

Contact Assemblies

The uses

Contact assemblies are used to draw air into the water supply, allowing them to mix and have a specified contact time before either going through the remainder of the filtration system or straight to service. Mixing air with water allows the oxygen in the water to oxidise certain components of the water. The most common use is to oxidise soluble Iron and Manganese into their insoluble oxides. Ammonium, Nitrites and Hydrogen Sulphide can also be treated using oxidation.

Constituent parts

The main constituent of a contact assembly is a Mazzei injector. As water rushes the Mazzei, a vacuum is created at the 'T' piece and air is drawn into the stream. The Mazzei is built into a section of pipework leading to a pressure vessel. As the water reaches the vessel, a deflector piece built into the head causes the water to swirl, thus mixing the air with the water. The vessel itself allows the resulting mix of water and air to sit for a measured amount of time so that oxidation can take place. An air vent is fitted to the head so that excess air can escape. On all but the smallest unit, a 'bypass leg' is also fitted, containing a pressure adjusting valve. This spring loaded valve opens up when a large volume of water is required (for example when a filter ahead of the contact assembly goes into backwash) allowing water to bypass the Mazzei injector.



Installation

The Mazzei injectors come in a range of sizes and we chose the optimum model for each system. When using for Iron and Manganese removal, the injector, as with the rest of the filtration system, may need regular cleaning. There is a replaceable non-return valve in the suction tip.

It is important that the water pressure feeding the inlet of the venturi is sufficient to draw in air. The aerator should be installed prior to the accumulator on a pressurised system so that it can optimise the pressure over most of the pump cycle. Any other filters would then be sited after the accumulator. The drawing to the left shows a typical set up with a borehole feed.

To avoid backpressure on the Mazzei it is advised that any filters post the contact assembly are not elevated and service line flow controllers should only be used on the last filter in line.

Mazzei Injector

Mazzei have an extensive range of injectors. We chose the optimum model in each case to give the best possible air suction at the given flow rate. Mazzei can also be used for liquid suction and for use with other gases such as ozone.

