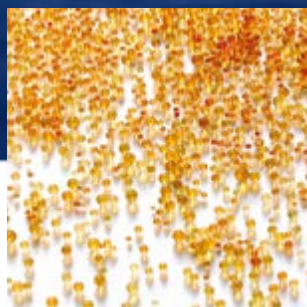


Innovative solutions in water treatment

- ☒ Process water
- ☐ Swimming pool water
- ☐ Drinking water
- ☐ Waste water



Regeneration WBG-RSR Plus®

External Regeneration of
Ion Exchange Resins



Regeneration WBG-RSR Plus®

External Regeneration of Ion Exchange Resins

RSR Plus® is an optimized process for transport, separation and external regeneration of ion exchange resins. RSR Plus® is applied when regeneration of resins in the filter vessels is not possible or not desired, e.g. for high pressure condensate polishing systems for heating and turbine condensates in power stations.

Due to the special separation and regeneration system with low cross contamination, low conductivities in the treated water can be achieved. The scope of services of WBG comprises plant design according to clients requirements, supply of mechanical and electrical equipment, installation, commissioning and start-up.

Applications:

- Heating and turbine condensates
- Treatment of high pressure condensates
- Extension and rehabilitation of existing systems

Fields of application:

- Power stations
- Semiconductor and electronics
- Chemical industry
- Food and beverage

Advantages:

- Low operation cost due to resin recycling and regeneration acc. to process requirements
- Plant components in contact with demineralized water are not in contact with regeneration chemicals
- Low water demand for transport and rinsing
- Highly efficient regeneration process
- Very low resin loss
- Excellent removal of resin fines and entrapped solids
- Excellent product quality due to low resin cross contamination
- High degree of automation
- Low maintenance requirements

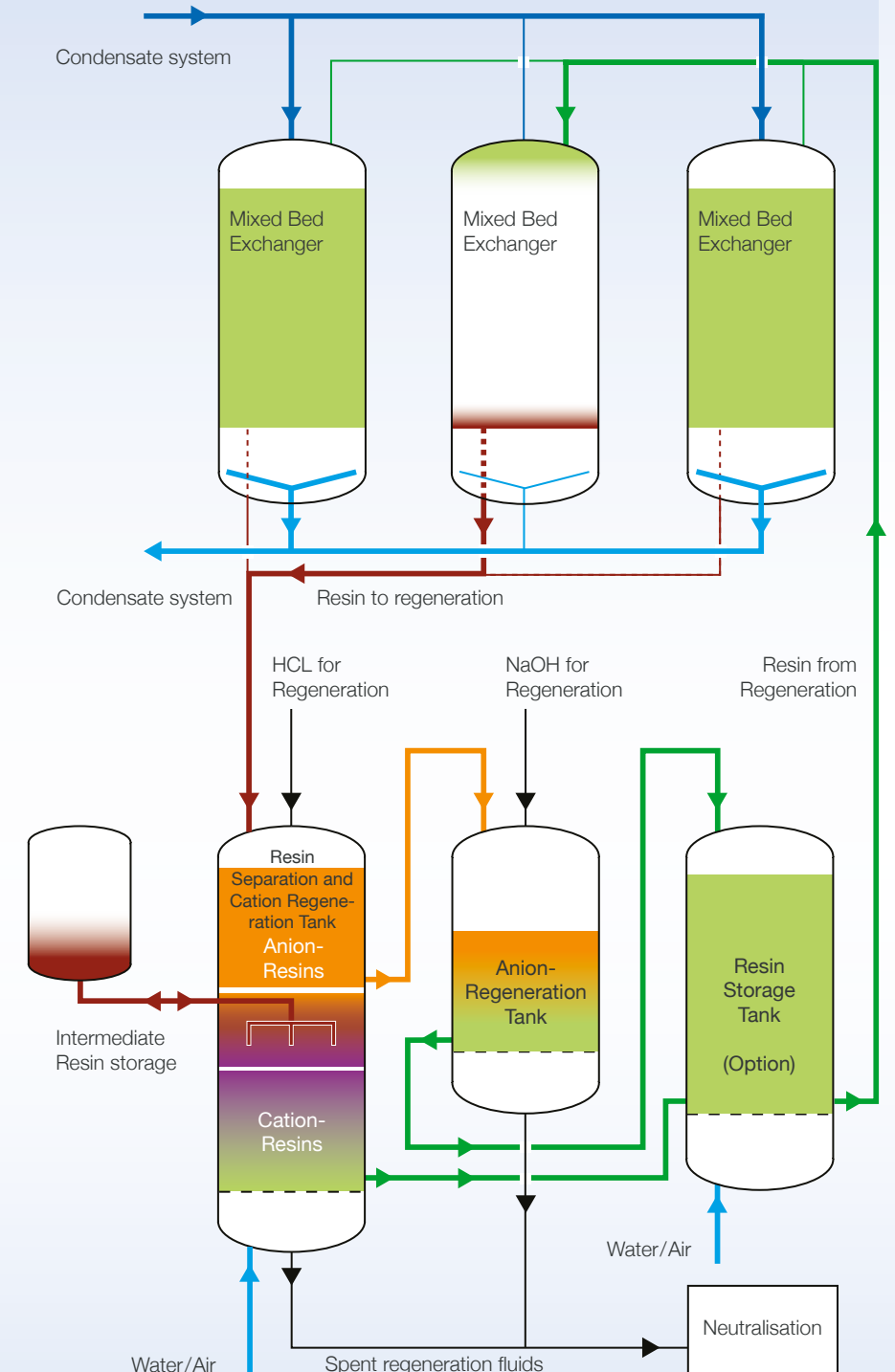
Technical Data

Plant capacity	100 – 4000 m³/h
Expected product quality for raw water with 10 – 20 µS/cm; T = 40 – 50°C und SiO ₂ = 10 – 20 ppb	
El. Conductivity 25°C	< 0,1 µS/cm
Sodium	< 1 ppb
Silica SiO ₂	< 10 ppb
Resin cross contamination (depends on resin quality)	< 0,5 %

Process Flow Diagram

RSR Plus® Process steps

- For external regeneration the resin water mixture is transferred from the mixed bed exchanger into the resin separation and cation regeneration tank.
- In the resin separation tank the ion exchange resins are fluidized and separated.
- The cation resins settle faster due to higher specific weight and accumulate at the bottom of the tank. The anion exchange resins settle slower and accumulate at the top of the resin bed. Between cation and anion part there is a mixed layer which has to be treated separately.
- After the separation step the anion exchange resin is conveyed to the anion regeneration tank and regenerated with caustic soda.
- The mixed layer is conveyed to the intermediate storage tank. The stored resins are processed with the next batch of mixed bed exchanger resin.
- The cation exchange resins are regenerated with hydrochloric acid in the resin separation and cation regeneration tank.
- After the regeneration step the cation and anion exchange resins are combined, remixed and pre-conditioned for the next service run.
- This can be achieved either in a separate resin mixing and storage vessel or in either regeneration vessel or service vessel equipped for this task.
- Spent regeneration fluids are collected and neutralised.
- 3 or 4 vessel variant available



WBG

Wasserbaugesellschaft
Anlagenbau mbH

Tiefe Äcker 5 | D-95336 Mainleus

Tel.: +49 9229 97370-0 | E-Mail: info@wbg-kulmbach.de
Internet: www.wbg-kulmbach.de

More information
on our website



WBG

Wartung & Service GmbH

Ask your
contact person

