



Ganimede®

simply a better wine...

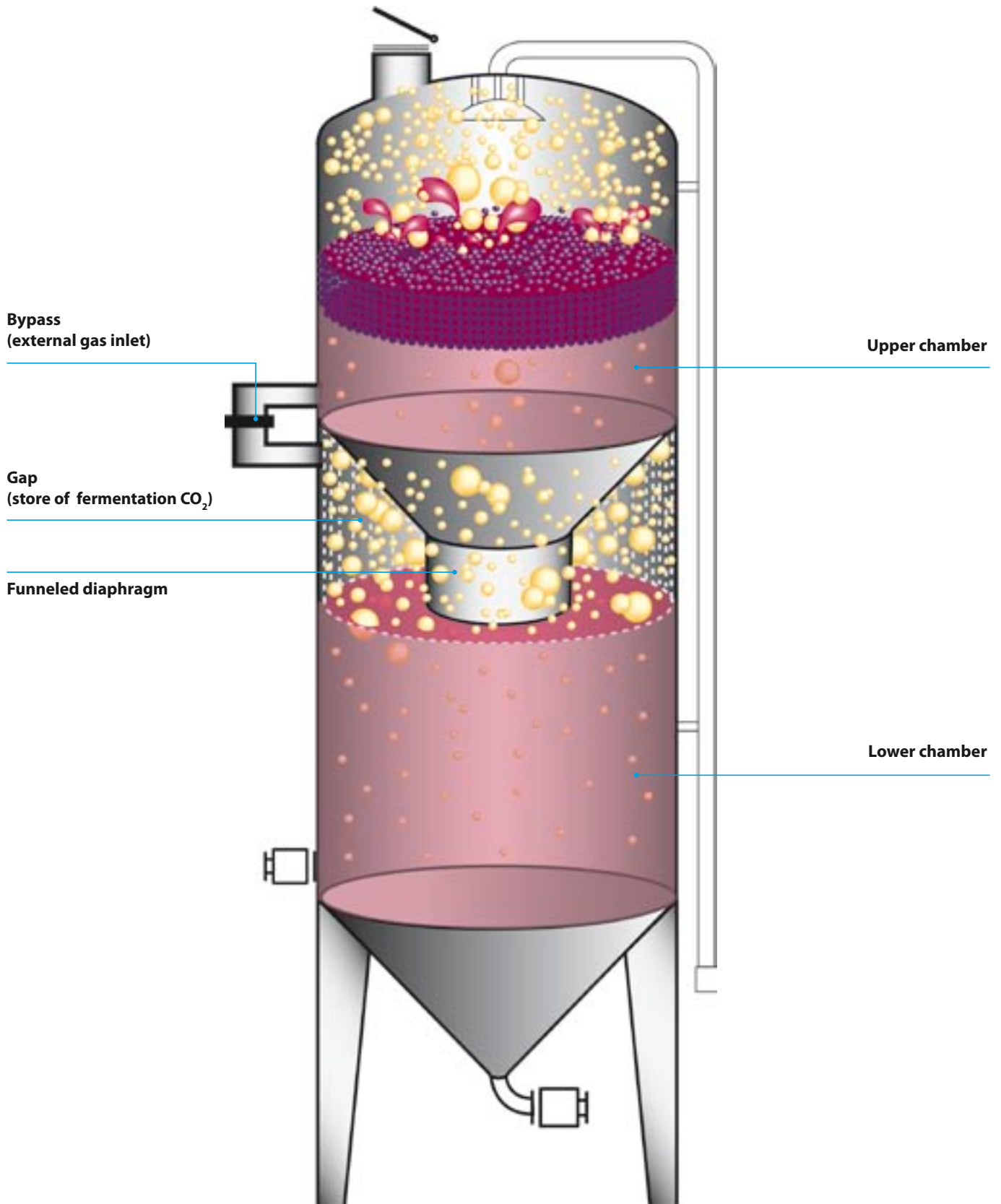
Il fermentatore brevettato - Le fermenteur breveté - El fermentador patentado - The patented fermenter - Patentierte Gärbehälter



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Ganimede[®]

the innovative fermenter!





A patented vinification system.

The revolutionary patented vinification system **Metodo Ganimede®** is the only fermenter which utilizes the free and natural energy given by the CO₂ to **efficiently extract the noble substances contained in the skins.**

This tremendous energetic potential, represented by the fermentation gas (**from 40 to 50 liters per liter of must**) make the winemaker's job much easier.

Metodo Ganimede® is a technology which holds simplicity, efficiency and versatility in one self contained unit!

A selective and effective extraction.

Metodo Ganimede® permits a selective extraction of the aroma precursors, anthocyanins and polyphenols **without any violent mechanical action** which could extract herbaceous aromas and bitter and astringent flavours.

The cap is homogeneously stirred: there are no preferential channels and 100% of the cap is perfectly mixed.

No pumps: all the energy comes from the CO₂ generated by the fermentation.

Thanks to carbon dioxide's energy, **Metodo Ganimede®** permits mixing/déléstage cycles without using any pumps.



Simply a better wine...

Tasting is the key to our success!

Not only through chemical analysis does **Metodo Ganimede®** reveal interesting quantitative differences compared to traditional systems (e.g. increased colour intensity), but also, **comparative sensorial tasting between Metodo Ganimede® and other systems mark a significant difference in quality.**

More aromatic wines. Softer tannins.

The absence of external influences (such as the use of pumps), a constantly wet cap, soft and delicate mixing, the possibility to separate and discharge seeds, and the ease of controlling a homogeneous temperature are all characteristics of **Metodo Ganimede®** which represents the guarantee to attain **aromatic wines with soft tannins.**

These sensorial characteristics of the wines produced, thanks to **Metodo Ganimede®**, are perfectly aligned with **the market demand that today's consumer requires:** smooth, soft, non astringent wines.

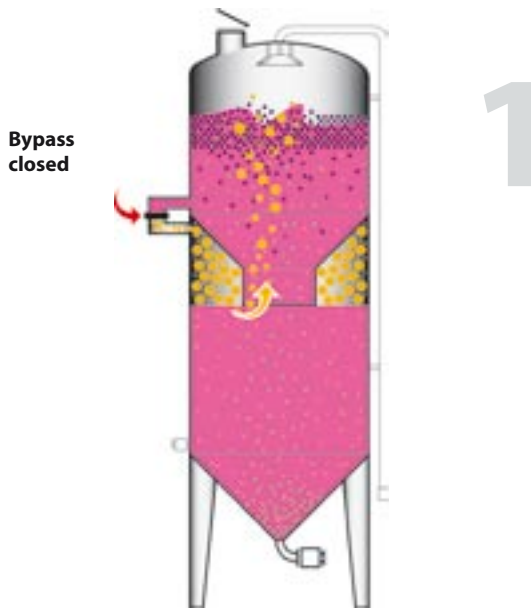
Considerably lower production costs.

With the absence of pumps, and certain characteristics such as being fully automatic, flexible, user friendly, and the ease of discharging product, make the **Metodo Ganimede®** the ideal tool for the winery. **The manpower and electricity required during the process are considerably reduced.**

Versatility of Metodo Ganimede®.

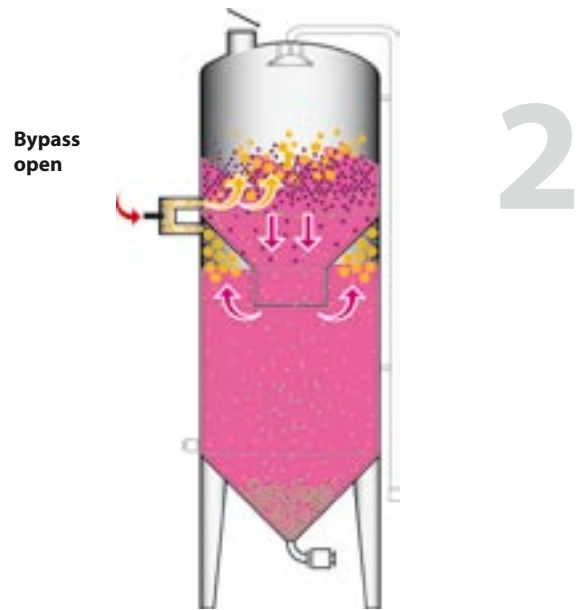
- **Metodo Ganimede®** is ideal for the vinification of **red wines** and also **white and rosé wines.**
- **Metodo Ganimede®** can be used for **storage** with the possibility, if necessary, to be a variable capacity tank by simply injecting an external neutral gas under the diaphragm.
- **Metodo Ganimede®** is especially suitable for the **pre-fermentative and post-fermentative skin contact maceration.**
- **Metodo Ganimede®** enables an effective **"bâtonnage"** of wines (using an external gas to mix the noble lies and exploiting the important surface of contact represented by the internal diaphragm).

Vinification Phases



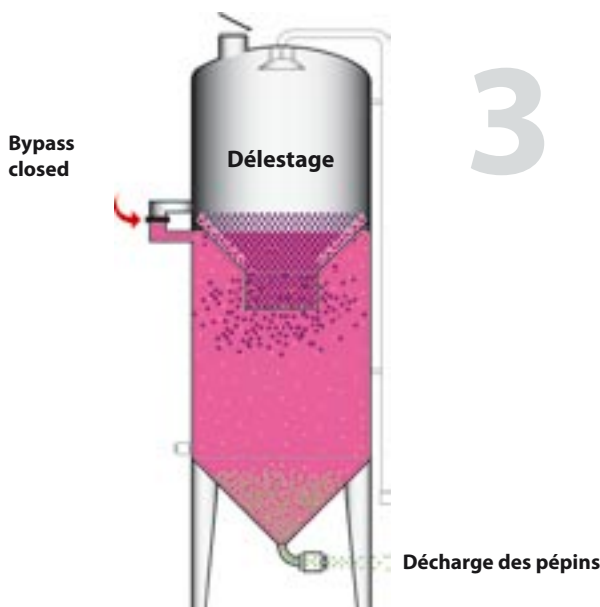
1. Gap saturation.

Metodo Ganimede[®] fermenters can be filled from the top or from the bottom outlet valve or the racking valve. As the must/marc level rises the space below the diaphragm remains totally empty. The air in this space cannot escape as the by-pass is closed and therefore remains full of air preventing this space from being filled with liquid. The marc collects on the surface and forms the cap. The air in the space below the diaphragm is rapidly displaced by the carbon dioxide being produced by the fermentation process. Once the space is saturated with carbon dioxide the excess gas under pressure rises in big bubbles to the surface through the neck of the diaphragm. These bubbles constantly agitate the mass of marc and keep all the skins wet and evenly dispersed. The mixing action causes most of the pips to sink to the bottom of the fermenter.



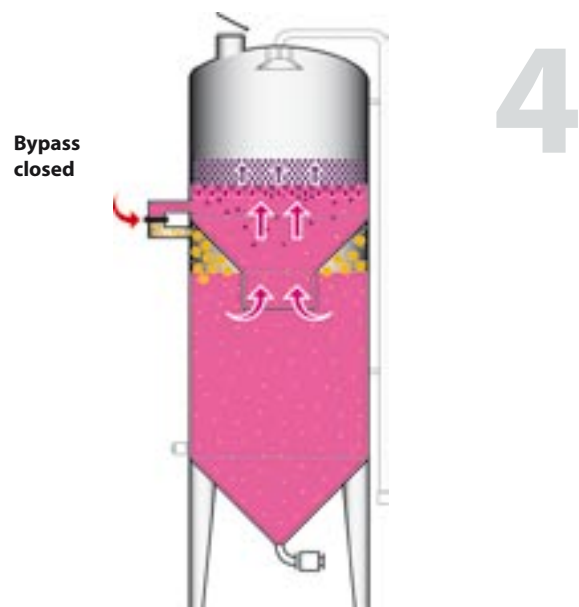
2. Opening the by-pass.

When the by-pass valve is opened the large volume of gas trapped below the diaphragm is released into the top chamber containing the cap. This causes the cap to be flooded with must and a vigorous mixing action to take place. This process is gentle enough to prevent any aggressive action on the cap but results in the cap being completely broken up. This is not a violent mechanical action and therefore the potential for producing an undesirable amount of lees is minimised.



3. Délestage.

After opening the by-pass valve and releasing the gas trapped below the diaphragm the level in the fermenter drops rapidly flooding the space below the diaphragm. The cap which is full of liquid is now spread over the large top surface area of the diaphragm. This results in the liquid being released from the marc gently draining downwards. This procedure enables the essential phase of délestage (rack and return) to take place with no mechanical pump over mechanisms involved. Large volumes of seeds can be removed by opening the bottom outlet valve.



4. Leaching and static dripping.

When the by-pass valve is closed again the carbon dioxide produced by the fermentation process starts to fill the space below the diaphragm again. The level of the marc begins to rise again pushing the marc upwards resulting in further liquid to be released from the marc. This new process results in further substances to be leached from the marc. Once the space below the diaphragm has filled with gas the by-pass valve can be opened again and the whole process repeated at any preselected time.

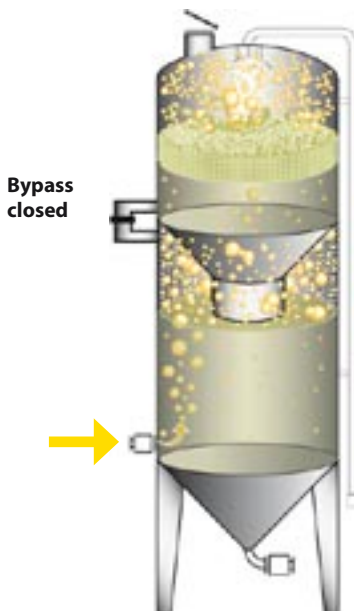
Ganimede®: quality at full gas!



Metodo Ganimede® enables the introduction of gases directly into the space under the diaphragm. With Metodo Ganimede®, the physical properties necessary to have a correct absorption of gas into the liquid (i.e. pressure, contact surface area, contact time and temperature) are perfectly respected. In this way it is possible to obtain a more effective action as compared to a traditional tank.

1. the gas injected is restrained under the diaphragm and it stays in contact with a large surface of liquid (**about 85% of the liquid surface is in contact with the gas**)
2. the pressure applied by the liquid which lays over the diaphragm, facilitates the dissolution of gas.
3. the gas dissolved in the liquid combined with the mixing action of the system, can do a multitude of actions all in one step (i.e. extract aromas/polyphenolics, anti bacterial action, antioxidant properties) involving the entire contents of the tank (100% of the product!!)

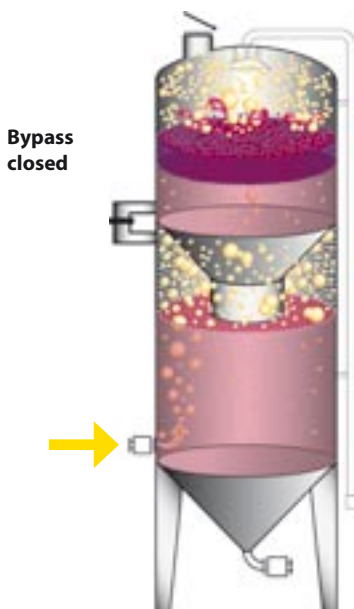
Introducing external gases in the majority of traditional vinification systems is relatively empiric and difficult to calculate. An external gas, when injected into a liquid, is not able to spread itself in a homogeneous way in the entire system. It tends to escape very rapidly towards the exterior rising as a vertical column (this is a physical gas characteristic); in this way it affects only a marginal portion of product.



Pre-fermentative Skin contact of whites and rosés: more aromas!

Many winemakers have used, with success, Metodo Ganimede® for the skin contact of white wines. A short cold maceration (6 – 12 hours) allows one to obtain white wines with particular aromas: only the desired components are extracted.

The dissolution of gas into must enables an extractive and antioxidant effect, better than what is possible from a simple saturation of a traditional tank. The continuous injection of a minimum amount of carbon dioxide under the diaphragm permits a delicate and effective homogenisation of the liquid with skins, obtaining an excellent, rapid and selective extraction of the aromatic components and precursors. All this avoiding the risk to extract herbaceous aromas and bitter and vegetal flavours!



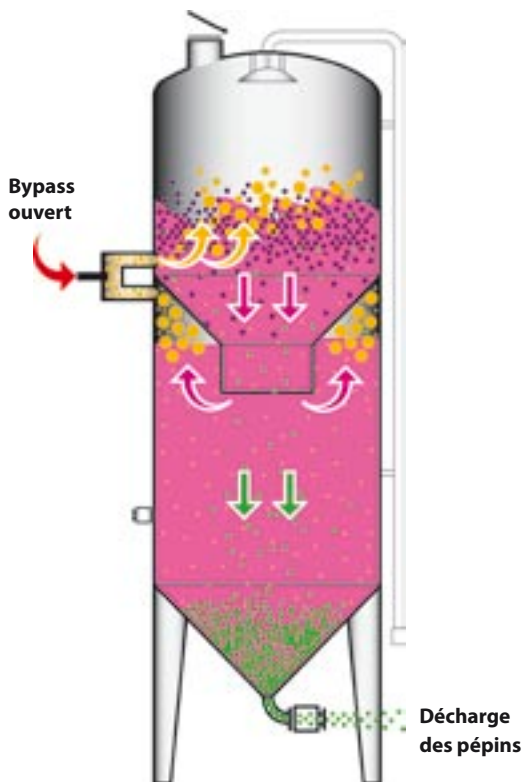
Cold Pre-fermentative maceration for reds: more color and fruit!

Metodo Ganimede® is particularly suitable for the cold pre-fermentative maceration of reds. This technique allows one to obtain more aromatic wines with an increased colour intensity.

The carbon dioxide dissolved in the system (and continuously in dissolution) allows good antioxidant protection of must and facilitates an improved extraction of water-soluble components (i.e. aromatic compounds, anthocyanins, and other polyphenolics)

Moreover, the gas injection under the diaphragm allows a good homogenisation of must, without the aid pumps. When a more intense mixing is needed, the bypasses are opened and the entire system is mixed thoroughly. As a result the final products obtained are more aromatic with much softer tannins. Since no pumps are used (minimal mechanical contact), the risk of extracting herbaceous and bitter substances is nearly eliminated.

Removal of seeds from the process.



Only Metodo Ganimede® allows the seeds to be removed in total or in part and, as a result, the tannins in them.

In this way, wines extract tannins and anthocyanins from the skins only. Thanks to its thorough and delicate stirring of the cap, **Metodo Ganimede®** causes most of the seeds to sink to the bottom of the fermenter where they can be easily removed at any time by opening the total discharge valve.

In less favourable years, most phenolic compounds in the seeds are not polymerised well and are highly reactive. These tannins make lower quality wines and it is therefore useful to discard them.

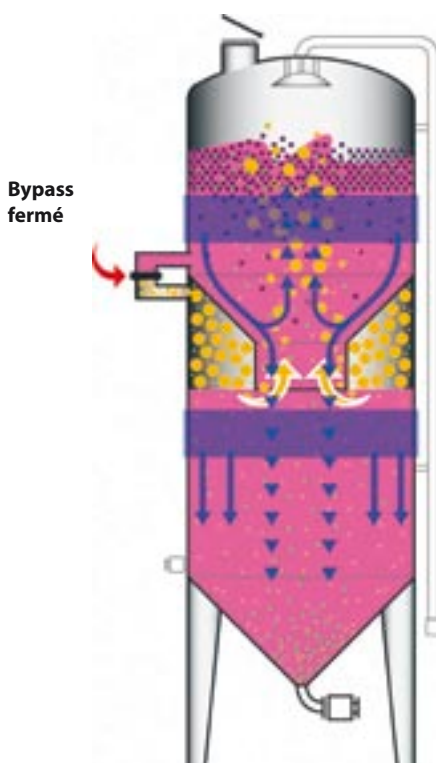
Pips discharge



Pips are removed in large volumes



Homogeneous temperature throughout the entire system.



During fermentation it is very important to ensure a temperature as homogeneous as possible for the entire bulk of the system.

The technical shape, along with the patented technology of Metodo Ganimede® is what allows for an optimal homogenisation of temperature throughout the system.

The cold liquid that comes in contact with the jacket surrounding the shell, by physics, tends to fall towards the bottom of the unit. This chilled liquid meets the diaphragm and, following the shape of the inner cone, flows towards the centre of the tank. Here, as the bypasses are closed and the diaphragm is full of gas, the chilled liquid is pushed up by the upward movement of carbon dioxide bubbles coming from the diaphragm's collar. This process improves temperature homogenisation in the warmest and most critical area of the fermentation (primarily the cap), where some of the most important and fundamental fermentative process takes place.

A part of the chilled liquid then flows down into the lower area of the diaphragm where it is mixed with the central product. A mixing effect by convection takes place here. Moreover, the opening of the bypasses provokes an increase in temperature homogenisation thanks to the decompression of the accumulated gas.

In conclusion we can state that **only a homogeneous temperature can assure effective results and guarantee optimal conditions for the yeasts' activity; unwanted temperature changes produce substances which can jeopardize the entire process.**

Some possible options for bottoms are:



Conical Bottom with "Sluice Point" device. (Tangential inlet)



Self-emptying Conical Bottom



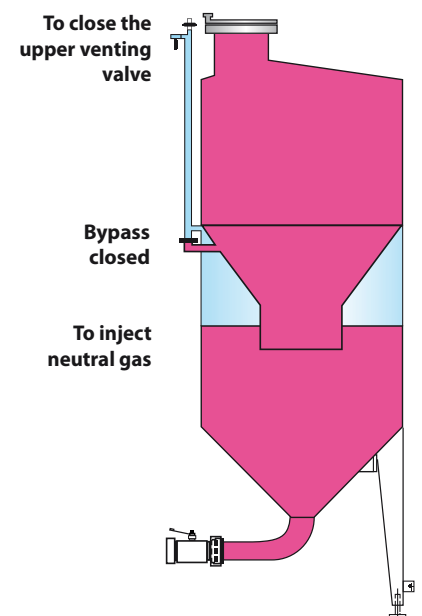
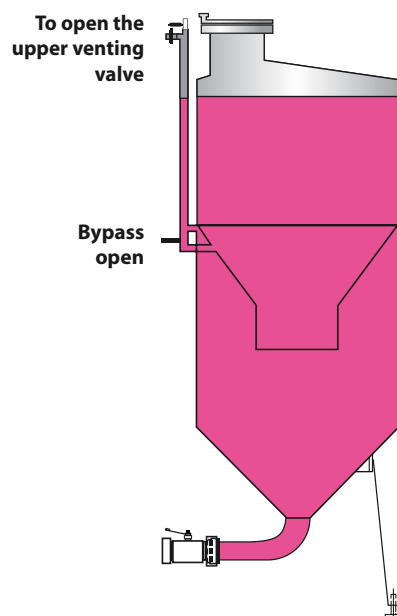
Sloped Bottom

Flexible wine storage as "variable capacity tank".

Metodo Ganimede® can be used as variable capacity tank, thanks to the volume under the diaphragm, simply injecting an inert gas.

To completely exploit all the volume of the tank the bypasses must be opened but, if there's no sufficient quantity to completely fill the tank, we can easily closed the bypasses and inject neutral gas through the specific valve moving the liquid under the diaphragm towards the upper area of the tank. In this way the level rises until the desired point (e.g. the top manhole).

The wine is perfectly protected from oxidation and you can have flexibility in filling as a variable capacity tank (for all the volume under the diaphragm).



A UNIQUE INNOVATIVE TECHNOLOGY, A UNIQUE SUITABLE INVESTMENT, TWO GREAT QUALITY RESULTS:

RED

Since 1997, the **Ganimede®** fermenters distinguished themselves all over the World for the technique innovation and the quality of the results, successfully standing face to face with great international red wines.

+ WHITE

Today the wineries who use the **Ganimede®** fermenters even to produce quality aromatic white wines are numerous. This is the proof of the amazing versatility expressed by this innovative system.

= Metodo Ganimede®



Ganimede srl
via Umberto I, 77/A
33097 Spilimbergo (PN) Italia
Tel. +39 0427 926 130
Fax +39 0427 926 598

info@ganimede.com - www.ganimede.com