

Description

Blending system type DICON-B™ for original gravity optimization distinguishes itself by the following features:

- high original gravity accuracy (up to 0.05 % OG)
- constant beer quality
- saving of raw materials
- savings in primary energy
- economies in fermentation and storage capacities
- utilization of the first and last runnings without any time-consuming handling
- automatic adaptation of the dosing quantity to the filter capacity
- simultaneous cleaning of the beer and first/last runnings lines, thus enabling an easy and safe handling

Within the filtration process the blending system can be installed at two different places:

a) Before the filter (see scheme A):

In this case the dosed addition of the first/last runnings or the liquor into the unfiltered beer is effected before the booster pump at the filter inlet. Besides the real conveyance, the pump also ensures a good blending of the two components.

It is advantageous that the first/last runnings or the water are filtered together with the unfiltered beer.

It should be taken into account that the original gravity that has been adjusted to a constant value by the addition of some filter aids is differently lowered according to the current filter capacity. That behaviour can be compensated by the controller, provided that the beer flow rate is metered.

b) After the filter (see scheme B):

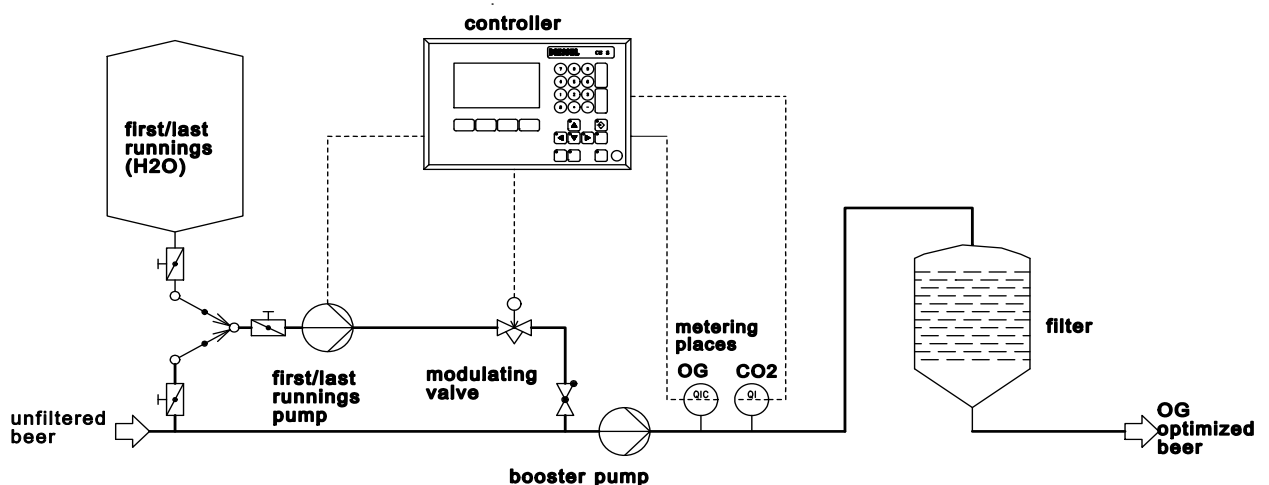
The addition of water after the filter requires a respective water treatment. A static mixer that is arranged after the mixing point guarantees a homogeneous blending.

The varying dilution of beer by the addition of some filter aids is automatically compensated.

The OG Liqui-Analyser determines the currently measured value of original gravity, compares it with the setpoint, and controls the modulating valve in the first/last runnings or water line in such a way that the setpoint is exactly reached. The modulating valve is equipped with a pneumatic drive and an E/P positioner. The non-return valve prevents any liquid from being returned into that line.

The dosing line is jointly cleaned with the beer line. The arrangement of the pipelines shown in the scheme below is a proposal only and not binding. Alternatively it would be possible to provide the first/last runnings line for an independent cleaning process.

Scheme A:



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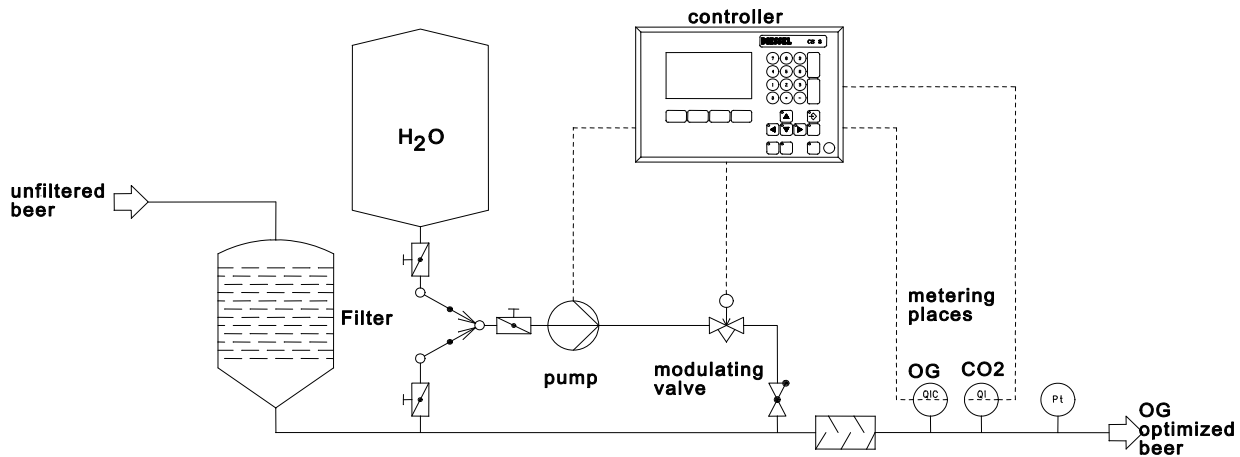
Original Gravity Optimization
DICON-B™

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Scheme B:



Technical Data

Accuracy of original gravity	< ± 0.05 % OG at a constant CO ₂ content and an equal degree of fermentation	
Reproducibility of original gravity	< ± 0.02 % OG under reference conditions	
Beer flow rate	DN 50	75 - 150 hl/h
	DN 65	120 - 250 hl/h
	DN 80	160 - 350 hl/h
	DN 100	250 - 600 hl/h
	other connections and flow rates are possible	
Flow rate of first/last runnings or water	determined according to the required addition	
Modulating valve: Pressure drop	≤ 0.5 bar in case of fully opened valve and max. flow rate	
Control range	1:30. Caution: High differential pressures (>1bar) at the modulating valve will restrict the range.	
CIP	Simultaneous with the beer line. <u>Option:</u> Separate cleaning.	
Distance between dosing place and OG metering place	max. pipeline length = 8 m; in case of greater lengths please contact the factory.	
Pressure at the metering place for OG	≥ 1.5 bar	

Options:

- CO₂ meter for compensating the CO₂ influence on the original gravity in case of strongly varying CO₂ contents
- Static mixer
- First/last runnings pump
- Manually operated valves and swing bends for CIP
- Pressure keeping valve in case of a too low pressure at the metering place for OG