



SOLVOCARB® inline injector – carbon dioxide for water. Maximum control of alkaline pH neutralization.



Neutralizing wastewater in a safe and controlled manner, with low investment

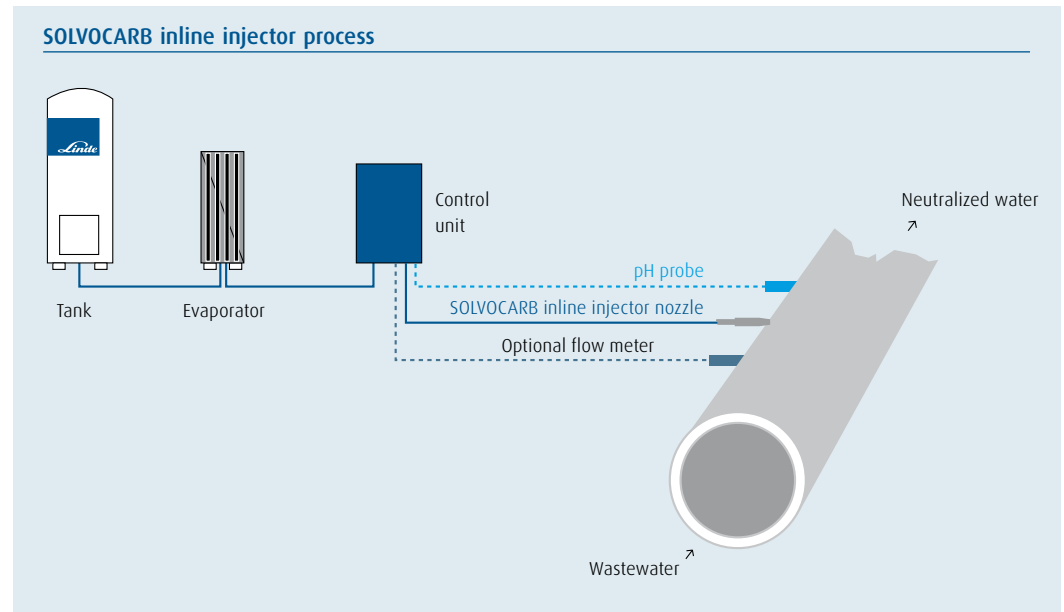
Compared to mineral acids, carbon dioxide has many advantages: it prevents the excessive accumulation of salts, such as chlorides and sulphates, and makes over-acidification of wastewater almost impossible due to its self-buffering properties, which prevent the pH dropping below 6.0. Carbon dioxide is also much safer to use than highly corrosive mineral acids, virtually eliminating corrosion problems, while being highly effective at accurately controlling the pH of process water.

The low investment costs for SOLVOCARB injection equipment, including measurement and control unit, quickly pay off through reduced need for maintenance, repair and restoration work. In addition, the installation is very simple.

Installation

Specifically developed for the injection of carbon dioxide into pressurized pipelines, the inline injector feeds the carbon dioxide directly into the raw water stream through a stainless-steel nozzle. Due to the high solubility of CO₂ in water and fast reaction rates with high alkaline water, the SOLVOCARB inline injector usually eliminates the need for a static mixer. It can be used with a side-stream recycle pump to treat batch or continuous flow-through configurations.

The unit is connected to the main or side-stream pipe, via a pipe connection fitting that is welded to the pipework. Once installed, the main valve on the inline injector is opened, the bullnose injector is inserted in position and the seals on the unit prevent fluid from escaping. The carbon dioxide is then dispensed via a flexible hose assembly. Control of the carbon dioxide flow rate is governed by a control unit that works during pump operation either continuous (modulating) or by on/off control, only injecting CO₂ when the pump is running.



SOLVOCARB inline injector installation. The unit is welded to the main or side-stream pipe. Once the main valve is opened, carbon dioxide is dispensed and quickly dissolved into the wastewater.

Benefits at a glance

- Efficient use of CO₂
- Easy to install and use
- Fully automatic PLC for pH, flow and other process signals
- Accurate control of CO₂ dosing and pH control
- Suitable for integration into existing processes
- Complete process train and turnkey packages
- Prevents pipework corrosion
- No energy source needed
- Simple installation
- Low investment and operation cost
- No moving parts
- Low maintenance costs
- Non-clogging design

Applications

- Neutralization of alkaline Industrial Wastewater Treatment plants in industries such as Beverage, Dairies, Breweries, Bakery and Confectionary, Pulp and Paper, Leather, Textile, Fine and Specialty Chemicals and Pharmaceutical.

Technical characteristics

SOLVOCARB inline injector dimensions

| | |
|-----------------------------------|---------------------------------------|
| Material | Stainless steel EN 1.4301 / 304 Grade |
| SOLVOCARB nozzle holes & diameter | 13 x 1.0 (mm) |
| Design pressure (water side) | 10.0 (bar) |
| Design pressure (carbon dioxide) | 40.0 (bar) |
| Maximum operating pressure | 6.0 bar (g) |
| Weight | 3.5 (kg) |
| Approximate length of assembly | 360 mm |

SOLVOCARB inline injector operating parameters

| | | | |
|---|----|----|----|
| Delta pressure (bar) | 2 | 4 | 8 |
| Carbon dioxide flow rate (Nm ³ /h) | 18 | 26 | 32 |

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