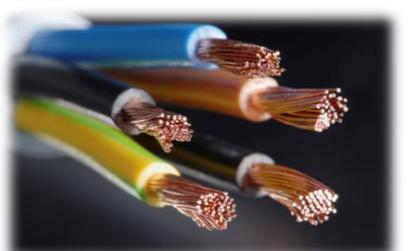


COMPRESSED AIR DRYERS



ISO 9001 : 2015 CERTIFIED COMPANY



COMPRESSED AIR DRYERS

NITROGEN GAS PLANT

- PSA Technology
- Membrane

HYDROGEN GAS PLANT

- Ammonia Cracking Units
- Water Electrolysis Based

OXYGEN GAS PLANT

- PSA Technology
- VPSA Technology
- Medical Grade

GAS PURIFICATION SYSTEMS

HYPOXIC CHAMBERS / SYSTEMS

SAM GAS PROJECTS is **ISO 9001:2015** certified, Professionally Managed Engineering Organization, Specialized in Design , Manufacture , Supply & commissioning of **'State of the Art'** Gas Plants and Compressed Air Systems.

SAM GAS PROJECTS has supplied more than **1500** Systems, which are working satisfactorily all over India & across the Globe in more than **50 countries**.



Precisely Right.

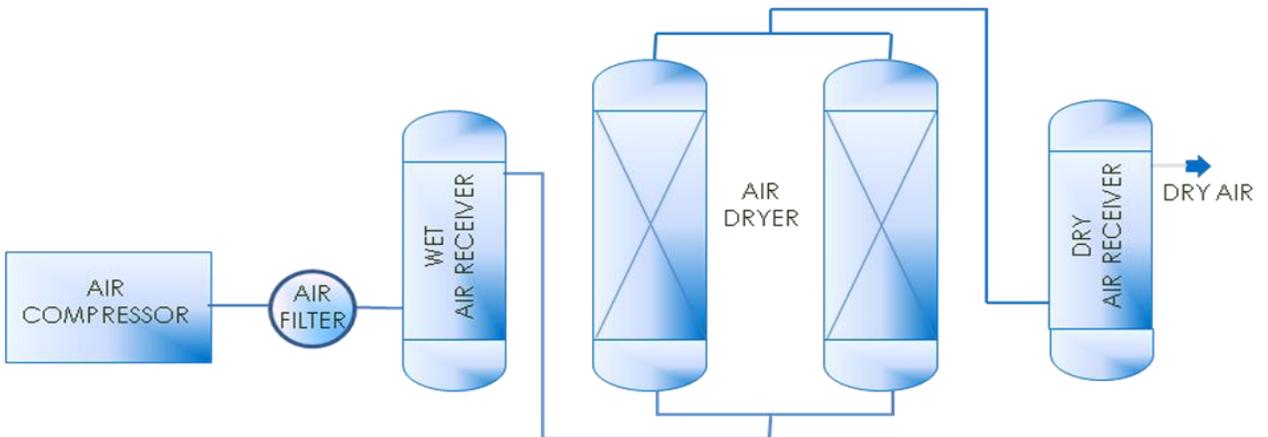
ISO 9001 : 2015 CERTIFIED CO.



Dew point is the temperature of air / gas , below which condensation of moisture starts. Dryness will be better at lower temperature.

Dew Point °C	g/Nm ³	PPM Volume
- 80 °C	0.000434	0.54
- 70 °C	0.00207	2.57
- 60 °C	0.00857	10.70
- 40 °C	0.102	126.90
- 20 °C	0.816	1015
+ 0 °C	4.84	6020
+ 5°C	6.91	8595
+ 10°C	9.74	12114
+ 20°C	18.50	23020
+ 30°C	33.60	41791
+ 35°C	44.60	55472
+ 40°C	58.50	71761
+ 45°C	76.00	94527
+ 50°C	97.80	120398
+ 60°C	158.0	196517
+ 70°C	247.0	307212
+ 80°C	376.0	467662
+ 90°C	556.0	691542

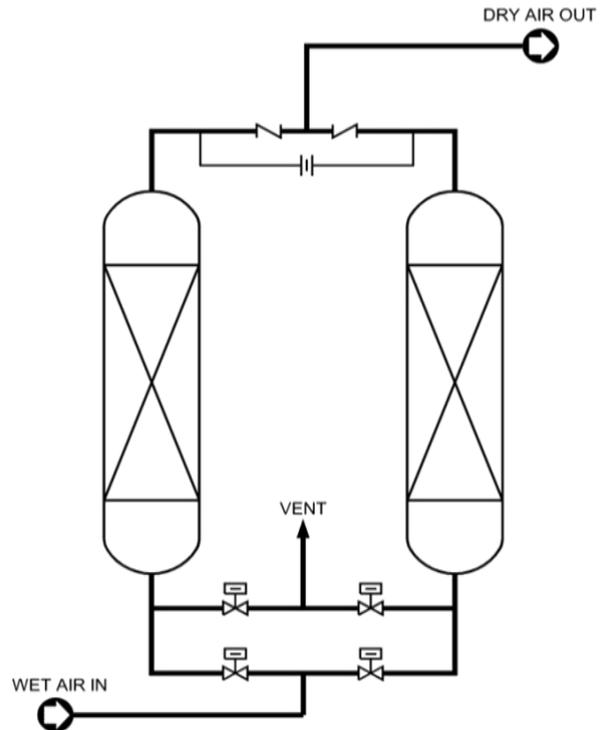
In any Industry or application compressed air requirement is there for operation of the process or instruments & it should be free from moisture. In absence of which moisture can affect the process / products or instruments. To achieve the desired quality of products and to avoid corrosion of instruments and tools being used in industry or different application , we need to ensure dryness requirements. Dryness of air or gas is always being defined in terms of Dew Point and same can be monitored online with Dew point meters available.



HEATLESS TYPE AIR DRYER

A heatless compressed air dryer is the simplest form of gas or air dryer for achieving a dew point of (-) 40°C. Wet compressed air Passes through adsorber tower under generation cycle filled with desiccant . Compressed air drying takes place by adsorption moisture & dry air is taken out to the application. Whereas other tower goes under regeneration cycle. A portion of the dry compressed air passes through desiccant and purge out the desorbed moisture.

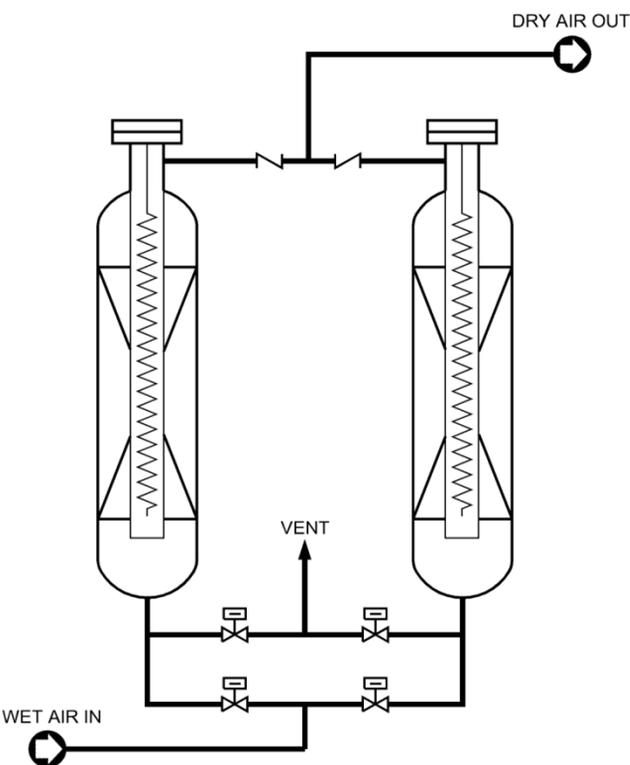
- Capacity : 5 to 5000 NM³/Hr.
- Dew Point : (-) 40°C or better
- Pressure : 5.0 Kg/cm²g or higher
- Purge Loss : 10 – 12%
- Cycle Time : 5 + 5 Minutes



HEAT REACTIVATED TYPE AIR DRYER

Heat Reactivated Type Air Dryers are used to meet dew point requirement from (-) 40°C to (-) 80°C. In this design, the desiccant is regenerated at higher temperature, along with small quantity of Dry air purge. It is twin tower system, filled with Activated Alumina or Molecular sieves desiccant. One tower remains in drying cycle for 4 hours, while other tower is simultaneously regenerated at atmospheric pressure.

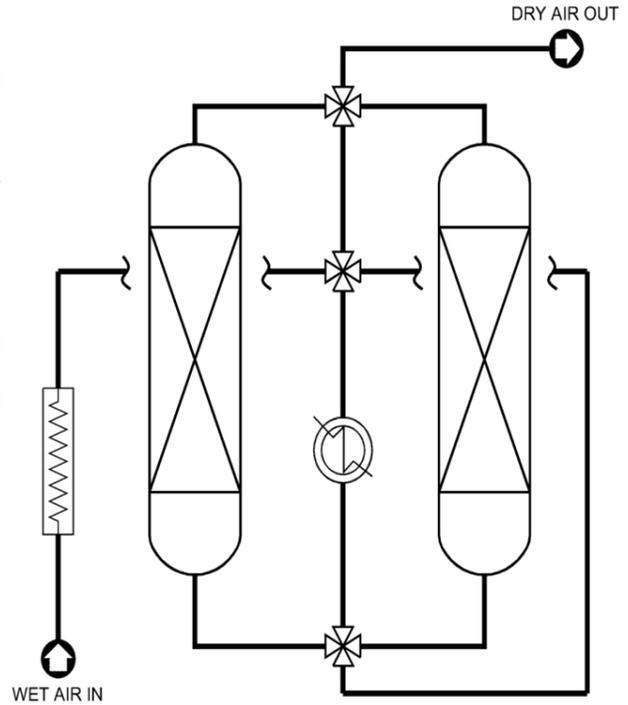
- Capacity : 5 to 3000 NM³/Hr.
- Dew Point : (-) 40°C to (-) 80°C
- Pressure : 2.0 Kg/cm²g or higher
- Purge Loss : 3.5 – 7.0%
- Cycle Time : 4 + 4 Hours



HEAT OF COMPRESSION TYPE AIR DRYER

In Heat of compression type air dryers, Compressed air at elevated temperature taken to Air dryer inlet & first passes thru tower under regeneration first. After picking up moisture from desiccant bed, the air is cooled in an intermediate cooler. Here moisture is condensed and removed by auto drain valve. Cooled to 40°C, this air passes through the second drying tower where balance moisture gets adsorbed and Dry air comes out.

- Capacity : 5 to 6000 NM³/Hr.
- Dew Point : (-) 40°C or better
- Pressure : 5.0 Kg/cm²g or higher
- Purge Loss : NIL
- Cycle Time : 4 + 4 Hours

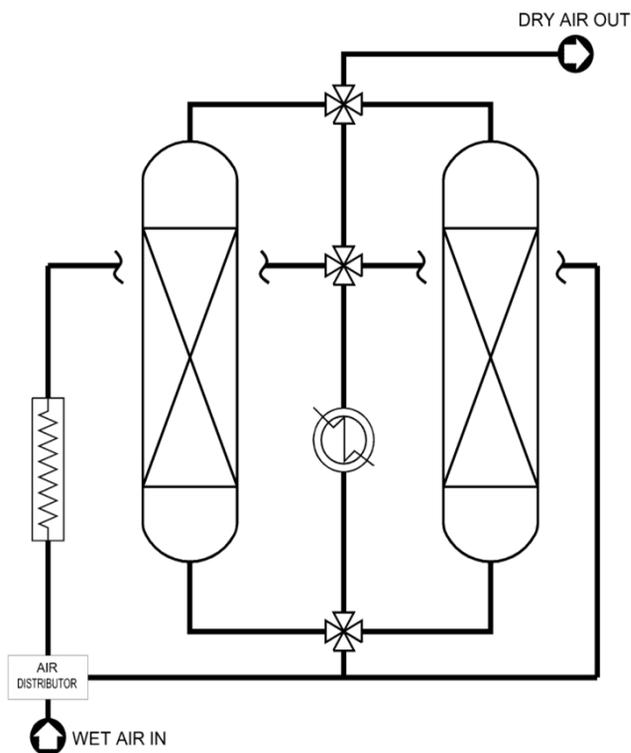


DRY AIR OUT

NO PURGE LOSS SPLIT FLOW TYPE AIR DRYER

In No Purge loss split flow type air dryer compressed air at inlet of dryer is taken at ambient temperature. Inlet air is divided into 2 streams. Major part of flow is taken directly for drying operation and partial flow is heated by line heater & is used for regeneration. By splitting the incoming air only that much flow of air is heated, which is required for regeneration and at the same time there is no purge loss, which makes the dryer feasible for higher capacities.

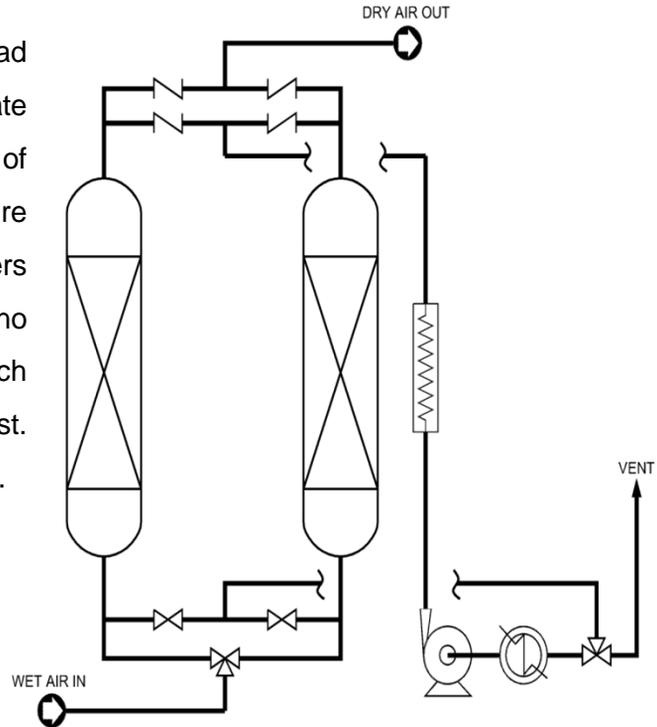
- Capacity : 5 to 6000 NM³/Hr.
- Dew Point : (-) 40°C or better
- Pressure : 5.0 Kg/cm²g or higher
- Purge Loss : NIL
- Cycle Time : 4 + 4 Hours



BLOWER REACTIVATED TYPE AIR DRYER

In Blower re-activated type of Air dryer units instead of using compressed air at higher pressure, separate regeneration blower is used for regeneration of desiccant, at elevated temperature and temperature is raised with line heater. With usage of blowers power consumption goes down and there is no purging of compressed air at high pressure. Which make the dryer economical considering running cost. Such type of dryers are preferred for high flow rates.

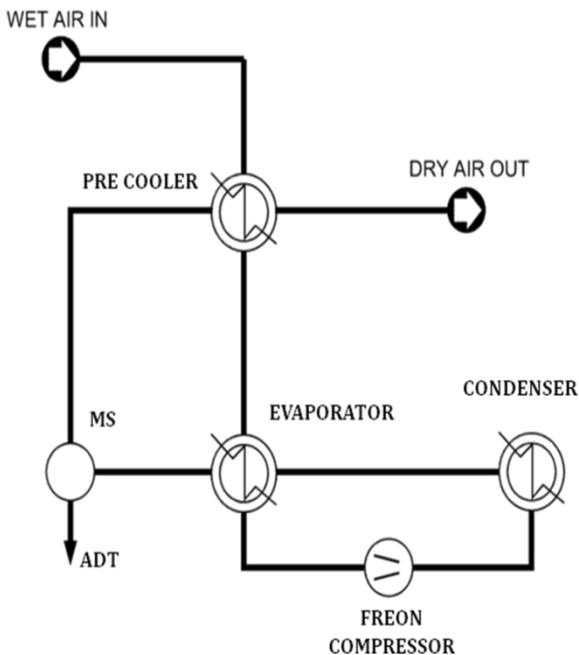
- Capacity : 1000 to 10000 NM³/Hr.
- Dew Point : (-) 40°C or better
- Pressure : 5.0 Kg/cm²g or higher
- Purge Loss : NIL
- Cycle Time : 4 + 4 Hours

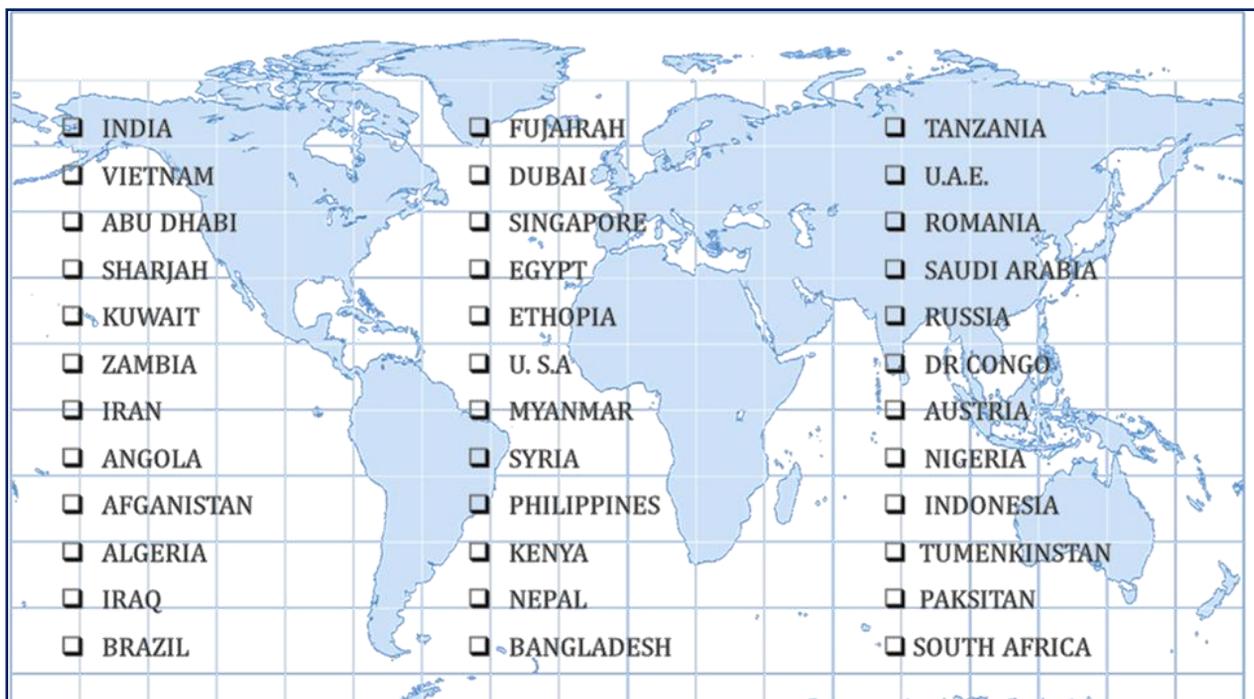


REFRIGERATED TYPE AIR DRYER

The Basic principle is the removal of moisture by cooling. Compressed air first enters into the pre-cooler where the incoming hot air is being cooled by outgoing cold air so as to reduce the heat load of evaporator. The air from pre-cooler enter into the evaporator where further heat is removed by boiling refrigerant. Now the air get condensed and this moist air is passed through a moisture separator where moisture is drained out by centrifugal action of air. The moist free air enters into pre-cooler to cool the incoming air.

- Capacity : 5 to 5000 NM³/Hr.
- Dew Point : (-) 23°C or better
- Pressure : 1.0 to 15 Kg/cm²g





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 E - MAIL : samgasprojects@gmail.com , WEB SITE : www.samgasprojects.com