



BREWER'S GUIDE TO GRAIN HANDLING

INTRODUCTION

Grain handling is just one step in the brewing process, but it's a big one. If you're new to brewing, just thinking of giving it a try, or you've been doing it for a while but have some grain handling issues, this guide can help. Use it as an overview of proper brewery grain handling and contact us for a personalized plan to optimize your process and product.

THE IMPORTANCE OF EFFICIENT GRAIN HANDLING

How you handle grain affects every aspect of the brewing process. Most importantly, it impacts the quality and consistency of the beer, which in turn affects profitability. How you handle grain also impacts brewing efficiency and profit. There are hidden costs you might not notice until it's too late, like wasted materials, additional labor, and downtime when something goes wrong.

[RMS Roller-Grinder](#) partners with breweries to find solutions and deliver the right products and services to make grain handling efficient and consistent.

COMMON GRAIN HANDLING CHALLENGES IN BREWERIES

We're used to problem-solving for our clients, including breweries struggling with grain handling. These are some of the common challenges you might face and that we can help with:

- Storage of grains
- Protecting grain from moisture, pests, and spoilage
- Conveying grains efficiently while considering dust control and material degradation
- Consistent and efficient grain milling
- Weighing and measuring accuracy
- Removing spent grain



GRAIN HANDLING SYSTEM COMPONENTS

Efficient handling starts with the right brewery grain handling equipment, which is where RMS excels. We design and produce superior equipment for all aspects of the grain handling process. These are the components you need for correct grain handling in a brewery.

INTAKE AND RECEIVING

Grain handling begins with intake and receiving. A truck unloads the grain at your brewery, and you have to be prepared to receive it for storage. Trucks either transfer the grain to storage mechanically or pneumatically. The former uses a mechanical system, like a conveyor belt or elevator to deliver the grain. A pneumatic system

uses a pressure blower to transfer the grain into storage. This process also often involves precleaning strategies, such as screening or a magnet to remove any contaminating metal particles.

Additionally, you need to consider where your grain will be stored after delivery. RMS offers a variety of [storage solutions](#) for brewery grain:

- **Bulk Silo.** A bulk silo is large and allows you to take advantage of bulk-buying efficiency.
- **Bulk Bag Rack.** This is an alternative that allows you to buy in bulk if you don't have space for a bulk silo.
- **Grist Cases.** Grist cases are efficient ways to store milled grain with a smaller footprint and are available in steel and poly.

CONVEYING SYSTEMS

Once you have malt in storage, it must be conveyed

to the mill. Choose conveyance equipment based on your brewery's needs and limitations. For instance, it's important to consider the brewery's size and layout. Also, consider how you'll control dust and keep operations safe.

From bucket systems to pneumatic or mechanical screw conveyance, there are many ways to move grain. RMS [conveyance options](#) include:

- **Flex Augers.** Flex augers are affordable conveyance options that navigate corners, difficult angles, and elevation changes.
- **Chain Disc Systems.** Chain disc systems are durable and flexible. They can be modified to meet any layout challenge.
- **Vertical Augers.** Vertical augers gently lift grains and can be modified for any height.

MILLING

Milling is the heart of the grain handling operation. The right mill will match your brewery's output. It should be efficient and fast but also produce the right grist composition. Composition affects everything from mash efficiency to excess sugar.

RMS brewery equipment includes a variety of mills to meet any operation's needs including micromills, 2 and 4 roll mills, and our brewstillery mill. Each option offers a superior grind and makes a substantial difference in the brewing process. RMS mills are designed to provide the consistency and uniformity necessary for brewing exceptional beers. We can help you choose the right equipment for your brewery. We also provide regular maintenance to keep mills running smoothly and efficiently.



ROLLER MILLS VS. HAMMER MILLS

One of the primary choices breweries make is between a hammer mill and a roller mill. A hammer mill uses hammers to pound the grain and screens to change the particle size. Roller mills crush the grain between rolls.

Roller mills are often preferred for a few reasons:

- It's easier to adjust the rolls to get the desired crush profile.
- Roller mills generally provide a more consistent crush.
- Roller mills offer a more precise adjustment option.

WEIGHING AND CONTROLS

Breweries rely on their recipes to produce a consistent product. Weighing ingredients and controlling equipment are essential to consistency.

Scales are used in breweries to get accurate weights at multiple points in the operation. Accurate scales are a must for getting consistency. Scales vary in size and placement, from large bin scales to crane scales to smaller bench scales. RMS can help you choose the right scales for your operational needs.

Many modern facilities now rely on automated brewery controls, which are especially useful when integrated with weighing systems. Automated controls eliminate the human error that can lead to inconsistency in recipes. RMS sets up custom automated systems and controls to reduce production burdens so you can focus on your craft.

SPENT GRAIN HANDLING

The final point in grain handling is dealing with the spent grain left at the end of the brewing process. Removing and disposing of spent grain must be done efficiently. Breweries are also increasingly considering sustainable options and repurposing of grains rather than simply disposing of them.

First, the grain must be removed from the mash tun, either manually or with automated equipment. The spent grain is collected in an appropriate container and stored until it can be disposed of or repurposed.

The most common option for disposal is to recruit a farm to pick up the spent grain. It retains a lot of nutrition, so farmers use this grain as feed for livestock. Spent grain can also be used in compost.

Increasingly, spent grain is being dried and turned into flour for baking and food production. Some companies even use spent brewery grains to make dog treats. Other companies turn spent grain into fuel. There are plenty of sustainable options for reusing or recycling spent grain. Breweries often reach out to local companies to determine the need and for an alternative to sending spent grain to a landfill.

RMS delivers customized grain handling solutions, including optimized conveyance and storage systems. Contact us to discuss how we can equip your operation for success.

SPECIALTY EQUIPMENT

Some breweries need [specialty equipment](#) to meet specific needs. A specialty hopper can help you achieve safe fill levels to reduce strain on employees as they load grains. A specialty auger can also take ergonomics and safety into account while also making the most of small spaces.

RMS also offers flake hoppers. A flake hopper makes it easier to add nonmilled adjuncts to the brewing process. Place these at convenient points along the process and you won't have to interrupt operations.



RMS ROLLER-GRINDER: YOUR COMPLETE GRAIN HANDLING PARTNER

RMS is an ideal partner for setting up, modifying, or maintaining a brewery grain handling operation. We offer carefully designed and American-manufactured equipment, but it doesn't stop there. RMS is unique in partnering with our clients to come up with solutions.

PROJECT MANAGEMENT & DESIGN

This is one of the most unique services RMS offers compared to other equipment manufacturers. We don't just provide cookie-cutter machinery. We can design a complete system around your brewery's layout.

We'll take the lead in this right from the start, acting as project manager and designer. We begin with a site

assessment and talk to you about your needs. We'll design a plan that optimizes the layout and efficiency. We will then select the right equipment to put the plan into action.

INSTALLATION AND COMMISSIONING

RMS also takes the additional step of installing the equipment we help a brewery choose. Installation requires expertise that most brewers don't have. Our team comes to your brewery to complete the setup and to get to know the brewery staff who will be working with the equipment.

We don't just leave the brewery there. We also get the equipment up and running and make sure you're happy with everything before we leave. Our team will instruct your staff on how to use and maintain the equipment.

ONGOING SUPPORT AND MAINTENANCE

At RMS, we pride ourselves on building ongoing relationships with our breweries. We don't just set up and leave. We also provide ongoing support, which includes:

- Regular, preventative maintenance.
- Repairs as needed.
- Replacement parts and installation.
- Ongoing technical support through calls, video chats, and site visits.

CASE STUDIES

We can tell you everything we do to help breweries manage grain handling, but it's better to hear it from the brewers themselves. These are a couple of case studies of breweries and the specific ways RMS helped them.

REMEDY BREWING

We helped [Remedy Brewing](#) when they had an issue with grind consistency. They were already using an RMS roller mill but needed assistance with several elements of operating it.

We came out to the site to train and educate the staff on operating the mill correctly. We also showed them how to calibrate and maintain the mill. The result was that they got a better grind and a better final product with improved efficiency and reduced waste. According to the director of operations, Tyler Wasberg:

"We were able to improve our brewhouse efficiency by 5-6%, which is pretty huge for us. That meant we were using quite a bit less grain. Year over year, about 7,500-8,000 pounds less. So just for one brand, we saved over \$3,000 worth of materials."

KENTUCKY PEERLESS DISTILLING COMPANY

RMS also works with distillers and brewstillers. For [Kentucky Peerless](#), we helped optimize our roller mill that they purchased from a third-party distributor. Peerless wasn't getting the grind they wanted from the equipment, so one of our technicians in the area stopped by to help them optimize it. According to their Master Distiller, the RMS technician:

"[was] incredibly patient and caring in teaching employees to operate the piece of machinery as well as perform routine maintenance. Even employees without a maintenance background find their instruction very useful and master it in a relatively short period of time."

Our technician went above and beyond to help Peerless, staying late into the night. He changed the original configurations of the roller mill to improve how it operated.

These are just two examples of how RMS guides breweries as they aim to operate more efficiently and make better products. How can we help you?

When you're ready to benefit from the expertise and experience of the RMS team, reach out. [Contact us here](#) to discuss your grain handling and operations and how we can help.

