



## MAUSER IBC program – a perfect fit for great logistics.

Quality, security, innovation and sustainability included!



REDEFINING SUSTAINABILITY



**FACILITIES**  
180+

**TEAM MEMBERS**  
11,000+

**GEOGRAPHIC FOOTPRINT**  
5 CONTINENTS  
20+ COUNTRIES



Recollection and recycling across the full packaging life cycle reuses precious materials.



## About MAUSER Packaging Solutions

A global leader in packaging solutions and services, MAUSER Packaging Solutions (MPS) supplies metal, plastic, fiber, and hybrid packaging of all sizes to numerous industries worldwide.

### True sustainability at scale

Our unparalleled, innovative solutions cover the full packaging life cycle, providing customized, environmentally friendly options that give businesses across the planet a lighter ecological footprint.

### Global reach for worldwide impact

Our network of design, manufacturing, reconditioning, and recycling facilities can deliver high-quality solutions virtually anywhere, helping to boost efficiency and achieve true sustainability at scale, worldwide.



## Sustainable Solutions

Sustainability is based on the 5 principles following our comprehensive ECO-CYCLE® concept:

- RENEW** Investigate promising future materials.
- REDUCE** Minimize raw material use, energy consumption, and environmental impact.
- RECOLLECT** Operate a global recollection system.
- REUSE** View reconditioned packaging as a high-quality, environmentally low-impact solution.
- RECYCLE** Close the cycle, giving materials new life.

We successfully introduced our Infinity Series post-consumer resin (PCR) plastic drums years ago. **But now we also offer the most sustainable IBC on the market which is made with a multilayer MAUSER Infinity Series Bottle.**

- ▶ Available with all kinds of pallets
- ▶ Environmentally friendly and sustainable
- ▶ Made with high-quality PCR
- ▶ Is already available as a non-UN IBC (a UN IBC version is planned for the future)

### Multilayer 2

<b>OUTSIDE</b>	<b>PCR &amp; process regrind – best selected translucent PCR.</b>
<b>INSIDE</b>	<b>Virgin HDPE (IBC) – filling good contact with virgin HDPE only.</b>



Components of a modular MAUSER IBC



## The MAUSER IBC

MAUSER's wide range of composite IBCs for hazardous or sensitive filling goods provides high-quality packaging solutions worldwide. They all comply with international packaging regulations governing the transportation of dangerous goods and meet customers' requirements regarding stability, functionality, and packaging reliability.

Top design, a modular structure, attractive design features, and international availability make MAUSER

a leading global brand for IBCs. Each container is a customizable packaging solution, comprising a galvanized steel cage, blow-molded PE bottle, pallet, discharge valve, label plates, screw caps, optional corner protectors, and (de-)gassing solutions.

Their optimized vibration- and shock-resistant cage design enables two-high stacking (or more in static storage).

### EXEMPLARY COMPONENTS OF A MAUSER IBC

 FILLING	DN 150 / DN 225
 DEGASSING	D15 / D17 / D38 degassing membrane integrated in lid
 LABEL PLATES	Small / Medium / Large label plate
 PRIMARY PACKAGING	HDPE natural / white / black colored bottle, optionally with corner protectors
 DISCHARGING	DN 50 / DN 80 discharge valve (butterfly / cylindrical / ball)
 HANDLING	Wooden / Composite / Plastic pallet

All materials used for MAUSER IBCs are carefully chosen. Material performance as well as supply security and reuse of material are extremely important to us.

## IBC Classification

MAUSER IBCs are available as non-UN, UN-approved, and high-level UN-approved containers with a nominal volume of 1,000 l (275 gal). In North America, 330 gal IBCs are also available.

### Standard Non-UN

- ▶ Safe and efficient for non-regulated products, i.e. non-hazardous liquid filling goods.



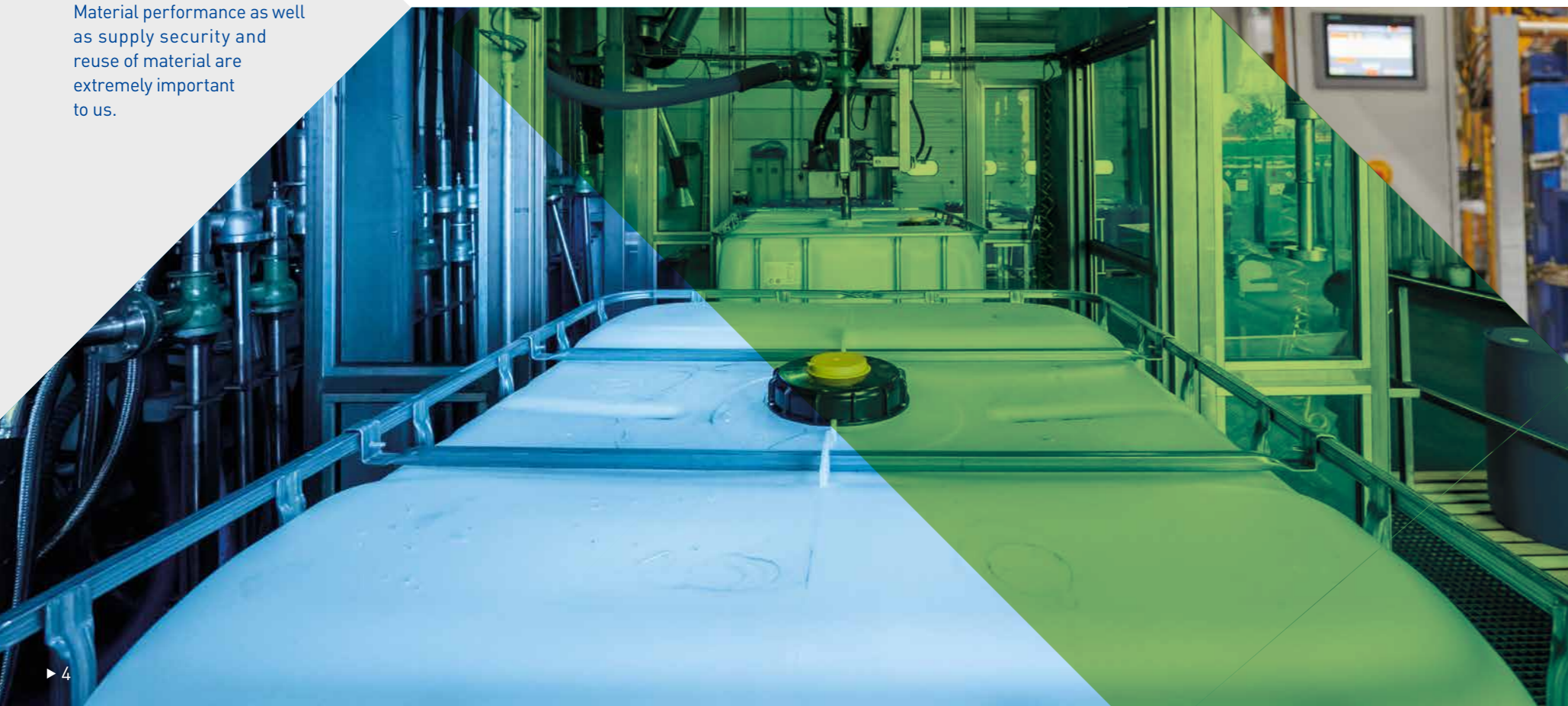
### Standard UN Y1.9

- ▶ For high-density filling goods up to 1.9 kg/l



### Fit for purpose UN Y1.6

- ▶ For goods filled at low temperatures and densities up to 1.6 kg/l
- ▶ Optimal weight/performance ratio
- ▶ Cost-optimized
- ▶ Resource-efficient design







### Plastic pallet (PP)

**General features:**

- ▶ Extra hygienic, not prone to contamination
- ▶ One-piece injection-molded with encapsulated steel reinforcement
- ▶ Made of light, largely recycled plastic
- ▶ Ideal for foodstuffs and pharmaceuticals

### MAUSER IBC Series

The main characteristic of an IBC is the pallet. All different types of MAUSER pallets are reusable and resource-efficient. The composite and plastic pallets are both produced in-house.

#### Composite pallet (CP)

3 types (standard frame, skid and ISO container)

**General features:**

- ▶ Modular design
- ▶ Robust steel and plastic composite
- ▶ Perfect combination of plastic and steel for ideal impact resistance
- ▶ Better handling for long-term use
- ▶ Limited permanent damage
- ▶ Anti-corrosion plastic drip pan
- ▶ EX-compliant by integrated grounding for electrostatic load
- ▶ Superior reconditioning and reuse of recycled plastic

**Composite pallet frame:**

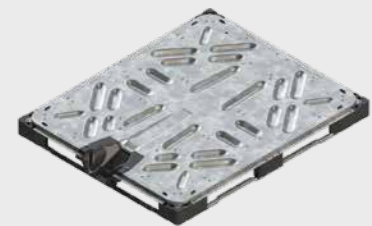
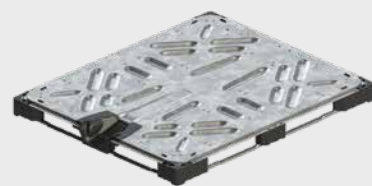
- ▶ Stiffer for better high-rack performance
- ▶ Less pan sagging

**Composite pallet skid:**

- ▶ Revolutionary tube frame structure replacing central traversal support
- ▶ Easier, safer handling

**Composite pallet ISO container:**

- ▶ When double stacked, fits perfectly into a container
- ▶ Maximizes container loads.



### Wooden pallet (WP)

3 types (standard, high-rack, and ISO container)

**General features:**

- ▶ Robust design for easy handling and high rigidity
- ▶ Optional heat treatment

**Standard wooden pallet:**

- ▶ Cost-efficient, built to MAUSER's highest standards

**Wooden high-rack pallet:**

- ▶ Ideal for high-rack storage

**Wooden ISO container pallet:**

- ▶ Maximized container loading: 20 instead of 18 IBCs in a 20" container or 56 instead of 54 in a 40" container







## IBC Bottles

Blow-molded from high-density UV-stabilized PE for excellent chemical compatibility and mechanical strength, these bottles are suitable for many filling goods.

### COLOR

- ▶ Natural (translucent)
- ▶ White (LP = light protect)
- ▶ Champagne (PCR)
- ▶ Black

### TECHNOLOGY

- ▶ Monolayer
- ▶ 2-layer
- ▶ 3-layer
- ▶ PCR-layer
- ▶ Permeation barrier (inliner)

## IBC Cages

- ▶ Tubes for IBC cages are centrally produced at MAUSER's Tube Center in Erkelenz, Germany.
- ▶ Maximum rigidity and stackability
- ▶ Withstand dynamic and static loads during all transport and storage
- ▶ Proven IBC security

### Features of the patented cage design:

- ▶ Zinc-coated tubular steel
- ▶ 6 horizontal bars, 20 vertical bars
- ▶ 4-spot weld fix
- ▶ Vibration-optimized
- ▶ Optimal stacking
- ▶ Galvanized against corrosion
- ▶ 1,035 mm high
- ▶ 1,198 mm long

Optimization of all components and their interaction as well as our use of vertical and horizontal tubes increase the safety and reliability of your IBCs.

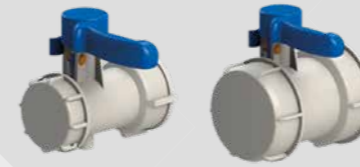


## IBC Discharge Valves

MAUSER IBC discharge valves have a rigid, 1-piece polyethylene body which increases both their strength and resistance to corrosion. In addition, they have a retained gasket which improves the efficiency of the seal. The choice of PE as gasket material avoids the need to evaluate compatibility in relation to filling goods. Butterfly and cylindrical valves are produced in-house, giving full control over production and quality. 100% inspection is made to secure functionality and liquid-tightness. In every site producing IBCs, the valve-assembly on the bottle is also automated in a fully controlled process.

### Butterfly Valve DN 50 (2") & DN 80 (3")

Robust, tried-and-tested, easy to use, with moveable components made of fiberglass filled plastic for additional strength.



#### Butterfly Valves

- ▶ Available in 2" and 3"
- ▶ Highly universal due to the outstanding chemical compatibility of the ETFE seal used for the valve flap
- ▶ Available in metric and NPS threads
- ▶ Available with an integrated 2" camlock front end
- ▶ Gasket type: PE

### Cylindrical Valve DN 50 (2")

Cylindrical and ball valves have an internal cylinder. The handle can be freely rotated to any position between two extremes: open (unrestricted flow) and closed.



#### Cylindrical Valves

- ▶ Available in 2"
- ▶ Permits unrestricted flow in the open position
- ▶ Flow rate regulation opportunity
- ▶ Providing twice the sealing power in the closed position
- ▶ Available in metric and NPS threads
- ▶ Available with an integrated 2" camlock front end
- ▶ Gasket types: EPDM (red) or FKM (gray)

### Ball Valve DN 50 (2")

A particularly strong, high-performance valve ideal for long-term multi-use applications.

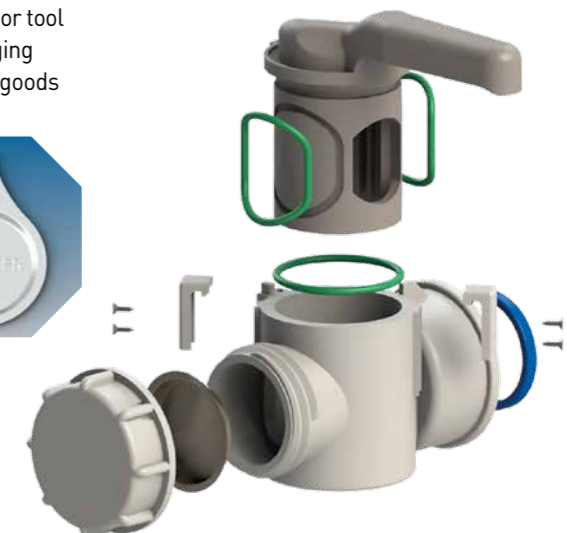
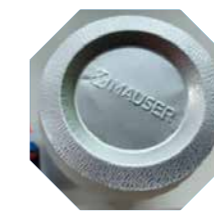


#### Ball Valves

- ▶ Available in 2"
- ▶ Permits unrestricted flow in the open position
- ▶ Flow rate regulation opportunity
- ▶ Providing twice the sealing power in the closed position
- ▶ Available in Camlock/NPS threads
- ▶ Gasket type: PTFE

### Benefits of the easy-peel aluminum sealing foil on MAUSER IBC valves:

- ▶ Fully recyclable
- ▶ Tamper-evident
- ▶ Leaves no residue, no risk of contaminating filling goods.
- ▶ Easily removable without a knife or tool
- ▶ Ensures quick and easy discharging
- ▶ Suitable for food industry filling goods





## Screw Caps & (De-)Gassing

MAUSER screw caps and pressure-relief systems meet the storage, transportation, and discharge requirements associated with a huge range of filling goods.

Please contact our technical department for advice on the best solution for you.

### Screw caps for filling openings

Color-coded protective caps keep out dust and pollution while identifying different types of packaging (e.g. green means a food-compatible IBC).

- ▶ Available in 150 mm or 225 mm
- ▶ Optional integrated venting and central bungs



### Venting systems

- D15 (SG1) / D17
- ▶ Standard (de-)gassing

### D38 high-performance (de-)gassing

- ▶ Prevents IBC deformation
- ▶ Protects against leakage/contamination of filling goods
- ▶ Enables quick re-aeration
- ▶ Mandatory for some filling goods

### The MAUSER OptiVent®

- ▶ One-shot emptying (discharging without unscrewing the cap)
- ▶ One-way airflow system
- ▶ High airflow and an integrated filter allow continuous emptying without external contamination

### The MAUSER OptiVent® PLUS

- ▶ One-shot emptying (discharging without unscrewing the cap)
- ▶ Two-way airflow system
- ▶ High airflow and an integrated filter enable continuous emptying without external contamination



## Label Plates

Information is key to logistics, especially when transporting hazardous goods. MAUSER's steel label plates can all be securely fastened and easily replaced or supplemented.

SMALL 235 x 500 mm



MEDIUM 400 x 500 mm



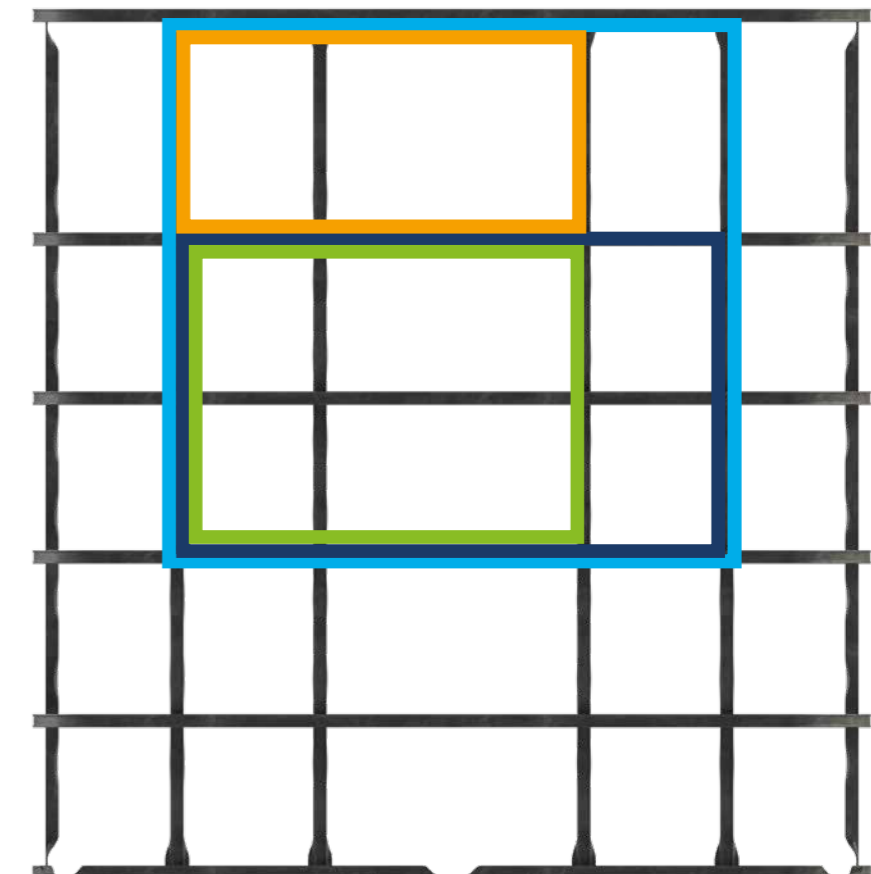
LARGE 400 x 670 mm



XXL 590 x 670 mm



SMALL (1 x 2)  
STANDARD (2 x 2)  
LARGE (3 x 2)  
XXL (3 x 3)







## MAUSER IBC special applications

Sensitive filling goods or EX-zones require top-end solutions.



### MAUSER Light Protection (LP) IBC

- ▶ Protects filling goods against UV and visible light
- ▶ White pigment reflects sunlight, limiting temperatures inside the IBC and avoiding chemical reactions
- ▶ Fits all pallets



### MAUSER EX IBC

- ▶ For EX-zones 1 and 2
- ▶ CENELEC-TR50404:2003- and BGR-312-certified
- ▶ UN-certified for all model liquids
- ▶ Innovative, extra-safe multilayer bottle
- ▶ Translucent inner container reveals filling level
- ▶ Optional discharge valve
- ▶ Inner container: Outer plastic layer prevents static build-up
- ▶ Screw cap: Structured surface prevents charging during handling
- ▶ Label: Prominent yellow label details handling instructions
- ▶ Discharge valve: Integrated grounding, conductive connection to metal cage
- ▶ Distinctive yellow corner protectors: Clearly identify a non-standard IBC
- ▶ Pallet: Integrated rounding, conductive connection to the ground



### MAUSER Food IBC

- ▶ Green lid indicates food
- ▶ Designed to meet multiple food standards, incl. HACCP & GMP/GHP
- ▶ All tested components and materials are certified food-compliant
- ▶ Perfect for fruit juice, fructose syrup, caramel, etc.



### MAUSER EX UL IBC

Economical, fully recyclable, limited-use IBCs, comprising a static-dissipative PE bottle inside a fire-resistant covering.

- ▶ Easy to fill, stack and load
- ▶ Maximum volume in minimum space
- ▶ Optimal strength protects filling goods
- ▶ UL 2368 registered
- ▶ Rating: UN Packing Groups II and III
- ▶ Complies with FDA food and drug regulations
- ▶ Static-dissipative-approved for EZ 1 & 2
- ▶ Grounded cage and bottle
- ▶ Perfect fit for ISO containers
- ▶ Quick valve and dust cap disconnect means minimal flow restriction and maximum product drainage



### MAUSER SKINliner® IBC

This economical, recyclable IBC's flexible multilayer inlay provides optimal barrier protection, making it perfect for applications involving food & beverages, flavors & fragrances, agrochemicals, paints, lacquers, and adhesives.

- ▶ Standard IBC capacity
- ▶ Fully recyclable without the inliner, making it the best sustainable enhanced-barrier-performance solution
- ▶ The SKINliner® comprises up to 35% fewer barrier materials such as EVOH
- ▶ Easily removable inlay; pollution of the inside will not affect the rigid part of the IBC
- ▶ The SKINliner® is 96% recyclable; all rigid multilayer packaging is downcycled
- ▶ Approved for food & beverage applications
- ▶ UN Packing Groups II and III rating



### MAUSER Passport IBC

Meets the demanding North American agrochemical industry's requirements. Also available as a customized IBC in various sizes unique to the North American market.

- ▶ Versatile, reusable Innovalve infrared-welded ball valve connection
- ▶ Optional threaded ball valve
- ▶ Innovative tamper-evident solutions meet the latest EPA pesticide regulations
- ▶ A unique barrier solution can provide extra protection against oxygen and product loss by permeation



The MAUSER IBC program



MAUSER IBC wooden pallet



MAUSER IBC composite pallet frame



MAUSER IBC composite pallet skid



MAUSER IBC plastic pallet



MAUSER EX IBC



MAUSER EX UL IBC



MAUSER Food IBC



MAUSER Passport IBC



MAUSER SKINliner® IBC



MAUSER Infinity Series IBC



MAUSER LP IBC

IBC Product matrix

		Non UN	UN	EX	FP	LP	UL	
MAUSER IBC SERIES	WP	◆	◆	◆	◆	◆		
	CP	◆	◆	◆	◆	◆	◆	
	PP	◆	◆	◆	◆	◆		
	SKINLINER	WP	◆	◆	◆	◆	◆	
		CP	◆	◆	◆	◆	◆	
		PP	◆	◆	◆	◆	◆	
	INFINITY	WP	◆					
		CP	◆					
		PP	◆					
MAUSER PASSPORT IBC	WP		◆	◆				
	CP		◆	◆				
	PP		◆	◆				

WP = Wooden pallet, CP = Composite pallet, PP = Plastic pallet

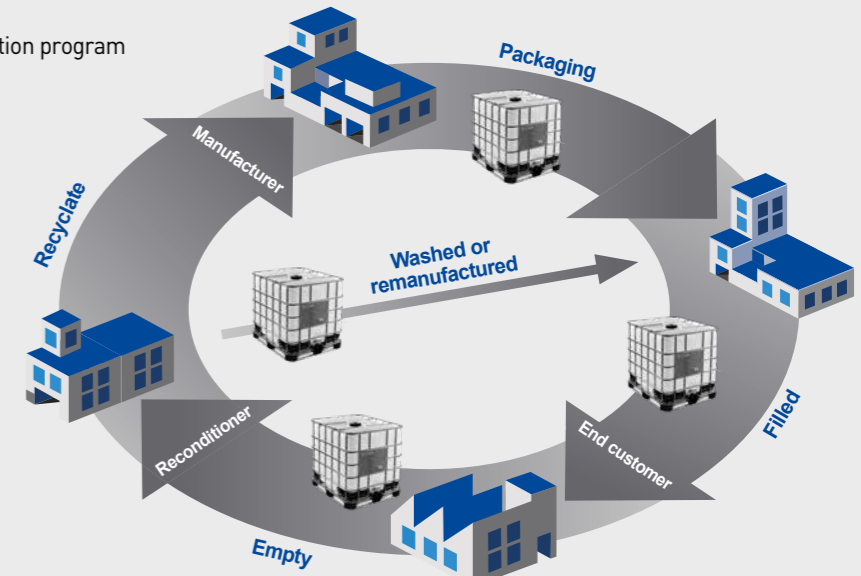
Reconditioning

Responsibly extending the life cycle of industrial packaging

As per MAUSER's ECO-CYCLE® concept, the Reconditioning business unit collects, reuses, and recycles materials.

Recollection

- ▶ Global, easy, fast, safe industrial packaging return/collection program
- ▶ Recollection of all IBCs
- ▶ Customized recollection solutions; fleet management
- ▶ Sustainable transportation
- ▶ Modern, transparent grading and traceability
- ▶ Safe handling of empty packaging
- ▶ Competence in handling dangerous goods



Rebottled IBC

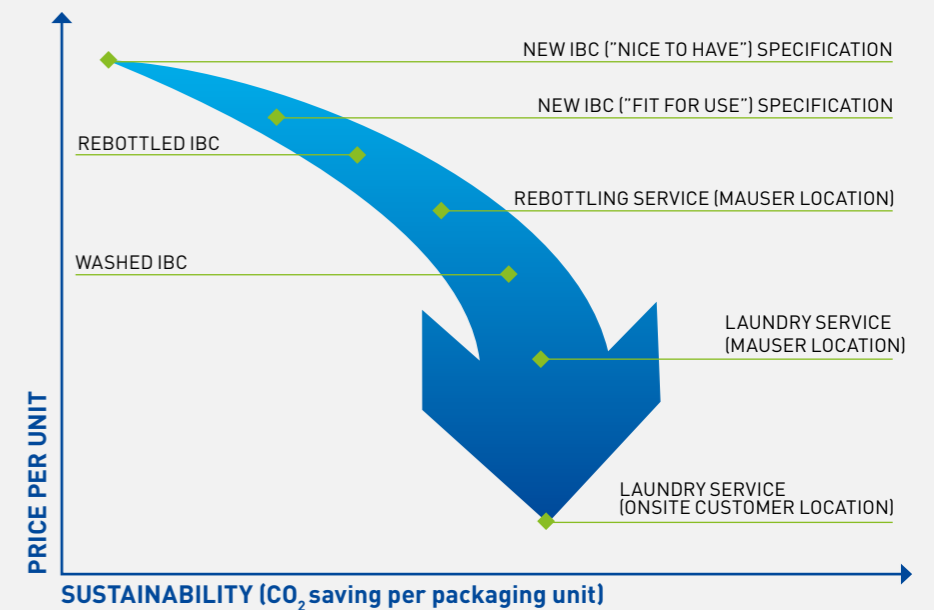
- ▶ New bottle, used cage and pallet
- ▶ Wide portfolio range
- ▶ High-quality, semi-automated processes

Washed IBC

- ▶ Used IBC cleaning system
- ▶ UN IBC available
- ▶ Final inspection of each IBC
- ▶ Small repairs with original spare parts are possible

Laundry IBC

- ▶ Used, empty IBCs collected from customers for rebottling or washing and returned to them ready for use
- ▶ Customers retain ownership throughout the process
- ▶ Lowers the risk of cross-contamination
- ▶ Sustainable and cost-efficient







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