



### Application fields

The KOMParet systems can be used for:

- Service life extending of pickling solutions that are based on hydrochloric acid, nitric acid, sulphuric acid or hydrofluoric acid. The efficiency depends largely on the prevailing acid / metal ratio.
- Service life extending of anodizing solutions by way of separation of aluminium from sulphuric acid. When used in combination with an individual treatment system for aluminium alkali etching solutions, a significant waste minimization by means of material recycling can be achieved.

### Process Characteristics

KOMParet systems employ ion exchange resins. Nevertheless, ion exchange does not take place in the conventional sense as it does for instance in a water recycling system. Instead of this a retardation process takes place.

The etching or pickling solution is pumped through an adsorber column in an up flow direction. The free acid diffuses into the resin where it is retained – or retarded. The solution containing the metal salts passes through the resin and flows out of the adsorber column at the top.

Once the resin has adsorbed the free acid, the direction of flow through the adsorber is reversed, and water is fed through the adsorber column from the top. The free acid is released into the water and is then fed back into the process tank with a significantly lower metal content.

Type	50	50HT	100	100HT	100VA	200	200HT	200VA	400	400HT	400VA
Capacity at 8g Al/l 10g Metal/l g/h	220	220	440	440	700	750	750	1000	1900	1900	2400
Piping material	PVC	PPH	PVC	PPH	PVC	PVC	PPH	PVC	PVC	PPH	PVC
Operation temperature °C	30	65	30	65	30	30	65	30	30	65	30
Fresh water demand l/h	75	150	75	150	210	250	250	300	650	650	660
Waste water amount l/h	75	150	75	150	210	250	250	300	650	650	660
Length ca. mm	1050	1050	1050	1050	1050	1050	1050	1050	1300	1300	1300
Width ca. mm	800	800	800	800	800	800	800	800	1000	1000	1000
Height ca. mm	2400	2400	2400	2400	2400	2400	2400	2400	2400	2400	2400

Length, width and height without the necessary storage tank

## Description of plant

The KOMParet- system includes the following main components:

- SPS control unit S7-200 with TP 177
- Pre-filtration
- Retardation system
- Storage tank and pumps

The operation of the plant can be divided in following main steps:

- Loading: Elimination of the free acid from the solution.
- Regeneration: Recovery of the free acid.

System control is realised by way of flow measurement.

## Advantages

- Reduction of costs for neutralisation chemicals
- Compact design
- Lower acid consumption
- Constant solution composition
- Continuous filtration of the solution
- Low personal costs
- Possible application on more than one bath

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