



Efficient, dependable and off the shelf

Pre-engineered gas-turbine driven pipeline compressor packages

Answers for energy.

SIEMENS





Siemens Pipeline Compressor Packages

Siemens Pipeline Compressor Packages are pre-engineered gas turbine compressor packages for pipeline applications. These combine our standard ranges of Siemens Gas Turbines (SGT™) and Siemens Turbocompressors (STC™) optimized to provide you with the best technical and cost efficient solution for your transmission and distribution needs. The compressors cover a flow range of 5,000 – 38,000 actual m³/hr (3,000 – 22,500 ACFM) with pressure ratios up to 2.0.

Gas turbines with powers up to 13 MW (ISO) offer the best efficiency in their class with Siemens world beating dry low emissions or standard combustion systems.

Siemens Pipeline Compressor Packages come with a range of pre-engineered standard options to meet customerspecific requirements.

Benefits

- Single-source responsibility
- Cost efficient solutions
- Short lead-times
- Available documentation
 - Package drawings
 - Foundation details
 - P&ID's
 - Torsional and lateral critical speed report
- Proven technology
- Condition monitoring by electronic data exchange
- On-condition maintenance
- In-field serviceability
- Long-term service agreements

Siemens Pipeline Compressor Packages are available in three sizes based upon the SGT-100, SGT-200 and the SGT-400 gas turbines.

Compressors are matched to the gas conditions and the gas turbine speed to provide optimum performance.

Selections can be focused on customer-specific requirements such as maximum efficiency or maximum range or other operating parameters.



001

General description

Gas Turbines

Air Compressor

- Multi-stage axial flow

Combustion

- Reverse flow tubular combustion chambers
- Conventional or dry low emissions (DLE) combustion system
- High-energy ignition

Turbines

- 1- or 2-stage overhung air-cooled compressor turbine
- 2-stage high-efficiency free power turbine with interlocking blades for mechanical integrity
- Cast stators either segmental or complete rings

Fuel System

- Natural gas
- Optional dual fuel

Bearings

- Both rotors have tilting pad journal and thrust bearings

Starting

- Via the auxiliary gearbox mounted at the inlet end
- Variable-speed AC motor for SGT-100 and SGT-200
- E-driven hydraulic turbine starter system for SGT-400
- Option for air/gas motor

Compressors

Casing

- Forged steel barrel type
- Common casing for 1- or 2-stage rotor
- Horizontally opposed inlet and discharge nozzles (can be left- or right-handed)
- Two end heads with shear ring

Rotor

- Solid forged steel shaft
- Shrunk on 3-D type impellers

Stator

- Forged diaphragms
- Fabricated inlet guide vane
- Cast discharge volute

Bearings

- Tilting pad journal and thrust bearings

Seals

- Tandem dry gas seals

Coupling

- Dry metallic element flexible coupling
- Non-sparking (brass) coupling guard

Package

Lubrication

- Common mineral oil system for gas turbine and compressor
- Reservoir integral with the gas turbine baseplate

Controls

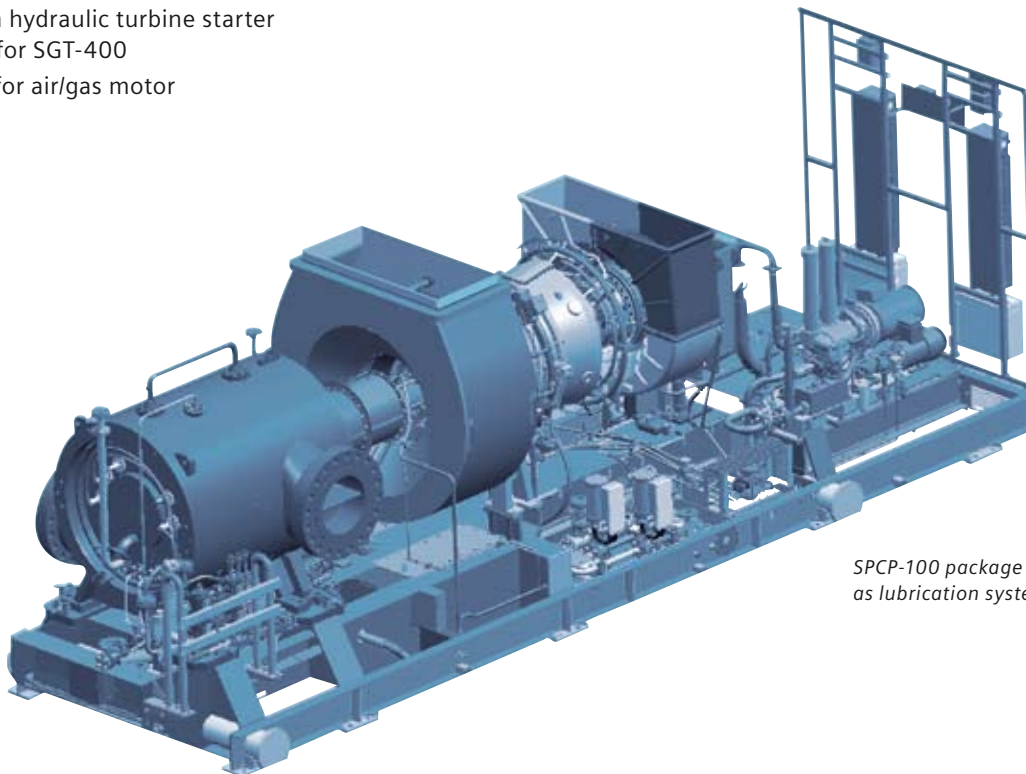
- Fully integrated PLC-based compressor and gas turbine control system
- Anti-surge control
- Process and vent valve sequencing
- Governing
- Vibration and axial position monitoring
- Temperature monitoring
- Load sharing on multi-engine sites (option)

Enclosure

- Indoor enclosure (option)
- Outdoor enclosure (option)

Customer Support

- Global support network
- Customer support managers
- Round-the-clock specialist helpdesk
- Remote monitoring and troubleshooting via Electronic Data Exchange Network (EDEN) system
- Diagnostic support from worldwide service centers



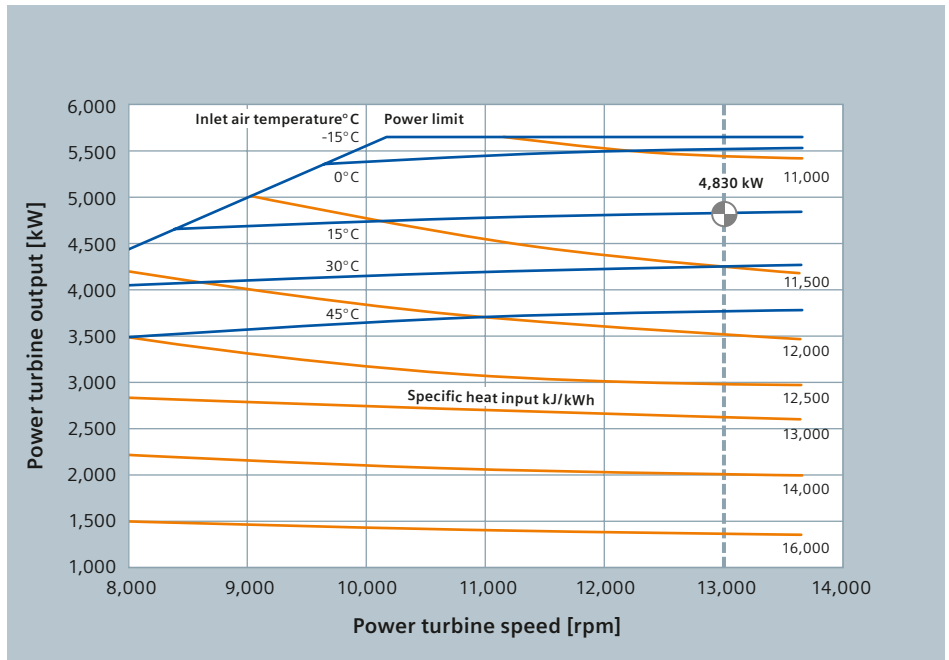
SPCP-100 package including auxiliaries such as lubrication system and seal gas system.

SPCP-100

The package is designed for the application of a standardized STC-SV type compressor matching the SGT-100 gas turbine. Aerodynamic parts are tailor-made design in order to get highest efficiency and the best operating range for the customer-specific application.

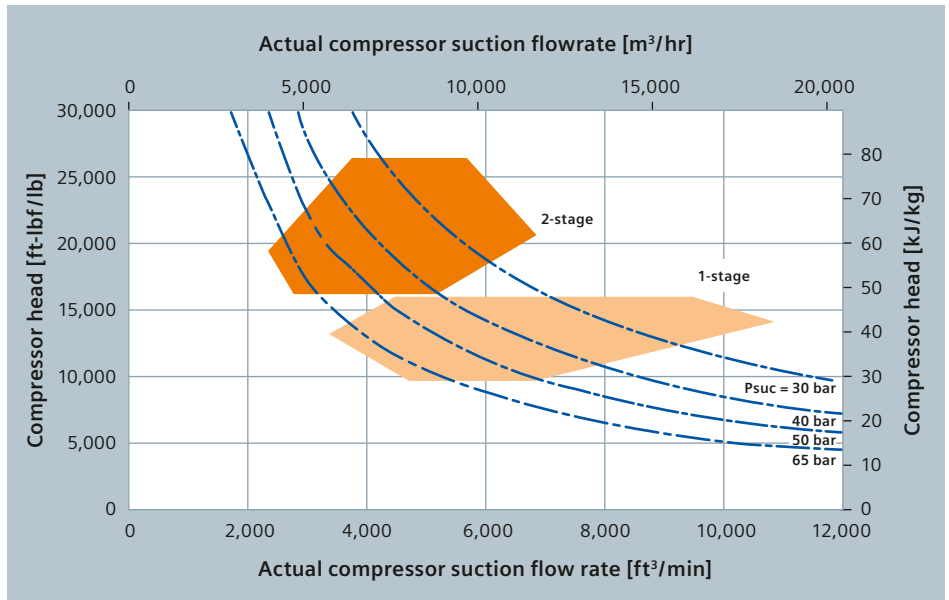
Main characteristics:

- ISO power 4.92 MW (6,600 bhp)
- Nominal speed 13,000 rpm
- Max. compressor casing pressure 110 bar g (1,595 psig)
- Nozzle sizes 20 inch – class 900



The SGT-100 performance curve shows the gas turbine power as a function of the ambient temperature and speed with a 100 mm H₂O inlet loss and 75 mm H₂O exhaust loss.

Overall dimensions		SPCP-100
Length	mm	9,224
	inches	363.15
Width	mm	2,650
	inches	104.3
Height	mm	2,818
	inches	111
Weight	kg	40,000
	lbs	88,200
Baseplate design		Single baseplate under compressor and gas turbine



The STC pipeline compressor selection chart shows the compressor head versus the suction inlet flow. Two different application areas for the individual design points are shown.

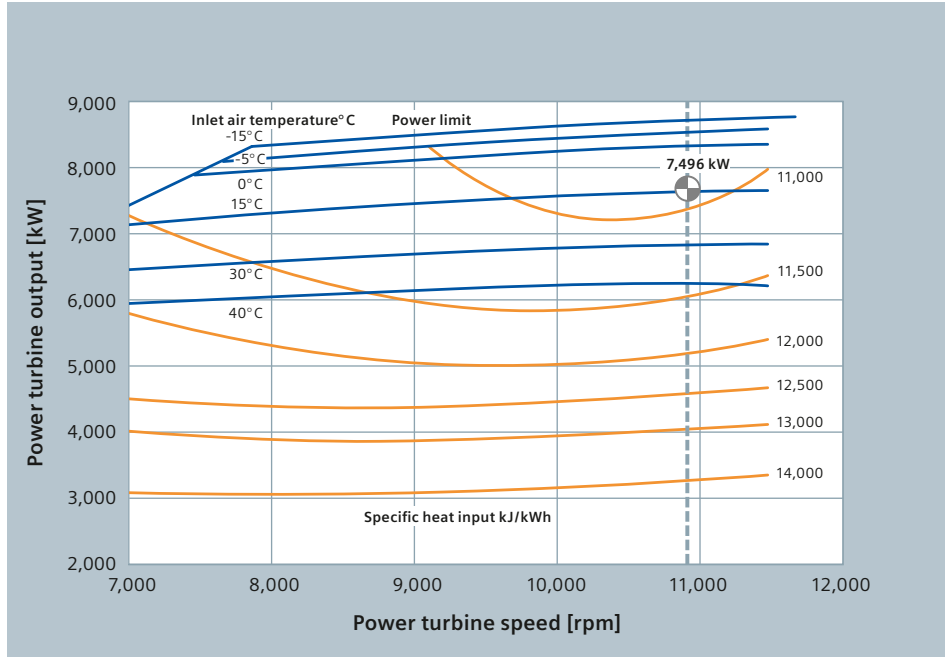


SPCP-200

The package is designed for the application of a standardized STC-SV type compressor matching the SGT-200 gas turbine. Aerodynamic parts are tailor-made design in order to get highest efficiency and the best operating range for the customer-specific application.

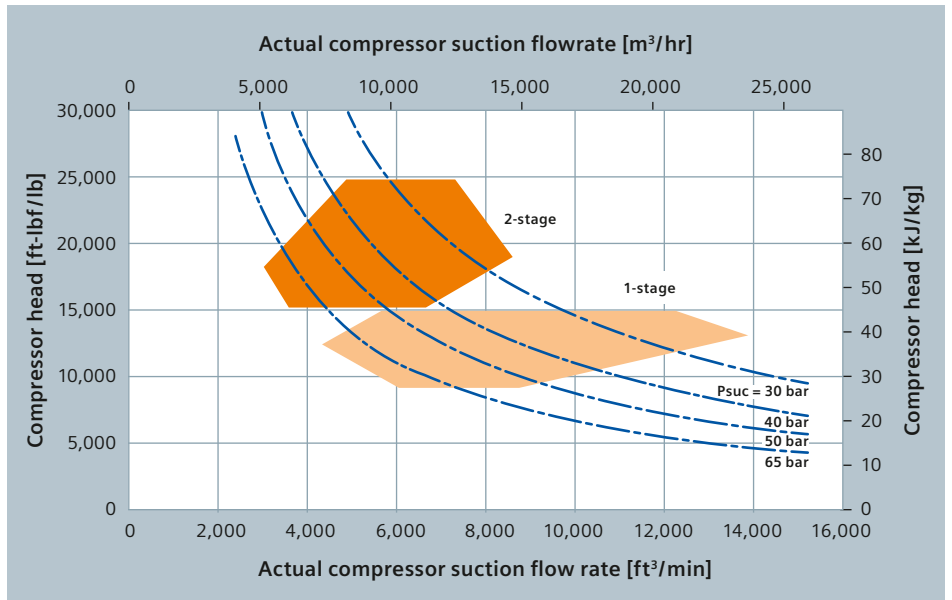
Main characteristics:

- ISO power 7.68 MW (10,300 bhp)
- Nominal speed 10,950 rpm
- Max. compressor casing pressure 110 bar g (1,595 psig)
- Nozzle sizes 24 inch – class 900



The SGT-200 performance curve shows the gas turbine power as a function of the ambient emperature and speed with a 100 mm H₂O inlet loss and 75 mm H₂O exhaust loss.

Overall dimensions		SPCP-200
Length	mm inches	10,715 421.85
Width	mm inches	2,650 104.3
Height	mm inches	3,010 118.5
Weight	kg lbs	53,900 118,850
Baseplate design		Single baseplate under compressor and gas turbine



The STC pipeline compressor selection chart shows the compressor head versus the suction inlet flow. Two different application areas for the individual design points are shown.

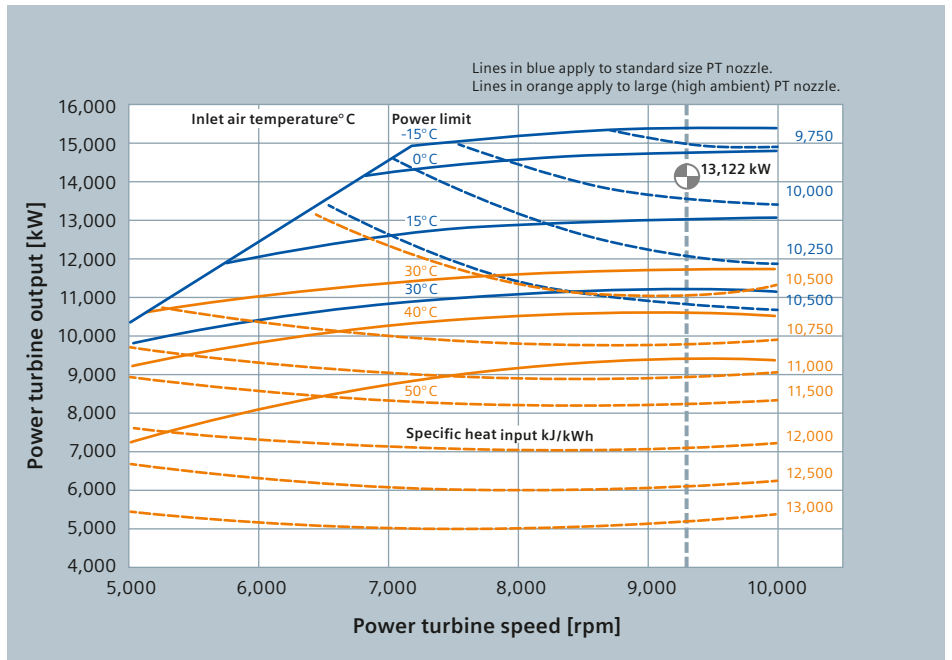


SPCP-400

The package is designed for the application of a standardized STC-SV type compressor matching the SGT-400 gas turbine. Aerodynamic parts are tailor-made design in order to get highest efficiency and the best operating range for the customer-specific application.

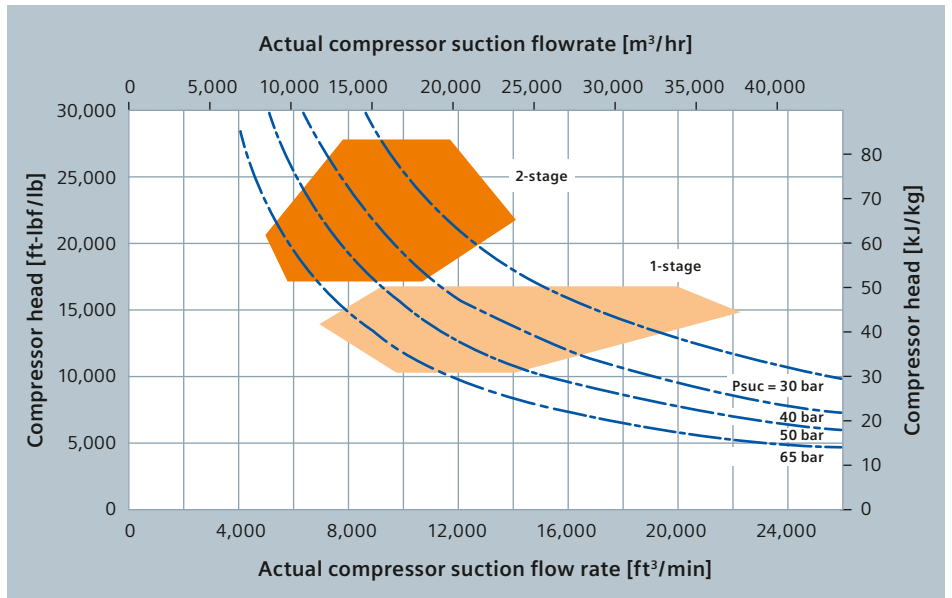
Main characteristics:

- ISO power 13.4 MW (18,000 bhp)
- Nominal speed 9,500 rpm
- Max. compressor casing pressure 125 bar g (1,812 psig)
- Nozzle sizes 30 inch – class 900



The SGT-400 performance curve shows the gas turbine power as a function of the ambient temperature and speed with a 100 mm H₂O inlet loss and 75 mm H₂O exhaust loss.

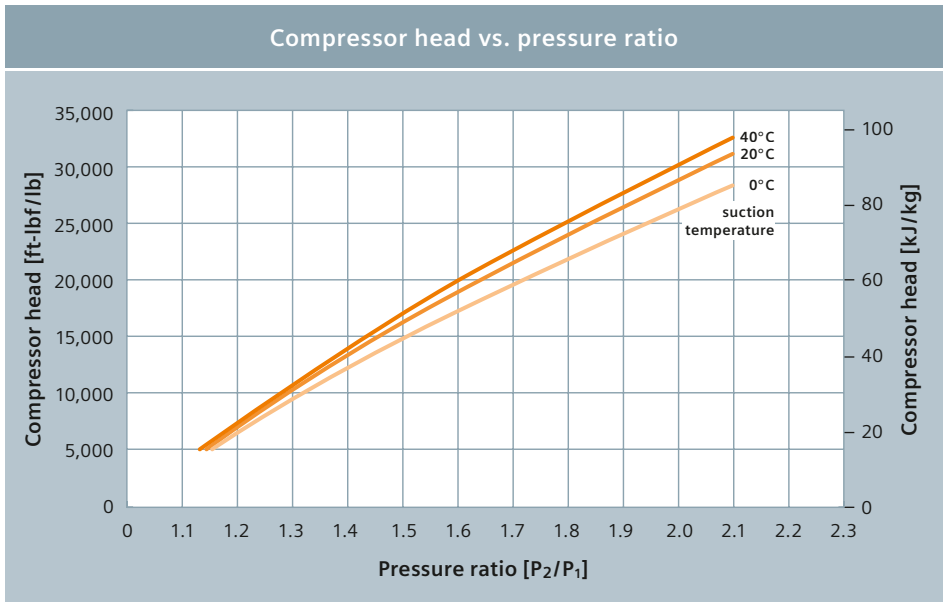
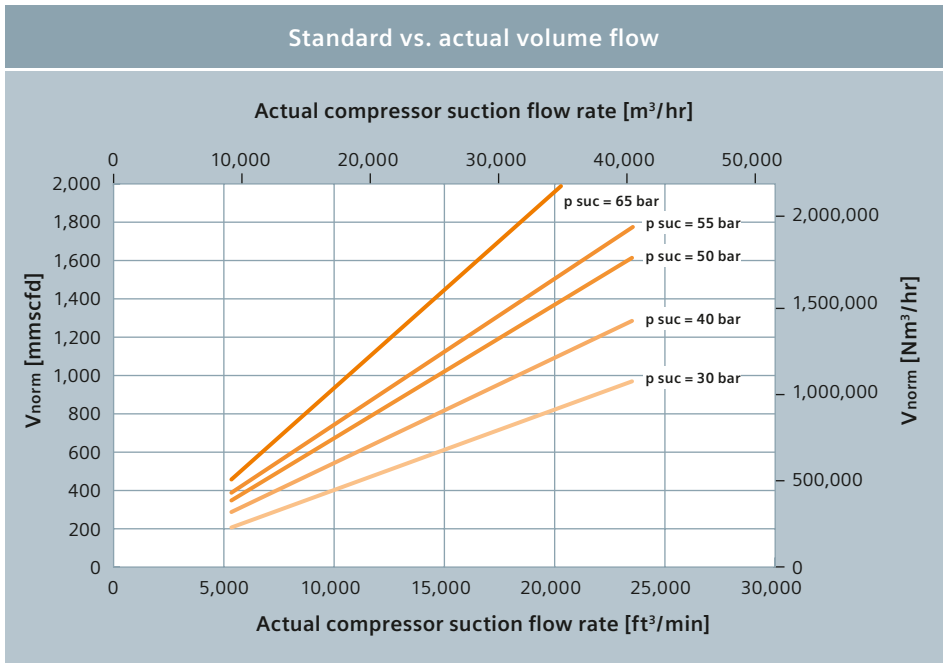
Overall dimensions		SPCP-400
Length	mm	10,787
	inches	424.7
Width	mm	2,750
	inches	108.3
Height	mm	3,448
	inches	135.75
Weight	kg	72,800
	lbs	160,525
Baseplate design		Separate baseplates under compressor and gas turbine



The STC pipeline compressor selection chart shows the compressor head versus the suction inlet flow. Two different application areas for the individual design points are shown.



Conversion charts



The two diagrams allow an approximation of the "Actual Compressor Suction Flow Rate" and the "Compressor Head" required for the selection charts shown for the individual packages.



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