

## Using Bin Tippers to Simplify Material Handling in Your Workplace

Bin storage is essential for thousands of industries, and from food processing to waste disposal, many styles of tippable containers meet the material handling needs of the modern economy. However, the logistical strengths of industrial bins — which include efficient bulk storage, compact footprints, and simple fill/pour capabilities — also lead to ergonomic challenges and difficult manual handling tasks.

Bin tippers — sometimes called bin lifters, trash can tippers, or trash can dumpers — provide an elegant solution to these potential problems, providing the advantages of bulk material handling without operational inefficiencies or the increased risk of injury associated with manual bin lifting.

BHS offers a complete set of customizable bin tippers to improve ergonomics while maximizing efficiency in every industry. Priorities will shift from one application to the next, but these are the most important features to consider when making tipping equipment purchasing decisions:

### 1. Container Compatibility

When choosing tilting equipment for containers, managers should begin by considering the types of bins used in their facilities and the frequency of handling requirements.

Will the tipper be integrated into a chemical manufacturing plant with regular drum pours, or will it need to empty waste bins at a school cafeteria? Each application has its own set of container specifications.

Tippable storage solutions come in many shapes and sizes, including:

- Plastic storage bins, with or without lids and wheels
- Heavy duty metal containers
- Fiber, plastic, and steel drums
- Cylindrical trash cans
- Rectangular trash cans

BHS offers bin tippers equipped for each of these configurations and more. The hydraulic Dumpmaster is fully compatible with all standard — and even custom-sized — bins. The Multi-Tip hydraulic bin tipper offers a wide variety of cradle configurations to fit any application, providing enhanced efficiency without accidental container damage.

Industries that should prioritize versatile container compatibility include those that require daily lifting and emptying of bins with multiple dimensions, such as warehousing and storage, recycling/waste disposal, and manufacturing.

#### Example: Bin Tippers in Food Processing

With lifting capacity, more is not always better. It is important to match the equipment to the materials.

For instance, trade journal Food Trade Review describes a salad manufacturing company that incorporated in tippers to drastically reduce the risk of back injury on its leaf packing line.

The tilting equipment provided the further benefit of speeding up unpacking tasks.

The weight capacity required for edible greens is fairly light. A processing plant that frequently pours 55 gallon drums of fluid into vats will require machinery with a much greater weight limit.

### 2. Weight Limits

Bin tippers assist in common material handling tasks such as:

- Emptying large containers
- Pouring ingredients into mixing vats or hoppers
- Moving products onto conveyor lines
- Disposing of waste in metal dumpsters

To safely accomplish any of these tasks, facility managers must consider the weight of the materials involved in their industries when choosing tilting equipment.

In waste-handling applications, trash can emptying equipment contributes greatly to efficiency and worker safety. Safe waste-disposal is particularly important to facilities that handle large volumes of food, such as hospitals, schools, assisted living centers, and restaurants. Weight requirements in food service applications are generally lighter than those found in metalworking shops or manufacturing lines.

For these heavier industrial uses of bin tippers, the Dumpmaster hydraulic bin tipper has a



Figure 1. The Dumpmaster® (DM Series) wheelee-bin tippers are the ultimate solution to empty bins and drums weighing up to 661 lb / 300 kg at virtually any height.

standard weight capacity of 551 pounds (250 kg), and can be expanded to handle loads up to 661 pounds (300 kg).

Industries that should prioritize high weight limits include manufacturing, industrial warehousing, construction, and recycling centers.

### 3. Tipping Height

Tilting bins in order to empty their loads is only half of the task. Bin tippers must first lift containers to an appropriate height, clearing dumpster lips or accessing multi-tier production lines in the process.

Regardless of the task, safety is a primary concern when emptying bulk loads overhead. Loads must be emptied precisely to prevent splash-back on the operator. The Dumpmaster series of bin tippers includes guard panels and full cages to keep operators protected. The tipping mechanism first lifts and then rolls gently forward, creating an accurate process with minimal splash-back.

For operations that use bin tippers to assist in emptying trash bins into dumpsters, a standard height of around five feet (1.5 - 1.6 meters) is sufficient. Manufacturing and processing facilities that need to transport dry powders, fluids, or other bulk goods across levels should consider tippers with custom heights.

Industries that prioritize tall tipping heights include brewing, manufacturing, and farming.

## Improving Ergonomics With Bin Tippers in Every Industry

Every sector of the market depends on manual material handling (MMH), which helps to explain why MMH accounted for the bulk of the half-million incidents of musculoskeletal disorders reported in the United States in 2007. This figure comes from the National Institute of Occupational Safety and Health (NIOSH), which provides detailed guidelines to avoiding musculoskeletal injury in the workplace.

NIOSH guidelines recommend reducing three activities in all workplaces in order to reduce the prevalence of musculoskeletal disorders associated with labor. Actions to limit include:

1. Bending and reaching
2. Placing stress on vulnerable muscle groups, such as the shoulders and back.
3. Using too much force or muscular effort while completing work requirements.

The action of lifting a bin to empty its contents engages all three of these actions, making it a high-risk task. BHS bin tippers remove this risk entirely.

Even lighter weight applications, such as emptying food service or office trash bins, can benefit from employing tilting equipment to prevent overstressing workers' most vulnerable muscle groups. The Ezi-MT manual bin tipper, distributed by BHS, is an ideal ergonomic solution for these sorts of lighter-duty tipping requirements.

Regardless of the application, a bin tipper that meets all weight, height, and carriage compatibility requirements will provide ergonomic benefits that provide a full return on investment with the first prevented injury.

## References

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