



### **Application**

The ion exchange plants of the KOMPaion-KIA-Line are used for the loop recycling of rinse water.

This is one of the applications of the versatile separation ion exchange process.

Other kinds of applications are:

- deionization of tap water
- metal recovery
- polishing filtration

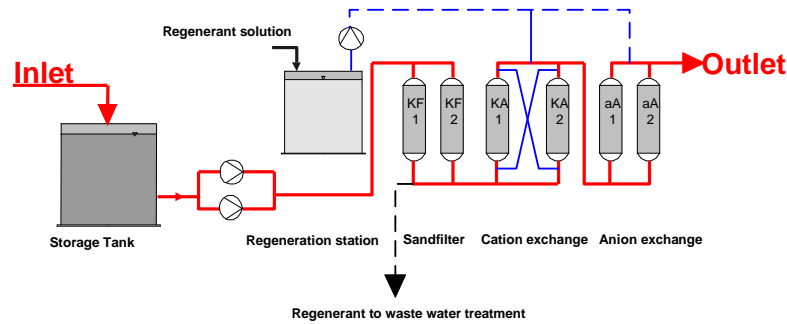
Pre- filtration is a basic requirement for all ion exchange applications. Oil and grease must be kept out of the system.

Any particulate matter or products of hydrolysis are retained by pre- filtration in multimedia or cartridge filters.

### **Process Characteristics**

The proper selection of ion exchange resins is of importance. Most ion exchange resins in use today are synthetic organic materials made up of macro-porous matrix which are able to adsorb ionized substances in solution and release them again in concentrated form during regeneration phase.

The ion exchange resins are filled into fibreglass laminated columns. The feed stream is pumped through the resin bed in up-flow mode. The regeneration is realised in down-flow mode.



Type	KIA 2-15	KIA 4-25	KIA 6-32	KIA 9-40	KIA 12-40	KIA15-50	KIA 18-50	KIA24-65	KIA 30-65
Flow m <sup>3</sup> /hr	2	4	6	9	12	15	18	24	30
No. of sandfilter	1	1	1	1	1	1	2	2	2
Material of piping	PVC or PPH								
Length mm	3800	3800	4800	4800	5300	6300	7700	8300	8300
Width mm	800	800	900	1000	1000	1400	1400	1400	1400
Height mm	2000	2000	2200	2200	2200	2200	2200	2200	2200

Length, width and height without the necessary collecting tank.

## Description of the plant

Every KOMPaion-KIA-Line plant consists of following assembly groups:

- Raw water collecting tank
- Feed pumps (dual pumping station)
- Pre filtration (single or dual filter, cartridge filter or filter bag)
- Ion exchange columns

The configuration of the KOMPaion-KIA-Line can combine and incorporate the advantages of both the series and the dual train configuration.

Two cation exchangers are hereby arranged in series with one anion exchanger allocated to each train. The operation of the plant is divided in following main steps:

- Running: Removal of ions from raw water.
- Regeneration: Re-activation of the active exchange groups with acid or caustic.

## Advantages

- Very good quality of water due to sodium leakage reduction
- Protection of anion exchange resins against hydroxide depositions
- Automation of the regeneration steps
- Low invest cost because of standardised piping system
- Industrial SPS control system
- Patented regeneration system

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