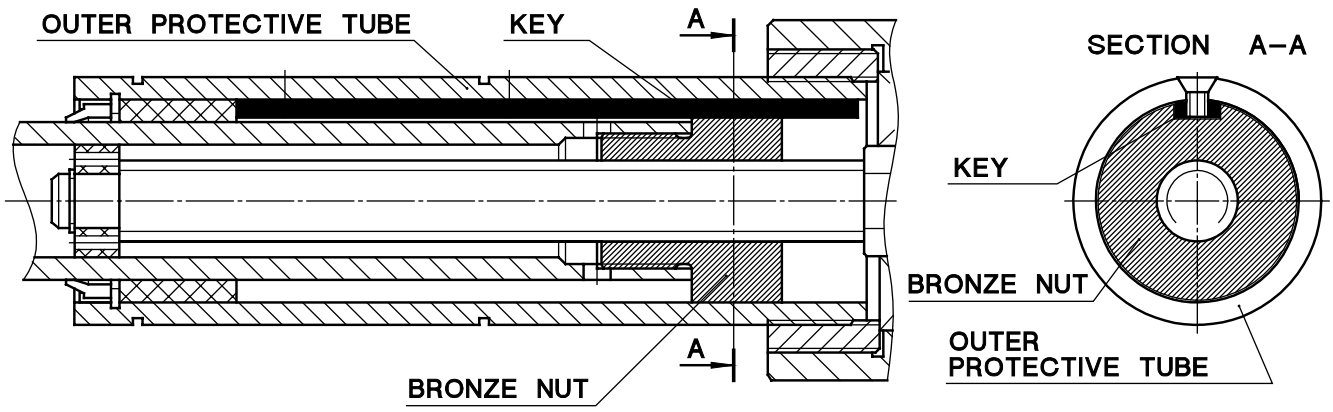
10. ACCESSORIES

10.1 ANTI-TURN DEVICE code AR



To have a linear motion it is necessary to prevent the rotary movement of the nut and of the push rod connected with it. In some applications it is the structure itself which is connected to the push rod preventing the rotation and therefore allowing the linear motion.
In some applications the load applied on the push rod cannot be guided and therefore the rotation cannot be avoided. In such cases it is necessary to use the actuators with an internal anti-turn device.

The anti-turn device allows the linear motion without any external reaction on the push rod. It can be supplied upon request (ordering code **AR**).

Actuators which can be equipped with anti-turn device are:

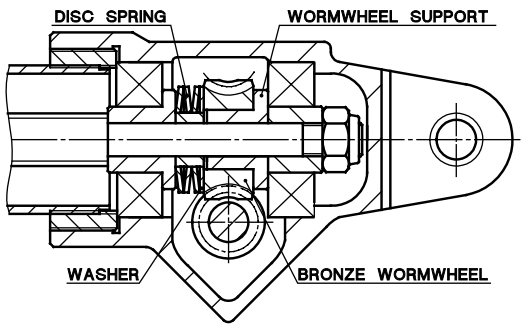
- ATL 25, ATL 30, ATL 40, ATL 50, ATL 63
- UAL 2, UAL 3, UAL 4

It is not available for:

- All series of ball screw linear actuators
- ATL 10, ATL 20, ATL 80
- UAL 0, UAL 1
- All actuators equipped with magnetic stroke length limit device FCM

The anti-turn device shown in the above picture is made of a steel key fixed and aligned all along the outer tube length. On this key the bronze nut keyway slides moving the push rod.

10.2 SAFETY CLUTCH Code FS



The safety clutch is a device able to protect the actuator and the machinery where it is installed, from unexpected dynamic overloads during the linear travel and from wrong use, which could bring the actuator to the mechanical stop.
This device is a torque limiter on the worm wheel.

The torque limiter clutch is preloaded during the assembling. The preload is fixed and it is related to each actuator with ratio and performances as stated on the "Performances Tables" in this catalogue.

On request, with purchasing order, a different preload can be fixed to achieve a different force performance.

If an overload is applied on the actuator, the safety clutch starts slipping, the push rod stops travelling while the motor is still running.

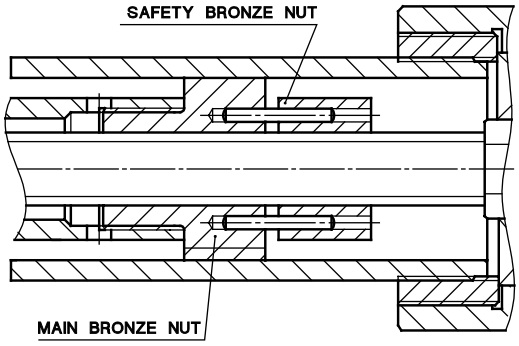
When the overload decreases up to the rated load value or less, the safety clutch FS stops slipping and the push rod starts travelling again. The safety clutch FS is not intended to be used as a load limiter, but only to protect the actuator and the machinery where it is installed.

Do not use the safety clutch as a slipping stroke limit device! If it is frequently activated it wears rapidly, the preload is reduced and consequently also the actuator load performance is reduced.

The safety clutch FS can be supplied for actuators with wormgear drive Series ATL and BSA for sizes 10 - 20 - 25 - 30 - 40.

10. ACCESSORIES

10.3 SAFETY NUT Code MSB

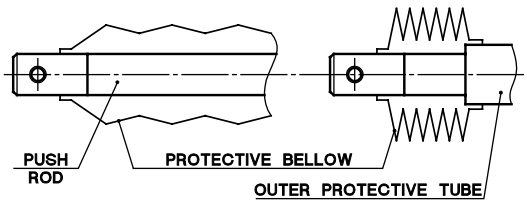


The safety nut is an auxilary bronze nut leaded with 2 pins by the working bronze nut. The distance between the two nuts, for unused actuators, is equal to half screw pitch lead. If the working nut wears up to the half of the screw pitch lead or crashes, the safety nut supports the load avoiding its fall down.

The safety nut is a one-direction safe device. Its position with respect to the working nut depends on the load direction. The safety nut is available for actuators working with push load.

For applications with pull load a special design is available: contact SERVOMECH Technical Dpt..

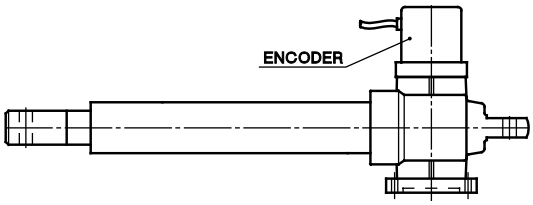
10.4 PROTECTIVE BELLOW Code B



When the actuators are used in particular environment conditions with dust, humidity, etc. that can damage the seal scraper between the outer protective tube and the push rod, bellow protections can be useful.

Bellows made of special materials for hard environments are available upon request.

10.5 INCREMENTAL ROTATIVE ENCODER



EH 53 ENCODER FEATURES

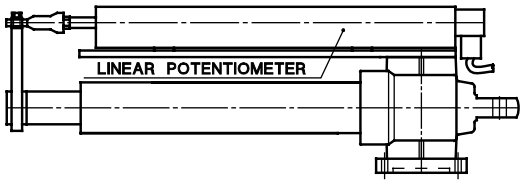
- Bi-directional rotative incremental encoder with zero set pulse
- 100 or 500 pulses/turn
- Push-Pull
- Power supply 5 Vdc or 8 ÷ 24 Vdc

Incremental rotative encoders on the input shaft are available for positioning control. Encoders EH 53 are available in stock for all actuators types except for ATL 10, BSA 10, UAL 0, UBA 0.

For these types the encoder EH 38 mounted only on DC motors is available.

<u>WARNING</u>: The rotative encoder on the input shaft cannot be used with actuators equipped with the safety clutch FS, because the positioning control would be lost due to the FS slipping.

POSITIONING CONTROL DEVICES



On request different positioning control devices are available:

- Linear potentiometer
- Absolute linear encoder
- Tacho generator
- Absolute rotative encoder

For further information contact SERVOMECH Technical Dpt.

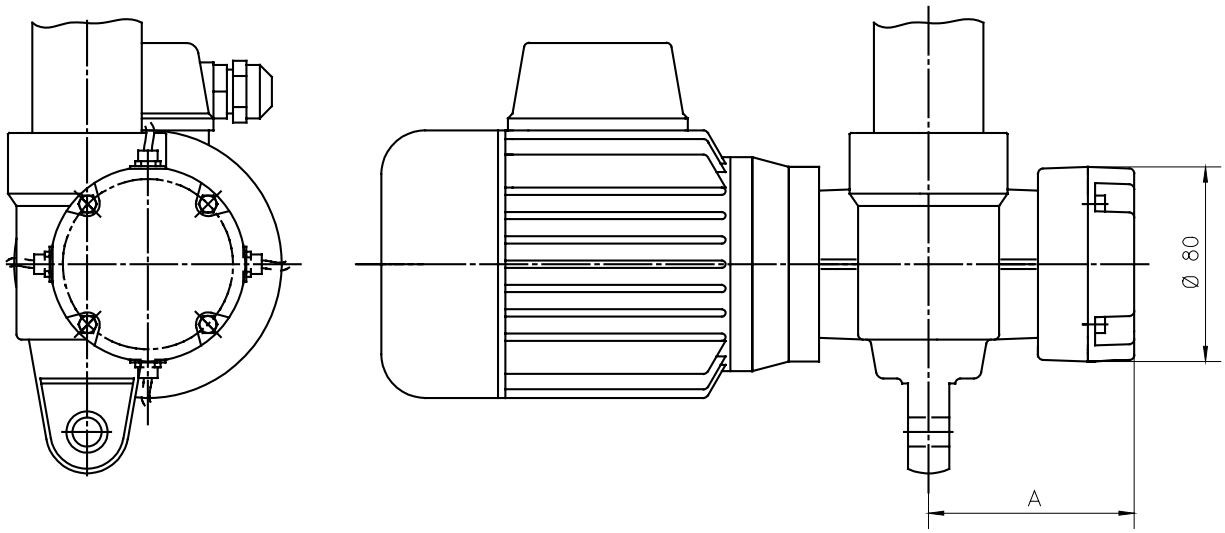
10.5 SERVOMECH ROTATIVE ENCODER "ENC.4"

Available for linear actuators ATL/BSA 20, 25, 30, 40

Mounting: on second input shaft

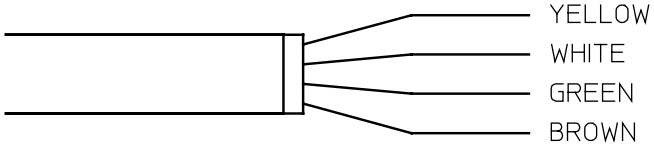
Performances

- Hall effect encoder
- Resolution: 4 pulses per revolution
- Phase difference: 90°
- Input voltage: 8 ÷ 32 Vdc
- Max. output current: I_{out} = 100 mA per channel
- PUSH – PULL
- Max. frequency: 3.3 kHz
- Max cable length: 10 m
- Protected against short circuit
- Protected against polarity inversion
- Protected against any incorrect connection
- Max output voltage drop (with load connected to 0 and I_{out} = 100 mA): 4.6 V
- Max output voltage drop (with load connected to +V and I_{out} = 100 mA): 2 V
- Max continuos speed: 5000 rpm
- Working temperature: 0 ÷ 80 °C
- Protection: IP 55
- Box material: aluminium alloy
- In compliance with EMC specifications



ACTUATOR	ATL/BSA 20	ATL/BSA 25	ATL/BSA 30	ATL/BSA 40
A [mm]	89	89	97	113

WIRING DIAGRAM



YELLOW	WHITE	GREEN	BROWN
+ V	0 V	A	B

Cable length: 1.3 m