

SAIFUAIR

Mutual trust and win win

Compressed
air purification expert



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BLAST HEATING REGENERATION ADSORPTION DRYER



Enterprise Honors



Company Profile

2000年	2000 Core team of the company was built.
2010年	2010 Suzhou SAIFUAIR Machine Co., Ltd. was established.
2011年	2011 Compression heat dryers were developed, manufactured, and put into use.
2012年	2012 Obtained production license of industrial products and passed the ISO9001 Qualification Management System certification.
2013年	2013 Blower heat regenerative adsorption dryers were developed, manufactured, and put into use.
2014年	2014 Explosion-proof dryers were developed, manufactured, and put into use.
2015年	2015 CO2 purification systems were developed, manufactured, and put into use. Won the title of High-Tech Enterprise, Science and Technology SMEs of Jiangsu Province, Jiangsu Province Science & Technology Enterprise. Suzhou SAIFUAIR Machine Engineering Technology Research Center was established.
2016年	2016 Obtained more than 40 utility model patents.
2017年	2017 Explosion-proof dryers for oil fields were developed successfully and put into use in Pertamina, the largest oil company in Indonesia.
2018年	2018 Energy-saving vacuum adsorption dryers were developed successfully and put into use.
2019年	2019 SAIFUAIR Gas Technology (Jiangsu) Co., Ltd. was established.
2020年	2020 Biogas dryers and tail gas dryers were developed successfully.

Suzhou SAIFUAIR Machine Co., Ltd. was formally founded on December 22, 2010. According to its strategic layout, SAIFUAIR Gas Technology (Jiangsu) Co., Ltd., functioned as a professional manufacturing base of compressed air purification equipment, was established in Yixing, Wuxi in 2019, with a registered capital of RMB 20 million and 103 employees, covering an area of 65 mu. SAIFUAIR is mainly engaged in the development, production, and marketing of compressed air purification equipment. Its series products include refrigeration dryers, heatless adsorption compressed air dryers, micro-heat adsorption dryers, combined compressed air dryers, compression heat regenerative adsorption dryers, heated blower purge desiccant air dryers, precision filters, precooling units, self-cleaning filters, and other core products. SAIFUAIR actively responds to national environmental policies, vigorously develops energy-saving products, and makes every effort to help customers save energy conservation and reduce consumption, finally realizing green development. Our products are widely used in various industries such as the electronics, chemical fiber, petroleum, chemical, paper, automotive, metallurgy, electric power, food, environmental protection, and pharmaceutical industry. SAIFUAIR has always taken scientific and technological innovation as the driving force of development and core competitiveness. Adhering to the principle of independent innovation, SAIFUAIR has obtained more than 50 utility model patents and the production license of industrial products and has passed the ISO9001 Qualification Management System certification. As a high-tech enterprise, SAIFUAIR has the best processing equipment and high-precision testing instruments. It has the strength and ability to provide customized full range compressed air purification units that have multiple functions and meet the requirements of various complex working conditions, such as air-cooled, water-cooled, normal temperature, high temperature, explosion-proof, high-pressure and special gas compressed air purification equipment. Our products are sold well at home and abroad and are well accepted and praised by our customers.



SAIFUAIR compressed air purification equipment is an absolute guarantee of meeting customer demand for high-quality compressed air and low running costs!

Are all types of compressed air purification equipment the same?

For all modern production facilities, compressed air purification equipment is essential and must absolutely guarantee its performance and stability, and meanwhile achieving a reasonable balance between air quality and minimum running costs. There are many types of compressed air purification equipment available on the market today. When choosing these products, customers always consider the initial cost but seldomly or never consider the quality of the compressed air they provide or their running costs and service life. In fact, when purchasing air purification equipment, we must consider air quality it provides, and users' running and maintenance costs comprehensively.

Design concept of air purification equipment

All SAIFUAIR air purification equipment embodies the design concept of air quality, energy efficiency, long service life and low costs.

Air quality

Users install compressed air purification equipment to get high-quality, clean air, and to avoid troubles and expense caused by pollution as well. When choosing these types of equipment, the quality of processed air and the confirmed performance are always the first two elements to be considered. Otherwise, why are they installed in the key part of compressed air systems?

Energy efficiency

When choosing compressed air purification equipment, its running costs should be considered after air quality. SAIFUAIR compressed air purification equipment not only provides compressed air meeting international standards, but also reduces users' running costs, which is its design purpose.

Long service life & low costs

Buying low-priced equipment could end up costing you a lot more money in the long haul. SAIFUAIR ensures that energy consumption is kept to a minimum while guaranteeing air quality. SAIFUAIR's compressed air purification equipment helps users reduce the overall costs and improve their use costs through improving production efficiency.

Model selection guide

Accurate selection of drying machines

1. For temperature and pressure compensation coefficient, please select operating pressure and inlet temperature compensation coefficient A1 of in the table below according to dryer model.
2. Follow the steps above to select parameters, processing air flow = air production X A1
3. According to the correspondence between model selection air flow and processing capacity of dryers, processing capacity should be greater than model selection air flow.

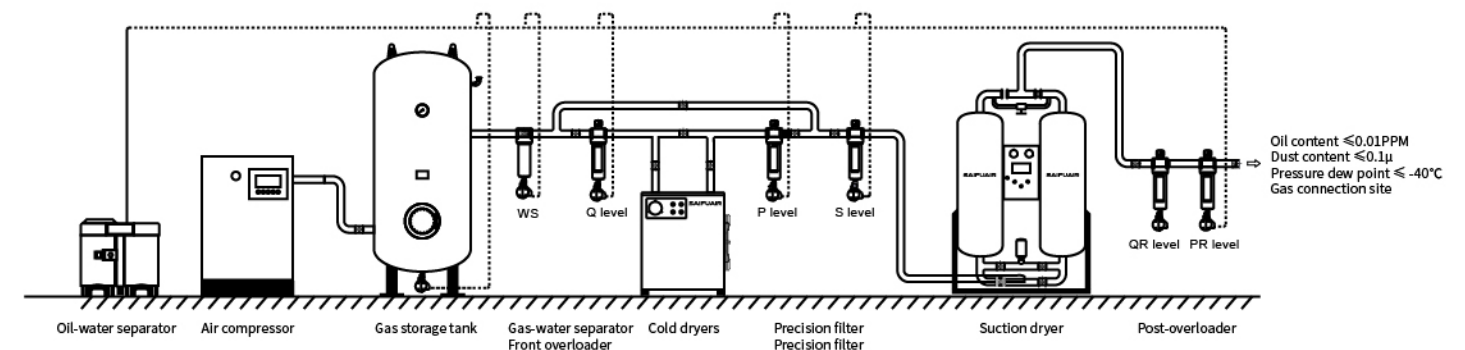
Operating pressure and inlet temperature compensation coefficient A1

Inlet temp°C operating pressureMPa	32	35	38	40
0.5	0.75	0.64	0.57	0.51
0.6	0.87	0.74	0.66	0.60
0.7	1	0.85	0.76	0.68
0.8	1.13	0.96	0.86	0.77
0.9	1.25	1.06	0.95	0.86
0.98	1.35	1.15	1.03	0.93

Standard operation conditions required for adsorption compressed air dryers to process compressed air

1. Inlet air temperature: 32°C
2. Inlet air pressure: 0.7MPa
3. PDP: <-40°C, refrigeration dryers required at the front.
4. Customization service is provided to meet conditional use requirements.

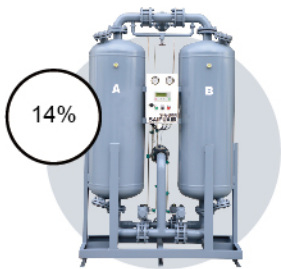
Piping layout of dryers and purification equipment



Energy saving retrofit of blower regenerative adsorption dryers

Upgrade picture of material dryers

Micro-heat regenerative adsorption dryer
Air consumption 7%



Heatless regenerative adsorption dryer
Air consumption 14%



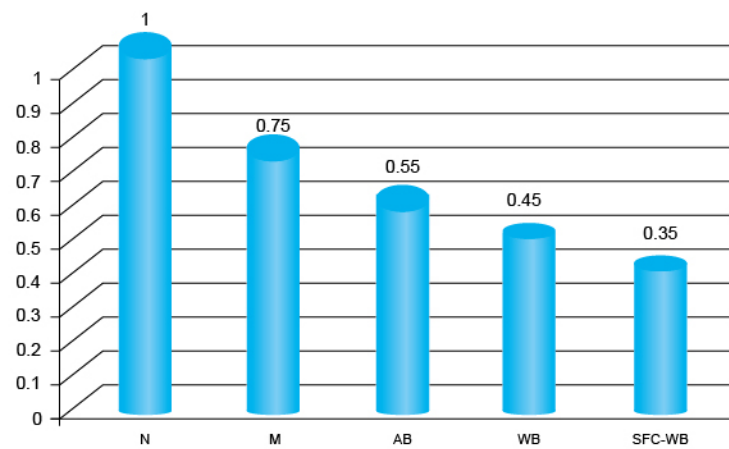
Blower purge regenerative adsorption dryers

Application Description



The blower purge regenerative adsorption dryer is a kind of energy-saving compressed air drying unit which regenerates desiccants by blowing and heating natural air without compressed air consumption, so as to get stable PDP and fully dried compressed air. SAIFUAIR blower purge regenerative adsorption dryers, manufactured with increasingly mature technology, are widely applied in various industries and are highly appraised and recognized by users.

Comparison of air consumption of different types of blower purge regenerative adsorption desiccant dryers



N: heatless dryers
M: micro-heat dryers
AB: 2% blower purge dryers with air consumption of 2%
WB: zero air consumption blower purge dryers
SFC-WB: compressor heat recovery + blower purge combined dryers

Applicable conditions for zero air consumption blowing dryers	
Applicable areas	Unlimited
Applicable industries	Users and industries having high requirements of energy consumption or disallowing medium drainage
Applicable media	Compressed air, specialty gases
Range of retrofitted dryers	N (heatless dryers), M (micro-heat dryers), AB (blower purge dryers)
Applicable air compressors	All air compressors
Outlet air quality	Users having high requirements of dew points

Features:

- ▲ Conventional standard cycle + intelligent control of temperature, generating energy savings
- ▲ PDP ≤ -40°C
- ▲ Special design, dual protection of overheating
- ▲ Efficient and reliable parts
- ▲ Efficient and durable adsorbent
- ▲ Anticorrosion treatment of internal and external surface of the adsorption cylinder

Standard configuration:

- ▲ PLC + touch screen, realizing intelligent control
- ▲ RS485 communication interface
- ▲ High-performance double eccentric pneumatic butterfly valve
- ▲ Limit switch
- ▲ Filter regulator equipped for instrument air supply
- ▲ The air source pipe is made of stainless steel

Optional configuration:

- ▲ Dew point meter & dew point control
- ▲ Various remote communication & signal transmission functions
- ▲ Special customization accepted
- ▲ Explosion proof, medium/high pressure models
- ▲ Other specialty gases
- ▲ DDP: -70 °C
- ▲ Stainless steel

Description of models of blower purge adsorption dryers

SFA-2100WB-D70-P80

- 80: operating pressure of 80 bar
- D70: PDP of -70°C
- Equipment model: WB for zero air consumption blower purge heated dryers (water-cooled); AB for micro air consumption blower purge heated dryers; AWB for zero air consumption blower purge heated dryers (air-cooled)
- Equipment model: Model selection processing capacity X 10
- Equipment type: Adsorption dryer series
- Product series: SAIFUAIR SF series compressed air dryers

Description of characteristics

Key components & parts

Key components and parts produced by international renowned brands are used to ensure stable operation of dryers.



High-performance double eccentric pneumatic butterfly valve

Double eccentric PTFE high temperature resistance stainless steel butterfly valves produced by famous brands and 2-way actuator with a leak-free seal are adopted. A valve position indicator and a signal switch are installed to feedback to PLC and monitor valve status in real time, ensuring normal air supply.



Stainless steel air distribution panel

Reasonable cylinder design and specially developed stainless steel air distribution panel ensure the even distribution of air flow and avoid channeling. Low pressure drop ensures non-leakage of adsorbents and avoids the adsorbent being soaked in water, leading to a long service life of adsorbents.



Touch screen

Siemens PLC is used, and programs can be modified as required. A 10-inch full color touch screen displays running parameters of dryers, process flow, alarm messages, input operating data, on/off instructions and others, realizing intelligent operation of dryers.



Electrical control box

Wiring technology and electrical assembly process of the electrical control box are in full compliance with ABB standards, ensuring safe, aesthetic assembly inside the box. Imported brand electrical components are used.



Silicon controlled

Solid state relay or power controller ensures precise temperature control and stepless adjustment of power output to save electrical energy.



Blower

High air flow blower produced by famous brand provides required air flow for regeneration and blowing cold air, featuring high air pressure, low noise, high reliability and energy efficiency, etc.

Description of characteristics

Key components & parts



Water chiller

Increased margin design. 304 stainless steel pipes and copper fins are used for tube side, with anti-corrosion treatment of internal and external pipe surface. An air-water separator is equipped.



Heater

For grouped parallel high-power heater, heat transfer tube made of 304 stainless steel is used. Alloy resistance wire is adopted for electric heating elements. Intelligent silicon controlled thermostat is used to control and adjust heating temperature automatically. PID regulatory control design and mechanical overheating dual protection are equipped.



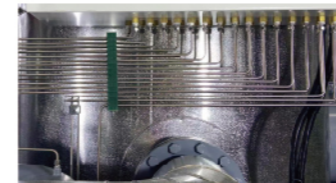
Independent air supply box

Air circuit components are placed centrally for protection and maintenance convenience. Instrument air supply is equipped with an oil-removal filter regulator, ensuring the actuator is not polluted. A dew point meter is used to realize energy conservation control, saving energy at maximum extent.



Solenoid valve

High performance solenoid valves produced by famous brands are used to accurately control the direction, air flow, speed and other parameters of the medium correctly, realizing accurate and stable control of pneumatic valves. The solenoid valves are normally closed and dustproof with strong shock resistance ability, sensitive response time of less than 20 milliseconds and long service life.



Stainless steel air supply pipes

Stainless steel high-precision cold drawn tubes are used as gas intake pipes connecting pneumatic butterfly valves, meters and instruments, with smooth internal and external pipe surface, good air tightness, and nice and neat appearance.



Stainless steel ducts

Stainless steel ducts are protective, sturdy, durable, not corroded, not easy to deform, and with long service life and nice appearance.

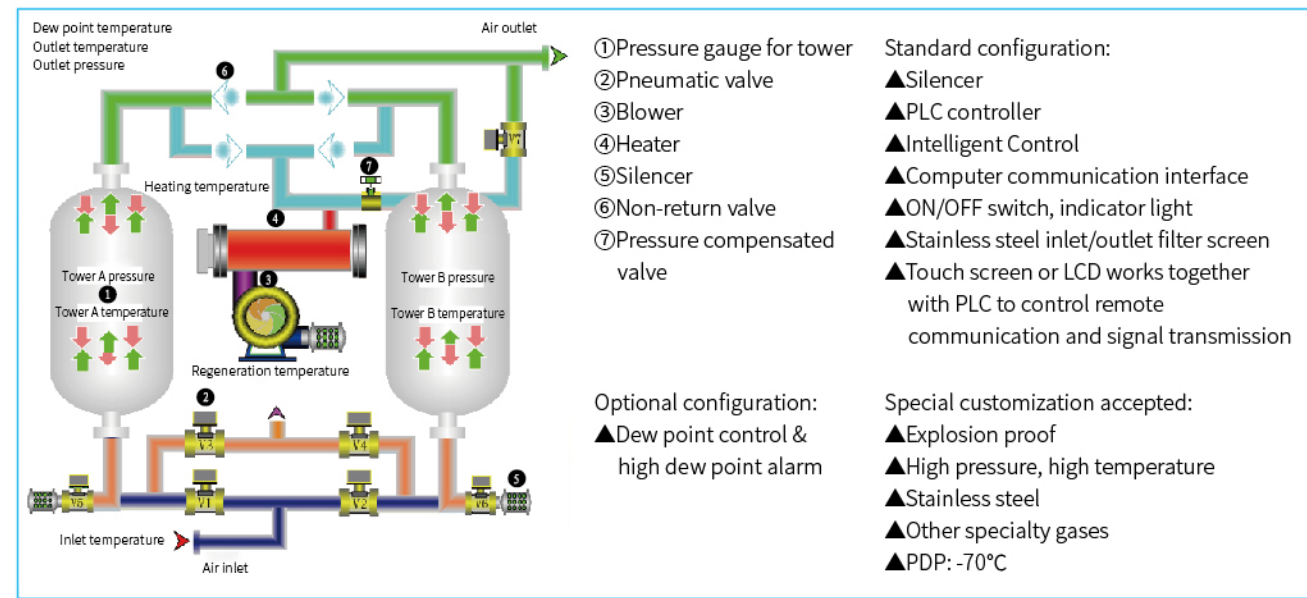
Micro air consumption blower purge regenerative adsorption dryers



A. The regenerative air is drawn from the ambient air by a blower and is heated to the required temperature, and then travels through the entire regeneration tower. When the hot air flows from top to bottom through the adsorbents in the tower, the water contained in the adsorbents is removed, and the removed water is discharged into the air along with the regenerative air.

B. A small amount of dried compressed air is used as regenerative blowing cold air supply after decompression to cool the adsorbents of the regeneration tower to meet the adsorption needs of the next stage.

Schematic diagram of micro air consumption blower purge regenerative adsorption dryers



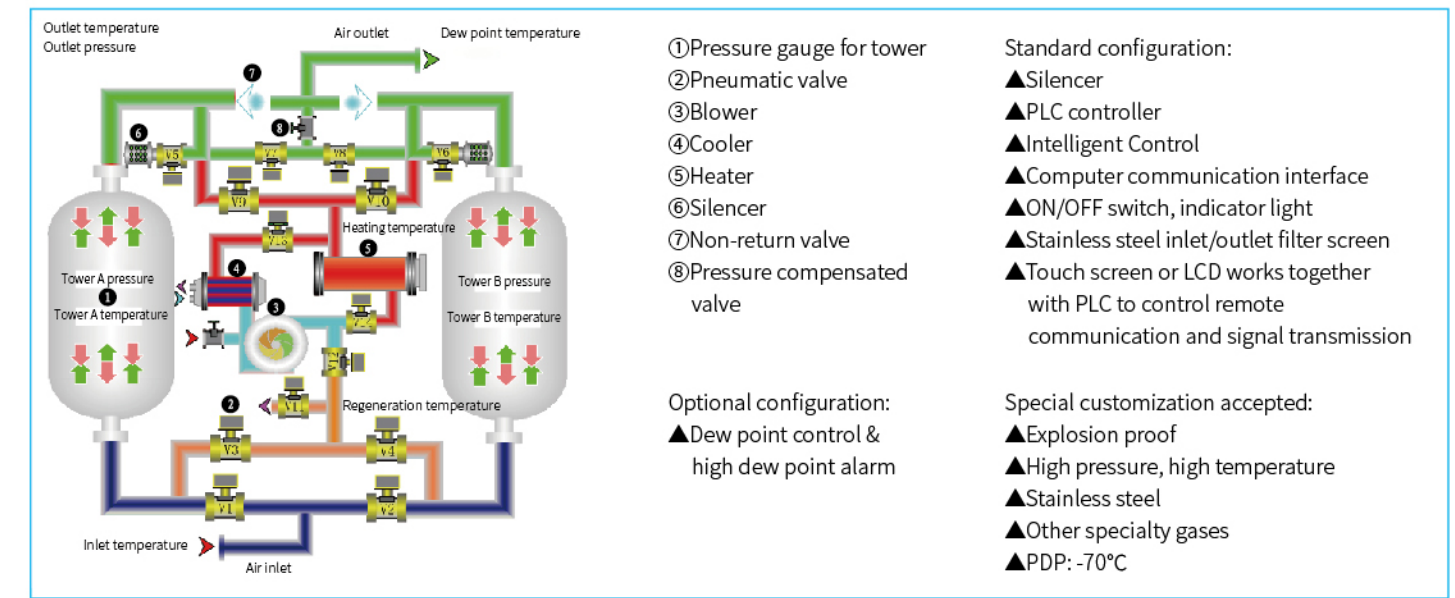
Zero air consumption blower purge regenerative adsorption dryers



A. The regenerative air is drawn from the ambient air by a blower and is heated to the required temperature, and then travels through the entire regeneration tower. When the hot air flows from top to bottom through the adsorbents in the tower, the water contained in the adsorbents is removed, and the removed water is discharged into the air along with the regenerative air.

B. The internal air of the closed cycle is used as regenerative blowing cold air supply which is continuous circulated and cooled through the cooler to cool the adsorbents to meet the adsorption needs of the next stage.

Schematic diagram of zero air consumption blower purge regenerative adsorption dryers



Parameter table of micro air consumption blower purge regenerative adsorption dryers

Model	Processing capacity Nm ³ /min	Power supply	Power kW			Nominal diameter of inlet/outlet pipes	Dimensions mm			Weight kg
			Blower	Heater	Total power		H	W	D	
SFA-210AB	21									
SFA-250AB	25									
SFA-304AB	30.4									
SFA-365AB	36.5									
SFA-450AB	45									
SFA-520AB	52									
SFA-650AB	65									
SFA-713AB	71.3									
SFA-795AB	79.5									
SFA-950AB	95									
SFA-1100AB	110									
SFA-1430AB	143									
SFA-1710AB	171									
SFA-2100AB	210									
SFA-2650AB	265									
SFA-3000AB	300									

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- Note:
1. Requirements for standard air processing (inlet pressure: 0.7MPa; inlet temperature: 32°C; PDP: -40°C).
 2. For air flow greater than 300Nm³/min or special specifications and material requirements, please contact the Technical Center of our company to get technical data.
 3. This publicity material has no legal effect. The above product images and parameter tables (models, specifications, colors) are for reference only and are subject to the technical agreement signed by the parties.

Parameter table of zero air consumption blower purge regenerative adsorption dryers

Model	Processing capacity Nm ³ /min	Power supply	Power kW			Cooling water volume m ³ /hr	Nominal diameter of cooling water pipes	Nominal diameter of inlet/outlet pipes	Dimensions mm			Weight kg
			Blower	Heater	Total power				H	W	D	
SFA-210WB	21											
SFA-250WB	25											
SFA-304WB	30.4											
SFA-365WB	36.5											
SFA-450WB	45											
SFA-520WB	52											
SFA-650WB	65											
SFA-713WB	71.3											
SFA-795WB	79.5											
SFA-950WB	95											
SFA-1100WB	110											
SFA-1430WB	143											
SFA-1710WB	171											
SFA-2100WB	210											
SFA-2650WB	265											
SFA-3000WB	300											

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Applications & Achievements



Listed electronic technology enterprise



Listed semiconductor enterprise



Listed semiconductor enterprise



Chinese famous chip manufacturer



Top bio-pharmaceutical enterprise



Listed automobile industry



Lithium battery enterprise listed in China



Environmental protection high-tech enterprise



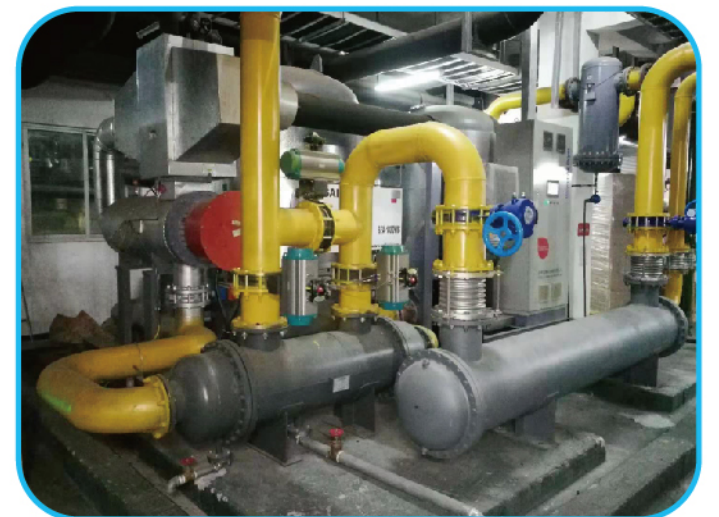
Chinese famous petrochemical enterprise



Chinese famous shipbuilding enterprise



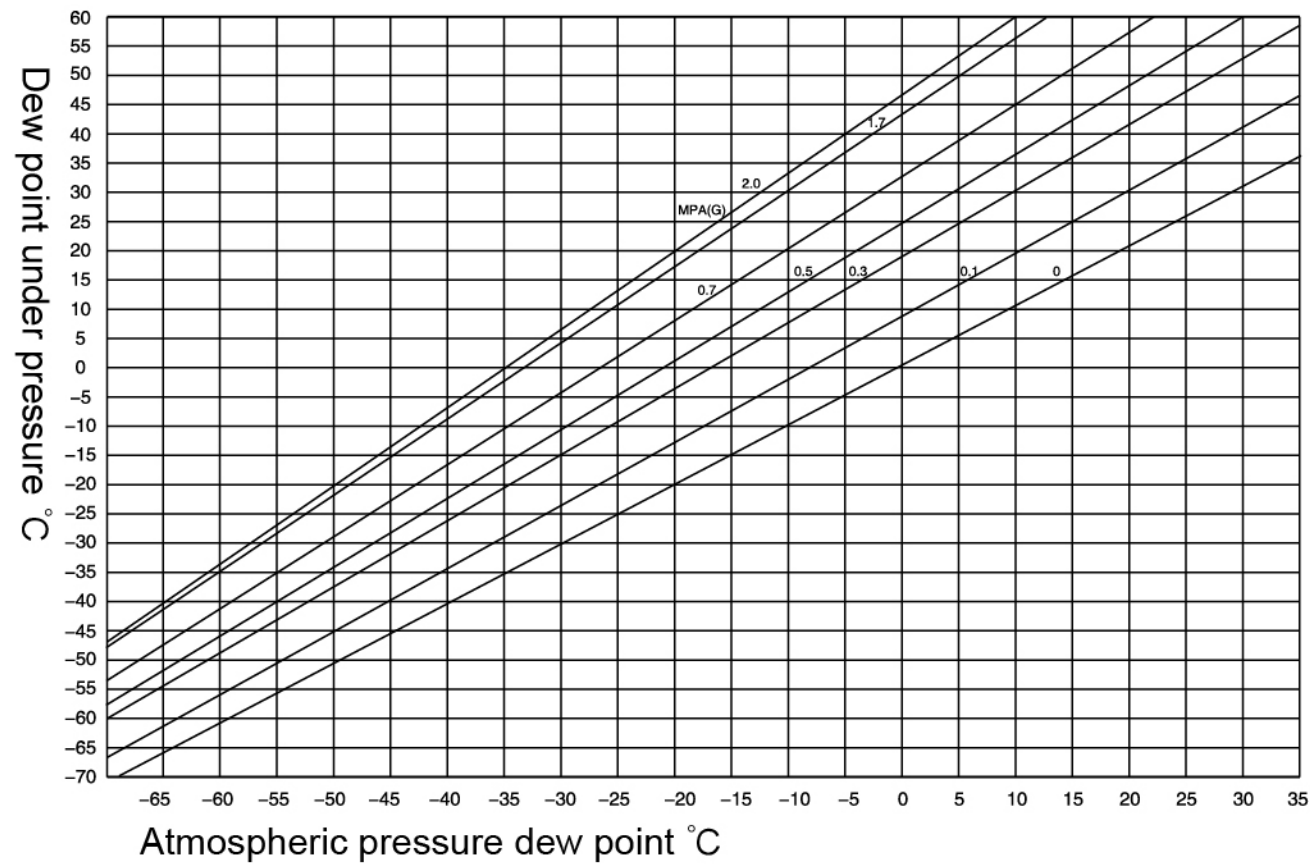
Famous new material enterprise



Listed optical instrument enterprise

Applications & Achievements

Pressure dew point and atmospheric pressure dew point conversion chart



Some business partners



Atmospheric dew point - moisture content relationship table

Dew point °C	Moisture content g/m³	Dew point °C	Moisture content g/m³	Dew point °C	Moisture content g/m³	Dew point °C	Moisture content g/m³	Dew point °C	Moisture content g/m³
64	153.8	39	48.7	14	12.1	-11	2.19	-36	0.260
63	147.3	38	46.3	13	11.4	-12	2.03	-37	0.236
62	141.2	37	44.0	12	10.7	-13	1.88	-38	0.214
61	135.3	36	41.8	11	10.0	-14	1.74	-39	0.194
60	130.3	35	39.6	10	9.3	-15	1.61	-40	0.176
59	124.7	34	37.6	9	8.8	-16	1.48	-41	0.159
58	119.4	33	35.7	8	8.3	-17	1.37	-42	0.144
57	114.2	32	33.8	7	7.8	-18	1.26	-43	0.130
56	109.2	31	32.1	6	7.3	-19	1.17	-44	0.117
55	104.4	30	30.4	5	6.8	-20	1.07	-45	0.106
54	99.8	29	28.8	4	6.4	-21	0.99	-46	0.095
53	95.4	28	27.2	3	5.9	-22	0.91	-47	0.085
52	91.1	27	25.8	2	5.6	-23	0.84	-48	0.077
51	87.0	26	24.4	1	5.2	-24	0.77	-49	0.069
50	83.1	25	23.1	0	4.8	-25	0.70	-50	0.062
49	79.3	24	21.8	-1	4.5	-26	0.65	-51.1	0.054
48	75.6	23	20.6	-2	4.2	-27	0.59	-53.9	0.040
47	72.3	22	19.4	-3	3.9	-28	0.54	-56.7	0.029
46	68.7	21	18.3	-4	3.7	-29	0.50	-59.4	0.021
45	65.5	20	17.3	-5	3.4	-30	0.45	-62.2	0.014
44	64.1	19	16.3	-6	3.2	-31	0.41	-65.0	0.011
43	59.4	18	15.4	-7	2.9	-32	0.38	-67.8	0.008
42	56.6	17	14.5	-8	2.7	-33	0.34	-70.6	0.005
41	53.8	16	13.6	-9	2.5	-34	0.31	-73.3	0.003
40	51.2	15	12.8	-10	2.4	-35	0.29		