

WECO-RTO-3K

Wessel Economic-
Regenerative Thermal Oxidation
3 Chambers Design



EFFECTIVE
EXHAUST AIR
CLEANING

with low energy
consumption

Wessel
Environmental Technologies

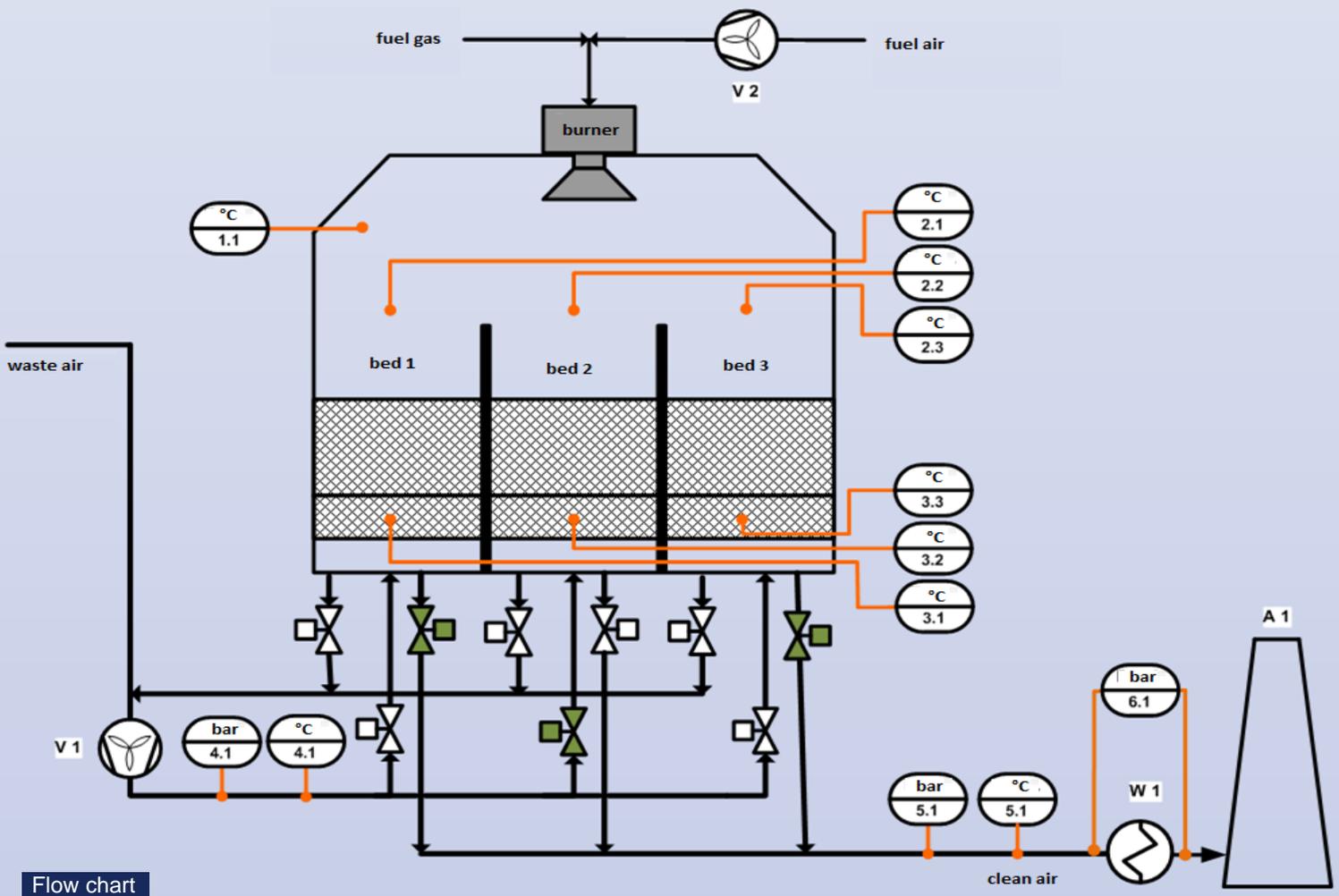
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WECO-RTO

WECO-RTO are regenerative heat exchanger to utilize the energy of the hot clean air to the largest extent possible for heating the cold exhaust air. The energy conversion efficiency of the heat exchanger constitutes above 90% and even the energy at low concentrations of pollution in the exhaust air allows to operate the exhaust air cleaning plant in an autothermal way. Because of a combustion chamber temperature above 800°C comparatively low residual concentrations of NO_x ($< 50 \text{ mg/Nm}^3$) and CO ($< 50 \text{ mg/Nm}^3$) remain in the clean air. Also the emission of CO_2 is considerably reduced due to the low fuel consumption.



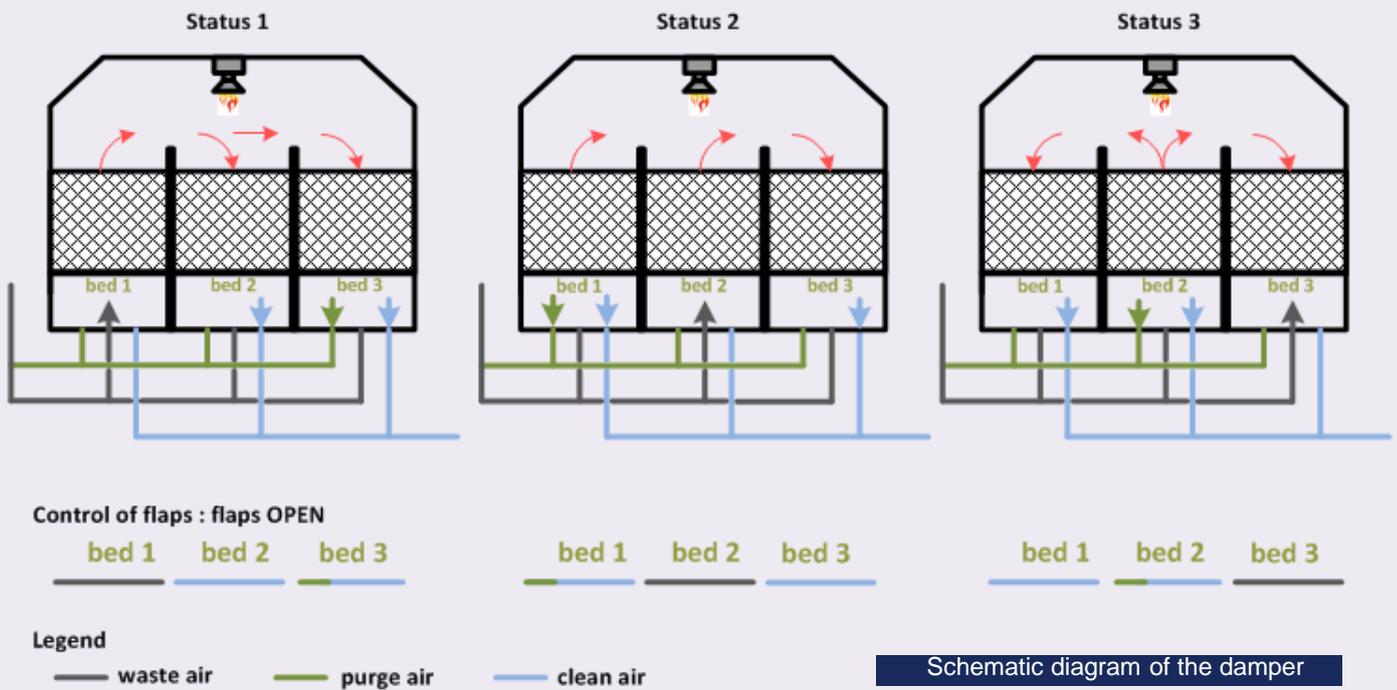
RTO



Flow chart

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Status 1

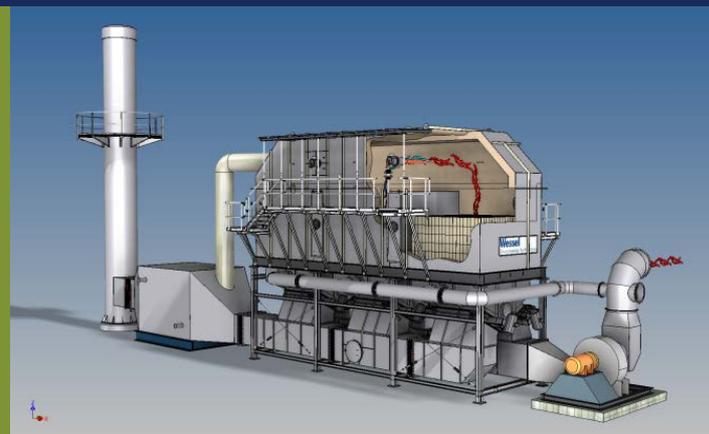
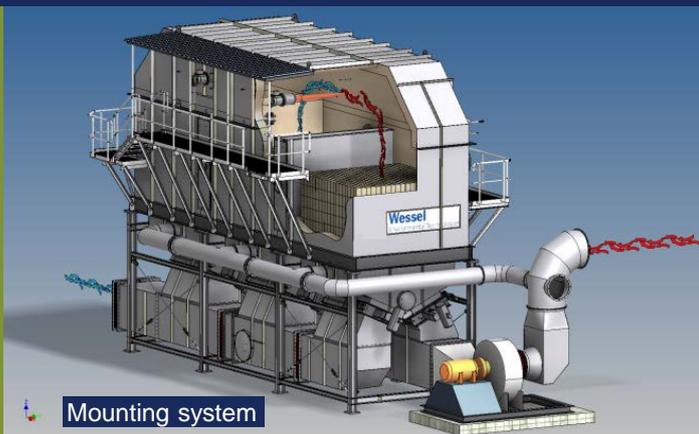
The exhaust air flows over a previously heated bed 1 and is heated to the combustion temperature in the oxidating chamber. In the combustion chamber the organic pollution of the exhaust air is oxidated to CO₂. The hot clean air left the combustion chamber over bed 2 and bed 3 and heat these up.

Status 2

The exhaust air flows over the heated bed 2 in the oxidating chamber and is heated. The clean air is utilized to warming the third heat exchanger. Simultaneously a component current of the clean air is used to clean the previously with exhaust air loaded bed 1 of remaining contaminant.

Status 3

The exhaust air enters the oxidating chamber over bed 2 and is heated to the combustion temperature. The hot clean air leaves the oxidating chamber through regenerators bed 1 and bed 3 and is simultaneously warming the material of the heat store.

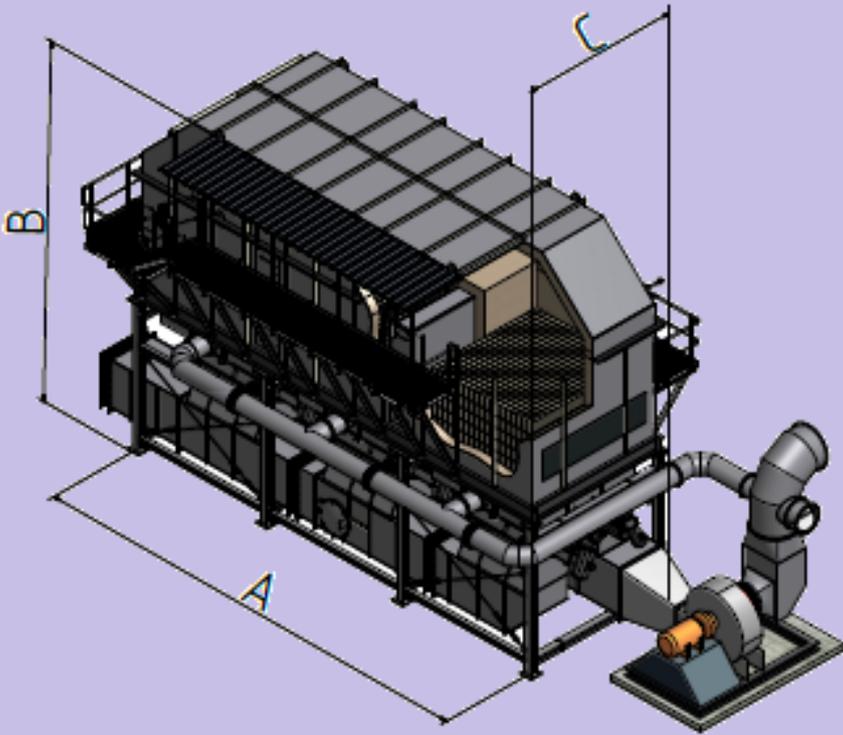


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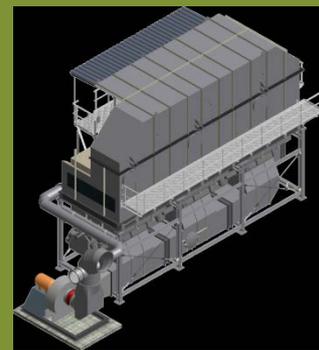
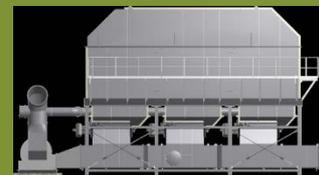
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Measurements of the RTO



Measurement [m]	Volume flow [m³/h]			
	10.000	35.000	40.000	55.000
A	5,5	10	10,5	11,5
B	6,2	7	8,8	9,1
C	2	3	3,4	3,7



Measurement and Volume flow are standard values

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