

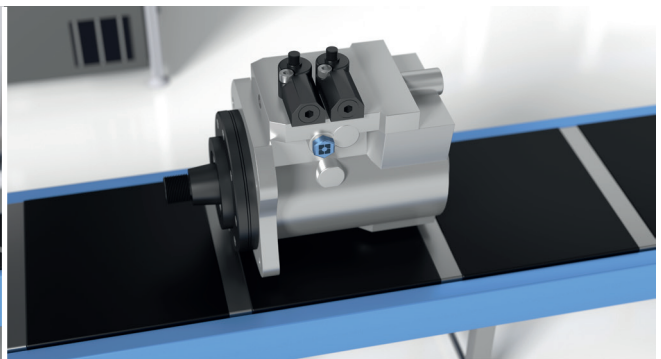
## Identification – Work-in-Progress

# USING RFID TO MONITOR PRODUCTION IN AUTOMATED ASSEMBLY

In an assembly process it is important to always be able to track vendor and lot information for all the installed components. When the need is for highly flexible production on a line consisting of various product versions, RFID tags on the workpiece carriers (or on the product itself) will help you by monitoring and controlling. RFID makes batch size 1 possible in mass production.



RFID tag attached to a workpiece carrier, containing data about the production sequence for the workpiece



RFID tag attached directly to a workpiece (here: data screw) containing data about the production sequence for the workpiece

In production processes you need to prevent defective components from being installed in a workpiece (Work in Progress – WIP). This is important due to assembly and installation errors leading to loss of time, material and sales.

With RFID read/write tags on each workpiece carrier and a read/write antenna at each workstation you can prevent this: the individual parts are correctly identified and the process steps permanently monitored. In addition the data carrier monitors the individual assembly steps and allows you to track the overall process.

If an error is discovered, an error code is written to the RFID tag which is then identified by the RFID read/write head at the next work step. The defective WIP can then be shunted out and reworked.



Data carriers as data screw, angled data carrier and in other styles – to meet any needs of the user

Read/write heads and data carriers in various form factors to match user requirements

Read/write head with integrated processor unit

Multi-frequency processor unit in an RFID system for using multiple RFID read/write heads or antennas

Various RFID technologies with tailored components are available for production control:

**Data carriers or tags** are available in various form factors, memory capacities and working distances. For example you can use data screws for their large data capacity, ease of installation and ruggedness.

**Read/write heads** are available even for use in tight installation conditions or for variable read distances. It's easy to connect a read/write head with integrated processor unit and bus system to the control level.

**Process units** allow you to operated up to four read/write heads or antennas at different frequencies and connect to the control level through various fieldbuses.