

- Permanent magnet motor 12 - 24 Vdc
- Double worm gearbox
- ACME lead screw
- Aluminum push rod (Stainless steel on request)
- Permanent grease lubrication
- IP 65, tested according to rule CEI EN 60529
- Working temperature range -10°C +60°C
- Intermittent duty S3 30% (5 min) a 30°C
- Encoder on request
- Limit switches on request (ALI1-PF)

ALI1 (Vcc)					
Fmax (N)	Speed (mm/s)	Version	Motor size	Motor speed (rpm)	Max Current for Fmax(A) 24Vdc**
190 *	90	M13	40	6000	2
270 *	60	M11	40	6000	2
400 *	45	M09	40	6000	2,5
580	30	M06	40	6000	2,5
1200	15	M03	40	6000	3

\* When speed is more than 30 mm/s and/or strokes longer than 200 mm, check STROKE SETUP section.

\*\* For 12 Vdc power supply currents are doubled and loads are 20% lower.

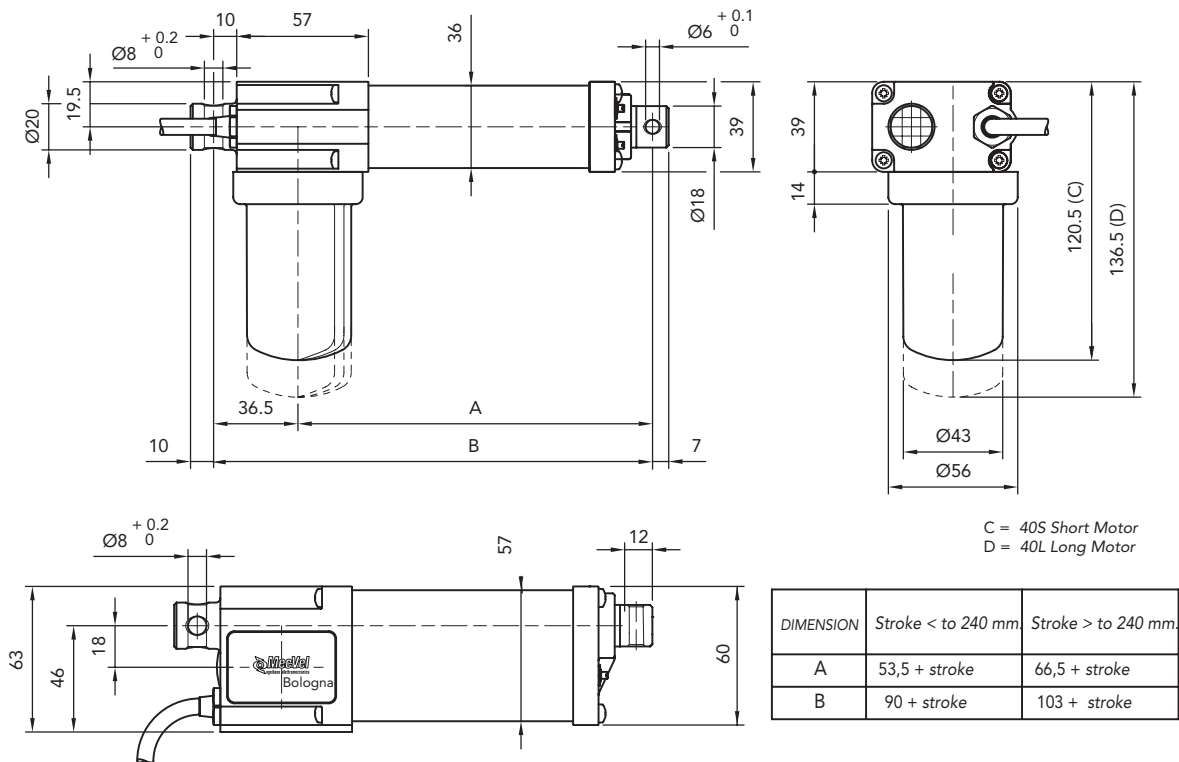
BEFORE OPERATING ACTUATOR MAKE SURE YOU READ AND UNDERSTOOD BASIC OPERATIONAL INSTRUCTIONS SHOWN ON USERMANUALS, AVAILABLE FROM WEBSITE.

THIS DOCUMENT DISPLAYS MOST TYPICAL STANDARD FEATURES AND SETUPS: CONTACT OUR OFFICES FOR MORE.

**ACTUATOR SHALL NOT COME TO MECHANICAL STROKE-END, TO AVOID FAILURES.**  
CONSIDER MECVEL's LIMITSWITCHES ( MODEL ALI1-F ) OR PUT THEM ON MACHINE/FRAME.



MecVel reserves the right to change products information and/or features without notice; all data contained in this catalogue are purely indicative and not binding for the company.



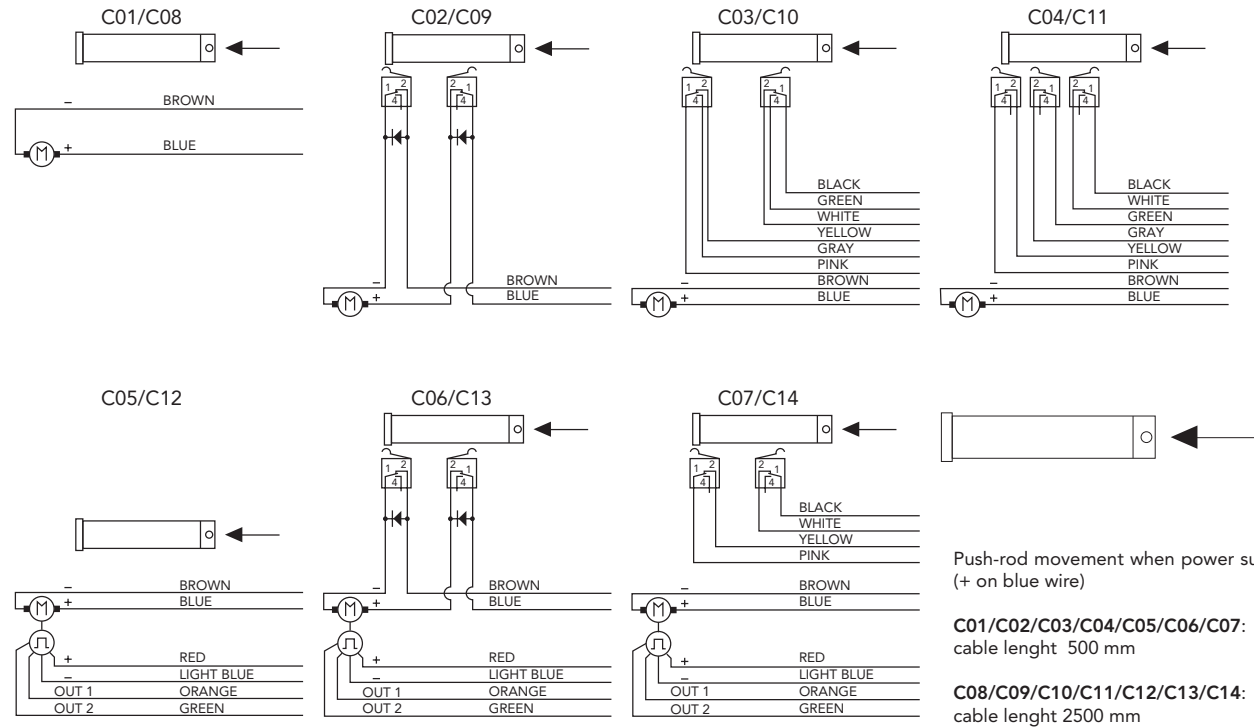
ELECTRICAL WIRINGS

Options available:

- C01/C08 motor
- C02/C09 N° 2 microswitches, diode-wired
- C03/C10 motor + N° 2 micro
- C04/C11 motor + N° 3 micro
- C05/C12 motor + encoder
- C06/C13 N° 2 micro diode wired + encoder
- C07/C14 motor + N° 2 micro + encoder
- C00 special wiring (not standard options)

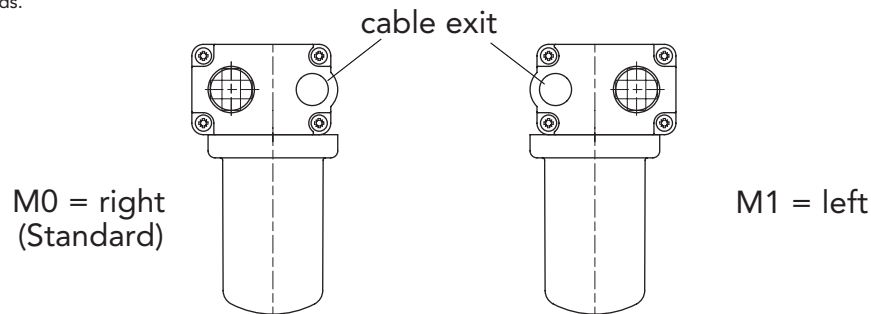
WARNING:

Micros are actuated by a cam lying on push-rod itself. Micro signal, for speeds higher than 30 mm/s, needs to be handled in its very impulse (I.E. when actuated) and not in its state. Alternatively, MecVel can add a bush to keep the microswitch lever pressed for a longer time avoiding switch signal mistakes, but cause loss of 10 mm of stroke. Connections C02 and C06 make a circuit which stops motor supply, so that the push rod won't overstep the area of the two micros. This system can work only if inertia generated by the actuator and load connected to it does not allow to over-step the micro when stroke is over. So, this works just with low speeds (M01 - M03), with a load opposing the ongoing direction of the push rod. If not, relay or PLC solutions, using C03 and C07 connections, are needed.. Wiring diagrams of connections above are following:



## MOTOR POSITION

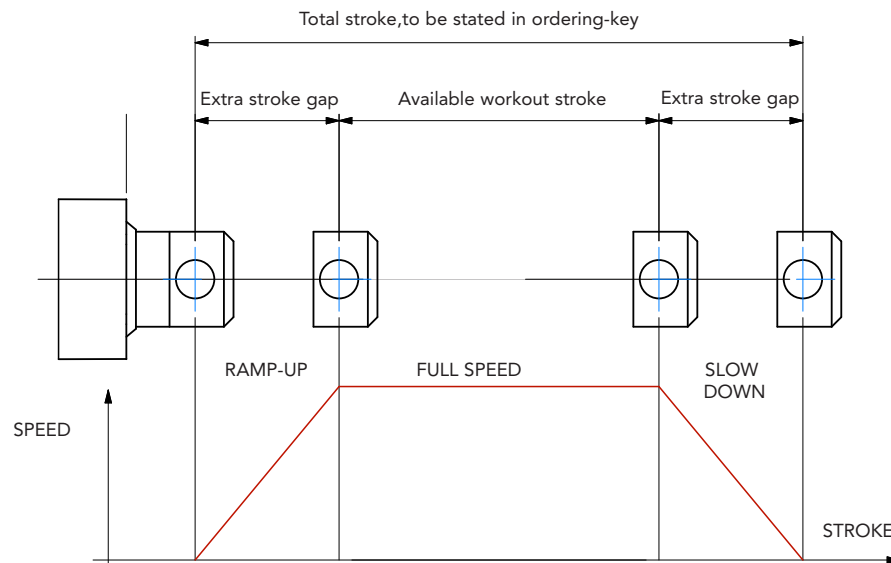
Motor can be installed on both sides of the actuator, thus achieving two versions, as show below.  
Actuator is seen from backwards.



## STROKE SETUP

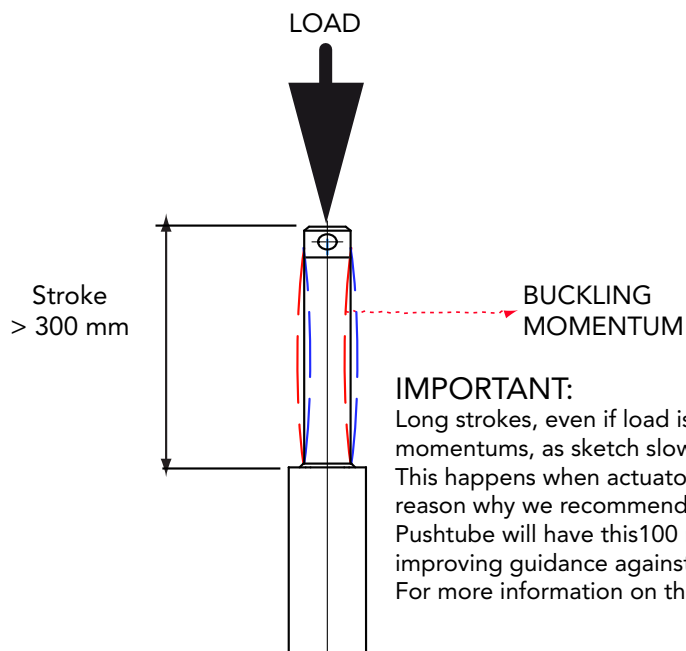
Useful tips for handling stroke and avoid run-on-block collision

- 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 STROKELENGTH:** ramps are extremely important when speed is  $>30$  mm/s!!! Inverter or PWM drive recommended!
- The more speed raises the more extra stroke has to raise too.



## BUCKLING

When stroke is longer than 300mm, BUCKLING can be a risk: please check mounting with our offices and/or see usermanuals.



### IMPORTANT:

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

This happens when actuator is in its all-opened position: that's the reason why we recommend 100 mm extra-stroke.

Pushtube will have this 100 mm-portion always inside the overtube, improving guidance against buckling.

For more information on this, contact our office.

ALI1-F/0250/M03/24/M0/C02/P1/A2/

### MODEL

ALI1 ALI1-F

### STROKE (mm)

es. 250 mm = 0250

### VERSION

M03 / M06 / M09 / M11 / M13

M00 = not standard speed

### MOTOR

12 = 12 Vdc

24 = 24 Vdc

### MOTOR POSITION

M0

M1

### MOTOR OPTIONS

C01 / C08 Motor

C02 / C09 2LS Diode wired

C03 / C10 Motor + 2LS

C04 / C11 Motor + 3LS

C05 / C12 Motor + encoder

C06 / C13 2LS diode wired + encoder

C07 / C14 Motor + encoder + 2LS

C00 Special wiring (not standard option)

Note: LS (limit switches)

### REAR END

P0 = None

P1/P2 = standard

### FRONT END

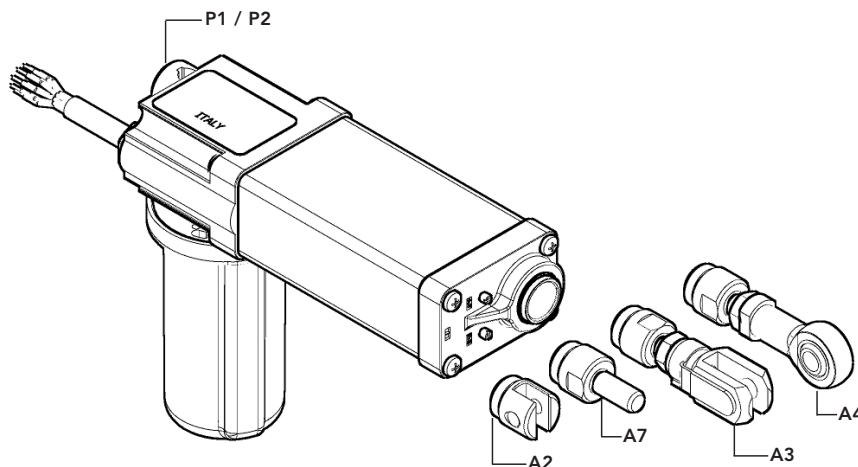
A2 = Yoke

A3 = Yoke + Clip

A4 = Rod end

A7 = M8x20 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

ALI1-F = See pictures

ALI1-F stroke > 240 mm = + 13 mm

