

SAIFUAIR

Mutual trust and win win

Compressed
air purification expert



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COMPRESSION HEAT 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.



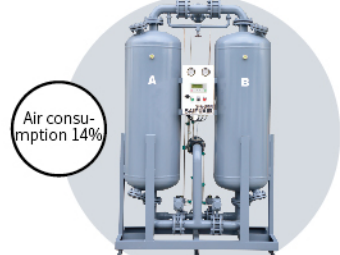
Instruction of energy efficiency upgrade

Upgrade picture of material dryers

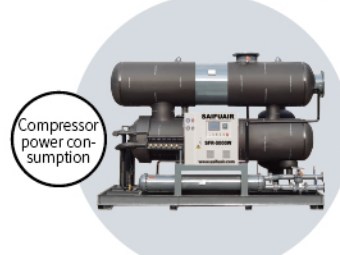
Micro-heat regenerative adsorption dryers



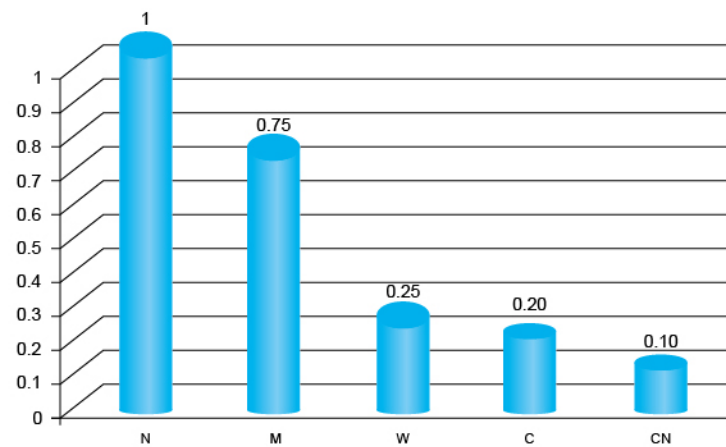
Heatless regenerative adsorption dryers



Water-cooled adsorption dryers



Comparison of air consumption of different types of compression heat regenerative adsorption dryers



N: heatless dryers
 M: micro-heat dryers
 W: water-cooled refrigerated air dryers
 C: micro air consumption compression heat dryers
 CN: zero air consumption compression heat dryers

zero air consumption compression heat dryers Applicable conditions	
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), W(water-cooled refrigerated air dryers), C(compression heat dryers)
Applicable air compressors	Centrifugal air compressors, oil-free screw compressors (aftercooler should be removed)
Outlet air quality	Users having high requirements of dew points

Blower purge regenerative adsorption dryers

Application Description



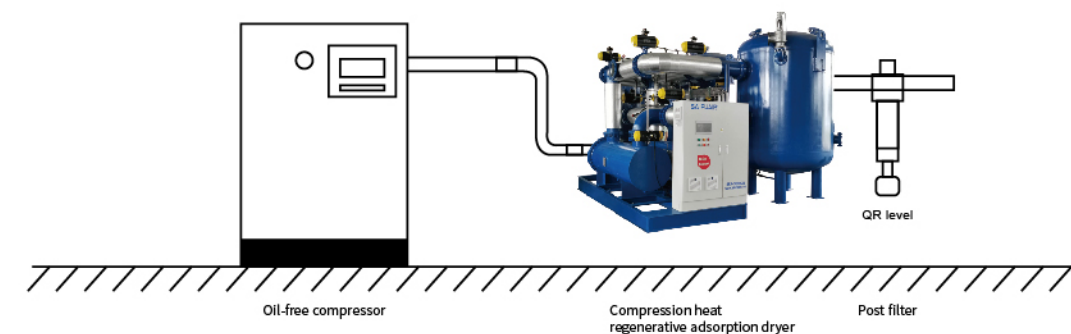
The compression heat regenerative adsorption dryer uses the waste heat generated by the compressor during air compression process to regenerate the desiccant, without compressed air consumption during heating regeneration process and with almost zero energy consumption during the whole adsorption and regeneration process. It fully uses the high temperature heat of the compressed air which directly enters the regenerative adsorption layer and is adsorbed by adsorbents, reducing thermal load of the aftercooler, and reducing cooling water consumption accordingly. Therefore, compression heat is energy saving and can realize efficient energy efficiency at maximum extent.

Description of models of various compression heat adsorption dryers

SFA-3000CNGHE-D40

- 40: PDP of -40°C
- E: Auxiliary electric heater
- H: Hot water recovery
- Special series of inlet air temperature, G for high temperature
- Equipment type: C for micro air consumption compression heat adsorption dryers; CN for zero air consumption compression heat adsorption dryers
- Equipment model: Model selection processing capacity X 10
- Equipment type: Adsorption dryer series
- Product series: SAIFUAIR SF series compressed air dryers

Layout of compression heat regenerative adsorption 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 channelling. 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.

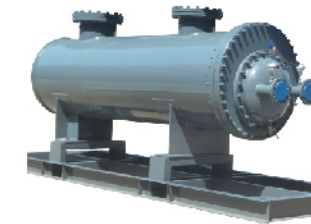


Silicon controlled

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

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.



Independent air supply box

Air circuit control 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. Solenoid valves produced by SMC Corporation Japan are used. For air supply volume greater than 45 m³, dew point meter and dew point control are of standard configuration.



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.

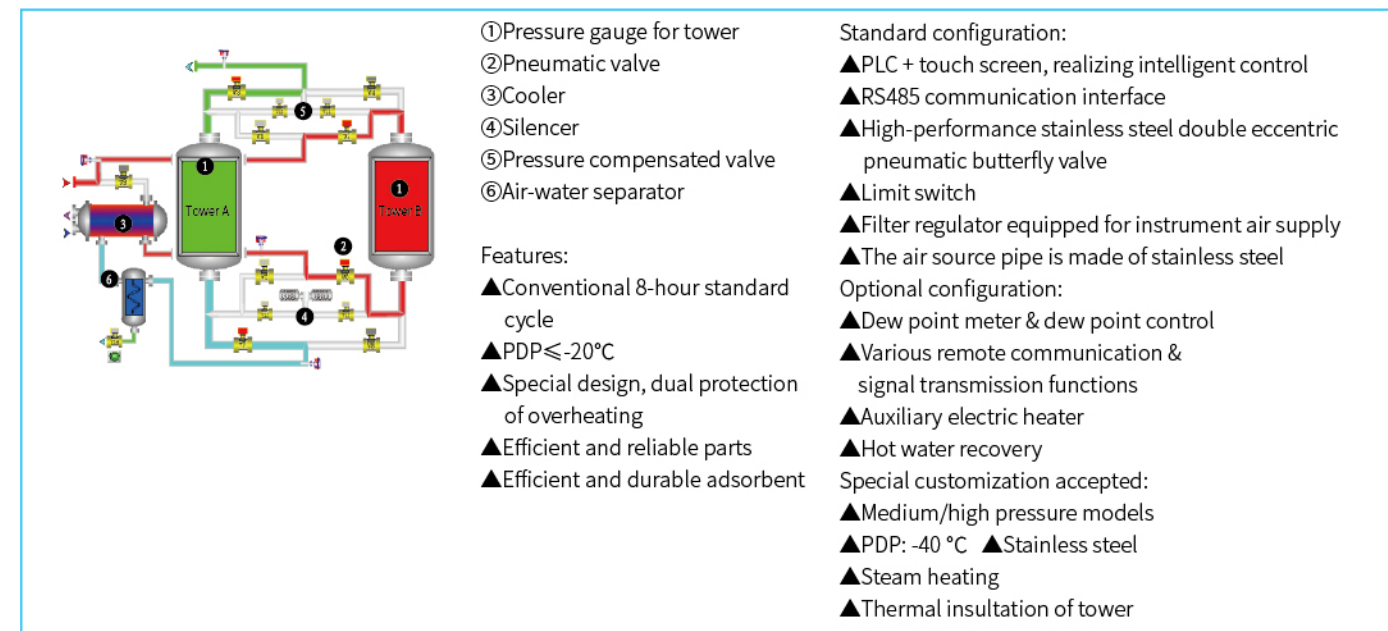
Micro air consumption compression heat regenerative adsorption dryers



A. High temperature compressed air exhausted from the centrifugal or oil-free screw compressor to heat and regenerate the adsorbents in the regeneration tower. After cooling and removing water through the cooler and air-water separator, the compressed air enters the adsorption tower, and finished dry air is then produced.

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

Schematic diagram of micro air consumption compression heat regenerative adsorption dryers



Parameter table of micro air consumption compression heat regenerative

Model	Processing capacity Nm ³ /min	Inlet temp °C	Dew point temperature °C	Air inlet pipe diameter	Cooling water inlet/outlet pipe diameter	Cooling water volume m ³ /h	Dimensions mm			Weight kg	Power consumption kW	Power supply kg
							H	W	D			
SFA-250CG	25.0											
SFA-365CG	36.5											
SFA-520CG	52.0											
SFA-650CG	65.0											
SFA-713CG	71.3											
SFA-795CG	79.5											
SFA-950C	95.0											
SFA-1200C	120											
SFA-1500C	150											
SFA-1800C	180											
SFA-2000C	200											
SFA-2400C	240											
SFA-2800C	280											
SFA-3200C	320											

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Note:
1. Requirements for standard air processing of model C (air inlet pressure: 0.7MPa; air inlet temperature: 120°C; cooling water temperature: 30°C; Td: -20°C).
2. Requirements for standard air processing of model CG (air inlet pressure: 0.7MPa; air inlet temperature: 180°C; cooling water temperature: 30°C; Td: -20°C).
3. For air flow greater than 320Nm³/min or special specifications, materials and dew temperature requirements, please contact the Technical Center of our company to get technical data.
4. 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.
5. The compressed heat dryer needs to regenerate and dry through the flow of compressed air. If the flow rate is lower than the design flow rate, it will cause incomplete regeneration. The working flow rate cannot be less than 50% of the design flow rate.

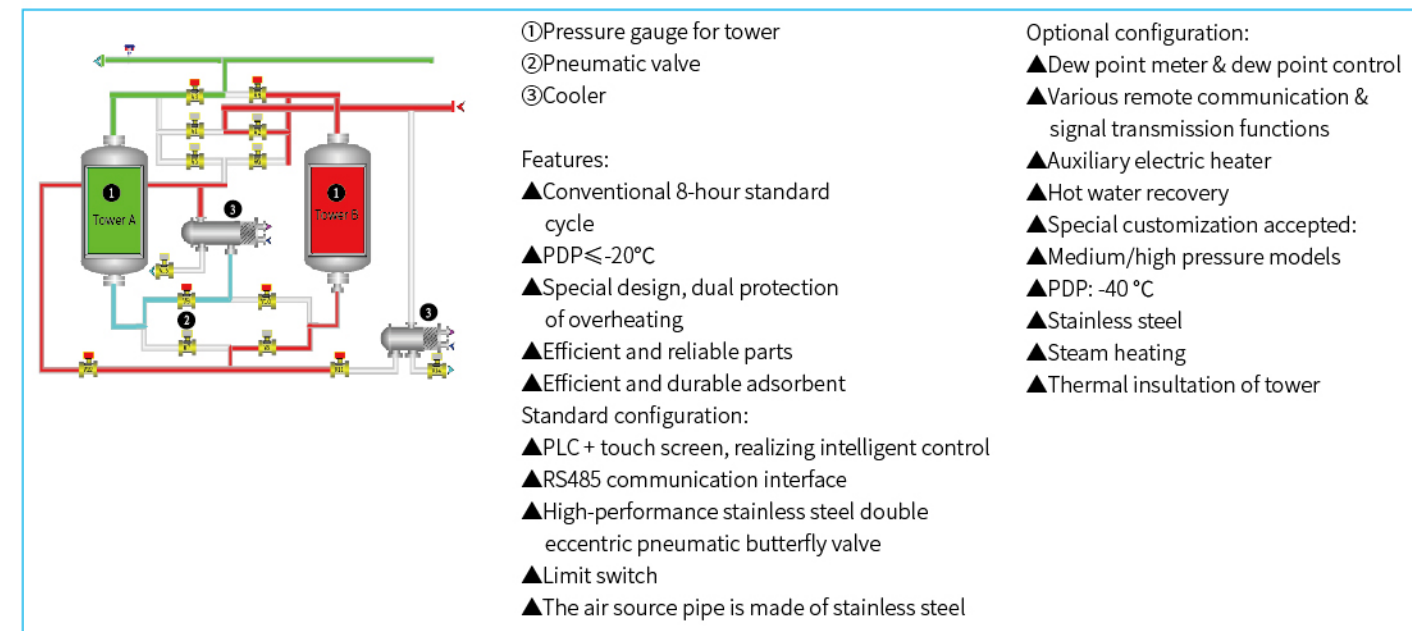
零气耗压缩热再生吸附式干燥机



A. High temperature compressed air exhausted from the centrifugal or oil-free screw compressor to heat and regenerate the adsorbent in the regeneration tower. After cooling and removing water through the cooler and air-water separator, the compressed air enters the adsorption tower, and finished dry air is then produced.

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

Schematic diagram of zero air consumption compression heat regenerative adsorption dryers



Parameter table of zero air consumption compression heat regenerative adsorption dryers

Model	Processing capacity Nm ³ /min	Inlet temp °C	Dew point temperature °C	Air inlet pipe diameter	Cooling water inlet/outlet pipe diameter	Cooling water volume m ³ /h	Dimensions mm			Weight kg	Power consumption kW	Power supply kg
							H	W	D			
SFA-250CNG	25.0											
SFA-365CNG	36.5											
SFA-520CNG	52.0											
SFA-650CNG	65.0											
SFA-713CNG	71.3											
SFA-795CNG	79.5											
SFA-950CN	95.0											
SFA-1200CN	120											
SFA-1500CN	150											
SFA-1800CN	180											
SFA-2000CN	200											
SFA-2400CN	240											
SFA-2800CN	280											
SFA-3200CN	320											

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Note:
1. Requirements for standard air processing of model CN (air inlet pressure: 0.7MPa; air inlet temperature: 120°C; cooling water temperature: 30°C; Td: -10°C).
2. Requirements for standard air processing of model CNG (air inlet pressure: 0.7MPa; air inlet temperature: 180°C; cooling water temperature: 30°C; Td: -10°C).
3. For air flow greater than 320Nm³/min or special specifications, materials and dew temperature requirements, please contact the Technical Center of our company to get technical data.
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Applications & Achievements



Hengli Petrochemical (Huizhou)



International integrated optical parts manufacturing enterprise

Applications & Achievements



Listed large equipment manufacturing enterprise



Computer communication manufacturing enterprises



Chinese famous thermoelectricity enterprise



Listed metallurgical ore enterprise



Natural gas enterprise listed in China



Chinese famous chip manufacturing enterprise



Listed automobile enterprise



Famous household supplies enterprise



Listed nonmetallic mineral manufacturing enterprise



Listed optical instrument enterprise

Applications & Achievements



Listed large lithium-ion battery manufacturing enterprise



Chinese famous large-scale iron and steel enterprise



Listed enterprise of raw material for smelting steel



Bazhou Jinfu Special Yarn Co., Ltd.



Large-scale auto parts enterprise



Listed chemical fiber manufacturing enterprise



Famous state-owned textile enterprise



Chinese famous new material enterprise



Famous auto parts enterprise



Lithium iron phosphate battery enterprise



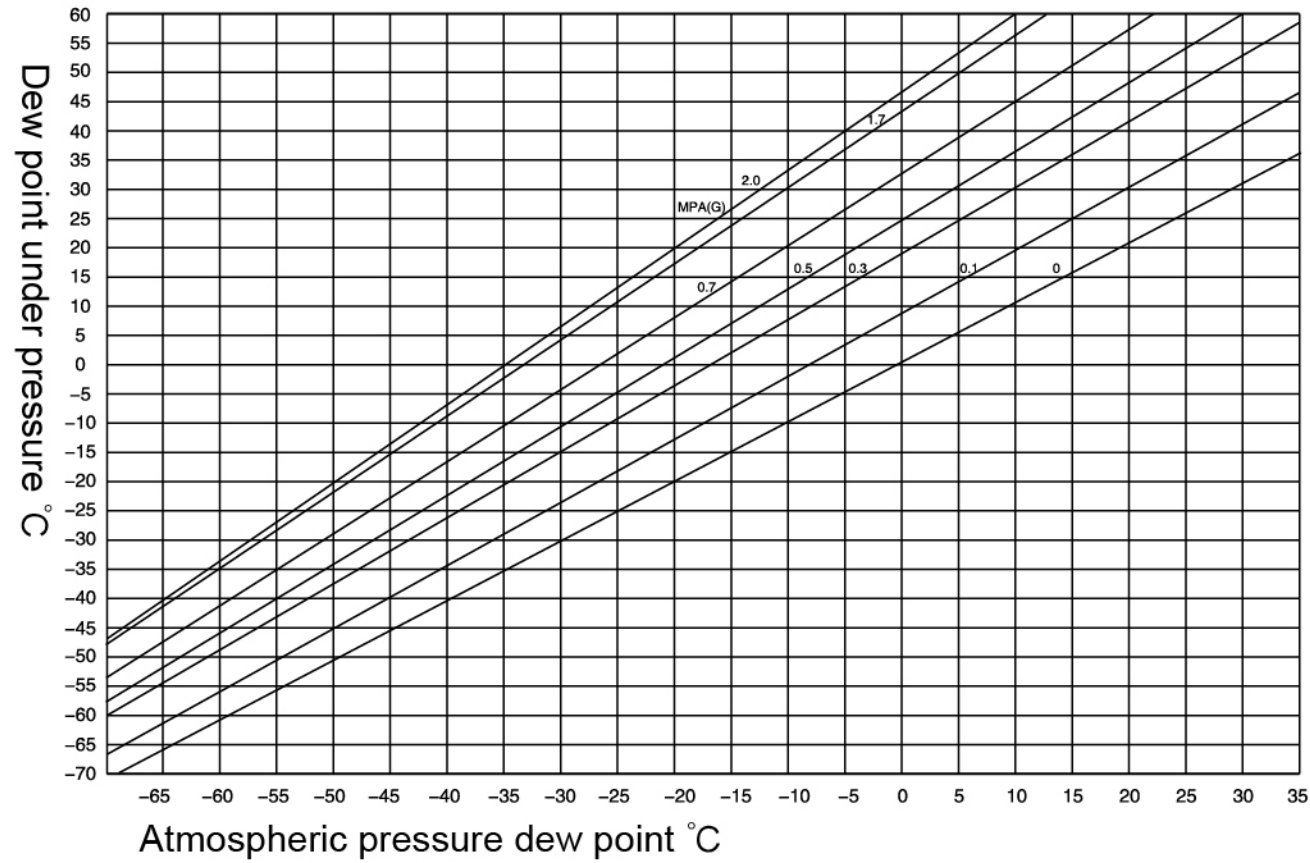
Listed petrochemical enterprise



Leading enterprise of the chemical industry

Applications & Achievements

Pressure dew point and atmospheric pressure dew point conversion chart



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		

Some business partners

