WTG-Quantor brands

WTG–QUANTOR GMBH

MICRO- / MACRO-OXYGENATION

The influence of oxygen on wine has been well known for many years. Absorption of oxygen takes place in red wines as a result of an open must-fermentation process or, through storage of wine in traditional wooden barrels which allows oxygen to be diffused little by little into the fermenting wine.

Nowadays there is an increasing use of gas-tight containers or tanks, made of stainless steel, or plastic which rob the wine of natural oxygen absorption. Oxygen must therefore be added artificially to reach the beneficial effects of yeasts activation, increased ripeness, tannin binding, and aroma enhancement by means of artificial addition of oxygen. Micro- / macro-oxygenation is defined as the continuous addition of oxygen during various steps of the wine production.

Micro-Oxygenation
In the micro-oxygenation the fermenting wine receives over a long period of time (several months) a constant and very small amount of oxygen (0,5 – 6,0 mg per liter per month). The micro-oxygenation is mainly used in red wine, after the malolactic fermentation. The amounts of oxygen added correspond as much as possible the equivalent amount of oxygen that the wine would have absorbed had it been stored in a wooden barrel. The micro-oxygenation's objectives are colour stabilization and forcing the pace of tannin polymerization (= refining of tanning agent). Red wines become thereby creamier and rounder.

Macro-Oxygenation
The directed oxygen dosage before and during the fermentation process, but before the malolactic fermentation, is called macro-oxygenation. Unlike micro-oxygenation, in the macro-oxygenation, a larger amount of oxygen (approx. 2,0 up to 6,0 mg oxygen per litre per day) over a shorter period of time, is added. This procedure is used on red as well as white wine in order to reduce the phenols.

Macro-oxygenation used during the beginning of the fermentation also contributes to the development of strong yeast that can carry the fermentation well to a complete ending - not only for wine but also for beer!

SUITABLE FOR INDUSTRIES

PRODUCTS

Three configuration options are available in our product range to suit any cellar, all conceived for both - micro- and macro-oxygenation:

- **BUS version - VinInfo BU Oxygen**
  Fixed installation as part of a VinInfo installation. One BU Oxygen per tank - treatment of unlimited number of tanks with software management.

- **OxyBox**
  Central, wall mounted, water-proof cabinet, available in quality rust-free painted or stainless steel cabinets. Each cabinet can treat up to 16 tanks. Unlimited number of cabinets may be installed. Software management is optional.

  → **Independent operation:**
  Each BU Oxygen and each of the (up to) 16 modules of the OxyBox can treat a single tank, independently from the other tanks in micro- or macro-oxygenation.

- **OxyBoy & OxyMan**
  Independent, single tank units, hand-held, can be hung by the tank and then moved to another.

ACCESSORIES

- Temperature-sensor kit - for OxyBoy / OxyMan
- Stainless steel diffusors for precise oxygen diffusion
- Gassing tube for oxygen treatment in larger tanks
- Plastic tube for oxygen
- Pressure reducer for BUS installation

Stainless steel oxygen diffusor

Temperature sensor kit for OxyBoy & Oxyman

Gassing tube for racking-point / flap valve size 37, with diffusor

OXYGEN MANAGEMENT

WTG–QUANTOR GMBH
Europa-Allee 53 D-54343 Föhren
Tel: +49 (0)6502 999 95-0
Fax: +49 (0)6502 999 95-75
info@quantor.technology
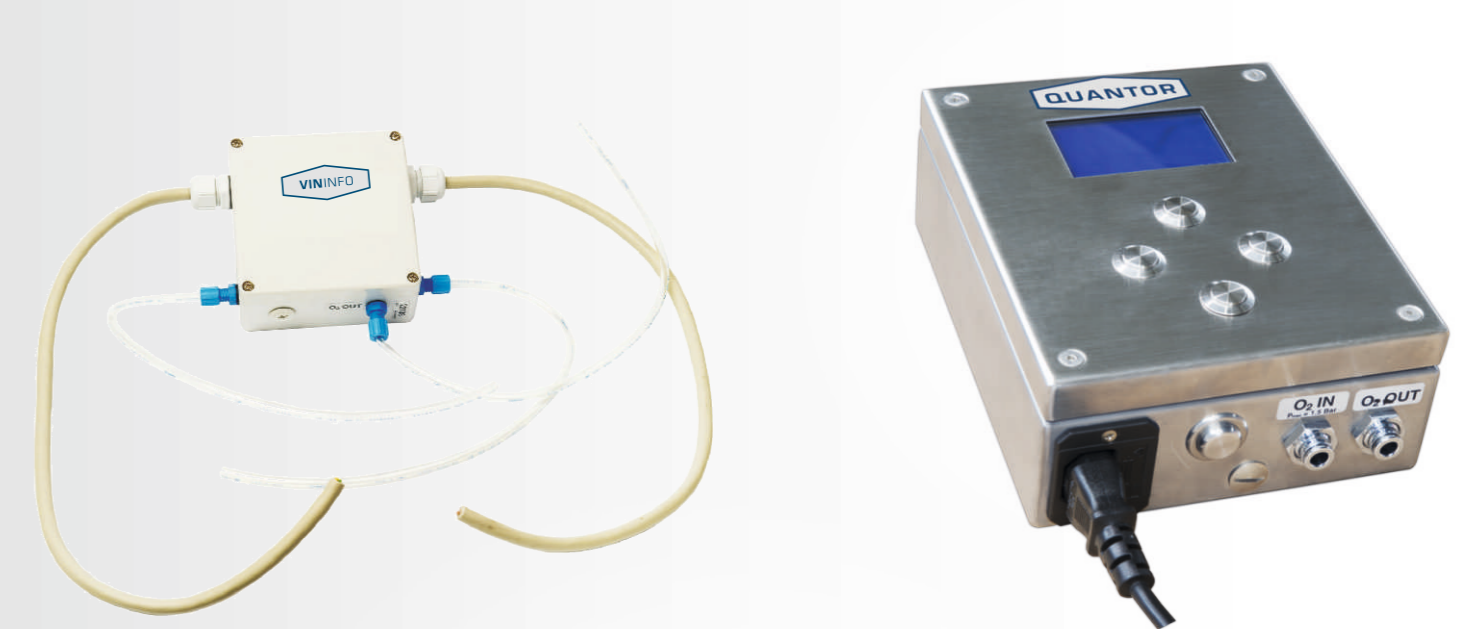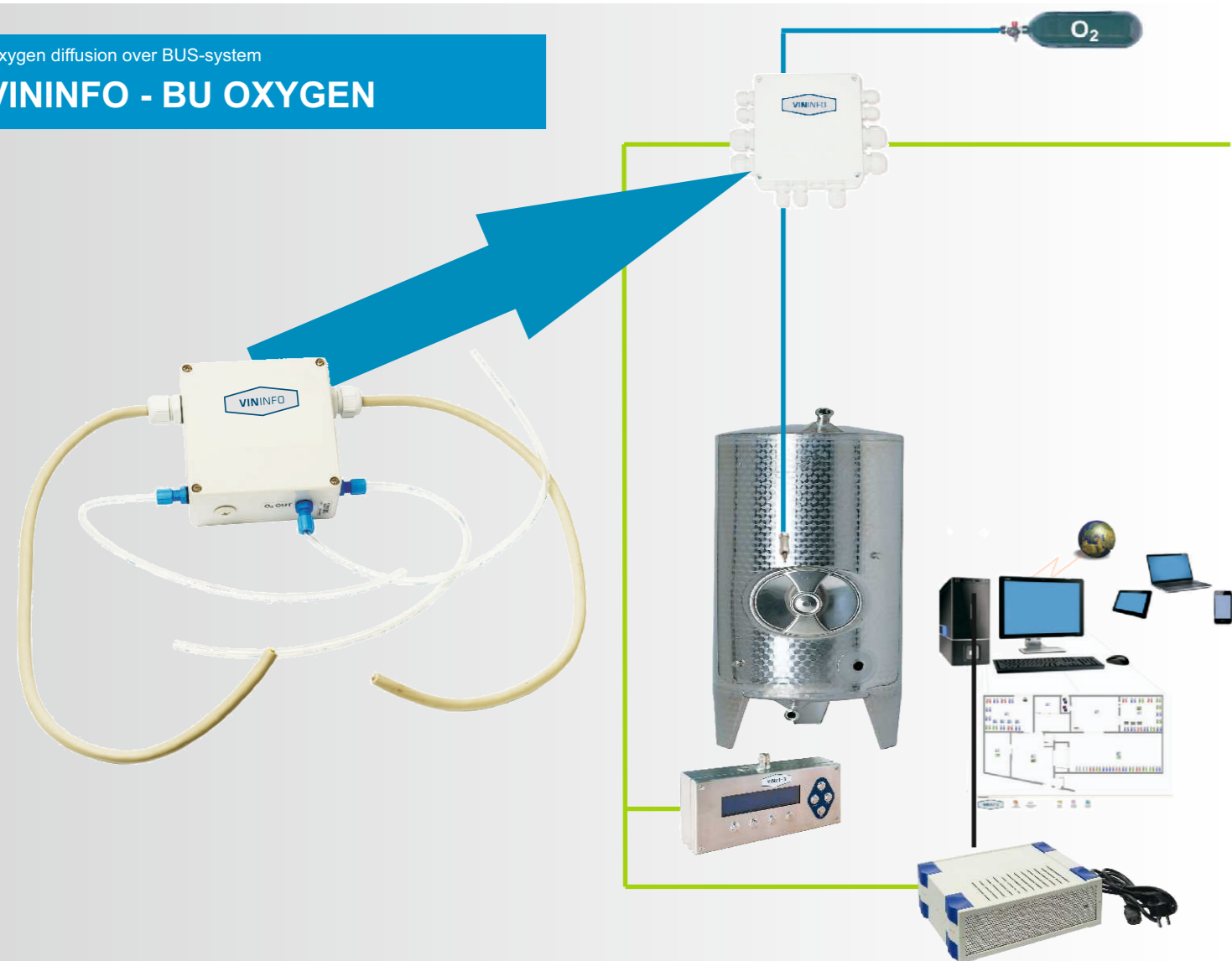
THREE CONFIGURATION OPTIONS !

Oxygen diffusion over BUS-system
VININFO - BU OXYGEN

Central Oxygen Manager
OXYBOX

Mobile Oxygen Manager
OXYBOY & OXYMAN

Column 1: VININFO - BU OXYGEN

AMBIENT TEMPERATURE RANGE
from 0°C to +50°C

For permanent installation, the fixed installed, BUS compatible version within the **VinInfo** system is recommended. The Basic Units (BU Oxygen) are installed nearby the tanks, each tank is regulated by its own BU. The BU Oxygen, just like any other component of the **VinInfo** installation, are operated through a terminal or through a software installed on a server PC.

The BU Oxygen controls very precise addition of oxygen to a tank, dosage quantity and dosage times can be set. Due to the data storage in the **VinInfo** software dosage amounts and times can be repeated at any time, even after years. All systems controlled by **VinInfo** software can be distance-controlled over the internet (using TeamViewer or PC-Visit or similar).

An already existing **VinInfo** system can be upgraded to include this technology at any later time.

CHARACTERISTICS
- Fixed installation as part of a VinInfo installation
- One BU Oxygen per tank - treatment of unlimited number of tanks with software management
- One pressure reducer needed per installation

FEATURES
Temperature limits:
Temperature measurement function is integrated in the BU Oxygen. It allows the setting of operation within a temperature range (requires the temperature sensor). This allows oxygenation at the most favourable conditions for the most beneficial effect on the wine and beer, and serving as a safety measure of the oxygenation process.

Timer option:
The timer option frees the winemaker from having to control the dosing time manually. Micro-oxygenation can be set for three months in advance, releasing the winemaker from the need to remember to switch it off in time. This function is integrated in the BU Oxygen / VinInfo software.

Column 2: OXYBOX

AMBIENT TEMPERATURE RANGE
from 0°C to +50°C

The central oxygen manager **OxyBox** is conceived for the application of oxygen in gas form to must and wine. The **OxyBox** can be applied in both micro- and macro-oxygenation.

The **OxyBox** is to be fitted on the cellar wall. This water-proof cabinet is available in two versions - quality rust-free painted or stainless steel cabinets. It can contain up to 16 individual dosage controllers (oxygen modules), each of which can treat one tank at a time. An unlimited number of cabinets may be installed.

The **OxyBox** is equipped with sensitive sensors from the medical technology, thanks to which it is free from the influence of entry and exit pressure (height of must or wine). The unit reacts automatically and continuously to changing environmental conditions.

The **OxyBox** is enabled to be managed by the VinInfo software (option, Server-Basic package is necessary). Using the software distance control over the internet is possible (with TeamViewer or PC-Visit or similar).

CHARACTERISTICS
- Application of oxygen in gas form to mash, must or wine
- Suited to both micro- and macro-oxygenation
- Central, wall mounted, water-proof cabinet, available in quality rust-free painted or stainless steel cabinets
- Integrated pressure reducer (from 5 bar to 1,5 bar)
- Easy operation, LED lit display, user-friendly buttons configuration and software, several operation languages
- Enabled for management over VinInfo software (optional)

FEATURES
Timer option:
The timer-option frees the winemaker from having to control the dosing time manually. Micro-oxygenation can be set for three months in advance, releasing the winemaker from the need to remember to switch it off in time. Using this feature is possible in combination with VinInfo software (Server-Basic package).

Combinations:
It is possible to integrate the OxyBox in a VinInfo BUS installation, and manage it over the existing software.

Column 3: OXYBOY & OXYMAN

AMBIENT TEMPERATURE RANGE
from 0°C to +50°C

The **OxyBoy** and the **OxyMan** are portable units in a solid and waterproof (IP 65) stainless steel housing, with hanging possibility. They are designed for the application of oxygen in gas form to mash, must or wine and can be applied in both micro- and macro-oxygenation.

The **OxyBoy** can apply smaller doses of oxygen (max. flow rate 30 nccm / min *), but it is therefore extremely exact. The **OxyBoy** is optimal for micro-oxygenation, and for macro-oxygenation of smaller tanks.

The larger dosage element of the **OxyMan** allows the application of 6.66 times as much oxygen as the OxyBoy (max. flow rate 200 nccm / min *). The **OxyMan** is therefore ideal for macro-oxygenation applications, or micro-oxygenation in larger tanks.

OxyBoy and **OxyMan** are equipped with sensitive sensors from the medical technology, thanks to which they are free from the influence of entry and exit pressure (height of must or wine). The unit reacts automatically and continuously to changing environmental conditions. Both units offer the highest precision and long-term stability in the application of oxygen. This is guaranteed by an independent calibration started each time the units are switched on, by temperature compensation and by microprocessor technology.

CHARACTERISTICS
- Independent, single tank units, hand-held, can be hung by the tank and then moved to another
- Solid and waterproof (IP 65) stainless steel housing
- Integrated pressure reducer (from 5 bar to 1,5 bar)
- Easy operation, LED lit display, user-friendly buttons configuration and software, several operation languages

FEATURES
OxyBoy only - Most treatment - ‚Cliquage':
The OxyBoy can be adapted to perform ‚Cliquage' - the action of dosing a large amount of oxygen in force into the most during a very short time. This option overrides the internal dosage programmed in the unit to allow the maximal amount of oxygen to be spurted into the must in the largest possible surge of gas. Such a jet of oxygen into the tank at the beginning of the fermentation has a similar effect as the macro-oxygenation.

OxyBoy & OxyMan - Temperature limits:
Integrated temperature measurement function allows the setting of operation within a temperature range (requires the temperature-sensor kit - option). This allows oxygenation at the most favourable conditions for the most beneficial effect on the wine and beer, and serving as a safety measure of the oxygenation process.

OxyBoy & OxyMan - Timer option:
The timer option frees the winemaker from having to control the dosing time manually. Micro-oxygenation can be set for three months in advance, releasing the winemaker from the need to remember to switch it off in time. OxyBoy / OxyMan contain a quartz based timer (deviation range 1 minute in 100 days) which ensures the accuracy of the oxygen application also after the unit is switched off when set on timer.

* Gas volumes are dependent from pressure and temperature.
  The volumes given here in nccm refer to a pressure of 1.013,25 mBar and to a temperature of 0°C.