

## Mounting guidelines for bellows LINAK Actuators

The protective bellow can be used on all LINAK Actuators with 30mm cylindrical outer tube. It can be mounted in order to prevent dust, dirt, and splash of water to damage the actuator.

### How to mount a bellow:

1. Drive the actuator to the fully retracted position.
2. To prevent partial vacuum/excess pressure, cut an incision in the bellow by means of a pair of scissors (see fig. 1). You must cut the hole in the end of the bellow that will be placed downwards when mounting the actuator in the application.
3. Slide the bellow onto the piston rod. If the bellow has a tight fit on the piston rod, you can lubricate the bellow with grease, detergent or similar to make it slide more easily.
4. Use a cable strip to strap the bellow to the piston rod eye (see fig 2). Squeeze the bellow together up against the piston rod eye and strap the bellow to the outer tube by means of a cable strip (see fig. 3).



Figure 1



Figure 2



Figure 3

**NOTE:** On all LA30's the piston rod eye will rotate if it reaches its end position without being fixed in both ends.  
If the actuator reaches its end position after the bellow has been mounted (and before it has been mounted into the application), the bellow might be damaged, as it will be twisted.

*How to extend the bellow:*

If the actuator has a stroke of + 300 mm, the bellow needs to be extended.

You can extend the bellow by joining two bellows with a nylon ring.

1. Take a pair of scissors and cut off the part of the bellow with the large opening (see fig.4)
2. Measure how much you need to remove of the second bellow to end up with a bellow that has the correct length to fit the spindle part of the actuator.
3. Remove/cut off the part of the bellow with the small opening on the second bellow.
4. Mount the nylon ring inside one of the bellows (place it in the first groove) (see fig. 5). The other bellow must be mounted on top of the nylon ring whereby the bellows overlap each other (see fig. 6).
5. The extended bellow can now be mounted onto the actuator. Follow the mounting instructions described on page 1.

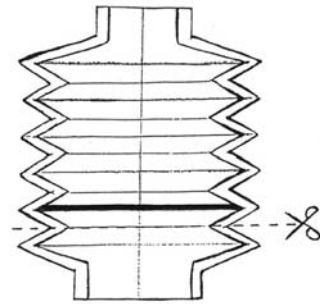


Figure 4

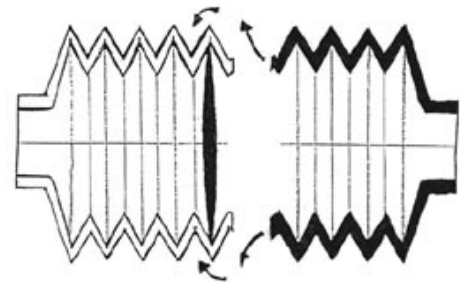


Figure 5

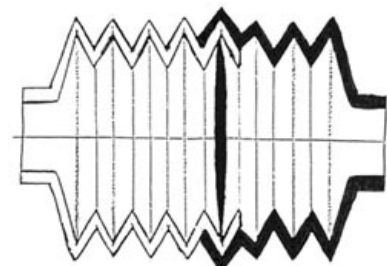


Figure 6

There is no limit to how many bellows you can join.

*Technical data on the bellow:*

Hardness	60±5, Shore A	DIN 53505
Density	1.48 g/cm <sup>3</sup>	DIN 53479
Tensile strength	10.0 Mpa	DIN 53504
Elongation at break min.	350%	DIN 53504
Compression set max. 22h/100°C	30%	DIN 53517

Max. application temperature: -45°C to +95°C

Chemical properties

<i>Resistance to chemicals</i>		<i>Weathering resistance</i>		<i>Oil resistance</i>	
Acid	Good	Sunlight	Good	Mineral	Satisfactory
Base	Good	Ozone	Good	Synthetic	Moderate
Solvent	Good	Water	Good		