

**Wort Aerator model DA**

- Venturi Nozzle Injector
- Minimal pressure drop
- High dosing accuracy
- No static mixer
- Sanitary design
- PLC controlled

W O R T A E R A T I O N

Brewing yeast needs oxygen to multiply. While insufficient aeration results in reduced yeast reproduction, over-dosing may cause the formation of undesired compounds. Therefore controlled wort aeration is required for a consistent fermentation rate and thus constant product quality.

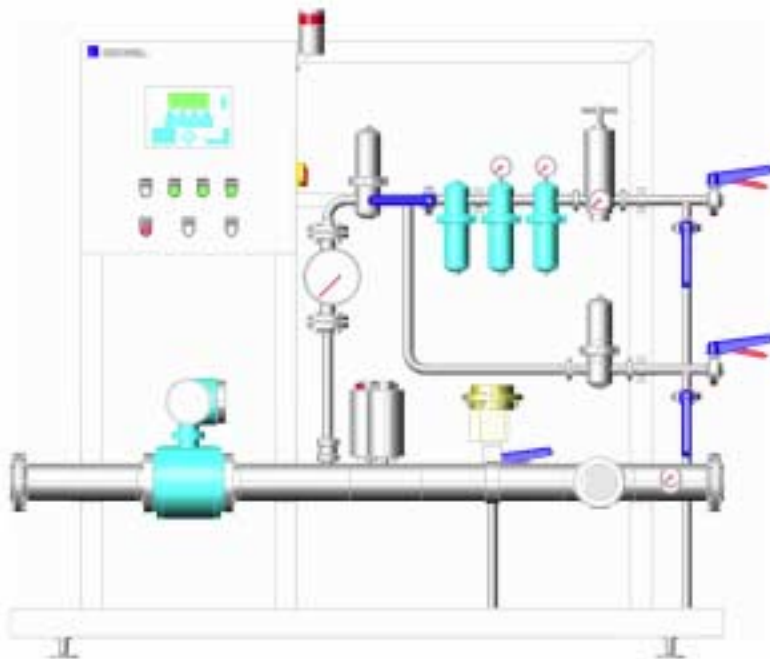
Designed for fast and accurate injection and dissolution of air or oxygen, DENWEL provides a fully automated solution for continuous wort aeration.

W O R T A E R A T I O N

Principle

Pure oxygen or air is injected into the wort through the DENWEL Venturi Nozzle. Individually designed for each application, the Venturi Nozzle combines turbulent flow and increased pressure for an optimal mass transfer rate from gas to liquid. No static mixer or sinter candles are necessary and most efficient dissolution of gas is achieved with only minimal pressure drop, no gas loss and a fully hygienic layout. The injected gas can be cleaned and sterilised by cyclone liquid separator, micro and sub-micro and sterile filters.

Two electromagnetic flowmeters measure the volumes of wort and gas and the precise control valve is regulated according the mass ratio in order to achieve the requested oxygen concentration in wort. The dissolved oxygen content will be calculated according its solubility for the actual pressure and temperature and directly displayed. The oxygen concentration can also be measured, monitored and controlled by an optional inline O₂ analyser.



Technical specifications

Nominal capacity: 10 to 1000 hl/h
Pipe Diameter: DN 15 to DN 200
Aeration range: 1 to 30 g/l

Auxiliary utilities

Power supply: 240 VAC, 50 Hz
O₂: 6 bar, purity > 99,99%
Air: 6 bar, dried, oil free

Control

The system is PLC controlled and has automatic modes for continuous aeration and CIP. The PLC displays relevant process data and controls the oxygen content. The dosing is either controlled by the mass flow ratio liquid-gas or by an inline oxygen measurement. Special software algorithm provides fast and precise regulation. Digital and analogue output or optional field-bus interface allow remote control of the system.

CIP

The unit has an uncompromising sanitary design and is fully CIP cleanable. A special bypass ensures complete cleaning of the injector and the control valve simultaneously to the product pipe. The remaining part of the gas supply tube can be sanitized with steam.

Design

The unit comes pre-assembled and tested on a compact frame and can be rapidly put into operation. Proven components guarantee low maintenance and extended lifetime. The modular layout allows easy integration into the plant and efficient combination with other process units like wort cooling or yeast pitching systems.