

STMC Channel Mixers

Low Headloss

Chemical Savings

Series 9000

Motionless Mixing



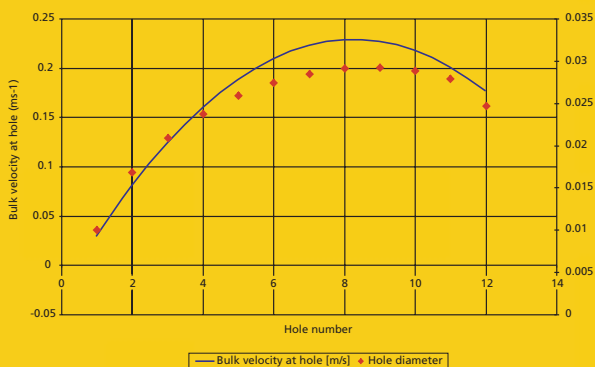
Actual footage from BHR*Solutions*
hydraulic model of Oswestry WTW

Statiflo's Channel Mixers are and operation of water and w

Statiflo Series 900 Channel Mixers rapidly achieve a high degree of mix with extremely low headloss in very short lengths

Complete mixing is possible, achieving a low CoV, over a wide range of flowrates. With headlosses of just a few millimetres feasible, gravity flow is an option, eliminating the expense of pumping, saving not just capital costs, but ongoing maintenance and energy costs too.

Statiflo Channel Mixers can be installed in new treatment works or easily retrofitted into existing installations because of the extremely low headloss. The modular design concept, based on the STMC mixing element, allows wide variations in aspect ratio (height/width) suitable for square or nearly square channel sections, narrow deep channels and wide shallow channels. We have even designed Channel Mixers for circular collectors around clarifiers for pH adjustment prior to chlorination. Independent trials have established that the STMC concept is the most efficient of all known commercially available static mixers, making it ideal for chemical dosing as a fundamental component of process control. It is indispensable before flow splits to ensure equal chemical distribution and balanced performance of parallel trains of treatment operations.



Overdosing to compensate for poor mixing is eliminated. Chemical savings on a recent installation amount to over £40,000 per year, a payback time of only 5 months and with further benefits of much improved operation of downstream equipment and improved water quality. The 'plug flow' capability of the STMC element is a useful feature to enhance the flow characteristics of UV disinfection reactors and prevent short circuiting.

Injecting accuracy into dosing

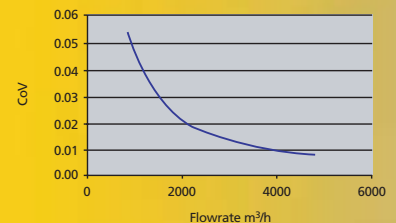
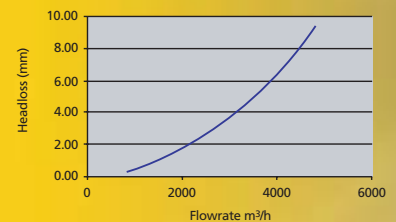
Open channels can develop unusual velocity profiles not found in conventional piping systems. On large scale applications, particularly deep channels, the correct design of the removable injector is essential for high efficiency and complete mixing. Statiflo has invested considerably in developing a procedure to ensure that the correct amount of additive is injected proportional to the local mainstream flowrate and that maldistribution is avoided with turndown.

These high efficiencies and benefits apply to any scale. We have designed, manufactured and installed Channel Mixers up to 7 m wide and 5 m deep, handling 7 tonnes/sec of water.



Above surface and sub-surface injection

Sub-surface injection is essential for efficient, fast mixing, especially in deep channels. However, Statiflo is aware that plant operators are re-assured by visual confirmation of dosing from less effective above surface spargers. In order to achieve the best of both worlds, Statiflo has developed a unique injection system, combining the advantages of both 'above surface' and 'sub-surface' injection – the less efficient above surface sparger only operates as a 'tell tale' in the event of blockage or partial blockage of the sub-surface sparger. This allows continuous injection even when the sub-surface sparger is removed and cleaned.



With acknowledgement to the Water & Wastewater Mixing Consortium (BHRGroup Design Guide for Liquid Blending in Pipes & Channels)

revolutionising the design of wastewater treatment plants



Applications include:

- Raw water blending
- pH control
- Rapid coagulant addition
- Polyelectrolyte dosing
- Residence time control



Images with the kind permission
of United Utilities, MWH, Biwater
and BHR Solutions.

For efficient mixing, get into the right channel,
discover the practical ingenuity of Statiflo Mixers

Statiflo has an extensive range of motionless mixing products and solutions:

Statiflo is the leading specialist in motionless mixing and laminar flow heat exchange technology. The techniques were developed in the early 1970's. Since then we have continuously developed and improved the technology, delivering its benefits to virtually every industry worldwide.

Statiflo is the only international mixer specialist able to offer true global expertise. We have over 1,200 customers in more than 60 countries, including high profile names in all process industries – endorsing our primary position in this field.

The principle of inline motionless mixing is simple: material – liquids, gases or even solids, passing through custom engineered mixing elements are efficiently processed to achieve precise, predetermined requirements. There are no moving parts, no tanks and virtually no maintenance. Statiflo Motionless Mixers save space and energy.

As well as open channel mixers, our range includes:

- STT, STS, STL and STM element Motionless Mixers for liquids, gases and solids in pipes
- GDS gas dispersion systems
- STX laminar flow heat exchangers
- STMC enclosed duct mixers
- In-bend mixers
- Spray mixers
- Gas tee mixers

With low capital cost and extremely low running cost, you'll find that Statiflo Motionless Mixers offer fast payback. It really is technology that you can't afford not to mix with.

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