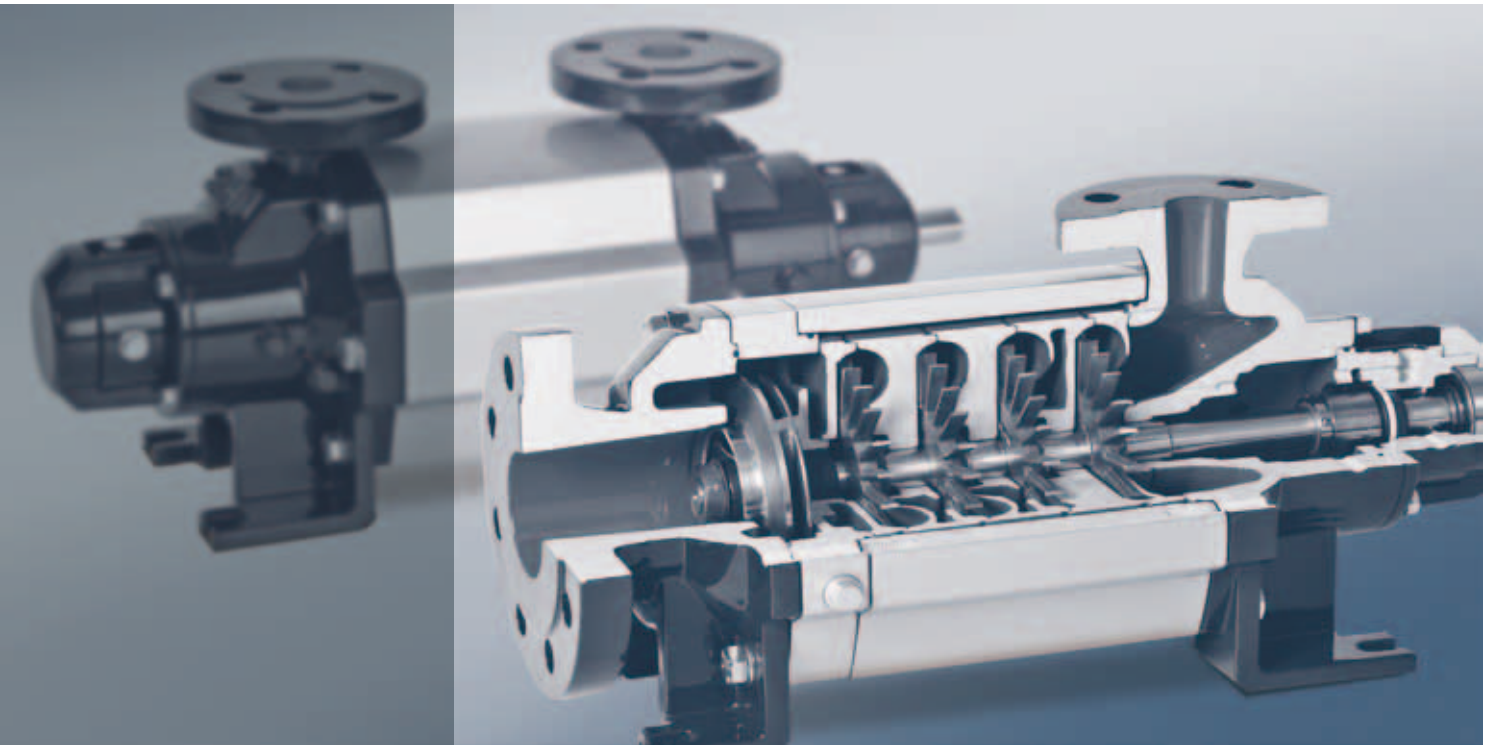


## Side channel pumps



## High head at low flow

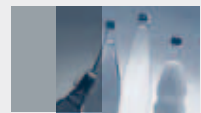
The side channel principle was invented by engineers Siemen and Hinsch in 1920. SIHI has continued to develop and improve the design of its side channel pumps ever since.

This technology plays several important roles in process and operational safety, and is subject to ever increasing requirements on the part of customers. Such requirements present us with considerable challenges, particularly when it comes to incorporating new materials and technologies as part of the continuous further development of these products.



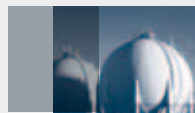
### Industries/markets

Chemical  
Pharmaceutical  
Petrochemical  
Foodstuff  
LPG  
Water supply  
and many more



### Applications

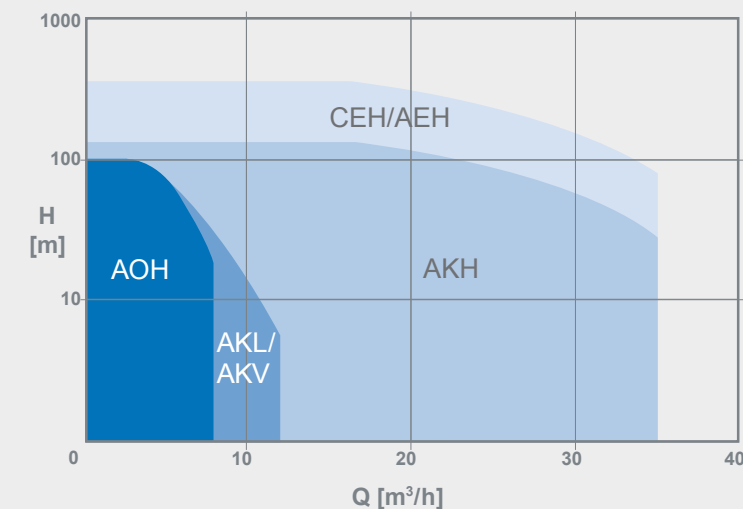
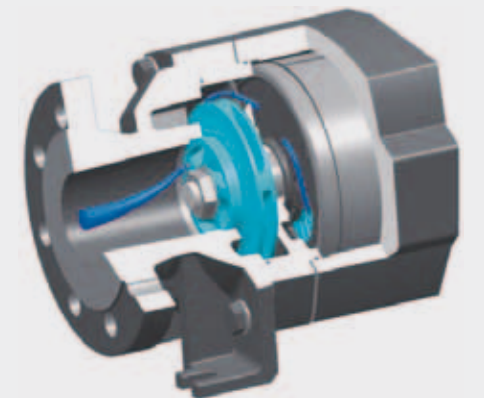
Filling  
Emptying  
Irrigation  
Distillation  
Product transfer  
Fuel storage  
Extraction  
and many more



## The side channel principle

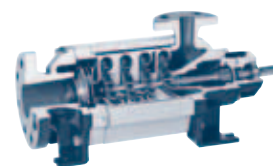
A side channel pump is capable of evacuating a suction pipe and can prime the medium for suction independently. Depending on the integrated positive displacement unit, it is possible to handle gas contents of up to 50 %.

The self-priming and gas-handling characteristics guarantee safe operation even in case of evaporation and therefore also a high degree of safety in industrial processes.

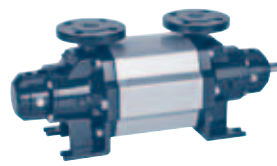


### Benefits

- + Self-priming
- + Handling of liquid-gas mixtures
- + Performance curve characteristics
- + Capacity up to 35 m³/h
- + Delivery head up to 354 m
- + Pumping of liquids under critical physical conditions
- + ATEX



CEHX



AEHX



AKHX



## CEH side channel combination pump up to 40 bar

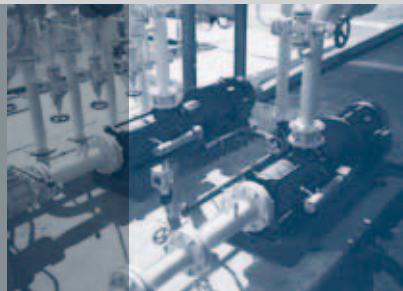
### CEH

Pumps of the CEH series are self-priming, capable of handling gas together with the medium and operate with low noise levels.

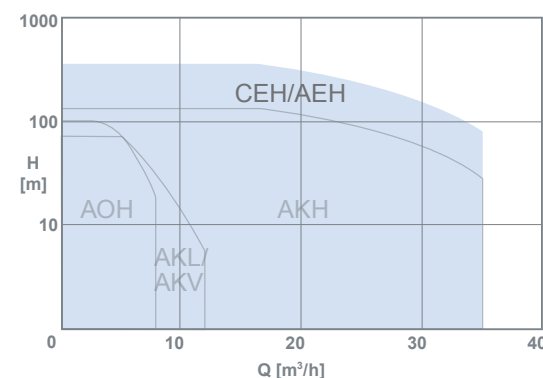
These pumps are used if there is a need to handle liquids problem-free under unfavourable pumping conditions at suction side and also at positive suction heads lower than 0.5 m.

CEH pumps have an integrated retaining stage in the NPSH inducer stage, which ensures that the levels of operational fluid required for the pump to self-prime are maintained. Thanks to the very low NPSH value, the CEH is particularly suited to handling liquids under vapour pressure (e.g. condensate, refrigerant, boiler feed water, liquefied gas and especially liquid gas).

The range available enables an optimum rating to be obtained, ensuring the pump selected meets the required capacity and head.



CEH pumps with magnetic coupling for evacuation of rail tankers.



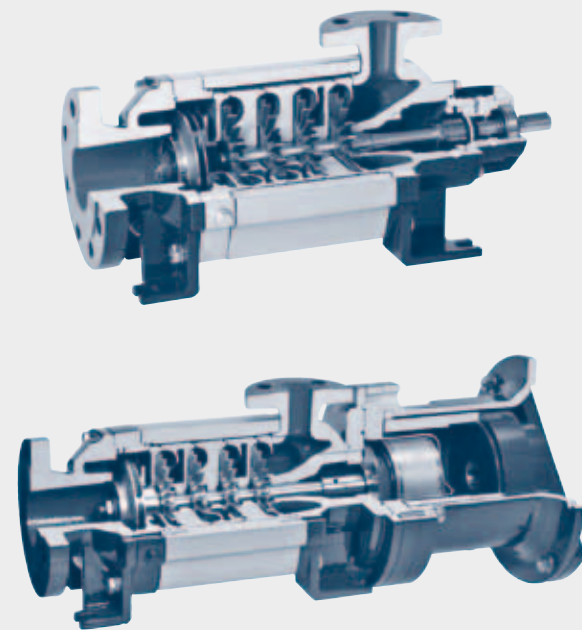
### Performance data

Capacity: max. 35 m³/h  
Delivery head: max. 354 m  
Speed: max. 1,800 rpm  
Temperature: max. 180 °C  
Casing pressure: PN 40

### Construction

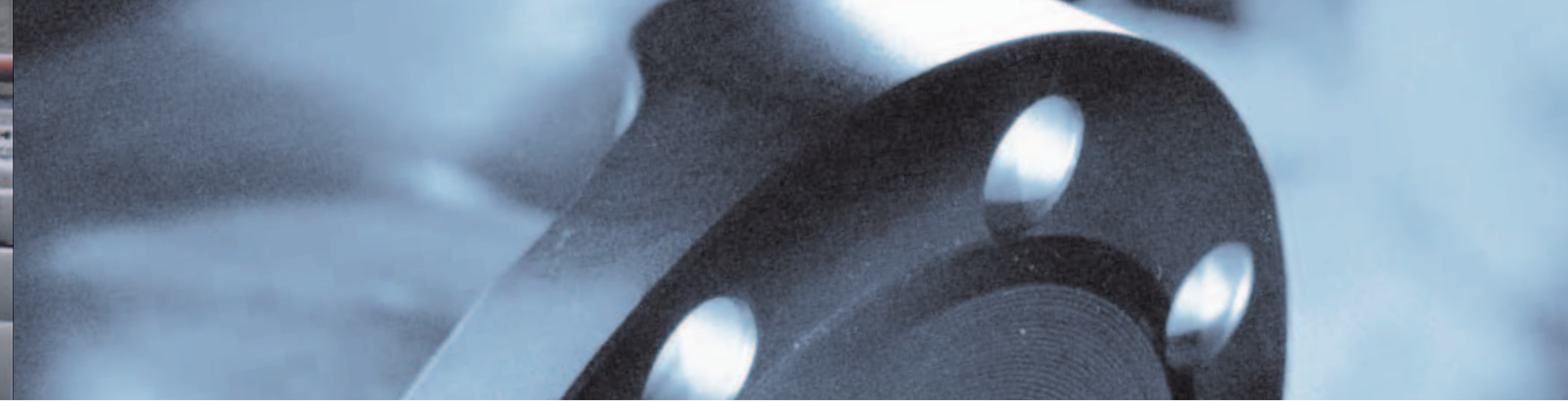
**Materials:**  
Cast iron, ductile iron, stainless steel and special materials

**Shaft sealing:**  
Gland packing, mechanical sealing and magnetic coupling



### Applications

- + For handling acids and alkalis
- + For liquids near boiling point
  - Condensates
  - Distillates
  - Refrigerants
  - Liquid gases
  - Boiler feed water
- + For handling liquids under unfavourable suction conditions
  - Positive suction heads < 0.5 m



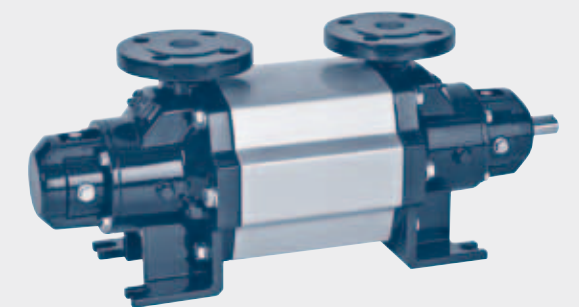
## AEH side channel pumps up to 40 bar

### AEH

Pumps of the AEH series are self-priming, capable of handling gas together with the medium and operate with low noise levels.

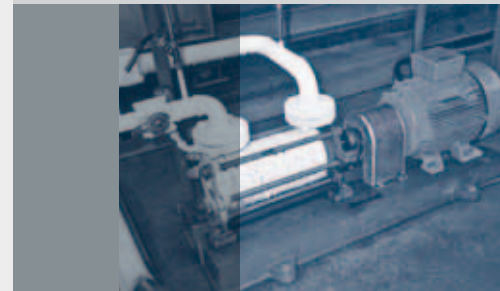
These pumps have been specifically designed for heavy-duty applications within all fields of industry where it is necessary to ensure problem-free pumping of pure, turbid or aggressive media.

The range available enables an optimum rating to be obtained, ensuring the pump selected meets the required capacity and head.

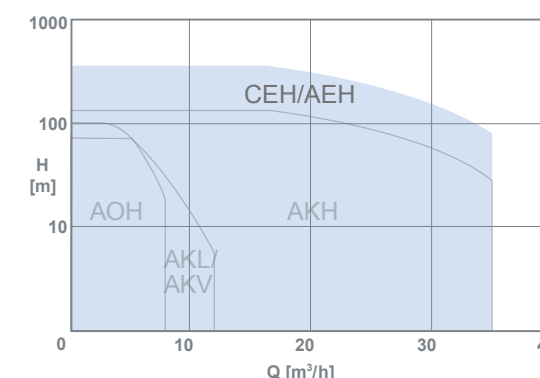


### Applications

- + Chemical industry
- + Pharmaceutical industry
- + Petrochemical industry
- + Food and semi-luxuries industry
- + Plastic and rubber industry
- + Surface treatment and hardening



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



### Performance data

Capacity: max. 35 m³/h  
Delivery head: max. 348 m  
Speed: max. 1,800 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 sealing and magnetic coupling



## AKH side channel pumps up to 16 bar

### AKH

The SIHI side channel pumps of the AKH range are self-priming, capable of handling gas together with the medium and operate with low noise levels.

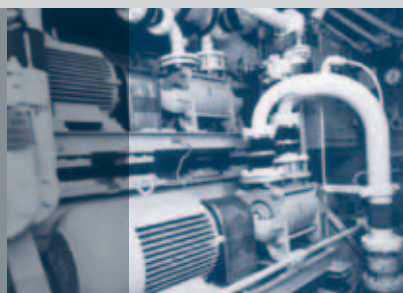
These pumps have been specifically designed for heavy-duty applications within all fields of industry where it is necessary to ensure problem-free pumping of pure, turbid or aggressive media.

The range available enables an optimum rating to be obtained, ensuring the pump selected meets the required capacity and head.



### Applications

- + Chemical industry
- + Pharmaceutical industry
- + Petrochemical industry
- + Steel industry, mechanical engineering and vehicle construction
- + Food and semi-luxuries industry
- + Plastic and rubber industry
- + Electrical industry
- + Surface treatment and hardening
- + Shipbuilding industry



AKH pumps with mechanical seal for shipboard water distribution.

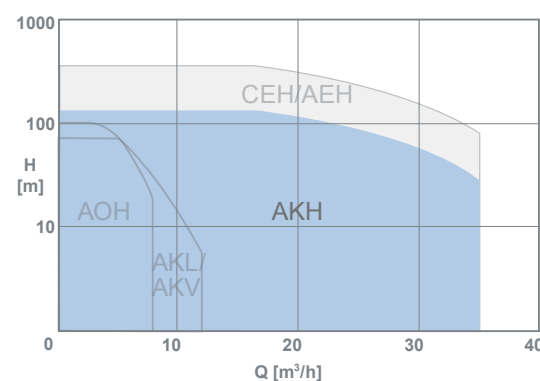
### Performance data

Capacity: max. 35 m<sup>3</sup>/h  
 Delivery head: max. 144 m  
 Speed: max. 1,800 rpm  
 Temperature: max. 120 °C  
 Casing pressure: PN 16

### Construction

**Materials:**  
 Cast iron, bronze and stainless steel

**Shaft sealing:**  
 Gland packing and mechanical sealing



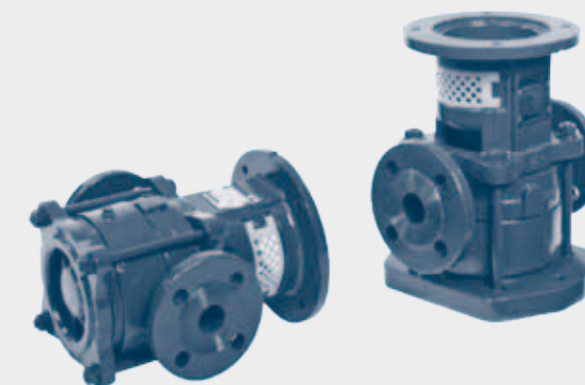
## AKL/AKV side channel pumps up to 16 bar

### AKL/AKV

The SIHI side channel pumps of the AKL/AKV range are self-priming, capable of handling gas together with the medium and operate with low noise levels.

These horizontal or vertical single-stage inline pumps are space-saving and easy-to-install units that are fitted with standard motors and mechanical seals.

The range available enables an optimum rating to be obtained, ensuring the pump selected meets the required capacity and head.



### 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 mechanical seal for pumping chemicals in tank farms.

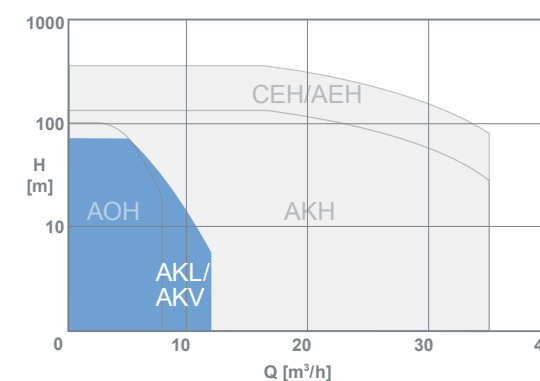
### Performance data

Capacity: max. 12 m<sup>3</sup>/h  
 Delivery head: max. 70 m  
 Speed: max. 3,000 rpm  
 Temperature: max. 120 °C  
 Casing pressure: PN 16

### Construction

**Materials:**  
 Ductile iron

**Shaft sealing:**  
 Mechanical sealing





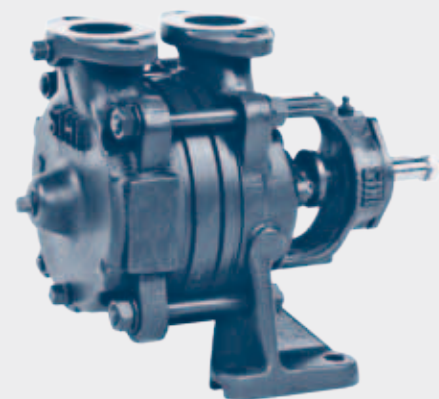
## AOH side channel pumps up to 10 bar

### AOH

The SIHI side channel pumps of the AOH range are self-priming, capable of handling gas together with the medium and operate with low noise levels.

These pumps have been specifically designed for use in all industrial fields where it is necessary to ensure problem-free pumping of pure, turbid or aggressive media.

The range available enables an optimum rating to be obtained, ensuring the pump selected meets the required capacity and head.

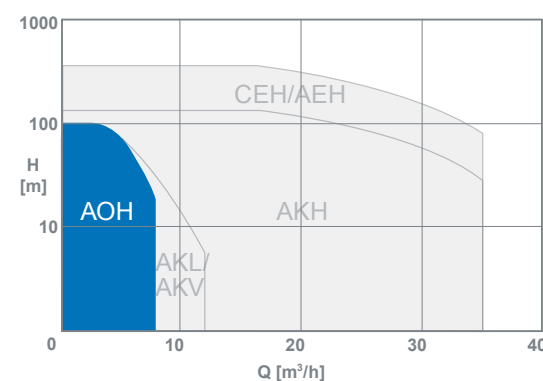


### Applications

- + Waste-water disposal
- + Irrigation and drainage
- + Water circulation
- + Cooling water systems
- + Pressure boosting
- + Mixing and cleaning systems



AOH pumps for water distribution in domestic applications.



### Performance data

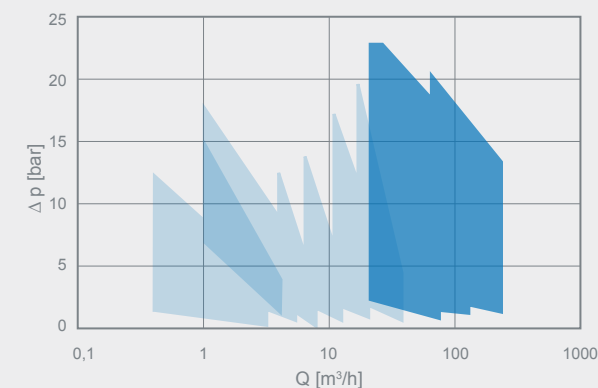
Capacity: max. 7.5 m³/h  
 Delivery head: max. 98 m  
 Speed: max. 1,800 rpm  
 Temperature: max. 120 °C  
 Casing pressure: PN 10

### Construction

**Materials:**  
 Cast iron

**Shaft sealing:**  
 Gland packing

## Side channel pumps for LPG



Top discharge

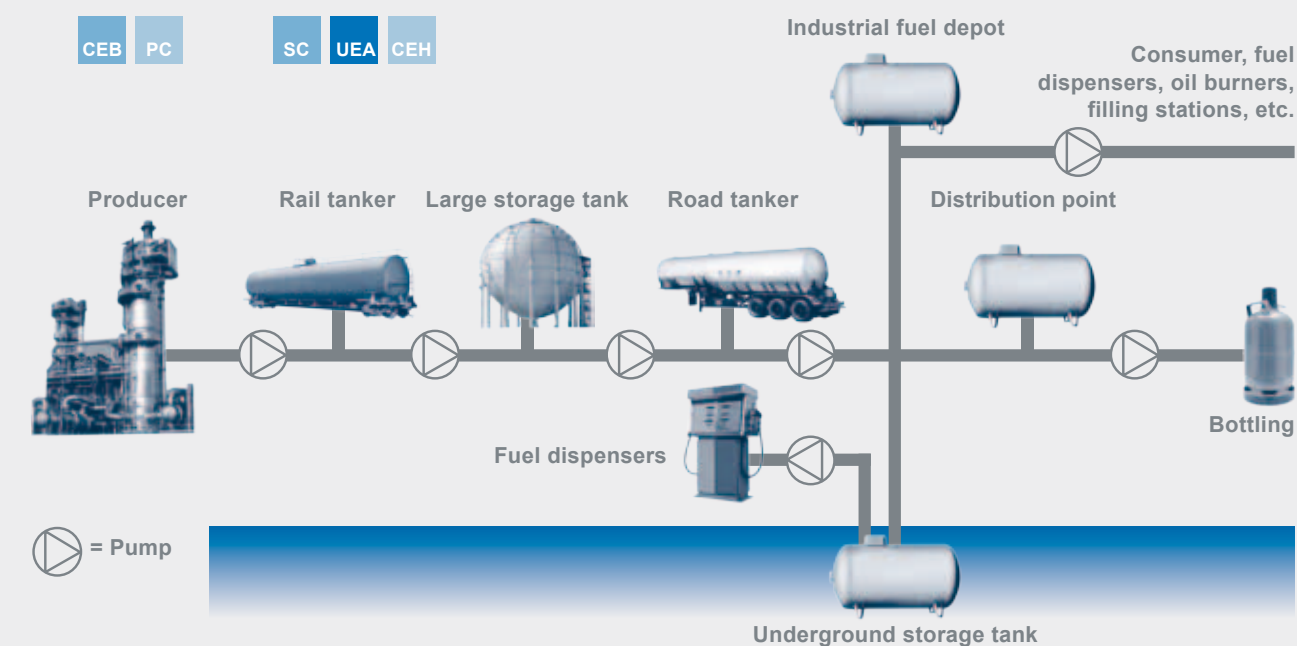
CEB PC

Bottom discharge

SC UEA CEH

During the various stages of distribution, pumps are required to transfer LPG in order to compensate for the pressure losses in the flow process.

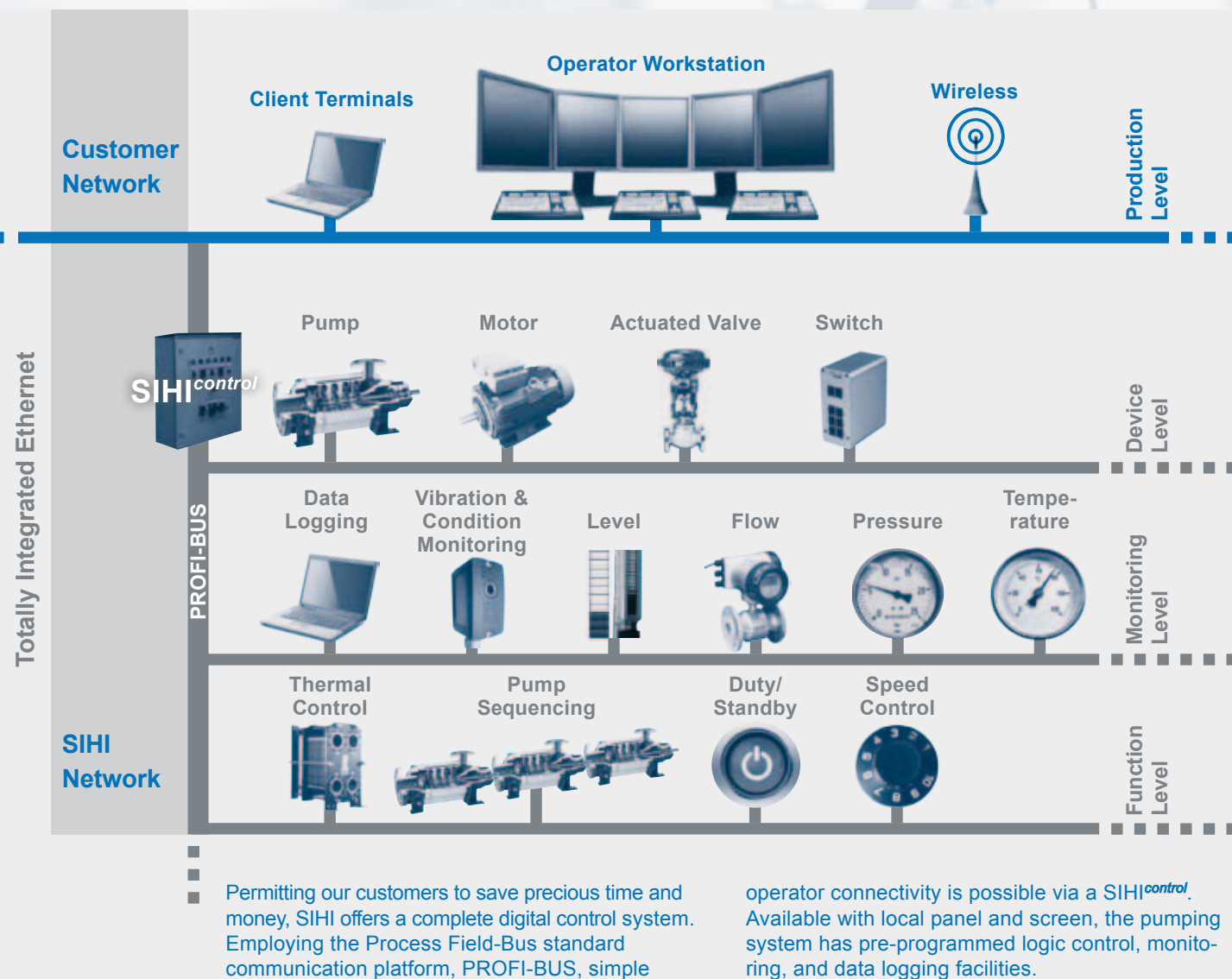
Under normal atmospheric conditions, liquified gases would be gaseous. Depending on the temperature at certain pressures, they can be liquefied.



Side channel pumps

Vertical tank pumps

## From concept to integration



## Your process partner Committed to engineering excellence

### Understanding the process

- + 100 years of experience
- + Staff trained to communicate at all levels
- + Deep application knowledge
- ... Solutions with minimal customer effort

### Optimum product range

- + Unique process can be treated with simplicity
- + Reduced cost of design, manufacture, and documentation
- + Predictable site testing and commissioning
- ... Customised solutions for standard capital costs

### Design

- + Advanced design tools
- + Highest level of machine efficiency
- + Long lasting reliability
- ... Reduced energy, maintenance, and environmental costs

### Manufacturing

- + Centre of excellence structure
- + High level of skill and competence
- + Ongoing people and process development
- ... Reduced integration costs

### Testing & documentation

- + Factory and Site Acceptance Tests
- + Certified documentation
- + Witnessed customised testing
- ... Reduced validation and commissioning costs

### Quality assurance

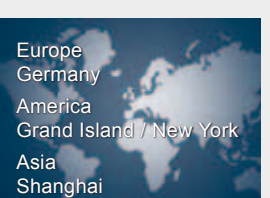
- + Total Quality Management
- + ISO9000
- + Rigorous health and safety culture
- ... Long term security

### Aftermarket – a local approach

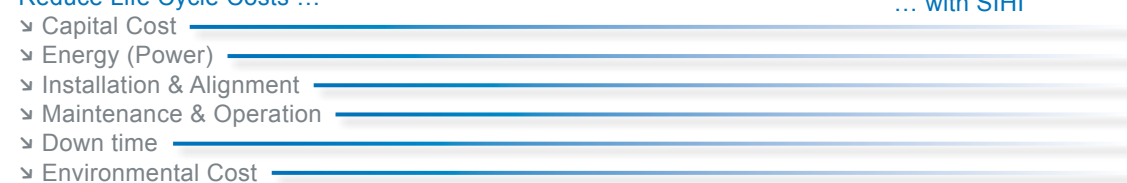
- + Dedication to process uptime
- + Locally positioned service & technical centres
- + Easy access to support, on a worldwide level
- ... Highest level of customer care

### Competence Centre

- + Centralised design, purchasing, production, compliance, and local support
- + De-centralised (local) quotation and project management teams



### Reduce Life Cycle Costs ...



### SIHI<sup>detect</sup> – Condition based monitoring



#### Detect wear before damage occurs

- + Cavitation and process turbulence
- + Simple to connect
- + LED display
- + Available Ex
- + All rotating machinery
- + DCS integration and continual monitoring

Noise and Vibration analysis allows this compact device to diagnose the (often hidden) symptoms of longer term damage *even* before vibration occurs.

For further address details please visit:  
[www.sterlingSIHI.com](http://www.sterlingSIHI.com)

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