ASSOCIATED AND NATURAL GAS DESULFURIZATION

EFFICIENT H₂S SINGLE-STAGE CATALYTIC CONVERSION

Hydrogen sulfide utilization remains an issue for the extractive industry. BPC Engineering, drawing on the leading scientific developments and experience in aggressive gases handling, presents COMPEX – compact single-stage systems for associated gas desulfurization.

Equipment is manufactured at the Company’s facility in Yaroslavl Region, Russia, under own brand COMPEX ensuring full compliance of the products to customer’s specifications. Desulfurization systems fully comply with the requirements of oil&gas industry in terms of reliability, efficiency and sustainability.

COMPEX systems use patented technology for direct oxidation of hydrogen sulfide to elemental sulfur:

\[ H₂S + 0.5 O₂ \rightarrow S + H₂O + Q \]

Unlike other catalyst technologies used in the industry, like Claus or Lo-Cat processes, COMPEX desulfurization systems feature compact size and are more efficient in terms of capital and operational costs. These systems are environmentally safe and ensure efficient treatment of gas with hydrogen sulfide contents ranging from 0.1% to 95% vol.

APPLICATIONS

- Hydrogen sulfide utilization after amine cleaning in gas treatment plants
- Hydrogen sulfide utilization at petrochemical facilities and gas processing plants

GAS PROCESSING SYSTEM
TYPICAL ARRANGEMENT

- Amine cleaning unit
- Sour gas catalytic utilization unit
Direct oxidation reactor contains granular catalyst. Sour gas and air are supplied in stoichiometric proportion. As a result of contact between gas-air mixture and granular catalyst at temperature 300°C selective oxidation of hydrogen sulfide occurs.

Reaction products (elemental sulfur and water vapors) and components of source gas flow through a heat exchanger where they are cooled down to 150°C; at this temperature sulfur condenses and then is separated in a sulfur condenser.