

CHEMICAL INJECTION PACKAGE

Product Presentation

Chemical Injection System - General Description



Chemical Injection System are generally used for the following purposes:

To prevent

means to prevent the chemical and physical changes generated inside the closed circuits of industrial plants (i.e. boilers, furnaces, etc ...) as well as inside the pipelines that convey gas or oil from extraction wells to the storage tanks or treatment plants

To correct

means to correct the chemical and physical conditions of a fluid, especially water, due to the presence of inorganic substances (ions) or organic (bacteria..) which could cause substantial damage to the facilities for the related problems of corrosion, precipitation, fouling, skimmer, emulsions, status change, aggregation

□ To preserve

means to conserve the chemical and physical properties of various substances, for their utilization.

Process Description

Generally the most important **Process Data** are:

- Design Pressure & Flow rate
- Operating Pressure & Flow rate
- Storage tank Capacity

- Design & Operating temperature
- Type of Chemicals to be injected



Fields of Application:

The most important application fields of dosing systems are:

□ /Oil & Gas

The chemicals used in the Oil & Gas field are: Corrosion Inhibitor, Scale Inhibitor, Demulsifier, Pour Point Depressant, Antifoam, Methanol, Glycol, DRAG Reducing Agent;

□ Water-Steam Cycle

The most important processes that use dosing systems in this area are: Raw Water Treatment, Make-up Water Tower, Desalization, Potabilization, Waste, Biological;

□ Cooling Water Tower

The chemicals used in this field are : Biocide, Bio-dispersant, Sodium Hypochlorite, Sulphuric acid, Oxygen Scavenger.

Features & Benefit

The typical features and benefits are:

- □ Can be designed for low and high working pressure;
- Can be designed for various types of materials according to the chemicals to be injected;
- □ Can be installed in any type of hazardous as well as safety areas.

Equipment Description

Dosing systems are very simple, however they can differ from each other according to the injected chemicals and the instrumental components.

Chemical Injection Systems are usually pre-fabricated and skid-mounted with the following components:

- N. 1 Storage tank
- N. 1 Level indicator installed on storage tank
- N. 2 Dosing Pumps, which can be Diaphragm or Plunger type, one of them is usually in stand-by
- N. 1 Calibration Pot installed on suction pump line
- N. 2 Pressure relief valves installed on discharge pump lines
- N. 2 Check valves installed on discharge pump lines
- N. 2 Pulsation Damper
- N. 2 Pressure Gauges
- N. 1 Local Control Panel

Other components as mixer, pressure, temperature, flow rate and level transmitter can be installed upon Customer request.

The system is completed with Y strainer, shutoff and drain ball valves

Standard Codes:

The typical applicable Standards and Codes for Chemical Injection are:

- ASTM American Society for Testing Material
- ANSI American National Standard Institute
- ASME American Society of Mechanical Engineers
- IEÇ International Electro-technical Commission
- API American Petroleum Institute
- ISA Instrument Society of America
- ISO International Standard Organization
- AISC American Institute of Steel Construction
- UBC-97 Uniform Building Code
- BS EN 10204 Material Testing Certificate
- Pressure Vessels: ASME VIII Div.1/PED

- Piping: ASME B31.3
- Valves: API 6D/607
- Relieving System: API 521
- Heat exchangers: TEMA R
- Metering: API MPMS/AGA 7/AGA 3
- Electrical: CENELEC/IEC/ATEX
- Instrumentation: ANSI/ISA



