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generates

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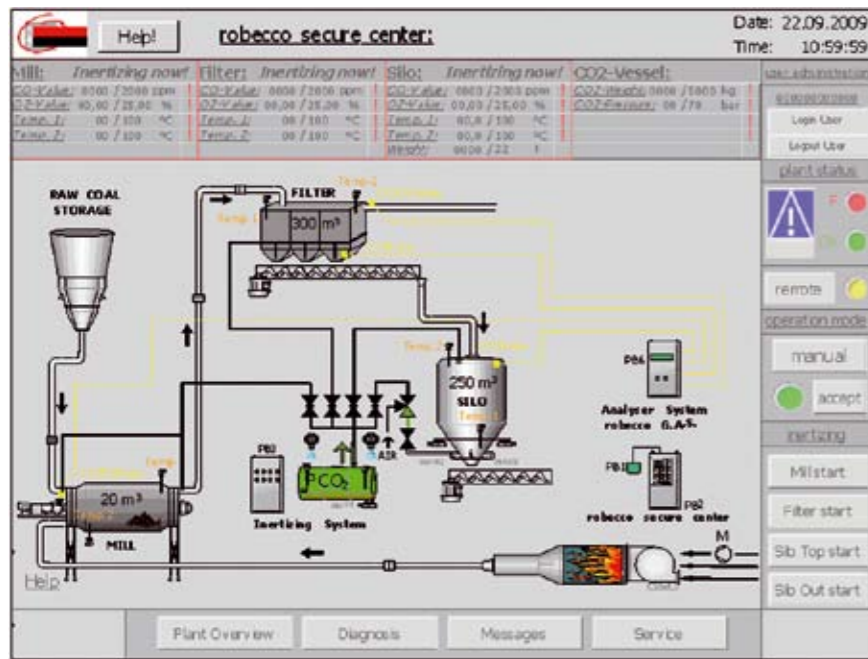


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rob ecco secure center®

regulates
controls & administers





Monitoring and control

robecco secure center is a central fully automatic control system, which guarantee the inert atmosphere during chemical and physical processes.

The following described process is realized with a visual monitoring system. The operation is made automatically or manually by a process computer or an equivalent control system.

robecco secure center administert, controls and regulates at the community level or also separately following plants or components:

- A Gas analyser systems,**
- Gas measuring systems**
- B Flaps**
- C Temperature sensors**
- D Inerting systems**

Automatic and control functions

A Gas analyser systems (robecco G.A.S.)

robecco secure center compares the signals of the gas analyser system (digital values and analog values) of the process with the given security concept. With help of the measured gas components necessary alarms will be produced to guarantee the inert atmosphere. Further the operability of the gas analyser system is supervised.

The following parameters are regarded:

- temperature min at sample probe
- function of diaphragm pump
- function of being and actual values
- humidity of the sampled gas before analysing
- auto calibration or manual calibration of the analyser system or the measuring instrument
- Disturbances in the analyser
- Obtaining of the max value of the analyser
- Obtaining of the max-max value of the analyser
- Supervising of the analog measuring

B Flaps

robecco secure center is able to send signals and instructions to the processing unit according to the security concept to operate customers valves and flaps.

The indication of the customers valves and flaps will be supervised in the robecco secure center

C Temperature sensors

robecco secure center compares the signals of the temperature sensors (digital values and analog values) of the process with the given security concept.

With help of the measured gas components and temperatures robecco secure center produces special behaviour conditions, which is based on the limiting oxygen concentration (LOC) which is given by the explosion protection concept. If the temperature is changing in the system the LOC will be automatically adapted and the alarm values will be changed.

D Inerting systems

With help of the generated signals of the analyser system and the temperature sensors robecco secure center controls the inerting system. With generated alarms in certain aggregates range valves of the inerting plant will be opened so that the necessary inert gas quantity will be dosed. After inerting process the range valves will be automatically closed.

robecco secure center observes the process and confirm a successful inerting process. If the process was not successful, the procedure will be repeated.

Additionally, robecco secure center supervises the inerting plant and examines the ready status.

The following parameters are regarded:

- Storage gas (CO₂, N₂) min und max (weight or pressure, depending of the kind of gas)
- pressure min. pressure max
- flow control of the inert gas out of the inerting system
- vessel heaters or pressure up heaters
- cooling unit (if necessary)
- range valves
- dosing of the gas volume for each range valve

Technical characteristics:

1. Adjustment of Limiting Oxygen Concentration (LOC) depending on the process temperature.
2. Adjustment of the limited carbon monoxide concentration depending on the temperature (Ignition point: 605°C).
3. An evaluation and an adjustment with typically processes are guaranteed. With help of this a sealing of leakages and preventing of an entry of oxygen is possible.
4. A secure switching over of the robecco secure center from automatic control to manual control in process conditions like test run, maintenance operation or revision operation to prevent accidents is possible.
5. Self sufficient system functions without upper PLC control.
6. Exact CO₂ or N₂ dosing regarding effectiveness and environment.
7. Controlling of CO₂ or N₂ storage and with help of this to guarantee the procurement and stock.
8. Monitoring of relevant system functions of the inerting storage tank and the dosing station with range valves.
9. Monitoring of relevant system functions of the analyser system: Sampling, gas preparing, gas flow and analyser.
10. Automatic determination of maintenance intervals of single components in dependence of operation duration.
11. Avoidance of human failures by fault operation, misinterpretation of measuring results or an not controlled PLC stand.
12. Logging (Data memory functions)
13. Communication ports: - Profibus
- Ethernet
14. Remote service and diagnostic function

