GIMAR GLOBAL SYSTEM

DELLA TOFFOLA GROUP

SELECTOR SYSTEM®

THE ART OF CREATING GREAT WINES HAS JOINED FORCES WITH A PASSION, RESEARCH, EXPERIMENTATION AND TECHNOLOGY

When a noble art joins forces with technology

For over 30 years now, Gimar has represented the state of the art in red winemaking, with a history of tradition and innovation carefully combined into an avant-garde technology that is also and especially the outcome of a genuine passion and a sensitivity to the way things are designed and done... features that are rare indeed, just like really good wines.

Quality also stems from a scrupulous attention to research and technological developments that have been tried and tested, absorbing input from all the company's Italian and other European customers, and that have been constantly improved by means of a close cooperation with some of the most prestigious universities and research institutions in Italy and France.

Respect for the fruit that Nature has granted mankind, dedication to top-quality winemaking, a creative spirit and original solutions are all features inherent in every Gimar product because, along with its equipment, Gimar is also proud to offer something that has no price, and that is its enthusiasm for converting your grapes into the best wine possible.

SELECTOR SYSTEM®: winemaking for the future

FEATURES

Maceration is one of the most important and delicate stages in the preparation of red wines and a crucial moment in the whole production process. The chromatic and sensory features of a red wine, its structure and harmonious composition all begin to take shape during this particular stage. The numerous components that have a role in winemaking are variously distributed in the grape and the most important are contained in the solids (the grape skins and pips).

It takes a complicated extraction process to transfer the substances contained in the grape into the liquid phase - the must - and make them part of the complex structure of the future wine.

While maceration is underway and the alcoholic fermentation process is taking place, the solid matrix of the grape undergoes diffusion phenomena and the various components subsequently dissolve in the liquid phase. Other, no less important and complex chemical and physical reactions are also occurring in the grape mass, including interactions between the polyphenols and other cell constituents, adsorption processes on the solid matter and on the walls of the yeasts, changes in the coloring matter as a result of oxidative-reductive reactions and combinations with tannins.

The enologist's fundamental job is to control the dynamics of these events in the whole, complex winemaking process, and to selectively extract the useful substances that convey the qualities intrinsic in the grape.

One of the enologist's most pressing concerns is to be able to manage every step in the vinification process with a view to obtaining the characteristics required of the wine, to fully exploiting the qualities of the raw material available.

Nowadays more than ever before, ensuring that winemakers have the opportunity to keep an effective control over their maceration processes is one of the most exciting challenges for companies like Gimar, that have been successfully designing and manufacturing winemaking equipment for decades.

SELECTOR SYSTEM®: the winemaking system of the future

The Gimar "Selector System" for winemaking expertly interprets the current tendency to produce top-quality wines using "natural" methods that are in tune with tradition and highly technological at one and the same time.

The Selector System is the outcome of the most advanced research on the topic of the winemaking process for producing the best-quality red wines, that Gimar conducts in synergy with leading Italian and French universities, generating this innovative and entirely original "Selector" winemaking system.

This module for processing black grapes incorporates as many as eight different patents, which form the genuine "technological backbone" of the system.

The Selector's operation is based on the most classical of red winemaking methods, deriving from ancient traditions and that have evolved over the course of time.

As experience has been gained in winemaking, certain principles and working procedures have gradually been refined and consolidated to such a point that today they are considered typical of red winemaking, and they are implemented in the Selector's exclusive modular approach.

The efficacy of a vinifier depends largely on how the pomace cap forming as a result of the upward pressure of the carbon dioxide generated during fermentation is treated during the maceration stage.

To make the most of the vinification process, and of the quality of grape available, it is indispensable that you succeed in selectively transferring from the grape skins into the must all the useful substances that are able to enhance the distinctive qualities and characteristics of the future wine.

Vinification methods must generally pursue several fundamental objectives:

A_to ensure an intimate contact, as extensive and constant as possible, between the liquid phase (the must/wine) and the solid phase (the grape skins) during the maceration process;

B_to repeatedly break up the mass of pomace fermenting in the tank;

C_to effectively provide a controlled supply of oxygen to the fermenting product;

D_to facilitate the transmission of heat through the fermenting mass, in order to be able to keep adequate control over its temperature and distribute the warmth evenly throughout the mass;

E_to homogenize the concentrations of both the alcohol that develops as a result of the fermentation process, and the residual sugars and yeasts within the liquid phase contained in the vinifier.

These winemaking processes traditionally involve pumping over the must, pumping over in air, délestage and racking.

With the Selector System, they are all handled as one, based on a precise processing logic governed by a highly-developed control system and adopting particularly efficient functional principles, which are briefly described overleaf.

SELECTOR SYSTEM®: 10 winemaking essentials

1_The polyphenols and aromatic substances contained in the pomace dissolve more readily if the liquid inside the cap is continuously recirculated. The concentration of the polyphenol compounds in the liquid phase in which the cap is steeped gradually increases and tends to reach a saturation point so the transfer of the compounds that you want to draw from the grape skins into the liquid tends to gradually slow down, and even stop altogether. By using a CASCADE PUMPING OVER method, the saturated liquid is effectively replaced with other, less concentrated liquid drawn from the lower part of the vinifier by the pumping-over pump, and this is fundamental to restoring the right momentum to the diffusion of the polyphenol compounds and aromas, and facilitating the extraction process.

2_Using the MULTISTEEP and the cascade pumping over approach generates conditions in which the pomace cap is kept constantly and evenly dampened and routinely broken up, actions fundamental to ensuring an extensive, intimate contact between the solid phase and the liquid phase, which is indispensable to the heat and matter exchange processes underway.

3_The OXYCONTROL and OXYPLUS functions guarantee the right supply of oxygen to the macerating mass, as and when it is needed and in the ideal concentrations. The oxygen has a stabilizing effect on the coloring substances and assures the wine a smooth and stable polyphenol content so that the resulting wine can cope brilliantly with either early consumption or lengthy aging.

4_Temperature control inside the vinifier is precise and effective. The temperature control system's THERMOSOFT function enables heating and cooling to take place gradually, without any excessively abrupt temperature changes.

5_The DENSIMATIC system directly measures the density of the must while it is macerating, thus enabling the progress of the fermentation process to be monitored simply and easily.

6_The vinifier's operation is controlled by means of an ad hoc control panel with a dedicated DIGIWINE electronic card, that is also designed to be ready for remote control with a Vinisupervision system.

7_Using the VINISUPERVISION system, you can control all the vinifiers at a winery from a remote PC and program "recipe-based" maceration cycles, i.e. in a series of "stages" characterized by different programs.

8_Discharging the solid residue (pomace and grape pips) from large-scale vinifiers at the end of the vinification process is quick and easy with the aid of the motor-driven mechanical EXTRACTOR.

9_The incorporated CLEANMATIC washing system makes it easy to sanitize the Selector. An internal rotary device is provided that enables an accurate and efficient cleaning of the vinifier.

10_The ELIMATIC system is used for aging wines on the lees already inside the Selector, by recirculating (with and without oxygenation) and remixing the lees, all managed from the control panel.

CASCADING PUMP-OVER

Selective extraction: a primary goal

The Selector System consists of a vertical, cylindrical tank that is divided into two compartments, one above the other, communicating through a large-diameter, central pneumatic valve with a programmed opening function. Maceration takes place inside the larger, lower compartment, while the purpose of the upper compartment (with about 10-15% of the capacity of the lower compartment) is to store the must during the pumping over process.

PUMPING OVER PHASES

FEATURES

The pump-over pump transfers a part of the must from the vinifier's lower tank to the upper tank.
The must builds up inside the upper tank while the central pneumatic plate valve is kept closed, until the tank is more or less full (depending on the settings used to establish the intensity of the cascade effect).
With the subsequent automatic opening of the valve, the must that has accumulated in the top tank is discharged and falls back into the bottom tank.
The flow rate of the must being discharged is very high, generating a powerful jet of liquid that falls centrally from above and radiates outwards, coming to bear on the solid mass of the pomace cap underneath near the walls of the vinifier.
As a result of the considerable kinetic energy in this flow of must, the pomace cap is broken up and turned upside down. The solid mass of the cap lacks cohesion and the strong thrust of the flow of must makes it sink down through the must until it reaches the bottom of the vinifier.
The result is a general remixing effect that extends through the whole volume of the macerating mass, which has the effect of changing all the liquid saturating the solid part and ensuring an efficient and intimate contact at the interface between the solid and liquid phases.
The pumping over in the Selector works like a real delestage process: a conspicuous volume of must/wine is shifted from the maceration compartment to a temporary storage compartment, then poured back into the macerating mass, where the extraction and fermentation activity is most intense.
All the variables characterizing the pump-over process (the frequency, duration and intensity of the leaching action) can be programmed by the operator to suit the working conditions, the progress of the maceration stage, the type of raw material being treated, and the characteristics of the future wine.

ACTION

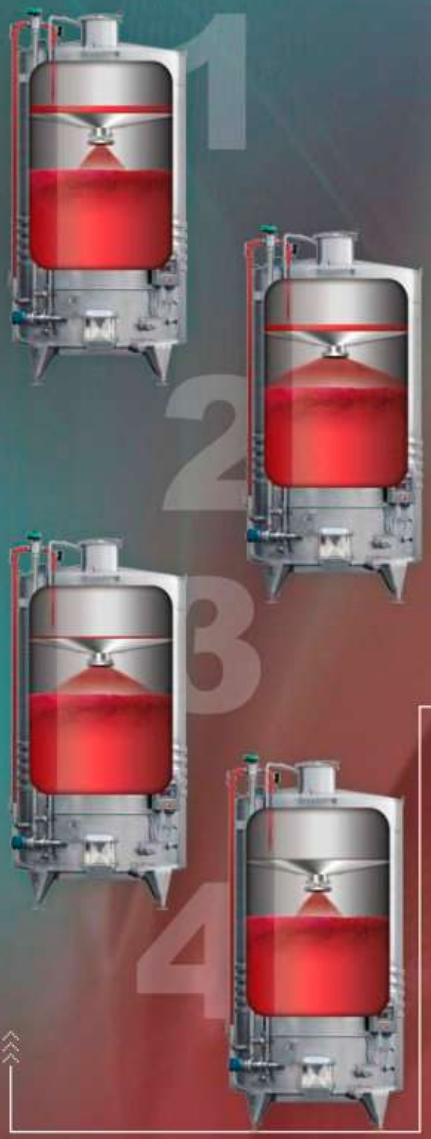
ENOLOGICAL OUTCOME

The particular efficacy of the pump-over process in the Selector derives from several essential aspects:

- *Total contact between the must and the grape skins is assured by the thorough disruption of the pomace cap, so that the whole surface area of the grape skins it contains is exposed to contact at the interface with the must;*
- *The cascaded of pumped-over must has the effect of breaking up and crumbling the pomace cap, consequently loosening it and making it evenly permeable to the penetration of the liquid phase, avoiding any formation of preferential routes for the flow of fluid;*
- *The surface of the cap is kept moistened with a constantly changing must;*
- *The thorough remixing of the mass facilitates the homogenization of the sugars, alcohols and yeasts, while also increasing the transfer of heat and avoiding any thermal stratification phenomena;*
- *An appropriate programming of the pumping over process, modulated to suit the stage of vinification underway, enables all the potential qualities of the raw material available to be selectively extracted and helps you to achieve the sensory balance that is an essential characteristic of every great wine.*

MULTISTEEP®

It's raining red wine, but only how and when you want



FEATURES

MULTISTEEP is a system patented by Gimar for controlling the opening and closing of the central plate valve in the top tank for a given number of times and intervals programmable by the operator. With the pump-over pump enabled, you can thus complete a series of pomace cap wetting cycles.
The MULTISTEEP is used to sprinkle the pomace cap with a variably-oriented jet of must, and this can be done in addition to, or in lieu of the punching down achieved with the cascade system.

ACTION

Used before the cascading pumping over cycle, the MULTISTEEP serves the purpose of wetting the pomace cap, which is consequently softened, becoming swollen and impregnated due to the leaching action.
The subsequent final cascade of must is thus made more effective for extraction purposes, remixing the whole of the macerating mass.
The MULTISTEEP can also be used as an alternative to the cascade approach during the early hours of maceration, before the cap has formed completely, or in the final stages of lengthy maceration processes, if you wish to obtain a more gentle, less energetic moistening action without breaking up the pomace cap.

ENOLOGICAL OUTCOME

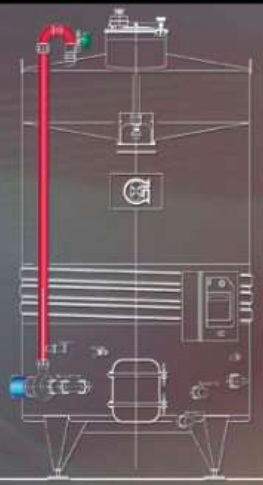
Pumping over with the Multisteep generally gives rise to a marked improvement in the vinifier's performance, facilitating the optimal and speedy extraction of the grapes' noble compounds. In this sense, the Multisteep makes the system's functioning even more efficient and flexible.

The wine breathes... colorful and delicious

OXYCONTROL®

FEATURES

The OXYCONTROL is a patented Gimar system installed on the pumping over pipeline. It consists of an internal suction device and a motor-driven valve that is operated from the control panel to enable the aeration of the must.



ACTION

THE OXYCONTROL ENABLES AIR TO BE ENTRAINED FROM THE OUTSIDE ENVIRONMENT AND THE OXYGEN TO DISSOLVE IN THE MUST IN A CONTROLLED AND CALIBRATED MANNER DURING PUMPING OVER, JUST LIKE A TRADITIONAL, OPEN-AIR PUMPING OVER SYSTEM. THE PRESENCE OF OXYGEN WITHIN THE MASS WHILE THE MUST IS UNDERGOING MACERATION-FERMENTATION HAS A FUNDAMENTAL ROLE, INFLUENCING STEROL BIOSYNTHESIS AND THE FORMATION OF LONG-CHAIN UNSATURATED FATTY ACIDS (BOTH CONSTITUENTS OF YEAST CELL MEMBRANES) AND CONSEQUENTLY PRESERVING THE VITALITY OF THE YEAST EVEN IN THE FINAL STAGES OF FERMENTATION.

ENOLOGICAL OUTCOME

The controlled oxygenation of the macerating mass has several positive effects that influence various aspects of the vinification process.

◂The opportunity to oxygenate the must during pumping over facilitates the smooth completion of the alcoholic fermentation process, promoting the development and multiplication of the yeasts and consequently sustaining the vitality of the biomass.

◂Proper oxygenation of the environment where the wine is fermenting supports the yeasts' metabolism and thus prevents any hazardous stoppages of the fermentation process due an abrupt decline in their activity as a result of a shortage of oxygen, also enabling wines with a potentially high alcoholic grade to completely exhaust their sugar content.

◂The presence of oxygen in the must facilitates the condensation of tannins the with anthocyanins, giving rise to a better extraction and stability of the must's color. The more intense coloring is evident already in the racking stage and tends to increase further, the longer the wine is preserved.

◂The extra oxygen also facilitates the subsequent interaction of the polyphenol compounds with the polysaccharides, making the wine more balanced and smooth.

◂Adding oxygen to the must while it is steeping also contributes significantly to the intensity of the aromas obtainable from the variety of grape being processed, lending the wine a more intense and frank aroma, further contributing to its balance and smooth taste.

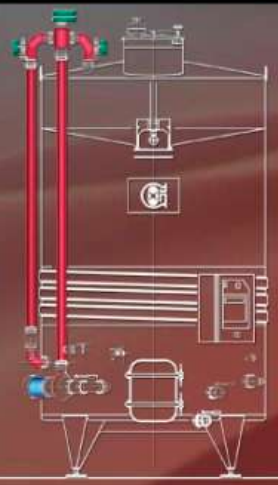
◂A controlled addition of oxygen to the must is essential for combating the feared reductive phenomena.

Vital breath for great wines

OXYPLUS®

FEATURES

OXYPLUS is a device patented by Gimar comprising a motor-driven three-way valve installed on the pumping-over pipeline with a recirculating pipe and a supplementary motor-driven valve operated from the control panel for enriching the oxygen content in the must.



ACTION

THE OXYPLUS IS USED TO SUPPLEMENT THE AIR IN THE MUST UNDERNEATH THE POMACE CAP, WHICH CAN BE DONE DURING THE INTERVAL BETWEEN TWO SUCCESSIVE PUMPING OVER CYCLES.

THE ENOLOGIST CAN PROGRAM THE NUMBER OF RECIRCULATION CYCLES FOR AERATION PURPOSES AND THEIR DURATION IN ORDER TO MODULATE THE SUPPLY OF OXYGEN TO THE FERMENTING MASS TO SUIT THE VARIETY OF GRAPE BEING PROCESSED, THE DIFFERENT PHASES OF THE VINIFICATION PROCESS, AND THE TYPE OF WINE REQUIRED.

THE OXYPLUS FUNCTION GIVES YOU THE OPPORTUNITY TO OBTAIN A FINE-ADJUSTED OXYGEN SUPPLY DIRECTLY TO THE MUST UNDERNEATH THE POMACE CAP BY MEANS OF AN ACTION THAT IS INDEPENDENT OF THE PUMPING OVER PROCESS.

ENOLOGICAL OUTCOME

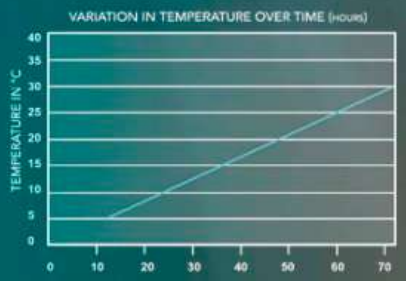
◂The OXYPLUS makes it possible to oxygenate the mass accurately, efficiently and specifically in all practical vinification conditions, so that any onset of reductive phenomena is inhibited, even in the technologically most difficult situations.

◂The OXYPLUS is therefore an indispensable tool particularly for the vinification of grapes that are difficult because they are susceptible to reduction, e.g. Dolcetto, Syrah, Schiava, and so on.

◂In a correctly oxygenated maceration environment, moreover, the development of the fermenting biomass is considerably increased and markedly improved in terms of its efficiency and smooth completion.

◂Providing an adequate oxygen supply to the must ensures a more stable coloring matter and increases the potential for its selective extraction, which is already a distinctive feature of the SELECTOR vinification system, consequently making it the ideal machine for winemaking with grapes that are less rich in color, such as Pinot Nero, Nebbiolo, Grenache, and other grapes from particularly difficult vines.

Hot and cold, always under control

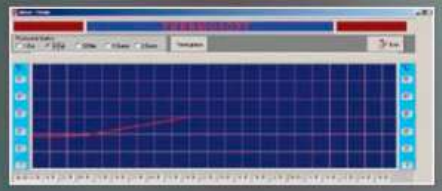


FEATURES

THERMOSOFT is a Gimar patented software implemented in the electronic control card program in every SELECTOR system.
It enables gradual variations in the temperature setting (i.e. the value of the temperature required) according to a gradient, i.e. a linear variation over the course of time, that can be decided by the operator (such as 0.5°C per hour).
The vinifier is equipped with coils for adjusting its temperature, attached to the outside of the vinifier's walls at the ideal height for controlling the temperature of its contents and capable of achieving high thermal exchange coefficients and avoiding any problems of hygiene inside the cylinder.

ACTION

The temperature regulating function is associated with the cooling and heating system used by Gimar.
This structural solution offers undeniable advantages in terms of functionality and reliability. For a start, it is a "clean" solution that enables the inside surface of the vinifier to be kept smooth and unobstructed, consequently avoiding any sanitization problems.
The thermal exchange fluid inside the coils can reach high speeds and is obliged at the same time to flow along a compulsory path, enabling a highly-efficient thermal exchange, made possible by high heat exchange coefficients and the absence of any "dead zones" in the heat exchange cavity.
The efficiency of this temperature adjustment system ensures that the temperature of the mass macerating in the SELECTOR can be adjusted precisely and reliably, and evenly distributed throughout the mass as it steeps, in the cap and right down to the bottom of the tank, even in very tall vinifiers (ten or more meters high).
The THERMOSOFT function is a precious additional tool for enologists, enabling them to gradually adjust the temperature of the must during the maceration process, avoiding any excessively abrupt temperature changes that could damage the active population of yeasts, which are notoriously sensitive to thermal shock.



ENOLOGICAL OUTCOME

Effectively controlling the temperature of vinification makes it possible to modulate the extraction phenomena throughout the maceration process. In addition to influencing the kinetics of the fermentation process, the temperature also strongly affects the complex dynamics by means of which the phenolic compounds contained in the skins are released and dissolved in the liquid.

By preserving the vitality and increasing the number of the yeasts available for fermentation, the THERMOSOFT function guarantees that the steeping process takes place according to the dynamics required, with no hazardous stoppages or disruptions in the fermentation process, all entirely to the advantage of the resulting wine's quality.

Density and level are constantly monitored

FEATURES

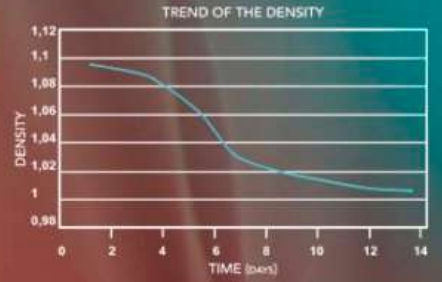
The DENSIMATIC is a system patented by Gimar and consisting of an electronic sensor installed on the wall of the vinifier, which is managed by dedicated software implemented in the control board.

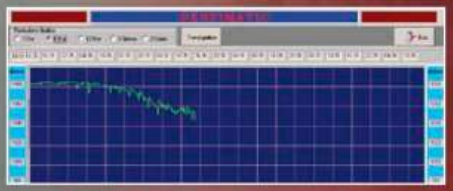
ACTION

The DENSIMATIC serves a dual purpose:

A) it measures the level of the mass contained inside the vinifier; in addition, it enables you to monitor the vinifier filling procedure: when the maximum allowable filling level has been reached, the system produces an acoustic alarm signal and an electrical signal that automatically prevents any further loading;

B) it continuously records the density of the must during the maceration phase; this makes it unnecessary to keep drawing off samples for instrumental density measurements.





ENOLOGICAL OUTCOME

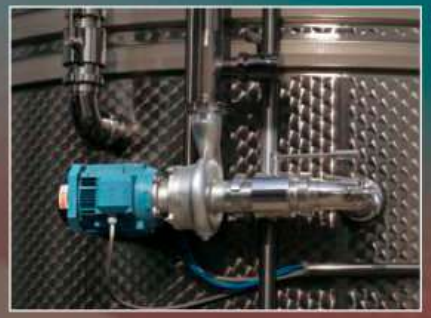
Continuous density monitoring is a solution for constantly keeping track of the degree of alcoholic conversion in the must and consequently provides important information on the trend of the fermentation process over time. This gives the enologist the opportunity to make any necessary adjustments to the parameters governing the vinification process in real time to correct its trend and guide it in the required direction.
Thanks to such timely intervention made possible by the DENSIMATIC system, optimal vinification conditions can still be maintained even in the case of unexpected or unforeseen events, thus enabling the best end-product quality to be achieved.

PUMP-OVER PUMP

Winemaking with an eye on the future

FEATURES

The PUMP-OVER PUMP installed in the Selector vinifier is a vortex pump made entirely from a stainless steel casting, based on a project developed in-house by Gimar. The pump has an open impeller, completely withdrawn in relation to the corkscrew body. The body of the pump is in the shape of a spiral with a wide cross-section for the passage of the flow.
Gimar produces its PUMP-OVER PUMP in three different sizes, so that it can fit every model in the whole range of Selector vinifiers with a suitable pump for optimal performance.



ACTION

Thanks to its particular shape, the Gimar PUMP-OVER PUMP is ideal for transferring liquids containing solids in suspension.
The pumping action induces a rotational flow in the fluid being pumped, so that any solids in suspension can easily pass through the body of the pump, from the inlet to the outlet, without coming into contact with the impeller.
The mechanical stress on the solids (grape skins, pomace, pips) contained in the must being pumped through the circuit is drastically reduced as a result, and the production of lees during pumping over is consequently negligible.
In addition, this solution avoids the risk of the pump becoming clogged while it is running.

ENOLOGICAL OUTCOME

The SELECTOR PUMP-OVER PUMP is a component fundamental to the efficient completion of the pumping over stage.

◂The fact that it generates no lees contributes enormously to the quality of the wine obtained, avoiding the unwanted effects of clouding and degradation often correlating with the presence of solid residues.

◂Because there consequently no risk of clogging, the functional reliability of the PUMP-OVER PUMP also ensures that the pumping over phase is always completed within the established time and according to schedule.

◂The characteristically large capacity of the Gimar pump can contain the tame taken to complete the pumping over process, even though considerable volumes of must are displaced, thus leaving plenty of time between two successive pumping over cycles so that the macerating must can rest properly.

◂The pump's high flow rate also ensures a fine dispersion and thorough mixing of the air inside the must being pumped through the circuit, guaranteeing an effective oxygenation of the macerating mass with the aid of the OXYCONTROL function during the pumping over phase, and with the OXYPLUS function while the must is recirculating. de la recirculación del OXIPLUS.

DIGIWINE

Creating great wines without ever losing control

FEATURES

DIGIWINE is a process control system developed by Gimar and designed specifically for its SELECTOR vinifiers. It comprises an electronic control panel with a keyboard for programming purposes and a display.

ACTION

As we have already seen, the SELECTOR is a machine that incorporates numerous, even complex and articulated functions.
The DIGIWINE electronic panel is used to control the vinifier's operation as a whole, depending on the winemaking program chosen by the operator.
Its microprocessor-controlled CPU reliably and precisely manages all the functional logic governing the machine's operations.
It directly controls all the single automatic components installed on the vinifier, acquires the signals coming from the measuring instruments, and interacts with other systems for loading the crushed grapes and for temperature control.
The DIGIWINE has a very straightforward operator interface that is instantly user-friendly. The display clearly shows all the process variables by means of a screen page layout.
The incorporated keyboard makes it easy to manage the SELECTOR in automatic mode for all the working phases involved (loading, vinification, discharging, Cleanmatic, storage, Elimatic) and, where necessary, it also allows for the manual control of every single component or actuator. In addition, the standard DIGIWINE comes ready prepared so that its control panel can be interfaced with a GIMAR VINISUPERVISION system, described later on.

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                LOADING
MAX level 7194 mm    Level        5211 mm
                     Temperature  1000
Setting + 20.0 °C    Temperature + 16.3 °C

VINIFICATION 1       from  00d22h31m
Frequency 006h00m    Setting +27.0 T +27.4°C
Intensity 08 min     Next  005h48m39s
Mstp  03  <>Oxyc ON  Oxy+ n. 02 x 120s

VINIF 2 T-Soft 0.00°C   Inst. setting +27.0°C
N° 1 Code               MSTP pumpover  n
Density  1068           Level 5283 mm
Rim. Exe 005 Oxy+tot12 m Next 001h49m38s

TEMPERATURE CONTROL
Setting+27.0 C°         Temperature +27.4 °C
Inst. setting + 27.0 °C T-Soft      0.00 °C/h
Temp. control AUTO OFF  Heating ENABLED

WASHING                 ( PROG -> Man ctrl )
Washing cycles N. 10 (01) 3-way valve TANK
Top tank wash           s 30 ( 0) Valve Oxyc OFF
Bottom tank wash        s 60 ( 0) Valve Oxy+ OFF

MANUAL CONTROLS  (PROG enabled / ESC end)
Pumpover pump : START   Valve Oxyc : CLOSE
Plate valve   : STOP    Valve Oxy+ : OPEN
3-way valve: RECIRC >   Actual El. I=+0000

STORAGE
Setting+ 12.0°C Temp.  + 12.2°C Level 8336 mm
Inst. setting + 12.0 °C  T-Soft  0.00°C/h
Operation1

ELIMATIC 1 from 00d00h04m  Next 003h55m23s
Recirc. freq. 05h00m   Duration  005 m
Aerat.  freq. 1/04- 04 Duration  030 s
Homogen.. 02 m  Setting +15.0°C  T +15.3°C
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ENOLOGICAL OUTCOME

◂The DIGIWINE control system enables users to work in safety and to draw the maximum benefits from the Selector in performance terms in all working conditions.

◂Using the DIGIWINE, all the numerous functions with which the vinifier is equipped can be programmed easily and effectively, accurately calibrating the machine's behavior to suit the type of grape being processed at any given time and orienting its operation to the type of wine you have "designed".

◂The DIGIWINE ensures a flexible, straightforward and reliable management of the Selector throughout the various stages of the vinification process, starting from the loading of the crushed grape, all through the maceration phase, and right up until you have obtained the product you wanted.

For great "remote" vinification

WINEPROCESS AUTOMATION by GIMAR

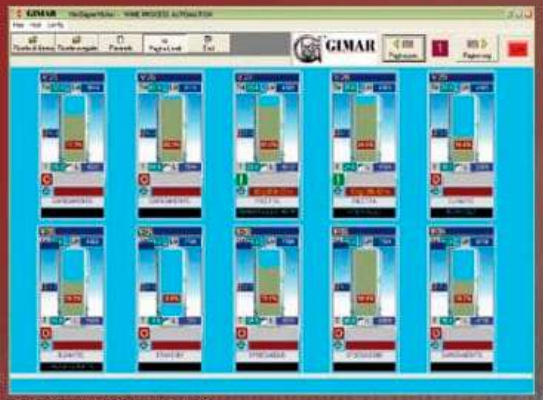
is a new automation system comprising a communications network implemented by means of a cable connection between a remote PC and the DIGIWINE or CONTROLWINE control panels installed on the tanks and vinifiers.

The VINISUPERVISION program installed in the PC has been developed by Gimar to enable the monitoring of all the vinifiers and storage tanks at the winery. WINE PROCESS AUTOMATION enables an automatic remote management and control of all the activities involved in the vinification and other processes taking place at the winery. In the event of any disservice in the supervisor PC (computer crashes, power cuts, etc.) each vinifier can still be managed locally using the electronic control panel on its switchboard, thus retaining full control over all of its functions and safeguarding the

PÁGINA PRINCIPAL GESTIÓN SELECTOR.

VINIFICATION

The VINISUPERVISION enables the operation of each Selector to be monitored in comfort and in real time throughout all the phases of vinification, starting with the loading of the crushed grapes, throughout the maceration cycle, and including racking, up until the machine has been emptied and washed. You can use the supervisor program on the PC to display and adjust all the process variables in every single vinifier. You can remotely program or change all the numerous functions on each of the Gimar control panels at any time, to suit specific needs and adapt to the enologist's contingent assessments. The supervisor program includes the very useful functionalities deriving from programming the vinification process on the basis of "protocols" (or "recipes").



PAGE SHOWING TANK LEVELS

This consists in planning the whole maceration process, in each of its various stages, as a series of "phases" characterized by different programming needs.

You can use different protocols for different maceration cycles, fine-adjusted to adapt better to the needs of a particular grape being processed, and of the wine that you want to obtain.

You can store a historical record of all the maceration cycles conducted using the supervisor software in the PC for traceability purposes.

The protocol for each completed vinification cycle can also be edited and recalled for use as a model for subsequent vinification processes.

Total programming and control

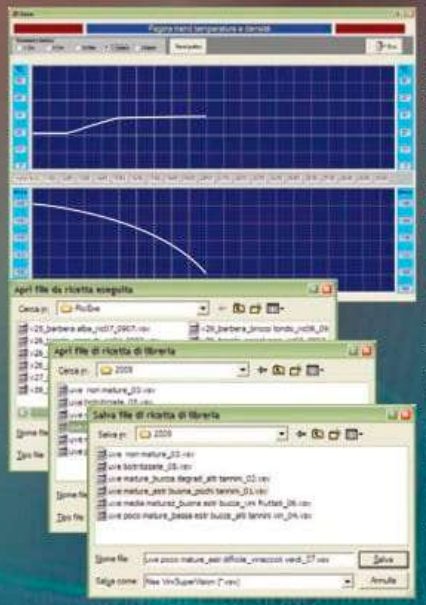
VINIFICATION PROTOCOL PROGRAMMING PAGE

ELIMATIC

In much the same way as for the vinification process, the wine's refinement on the lees can also be handled by the VINISUPERVISION system. All the process parameters can be managed from a remote PC (to control the must's temperature and level, the frequency and duration of the recirculation cycles, and the frequency and duration of the aeration cycles), with obvious advantages in the timing and precision of the completion of the these processes.

STORAGE

The VINISUPERVISION system also enables a central management of the storage of all the wine at the winery. You can program and record all the action to take on the product, starting from the unrefined wine leaving the vinifiers right up the end product to forward for bottling. Additions and sample taking, enrichments, concentrations, filtering and batonnage processes, malolactic fermentation, tartaric stabilization, assemblies, and other procedures typical of the winery normally combine to create a complex set of steps that are difficult to manage manually or using undedicated, standard computer-aided tools, and the whole procedure is often liable to error. The VINISUPERVISION makes it easy for the user to follow up all the wine processing steps by means of a specifically structured database, as well as ensuring product traceability, which is indispensable at every winery nowadays.



TELEASSISTANCE

Steps can be taken to provide online support on any installed VINISUPERVISION system direct from the Gimar head office, providing the supervisor PC is equipped with an Internet link. This enables prompt action to be taken by the after-sales service technicians to deal with problems, update software, provide advice and serve any other practical needs the customer may have.

The VINISUPERVISION system patented by Giamr is thus a precious, easy to use and reliable instrument in the enologist's hands, enabling the vinification process and all the other action taken at the winery to be completed with a view of the whole procedure and a speed of intervention that would be impossible to achieve otherwise.

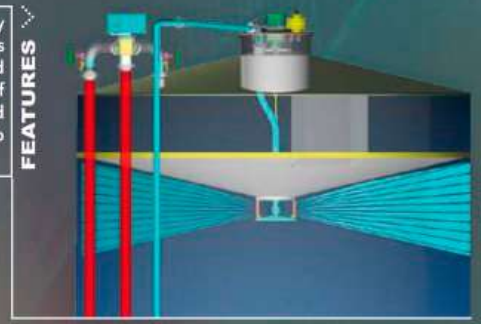
By constantly ensuring total control of every step, the VINISUPERVISION approach helps you to optimize the winery's management as a whole and to achieve the best possible results in terms of the yield and quality of your end product.

Ensuring cleanliness and hygiene: fundamental issues

CLEANMATIC®

The CLEANMATIC is a system patented by Gimar. Installed inside the vinifiers, there is a self-triggered rotary washing sprayer head associated with the plate valve on the bottom of the upper storage tank. The sprayer is connected by means of a stainless steel flexible conduit to outside piping for supplying the washing fluid.

FEATURES



ACTION

Using the CLEANMATIC system, the user can easily wash the inside of the vinifier automatically, with no need to take action inside the tank using spray guns or other manual equipment. The internal washing head creates a powerful multiple jet that is sprayed radially in all directions and, thanks to the head's rotation (induced by the flow of the washing fluid), the spray covers the whole surface of the inside of the SELECTOR. Thanks also to its mechanical energy, the jet of fluid has an effective cleansing action that reaches even to areas such as the underside of the bottom of the storage tank, where it would be difficult or impossible to take action using manual cleaning procedures. While the washing cycle is underway, the plate valve on which the revolving head is installed is operated so that is moves alternately upwards and downwards, enabling the revolving cleaning head to wash both the upper and the lower tank in the SELECTOR automatically. The CLEANMATIC procedure is managed from the vinifier's control panel, based on washing cycles that can be programmed by users to suit their specific needs.

ENOLOGICAL OUTCOME

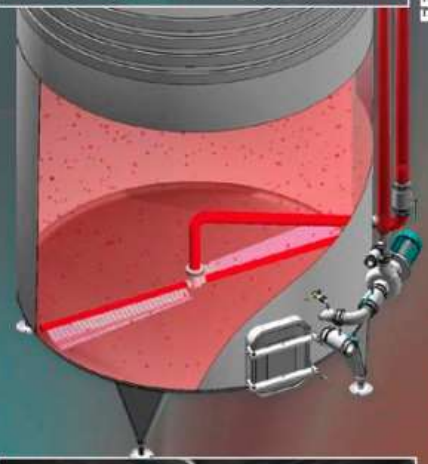
The functions available in the Cleanmatic system make the vinifier sanitizing procedures easy, efficient and quick to complete. The washing and rinsing of the machine can be done accurately and punctually even in the busiest periods of the grape harvest season because they require little or no manual intervention and there is no tiresome time wasting involved for the winery operator. It is consequently easy to ensure that the vinifier is always in ideal conditions of cleanliness and hygiene, which is fundamental to ensuring the final quality of your product.

Refined wines, aromatic and smooth

ELIMATIC

The ELIMATIC system patented by Gimar consists of a special internal distributor with a rotating arm installed near the bottom of the vinifier and connected to the recirculation piping forming part of the OXYPLUS circuit by means of a special revolving joint.

FEATURES



ACTION

The ELIMATIC is used to treat wines by refining the wine on the lees. The system conducts programmed cycles during which the wine flows through the recirculation piping. It is sent through the three-way valve and the recirculation circuit associated with the OXYPLUS to an internal distributor with a double rotating arm, which is turned by the blade for pomace removal, if any; if there is no such blade installed, the arm's rotation is driven by the flow of recirculating wine. The distributor arm is complete with suitably sized and oriented slots for the passage of the wine and, as it turns, it moves and lifts the lees normally deposited on the bottom of the vinifier, making them float again. The lees are thus distributed through the wine as a result the mixing effect of the recirculating motion that naturally develops in the mass of liquid contained inside the vinifier. In addition to this effect of mixing and suspending the lees, the wine being recirculated can also be oxygenated according to the principle exploited for the OXYPLUS and using the same aeration devices. The timing and duration of the recirculation cycles can be programmed and the frequency with which the recirculation cycles are to be aerated can be established in advance. All the steps involved in the operation of the ELIMATIC are managed by the DIGIWINE control and VINISUPERVISION systems according to a fully automated logic, based on a program chosen by the user. The ELIMATIC enables the activities involved to be completed entirely independently, and exceptionally effectively, without any need for costly or inaccurate manual operations.

ENOLOGICAL OUTCOME

The exclusive, combined action of the Elimatic processing system on the lees produces a number of positive effects.

- *For a start, it ensures sulfur reductase inactivation, thus preventing the conversion of SO_2 into H_2S, which is the main culprit in any formation of nauseous smells and responsible for any damage caused to the sensory features of the wine relating to the lees.*
- *The release of B-glucans and mannoproteins (which are natural constituents of the cell wall of yeasts) is facilitated by the conditions induced by using the Elimatic.*

This gives rise to:

- *a significant increase in the levels of glucide-containing colloids contained in the wine, which goes to the benefit of the stability and sensory balance of the end product;*
- *the correction of any chromatic anomalies in white wines suffering from oxidation phenomena and the complete elimination of any unwanted sensory changes that may have been caused in the wine by volatile thiols (methane thiol and ethane thiol);*
- *a global improvement in the product's protein stability and tartaric stability;*
- *a more persistent aroma, with interaction between the wine's aromatic compounds, an attenuation of the traces of wood in wines aged in barrels, an enhancement of the floral and citrus notes, and the release of volatile substances or aromatic precursors;*
- *a more rounded flavor on the palate for white wines and an influence on the polyphenol compounds of red wines, reducing the wine's astringency and stabilizing its color.*

Mechanical pomace extraction: effortless

FEATURES

The pomace EXTRACTOR is a mechanical device consisting of a double blade revolving at low speed, located near the bottom of the vinifier. The mechanical structure comprises parts that come into contact with the product, made entirely of stainless steel, and obtained from solid castings and thick sheet.
On the outside of the vinifier there is an assembly consisting of an electric motor and a sturdy reducer unit that governs the rotation of the internal extractor blade.

ACTION

THE MECHANICAL EXTRACTOR IS USED AFTER RACKING, AT THE END OF THE FERMENTATION PHASE, AND ENABLES THE PROCEDURE FOR DISCHARGING THE POMACE REMAINING INSIDE THE VINIFIER TO BE COMPLETED AUTOMATICALLY, RELIABLY AND WITH NO NEED FOR ANY TIRESOME MANUAL ACTION, WITH EVIDENT ADVANTAGES ESPECIALLY IN THE CASE OF LARGE VINIFIERS.
THE EXTRACTOR IS OPERATED BY MEANS OF APPROPRIATE CONTROLS AVAILABLE ON THE SELECTOR CONTROL PANEL AND SAFETY DEVICES ARE PROVIDED TO MAKE EVERY STAGE OF THE PROCEDURE ABSOLUTELY SAFE.

ENOLOGICAL OUTCOME

The mechanical system for extracting the pomace is sized to cope with even the most severe stresses relating to discharging the highly compacted, difficult solid residue deriving from particularly lengthy maceration processes with grapes that are very dry, as in the case of making Amarone wine, for instance.

The speed and ease with which the final emptying of the vinifier can be completed considerably reduces the need for action by the operator and enables the personnel to concentrate on other, more crucial procedures at the wine cellar.

Constant research in cooperation with universities and laboratories

Research has always been one of the building blocks on which all the design and manufacturing activity at GIMAR has relied.

Constant interest in innovation, the adoption of new structural solutions, and ongoing improvements in its manufacturing technologies have always characterized the GIMAR approach to a market - the winemaking industry - which is constantly evolving and becoming more and more demanding.

This constant attention paid to research means that GIMAR can offer operators in the winemaking sector tools that are always novel, ever more efficient and effective, but also flexible and easy-to-use at the same time, capable of providing for all the functionalities needed to obtain top-quality wines.

The cooperation schemes that have been established over the years between GIMAR and major universities and research institutions enable the company to follow a path of constant product improvement and an ongoing critical assessment of the performance and results achievable with their equipment.

It is with the aid of such tests, conducted on wines obtained with our own vinifiers and compared with those produced using other vinification systems available on the market, that the efficacy and remarkable functionalities of our machines have been confirmed, rewarding GIMAR's ongoing commitment to its activities, and the genuine dedication and intense passion that have always distinguished its work.

Taking care of the details is another facet of quality

Alongside the vinifiers that lie at the heart of any winery's production process, Gimar offers various other types of equipment, accessories and systems designed to complete its winemaking range appropriately and enable all the activities involved to be completed easily and safely.

AUGER

Gimar manufactures corkscrew auger systems made entirely of stainless steel for discharging the pomace at the end of the maceration process. The auger consists of a shaped sheet metal channel, the top of which is closed and protected with a metal mesh; inside, there is a rotating shaft with a spiral profile.

The auger is used for the collection and transfer of the pomace discharged from the vinifiers, from where it is carried to pressing systems located downstream.

A draining section is used to recover part of the wine still contained in the pomace being discharged from the vinifier: this section is generally inserted in the terminal stretch of the path covered by the auger, or before a rising stretch. In this apparatus, made by Gimar, the moister solids pass through a section of channel where the bottom is made of slotted steel sheet, so that a part of the liquid is separated from the solids.

Using the auger has the advantage of transferring the pomace safely and reliably, and makes it possible to overcome even considerable differences in elevation and cover long distances. The hygienic conditions that the auger can assure, because it is so easy to clean and wash, and the limited mechanical stress exerted on the pomace in transit are aspects that all help to improve the quality of the end product.

PNEUMATIC GUILLOTINE HATCH

GANGWAYS

The gangways and other metal structural elements serving the systems manufactured by Gimar are all made of stainless steel.

They consist of sturdy, folded sheet side panels that support walkways made of Peralluman (a strong, stainless aluminum alloy), with a slip-proof surface and fully enclosed to ensure maximum operator safety.

The safety hand rail welded to the supporting side panel is made using stainless steel tubular profiles. The gangways installed in the vinification systems are supported by special brackets attached to the vinifiers themselves, and always ideally positioned (at the front or on the roof) to enable all the operations needed to manage, control and maintain the system to be completed safely and easily.

The enologist and all the wine cellar staff can quickly and easily access the machines and all activities can be completed with ease and without risk.

DRAINING SECTION

... and so is the ongoing search for perfection

STEPS AND LADDERS

Gimar manufactures various types of ladder and steps for accessing the service gangways used in its own systems. The flights of stairs made by Gimar always provide access in ideal conditions, guaranteeing that operators can move around comfortably and speedily in every situation.

They also make it easy to reach considerable heights and give you the opportunity to create various access platforms on different levels without difficulty. The load-bearing structure of the flights of stairs is made of stainless steel tubes and profiles, and the steps are made of non-slip stainless steel sheet.

The intermediate landings are made using stainless steel sheet in a special semi-cylindrical shape.

The particular structural design, the materials used and the care taken in their manufacture make the Gimar flights of stairs an extremely practical and safe, functional component of the system, in addition to having an attractive appearance that goes well with the rest of the vinification equipment, which may be important at wineries where architectural aesthetics also have an important role.

In addition to its flights of stairs, Gimar can also provide stepladders and spiral staircases, both made entirely of stainless steel, which are suitable for situations where they are used less frequently, or only occasionally needed.

Our installations speak of a passion

TENUTA VITANZA_Montalcino (SI)
n.13 Selector hl 180

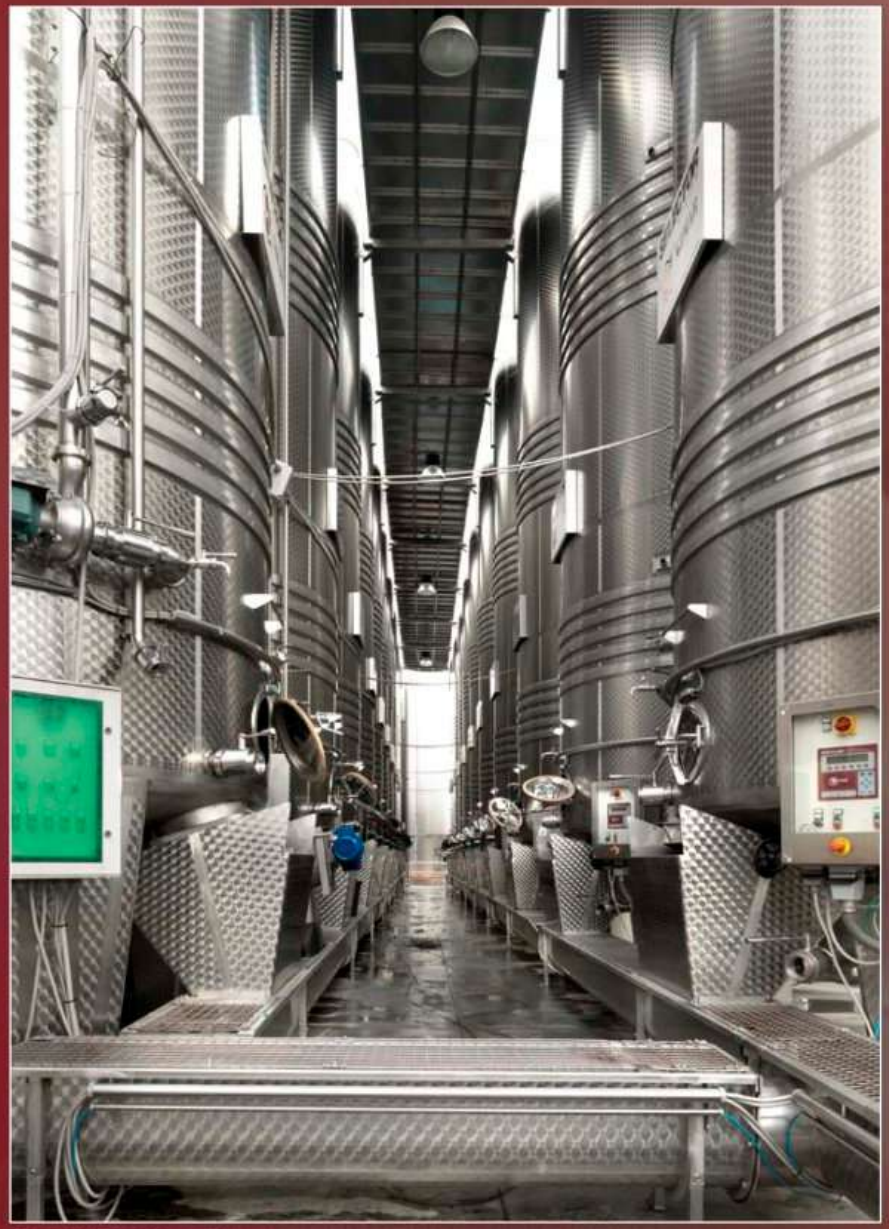
ENOCACCIA S.C.S.A._Pozzolengo (BS)
n.11 Selector hl 120

... and of ambitions turned into success stories

ANTICHE CANTINE MARCHESI DI BAROLO_Barolo (CN)
n.18 Selector hl 243

GENAGRICOLA S.P.A._Bricco dei Guazzi – Olivola (AL
n. 5 Selector hl 190

For more than 30 years, our systems have been working with you



TERRE D'OLTREPO'_Broni (PV)
n.45 Selector hl 850/700/600/480

Large-scale systems installed all over Italy and in Europe

VIGNERONS DE BEAUMES DE VENISE (Vaucluse)
n.27 Selector hl 800

Gimar vinifiers: the state-of-the-art

... for red winemaking

ANGELO GAJA_Barbaresco (CN)
n.2 Selector hl 200

13. JUL PLANTAZE A.D._Podgorica_Montenegro
n.42 Selector hl 800

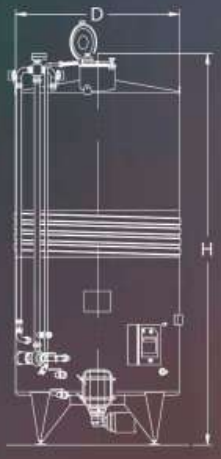
CASTELLO DI QUERCETO S.P.A._Greve in Chianti (FI)
n.12 Selector hl 200/190/100

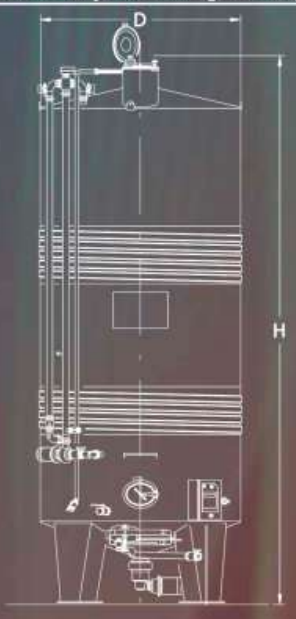
CANTINA VALPOLICELLA_Negrar (VR)
n.5 Selector hl 800

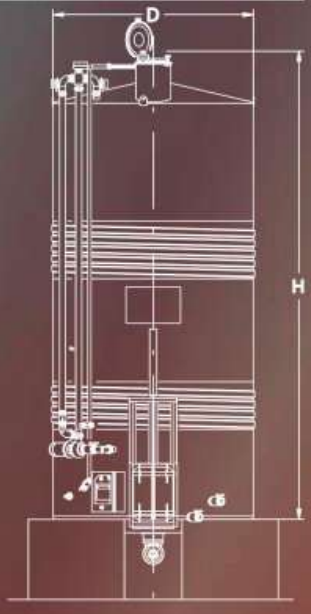
MODELS

STAINLESS STEEL SERIES	DIAMETER	TOTAL HEIGHT mm approx. (H)		STORAGE CAPACITY	VINIFYING CAPACITY	
Model	mm (D)	WITHOUT EXTRACTOR	WITH EXTRACTOR	hl approx.	hl approx.	t approx.
20 XSYFP (E) 80/50	2000	3660	3910	81	46	5,0
20 XSYFP (E) 100/65	2000	4160	4410	97	59	6,4
20 XSYFP (E) 130/95	2000	5160	5410	129	86	9,3
20 XSYFP (E) 160/125	2000	6160	6410	160	113	12,2
23 XSYFP (E) 110/65	2300	3660	3910	108	60	6,5
23 XSYFP (E) 140/95	2300	4410	4660	140	86	9,3
23 XSYFP (E) 160/115	2300	4910	5160	160	104	11,2
23 XSYFP (E) 190/145	2300	5660	5910	190	131	14,1
23 XSYFP (E) 240/190	2300	6910	7160	243	174	18,8
24 XSYFP (E) 150/95	2450	4140	4390	147	87	9,4
24 XSYFP (E) 190/140	2450	5140	5390	194	128	13,8
24 XSYFP (E) 250/195	2450	6390	6640	251	177	19,1
24 XSYFPE 290/225	2450	-	7390	288	207	22,4
24 XSYFPE 360/290	2450	-	8890	359	266	28,7
26 XSYFPE 250/185	2626	-	5970	251	169	18,2
26 XSYFPE 330/260	2626	-	7470	332	238	25,7
26 XSYFPE 410/330	2626	-	8970	413	305	32,9
28 XSYC 300/215	2826	-	6510	300	199	21,5
28 XSYC 400/300	2826	-	7990	400	278	30,0
28 XSYC 500/400	2826	-	9710	500	367	39,6
28 XSYC 600/480	2826	-	11290	600	443	47,8
30 XSYC 400/300	3000	-	7410	400	276	29,8
30 XSYC 500/400	3000	-	8830	500	361	39,0
30 XSYC 600/480	3000	-	10250	600	440	47,5
30 XSYC 700/570	3000	-	11670	700	523	56,5
30 XSYC 785/640	3000	-	12850	785	588	63,5
35 XSYC 1000/800	3500	-	12310	1000	731	79,0
35 XSYFPE 1200/960*	3500	-	13100	1195	881	95,2
35 XSYFPE 1500/1200*	3500	-	15900	1480	1106	119,5
on a concrete base*						

Details and characteristics are for guidance only, not binding, and may be modified by GIMAR without notice







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DELLA TOFFOLA GROUP