

ATS

Air
Treatment
Solutions

AT Series

*Heated / Heatless
Absorption Air Dryer*

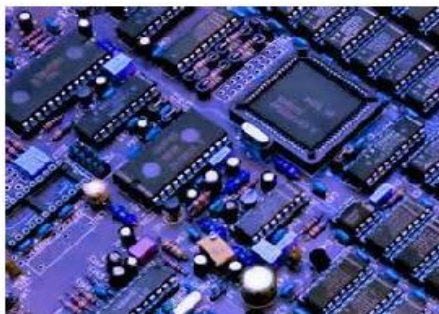


AT SERIES HEATED/HEATLESS ABSORPTION COMPRESSED AIR DRYER

ATS has design and manufactured a new range of Heated/Heatless Absorption compressed air dryer that provide a combination of technology and simplicity.

The main features are:

- Low investment cost
- Easy Installation
- Low power consumption
- Simple operating procedure
- Easy maintenance
- Constant Pressure Dew Point of $-40\text{ }^{\circ}\text{C}$ / $-70\text{ }^{\circ}\text{C}$



APPLICATION:

ATS Absorption air dryer are ideal for those require absolute dry air:

- Controlled Environment
- Low dew point applications (up to $-70\text{ }^{\circ}\text{C}$) that fall below the dew point of a refrigerated air dryer
- Critical applications
- Application where air comes in direct of indirect contact with the product
- Outside air lines & instrumentation subject to freezing conditions
- Air conveying of hygroscopic materials
- Special manufacturing processes, electronics, chemical, pharmaceutical & laboratory equipment



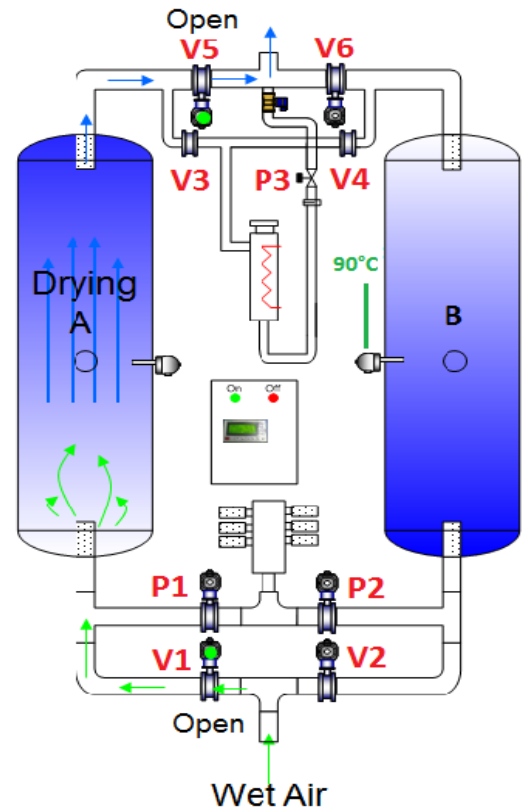
THE FUNCTION PRINCIPLE

How AT.H series works

Untreated compressed air is required to be filtered via ATS high-efficiency coalescing pre-filter (0.01 micron) before entering the dryer. Compressed air passes thru Inlet Valve (V1), is dried in Tower A, and exits thru Outlet Valve (V5) and is filtered by ATS particle filter (1.00 micron). While the compressed air in Tower B is being regenerated.

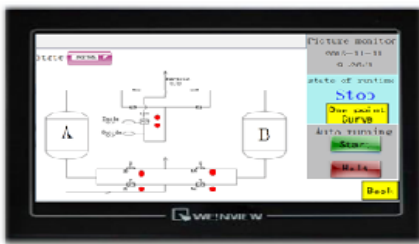
Desiccant regenerated in Tower B. A portion of the dried air is diverted through purge valve (P3) at near atmospheric pressure and is heated by a Electric Heater to 90°C before passing thru (V4) . The heated air removes moisture vapor from the desiccant's surface and discharge via the Silencer.

Dryer operation is performed automatically by SIEMEN PLC. The standard drying and regeneration time cycle is 4 hours. While one tower is drying incoming compressed air for 2 hours, the other tower is regenerating for 1 hour (heating time), then cooling for 50 minutes, and finally repressurizing to the line pressure for 10 minutes before switching over to the other tower. Switching from one tower to the other is performed only when both desiccant towers are at line pressure to prevent line surge and to minimize desiccant abrasion

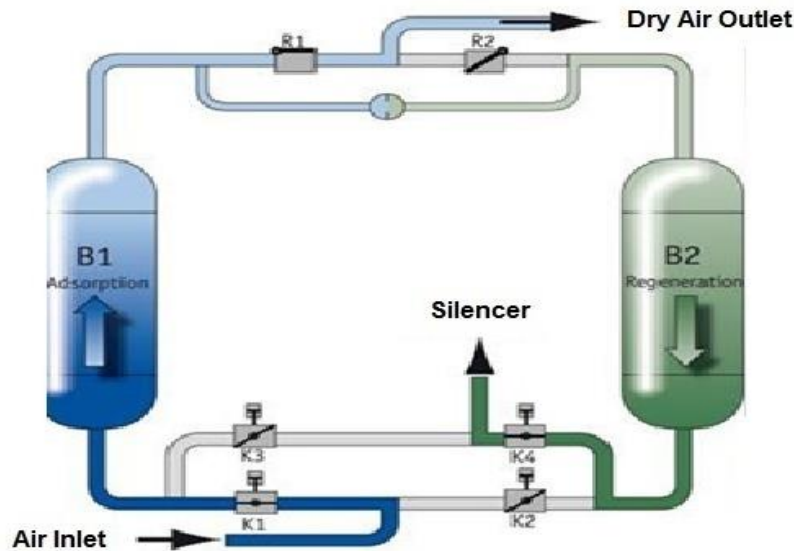


Features

- Minimum maintenance and downtime
- Touch Screen Display, on line viewing of valves operation, monitoring and trouble shooting
- SIEMEN PLC – fully automated dryer control sequencing
- Fail safe design, failure of power and/or pilot air causes the purge exhaust valves to close
- Alarm and siren for high temperature and high dew point * (OPTIONAL, only if install with a Dew Point Sensor)
- High temperature outlet check valves
- ASME code Desiccant Tower with Local DOSH approval
- Repressurization valve and circuit for equal pressurization prior to switch over
- Safety valve and pressure gauge for over pressure protection
- Energy saving with installation of Dew Point Sensor * (OPTIONAL)



HEATLESS ADSORPTION



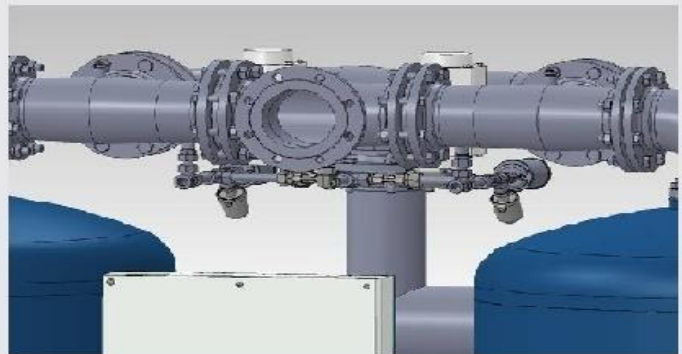
THE FUNCTION PRINCIPLE

Wet compressed air passing thru vessel where desiccant beads (such as activated alumina, molecular sieve, silica gel or other desiccant materials) is used to absorp moisture.

The desiccant can bring the dew point of the water vapour in the compressed dow to - 40 C. In practice, 2 vessels with desiccant are used, one is drying the air while the other vessel is being regenerated.

The switching of vessels, the absorption and regeneration sequence is typically done automatically via a in house design and develop ATS controller

The standard 10-minutes cycle is designed for full load operating conditions and the standard purge rate of 7 ~ 15% is normally "consumed" regardless of whether the dryer is operating on full or partial load.



An optional Dew point sensor can be installed to measure Pressure Dew Point to ensure constant clean and dry air supply.

All ATS desiccant dryers are equipped with coalescing filter "H" type (0.01 micron) on the inlet and a solid contaminant filter "M" type (1 micron) on the outlet.

This is to ensure longer life span of desiccant beads and generate absolute clean dry air

HEATED MODEL

MODEL	FLOW RATE		CONN. [BSP]	POWER SUPPLY [VOLT/PH/HZ]
	Nm ³ /H	scfm		
AT 240 H	240	141	1"	400 / 3 / 50
AT 420 H	420	247	1-1/2"	400 / 3 / 50
AT 660 H	660	388	1-1/2"	400 / 3 / 50
AT 750 H	750	440	2"	400 / 3 / 50
AT 900 H	900	530	2"	400 / 3 / 50
AT 1200 H	1200	706	2-1/2"	400 / 3 / 50
AT 1800 H	1800	1059	DN 80	400 / 3 / 50
AT 2000 H	2000	1177	DN 80	400 / 3 / 50
AT 2500 H	2500	1471	DN 100	400 / 3 / 50
AT 2700 H	2700	1589	DN 100	400 / 3 / 50
AT 3000 H	3000	1765	DN 100	400 / 3 / 50
AT 3300 H	3300	1942	DN 100	400 / 3 / 50
AT 3600 H	3600	2118	DN 100	400 / 3 / 50

HEATLESS MODEL

MODEL	FLOW RATE		CONN. [BSP]	POWER SUPPLY [VOLT/PH/HZ]
	Nm ³ /H	scfm		
AT 240	240	141	1"	230 / 1 / 50
AT 420	420	247	1-1/2"	230 / 1 / 50
AT 660	660	388	1-1/2"	230 / 1 / 50
AT 750	750	440	2"	230 / 1 / 50
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Reference conditions

Work / Purge Cycle	5/5 min/min	Inlet Air Temperature	35°C (50°C Max.)
Working Pressure	7 Bar (10°C Max.)	Pressure Dew Point	- 40°C / -70°C
Regeneration Air Consumption	15% Nom. F. R.		