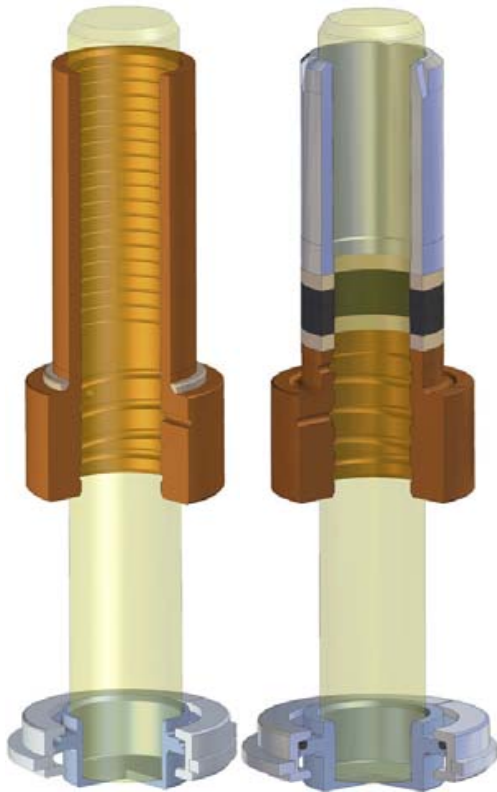


Process pumps



Series 5 process pumps

Hammelmann series 5 Triplex and Quintuplex pumps provide the highest standards of safety and reliability.



Labyrinth seal

Packed seal

Sealing systems

The seal designs which are absolutely unique to Hammelmann enable safe, reliable, continuous duty operation at pressures up to 3800 bar. The choice of high pressure seal system depends upon the pump's application.

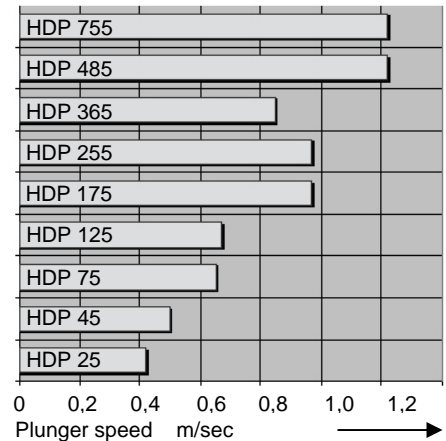
Labyrinth seal

The high pressure seal is formed within the minute cylindrical gap between the plunger and the labyrinth insert. The medium pressure is continuously reduced along the sealing surface. A minimum amount of high pressure leakage serves as lubricant and is returned to the pump suction chamber.

Packed seal

PTFE/Graphite rings maintain the high pressure seal while plunger guidance is provided by a separate bush.

Plunger speed



The series 5 pumps are conservatively rated for power with low plunger speeds ensuring limited wear of plungers and sealing elements.



Low pressure seal packs

The suction chamber is sealed by combining spring tensioned PTFE rings either side of a lantern ring which is used either for flushing, cooling or lubricating the seal (optional).

Extensive performance range

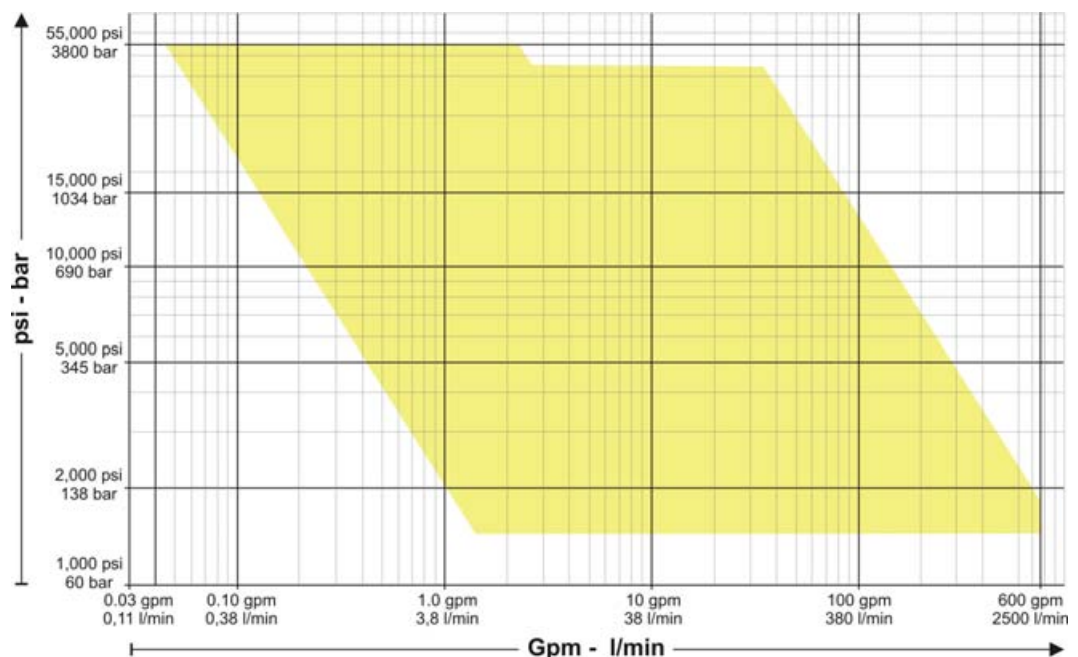
Power ratings up to 750 kW

Flow rates up to 2500 l/min

Operating pressures up to 3800 bar

Viscosities up to 2000 mPa s

Fluid temperatures -40 up to +200 °C



Compact construction

Hammelmann pumps produce maximum performance from a minimal footprint which is the result of combining a compact integral speed reduction gear end with the concept of a vertical configuration.



The integral speed reducer with twin helical gears arranged in a herringbone configuration ensures smooth running and even power transmission without axially loading the bearings.

Valves

To ensure that the pump construction is appropriate for the pumped medium we have a number of alternative valve designs available.

Conical/Plate valve

The suction valve is in disc form plate design and the discharge valve is conical. Both seat to a one piece component.



Twin conical valves

Suction and discharge valves are both conical in this configuration



Wetted parts materials

Plunger	Ceramic, tungsten
Seals	NBR / Polyamide FFKM / PEEK
Housings	Chromium nickel steel, duplex steel

Other options available.

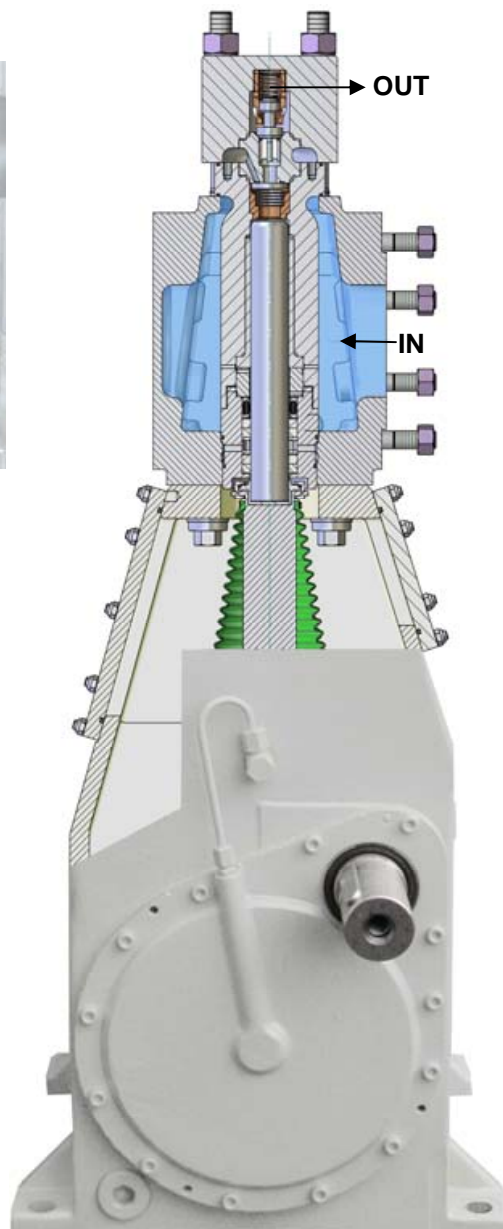


TA-Luft (Clean Air) certified to VDI 2440

Gas tight design

Our latest variation of this pump series is the **Zero emission** where the pumped fluid is hermetically sealed within the pump, preventing leakage to atmosphere during operation.

The intermediate chamber of the pump can be outfitted with gas tight covers which provide a seal to atmosphere. The chamber is then charged with inert gas.



Bellows system

The bellows are the hermetic seals for the power end to prevent the intrusion of fluid or gas. They are available in FKM, H-NBR and PTFE.

Typical fluids

Acrylic acid	Hydrocarbons
Adipoladipinat	Inhibitors
Amine	Jet fuel
Ammonia	LDHI
Butane	Methanol
Carbon dioxide	Methyl ester
Crude oil	Pentane
Diesel oil	Process water
Ester	Propylene
Ethanol	Reservoir water
Fatty acids	Salt water
Glucose	Scale squeeze
Glycol	Vinyl acetate
Hot water	Waste water

Typical applications

Methanol injection
 Fatty alcohol process
 LDPE
 Wet oxidation
 CO₂ extraction
 Mill scale removal
 Non woven fabrics
 Boiler feed pumps
 Re-injecting reservoir water

Recommendations and standards

Machine directive 2006/42/EC
 ATEX 94/9/EC
 API 674 (with exceptions)

Other customer specified standards,
 i.e.

NORSOK M501
 NORSOK M650
 NACE MR 0175
 NACE MR0175

Pump units

Hammelmann offer a wide range of process pump units for the chemical, oil and gas industries.



HDP 75 – Waste water
 Op. pressure 160 bar
 Flow rate 83 l/min



HDP 175 – Acrylic acid
 Op. pressure 2500 bar
 Flow rate 13 l/min



HDP 755 – Reservoir water
 Op. pressure 212 bar
 Flow rate 1660 l/min



HDP 235 - Pentane
 Op. pressure 350 bar
 Flow rate 300 l/min



HDP 45 - LDHI
 Op. pressure 1035 bar
 Flow rate 11,5 l/min



HDP 255 - Methanol
 Op. pressure 285 bar
 Flow rate 250 l/min