

Steam & Water Analysis System (SWAS) – Organic Carbon Load Analysis in Boiler Feed Water AKS Unit

Problem

The Customer was interested to get a complete single source plug and play Integrated Solution including online analyser / analyser housing / preconditioning / commissioning and training to achieve real time online analysis of organic carbon load in Boiler Feed Water in their AKS* unit.

**AKS = Anlagenverbund aus Anolone, Keton und Schwesoda / combined anolone, ketone and heavy soda plant*

Solution

Hach® was awarded a contract for the design, construction and delivery of a complete Integrated solution. Through their 100 % owned subsidiary AppliTek. All online analyser equipment could be integrated in one (1) pc protective AnaShell shelter type AS3000 prefabricated and equipped with all necessary equipment, systems. The shelter is delivered as a total with all parts tested prior to shipment.

Benefits

The addition of the Hach online monitoring technology to the plant helps to optimise the control and quicker decisions in process, mitigate risk, and avoid plant outages.



Source: Google Earth GeoBasis-DE/BKG (©2009)



Background

BASF Ludwigshafen – Germany

With an area of app. ten (10) square km the Ludwigshafen verbund site is the world's largest integrated chemical complex. As the headquarters of BASF, it is also the cradle of the verbund concept, where production facilities, energy flows and logistics are networked together intelligently in order to utilise resources as efficiently as possible. Site area approx. 10 km² | 200 plants | approx. 39,000 employees.

Source: <https://www.basf.com/global/en/who-we-are/organization/locations/europe/german-sites/ludwigshafen.html>

Challenge

Sample Take Off Point (STOP)

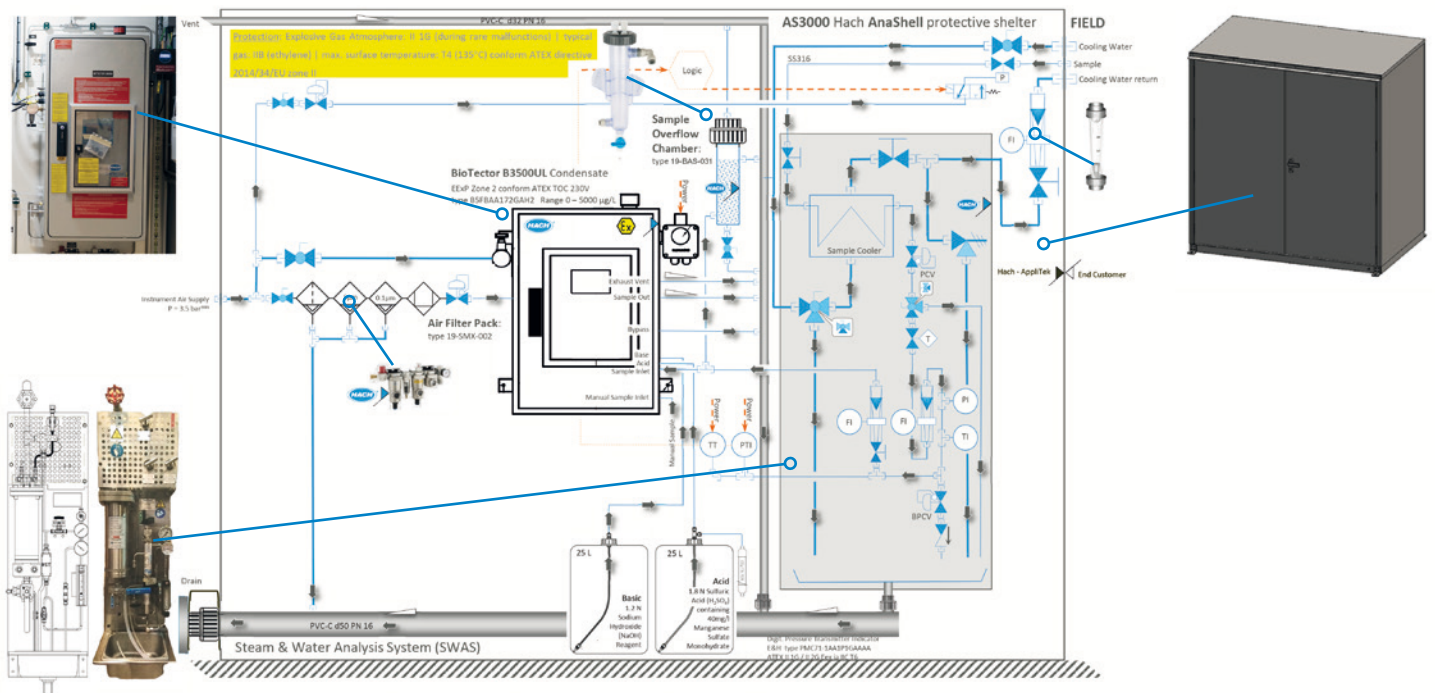


Sample Take Off Point (STOP) 4 bar / 120 °C

Process Pump will be removed

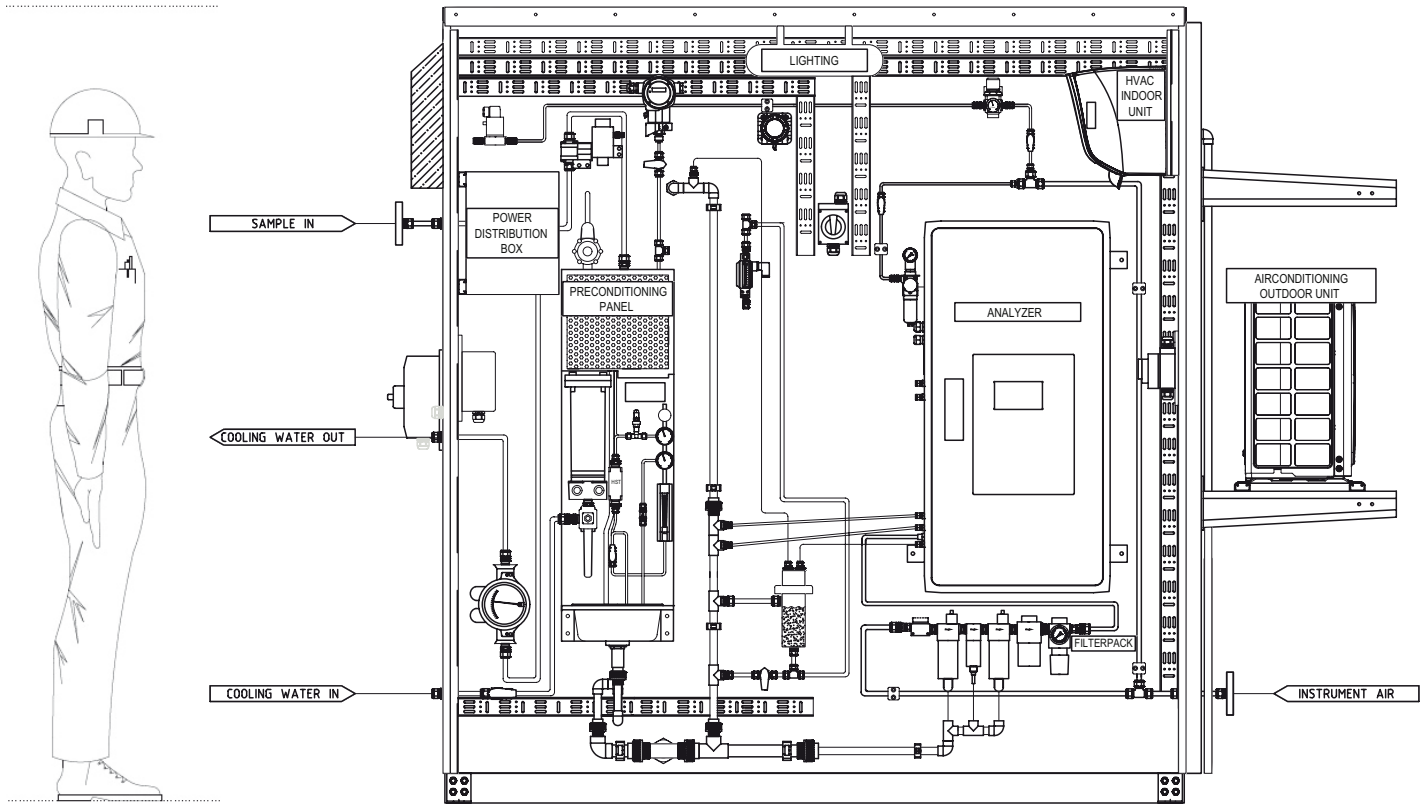
Proposed location for new AnaShell type AS3000 protective shelter
Protection: II3G IIB + H₂ T3 conform ATEX directive 2014/34/EU

Concept

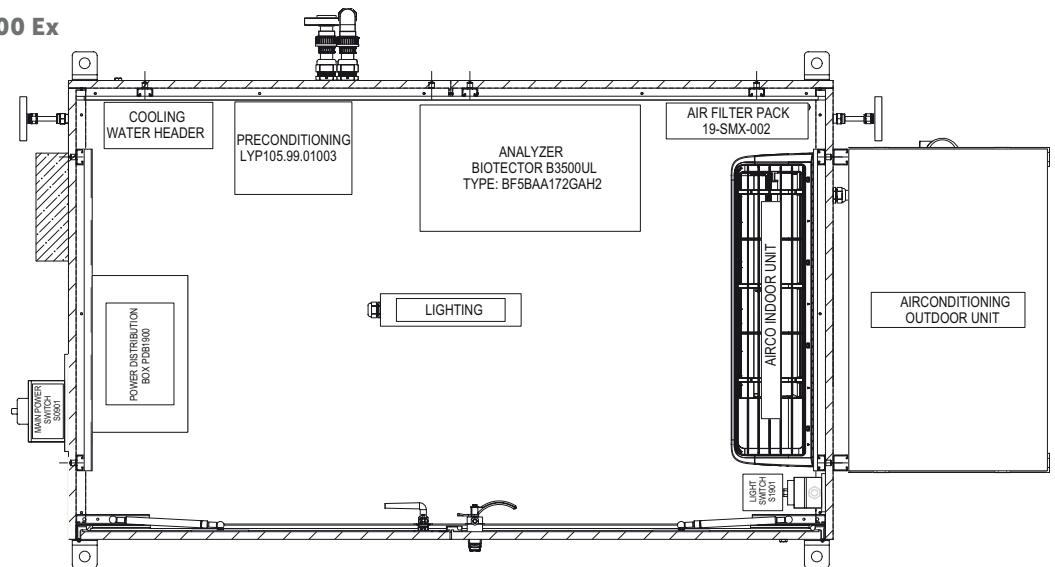


Execution

FRONT VIEW AnaShell type AS3000 Ex



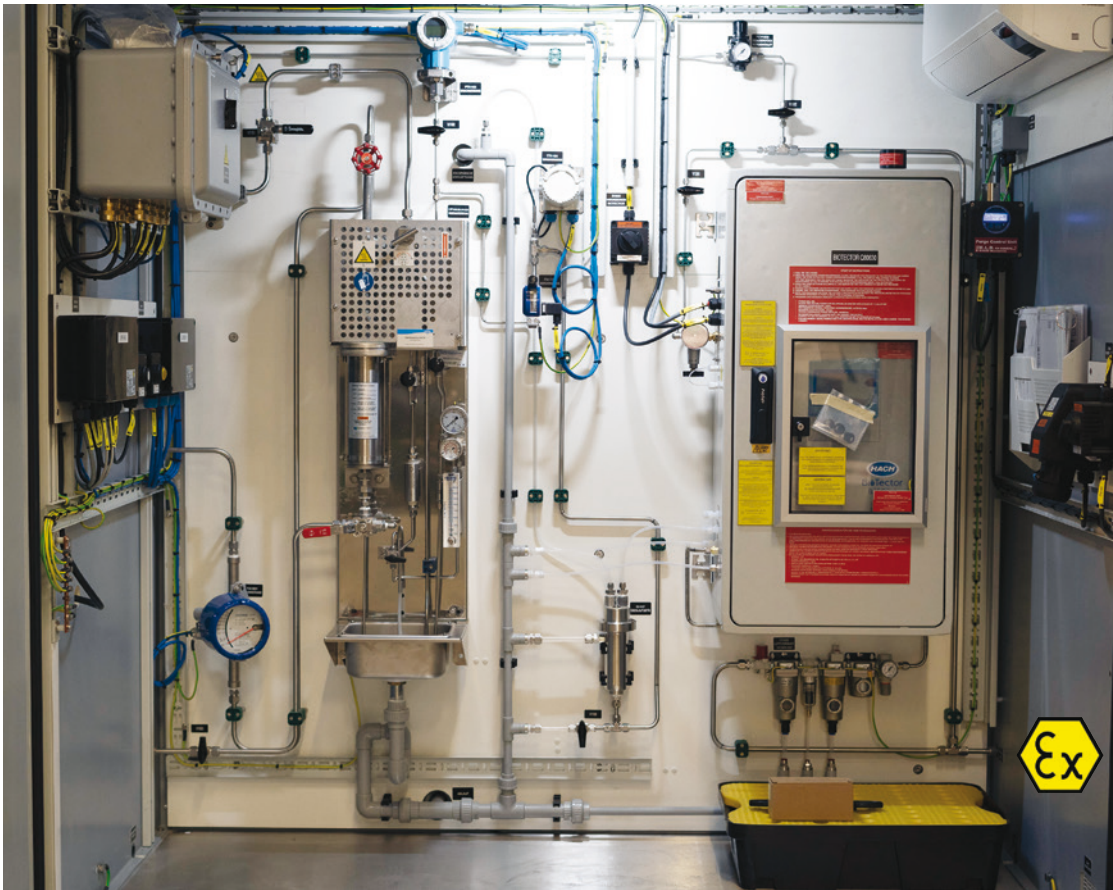
TOP VIEW AnaShell type AS3000 Ex



Protection: Explosive Gas Atmosphere

II (other areas) 3 (normal degree of safety) G (gas) | typical gas: IIB (ethylene) + H₂ (hydrogen) | max. surface temp.: T3 (≤ 200°C) conform ATEX directive 2014/34/EU

Fully equipped and tested AnaShell type AS3000 shelter



The lifting brackets on the base frame can be twisted by 90° for mounting at the final destination.



Air conditioning outdoor unit