Power Generation

STC-GV
Siemens integrally geared centrifugal turbocompressors

Advanced technology
The design principle of integrally geared centrifugal turbo compressors was established, implemented and patented by Siemens more than 50 years ago. Since then, this concept has continuously undergone further development. This evolution has caused the STC-GV series to become very popular for applications in process engineering.

Powerful, robust and reliable
The STC-GV integrally geared centrifugal compressors feature a multi-shaft arrangement with different speeds around a central bull gear. This forms a compact unit for the multi-stage compression of a wide range of gases.

Excellent performance
Integrally geared centrifugal compressors offer the following advantages:

- High efficiency due to different shaft speeds, modern impellers, tailored aerodynamics and optimized auxiliaries
- Wide operating range and outstanding part-load efficiency due to adjustable guide vane units at the first or at all compression stages
- Multi-service capability and various application options due to a finely-graded system of proven standard components

Package and driver options
A package design is available for most STC-GV compressor sizes. The package includes the compressor, driver, process gas coolers, lube oil console, process piping and all tubing and wiring. The package design significantly reduces on-site installation time. These compressor types also are suitable for direct turbine drive.

The single-stage version of the series.
Technical performance data

- Volume flow rates up to 480,000 m³/h (280,000 cfm)
- Discharge pressure up to 100 bar (1,450 psi)
- Gearbox ratings up to 45,000 kW (60,000 hp)

Single-stage compressor:

- Discharge temperature up to 300 °C (572 °F)
- Compression ratios up to 3, depending on the gas analysis

Fields of application

- Air separation
- Synthetic fibers
- Ammonia
- Ethylene oxide
- Hydrocarbons
- Refineries
- Petrochemicals
- Metal making
- and others

![Chart showing application range STC-GV](chart.png)

The chart shows the application range of the STC-GV turbo compressor with four-pinion technology. The x-axis represents suction pressure range, while the y-axis shows discharge pressure range. The lines indicate the different stages of the compressor. Actual suction flow rate values are marked along the axes. The chart also highlights atmospheric conditions and high pressure applications.

Seven-stage integrally geared turbo compressor with four-pinion technology.