

WATER SPRAY SCRUBBER

PRODUCT DATA SHEET – 104

In-line scrubber for acidic process applications
 For solvent-based or powder processing systems

Introduction

The Neutronics Water Spray Scrubber is a preconditioning component designed to remove both gases and particulate matter from the sample gas stream, preventing contamination or damage to the oxygen sensor and sampling system components. Wet scrubbers can handle high temperatures and moisture and can effectively neutralize corrosive gases, making them suitable for use in acid-based processing applications.

Operation

The Water Spray Scrubber has a countercurrent flow configuration -- with the scrubbing liquid flowing in the opposite direction of the sample flow. The sample gas enters the bottom of the scrubber through a perforated diffuser tube. The gas flows up through the scrubbing solution (typically water or suitable scrubbing liquid) and comes in contact with the increased surface area of the atomized solution from the spray head at the top of the column. Contaminants and particulate matter are trapped on the wet surfaces of the scrubbing solution and absorbed into the liquid. The liquid with the captured gases and particulate matter is discharged through a venturi to the Autodrain (ref. PDS-102) for disposal.

Installation

The scrubber must be vertically mounted in the sample line between the sampled process and the sample conditioning package. The sample tubing from the process vessel must be piped up to an elevation higher than the scrubber to prevent condensed liquids from being trapped in the line. The inlet scrubbing liquid must be filtered to remove particulate. A coalescing prefilter (ref. PDS-101) should be installed between the scrubber and the sample conditioning package. When not used in a positive pressure application, the drain port must be connected to the Negative Pressure Autodrain (ref. PDS-102).

Maintenance

For maintenance of the dispersion tube, a shut-off valve must be installed on the drain port at the bottom of the scrubber column. The dispersion tube will require cleaning if the sample flow drops below the minimum requirement.

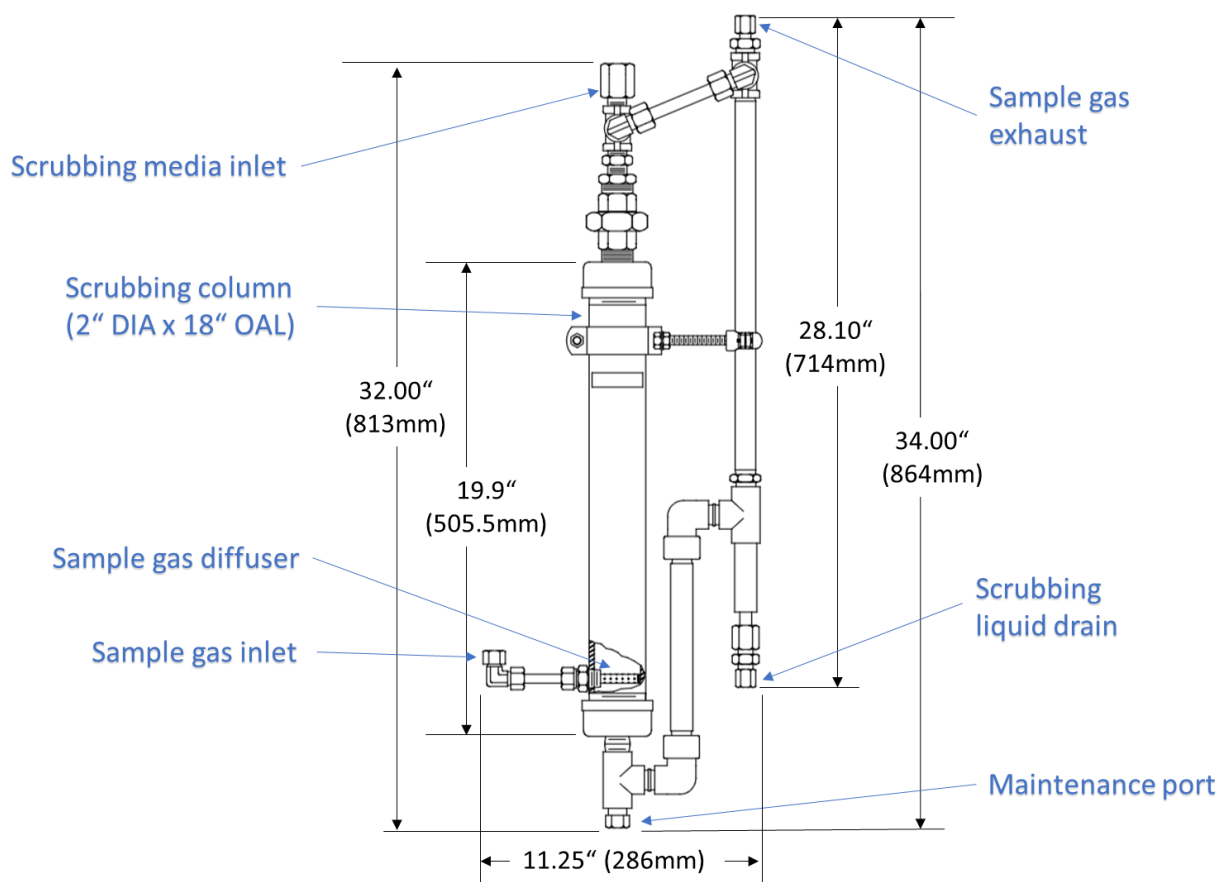


Features

- Effectively removes concentrations of water soluble toxic or corrosive gases such as hydrochloric acid or ammonia from the sample stream
- Countercurrent flow configuration – improves gas absorption and sampling system performance
- Continuous atomized spray of water or scrubbing media washes the sample gas at the top of the column – enhances contaminant removal
- Drain port at the bottom of the column provides easy drainage of the scrubbing media – simplifies use and maintenance
- Corrosion resistant materials of construction – available in Stainless steel or Kynar – provides reliable long-term service even in challenging applications

WATER SPRAY SCRUBBER -- SPECIFICATIONS

Materials of construction	Stainless steel or Kynar
Component type	Wet scrubber with top-mounted spray nozzle
Scrubbing solution	Water or scrubbing solution suitable for the process



Performance data

Inlet pressure	Spray head capacity
10 PSIG	0.28 GPM
15 PSIG	0.33 GPM
20 PSIG	0.38 GPM

Order information

Part No. 6-02-1000-45-6	Spray scrubber, MOC: Stainless steel
Part No. 6-02-1000-45-2	Spray scrubber, MOC: Kynar
Part No. 6-02-4000-19-4	Spare parts – maintenance kit (SS packing and Teflon baffle plates)



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