

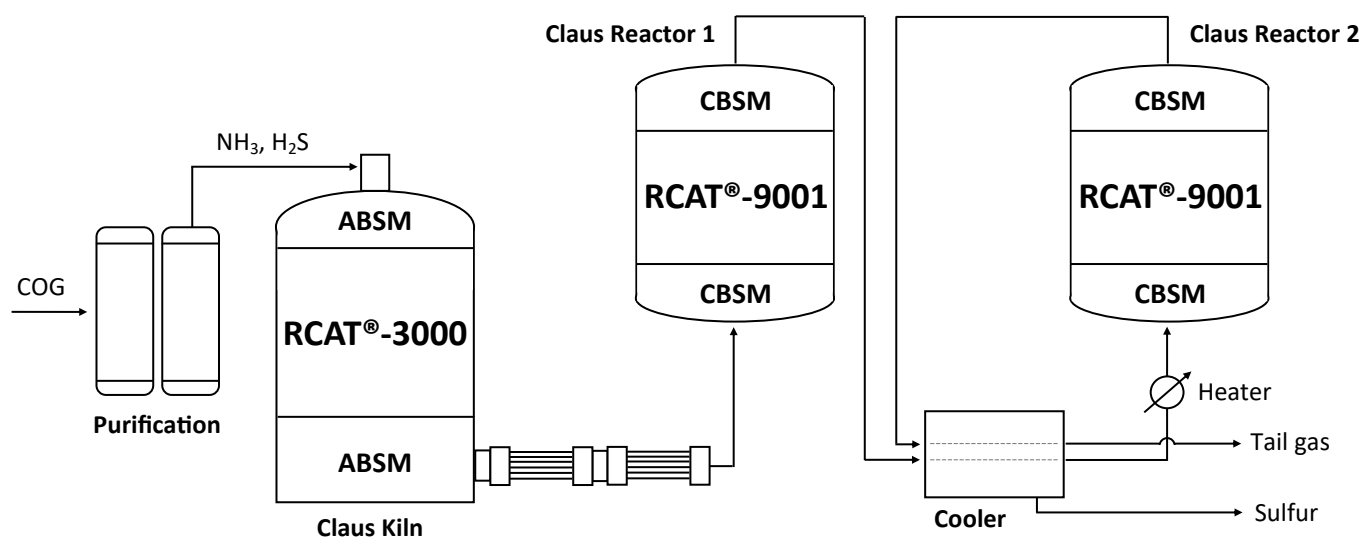
Ranido is a LTD company based in Prague, Czech Republic, focused on research and development in the field of catalysis.

Coke plants produce great amounts of coke oven gas (COG), containing valuable hydrogen and methane. However, COG is contaminated with NH_3 , H_2S , cyanides, tar vapours and other pollutants.

Ranido supplies state of the art catalysts for COG treatment.

NEW PRODUCT PORTFOLIO:

- ✓ Catalyst for NH_3 decomposition
- ✓ Alumina based catalyst for Claus process
- ✓ Catalysts with TiO_2 for Claus process
- ✓ Fe promoted catalyst for Claus process
- ✓ High quality inert materials
- ✓ References from leading companies



Coke Oven Gas Treatment Processes

Ranido Czech Republic

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Stripping towers from COG purification process produce acid gas containing ammonia, HCN, CO₂ and H₂S.

Ammonia and cyanides are decomposed in Claus Kiln (NH₃ decomposition furnace) by heating over Ni catalyst RCAT®-3000 at high temperatures up to 1300 °C.

Catalyst lifetime is significantly longer, if protected by high purity alumina balls ABSM.



RCAT®-3000 (HIGH ACTIVITY NICKEL CATALYST)

Ni content	5.0-7.0	wt. %
Inner diameter	3-5	mm
Outer diameter	18-22	mm
Height	18-22	mm
Operating temperature	Up to 1350	°C
Bulk density	1250-1450	kg/m ³
Crush strength	800-1200	N

ABSM (HIGH PURITY ALUMINA BALLS)

Al ₂ O ₃ content	over 99	wt. %
Standard size (other sizes on customers request)	50 or 76	mm
Operating temperature	1600	°C

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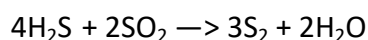
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After NH₃ and HCN is decomposed, gases are led to Claus reactor, where hydrogen sulfide reacts with SO₂ over alumina based catalyst to sulfur:



Sulfur production by Claus process proceeds at 160-350 °C. Claus catalyst is often guarded by high resistance ceramic balls CBSM.



RCAT®-9001 (STANDARD CLAUS PROCESS CATALYST)

Al ₂ O ₃ content	min. 93.0	wt. %
Standard size (balls)	4-6	mm

RCAT®-9002 (TiO₂ PROMOTED CLAUS PROCESS CATALYST)

TiO ₂ content	min. 4.0	wt. %
Standard size (balls)	4-6	mm

RCAT®-9003 (TiO₂ BASED CLAUS PROCESS CATALYST)

TiO ₂ content	min. 85.0	wt. %
Standard size (extrudate)	3-5	mm

RCAT®-9004 (OXYGEN SCAVENGER)

Fe content	max. 16.0	wt. %
Standard size (balls)	4-6	mm

CBSM (HIGH RESISTANCE CERAMIC BALLS)

Al ₂ O ₃ content	23.0-34.0	wt. %
Standard size (other sizes on customers request)	19	mm
Operating temperature	up to 1000	°C

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