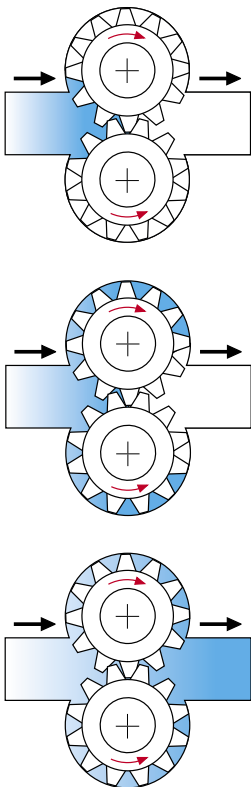


## Verdergear Liquiflo industrial gear pumps



The Liquiflo series of gear pumps consists of 10 models for a large capacity range.

### Working principle



A gear pump is an impeller pump and consists of two cogwheels which rotate in opposite directions and mesh into each other at the input end of the pump. The pump housing has an input and output connection. The motor directly drives one cogwheel (driving) and the driving cogwheel drives the other.

### Advantages and characteristics

- Pulsation-free flow of liquid
- High dosing accuracy
- Available with axle seal and in a magnetically driven version

### Pumping hot liquids

A hot liquid causes expansion in the pump and (usually) a reduction in the viscosity of the liquid. Gear pumps with a seal can pump liquids up to a maximum temperature of 315 °C if the cogwheels are made of metal or carbon, or when carbon wear plates and bearings, and seals with carbon are used. When selecting the temperature, information is used to see what effect this temperature could have on the materials. The cogwheels can also be thinned down lengthwise and in their diameter to absorb the thermal expansion. The magnetically linked gear pumps can pump liquids with a maximum temperature of 287 °C and can be constructed in three different magnetic materials, ceramic, samarium cobalt and neodymium iron. The magnets are oversized because the temperature reduces the strength of the magnets.

### Pumping viscous liquids

The Verdergear pump series 3 is extremely well suited to pumping viscous liquids. Because the viscous product fills up the space in the pump and minimises the internal slip or even eliminates it, high dosing accuracy occurs. The necessary motor power when pumping a viscous liquid can be reduced when the cogwheels are thinned down and the rotational speed reduced.

### Pumping thin liquids

When pumping thin liquids with a very low viscosity the materials will be subject to heavy wear and tear and slippage will occur in the pump. With the Liquiflo pumps it is possible to pump liquids with a viscosity of 0.3 cP. When pumping thin liquids the surfaces between the bearing/axle and the cogwheels will only be minimally lubricated, and this causes a higher degree of wear and tear. To prevent greater wear and tear tungsten carbide axles, silicon carbide bearings and specially developed front and back casings can be used.

## Models

### ■ Series 3 Industrial gear pump



Maximum capacity of 208 l/min and a maximum pressure difference of 7 bar. Can also pump liquids with a viscosity up to 30,000 cP.

This series consists of 10 magnetically linked or axle-sealed gear pumps for the chemical industry. All pumps are available in stainless steel 316 or Alloy-C and the largest types 312 and 314 are also available in cast iron. Various possibilities for the axle seal or the magnetically linked versions ensure that the right combination of pump is chosen for each application. The choice of materials for the cogwheels, wear plates, bearings, and axles also makes this possible.

### ■ Series H Industrial gear pumps



Maximum capacity of 102 l/min and a maximum pressure difference of 16 bar. They can also pump liquids with a viscosity of up to 40,000 cP.

This series has larger axle diameters, larger bearings, seals and larger wear plates than the 3 series. The life span of the pumps is 2 to 4 times longer than pumps with a similar pumping capacity. The right combination of materials and seals (axle seal or magnetically linked) can be selected for any application.

## Key data

Capacity	0 – 6 m <sup>3</sup> /h
Pressure	tot 16 bar
Viscosity	up to 40,000 mPas
Temperature	-62 °C – +260 °C

## Options

- Air relief valve, thrust limiter

## Application areas

- Waste water treatment
- Water purification
- Chemical dosing
- Semi-conductors
- Machine construction
- Pharmaceuticals
- Breweries
- Paper industry