



**MDF**     
**TUMBLER**



**GAROS**

# MDF TUMBLER

A broad range of tumblers with capacities ranging from 1600 to 10,000 liters. The tumblers are designed for massaging, marinating, and defrosting of a wide range of meats. They are perfectly suited to meet the demands of pork, beef, poultry, and seafood products.

The crucial and completely deciding factor in achieving the desired result when tumbling is that the products get kinetic energy / mechanical working. The binding capacity achieved is in direct relation to the movement patterns of the products inside the drum. The more the movement is in as many directions as possible per revolution, the better the effect. The movement must be combined with a gentleness to keep the structure of the muscles intact. Cooling of the drum is also greatly significant to the end result, since it counteracts the heat generated by the kinetic energy, supplied and preserves the achieved binding capacity further along in the process.

The Garos MDF Tumbler is available in six different standard models with drum volumes of 1 600, 2 600, 3 900, 5 600, 7 500 and 10 000 litres as well as a load capacity of up to 65% of the volume, depending on product. All sizes have the cooling jacket as a standard feature.



# MDF TUMBLER ADVANTAGES

## MULTI DISPLACEMENT FLIGHTS (MDF)

produce unsurpassed effectiveness.

## HIGH LEVEL OF HYGIENE

thanks to a simple cleaning and the absence of inaccessible areas.

## COOLING JACKET

around the perimeter of the drum surface.

## TILTED DRUM

hydraulic drum. Lifting and lowering system allowing for quick and easy discharge.

## UP TO 30% LARGER LOAD

comparing to basic tumblers.

## LOGICALLY DESIGNED

machine room for simple service, with components on rails for easy access.

## PROCESS AUTOMATION

advanced control system and full controls of all the massaging parameters.

## AUTOMATIC LID

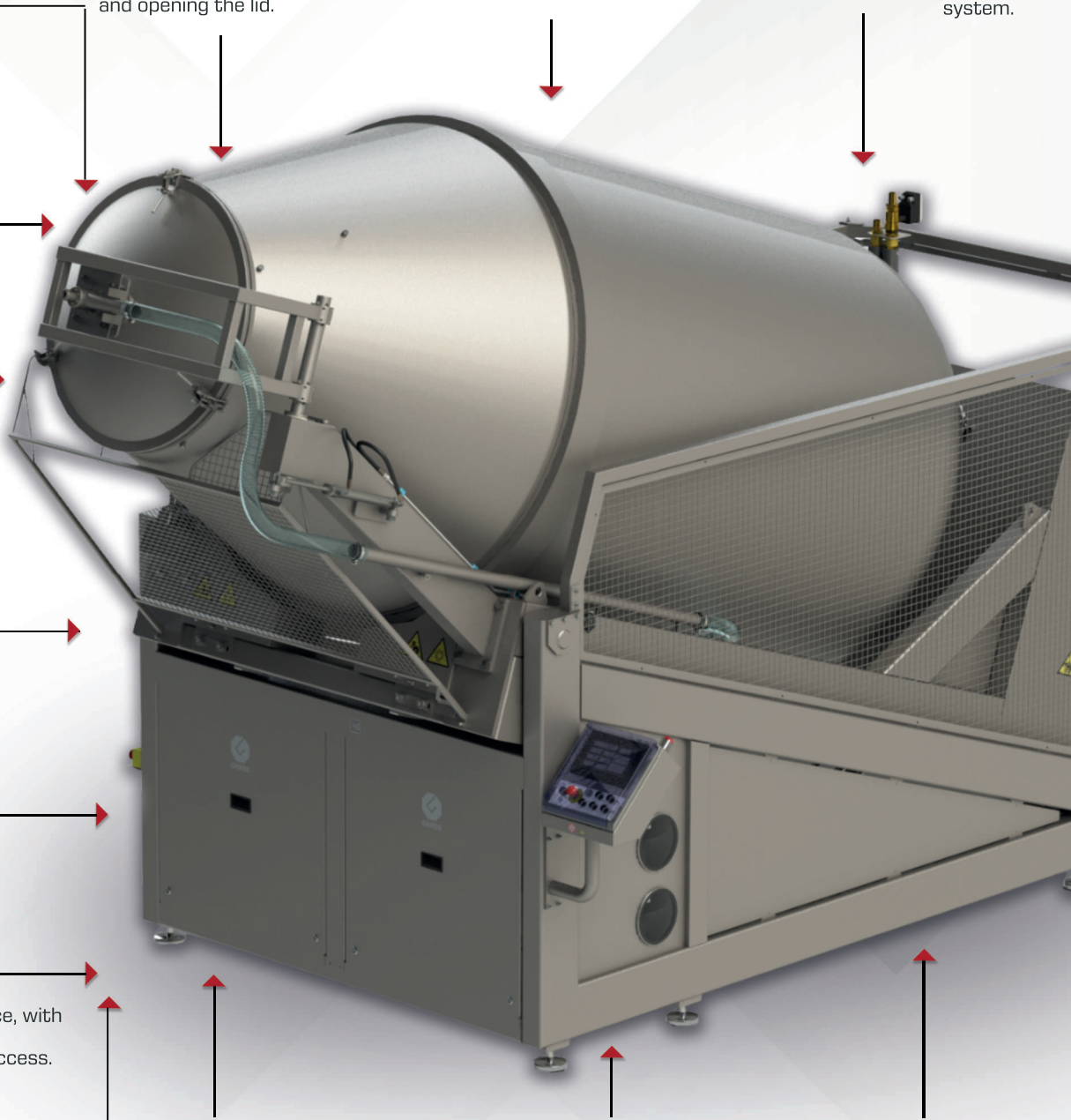
system of automatic closing and opening the lid.

## OPTIONAL CO2/N2/STEAM

possibility of cooling or heating.

## OPTIONAL SCALE (LOAD CELLS)

advanced product weighing system.



## OPTIONAL INGREDIENTS

dosing of dry and wet ingredients both manual or automatic mode.

## VACUUM PUMPS

advanced multistage filtration system.

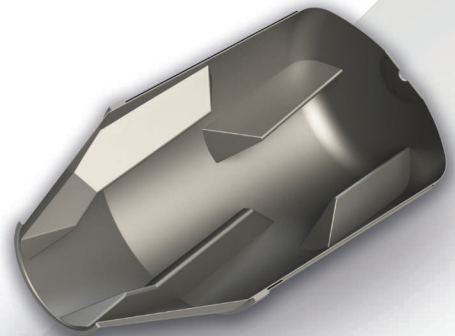
## SAFETY GUARANTEED

construction of the machine allows high safety level due to the guarding around the tumbler.

## MULTI DISPLACEMENT FLIGHTS

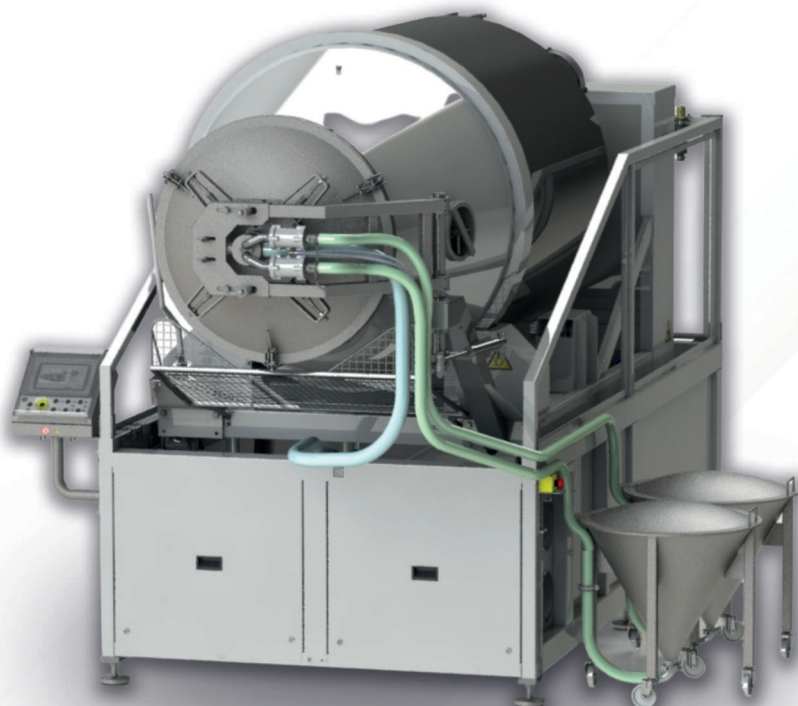
The GAROS tumbler best answers efficiency requirements. The specially designed flights, create a completely unique 4-way movement.

With the incremental positioning and the asymmetrical design of the baffles, there is significantly more product movements per revolution, which is more effective without affecting the gentleness.



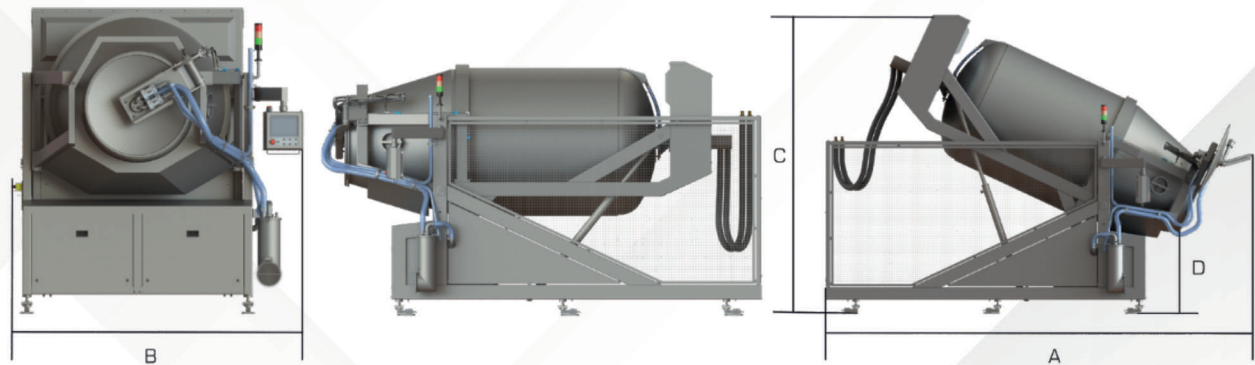
## INGREDIENTS DOSING AUTOMATIC

**Automatic dosing system** for a variety of dry and wet ingredients allowing for fine tuning of production processes. Optional weighing system combined with hoppers for dry or wet ingredients, allows many different possibilities and solutions such as connecting the system directly to brine mixers, storage tanks, and other production lines.



**Advanced control** of the dosing process or continuous dosing, brings many benefits to the massaging process as it contributes to increased productivity and improved product quality.

**By saving recipes** the system is able to automatically dose specific amounts of additives measured in kilos/percentages relative to the total amount of product in the tumbler.



| Measurements in mm | A    | B    | C    | D    | Weight in kg |
|--------------------|------|------|------|------|--------------|
| MDF 1600           | 3690 | 1880 | 2685 | 900  | 1650         |
| MDF 2600           | 4740 | 2115 | 3140 | 1070 | 2400         |
| MDF 3900           | 5680 | 2360 | 3120 | 1075 | 3400         |
| MDF 5600           | 6080 | 2580 | 3440 | 990  | 3570         |
| MDF 7500           | 6535 | 2565 | 4220 | 1250 | 5800         |
| MDF 10 000         | 6220 | 3109 | 4350 | 1115 | 7300         |

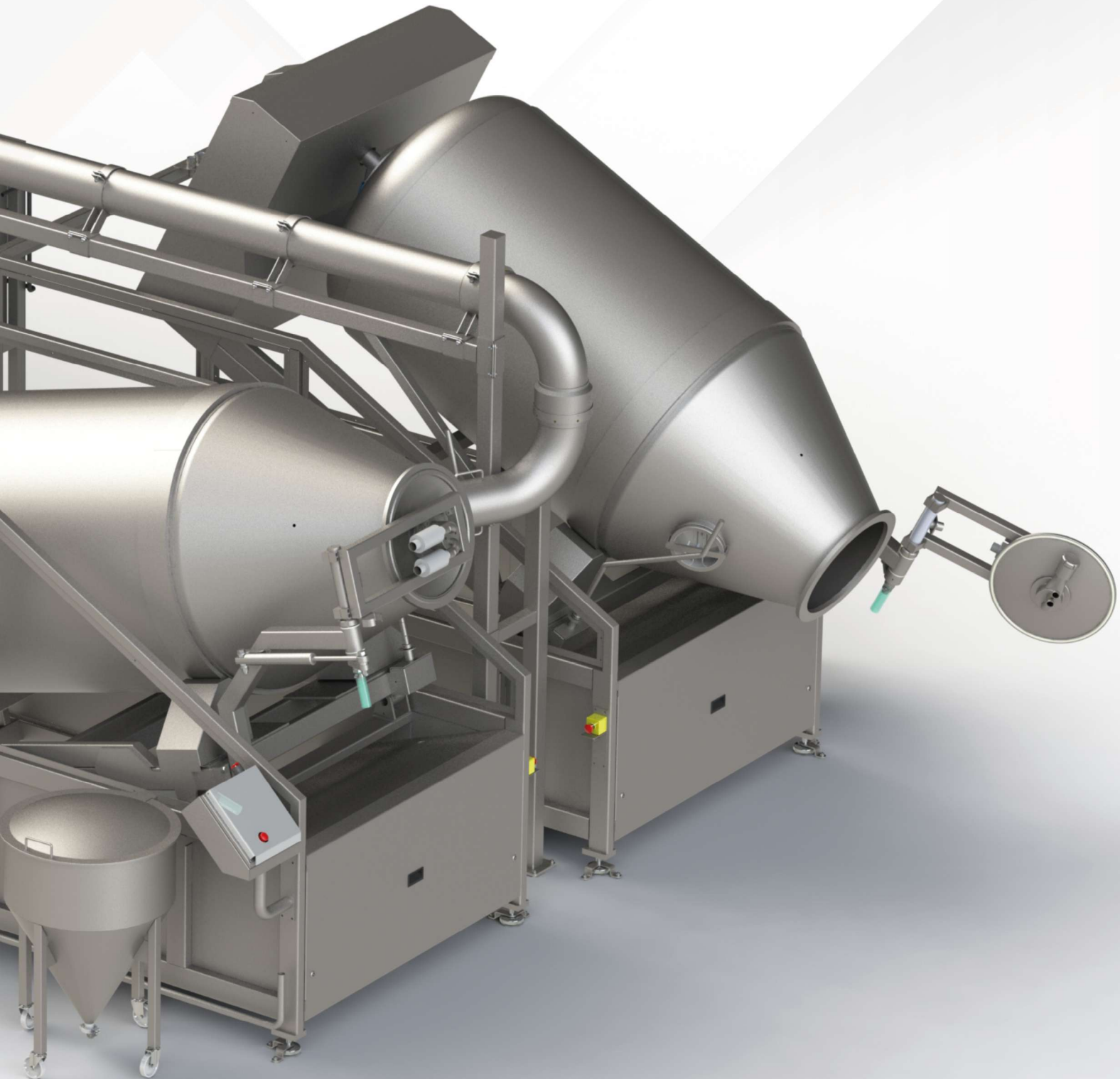
|                         | MDF 1600            | MDF 2600            | MDF 3900             | MDF 5600             | MDF 7500             | MDF 10000            |
|-------------------------|---------------------|---------------------|----------------------|----------------------|----------------------|----------------------|
| Rated voltage           | 400V                | 400V                | 400V                 | 400V                 | 400V                 | 400V                 |
| Rated over-voltage      | 24V                 | 24V                 | 24V                  | 24V                  | 24V                  | 24V                  |
| Power drive unit        | 1,5kW               | 2,2kW               | 4kW                  | 5,5kW                | 15kW                 | 15kW                 |
| Power vacuum pump       | 1,1kW               | 1,5kW               | 2,2kW                | 5,5kW                | 5,5kW                | 5,5kW                |
| Capacity vacuum pump    | 40m <sup>3</sup> /h | 63m <sup>3</sup> /h | 100m <sup>3</sup> /h | 160m <sup>3</sup> /h | 250m <sup>3</sup> /h | 300m <sup>3</sup> /h |
| Power hydraulic pump    | 2,2kW               | 2,2kW               | 2,2kW                | 2,2kW                | 3kW                  | 5,5kW                |
| Max load capacity       | 1100 kg             | 1680 kg             | 2500 kg              | 3500 kg              | 4875 kg              | 6500 kg              |
| Rotation speed drum     | 1,8-8 rpm           | 1,8-8 rpm           | 1,8-8 rpm            | 1,8-8 rpm            | 1,8-8 rpm            | 4-8 rpm              |
| Internal drum diameter  | 1100 mm             | 1250 mm             | 1390 mm              | 1600 mm              | 1780 mm              | 1980 mm              |
| No. of chicanes/carrier | 3+3                 | 3+3                 | 3+3                  | 3+3                  | 4+4                  | 4+4                  |
| Diameter drum opening   | 500 m               | 500 m               | 900 m                | 900 m                | 900 m                | 900 m                |
| Cooling capacity        | 4,3kW               | 5,1kW               | 6kW                  | 7,2kW                | 10kW                 | 12kW                 |
| Volume, cooling jacket  | 40l                 | 55l                 | 66l                  | 78l                  | 110l                 | 125l                 |

We also offer a range of basic models. The GAROS GTB Tumbler is a basic solution of tumblers. Read out, GAROS Tumbler Basic, meets a demand of low cost tumblers often used at small and medium sized process facilities. We offer a range from 1600 litres up to 10 000 litres volume, controlled by an advanced microprocessor. For more information, please see our Basic Tumbler brochure.

GAROS reserves the right to make technical modifications in measures or design at any time.

# ***AUTOMATED LINES***







**RED MEAT**



**POULTRY**



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