

- Cost Effective Retrofit Solutions
- CFD and R & D Laboratories
- Innovative Applications Engineers
- Field Testing - Pre & Post Retrofit
- Experienced Installation Technicians
- Global Manufacturing Sources

Peerless Retrofit Services

Effective removal of entrained particles and liquids from gas streams is a common problem found throughout the hydrocarbon processing industries. Peerless has faced these problems cost effectively since the 1930s. Some of today's entrainment problems are in existing separators. Process conditions change. Your original separator becomes a bottleneck. You have a choice. Must you replace your original separator with another or what?

Ask Peerless! Peerless has the know-how to effectively solve your toughest entrainment problems. We are the liquid/gas separation equipment pioneers. We are innovative developers of new separation internals and configurations to fix your malfunctioning separators. We understand your situation, apply the latest technology and know all the options. **Peerless has your answer!**

Engineering

Peerless applications engineers have seen thousands of separator problems and can create an economical Retrofit Solution to improve your separator's performance from their experience database. If your problem is unusual or if your Retrofit Solution requires custom-designed internals, we have state-of-the-art capabilities to solve your separator problem.



The Peerless Solution

The Retrofit Problem

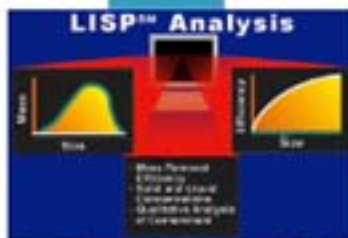
Typical

More

Complex

Pre-Retrofit Testing

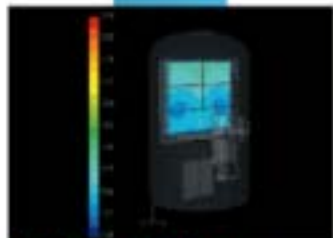
Customers Can Draw On Any Combination of Our In-house Capabilities to Assure Superior Solutions to Critical Applications



LISP™ Analysis
Pre-Retrofit, On-site LISP™
 If you cannot quantify your problem entrainment, Peerless' proprietary LISP in-line field sampling can:

- Collect uniform samples
- Measure particle and droplet sizes
- Determine actual size distribution profiles

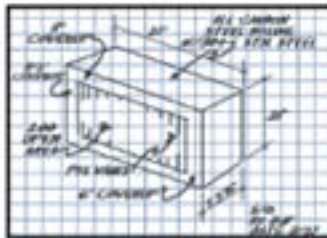
(Ask for Brochure #1002)



CFD Simulations
 Computational Fluid Dynamics (CFD)
 If your separator problem is critical or unique, Peerless' CFD studies can:

- Analyze your specific separator
- Evaluate retrofit options
- Confirm complex Retrofit Solutions

(Ask for Brochure #9908)



Customized Solutions
 Solutions are not limited to current products or traditional separation concepts. Adjacent shop facilities assures the availability of skilled fitter-welders to convert a design sketch into a prototype ready for lab testing.



Verification Testing
 If your Retrofit Solution requires a new internal design or a modified configuration, our onsite R&D lab proves its effectiveness and efficiency prior to final design and fabrication.

(Ask for Brochure #9908)

A Peerless retrofit is a cost effective solution to your separator problem. We save you time and money, restore lost performance and/or give you greater gas flow through your separator. We have done it many times. Our proven team oversees your complete retrofit from problem definition through installation giving you reliable high-performance Retrofit Solutions every time. **We guarantee it.**

Peerless has all the tools to keep your separators operating effectively and efficiently. Our extensive product line, superior research and technology capabilities, multiple fabrication shops, and installation and field-testing strengths set Peerless apart. The quality of our turnkey solutions makes the difference. Peerless know separators. You can count on us to keep your separators out of trouble.



Manufacturing

Our manufacturing facilities maintain a quick reaction capability. Retrofits are high priority jobs. We build internals correctly the first time and make the extra effort to keep your downtime to a minimum.



Installation

We oversee installation of your Retrofit Solution to ensure strict specification compliance and total quality. Our field technicians know separator internals and understand the value of a quick turnaround.



The Total Retrofit Advantage

Post-Retrofit Testing

Peerless Product Application Review

The Problem

A CO₂ Absorber Knockout Drum designed by a competitor, experienced excessive liquid carryover at only 75% of its design flow.

The Goal

Maximize the separator flow and efficiency; and eliminate excessive Amine loss.

The Analysis

CFD identified several problem areas within the separator which could be corrected to optimize performance without replacing the vessel (See center illustration on cover):

- Improper inlet baffle.
- High turbulence/velocity at liquid surface.
- High velocity flow regions within the double bank mist extractor.

The Solution

Our applications engineer designed replacement internals with the following changes (See illustration on cover):

- A redesigned inlet baffle for proper flow entry.
- A "quieting plate" to reduce liquid surface turbulence.
- A redesigned, single bank mist extractor with P8X Double Pocket Inertial Vanes.

The Benefits

Upon manufacturing completion, new internals were "24 Hour" shipped to the job-site where a Peerless technician supervised their installation. Benefits included:

- Quick project turnaround minimized production losses.
- Our cost effective Retrofit Solution did not require a new vessel.
- Original flow design capacity achieved without efficiency loss.
- Excessive Amine carryover was eliminated. Actual loss was > 0.1 gal/MMSCF of gas flow.
- Shorter payback due to Amine recovery and reduced downstream maintenance costs.



Post Retrofit Verification

Peerless separator specialists can assist you to commission your Retrofit Solution and to make separator post-retrofit performance evaluations. For critical process operations, Peerless can confirm and document a satisfactory Retrofit Solution and installation, using its LISP gas sampling method. (Ask for Brochure #100)

PEERLESS

The Total Retrofit Advantage

With your Peerless retrofit solution, you get The Total Retrofit Advantage. You get a complete retrofit package—single source responsibility. Our Retrofit Team controls your separator project from start to finish. You are back at optimum performance quickly. You reap the economic rewards. Your retrofit pays out fast. We have everything in-house to fill your most demanding separator needs.

Peerless Has the Products

Our separator product line is extensive and uses the entire spectrum of mist extraction and filtration techniques:

- Inertial
- Filtration
- Centrifugal
- Coalescing

All options are considered and you get exactly what you need, even if that means designing new internals.

Peerless Research & Technology

Peerless is continually developing and proving new element profiles, system designs and separation concepts to ensure optimum separator performance at the lowest possible cost to you. We have unmatched on-site sampling and measurement technology and proprietary separator-specific CFD expertise to apply toward unusual and unique problems. By knowing the actual droplet/particle distribution profile and knowing the causes of your problem, Peerless can design a Retrofit Solution to correct any difficulty. Peerless Research & Technology Services have doctoral level engineers to perform these tests and studies.

Peerless Has the Cost Effective Solution

Peerless' shop and installation personnel work closely together to assure that your Peerless Retrofit is executed smoothly. Years of experience, training and in-field exposure assure you that your project is completed as scheduled. The result is a smooth, timely, cost-effective retrofit.

PEERLESS

Around the World

WORLD HEADQUARTERS

Peerless Mfg. Co.
2819 Walnut Hill Lane
Dallas, Texas 75229
Phone: 214-357-6181
Fax: 214-351-0194
sales@peerlessmfg.com



Visit Our Website at www.peerlessmfg.com

EUROPE & MIDDLE EAST

Peerless Europe Limited
Bridge House, 18 Bridge Street
Halstead, Essex CO9 1HT England
Phone: 44-1787-478847
Fax: 44-1787-473918
enquiries@peerlesseurope.demon.co.uk

ASIA-PACIFIC

Peerless Mfg. Co. (Regional Office)
No. 35 Jalan Pemimpin, #07-02
Singapore 577176
Phone: 65-354-2306
Fax: 65-354-2297
peerlessmfg@pacific.net.sg

