

# PSEN op Protective Column/1

## Operating Manual

---

EN

### General

PSEN op Protective Column/1 is a column made of aluminium and a base plate made of steel. The base plate consists of 2 plates that can be adapted to the ground. PSEN op Protective Column/1 is suitable for all models of the PSEN op 2/4 range.

### Overview

#### Features

- ▶ Protects the installed light curtain from accidental shock and collisions.
- ▶ One-piece profile made of coated aluminium with various lengths, matching all height of PSEN op 2/4 (150 – 1800 mm).
- ▶ Robust base plate consists of 2 plates, with pins for compensating unevenness (levelling) and slot holes for angular adjustment.
- ▶ Spherical spirit level for easier level alignment.
- ▶ Double groove at the rear for installing mounting systems for external muting sensors.

#### Typical application areas

The accessories of PSEN op Protective Column/1 are particularly suited for environments where vehicles such as forklifts or automated guided vehicles can move freely.

## PSEN op Protective Column/1 Operating Manual

EN

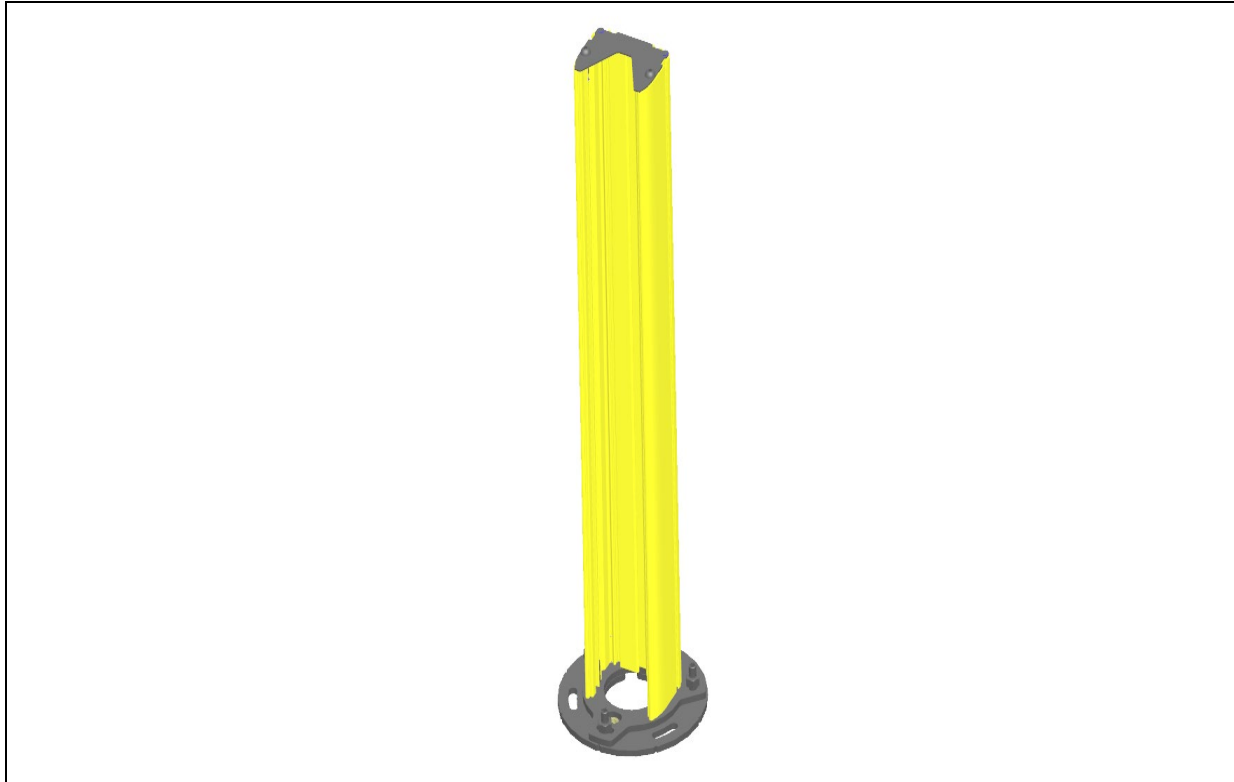


Fig. 1

**NOTICE**

*In case the product is used for body protection the specifications of the directive **EN ISO 13855** "Positioning of safeguards with respect to the approach speeds of parts of the human body" must be observed.*

### Assembly

The PSEN op Protective Column/1 profile can incorporate various products. Therefore there are 4 different kits with mounting brackets available:

- ▶ PSEN op Protective Bracket-4/1: For installing light curtains of the PSEN op2/4xx/1 ranges (finger and hand protection, height of the protected field 150÷1050 mm)
- ▶ PSEN op Protective Bracket-6/1: For installing light curtains of the PSEN op2/4xx/1 series (finger and hand protection, height of the protected field 1200÷1800 mm)
- ▶ PSEN op Protective Bracket Mirror/1: For installing the deviating mirrors PSEN op Mirror-xxx/1.
- ▶ PSEN op Protective Base/1: Additional plates for compensating shock, vibrations and unevenness of the ground.

## PSEN op Protective Column/1 Operating Manual

### Installing PSEN op Protective Bracket

Using the PSEN op Protective Bracket-4/1 kit for product versions from 150 to 1050 mm or the PSEN op Protective Bracket-6/1 kit for versions from 1200 to 1800 mm, assemble the subunits as shown in Fig. 2, then insert them into the corresponding grooves of the product and fix them. Do not tighten the nut M5 under the mounting bracket (a profile of type PSEN op 2/4 base is used in the following example).

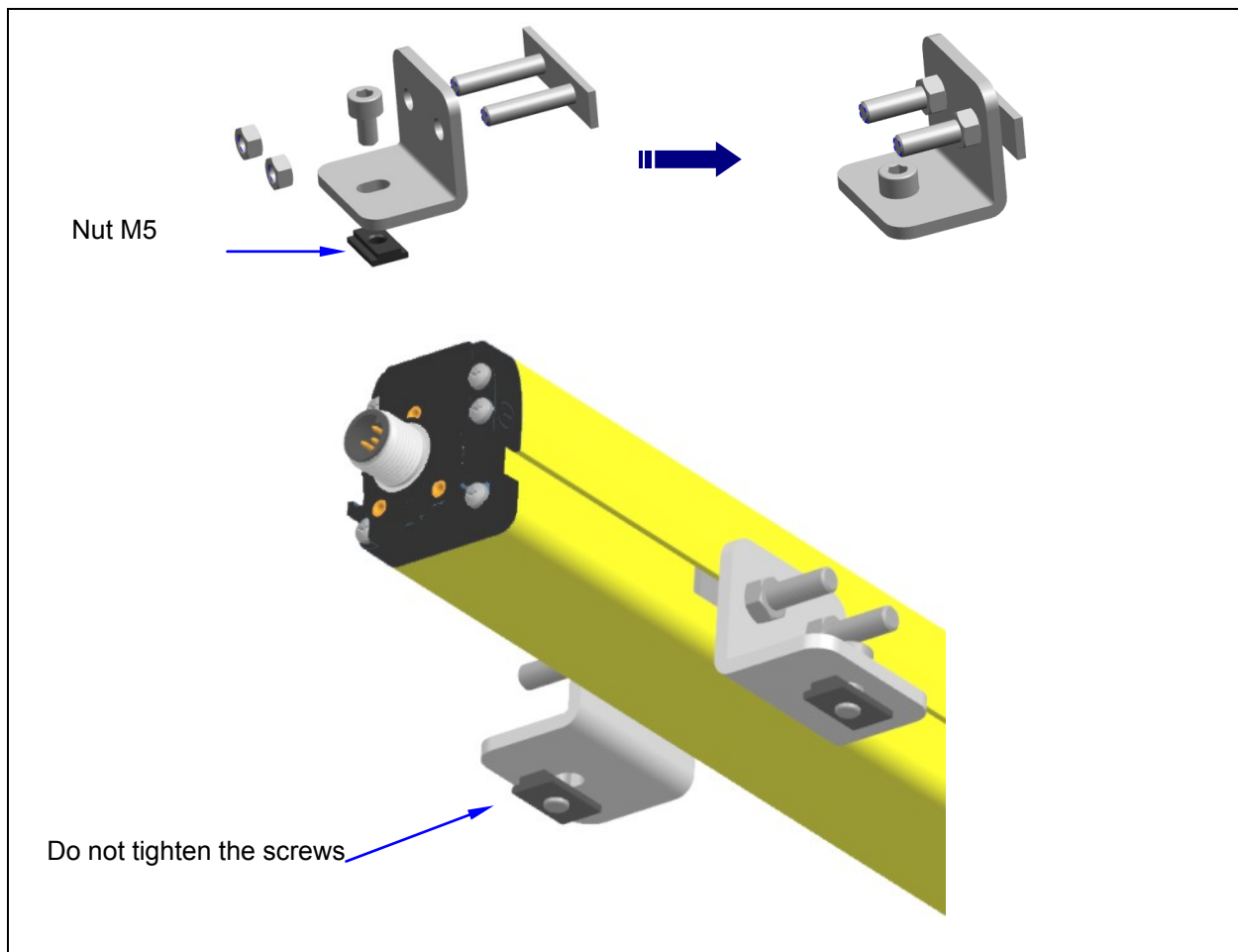


Fig. 2

## PSEN op Protective Column/1 Operating Manual

EN

Undo the screws of the protective column cover and remove the cover. Insert the unit into the guides (Fig. 3)

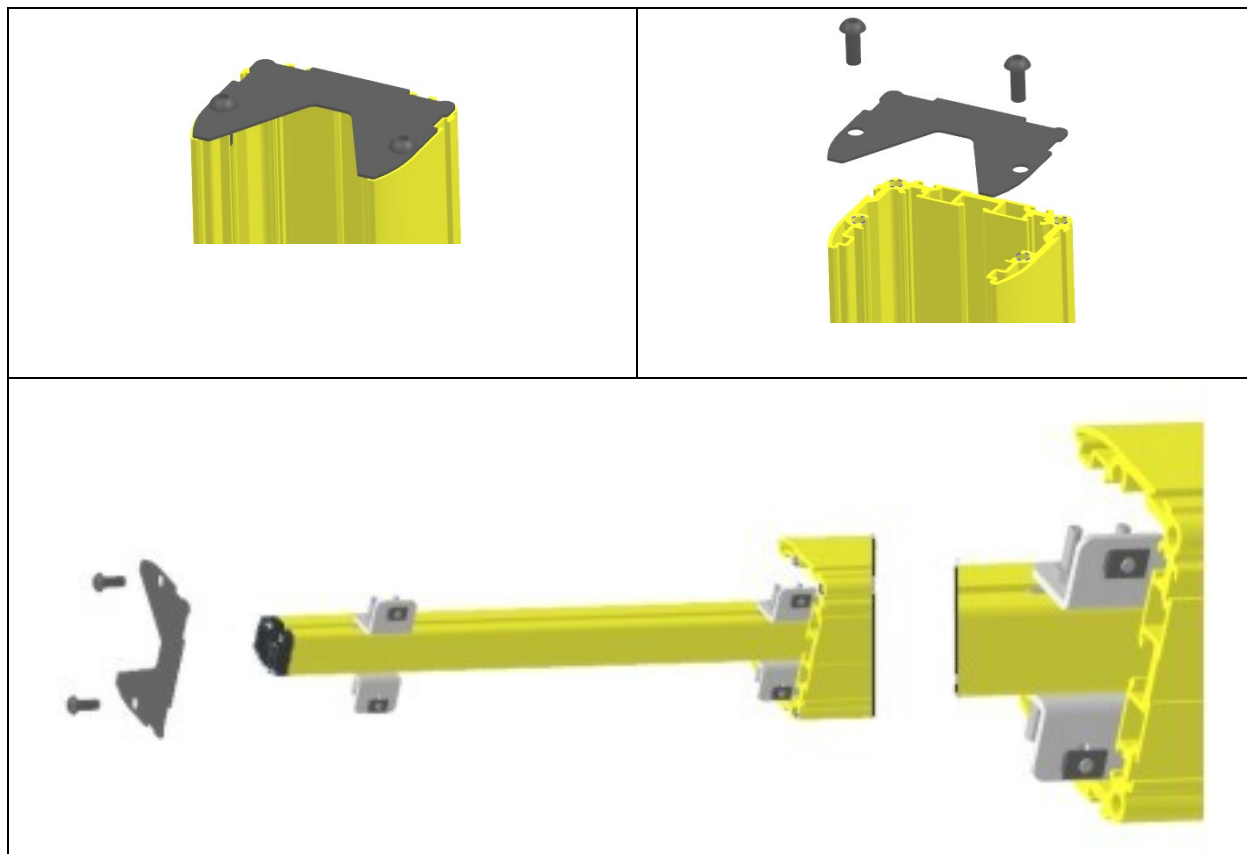


Fig. 3

## PSEN op Protective Column/1 Operating Manual

To set the height of the product, loosen the screws M5x8 with an Allen screw (Fig. 4). If the protective column is in vertical position, make sure that the product does not slip downward.

EN



Fig. 4

Screw the cover back on when the product has been completely inserted and the height in the protective column has been set.

## PSEN op Protective Column/1 Operating Manual

EN

### Installation of PSEN op Mirror/1

Use the PSEN op Protective Bracket Mirror/1 kit to install the deviation mirror in the protective column.

Insert the screw through the opening and fix it with the nut.

Fix the sliding block on the screw. Insert the deviating mirror in the lateral guide and insert the sliding block in the T groove (Fig. 5).

Set the height of the deviation mirror and tighten the screws.

Tighten the nut under the opening to avoid unintended loosening.

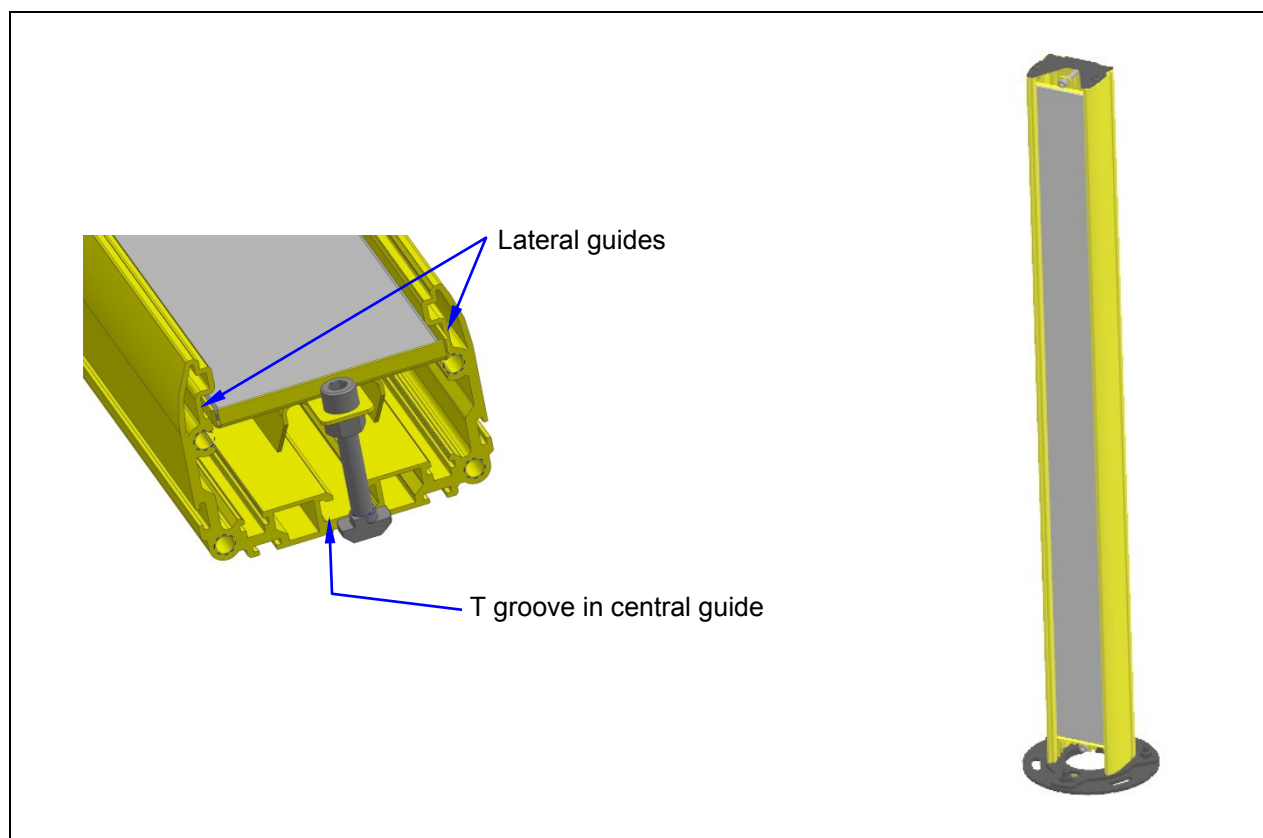


Fig. 5

## PSEN op Protective Column/1 Operating Manual

### Levelling and angular adjustment of the plates

The grooves on the base plate are used to define the required angle position. Tighten the slot holes on the bottom plate with the screws M10 on the floor (not entirely). Slightly loosen the counter nuts on the top plate and align unevenness using the spirit level. Then fix the screws M10 completely. Finally, check again whether the protective column is straight, readjust if necessary and tighten the counter nuts again (Fig. 6).

EN

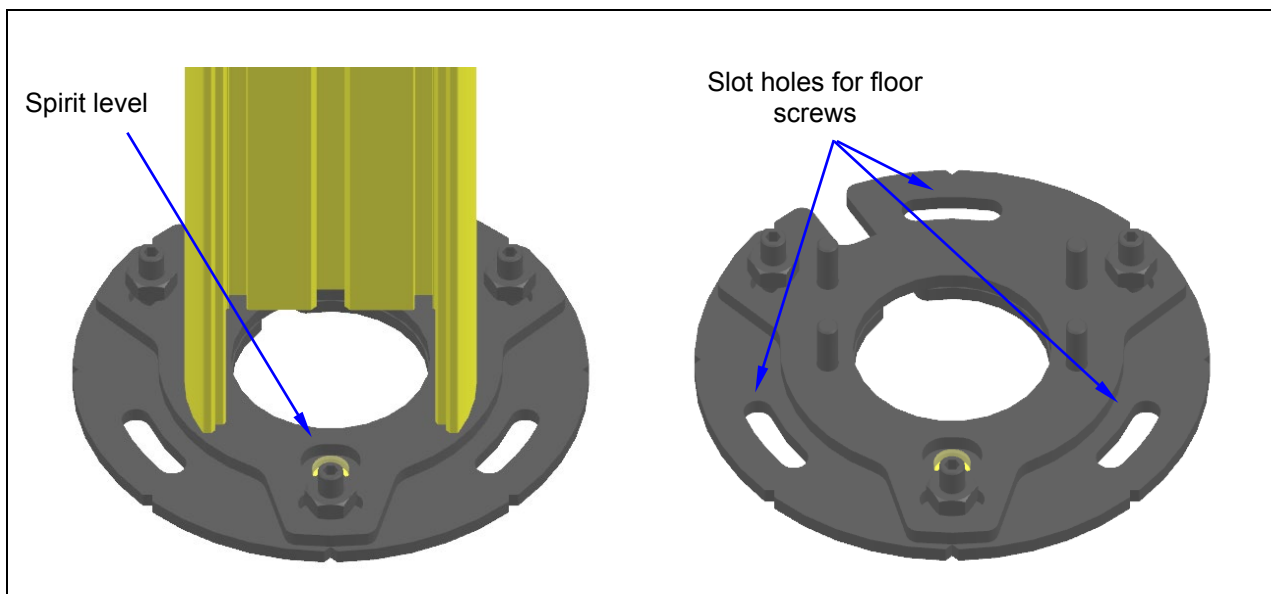


Fig. 6

## PSEN op Protective Column/1 Operating Manual

EN

### Installing the PSEN op Protective Base/1 accessories

Screw the additional plate on the floor and mount the 3 springs on the spacers. Fix the protective column with the base plate so that the slot holes of the bottom plate are right above the springs. Insert the screws M10 together with the washers (PSEN op Protective Base/1 accessories) into the slot holes and compress the 3 springs equally when affixing the screws (Fig. 7). Align the protective column as described in "Levelling and angular adjustment of the plates".

The optimum working height of the springs (distance between base plate and additional plate) is ca. 42 mm.

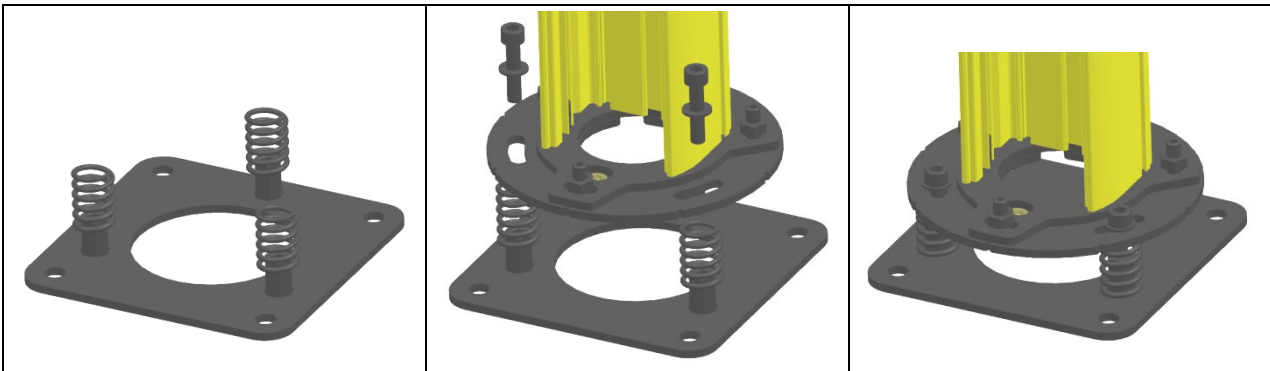


Fig. 7

### Installing the light curtains

For the alignment of the light curtains, please refer to the operating manual of the specific model.



## PSEN op Protective Column/1 Operating Manual

### Installing PSEN op Protective Column/1 with PSEN op Mirror/1

EN

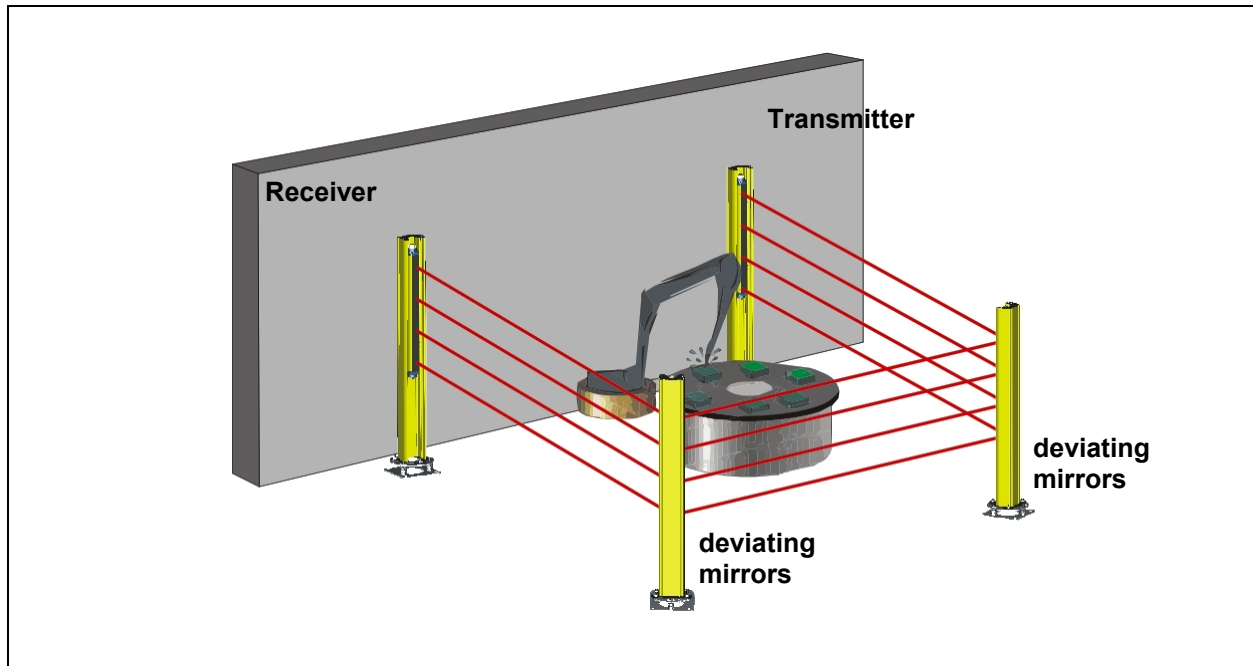


Fig. 8


- ▶ Define the area to be protected and the exact positions where the deverting mirrors, the transmitter and receiver units of the light curtain are to be installed.
- ▶ Install the deverting mirrors (PSEN op Mirror/1) into the protective column (PSEN op Protective Column/1) in the matching version using the PSEN op Protective Bracket Mirror/1 kit (s. Fig. 5). The "Order reference" table in the PSEN op Mirror/1 operating manual combines the recommended pairs of product and corresponding deverting mirror.
- ▶ Fix the protective column with the installed deverting mirrors in the required position on the floor. When using an additional plate (PSEN op Protective Base/1) perform the installation as described in the "Installing the PSEN op Protective Base/1 accessories" section.
- ▶ Align the deverting mirror to ca. 45° to the optical path. PSEN op Protective Column/1 allows regulation around the vertical axis by +/- 5° (s. section "Levelling and angular adjustment of the plates").
- ▶ Position the laser pointer at the upper part of the transmitter unit and align the unit so that the laser beam is horizontally in the middle of the first deverting mirror. The height of the laser pointer and the height where the pointer hits have to be identical.
- ▶ Repeat the procedure and align the laser pointer at the bottom part of the unit. Repeat these steps several times, if necessary.

## PSEN op Protective Column/1

### Operating Manual

EN

- ▶ Align the first deviation mirror so that the laser beam hits the second deviating mirror in the position described before.

 <b>NOTICE</b>	<p><i>The laser pointer has mechanical tolerances when combined with PSEN op Protective Column/1. The tolerances can be compensated by levelling and angular adjustments of the protective columns and the laser pointer. Do not compensate the tolerances by changing the deviating mirror position.</i></p>
--	---

## Order reference

### PSEN op Protective Column/1

Product type	Description	Order no.
PSEN op Protective Column-060/1	Protective Stand H=600 mm	630950
PSEN op Protective Column-090/1	Protective Stand H=900 mm	630951
PSEN op Protective Column-120/1	Protective Stand H=1200 mm	630952
PSEN op Protective Column-165/1	Protective Stand H=1650 mm	630953
PSEN op Protective Column-190/1	Protective Stand H=1900 mm	630954

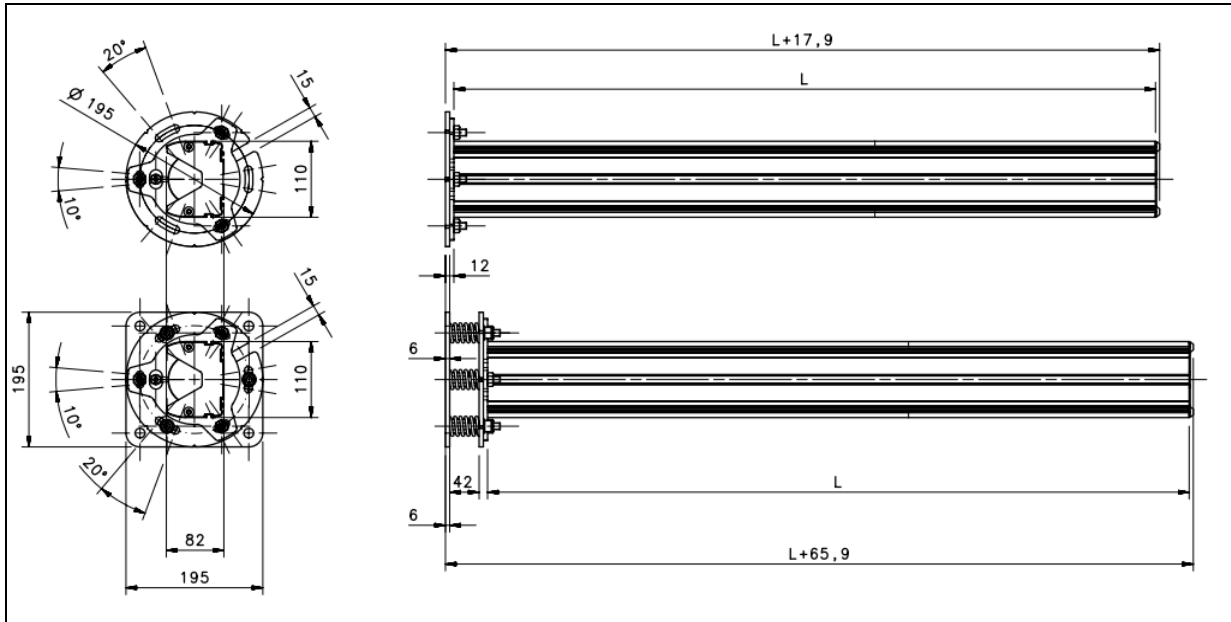
### Accessories

Product type	Description	Order no.
PSEN op Protective Bracket-4/1	4-part assembly kit for light curtains PSEN op 2/4xx/1 (height of the protected field up to 100 cm)	630956
PSEN op Protective Bracket-6/1	6-part assembly kit for light curtains PSEN op 2/4xx/1 (height of the protected field from 100 cm)	630957
PSEN op Protective Bracket Mirror/1	Assembly kit for deviating mirror	630960
PSEN op Protective Base/1	Kit double plate with compensation springs	630955

## Dimensions

PSEN op Protective Column/1  
Operating Manual

EN



Product type	L (mm)
PSEN op Protective Column-060/1	600
PSEN op Protective Column-090/1	900
PSEN op Protective Column-120/1	1200
PSEN op Protective Column-165/1	1650
PSEN op Protective Column-190/1	1900

Fig. 9

 <b>NOTICE</b>	<p><b>Please note the length of the protective column!</b></p> <p>The protective column always has to be longer than the light grid.</p> <p>Example: In a PSEN op Protective Column-60/1 only light grids &lt; 60 cm can be installed ( PSEN opX-x-xx-45/1 or lower)</p>
-------------------	--