

Description

This in-line blending system has been designed for the continuous high-precision mixing of 2 up to 8 liquid components.

Liquid streams are measured by accurate volume flow meters (e.g. electromagnetic flow meters, rotary piston type flow meters) or mass flow meters and precisely compared by the digital controller type "CS3" in consideration of the desired mixing ratios. Any deviations are compensated immediately.

The following control devices can be used:

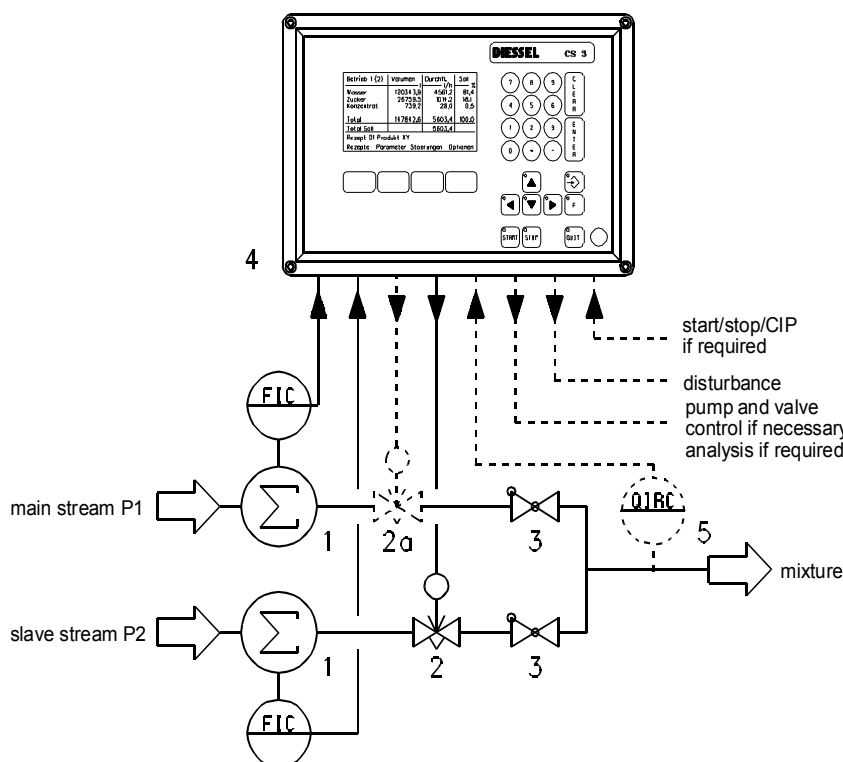
- modulating valves
- pumps with frequency converters

Different ratio ranges can be realized by selection of the best suitable type of flow meter for the application to be solved. Flow rates from 2 l/h up to 1.700 m³/h are possible.

Special features:

- direct mixing of the products in the pipeline (no need for mixing tanks), thus small space requirement
- high accuracy by the use of precise flow meters
- the digital controller enables full compensation of control deviations
- exact quantity measurement and product monitoring is possible
- systems for small up to highest flow rates can be supplied
- large mixing ratio range (1 : 10)

Scheme (Example: 2 components with modulating valve)



- 1 flow meter
- 2 modulating valve with E/P positioner
- 3 non-return valve
- 4 digital controller type CS3
- 5 product analysis (density, brix, original gravity, alcohol...)

Note:

Modulating valve 2a (option) serves for controlling the total flow rate. Unless this valve is installed, pressure P2 will have to be higher than P1 by approx. 0.5 bar.

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Continuous in-line blending system
Type DICON

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Optional features:

- a) Control of the total flow rate, e.g. by an additional modulating valve in the main stream.
- b) Quantity preselection with automatic switch-off after measurement of the preset total quantity.
- c) Control or monitoring of density, brix, original gravity, alcohol...)
- d) Possible connection of a data-logging printer
- e) Serial interface for connection to a computer/PC/SPC etc.
- f) Visualization with graphical representation of the process, indication of the measured values, and representation of curve graphics.

Examples for possible applications:

- Brewery:**
- Addition of heads to green beer
 - Addition of yeast to wort or beer
 - Heavy brewing process

- Dairy:**
- Standardization of milk or cream
 - Mixing tasks for the production of milk powder
 - Mixing of yoghurt or curds with fruits

- Miscellaneous:**
- Beverage production from water and syrup
 - Beverage production from water, sugar solution, and concentrates
 - Alcohol dilution
 - Champagne production from wine and liqueur

Design: (Example):

