

# Turbo Family

World-wide established system  
to dissolve gases effectively in liquid



# Highly efficient aeration and carbonation systems

## TURBO AIR:

Good fermentation requires yeast in top condition and the correct aeration of wort and yeast before pitching. The **TURBO AIR** two-component nozzle has proven its use in many projects and corresponds to the latest state of technology for such applications. The construction complies with all aspects of hygienic design and therefore offers increased safety for this sensitive area of beer production. Its design results in the formation of ultra-fine air bubbles immediately after the nozzle. An air quantity of 10 l/hl is sufficient for complete saturation of the wort. Low oxida-

tion of antioxidants as compared to conventional systems results in better taste stability of the finished beer. A dissolving section after the aeration unit is not required, due to the formation of very small bubbles. The effect of the nozzle - acceleration of the product flow with subsequent, sudden relaxation - makes it completely independent of the installation orientation (horizontal or vertical). The nominal widths available range from 40 to 200 mm and cover flow capacities from 25 to 2000 hl/h.



Example of a Fully-Automated TURBO AIR

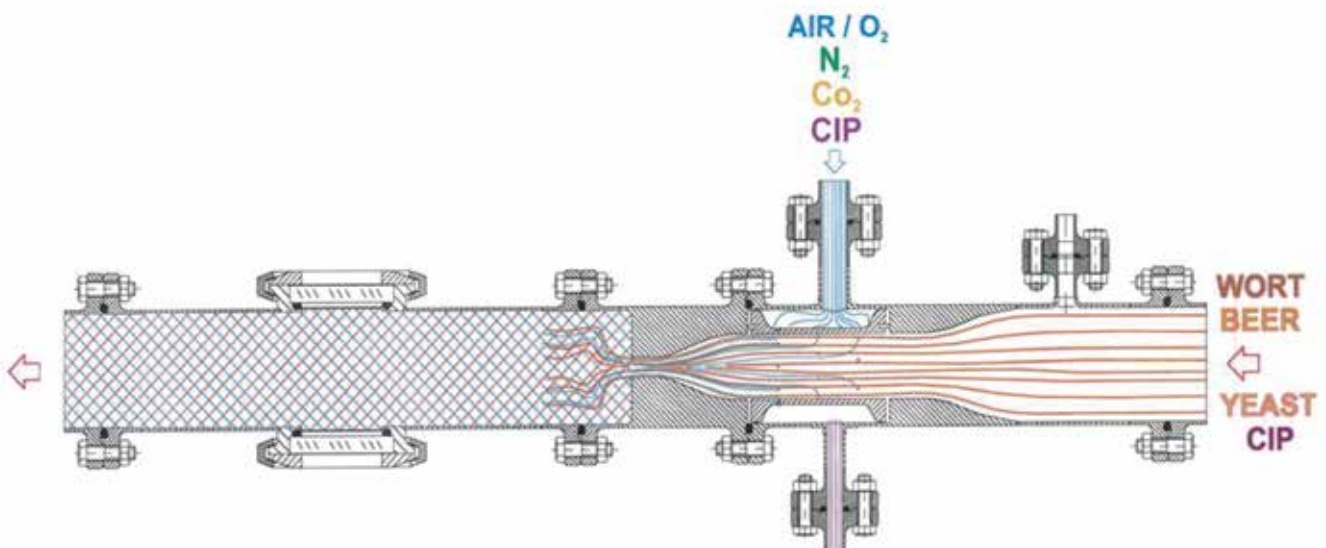
## Technical data

The **TURBO AIR** is standard available as follows:

- Manual
- Semi-automated
- Semi-automated with **RATIO CONTROL**
- Fully-automated

Optional equipment:

- Second gas management
- Automatisation as island solution
- Oxy-sensor as controller
- Steam filter
- Active carbon filter



Working principle of the TURBO AIR two-component nozzle

### TURBO CARBO:

Esau & Hueber provides the **TURBO CARBO** system for the carbonisation of beverages and correction of the CO<sub>2</sub>-content, for example after blending. The CO<sub>2</sub> is added with a previously tested Esau & Hueber two-component nozzle. The fundamental principle of the system is based on regulating the ratio of CO<sub>2</sub> [g/l] to product [hl/h]. The **TURBO CARBO** will react appropriately by changing the quantity of gas added when the flow conditions change. The proportional control can be optionally extended by an additional CO<sub>2</sub> measurement in the finished drink. The difference between the CO<sub>2</sub> content actually measured and the target

value is used to adjust the dosing ratio entered until the content values are equal. The automated system ensures a constant CO<sub>2</sub> content in the finished product. Alarms regarding the measurements are visually and audibly indicated and evaluated. The CO<sub>2</sub> section is entirely equipped with stop valves, pressure reduction unit, thermal mass flow meters and a regulator valve. An inductive flow meter is integrated into the product section intake to measure the production output. The **TURBO CARBO** can, of course, also be used to dose nitrogen into the beer as a **TURBO NITRO**.

## Your advantages

- Best possible aeration effect by forming very fine bubbles
- Saturation already right after the nozzle, therefore no dissolving section required
- Monitoring of the sterile air quantity by measuring pressure and flow speed
- Suitable for manual and automated operation
- Simple and comprehensive operation directly at the touch panel
- Microbiological safety of the product due to construction according to the specifications of hygienic design
- Different degrees of automation offer a solution for every type of budget



Example of a TURBO CARBO without control cabinet



A TURBO CARBO in operation

Nozzle diameter	Performance range
DN 25	10 hl/h to 25 hl/h
DN 40	25 hl/h to 100 hl/h
DN 50	80 hl/h to 180 hl/h
DN 65	130 hl/h to 300 hl/h
DN 80	250 hl/h to 450 hl/h
DN 100	350 hl/h to 700 hl/h
DN 125	600 hl/h to 1.100 hl/h
DN 150	900 hl/h to 1.600 hl/h
DN 200	> 1.600 hl/h



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