

Industrial Solutions for the petrochemical industry

Complete your LDPE/EVA plant



thyssenkrupp

New: Uhde Reactor controller for LDPE/EVA plants

Benefits

For many years, Uhde High Pressure Technologies (UHPT) has been a reliable partner for the equipment of Low Density Polyethylene (LDPE) plants worldwide. In numerous plants, UHPT high-pressure valves have truly proven themselves for the control of LDPE reactors. We have now expanded our equipment portfolio by the reactor controller. The following advantages are therefore available to our customers as a result:

- Complete package from a single source, as a result, all major interfaces to the individual equipment parts are already integrated.
- Flexible adjustment to existing structures, i.e. our solution can also be engaged in old facilities.
- The reduction of interfaces and adjustment to existing structures enables fast and smooth start-up.
- A user-friendly operation reduces dangers through wrong entries.
- Interlocks and integrated monitoring functions support the operator in unforeseen situations and reduce the downtimes of the plant.
- The integrated "fast data logging" makes the control procedure transparent for the operator and also helps during later error analyses.

Characteristics

- Efficient Siemens PCS7 process control system for dynamic pressure control in the fast 10 ms cycle
- Subordinate Digital Control Unit (DCU) for precise positioning of the UHPT Let Down Valve (LDV) in the 0.5 ms cycle
- Robust control cabinet, suitable for setting up in electrical operating rooms



Figure left:
Figure right:



Reactor controller with opened cabinet door
Inner workings with opened swing frame

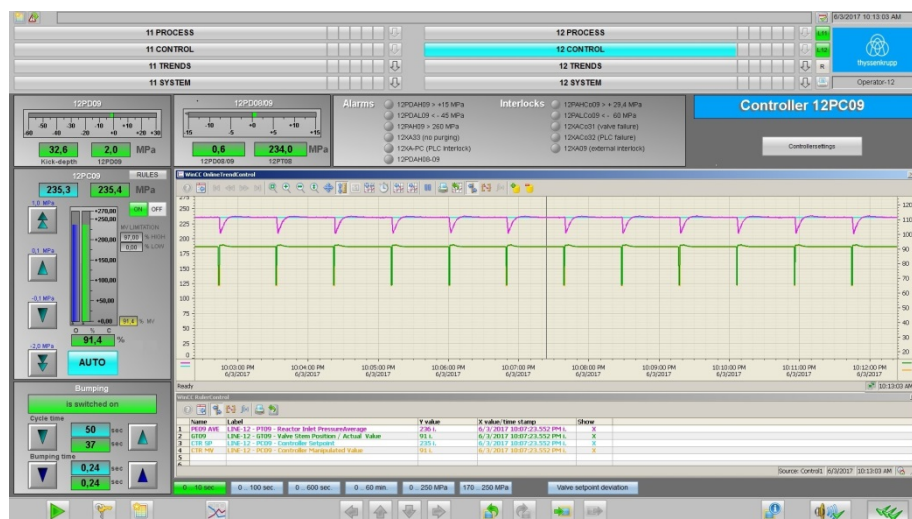
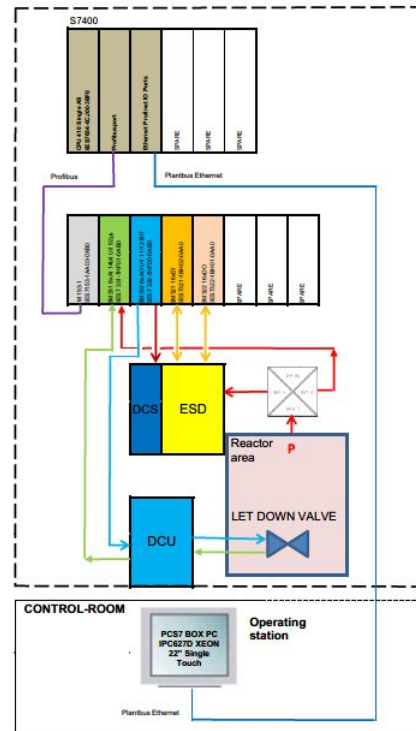


Details

The interfaces to the customer's Distributed Control System (DCS) and to the Emergency Shut-down System (ESD) are executed on the hardware. Signals, which are to be processed both by the shut-down system and the reactor controller are duplicated correspondingly. The block diagram on the right shows the signal exchange in simplified form.

Operation

The operation is carried out on a PCS7 Box PC with integrated touch display. The face plates for pressure control and bumping, as well as the online trends (see below) are arranged clearly on the touch display. The online trends show, among other things, the chronological sequence of the reactor pressure and the position of the Let Down Valve (LDV). As a result of the fast data recording in the 10 ms cycle, the reaction of the process to changes such as, e.g. setpoint value changes of the pressure or the length of bumping, are displayed directly and with high level of detail. This means that the operator always has a precise overview of the process and can intervene quickly and target-oriented in the case of changing requirements.



45 years of experience in engineering of LDPE/EVA plants

60 years of experience in manufacturing high pressure components

Over 90 polymer plants built, with a total capacity of over **10 million t/year**