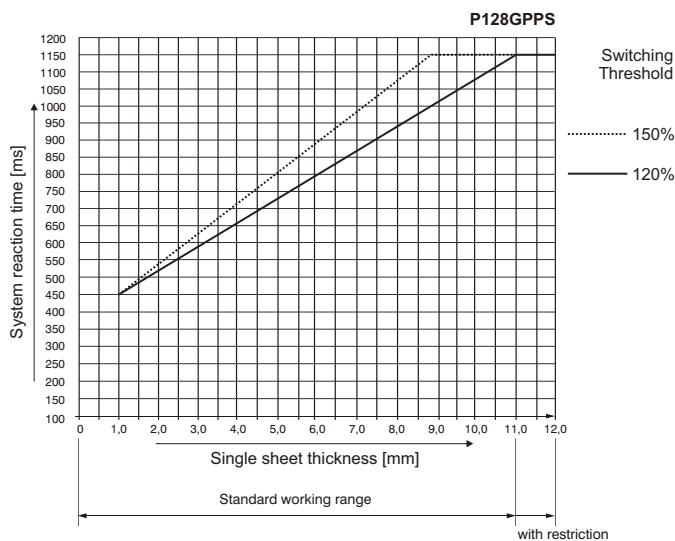


Single-Sided Double Sheet Detection of Thick Blanks

The automation of sheet metal processing expands continuously into new areas. Until now automated destacking and double sheet detection applied primarily to thin sheets used in metal packaging and automotive applications. But new requirements call for double sheet detection for blanks as thick as 12 mm used for structural components in truck manufacturing or shipbuilding.

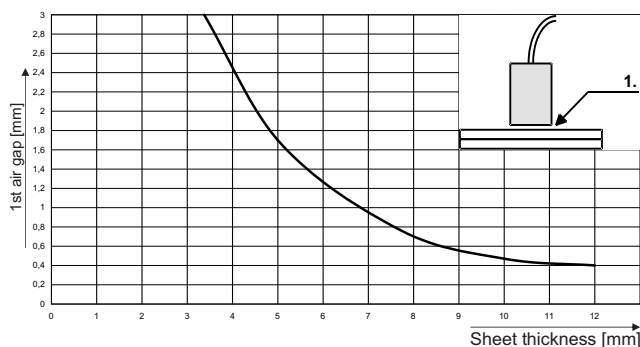


For that reason Roland Electronic developed the new double sheet sensors P128 which is suitable for single sheet thicknesses up to 12 mm. Although considerable effort was expended to make this new sensors largely compatible to the current control units, the higher power requirements have resulted in certain restrictions. For this reason only the fieldbus control unit E20 is powerful enough to drive this new sensor. Also the measuring and recovery times of the sensor are higher compared to sensors for thinner sheets, compare the diagram to the left.

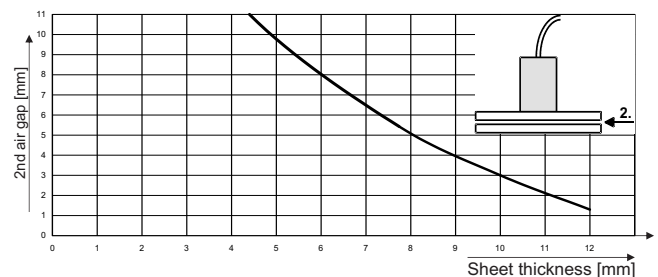
However, increased measurement times do not necessarily impact negatively on the generally longer processing cycles.

As thicker sheets are generally not as flat as thinner sheets the design effort focused on improving the air gap tolerance of the operation as depicted in the following diagrams.

Maximum air gap between sensor and 1. sheet (1. air gap)



Maximum air gap between 1. and 2. sheet (2. air gap)



Attention! The air gaps are not cumulative!

Technical data:

Working range

Measuring time (120%)

Sensor Diameter

Sensor Length without plug

Weight

Operating temperature

Class of protection

Ferrous material from 1 mm to 12 mm single sheet

450 ms to 1.15 Second

M128 x 1,5

85 mm

7 kg

0° - 60°C

IP65