

GEHO®
Dewatering Systems

Slurry
Equipment
Solutions

WEHR
MINERALS



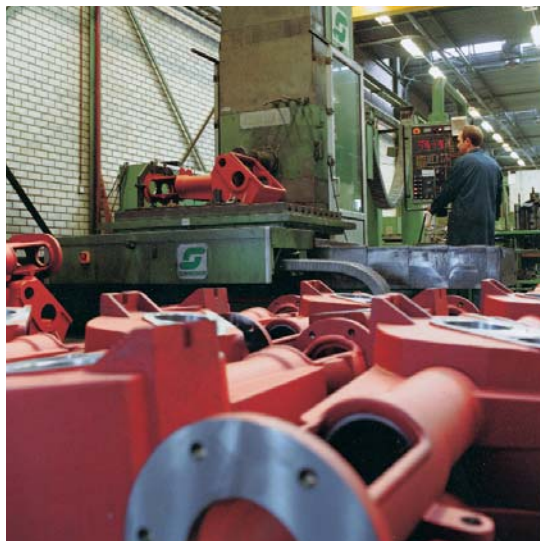
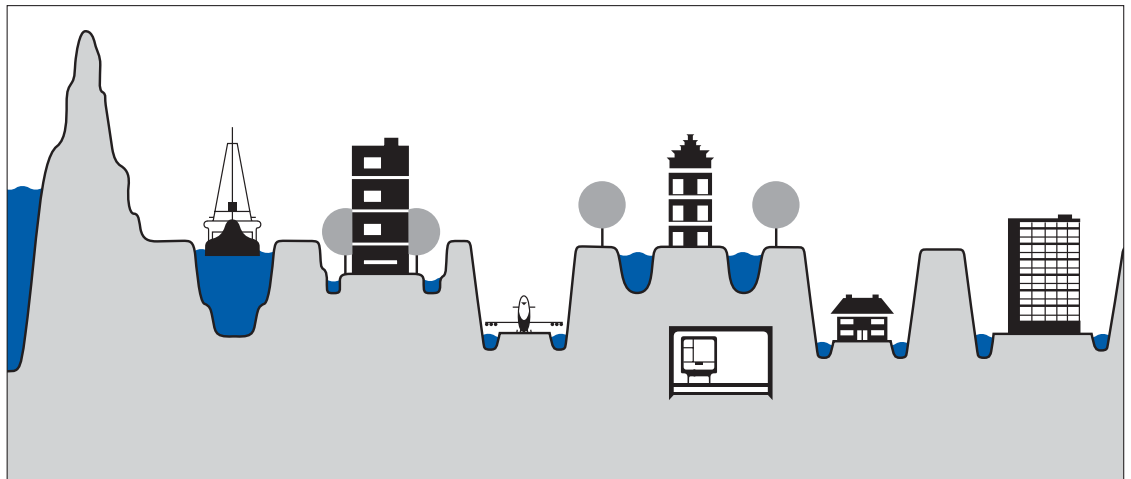
Dewatering systems from waterland Holland

From time immemorial the Dutch have been building dikes and reclaiming land. To them it is a matter of life and death because without the dikes more than half of Holland would have been inundated by the North Sea. In the past centuries land was reclaimed mainly by building dikes, stretching far inland, around areas left dry at low tide. At a later stage windmills were introduced to drain pools and lakes. Nowadays, in many areas of the country pumping stations are operating 24 hours a day. This is to prevent flooding in areas which lie below sealevel. Large hydraulic engineering projects have been undertaken to shorten the coastline of the region formed by the deltas of the river Rhine, Meuse and Scheldt. These provide a safeguard against thundering storms, lashing seas and spring tide.

Polderland, ditched and preserved by effective water management. (KLM Luchtfotografie Schiphol).



Maintaining the water level in the canals requires continuous control and pumping.



Serial production of pump casings.

GEHO's commitment and experience

In 'Waterland Holland' extensive dewatering operations with economic and reliable dewatering systems are essential to allow excavations under dry conditions.

Over half a century GEHO has acquired specialist knowledge about dewatering systems. The company has achieved this by means of active participation in design and development. On this basis GEHO offers a purpose-built range of pumps and accessories, as well as expertise services from engineering to installation and supervision. GEHO's open, wellpoint and deepwell dewatering systems are used throughout the world to the satisfaction of the Dutch and the major international construction companies.

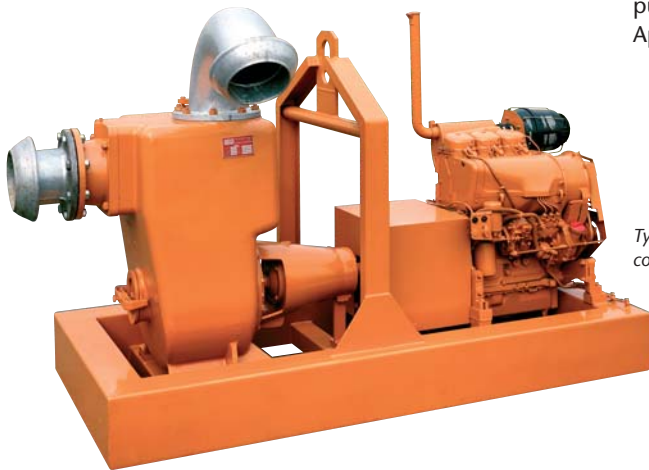


Main office and manufacturing plant.

Open dewatering

Open dewatering systems enable one to lower the groundwater table adequately in cohesive and low permeable soils. Water is pumped off directly from sumps (ditches) along the toes of the slopes of the excavation works.

The suction hose with strainer is merely placed in the sump and the collected water is primed and discharged. This makes the open dewatering system easy to install and simple to operate. The open dewatering system utilizes selfpriming or vacuum assisted centrifugal pumps, the GEHO types VP and VRP.



Selfpriming contractor pumps

The GEHO type VP is a heavy-duty, single-stage and selfpriming centrifugal pump with semi-open impeller. The VP series is suitable for pumping contaminated water up to 850 m³/h against a head of 35 metres.

Applications:

- open dewatering
- general sump pumping
- irrigation

Vacuum assisted contractor pumps

The GEHO type VRP is a heavy-duty, single-stage, channel impeller centrifugal pump, equipped with air separator and vacuum priming pump.

The VRP series is suitable for pumping heavily contaminated fluids of up to 4000 m³/h against a head of 40 metres. The maximum particle size which can be pumped is 40 mm.

Applications:

- open dewatering
- general sump pumping
- wellpoint dewatering (optional)

Type VP, selfpriming contractor pump.



Emergency pump (VRP) for sewage treatment plant.



Type VRP, vacuum assisted contractor pump.

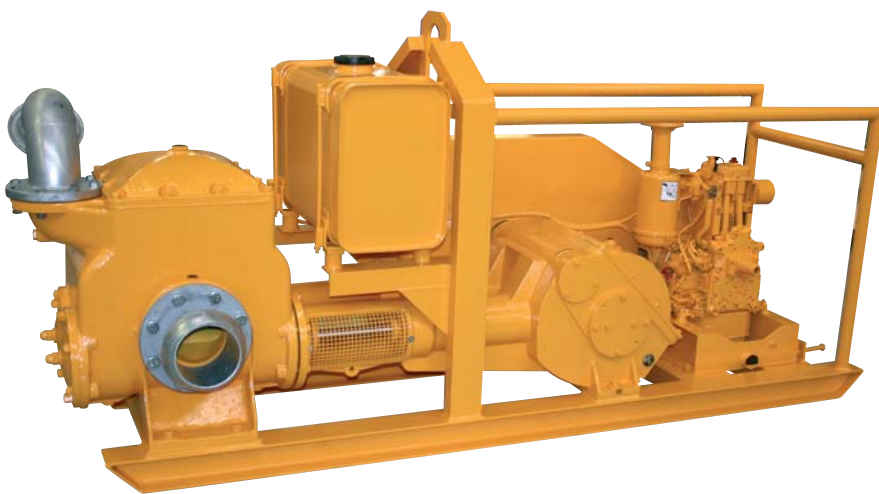
Wellpoint dewatering

Wellpoint dewatering systems enable one to lower the groundwater table adequately for deep and large construction sites. It has proven to be a very flexible system. The water from high permeable soils is pumped from wellpoints, installed along the trench of the site. The wellpoints are jetted and spaced to obtain an efficient drawdown against lowest capacity. The wellpoints with integral strainers are joined to transparent flexible hoses, which are connected by quick release couplers to the ring main header pipeline. Wellpoint dewatering is done either by gravity or vacuum.

The wellpoint dewatering system utilizes vacuum piston pumps or selfpriming, vacuum assisted centrifugal pumps, the GEHO types ZD and VVP.



Dewatering of deep and large construction sites in the Netherlands and abroad.



Type ZD, skid mounted vacuum piston dewatering pump.



Duplex vacuum piston dewatering pumps

The GEHO type ZD is a twin cylinder, quadruple-acting crankshaft driven vacuum piston pump. The crank timing produces a moderate pulsating type action that prevents clogging of the wellpoint strainers and achieves priming from greater depths. Up to 100 m³/h constant capacity water, air or water and air mixture are primed and discharged against a head of 20 metres.

- Applications:
- wellpoint dewatering by gravity
 - wellpoint dewatering by vacuum
 - horizontal dewatering
 - contaminated soil washing



Wellpoint dewatering at sewer and storm water drainage lines and oil and gas pipelines.

Wellpoint dewatering



Excavated dry dock for 12-pipe bundle.

General purpose contractor pumps

The GEHO type VVP is a single-stage, selfpriming semi-open impeller centrifugal pump, equipped with air separator and vacuum priming pump.

The VVP series is suitable for pumping contaminated water up to 800 m³/h against a head of 35 metres.

- Applications:
- wellpoint dewatering by gravity
 - wellpoint dewatering by vacuum
 - open dewatering (optional)
 - general sump pumping



Type VVP, general purpose contractor pump, mounted on trailer.



Three-stage vacuum wellpoint system at a 15 m deep excavation.

Deepwell dewatering

Deepwell dewatering systems enable one to lower the groundwater table to a considerable depth. A submersible pump is installed at the bottom of the well, of which the casing generally has a minimum diameter of 150 mm. The discharge pipes from the submersible pumps of a number of adjacent wells are connected to a common delivery main. The water is raised from the well by a multi-staged pump, the GEHO type SP, which generates a high head corresponding to the depth of the well.

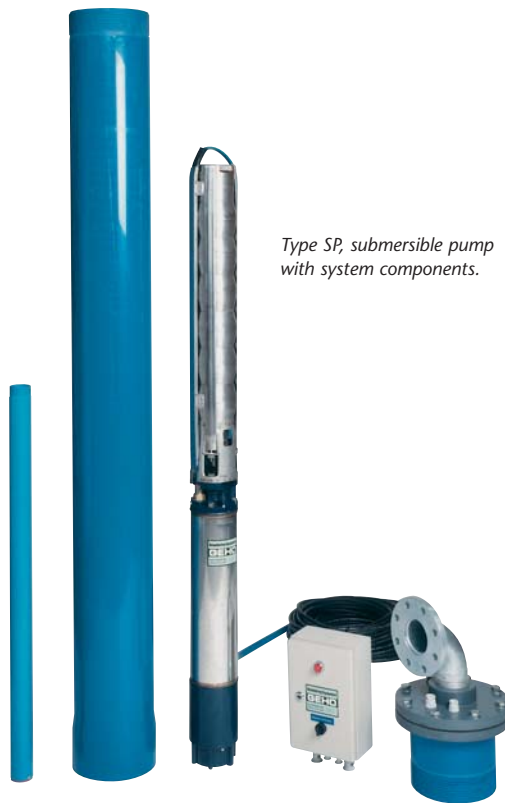
Submersible pumps

The GEHO type SP submersible unit is a combination of a multi-stage, self-lubricated turbine pump and a mechanical sealed water filled submersible motor. The SP series is suitable for capacities up to 160 m³/h against a head of 260 metres.

- Applications:
- deepwell dewatering
 - irrigation
 - public water schemes

Well and wellpoint installation

The GEHO type VPS is a multi-stage, non-selfpriming centrifugal pump. The VPS series is purpose-built for well and wellpoint jetting with capacities of up to 85 m³/h against a maximum discharge pressure of 17.6 bar.



Type SP, submersible pump with system components.

Deepwell dewatering underground storage tank site.



Wellpoint placing with jetting pipe.



Type VPS, wellpoint jetting pump, mounted on trailer.



Dewatering systems with an added value

Complete range of dewatering system components

GEHO supplies a complete range of wellpoints, strainers, vacuum hoses, jetting pipes, headerpipes, quick release couplers and accessories to complete circuits for:

- open dewatering
- wellpoint dewatering
- deepwell dewatering
- wellpoint jetting
- general sump pumping

Individual customer support

The GEHO experts can review excavation plans and soil conditions in order to determine the most economical and suitable functional dewatering system. As part of the service GEHO provides on-site training.




Complete selection of system components.

Bulk shipments, to destinations worldwide.



Extensive inventories.

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