

Hydrogen Gas Dryer



Hydrogen Gas

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Mellcon Engineers offer quality Hydrogen Gas Dryers to ensure low humidity levels continuously inside the Generators in Power Plants. Manufactured from the premium quality raw materials our Hydrogen Gas Dryers are highly durable and reliable. Hydrogen Gas Dryers provided by us are highly efficient, thus needs less energy and provides excellent performance. Hydrogen Gas Dryer is easy to use and install.

Hydrogen Gas Dryer (Refrigerated Type)(Moisture Upto -20 Deg.C ADP)

Capacity **40Nm³/Hr to 60 Nm³/Hr**

Op. Pressure **3.5 kg/cm²g to 7.0 Kg/cm²g**

Operation

The system comprises two heat exchangers, the hydrogen shell and tube type called pre-cooler in which temperature of hydrogen reduces around **25-40 (Deg C.)**.

The cooled hydrogen now enters the second heat exchanger named evaporator, further cooling upto **0-3 (Deg.C)** is accomplished in this hence the set dew point is adjustable. The cooling coil inside the evaporator have propelled through a refrigeration system due to low temperature in the evaporator. The moisture in the hydrogen condenses and converts in water form. The water is collected in a well protected condensate collector and can be drained out when desired leaving the evaporator. Hydrogen again travels to pre-cooler where it has dual function of cooling and outgoing leaving dry hydrogen again rises to a safe temperature Hydrogen of around **25-40 (Deg C.)**.

Application	Advantage
1. Hydrogen gas coolant treatment in power industry	1. Energy efficient
2. To maintain low humidity level inside the Generator.	2. Compact in size

Hydrogen Gas Dryer (Desiccant Type) (MOISTURE UPTO -80 Deg C. ADP)

The range of **Hydrogen Gas Dryer** from Mellcon is made in Delhi India For power generation industry. By studying hydrogen coolant problem in depth, our supply chain has been able to develop a system that truly answers the needs of utility industry.

Each contaminant is removed effectively and efficiently so that the generator is exposed only to clean dry hydrogen.



Desiccant Type Hydrogen



The Skid Package Offers The Following Equipment:

1. High quality pre-filter assembly with a super high efficiency coalescing pre- filter element.
2. A carbon steel carbon bed adsorber assembly to remove the remaining hydrocarbon vapours, providing for maximum dessicant bed protection. Therefore the dessicant and other dryer components last longer and require less maintenance.
3. A dual chamber dessicant dryer ASME standard. This is internally heat reactivated unit with open loop regeneration
4. Cycle times are adjustable
5. Specialised valve systems are specially designed and manufactured for hydrogen dryer service.
6. Low watt density heaters are installed from the base of the vassels in the dessicant bed preventing direct contact between the heater and dessicant thereby reducing premature dessicant damage and heater twisting.
7. Molecular sieve dessicant with superior adsorption capacity at low relative humidity levels present in hydrogen cooling system.
8. Pre-piped reduces leak prone connections.
9. The skid mounted package is easily installed into any existing hydrogen system.

Summary

Hydrogen Purification System designed by Mellcon Engineering Private Limited. incorporates a Deoxo system and gas drying systems to eliminate unwanted oxygen and moisture from hydrogen gas for industrial use. The Deoxo filter dryer system utilizes a palladium catalyst Filter to remove oxygen, followed by a cooling process. The gas then undergoes Pressure Swing Adsorption (PSA) using a molecular sieve solid adsorbent to further purify it. Mellcon Engineering specializes in designing, manufacturing, and operating these systems, ensuring high-quality hydrogen with 99.999% purity. Hydrogen is highlighted as a promising green fuel, and Mellcon emphasizes safety and excellence in its services for clients globally across various industries.

Contact For Dryers

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