

Water Deaeration

Column Hot Unit

Stripping technology
for deaerated water production
with water sterilization

- Final oxygen below 5 ppb
instead of 10 ppb
- No vessels, no vacuum
- Heat Recovery up to 96%
- Compact short column



Application

Deaerated water is used in the brewing industry for flushing filters, centrifuges, pipes, tanks, etc. When used to adjust the alcohol concentration or original gravity after filtration, residual oxygen concentration of the deaerated water is critical as it directly influences the quality and shelf life of the final product.

Bucher Denwel provides a fully automated solution able to economically achieve oxygen down to 5 ppb.

Technical data

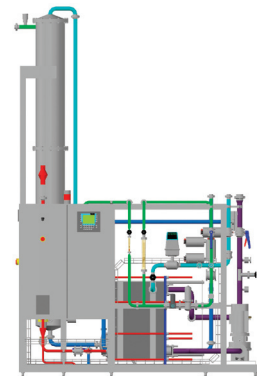
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|---|---|
| Final Oxygen: | less than 10 ppb (0,01 ppm) |
| Pressure: | operating 2 to 4 barg, 30 to 60 psig |
| Temperature: | operating 1 to 90 °C, 34 to 194 °F |
| CIP: | 2 to 4 barg, 30 to 60 psig; max. 90 °C, 200 °F |
| CO ₂ /N ₂ purity: | 99,995% |
| Stripping gas flow: | app. 0,4 g/l (final O ₂ and column height dependent) |
| Carbonation: | app. 0,5 g/l |
| Connection: | Tri-clamp; other connections upon request |
| Dimensions: | from Height 3,5m, 16,4'; Width 1,5m, 4,9'; Depth 0,5m, 1,6' |
| Weight: | from 300kg, 660 lb |
| Material: | Stainless Steel 304, EPDM, PSU, PP |

Principle

The deaeration column is filled with high efficient structured packing. Its internal surface of 500 m² / m³ ensures a maximal contact area between gas and liquid. Water is homogeneously distributed from the top and CO₂/N₂ is injected at the bottom of the column. While the water flows downwards through the packing, the CO₂/N₂ rises in counter current removing the dissolved oxygen from the water. This process is distinguished by high efficiency and reliability and consumes just a fraction of energy compared to other methods.

With hot deaeration water sterilization is part of the process: the incoming water is heated up to high temperature in order to remove contamination and ensuring high water quality. No further water sterilization is required. An efficient three-zone plate heat exchanger with a large regenerative zone ensures heat recovery rate up to 96%.

The unit has an uncompromising sanitary design and is fully CIP cleanable.



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|---------|--------|-----|-----------------|----------------|-------------------|
| DWD010H | DN 25 | 1" | 4 to 10 hl/h | 2 to 4 gpm | 4 to 8 bbls/h |
| DWD015H | DN 25 | 1" | 6 to 15 hl/h | 3 to 6 gpm | 6 to 12 bbls/h |
| DWD025H | DN 25 | 1" | 10 to 25 hl/h | 5 to 11 gpm | 9 to 21 bbls/h |
| DWD050H | DN 40 | 1½" | 20 to 50 hl/h | 9 to 22 gpm | 18 to 42 bbls/h |
| DWD075H | DN 40 | 1½" | 30 to 75 hl/h | 14 to 33 gpm | 26 to 63 bbls/h |
| DWD100H | DN 50 | 2" | 40 to 100 hl/h | 18 to 44 gpm | 35 to 85 bbls/h |
| DWD150H | DN 50 | 2" | 60 to 150 hl/h | 27 to 66 gpm | 52 to 127 bbls/h |
| DWD200H | DN 65 | 2½" | 80 to 200 hl/h | 36 to 88 gpm | 69 to 170 bbls/h |
| DWD250H | DN 65 | 2½" | 100 to 250 hl/h | 44 to 110 gpm | 86 to 213 bbls/h |
| DWD400H | DN 80 | 3" | 160 to 400 hl/h | 70 to 176 gpm | 136 to 340 bbls/h |
| DWD600H | DN 100 | 4" | 240 to 600 hl/h | 105 to 264 gpm | 204 to 511 bbls/H |

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Products

We develop and produce a wide range of specialized equipment and provide engineering solutions dedicated to help brewers to optimize their processes.

Combining experience and innovation we build safe and reliable Cold Blocks, supply brewing equipment such as Filtration, Beer recovery systems, Yeast plants, Water Deaeration, Blending, Carbonation, Dosing, Hard Seltzer units, Flash Pasteurization and CIP.

Services

We have a global presence. Our sales and service network is always available for you to provide consultancy, technical support and after sales service.