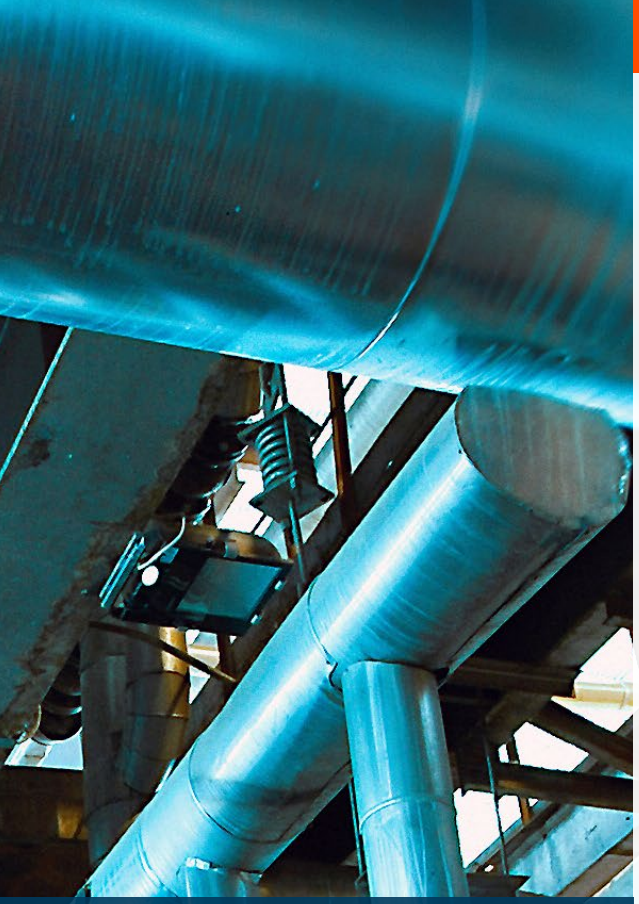


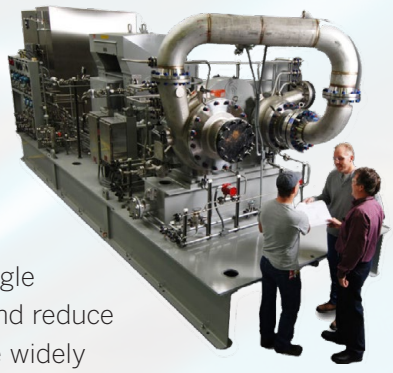
Sundyne

Sundyne customers have deployed thousands of compressors in plants around the globe – and many of these units have been running dutifully for decades.

Today, Sundyne offers multiple options for boosting compressor efficiency while also helping customers minimize energy costs.

Sundyne Options to Enhance Compressor Efficiency and Minimize Energy Costs

Sundyne API 617 / ISO 10439 Integrally Geared Multi-Stage Compressors



Sundyne LF 2000 multi-stage compressors are custom-built to provide vibration-free operation and to deliver oil-free process gas with zero emissions. Commonly referred to as a "Pinnacle," the LF 2000 features one-to-six stages of centrifugal compression on a single gearbox. Designed to save space and reduce energy costs, these workhorses are widely deployed in midstream, hydrocarbon processing and chemical manufacturing applications. Built to meet exacting API-617 / ISO 10439 standards, the LF 2000 will run continuously for 5 to 7 years without costly maintenance or an overhaul.

Sundyne BMC Integrally Geared Centrifugal Process Gas Compressors

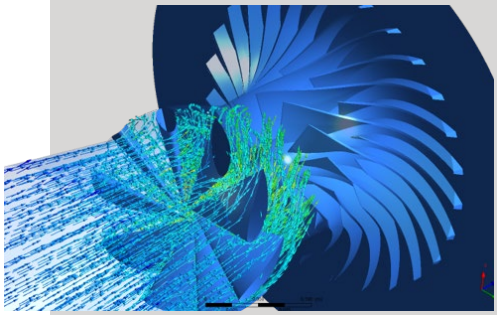
Built to API-617 standards, the Sundyne BMC (Base Mounted Compressor) product line features horizontal single-stage integrally geared centrifugal designs that process engineers utilize for midstream, hydrocarbon processing and chemical manufacturing applications. These horizontally-configured compressors are ideal for skid packaging, due to their unique modular baseplate and are designed to run continuously for 5 years without costly maintenance.

Sundyne Integrally Geared Single-Stage Compressors

Sundyne LMC (Line Mounted Compressors) are designed to minimize the footprint within a facility and provide easy and simple maintenance. Featuring a single-stage, integrally geared, centrifugal design, the LMC is ideal for mole sieve dehydration, regeneration of demethanizer, waste gas, hydrogen recycle and specialty chemicals.

Variable Inlet Guide Vanes Pre-Rotate the Process Gas, Delivering Power Savings of 15% or more

Sundyne centrifugal compressors are built to run for decades. Thousands of units that were deployed in the 1990s are still running in refineries & petrochemical plants around the globe. Longevity is a function of design and maintenance – but even the best equipment can use an upgrade – especially in today's CAPEX-averse environment, where plant operators need to get the most out of their equipment.

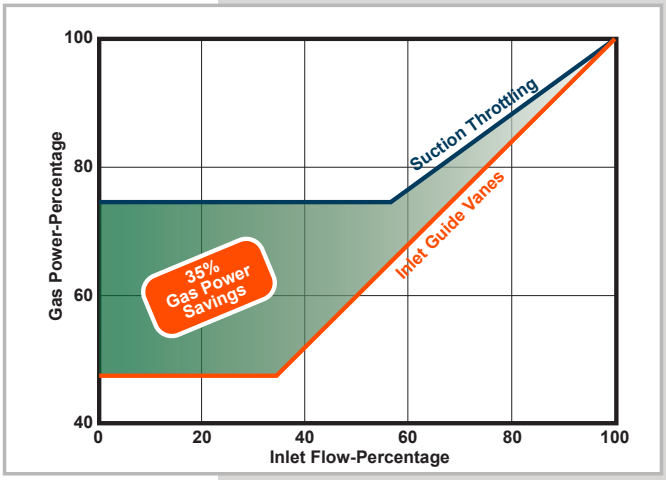


One simple upgrade that can boost efficiency and reduce energy costs is the addition of **Inlet Guide Vanes (IGVs)** to legacy centrifugal compressors. IGVs are a series of blades arranged at the inlet of a compressor that "pre-swirl" gas flow entering the impeller, which increases turndown while reducing the amount of work needed from the main driver.

IGVs are especially helpful when process conditions change. When plants operate at lower capacities, the reduced throughput alters the velocity vectors of the gas passing through the impeller. The same is true when a lower ΔP is required. The IGV optimizes the compressor work and reduces power consumption versus a throttling or bypass method.

Today, IGVs are standard on new equipment – but given the 20-30 year lifespan of Sundyne centrifugal compressors, there are thousands of machines operating today that could use this simple upgrade. IGV installations can be done in a single day. The IGV assembly replaces the inlet flange, using the same bolting, the same interface, and the installation does not require any piping modification.

Energy costs make up > 70% of a compressor's total costs, over its lifespan. IGVs and new High Efficiency Impellers reduce these costs. Contact Sundyne to learn how.



Within the last few months, dozens of plants have added IGVs to their compressors. When combined with regular maintenance this IGV upgrade has enabled each plant to **enhance turndown by up to 30-percent, and achieve an average of 10-percent power savings, for less than 7-percent the cost of a new machine.**

IGVs also minimize stress on the entire system, which helps to extend the mean time between maintenance intervals.

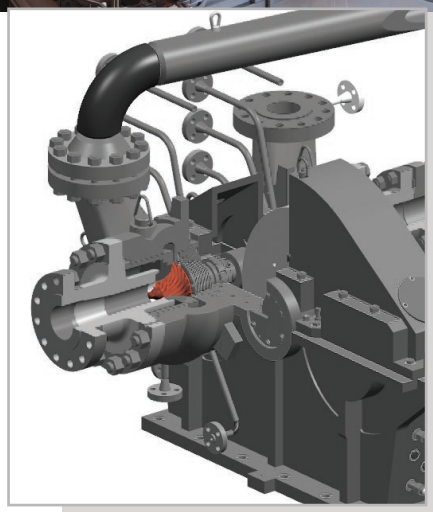
Sundyne's New High Efficiency Impeller Enables Plants to Increase Output at the Same Cost, or Produce the Same Flow with Less Power

Electricity costs have steadily risen (more than 15%) over the last 10 years, which has increased the power costs for compressors. Over the life span of a compressor, more than 70% of the total costs come from energy consumption.

High Efficiency Impeller:

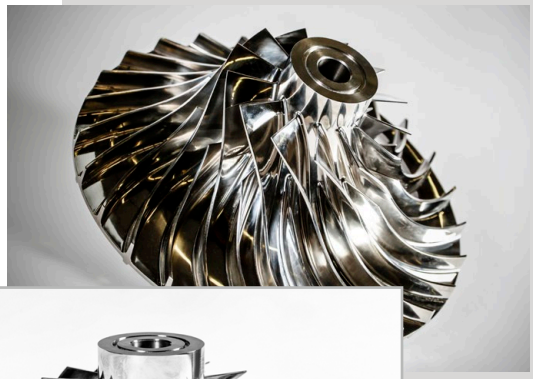
Recent design improvements to Sundyne's compressor impellers give new units the ability to produce the same amount of flow utilizing less power than previous designs.

These new high efficiency impellers can be retro-fitted onto existing compressors, enabling BMC, LMC and LF compressors that have been deployed in the field for decades **to improve their efficiency by up to 20%.**



This simple upgrade can be done in a matter of days, during a standard turnaround. It does not require teams of workers, welding or concrete work – and the upgrade does not require modifying piping configurations.

Scheduling a compressor audit, and bringing the Sundyne service team onsite to install the new high-efficiency impellers provides additional benefits, such as staff training for other equipment throughout the plant.



The bottom line is that this simple upgrade will not only lower energy costs, but it also minimizes stress on the entire compressor, which helps to extend the mean time between maintenance intervals.

To learn more contact Sundyne today at 1-866-Sundyne

Sundyne Field Services Help to Keep Operational Costs Low:

Sundyne's uncompromising reliability is not just a function of superior design. It's also delivered by high-touch services at commissioning, through planned turnarounds, and at every step of the way to ensure reliable day-to-day operation for years.

All it Takes to Enhance Efficiency and Reduce Power Costs – is a Single Phone Call, to Schedule a Sundyne Compressor Audit today!

Sundyne's Field Services are provided on-site, by factory-certified engineers. They are designed to get compressors up-and-running quickly, and keep them running effortlessly. Services include:

- **Commissioning** of new units – ensures successful start-up.
- **Troubleshooting** and site surveys – if process conditions change or unforeseen factors cause problems, Sundyne's field engineers can inspect equipment, determine the root cause, and implement corrective actions immediately.
- **Service agreements** – include scheduled inspections, gearbox oil analysis, vibration data analysis, and consultations on operational optimization.
- **Conversion programs** – can be brought onsite to add IGVs and to install high efficiency impellers.
- **SundSCHOOL** On-site maintenance & operator training – Sundyne offers its popular factory-based training class remotely – bringing maintenance & operations theory, plus hands on disassembly/assembly practice to any customer location (in English, Spanish or French).

Genuine Sundyne Parts

Sundyne's precise manufacturing practices are critical for the performance of Sundyne compressors. Even the smallest variance can generate inefficiencies. Using non-OEM components increases the risk of equipment failure and potential loss of warranty. But these risks are easily avoided through Sundyne Genuine Parts, which are precisely machined using advanced metallurgies and custom engineering processes. Sundyne's exact tolerances are backed by decades of testing & development. Avoiding replicator or pirated parts in Sundyne machines by standardizing on genuine Sundyne parts, significantly increases the mean time between maintenance intervals and ensures the performance and reliability that customers need to keep their operations running efficiently.

To learn how our extended service offerings can improve the efficiency of your Compressors and help you save on power costs, visit www.sundyne.com or contact us toll free at 1-866-SUNDYNE.

Sundyne

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