

**Weir Minerals Netherlands b.v.**

Slurry  
Equipment  
Solutions



Although times have changed considerably since Weir Minerals Netherlands foundation in 1916, the innovative force of our company has remained constant. We develop solutions for the most extreme applications and produce the largest piston diaphragm pumps in the world.



**Right:** Australia, autoclave feeding of 200°C nickel slurry

The search for new solutions, new markets and new products has made us a market leader with a focus not only in this country, but world-wide.

The basis of the success of Weir Minerals Netherlands was established in 1916. In this year the Holthuis family bought the 'Johan Hillen' iron foundry and machine factory in Blerick. Brothers Rudolf and Joost manufactured foundry castings for the parent company in Groningen. However, due to the economic crisis, they also decided to produce pumps in addition to the foundry castings. The name GEHO was established (GEbroeders HOlthuis). During the Second World War, the factory was almost completely destroyed and during the reconstruction, times were also difficult. Fortunately, the production of pumps as an additional product, meant the business survived.

## The force of innovation



**Left:** API centrifugal pumps for the oil and petrochemical industry



**Right:** China, digester feeding of bauxite slurry

*Managing Director,*  
**Cees Zaalberg:**



*“Oil, coal, iron ore and other raw materials: the demand is increasing worldwide. In countries such as Brazil, Russia, India and China especially, industry is doing overtime. To be able to keep up with the demand for raw materials, new technologies are applied and new locations are exploited. This makes great demands on our knowledge, ability and flexibility. Each application is different: other pressures, other temperatures. Due to Weir Minerals Netherlands innovation, we endeavour to keep our customers satisfied, whether 3000 metres high in the Andes or on the sand plains of Australia!”*

In 1963, the foundry was sold and the company concentrated entirely on the development and production of pumps. The first pumps were intended for groundwater transport and further developed for the transport of sewage and sludge and eventually evolved into the well-known Geho piston diaphragm pumps, used for pumping of ores and minerals. The company was then bought by the American concern Baker Hughes Inc. in 1991, and incorporated into a much larger international network.

In 1992 Baker Hughes acquired Begemann Pumps in Helmond and concentrated all activities in Venlo. Begemann was founded in 1871 and has been selling high-quality pumps since 1900. With Begemann pumps added to our range of products, we focus also on the oil, petrochemical and processing industry.

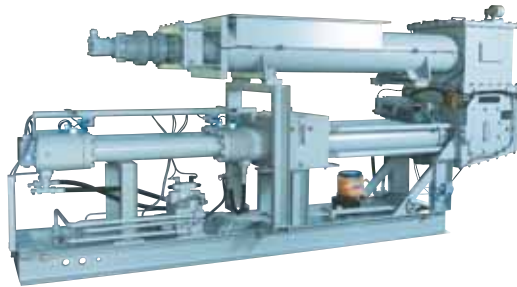


**Bottom left:** *Dewatering of construction sites at home and abroad*



**Top right:** *Producer of the world's largest piston diaphragm pumps*

We continually adjust our products to adapt to the demands of the worldwide market. We are therefore able to offer a broad package of quality products and a wide range of applications.



**Top:** *Geho hydraulic piston pump*

**Bottom left:** *Geho piston diaphragm pump*

**Bottom right:** *Begemann centrifugal pump*

### **Geho pumps for dewatering**

The piston pumps for dewatering of construction sites satisfy all modern demands and are distributed in The Netherlands and international markets.

### **Geho industrial pumps**

The first piston diaphragm pump was marketed in 1974 for the transport of industrial slurry. Since then, we have been able to offer a broad package of pumps for pumping ores and minerals such as coal, zinc, copper, silver, iron ore and bauxite. Moreover, we offer a range of hydraulic piston pumps which can be regulated very accurately for the transport of coarse materials. These pumps enable the pumping of slurry containing coarse material and concrete.

# A broad package of quality products



### **Begemann centrifugal pumps**

Centrifugal pumps are developed and produced under the name Begemann. These pumps are sold worldwide for the oil and petrochemical industry. Begemann pumps comply with the latest edition of the API standard and have been applied successfully for more than one hundred years for pumping liquids, varying from clean water to very aggressive substances.

Managing Director,  
**Cees Zaalberg:**

*"We want to stay ahead of our competitors with our pumps. This demands dedication and knowledge; and this is exactly that what our engineering excels in. Besides the fact that we guarantee an extremely technically high-quality product, we realise all too well that our customers are interested in the integral solution. The pump is important, but forms only a part of the complete pipeline system. Continuous innovation ensures an efficient pump.*

*Global supply, local support; this is the strength of our service department. We install pumps all over the world and can rely on the support of one of our sister companies within the Weir Group for replacement of a part, maintenance and repair. They speak the language, know the local customs and are quickly available on the job. This means shorter waiting time for our customers."*

### **Warman propeller pumps**

Weir Minerals Netherlands developed a special type of propeller pump for the process and salt industry. These Warman pumps are used, for example, for the circulation of brine.

### **Roto-Jet pumps**

The high-pressure Roto-Jet pump with a stationary pick-up tube and rotating rotor is produced by our sister company in Salt Lake City, USA. We maintain the worldwide distribution rights for this type of pump in the API market.

### **Services**

A strong service organisation supports the successful Geho and Begemann pumps. This service is provided worldwide and is well equipped to work anywhere under any circumstances. A team of highly-qualified service engineers are responsible for the worldwide commissioning of the Geho industrial pumps. We also carry out a 'Total Pump Care' programme: maintenance and repair of our own brands and all other brands and types of pumps are embraced by the expertise of our service organisation. In addition, Venlo acts as the West European regional service centre for Warman pumps.



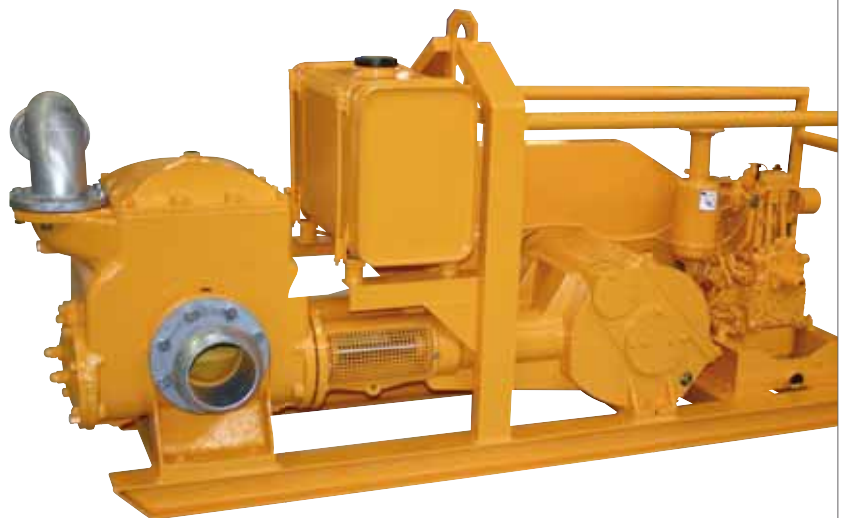
**Top:** Warman propeller pump



**Middle:** Roto-Jet high-pressure pump

**Bottom:** Geho dewatering pump

**Bottom left:** maintenance and repair of all brands and types of pumps



To become and remain a market leader, a company has to offer added value. Weir Minerals Netherlands added value is knowledge. Experience of the possibilities and difficulties of pumps and the knowledge of the various piping systems.



*Modern well-equipped test stand for pump tests in real operating conditions*

Application engineering and material research in our own laboratory ensures that we can develop a pump for each system under all circumstances. A reputation which we have built up, from years of experience and in-house knowledge. Our specialised pumps are applied to new and pioneering applications and sold on the basis of solid research and advice relating to the desired application. A thorough soil analysis can determine the most economical and functional drainage system to lower the level of the groundwater.

Laboratory testing is performed on industrial applications to determine the pumping capability of a slurry and in order to choose the correct type of pump. In our laboratory we determine the abrasiveness of slurries and carry out viscosity research that determines the optimum working pump system.

## Added value: application-engineering and



**Left:** Rheology examination

**Right:** Coal slurry



Managing Director,  
**Cees Zaalberg:**

*"In order to supply the correct quality pump, we perform research into the material which has to be pumped. In-house experts carry out this research and with their knowledge of application engineering we always come up with the solution. Moreover, we also work together with engineering bureaus for pipeline systems."*

Our excellently qualified engineering department uses CAD and CAE programs (3D modelling). To optimise the pumps we also use CFD analysis (computational fluid dynamics). In addition we developed the expertise to supply turn-key projects for transport and storage of fly ash and red mud, a waste product derived from the production of alumina. Before the pumps leave our factory, we test them extensively in our modern test stand in real working conditions, often with the client present.



*Testing of centrifugal pumps*

## research & development



**Left:** Gold slurry



**Right:** India, red mud disposal

As market leader, we have a brand name and reputation to maintain. In order to deliver quality products, we make use of an efficient production process. We work according to the Weir Production System, based on Lean manufacturing or the continuous elimination of waste.



Our pumps are produced in a clean working environment. Everything which is superfluous is removed, each bottleneck cleared up, leading to optimum production flow.

## Tuning the production process to quality



**Top:** Automated vertical lift for tool storage

**Bottom right:** Modern machining shop





**Jan Peter van Leeuwen,**  
*Director Operations & Technology:*

*“Our customers do not only buy a pump, but also quality. In order to guarantee that quality now and in the future, we continue investing in our people, in our machines and in our work ethic. Therefore, we make optimal use of our capital assets and keep our stocks as low as possible. Real time delivery based on the Weir Production System.”*

This leads to:

- Short turnover times
- Short delivery times
- Low costs
- High quality
- Efficient use of space
- Safe working
- A better result

A well planned quality management system tests and improves the process continuously. The ISO and Environmental certificate issued by Lloyds underlines the professional manner of working. The system is designed so that all employees can work continuously. Computers ensure that sufficient materials and parts are present at the correct locations.



**Top:** Quality products in a clean working environment

**Left:** Working according to the Weir Production System based on Lean manufacturing

**Right:** In-house pattern shop

The Weir Group PLC is a leading global engineering company, founded in Scotland in 1871, with more than 8000 employees worldwide. The company, listed on the Stock Exchange, concentrates especially on energy exploitation/power plants, the oil and gas industry, water and sewage treatment, the minerals processing industry and the nuclear and defence industry.



The Weir activities are divided into five divisions: Minerals, Clear Liquid, Valves & Controls, Defence, Nuclear & Gas and Services. Weir Minerals Netherlands is a part of the Weir Minerals division which accounts for approximately 2800 employees worldwide, spread over twelve production companies on all continents.

**GEHO®** Positive Displacement Slurry Pumps

**WARMAN®** Centrifugal Slurry Pumps

**BEGEMANN®** Centrifugal Process Pumps

**ROTO-JET®** High-pressure Pumps

**ISOGATE®** Slurry Valves

Part of a  
worldwide market leader



**Top:** Poland, Patnow Power Plant, transport of fly ash

**Bottom right:** Argentina, copper concentrate pipeline

Managing Director  
**Cees Zaalberg:**

*“With the support of The Weir Group we are ready to advance as an individual company, but making use of the synergy of our sister companies, we move into markets which play an ever increasing role in our society. The many new installations must also dispose of their tailings. We focus on the disposal of tailings with our pumps, such as red mud and fly ash. It all comes down to one thing: all products must be of top quality and reach our customers on time!”*

As an OEM (Original Equipment Manufacturer) Weir Minerals Netherlands has a worldwide responsibility for the primary sales and service of Geho and Begemann pumps. For service and maintenance, the company also makes use of the worldwide infrastructure of the Weir Minerals Division.



**Top left:** The Netherlands, propeller pumps for brine circulation

**Top right:** Mexico, iron ore pipeline

**Bottom left:** Nigeria, Begemann pumps for API application

**Bottom right:** Switzerland, Roto-Jet high-pressure application at a refinery

**Weir Minerals Netherlands b.v.**

Egtenrayseweg 9  
P.O. Box 249  
5900 AE Venlo  
The Netherlands

Tel: +31 (0)77 389 52 00  
Fax: +31 (0)77 382 48 44  
Email: [weir@weirminerals.com](mailto:weir@weirminerals.com)  
[www.weirminerals.com](http://www.weirminerals.com)

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