



## ASCO CO<sub>2</sub> Dosing System

The ASCO CO<sub>2</sub> dosing system was developed to reliably and precisely dose CO<sub>2</sub> in controlled quantities wherever maximum accuracy is required. Typical areas of application include desalination plants and water treatment processes in which CO<sub>2</sub> is used for pH neutralization.

The compact, ready-to-connect system is equipped with a CO<sub>2</sub> pressure reducing valve, filter unit, gas flow meter, control valve, pressure gauges, safety valves, and a fully pre-wired control cabinet. An integrated bypass line allows maintenance work such as filter replacement to be carried out without interrupting operation.

Thanks to its robust stainless steel construction, the system is particularly corrosion-resistant, durable, and easy to maintain—ideal for use in demanding industrial conditions.



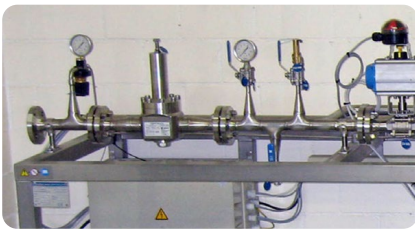
### Benefits:

- Precise CO<sub>2</sub> dosing
- Ideal for water treatment
- Maintenance-friendly design
- Robust stainless steel construction

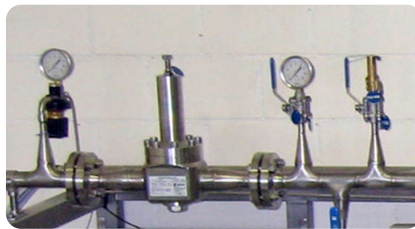
## Site conditions

Min. ambient air temperature:	10°C, optional with heater for vaporiser down to 5°C
Max. ambient air temperature:	38°C, optional with air conditioned cabinet up to 50°C
Humidity:	34% to 99%
Wind speed max:	19.03m/s (62ft/s) tank foundation must be recalculated by local civil engineer
Uniform building code:	seismic zone 2A
Temperature treated water:	15 to 35°C
Side stream water pressure:	4bar (58psi)max.

## ASCO CO<sub>2</sub> Gas Dosing System: Components



- flanged inlet incl. counter flange
- control cabinet
- all equipment mounted on robust stainless steel frame



- pressure reducing valve for easy adjustment of inlet pressure



- ASCO CO<sub>2</sub> Gas Flowmeter for accurate measuring of the flow rate: provides a 4–20mA output signal which can be processed on the customer's main control



- actuating valve to adjust flow of CO<sub>2</sub> gas



- by-pass-line for manual operation



- filtration unit

## Staticmixer /Gas dispersion system

As per customer's requirement, ASCO includes static mixers or a complete gas dispersion system in order to ensure a reliable solubility of the CO<sub>2</sub> gas in the customer's main stream water. This brings the following key benefits:

- highly efficient mixing
- low energy consumption
- no moving parts for maintenance free operation
- no direct motive power required



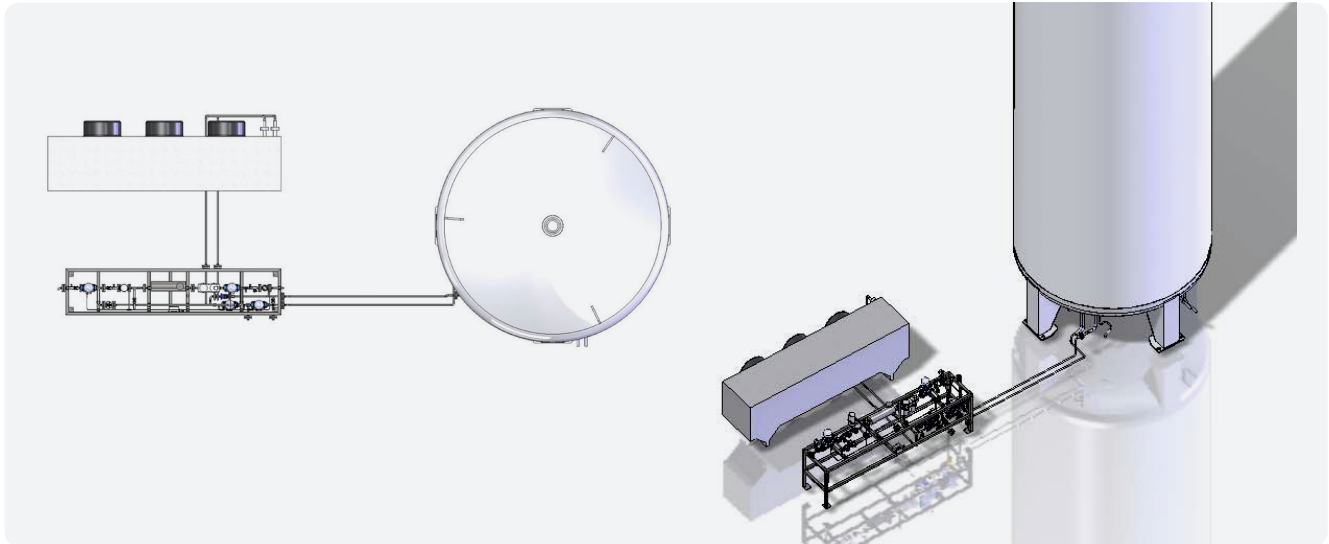
CO<sub>2</sub> feeding via side stream into the main water stream



Reliable solubility of the CO<sub>2</sub> gas thanks to special design of the static mixer

### ASCO CO<sub>2</sub> Gas Dosing System: Example layout of a single line

Please note that all systems in this catalogue are only examples. Each system is customised and requires detailed engineering.



Example layout of a complete ASCO CO<sub>2</sub> Gas Dosing System (single line) with CO<sub>2</sub> tank and vaporiser

ASCO supplies a fully preinstalled and pretested system consisting of one storage tank, one vaporiser, one dosing system and, if desired, static mixers or a complete gas dispersion system.

The pipework of the ASCO CO<sub>2</sub> Gas Dosing System is completely welded to minimise installation works on site. Only the connection between storage tank and vaporiser has to be welded directly on site.

All civil related works, like site planning, foundations, electrical supply, installation material, water side stream and installation on site are customer's responsibility.

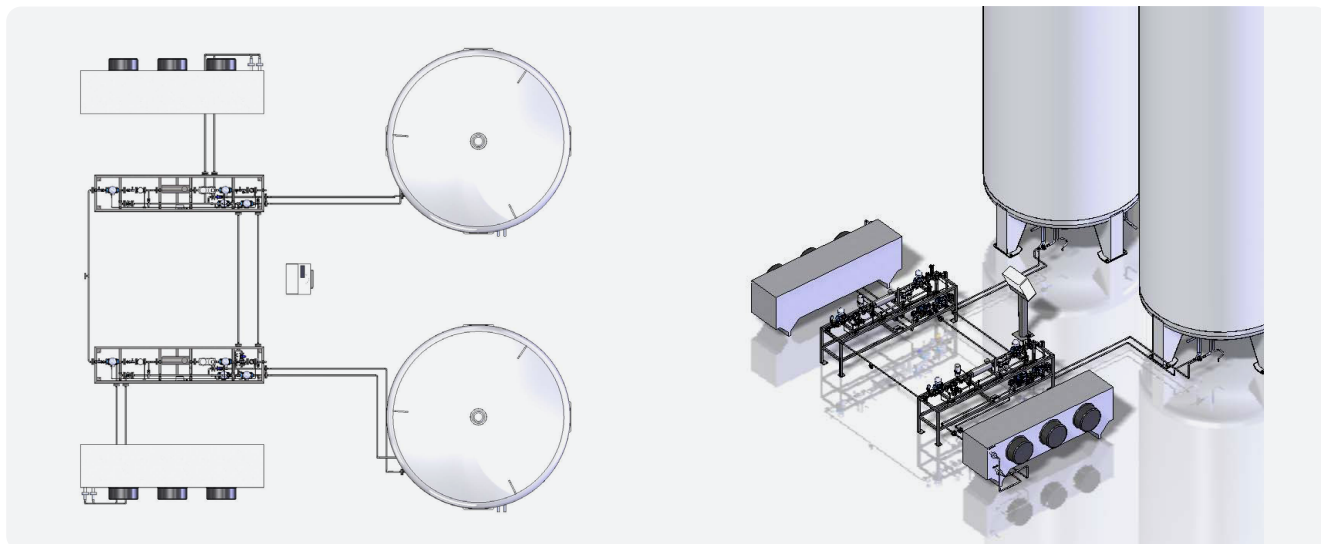
### ASCO CO<sub>2</sub> Gas Dosing System: Standard scope of supply (single line)

ASCO supplies a fully preinstalled and pretested system consisting of:

- 1 x ASOC CO<sub>2</sub> Gas Dosing System line consisting of
  - filtration unit
  - flow regulating valve
  - automatic shut off valve
  - pressure reducing valve
  - manual shut off valve
  - safety valves
  - discharge valve
  - control cabinet, prewired
  - all mounted on a stainless steel base frame
- 1 x CO<sub>2</sub> flowmeter including digital display
- 1 x CO<sub>2</sub> storage tank (capacity has to be specified at time of order)
- 1 x atmospheric CO<sub>2</sub> vaporiser (capacity has to be specified at time of order)
- 1 x static mixer or gas dispersion system (capacity has to be specified at time of order)

## ASCO CO<sub>2</sub> Gas Dosing System: Example Layout of a redundant dosing system

Please note that all systems in this catalogue are only examples. Each system is customised and requires detailed engineering.



Example layout of a complete redundant ASCO CO<sub>2</sub> Gas Dosing System with CO<sub>2</sub> tanks and vaporisers

ASCO provides a completely redundant system which automatically controls and regulates the CO<sub>2</sub> flow depending on a set point coming from the LCP with integrated HMI.

Depending on the condition of the storage tanks, vaporisers and the dosing systems, the system will detect and decide what parts need to take over the load to guarantee a continuous CO<sub>2</sub> injection into the side stream water. All operating conditions and status information are displayed on the touch panel and are available as data bloc for customers main control.

## Redundant ASCO CO<sub>2</sub> Gas Dosing System: Standard scope of supply

ASCO supplies a fully preinstalled and pretested system consisting of:

- 2 x ASCO CO<sub>2</sub> Gas Dosing System lines consisting of
  - filtration unit
  - flow regulating valve
  - automatic shut off valve
  - pressure reducing valve
  - manual shut off valve
  - safety valves
  - discharge valve
  - all mounted on a stainless steel base frame
- 2 x CO<sub>2</sub> flowmeters including digital display
- 1 x control cabinet (PLC)
- 2 x CO<sub>2</sub> storage tanks (capacity has to be specified at time of order)
- 2 x atmospheric CO<sub>2</sub> vaporisers (capacity has to be specified at time of order)
- 1 x static mixer or gas dispersion system (capacity has to be specified at time of order)
- 1 x automatic change over system

## ASCO CO<sub>2</sub> Gas Dosing System: Available standard capacities

### CO<sub>2</sub> Gas Dosing System 5–50kg/h (11–110lb/h) (single line)

Art.-Nr. 900135

**Pos. 001**

- 1 x ASCO CO<sub>2</sub> Gas Dosing System consisting of
  - filtration unit
  - flow regulating valve
  - automatic shut off valve
  - pressure reducing valve
  - manual shut off valve
  - safety valves
  - discharge valve
  - control cabinet, prewired
  - all mounted on a stainless steel base frame
- 1 x CO<sub>2</sub> flowmeter including digital display



For a running ASCO CO<sub>2</sub> Gas Dosing System following equipment is necessary:

- 1 x CO<sub>2</sub> storage tank (capacity has to be specified at time of order)
- 1 x atmospheric CO<sub>2</sub> vaporiser (capacity has to be specified at time of order)
- 1 x static mixer or gas dispersion system (capacity has to be specified at time of order)

### CO<sub>2</sub> Gas Dosing System 30–300kg/h (66–660lb/h) (single line)

Art.-Nr. 900136

**Pos. 002**

- 1 x ASCO CO<sub>2</sub> Gas Dosing System consisting of
  - filtration unit
  - flow regulating valve
  - automatic shut off valve
  - pressure reducing valve
  - manual shut off valve
  - safety valves
  - discharge valve
  - control cabinet, prewired
  - all mounted on a stainless steel base frame
- 1 x CO<sub>2</sub> flowmeter including digital display



For a running ASCO CO<sub>2</sub> Gas Dosing System following equipment is necessary:

- 1 x CO<sub>2</sub> storage tank (capacity has to be specified at time of order)
- 1 x atmospheric CO<sub>2</sub> vaporiser (capacity has to be specified at time of order)
- 1 x static mixer or gas dispersion system (capacity has to be specified at time of order)

## CO<sub>2</sub> Gas Dosing System 100–800kg/h (220–1'770lb/h) (single line)

Art.-Nr. 900137

### Pos. 003

- 1 x ASCO CO<sub>2</sub> Gas Dosing System consisting of
  - filtration unit
  - flow regulating valve
  - automatic shut off valve
  - pressure reducing valve
  - manual shut off valve
  - safety valves
  - discharge valve
  - control cabinet, prewired
  - all mounted on a stainless steel base frame
- 1 x CO<sub>2</sub> flowmeter including digital display



For a running ASCO CO<sub>2</sub> Gas Dosing System following equipment is necessary:

- 1 x CO<sub>2</sub> storage tank (capacity has to be specified at time of order)
- 1 x atmospheric CO<sub>2</sub> vaporiser (capacity has to be specified at time of order)
- 1 x static mixer or gas dispersion system (capacity has to be specified at time of order)