

PSEN op Protective Column 2-4/1

Operating Manual

EN

General

PSEN op Protective Column 2-4/1 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.

Deviation mirrors are already installed in the protective column. They can be aligned independently of each other.

Overview

Features

- ▶ Protects the installed deviation mirrors from accidental shock and collisions.
- ▶ One-piece profile made of coated aluminium with various lengths, matching all height of PSEN op 2/4B (500 – 1200 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.

Typical application areas


The accessories of PSEN op Protective Column 2-4/1 are particularly suited for environments where vehicles such as forklifts or automated guided vehicles can move freely.

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Fig. 1

 NOTICE	<p><i>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.</i></p>
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Assembly

The profile of PSEN op Protective Column 2-4/1 is supplied with pre-installed deviating mirrors and does not require mechanical installation.

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 any 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. 2).

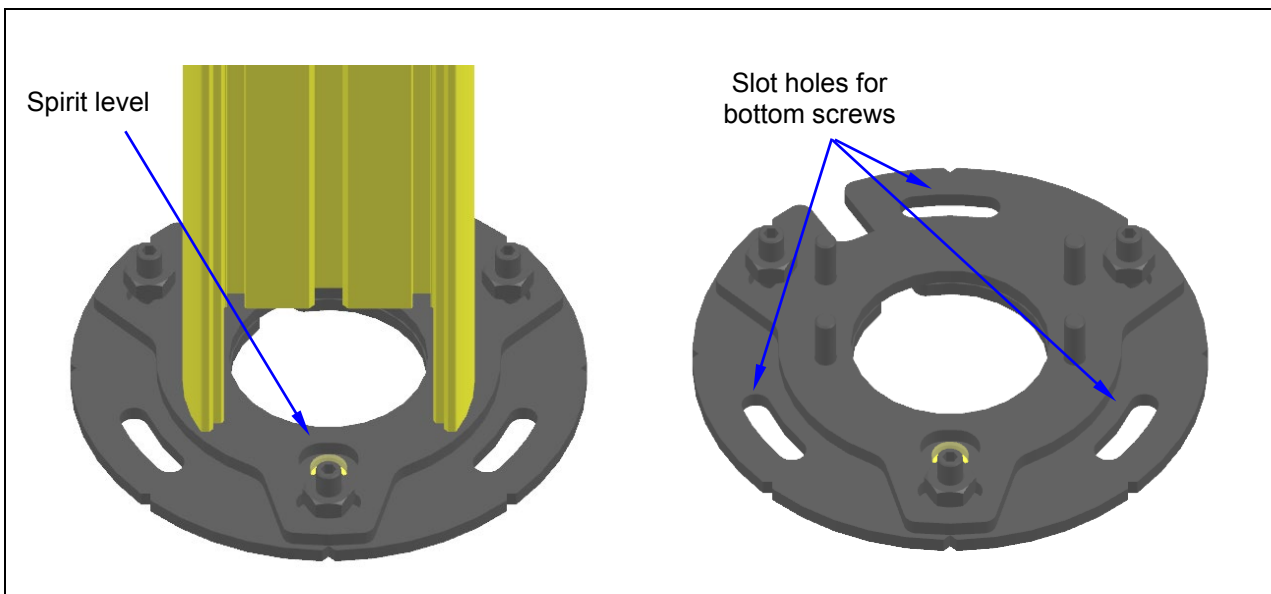


Fig. 2

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Installing the PSEN op Protective Base/1 accessories

Screw the additional plate to 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. 3). 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.

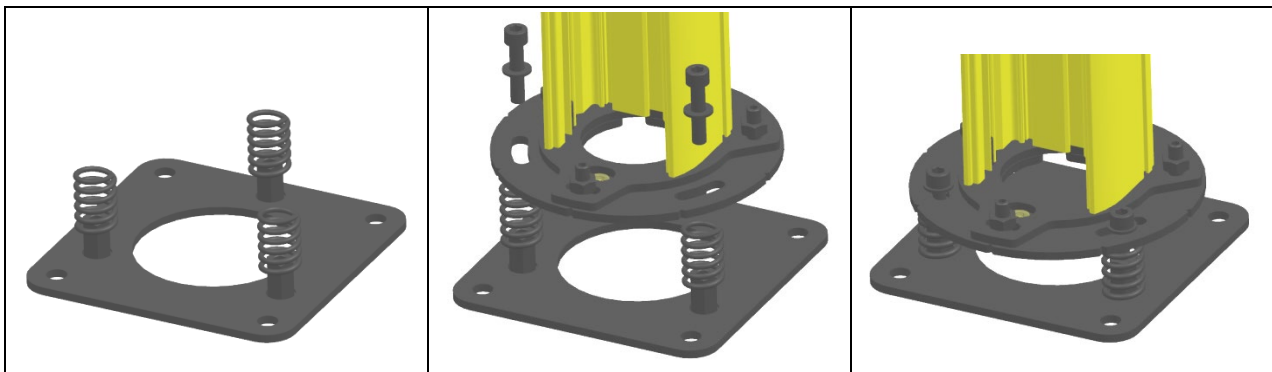


Fig. 3

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Aligning the deviating mirrors

To adjust the height of the deviating mirrors loosen the screws M5x12 and position the deviating mirrors in the protective column as required. Then tighten the screws again. If the protective column is in vertical position, make sure that the deviating mirrors do not slip downward.

The 3 screws M4x20 are used to level the deviation mirrors (Fig.4).

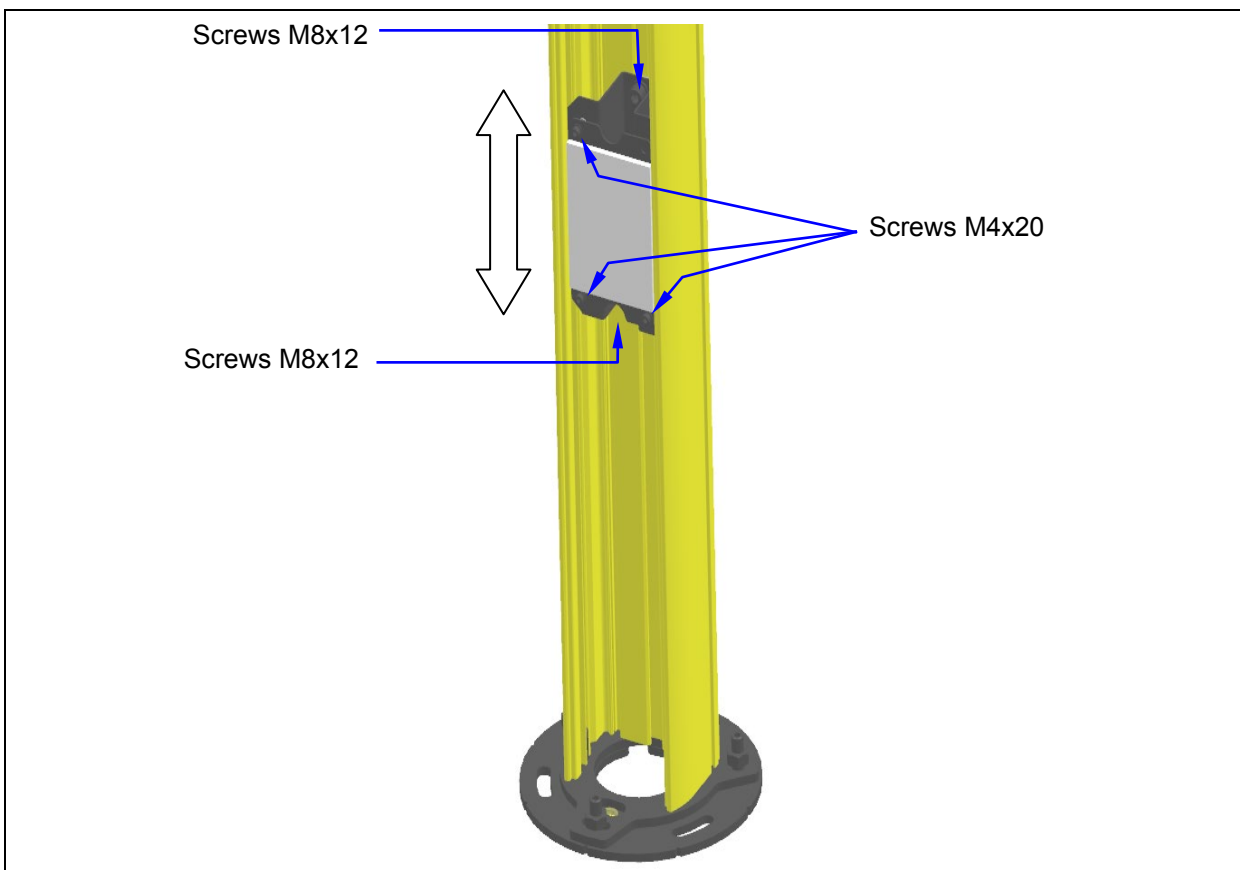


Fig. 4

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Use of a deviating mirror reduces the effective operating range by about 15%. This percentage increases further when using two or three deviating mirrors.

In the table below the operating ranges are indicated, based on the number of the mirrors used.

Number of mirrors	Operating range	Operating range
Without mirror	6 m	19 m
1	5.1 m	16.5 m
2	4.3 m	13.7 m
3	3.7 m	11.6 m

Installing PSEN op Protective Column 2-4/1 with PSEN op Mirror/1

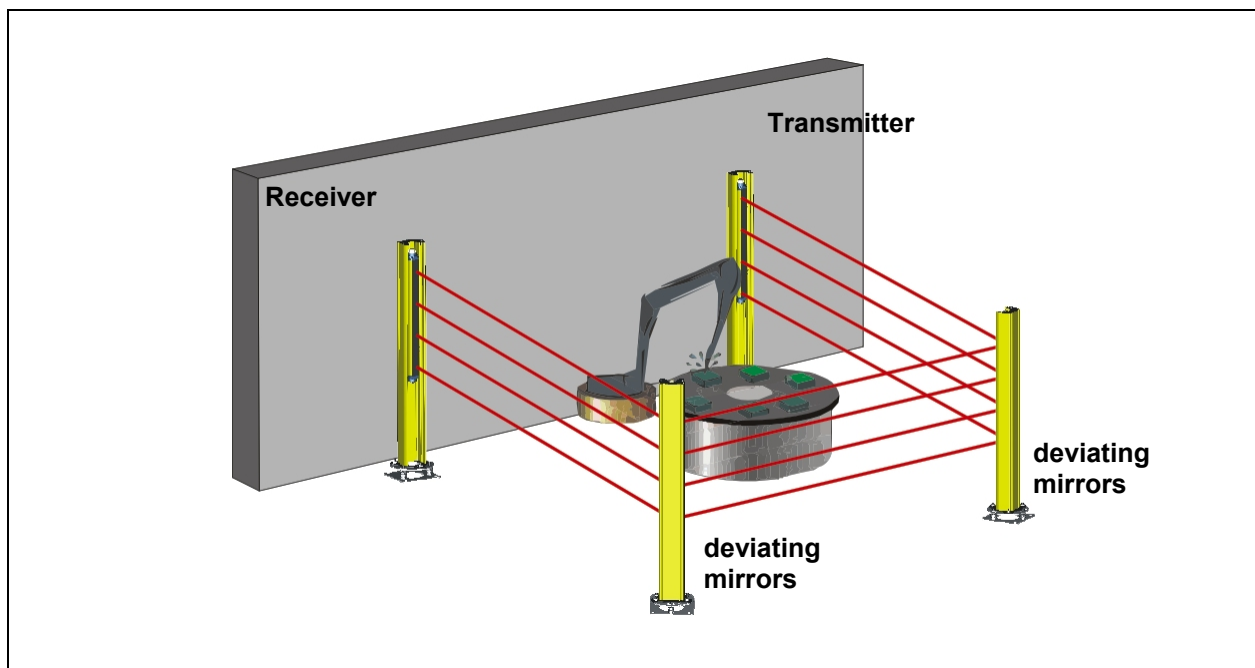


Fig. 5

- ▶ Define the area to be protected and the exact positions where the deviating mirrors, the transmitter and receiver units of the light curtain are to be installed. The "Order reference" table combines the recommended pairs of product and corresponding accessory.
- ▶ Fix the PSEN op Protective Column 2-4/1 on the floor in the required position. 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.

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- ▶ Align the deviating mirror to ca. 45° to the optical path. PSEN op Protective Column 2-4/1 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 horizontal in the middle of the first deviating 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.
- ▶ Align the first deviation mirror so that the laser beam hits the second deviating mirror in the position described before.

**NOTICE**

The laser pointer has mechanical tolerances when combined with PSEN op Protective Column 2-4/1. 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.

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Order reference

PSEN op Protective Column 2-4/1

Product type	Description	Order no.
PSEN op Protective Column 2-050/1	Protective Stand 2 mirror H500	630961
PSEN op Protective Column 3-080/1	Protective Stand 3 n mirror H800	630962
PSEN op Protective Column 4-090/1	Protective Stand 4 mirror H900	630963
PSEN op Protective Column 4-120/1	Protective Stand 4 mirror H1200	630964

Table of suitable light curtains

Product type	Light curtain
PSEN op Protective Column 2-050/1	PSEN op2B-2-050
	PSEN op4B-2-050
	PSEN opSB-4B-2-050
PSEN op Protective Column 3-080/1	PSEN op2B-3-080
	PSEN op4B-3-080
	PSEN opSB-4B-3-080
PSEN op Protective Column 4-090/1	PSEN op2B-4-090
	PSEN op4B-4-090
	PSEN opSB-4B-4-090
PSEN op Protective Column 4-120/1	PSEN op2B-4-120
	PSEN op4B-4-120
	PSEN opSB-4B-4-120



NOTICE

The preceding table only includes the models of the PSEN op 2/4B ranges. The PSEN op Protective accessories can also be used with the light curtains of the PSEN op 2/4xx ranges.

Accessories

Product type	Description	Order no.
PSEN op Protective Base/1	Double plate with compensation springs	630955

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Dimensions

Base plate and additional plate:

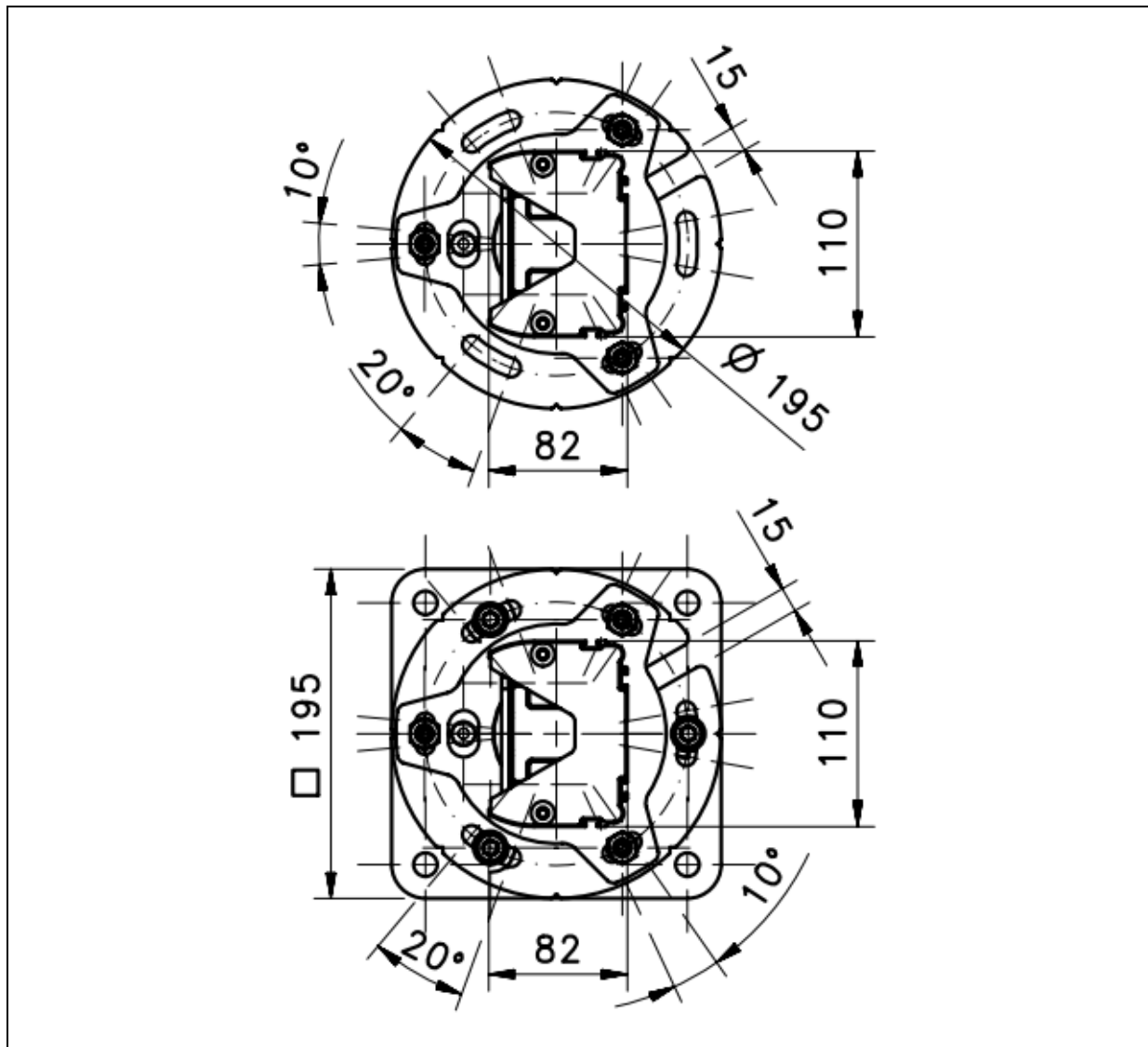


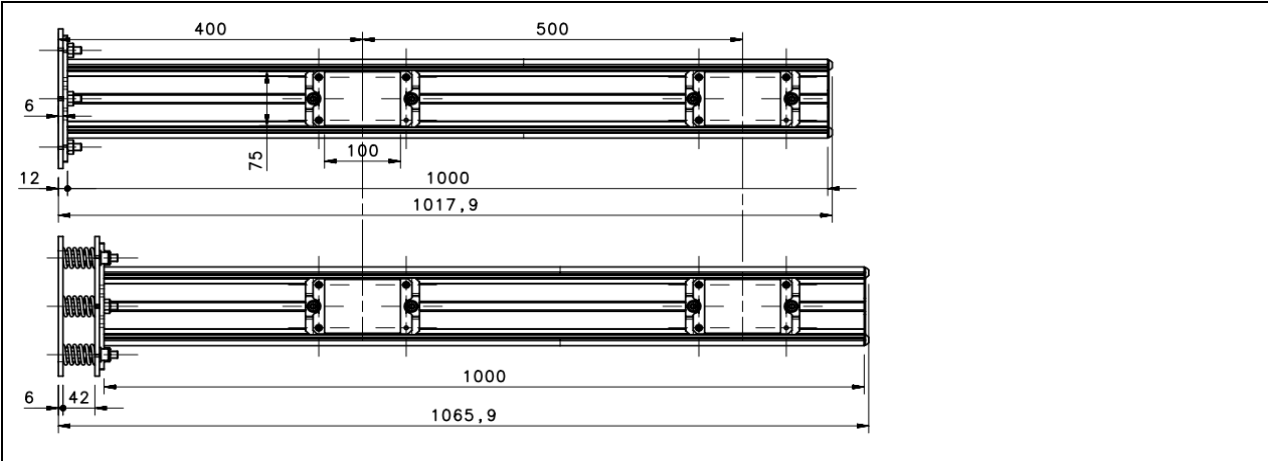
Fig. 6

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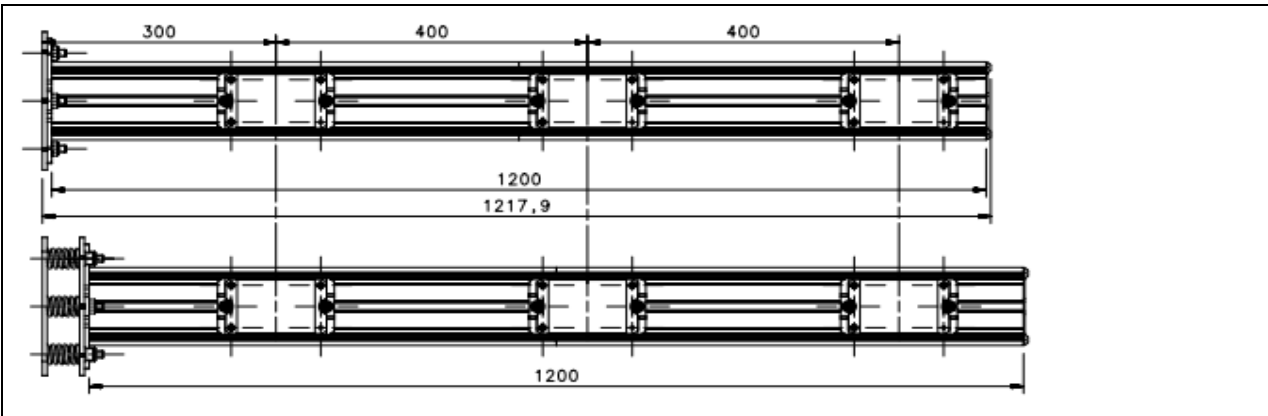
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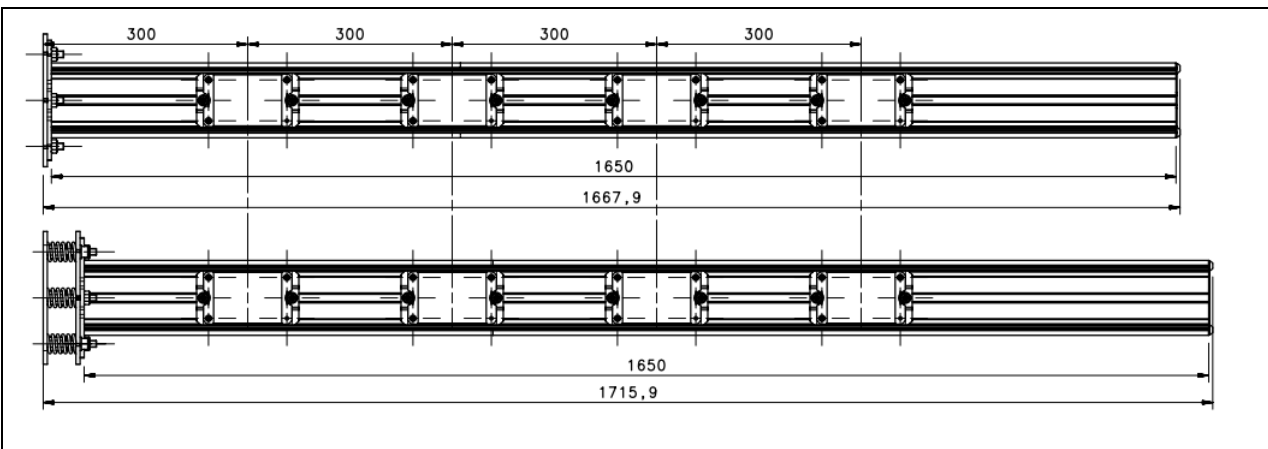
PSEN op Protective Column 2-050/1



PSEN op Protective Column 3-080/1



PSEN op Protective Column 4-090/1



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