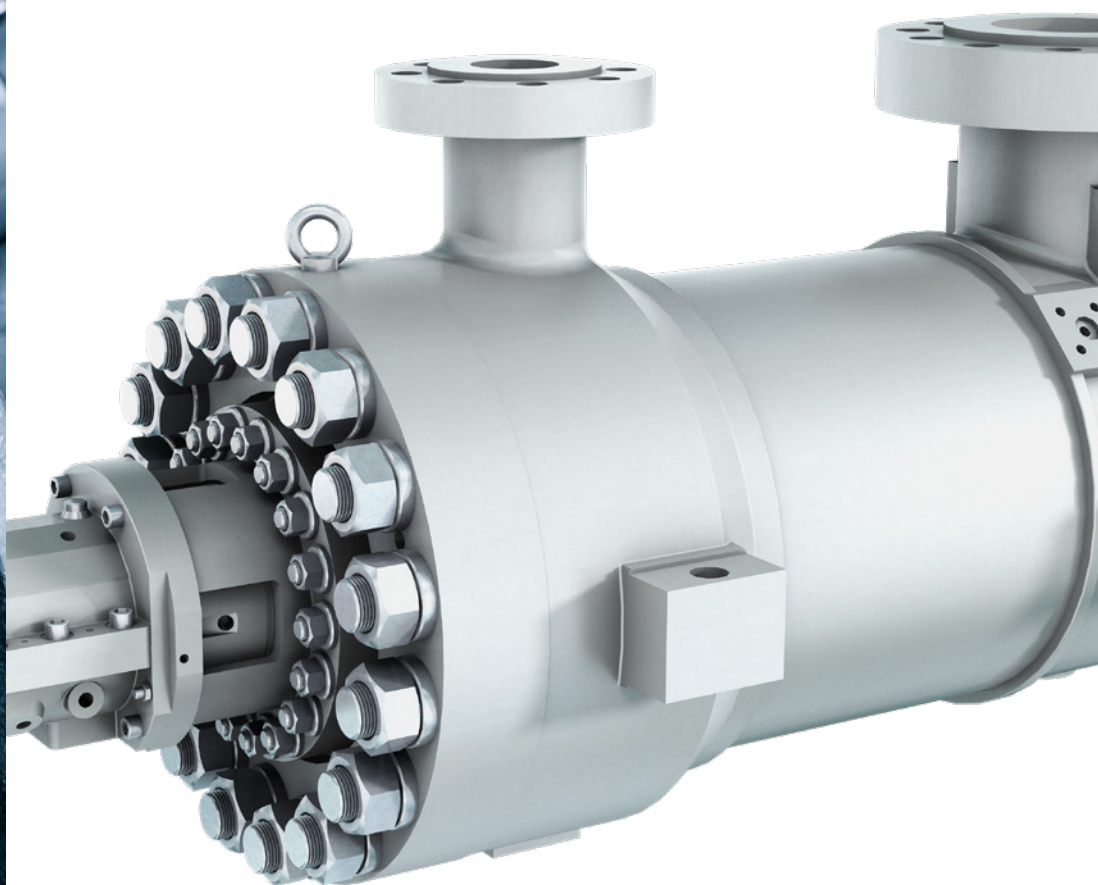


SULZER

Pumps and pumping systems

API 610 type BB5 GSG diffuser style barrel pump



Main industries and applications

The GSG is a BB5 type pump built to the latest edition of API 610. Thousands of Sulzer GSG pumps are installed around the world in:

- Refineries
- Petrochemical plants
- Gas processing plants
- Hydraulic Power Recovery Turbine (HPRT)
- Water injection services
- Crude oil, refined product and LPG pipeline services
- Industrial power plants



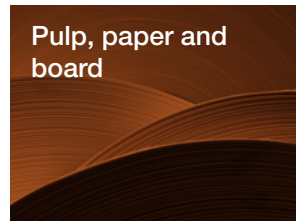
Oil and gas



Hydrocarbon processing



Power generation



Pulp, paper and board



General industry



Chemical process industry



Water and wastewater



Features and benefits

GSG inline

High head per stage balanced radial loads

- Diffuser design allows replacement/upgrade of individual stage pieces vs. entire inner volute

Compact inline design

- Available in low, medium and high-pressure configurations
- Short bearing span and minimized foundation footprint

Cartridge design on all but smallest sizes

- Allows bundle to be removed without major disassembly which saves time

Dynamically balanced rotor

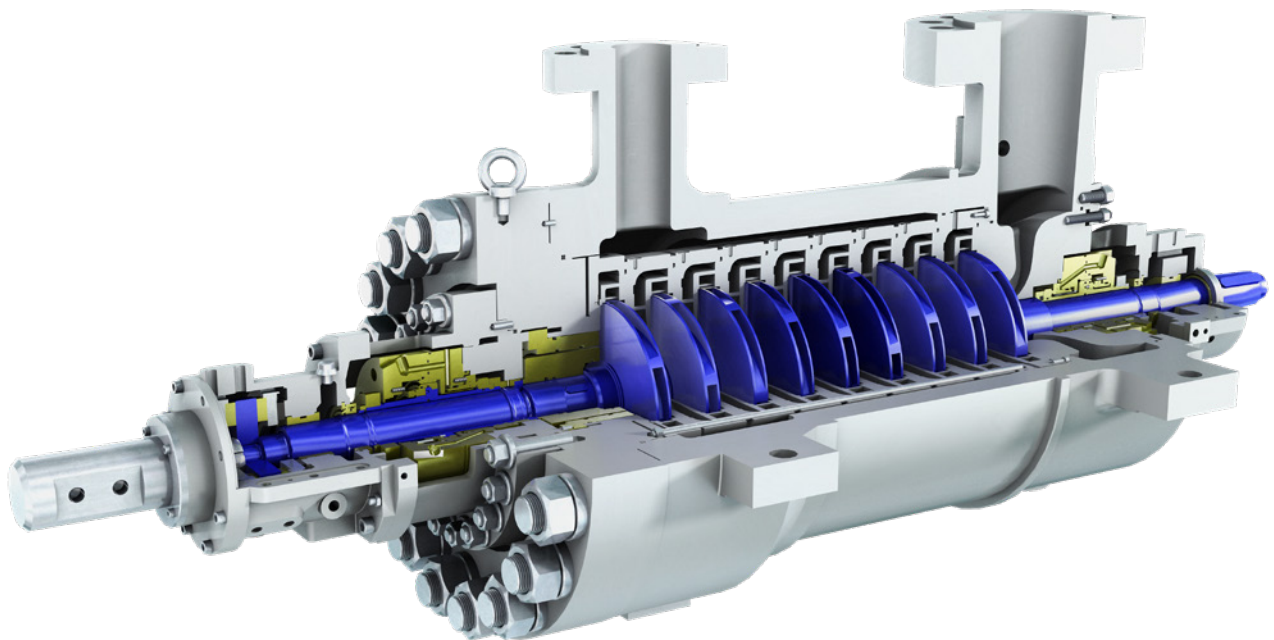
- For smooth and reliable operation

Multiple bearing types

- Ball radial and 7300 series ball thrust bearings are standard
- Pressure lubricated sleeve/pivot shoe bearings are optional
- Bearing isolators are standard

Suction region of pump rated for discharge pressure

- API 610 12th edition ready



Features and benefits

GSG low flow

Low flow, high head design

- 10-35 m³/h, up to 1'800 m head
- Barske type impeller and precision machined diffuser ensure correct performance

API 610 compliant BB5 pump

- Full API 610 11th & 12th edition design

Reduced maintenance compared to high speed OH6 design

- No gearbox required, pump operates at 2-pole, 50 Hz (3'000 rpm) or 60 Hz (3'600 rpm) motor speed

Suction performance

- Standard is <11'000 Nss suction impeller avoiding high values associated with OH6 design
- Optional inducer option to meet clients site limitations

Suction regions of pump rated for discharge pressure

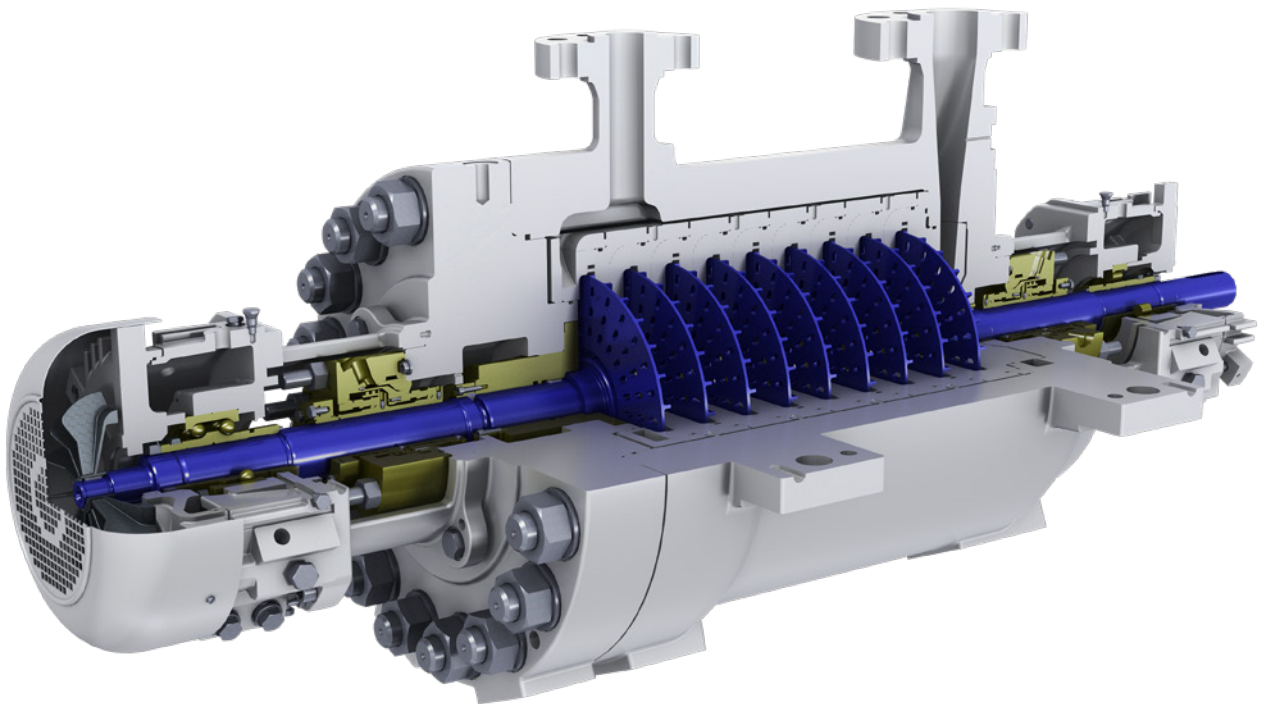
- API 610 12th edition ready

Individually retained impellers

- Impellers axially retained in both directions as standard

Shared GSG pump components to minimize spare parts holding

- Reduces manufacturing and spare part inventory



Features and benefits

GSG back to back

Back-to-back rotor design for high head applications

- Provides enhanced rotor support and balanced axial loads even in worn condition

High pressure casing

- Cast or forged barrel case, optional side-side, side-top nozzles on forged barrel

Barrel closure

- Patented Twistlock cover for fast cartridge changeout on offshore water injection services
- Bolted cover design available for hazardous services

Multiple bearing types

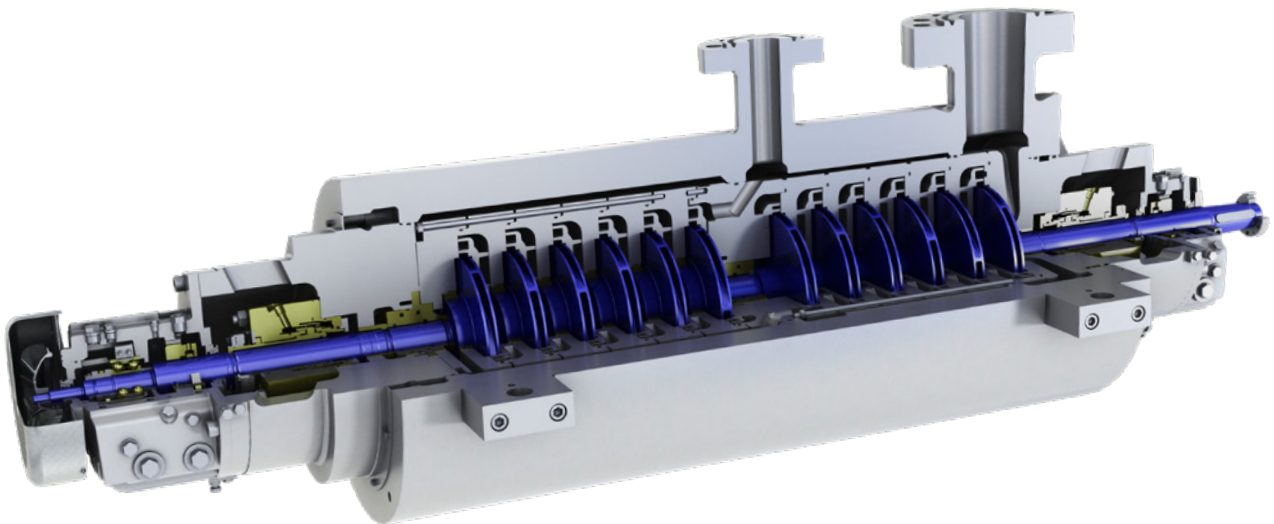
- Various bearing configurations including; rolling element, sleeve/ball and sleeve/pivot shoe

Swirl brake

- Sulzer proprietary swirl brake technology used ensures stable rotodynamic even on light gravity liquids

Full cartridge design

- Allows bundle to be removed without major disassembly which saves time



Specifications

Material options

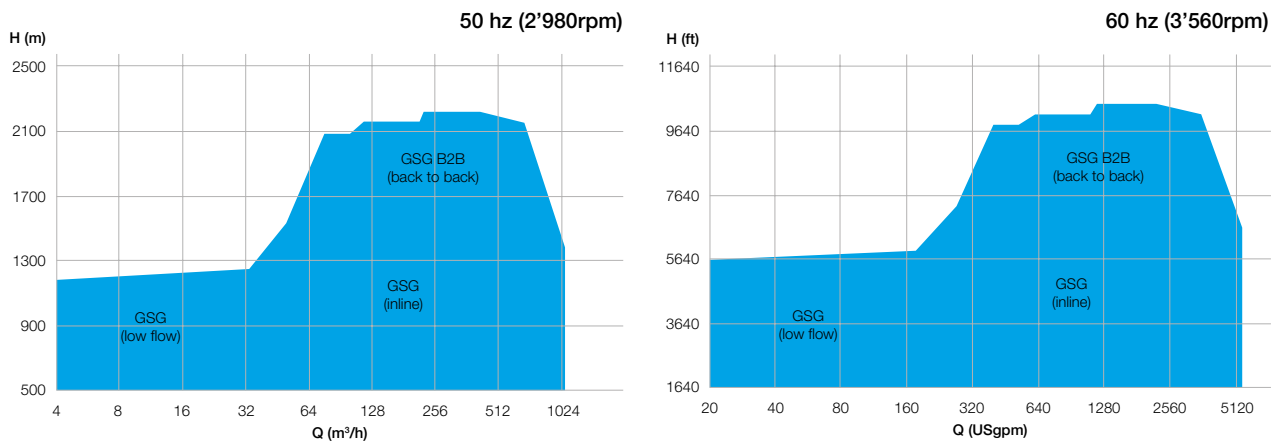
- API 610 S-6, S-8, C-6, A-8, D-1, D-2
- Low temperature materials and sour service materials for compliance with NACE
- Non-metallic wear parts (PEEK and Graphalloy™) allowing operation with, low product gravity, low viscosity or low lubricity
- Other materials and special alloys available on request

Operating data

	Metric units	US units
Pump size	40 to 200 mm	1.5 to 8 in.
Capacities	up to 900 m ³ /h	up to 4'600 USgpm
Heads	up to 2'600 m	up to 10'000 ft.
Pressures	up to 300 bar	up to 4'500 psi
Temperatures	-50 to 425°C	-45 to 800°F

Higher performance available in Sulzer engineered API 610 type BB5 products, CP and HPcp (up to 1'000 bar)

Performance range



We keep your processes flowing

Wherever fluids are treated, pumped, or mixed, we deliver highly innovative and reliable solutions for the most demanding applications.

Our offer

The Flow division specializes in pumping solutions specifically engineered for the processes of our customers. We provide pumps, agitators, compressors, grinders, screens and filters developed through intensive research and development in fluid dynamics and advanced materials. We are a market leader in pumping solutions for water, oil and gas, power, chemicals and most industrial segments.



Pumps

As one of the world's leading pump manufacturers, Sulzer provides a wide range of products for engineered, configured, and standard pumping solutions as well as essential auxiliary equipment. We are renowned for our state-of-the-art products, performance reliability and efficient solutions.



Agitators and dynamic mixers

Sulzer mixing and agitation technology offers a wide range of products for industrial applications. Side-mounted horizontal and top-mounted vertical agitators, dynamic chemical mixers, and tower and tank flow management products guarantee effective mixing and agitating processes.



Compressors and aeration

Sulzer's state of the art offering for municipal and industrial wastewater treatment includes turbocompressors, aeration systems and mechanical aerators. Our application and process know-how combined with our unique product portfolio give us the means to provide customers with reliable and efficient solutions.



Submersible mixers

Sulzer's energy efficient submersible mixers are suitable for a wide range of applications in industry and municipal treatment plants. They provide the right solution to match mixing tasks for agitating, blending, mixing, dissolving and suspension of solids in industry and municipal treatment plants.

The Sulzer Flow division keeps your processes flowing. Wherever fluids are treated, pumped, or mixed, we deliver highly innovative and reliable solutions for the most demanding applications.

The Flow division specializes in pumping solutions specifically engineered for the processes of our customers. We provide pumps, agitators, compressors, grinders, screens and filters developed through intensive research and development in fluid dynamics and advanced materials. We are a market leader in pumping solutions for water, oil and gas, power, chemicals and most industrial segments.

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