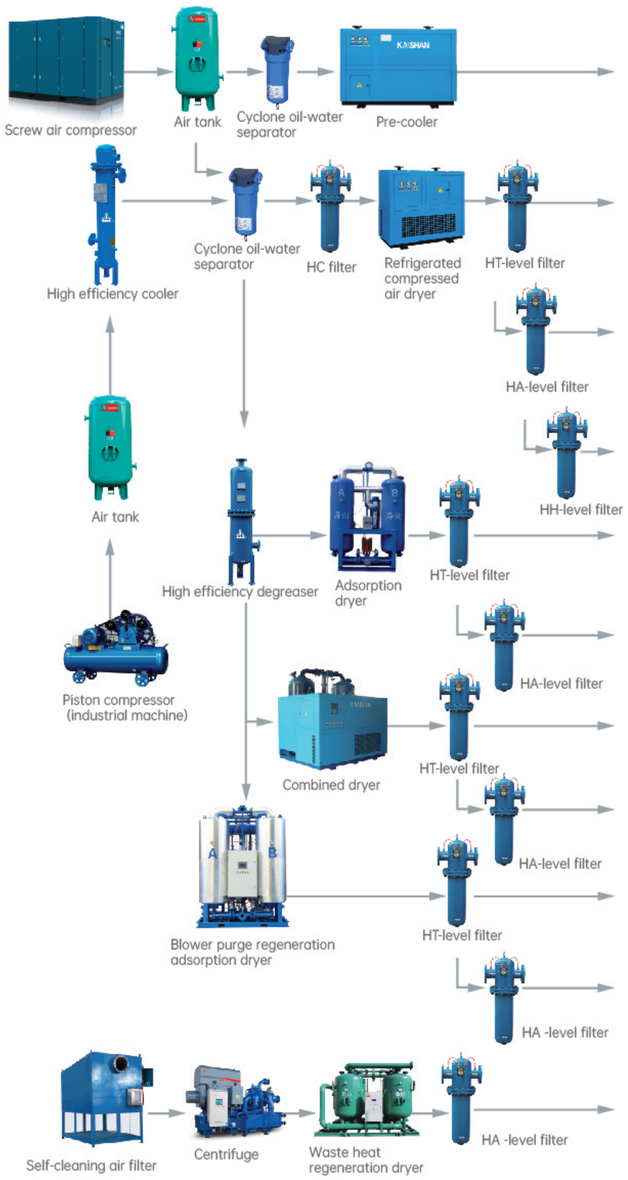
Configuration of Compressed Air Drying and Purification System



Moisture removal: 99% Residual oil content: 5PPM Filtering accuracy: < 3μm	Pneumatic tools and fixtures, pneumatic chuck, general clean air gun
Pressure dew point: 2-10℃ Residual oil content: 1PPM Filtering accuracy: <1μm	Gas for pneumatic machinery, electroplating, painting and other processes
Pressure dew point: 2-10℃ Residual oil content: 0.01PPM Filtering accuracy: <0.01μm	Advanced spraying pneumatic conveying, pneumatic bearings and instruments
Pressure dew point: 2-10℃ Residual oil content: 0.003PPM Filtering accuracy: <0.01μm	Pharmaceutical, food, industry, air breathing, deodorization and sterilization
Pressure dew point: ≤-20℃ Residual oil content: 0.01PPM Filtering accuracy: <1μm	Pneumatic instrument, textile and chemical fiber, environmental protection industry
Pressure dew point: ≤20℃ Residual oil content: 0.01PPM Filtering accuracy: <0.01μm	Electric power, chemical industry, precision machinery
Pressure dew point: ≤-20℃ Residual oil content: 0.01PPM Filtering accuracy: <1μm	Bioengineering, advanced plastic spraying, electronic industry
Pressure dew point: ≤20℃ Residual oil content: 0.01PPM Filtering accuracy: <0.01μm	Film and air-dried electronic parts
Pressure dew point: ≤20℃ Residual oil content: 0.01PPM Filtering accuracy: <1μm	Bioengineering, advanced plastic spraying, electronic industry
Pressure dew point: ≤20℃ Residual oil content: 0.01PPM Filtering accuracy: <0.01μm	Electric power, chemical industry, precision machinery
Pressure dew point: ≤20℃ Residual oil content: 0.01PPM Filtering accuracy: <0.01μm	Advanced spraying, electronics industry, precision pneumatic instruments, printing and packaging, textile machinery

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Note: The data and technical parameters in the sample are subject to change without prior notice. Please contact Kaishan Purify Equipment in time and subject to the final data confirmed by Kaishan Purify Equipment.
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CONSERVING CHINA'S ENERGY

KAISHAN

Air Compressor Post-treatment Equipment

Zhejiang Kaishan Purify Equipment Co.,Ltd.

KAISHAN
PURIFY EQUIPMENT

Zhejiang Kaishan Purify Equipment Co., Ltd., a wholly-owned subsidiary of Zhejiang Kaishan Compressor Co., Ltd., is dedicated to developing compressed air purification and energy-saving equipment based on the strong manufacturing base of Kaishan Group and its worldwide distribution network.

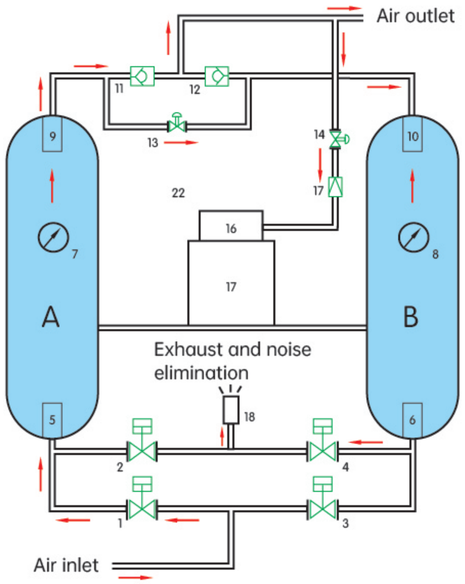
Zhejiang Kaishan Purify Equipment Co., Ltd. is specialized in R&D and manufacturing oxygen generator, nitrogen generator, refrigerated compressed air dryer, adsorption dryer, combined air dryer, filter, compressed air precooling unit, oil-water separator, high-efficiency degreaser, high-efficiency air cooler, self-cleaning air filter and compressed heat regeneration adsorption dryer. According to the needs of customers, we can provide air-cooled, water-cooled, high-temperature, instrument, single-chip microcomputer, programmable, variable frequency, high pressure, explosion-proof, environmental protection and other forms and characteristics of air compressor post-treatment equipment. The products are widely used in electric power, electronics, metallurgy, machinery, automobile manufacturing, petroleum, chemical industry, textile, chemical fiber, papermaking, rubber, instrument, food, air separation, cigarette, medicine, biology, daily chemical and other industries. Besides, our products are sold all over the country, as well as to the United States, Canada, Russia, Mexico, East Asia, the Middle East, Australia and Africa.

With first-class international advanced production equipment, strong design, development and production capacity, perfect quality assurance system, we have been constantly accumulating and summarizing our life experience and absorbing advanced technology from home and abroad in the air compression industry to ensure the high performance and reliability of the products.

Kaishan Purify Equipment will wholeheartedly provide the best service to our customers with our high quality products, highest efficiency and sincere attitude.

Heatless Regeneration Adsorption Dryer

Flowchart



A、B	Adsorption drying cylinder
1、2、3、4	Pneumatic valve
5、6、9、10	Diffuser
7、8	Pressure gage
11、12	Check valve
13、14	Control valve
15	Air source regulator
16	Solenoid valve group
17	Program control box
18	Exhaust muffler

Product Description

Stable and consistent outlet pressure and dew point

A. Reasonable cylinder design ensures that the contact time between compressed air and desiccant meets the requirements for the finished air dew point.
B. 30% residual desiccant is used to compensate the natural aging of desiccant and ensure dryness.
C. Large diffuser ensures the air flow to pass through the desiccant layer evenly and eliminates the channeling phenomenon.

Less than 14% purge air loss

A. Excellent barrel design saves 95% of the absorbed heat, and the stored heat is used to increase the regeneration gas temperature in the regeneration stage, improve the desorption capacity of the equipment, and make the regeneration more thorough.
B. Drying and regeneration are carried out in a reversal convection scheme, with the best results achieved when wet air flows over the dried adsorbent.
C. Adjustment of purge air according to the operating load requirements of the dryer.

Long service life of desiccant

A. Appropriate barrel size can keep the flow rate and time of gas passing through desiccant layer in the best state and give full play to the performance of desiccant.
B. Reasonable system configuration ensures that the oil content and heavy pollutants contained in the gas can be eliminated immediately after efficient degreasing treatment before the gas enters the cylinder, so as to avoid the desiccant layer from being damaged.

Equipped with a novel pneumatic valve and advanced and an reliable microcomputer program controller, the equipment achieves stable and reliable automatic timing and automatic switching work.
Scientific and reasonable switching time design ensures the stability and no fluctuation of outlet pressure.

Heatless Regeneration Adsorption Dryer

Working Condition and Technical Data

Inlet temperature: 20-45℃
Inlet oil content: ≤0.1ppm
Working pressure: 0.6-1.0Mpa
Design pressure dew point: standard -20℃ (products with pressure dew point of -40℃ and -70℃ are available)
Purge air: ≤14%
Desiccant: combination of standard activated alumina, low dew point product activated alumina and 5A molecular sieve
Purge mode: heatless regeneration
Working mode: continuing alternative working between two towers
Working periods: T=10min
Power supply: 220V/50HZ
Control mode: microcomputer automatic control
Installation method: foundation-free installation

Heatless regeneration adsorption dryer

Explosion-proof adsorption dryer


Pneumatic butterfly valve


Angle seat valve


Solenoid valve group

Parameters for Heatless Regeneration Adsorption Dryer

Model \ Item	Air handling capacity (Nm³/min)	Desiccant weight (KG)	Diameter of air nozzle	Net weight (KG)	Length (mm)	Width (mm)	High (mm)
KSAD-1WXF	1.2	26	Rp1"	127	988	450	1071
KSAD-2WXF	2.5	50	Rp1"	179	988	450	1554
KSAD-3WXF	3.6	75	Rp1"	202	1096	460	1466
KSAD-4.5WXF	4.8	100	Rp1$\frac{1}{2}$"	239	1146	460	1820
KSAD-6WXF	6.8	136	Rp1$\frac{1}{2}$"	317	1275	405	1816
KSAD-8WXF	8.5	184	Rp2"	443	1275	405	2266
KSAD-10WXF	12.8	254	Rp2"	505	1427	463	2296
KSAD-15WXF	16	310	DN65	749	1616	498	2365
KSAD-20WXF	22	492	DN65	1100	1866	598	2400
KSAD-25WXF	26.8	576	DN80	1246	1866	598	2703
KSAD-30WXF	32	705	DN80	1445	1966	658	2747
KSAD-40WXF	43.5	1008	DN100	1967	2166	762	2819
KSAD-50WXF	53	1171	DN100	2309	2252	822	2947
KSAD-60WXF	67	1334	DN125	2620	2418	924	2827
KSAD-80WXF	90	1834	DN125	3417	2720	1040	3148
KSAD-100WXF	110	2370	DN150	4573	3060	1200	3179
KSAD-120WXF	130	2786	DN150	4923	3120	1360	3378
KSAD-150WXF	160	3374	DN200	6497	3620	1360	3359
KSAD-200WXF	210	4580	DN200	7714	4024	1660	3490
KSAD-250WXF	260	5280	DN250	8600	4324	2660	3472
KSAD-300WXF	310	6340	DN250	8896	4824	2335	3699

Note: The technical standard of pressure for the above parameters is 0.7Mpa.
If the working pressure is less than 0.6Mpa or more than 1Mpa, please ask Kaishan Purify Equipment for product technical data.

Combined Air Dryer

Model Specifications and Performance Parameters (Heatless Air-cooling Type)

Item / Model	Air handling capacity (Nm³/min)*	Desiccant weight (KG)	Diameter of air nozzle	Diameter of cooling water pipe	Cooling power (HP)	Cooling water flow (Nm³/h)	Voltage (V)	Net weight (KG)	Length (mm)	Width (mm)	High (mm)
KSAD-15WW	16	275	DN65	Rp1½"	3.5	3	380	1325	1800	1400	2204
KSAD-20WW	22	395	DN65	Rp1½"	4.2	3.6	380	1740	1960	1440	2470
KSAD-25WW	26.8	490	DN80	Rp1½"	5.3	4.6	380	2060	2030	1480	2473
KSAD-30WW	32	600	DN80	Rp1½"	6.7	5.6	380	2375	2220	1640	2542
KSAD-40WW	43.5	845	DN100	Rp1½"	8.3	7.2	380	2960	2340	1710	2872
KSAD-50WW	53	1008	DN100	Rp1½"	10	9.2	380	3320	2340	1800	2961
KSAD-60WW	67	1170	DN125	Rp1½"	13.3	10.8	380	3445	2520	2000	2991
KSAD-80WW	90	1335	DN125	Rp2"	20	12.4	380	4250	2620	2140	2872
KSAD-100WW	110	1940	DN150	Rp2"	25	14.6	380	5910	2960	2400	3045
KSAD-120WW	130	2370	DN150	Rp2½"	30	16.2	380	7600	3064	2450	2624
KSAD-150WW	160	2790	DN200	Rp2½"	40	18.6	380	9980	4000	3100	3029
KSAD-200WW	210	3380	DN200	Rp2½"	50	24.4	380	12000	4200	3160	2830
KSAD-250WW	260	4580	DN200	Rp3"	65	30.2	380	12300	4224	3700	3510
KSAD-300WW	315	5354	DN250	Rp3"	75	36	380	13200	4700	3350	3749

Note: The technical standard of pressure for the above parameters is 0.7Mpa.
If the working pressure is less than 0.6Mpa or more than 1Mpa, please ask Kaishan Purify Equipment for product technical data.

Model Specifications and Performance Parameters (Micro-heat and Water-cooling Type)

Item / Model	Air handling capacity (Nm³/min)*	Desiccant weight (KG)	Diameter of air nozzle	Diameter of cooling water pipe	Cooling power (HP)	Cooling water flow (Nm³/h)	Voltage (V)	Net weight (KG)	Length (mm)	Width (mm)	High (mm)	Heating power (kw)
KSAD-15MW	16	275	DN65	Rp1½"	3.5	3	380	1325	1800	1400	2204	3
KSAD-20MW	22	395	DN65	Rp1½"	4.2	3.6	380	1740	1960	1440	2470	4
KSAD-25MW	26.8	490	DN80	Rp1½"	5.3	4.6	380	2060	2030	1480	2473	5
KSAD-30MW	32	600	DN80	Rp1½"	6.7	5.6	380	2375	2220	1640	2542	6
KSAD-40MW	43.5	845	DN100	Rp1½"	8.3	7.2	380	2960	2340	1710	2872	8
KSAD-50MW	53	1008	DN100	Rp1½"	10	9.2	380	3320	2340	1800	2961	10
KSAD-60MW	67	1170	DN125	Rp1½"	13.3	10.8	380	3445	2520	2000	2991	12
KSAD-80MW	90	1335	DN125	Rp2"	20	12.4	380	4250	2620	2140	2872	18
KSAD-100MW	110	1940	DN150	Rp2"	25	14.6	380	5910	2960	2400	3045	27
KSAD-120MW	130	2370	DN150	Rp2½"	30	16.2	380	7600	3064	2450	2624	36
KSAD-150MW	160	2790	DN200	Rp2½"	40	18.6	380	9980	4000	3100	3029	42
KSAD-200MW	210	3380	DN200	Rp2½"	50	24.4	380	12000	4200	3160	2830	54
KSAD-250MW	260	4580	DN200	Rp3"	65	30.2	380	12300	4224	3700	3510	72
KSAD-300MW	315	5354	DN250	Rp3"	75	36	380	13200	4700	3350	3749	100

Note: The technical standard of pressure for the above parameters is 0.7Mpa.
If the working pressure is less than 0.6Mpa or more than 1Mpa, please ask Kaishan Purify Equipment for product technical data.

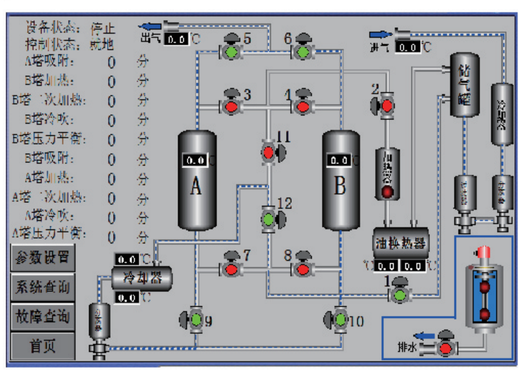
Zero Air Consumption Waste Heat Regeneration Adsorption Dryer

Product Description

The most obvious advantage of zero air consumption heat regeneration adsorption dryer is that it heats and regenerates the adsorption desiccant with the heat of the air compressor oil temperature, which reduces the electric heating power of the micro-heat regeneration adsorption dryer and saves the consumption of electric energy. It ends the era when traditional adsorption dryers, such as heatless regeneration adsorption dryers and micro-heat regeneration adsorption dryers, require air consumption for cold blowing and purging.

Working Condition and Technical Data

Inlet pressure	0.6-1.0Mpa
Inlet oil content	0.1ppm
Air inlet temperature	⩾80℃
Cooling water pressure	0.2-0.4Mpa
Design atmospheric dew point	-40℃ (optional -60℃)
Cooling water temperature	⩽32℃
Purge air consumption	0
Adsorption periods	8h
Air handling capacity	20-120Nm³/min



Working Principle

The high-temperature and unsaturated wet air is discharged from the compressor and then enter into the dryer directly. Firstly, the air flows into the first tower of the dryer to heat and regenerate the desiccant, and the regenerated gas enters the rear cooler for cooling. Then, liquid water is separated by the gas-liquid separator. Finally, the air enters another tower for drying and adsorption to obtain dry gas. After 170min, the heated tower is bypassed by the bypass valve, and the high-temperature and unsaturated wet air directly enters the rear cooler for cooling. Then, liquid water is separated by the gas-liquid separator. Finally, the air enters another tower for drying and adsorption, and the dried compressed air is discharged from the outlet and enters the use pipe network; At this stage, we introduce cold air from the air compressor after air cooling, remove water by gas separation, remove oil by filter and enter the regeneration tower to complete cold blowing and cooling. After 68min, the cold blowing ends and the booster begins; Two minutes later, the pressure of the two towers is balanced, and four hours later, the two-tower dryer carries out the regeneration process of another tower. The most remarkable advantage of the zero-loss energy-saving dryer is that it heats and regenerates the adsorption desiccant with the heat of the air compressor oil temperature, and eliminates the electric heater of the micro-heat regeneration adsorption dryer. In this way, both heating and cold blowing are taken from the heat source and cold source of the air compressor itself, which saves the consumption of electric energy. Meanwhile, energy is saved to the greatest extent as there is no air consumption during heating regeneration.

Model Specifications and Performance Parameters

Model	Air handling capacity (Nm³/min)	Length (mm)	Width (mm)	High (mm)	Inlet/outlet flange dimensions	Net weigh (KG)	Adsorbent weight (KG)	Heater power (KW)	Cooling water circulation (Nm³/h)
KSAD-20LXF	22	2120	1250	2465	DN65	1530	500	12	12
KSAD-25LXF	26	2120	1250	2765	DN80	1730	625	15	15
KSAD-30LXF	32	2180	1350	2775	DN80	2500	750	18	18
KSAD-40LXF	43.5	2450	1650	2925	DN100	2750	1000	27	24
KSAD-50LXF	53	2650	1950	2950	DN100	3250	1250	36	30
KSAD-60LXF	67	3050	2000	2885	DN125	4150	1500	42	35
KSAD-80LXF	90	3390	2200	2950	DN125	5200	2000	54	45
KSAD-100LXF	110	3680	2200	2950	DN150	7000	2500	72	60
KSAD-120LXF	130	3950	2200	2950	DN150	7500	3000	100	75