



**Aqseptence
Group**

Solutions for Large and Deep Pumping Stations

Passavant[®], Geiger[®], and Noggerath[®]

**Reliable Performance.
Sustainable Results.**

Reliable Solutions

We offer solutions for sewage and stormwater inlet screen shafts and pits as well as for pumping stations that use shut-off devices (penstocks, sluice gates, and roller gates), control systems, and mechanical pre-treatment and screening/raking machines.



Aqseptence Group is one of the market leaders for mechanical equipment for large and deep pumping stations. Its equipment has a key factor in the shut-off, control, pre-treatment, and treatment of wastewater and stormwater of up to 100 m in depth in pumping stations worldwide. Penstocks, stop logs, and stop plates protect the screens and the entire pumping station from flooding.

At Aqseptence Group, we use the very latest technology – be it for design, dimensioning and manufacturing, assembly, commissioning or customer services – to ensure that our products and solutions comply with, and exceed in many cases, the required standards: in Germany DIN 19569-4 and DIN 19704-1-3, and in the USA AWWA/C561-14.

The application possibilities of our quality products are manifold.

Fields of Operation



Wastewater Technology

- Pumping stations
- Drainage networks
- Municipal WWTP
- Industrial WWTP

Stormwater Retention and Rain Management

- Stormwater retention tanks
- Rainwater overflow tanks
- Separation structures

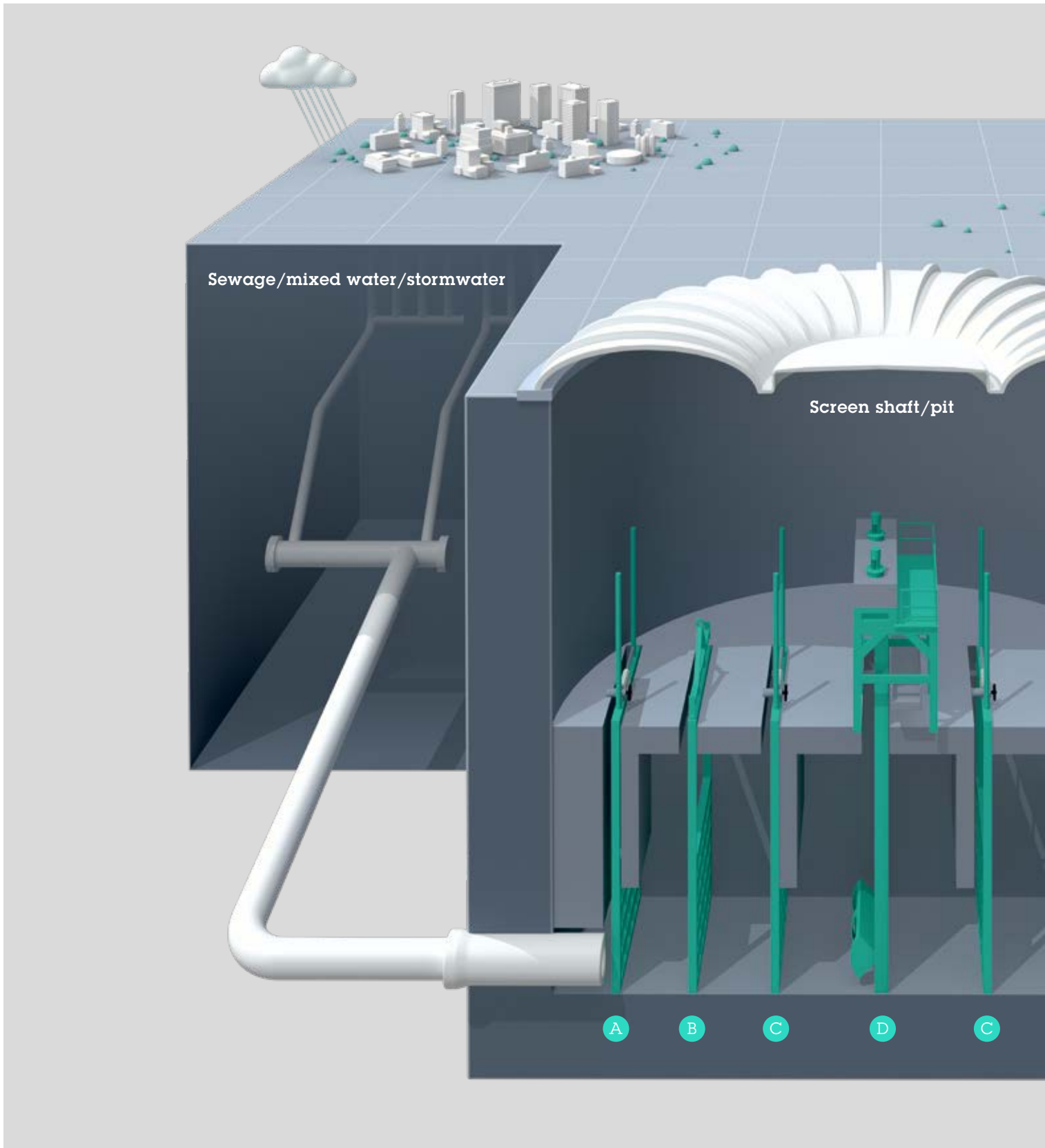
Flood Protection and Water Conservation

- Retention polders
- Retention tanks
- Property protection
- Flood diversion

Hydraulic Steel Structures

- Lake reservoirs
- Reservoir basins
- Scour outlets
- Valley dams
- Pumping stations

Functional Scheme

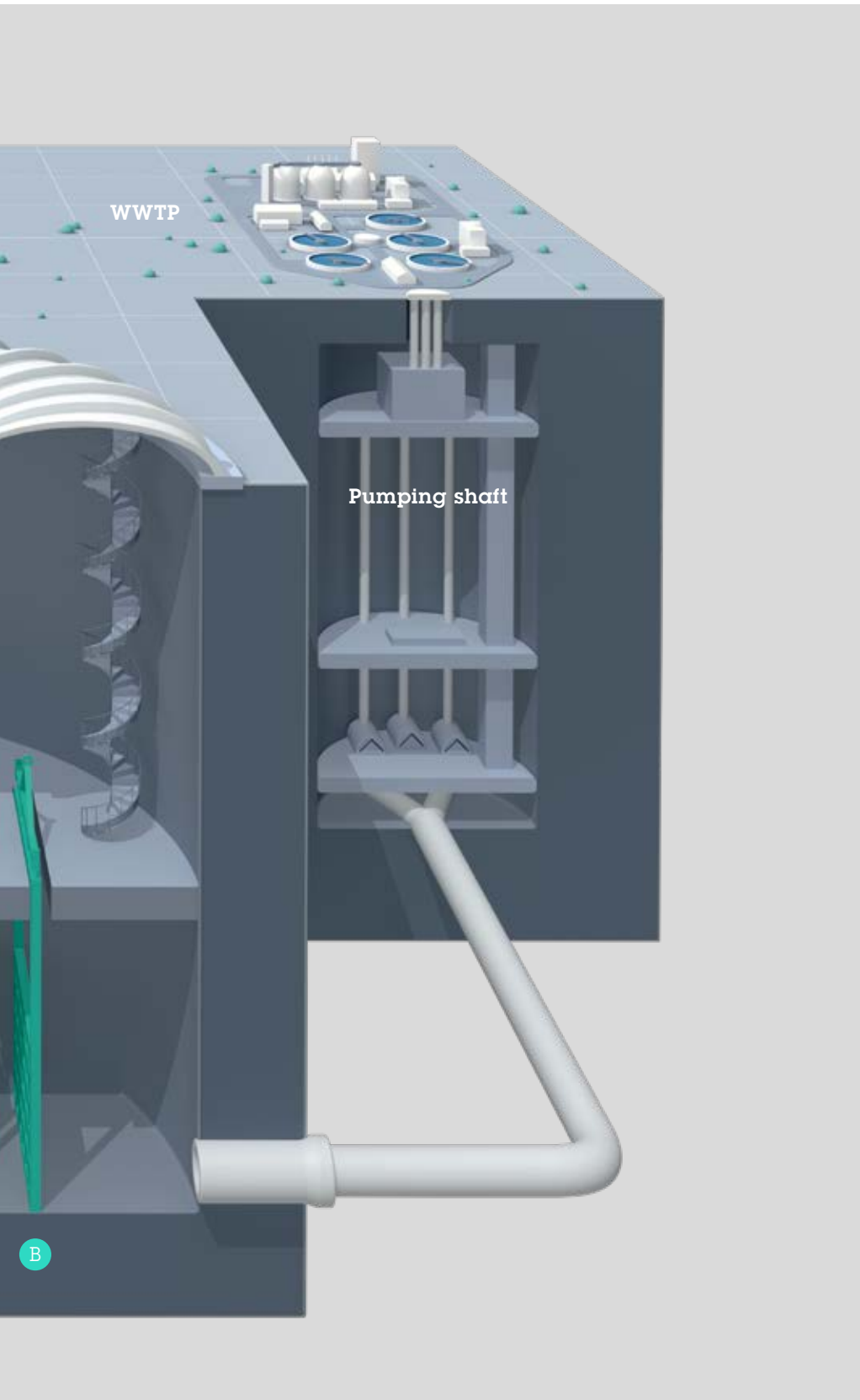


Function

Wastewater and stormwater flow into pumping stations, which generally reach substantial depths. Usually, plants with a very high throughput capacity have separate screening and pumping chambers. In smaller plants, screens and pumps are typically arranged in

one shaft or pit. The effluent is pre-treated with separating solids and fibrous materials in the screen chamber, from where it flows to the pumping shaft and is pumped up or led to a treatment or storage plant.

Products



A Passavant® Inlet and Emergency Penstock

For protection, pumping stations normally use a hydraulically driven device due to high pressure and large sizes. Roller or sliding penstocks are also available. Hydraulic systems or aggregates with an emergency function in case of power failure (bladder or piston accumulator) are installed.

B Passavant® and Geiger® Stop Logs and Stop Plates (sliding and roller versions)

These devices are installed up- and downstream the screens as a dual safety device. Operation with a lifting beam, is feasible.

C Passavant® Penstocks and Sluice Gates (sliding and roller version)

These devices are installed up- and downstream the screens. For any maintenance work on screens or screen lines. Sliding or roller penstocks, electrically or hydraulically driven.

D Passavant® and Geiger® Coarse Screens

Different types of cable operated bar screens (COB) for mechanical pre-treatment are available:

1) COB-C – the compact standard version for installation depths of up to 20 m. It has a width of 0.8–6.0 m and bar spacing of 10–150 mm.

2) COB-XL (COB-XXL) – the heavy-duty version for particularly ambitious applications in deep channels of up to 50 m or more. It has a cleaning grab carriage with an opening of 500 mm (800 mm), a width of 0.8–6.0 m, and bar spacing of 10–150 mm.

The Aqseptence Group – with its well known brands Passavant®, Geiger®, and Noggerath® – provides you with a wide range of mechanical, electrical, and hydraulic equipment.

Note: We supply all shut-off devices and screens in different stainless steel grades (AISI 304, 316Ti, 316L, Duplex, Super Duplex, and cathodic corrosion protection systems, as well as others on request). All parts made of stainless steel are pickled in a full bath and passivated.

Benefits



Development, design, manufacturing, installation, commissioning, and services all from one provider



Maximum safety due to static and stress calculations (finite element method) – optional



Low maintenance, therefore low running costs



Individually customized to specific arrangements or customer requirements



High loading capacity for hard and bulky objects in wastewater, excellent effluent cleaning, short cleaning cycles, automated system



Optimized welding production for long service life (minimizing crevice corrosion)

Example Projects



Hangares (Mexico)

Delivery Year	2017
Scope of Delivery	2 Passavant® Cable Operated Bar Screens, 4 Passavant® electric penstocks
Dimensions W×H (mm)	Screens: 2,250 × 8,000, Penstocks: 1,900 × 1,900
Installation Depth (mm)	11,400
Water Pressure Max. (m)	10 (1.0 bar)
Enduser	SACMEX (Mexico City)



Casa Colorada Profunda (Mexico)

Delivery Year	2011
Scope of Delivery	3 Passavant® Cable Operated Bar Screens, 6 Passavant® electric penstocks
Dimensions W×H (mm)	Screens: 4,000 × 5,000, Penstocks: 3,500 × 4,500
Installation Depth (mm)	27,500
Water Pressure Max. (m)	18 (1.8 bar)
Enduser	Conagua (Mexico City)

Task: In the case of heavy rainfall, large amounts of sewage and stormwater are fed into the treatment plant through a pumping station. This mixed water is heavily loaded with solids and coarse matters including heavy as well as large parts. The task of the screen station is to remove these substances before the water reaches the pumping station and thereby protect the pumps.

Solution: The customer used three coarse Passavant® Cable Operated Bar Screens and large penstocks to enable any kind of operation and maintenance on each screen without taking any of them out of service or in case of any disruptions.

South Jeddah (Kingdom of Saudi Arabia)

Delivery Year	2012–2014
Scope of Delivery	6 Passavant® Multi-Rake Bar Screens, 1 roller penstock, 34 sluice gates, 12 dam plates
Dimensions W×H (mm)	Screens: 1,200 × 3,600, penstock: 3,000 × 3,000, Sluice gates: up to 3,000 × 3,500, dam plates: up to 5,500 × 3,000
Installation Depth (mm)	Penstock: 30,000, sluice gates: up to 7,400
Water Pressure Max. (m)	Up to 30 (3.0 bar)
Special	All penstocks and sluice gates are hydraulically driven. We also delivered the complete hydraulic system.
Enduser	National Water Company (Kingdom of Saudi Arabia)

Digital version
and further
information:



www.aqseptence.com

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