

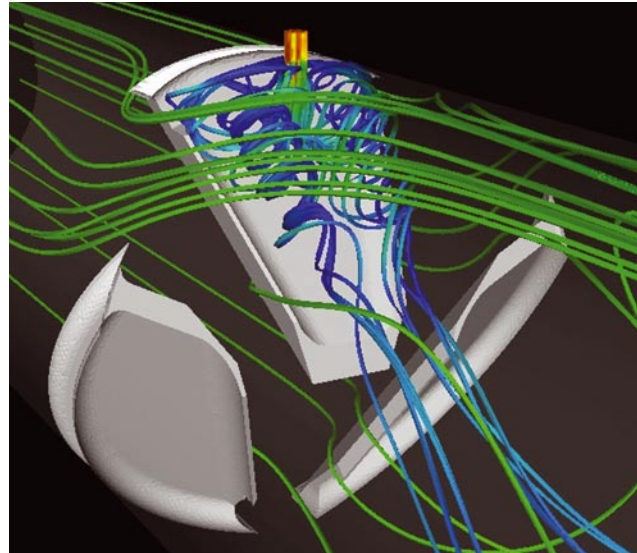
Sulzer CompaX™
The space-saving solution



0603 2705-4

Sulzer CompaX™ for turbulent flow

Sulzer CompaX is the name for the new, space-saving and efficient solution to your mixing problems in the turbulent flow regime. In comparison to conventional static mixer configurations, the Sulzer CompaX has an amazingly reduced overall length. This greatly improves your operational flexibility and reduces installation costs. Further more the additive can be admixed in an easy and reliable way.



Functional description

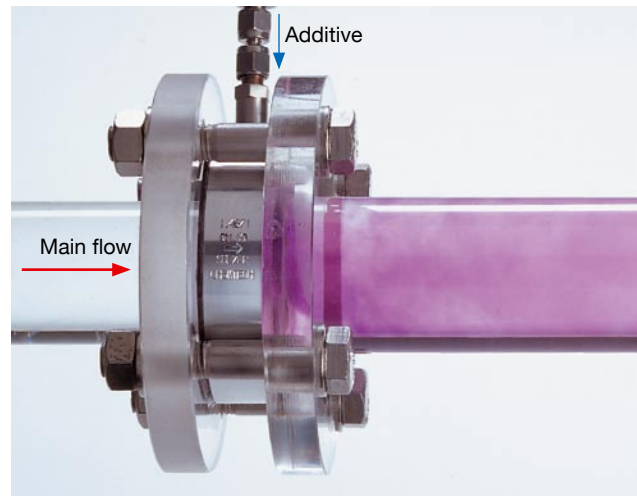
The patented Sulzer CompaX design consists of a highly efficient mixing device with integrated dosing inlet point. The additive is fed into the zone where strong turbulent flow prevails.

This design secures homogeneous mixing over a very short distance with the use of only one mixing element and with only one additive dosing point.

The Sulzer CompaX is patented technology.

Field of application

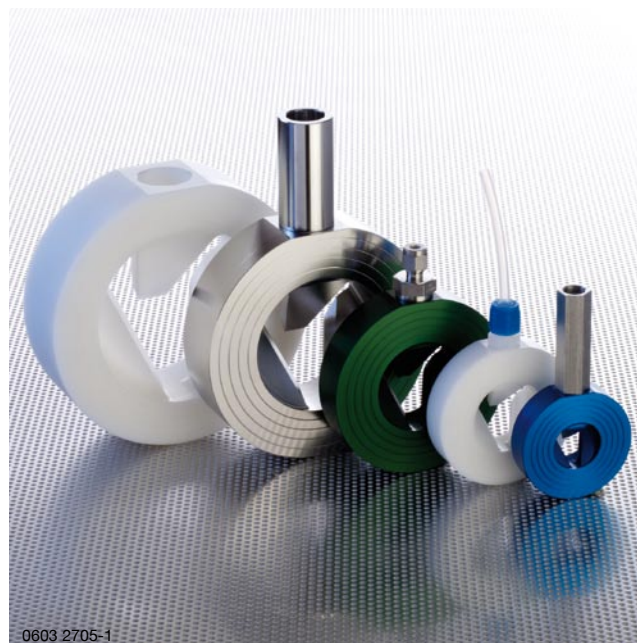
The Sulzer CompaX is widely used for the inline mixing of liquids, gases and suspensions in the turbulent flow regime.



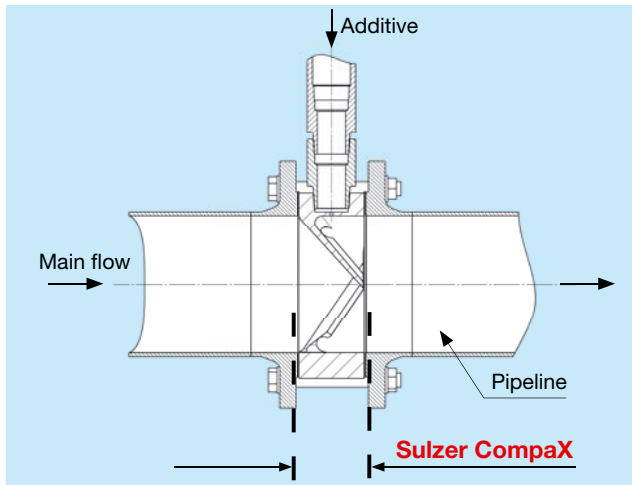
Outstanding features

The following features make the Sulzer CompaX an advantageous and efficient solution to your mixing needs:

- very short mixing distance: independent of mixing ratio, a homogeneous mixture is achieved only 3 pipe diameters downstream of the mixer
- low pressure drop (typically 10 – 100 mbar)
- extremely short overall installation length (approx. 0.3 pipe-Ø)
- easy to fit, low installation costs
- simple dosing of additive: no multipoint dosing system necessary
- no clogging (both in the main flow and in additive stream)
- robust construction, no moving parts
- easy to clean
- excellent price/performance ratio



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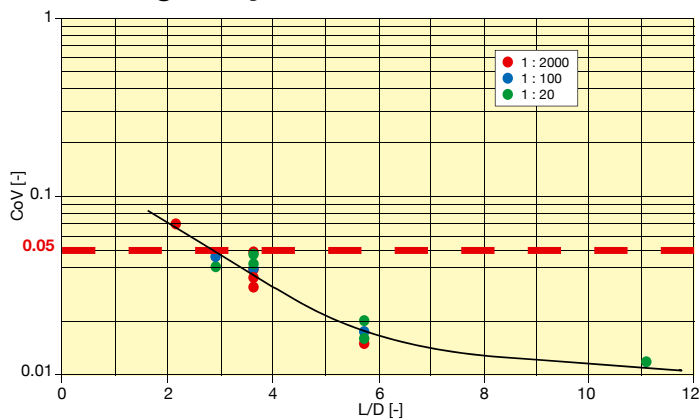


Applications

There are many potential application areas for the Sulzer CompaX:

- concentration and temperature equalisation of low-viscosity liquids and gases
- mixing of additives
- dilution of concentrates
- water and wastewater treatment (adjustment of pH value, mixing of flocculation agents, neutralisation processes using acids or caustic solutions)
- concentration- and flow equalisation for an accurate representative sampling from a single point downstream the mixer
- etc.

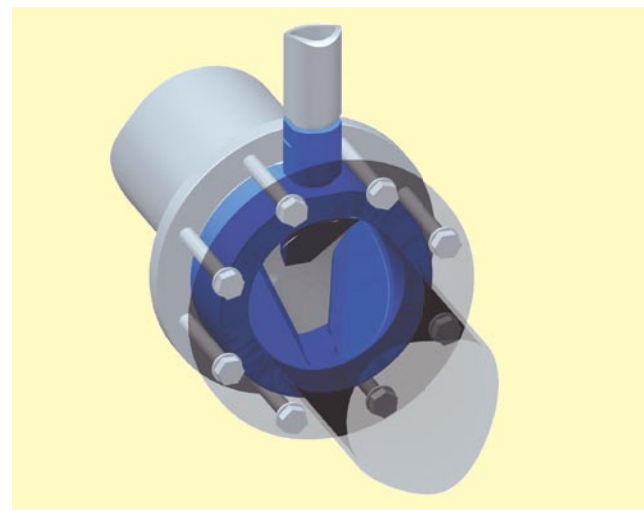
Homogeneity data



Homogeneity curve measured at different mixing ratios



Calculation of the homogeneity with CFD (Computational Fluid Dynamics)



Pressure drop (Δp)

The pressure drop can be calculated as follows:

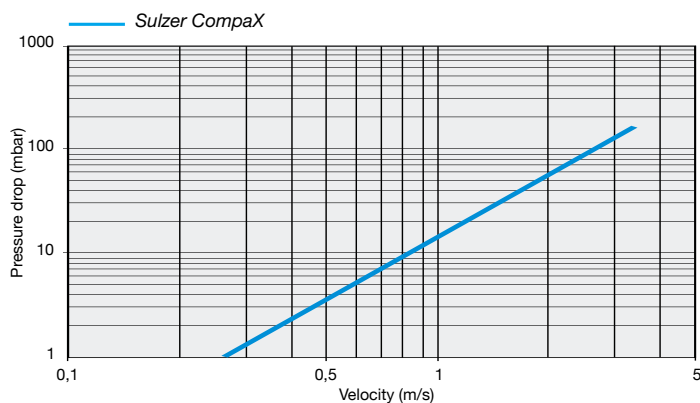
$$\Delta p = 0.014 \rho v^2$$

Δp = pressure drop (mbar)

ρ = density (kg/m³)

v = velocity (m/s)

In the case of water, the relevant pressure drop value can be seen in the diagram below.



Design features

The Sulzer CompaX consists of a mixer with an integrated dosing point. The dosing point is designed for the mixing of an additive into a primary stream at ratios ranging from 1 to 3.

The mixer is installed in the pipe, mounted between two flanges (DIN 2633 or ANSI B16.5). The overall installation length is equivalent to less than half of the actual pipe diameter.

Sulzer CompaX is available in the following materials:

- Stainless steel (1.4571)
- Polypropylene (PP)
- FRP for diameters > DN 500
- following other materials on request
PVC, PTFE, SS-ETFE coated

For mixing ratios > 1 to 3 and nominal diameters DN > 100 mm flanged versions are available.

Pressure rating: Stainless steel = 16 bar @ 120 °C
PP = 10 bar @ 20 °C

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Sulzer Chemtech Ltd, a member of the Sulzer Corporation, with headquarters in Winterthur, Switzerland, is active in the field of process engineering and employs some 2500 persons worldwide.

Sulzer Chemtech is represented in all important industrial countries and sets standards in the field of mass transfer and static mixing with its advanced and economical solutions.

The activity program comprises:

- Process components such as trays, structured and random packings, internals for separation columns and reaction technology
- Engineering services for separation and reaction technology such as optimizing energy consumption, plant optimization studies, pre-engineering for governmental approval, basic engineering
- Separation and purification of organic chemicals by means of crystallization and membranes
- Mixing and reaction technology with static mixers
- Mixing and Cartridges Technology
- Tower field services

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