

# KBR

## PLINKE

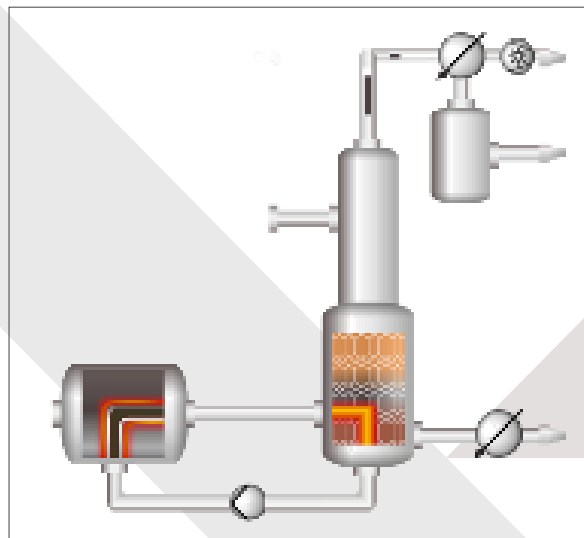
## SAVACO®-HT for Spent Sulfuric Acid from Chlorine Drying

In Chlorine manufacturing plants the produced Chlorine gas is dried by the means of Sulfuric Acid which is consequently diluted. Typically such diluted Sulfuric Acid is leaving this drying step at 75-78% and needs to be re-concentrated to 96% in order to be able to be re-used.

PLINKE has available standardized sizes for concentration of such Sulfuric Acid as the capacities are similar all around the world. PLINKE makes use of its special Thermo Oil heated heat exchanger (TO-HeX) which is not subject to corrosion and guarantees a long lifetime over decades.

All other equipment is made of standard materials for such kind of process like glass lined steel and PFA lined pumps. The process making use of moderate vacuum has also a chlorine-corrosion resistant vacuum system.

As a result procurement of fresh Sulfuric Acid for Chlorine drying and cost for disposal of spent acid become obsolete.



Schematic of SAVACO®-HT

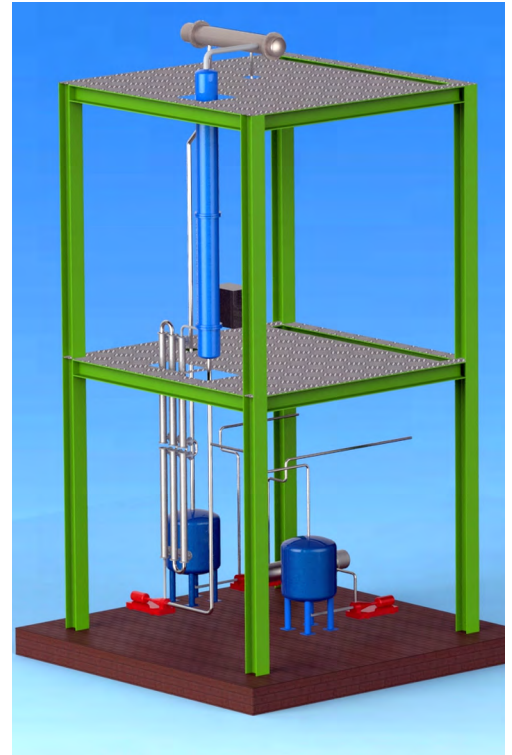
### PLINKEs special TO-HeX

- Long life-time proven in 30+ plants
- Easiest operation at one vacuum level
- Reduced maintenance efforts
- Available with electrical and gas or oil heating
- No limitation to 96%, resistant to higher temperatures and higher concentrations

## Standardized Units

Let our experts know your acid capacity and concentrations and we will select the appropriate type and provide you with specific energy consumptions for your application. Standardized Units do provide optimized execution schedule and optimized investment cost. Standardized Units are available at defined water evaporation capacities as follows:

SAVACO®	-HT65	-HT100	-HT180
<b>Feed Acid</b> 78 % H <sub>2</sub> SO <sub>4</sub>	355 kg/h	550 kg/h	965 kg/h
<b>Product Acid</b> 96 % H <sub>2</sub> SO <sub>4</sub>	288 kg/h	446 kg/h	783 kg/h
<b>Effluent Water</b> 0.8 % H <sub>2</sub> SO <sub>4</sub>	102 kg/h	161 kg/h	272 kg/h
<b>Steam</b> * 3 bar	35 kg/h	57 kg/h	90 kg/h
<b>Electric Power</b> Including Evaporation	155 kW	225 kW	365 kW
<b>Cooling Water</b> * 28°C in 36°C out	11 m <sup>3</sup> /h	17 m <sup>3</sup> /h	30 m <sup>3</sup> /h



\* Exemplary utility conditions, other specifications can also be applied.

## About PLINKE

PLINKE focuses on the design and supply of plants for purification and concentration of inorganic acids worldwide. Based on more than 70 years of experience in the field of acid treatment PLINKE provides individual solutions for clients' needs. Tailor made plants delivered by PLINKE satisfy special requirements combining most modern technology with well proven materials. For over half a century the recovery and concentration of inorganic acids, such as sulfuric, nitric and hydrochloric acid, has been the field of activities of PLINKE. Since 1953 the company's registered office is in Bad Homburg, north of Frankfurt am Main. PLINKE has already supplied plants for a wide range of applications and therefore is in the position to develop tailor-made solutions, which correspond to state-of-the-art process engineering, to be applied anywhere in the world. Reference plants exist for all capacities. PLINKE designs small-scale plants, in which only a few hundred kg of acid per hour are recovered up to world scale plants.