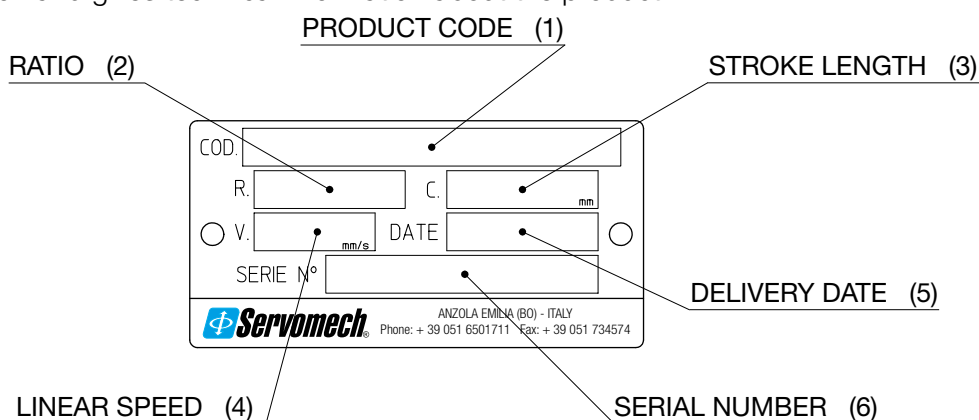


SERVOMECH Linear Actuators

8.1 Product nameplate

Every SERVOMECH linear actuator is provided with a nameplate, as shown below, which allows the product identification and gives technical information about the product.



- 1) **Product code:** is an alphanumeric code stating the type, size, ratio, version and stroke end switches of the linear actuator;
- 2) **Ratio:** is the ratio of the input drive;
- 3) **Stroke length:** is the stroke length in millimetres achievable by the actuator;
- 4) **Linear speed:** is the linear speed expressed in mm/s when the actuator is provided with electric motor; for an actuator without motor, this field is blank;
- 5) **Delivery date:** is the week/year of assembly (example: 30/13 = week 30 / year 2013) which usually coincides with the delivery date; this date is considered as reference for the warranty period;
- 6) **Serial number:** is the identification number of the actuator which identifies the exact design of the product even after a long time; the serial number is the essential reference for spare part orders.

8.2 Conditions on delivery

If not otherwise specific required, SERVOMECH linear actuators are supplied with the following conditions:

- lubrication: according to the tables on page 204 and 205; in case of particular application requirements (ambient temperature, food industry, environment with ionizing radiations, environment that requires biodegradable lubricants), a suitable lubricant can be supplied for the specific environment (for more details, please, contact SERVOMECH); on request, actuators can be supplied with the lubricant agreed with the customer;
- painting: all outer surfaces of the actuator that can be subject to rust are painted with 1 epoxy coating blue colour RAL 5010; on request, the painting can be done with specific colours and specification agreed with the customer with separate quotation;
- shaft protection: input shafts are protected with removable plastic covers;
- packaging: the kind of packaging is agreed with the customer based on quantity of the products, final destination and means of transport; packaging is not included in selling price.

8.3 Installation - Maintenance - Lubrication

Transport and handling

It is recommended to handle the linear actuators with particular care and attention during transportation and handling to avoid damage on mechanical parts and/or accessories and to prevent any risk to the personnel in charge of such operations. The package should be handled in the safest way during transport and handling. In case of doubt, please, contact SERVOMECH S.p.A. to get the correct instructions and prevent any kind of damage!

Storage

During storage, linear actuators shall be protected against atmospheric agents and dust or other pollution to the push rod, moving parts and attachments.

In case of long storage periods, for example more than 6 months, it is necessary to move the input shafts to avoid damaging of the ring seals. Furthermore, all non-painted parts should be maintained properly lubricated to prevent oxidation.

Installation

Linear actuators must be installed to work with push or pull axial load only, lateral and radial loads are not allowed. The front and rear fixing attachments must be aligned.

The installation of two or more actuators, connected to work in synchronized movement, requires particular attention on the following two aspects:

- alignment of the load support points;
- use of connecting shaft and couplings with high torsional rigidity to ensure a perfect synchronism of all points of support.

Commissioning and use

SERVOMECH linear actuators are supplied with the type and quantity of lubricant specified in the relevant table.

Before actuator commissioning and activation, the following checks must be carried out:

- verify the motor shaft turning direction and the related push rod travelling direction;
- verify the stroke end switches position: the given limits cannot be exceeded;
- check the right connection of the electric motor (direction of rotation and motor supply voltage) and, if it is the case, of the mechanical transmission.

During commissioning and tests, do not exceed the **ACTUATOR DUTY CYCLE PERMISSIBLE F_i [%]**! Any misuse can cause over-heating and premature damage.

Maintenance

Scheduled maintenance shall be carried out on linear actuators depending on the relevant use and environment conditions.

The gearbox of the linear actuator is long-life lubricated. Additional lubrication should be done only in case of verified leakage of lubricant.

For further information about installation and maintenance, please refer to the linear actuators Use and Maintenance Manual.

8.4 General terms of sale

The products are supplied by SERVOMECH S.p.A. according to the **General terms of sale** available on the web-site www.servomech.it or upon request to the sales dept. (sales@servomech.it). The acceptance of our order confirmation implies also the acceptance of our **General terms of sale**.

SERVOMECH Linear Actuators

8.5 Lubricants

Linear actuators ATL Series

ACTUATOR	INPUT DRIVE		LINEAR DRIVE		
				for actuator C100	for each additional 100 mm of stroke
ATL 20	grease: AGIP Grease SLL 00	0.03 kg	grease: AGIP Grease SM 2	0.02 kg	0.02 kg
ATL 25		0.03 kg		0.03 kg	0.025 kg
ATL 28		0.03 kg		0.03 kg	0.025 kg
ATL 30		0.04 kg		0.04 kg	0.03 kg
ATL 40		0.05 kg		0.05 kg	0.04 kg
ATL 50		0.35 kg		0.065 kg	0.05 kg
ATL 63		0.75 kg		0.1 kg	0.08 kg
ATL 80		1.5 kg		0.15 kg	0.12 kg
ATL 100		2.5 kg		0.20 kg	0.13 kg
ATL 125		5.2 kg		0.25 kg	0.15 kg

Linear actuators BSA Series

ACTUATOR	INPUT DRIVE		LINEAR DRIVE		
				for actuator C100	for each additional 100 mm of stroke
BSA 20	grease: AGIP Grease SLL 00	0.03 kg	grease: LUBCON Thermoplex ALN 1001	0.01 kg	0.01 kg
BSA 25		0.03 kg		0.015 kg	0.012 kg
BSA 28		0.03 kg		0.015 kg	0.012 kg
BSA 30		0.04 kg		0.02 kg	0.015 kg
BSA 40		0.05 kg		0.025 kg	0.02 kg
BSA 50		0.35 kg		0.04 kg	0.03 kg
BSA 63		0.75 kg		0.06 kg	0.05 kg
BSA 80		1.5 kg		0.1 kg	0.06 kg
BSA 100		2.5 kg		0.14 kg	0.07 kg
BSA 125		5.2 kg		0.18 kg	0.09 kg

Linear actuators CLA Series

ACTUATOR	INPUT DRIVE		LINEAR DRIVE		
				for actuator C100	for each additional 100 mm of stroke
CLA 30	grease: AGIP Grease SM 2	0.04 kg	grease: AGIP Grease SM 2	0.02 kg	0.015 kg
CLA 40		0.05 kg		0.025 kg	0.02 kg
CLA 50		0.05 kg		0.04 kg	0.03 kg

Linear actuators CLB Series

ACTUATOR	INPUT DRIVE		LINEAR DRIVE		
				for actuator C100	for each additional 100 mm of stroke
CLB 30	grease: AGIP Grease SM 2	0.04 kg	grease: LUBCON Thermoplex ALN 1001	0.02 kg	0.015 kg
CLB 40		0.05 kg		0.025 kg	0.02 kg
CLB 50		0.05 kg		0.04 kg	0.03 kg

SERVOMECH Linear Actuators

8.5 Lubricants

Linear actuators UAL Series

ACTUATOR	BEARINGS		LINEAR DRIVE		
				for actuator C100	for each additional 100 mm of stroke
UAL 1	grease: SHELL Gadus S2 V100 2	0.03 kg	grease: AGIP Grease SM 2	0.02 kg	0.02 kg
UAL 2		0.03 kg		0.03 kg	0.025 kg
UAL 3		0.03 kg		0.04 kg	0.025 kg
UAL 4		0.04 kg		0.05 kg	0.03 kg
UAL 5		0.05 kg		0.065 kg	0.05 kg

Linear actuators UBA Series

ACTUATOR	BEARINGS		LINEAR DRIVE		
				for actuator C100	for each additional 100 mm of stroke
UBA 1	grease: SHELL Gadus S2 V100 2	0.03 kg	grease: LUBCON Thermoplex ALN 1001	0.01 kg	0.01 kg
UBA 2		0.03 kg		0.015 kg	0.012 kg
UBA 3		0.03 kg		0.02 kg	0.015 kg
UBA 4		0.04 kg		0.025 kg	0.02 kg
UBA 5		0.05 kg		0.04 kg	0.03 kg

Attuatori lineari Serie TMA

ACTUATOR	INPUT DRIVE		LINEAR DRIVE		
				for actuator C500	for each additional 100 mm of stroke
TMA 15	grease: AGIP Grease SM 2	0.1 kg	grease: SHELL Gadus S2 U460L 2	0.13 kg	0.02 kg
TMA 25		0.5 kg		0.18 kg	0.03 kg
TMA 50		1 kg		0.26 kg	0.03 kg
TMA 100		2 kg		0.35 kg	0.05 kg
TMA 150		3 kg		0.4 kg	0.05 kg
TMA 200		5.2 kg		0.5 kg	0.06 kg

Linear actuators ILA . A Series

ACTUATOR	BEARINGS		LINEAR DRIVE		
				for actuator C100	for each additional 100 mm of stroke
ILA 15 A	grease: SHELL Gadus S2 V100 2	0.1 kg	grease: AGIP Grease SM 2	0.05 kg	0.03 kg
ILA 25 A		0.2 kg		0.065 kg	0.04 kg
ILA 50 A		0.4 kg		0.1 kg	0.05 kg
ILA 100 A		0.8 kg		0.15 kg	0.08 kg
ILA 150 A		1 kg		0.18 kg	0.08 kg
ILA 250 A		1.8 kg		0.25 kg	0.1 kg

Linear actuators ILA . B Series

ACTUATOR	BEARINGS		LINEAR DRIVE		
				for actuator C100	for each additional 100 mm of stroke
ILA 15 B	grease: SHELL Gadus S2 V100 2	0.1 kg	grease: LUBCON Thermoplex ALN 1001	0.05 kg	0.03 kg
ILA 25 B		0.2 kg		0.065 kg	0.04 kg
ILA 50 B		0.4 kg		0.1 kg	0.05 kg
ILA 100 B		0.8 kg		0.15 kg	0.08 kg
ILA 150 B		1 kg		0.18 kg	0.08 kg
ILA 250 B		1.8 kg		0.25 kg	0.1 kg