

easyE-line



linear in-line actuators

Bansbach
easylift

| Gear ratio | C* | D | E | F | G | H |
|--|-----|------|------|------|------|----------|
| <i>easyE-35</i> | | | | | | 12/24VDC |
| Force 24V (dyn. push and pull) [N] | 120 | 400 | 600 | 900 | 1600 | 2200 |
| Speed at maximum load [mm/s] | 33 | 16 | 12 | 7,5 | 4 | 3 |
| Force 12V (dyn. push and pull) [N] | - | 400 | 600 | 900 | 1500 | 2000 |
| Speed at maximum load [mm/s] | - | 16 | 9 | 7,5 | 3,5 | 2,5 |
| Current at maximum load: 12VDC (max 14 VDC) = 3,6A, 24VDC (max 28 VDC) = 1,8A | | | | | | |
| <i>easyE-50</i> | | | | | | 12/24VDC |
| Force 24V (dyn. push and pull) [N] | 500 | 1750 | 2200 | 3100 | 4500 | 4500 |
| Speed at maximum load [mm/s] | 70 | 20 | 17 | 12 | 6 | 4 |
| Force 12V (dyn. push and pull) [N] | - | 1400 | 1700 | 2400 | 4500 | 4500 |
| Speed at maximum load [mm/s] | - | 14 | 10 | 6 | 3 | 3,5 |
| Current at maximum load: 12VDC (max 14 VDC) = 16A (ratio C-F), 14A (G), 9A (H), 24VDC (max 28VDC) = 8A (C-F), 7A (G), 4,5A (H) | | | | | | |
| <i>easyE-60</i> | | | | | | 24VDC |
| Force 24V (dyn. push and pull) [N] | | 1900 | 4300 | 6600 | 8100 | 10000 |
| Speed at maximum load [mm/s] | | 26 | 12 | 8 | 6 | 5 |
| Current at maximum load: 24VDC (max 28VDC) = 11,5A | | | | | | |

Max. load limited for stroke > 400mm:
1000N (easyE-35), 2000N (easyE-50), 5000N (easyE-60)

*only 24V DC power supply

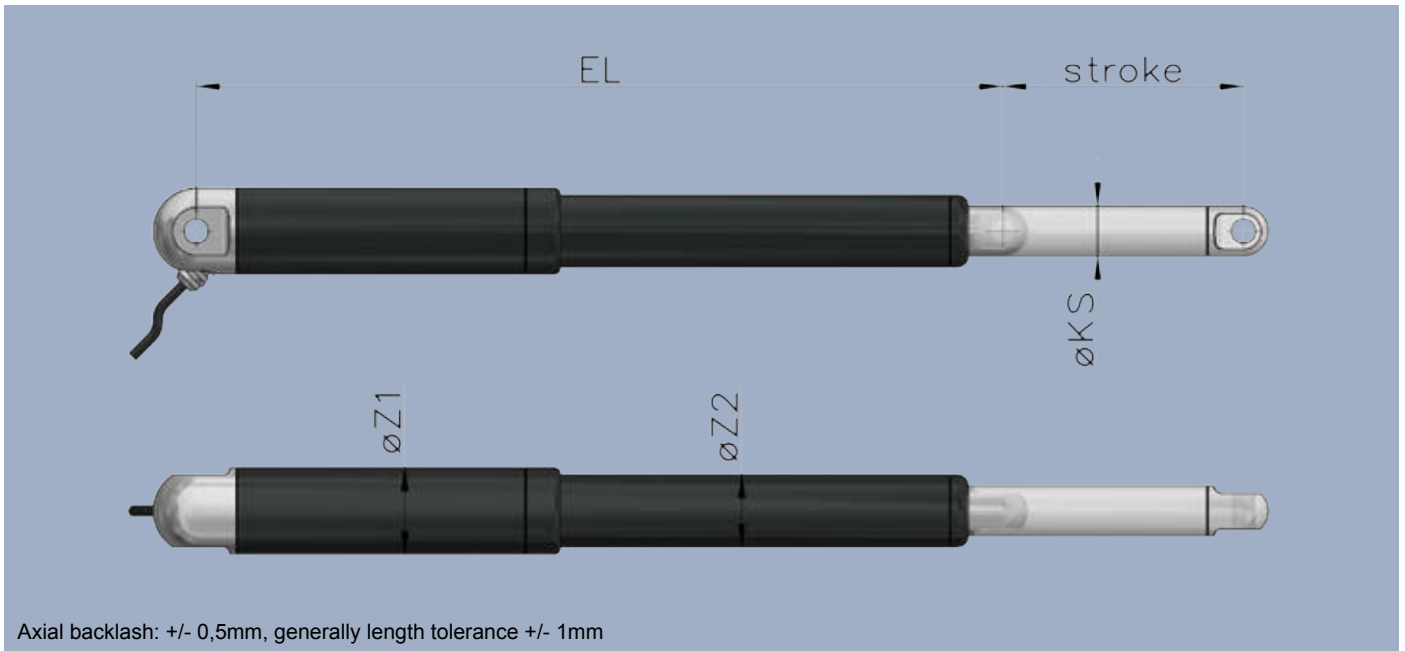
Features:

- Stroke length: 50, 100, 150, 200, 250, 300, 350, 400, 500 and 750mm (others on request)
- Cable: easyE-35: 1m, 2X0.65mm² (AWG19), Ø = 4.8mm, black, Molex Mini-Fit Jr. 6 pin
easyE-50: 1m, 2X1.3mm² (AWG16), Ø=6.4mm, black, Molex Mini-Fit Jr. 6 pin
easyE-60: 1m, 2X1.3mm² (AWG16), Ø=6.4mm, black, Molex Mini-Fit Jr. 6 pin
- Bending radius: 6x cable diameter
- Materials: Motor and actuator tube are powder coated steel or stainless steel
Piston rod is aluminum (easyE-35) or stainless steel (easyE-50 and easyE-60)
Front and rear brackets are PA, Aluminium or stainless steel
- Protection class: IP66 (standard), harsh environment (according to IP68 and IP69)
- Max. static load/
Self locking force
easyE-35: PA brackets: 2000N Alu/AISI: 5400N
easyE-50: PA brackets: 4700N Alu/AISI: 16800N
easyE-60: Alu/AISI: 18100N
Depending on stroke length for push-applications
- Temperature: Operation: -20°C to +70°C (easyE-35 and easyE-50) -20°C to +50°C (easyE-60)
Storage: -40°C to +70°C
- Duty cycle: Max. 10% or 2 minutes in use followed by 18 minutes rest

Please Note:

- Never expose the actuator to hammer strike during installation or in other situations
- Retrofitted bushings should be pressed into the bracket-borings. No hammering
- Power supply without over-current protection can cause serious damage to the actuator at mechanical end-stop or when actuator is overloaded in another way
- Keep piston tube clean
- Longer cable lengths may cause voltage drop which affects the performance of the actuator
- For medical applications (IEC60601-1, ANSI/AAMI/ES60601-1, CAN/CSA-C22.2 No60601-1):
Operating temperature +5°C to +48°C, Relative humidity 20% - 70% atmospheric pressure = 1atm.
Connect to medically approved supply source only and according to guidelines provided with the source.
- Function of the actuator is subject to the settings of the control box. If using your own controller please contact us.
- The dust and water sealing of harsh environment actuators might affect their performance
- All specifications are for 25 °C ambient – low temperature might affect performance
- Depending on load and application, nominal and actual stroke length may differ due to internal disc springs not being fully compressed.
- The combination of gearing and stroke can cause limitations in the use of „End limit FW“ when using the S2-3 controller. See more in the datasheet for S2-3.

Please note the important advices at www.bansbach.de/easyE-line



Axial backlash: +/- 0,5mm, generally length tolerance +/- 1mm

| | EL | Clevis rear | Hall | UL/ EN60.601 | harsh env. | Emergency lowering/spline | ØZ1 | ØZ2 | ØKS |
|------------------------|---------------|-------------|------|--------------|------------|---------------------------|-----|-----|-----|
| easyE-35 | | | | | | | | | |
| Gear ratio: C, D, E, F | stroke+160* | +10 | +10 | +10 | +11 | - | Ø35 | Ø28 | Ø20 |
| Gear ratio: G, H | stroke+170* | | | | | | | | |
| easyE-50 | | | | | | | | | |
| Gear ratio: C, D, E, F | stroke+240** | - | +15 | +15 | +14 | +23 / +6 | Ø50 | Ø40 | Ø30 |
| Gear ratio: G, H | stroke+255** | | | | | | | | |
| easyE-60 | | | | | | | | | |
| Gear ratio: all ratios | stroke+358*** | - | +15 | - | +25 | +31 / +10 | Ø60 | Ø50 | Ø35 |

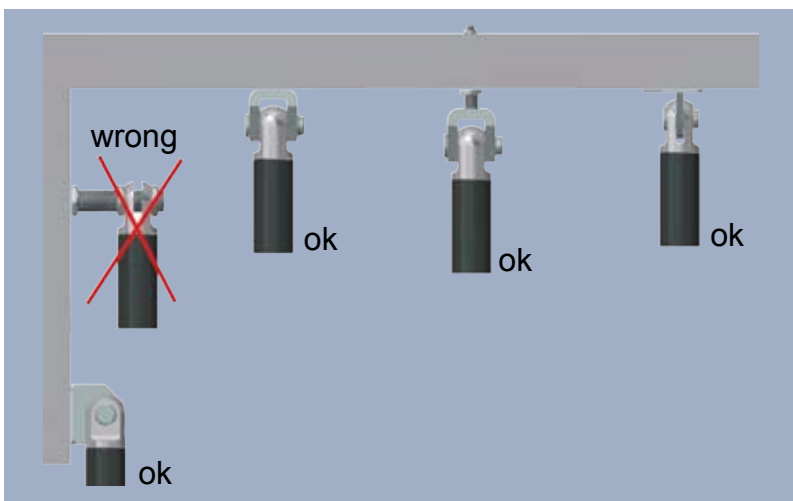
*If stroke >400mm: EL+7mm, if stroke >700mm: EL+42mm

**If stroke >750mm: EL+100mm (on request)

***If stroke >400mm: EL+25mm (not Harsh-Environment-version)

Recommended mounting methods:

- Do not clamp actuators on tubing
- Always keep both brackets mounted in the same orientation and ensure to flush mount actuator
- Brackets must always be able to rotate on axis in mountings
- Avoid radial forces at all times



Choose your actuator:

1. Model:

- easyE-35
- easyE-50
- easyE-60

2. Stroke length:

- 50, 100, 150, 200, 250, 300,
350, 400, 500 and 750mm (others on request)

3. Gear ratio:

- C, D, E, F, G, H (speed and load see table)

4. Voltage:

- 12V DC (only easyE-35 and easyE-50)
- 24V DC

6. Cable length:

- 1m - 9m (others on request)

7. Connector:

- no connector
- Molex minifit

8. Material:

- Standard steel
- AISI 316

9. Protection class:

- IP66 (standard)
- harsh environment (according to IP68 and IP69)

10. Certification:

- For medical applications:
IEC60601-1, ANSI/AAMI/ES60601-1,
CAN/CSA-22.2 No60601-1 (only 24 V DC)
(Operation temperature: +5°C to +48°C)

11. Hall sensor:

- no (standard)
- yes (cable will change)

12. Low noise:

- no (standard)
- yes (not available in stainless steel)

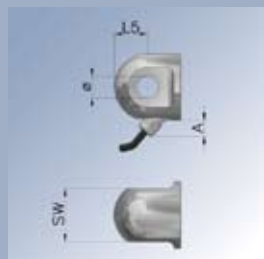
13. Color:

- Black (standard)
Available in all RAL colors

14. Connecting parts



Connecting parts “motor side“:



| Code | Ø | L5 | SW | A | Material | Max static load |
|-----------------|---------------------------------|------|------|------|-----------------------|-----------------|
| <i>easyE-35</i> | (mm) | (mm) | (mm) | (mm) | | |
| A1M | 10 ^{+0,2} ₀ | 17,5 | 28 | 6 | Alu | 5400 N |
| B1M | 10 ^{+0,2} ₀ | 17,5 | 28 | - | Polyamid (PA) | 2000 N |
| C1M | 10 ^{+0,2} ₀ | 17,5 | 28 | 6 | stainless steel (316) | 5400 N |
| <i>easyE-50</i> | | | | | | |
| A2M | 16 ^{+0,2} ₀ | 25 | 40 | 12,3 | Alu | 16800 N |
| B2M | 16 ^{+0,2} ₀ | 25 | 40 | - | Polyamid (PA) | 4700 N |
| C2M | 16 ^{+0,2} ₀ | 25 | 40 | 12,3 | stainless steel (316) | 16800 N |
| <i>easyE-60</i> | | | | | | |
| A3M | 16 ^{+0,2} ₀ | 30 | 50 | 12,3 | Alu | 18100 N |
| C3M | 16 ^{+0,2} ₀ | 30 | 50 | 12,3 | stainless steel (316) | 18100 N |

with spherical bearings



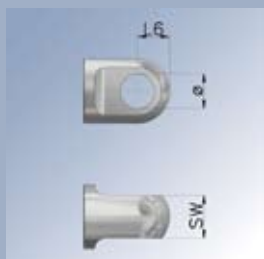
| Code | Ø | L5 | SW | A | Material | Max static load |
|-----------------|-----------------------------------|------|------|------|-----------------------|-----------------|
| <i>easyE-35</i> | (mm) | (mm) | (mm) | (mm) | | |
| E1M | 8 ^{-0,008} ₀ | 17,5 | 28 | - | Alu | 5400 N |
| <i>easyE-50</i> | | | | | | |
| E2M | 12 ^{-0,008} ₀ | 25 | 40 | - | Alu | 11000 N |
| <i>easyE-60</i> | | | | | | |
| E3M | 15 ^{-0,008} ₀ | 30 | 50 | 12 | Alu | 11000 N |
| J3M | 15 ^{-0,008} ₀ | 30 | 50 | 12 | stainless steel (316) | 11000 N |



| Code | Ø | L5 | SW | A | S | Material | Max static load |
|-----------------|---------------------------------|------|------|------|------|-----------------------|-----------------|
| <i>easyE-35</i> | (mm) | (mm) | (mm) | (mm) | (mm) | | |
| F1M | 10 ^{+0,2} ₀ | 17,5 | 28 | 6 | 6,2 | Alu | 5400 N |
| G1M | 10 ^{+0,2} ₀ | 17,5 | 28 | - | 4,2 | Polyamid (PA) | 2000 N |
| H1M | 10 ^{+0,2} ₀ | 17,5 | 28 | 6 | 6,2 | stainless steel (316) | 5400 N |
| <i>easyE-50</i> | | | | | | | |
| F2M | 16 ^{+0,2} ₀ | 25 | 40 | 12,3 | 6,2 | Alu | 16800 N |
| G2M | 16 ^{+0,2} ₀ | 25 | 40 | - | 6,2 | Polyamid (PA) | 4700 N |
| H2M | 16 ^{+0,2} ₀ | 25 | 40 | 12,3 | 6,2 | stainless steel(316) | 16800 N |
| <i>easyE-60</i> | | | | | | | |
| F3M | 16 ^{+0,2} ₀ | 30 | 50 | 14 | 8,2 | Alu | 18100 N |
| H3M | 16 ^{+0,2} ₀ | 30 | 50 | 14 | 8,2 | stainless steel(316) | 18100 N |

PA-connecting parts are not available for gear ratio G and H

Connecting parts “piston rod side“:

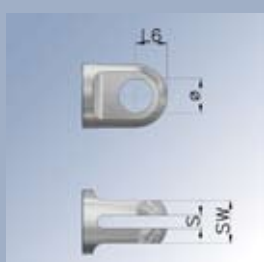


| Code | Ø | L6 | SW | Material | Max static load |
|-----------------|---------------------------------|------|------|-----------------------|-----------------|
| <i>easyE-35</i> | (mm) | (mm) | (mm) | | |
| A1K | 10 ^{+0,2} ₀ | 10 | 13 | Alu | 5400 N |
| B1K | 10 ^{+0,2} ₀ | 10 | 13 | Polyamid (PA) | 2000 N |
| C1K | 10 ^{+0,2} ₀ | 10 | 13 | stainless steel (316) | 5400 N |
| <i>easyE-50</i> | | | | | |
| A2K | 16 ^{+0,2} ₀ | 15 | 20 | Alu | 16800 N |
| B2K | 16 ^{+0,2} ₀ | 15 | 20 | Polyamid (PA) | 4700 N |
| C2K | 16 ^{+0,2} ₀ | 15 | 20 | stainless steel (316) | 16800 N |
| <i>easyE-60</i> | | | | | |
| A3K | 16 ^{+0,2} ₀ | 17,5 | 25 | Alu | 18100 N |
| C3K | 16 ^{+0,2} ₀ | 17,5 | 25 | stainless steel (316) | 18100 N |

with spherical bearings



| Code | Ø | L6 | SW | Material | Max static load |
|-----------------|-----------------------------------|------|------|-----------------------|-----------------|
| <i>easyE-35</i> | (mm) | (mm) | (mm) | | |
| E1K | 8 ^{-0,008} ₀ | 12 | 18 | Alu | 5400 N |
| <i>easyE-50</i> | | | | | |
| E2K | 12 ^{-0,008} ₀ | 15 | 20 | Alu | 11000 N |
| <i>easyE-60</i> | | | | | |
| E3K | 15 ^{-0,008} ₀ | 20 | 28 | Alu | 11000 N |
| J3K | 15 ^{-0,008} ₀ | 20 | 28 | stainless steel (316) | 11000 N |



| Code | Ø | L6 | SW | S | Material | Max static load |
|-----------------|---------------------------------|------|------|------|-----------------------|-----------------|
| <i>easyE-35</i> | (mm) | (mm) | (mm) | (mm) | | |
| F1K | 10 ^{+0,2} ₀ | 10 | 15 | 6,2 | Alu | 5400 N |
| G1K | 10 ^{+0,2} ₀ | 10 | 13 | 4,2 | Polyamid (PA) | 2000 N |
| H1K | 10 ^{+0,2} ₀ | 10 | 15 | 6,2 | stainless steel (316) | 5400 N |
| <i>easyE-50</i> | | | | | | |
| F2K | 16 ^{+0,2} ₀ | 15 | 20 | 6,2 | Alu | 16800 N |
| G2K | 16 ^{+0,2} ₀ | 15 | 20 | 6,2 | Polyamid (PA) | 4700 N |
| H2K | 16 ^{+0,2} ₀ | 15 | 20 | 6,2 | stainless steel (316) | 16800 N |
| <i>easyE-60</i> | | | | | | |
| F3K | 16 ^{+0,2} ₀ | 17 | 25 | 8,2 | Alu | 18100 N |
| H3K | 16 ^{+0,2} ₀ | 17 | 25 | 8,2 | stainless steel (316) | 18100 N |

PPA-connecting parts are not available for gear ratio G and H

Controllers:

EEL-S1

For 1-3 actuators



FEATURES:

- Plug and play solution
- Handset or external switches
- for easyE-35 and easyE-50

TECHNICAL DETAILS:

- Supply: 230V
- Output voltage: 24V

EEL-S2-1

For 1 actuator



FEATURES:

- Adjustable start and stop ramp
- Adjustable current limit
- Continuous-mode, impulse-mode
- Easy interfacing to PLC etc.
- DIN-rail fittable
- Hall sensors not supported

TECHNICAL DETAILS:

- Supply: 10 to 35VDC
- Output voltage = supply voltage
- Over voltage protection: 40 V
- Idle current: Approx. 15 mA
- Driving current: 10 A continuous, 16 A with duty cycle 50%, Max 16 A on duty 2 min

EEL-S2-2

For 1 actuator



FEATURES:

- Precise position control from analog voltage input
- Adjustable start and stop ramp
- Settable current limit
- High momentary load capacity
- DIN-rail base fittable
- "Position reached" - signal
- Hall sensors necessary

TECHNICAL DETAILS:

- Supply: 10 to 35VDC
- Output voltage = supply voltage
- Actuator current continuous max: 15A
- Current limit adj.: 0.1-20A
- Overheat limit: 100°C
- Hall input freq.: Max 1kHz
- Input control logic (pos.): High=4-30V, Low=0-1V or open

EEL-S2-3

For 2 actuators



FEATURES:

- Synchronized operation of 2 actuators
- Current and temperature protection
- Settable drive speed
- Adjustable start- and stop ramp
- Easy setting with serial interface
- Autobalance feature
- Hall sensors necessary

TECHNICAL DETAILS:

- Supply: 10 to 35VDC
- Output voltage = supply voltage
- Quiescent current: 15mA
- Motor current: 2x10A cont. 2x20A, 25% duty
- Current limit: 1-20A
- Pulse input freq. max.: 1kHz
- Pulse inputs pull- up/down: 10kΩ
- Control inputs: 0-1V=OFF; 4-30V=ON

EEL-S3

EEL-S4

For 1-4 actuators



FEATURES:

- Battery powered for mobile use
- 24VDC NiMH or Li-Ion battery
- Customized colors and foil design
- Wired handset

EEL-S3:

- 1 actuator
- up- and down function

EEL-S4:

- Adjustable current limit in and out
- Adjustable calibration speed and current
- Adjustable virtual min/max-position
- Individual or synchronous operation for drive 1-4 actuators

TECHNICAL DETAILS:

- Supply: 24VDC NiMH or Li-Ion battery
- Output voltage: 24V
- Idle current: < 5mA
- Current limit: 8A/ch max. total 12A
- Ramps 0-3 sec
- Connector type Molex Mini-Fit 6 pin

The flyer is subject to technical alterations and printing mistakes.

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02/2020