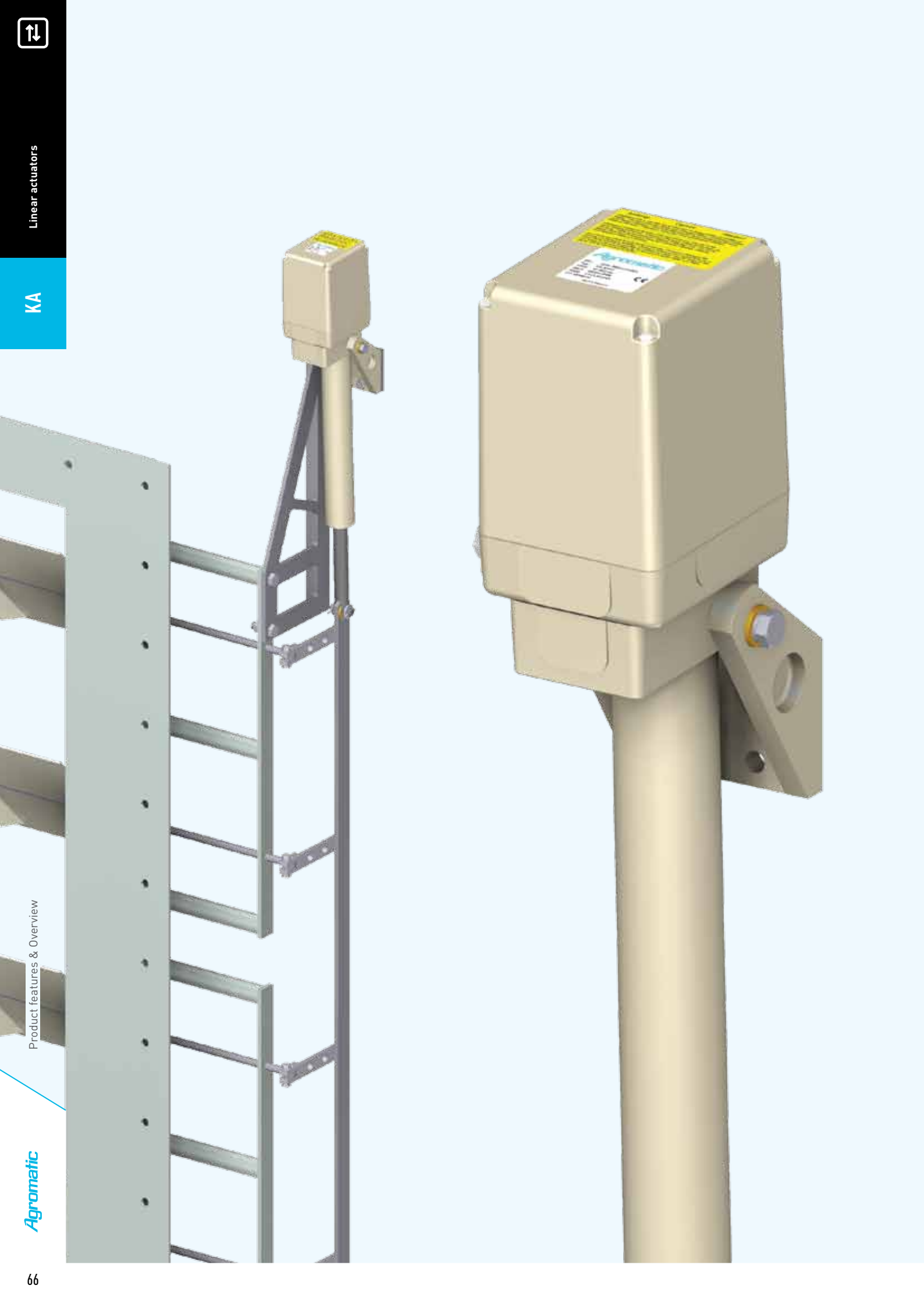


KA

Linear actuator

Product features

- Wide range of force outputs
- Large stroke range
- Wide range of positioning times
- Constant positioning times under fluctuating loads
- Large number of auxiliary position switches possible
- Solid metal housing
- Maintenance-free gearbox
- Operates in any position
- Protected spindle

Overview

KA series linear actuators are utilized to precisely adjust dampers in air-conditioning, ventilation and heating systems as well as in furnaceinstallations, process plant engineering and other fields of industry.

They are available with the following actuating forces: 600 N, 1200 N, 1800 N, 2500 N, 3000 N, 3500 N and 5000 N. The stroke units are designed for stroke lengths of 150-1100 mm. The technical construction mirrors that of series N actuators. End position limit stop is path dependent. The standard scope of supply includes a limit switch for each end position. These are designed as changeover switches and can also perform supplementary functions such as end position indication or sequential control tasks.

Additional auxiliary position switches and potentiometers are also available. Fitting a relay makes it possible to control several actuators simultaneously via a common contact. A solid cast bracket is available to mount the actuator. A connecting pin is included in the scope of supply to create the connection with the connecting rod.

The spindle is protected by a protective tube. Depending on the positioning time it is possible to supply actuators from this series that offer force-dependent switch-off functionality (optional). This switch-off function prevents damage occurring to the actuators in the event of a blockage.

Product details

HOUSING

- Housing made of die-cast zinc
- Hood made of corrosion-resistant, die-cast aluminium
- Coated with silicon-free paint
- Colour: RAL 7032 Pebble Grey
- Standard hoods powder coating
- Three cable entries M20x1.5
- Protection class IP54 to DIN EN 60529
- Options:

- Protection classes IP65/66
- Custom colours
- Electric anti-condensate heater (helps prevent build-up of condensate in the actuator)

MOTOR

- Single-phase AC synchronous motor with permanent magnet, reversible
- 230 V ± 10%, 50/60 Hz ± 5%
- ON time 100% duty cycle on request
- Short start/stop times
- Insulation class B to VDE 0530
- Synchronous motors maintain speed and constant positioning times irrespective of the load
- Tropical insulation
- Options:

- Three-phase motor
- DC motor
- Custom voltages
- Custom frequencies

GEARBOX

- Spur gearing with straight-toothed steel gears
- Robust, maintenance-free
- Permanently lubricated gears
- Self-lubricating sintered bronze bearing
- Encapsulated version, operates in any position

STROKE UNIT

- Fixing bracket made of die-cast aluminium
- Spindle and connecting rod made of stainless steel
- Spindle self-locking
- Needle bearings to absorb axial forces
- Steel / bronze materials provide good anti-seizure properties.

ELECTRICAL CONNECTION

- Connection terminals positioned centrally close to cable entry
- Screw-type terminals
- Two free slots to retrofit additional position switches
- Additional PCB terminals ensure retrofitting systems extensions is fully unproblematic
- Infinitely adjustable control cams
- Open/close signals
- Path dependent limit switch-off
- Limit switch for each end position
- Options:

- Additional potential-free switching contacts
- Electronic position controller ESR-N (integrated in actuator or external)
- Potentiometer 200 Ω ... 10 kΩ
- Electromechanical force-sensitive switch switches off the motor in the event of a seizure

AMBIENT TEMPERATURE

- -15 °C to +60 °C
- 0 °C to +60 °C when utilizing electronic position controller ESR-N
- Options:

- Up to +100 °C, duty cycle S3-2 min / 24 h
- Down to -40 °C

REGULATING DISTANCE LIMITED BY SNAP-ACTION POSITION OFF SWITCH

- CO switches with silver-plated contacts
- Switch connections routed to terminal strip
- Max. switching capacity: 6 A, 250 V AC
- Options:

- Switches with gold-plated contacts
- Switches with positive-break contacts
- Switches designed for higher temperatures

POSITION SENSOR FOR EXTERNAL POSITION INDICATION (OPTIONAL)

- With potentiometer
- Choice of wire-wound or conductive plastic potentiometer
- Multiturn potentiometer up to 10 turns
- Three potentiometers possible
- It is possible to adapt the electrical angle of rotation of the potentiometer to the desired angle of rotation utilizing a gearbox.
- With 4 ... 20 mA transmitter
- Utilizing a gearbox it is possible to adapt the electrical angle of rotation of the transmitter to the desired angle of rotation..

MANUAL OPERATION (OPTIONAL)

- Using the handwheel it is possible to manually adjust the position of the output shaft and valves.
- Disengaging the gearbox and motor reduces the amount of force required.
- Position switch-off settings are retained during manual operation.
- Handwheel remains motionless during electrical operation.

OPTIONS

- Other voltage/frequency
- Other ambient temperature range
- Protection class IP65/66 (complete actuator)
- Handwheel
- Gearbox disengages manually
- Additional auxiliary position switches
- Custom control cams
- Electronic position controller ESR-N
- Position sensor
- Anti-condensate heater
- Relay
- Pulse relay
- Relays to switch several actuators in parallel
- Potentiometer
- Components to UL standard
- Connecting rod protected by bellows
- Force-sensitive switch off

INSTALLATION

- Easily mounted thanks to stable cast angle bracket attached to housing
- Connecting pin supplied to connect connecting rod with valve
- No fuss coupling to valve stem by means of:
- Lever arm, clamping lever, ball-and-socket joint, connecting rods, sprung connecting rods

ORDER DETAILS

- Device type
- Positioning force
- Positioning time
- Operating voltage /frequency
- Desired options
- When ordering potentiometers:
- Resistance value
- Desired linear regulating distance
- Presetting information for position switches and potentiometer
- Or order number

Technical data

ACTUATORS – KA SERIES, 230 V, 50(60) Hz (OPTIONAL: 115 V, 50(60)HZ AND 24 V, 50(60) Hz)

Type	Positioning time	Positioning force	Power consumption (max.)	Selectable regulating distance	Hood height	Weight	Order No.	Order No. Stroke unit
KA ..06	1.7(2) mm/s	600 N	18 VA	150 - 1100 mm	28 mm+120 mm	3.7 kg	112940	See below
KA ..06	2.3(2.7) mm/s	600 N	23 VA	150 - 1100 mm	28 mm+120 mm	3.8 kg	112950	See below
KA ..06	4.5(5.4) mm/s	600 N	32 VA	150 - 1100 mm	28 mm+120 mm	4.6 kg	112960	See below
KA ..06	6.7(8) mm/s	600 N	35 VA	150 - 1100 mm	28 mm+120 mm	4.6 kg	112970	See below
KA ..12	1.7(2) mm/s	1200 N	31 VA	150 - 1100 mm	28 mm+120 mm	3.8 kg	112990	See below
KA ..12	2.3(2.7) mm/s	1200 N	24 VA	150 - 1100 mm	28 mm+120 mm	4.0 kg	113000	See below
KA ..12	4.5(5.4) mm/s	1200 N	69 VA	150 - 1100 mm	176 mm	5.6 kg	113010	See below
KA ..12	6.7(8) mm/s	1200 N	47 VA	150 - 1100 mm	176 mm	5.6 kg	113020	See below
KA ..18	1.5(1.8) mm/s	1800 N	24 VA	150 - 1100 mm	28 mm+120 mm	4.0 kg	113040	See below
KA ..18	2.3(2.7) mm/s	1800 N	24 VA	150 - 1100 mm	28 mm+120 mm	4.0 kg	113050	See below
KA ..25	1.5(1.8) mm/s	2500 N	32 VA	150 - 1100 mm	28 mm+120 mm	4.6 kg	113060	See below
KA ..25	2.3(2.7) mm/s	2500 N	35 VA	150 - 1100 mm	28 mm+120 mm	4.6 kg	113070	See below
KA ..35	1.5(1.8) mm/s	3500 N	69 VA	150 - 1100 mm	176 mm	5.6 kg	113090	See below
KA ..30	2.3(2.7) mm/s	3500 N	47 VA	150 - 1100 mm	176 mm	5.6 kg	113100	See below
KA ..50	1.3(1.5) mm/s	5000 N	47 VA	150 - 1100 mm	176 mm	5.6 kg	113110	See below

Stroke units for regulating distance	150 mm		113440
Stroke units for regulating distance	300 mm		113450
Stroke units for regulating distance	450 mm		113460
Stroke units for regulating distance	600 mm	Max. 4000 N in push direction	113470
Stroke units for regulating distance	750 mm	Max. 2500 N in push direction	113480
Stroke units for regulating distance	1100 mm	Max. 1800 N in push direction	113490

The actuator designation KA 1506 is created from the regulating distance (150 mm) = 15 and positioning force (600 N) = 06

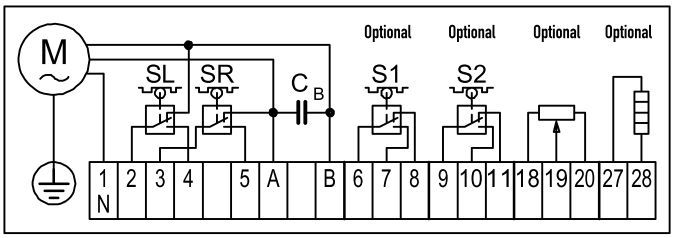
ACTUATORS – KA DC SERIES, 24V DC

Type	Positioning time	Positioning force	Power consumption (max.)	Selectable regulating distance	Hood height	Weight	Order No.	Order No. Stroke unit
KA ..06-DC	1.7 mm/s	600 N	11 W	150 - 1100 mm	28 mm+120 mm	3.6 kg	113180	See below
KA ..06-DC	3.4 mm/s	600 N	21 W	150 - 1100 mm	28 mm+120 mm	3.8 kg	113190	See below
KA ..06-DC	6 mm/s	600 N	21 W	150 - 1100 mm	28 mm+120 mm	3.8 kg	113200	See below
KA ..12-DC	1.7 mm/s	1200 N	21 W	150 - 1100 mm	28 mm+120 mm	3.8 kg	113220	See below
KA ..12-DC	3.4 mm/s	1200 N	21 W	150 - 1100 mm	28 mm+120 mm	3.8 kg	113230	See below
KA ..12-DC	6 mm/s	1200 N	38 W	150 - 1100 mm	28 mm+148 mm	5.1 kg	113240	See below
KA ..25-DC	1.7 mm/s	2500 N	38 W	150 - 1100 mm	28 mm+148 mm	5.1 kg	113260	See below
KA ..25-DC	3.4 mm/s	2500 N	38 W	150 - 1100 mm	176 mm	5.1 kg	113270	See below
KA ..50-DC	1.7 mm/s	5000 N	38 W	150 - 1100 mm	28 mm+148 mm	5.1 kg	113280	See below

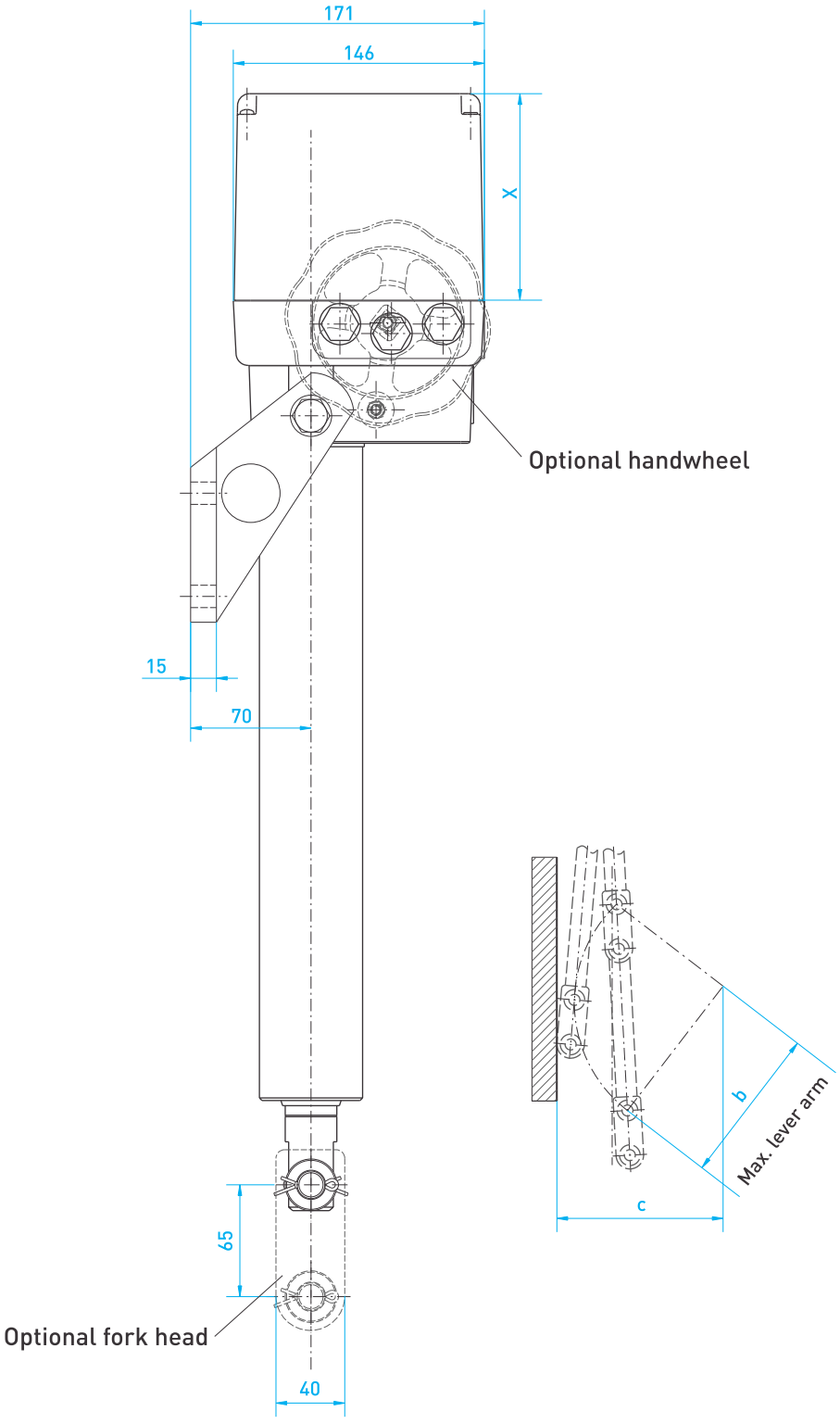
Stroke units for regulating distance	150 mm		113440
Stroke units for regulating distance	300 mm		113450
Stroke units for regulating distance	450 mm		113460
Stroke units for regulating distance	600 mm	Max. 4000 N in push direction	113470
Stroke units for regulating distance	750 mm	Max. 2500 N in push direction	113480
Stroke units for regulating distance	1100 mm	Max. 1800 N in push direction	113490

The actuator designation KA 1506 is created from the regulating distance (150 mm) = 15 and positioning force (600 N) = 06

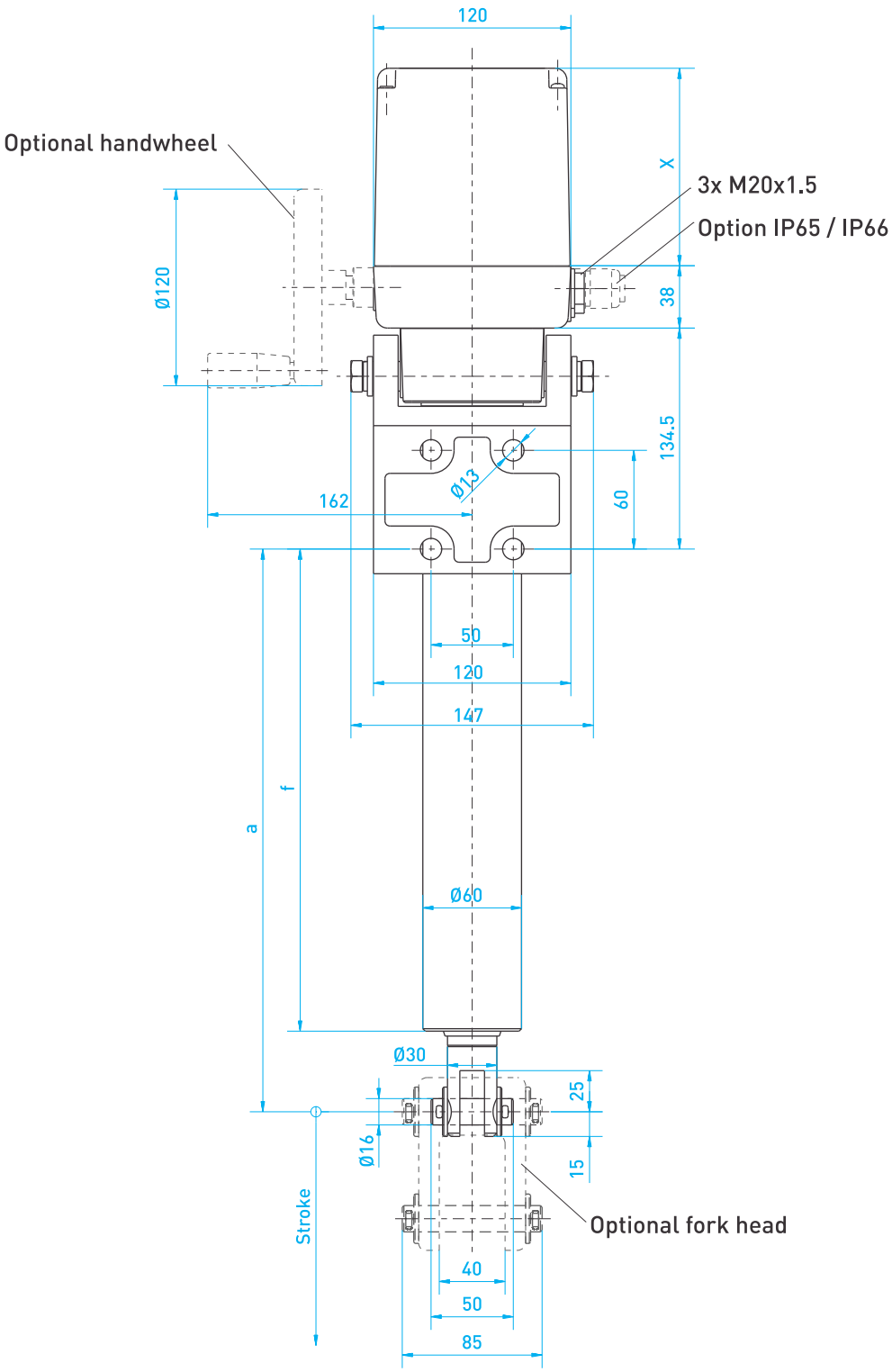
SCHEMATIC DIAGRAM STANDARD AC



Dimensions



Power (VA)	X
> 40	176
32-40	148
6-31	120



Stroke	a	b	c	f	Max. compressive load F (N)	Max. tensile load F (N)
1100	1185	778	800	1138	1800	5000
750	820	530	560	773	2500	5000
600	670	424	455	623	4000	5000
450	520	318	350	473	5000	5000
300	340	212	245	293	5000	5000
150	190	106	140	143	5000	5000