



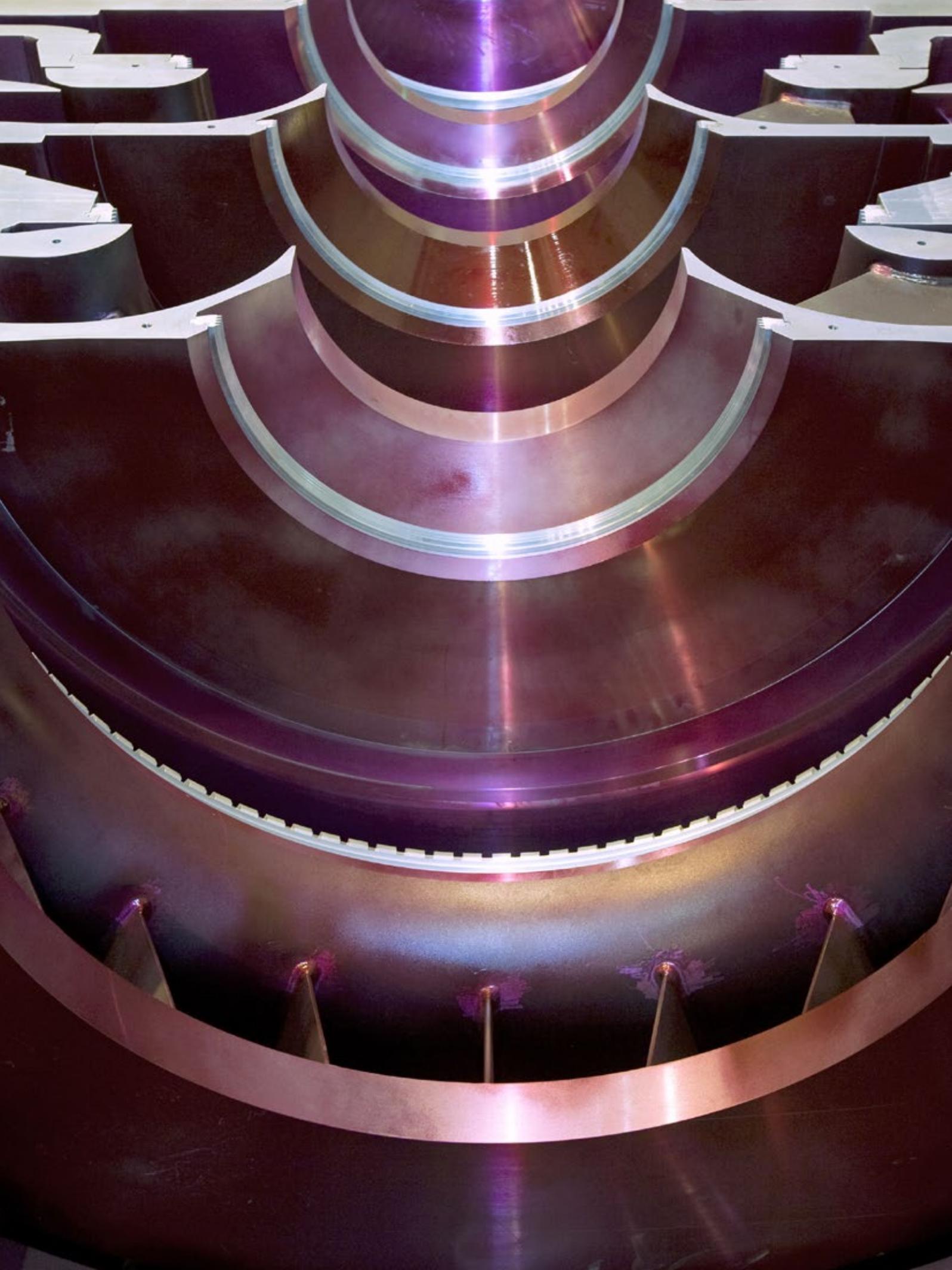
SIEMENS

Compressor STC-SH

Robust and dependable

Single Shaft, Horizontally split casing

[siemens.com/compressors](https://www.siemens.com/compressors)



Robust and dependable

Siemens single shaft centrifugal compressors with horizontally split casings in the STC-SH series can be used for the majority of process applications. Appropriate for process requirements such as medium pressures and large volume flows, the STC-SH is the preferred compressor for e.g. cracked gas, coker gas, process air or refrigerant duties.

Designed in accordance with API 617, this product line corresponds with all technical requirements imposed by the market.

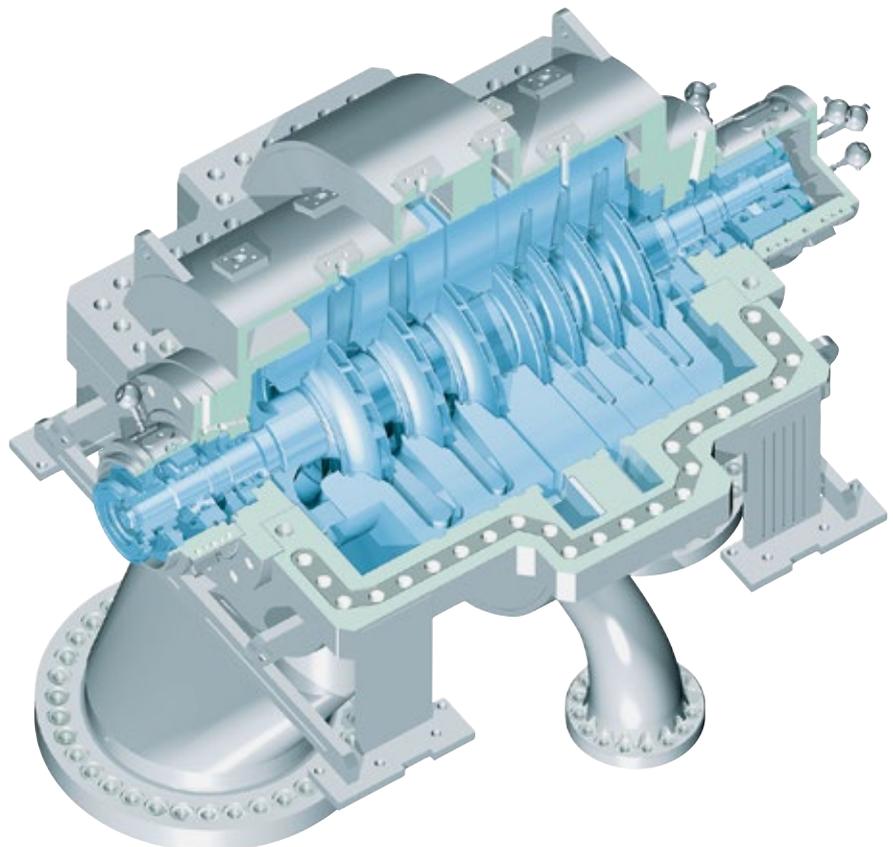
With the integration of Siemens Turbo-machinery Equipment, the STC-SH series was extended and now even covers chlorine applications.

Highlights

- The perfect match for most process applications, especially for toxic and inflammable gases, contaminated gases and low temperature services
- Flexible design concept combines custom-tailored design with standardized components for maximum reliability
- Easy access to compressor internals

Fields of Applications

- Petrochemicals
- Olefins
- Refineries
 - Wet gas
 - Coker gas
- Fertilizers
- General chemicals
 - Dry chlorine gas
- On-/Offshore Oil & Gas, such as:
 - Boil Off Gas (BOG)
 - End Flash Gas (EFG)
 - Sour Gas (gas gathering, gas/oil separation)
 - Liquefied Natural Gas (LNG)



Design Concept STC-SH

Flexible adaptation

The design concept of STC-SH compressors is very flexible, allowing easy adaptation to the requirements of specific process applications (e.g. process feed or extraction flows, fluid injection, oil or water injection).

Casings may be of fabricated or cast design depending on the duty applied, (e. g. low temperature). Stator parts (e.g. return vanes) are 100 percent machined, thus ensuring high aerodynamic predictability. The horizontally split casing permits easy access to all compressor internals by simply removing the upper half of the casing.

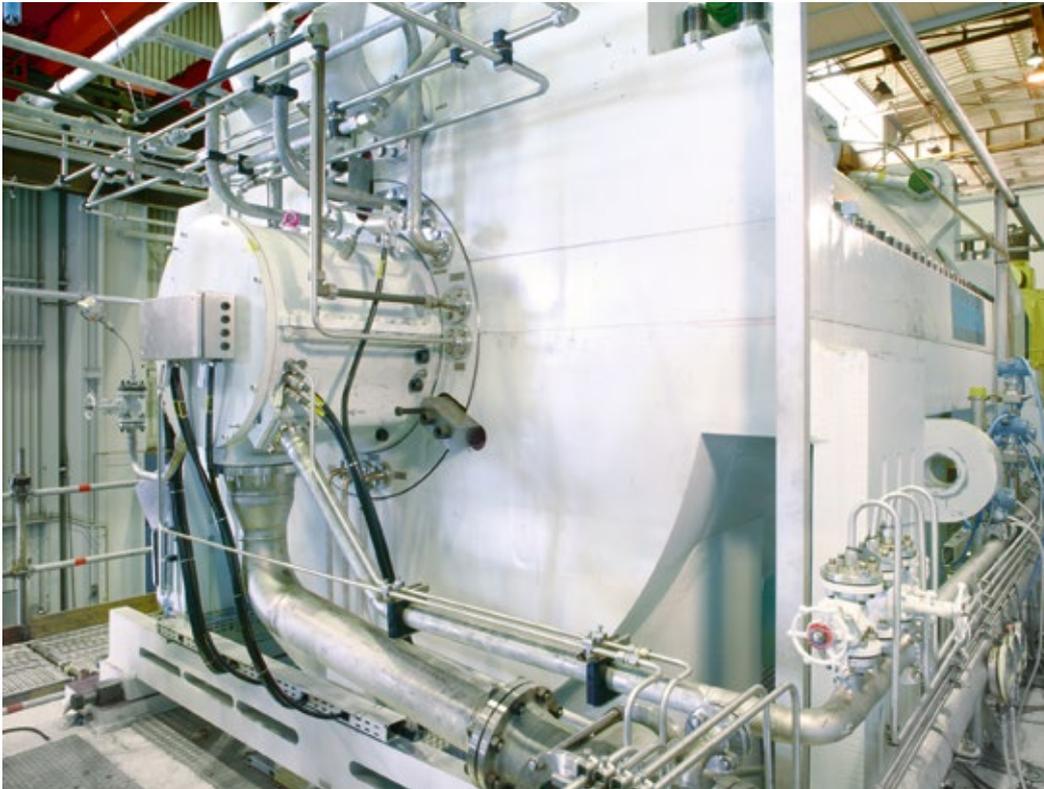
These centrifugal compressors can be equipped with up to ten impellers, divided into up to four process stages per casing. Designs include straight through, double-flow and back-to-back configurations. A well-proven, fully parametric aerodynamic design, based on comprehensive in-house

research and development, allows for the perfect matching of compressor performance and rotor dynamics for any application. Compressors of the STC-SH series are project-specifically designed to meet individual customer needs.

Besides conventional oil-lubricated tilting pad bearings, active magnetic bearings can be used, allowing 100 percent oil-free operation of compression trains in combination with electric motors, which also have magnetic bearings.

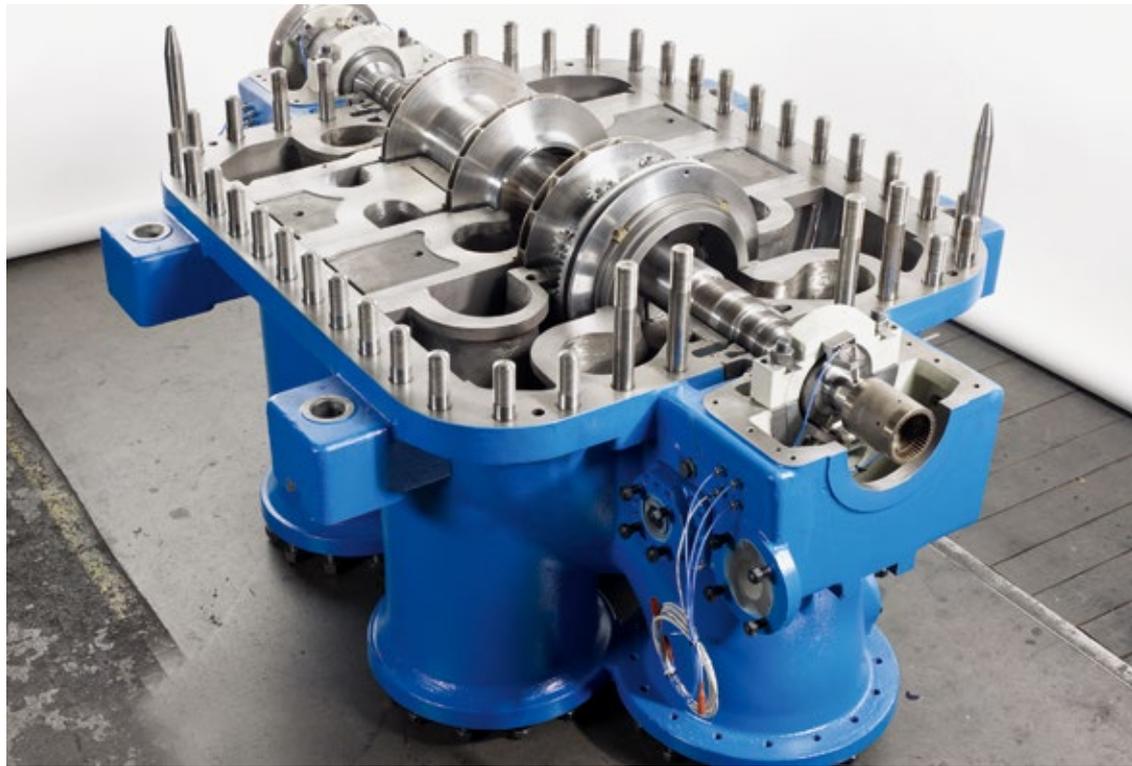
Designed to handle dry chlorine

A special design was developed to compress dry chlorine gas up to 12.5 bar. This machine type with two up to four stages comprises a three-chamber labyrinth shaft sealing, intercoolers, a separate oil system, variable inlet guide vanes and gear (skid mounted with compressor). Typically, STC-SH for dry chlorine is driven by an electric motor.



Steam turbine-driven propylene compressor with piping and auxiliaries

Horizontally split casing
with assembled rotor.



Highlights

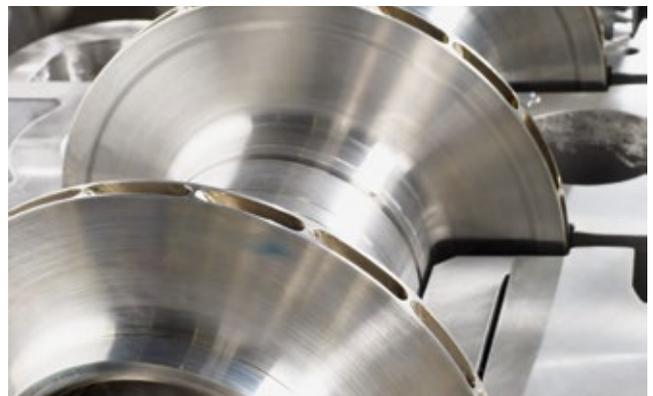
- The first stages of all casing sections can be equipped with adjustable inlet guide vanes (IGV) allowing additional throughput and optimum turndown with maintained high efficiency, even for cold gas applications such as boil off gas.
- Dry gas seals are preferred shaft end seal solution, whether in single, double or in tandem arrangement
- Up to four process stages with up to ten impellers
- Intercooling and sidestreams
- Easy access to internals
- 100 percent machined stator parts
- Active magnetic bearings as a referenced option

Control Systems

Perfect protection and process control via flexible Siemens control systems:

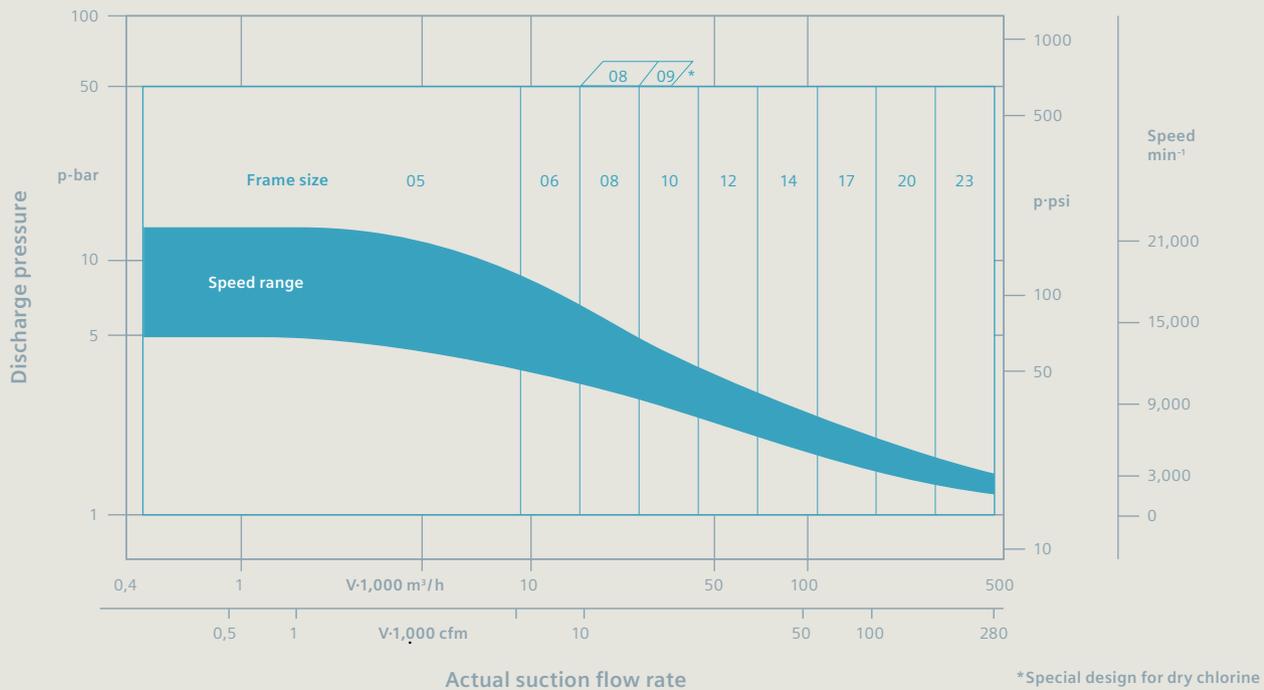
- Anti-surge protection
- Performance controllers acting on mass flow, suction- or discharge-pressure

- Controlled by either throttling, bypass operation, adjustable guide vanes or speed variation, thus operation with all available drive systems, i.e. electric motors, steam and gas turbines
- Fully- or semi-automatic start-up- and shutdown sequences exactly matched to your process demands
- Certified safety systems available
- Local and remote control
- Load-sharing controller for parallel trains



Rotor of an STC-SH for dry chlorine gas.

Application range STC-SH



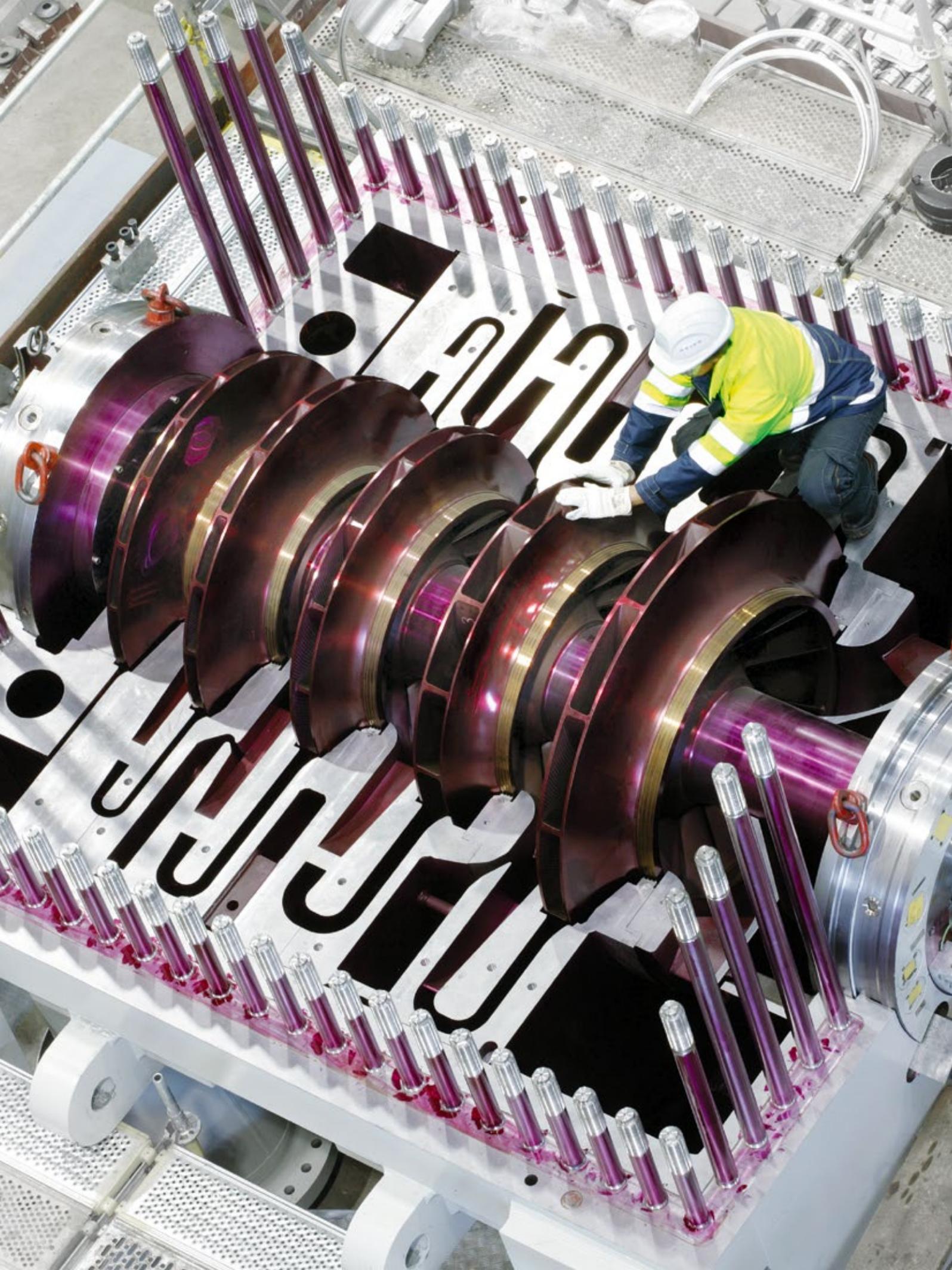
Technical Data STC-SH

- Impeller diameters 225 – 1,900 mm
- Volume flows from 250 to 600,000 m³/h (147 to 353,000 cfm)
- Discharge pressure for oxygen and inert gas up to 100 bar (1,450 psi)
- Discharge pressure for hydrocarbon gases up to 50 bar (725 psi)
- Discharge pressure for chlorine gases up to 12.5 bar (181 psi)
- Speed up to 20,000 rpm
- Driver: Depending on process and energy resources – Steam turbine, gas turbine or electric motor

Benefits

Based on flexible design and reliable technology, Siemens STC-SH compressors optimize your process compression business. The benefits of this product line are:

- Compression of a comprehensive range of process gases
- The tailor-made solution for individual customer specifications
- Robust and dependable compressor design
- Easy maintenance



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