



**GENEXIS**  
KOMPRESSOREN



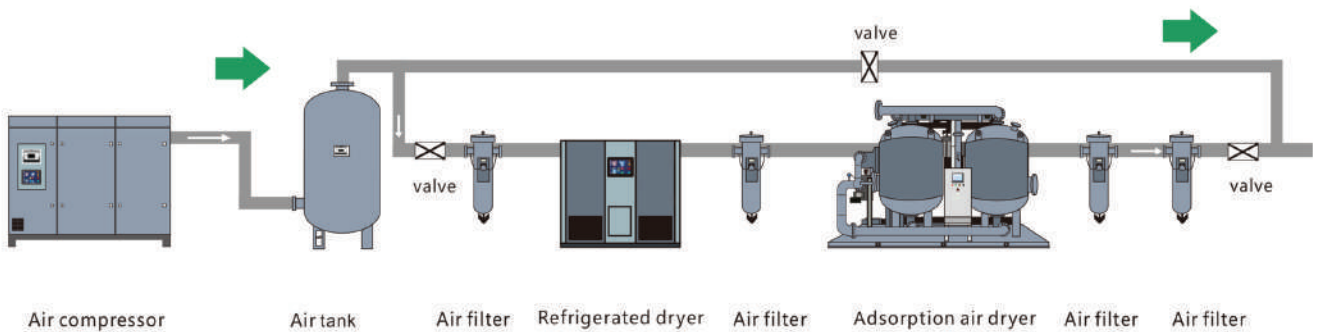
**2023**

REFRIGERATION  
AIR DRYER

# COMPRESSED AIR DRYING AND PURIFICATION SYSTEM

The quality of the compressed air is very important to the customer. If air containing contaminants is part of the final product, the return cost will be very high, then even the cheapest solution quickly becomes the most expensive. The quality of the compressed air produced by the selected compressed air system should meet the quality requirements of the current production process and even further needs in the future.

## Compressed Air Drying And Purification System Configuration Diagram



Note: The above configuration is for reference only, users can adjust according to the actual situation.

## Q1 Compressed air moisture

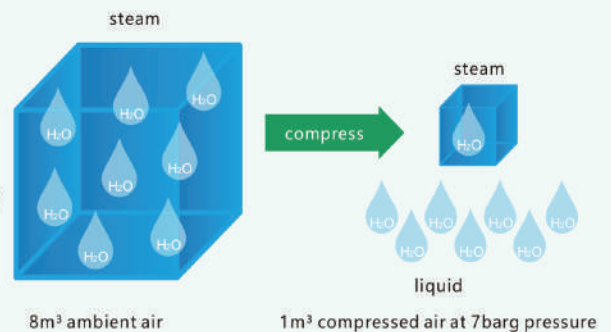
**POLLUTION FORM** Liquid water—Water mist—Water vapor

### HOW ARE POLLUTANTS FORMED?

Water is incompressible, and when air is compressed, the water content per cubic meter of air increases. At a certain temperature, the maximum water content per cubic meter of air is limited. Therefore, when air is continuously compressed, liquid water will condense.

### WHAT PROBLEMS DO POLLUTANTS CAUSE?

- Corroded pipe
- The quality of the final product is affected
- Control fault
- freeze



GENEXIS KOMPRESSOREN: DRAINAGE VALVE, FREEZER DRYER, ADSORPTION DRYER



## Q2

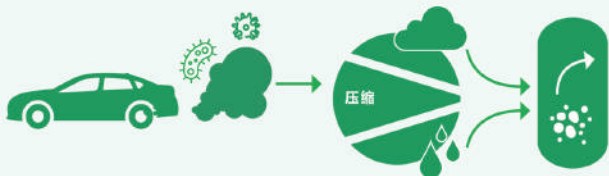
### compressed air contains oil

#### POLLUTION FORM

Liquid oil - Oil mist - Oil vapor

#### HOW ARE POLLUTANTS FORMED?

Compressors need oil lubrication, so that the oil into the compressed air system: automobile exhaust and industrial exhaust gas lines into the atmosphere, oil vapor, is inhaled by the compressor. Some of them merge with the dust and become sludge. And the concentration increases obviously with compression.



#### WHAT PROBLEMS DO POLLUTANTS CAUSE?

- Production equipment is damaged, resulting in reduced efficiency and increased costs
- Air pollution, resulting in unhealthy working conditions
- Condensation contamination

**GENEXIS KOMPRESSOREN: OIL FILTER, OIL STEAM FILTER, OIL WATER SEPARATOR**

## Q3

### compressed air contains solid particles

**POLLUTION FORM** Dust - Microbes - Pipe impurities

#### HOW ARE POLLUTANTS FORMED?

Dust and microorganisms in the atmosphere are sucked in by compressors, adsorbents in adsorbent dryers in compressed air systems, pipe impurities from pipe systems and pressure vessels that fall off. And the concentration increases obviously with compression.



#### WHAT PROBLEMS DO POLLUTANTS CAUSE?

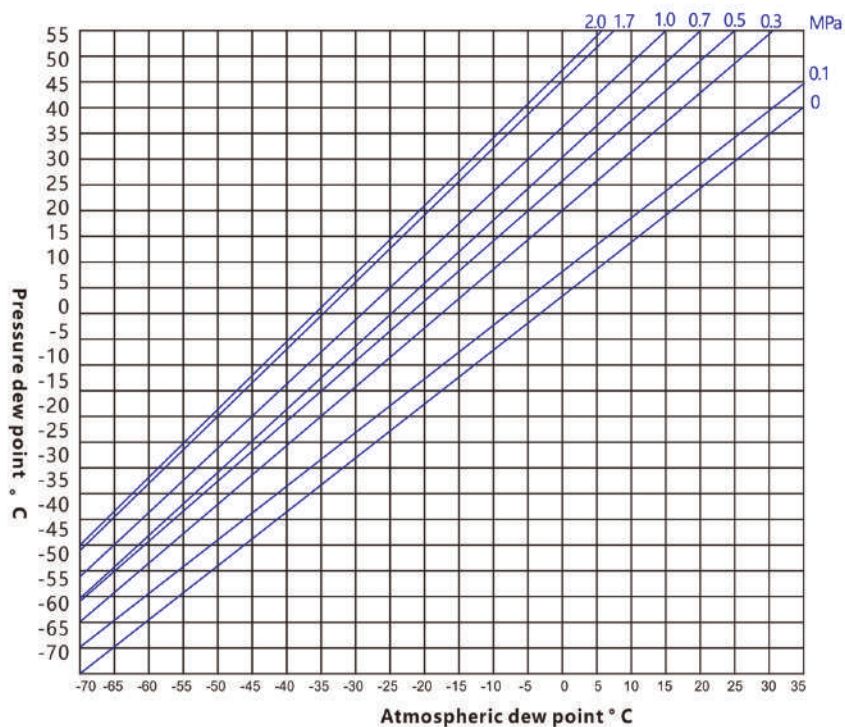
- Production equipment is damaged, resulting in reduced efficiency and increased costs
- Air pollution, resulting in unhealthy working conditions

**GENEXIS KOMPRESSOREN: DUST FILTER, SELF-CLEANING FILTER**

# COMPRESSED AIR DRYING AND PURIFICATION SYSTEM

Apart from individual cases, when the role of compressed air is clearly defined in the process, it is very important to find a beneficial and efficient system suitable for the specific situation. It's simple.

## Pressure dew point - normal pressure dew point conversion diagram



Determine whether the compressed air will come into direct contact with the product or whether the oil mist is acceptable in the work environment. The systematic solution is to require positive selection. The correct equipment.

## Atmospheric dew point - moisture content relationship table

Dew-point (°C)	Moisture content (g/m <sup>3</sup> )	Dew-point (°C)	Moisture content (g/m <sup>3</sup> )	Dew-point (°C)	Moisture content (g/m <sup>3</sup> )	Dew-point (°C)	Moisture content (g/m <sup>3</sup> )
14	12.070	-5	3.4070	-24	0.7678	-43	0.1298
13	11.350	-6	3.1690	-25	0.7074	-44	0.1172
12	10.660	-7	2.9460	-26	0.6463	-45	0.1055
11	10.010	-8	2.7370	-27	0.5922	-46	0.0950
10	9.309	-9	2.5410	-28	0.5422	-47	0.0854
9	8.819	-10	2.3580	-29	0.4960	-48	0.0768
8	8.270	-11	2.1860	-30	0.4534	-49	0.0689
7	7.500	-12	2.0060	-31	0.4141	-50	0.0617
6	7.260	-13	1.8760	-32	0.3779	-51.1	0.0540
5	6.797	-14	1.7360	-33	0.3445	-53.9	0.0400
4	6.360	-15	1.6050	-34	0.3138	-56.7	0.0290
3	5.947	-16	1.4830	-35	0.2856	-59.4	0.0210
2	5.559	-17	1.3690	-36	0.2597	-62.2	0.0140
1	5.192	-18	1.2610	-37	0.2359	-65.0	0.0110
0	4.847	-19	1.1650	-38	0.2141	-67.8	0.0080
-1	4.523	-20	1.0740	-39	0.1940	-70.6	0.0050
-2	4.217	-21	0.9884	-40	0.1757	-73.3	0.0030
-3	3.930	-22	0.9093	-41	0.1590		
-4	3.660	-23	0.8359	-42	0.1438		

Impurity and quality grades according to ISO 8573-1:2010

Lv.	Solid impurity			temperature	Maximum oil content
rank a	The maximum number of particles per m <sup>3</sup>			Maximum pressure dew point	
	Particle size, d(μm)				
	0.1 < d ≤ 0.5	0.5 < d ≤ 1.0	1.0 < d ≤ 5		
0	User assignment			User assignment	User assignment
1	≤20000	≤400	≤10	≤-70°C	≤0.01mg/m <sup>3</sup>
2	≤400000	≤6000	≤100	≤-40°C	≤0.1mg/m <sup>3</sup>
3	Not specified	≤90000	≤1000	≤-20°C	≤1mg/m <sup>3</sup>
4	Not specified	Not specified	≤10000	≤+3°C	≤5mg/m <sup>3</sup>
5	Not specified	Not specified	≤100000	≤+7°C	-
6	-	-	-	≤+10°C	-
Grades 6 and 7 depend on the maximum particle density Class6: 0 < density ≤ 5mg/m <sup>3</sup> Class7: 5 < density ≤ 10mg/m <sup>3</sup>				Grades 7 to 9 depend on the amount of liquid water contained Class7: Cw ≤ 0.5g/m <sup>3</sup> Class8: 0.5g/m <sup>3</sup> < Cw ≤ 5g/m <sup>3</sup> Class9: 5g/m <sup>3</sup> < Cw ≤ 10g/m <sup>3</sup>	

Note: The data provided in this sample is for reference only



# COMPRESSED AIR REFRIGERATION DRYER



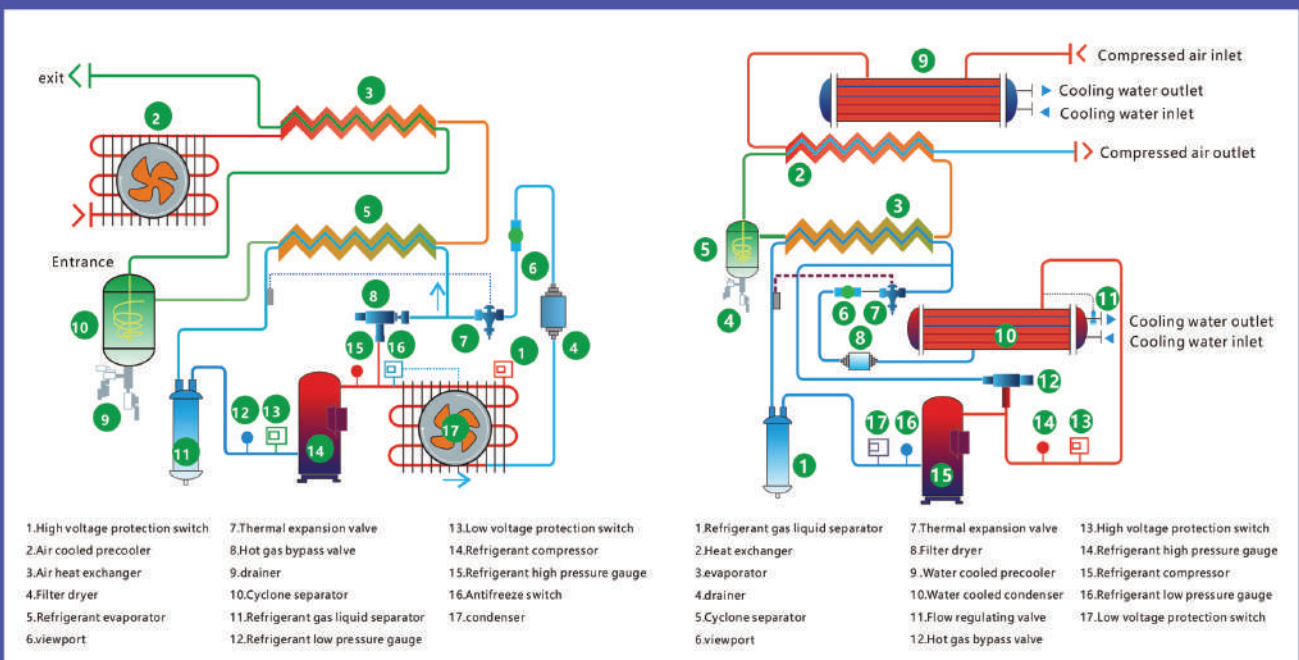
## Product Introduction

Compressed air is an indispensable processing power in the production process in all industrial fields. In order to prevent downtime in the production process, compressed air must be clean, dry and oil-free. Compressed air is produced by pressurizing a large amount of ambient air. Usually, such air contains some harmful substances, such as dust particles and moisture in the form of water vapor. Combined with the oil that may be produced by the air compressor to form a harmful corrosive emulsion, the device stops running, resulting in unavoidable huge losses. The compressed air entering the dryer is first associated with the outflow of cold compressed air in the "empty" precooling in air-air heat exchanger; The pre-cooled air then flows through the "refrigerant-air" heat exchange evaporator, where it is cooled to the desired dew point temperature. The moisture in the compressed air condenses into water droplets, which are automatically separated and discharged. The treated dry compressed air is compressed with the incoming moist heat. The air is heated in the "air-air" heat exchanger after secondary heat exchange into the gas pipe. This can not only prevent the condensation of the gas pipeline, but also recover the waste cold lightens the load on the machine.



## Design Features

- Using special design, small pressure difference, **energy saving**
- Use high quality thickened copper pipe to prevent copper pipe from being corroded and causing copper pipe leakage, **long service life**
- **High quality parts** are used
- The design allowance of the whole machine is increased by 20% to **ensure the stable operation** of the unit under harsh conditions
- **Anti-rust paint** is applied inside the cylinder to prevent rust inside the machine
- **Efficient independent water separation system** and multiple drainage design, more timely and thorough drainage, to avoid the problem of poor dew point quality caused by water residue
- A full range of high and low pressure protection devices can **effectively protect the life of the compressor and reduce maintenance costs**



# DRYERCOMPRESSED AIR REFRIGERATION DRYER

## Air cooled high temperature refrigerated dryer (AH series)

### Operating conditions and technical requirements

- Rated intake pressure: 0.7MPa  
(0.6MPa~1.0MPa allowed, other working pressures accept customization)
- Rated intake temperature: 50°C (limit intake temperature ≤80 °C)
- Pressure dew point: 2-10°C
- Rated ambient temperature: 32°C (2°C ~45 °C allowable)
- Pressure loss: ≤0.02MPa
- Cooling method: air cooling
- Refrigerant: R22  
(R407C, R134a and other environmentally friendly refrigerant can be customized)
- Installation method: No foundation in the room, concrete floor, the surrounding space is not less than 1.5 meters



### Technical parameter

Model	Handling capacity (m³/min)	Power supply voltage (V/Hz)	Power (kw)	Air inlet and outlet	Equipment weight (kg)	Overall dimension (mm)LxWxH
GS-D10AC	1.5	220/50	0.68	G1"	48	680×440×710
GS-D20AC	2.5	220/50	0.83	G1"	58	800×440×800
GS-D30AH	3.8	220/50	1.1	G1.5"	95	980×500×930
GS-D50AH	6.5	220/50	1.5	G1.5"	110	1030×550×1000
GS-D75AH	10.5	220/50	2.2	G2"	160	1240×650×1150
GS-D100AH	13.5	380/50	3.1	G2.5"	225	1350×670×1300
GS-D120AH	17.0	380/50	3.1	G2.5"	235	1350×670×1300
GS-D150AH	21.5	380/50	5.2	DN80	295	1450×700×1510
GS-D180AH	25.0	380/50	5.2	DN80	345	1450×700×1510
GS-D200AH	28.5	380/50	5.5	DN80	430	1550×850×1595
GS-D250AH	32.0	380/50	6.2	DN80	450	1550×850×1595
GS-D300AH	37.0	380/50	7.8	DN100	550	1700×850×1740
GS-D350AH	41.5	380/50	7.8	DN100	600	1700×850×1740
GS-D400AH	45.0	380/50	10	DN100	630	1830×950×1840
GS-D450AH	50.0	380/50	10	DN100	680	1830×950×1840
GS-D500AH	55.0	380/50	11.7	DN125	780	2020×950×1850
GS-D550AH	60.0	380/50	11.7	DN125	830	2020×950×1850
GS-D600AH	65.0	380/50	11.9	DN125	950	2250×1330×1820
GS-D700AH	75.0	380/50	13.9	DN125	1050	2390×1395×1850
GS-D800AH	85.0	380/50	16.2	DN125	1200	2400×1420×1860
GS-D900AH	95.0	380/50	16.7	DN150	1350	3000×1550×2145
GS-D1100AH	110.0	380/50	18.3	DN150	1450	3100×1600×2180

Note: Handling air volume greater than 160m³/min or special specifications, materials, temperature requirements, please contact our company or dealers for technical information. The above data is for reference only, subject to change without prior notice, other specifications of products please contact the company directly.

# Cooperative customer

