OVERALL DIMENSIONS


| $\begin{array}{c}\text { STROKE } \\ \text { CODE }\end{array}$ | $\begin{array}{c}\text { STROKE } \\ {[\mathrm{mm}]}\end{array}$ | $\begin{array}{c}\text { LENGTH }\end{array}$ |  | $\begin{array}{c}\text { MASS } \\ {[\mathrm{kg}]}\end{array}$ |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |$)$


| Length | Stroke $\leqslant 300 \mathrm{~mm}$ | Stroke $>300 \mathrm{~mm}$ |
| :---: | :---: | :---: |
| Lc $[\mathrm{mm}]$ | $143+$ Stroke | $158+$ Stroke |
| T $[\mathrm{mm}]$ | $125+$ Stroke | $125+$ Stroke |

## PERFORMANCES AND FEATURES

- Pull-Push load up to 2500 N
- Linear speed up to $32 \mathrm{~mm} / \mathrm{s}$
- Standard stroke lengths: 100, 150, 200, 300 mm (for different / longer stroke lengths please contact us)
- Aluminium alloy housing and rear attachment, with bronze bush
- Anodized aluminium outer tube
- Anodized aluminium push rod - tolerance h8
- Stainless steel AISI 303 front attachment
- 12, 24 or 36 V DC motor with electromagnetic noise suppressor (motor features details on page 69)
- Duty cycle with max load: $15 \%$ over 10 min at $(-10 \ldots+40)^{\circ} \mathrm{C}$
- Standard motor mounting position as per sketch (right-hand, code RH)
- Standard protection IP65
- Test IP6X according to EN 60529 §12 §13.4-13.6
- Test IPX5 according to EN 60529 §14.2.5
(tests made with not running actuator)
- Long-life lubrication, maintenance free


## ACCESSORIES

- Stainless steel push rod (code SS)
- Rear bracket (code SP)
- Two adjustable stroke end reed switches (code FCM)
- Extra switches for intermediate positions


## OPTIONS

- Motor mounting position on opposite side (left-hand, code LH)
- Fixing attachment turned at $90^{\circ}$ (code RPT 90)

PERFORMANCES with 24 V DC motor
(Performances with 12 V DC motor: same load, linear speed 10 \% less, electrical consumption 2 times more)

1-start acme screw $\operatorname{Tr} 13.5 \times 3$


2-starts acme screw $\operatorname{Tr} 14 \times 8$ (P4)


## Self-locking conditions

Information about statically self-locking conditions with pull or push load on page 68.
ORDERING CODE EXAMPLE

| ATL 05 | RL1 | C200 | CC 24 V | FCM |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Actuator | Selected <br> ratio | Required <br> stroke | Motor | Stroke end <br> switches | Accessories | Options |  |  |

## 13. STROKE END SWITCHES AND POSITIONING CONTROL

## GENERAL NOTE

In case the linear actuator is used in an application where the stroke end switches must be connected to PLC or PC, we suggest to make the connection with a galvanic separation circuit.

13.1 Magnetic stroke end switches (reed) FCM (linear actuators ATL, BSA, UAL, UBA Series, LMI 02 and LMP 03)


The magnetic field of the ring fixed on the nut activates the reed contact of the switch locked on the protective tube with a clamp.
The position of the switches along the tube is easily adjustable.
The switches used to determine any intermediate position (between Lc and La) will switch over in two different positions, depending on the push rod motion direction (extending or retracting).
WARNING! The magnetic reed-switches can work only if connected to a wiring control circuit in order to activate the electric relay. Do not connect them in series between the power supply and the electric motor!

| REED CONTACT RATED VALUE |  |  |
| :--- | :---: | :---: |
|  | DC | AC |
| Rated voltage | $(3 \ldots 130) \mathrm{V}$ | $(3 \ldots 130) \mathrm{V}$ |
| Max. commutable power | 20 W | 20 VA |
| Max. commutable current | 300 mA (resistive load) |  |
| Max. inductive load | 3 W |  |

Standard: NC switch (normally closed contact)
equipped with signalling LEDS and protective
varistor against voltage peaks.
Standard cable length 2 m ; wires $2 \times 0.75 \mathrm{~mm}^{2}$
Different configurations available on request:
NO (normally open); CS (exchanging contact).
For more information please contact our Technical Dpt.

### 13.2 Electric stroke end switches FCE (actuators ATL 10, ATL 12, BSA 10, BSA 12)



| CONTACT RATED VALUE |  |  |
| :---: | :---: | :---: |
| Voltage | Mesistive load current | Inductive load |
| 250 Vac | 5 A | 3 A |
| 30 Vdc | 5 A | 0.1 A |
| 125 Vdc | 1.4 A | - | are activated by two adjustable rings through a shaft collar. Standard switches are wired on the NC contact, cable length 1.5 m ; wires $4 \times 0.75 \mathrm{~mm}^{2}$

On request, they can be wired on the NO contact or on the switch-over contact CS (for available configurations please contact our Technical Dpt).
Min retracted length Lc is adjusted by ring 1. FC1 switch is connected with the WHITE and the BROWN cables.
Max extended length La is adjusted by ring 2. FC2 switch is connected with the YELLOW and the GREEN cables. The position of the brass rings along the stainless steel supporting rod is easily adjustable.

WARNING! The electric reed switches can work only if connected to a wiring control circuit in order to activate the electric relay. Do not connect them in series between the power supply and the electric motor!

