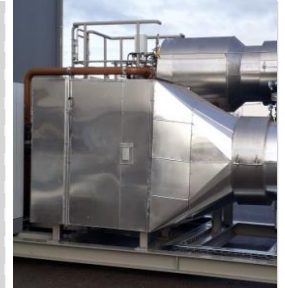
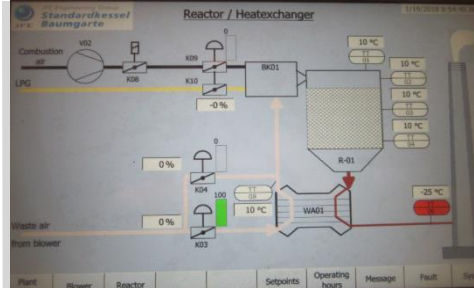


CONDENSATION
CATALYSIS
COMBINED PROCESSES

CATALYTIC EXHAUST AIR CLEANING SYSTEM EAST COAST, USA



CATALYTIC EXHAUST AIR CLEANING SYSTEM, USA



Exhaust air volume flow rate	6700 Nm ³ /h
Exhaust air temperature	20 - 60°C
Pollutant freight (VOC)	20 – kg/h
Pollutants (VOC)	MIBK, Acetone
Clean gas value	≤ 20 mg/Nm ³ VOC
Auto-thermal operation from a VOC concentration of	3 g/Nm ³
Installed burner output	350 kW
Service pressure	Atmospheric
Operating mode	Continuous

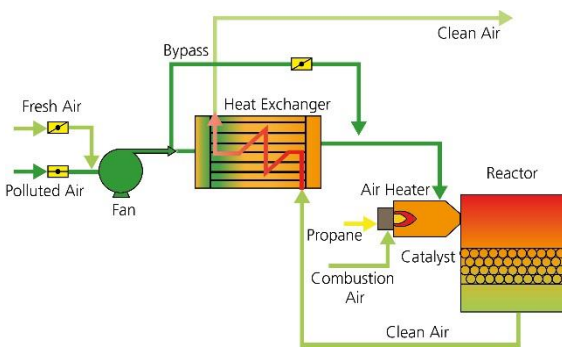
THE TASK

For the production of pharma packaging material, a pharmaceutical company planned a new production facility at the East Coast, USA. Standardkessel Baumgarte GmbH's catalytics division was entrusted with the delivery of a catalytic exhaust air cleaning system. This is designed to remove the volatile organic compounds from the exhaust air in a safe and environmentally friendly manner. This will enable the plant to meet the customers environmental protection requirements and ensure that no polluted exhaust air is released into the environment. The system is designed for an exhaust air volume flow of 6700 Nm³/h.

THE SOLUTION

By the use of a catalyst, the required oxidation temperature for the conversion of the organic compounds is lower than with thermal oxidation. The catalytic reaction releases thermal energy during oxidation. By using a highly efficient heat exchanger, autothermal operation is already possible at low VOC concentrations. Heat recovery takes place recuperatively in order to ensure safe and reliable separation of exhaust air and clean air. The optimized controls ensure operation in a large turn-down range and at various VOC concentrations without supplementary energy.

With the suggested process and the quality standards applied, all of the customer-specific demands can be met, including calorific efficiency and availability.



Catalytic Exhaust Air Cleaning Plant with Recuperative Heat Recovery

SCOPE OF SUPPLY

- VOC Concentration Monitoring and Control provided at Unit Inlet
- Fan for Conveying the Exhaust Air Stream
- Reactor with Catalyst Material
- Heat Exchangers for Recuperative Preheating of the Exhaust Air Stream
- Heating Equipment designed as Burners
- Instrumentation and Plant Control System

ENGINEERING SERVICES

- Engineering
- Production and delivery
- Commissioning