

**Performance Spectrum**

**Chemical**



HEART OF HIGHTECH



### Pumping Principle



**Depending on the selection of rotating elements, Positive Displacement Pumps from Scherzinger are available as External Gear Pumps, Internal Gear Pumps and Gerotor Pumps.**

Positive Displacement External Gear Pumps transfer fluid by means of two rotating gears. The gear that is fixed on the Drive Shaft (Drive Gear) transmits its rotation onto the second (Driven) gear. As the gears revolve, a suction zone is created on the inlet port side and fluid is drawn into the gears. As gear teeth mesh, a defined volume of fluid is displaced around the outside of both gears and is forced out through the discharge port side against pressure.

As a specialist for Rotating Positive Displacement Pumps, Scherzinger exclusively applies External Gear Pumps in the Chemical Industry. Compared to other styles, the external Gear Pump differentiates itself by a low adhesion factor and a high resistance to abrasion.

**Due to the simple, robust construction as well as operational safety, the gear pump is the most common Rotating Positive Displacement Pump.**

**The gears of the pump accomplish three tasks:**

- Displacement of the pumped fluid
- Generation of pressure differential and sealing off between inlet and outlet ports
- Transmission of torque to the driven gear

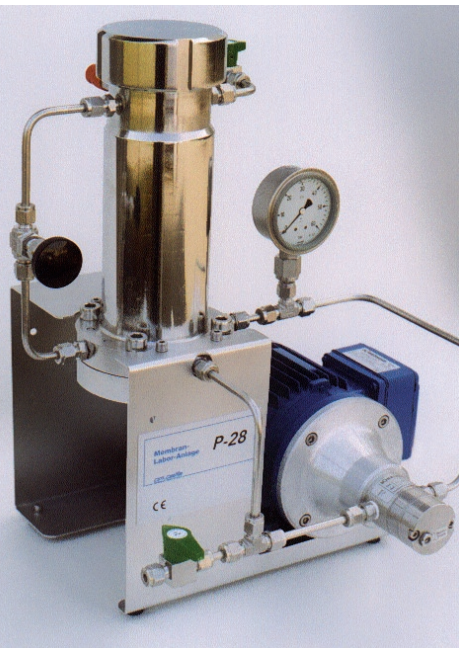
**For the transfer of aggressive fluids, your processes require an increased degree of protection and safety.**

**We guarantee you reliable Gear Pumps for Chemical and Laboratory applications.**

**Scherzinger places focussed emphasis on:**

- The careful selection of construction materials
- Precise methods of manufacturing with even the most difficult materials
- The use of adapted surface technology
- The selection of the corresponding volume flow regulated drive
- The possible application in explosion-proof areas





## Applications

**Scherzinger Chemical Series Gear Pumps are suitable for virtually all fluid media from bases to different acids.**

**Engineers at Scherzinger consider the following criteria when designing these series of Gear Pumps for the Chemical Industry:**

- **The transferred fluid** defines construction materials to be used
- **The fluid temperature and the inlet pressure** influence the seal type
- **The differential pressure** defines the drive performance
- **The viscosity** affects the pumping rotation speed
- **The application** influences the type of drive and design required

**Sample applications include:**

- **Biotechnology:**  
Handling of fluids in the fermentation process
- **Petrochemistry:**  
Transfer of sulphuric acid during the production of bio-diesel
- **Chemicals:**  
Feed and discharge out of vaporizers and reactors
- **Laboratory:**  
Metering a wide range of fluid with replaceable pump head
- **Pharmaceuticals:**  
Coating of syringe bodies
- **Process Engineering:**  
Circulation of flush fluids in rotating mechanical seal systems

## The Scherzinger Advantage



Scherzinger Gear Pumps are the answer for your individual and production transfer requirements in the Chemical Industry.

Decades of experience in development and manufacturing technology ensure you of customized individual solutions and the highest operational performance possible.

Customers worldwide trust in Scherzinger Pumps because we offer you an innovative partner for intelligent transfer applications and systems through:

- Comprehensive product consultancy and service
- Professional and innovative development team
- Specific individual and series product solutions adapted to the application
- Manufacturing methods and handling of high-quality materials
- Complete verification and extensive testing prior to delivery
- Highly innovative thinking
- Certification ISO 9001 and DIN EN ISO 14001

# Metering Pumps 3030 – 4030 Series



## Design

In order to ensure leak-free operation, the pump is simultaneously driven and sealed

using O-Rings, eliminating the need for a rotary shaft seal.

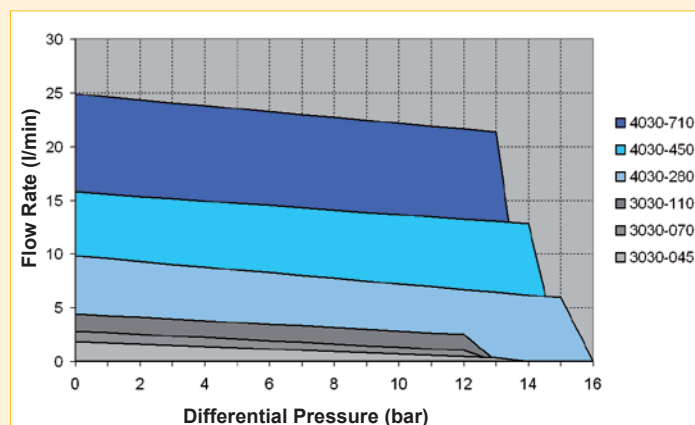
The drive magnet assembly is mounted on the shaft of the motor. The magnet transmits the torque over the non-magnetic containment shell through to the driven magnet assembly. The driven magnet assembly is mounted on the drive shaft within the interior of the pump.

The pump body is comprised of two housing components. The shafts with fixed gears are assembled in the cover and housing, supported by sleeve type bearings. The gears are optimized to reduce noise and pulsation during operation.

## Operating Range

$\Delta p$ :	max. 40 bar
Flow Rate:	max. 22 RPM
Inlet Pressure:	max. 100 bar
Suction Lift:	max. 9 m
Temperature Range:	- 40 °C bis + 250 °C
Viscosity Range:	0.6 bis 50,000 mPas*

## Flow Performance Data at 1 mm<sup>2</sup>/s Liquid Viscosity



\* Variable on speed

Exemplary

## Areas of Application

### The Pumps Can Be Used:

- For low to medium viscous and particle-free liquids
- For everything from degreasing agents through to strong lubricants
- For alkaline and acidic fluid media
- For inlet pressures of 80 mbar absolute through to 100 bar positive pressure
- For speeds of 0 up to 4,000 RPM
- For use in normal and hazardous environments (ATEX II 2G & II 2D)

### Frequently Handled Fluids:

- Caustic Soda
- Sulphuric Acid
- White Oils
- Soldering Flux
- Methanol
- De-Ionised Water
- Glycerine, Glycols
- Di-Isocyanate, TDI
- Flocculent
- Inks
- Emollients
- Hydrogen Peroxide
- Lubricants
- Polyols, Polymers
- Adhesives
- Paraffin Oils

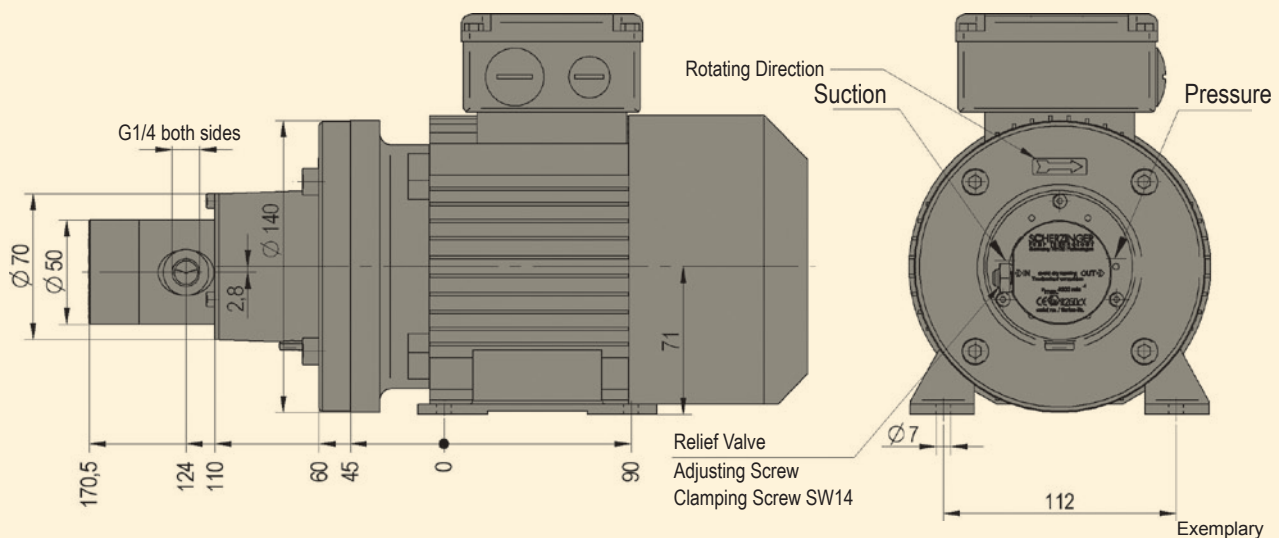


## Versions

- Metallic Materials: Bronze, Stainless Steel, Hastelloy or Titanium
- Bearings and Gears: PTFE, PPS, Ceramic, Steel
- Threaded Connections: Metric, BSP or NPT
- Variable Flow Rates – (6) Different Pump Head Sizes
- Air Motors, DC and EC Motors, AC Single and Three-Phase Drives

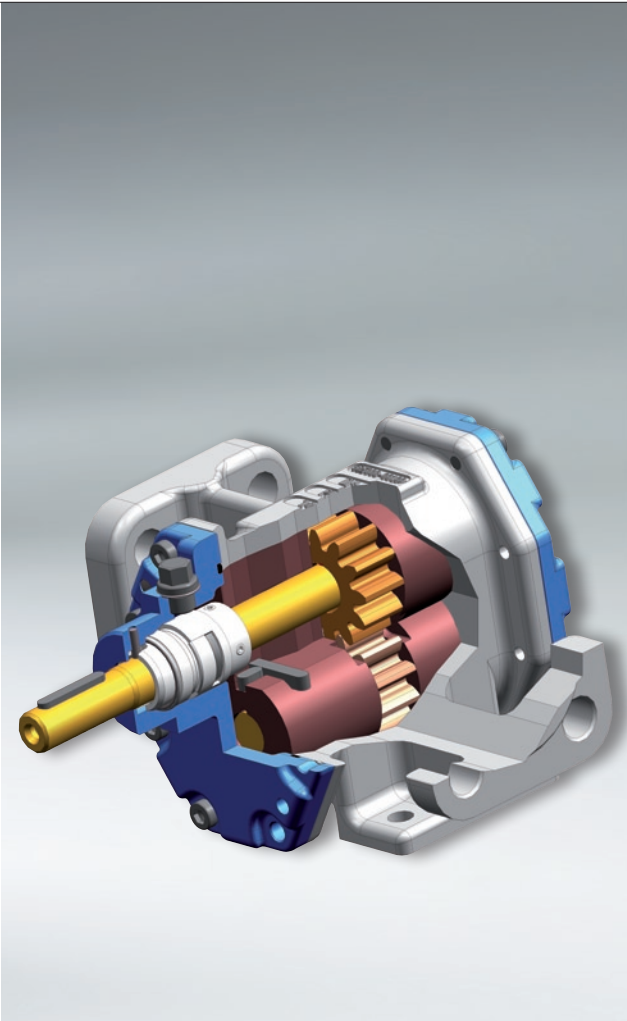
4  
5

## Dimensions in mm





# Process Pumps 35000 Foot Mounted Series



## Design

The pump can be fitted with a wide range of rotary shaft seals.

Selected drive transmits torque over a shaft coupling directly to the pump, resulting in the development of higher rates of torque.

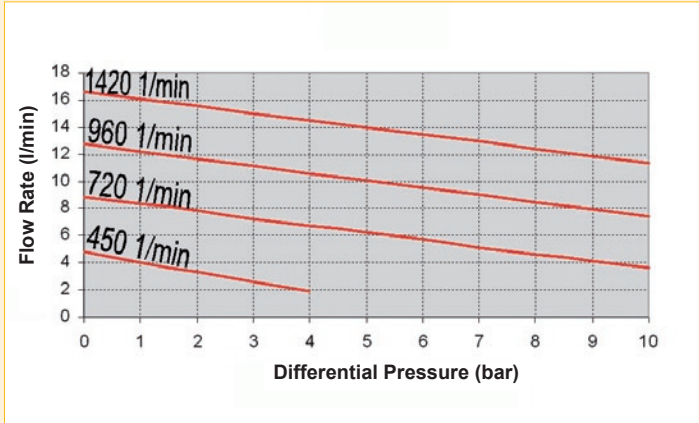
The pump body is comprised of three housing components. The shafts with fixed gears are arranged in the housing, supported on sleeve type bearings.

In order to ensure greater flexibility and performance, the sleeve bearings are available in a wide range of materials.

## Operating Range

$\Delta p$ :	max. 10 bar
Flow Rate:	max. 90 RPM
Inlet Pressure:	max. 16 bar
Suction Lift:	max. 6 m
Temperature Range:	- 30 °C to + 200 °C
Viscosity Range:	0.6 to 100,000 mPas*

## Flow Performance Data at 1 mm<sup>2</sup>/s Liquid Viscosity



\* Variable on speed

Exemplary

## Areas of Application

### The Pump Can Be Used:

- For special medium to high-viscous and particle-free liquids
- For everything from degreasing agents through to strong lubricants
- For alkaline and acidic media
- For inlet pressures of 200 mbar absolute through to 16 bar positive pressure
- For speeds of 0 up to 1,800 RPM
- For use in normal and hazardous atmospheres (ATEX II 2G & II 2D)

### Frequently Handled Fluids:

- Adhesives
- White Oils
- Polyols
- Glycerine, Glycols
- Polymers
- Inks
- Paraffin Oils
- Honey

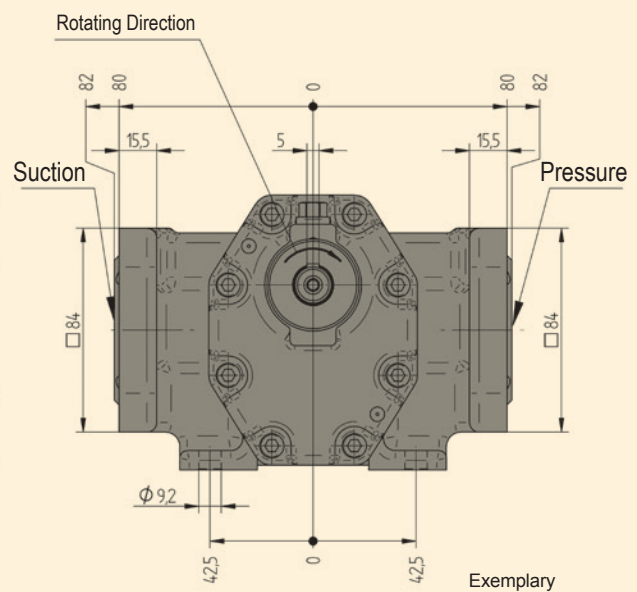
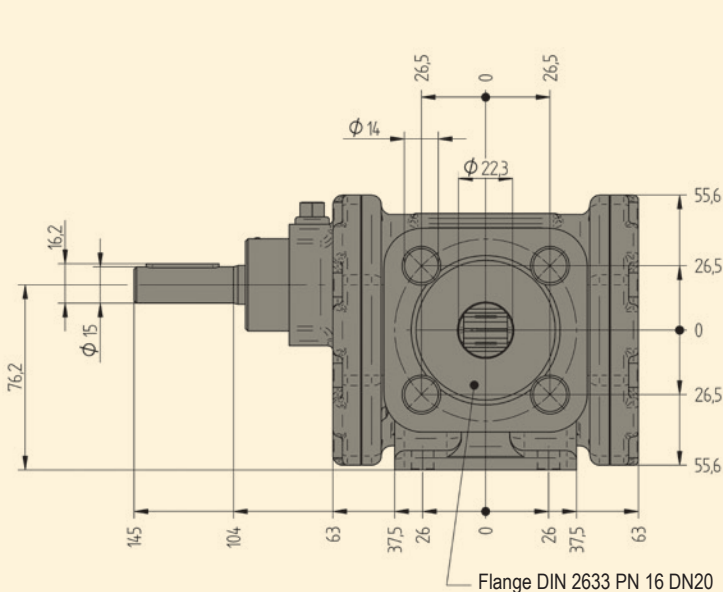


## Versions

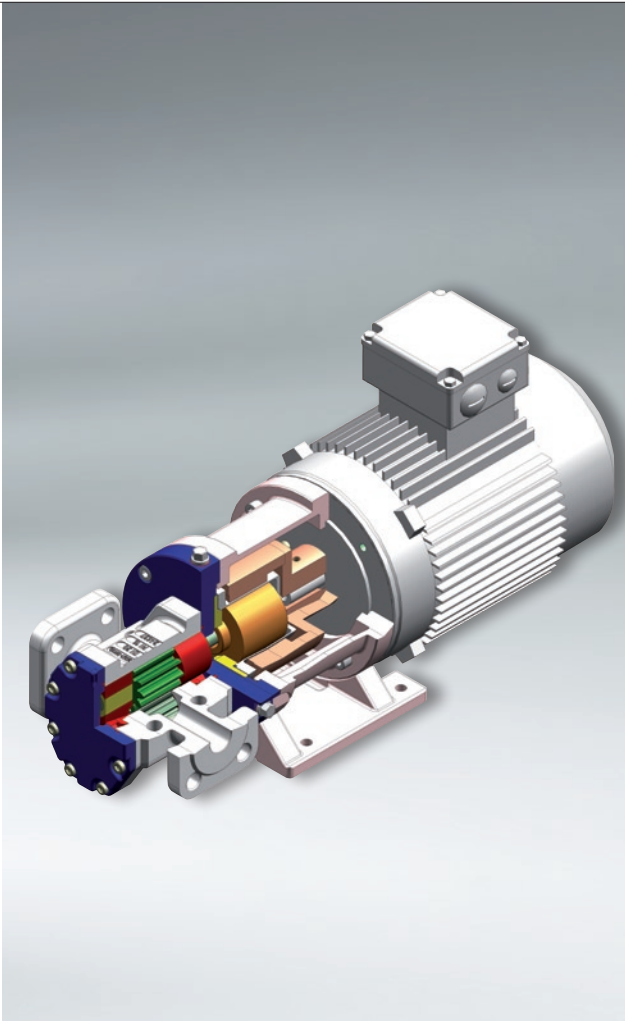
- Shaft Seals: Packed Stuffing Box, Single or Double Rotating Mechanical Seals
- Metallic Materials: Stainless Steel or Hastelloy
- Gear Combinations: PTFE, PEEK, Waukesha 88 and Hastelloy
- Bearings: Carbon Graphite or Ceramic
- Flanged Connections: DIN 2633 or ANSI
- Variable Flow Rates – (3) Different Model Sizes
- AC Single and Three-Phase Drives - Base Plate Mounted

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7

## Dimensions in mm



# Process Pumps 35000 Magnetically Coupled Series



## Design

In order to ensure leak-free operation, the pump is simultaneously driven and sealed over a magnetic coupling.

The pump is statically sealed using O-Rings, eliminating the need for a rotary shaft seal.

The drive magnet assembly is mounted on the shaft of the motor. The magnet transmits the torque over the non-magnetic containment shell through to the driven magnet assembly. The driven magnet assembly is mounted on the drive shaft within the interior of the pump.

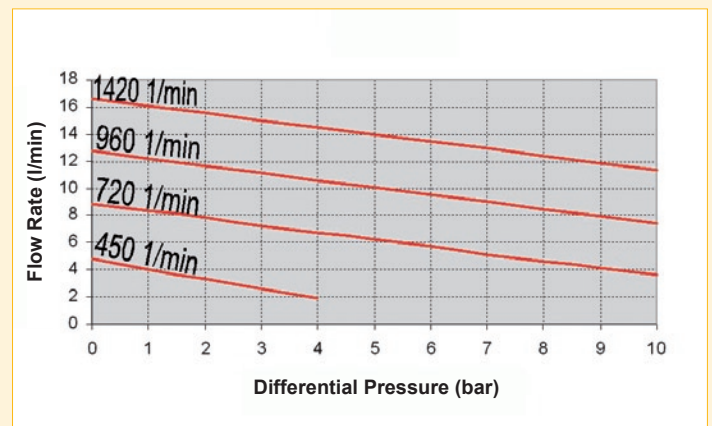
The pump body is comprised of three housing components. The shafts with fixed gears are assembled in the cover and housing, supported by sleeve type bearings. In order to achieve high resistance to wear, fixed and slide bushings are made of hard metal and ceramic materials.

## Operating Range

$\Delta p$ :	max. 10 bar
Flow Rate:	max. 90 RPM
Inlet Pressure:	max. 16 bar
Suction Lift:	max. 6 m
Temperature Range:	- 30 °C to + 200 °C
Viscosity Range:	0.6 to 50,000 mPas*

\* Variable on speed

## Flow Performance Data for 1 mm<sup>2</sup>/s Liquid Viscosity



Exemplary



## Areas of Application

### The Pumps Can Be Used:

- For low to medium-viscosity, particle-free liquids
- For everything from degreasing agents through to strong lubricants
- For alkaline and acidic fluid media
- For inlet pressures of 80 mbar absolute through to 16 bar positive pressure
- For speeds of 0 up to 1,800 RPM
- For use in normal and hazardous environments (ATEX II 2G & II 2D)

### Frequently Handled Fluids:

- Caustic Soda
- Sulphuric Acid
- White Oils
- Polyols
- Flocculent
- Hydrogen Hydroxide
- Glycerine, Glycols
- Polymers

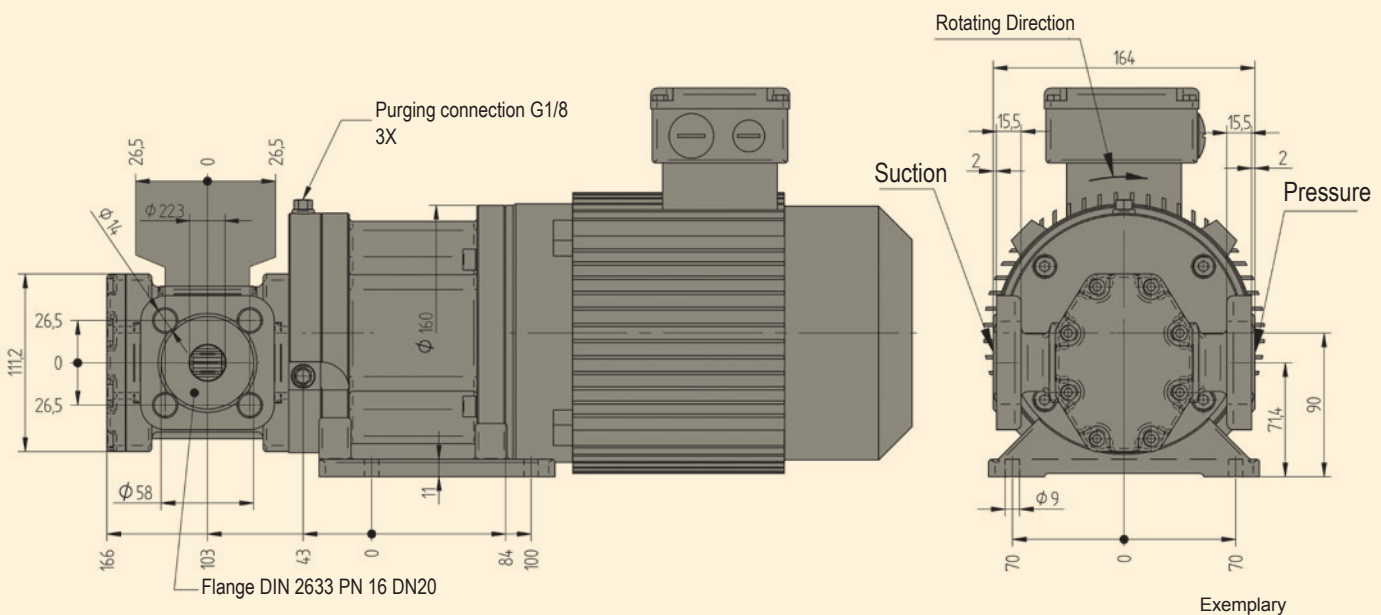


## Versions

- Metallic Materials: Stainless Steel or Hastelloy
- Bearings and Gears: PTFE, PEEK, Waukesha 88 and Hastelloy
- Flange Connections: DIN 2633 or ANSI
- Variable Flow Rates – (3) Different Model Sizes
- AC Single and Three-Phase Drive Options
- Optional Heating Jacket

8  
9

## Dimensions in mm





**An an innovative partner for intelligent transfer applications and systems, Scherzinger offers you a comprehensive service program to fulfil your technical and logistic requirements.**

**Our worldwide representative network allows us to handle your specifications individually in a prompt and reliable way.**

**Benefit from:**

- Product consultancy and order processing in your national language
- Our expert experience regarding import, export and customs clearance procedures
- State of the art facilities guaranteeing you quality repairs – every time
- Short notice and complete replacements within one business day
- A pump training session tailored to your individual application needs



### Product Consultancy

Our long-term experience and expertise in the Chemical Industry allows us to offer you consultation specifically tailored to your application requirements.

During the conception phase we determine a solution on the basis of your specifications that offers you performance and exceptional value.

**Benefit from advantages allowing for rapid achievement of your goals:**

- Proven pump concepts provide for a synchronized combination of material selection
- A comprehensive knowledge in development and production of our products guarantees you a precise and timely proposal presentation
- Detailed presentation materials including extensive product documentation



## Customized Gear Pump Solutions

In order to reach high levels of process safety and performance, customers need specialized and individual tailored solutions.

We have identified this requirement and have focussed for over 70 years on customized development to meet this demand.

Experience long-term benefits from intensive cooperative networking with our product managers. You will find the results to be prompt, high-quality solutions that are specially designed for your application – reliable and precise.

### Benefit from:

- Development and production of tailored gear pumps in the shortest time possible
- A fast and easy data transfer for almost all current CAD-systems
- Our core competence of machining different materials
- Proven synergies between development and production during the design process

## Verification and Testing

The highest standard of quality is paramount at Scherzinger Pump Technology. The term “Heart of Hightech” in part stands for reliability, provided through extensive testing.

Not only do we test existing products prior to delivery but we also test new product designs under field simulated conditions.

**Advantage: Reduction in field testing and test cost savings**

### In addition, we provide you:

- A modern manufacturing and testing facility
- Performance testing designed to individual parameters
- Noise-optimized Gear Pump manufacturing
- Pre-production testing of your product
- Qualified technicians with comprehensive application and product expertise





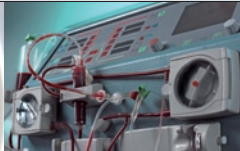
Automotive



Chemical



Energy



Medical



Transfer and Lube



Services



HEART OF HIGHTECH

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