

# **BiTech<sup>®</sup>** Waste Disposal Management

The RFID system for intelligent waste management





## **BiTech®** Smart cities need smart waste management logistics

The intelligent solution for waste identification

Automated vehicles, intelligent waste containers and efficient recycling plants: Industry 4.0 has arrived in the waste disposal and processing industry, and it is automated and individualised. Today, onboard computers and ID systems as well as efficient weighing areas are part of the standard repertoire of any modern waste management company.

Chipped waste bins, mobile applications and software solutions are all used for route optimisation to make everyday work easier by making processes faster, more

transparent and more efficient. This is driving forward an increasing interconnectedness between waste apps and smart bins. As conserving resources whilst saving time and money is critical within waste management now more than ever. Demand-oriented disposal supports more efficient processes and increased planning reliability, strengthening the competitiveness of companies and creating new growth opportunities. Digital documents will determine the future of waste management as digitalisation in waste disposal continues to advance.

### Advantages for disposal contractors and municipalities:

- ✔ Transparency in logistics and finances
- ✔ Cost savings/disposal certificates
- ✔ Extension of service
- ✔ Only paid service is fulfilled (blacklist)
- ✔ Secure investments through modular structure
- ✔ Transparency of costs and services towards consumers and disposal contractors
- ✔ Facilitated information disclosure towards consumers
- ✔ Avoidance of illegal emptying
- ✔ Better acceptance of the notices
- ✔ Evaluations for future fees
- ✔ Incentive for waste avoidance & steering towards the separation of valuable resources



**BDE**

Bundesverband der Deutschen Entsorgungs-,  
Wasser- und Rohstoffwirtschaft e.V.  
Wirtschafts- und Arbeitgeberverband

## 1 LFR 4 universal reader

Reader for tooth and body antennas

The LFR 4 reads disposal containers with HDX and FDX transponders and identifies the antenna's transponder and reference numbers, which can be transferred to tablets or the on-board computer. The auto-trim function ensures quick installation and immediate system functionality. If required, up to 4 antennas can be connected. Due to the auto-trim function, different tooth and body antennas can also be combined.

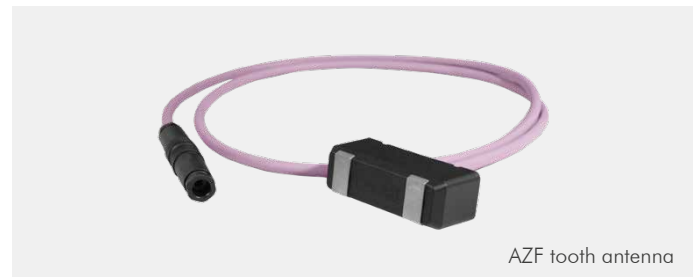


LFR 4 universal reader

## 2 AZF tooth antenna

Perfect reading range, direct mounting

The antenna has a reading range of up to 5 cm and a high mechanical stability. The mounting location is predefined by mounting directly on the comb lift. The tooth antenna ensures a fast and valid reading of HDX or FDX transponders, independent of the lifter or the containers.

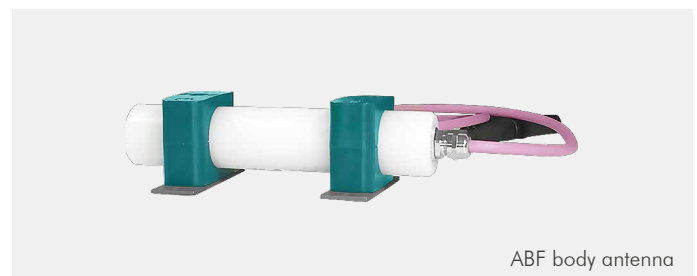


AZF tooth antenna

## 3 ABF body antenna

Reliable detection, optimum reading range

All disposal containers with HDX and FDX transponders are identified quickly and reliably, even if mixed. The auto-trim function ensures quick installation and immediate system readiness. The reading range of up to 20 cm makes it ideally suited for containers made of plastic or metal.



ABF body antenna

## 4 ASF rear comb antenna

Best reading performance with compact design

The rear comb antenna can be perfectly mounted behind the dumping comb and is therefore ideally suited when the installation of a tooth antenna is not possible. The use of the rear comb antenna allows different container sizes to be attached and read out on both rear loaders and side loaders.



ASF rear comb antenna (Image similar)

## 5 UHF long range reader

Long range, rugged design, IP67

The TSU readers impress with their extremely robust aluminium die-cast housing with compact design. The reader and antenna are built into one housing and optimally matched to each other by the manufacturer. This enables reliable adjustment of the reading performance! The TSU 200 achieves a reading range of up to 7 m. The operating status is clearly signalled via LEDs. All connections on the reader are designed as M12 connectors.



TSU 200 UHF long range reader

# Disposal vehicles and systems

RFID - technology for: Rear, side and front loader



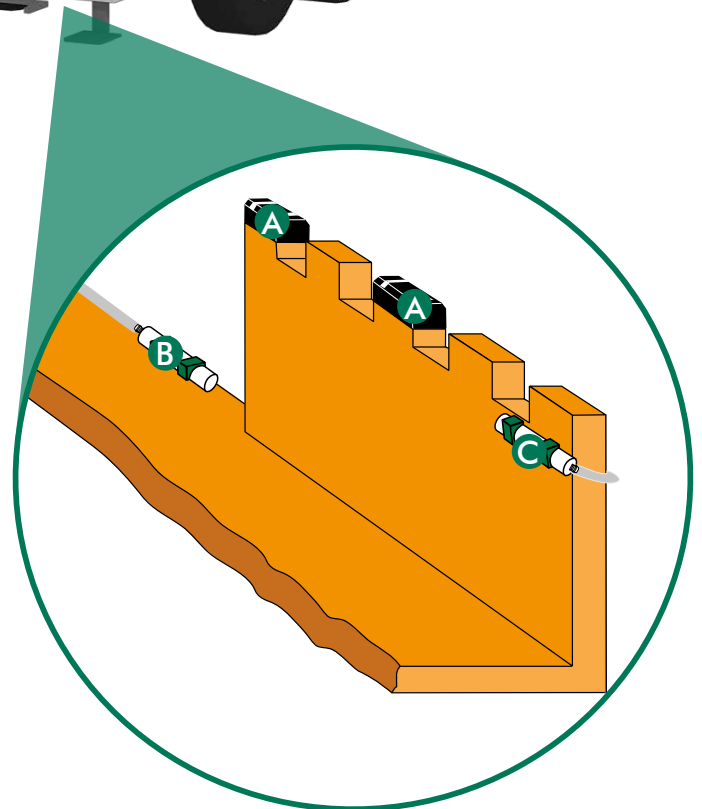
## AT function

Patented technology

The AT (auto-trim) function saves a lot of time during installation and service. It is also available for side and front loaders with UHF systems.

Should maintenance service be necessary, the tooth or body antenna can be replaced without manual re-trimming. The AT function ensures easy installation of the system even with different cable lengths.

- A** AZF  
Tooth antenna mounted on the comb
- B** ABF  
Body antenna for large plastic or metal containers
- C** ASF  
Rear comb antenna mounted behind the dumping comb



## 6 THH Handheld

LF, HF, UHF & barcode data collection

The Quadro Handheld is the latest generation of the rugged handheld scanner. It is equipped with LF, HF and UHF reading technologies. Additionally, a fourth reading technology, a QR/barcode scanner, can be retrofitted if required. After scanning the handheld is easily read via a USB interface. A special vehicle cradle is available for use in vehicles.

## 7 BCH-Vehicle holder

USB data connection to the onboard computer

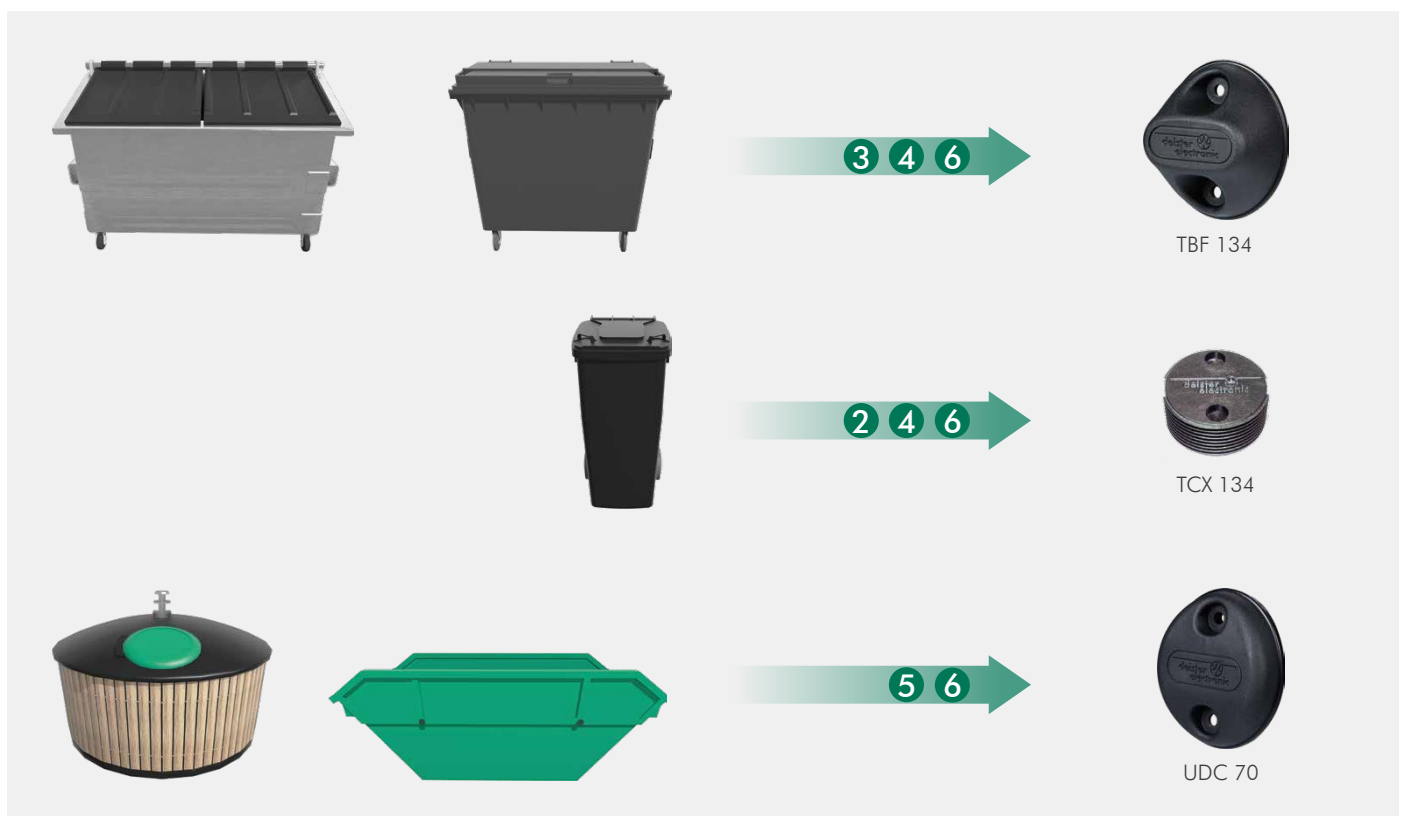
A secure cradle for the THH handheld with status indicator lights, which can also be used as a charging station and for data exchange with the onboard computer.



## Transponders

Best reading performance in all applications

The TBF 134 body-mounted transponders are suitable for large plastic or metal container types. The TCX 134 is ideal for chip nest mounting on all plastic containers, and the UDC 70 series is designed for large reading distances in the container area. The available frequencies are 134 kHz and 868 MHz. A robust and compact design (IP67) makes them resilient to humidity and temperatures ranging from -25 °C to +85 °C.



# Areas of application in the waste disposal and recycling industry

RFID systems ensure smooth operation



## Recycling centres and waste disposal sites

Authorise self-service drop-off of recyclables; manage automatic receipts and use.



## Recycling facilities

Protect employees, monitor access to machinery and equipment; organise and track recyclables.



## Container identification

Verification of UVV measures and container provision as well as manual disposal certificates.



## Drop-off container and management

Detailed, digital reporting including location documentation in connection with GPS tracking systems.



## 24/7 Depot

Electronic identification for access control and automatic weighing of the vehicle - around the clock.



## Circular economy

Small and lightweight UHF readers directly on the crane boom for the secure identification of glass containers.

## About deister electronic

deister electronic is an innovative, family owned global business with 40 years of experience in developing electronic and mechanical products for security and industrial automation. Widely acclaimed for our expertise and specialist implementation of RFID technology within practical applications, from key management and access control to logistics and process control.

## deister electronic GmbH

Hermann-Bahlsen-Straße 11  
30890 Barsinghausen, Germany  
E-Mail: [info.de@deister.com](mailto:info.de@deister.com)  
Tel.: +49 5105 516111  
Fax: +49 5105 516217

For further technologies and solutions visit: [www.deister.com](http://www.deister.com)

