

## Assembly and operating instruction for slope regulator Item No. 4270-00, 4274-00, 4275-00, 4276-00

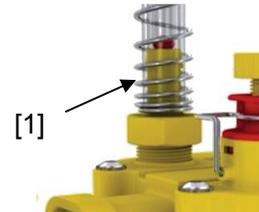


### Important information!

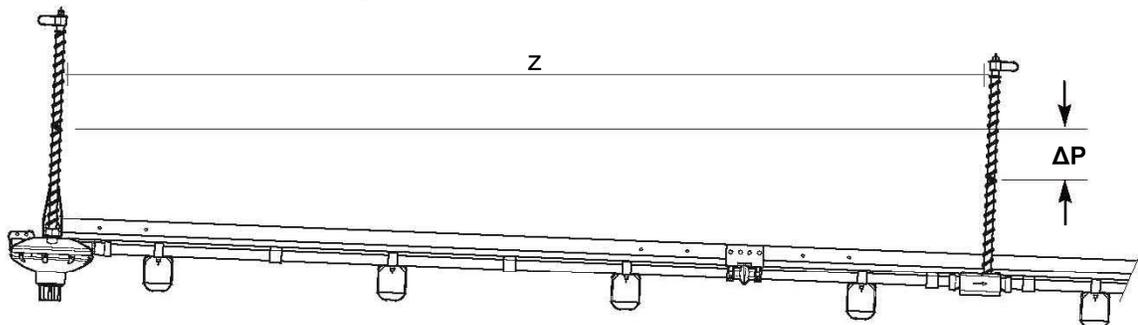
The water supply must **always** be installed at the **highest point** of the drinking line. In combination with the use of slope regulators a middle connection (water supply in the middle) is not possible. Please pay attention to our technical information "Maximum length of drinking lines", too.

### Installation of the slope regulator

1. Before the installation of the slope regulator into the drinking line assemble the breather unit [1] on the slope regulator with the enclosed sealing ring.



2. The slope regulator(s) have to be installed in the process of the downward gradient with appropriate difference in height (refer to illustration/table).



Item No.	$\Delta P$	Inset	
4270-00	10 cm (4")-45 cm (17.7") adjustable*	yellow	
4274-00	10 cm (4")	blue	
4275-00	15 cm (5.9")	red	
4276-00	20 cm (7.9")	black	

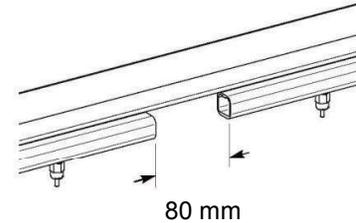
\* refer to point 5



### Important information!

**Maximally three slope regulators** may be installed in a drinking line. If this number of slope regulators is not sufficient, please split the drinking line in several lines, always starting with a pressure regulator.

3. Before assembling the regulator in line a piece of 80 mm (3.15") have to be cut out of the pipe.



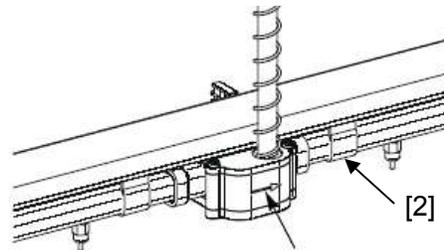
Use for separation of the nipple pipe LUBING cutting plier (Item No. 4411).  
Pay attention to cleanliness. Remove contamination and splinters from the nipple pipe. If necessary flush the drinking line.



### Important information form seal!

In order to avoid damages of form seals of the slope regulator the following has to be considered before putting the nipple pipe into the transition piece:

- The outer nipple pipe edge must be lightly beveled.
- The form seals must be coated with lubricant (e.g. vaseline, acidless fat, detergent).

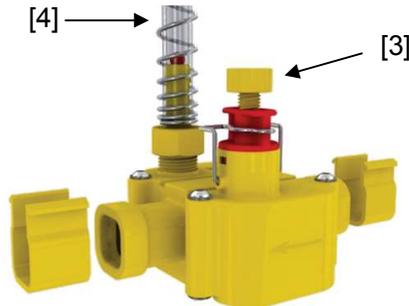


**Attention!** Consider the flow direction when assembling!

The flow direction is indicated with an arrow [→] on the slope regulator's housing.

4. The delivered clamp brackets [2] have to be pushed over the nipple pipe near the slope regulator and have to be clasped at the aluminum profile.

## 5. Only for adjustable slope regulator (Item No. 4270-00)



For installation please refer to point 3 and 4. With the completely pivoted set screw [3] (highest pre-loading of the compression spring/manufacturing state) the water can run to the slope regulator. The breather unit [4] shows the reduced water column. By unscrewing the set screw it is possible to adjust the water column to the desired level.

6. After the installation the slope regulator is ready for operation.



### Flush information!

If the line is being flushed the breather unit will close automatically.  
 The maximum flushing pressure is 2 bar (30 PSI).

For the cleaning of the valve you can put down the security wire and turn the maintenance unit a little.



### Calculation: Number of slope regulators in a drinking line

Formula for calculating the required number x of slope regulators in a drinking line:

$$x = \frac{\text{Slope in total}}{\text{Slope regulator}_{\Delta P}} - 1$$

x = Number of required slope regulators in a drinking line

Slope in total = Total slope of drinking line in cm

Slope regulator<sub>ΔP</sub> = Height value of slope regulator in cm (= 10 cm, 15 cm or 20 cm)

#### Example:

The drinking line is 60 m long.

The drinking line has a total slope of 60 cm.

Slope regulator Item No. 4276-00 (height value 20 cm) should be installed.

How many slope regulators are required in this drinking line?

$$x = \frac{\text{Slope in total}}{\text{Slope regulator}_{\Delta P}} - 1$$

$$x = \frac{60 \text{ cm}}{20 \text{ cm}} - 1$$

$$x = 3 - 1$$

$$x = 2$$

Result: There is a need of 2 slope regulators 20 cm for this drinking line.



### Important information!

**Maximally three slope regulators** may be installed in a drinking line. If this number of slope regulators is not sufficient, please split the drinking line in several lines, always starting with a pressure regulator.

### Calculation: Installation distance of slope regulators

Formula for calculating the installation distance z of slope regulators:

$$z = \frac{\text{Length of line}}{\text{Number slope regulators} + 1}$$

z = Installation distance of slope regulators

Length of line = Total length of the drinking line in m

Number slope regulators: = Number of slope regulators that were calculated before

#### Example:

The drinking line is 60 m long.

The drinking line has a total slope of 60 cm.

There is a need of two slope regulators (height value 20 cm) for the drinking line.

What is the correct installation distance of those slope regulators?

$$z = \frac{\text{Length of line}}{\text{Number slope regulators} + 1}$$

$$z = \frac{60 \text{ m}}{2 + 1}$$

$$z = 20 \text{ m}$$

Result: The correct installation distance is 20 m.