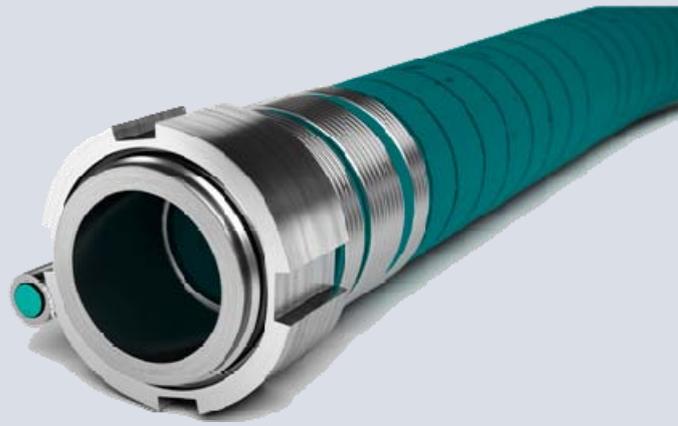




SECURE TRANSFER OF PROCESS COMPONENTS AND LIQUIDS

Application:

In chemical, pharmaceutical, and aseptic process equipment, process components and liquids must be transported from their storage tanks to a process reactor.



A small RFID tag is mounted on the metal hose coupling.

Goal:

It is of vital importance that these components are not spilled and that the wrong liquids are never introduced into the reactor, as this could result in costly process interruptions that must be prevented.

Requirements:

Small RFID read heads are mounted near the metal hose couplings. Reliable operation under harsh environmental conditions.

Customer advantage:

Process security and prevention of downtime by eliminating the introduction of the wrong process components and liquids.

**What has been done:**

Chemical plants typically utilize continuous process methods. Process interruptions and errors frequently result in significant yield losses and associated costs. Before such a process can be restarted, it is necessary to conduct thorough cleaning and repair work. This repair work can be responsible for appreciable financial damage while the loss of production usually has an even higher price tag. In order to protect such processes with nearly 100% reliability, and to exclude any human and external machine introduced errors, the hose couplings are equipped with RFID technology. A hose connection with an incorrect process medium for the current process can be securely identified. The transport valves for this invalid connection will not open and the error will be clearly displayed, allowing an immediate response by the operators. This saves valuable time, and the correct liquid can be introduced more quickly. Important for these kinds of applications are reliable RFID hardware components and RFID tags that can be flush mounted inside a protective metal collar. In food and beverage applications, hose and pipes are regularly flushed using sanitary cleaning solutions. In this case, it is also important to securely separate the cleaning agents from the food.

Another application is the secure transfer of liquids into storage tanks. If, by accident, the level signal from a neighboring tank is monitored, it is easily possible to overfill a tank, resulting in spillage and significant damage.



RFID readers and tags monitor hose connections.

Monitoring hose connections with RFID guarantees the introduction of the right material at the right time and assures that the correct measuring equipment is used for the process.