



Side Channel Pumps



STERLING FLUID SYSTEMS GROUP

Side Channel Pumps

The founders of Sterling SIHI were Mr Siemen and Mr Hinsch and in 1920, they invented the side channel principle and since then, the company has continued to develop and improve the side channel design.

The Process Industry demands a high level of operational safety for its equipment and Sterling SIHI fully meet these standards, by offering an extensive range of materials for the highly efficient side channel pump range.

The experience gained in the last 80 years by Sterling SIHI through the supply, installation and manufacture of more than 2 million side channel pumps, ensure it has the unique knowledge to manufacture and support these products within the Process Industry.

Applications

- Chemical industry
- Pharmaceutical industry
- Petrochemical industry
- Food industry
- LPG industry
- and many more ...



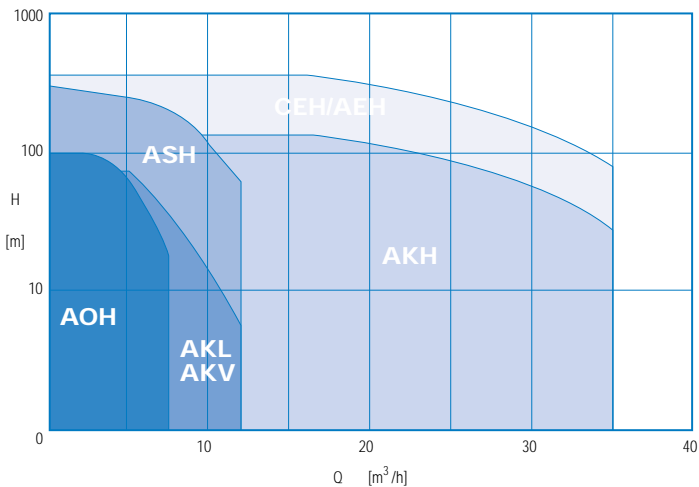
Features of Side Channel Pumps

- **Self-priming**
- **Gas handling**
- **Performance curve characteristics**
- **Capacity up to 35 m³/h**
- **Delivery head up to 354 m**



**Pumping liquids under
critical physical conditions.**

The efficient Side Channel Pump range



Pump type CEH



Side Channel Pumps - type CEH

Pumps of the series CEH are horizontal and self-priming, side channel pumps with a NPSH inducer stage suitable for handling liquids which do not contain solid or abrasive matter. The NPSH inducer stage allows the pump to operate on the suction side under unfavourable conditions and at positive suction heads lower than 0.5 m.

The range comprises of six sizes each with 1 to 8 hydraulic stages whereby an optimum rating is obtained, ensuring the pump selected meets the required capacity and head.

Performance data

Capacity:	max. 35 m ³ /h
Delivery head:	max. 354 m
Speed:	max. 1800 rpm
Temperature:	max. 180 °C
Casing pressure:	PN 40

Construction

Materials:	Cast Iron, Ductile Iron, Stainless Steel and Special Materials
Shaft sealing:	Gland packing, Mechanical seal and Magnetic coupling

Applications

- **For handling acids and alkalines**
- **For liquids at boiling point**
 - condensate
 - distillate
 - refrigerant
 - liquid gas
 - boiler feed water
- **For unfavourable suction conditions**
 - positive suction heads lower than 0.5 m



CEH pumps with magnetic couplings for evacuation of rail tankers.

Side Channel Pumps - type AEH

Pumps of the series AEH are horizontal and self-priming, side channel pumps of segmental type construction which are able to handle entrained gases.

These pumps have been specifically designed for heavy duty applications within industry. When pumping pure, turbid or aggressive media the design is ideally suited.

The range comprises of six sizes each with 1 to 8 hydraulic stages whereby an optimum rating is obtained, ensuring the pump selected meets the required capacity and head.



Construction

Materials: Cast Iron, Ductile Iron, Stainless Steel and Special Materials

Shaft sealing: Gland packing, Mechanical seal and Magnetic coupling

Performance data

Capacity: max. 35 m³/h
Delivery head: max. 348 m
Speed: max. 1800 rpm
Temperature: max. 180 °C
Casing pressure: PN 40

Applications

- Chemical industry
- Pharmaceutical industry
- Petrochemical industry
- Food and Semi-luxuries industry
- Plastic and Rubber industry
- Surface treatment and hardening

AEH pumps with mechanical seals for the transfer of carbon dioxide.



Pump type AKH



Side Channel Pumps - type AKH

Pumps of the series AKH are horizontal and self-priming, side channel pumps of segmental type construction which are able to handle entrained gases.

These pumps have been specifically designed for medium duty applications within industry. When pumping pure, turbid or aggressive media the design is ideally suited.

The range comprises of six sizes each with 1 to 4 hydraulic stages whereby an optimum rating is obtained, ensuring the pump selected meets the required capacity and head.

Performance data

Capacity:	max. 35 m ³ /h
Delivery head:	max. 144 m
Speed:	max. 1800 rpm
Temperature:	max. 180 °C
Casing pressure:	PN 16

Construction

Materials:	Cast Iron, Bronze and Stainless Steel
Shaft sealing:	Gland packing and Mechanical seal

Applications

- Chemical industry
- Pharmaceutical industry
- Petrochemical industry
- Steel industry, Mechanical Engineering
- Food and Semi-luxuries industry
- Plastic and Rubber industry
- Electrical industry
- Surface treatment and hardening
- Ship building industry



AKH pumps with mechanical seals for shipboard water distribution.

Side Channel Pumps - type AKL/AKV

Pumps of the series AKL/AKV are single stage, horizontal or vertical self-priming, side channel pumps which are able to handle entrained gases.

Due to the inline design these pumps have been constructed as space-saving, easy to install, close-coupled units which are fitted with standard motors.

The range comprises of eight sizes whereby an optimum rating is obtained, ensuring the pump selected meets the required capacity and head.



Construction

Materials: Ductile Iron and Stainless Steel
Shaft sealing: Mechanical seal and Magnetic coupling

Performance data

Capacity: max. 12 m³/h
Delivery head: max. 70 m
Speed: max. 3000 rpm
Temperature: max. 120 °C
Casing pressure: PN 16

Applications

- Chemical industry
- Pharmaceutical industry
- Petrochemical industry
- Food and Semi-luxuries industry
- Plastic and Rubber industry
- Surface treatment and hardening
- Air conditioning and refrigeration

AKV pumps with magnetic couplings for pumping chemicals in tank farms.



Pump type ASH



Side Channel Pumps - type ASH

Pumps of the series ASH are horizontal and self-priming, side channel pumps in segmental type construction which are able to handle entrained gases.

These pumps have been specifically designed for pumping liquified gases such as CO₂ at a vapour pressure up to 80 bar.

The high nominal pressure of the pump requires that the selected material combinations provides the minimum resistance.

The range comprises of two sizes each with 5 to 8 hydraulic stages whereby an optimum rating is obtained, ensuring the pump selected meets the required capacity and head.

Performance data

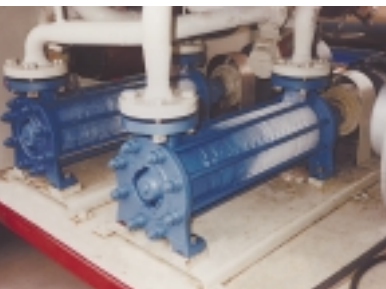
Capacity:	max. 12 m ³ /h
Delivery head:	max. 288 m
Speed:	max. 1800 rpm
Temperature:	max. 120 °C
Casing pressure:	PN 100

Construction

Materials:	Non-Ferrous Metal / Cast Steel
Shaft sealing:	Gland packing and Mechanical seal

Applications

- Process systems for the production, storage and transportation of CO₂
- Supply, measurement and transfer equipment
- Fire fighting equipment
- CO₂ drying and CO₂ cleaning systems
- Production of dry ice
- Neutralising alkaline waste water



ASH pumps with mechanical seals for the distribution of CO₂ on tankers/lorries.

Side Channel Pumps - type AOH

Pumps of the series AOH are horizontal and self-priming, side channel pumps which are able to handle entrained gases. These pumps are used when clear or turbid liquids without abrasive mixtures are to be handled.

The range comprises of four sizes each with 1 to 4 hydraulic stages whereby an optimum rating is obtained, ensuring the pump selected meets the required capacity and head.



Construction

Materials: Cast Iron
Shaft sealing: Gland packing

Performance data

Capacity: max. 7,5 m³/h
Delivery head: max. 98 m
Speed: max. 1800 rpm
Temperature: max. 120 °C
Casing pressure: PN 10

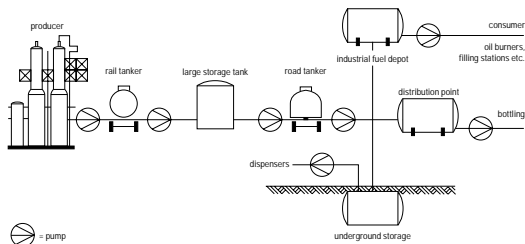
Applications

- Water distribution
- Irrigation and drainage
- Water circulation
- Cooling water systems
- Pressure boosting
- Mixing and cleaning systems

AOH pumps for water distribution in domestic applications.



Side Channel Pumps for LPG applications



Distribution scheme for LPG

In LPG distribution schemes pumps are required to compensate for the pressure losses in the system.

Liquid gases vaporise under normal atmospheric conditions. They can be liquefied at certain pressures, depending on the temperature.

This property and other specific properties of liquid gases require pumps that have special characteristics.



CEH pumps in a carousel filling plant



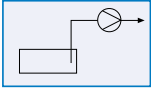
PC plant for automotive refuelling



Sterling SIHI LPG pumps and plants comply with the highest demands of the industry

For the reliable distribution of LPG, Sterling SIHI use vertical tank pumps, plants for suction lift operation, multistage pumps and side channel pumps with a NPSH inducer stage.

Benefits of Side Channel Pumps



Self-priming

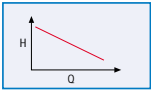


Gas handling



High wear-resistant materials

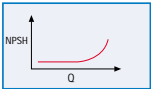
The MTBF could be considerably increased by using vane wheel impellers of PAEK.



Performance curve characteristics



High efficiency



Low NPSH_R value



Modular hydraulic system

Sterling SIHI Side Channel Pumps

 **self-priming**

 **gas handling**