

## 12. INSTALLATION – LUBRICATION – MAINTENANCE

1. The linear actuators must be installed to work only with axial push or pull load.  
No lateral radial loads are admitted.  
Front and rear fixing attachments must be evaluated carefully when projecting and developing the application. Ball joint **TS** front attachment is recommended when the alignment of the upper and bottom fixing points is not guaranteed.  
A right fixing alignment prevents lubricant leakage and actuator damage.
2. The actuator minimum retracted length (Lc) and maximum extended length (La) are the operation limits. Make sure that the application does not require a linear travel longer than the length fixed by these limits.
3. Before using the linear actuator, the following checks must be done:
  - verify the motor shaft turning direction and the related push rod linear motion direction
  - check the stroke length limit switches position: they cannot exceed the given limits (see pag. 96)
  - make sure that the electric motor and the limit switches wiring are connected correctly and that the right voltage is used.
4. For further information about INSTALLATION refer to the Installation – Use and Maintenance Manual:
  - Cod. 20.I.01 Series ATL / BSA 10
  - Cod. 20.I.02 Series ATL / BSA 20 – 25 – 30 – 40
  - Cod. 20.I.04 Series UAL / UBA
  - Cod. 20.I.03 Series ATL / BSA 50 – 63 – 80

**SERVOMECH linear actuators are maintenance-free and are supplied with long-life lubricant.**

Maintenance is necessary only in case of lubricant leakage or damages.

Used lubricants:

- worm gearbox (Series ATL/BSA actuators): AGIP GREASE SM 2 or AGIP GREASE SLL 00
- bearings (Series UAL/UBA actuators): SHELL ALVANIA R2
- acme screw and nut: AGIP GREASE SM 2
- ball screw and nut: KLÜBER ISOFLEX NBU 15

The following table states the required lubricant quantity for each actuator size and stroke length:

ACTUATOR SIZE	INPUT DRIVE		LEADSCREW		
	LUBRICANT	Q.TY	LUBRICANT	QUANTITY	
				FOR THE FIRST 100 mm STROKE [g]	FOR EACH ADDITIONAL 100 mm STROKE [g]
ATL 10	AGIP GREASE SM 2	20 g	AGIP GREASE SM 2	15	15
ATL 20	AGIP GREASE SLL 00	30 g		15	15
ATL 25		30 g		25	20
ATL 30		40 g		30	25
ATL 40		50 g		40	30
ATL 50	AGIP GREASE SLL 00	0.25 kg	AGIP GREASE SM 2	55	40
ATL 63		0.5 kg		70	55
ATL 80		1 kg		100	80
BSA 10	AGIP GREASE SM 2	20 g	KLÜBER ISOFLEX NBU 15	10	10
BSA 20	AGIP GREASE SLL 00	30 g		10	10
BSA 25		30 g		15	12
BSA 30		40 g		20	15
BSA 40		50 g		25	20
BSA 50	AGIP GREASE SLL 00	0.25 kg	KLÜBER ISOFLEX NBU 15	40	30
BSA 63		0.5 kg		50	40
BSA 80		1 kg		80	60

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ACTUATOR SIZE	BEARINGS		LEADSCREW		
	LUBRICANT	Q.TY [g]	LUBRICANT	QUANTITY	
				FOR THE FIRST 100 mm STROKE [g]	FOR EACH ADDITIONAL 100 mm STROKE [g]
UAL 0	SHELL ALVANIA GREASE R2	30	AGIP GREASE SM 2	15	15
UAL 1		30		15	15
UAL 2		30		25	20
UAL 3		40		30	25
UAL 4		50		40	30
UBA 0	SHELL ALVANIA GREASE R2	30	KLÜBER ISOFLEX NBU 15	10	10
UBA 1		30		10	10
UBA 2		30		15	12
UBA 3		40		20	15
UBA 4		50		25	20

In case a lubricant addition is required because of leaking problems, we recommend to follow carefully the instructions stated in the INSTALLATION, USE AND MAINTENANCE MANUAL.

The actuators ATL 30 – 40 – 50 – 63 – 80, BSA 30 – 40 – 50 – 63 – 80 and UAL 3 – 4 are equipped with lubricator on the outer protective tube. We recommend to fill the proper lubricant only in case of need. **Too much lubricant causes overloads during the travel and lubricant leakage!**

### SPECIAL VERSIONS AND OPTIONS

On request, special actuators are available, according to specific application requirements. SERVOMECH, with its experience in this field, is able to support customers in selecting the right actuator version and accessories suitable for environment and installation conditions.

Following special options are available:

- stainless steel AISI 304 push rod
- stainless steel AISI 304 outer protective tube
- special lubricants for environment with high or low temperature
- special lubricants for food industry
- double lips scrapers on push rod (ice scrapers)
- Viton seals for high temperature or silicon seals for low temperature
- special seals for heavy duty conditions