



## **SG-PSB**

**Safety light curtain protective armor stand**

# **Instruction Manual**



**Fig. A**

## GENERAL INFORMATION

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The SG – PSB accessory is a guard, which comprises a drawn aluminium column and a steel base. The base is made of two plates. Their inclination can be adjusted by means of three dowels and their angular position can be adjusted through 3 rough adjustment slots and 3 fine adjustments slots. Thanks to its single drawn section, available in a range of different lengths, and to its multi-purpose grooves, this accessory can contain inside it all the models of the SE, SG2, SG4, SE Body and SG Body series.

## CHARACTERISTICS

- Protects the light curtain mounted inside it from accidental collisions;
- Single painted drawn aluminium section in different lengths, suitable for all heights of the following series: SE, SG2, SG4 (150 – 1800 mm), SE Body and SG Body (2, 3 and 4-beam);
- Sturdy steel base made of 2 plates with angle reference marks, dowels for adjustment of the vertical axis and slots for angular position adjustment;
- Spheric level to facilitate adjustment of the vertical axis;
- Double rear groove for installation of external muting sensor supports.

## TYPICAL APPLICATIONS

Use of the SG-PSB accessory is recommended in work environments typical of the material handling market, where forklift trucks, AGVs or other vehicles move freely within the plant and may collide with the safety light curtains.

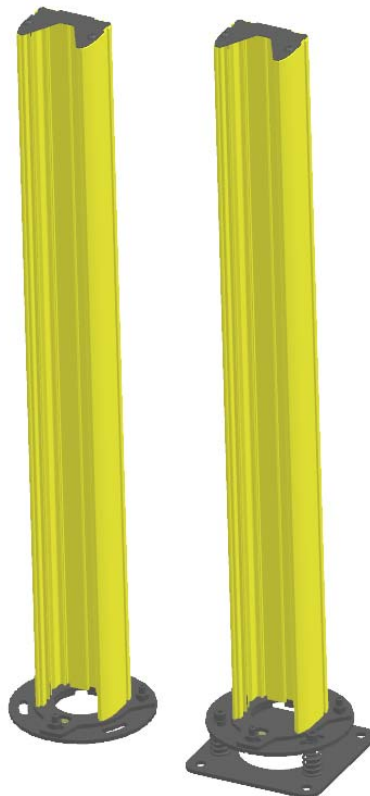


Fig. 1



## NOTES

*If a body protection is being used, compliance with the **EN 999 standard** 'Safety of machinery - Positioning of safeguards with respect to the approach speeds of parts of the human body' is required.*

## MECHANICAL MOUNTING

The SG-PSB guard can house a number of different products. For this reason, 5 different bracket kits are available:

- **ST-PS4-SG/SE (95ASE1750)**: for the installation of light curtains of the SG/SE/SG Body Compact series, finger/hand protection, protected height 150÷1050mm and body protection, protected height 500, 800, 900mm;
- **ST-PS6-SG/SE (95ASE1760)**: for the installation of light curtains of the SG/SE/SG Body Compact series, finger/hand protection, protected height 1200÷1800mm and body protected height 1200mm;
- **ST-PS4-SG Body (95ASE1730)**: for the installation of light curtains of the SG Body Big series, body protection, protected height 500, 800, 900mm;
- **ST-PS6-SG Body (95ASE1740)**: for the installation of light curtains of the SG Body Big series, body protection, protected height 1200mm;
- **ST-PS-DM (95ASE1770)**: for the installation of deviating mirrors SG-DM.

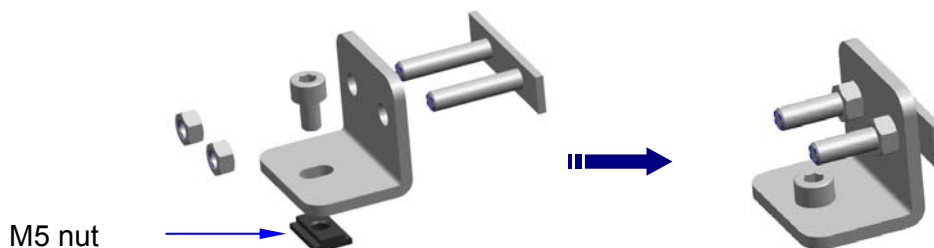
An extra plate may be installed on the accessory, to compensate for the effects of collisions, vibrations and uneven floor surfaces:

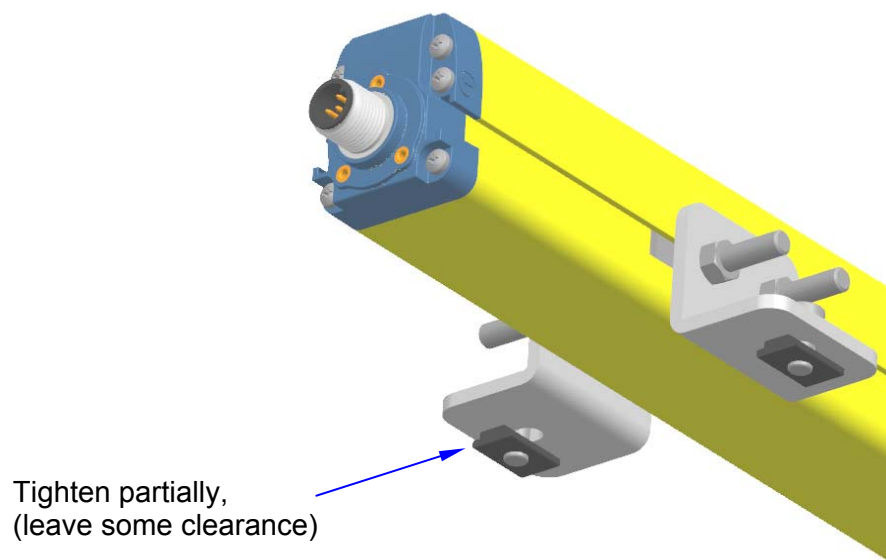
- **SG-P (95ASE2290)**: for the installation of a double plate with compensation springs.

The instructions for the installation of these accessory kits can be found below:

### SG2, SG4-B, SE, SG BODY COMPACT SERIES MOUNTING

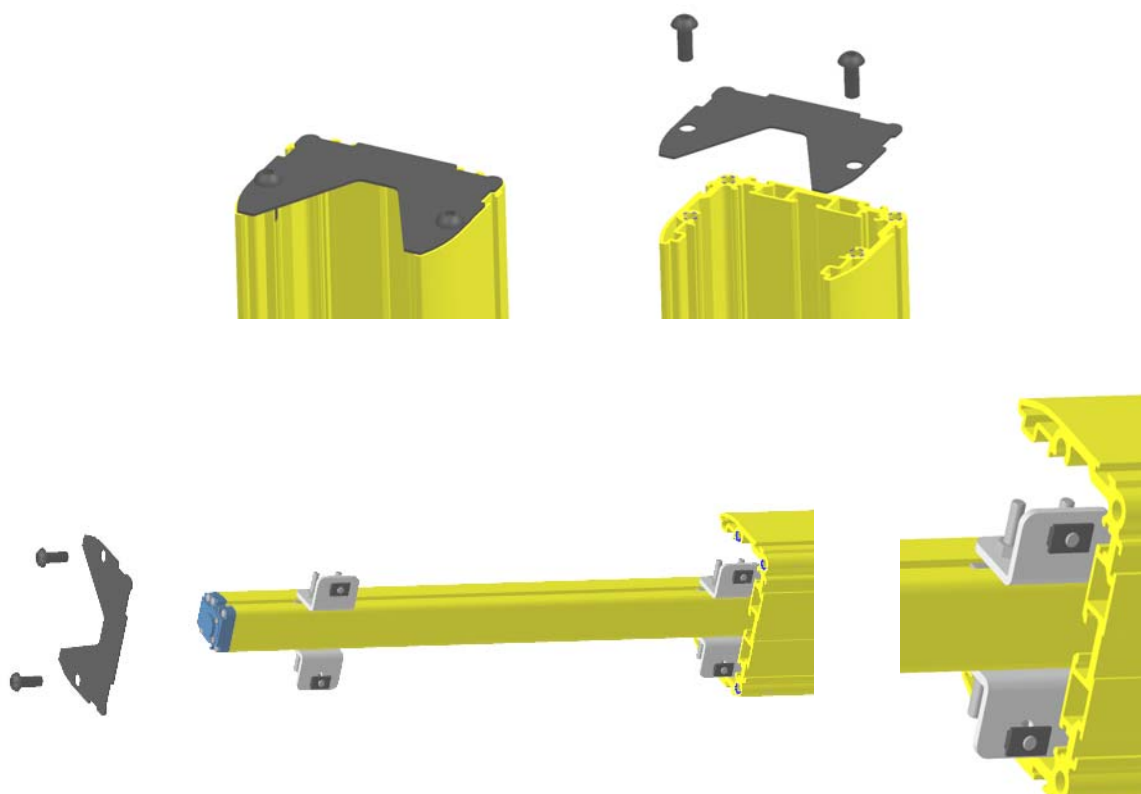
With the help of the ST-PS4-SG/SE kit, for product versions from 150 to 1050 mm or of the ST-PS6-SG/SE kit, for product versions from 1200 to 1800 mm, build sub-assemblies as shown in Fig. 2 then insert and fasten them to the grooves on the guard. Do not tighten completely the M5 nut under the bracket (in the following example a SG2/4 base profile is used).





**Fig. 2**

Once the assembly is completed, remove the column cover by unscrewing the two M8x20 ISO 7380 screws (Fig. 3) and insert the assembly in the internal guides.



**Fig. 3**

Once the product has been completely inserted and its position along the column adjusted, replace the cover (Fig. 4).

To adjust the position of the product along the column, slightly unscrew the M5x8 UNI 5931 screws, which can be accessed from the outside by using a special Allen key; if the column is in a vertical position, make sure the product does not slide accidentally towards the bottom.

M5x8 UNI 5931

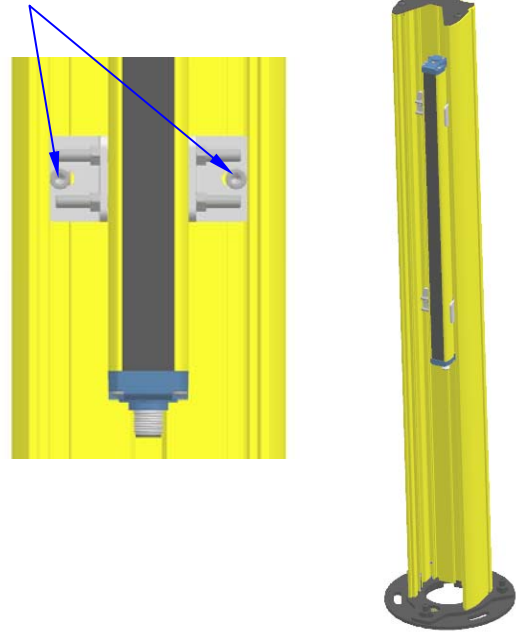


Fig. 4

## SG BODY MOUNTING

As described in the previous section (SG2, SG4-B, SE series mounting) the ST-PS4-SG Body kit can be used to install the SG Body versions in the same housing as the SG-PSB (Fig. 5).



Fig. 5

Fig. 5

## SG-DM DEVIATING MIRRORS MOUNTING

Using the ST-PS-DM kit, mount the carter for the deviating mirror in use. Make sure that the M8 T-nut is aligned with the corresponding central groove of the protective stand and that the side edges of the mirror's carter are aligned with the corresponding longitudinal guides in the protective stand (Fig. 6). Adjust the height of the protective stand then tighten the M8 x 50 UNI5931 screws.

Tighten the M8 UNI 5588 nut under the carter eyelet to avoid accidental unfastening.

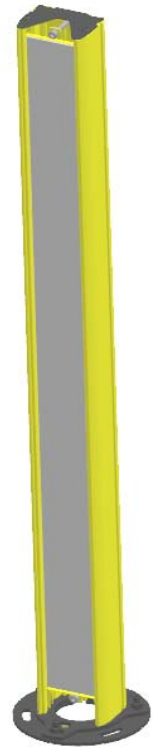
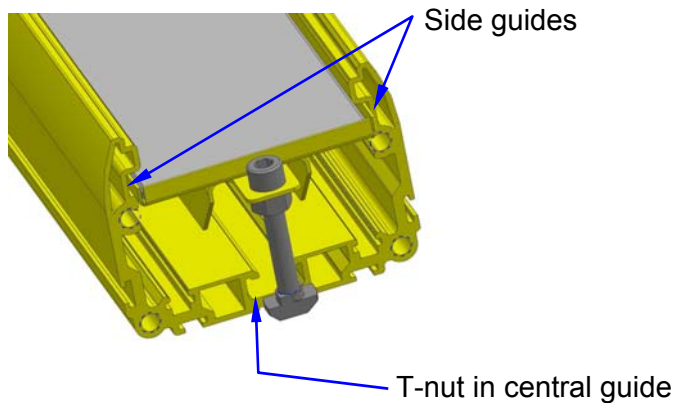


Fig. 6

## SG-P ACCESSORY MOUNTING

Fasten the plate to the floor with the screws and insert the 3 load-bearing springs on the spacers on the plate. Place the column on the springs so that the slots in the bottom plate are aligned with the springs. Insert the M10 UNI 5931 screws and washers, provided with the SG-P accessory, in the slots and tighten them while gradually pressing down upon the 3 load-bearing springs. During this phase the vertical axis can also be adjusted. Use as a reference the spheric level and choose the rough angular position using the slots and the reference marks on the bottom plate. The optimal working height for the load-bearing springs (which corresponds to the distance between the fixed plate and the bottom plate) is approximately 42 mm. Once it rests on a level surface and the maximum angular position has been established, it is possible to perform a fine adjustment of the angular position by working on the dowels and the lock nuts of the moulded plate (Fig. 7).

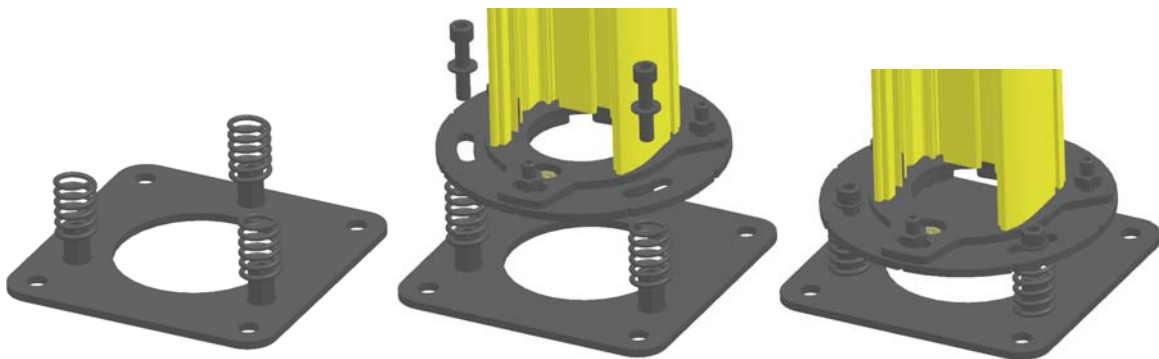


Fig. 7

## ADJUSTMENT

### ADJUSTING THE VERTICAL AXIS AND THE ANGULAR POSITION OF THE PLATES

Fasten the plate to the floor in the desired rough angular position, according to the positions established by the reference grooves (main angles:  $0^\circ$  -  $45^\circ$  -  $90^\circ$  for each quadrant); to do this, use the 3 slots on the bottom plate and M10 screws. Do not tighten the M10 screws completely. Unfasten the lock nuts on the dowels, then use the dowels to adjust the inclination; during this operation, use the spheric level as a reference. Once the desired inclination is obtained, tighten the screws to the floor. If necessary, proceed to a further adjustment by rotating the moulded plate to the desired position, then tighten the lock nuts on the dowels (Fig. 8).

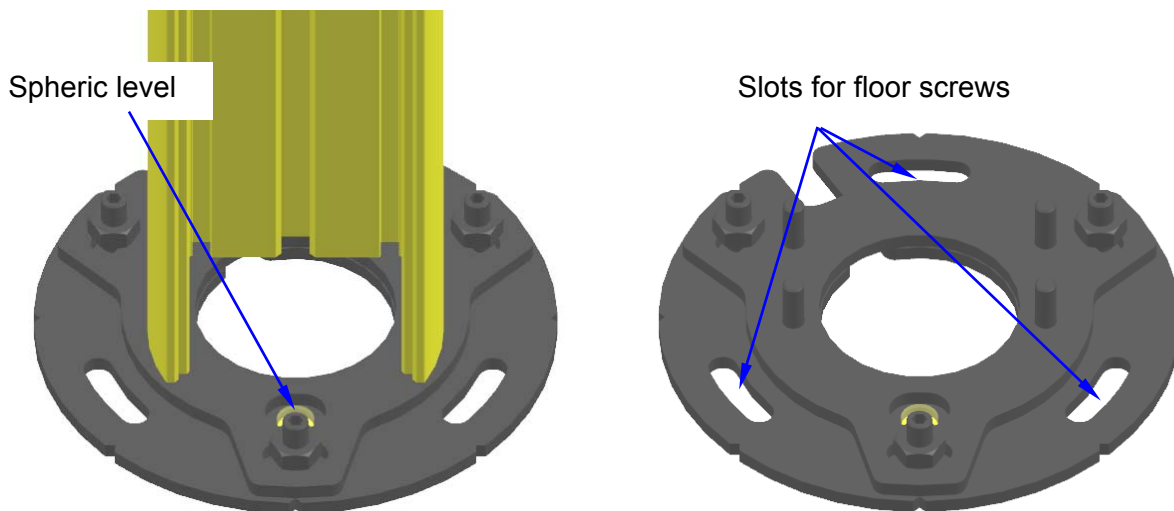


Fig. 8

## INSTALLATION

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### LIGHT CURTAIN INSTALLATION

For light curtain alignment procedure, see the instruction manual of each specific model.

### INSTALLATION OF SG-PSB WITH SG-DM

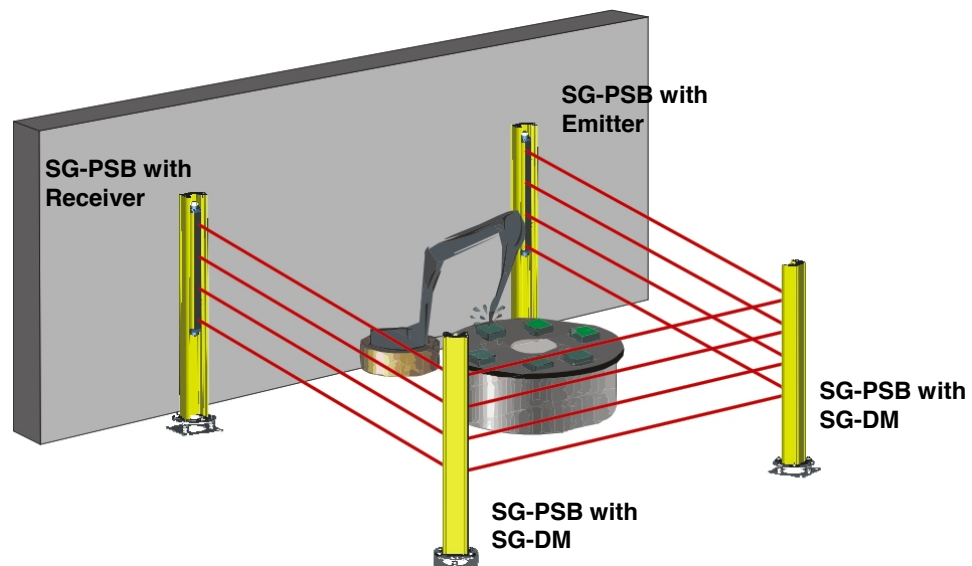


Fig. 9

1. Define the area to protect and the precise positions where the deviating mirrors and the emitting and receiving units of the light curtain will be installed.
2. Install the SG-DM mirrors inside the suitable model of the SG-PSB, with the help of the ST-PS-DM kit (see Fig. 6). The table "Corresponding Models" in the SG-DM manual gives an overview of how to match products with deviating mirror models.
3. Once the mirrors have been installed inside the Protective Armor Stand, place the Protective Stand in the established points. Fasten the supports (or SG-P) to the floor, in the defined points, verifying that their axes are perpendicular to the floor; use the spheric level provided to fine adjust their inclination if necessary.
4. Orient the mirrors to about  $45^\circ$  with respect to the optic path; the Protective stand guarantees an adjustment interval around the vertical axis of about  $\pm 5^\circ$  once secured to the floor.
5. Insert the SG-LP laser pointer in the upper part of the emitting unit; orient the unit so that the laser beam hits the surface of the first mirror in a central point of the vertical axis and at the same height at which the pointer is installed.
6. Repeat the same procedure inserting the pointer in the lower part of the unit; if necessary repeat these procedures until the desired result is achieved.
7. Orient the first mirror so that the laser beam hits the second mirror as described above.

For the angular adjustment, see the "Adjusting the inclination and the angular position of the plates" section, if using the SG-PSB accessory with SG-DM mounted without the SG-P kit. If the SG-P accessory is being used, adjust as specified in the "SG-P Accessory Mounting" section.



**NOTE**

*The laser pointer, due to mechanical tolerance issues related to its use in combination with the bar, provides an approximate measurement. It might be necessary to carry out small adjustments to the alignment of the two units following the regular ALIGNMENT PROCEDURE described in the safety light curtains Instruction Manual. We recommend NOT to make any further changes to the position of the mirrors, as the laser beam guarantees their perfect alignment.*

## AVAILABLE MODELS

### SG-PSB

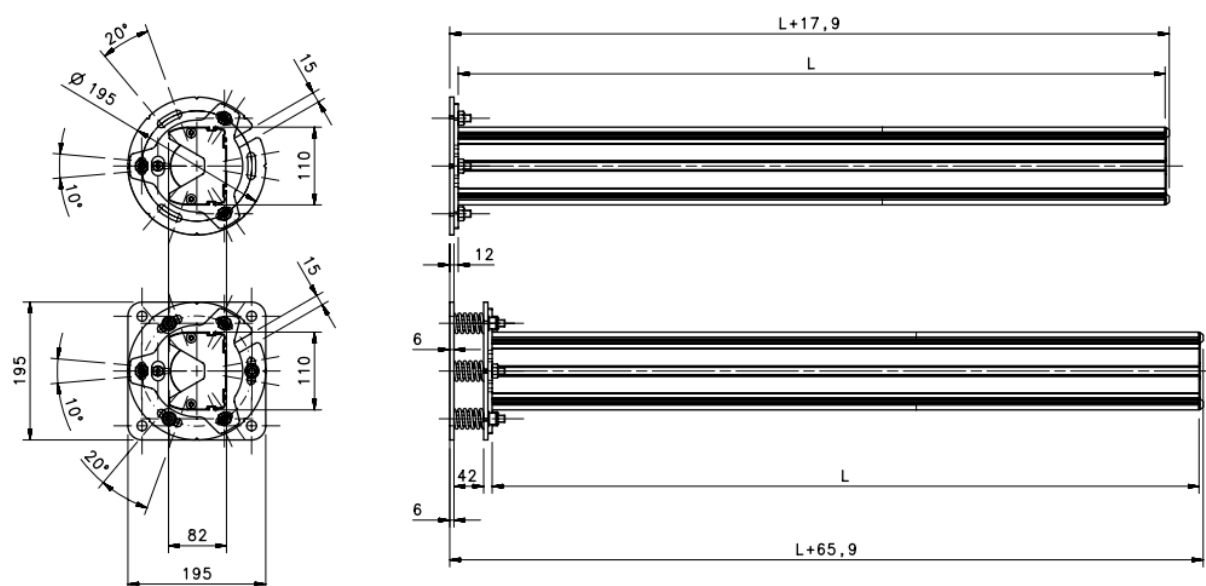
MODEL	DESCRIPTION	ORDER No.
SG-PSB 600	Protective Stand H=600 mm	95ASE2240
SG-PSB 1000	Protective Stand H=1000 mm	95ASE2250
SG-PSB 1200	Protective Stand H=1200 mm	95ASE2260
SG-PSB 1650	Protective Stand H=1650 mm	95ASE2270
SG-PSB 1900	Protective Stand H=1900 mm	95ASE2280

### ACCESSORIES

MODEL	DESCRIPTION	ORDER No.
ST-PS4-SG/SE	4 pcs. SG/SE light curtain mounting kit	95ASE1750
ST-PS6-SG/SE	6 pcs. SG/SE light curtain mounting kit	95ASE1760
ST-PS4-SG Body	4 pcs. SG Body light curtain mounting kit	95ASE1730
ST-PS6-SG Body	6 pcs. SG Body light curtain mounting kit	95ASE1740
ST-PS-DM	Deviating mirrors mounting kit	95ASE1770
SG-P	Double plate with compensation springs kit	95ASE2290

## OVERALL DIMENSIONS

The overall dimensions of the complete product for all available models are shown below.



Modello	Codice	L (mm)
SG-PSB-600	95ASE2240	600
SG-PSB-1000	95ASE2250	1000
SG-PSB-1200	95ASE2260	1200
SG-PSB-1650	95ASE2270	1650
SG-PSB-1900	95ASE2280	1900

Fig. 10

### DECLARATION OF CONFORMITY

We DATALOGIC AUTOMATION declare under our sole responsibility that these products are conforming to the 2004/108/CE and successive amendments.

### WARRANTY

DATALOGIC AUTOMATION warrants its products to be free from defects.

DATALOGIC AUTOMATION will repair or replace, free of charge, any product found to be defective during the warranty period of 36 months from the manufacturing date.

This warranty does not cover damage or liability deriving from the improper application of DATALOGIC AUTOMATION products.



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