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**ELA –
Electromechanical
Linear Actuators**

Electromechanical Linear Actuators ELA

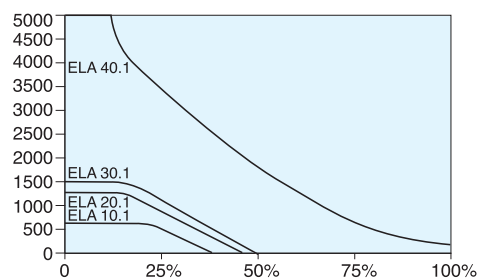
Electromechanical Linear Actuators (ELA) consist of a completely enclosed aluminium housing with worm gearing and axial bearing driven by a standard supplied electric motor as well as a thrust and shaft tube construction. Trapezoidal or ball screws. It is possible to install ELAs in any position and the thrust and guide mechanism is designed for both compressive and tensile loading. Other distinguishing features include robust construction and reliability giving ELAs a wide range of applications.



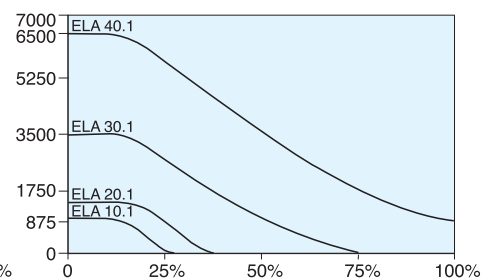
Use in accordance with European Directive 94/9/EC (ATEX) available on request

Duty cycle diagrams, ELA with trapezoidal screw and three-phase motor:

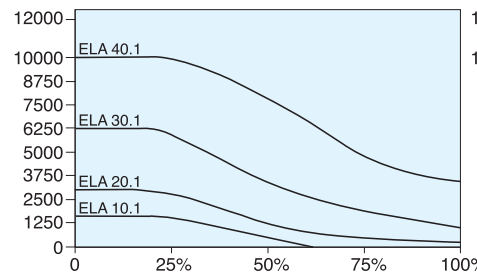
Ratio H Fdyn (N)/duty ratio in % per 10 minutes



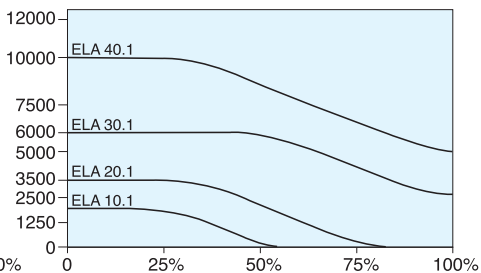
Ratio V Fdyn (N)/duty ratio in % per 10 minutes



Ratio N Fdyn (N)/duty ratio in % per 10 minutes



Ratio L Fdyn (N)/duty ratio in % per 10 minutes



Selection table, series ELA, trapezoidal screw Tr:

| Trapezoidal screw | Three-phase motor | | | | Single-phase motor | | | | D.C. motor | | | | |
|---------------------------|-------------------|-------|-------|-------------------|--------------------|-------|-------|-------------------|------------|-------|-------|-------------------|--------|
| | 10.1 | 20.1 | 30.1 | 40.1 | 10.1 | 20.1 | 30.1 | 40.1 | 10.1 | 20.1 | 30.1 | 40.1 | |
| Size | | | | | | | | | | | | | |
| Max. axial force | F [N] stat. | 2500 | 4500 | 8000 | 13000 | 2500 | 4500 | 8000 | 13000 | 2500 | 4500 | 8000 | 13000 |
| Screw | | 12x3 | 16x4 | 22x5 | 22x5 | 12x3 | 16x4 | 22x5 | 22x5 | 12x3 | 16x4 | 22x5 | 22x5 |
| Approx. weight | [kg] | 6 | 10 | 15 | 20 | 6 | 10 | 15 | 20 | 6 | 10 | 15 | 20 |
| Ratio H | | 4:1 | 4:1 | 2,78:1 | 6,75:1 | 4:1 | 4:1 | 2,78:1 | 6,75:1 | 4:1 | 4:1 | 2,78:1 | 6,75:1 |
| Max. tensile/compr. force | F [N] dyn. | 550 | 1250 | 1500 | 5000 | 550 | 1200 | 1100 | 3500 | 700 | 1200 | 1100 | 3500 |
| Lifting speed | v [mm/sec] | 35 | 46,6 | 84 | 34,5 | 35 | 46,6 | 84 | 34,5 | 35 | 46,6 | 84 | 34,5 |
| Motor power | P [Watt] | 90 | 120 | 250 ¹⁾ | 550 | 90 | 120 | 250 ¹⁾ | 550 | 70 | 150 | 300 ¹⁾ | 500 |
| Ratio V | | 6,5:1 | 6,5:1 | 5:1 | 10:1 | 6,5:1 | 6,5:1 | 5:1 | 10:1 | 6,5:1 | 6,5:1 | 5:1 | 10:1 |
| Max. tensile/compr. force | F [N] dyn. | 900 | 1650 | 3500 | 6500 | 900 | 1600 | 2500 | 5300 | 1100 | 1600 | 2500 | 5300 |
| Lifting speed | v [mm/sec] | 22 | 31 | 46,6 | 23,3 | 22 | 31 | 46,6 | 23,3 | 22 | 31 | 46,6 | 23,3 |
| Motor power | P [Watt] | 90 | 120 | 250 | 550 | 90 | 120 | 250 | 550 | 70 | 150 | 300 | 500 |
| Ratio N | | 15:1 | 15:1 | 10:1 | 20:1 | 15:1 | 15:1 | 10:1 | 20:1 | 15:1 | 15:1 | 10:1 | 20:1 |
| Max. tensile/compr. force | F [N] dyn. | 1600 | 2750 | 6000 | 10000 | 1600 | 2300 | 4500 | 8500 | 1350 | 2300 | 4500 | 8500 |
| Lifting speed | v [mm/sec] | 9 | 13 | 23,3 | 11,5 | 9 | 13 | 23,3 | 11,5 | 10 | 13 | 23,3 | 11,5 |
| Motor power | P [Watt] | 90 | 120 | 250 | 550 | 90 | 120 | 250 | 550 | 70 | 150 | 300 | 500 |
| Ratio L | | 25:1 | 25:1 | 20:1 | 25:1 | 25:1 | 25:1 | 20:1 | 25:1 | 25:1 | 25:1 | 20:1 | 25:1 |
| Max. tensile/compr. force | F [N] dyn. | 2000 | 3500 | 6000 | 10000 | 2000 | 3500 | 6000 | 10000 | 2000 | 3500 | 6000 | 10000 |
| Lifting speed | v [mm/sec] | 5,5 | 7,5 | 11,7 | 9 | 5,5 | 7,5 | 11,7 | 9 | 5,5 | 7,5 | 11,7 | 9 |
| Motor power | P [Watt] | 90 | 120 | 250 | 550 | 90 | 120 | 250 | 550 | 70 | 150 | 300 | 500 |

¹⁾ Brake motor



Standard stroke lengths:

- ELA 10.1: 100, 200, 300, 400 mm
- ELA 20.1: 200, 400, 600 mm
- ELA 30.1, 40.1: 200, 400, 600, 800 mm
- Special stroke lengths on request
- Wide range of accessories (see dimension diagrams)

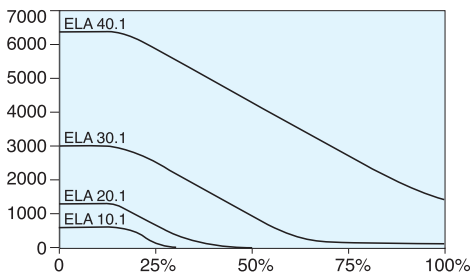
The standard models have

the following design features:

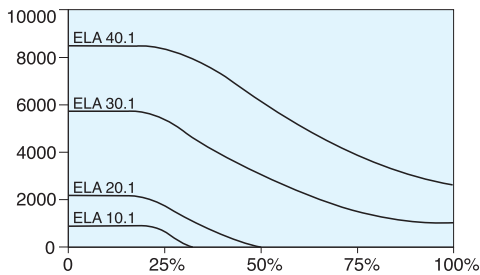
- Maximum dynamic axial loads from 55 to 1300 kg
- Lifting speeds from 6 to 84 mm/s (depending on load and duty ratio)
- Drive motors with IEC flange (B14), protection type IP 54, three-phase, single-phase or direct current.
- With brake (optional)
- Self-locking via trapezoidal screws
- Worm gear with various ratios
- Under normal operating conditions, long-term lubrication with high quality grease and enclosed design

Duty cycle diagrams, ELA with ball screw and three-phase motor:

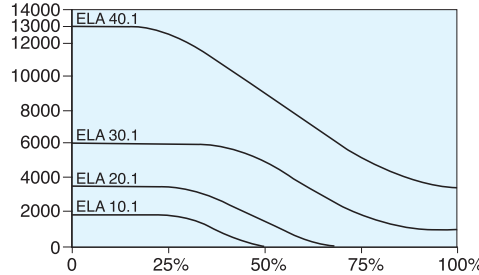
Ratio H Fdyn (N)/duty ratio in % per 10 minutes



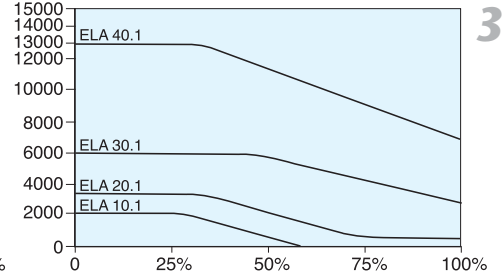
Ratio V Fdyn (N)/duty ratio in % per 10 minutes



Ratio N Fdyn (N)/duty ratio in % per 10 minutes



Ratio L Fdyn (N)/duty ratio in % per 10 minutes

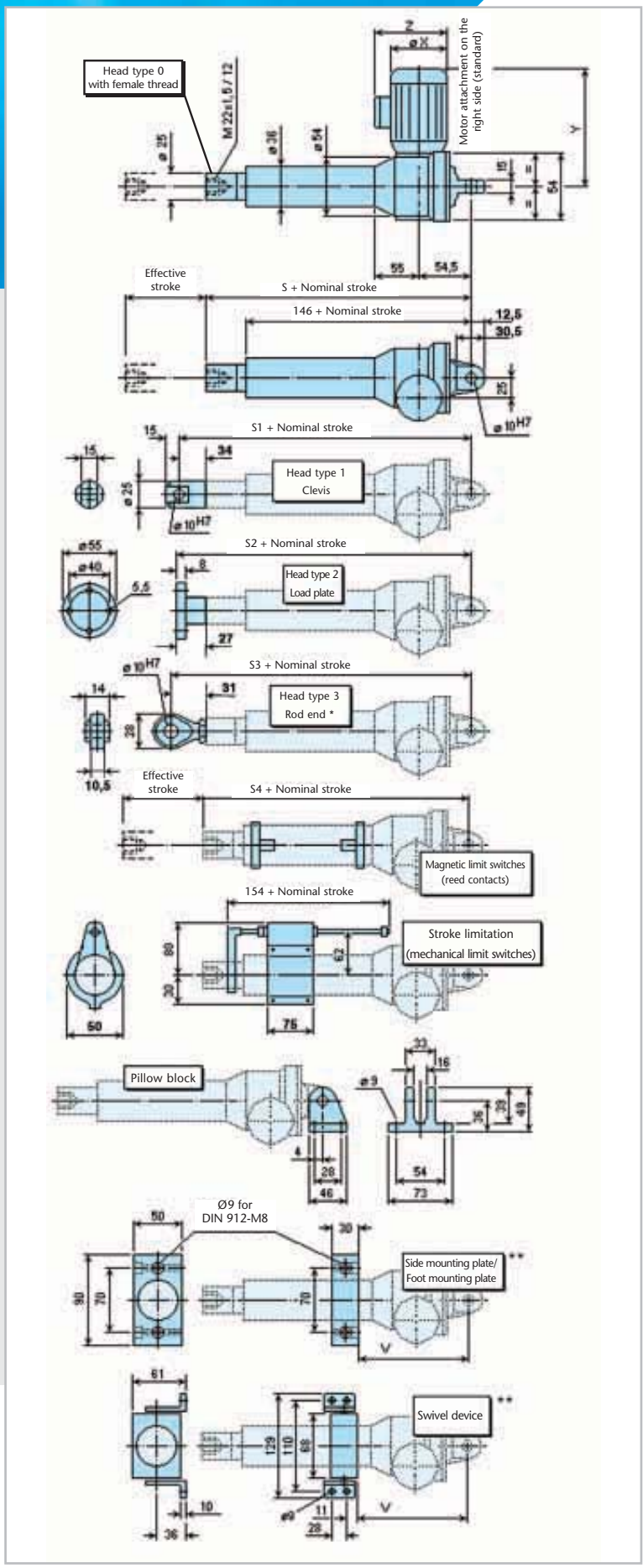


Selection table, series ELA, ball screw Ku:

| Ball screw | Three-phase motor | | | | Single-phase motor | | | | D.C. motor | | | | |
|---------------------------|-------------------|------------------|-------------------|-------------------|--------------------|------------------|-------------------|-------------------|-------------------|------------------|-------------------|-------------------|-------------------|
| | 10.1 | 20.1 | 30.1 | 40.1 | 10.1 | 20.1 | 30.1 | 40.1 | 10.1 | 20.1 | 30.1 | 40.1 | |
| Size | 10.1 | 20.1 | 30.1 | 40.1 | 10.1 | 20.1 | 30.1 | 40.1 | 10.1 | 20.1 | 30.1 | 40.1 | |
| Max. axial force | F [N] stat. | 2500 | 4500 | 8000 | 13000 | 2500 | 4500 | 8000 | 13000 | 2500 | 4500 | 8000 | 13000 |
| Screw | | 12x5 | 16x5 | 20x5 | 25x6 | 12x5 | 16x5 | 20x5 | 25x6 | 12x5 | 16x5 | 20x5 | 25x6 |
| Approx. weight | [kg] | 6 | 10 | 15 | 20 | 6 | 10 | 15 | 20 | 6 | 10 | 15 | 20 |
| Ratio H | | 4:1 | 4:1 | 2,78:1 | 6,75:1 | 4:1 | 4:1 | 2,78:1 | 6,75:1 | 4:1 | 4:1 | 2,78:1 | 6,75:1 |
| Max. tensile/compr. force | F [N] dyn. | 600 | 1350 | 3000 | 6550 | 700 | 1250 | 2200 | 5500 | 750 | 1250 | 2200 | 5500 |
| Lifting speed | v [mm/sec] | 59 | 58 | 84 | 42 | 59 | 58 | 84 | 42 | 59 | 58 | 84 | 42 |
| Motor power | P [Watt] | 90 ¹⁾ | 120 ¹⁾ | 250 ¹⁾ | 550 ¹⁾ | 90 ¹⁾ | 120 ¹⁾ | 250 ¹⁾ | 550 ¹⁾ | 70 ¹⁾ | 150 ¹⁾ | 300 ¹⁾ | 500 ¹⁾ |
| Ratio V | | 6,5:1 | 6,5:1 | 5:1 | 10:1 | 6,5:1 | 6,5:1 | 5:1 | 10:1 | 6,5:1 | 6,5:1 | 5:1 | 10:1 |
| Max. tensile/compr. force | F [N] dyn. | 950 | 2150 | 5800 | 8500 | 1000 | 2000 | 4200 | 7500 | 1150 | 2000 | 4200 | 7500 |
| Lifting speed | v [mm/sec] | 36 | 37 | 47 | 28 | 36 | 37 | 47 | 28 | 38 | 37 | 47 | 28 |
| Motor power | P [Watt] | 90 ¹⁾ | 120 ¹⁾ | 250 ¹⁾ | 550 ¹⁾ | 90 ¹⁾ | 120 ¹⁾ | 250 ¹⁾ | 550 ¹⁾ | 70 ¹⁾ | 150 ¹⁾ | 300 ¹⁾ | 500 ¹⁾ |
| Ratio N | | 15:1 | 15:1 | 10:1 | 20:1 | 15:1 | 15:1 | 10:1 | 20:1 | 15:1 | 15:1 | 10:1 | 20:1 |
| Max. tensile/compr. force | F [N] dyn. | 1900 | 3500 | 6000 | 13000 | 2000 | 3500 | 4500 | 13000 | 1500 | 3500 | 4500 | 13000 |
| Lifting speed | v [mm/sec] | 16 | 15,6 | 23,3 | 14 | 16 | 15,6 | 23,3 | 14 | 15 | 15,6 | 23,3 | 14 |
| Motor power | P [Watt] | 90 ¹⁾ | 120 ¹⁾ | 250 ¹⁾ | 550 ¹⁾ | 90 ¹⁾ | 120 ¹⁾ | 250 ¹⁾ | 550 ¹⁾ | 70 ¹⁾ | 150 ¹⁾ | 300 ¹⁾ | 500 ¹⁾ |
| Ratio L | | 25:1 | 25:1 | 20:1 | 25:1 | 25:1 | 25:1 | 20:1 | 25:1 | 25:1 | 25:1 | 20:1 | 25:1 |
| Max. tensile/compr. force | F [N] dyn. | 2500 | 3500 | 6000 | 13000 | 2500 | 3500 | 6000 | 13000 | 2500 | 3500 | 6000 | 13000 |
| Lifting speed | v [mm/sec] | 9 | 9 | 11,7 | 11 | 9 | 9 | 11,7 | 11 | 9 | 9 | 11,7 | 11 |
| Motor power | P [Watt] | 90 ¹⁾ | 120 ¹⁾ | 250 ¹⁾ | 550 ¹⁾ | 90 ¹⁾ | 120 ¹⁾ | 250 ¹⁾ | 550 ¹⁾ | 70 ¹⁾ | 150 ¹⁾ | 300 ¹⁾ | 500 ¹⁾ |

¹⁾ Brake motor

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Dimensions ELA 10.1:

| | Tr screw | Ku ball screw |
|-------------|-------------|---------------|
| Size | 12x3 | 12x5 |
| S | 169 | 184 |
| S 1 | 203 | 218 |
| S 2 | 196 | 211 |
| S 3 | 200 | 215 |
| S 4 | 188 | 206 |

| Nominal stroke | Effective stroke | |
|--------------------------------|------------------|-----|
| with mechanical limit switches | | |
| 100 | 100 | 85 |
| 200 | 200 | 185 |
| 300 | 300 | 285 |
| 400 | 400 | 385 |

| Nominal stroke | Effective stroke | |
|--|------------------|-----|
| with magnetic limit switches (reed contacts) | | |
| 100 | 78 | 60 |
| 200 | 178 | 160 |
| 300 | 278 | 260 |
| 400 | 378 | 360 |

| Mechanical limit switches* | Magnetic limit switches** (reed contacts) | |
|----------------------------|---|-----|
| V | 110 | 175 |

* Rod end not together with mechanical stroke limitation.
 ** Combination of reed contact and side mounting plate/ foot mounting plate or swivel device only available for stroke 200 and above.

| Three-phase motor 400 VAC, 90 W | | |
|---------------------------------|-----|-----|
| X | 110 | 110 |
| Y | 195 | - |
| Y (with brake) | 220 | 220 |
| Z | 165 | 165 |

| Single-phase motor 230 V~, 90 W | | |
|---------------------------------|-----|-----|
| X | 110 | 110 |
| Y | 195 | - |
| Y (with brake) | 220 | 220 |
| Z | 165 | 165 |

| D.C. motor 24 VDC, 70 W | | |
|-------------------------|-----|-----|
| X | 60 | 60 |
| Y | 165 | - |
| Y (with brake) | 210 | 210 |
| Z | 80 | 80 |

Available upon request:

- Head type 1, 2 or 3
- Mechanical limit switches, connecting cables 5 x 0,75 mm², 1 m long, 2 x NC contact
- Magnetic limit switches (reed contacts), connecting cables, each 2 x 0,25 mm², 2 m long, NC contact
- Pillow block
- Side mounting plate/Foot mounting plate
- Swivel device
- Motor attachment on the left side
- Housing eye rotatable by 90°
- Anti-turn device is not available
- 2nd shaft end on the gear is not available

Only the most recent dimensional drawings are binding.

Dimensions ELA 20.1:

| | Tr screw | Ku ball screw |
|------|----------|---------------|
| Size | 16x4 | 16x5 |
| S | 190 | 211 |
| S 1 | 215 | 236 |
| S 2 | 210 | 231 |
| S 3 | 230 | 251 |
| S 4 | 204 | 211 |

| Nominal stroke | Effective stroke | |
|----------------|--------------------------------|-----|
| | with mechanical limit switches | |
| 200 | 200 | 185 |
| 400 | 400 | 385 |
| 600 | 600 | 585 |

| Nominal stroke | Effective stroke | |
|----------------|--|-----|
| | with magnetic limit switches (reed contacts) | |
| 200 | 190 | 180 |
| 400 | 390 | 380 |
| 600 | 590 | 580 |

| Mounting dimension of add-on items for | A | B | C |
|---|-----|-----|-----|
| mechanical limit switches | 175 | 171 | 192 |
| magnetic limit switches (reed contacts) | 259 | 255 | 277 |

* Rod end only available with anti-turn device.

| Three-phase motor 400 VAC, 120 W | | |
|----------------------------------|-----|-----|
| X | 110 | 110 |
| Y | 225 | - |
| Y (with brake) | 285 | 285 |
| Z | 165 | 165 |

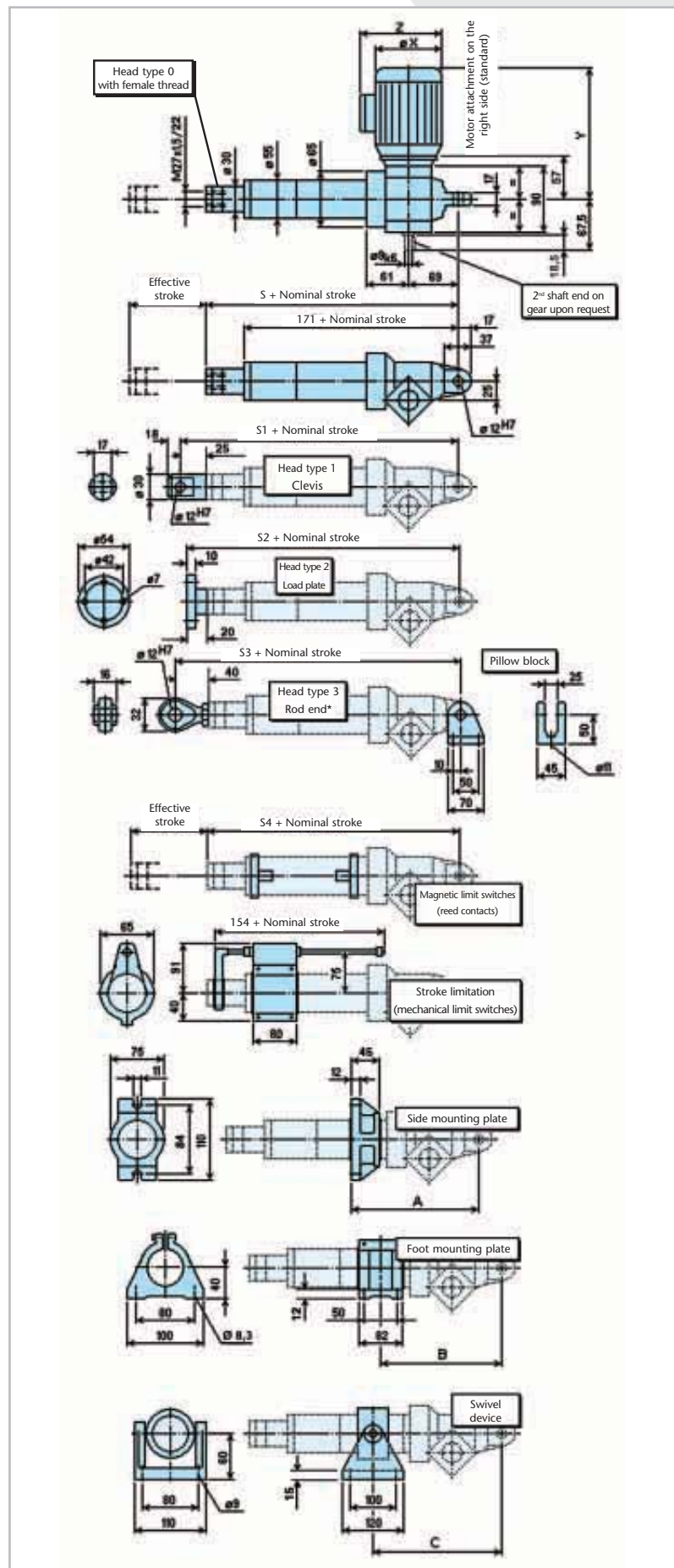
| Single-phase motor 230 V~, 120 W | | |
|----------------------------------|-----|-----|
| X | 115 | 115 |
| Y | 220 | - |
| Y (with brake) | 260 | 260 |
| Z | 165 | 165 |

| D.C. motor 24 VDC, 150 W | | |
|--------------------------|-----|-----|
| X | 85 | 85 |
| Y | 225 | - |
| Y (with brake) | 270 | 270 |
| Z | 121 | 121 |

Available upon request:

- Head type 1, 2 or 3
- Mechanical limit switches, connecting cables 5 x 0,75 mm², 1 m long, 2 x NC contact
- Magnetic limit switches (reed contacts), connecting cables, each 2 x 0,25 mm², 2 m long, NC contact
- Pillow block
- Side mounting plate
- Foot mounting plate
- Swivel device
- Motor attachment on the left side
- Housing eye rotatable by 90°
- Anti-turn device
- 2nd shaft end on the gear with feather key groove 3x3x14

Only the most recent dimensional drawings are binding.



Electromechanical Linear Actuator

Dimensions ELA 30.1:

| | Tr srew | Ku ball screw |
|------|---------|---------------|
| Size | 22x5 | 20x5 |
| S | 220 | 230 |
| S 1 | 245 | 255 |
| S 2 | 240 | 250 |
| S 3 | 265 | 275 |
| S 4 | 226 | 240 |

| Nominal stroke | Effective stroke | |
|--------------------------------|------------------|-----|
| with mechanical limit switches | | |
| 200 | 200 | 190 |
| 400 | 400 | 390 |
| 600 | 600 | 590 |
| 800 | 800 | 790 |

| Nominal stroke | Effective stroke | |
|--|------------------|-----|
| with magnetic limit switches (reed contacts) | | |
| 200 | 190 | 170 |
| 400 | 390 | 370 |
| 600 | 590 | 570 |
| 800 | 790 | 770 |

| Mounting dimension of add-on items for | A | B | C |
|---|-----|-----|-----|
| mechanical limit switches | 197 | 193 | 214 |
| magnetic limit switches (reed contacts) | 281 | 277 | 299 |

* Rod end only available with anti-turn device.

| Three-phase motor 400 VAC, 250 W | | | |
|----------------------------------|-----|--|-----|
| X | 126 | | 126 |
| Y | 255 | | - |
| Y (with brake) | 315 | | 315 |
| Z | 172 | | 172 |

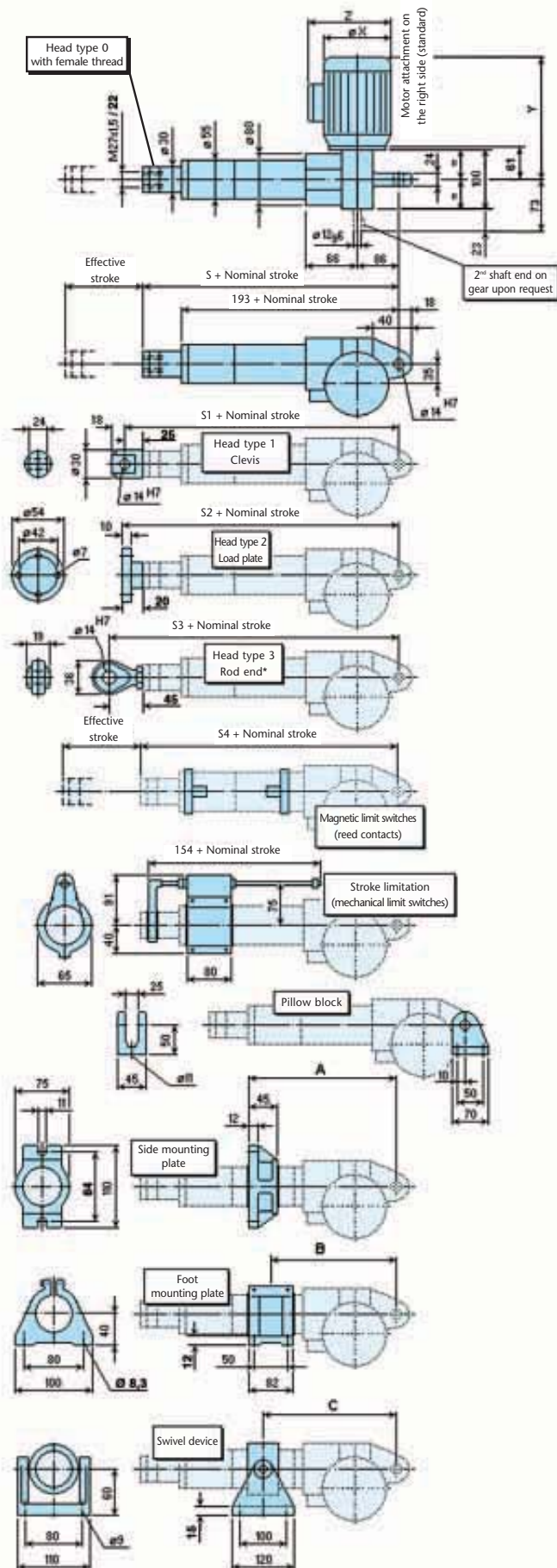
| Single-phase motor 230 V~, 250 W | | | |
|----------------------------------|-----|--|-----|
| X | 126 | | 126 |
| Y | 242 | | - |
| Y (with brake) | 301 | | 301 |
| Z | 172 | | 172 |

| D.C. motor 24 VDC, 300 W | | | |
|--------------------------|-----|--|-----|
| X | 85 | | 85 |
| Y | 290 | | - |
| Y (with brake) | 331 | | 331 |
| Z | 121 | | 121 |

Available upon request:

- Head type 1, 2 or 3
- Mechanical limit switches, connecting cables
5 x 0,75 mm², 1 m long, 2 x NC contact
- Magnetic limit switches (reed contacts),
connecting cables, each 2 x 0,25 mm²,
2 m long, NC contact
- Pillow block
- Side mounting plate
- Foot mounting plate
- Swivel device
- Motor attachment on the left side
- Housing eye rotatable by 90°
- Anti-turn device
- 2nd shaft end on the gear with
feather key groove 4x4x16

Only the most recent dimensional drawings are binding.



Dimensions ELA 40.1:

| | Tr srew | Ku ball-screw* |
|------|---------|----------------|
| Size | 22x5 | 25x6 |
| S | 275 | 285 |
| S 1 | 305 | 315 |
| S 2 | 297 | 307 |
| S 3 | 328 | 338 |
| S 4 | 285 | 285 |

| Nominal stroke | Effective stroke | |
|--------------------------------|------------------|-----|
| with mechanical limit switches | | |
| 200 | 200 | 190 |
| 400 | 400 | 390 |
| 600 | 600 | 590 |
| 800 | 800 | 790 |

| Nominal stroke | Effective stroke | |
|--|------------------|-----|
| with magnetic limit switches (reed contacts)** | | |
| 200 | 190 | 190 |
| 400 | 390 | 390 |
| 600 | 590 | 590 |
| 800 | 790 | 790 |

* Rod end only available with anti-turn device.
 ** Ball screw not available in combination with anti-turn device and magnetic limit switches (reed contacts).

| Three-phase motor 400 VAC, 550 W | | |
|----------------------------------|-----|-----|
| X | 145 | 145 |
| Y | 295 | - |
| Y (with brake) | 350 | 350 |
| Z | 191 | 191 |

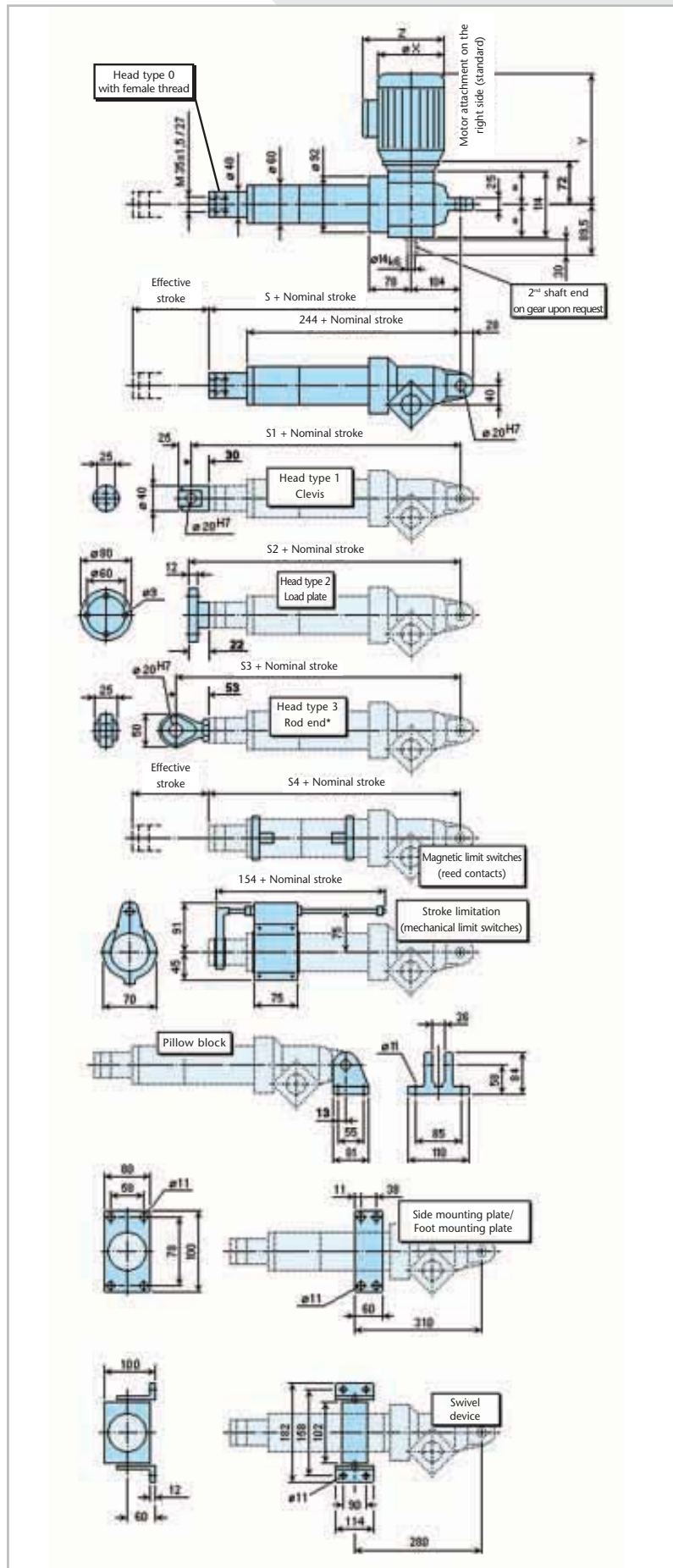
| Single-phase motor 230 V~, 550 W | | |
|----------------------------------|-----|-----|
| X | 140 | 140 |
| Y | 315 | - |
| Y (with brake) | 350 | 350 |
| Z | 191 | 191 |

| D.C. motor 24 VDC, 500 W | | |
|--------------------------|-----|-----|
| X | 85 | 85 |
| Y | 395 | - |
| Y (with brake) | 435 | 435 |
| Z | 121 | 121 |

Available upon request:

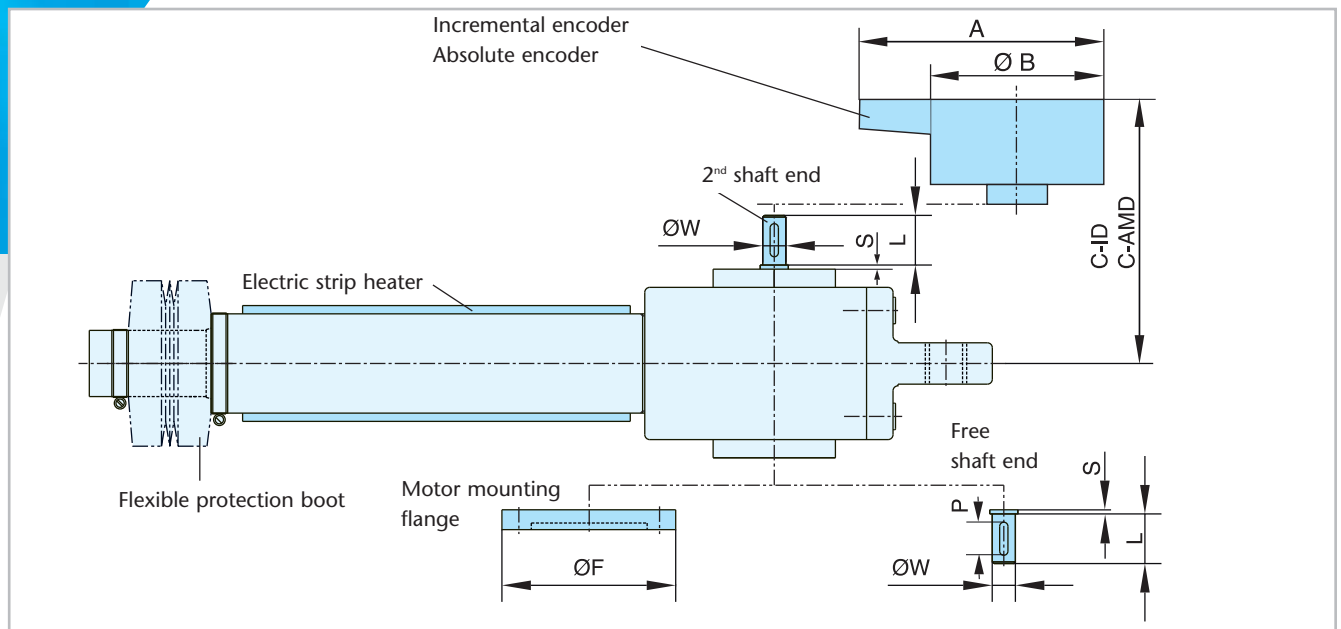
- Head type 1, 2 or 3
- Mechanical limit switches, connecting cables 5 x 0,75 mm², 1 m long, 2 x NC contact
- Magnetic limit switches (reed contacts), connecting cables, each 2 x 0,25 mm², 2 m long, NC contact**
- Pillow block
- Side mounting plate/Foot mounting plate
- Swivel device
- Motor attachment on the left side
- Housing eye rotatable by 90°
- Anti-turn device*
- 2nd shaft end on the gear with feather key groove 5x5x20

Only the most recent dimensional drawings are binding.



Electromechanical Linear Actuator - Options

Option Incremental/absolute encoder/motor mounting flange/
free or 2nd shaft end/electric strip heater (not possible for ELA 10.1)



The incremental encoder or absolute encoder is mounted on the 2nd shaft end. Only the most recent dimensional drawings are binding.

| ELA size | IEC motor flange / ØF | ØW | S | L | P |
|----------|-----------------------|----|-----|------|----|
| 20.1 | 56 B14 / Ø80 | 9 | 4 | 18,5 | 14 |
| 30.1 | 63 B14 / Ø90 | 12 | - | 23 | 16 |
| 40.1 | 71 B14 / Ø105 | 14 | 2,5 | 30 | 20 |

Feather key groove in accordance with DIN 6885/1

| ELA size | A | Ø B | C-AMD | C-ID |
|----------|-------------|------------|-------------|-------------|
| 20.1 | approx. 155 | approx. 65 | approx. 165 | approx. 115 |
| 30.1 | approx. 155 | approx. 65 | approx. 170 | approx. 120 |
| 40.1 | approx. 155 | approx. 65 | approx. 175 | approx. 125 |

Dimension A with mating plug or high-strength cable gland

8

Technical Data

Incremental encoder:

| | |
|------------------------------|--|
| Type: | ID |
| Pulses per rotation: | 10 or 20 |
| Supply voltage: | 11 - 27 VDC |
| Power rating (without load): | < 4 Watt |
| Output: | 5 V or 11-27 V |
| Incremental signal: | A/B/0 \bar{A} / \bar{B} / $\bar{0}$ |
| Operating temperature: | 0 °C to 60 °C |
| Protection rating: | IP 65 |
| Type of connection: | Radial plug (12-pole, crimpable, included in delivery, recommendation CY PUR 3x2x0,14 + 2x0,5) |

Absolute multiturn encoder (pre-programmed)

Technical Data

| | |
|---|--------------------|
| Type: | AMD |
| Overall resolution (encoder capacity): | max. 25 bit |
| Steps per rotation: | 256 (max. 13 bit) |
| Number of revolutions: | 4096 (max. 12 bit) |
| Supply voltage: | 11...27 VDC |
| Power rating (without load): | < 3 Watt |
| Operating temperature: | 0 °C to 60 °C |
| Protection rating: | IP 65 |

Rotary encoder

with data output: **RS 422 / SSI**

| | |
|---------------------|---|
| Output code: | programmable, pre-set, gray code |
| Type of connection: | Radial plug (12-pole, crimpable, included in delivery, recommendation CY PUR 3x2x0,14 + 2x0,5) |

OR

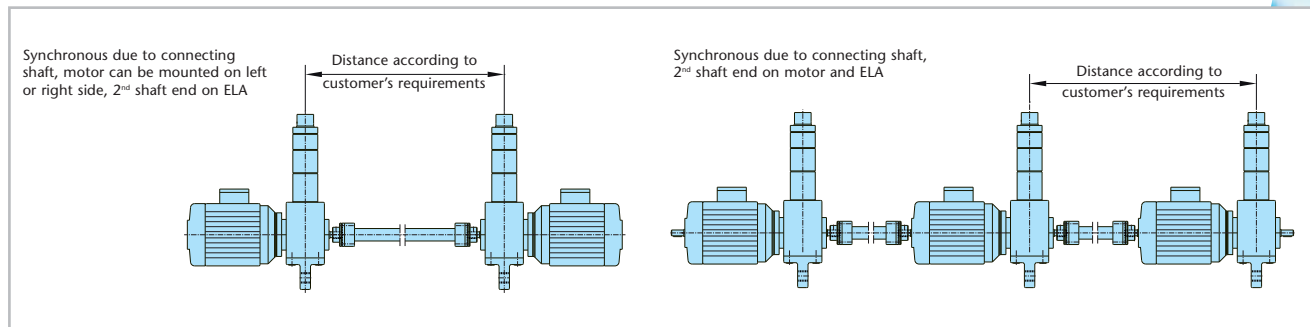
Rotary encoder

with data transfer: **Profibus DP**

| | |
|---------------------|---|
| Output code: | can be parameterized using Profibus DP according to PNO Class 2 |
| Adress range: | 3 to 99 adjustable via DIP-switch |
| Transfer rate: | 9,6 kBaud to 12 MBaud |
| Type of connection: | Terminal screws, 3 x screwed radial cable gland |

Other rotary encoders available upon request.

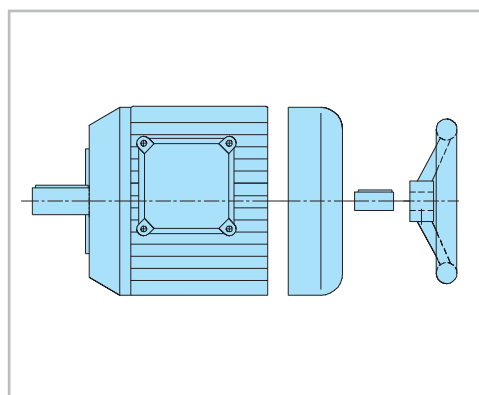
Mechanical synchronization option (not possible for ELA 10.1)



Motor option (not possible for ELA 10.1)

Motor option:

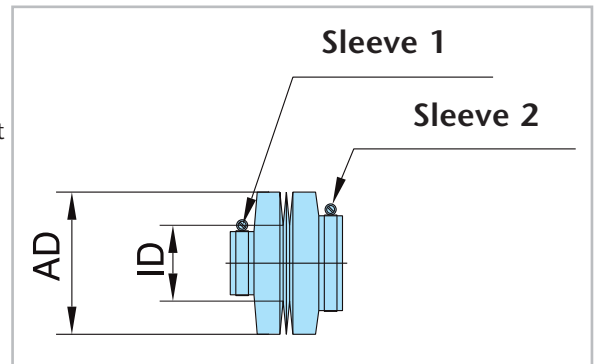
- Special voltages, frequencies and protection ratings
- 2nd shaft end with/without hand wheel
- Brake, rust-proof, with/without manually operated air ventilation
- Pole switchable to fast and creep speed
- Temperature monitor for frequency converters
- Incremental/absolute encoders
- Protection for tropical climates/against moisture
- Electric strip heater
- No fan
- UL, CSA, NEMA certification



Electromechanical Linear Actuator - Options

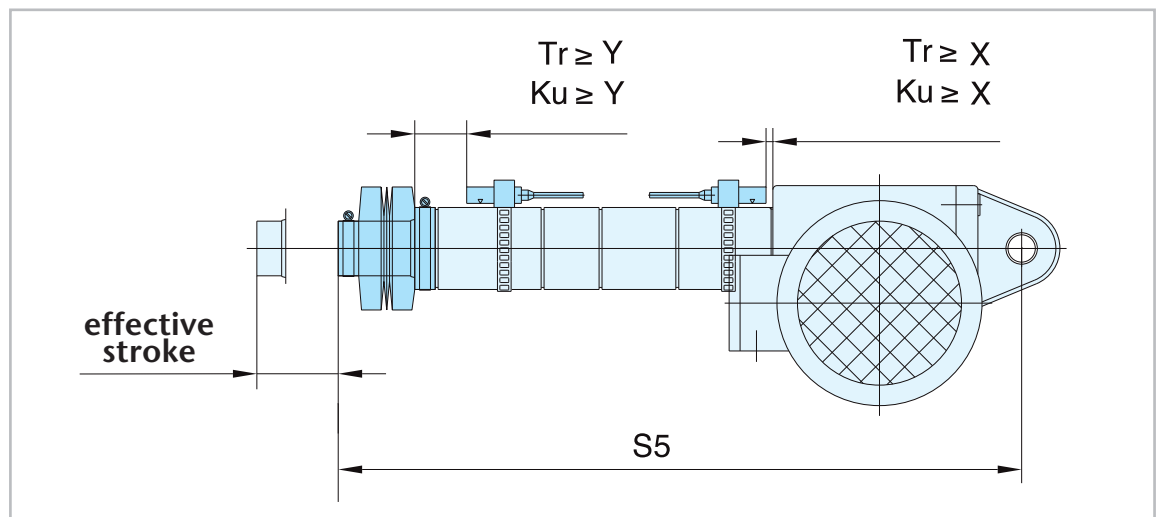
Flexible protection boot option (not in combination with mechanical limit switches)

- Stainless steel clamps and air filters
- Material PN-XT
- Temperature range 0 °C to 40 °C
- Special versions available upon request



| ELA size | ID ¹⁾ | AD ²⁾ | Sleeve 1 | Sleeve 2 |
|----------|------------------|------------------|----------|----------|
| 10.1 | Ø30 | Ø72 | Ø25x12 | Ø36x12 |
| 20.1 | Ø36 | Ø78 | Ø30x15 | Ø55x15 |
| 30.1 | Ø36 | Ø78 | Ø30x15 | Ø55x15 |
| 40.1 | Ø48 | Ø90 | Ø40x15 | Ø60x15 |

¹⁾ Inner diameter ²⁾ Outer diameter



Only the most recent dimensional drawings are binding.

Mounting dimensions for ELA with and without magnetic limit switches (reed contacts)

ELA 10.1

| Nominal stroke | Tr screw S5 | Effective stroke | ≥Y | ≥X |
|----------------|-------------|------------------|----|----|
| 100 | 288 | 78 | 32 | 0 |
| 200 | 398 | 168 | 32 | 10 |
| 300 | 508 | 258 | 32 | 20 |
| 400 | 618 | 348 | 32 | 30 |

| Ball screw S5 | Effective stroke | ≥Y | ≥X |
|---------------|------------------|----|----|
| 306 | 60 | 50 | 0 |
| 406 | 160 | 50 | 0 |
| 506 | 260 | 50 | 0 |
| 616 | 350 | 50 | 10 |

ELA 20.1

| Nominal stroke | Tr screw S5 | Effective stroke | ≥Y | ≥X |
|----------------|-------------|------------------|----|----|
| 200 | 424 | 170 | 25 | 20 |
| 400 | 644 | 350 | 25 | 40 |
| 600 | 869 | 525 | 25 | 65 |

| Ball screw S5 | Effective stroke | ≥Y | ≥X |
|---------------|------------------|----|----|
| 426 | 165 | 28 | 22 |
| 646 | 345 | 28 | 42 |
| 871 | 520 | 28 | 67 |

ELA 30.1

| Nominal stroke | Tr screw S5 | Effective stroke | ≥Y | ≥X |
|----------------|-------------|------------------|----|----|
| 200 | 446 | 170 | 25 | 20 |
| 400 | 666 | 350 | 25 | 40 |
| 600 | 891 | 525 | 25 | 65 |
| 800 | 1111 | 705 | 25 | 85 |

| Ball screw S5 | Effective stroke | ≥Y | ≥X |
|---------------|------------------|----|----|
| 450 | 160 | 31 | 24 |
| 670 | 340 | 31 | 44 |
| 895 | 515 | 31 | 69 |
| 1115 | 695 | 31 | 89 |

ELA 40.1

| Nominal stroke | Tr screw S5 | Effective stroke | ≥Y | ≥X |
|----------------|-------------|------------------|----|----|
| 200 | 500 | 175 | 43 | 15 |
| 400 | 720 | 355 | 43 | 35 |
| 600 | 945 | 530 | 43 | 60 |
| 800 | 1165 | 710 | 43 | 80 |

| Ball screw S5 | Effective stroke | ≥Y | ≥X |
|---------------|------------------|----|----|
| 500 | 175 | 38 | 20 |
| 720 | 355 | 38 | 40 |
| 945 | 530 | 38 | 65 |
| 1165 | 710 | 38 | 85 |

Pfaff-silberblau can supply both conventional contactor control units and, upon request, complete PLC controls.

Contactor control system

For three-phase (~400 V) screw-drive units/linear actuators conforming to DIN EN 60204 Part 1, Part 32

H1TM basic version

- Protection rating IP 54
- Housing made of plastic (270 x 220 x 108 mm)
- Operating voltage ~ 400 V 50 Hz
- Control system voltage ~ 42 V 50 Hz
- Motor protection relay
- „UP/DOWN“ push-button control
- Signals from the limit switches can be processed
- Built-in „EMERGENCY OFF“ master switch and reversal protection

H1TM with external push-button controls and main contactor

- With wall-mounted „UP/DOWN“ and „EMERGENCY OFF“ push-buttons (supplied in separate package) or
- With „UP/DOWN“ and „EMERGENCY OFF“ pendant switches (incl. 5 m control cable)

H1TM with electronic overload protection

(required for lifting devices for loads from 1000 kg)

- With main contactor
- Overload relay
- Key-operated „reset“ control
- Fault-warning light



| Type H1TM | Motor power rating up to kW |
|---|-----------------------------|
| Basic version | 4,0 |
| With external wall-mounted push-button | 4,0 |
| With external pendant switch | 4,0 |
| With electrical overload protection | 4,0 |
| With external wall-mounted push-button and electrical overload protection | 4,0 |
| With external pendant switch and electrical overload protection | 4,0 |

The controls are also available in single-phase and D.C. design upon request

Ordering details

ELA - **1** **.1** **2** **3** **4** **5** **6** **7** **8** **9** **10** **Options** **.....**

| | | | |
|---|-------------------------------|--|-------------------------------------|
| 1 Size _____ | 10/20/30/40 | 8 Anti-turn device ___0 = Yes | _____1 = No |
| 2 Screw _____ | Tr (standard)/Ku | 9 Accessories 1 ___0 = None | _____1 = Mechanical limit switches |
| 3 Ratio _____ | H/V/N/L | _____2 = Magnetic limit switches (reed contacts) | 10 Accessories 2 ___0 = None |
| 4 Nominal stroke _____ | stroke (mm) | _____1 = 1 Pillow block | _____2 = 2 Pillow blocks |
| 5 Motor _____ | 1 = Three-phase-400VAC | _____3 = Side mounting plate | _____4 = Foot mounting plate |
| _____ | 2 = Three-phase-400VAC+brake | _____5 = Swivel device | |
| _____ | 3 = Single-phase-230VAC | Other options (as specified) = X | |
| _____ | 4 = Single-phase-230VAC+brake | For example _____ | • 2 nd shaft end on ELA |
| _____ | 5 = D.C. 24VDC | _____ | • Free shaft end (without motor) |
| _____ | 6 = D.C. 24VDC+brake | _____ | • Flexible protection boot |
| _____ | 0 = None (except of ELA 10.1) | _____ | • Shaft encoder |
| 6 Motor attachment side ___0 = Right side (standard) | _____1 = Left side | _____ | • Special motor..... |
| _____ | 7 Head _____1 = Clevis | _____ | • Control unit H1TM or H1WTM |
| _____ | _____2 = Load plate | _____ | (single-phase design) |
| _____ | _____3 = Rod end | | |
| _____ | _____0 = None | | |

Please refer to the latest quotation drawings!

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