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DEPRAG – PRESS-INSERTION MACHINE

This Assembly Station was designed for the feeding and press-insertion of safety-screws (see small picture) into an automotive cylinder-head cover. The screws are pre-assembled into sleeves. Complete cycle time is 25 seconds (including time needed for loading of parts by operator).

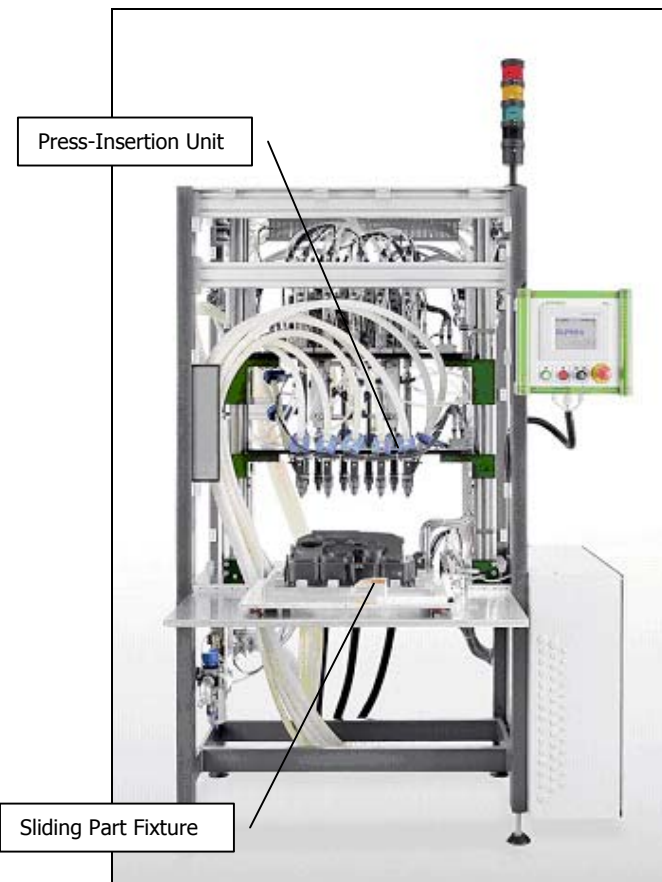


Machine Components:

13-Spindle Insertion unit with automatic feeding and vacuum sockets. The 13 press-insertion modules can be individually moved and positioned to assure the correct depth of each individual screw

Machine Cycle Description:

1. The operator loads the cylinder head cover into the sliding part fixture. Simultaneously, 13 screws are automatically fed and their presence verified by ring proximity switches.
2. The operator slides the sliding part fixture into the machine. As soon as the fixture is fully inserted into the machine, the mouthpieces holding the screws, slide underneath the vacuum sockets.
3. All 13 screws are individually picked out of the mouthpieces by the vacuum sockets and a pressure sensor verifies the pickup process.
4. The press-insertion unit moves over the cylinder-head cover and the insertion cylinder and vacuum sockets press the screws by through the nosepieces into the appropriate locations. The depth of each individual screw is verified by using a cylinder limit switch.



[Press Insertion Machine]



Please use this link to activate a video clip!
(Caution: the size of the video is rather large and requires a fast download speed)

Machine Cycle - continued:

5. If the cylinder-head cover is assembled correctly, the sliding part fixture automatically retracts and the Operator can remove the completed part.
6. If an assembly error occurred, the slide fixture remains in the machine. The operator has to acknowledge the error on the HMI. Only then will the sliding part-fixture move out of the machine and the part may be removed.

This machine was designed and manufactured for the German auto-parts manufacturer WOCO Industrietechnik GmbH. The name WOCO stands for innovative automotive engineering with the focus on acoustics, vibration technology and vehicle comfort. As a worldwide primary developer for the automotive industry, WOCO concentrates on acoustic and vibration-related solutions for the entire vehicle.