

# PORTA-TEST WHIRLYSCRUB I

## Inline separator

### APPLICATIONS

- Separation of liquids from gases in natural gas or steam service
- Removal of glycol from gas streams
- Pipeline and processing facility applications

### ADVANTAGES

- Reduced size, weight, and installation costs
- Removal of 99.9% of solid and liquid particles down to 10 um
- Inline gas and liquid separation

The Schlumberger PORTA-TEST WHIRLYSCRUB I\* inline separator is a horizontal separator that uses centrifugal force generated by fixed vanes to perform gas-liquid separation. The compact horizontal separator handles large gas volumes in a relatively small footprint.

The gas inlet and outlet are located on opposite ends of the separator, making it convenient for pipeline installations. More than 35 years of experience with this product enables us to optimize the separator design for your specific application.



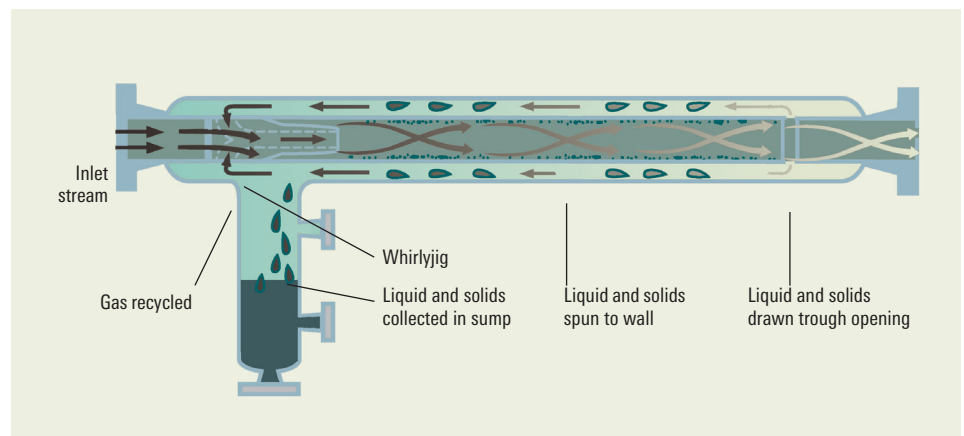
*PORTA-TEST WHIRLYSCRUB I Model C separator, capable of handling 3.6 Bcf/d.*

### How it works

As gas enters the separator, it flows through a fixed-vane assembly that gives the stream a spinning motion. Because of the centrifugal force generated by the spinning motion, liquids and solids are forced to the wall of the vortex tube, where separation takes place. The separated liquids are swept toward the end of the vortex tube by the flowing gas. Prior to exiting the separator, the liquids and a 10% side stream of gas are drawn through a small opening in the vortex tube.

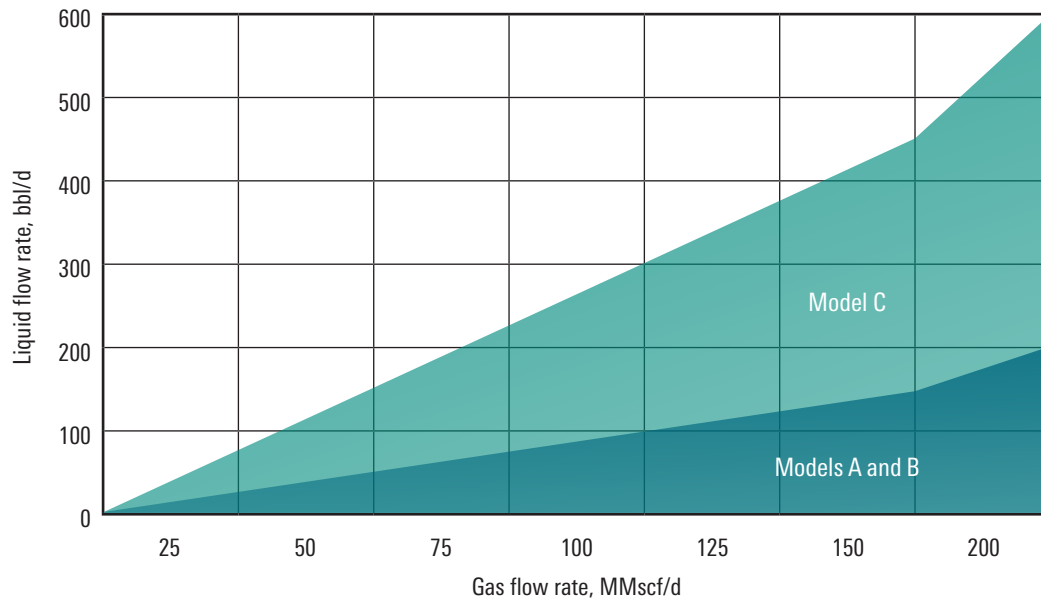
Outside the vortex tube, the liquids settle out of the gas under the influence of gravity and drain into a sump. The remaining gas is recycled back into the vortex through passageways in the fixed-vane assembly. A low-pressure area, along the axis of the spinning gas stream, provides the necessary differential pressure driving force.

Traditional separators typically use wire mesh or vane-type mist extractors to remove solid and liquid particles. To be effective, these devices must be operated at relatively low velocities. Alternatively, the PORTA-TEST WHIRLYSCRUB I separator uses the energy of the flowing gas to achieve separation, resulting in smaller separator size and weight.

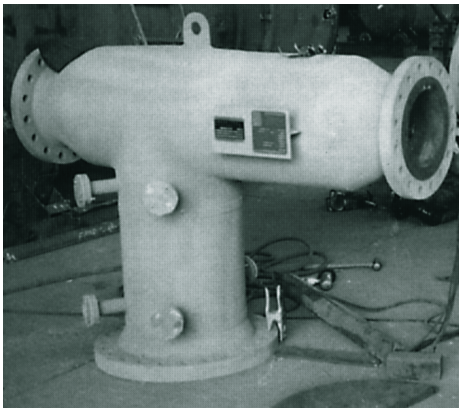


*PORTA-TEST WHIRLYSCRUB I separator diagram.*

# PORTA-TEST WHIRLYSCRUB I



Application chart for PORTA-TEST WHIRLYSCRUB I separator.



PORTA-TEST WHIRLYSCRUB I Model B separator.

## Product selection

The PORTA-TEST WHIRLYSCRUB I separator is available in three different models:

- Model A is a single-tube design for high-efficiency separation of liquid from gas. This model is best suited for processes with liquid-to-gas ratios below 1 bbl/MMscf.
- Model B is a multitube design for high-efficiency separation of liquid from gas but provides a larger flow coefficient than is available in Model A. It is best suited for processes with liquid to gas ratios below 1 bbl/MMscf.
- Model C is a multitube design for high-efficiency separation of liquid from gas. It is best suited for processes with liquid-to-gas ratios equal to or below 3 bbl/MMscf.

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