



Challenger Process Systems Co.

VIPER® Separation Technology

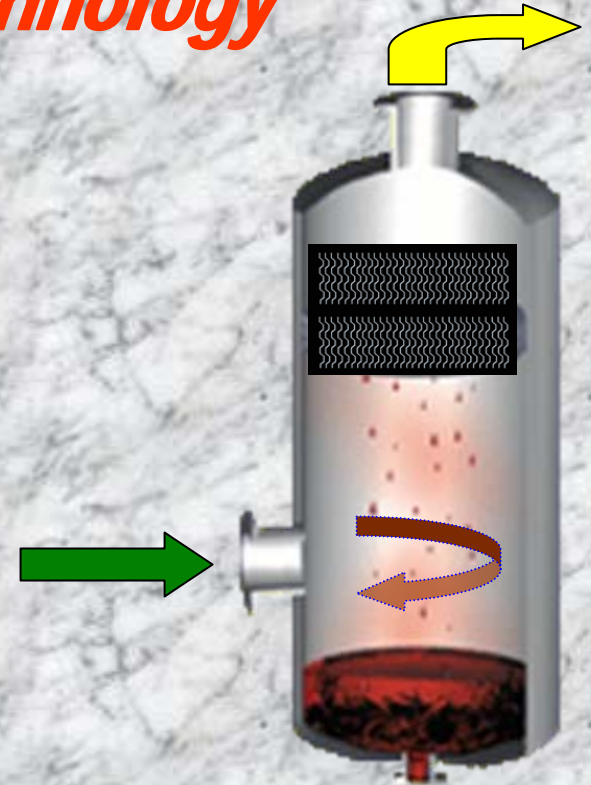
Vane

Impingement

Particle

Extraction

Reservoir



**Call and let us assist you with the most advanced Separation
Technology in the market today!**

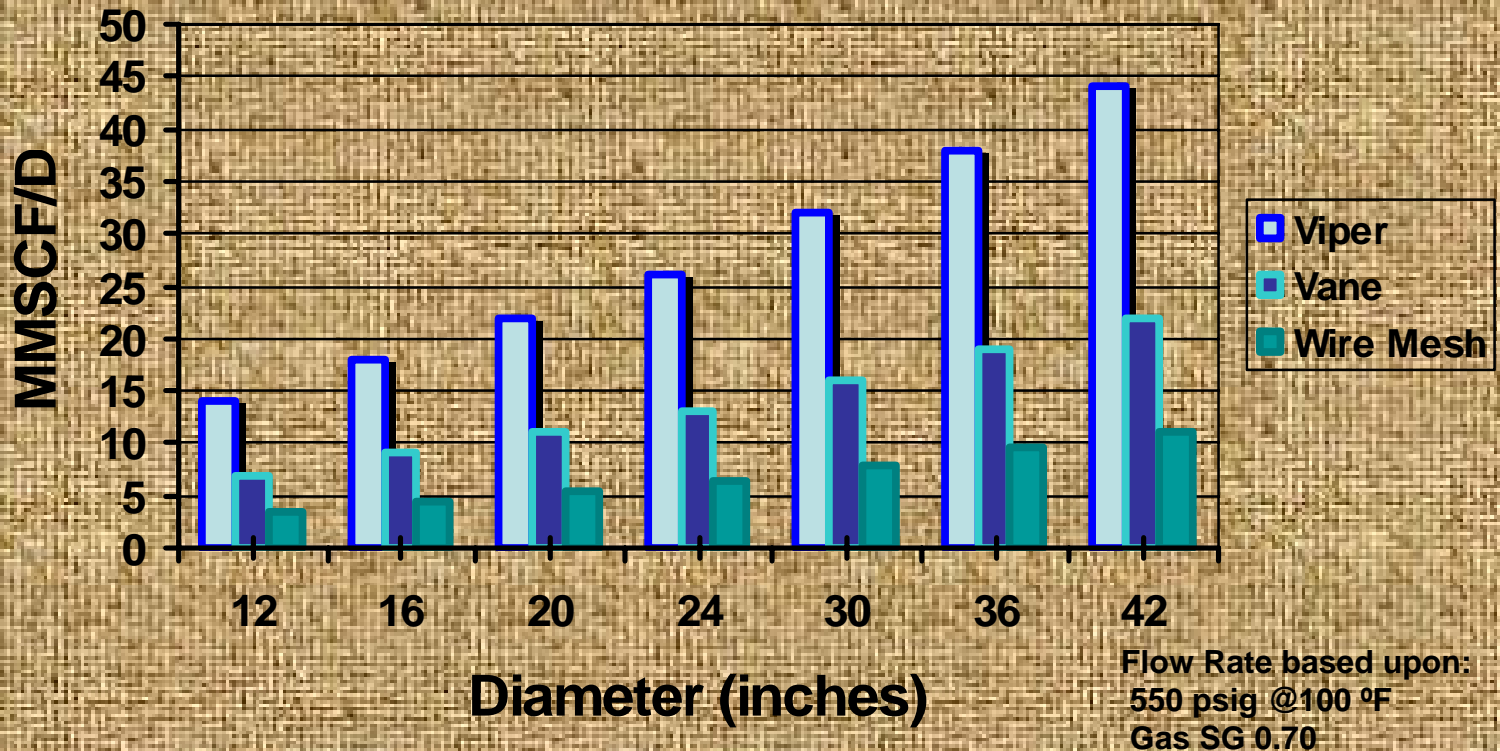
US Patent No. 6,770,121

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VIPER® PERFORMANCE COMPARISON VERTICAL VESSEL

Flow Rate versus Size OD



Information provided above is for graphical representation

Typical Applications of Viper® Separation Technology Challenger Process Systems Co.

Horizontal Separators

- High to medium gas/oil ratio streams
- Higher efficiencies
- Higher retention times for heavy oils
- Increased Natural Gas Flow Rates

Vertical Separators

- Better Solid handling capabilities
- Reduces foaming
- Smaller footprint
- Improved Slugging capacities

Suction/Discharge Scrubbers

- Reduced carryover
- Reduced salts
- Reduced soap content
- Higher efficiency of Free Water Removal

Other Applications

- Instrument Air Systems
- Compressor Scrubbers
- Sand Removal
- Test Separators

For other applications call Challenger Process Systems at 903-839-7291 or EMAIL at salescpsc@challengerps.com

Economic Advantages Viper® Separation Technology

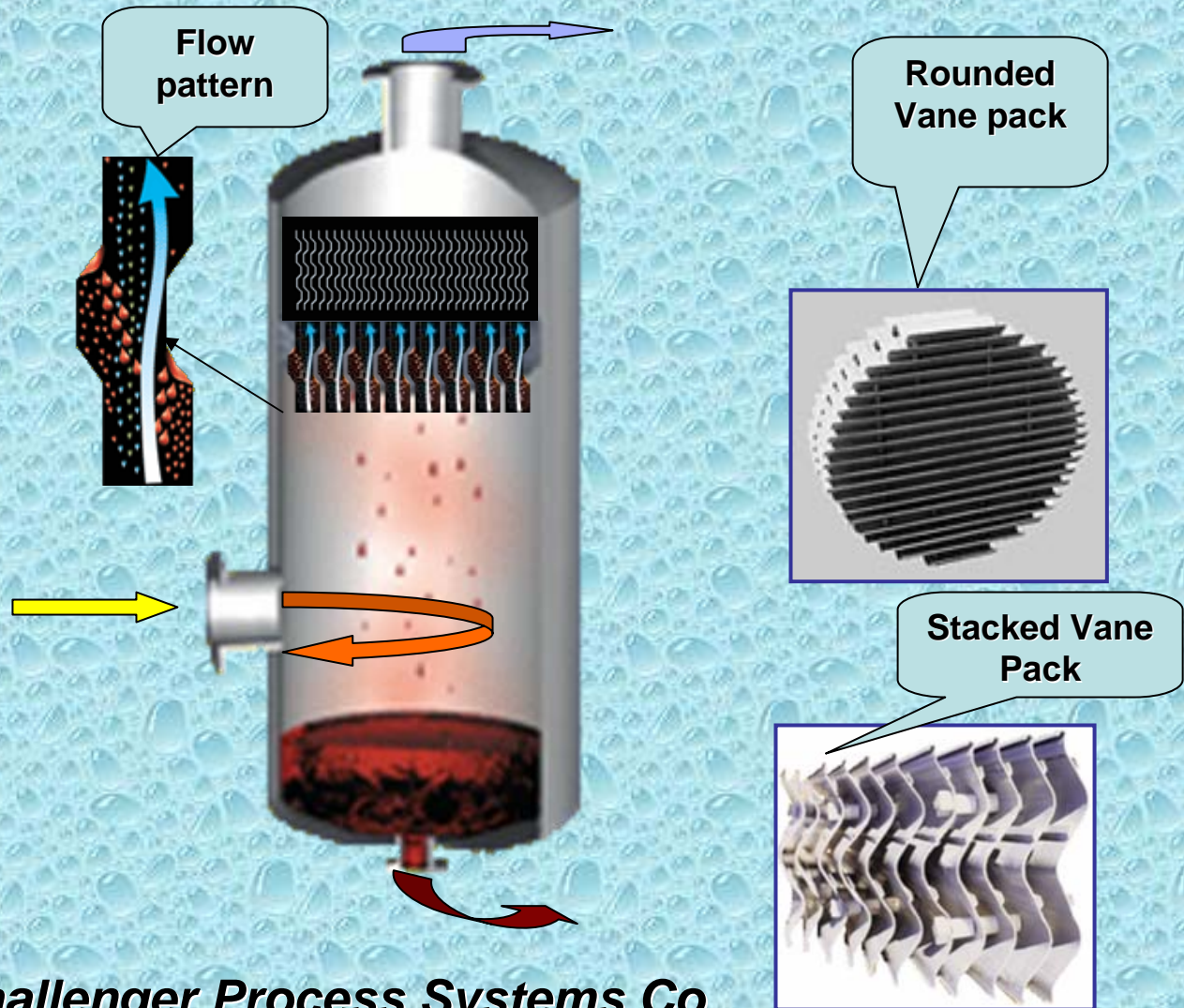
- ***Less equipment cost due to a smaller vessel size with the same or higher flow rate capacity!***
- ***Less tendency of Mist Extractor fouling due to produced solids!***
- ***Potential for Decreasing Chemical Usages!***
- ***Reduced compressor maintenance cost!***
- ***Less Pipeline Pigging!***
- ***Increased liquid removal at central battery collection points!***
- ***Reduced Flow Back span times!***
- ***Reduced Instrument Gas Freezing during cold weather periods!***
- ***Increased Turn down ratios due to declining well flow rates!***
- ***Proven Applications with over 300 installations***

**For Specific Applications, please contact CPSC representative at 903-839-7291 or
EMAIL at salescpsc@challengerps.com**

VIPER® Technology Principles

How does it Work?

- *Centrifugal Inlet Device, which is not dependent on Gas/Oil Mixture Ratios*
- *Patent Pending Vane Type Mist Extractor for improved efficiencies of liquid droplet removal at higher velocities*
- *Larger Particle size formation which can reduce retention for most liquid/liquid separation*



Challenger Process Systems Co.
Contact Us at 903-839-7291

Challenger Process Systems Co. Viper® Separation Typical Arrangements

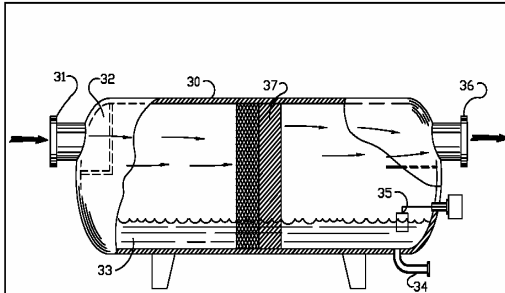


Fig. 4

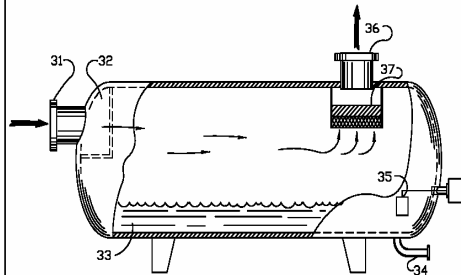


Fig. 5

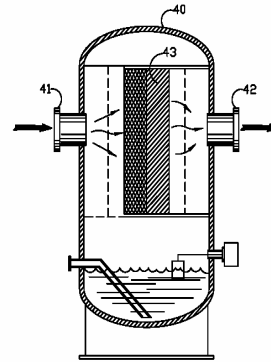


Fig. 6

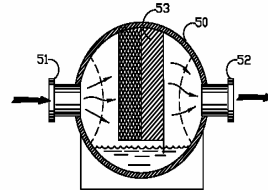


Fig. 7

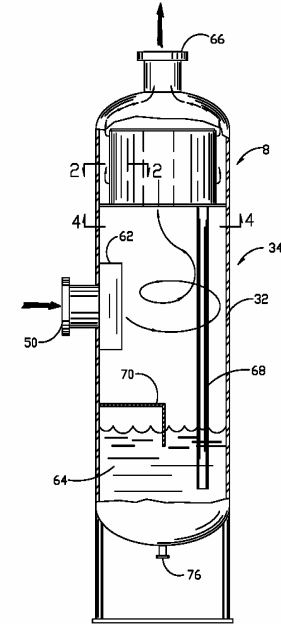


Fig. 10

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For Specific Application Request, call 903-839-7291 or
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