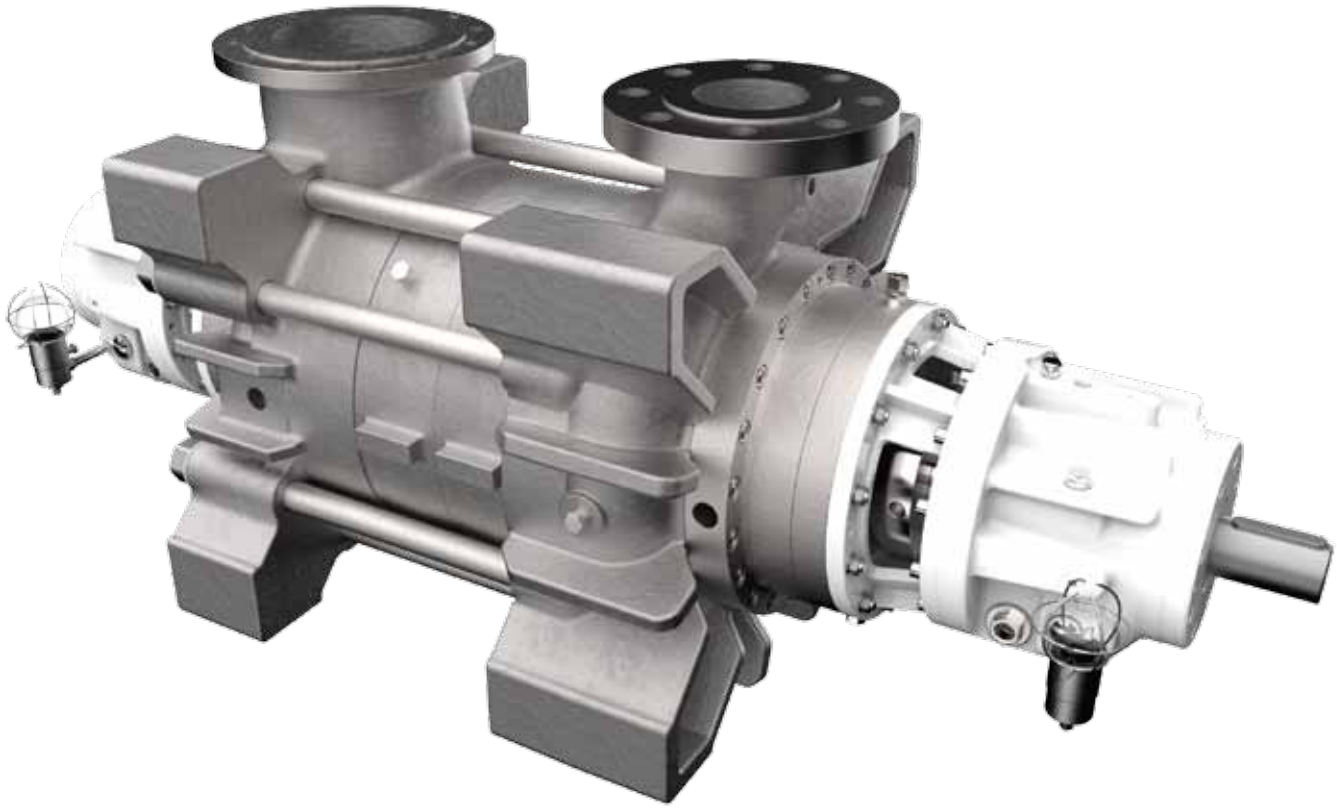
MULTISTAGE HIGH-PRESSURE PUMPS

100 BAR VERSION

GH



- Highest efficiency for energy-saving operation
- Hydraulically optimized performance range
- High variability due to flexible position of suction and discharge nozzles
- Compact design with short bearing span
- Best NPSH values due to optimum designed suction impellers

APOLLO

Pumps | Pumping Systems

Range of Applications

Based on the excellent hydraulic characteristics, the perfectly matching performance field and modern structural design, the pumps are suitable for applications such as:

- boiler feed water applications
- booster applications in all industrial sectors
- sea water desalination (reverse osmosis)
- applications in refineries
- condensate applications
- applications in the oil and gas industry
- water injection

Design

- Horizontal multistage ring-section pump of modular design
- Short design due to version of pressure casing as volute type
- Bearings on both sides – antifriction bearings with oil sump lubrication
- Axial thrust compensation by balancing piston with pre-adjusted throttle – for high operation safety and good rotor dynamics
- Variable feet and support positions
- Generally equipped with an NPSH-Impeller
- Flanges according to ASME or DIN EN

Shaft Seal

Separate seal chamber suitable for various versions of mechanical seals – from single and double basic mechanical seals up to cartridge mechanical seals and gland packing – all variants are available. As an option we can also provide an seal chamber according to API 610/682.

Designation

GH – 125 C / 7 – 308 / CN

- Type series
- Size discharge nozzle
- Type of hydraulics
- Number of stages
- Material version
- Shaft seal

Operating Data

Nozzle size (mm)	from 40 to 150
Capacity	up to 720 m^3/h
Head	up to 900 m
Pressure design	up to 100 bar
Operating temperature	up to 180 °C

Materials

	102	302	308	318	508	518	608	618
Discharge casing	Cast iron	Cast steel	Cast steel	High-temp. Cast steel	12% chromium steel	18% chromium steel	Duplex	Superduplex
Suction casing	Cast iron	Cast steel	Cast steel	High-temp. Cast steel	12% chromium steel	18% chromium steel	Duplex	Superduplex
Stage casing	Cast iron	Cast steel	Cast steel	High-temp. Cast steel	12% chromium steel	18% chromium steel	Duplex	Superduplex
Shaft	12% chromium steel	12% chromium steel	12% chromium steel	12% chromium steel	12% chromium steel	Duplex	Duplex	Superduplex
Bearing housing	Cast iron/Cast steel	Cast iron/Cast steel	Cast iron/Cast steel	Cast iron/Cast steel	Cast iron/Cast steel	Cast iron/Cast steel	Cast iron/Cast steel	Cast iron/Cast steel
Impeller	Cast iron	Cast iron	12% chromium steel	12% chromium steel	12% chromium steel	18% chromium steel	Duplex	Superduplex
Suction impeller	12% chromium steel	12% chromium steel	12% chromium steel	12% chromium steel	12% chromium steel	18% chromium steel	Duplex	Superduplex

Design
- short design due to version of pressure casing as volute type

Compensation of thermal expansions
- fixing of impeller stack via split rings

Flanges
- ASME or DIN EN

Low NPSH values
- general version with suction impeller
- optimized suction geometry

Bearing housing
- all required connections for measuring and monitoring equipment are available
- application of high-grade bearing isolators

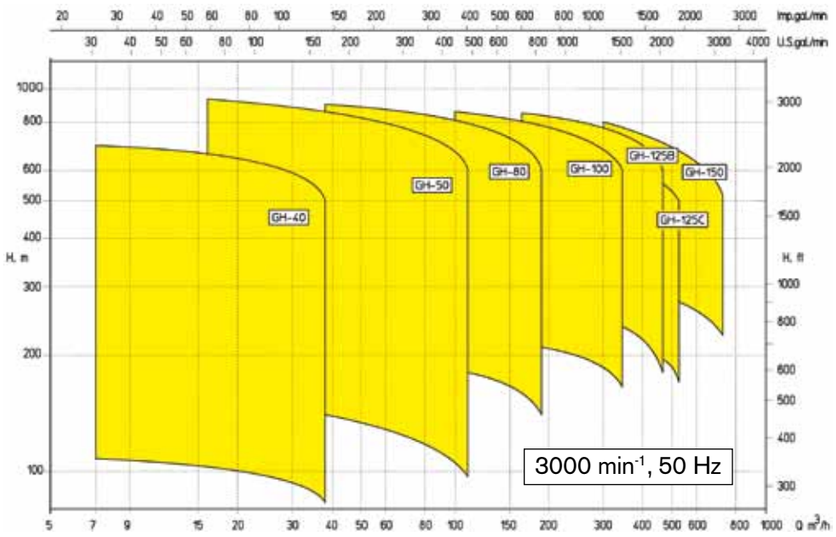
Bearing
- antifriction bearings with oil sump lubrication
- big oil sump for best heat dissipation
- bearing cooling via sump cooling
- fan cooling as an option

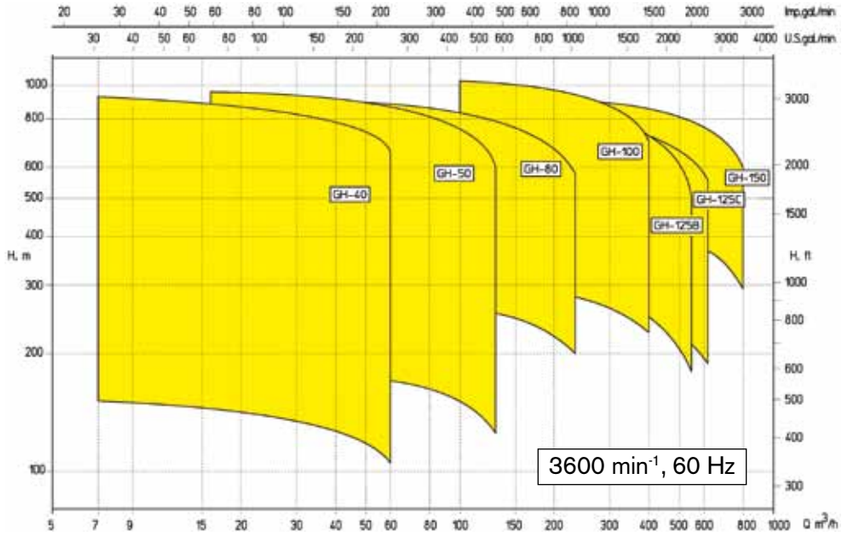
Axial thrust compensation
- balancing piston with pre-adjusted throttle
- high operation safety and good rotor dynamics

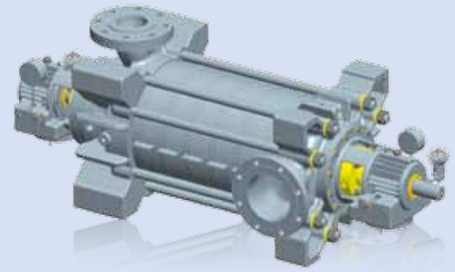
Jacket cooling
- effective jacket cooling prepared

Seal chamber
- separate seal chamber
- installation of a variety of mechanical seals possible
- all API piping schemes possible
- gland packings are available
- revision of seal without disassembly of pump

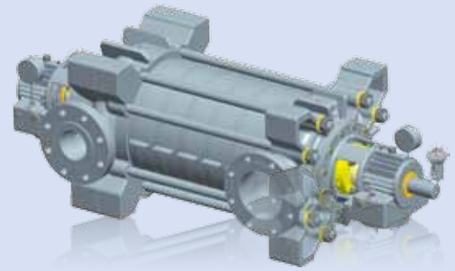
Performance range







■ Variable nozzle position on suction and discharge side



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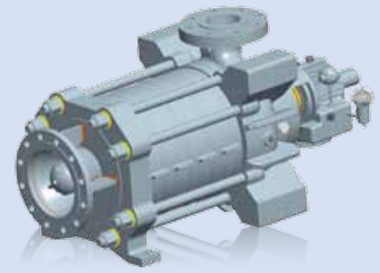
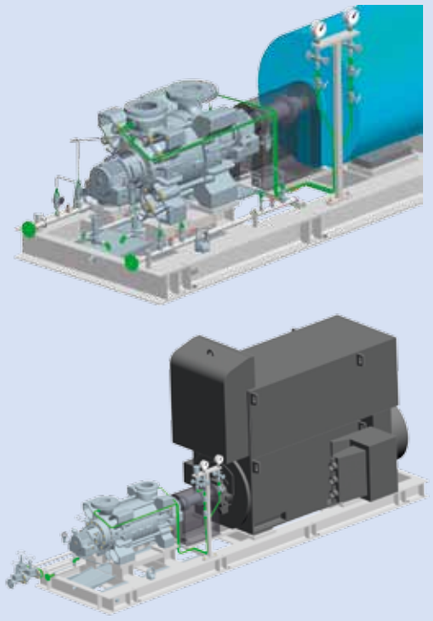


■ Version with axial suction nozzle



■ GH pump unit

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

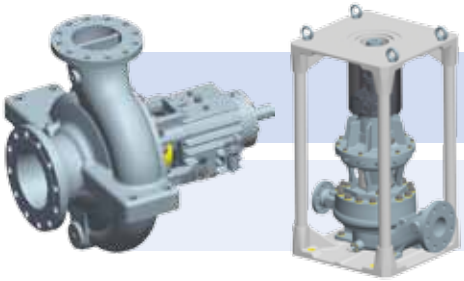
In continuation of this history Apollo has developed to a Manufacturer of high quality heavy-duty Process Pumps – especially according to API 610 Standard.

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-skilled 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

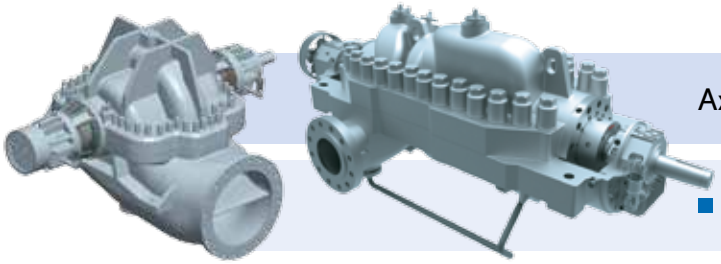


Single stage pumps: **OH1, OH2, OH3**

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

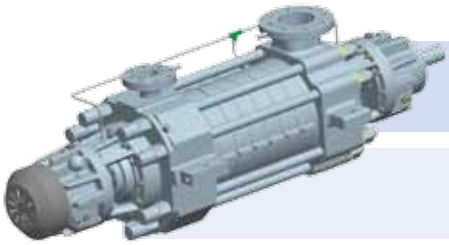
Single and two-stage between bearings pumps: **BB2**

■ ZPR ■ ZPRA ■ KGR / KGRD



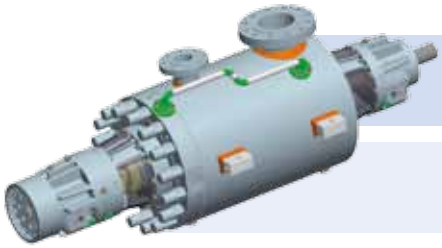
Axial split between bearings pumps: **BB1, BB3**

■ ZMK ■ ZMKV ■ AMG



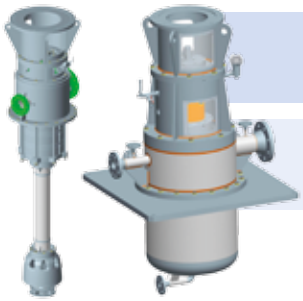
Multistage high-pressure pumps, ring sections type: **BB4**

■ 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 ■ GDTV ■ GDV

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