



**MOBIUS**

MILL BUYER'S GUIDE 2022

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# WELCOME TO THE MILL BUYER'S GUIDE

## INTRO

Picking the right hemp or cannabis mill for your operation can be frustrating. It takes a lot of time and research to compare all the options on the market today. Let us give you back a few hours in your day... because we've done it for you!

Below you'll find a complete comparison table that will help your decision-making process. Is the Mobius M210 Mill the right option for you? We hope so, but even if it's not we hope this table will be useful.

Underneath the table you'll find a breakdown of each column that further describes the metric and *why it's important*.

## SECTION 1

# MILLING STYLE

All other mills on the market use existing technology. Mobius Mill is unique in the market and built specifically for the cannabis industry. There isn't a pre-existing milling method that is similar. Learn more about the innovative technology in the *Mobius M210 Mill*.



## SECTION 1

# MILLING SPEED

The higher the speed the more friction is created, which generates heat. Heat excites the oils in the cannabis and hemp plant and degrades them. In other words, a lower RPM is more gentle on the product. Heat caused by friction also *makes the machine stickier and more difficult to clean.*





## SECTION 2

# THROUGHPUT

Noted in the table as pounds per hour. The throughput of all mills and grinders will be dependent on many factors such as the moisture content, density, resin content and the desired output size. With the M210, our advertised throughput *is reasonable and attainable under most circumstances.*

## SECTION 2

# MATERIAL

The primary material(s) used in the construction of the machine. Most mills are made from mild steel, aluminum, or stainless steel. Stainless steel is the gold standard material for construction of equipment intended for commercial-scale *cannabis processing.*







## SECTION 3

# CSA / OSHA

In the context of cannabis mills, CSA or OSHA certification generally refers to safety testing by these 3rd party organizations. There is a huge safety gap in cannabis equipment, especially for cannabis and hemp mills. Having a CSA or OSHA certified/compliant machine means that it has gone through rigorous testing to make sure it is safe to use in a commercial setting.

## SECTION 3

# GMP FRIENDLY

Good Manufacturing Practice is a certification that indicates a facility is abiding by a rigorous set of standards focused on product safety, employee safety, and documented and repeatable SOPs (among other things). It's a big topic in the cannabis industry. For further information, consider reading our Complete Guide to Cannabis GMP. Machines in the table that are marked as GMP Friendly have been designed to easily fit into a workflow and facility that is GMP certified or *GMP compliant*.

## SECTION 4

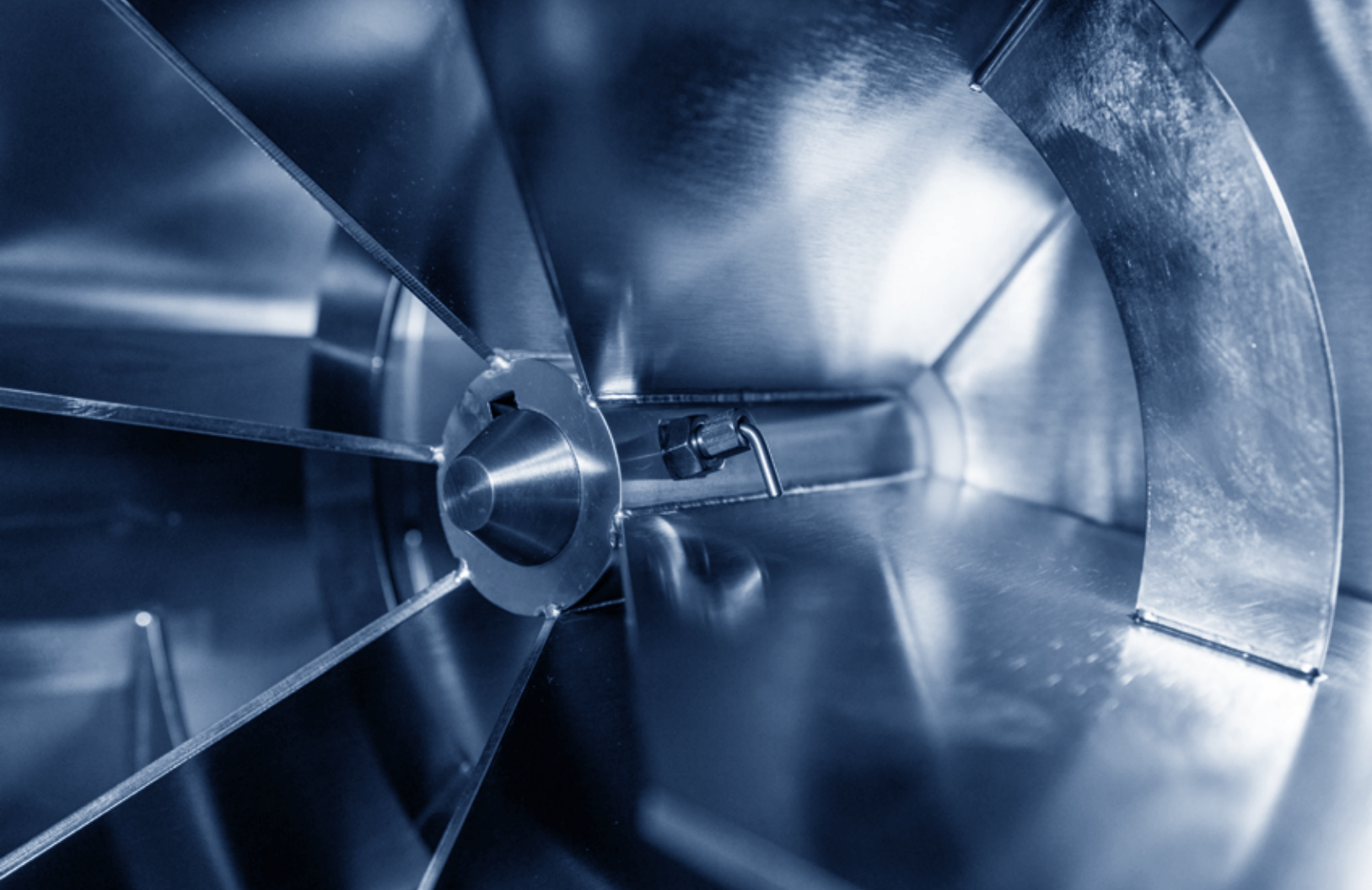
# TOOL-LESS CLEANING

Anyone that's worked in cannabis harvesting and post- processing knows that cleaning is an important issue. Cannabis is sticky, which makes harvesting equipment difficult and tedious to clean. A machine in the table marked as Yes for Tool-less Cleaning can be broken down for cleaning without any tools required. It makes the *cleaning process faster and easier.*

## SECTION 4

# CUTTER CALIBRATION

Calibrating the cutter in a mill isn't easy. It's complicated and difficult to get right. Mills that require calibration tend to be finicky. They also need to be calibrated every time they are taken apart to be cleaned, which is every time they are used. For these reasons, some facilities can't use mills that need calibration, like the Fritsch mill. But not all mills need calibration, thankfully. Removing the calibration and set-up variable will also ensure that you achieve a consistent output from different operators, on different days or even on different sites. With the Mobius M210 Mill, for example, you simply put in the appropriate screen, drop the rotor in, and it's ready to go. *No calibration necessary!*



## SECTION 4

# ROTOR SIZE & SCREENS

Two things give you high throughput: rotor diameter and screen area speed. Mills that don't use high-speed need a larger rotor to achieve a high throughput. The Mobius Mill offers two unique screen types in five standard sizes. The perforated screen is optimal for a coarse grind, and the rasp or grater screen *results in a finer output.*





## SECTION 4

# CONTINUOUS THROUGHPUT

Continuous throughput means the mill can be continuously fed. This is in contrast to batch-style mills, where a load is introduced, processed for a certain amount of time, then unloaded. Continuous throughput mills produce a more consistent output. Batch style mills rely on the dwell time of the product in the machine, which can be problematic. Imagine a food processor: To make salsa, you pulse it 3 times for exactly one second. Pulse it 5 times and you've got soup. Pulse it 7 times and you've got a nice mix for a Caesar. So with batch-style mills, it's very easy to over-process and ruin batches of product. With the Mobius M210 Mill, *there isn't any variable for a user to make a mistake on.*

## SECTION 5

# FRESH FROZEN

Many cultivators are starting to freeze flower immediately after bucking, skipping the drying step entirely. It's compressed into small bricks, which can then be stored frozen. When it's time to process the product, these bricks can be dropped directly into the Mobius M210 Mill, which can handle fresh-frozen *product without any problems.*



## SECTION 6

# TOP MILLS COMPARISON TABLE

| MAKE                                  | MILLING STYLE   | SPEED    | THROUGHPUT   | MATERIAL                       | CSA / OSHA | GMP FREINDLY |
|---------------------------------------|-----------------|----------|--------------|--------------------------------|------------|--------------|
| MOBIUS M210 MILL                      | CANNABIS        | LOW RPM  | 110 LBS/HR   | STAINLESS STEEL                | YES        | YES          |
| MOBIUS M60 MILL                       | CANNABIS        | LOW RPM  | 20 LBS/HR    | STAINLESS STEEL                | YES        | YES          |
| TRIMINATOR                            | SHREDDER        | LOW RPM  | 500 LBS/HR   | CARBON STEEL                   | YES        | NO           |
| FRITSCH<br>042-9204                   | CUTTER          | HIGH RPM | 60 LBS/HR    | STAINLESS STEEL/<br>ALUMINUM   | YES        | YES          |
| STM CANNA                             | CUTTER MILL     | HIGH RPM | 15-30 LBS/HR | STAINLESS STEEL/<br>ALUMINUM   | N/A        | NO           |
| FUTUROLA<br>SUPER MEGA<br>SHREDDER    | PLASTIC WRAP    | HIGH RPM | BATCH        | MILD STEEL/<br>STAINLESS STEEL | NO         | NO           |
| URSCHEL<br>3600F                      | CUTTER MILL     | HIGH RPM | N/A          | STAINLESS STEEL                | YES        | YES          |
| QUADRO<br>197                         | CONICAL GRINDER | LOW RPM  | N/A          | STAINLESS STEEL                | YES        | YES          |
| ROBOT COUPE<br>BLIXER MODELS<br>23-60 | FOOD PROCESSOR  | HIGH RPM | BATCH        | STAINLESS STEEL                | YES        | YES          |
| HANNINGFIELD<br>M20                   | CONICAL GRINDER | HIGH RPM | 140 LBS/HR   | STAINLESS STEEL                | YES        | YES          |

| COST (USD)          | LEAD TIME (ESTIMATED) | TOOL-LESS CLEANING | CUTTER CALIBRATION | ROTOR SIZE | CONTINUOUS THROUGHPUT | FRESH FROZEN |
|---------------------|-----------------------|--------------------|--------------------|------------|-----------------------|--------------|
| \$33,800            | 1-2 WEEKS             | YES                | NO                 | 18"        | YES                   | YES          |
| \$13,900            | 2-4 WEEKS             | YES                | NO                 | 7 ¼"       | YES                   | YES          |
| \$27,640<br>MINIMUM | 10-12 WEEKS           | YES                | NO                 | N/A        | YES                   | YES          |
| \$30,000-\$35,000   | 6-8 WEEKS             | NO                 | YES                | N/A        | YES                   | NO           |
| \$15,950            | -                     | NO                 | NO                 | N/A        | YES                   | N/A          |
| \$11,250            | -                     | NO                 | NO                 | N/A        | NO                    | N/A          |
| \$55,000-\$60,000   | -                     | NO                 | NO                 | N/A        | YES                   | N/A          |
| \$30,000-\$35,000   | 16-18 WEEKS           | NO                 | YES                | N/A        | YES                   | N/A          |
| \$13,000-\$25,000   | 8-12 WEEKS            | YES                | NO                 | 16"        | NO                    | NO           |
| \$32,000            | 8-12 WEEKS            | NO                 | YES                | 8"         | YES                   | N/A          |



When you choose the best cannabis and hemp mill for your cultivation facility you are making an investment in the efficiency of your operations. It's important to choose one that is going to not just fit in your current workflow, but improve it.

If you have questions about cannabis and hemp mills, please don't hesitate to contact us at Mobius.