

GAROS MDF MASSAGERS

Since 1985, GAROS has been focused on cured meats, building Injectors, Massagers, Brine Mixers, Ham Stuffers and Net Loaders. In each of our product lines, we strive for excellence in construction. We also believe in including a full range of standard features, designed to meet our customers operating demands. Our line of Multi-Displacement Flight or "MDF" MASSAGERS is another example of that manufacturing philosophy.

Our MDF MASSAGERS include such features as hydraulically operated full-tilt drums, jacket cooling, microprocessor controls, load cells, easy access service compartments for vacuum, electric and hydraulic components, and a full range of safety features.

As the name implies, our MDF MASSAGERS are built with a uniquely designed set of asymmetric flights inside. The result of this design is an advanced FOUR-WAY product movement, which produces a superior massaging action. This feature allows you to "dial-in" the massager to fit the processing demands of a wide range of pork, beef, poultry and seafood products. The MDF can also be adapted for different applications, such as defrosting, Co2 or N2 refrigeration, and marinating.

The tilting feature has several benefits. In combination with the large 900 mm opening, it makes loading and unloading fast and easy. It also allows for filling up to 65% capacity. Tilting the drum forward makes discharge fast; ensures that no meat residue is left in the drum and no air is introduced into the meat during discharge. It also makes cleaning fast, easy and consistently complete – important for ensuring food safety.

The vacuum intake is well above the product level, using a snorkel inside the lid.

The lid is hydraulically actuated and is controlled from the operator's panel.

The large 900 mm opening, combined with our full-tilt action, allows for fast and easy loading, unloading and cleaning.

All common maintenance components are accessible from the front side. For simple access and maintenance, the vacuum pump and the hydraulic power pack are mounted on sliding drawers. The electrical cabinet also swings out for easy access.

The Stainless Steel IP67 electrical cabinet is built in a sealed all welded motor compartment. In order to prevent moisture in the electrical and motor compartment, air fans are included as a standard feature.

The advanced microprocessor is easy to operate, and stores up to 50 programs. The programming ability is unsurpassed - flexible and adaptable to each product type and circumstance. Each program consists of 6 steps; each step consists of 2 phases. In each step and phase the following parameters can be set: Total process time, pause time, start up time, vacuum percentage, vacuum cycles, meat temperature, rotation speed, and rotating direction. These parameters allow making the adapted programs superior for each product requirement, to obtain maximum yield on the final product.

The GAROS MDF MASSAGER is available in several standard sizes: 1600 L, 2600 L, 3900 L, 5700 L, and 10000 L. Filling up to 65% of capacity can be obtained due to its tiltable drum.



The drum is equipped with a cooling jacket for efficiently cooling products. The cooling area is more than double compared to other refrigeration designs.

We have methodically designed in safety features such as a stainless steel safety fence around the entire danger area, which ensures full protection REGARDLESS OF THE DRUM POSITION

Temperature is regulated by an Infrared sensor coupled to the control panel and automated refrigeration controls.

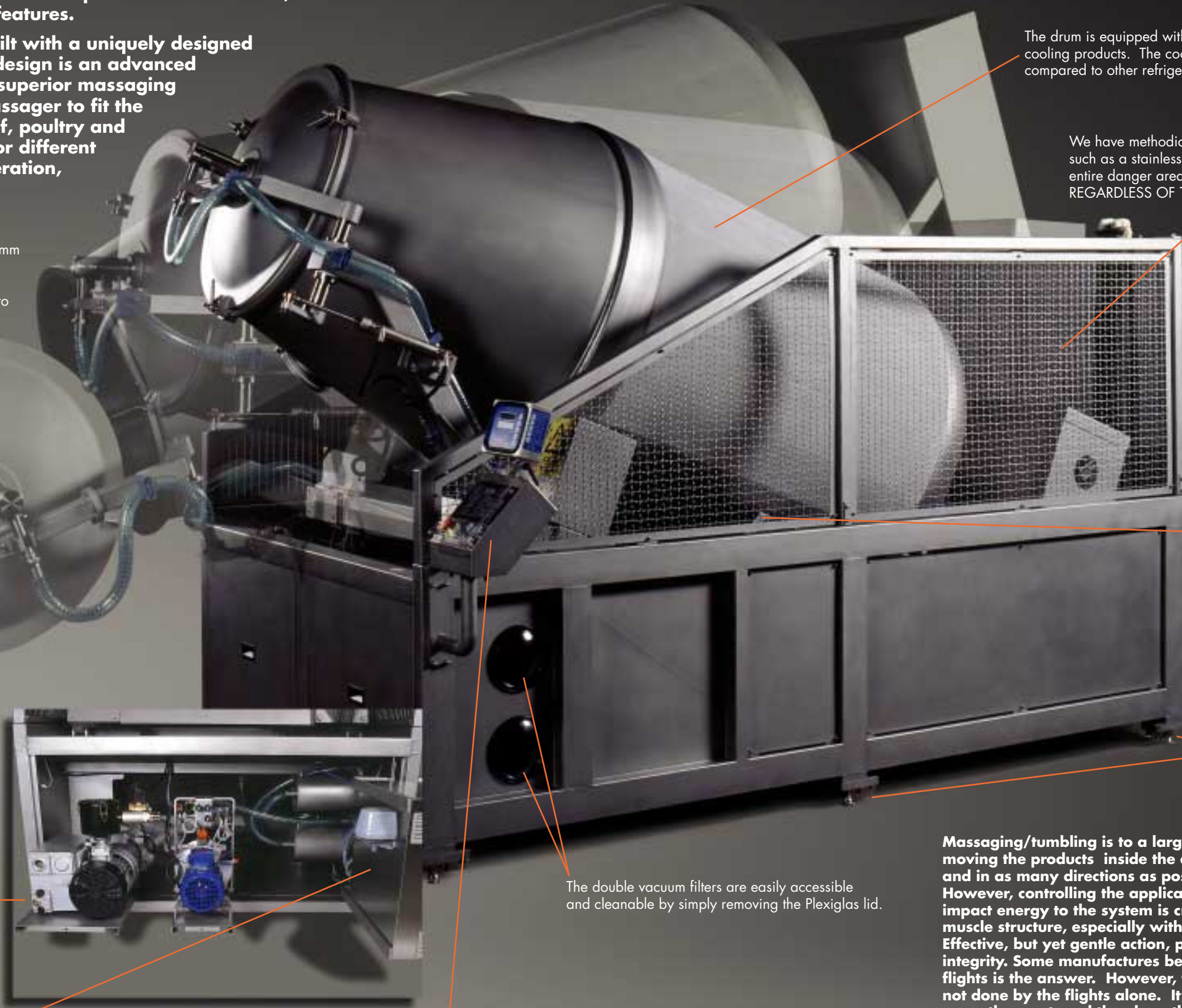
Corrosion resistant Heavy-Duty alloyed hydraulic cylinders.

Load cells.

The double vacuum filters are easily accessible and cleanable by simply removing the Plexiglas lid.

Massaging/tumbling is to a large extent a matter of moving the products inside the drum, gentle but as much and in as many directions as possible. However, controlling the application of both friction and impact energy to the system is critical in order to maintain muscle structure, especially with sensitive products. Effective, but yet gentle action, protects the product's integrity. Some manufactures believe a large amount of flights is the answer. However, the massaging action is not done by the flights alone. It's the way the flights move the meat, and then how they create meat-on-meat massaging action.

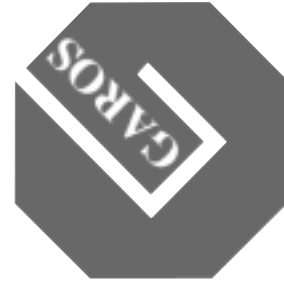
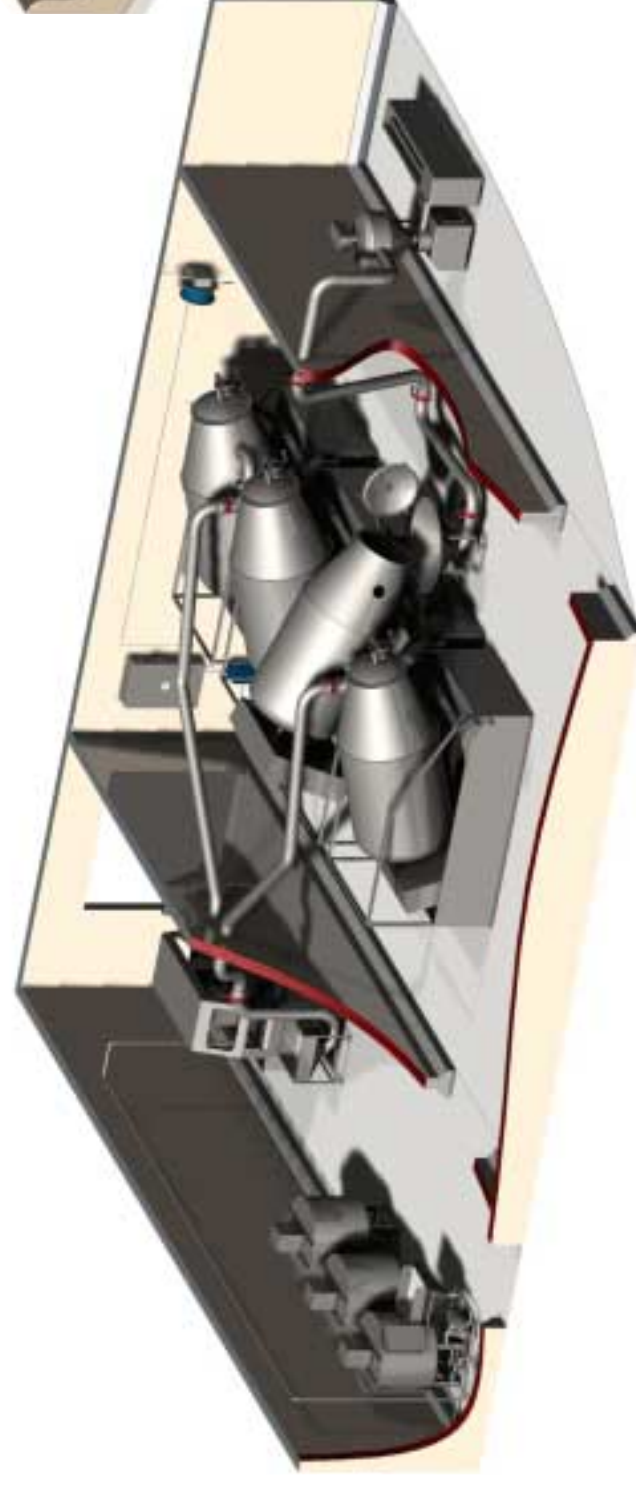
GAROS has achieved a unique FOUR-WAY movement of the products due to the MDF – Multi Displacement Flights - which we have shown to deliver a superior and unparalleled massaging action.



The GAROS "VFS – Vacuum Filling System" is a fully automatic and integrated system for loading boneless products into the massager, without any manual handling. With VFS connected to the massager, the products are sucked straight from the injector into the massager, at the same pace as the injector. It eliminates vats, product traffic flow, and reduces human handling.

90 % of the massagers delivered in our native Scandinavia are equipped with VFS. We supply small systems for a few massagers up to large systems for several machines. The VFS system can also be gradually extended, as the massaging capacity is increased with new massagers. Even transport from the massager to a pump/stuffer could be done with a VFS.

The system is equipped with a specially developed cleaning unit.



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