

# WATER COOLED DEMISTER

PRODUCT DATA SHEET-103

## Inline cooling for heated process applications—for use with Neutronics Process Gas Sampling Systems

### FEATURES

- Removes solvent droplets, mists and vapors from the sample stream and returns them to the process vessel
- Counter-flow, Water-cooled Jacket lowers sample temperature and aids in solvent removal

### INTRODUCTION

The Neutronics Water Cooled Demister is a pre-conditioning component used in addition to a standard Neutronics Sample Conditioning Package to assure analyzer reliability. The Demister lowers sample temperature and removes solvent droplets, mists and vapors, returning them directly to the process vessel.

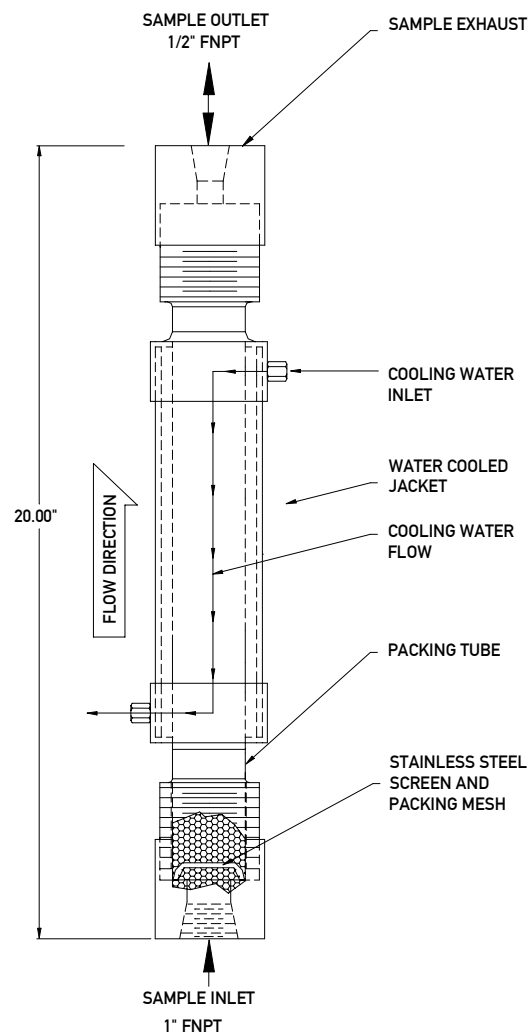
### OPERATION

Sample gas enters the bottom of the Demister and clean sample gas exhausts from the top. Solvent droplets, mists and vapors are trapped on the large surface area offered by the Demister's Stainless Steel packing mesh. Gravity drains the collected condensate back to the process vessel. This counter-current solvent draining aids in the self-cleaning of the packing.

The water-cooled jacket continuously transfers heat from the packing, promoting solvent vapor condensation and lowering sample temperatures. Sample gas and cooling water are isolated from each other. The cooling water (approx. 1LPM) enters at the top of the water jacket and exits at the Demister's bottom, providing effective, counter-current cooling of the packing.

### INSTALLATION

The Water-cooled Demister is a vertically mounted cylinder installed in the sample line between the sampled process and the Neutronics Sample Conditioning Package. It should be mounted directly above the vessel or sampling point to promote condensate drain-back.



### SPECIFICATIONS

WETTED MATERIALS	Shell and tube heat exchanger, available in Brass/copper, Stainless Steel
REFERENCE DRAWING	SP-E-0679
COOLING MEDIA	Water, 40psig, 0.25-1.0gpm, $\leq 55^{\circ}\text{F}$
INLET TEMPERATURE	24" demister $\leq 160^{\circ}\text{F}$ ; 36" Demister $\leq 200^{\circ}\text{F}$



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