



*Enjoy great taste*

## What is Vacuum Tumbling?

Vacuum tumbling is a highly useful and efficient method for tenderising, marinating or brining meat, poultry, seafood and even vegetables to produce great tasting value-added convenience products.

Most UK industrial food processors utilise vacuum tumbling to increase their yields on a massive scale, but also to improve the efficiency of their production lines, and within any supermarket you will find numerous products that contain tumbled meat.

Despite negative connotations towards industrial processing, for smaller businesses unlocking the secrets and benefits of vacuum tumbling, will deliver impressive results, repaying the investment very quickly and increasing profitability. With compact and simplified tabletop versions now available to buy, we believe all retail butchers should trial and introduce this process to their business.

## Advantages of Vacuum Tumbling

- **Greater Yields and Higher Margins** - Can easily add 10%-15%+ to the weight of the finished product (including marinade or brine and seasoning), providing a greater yield and higher price point, guaranteeing flavoursome and tender meat.
- **Improved Product Quality and Consistency** - The process of tumbling allows for even penetration and distribution of the marinade and draws protein to the surface of meat for a juicier, more tender and great tasting product.
- **Reduced Direct Labour Costs** - Will reduce handling and processing time, with as little as 10 minutes needed for the marination of some products. Typically, a water based marinade would need a minimum of 10 hours for the flavour to penetrate the structure of the meat, which in a busy period could mean lost sales.
- **Reduced Supply Costs** - Vacuum tumbling eliminates a lot of wasted marinade as you can be more precise with the ratio of marinade to meat, knowing full well that the absorption rate will be optimum with no excess leftover, once again increasing efficiency and saving costs.

## The Science Behind Vacuum Tumbling and Basic Method

You can find a lot of detailed and expert explanations regarding the science behind vacuum tumbling online, but for now we will try and keep it as simple as possible.



## Vacuum Tumbling

- Under vacuum, air is sucked out of the meat, stretching its structure and allowing any marinade/brine/seasoning to penetrate and bind itself to the molecules of protein as the drum of the tumbler turns and massages the meat.
- After a certain amount of time, which varies depending on what type of meat used (approx. 10-20 minutes for spare ribs/chicken portions) the vacuum tumbler slowly lets the air back into the drum and in turn back into the meat.
- Once the cycle has finished, leave the meat to rest for 10 minutes.
- You then repeat the above cycle again for another 10-20 minutes, followed by another 10-minute rest.
- Depending on meat type or product, a further 3rd cycle might be necessary. As with any similar process there are many factors involved, and different products will require different cycle times. Certainly, a little experimentation and trial and error is necessary to achieve optimum results.

## The Result

After 2 or 3 cycles within the vacuum tumbler, the tissues will have been repeatedly stretched, allowing maximum absorption of the marinade. There should very little, or ideally no residual marinade left in the drum as it will all now be within the meat. You will have increased the weight of the product itself with the addition of the marinade. By gently massaging the meat and by the process of repeatedly stretching and then relaxing the protein tissues, the meat itself will be softer, ensuring a more tender bite, as well as being juicier and more succulent when eaten, not to mention full of flavour.

## What can I add to the tumbler along with the meat?

The following Verstegen products can be added with the meat.

- **World Grills** - World Grills are designed to coat the outside of meat. An oil based product will never fully penetrate the protein of the meat, however under tumbling conditions a penetration of 2-3mm into the flesh of chicken drumsticks (even with the skin on) was observed. This results in a juicy flavorsome end product.
- **Dry spice mixes** - The variation of spice mixes that Verstegen produce, really come into their own during tumbling. Mixed with a brine, spice mixes become dissolved and are absorbed straight into the centre of the meat when generating the vacuum (the moment when the proteins are being stretched). Basically, seasoning your meat all the way through, locking in the moisture with the additional spice mix.
- **Water based marinades (Chinese Plum, Caribbean etc)** - These marinades pack a lot of flavour and should be used with your chosen meat for a minimum of 12 hours for the most effective outcome. However, using the marinades with the tumbling process, the same flavour profile can be achieved in just 20-30 minutes.
- **Brine** - Adding a liquid brine along with a spice mix or water based marinade increases yields and makes cheaper cuts far juicier. Until recently, Verstegen tumble mixes contained a phosphate stabiliser, and under EU law, could only be sold to consumers in their cooked form. We now produce a new product called NO-FOS. This allows any product to be sold raw to the consumer. Simply dilute 90g in 1 litre of cold water.



## Recipes

**No-Fos Inject Tumble Art Nr 184401** - To make up the brine, dissolve 90g of No-Fos in 1 Litre of cold water.

### **Chicken Fillets - 10% Brine + 15% Chinese Plum Marinade.**

20 minutes tumbling and 10 minutes rest. - Great flavour & texture when cooked. The meat becomes very tender.

### **Chicken Fillets - 10% Brine + 10% World Grill Oil.**

20 minutes tumbling and 10 minutes rest. Fantastic flavour with a tender finish.

### **Chicken Drumsticks - 10% World Grill (no brine required).**

20 minutes tumbling with a 10 minute rest then another 20 minutes tumbling. Penetration just under the flesh. Good result - tasty & moist.

### **Chicken Drumsticks - 10% Chicken Classic World Grill + 10% brine.**

20 minutes tumbling with a 10 minute rest then another 20 minutes tumbling. Increase in the final weight of the meat with a great savoury chicken flavour.

### **Chicken Drumsticks - 20% Brine + 15% Chinese Plum Marinade** (use the usage rate on the back of the bottle).

20 minutes tumbling.

### **Chicken Wings - 15% Brine + 10% Jamaican Jerk World Grill.**

20 minutes tumbling with a 10 minute rest then another 20 minutes tumbling. Succulent tasty wings.

### **Chicken Wings - 25% Brine + 10% Jamaican Jerk World Grill.**

(Recommended amount of tumble mix in any tumbled product is between **10 % & 20%** but with the additional brine it comes out like juicy Buffalo wings!).

**Just be careful when tumbling chicken. If it tumbles for too long it can get a white glow, because of the separating proteins!**

**Racks of ribs** - Per kg of ribs you can add as above, between 10% and 20% of brine + recommended usage of water based marinade (e.g. Marinade for Spare Rib).

Any dry spice mix can be used in conjunction with the brine but **always check the salt level when you choose another spice mix containing salt**. A 10% brine is recommended if doing this or the end product will be too salty.

### **10% Brine + 15% Marinade for Spare Rib.**

20 minutes tumbling with a 10 minute rest then another 20 minutes tumbling.

### **20% Brine + 2.5% Spice Mix for Pulled Pork Smokey Paprika.**

20 minutes tumbling with a 10 minute rest then another 20 minutes tumbling.



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