



PILOT PLANT & CONTAINER FOR WATER TECHNOLOGY

Pilot plants are used for the development, testing and optimization of new processes under realistic operating conditions. They bridge the gap between laboratory tests and industrial production plants and provide important data for the design and scaling of large-scale facilities.

The modular pilot containers allow flexible testing of various process technologies either on-site or in a technical center.

Application areas

- ✓ Development of new process technologies
- ✓ Validation and optimization of existing processes
- ✓ Investigation of raw materials and process media
- ✓ Process integration and plant concepts
- ✓ Scaling bench and laboratory processes to technical scale
- ✓ Demonstration of new technologies under real operating conditions

Typical process technologies

Pilot plants can be flexibly configured for various process engineering applications.

Separation processes

- > Ultrafiltration
- > Nanofiltration
- > Reverse osmosis
- > Ion exchange / elution
- > Adsorption / desorption

Physico-chemical processes

- > Precipitation
- > Flocculation
- > Neutralization
- > Filtration / sedimentation
- > Stripping / degassing

Biological processes

- > Bio-membrane processes
- > Nitrication / denitrification

Additional process steps

- > Disinfection
- > Decarbonization
- > De-ironing / de-manganization
- > Sludge treatment and conditioning
- > Electrochemical processes



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Technical data

Pilot plant capacity	0.1 m ³ /h - 10 m ³ /h (other sizes on request)
Plant concept	Modular pilot container or skid system
Operating mode	Continuous or batch operation
Process integration	Combination of multiple process steps
Location	Technical center or on-site piloting
Control system	Automated process control

Measurement and control system

- > Process control parameters
 - Flow measurement
 - Pressure monitoring
 - Temperature measurement
- > Sampling systems
- > Process data acquisition with online data logger
- > Process quality parameters
 - pH measurement
 - Conductivity measurement
 - Redox potential
 - Ion concentrations
 - Sum parameters

Possible plant components

- ✓ Reactors and vessels
- ✓ Precipitation and flocculation cascades
- ✓ Solid separation units
- ✓ Membrane or ion exchange systems
- ✓ Pumps, dosing systems, piping and valves
- ✓ Instrumentation and sensors
- ✓ Control cabinet with PLC control system

Benefits of pilot plants

- ✓ Realistic process validation
- ✓ Flexible integration of different technologies
- ✓ Rapid adaptation to new test conditions
- ✓ Scale-up from laboratory to industrial scale
- ✓ Reduced development risks
- ✓ Reliable design data for large-scale plants

The equipment features will be defined by individual quotations.

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Information on pilot plants

