

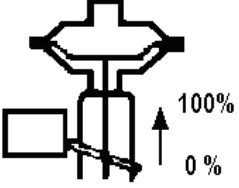

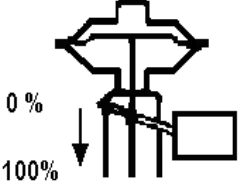
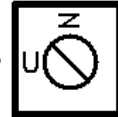
**SMP981 PNEUMATIC POSITION TRANSMITTER**

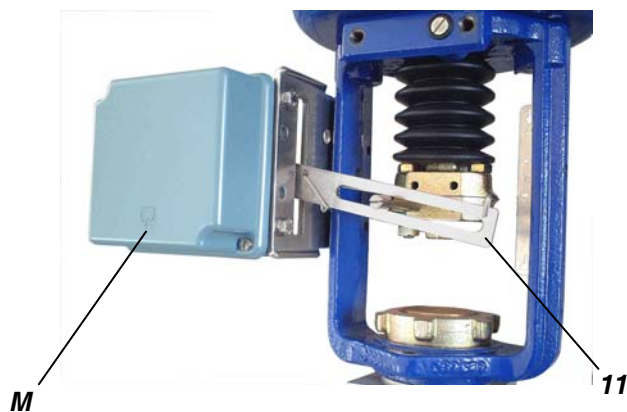
These instructions are to be used as a guide for quick start-up. For more detailed information please refer to the standard documents “Product Specification Sheet”. These can be found on our Website.

**1 MOUNTING TO LINEAR ACTUATORS**

**Diaphragm actuators**

The mounting side is selected from the table below in accordance with the feedback of action required.

feedback action	Changeover plate setting
	
	



Ensure that the feedback lever **11** is horizontal at 50 % stroke.

Fasten housing cover in such a way that air vent of attached device faces downwards (see Mark '**M**').

## 2 MOUNTING TO ROTARY ACTUATORS

- a) Remove the transparent cover plate from the housing of the attachment kit.
- b) Mount the housing of the attachment kit on rotary actuator or armature; use mounting hardware supplied by the actuator manufacturer if necessary.
- c) Move actuator into the desired starting position (rotation angle = 0°).

- d) Mount cam **24** in accordance with the direction of rotation of the actuator.  
The linear cam is fastened to the actuator drive shaft in such a manner that the distance X between the inside of the housing and the cam amounts 2 mm, whereas in case of equal percentage cam the dimension X is approx. 17.5 mm.

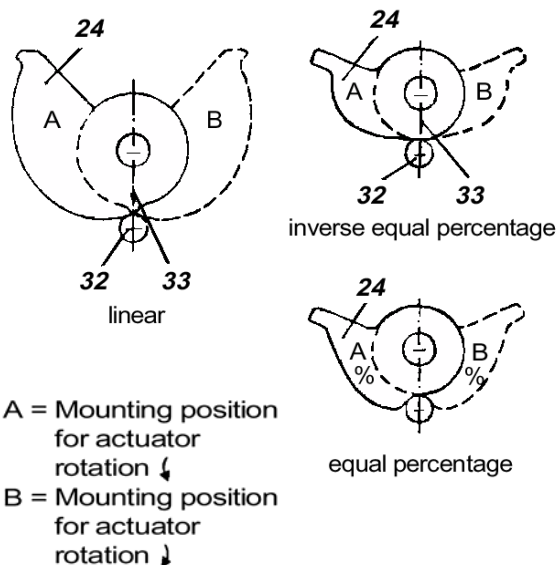
In case of inverse equal percentage cam the dimension X is approx. 18 mm.

When employing equal percentage and the inverse equal percentage cams, the range spring (yellow) EW420493013 must be be installed in the positioner.

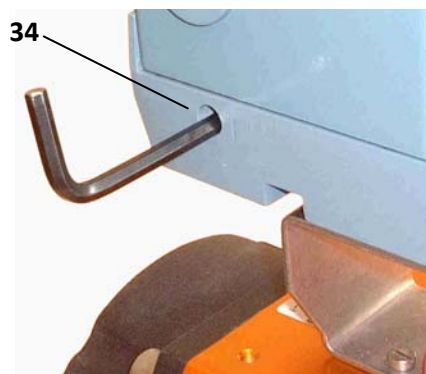
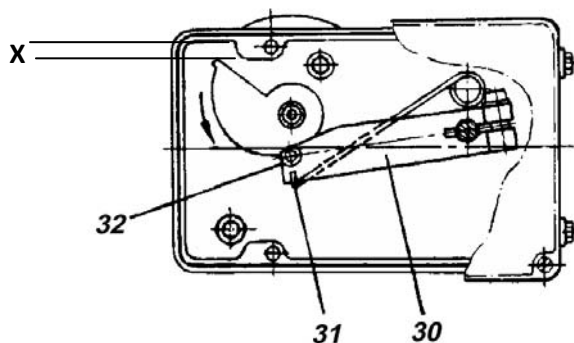
- e) Fasten feedback lever **30** for the rotary actuator onto shaft **15** of positioner.
- f) Mount positioner on housing of attachment kit. Attach spring **31** to feedback lever **30** and cam follower **32** against cam.  
Screw positioner to housing of attachment kit. With the linear cam and the inverse equal percentage cam check whether mark **33** points to the center of the cam follower **32**; adjust if necessary.  
With the equal percentage cam check whether the cam follower lies directly ahead of the start of the cam lobe; adjust if necessary.
- g) Final mounting of feedback lever on shaft of positioner is performed at a stroke of 0 %, i.e. a rotation angle of 0°. First loosen 5 mm A/F Allen screw of feedback lever **30** through hole **34**, then press stroke factor lever **17** against stop screw **18** (see page 4) and tighten Allen screw firmly.

### Note

If actuator moves to an end position, the mounting position of cam does not coincide with the direction of rotation of the actuator. In this case install the cam **24** in the reverse position.



A = Mounting position for actuator rotation ↓  
B = Mounting position for actuator rotation ↓



### 3 PNEUMATIC CONNECTIONS

**Air supply (s): 1.4 bar or 20 psi, free of oil, dust and water!**

- 4 Not used
- 6 Not used
- 7 Internal thread G 1/8 for supply air
- 8 Internal thread G 1/8 for output 0.2 to 1 bar (3 to 15 psi)



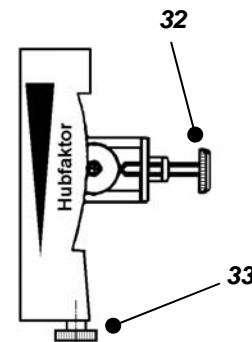
### 4 SETTINGS AND START UP

#### 4.1 Setting of zero point and stroke on the positioner

(see last page for the reference of the number)

Before starting with the set-up push the flapper lever **35** several times alternately to the left and right in order to align the flappers correctly.

- a) Open the valve (bring the valve to 0%).
- b) Turn zero screw **32** until output signal gives 0.2 bar (3 psi).
- c) Close the valve (bring the valve to 100%).
- d) Turn the stroke factor screw **33** until output signal gives 1 bar (15 psi):
  - Right turn: decrease output signal
  - Left turn: increase output signal



**Repeat the operations (a to d) 2 or 3 times in order to insure an accurate positioning.**

**Note:**

If the output signal cannot be adjusted with the installed spring, a suitable spring can be determined with the following table.

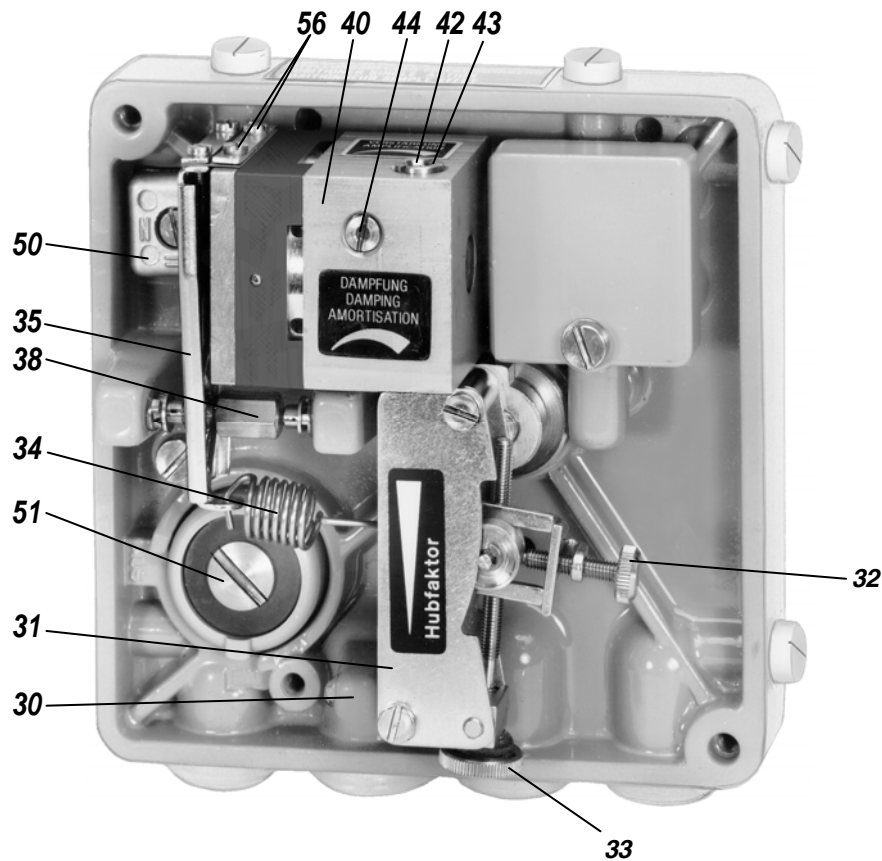
#### 4.2 Spring range

Five different springs for the travel-ranges are available for matching to the stroke and input signal range. In the table the stroke range is given for a normal application.

Spring range		Stroke range in mm	Remarks
Ident No	Color		
EW 420 493 013	yellow	8 to 34	
EW 420 494 019	green	17 to 68	Built-in
EW 502 558 017	- without -	28 to 105	
EW 420 496 011	gray	40 to 158	
EW 420 495 014	blue	55 to 200	

## 5 FUNCTIONAL DESIGNATIONS

### Pneumatic Position Transmitter SMP981



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