

Design and setup the sampling system to modify and reduce the deposition in sampling fluid pipes lines by reducing pressure drop

ABSTRACT

Corrosion and deposition in Refineries and Petrochemicals is becoming one of the most critical and serious obstacle, and also can cause reduce the efficiency, performance, and analysis accurate of industrial instrument such as turbines, power plants, boilers, and especially sampling tube lines, because of increasing the pressure drop due to build-up deposits. To limit and minimize these deposits in sampling pipe lines would be uses a specially sampling system that design and discuss in this article. This kind of sampling system includes: isokinetic sampling, rapid condensation and cooling, pressure reduction, and process indicators, as well as safety devices to protect online instruments and plant personnel. All in all, by increasing the outer and inner diameter of sampling tube lines, wall thickness, Reynolds number, and required sampling rate, the pressure drop of flowing sample is decreasing and also with increasing the volume annual, the amount of deposits are significantly reduce, because of decreasing the pressure drop.

Keyword: Corrosion; Deposition; Pressure drop; Reynolds number; Isokinetic sampling