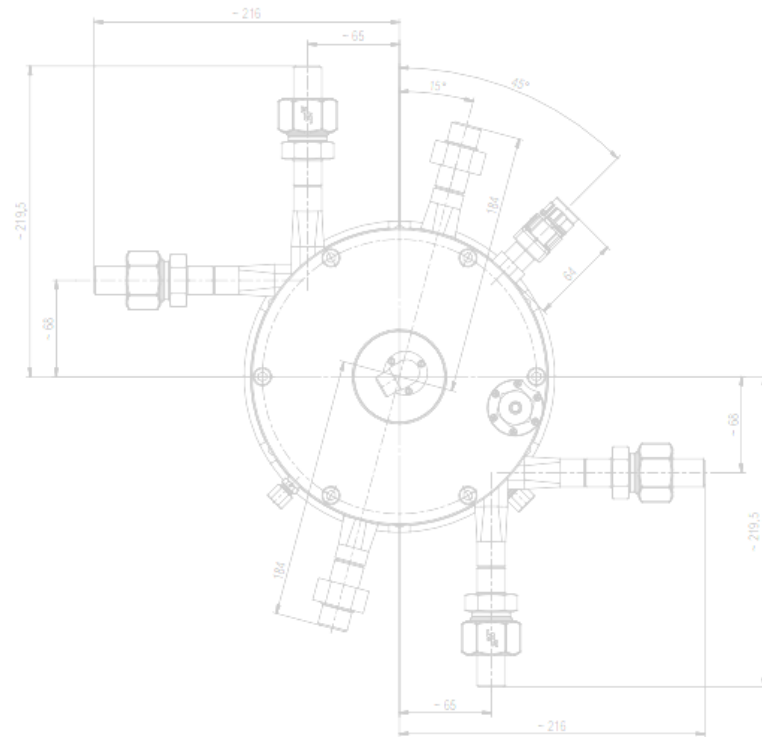


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1949 – 2019

Syngas Cleaning Equipment



Syngas Treatment Technology – Current Approach

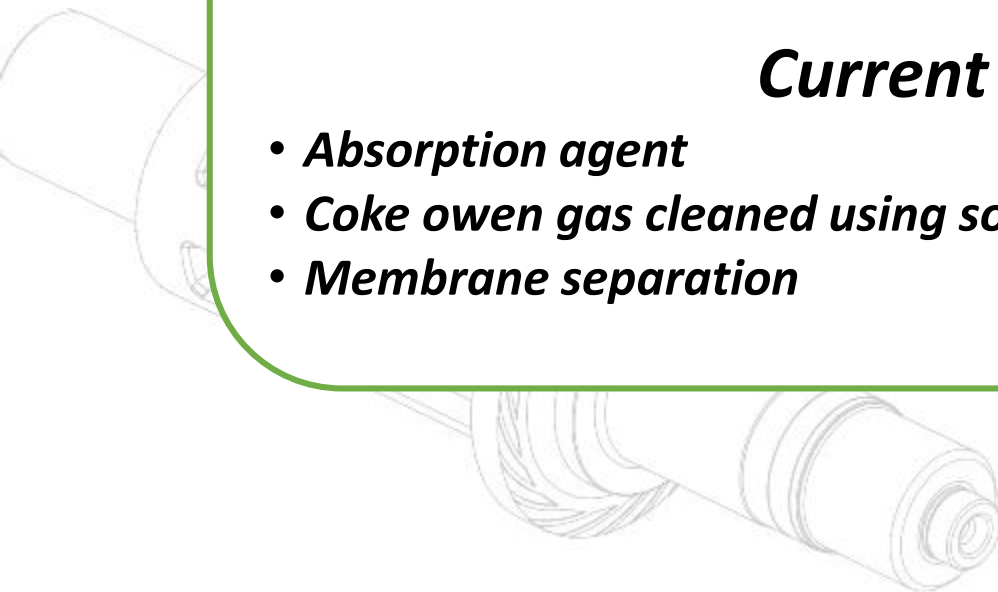
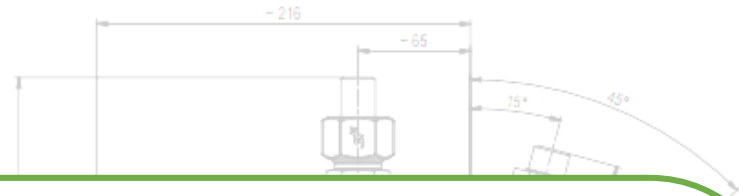
Current Technology:

General Feature:

- **Narrow focus on one type of treated gas or limited extent group of gaseous product**

Current Ways:

- ***Absorption agent***
- ***Coke oven gas cleaned using sodium hydroxide***
- ***Membrane separation***



A New Solution Proposal:

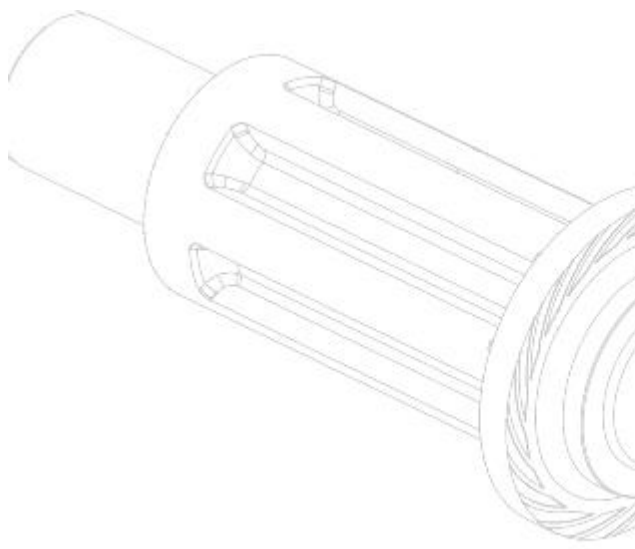
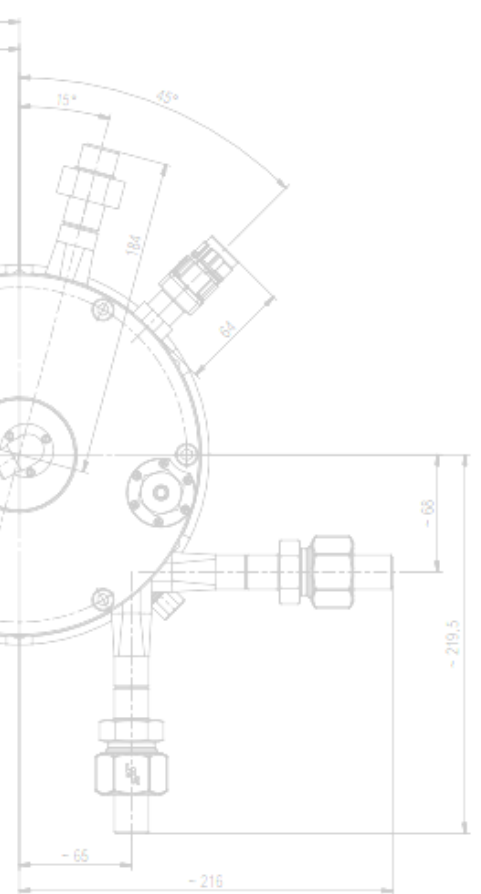
Design based on set of isolated subsystems according to treated syngas qualities

Composed of:

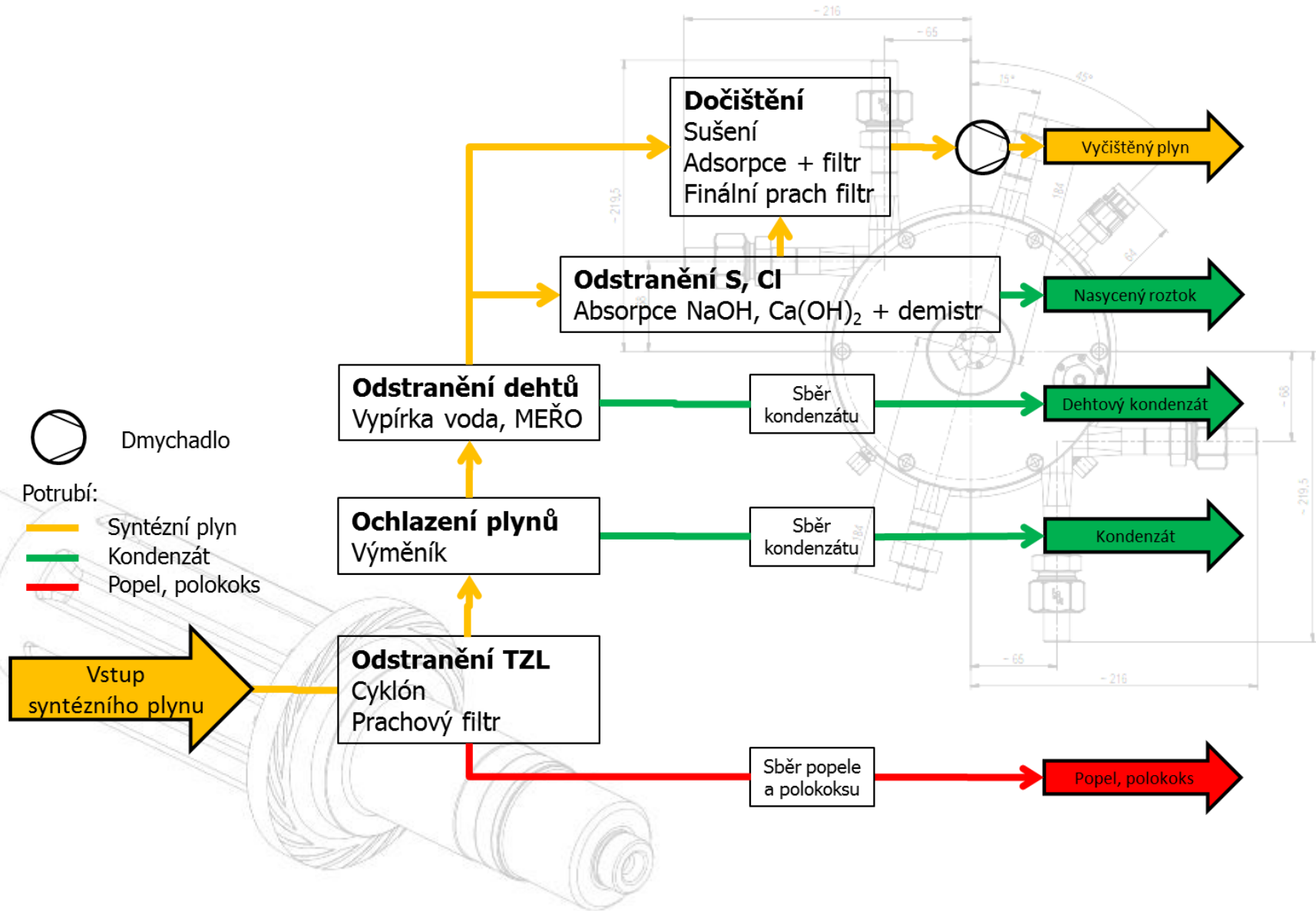
- 1. Separation of solid pollutants**
- 2. Syngas cooling**
- 3. Tar removal absorption unit**
- 4. Removal of acidic components (Sulfur and Chlorine) absorption unit**
- 5. Preheating of treated syngas**
- 6. After treatment unit**
- 7. Control and monitoring system**

ATEKO Syngas Cooling and Treatment System ASCTS 2

**Functional
Demo
Unit**

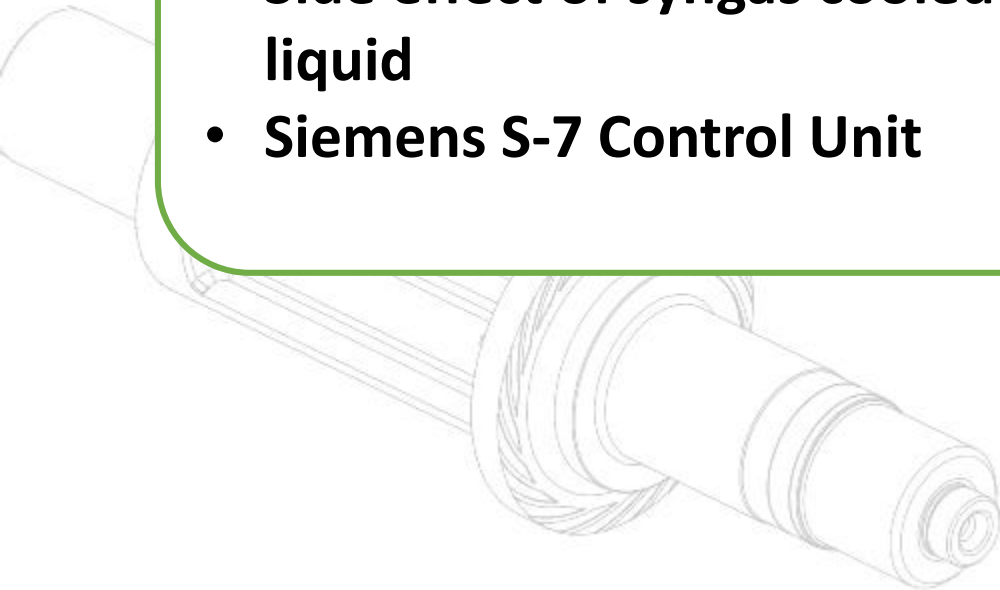
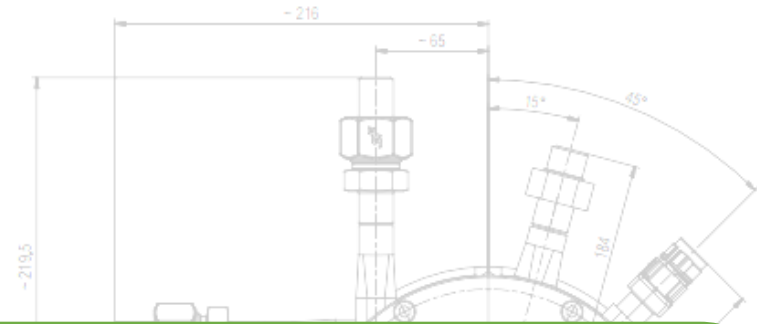


ATEKO Syngas Cooling and Treatment System ASCTS 3



ATEKO Syngas Cooling and Treatment System ASCTS 4

- **Single subsystems are designed and employed according to syngas qualities and amount**
- **Side effect of syngas cooled in column by washing liquid**
- **Siemens S-7 Control Unit**

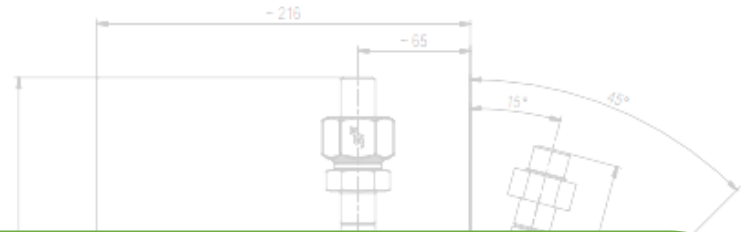


Process Products:

- **Outlet gas**
(free of ash, tar, sulfur compounds, reduced water content due to lower temperature)
- **Water condensate**
- **Tar condensate**
- **Saturated absorbent solution**
- **Ash and semi-coke**
(if a cyclone or other separator type is installed)

ATEKO Syngas Cooling and Treatment System ASCTS 6

- Usable for biomass combustion
- Gasification
- Pyrolysis
- Coking
- Treated syngas may be used in cogeneration units
- Verified in cooperation with Technical University Ostrava



Thank you for your attention

<http://www.ateko.cz>

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