WATER DEAERATION

Column Hot Unit

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

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.

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

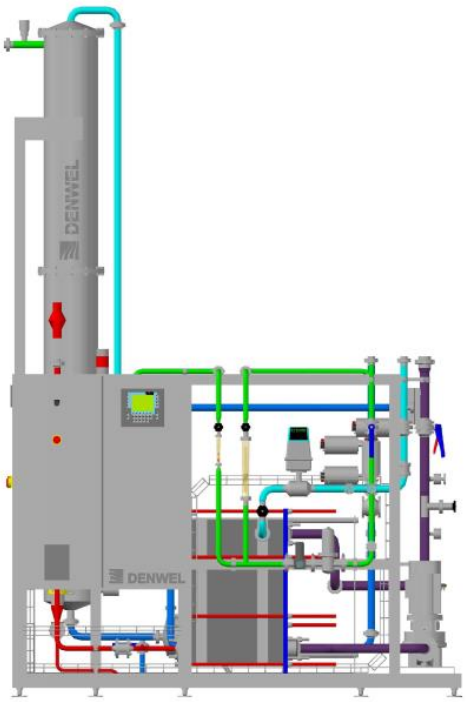
W A T E R D E A E R A T I O N

Principle

The deaeration column is filled with high efficient structured packing. Its internal surface of 500 m^2 / m^3 ensures a maximal contact area between gas and liquid. Water is homogeneously distributed from the top and CO_2 / N_2 is injected at the bottom of the column. While the water flows downwards through the packing, the CO_2 / N_2 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.



Technical data

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 3,5 m, 16,4’; Width 1,5 m, 4,9’; Depth 0,5 m, 1,6’
Weight:	from 300 kg, 660 lb
Material:	Stainless Steel 304, EPDM, PSU, PP

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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