



COMPRESSED DESICCANT AIR DRYER





## Company Profile

Hangzhou kelin Aier Qiyuan Equipment Co.,ltd (KL air dryer company) was established in 1997, dedicated in the promotion and design of compressed air purifying equipments. KL leading products: compressed air dryer, water chiller, and PSA nitrogen /oxygen generator.

KL air dryer company with 16000m<sup>2</sup> factory area, about 110 workers. We have design team can design & make the dryer according to different customer's requirement. Except our standard air dryer, we also have high pressure type, anti-explosion type, special gas such like biogas/CNG type dryer.etc.

We have CE certification and quality standard by ISO9001. For the vessel certification, we can provide the ASME/PED/CE code for customer. For the main components all use the famous world brand. KL company providing filtration, separation and purification solutions for your compressed air purifying

Air Dryer



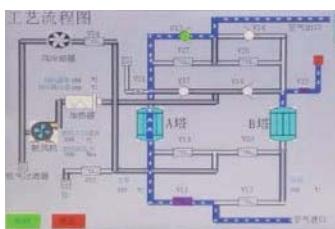
#### Electrical heater

- Stainless steel material, simple structure
- High mechanical strength, high efficiency and long service life.



#### Air blower

- High mechanical efficiency, low noise, stable and reliable operation



#### PLC program controller

- With LCD touch screen display working process and easy for user to check and setting the parameter.
- The PLC program can auto switch the valve
- With alarm, Interlocking function, effectively monitor the operation process of the equipment, ensure reliable operation, convenient operation and maintenance.



#### Activated alumina

- Good adsorption capacity, high strength, high water resistance, easy regeneration for system



#### After-cooler

- Use the high efficiency red copper tube elements, with high heat exchanger coefficient, and high heat transfer effect, meet the requirement working on different state.



#### Gas liquid separator

- Adopt the principle of inertia separating and gravity , special gas liquid filtering net to intercept spray, with low pressure drop, high water remove capacity.



#### Pneumatic valve

- Pneumatic butterfly valve • Big rotational torque
- Response quickly • Long service life
- With nice seal performance, the seal parts use PTEE material
- With the feedback switch for the valve signal.



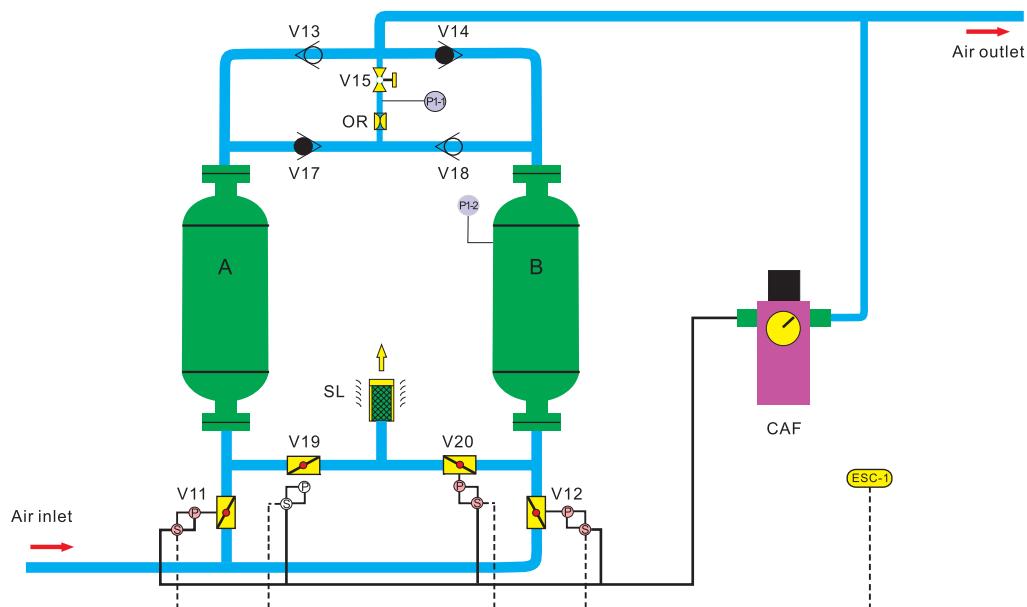
## KXD series heatless desiccant air dryer

### Description

Heatless dryer adopt pressure swing adsorption technology--the desiccant with different adsorb effect under the different working pressure. The desiccant adsorb the moisture under the working pressure , and desorption under the atmospheric pressure. The system with two tanks for the periodic auto switching, one tank on adsorption, the other one on regeneration, simple structure and easy to maintenance.



### System flowchart



### Main parts

● PLC controller

● High quality pneumatic valve

● Reliable no leak check valve



● Pneumatic T valve 0.7-13m<sup>3</sup>/min

● Low failure rate solenoid valve

● Good adsorption capacity desiccant





### Standard condition

Working pressure	7-10bar	Inlet oil content	$\leq 0.1 \text{ ppm (w)}$
Inlet temperature	$\leq 45^\circ\text{C}$	Voltage	220V/1PH/50Hz
Ambient temperature	$\leq 45^\circ\text{C}$	Desiccant	Activated alumina
Dew-point	$\leq -40^\circ\text{C}$	Switch time	5-10min
Air loss	$\leq 14.5\%$		

### Option

-70°C dew-point	Higher protect grade EP65	SS gas pipe & accessories
Remote , communication	High pressure	SS pressure vessel
Dew-point meter	Anti-explosion	ASME VESSEL
PLC controller	Molecular sieve & activated alumina	Special painting
Different inlet/out connection	Different dimension suit for container shipment.	

### Specification

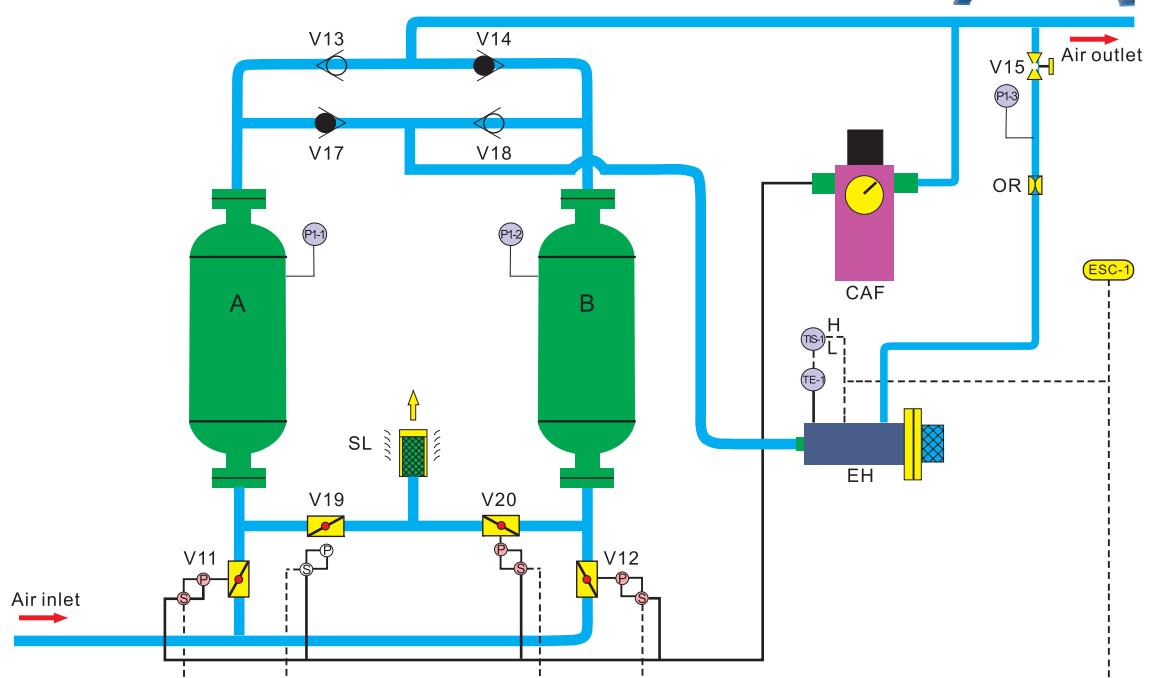
Model	Flow rate			Inlet connection (BSP)	Dimension (mm)			Weight(kg)
	m³/min	m³/h	CFM		L	W	H	
KXD-5	0.7	42	25	1/2"	690	500	915	120
KXD-10	1.6	96	56	1"	690	500	1298	190
KXD-20	2.6	156	92	1"	780	500	1250	280
KXD-30	3.8	228	134	1"	860	540	1276	320
KXD-60	7.0	410	247	1 1/2"	1010	700	1588	480
KXD-75	8.5	520	300	1 1/2"	1010	700	1727	540
KXD-100	11.5	690	406	2"	1240	800	1958	650
KXD-120	13.5	810	476	2"	1060	660	2210	690
KXD-150	17	1020	600	DN65	1240	720	2203	780
KXD-200	23	1380	812	DN65	1280	720	2233	920
KXD-250	27	1620	953	DN80	1700	770	2362	1050
KXD-300	34	2040	1200	DN80	1750	800	2420	1200
KXD-400	45	2700	1588	DN100	1850	900	2405	1530
KXD-500	55	3300	1941	DN100	1900	1120	2730	1750
KXD-600	65	3900	2294	DN125	2160	1240	2784	2230
KXD-800	87	5200	3071	DN150	2416	1440	2827	2710
KXD-1000	110	6600	3883	DN150	2400	1400	3118	4130
KXD-1200	130	7800	4589	DN150	2600	1680	3128	4700
KXD-1500	160	9600	5648	DN200	2900	1800	3426	5800
KXD-2000	210	12600	7413	DN200	3140	2060	3480	7370
KXD-2500	260	15600	9178	DN250	3320	2060	3170	9020
KXD-3000	320	19200	11296	DN250	3740	2170	3190	11900
KXD-3500	360	21600	12708	DN300	4150	2310	3210	13100
KXD-4000	410	24600	14473	DN300	4810	2490	3300	14800
KXD-5000	510	30600	18003	DN350	5000	2700	3500	16000

## KXR series heated desiccant air dryer

### Description

Heated desiccant air dryer with heater on system compare to heatless dryer. The desiccant adsorb the moisture under the working pressure , use the heating compressed air on regeneration process. For that way, can save air loss than heatless type dryer.

### System flowchart



### Main parts

● Heater element



● Control system



● Check valve



● Activated alumina



● Solenoid valve T



● Pneumatic T valve



● Pneumatic butterfly valve





### Standard condition

Working pressure	5-10bar	Switch time	120min
Inlet temperature	≤45°C	Pressure drop	≤0.21bar
Ambient temperature	≤45°C	Desiccant	Activated alumina
Dew-point	≤-40°C	Inlet oil content	≤ 0.1ppm(w)
Air loss	6%	PLC control system	PLC controller

### Option

- Special voltage
- Molecular sieve & activated alumina
- High pressure / anti-explosion
- High voltage series
- 70°C dew-point
- Higher Inlet temperature 50°C
- Dew-point meter & PLC controller
- ASME /CE VESSEL
- SS air pipe & accessories

### Specification

Model	Flow rate		Heated power (kw)	Inlet connection (BSP)	Dimension (mm)			Weight(kg)
	m³/min	CFM			L	W	H	
KXR-5	0.7	25	0.9	1/2"	690	500	915	150
KXR-10	1.6	56	0.9	1"	690	500	1298	210
KXR-20	2.6	92	1.5	1"	780	500	1324	300
KXR-30	3.8	134	1.5	1"	860	540	1350	390
KXR-60	7.0	247	2.4	1 1/2"	1010	700	1558	520
KXR-75	8.5	300	2.4	1 1/2"	1010	700	1785	580
KXR-100	11.5	406	4.5	2"	1240	800	2232	700
KXR-120	13.5	476	4.5	2"	1060	660	2210	740
KXR-150	17	600	5.4	DN65	1240	720	2203	845
KXR-200	23	812	7.5	DN65	1280	720	2233	995
KXR-250	27	953	9	DN80	1700	770	2362	1140
KXR-300	34	1200	10.8	DN80	1750	800	2420	1305
KXR-400	45	1588	15	DN100	1850	900	2405	1660
KXR-500	55	1941	18	DN100	1900	1120	2730	1860
KXR-600	65	2294	22.5	DN125	2160	1240	2784	2395
KXR-800	87	3071	28.8	DN150	2416	1440	2827	2905
KXR-1000	110	3883	37.5	DN150	2600	1730	3038	4870
KXR-1200	130	4589	45	DN150	2900	1780	3128	5460
KXR-1500	160	5648	56	DN200	3000	2330	3400	6820
KXR-2000	210	7413	72	DN200	3380	2520	3420	8630
KXR-2500	260	9178	90	DN250	3580	2720	3596	11200
KXR-3000	320	10943	112.5	DN250	3580	2970	3606	12900
KXR-3500	360	12708	124.8	DN300	3720	3220	3720	13800
KXR-4000	410	14473	145.8	DN300	3910	3370	3910	14700
KXR-5000	510	18003	170	DN350	4200	3600	4200	16200



## Blower purge desiccant air dryer

### Sale point



- 4 hours cycle switching time, with nice comprehensive performance.
- Complete regeneration process, make the desiccant has the perfect adsorption capacity, make sure the dew-point.
- Suction the ambient air into the heater, use the heating ambient air to regeneration, energy saving design.
- Multiple interlocking protection, alarm protection, the device security and reliability.
- The Dew-point can meet customer's requirement.
- On all-in-one skid mounted design, convenient installation.

### Specification

Working pressure	0.4MPa~1.0 MPa
Dew-point	≤ -40°C (PDP)
Air loss	≤ 2%
Switch time	4h
Pressure drop	≤ 0.021 MPa
Adsorbent	Activated alumina
Inlet oil content	≤ 0.1ppm(w)
Voltage	380V/3PH/50Hz

### Working principle

Blower purge desiccant air dryer is a kind of energy-saving compressed air treatment product.

When the incoming wet compressed air flows into adsorption tower from bottom to top, the water will be adsorbed by desiccant, the dried air will flow into subsequent process.

Within switch time, when one tower is adsorbing, the other one is regenerating. The regeneration process mainly consists of depressurization, heating, blowing-cold and pressurization. The system use the heating ambient air for regeneration, the regeneration gas with moisture release through muffle, then use the system compressed air for cooling process. All the steps are controlled by PLC for automatic switching, and can show the process on touch screen.

### Technical data

KXB Model	200	250	300	400	500	600	800	1000	1200	1500	2000	2500	3000	3500	4000	5000	
Flow rate Nm <sup>3</sup> /min	23	27	34	45	55	65	87	110	130	160	210	260	320	360	410	510	
Heater power KW	15	18	24	32.4	42	48	64.8	81	95.4	119.7	162	205.2	240	285	318	398	
Airblower power KW	3.3	4.2	5.5	7.2	8.8	10.8	13.8	17.5	20.8	25.8	34.5	43.2	51.8	59.2	67.8	78.2	
L	1560	1870	2090	2530	2750	2920	3040	3210	3380	3520	3680	3720	3820	3950	4520	5380	
Dimension (mm)	W	1630	1830	1990	2180	2390	2510	2780	2920	3080	3180	3320	3400	3480	3560	3720	3980
H	2780	2880	3070	2920	3100	3080	3120	3200	3280	3410	3560	3640	3720	3810	3890	3970	
Connection	DN65	DN80	DN80	DN100	DN100	DN125	DN150	DN150	DN200	DN200	DN250	DN250	DN300	DN300	DN350		
Weight(kg)	1380	1720	2060	2750	3430	4120	5500	6300	7810	9200	11300	14000	14900	16200	17900	19200	

The above data are for our standard model, we can design the special one as customer's order.



## Heat of compression air dryer



### Sale point:

- 4hours cycle switching time, with nice comprehensive performance.
- Use the high temperature compressed air to regeneration, make the desiccant has the Complete regeneration,
- Without heater on system, no power consume, very energy saving.
- With cooling process, can make sure the dew-point meet customer's requirement.
- On all-in-one skid mounted design, convenient installation.

### Specification

Working pressure	0.4MPa ~1.0 MPa
Inlet temperature	120~170°C
Dew-point	-20°C/-40°C (PDP)
Air loss	1.6%
Switch time	2h/4h
Pressure drop	≤ 0.04
Desiccant	activated alumina
Inlet oil content	≤ 0.01ppm
Power consume	< 100 W

### Working principle

Heat of compression dryer is one kind of heated regeneration dryer, full use of high temperature compressed air to regeneration. The high temperature compressed air direct into tank, desorption and bring the moisture out through the muffler. Then parts of compressed air go through the cooler to cooling the desiccant. Compare to blower purge dryer, heat of compression dryer with simple technology flowchart and more energy saving by the power consume only 100W.

### Technical data

KXC Model	200	250	300	400	500	600	800	1000	1200	1500	2000	2500	3000	3500	4000	5000	
Flow rate Nm <sup>3</sup> /min	23	27	34	45	55	65	87	110	130	160	210	260	320	360	410	510	
Cooling water flow rate t/h	8.6	10.8	12.8	17.2	21.4	26.5	34.5	43.1	52.3	65	90	108	132	161	200	250	
Dimension (mm)	L	2070	2410	2740	2900	3050	3190	3300	3520	3700	3900	4680	5400	6900	7540	8210	9100
	W	1030	1200	1350	1510	1690	1810	1920	2100	2330	2450	2750	3000	3300	3470	3580	3620
	H	2310	2430	2650	2780	2830	2880	2910	2990	3170	3200	3510	3720	3940	3920	3850	3860
Connection	DN65	DN80	DN80	DN100	DN100	DN125	DN150	DN150	DN150	DN200	DN200	DN250	DN250	DN300	DN300	DN350	
Weight(kg)	1480	1720	1980	2500	3130	3920	4650	5690	6530	7500	9230	12400	14300	15900	17200	19200	

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## Non-purge blower desiccant air dryer



Standard working condition		Option	
Working pressure	<b>7-10bar</b>	Dew-point lower than -40°C	Can add the filters with dryer together
Inlet temperature	<b>≤40°C</b>	With dew-point meter	Can update the protection grade
Ambient temperature	<b>≤45°C</b>	Adopt PLC controller	Design with different connection
Dew-point	<b>≤-40°C</b>	Special painting	Design the dimension good for container shipment
Air loss	<b>0%</b>	ASME vessel	Special gas medium
Inlet oil content	<b>≤0.1ppm ( w )</b>		
Voltage	<b>380V/3PH/50Hz</b>		
Desiccant	Activate alumina & molecular sieve		
Switch time:	<b>5h</b>		

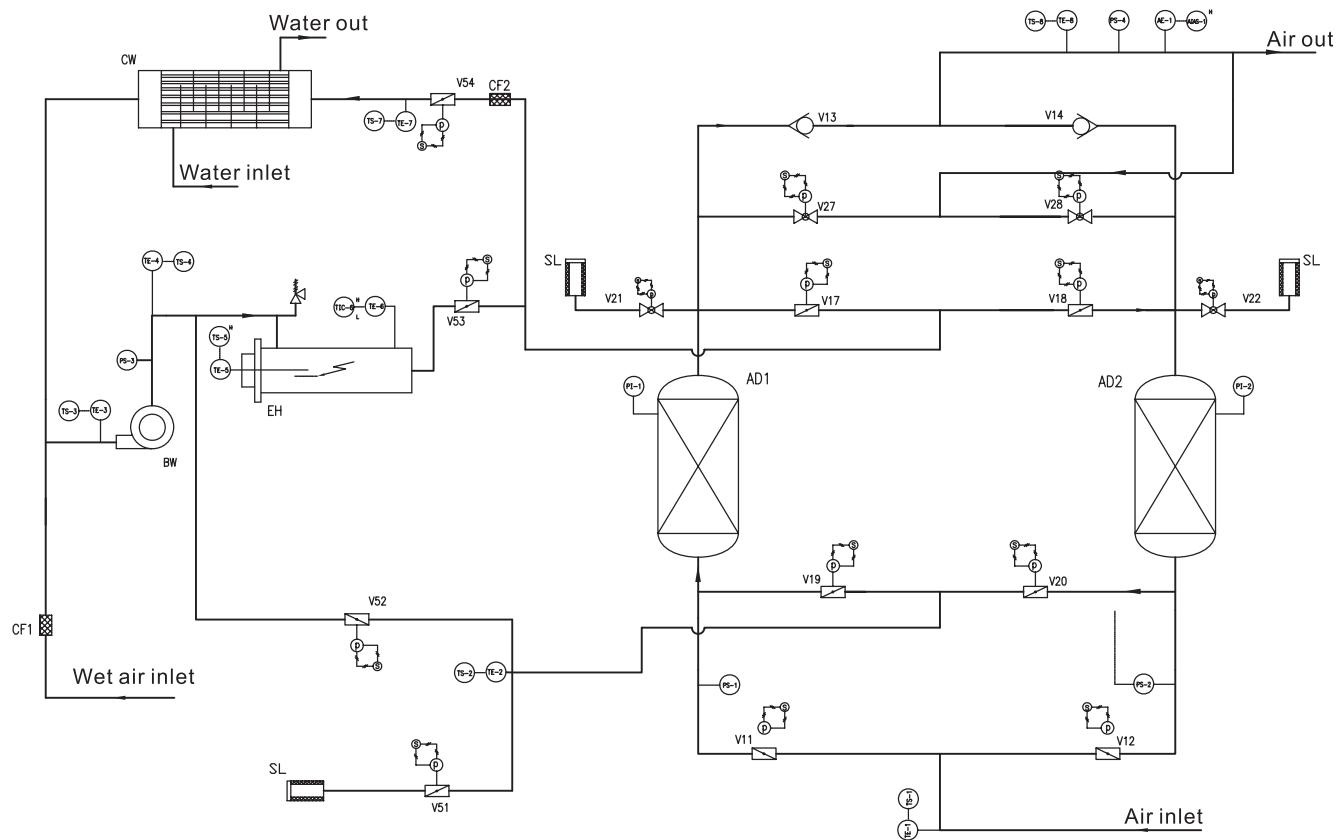
Non-purge blower desiccant air dryer is a kind of energy-saving compressed air treatment product, composed of the following components:

Two adsorption towers, one electric heater, one air blower, one after-cooler ,one set of switching valves and one set of controlling system.

When the compressed air flows through the fixed bed layers of adsorption tower, the water will be adsorbed by desiccant, after the desiccant get saturated, regenerate the desiccant by hot air to recover its adsorption capacity. Use the air blower suction the ambient air to cooling the desiccant, full system without compressed air loss.



## System flowchart



## Specification

Model	Flow rate			Connection	Power consume kw(①)	Dimension (mm)		
	m³/min	m³/h	CFM			L	W	H
KXP-200	23	1380	812	DN65	23	1800	1400	2600
KXP-250	27	1620	853	DN80	28.5	2100	1500	2400
KXP-300	34	2040	1200	DN80	31.5	2200	1650	2720
KXP-400	45	2700	1588	DN100	45.75	2400	1650	2810
KXP-500	55	3300	1941	DN100	51	2500	1850	2985
KXP-600	65	3900	2294	DN125	55	2875	2200	3015
KXP-800	87	5200	3071	DN150	74.25	3300	2350	3050
KXP-1000	110	6600	3883	DN150	86.5	3600	2350	3150
KXP-1200	130	7800	4589	DN150	108.75	3900	2800	3250
KXP-1500	160	9600	5648	DN200	129.75	4300	3000	3300
KXP-2000	210	12600	7413	DN200	157.75	4700	3100	3500

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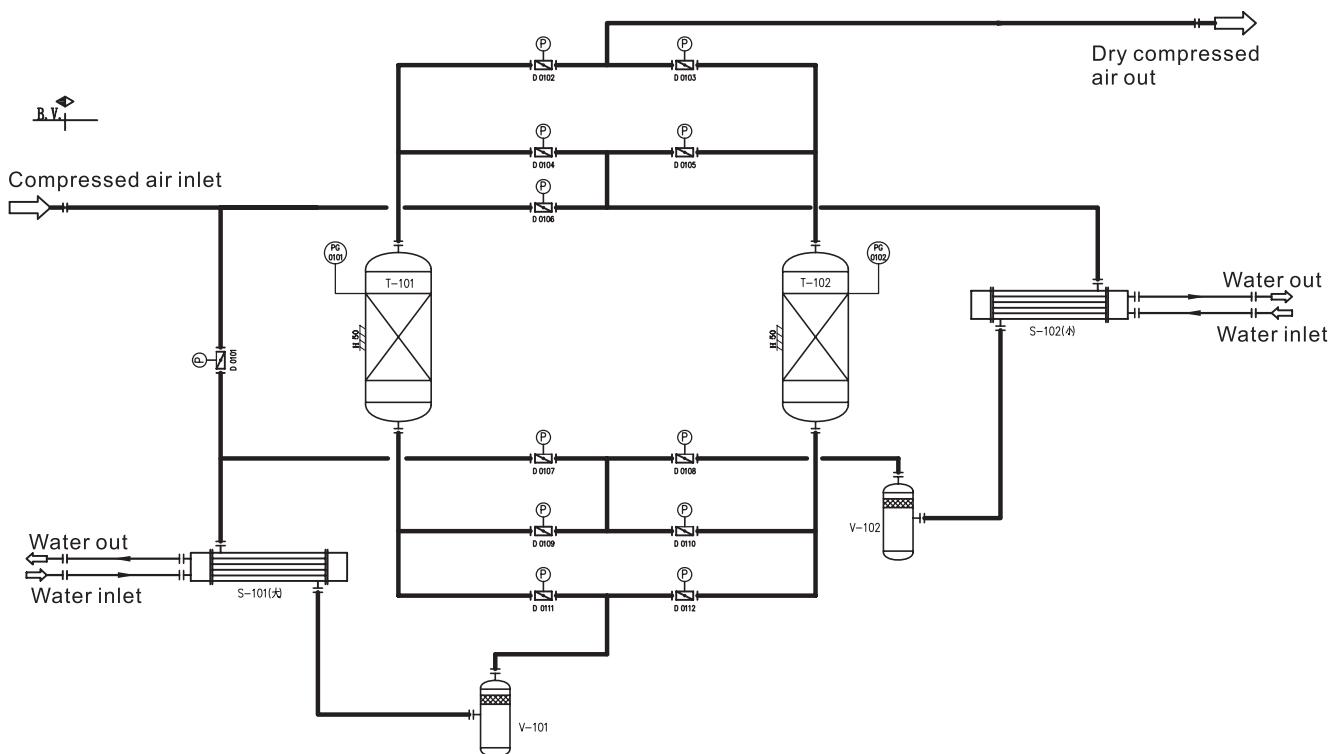
**Non-purge heat of compression air dryer**


Standard working condition		Option	
Working pressure	7-10bar	Dew-point lower than -40°C	Can add the filters with dryer together
Inlet temperature	≥120°C	With dew-point meter	Can update the protection grade
Ambient temperature	≤45°C	Adopt PLC controller	Design with different connection
Dew-point	≤-40°C	Special painting	Design the dimension good for container shipment
Air loss	0%	ASME vessel	Special gas medium
Cooling water temperature	32°C		
Inlet oil content\	≤0.1ppm ( w )		
Voltage	220V/1PH/50Hz		
Desiccant	Activate alumina & molecular sieve		
switch time	5h		

Non-purge heat of compression air dryer is a kind of energy-saving compressed air treatment product, composed of the following components:

Two alternative-used adsorption towers, two after-cooler , two liquid/gas separator, one set of switching valves and one set of controlling system.

The compressed air into the adsorption tank, the desiccant adsorption the moisture and other tank for regeneration, the high temperature compressed air into the tank to desorption, then use the cooling compressed air to cooling the desiccant. All the steps are controlled by PLC for automatic switching. It can provide long-term reliable energy-saving operation.

**System flowchart**

**Specification**

Model	Flow rate			Connection	Power consume	Dimension (mm)		
	m <sup>3</sup> /min	m <sup>3</sup> /h	CFM			L	W	H
KXM-500	55	3300	1941	DN100	0.2	2700	2350	2650
KXM-600	65	3900	2294	DN125	0.2	2875	2500	3015
KXM-800	87	5200	3071	DN150	0.2	4200	2700	3018
KXM-1000	110	6600	3883	DN150	0.25	4200	2700	3018
KXM-1200	130	7800	4589	DN150	0.25	3900	3100	3250
KXM-1500	160	9600	5648	DN200	0.25	4300	3500	3300
KXM-2000	210	12600	7413	DN200	0.25	4700	3800	3500
KXM-3000	310	18600	10943	DN250	0.25	5500	4000	3700
KXM-3500	360	21300	12708	DN250	0.25	5800	4000	3800
KXM-4000	410	24600	14473	DN300	0.25	6300	4000	3900
KXM-4500	460	27480	16238	DN350	0.25	6500	4100	3950
KXM-5000	510	30600	18003	DN350	0.25	7000	4300	4200

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## Non-purge blower heat of compression air dryer



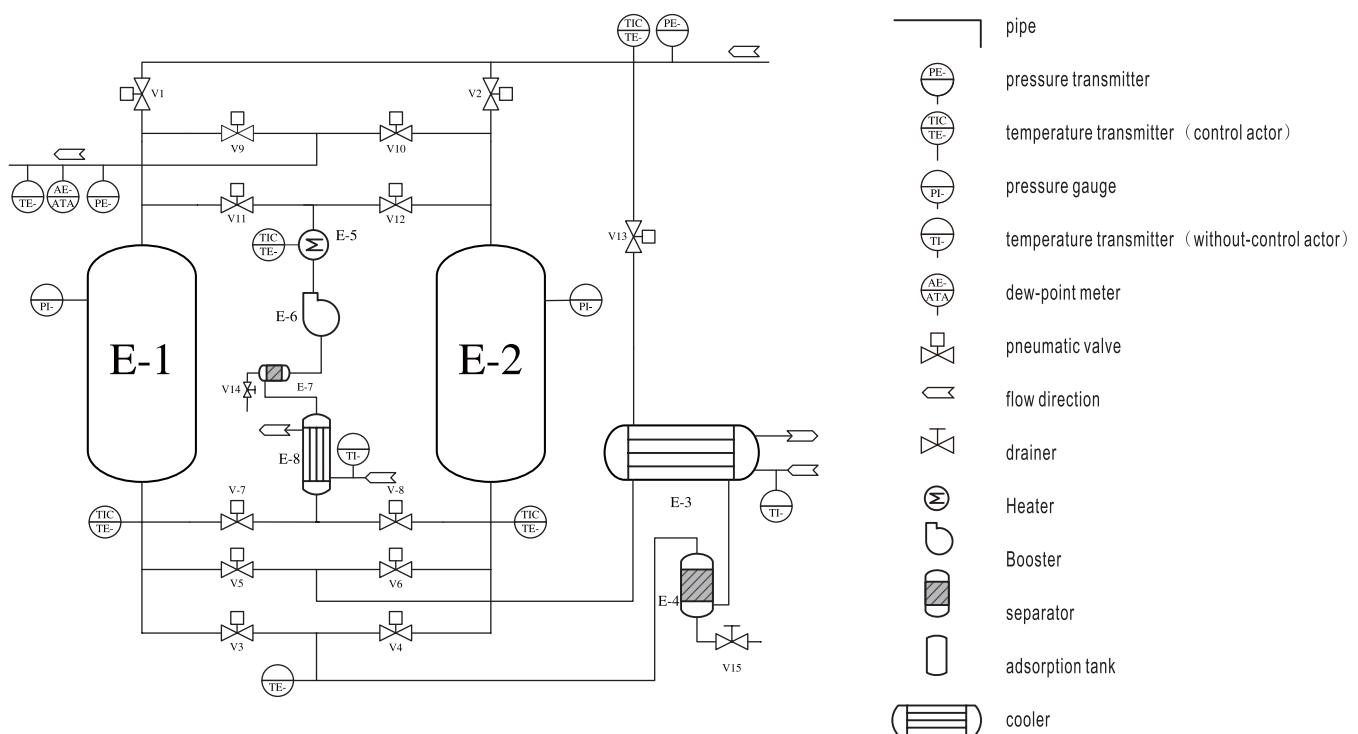
Standard working condition		Option	
Working pressure	7-10bar	Dew-point lower than -40°C	Can add the filters with dryer together
Inlet temperature	≥90°C	With dew-point meter	Can update the protection grade
Ambient temperature	≤45°C	Adopt PLC controller	Design with different connection
Dew-point	≤-40°C	Special painting	Design the dimension good for container shipment
Air loss	0%	ASME vessel	Special gas medium
Inlet oil content	≤0.1ppm ( w )		
Voltage	380V/3P/50HZ		
Desiccant	Activate alumina & molecular sieve		
Switch time	5h		

Non-purge blower heat of compression air dryer is a energy-saving product adopt the advantage of blower purge dryer and heat of compression dryer. It's composed of the following components:

Two alternative-used adsorption towers, one heater, two after-cooler , one set of switching valves and one set of controlling system. The high temperature air into the adsorption tank for regeneration, go through the cooler for liquid/gas separating process, then into the tank for adsorption to get the dry compressed air. After a period of time , the system use the blower regeneration mode to make the complete regeneration, Keep the desiccant with perfect adsorption effect, help the user to get the nice dew-point for a long time.



## System flowchart



## Specification

Model	Flow rate			Connection	Power consume	Dimension (mm)		
	m³/min	m³/h	CFM			L	W	H
KXO-1000	110	6600	3883	DN150	42	3600	2500	3250
KXO-1200	130	7800	4589	DN150	54	3900	2800	3250
KXO-1500	160	9600	5648	DN200	65	4350	3100	3350
KXO-2000	210	12600	7413	DN200	78	4750	3200	3500
KXO-3000	310	18600	10943	DN250	123	4900	3400	3800
KXO-4000	410	24600	14473	DN300	162	5300	3800	3800
KXO-5000	510	30600	18003	DN350	207	5500	4200	4000

The above data are for our standard model, we can design the special one as customer's order.



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