mod. | Size | Gearbox | E1 | E2 | S | ⌀D1 | ⌀D2(H7) | LT | BCD | T1 | T2 | M | B | Max torque [Nm](A) | J (Kgmm²) | Weight (g) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **FR-5E-50** | 50 | GB-040 | 48 | 43 | 6 | 10 | 26 | 26 | 34 | 10 | 10 | 4 | 5,5 | 14 | 1,50 | 85 |
| **FR-5E-65** | 65 | GB-060 | 63 | 60 | 7 | 14 | 40 | 40 | 52 | 11 | 11 | 5 | 7,4 | 30 | 5,49 | 140 |
| **FR-5E-80** | 80 | GB-080 | 80 | 80 | 11 | 20 | 60 | 60 | 70 | 17 | 4 | 6 | 8,4 | 125 | 31,20 | 325 |

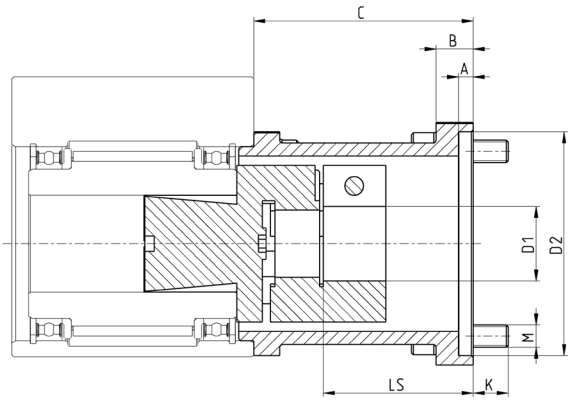
(A) Value refers to ideal mounting and operating conditions. For further details, please contact service@camozzi.com

## Kit to connect the gearbox - enhanced series (sizes 50, 65) Mod. FRH-5E



**Supplied with:**
1x connection flange
4x screws + 4x lock washers
to connect the flange
1x expansion coupling
4x screws + 4x lock washers
to connect the gearbox




| Mod. | Size | Gearbox | ⌀D1 | ⌀D2(H7) | A | LS | ⌀BCD | B | C | E | M | K | Nominal torque [Nm](A) | Max. torque [Nm](B) | J (Kgmm²) | Weight (g) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **FRH-5E-50** | 50 | GB-060 | 14 | 40 | 4 | 35,3 | 52 | 8 | 51 | 50 | 5 | 7,4 | 12,5 | 25 | 13 | 170 |
| **FRH-5E-65** | 65 | GB-080 | 20 | 60 | 4 | 40,3 | 70 | 10 | 59 | 65 | 6 | 9,4 | 17 | 34 | 50 | 530 |

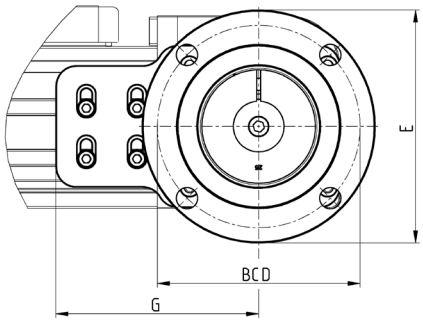
(A) Continuously applicable torque, under ideal mounting and operating conditions. For further details, please contact service@camozzi. com
(B) Torque applicable for short intervals, under ideal mounting and operating conditions. For further details, please contact service@ camozzi.com

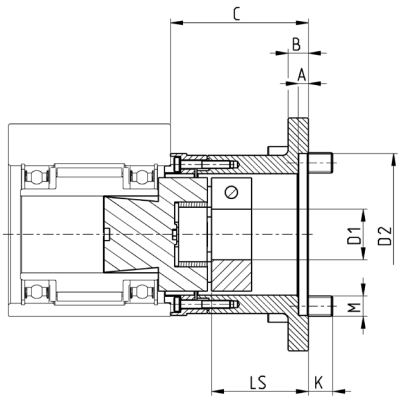
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## Kit to connect the gearbox - enhanced series (size 80) Mod. FRH-5E-80



**Supplied with:**
2x connection flanges
4x screws + 4x lock washers
1x expansion coupling
4x screws + 4x lock washers to fix the axis
4x screws + 4x lock washers to fix the profile
4x nuts + 4x screws to fix the gearbox

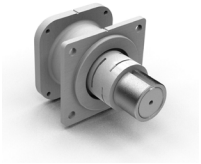


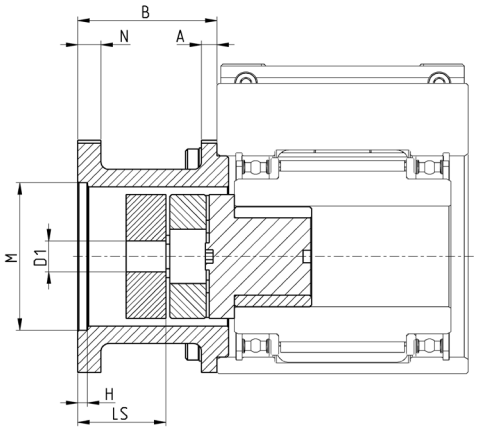

| Mod. | Size | Gearbox | ⌀D1(H7) | Ø D2 | A | LS | ØBCD | B | C | ØE | K | G | Nominal torque [Nm](A) | Max. torque [Nm](B) | J [kg mm²] | Weight (g) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **FRH-5E-80** | 80 | GB-120 | 20 | 80 | 5 | 47,8 | 100 | 10 | 68 | 115 | 12 | 100 | 60 | 120 | 140 | 1000 |

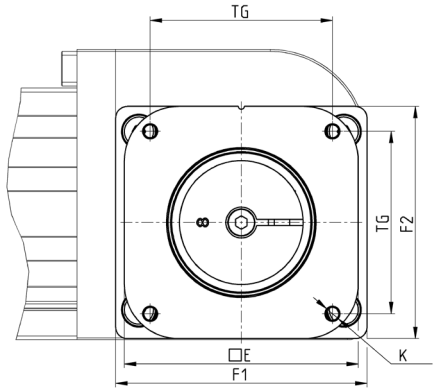
(A)Continuously applicable torque, under ideal mounting and operating conditions. For further details, please contact service@camozzi. com
(B)Torque applicable for short intervals, under ideal mounting and operating conditions. For further details, please contact service@camozzi. com

## Direct connection kit for Stepper motor Mod. FS-5E



**Supplied with:**
1x MTS-24 connection flange
4x screws + 4 lock washers
1x expansion coupling
1x bushing (not present in FS-5E-50-0024)




| Mod. | Size | Motor | ⌀D1 | A | B | F1 | F2 | E | LS | TG | K | ⌀M | H | N | Nominal torque (Nm) | Max torque (Nm) | Weight (g) | Weight (g) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **FS-5E-50-0024** | 50 | MTS-24-... | 8 | 4 | 37 | 47 | 45 | 60,5 | 21,3 | 47,1 | M4 | 38,1 | 2,5 | 2,5 | 12,5 | 25 | 13 | 125 |
| **FS-5E-65-0024** | 65 | MTS-24-... | 8 | 4 | 36 | 65 | 60 | 60,5 | 22,8 | 47,1 | M4 | 38,1 | 2,5 | 2,5 | 12,5 | 25 | 13 | 200 |

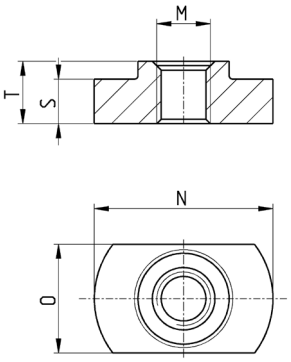

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## Slot nut for sensor



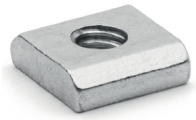
**Material:**
steel

Supplied with:
2x nuts



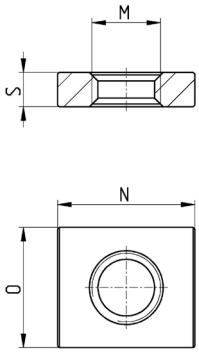

| Mod. | Size | M | N | O | S | T |
|---|---|---|---|---|---|---|
| **PCV-5E-CS-M3** | 50 - 65 - 80 | M3 | 10,3 | 6,1 | 2,5 | 3,5 |
| **PCV-5E-CS-M4** | 50 - 65 - 80 | M4 | 10,3 | 6,1 | 2,5 | 3,5 |

## Slot nut 6 - rectangular type



**Material:**
steel

Supplied with:
2x nuts



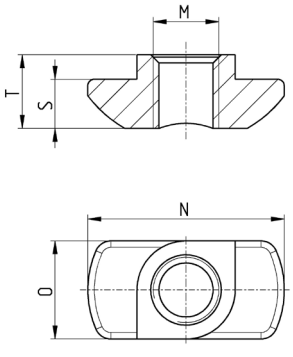

| Mod. | Size | M | N | O | S |
|---|---|---|---|---|---|
| **PCV-5E-C6-M4Q** | 50 - 65 | M4 | 8 | 7 | 2 |

## Slot nut 6 - front insertion



**Material:**
steel

Supplied with:
2x nuts



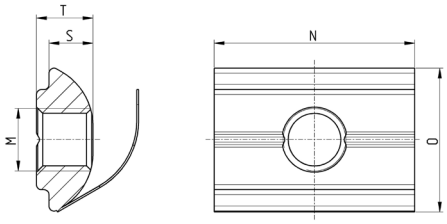

| Mod. | Size | M | N | O | S | T |
|---|---|---|---|---|---|---|
| **PCV-5E-C6-M4R** | 50 - 65 | M4 | 12 | 6 | 3 | 4,5 |

## Slot nut 8 - flexible flap



**Material:**
steel

Supplied with:
2x nuts

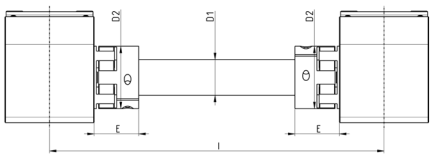


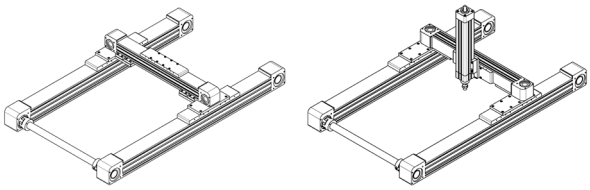

| Mod. | Size | M | N | O | S | T |
|---|---|---|---|---|---|---|
| **PCV-5E-C8-M5** | 80 | M5 | 16 | 11,5 | 3,5 | 4,5 |
| **PCV-5E-C8-M6** | 80 | M6 | 16 | 11,5 | 3,5 | 4,5 |

## Parallel connection kit Mod. PS-5E



**Supplied with:**
1x parallel shaft
2x expansion couplings



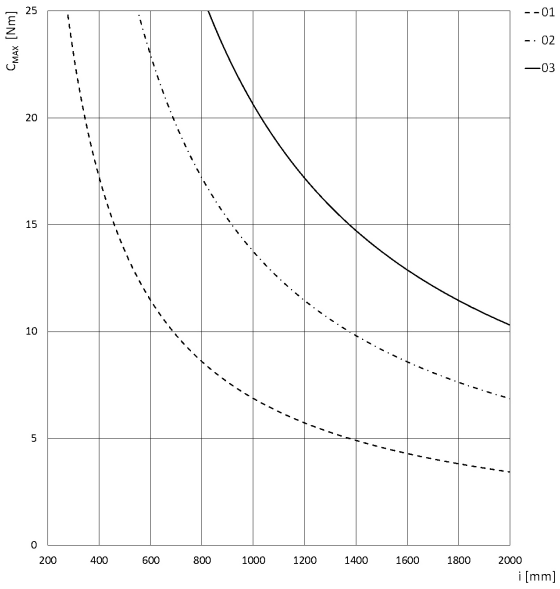
| Mod. | Size | l min | l min | l max | ⌀D2 | E | Transmission torque |
|---|---|---|---|---|---|---|---|
| **PS-5E-50-0000** | 50 | 200 | 2000 | 22 | 32 | 26 | see graph |
| **PS-5E-65-0000** | 65 | 250 | 2000 | 25 | 42 | 35,5 | see graph |
| **PS-5E-80-0000** | 80 | 300 | 2000 | 30 | 56 | 40 | see graph |

EXAMPLE:
PS-5E-65-1400 corresponds to a parallel connection for axes positioned at interaxis I = 1400mm



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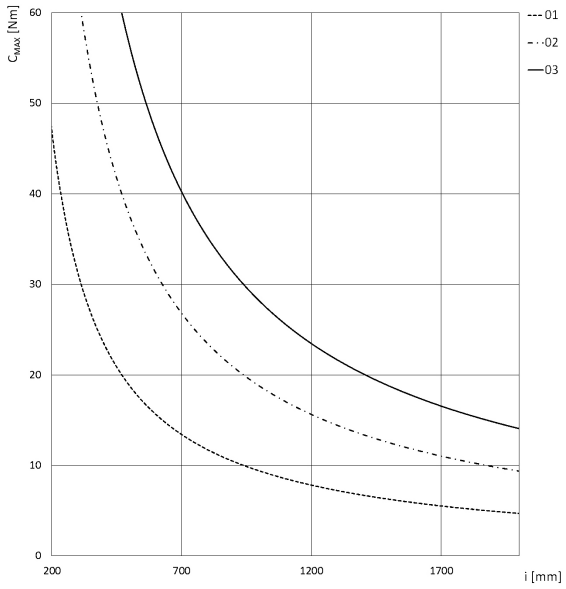
## INTERAXIS ACCORDING TO THE MAXIMUM ADMISSIBLE TORQUE




**Size 50x50**

**Cmax = max applicable torque**
**i = interaxis between the two 5E axes**

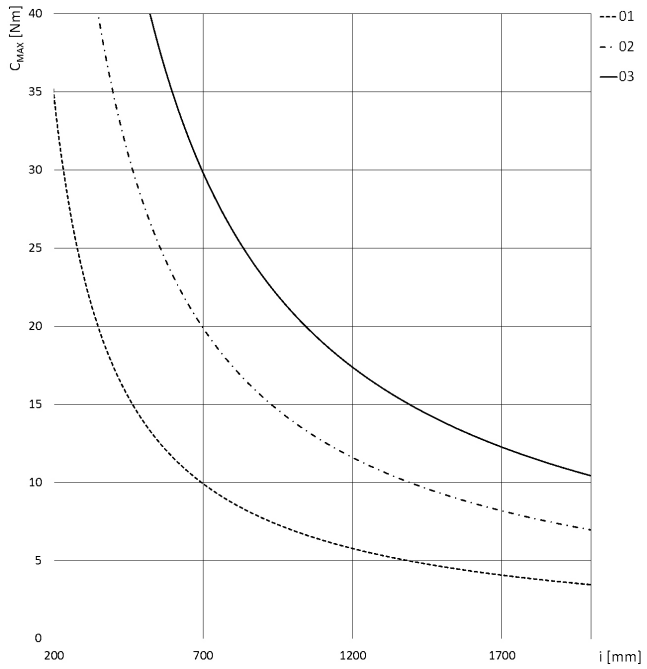
**01 = lag error 0.1 mm**
**02 = lag error 0.2 mm**
**03 = lag error 0.3 mm**




**Size 80x80**

**Cmax = max applicable torque**
**i = interaxis between the two 5E axes**

**01 = lag error 0.1 mm**
**02 = lag error 0.2 mm**
**03 = lag error 0.3 mm**




**Size 65x65**

**Cmax = max applicable torque**
**i = interaxis between the two 5E axes**

**01 = lag error 0.1 mm**
**02 = lag error 0.2 mm**
**03 = lag error 0.3 mm**