



Principle of adsorption

Drying with high efficiency and reliability

Some applications require a compressed air with very low moisture content (dew point negative between -5 to -70 °C approximately), not being met by drying systems for cooling (dew point +3 °C). In this case we use a dryer which operates by the principle of adsorption.

Adsorption is a physical process that leads to the fixing of certain gas molecules (in our case water vapor) on the surface of solids materials called adsorption, adsorbents or sorbents. This process is highly efficient, since the materials are easily regenerated adsorption after reaching its saturation (hot or cold).

With regard to compressed air, the adsorption system radically eliminates water vapor in the mixture. With this system you can currently obtain dew points near -100 °C.



The adsorbents are porous products extreme mind, and commonly have specific surfaces 500-1000 square meters per gram. And it is this vast area which creates the fundamental condition for the adsorption phenomenon (which is comparable to the known phenomenon of condensation) which comes into being, ultimately, a surface phenomenon. Regeneration (also called reactivation) of materials for adsorption is the removal or evaporation of water adsorbed from the same compressed air. This regeneration can be achieved by "washing" of the adsorption material saturated with dry air and warm (drying line FDH), or with pressurized cold and dry air (line FDA).



Special equipments

Besides the standard equipment of adsorption (lines FDA / FDH), Fargon designs and manufactures equipment for implementing special.

These equipments are indicated for applications that require a custom manufactured equipment according to specifications supplied.

Besides the basic features of the standard line, these dryers allow the inclusion of various accessories / services to suit their operation for special applications required by the customer, for example:

- Automation: electronic card controlled by programmable microprocessor or through CLP
- System power management driven by meter dew point electronic
- Special instrumentation, that may include:
 - Dew point electronic meter with 4-20 mA outlet and alarm contact
 - Pressure differential transmitters for inlet and outlet filters
 - Electronic flow meter
 - Gauges / thermometers in the inlet / outlet system
 - Manometer differential / differential pressure switch for filter
- Electrical Installation for classified area / time IP 65
- Drying of gases such as ammonia, methane, ammonia, natural gas, nitrogen, etc.
- Systems for medical air / breathing
- Pressure Vessels according to ASME stamp
- Dryers manufactured entirely in stainless steel
- Dryers for pressure class # 300 / # 600 lbs
- Several possible configurations of purifying filters
- Radiography Testing / dye penetrant / special paint

Special equipments





COMPRESSED AIR DRYER FULLY STAINLESS STEEL 304/316

Accessories

- Inlet and outlet filters with duplicate system and bypass valves
- Differential pressure transmitter in stainless steel for inlet and outlet filters
- Purge muflers Fargon manufactured entirely in stainless steel
- Panel box and tools in stainless steel
- Dew point meter with electronic output 4-20 mA

AIR / GAS DRYERS AREA: EXPLOSION PROOF

Accessories

- Electrical components suitable for installation in classified area
- Special paint





COMPRESSED AIR DRYER PRESSURE VESSELS WITH ASME STAMP

Accessories

- Inlet and outlet filters with duplicate system and bypass valves
- Stainless steel instruments
- Panel box and tools in cast aluminum
- Dew point meter with electronic output 4-20 mA
- Mounting cage structure with roof protection
- Special paint / galvanized pipe





GAS DRYER (Ammonia, nitrogen, argon) HEATER OR HEATLESS REGENERATION

Accessories

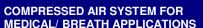
- Silencers purge Fargon manufactured in carbon steel or stainless steel
- Healess or heater regeneration (with or without auxiliary blower)
- Special paint
- Thermal insulation
- Adsorption materials: modified silica gel, activated alumina or molecular sieve



HIGH PRESSURE COMPRESSED AIR DRYER (CLASS # 300 / # 600 LBS) HEATLESS OR HEATER REGENERATION

Accessories

- Directional valve pressure class # 300 / # 600 lbs
- Healess or heater regeneration (with or without auxiliary blower)
- Special paint optional
- Adsorption materials: modified silica gel, activated alumina or molecular sieve



Drying system and filtration of compressed air for medical or breathing, which may include the following items:

- Pre-Filtration System consists of one or two coalescing filters to remove oil, condensate and solid particles up to 0.008 ppm / 0.01 μ
- Heatless compressed air dryer , dew point -40 °C
- Molecular sieve adsorption filter for removal of CO2 <300 ppm
- Activated charcoal filter to remove odors of oil and hydrocarbons up to 0.003 ppm (odor / oil)
- Filter catalyst for CO to <1 ppm
- Final filtration of particulate solids to 3µ (optional bactericidal 0.01 µ)





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