

t: + (27) 011 468 1881 c: +(27) 074 465 1744
e: 01@BirCraft.co.za w: www.BirCraft.co.za

Address: [320 B Percheron Road, Kyalami, Midrand, 1684](#)
GPS Coordinates: [S 25.98115° / E 028.06869°](#)



ALI-4P

Industrial Linear Actuator

- Permanent magnet DC motor 24 V
- Three phase and single phase AC motor
- Worm gearbox
- Acme lead screw or ballscrew (VRS)
- Chrome plated steel push rod
- Permanent lubrication
- IP65 for DC versions
- IP55 for AC versions, tested according to rule CEI EN 60529. NB: Only for brake motors Standard IP54, IP65 on request
- Working temperature range -10°C +60°C
- Intermittent duty S3 30% (5 min) a +30°C for AC motor
- Limit switches, potentiometer and encoder on request
- Version At-Ex II 3 D T4 (AC motor) on request

ALI4-P (Vac 3 -Phase)				
Fmax (N)	Speed (mm/s)	Version	Motor size	Motor power (KW)
11000	12	M01	IEC71	0.55 2 poles
15000	6	M02	IEC63	0.37 4 poles

ALI4-P (Vdc)						
Fmax (N)	Speed (mm/s)	Version	Motor size	Motor speed (rpm)	Max Current for F max(A) 24Vdc	Fs % base 5 min.
1700*	48	M03	77	3000	11	20
2600	29	M04	77	3000	12	20
4500	14	M05	77	3000	11	20
6800	8	M06	77	3000	12	20
10000	5	M07	77	3000	14	10

* When speed is more than 30 mm/s and/or strokes longer than 350mm, check stroke setup section.

With single-phase motors performances are 20% lower than the three-phase motor.

→ The brake motor is strongly recommended

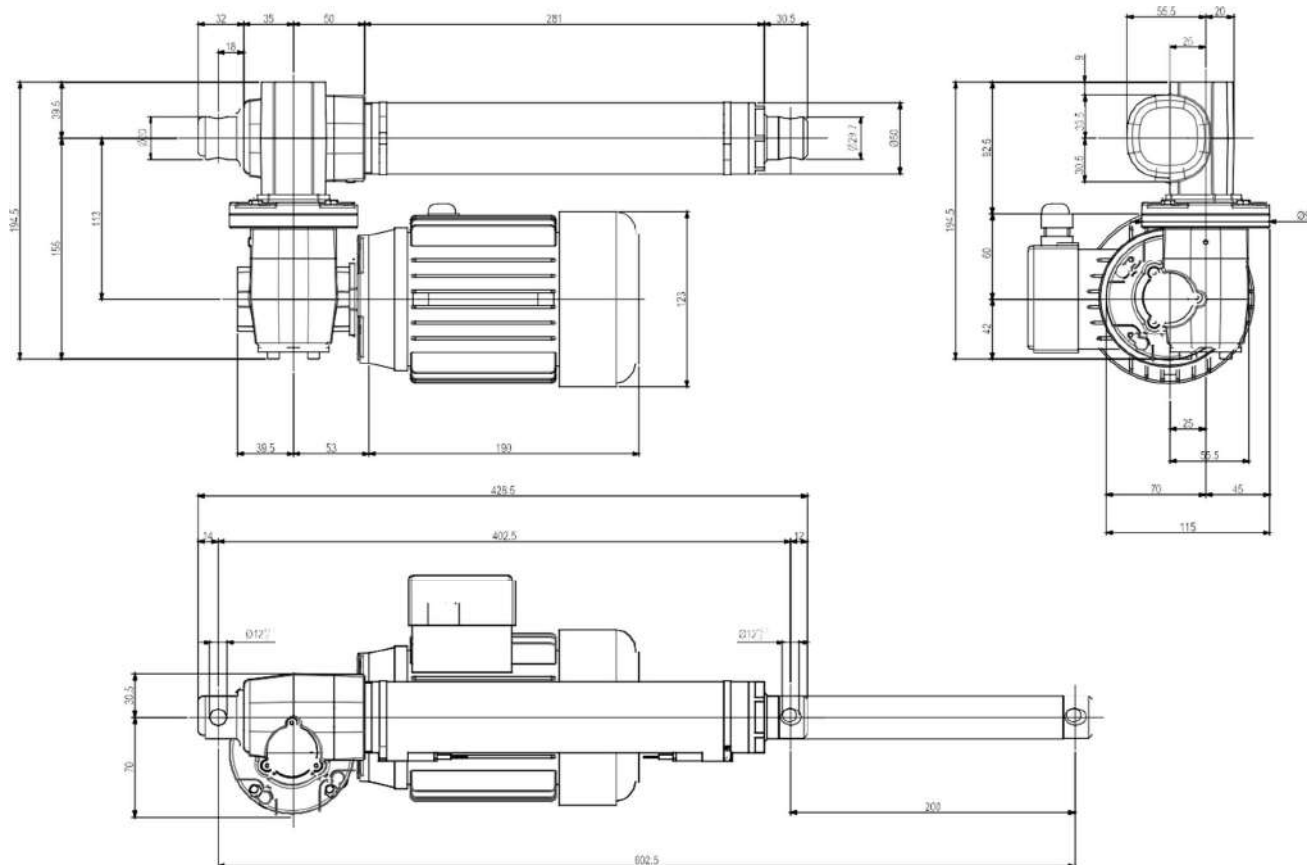
Before operating an actuator make sure you read and understand basic operational instructions shown on user manuals, available from our sales office.

This document displays most typical standard features and setups.

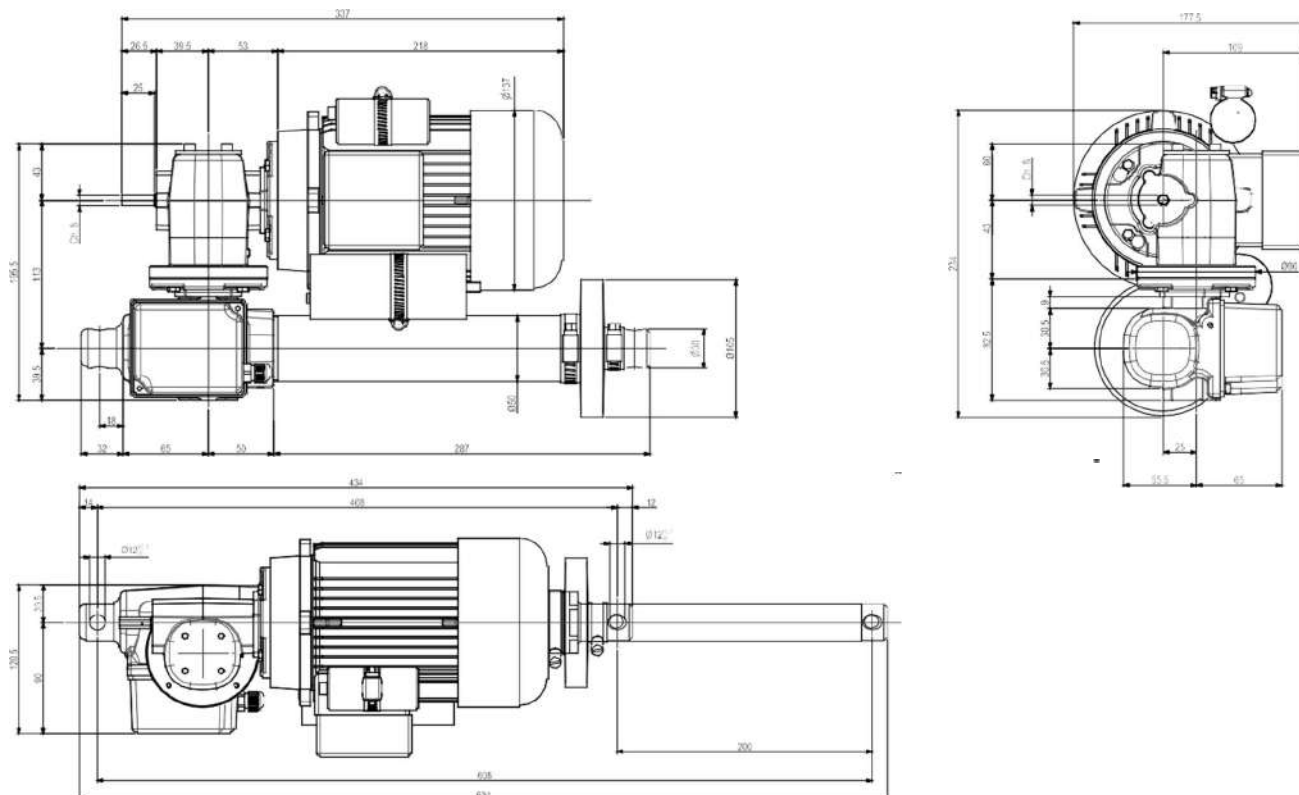
Actuators must not come to a mechanical stroke-end / mechanical lock to avoid failures.

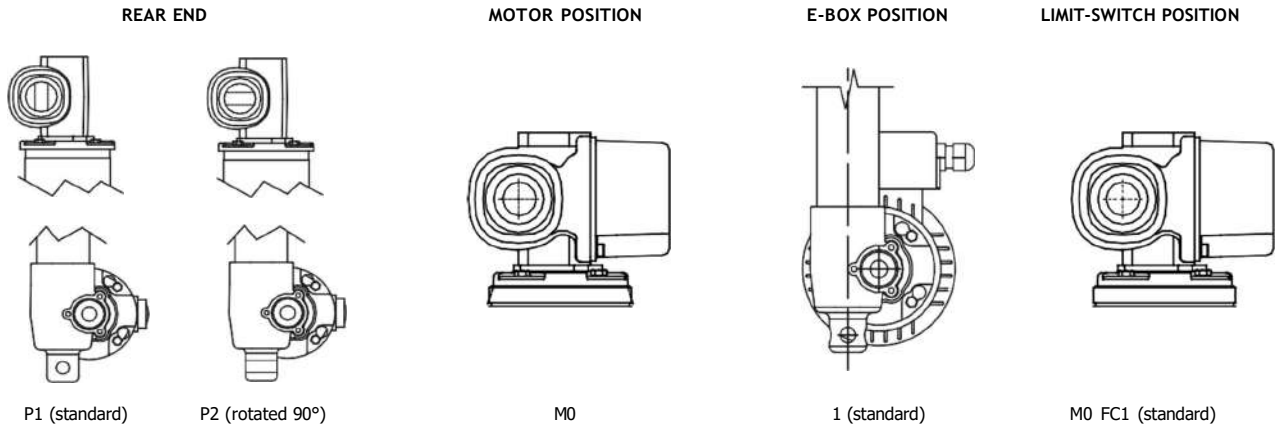
Consider limit switches (MODEL ALI4-F or ALI4-FCM) or put them on a machine / frame.

VERSION WITHOUT LIMITSWITCHES



VERSION WITH LIMITSWITCHES

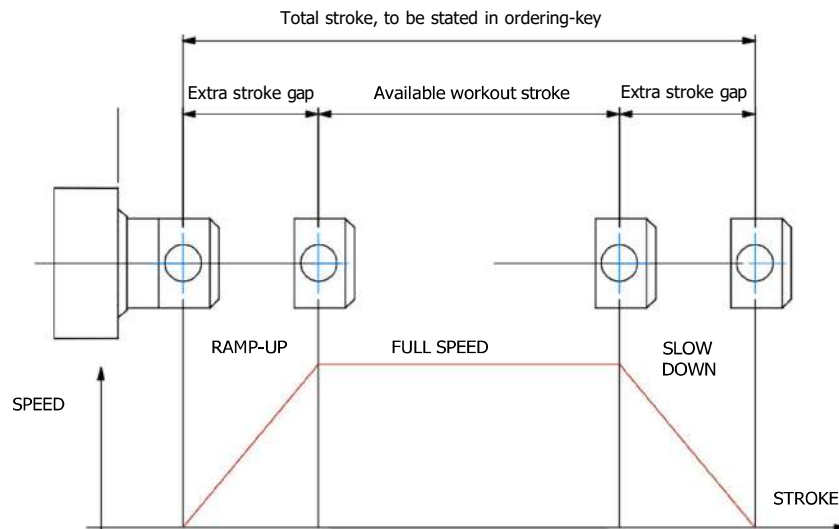




STROKE SETUP

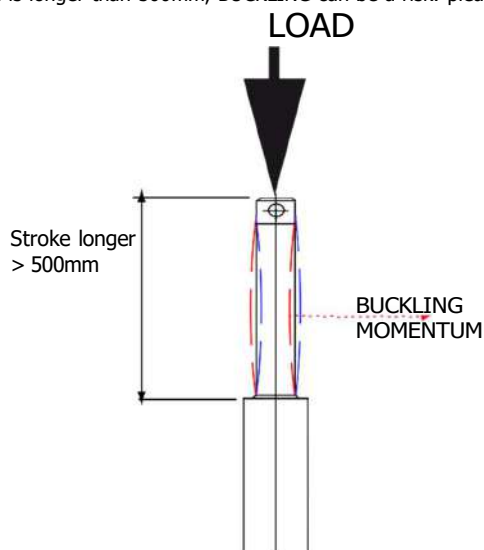
Useful tips for handling stroke length and avoiding run-on-block collision.

- When stroke is more than 350 mm, add 50 mm extra-stroke as guidance, and put corresponding value in ordering-key.
- WARNING SPEED-TIMING ALONG STROKE LENGTH:** ramps are extremely important when speed is 30 mm/s! Inverter or PWM drive recommended!
- The higher the speed, the more safety stroke is required.



BUCKLING

When stroke is longer than 500mm, BUCKLING can be a risk: please check mounting with our offices and/or see user manuals.



IMPORTANT:

Long strokes, even if the load is low, can generate significant buckling momentum, as sketch shows.

This happens when the actuator is in its all-open position. Therefore, we recommend 100mm extra non-usable stroke to act as bushing. Push tube will have this 100 mm-portion always inside the outer tube, improving guidance against buckling.

ORDERING KEY EXAMPLE

ALI4-P/0250/M01/AC-400/50-T-71-2-0,55/AB/M0/2FC1/FC1/1/E06/POT01A/P1/A1/

MODEL

ALI4-P / ALI4-P-F / ALI4-P-FCM / ALI4-P-FCI / ALI4-P-VRS
/ ALI4-P-VRS-F / ALI4-P-VRS-FCM / ALI4-P-VRS-FCI

STROKE

es. 250 mm = 0250

VERSION

M01 / M02 / M03 / M04 / M05 / M06 / M07

M00 Not standard speed

Flanged version: indicate reduction ratio and screw pitch

MOTOR

AC: version, voltage, type, size, no. of pole, power

With motor flange only put 0

With special motor flange put: PD

AC MOTOR OPTIONS

Motor flange: for motor flange version only advise size - i.e. For IEC56 B14 put 56B14

Protection Degree: IP65, for self brake motor IP54 standard

Brake type: for brake motors only (es. FECA)

Options: Advise if needed (es. AB 2'shaft)

MOTOR POSITION

M0 None: Leave blank

LIMIT SWITCHES

2FC1 None: Leave blank

LIMIT SWITCHES POSITION

FC1 None: Leave blank

E-BOX POSITION

1 No Motor: Leave blank

ENCODER

Options pg.76 None: Leave blank

POTENTIOMETER

POT01A (1Kohm) POT10A (10Kohm) None: Leave blank

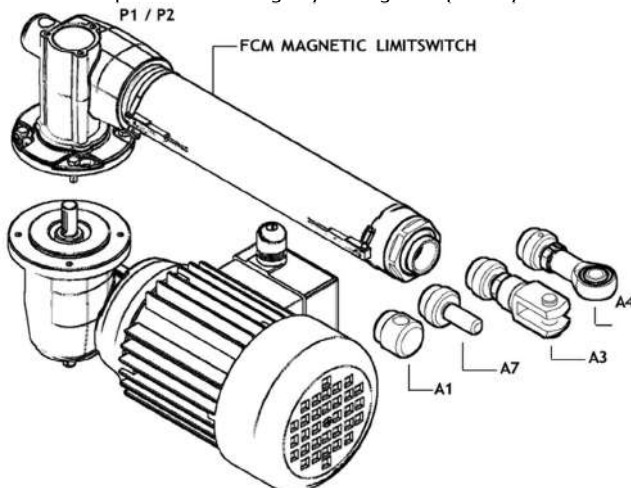
REAR END

P1 = Eyelet (standard) P2 = Eyelet (90°)

FRONT END

A1 = Eyelet (standard) A3 = Yoke + Clip A4 = Rod end A7 = M12 male

NOTE: Complete the ordering key adding the options you can find in the "Accessories and Options" section



Note: "B" dimension changes according to model

ALI4-P = See figure

ALI4-P-F = +30 mm

ALI4-P-FCM = +42,5 mm

ALI4-P-FCI = +42,5 mm

LI4-P VRS = +25 mm

ALI4-P-F VRS = +55 mm

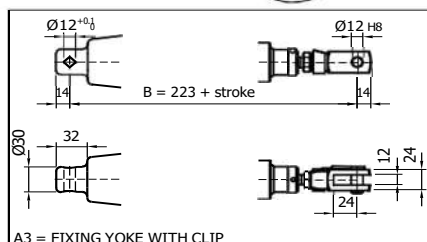
ALI4-P-FCM VRS = +53 mm

ALI4-P-FCI VRS = +53 mm

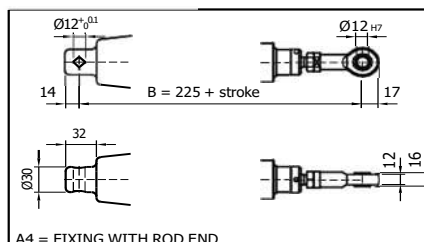
ALI4-P with anti-rotation device L = +15

mm ALI4-P with safety nut G = +30 mm

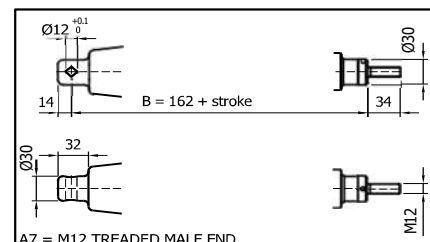
ALI4-P with bellows boot B = +15 mm (not compatible with FCM e FCI versions)



A3 = FIXING YOKE WITH CLIP



A4 = FIXING WITH ROD END



A7 = M12 TREADED MALE END