

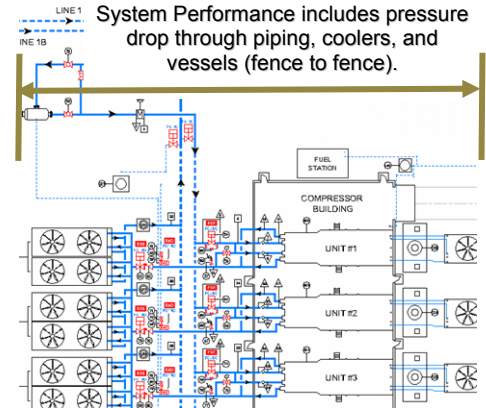
Compressor Design Optimization

An Engineering Service provided by BETA Machinery Analysis and ACI Services, Inc.

Evaluate the OVERALL PERFORMANCE – from Fence to Fence

Our **System Performance Model™ (SPM™)** Program

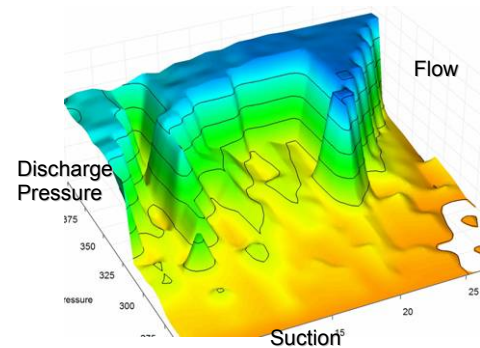
- ✓ Evaluates total (static + dynamic) pressure drop through vessels, coolers, pulsation bottles, piping, etc.
- ✓ Provides accurate flow, power, emissions, etc. (including total system losses)
- ✓ Verifies that your design meets the station specification
- ✓ Identifies areas of excessive losses
- ✓ Compares alternate designs
- ✓ Is a superior approach compared to the conventional design approach using “flange to flange” performance



Design Optimization should consider piping, vessels, pulsation control, and cooler pressure drop.

Assess the ENTIRE OPERATING MAP

- ✓ Identify the optimal capacity control design
- ✓ Pinpoint areas of UNSAFE operation
- ✓ Optimize pulsation control solution
- ✓ Check whether the unit meets ALL your operating requirements
- ✓ Import the performance model into your control system
- ✓ Optimize the design for the overall operating envelope



Because evaluating a limited number of conditions is NOT sufficient.

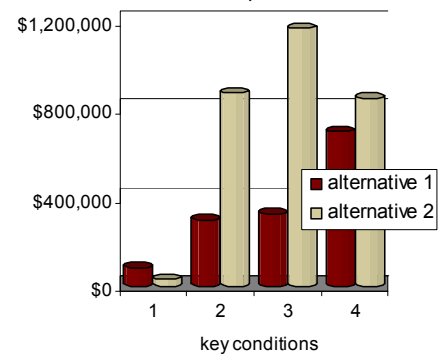
Achieve HIGHER PROFITABILITY and RELIABILITY

Our Compressor Design Service results in

- ✓ Higher flow and efficiency
- ✓ Better operating flexibility across the entire range of conditions
- ✓ Accurate predictions of required power, forces, rod load limits, pin reversal, temperatures, emissions, and other key parameters for all operating conditions, load steps and speeds
- ✓ Effective optimization approach saving time and money
- ✓ Improved control of the compressor

Save time, Increase Profits, and Improve Operations.

Incremental NET Profit Per Year
Alternatives Compared to Baseline



www.BetaMachinery.com

Contact us for free application advice.

www.ACIServicesInc.com



What Our Customers Say About the ACI/BETA System Performance Model™

“Valuable insights into the overall compressor design.”

“We needed this last year for a major project.”

“We are going to write this into our procurement specifications for new compression.”

“This is useful for both parts of our business” (Transmission and Gathering/Distribution);

- Faster returns in gathering/distribution (directly improve our revenue)
- Transmission: ability to meet contract and costs savings”

“This would work for new units as well as existing projects.”

What You Should Know About the ACI/BETA Partnership

Beta Machinery Analysis (BETA) and ACI Services, Inc. (ACI) have a long history of working together on both new and retrofit compression projects. They continue to explore new approaches to improve compressor reliability and performance. One result of this collaboration is the System Performance Model™ (SPM™) program and its use in new and retrofit projects.

BETA was established in 1967 and now enjoys a global leadership position in acoustical/vibration studies for reciprocating compressors. BETA has deep experience in compressor performance, troubleshooting, and reliability. **ACI**, in business since 1960, has unique expertise in evaluating and optimizing compressor performance and control solutions. As an industry leader in reciprocating compressor solutions, ACI also provides customized compressor cylinders, components, unloaders, eRCM™ software, reapplications, used equipment revitalization, and detailed engineering support for OEMs, packagers and owners.

With complementary expertise and engineering synergies, this team offers a unique service. The **improved results provide great value!**

What Was Missing Before the ACI/BETA System Performance Model™ Program

- Performance estimates based on accurate total pressure drop models (and not on assumptions)
- Understanding the financial and technical tradeoffs between different designs
- Assurances that the final design would meet the required specifications
- A process that allowed for effective optimization
- Accurate compressor control

Need More Information?

BETA and ACI have training and application documents to help explain the service in more detail, as well as applications staff, on hand, to answer your questions. We look forward to hearing from you.

