

WASTE COMPACTION FOR THE MARINE SEGMENT

**MARINE &
OFFSHORE**



THE RIGHT SOLUTION FOR A DEMANDING ENVIRONMENT

Turn waste handling into a stream-lined process to save space, time and costs and at the same time ensure a high standard of hygiene aboard the ships or on the offshore rig.

 **ORWAK**[®]
PART OF **fulo** GROUP

CONTROL TIME, SPACE & COSTS IN YOUR BUSINESS

To put valuable space to optimal use is one of the top priorities aboard ships and in an offshore environment. Another challenge at sea is to reduce high waste disposal costs. Effective waste handling is a key factor here and with help of our sorting and compaction solutions, you can turn waste handling into a stream-lined process to save space, time and costs. At the same time it ensures a high standard of hygiene aboard the ship or on the offshore rig.



EFFECTIVE HANDLING OF DIVERSE WASTE TYPES

The large volumes of different waste types that must be handled every day can be challenging, but the robust compaction solutions from Orwak will help you deal effectively with a wide variety of materials: cardboard boxes, paper packaging, bags of general waste, plastic foil, plastic containers, cans, drums and semi-wet waste. Even containers of hazardous waste can be crushed inside drums for easier disposal.

Our multi-chamber balers provide sorting of waste at source and produce compact waste for recycling or disposal.

LESS WASTE = MORE SPACE

High-density waste requires much less storage space than piles of loose waste, and thanks to the small footprint of the Orwak equipment, you can be sure that it takes up little space. With Orwak solutions you can rapidly minimize the volume of waste, free space and use it much more efficiently. Sorting and compaction keeps your environment orderly and contributes to a high standard of hygiene.

MORE PRODUCTIVE USE OF TIME

Your crew should spend its time on core activities, not on waste handling. With our compaction equipment in place, no more time will be wasted on non-productive tasks such as cutting and folding boxes or by hand or foot reducing the size of bags of loose waste. Install Orwak solutions in key areas throughout your facilities.



DISTRIBUTED OR CENTRAL WASTE HANDLING OR BOTH!

Waste quickly accumulates in different locations such as cabins, lounges, boutiques, restaurants, kitchen areas and in storage facilities aboard cruise ships as well as in the canteen/living quarters, storage rooms and production areas on tankers and offshore rigs.

With Orwak solutions you handle the waste on-the-spot in each area or move waste to a central location for compaction. A combination of distributed and centralized solutions is also possible to suit your needs.



LOWERING COSTS AND GENERATING INCOME

Reducing waste disposal costs and fees are important to any food retailer. Orwak not only helps you to reduce these costs and fees, but also creates a new source of income:

- + Sorting at source > Higher waste material quality for recycling > Income from recyclable material
- + Highly compacted waste > Fewer container pickups > Reduced waste disposal fees
- + Sorting > Less waste for disposal > Reduced waste disposal fees

Investing in an Orwak solution guarantees the best total waste handling economy!

CASE STUDY

RELIABLE SPACE SAVERS ABOARD ROYAL DUTCH NAVY'S SHIPS



The Koninklijke Marine (Royal Dutch Navy) is the navy of the Netherlands and it has ORWAK FLEX 5030 installed aboard several of its ships.

On Hr Ms De Ruyter the reliable in-bag-waste compactor has been in operation for many years and it is efficiently taking care of the waste generated on the ship. The staff is very satisfied with the working conditions and the successful installations over the years have

paved the way for the most recent investment in model 5030 aboard the patrol vessel Hr Ms Holland.

The compactor keeps the environment orderly and saves space in the storage compartment. The 5030 is a small and sturdy unit and the compaction ratio of the type of waste generated on Hr Ms Holland is 6:1. The waste is compacted directly into plastic bags.

The staff finds it very helpful and it is a hygienic way of handling mixed waste. The bags are then stored in an air-conditioned room to stay odor-free until they can be picked up at the next port.



OUR APPLICATIONS FOR THE MARINE SEGMENT

ORWAK FLEX 5030 B + C

Our classic in-bag compactor for hygienic compaction of mixed waste in bags. It is a sturdy and versatile machine with a small footprint and a durable finish.

The compaction ratio of up to 10:1 is impressive! 5030 can be ordered with the standard B drum or the shorter C drum for confined spaces. Available options are halogen free cable, lockable handle and skid mounting.



TECHNICAL DATA			
PRESS FORCE	INSTALLATION HEIGHT	EMPTYING HEIGHT	LOADING APERTURE
3 ton, 30 kN	B: 1940 mm C: 1640 mm	B: 2660 mm C: 2360 mm	ø500

ORWAK FLEX 5030 BMT

This special version of our classic in-bag compactor 5030 is equipped with a telescopic cylinder for an extra low installation height.

It is especially designed for the marine and offshore segment and several options including halogen free cables, lockable handle and skid mountings are available to adapt the unit to the demanding conditions aboard.



TECHNICAL DATA			
PRESS FORCE	INSTALLATION HEIGHT	EMPTYING HEIGHT	LOADING APERTURE
3 ton, 30 kN	B: 1640 mm	B: 2040 mm	ø500

MAKE SURE YOUR WASTE HANDLING COMPLY WITH MARPOL ANNEX 5 & THE INTERNATIONAL MARITIME ORG. REGULATIONS

Go for a sorting and compacting solution from Orwak! We are certified according to ISO 9001 and 14001. The quality of the steel we use in our machines is carefully tested to endure high pressure and long-term wear and welding of the chambers is performed according to the 3834 welding certificate, which is more commonly used in the automobile industry.



ORWAK COMPACT 3115

Small front-loaded baler designed for plastic and cardboard compaction. A material selector makes selection easy! The cross-binding function gives a tight grip of the bale and is helpful for compaction of soft plastic or small pieces of material. Can be ordered with halogen free cable.

TECHNICAL DATA			
PRESS FORCE	HEIGHT	FOOT PRINT (WxD)	BALE SIZE (BxWxD)
3 ton, 30 kN	1993 mm	950 X 808 mm	800 x 600 x 600 mm

ORWAK MULTI 5070

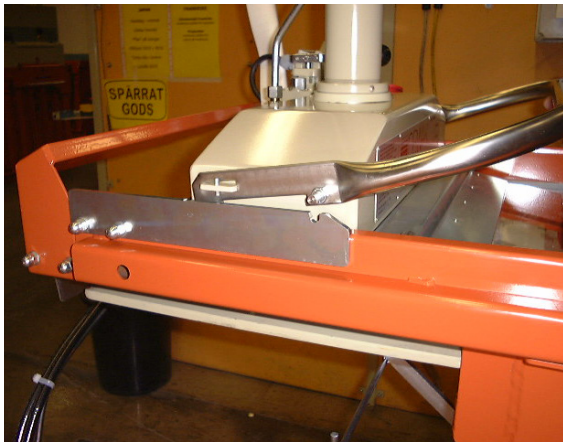
This multi-chamber baler provides sorting and compaction of different types of materials in one machine! Top loading is simple and convenient and the system is easily extendable with additional chambers when needed. Can be ordered with halogen free cable.



TECHNICAL DATA			
PRESS FORCE	HEIGHT	FOOT PRINT (WxD)	BALE SIZE (BxWxD)
3 ton, 30 kN	2160 mm	1740 x 735 (880)* mm	700 x 500 x 700 mm

*Including strap holders

ADDITIONAL SAFETY OPTIONS



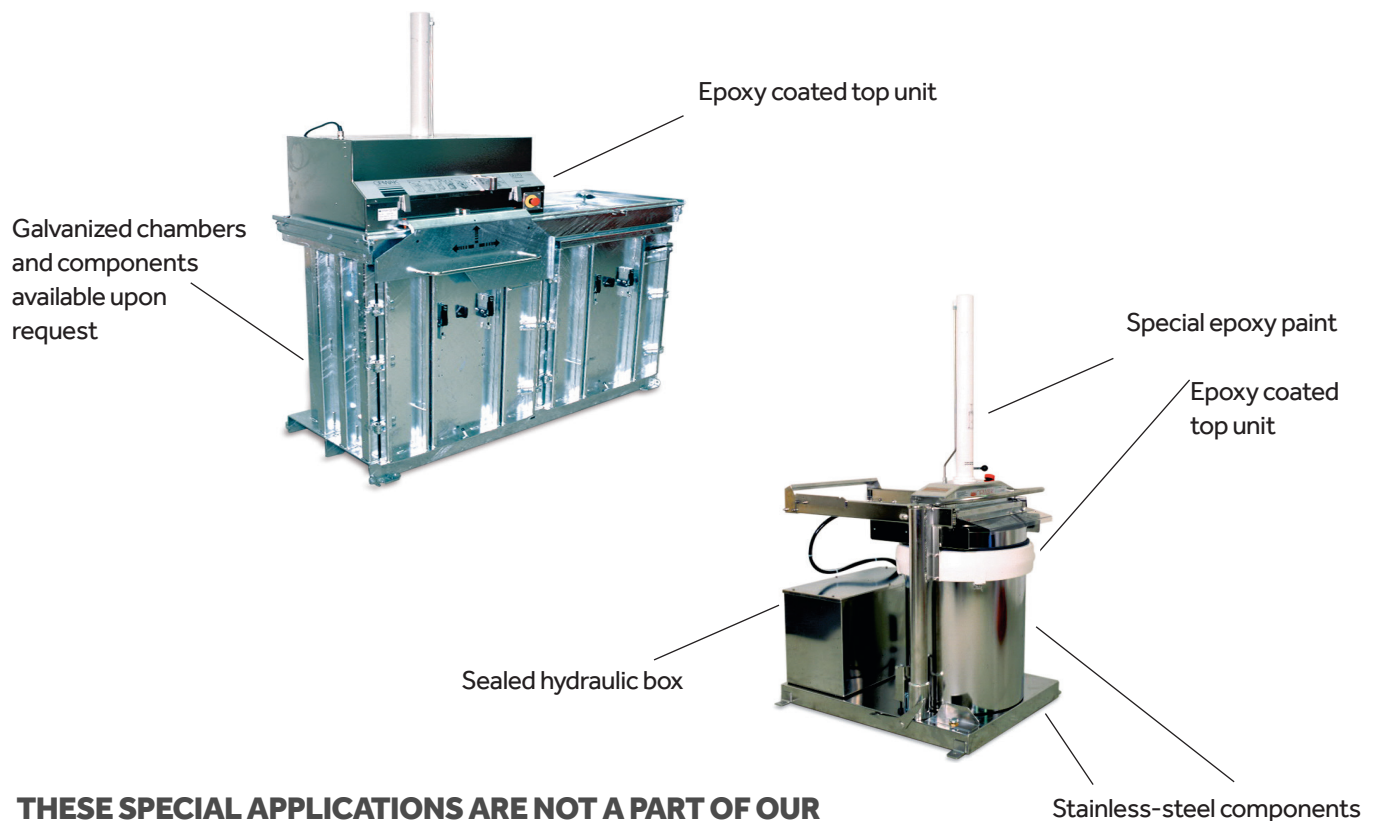
Lockable handle on the press unit



Skid mounting for bolting the machine to the floor



SPECIAL FINISH FOR EXTRA TOUGH ENVIRONMENTS



THESE SPECIAL APPLICATIONS ARE NOT A PART OF OUR STANDARD PRODUCT RANGE. QUOTATION ON REQUEST.

TOP PERFORMANCE, THANKS TO ORWAK TECHNOLOGY

State-of-the-art technology is vital, but we don't stop there. Our mechanics, construction, and safety features are constantly being refined and improved to provide you with the best possible service.

MECHANICS; ISO 3834

Our machines are designed based on a material-optimized construction to distribute the load in the best possible way. The quality of the steel we use in our machines is carefully tested to endure high pressure and long-term wear without losing its original shape or qualities. And welding of the chambers is performed according to the ISO 3834 standard. Flux-cored arc welding is used, which results in a minimum of slag inclusions and grants for a perfect bonding of the metal components. This welding method doesn't require any pre-heating treatment that could result in material deviations or deformation. Furthermore, this process is spatter-free, providing a clean and even surface for the coating.

We generate and use precision-manufactured components by laser cutting and incorporating the latest bending technology. The finish is done using degreasing, iron phosphate, and PU coating that provides a durable, flexible, and corrosion-resistant surface. Polyurethane paint has excellent performance characteristics: adhesion, hardness, gloss, flexibility, and resistance to abrasion, impact, weathering, acids, and solvents.

HYDRAULICS

We design our hydraulic systems based on regenerative technology that reduces cycle time and minimizes energy consumption. For example, we use a pump in our balers that provides an even flow and results in low sound emission. Additionally, the hydraulics are electronically controlled— to avoid excessive wear-and-tear, the system only applies force when truly necessary.

SAFETY

Safety—not only for the operator but for everyone in the vicinity of our machines—is of the utmost importance. So our machines feature built-in self-monitoring safety systems, two-hand maneuvering, monitored and coded safety switches, and "latch-and-wheel" door locks on all large balers for safe door opening when compacting expanding materials.



COMPACTION SOLUTIONS FOR MOST TYPES OF WASTE

ORWAK develops solutions for sorting and recycling waste materials that improve business efficiency, contribute to a cleaner working and natural environment to provide the best total waste handling economy.

We offer an innovative range of products that promotes sorting at source and make waste management more profitable.

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