

MK RFID Technology



RFID-based traceability for the highest cleanroom and GMP requirements

Our innovative system enables seamless and audit-proof traceability of application-relevant objects (such as gloves, RTP containers, etc.), fully compliant with GMP Annex 1. Each glove is equipped with a unique RFID ID, ensuring automatic identification across multiple systems. All integrity tests, as well as the complete lifecycle history, are directly assigned to the respective ID and digitally documented.

A key advantage of MK RFID technology lies in its exceptional robustness: the RFID chips are integrated into a high-quality PTFE housing and withstand at least 250 autoclaving cycles under demanding conditions. This ensures that functionality and reliability are permanently maintained even after repeated sterilization – a critical factor for use in regulated pharmaceutical processes.

Thanks to this durable design, the system is compatible with standard sterilization methods used in the pharmaceutical industry and meets the highest purity requirements – without introducing additional particle sources. This makes it ideally suited for use in critical cleanroom environments.

The contactless RFID technology enables simultaneous reading of multiple gloves (bulk reading) as well as error-free writing and recording of test data.

The result is an efficient, safe, and fully digitalized process that reduces operator effort while sustainably improving quality and process reliability.

All product information contained in this document has been reviewed and approved by Patrick Muth, Product Manager.

Functional Comparison	RFID (UHF)	2D QR Code	1D Barcode
Reading method	Wireless and contactless reading	Visual Scan required	Visual Scan required
Alignment required	No	Yes	Yes
Line-of sight required	No	Yes	Yes
Typical reading distance	short to long range (depending on RFID-technology)	Short range	Short range
Bulk reading capability	Multiple items scan	Single-item scan only	Single-item scan only
Suitability for automation	Highly suitable	Partially suited	Partially suited
Data storage method	Unique ID (linked to system/database)	Image-encoded information	Image-encoded information
Cleanroom compability	High (embedded, no addess materials)	Limited (labels/ink)	Limited (labels/ink)
Performance after sterilization	Compability has been verified	Risk of fading or failure	Risk of fading or failure
Manual handling dependency	Very low	High	High
Error risk	Low	Medium	Medium-high
Glove-level traceability	Highly suitable	Only partly suitable	Not suitable
GMP/Annex 1 support	Strong compliance support	Limited support	Limited support