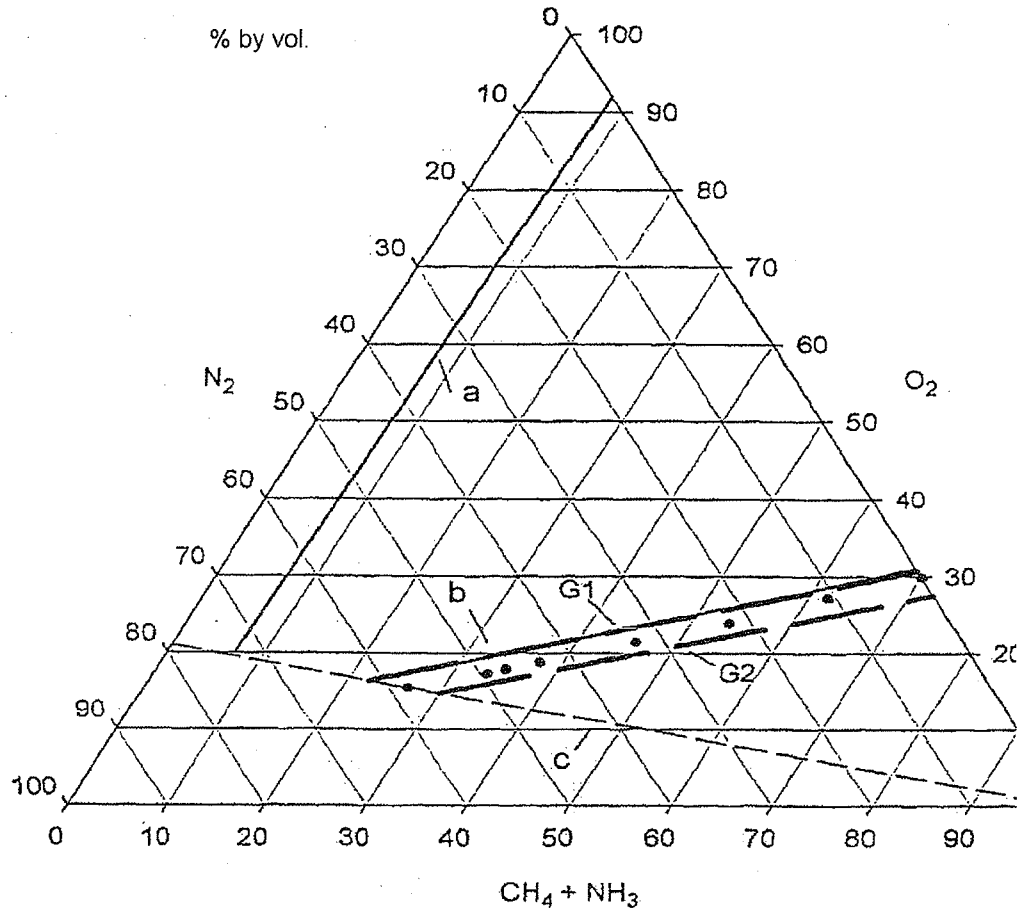


Figure 1

Limiting lines for reactant gas compositions



- a: lower explosion limit for NH_3 - CH_4 mixture (1:1)
- b: upper explosion limit for NH_3 - CH_4 mixture (1:1)
- c: line for air- CH_4 - NH_3 mixtures
- : operating points (examples)

G1: limiting line $Y = mX + a$

where $m = 1.25$, $a = -0.12$

G2: limiting line $Y = mX + a$

where $m = 1.40$, $a = -0.08$

Y: molar $\text{NH}_3/(\text{O}_2 + \text{N}_2)$ ratio

X: molar $\text{O}_2/(\text{O}_2 + \text{N}_2)$ ratio

Figure 2a:

Mixing of the reactant gases in conventional operation with air

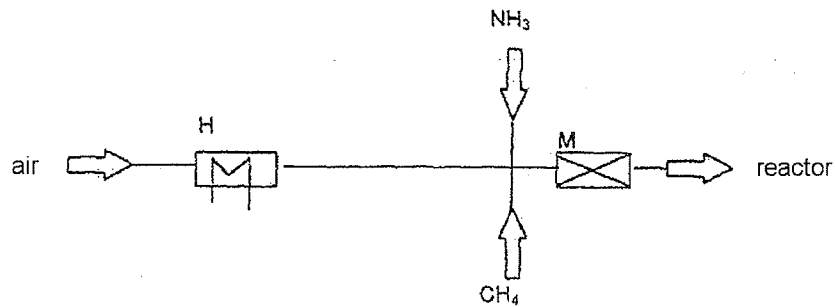


Figure 2b:

Mixing of the reactant gases in operation with oxygen enrichment

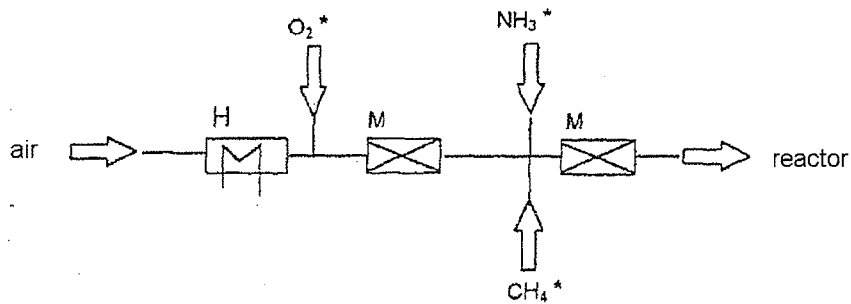
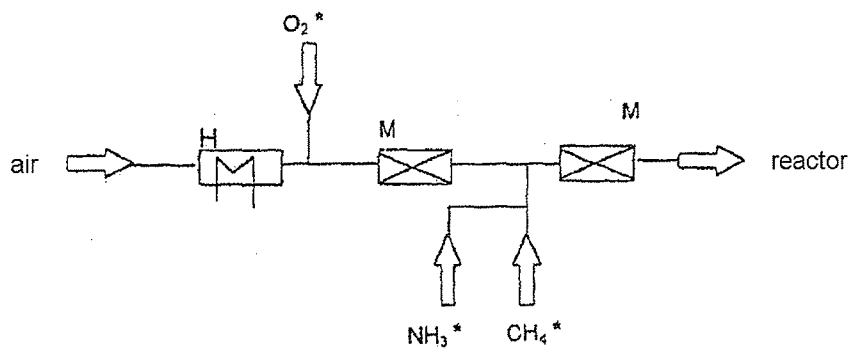


Figure 2c:

Mixing of the reactant gases in operation with oxygen enrichment and premixing of the CH₄ and NH₃ combustion gases



H: Heater

M: Mixer

*: optional preheating of the individual reactant gases