Safety systems and gearbox for automotive industrie
Pressure Sensor InLine Calibration
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The machine calibrates pressure sensors. The sensors are supplied to the machine via a belt system on customer workpiece carriers. A linear axis picks up the components and puts them into a buffer. Here, they are picked up by a portal handling and are handed over to the room temperature chain conveyor. This conveyor carries the components to the calibration station. The calibration station process flow is controlled by a customer test equipment. Sonplas provides a high-pressure air accuracy and stability during the calibration process. After the room temperature calibration the portal handling sets the sensors on the chain conveyor on the oven side. Inside the oven there are temperature zones each with another calibration station whose process flow is also controlled by the customer test equipment. After temperature calibration the sensors can cool down in the chain conveyor before they are picked up by the portal handling, which puts the parts into a buffer. The parts are picked up from the buffer by another linear axis which puts back the parts into the customer workpiece carriers.

Highlights
Component supply on customer workpiece carrier — Component reaction by linear axis with double gripper — x sensors on one workpiece carrier — Workpiece carrier transport in gondolas through the chain conveyor (1x room temperature, 1x oven) — Portal handling with x fold grippers — Component anti-rotation device in the workpiece carriers — Calibration of x sensors simultaneously — Calibration process flow controllable by customer — Individual sensors can be excluded from the test — Connection to customer data acquisition system — Reduction of Joule-Thomsen-Effect by special control unit — High tightness due to special coating on the sealing lances — Adjustable sealing force by means of lever principle — Fast pressure regulation — Calibration stations in different temperature zones — (from room temperature till over 100°C)

Technical Data
High-pressure stability during the calibration process < 50mbar — High-pressure accuracy <= +/−1 bar — Fast pressure build up < 2 sec — High temperature stability < 2 °C — Fast DMC reading < 100 ms — Air pressure calibration up to 350 bar — TCP/IP communication with measurement equipment