



**Explosion pressure
resistant up to 16 bar**

**Operating temperature
up to 650 °C**

**Thermal efficiency
of 85 %**

Retractable bundle

Counter flow tube bundle heat exchangers for color pigment production

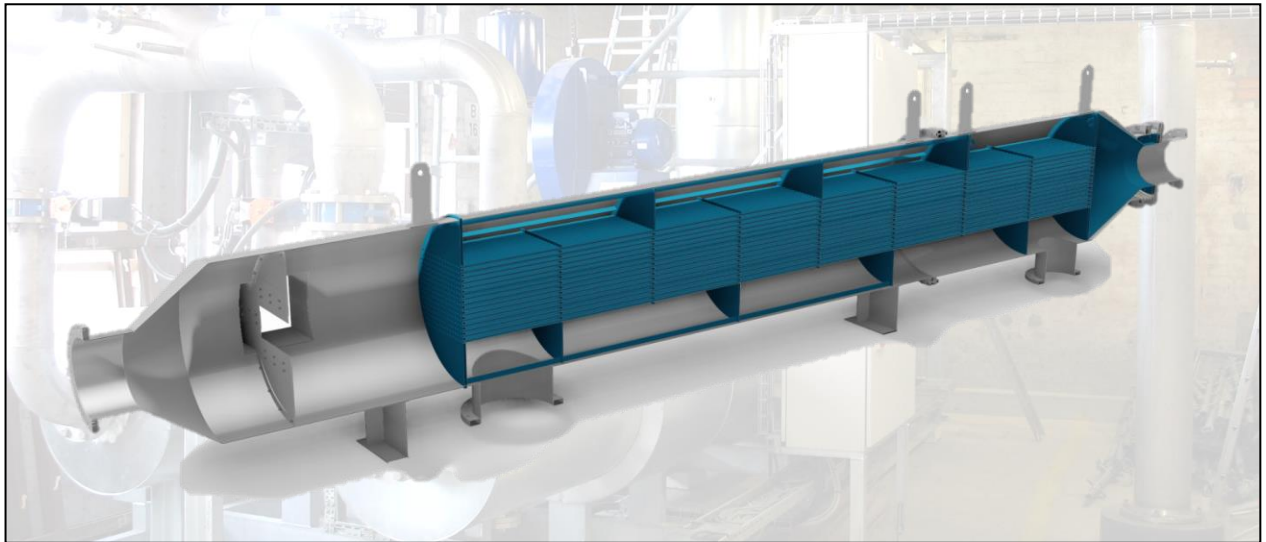
In 2009 SÜLZLE KOPF Anlagenbau installed an exhaust air purification plant at the Industriepark Höchst site for the catalytic oxidation of VOC containing feed gases with fluctuating concentrations of aromates and a max. concentration of 8 g/m³.

Following a short 5 day installation phase the plant was successfully commissioned by the German TÜV, going into operation as scheduled. The Operation Manager confirms that the plant has been working „throughout the entire five year period without failure and with 100% availability“.

The catalytic exhaust air purification plant is equipped with two redundantly designed counter flow tube bundle heat exchangers made of corrosion resistant stainless steel grade 1.4571.

In these counter flow tube bundle heat exchangers with cross-counter flow design the reaction heat from the exothermal oxidation of the exhaust gases to water and carbon dioxide is transferred to the cooler crude gas and released through the stack.

Full compliance with the German TA-Luft limit values of < 1 mg/m³ is ensured.



Isometric projection of a counter flow tube bundle heat exchanger with combustion chamber, SÜLZLE KOPF Anlagenbau.

Description:

The explosion pressure resistant stainless steel tube bundle heat exchangers preheat the VOC containing exhaust gases. This reduces the energy demand necessary for the downstream catalytic treatment. At the same time the tube bundle heat exchangers (RBWT) cool down the crude gases to a point where they can safely be emitted through an appropriate stack. Both RBWT have retractable bundles which contribute to reducing the time for annual plant revisions to only 2 days. The counter flow tube bundle heat exchangers are fully insulated and have fixed and slide bearings. Forces resulting from thermal expansion and acting on piping and substructure are compensated by metal expansion joints.

For more information please see our case study „KNV- Catalytic exhaust air purification plant for color pigment production“.

SÜLZLE KOPF is your partner for tube bundle heat exchangers and catalytic exhaust air purification plants for recuperative and regenerative heat recovery.

We also offer solutions applying:

- thermal technologies
- regenerative technologies
- adsorptive technologies
- absorptive technologies
- and for ozone destruction

Process data:

operating time: 24/7
 process gas: volume flow 1.500 Nm³/h
 temperature data:
 tube-side inlet: ~ 20 °C
 tube-side outlet: ~ 300 °C
 shell-side inlet: ~ 350 °C to max. 650 °C
 shell-side outlet: ~ 70 °C

Technical specifications:

material: stainless grades
 1.4571 / 1.4301 / 1.4541
 design: explosion pressure resistant
 up to 16 bar
 operating temperature: max. 650 °C
 thermal efficiency: 85% under design conditions
 net weight: without insulation ~ 922 kg
 diameter: without insulation ~ 0,41 m
 length: without insulation ~ 6,87 m

Please contact:

Dipl.-Ing. Jürgen Schmid
 Tel. +49 7454 75-199
 Fax +49 7454 75-224
 Mail j.schmid@suelzle-kopf.de

SÜLZLE KOPF Anlagenbau GmbH
 Stützenstraße 6
 72172 Sulz a. N.
 Deutschland

Web suelzle-kopf.de
 A member of the SÜLZLE Group