



# **Glandless vertical pump type NVT with magnet drive**

**Quality and Know How,  
A Pump's Most Efficient  
Combination**

Klaus Union is one of the leading manufactures of pumps and valves specially designed for the chemical industrial market. The professional production capability acquired over more than 50 years, a sophisticated and state-of-the-art fabrication process provide an excellent basis for finding optimum solutions to any special problems: versatile response to any specific requirement imposed by the user. Pump and valve units supplied by Klaus Union are of superior quality and come up to the highest standard. They contribute to appreciably enhance both performance and safety of your installation and, besides, they cut pollution to the benefit of environment and mankind. Klaus Union: We set the standard for pumps.



**Quality Assurance**

It is the policy of Klaus Union to achieve adequate quality assurance for the manufacture of all products to ensure they comply with contractual requirements. All sub-suppliers are totally committed to assure and achieve the contractual requirements through vigorous implementation of the quality assurance program. All purchased material is repeatedly inspected for conformity on receipt and after assembly. The quality assurance system established according to latest state-of-the-art principles fully complies with the requirements specified in international codes and regulations.

A quality assurance system that has been verified and certified warrants that the requirements imposed by you are fully complied

Klaus Union is the holder of the following approval stamps:

- AD 2000 WO / TRD 100
- AD 2000 HPO / DIN EN 729-2
- Inspection of a Production Facility for Pressure Vessels according to Directive 97/23 EC



**The Safety System –  
Perfectly Seals  
Aggressive, Explosive  
and Toxic Fluids**

High safety demands are put on pumps delivering highly dangerous fluids. In addition to their normal application, the pumps must prove their safe and reliable operation even under adverse and extreme conditions, all by maintaining the perfectly sealed condition for a very long period of time.

Is this a stringent requirement? Pumps and valves manufactured and supplied by Klaus Union under the tradename *sealex* incorporate this safety.

The pumps come without stuffing box, instead they are equipped with the permanent magnetic drive system thus ensuring leakage-free pumping of all fluids with their exceptional operational performance and reliability safely maintained.

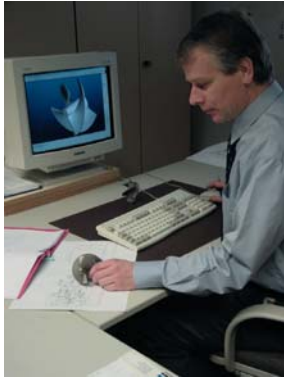
The *sealex* system eliminates the need for shaft passages since the motor torque is transmitted to the perfectly sealed volutes in the absence of any mechanical contact. This advanced technology involves the central coupling where the permanent magnets with the same even number of poles are alternating thus ensuring a perfect rotational symmetry.

The concentric design of the coupling safely prevents any undesired radial and axial forces from acting on the mechanical bearings.

Adaption of the torque to any required operational mode is made by varying the system diameter and its height.

Full rotation of the coupling will not affect the condition of the magnets. After de-energizing the drive, synchronization of both coupling halves is restored automatically.





***sealex* Engineered by  
Klaus Union  
Advanced Concept  
Operating Successfully  
in Installations –  
World-wide**

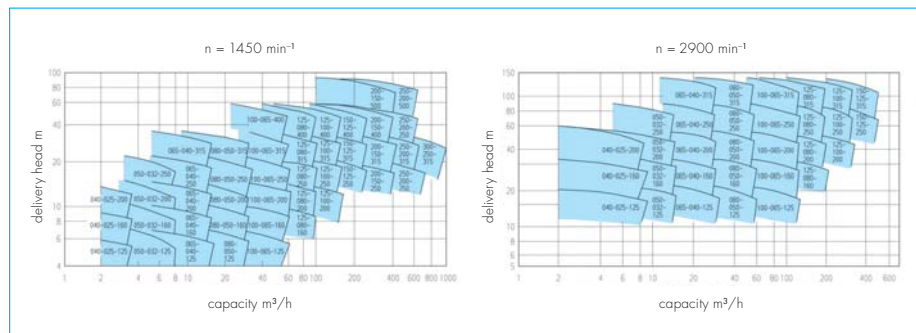
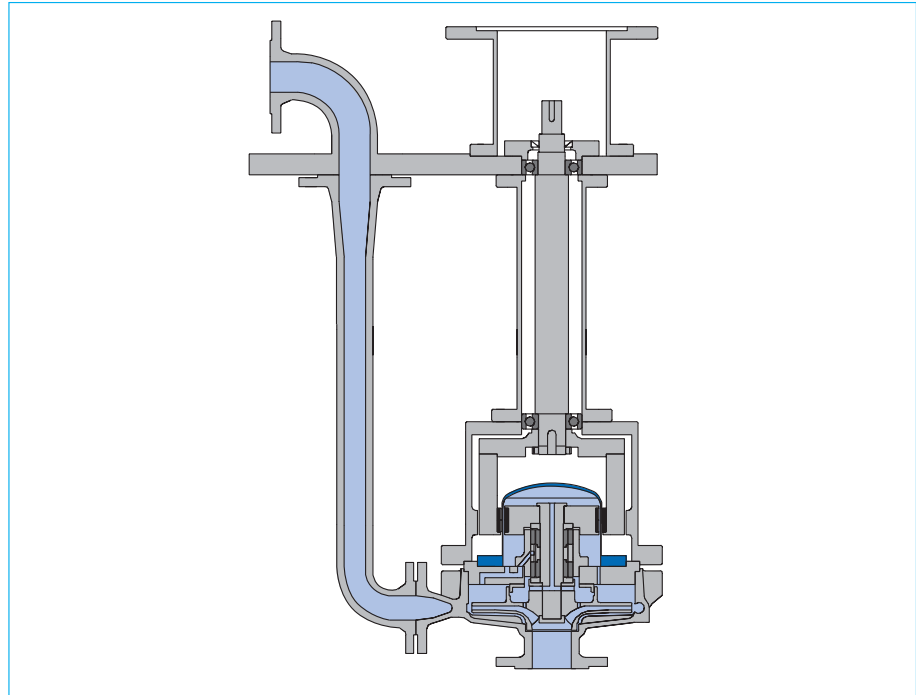
Research and development work continually made by Klaus Union focussing at an advanced technology of environmental compatibility has resulted in a product range that warrants safe and reliable operation in compliance with virtually all and any requirements.

In addition to the products listed in this leaflet, Klaus Union can assist you in resolving any of your special problems. Contact us for any further particulars you may require.



## SLM NVT

**Glandless centrifugal pump type  
SLM NVT  
permanent magnet drive  
hydraulic acc. to  
DIN EN 22858  
vertical construction**



### Technical Data

Q up to 1000 m<sup>3</sup>/h  
H up to 150 m.L.C.  
t from -50 °C up to +150 °C  
p up to PN 16

Special constructions  
on demand

### Use

#### Pumping

acids  
lyes  
hydrocarbon  
heat transfer liquids  
liquid gas  
aggressive, explosive and toxic  
liquids

#### Domain

Chemical and Petrochemical  
Industries  
Refrigeration and Heat  
Engineering  
Galvanic Engineering  
Power Stations  
Tank Installations

### Construction

- vertical centrifugal pump  
dry supporting tube
- permanent magnet system  
*sealex*, no shaft duct
- separation of liquid  
chamber / atmosphere by  
means of an isolation shell
- transmission of force slipless  
by inner and outer magnet  
system
- slide bearing radial and axial  
made of silicon carbide
- bearing of outer magnet  
system (outer magnet  
carrier): deep groove ball  
bearings

### Materials

#### Standard Type of Construction

spiral casing: 1.4408  
impeller: 1.4408  
isolation shell: 1.4571/2.4610  
inner magnet carrier:  
1.4571/2.4610  
slide bearing: silicon carbide

#### Special Alloy

1.0619 GP240GH  
1.4308 G-X6CrNi189  
1.4361 G-X2CrNiSi1815  
1.4539 G-X2NiCrMoCuN2520  
2.4685 G-NiMo28  
2.4686 G-NiMo17Cr  
3.7025 G-Ti

further material on demand

## Production Programme Pumps

### SLM-Pumps with magnet drives

Chemical centrifugal pumps acc. to DIN EN 22858

Chemical centrifugal pumps in close coupled design

Multistage casing pumps

Side channel pumps

Vertical centrifugal pumps

Submerged pumps

Self-priming spiral casing pumps

Screw pumps

Special designs

SLM agitator drives



### Pumps

Chemical centrifugal pumps acc. to DIN EN 22858

Multistage casing pumps

Horizontal and vertical propeller pumps

Bottom flange propeller pumps

Vertical centrifugal pumps (Nobox system)

Submerged pumps

Double-suction chemical pumps

Special designs

## Production Programme Valves

Globe valves with stuffing box

Globe valves bellows sealed

Check valves

Gate valves

Swing check valves

Strainers

Sight glasses

Bottom valves

Relief valves

Control valves

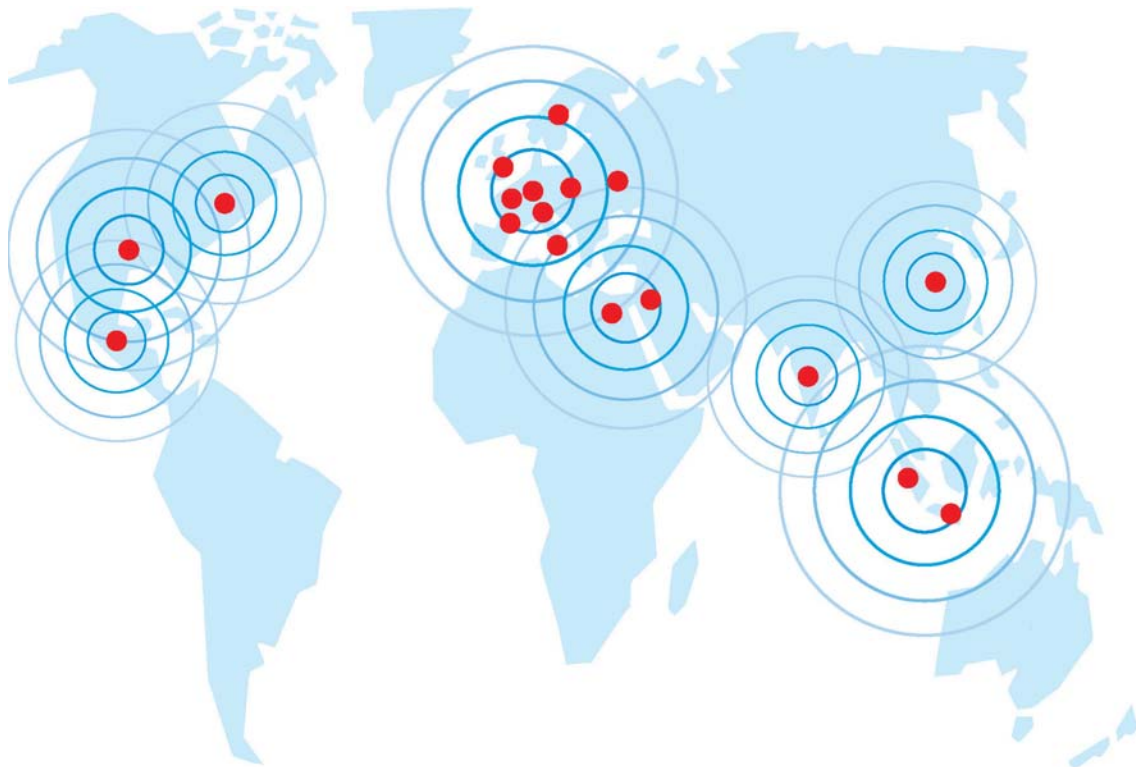
High pressure valves

Valves for cryogenics

**Valves with electric or pneumatic drive**

## Our Service: Very close to customers – all over the world

This most unique drive system, a wide range of products in best quality as well as many years of experience have made KLAUS UNION a worldwide leading supplier of pumps with magnet drives and valves. All over the world we are represented with our own companies, sales offices and agencies. All over the world we are offering complete services from perfect proposals and advice up to technical after-sales service.



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