

MULTISTAGE, VERTICAL CAN PUMPS

GSTV
GLKV

IN STANDARD DESIGN AND ALSO
ACCORDING TO API 610 / TYPE VS6



- Modern type series with best hydraulic values and well-balanced performance field
- Very good NPSH values
- High reliability in operation and low operating cost
- Modular design allows best adaptation to customer requirements

APOLO
Pumps | Pumping Systems

Range of Applications

Based on very good hydraulic characteristics, the perfectly matching performance field, the modular design and low NPSH values, as well as a modern structural design, the pumps are suitable for applications such as:

- pumping condensate in power stations and industrial plants
- applications in the oil and gas industry
- applications in refineries

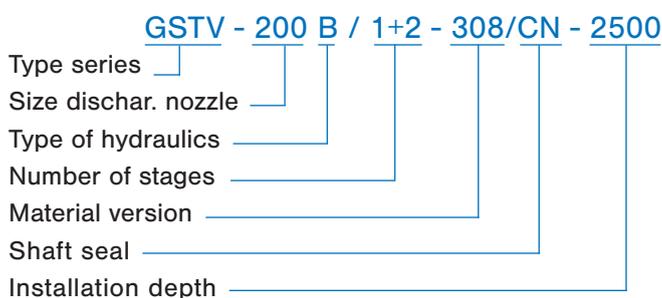
Design

- Vertical ring section pumps in can-type version
- Suspended NSPH impellers of single and double-flow design
- installation depth adapted to customer requirements
- bearing versions: liquid-lubricated radial plain bearings within the pump
- upper bearing at GLKV – Oil and grease-lubricated antifriction bearings designed for radial and axial load
- upper bearing at GSTV – combined radial-axial plain bearings with oil bath lubrication or antifriction bearings for radial and axial load
- compensation of axial thrust through balancing by single-impeller or by piston
- nozzle position: horizontally at the outlet casings, suction nozzle can also be positioned at the can
- Flanges according to ASME or DIN EN

Shaft seal

Separate seal chamber suitable for a variety of mechanical seals – from single and double mechanical seals up to cartridge mechanical seals and stuffing-box seals – all variants are available. Pumps of this version have a standard design with cartridge mechanical seal. Assembly space according to API 610/682.

Designation



Operating data

	GSTV	GLKV
Nozzle size (mm)	from 200 to 350	from 32 to 150
Capacity	up to 3000 m ³ /h	up to 400 m ³ /h
Head	up to 360 m	up to 250 m
Design pressure	up to 40/63 bar	up to 40 bar
Speed	up to 1800 rpm	up to 1800 rpm
Temperature limits	up to 160 °C	up to 160 °C

Materials

	S-1	S-5	S-6	C-6	A-8	D-1	D-2
Inlet/Outlet casing	Carbon steel	Carbon steel	Carbon steel	12 % Chromium steel	316AUS	Duplex	Super duplex
Jacket casing	Carbon steel	Carbon steel	Carbon steel	12 % Chromium steel	316AUS	Duplex	Super duplex
Internal casing parts	Cast iron	Carbon steel	12 % Chromium steel	12 % Chromium steel	316AUS	Duplex	Super duplex
Shaft	12 % Chromium steel	Duplex	Duplex	Super duplex			
Bearing housing	Carbon steel	Carbon steel	Carbon steel	Carbon steel	Carbon steel	Carbon steel	Carbon steel
Impeller	Cast iron	12 % Chromium steel	12 % Chromium steel	12 % Chromium steel	316AUS	Duplex	Super duplex
Suction Impeller	12 % Chromium steel	316AUS	Duplex	Super duplex			

Materials according to API, NORSOK, NACE and special alloys are available.



GSTV Version

Design

- stable lantern design for maximum run smoothness
- very low vibration values

Bearings

- oil-lubricated anti-friction bearings or combined axial-radial plain bearings
- forced oil lubrication and bearing cooling possible

Seal chamber

- separate sealing chamber
- installation of various mechanical seals possible
- all API piping plans are possible
- version with gland packing available

Flanges

- ASME or DIN EN

Hydraulics

- various hydraulics per type size
- best adaptation to customer's requirements ensured

Wear rings

- replaceable wear rings
- different material options and coatings possible

Intermediate pipe and Can

- variable installation depth
- intermediate pipe, intermediate shaft and can are adapted to process requirements
- high flexibility

Shaft

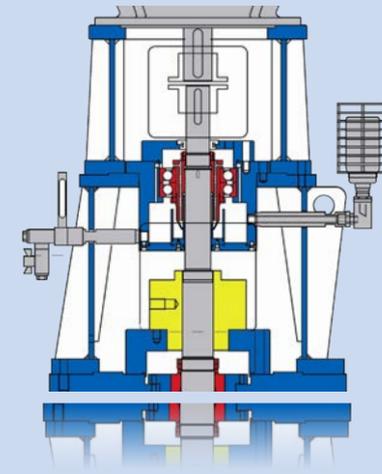
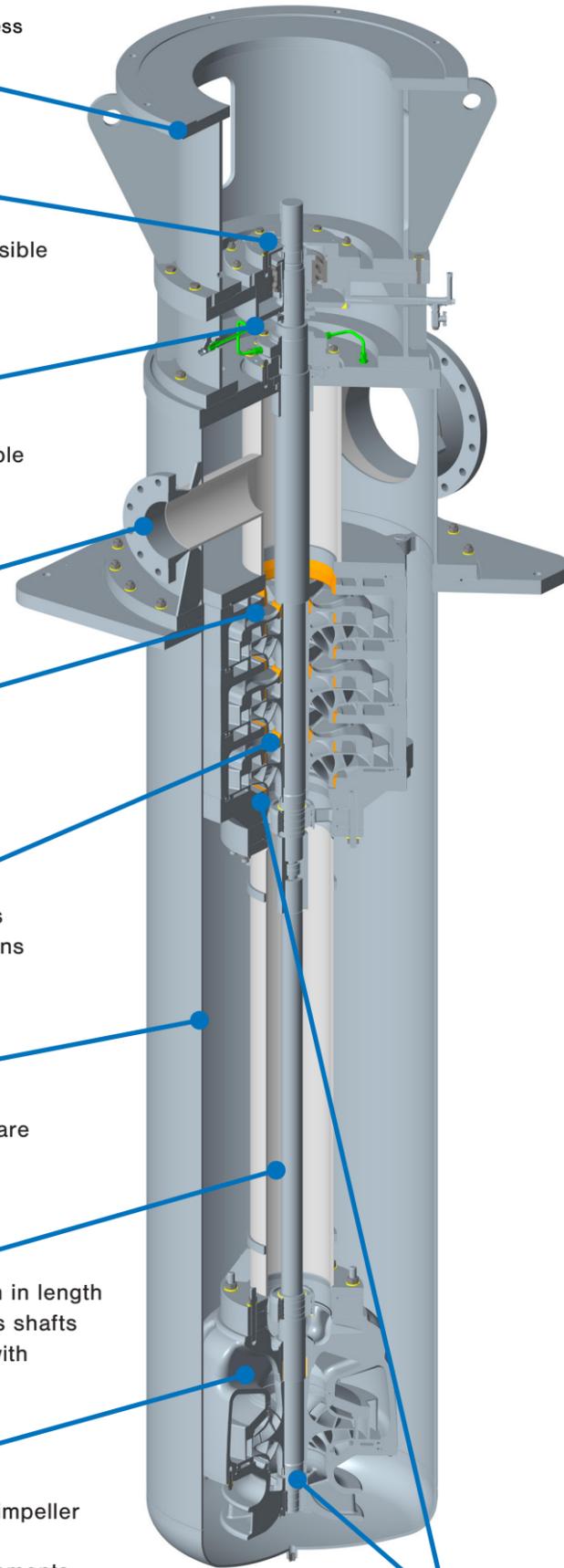
- one-piece shafts up to 3.5 m in length
- on higher suspension depths shafts consisting of several parts with intermediate coupling

Suction stage

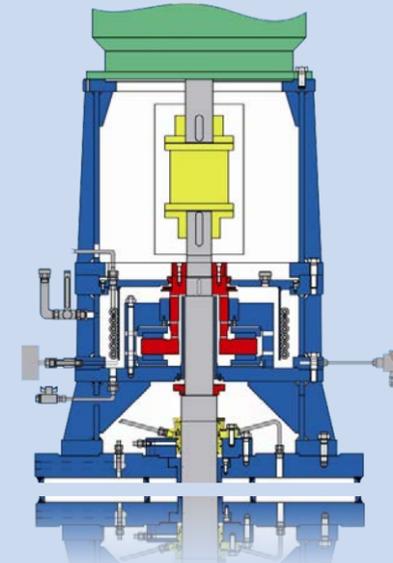
- flow-optimized suction casing
- suction impeller as single-flow or double-flow impeller
- suction stage suspended
- installation depth according to process requirements

Bearing

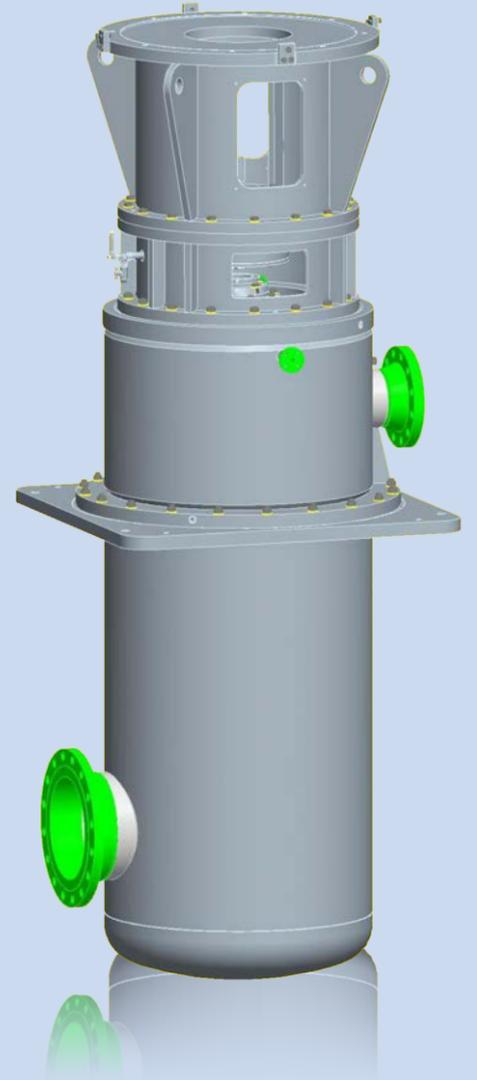
- liquid-lubricated plain bearing
- plain bearing materials adapted to process requirements



■ Bearing version with antifriction bearings

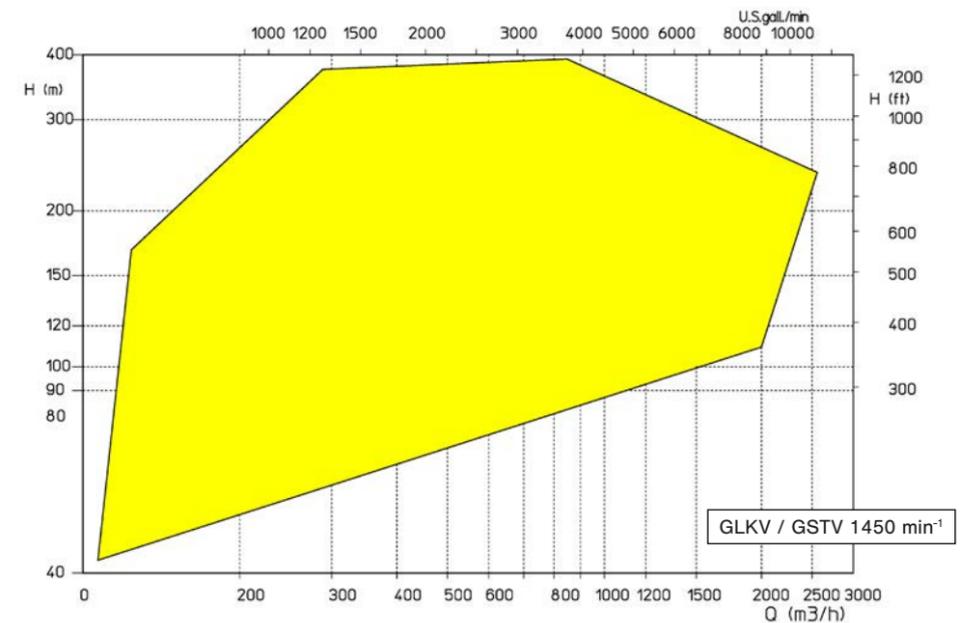


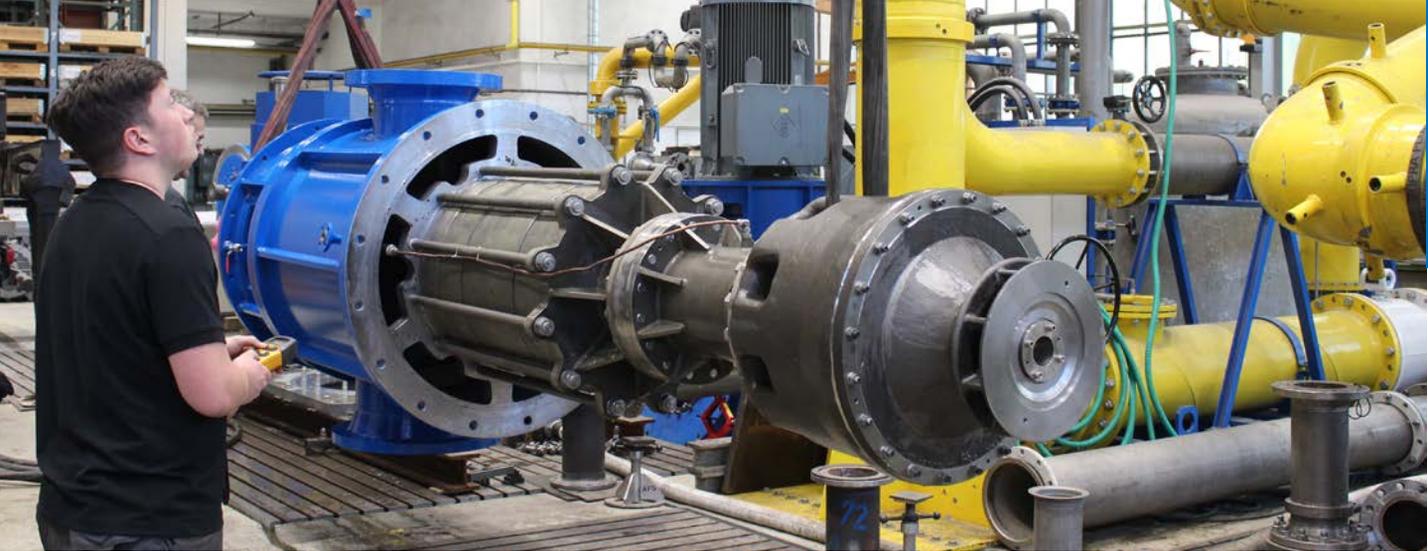
■ Bearing version with plain bearings



■ Version with suction nozzle at the can

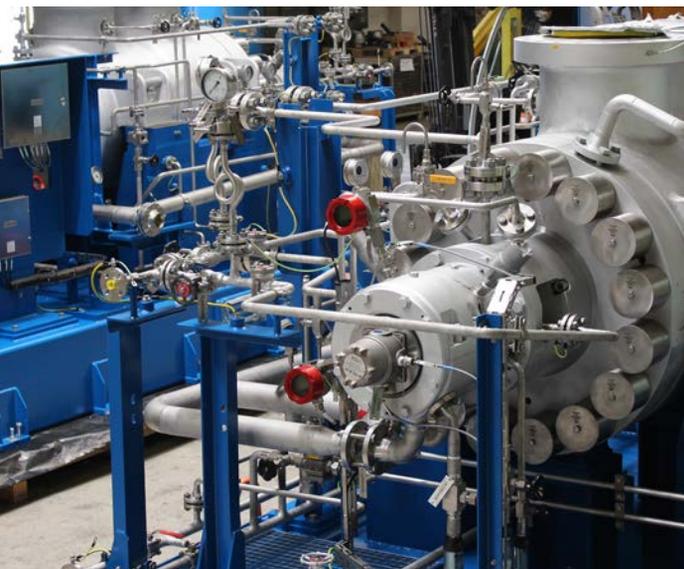
Performance range





Since more than 100 years APOLLO in Goessnitz has been developing and producing pumps for different applications with most different operating principles.

In continuation of this history Apollo has developed to a Manufacturer of high quality heavy-duty Process Pumps – especially according to API 610 Standard.



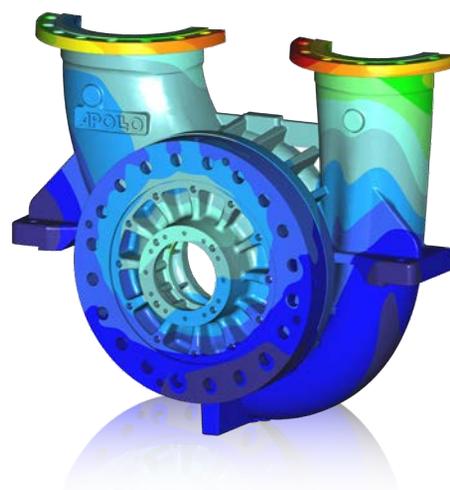
20 years ago, the business Division „System Engineering & System Technology“ was founded. With this division we can offer our Customers complete solutions from a single source. Apollo has high-killed Personnel for Pumps and Pumping Systems up to Specialists for Electrical and Control Engineering. By taking advantage of these synergies, of short lines of communication, of optimized process

chains and of high Flexibility of our company, we provide our Customers with best support in solving their problems and tasks worldwide.

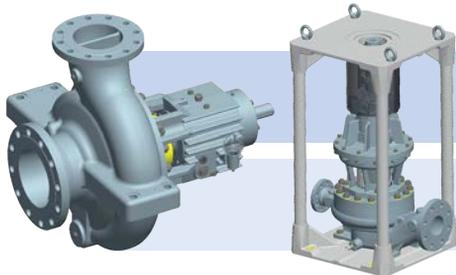
Our production methods and systems meet the highest level of quality and allow the implementation of orders according to different standards and regulations.

The Quality Assurance in all areas of the company, including suppliers and cooperation partners, is the top priority and is consistently implemented. The most up-to-date test fields provide realistic test conditions.

Today we develop and manufacture with the most modern methods – from the hydraulic design over to 3D CAD design and engineering, FEM calculation to the casting patterns and parts manufacture via CAD -CAM Interfaces.



PROCESS PUMPS | API 610



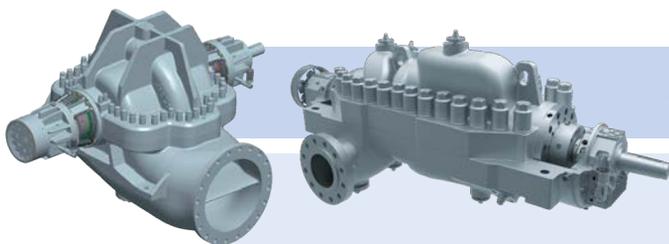
Single stage pumps: **OH1, OH2, OH3**

■ KRH ■ KRHA ■ KRHL / KRPO ■ KRP / KRPH ■ KRI / KRIL



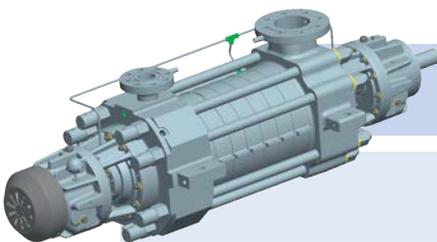
Single and two-stage between bearings pumps: **BB2**

■ ZPR ■ ZPRA ■ KGR / KGRD



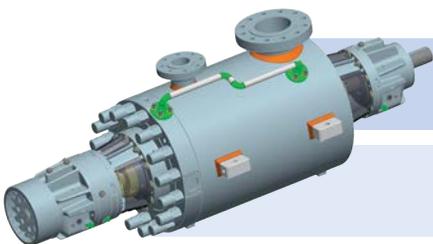
Axial split between bearings pumps: **BB1, BB3**

■ ZMK ■ ZMKV ■ AMG



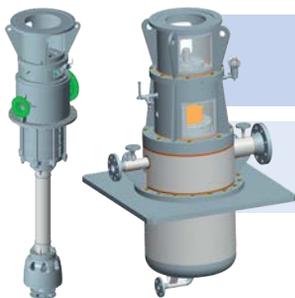
Multistage high-pressure pumps, ring sections type: **BB4**

■ HP ■ GP „back-to-back“ ■ GMHD



Multistage high-pressure barrel pumps: **BB5**

■ TL ■ TG „back-to-back“ ■ TGDX



Single and multistage, vertical pumps: **VS1, VS4, VS6**

■ HPTV ■ HPV ■ HPVX ■ GSTV