



COMPRESSED AIR PURIFICATION DRYING SYSTEM



SHANGHAI SUNFILTER INDUSTRY CO., LTD.



Company Instruction

Shanghai Sunfilter Industry Co., Ltd. is a manufacturing company which is specialized in compressed air drying and purification equipment who's research, manufactory, sales and service. Sunfilter with rich experience in the industry, the use of advanced technology and high quality components, to provide customers with high efficiency, low energy consumption, long service life of compressed air purification equipment, improve the quality of your air!

The leading product is Refrigerated Air Dryer, Desiccant Air Dryer, Compressed Air Filter, Modular Regenerative Adsorption Compressed Air Dryer, Water Chiller. We have the CE certification and could provide the ASME code dryer for customer.

Sunfilter has been seeking excellence all the time. The company ushers in the Denmark, France, Japanese etc. Nations system cold and advanced technique, equipments and the original machine pieces, meanwhile taking the advanced designing concept and exquisite Production Process, following the ISO9001 quantity management system completely.

We have been improving quality by good management, seeking development by innovation, casting the brand in good faith, expanding the market in a win-win situation. Our products not only throughout the Country (for different projects, such as building, rebuilding, and re-moulding of large and medium size enterprises), but also export to Australia, South America, Southeast Asia, Middle East, Europe and more than 30 Countries.



The conditions of the qualified drying system

- Purge System Selection should be based on rated pressure of air compressor.
- Air Dryer's Model Selection should be based air inlet temperature.rated air flow.rated pressure and ambient temperature.
- Air Dryer' s Type Selection should be based on the dryness,which relate to the discretion of dew point.
- Quantities of stages of air filters and type selection should be based on the discretion of oil content index and dustiness index .
- Pipes configuration and materials of pipes' confirmation should be base on dew point,oil content and business index.
- Install the self-cleaning filter to protect the air compressor,assurance the purifying effect while working in the environment with large amount of dust.
- Compressed air purifying process is the process of drying and filtering.meanwhile it is also a process of temperature decreasing.Temperature takes a key role during the process of purifying as inlet temperature and ambient temperature directly impact the effect of drying and purifying.
- Air receiver tank also is an important part of a whole compressed air system.Air receiver tank should be installed between air compressor and air dryer,air dryer and air consumption location because air receiver tank has the effect of stabilizing air,cooling.dirty drain and air storage.
- System should add the waste oil collector,collecting the oil then drain out the water which reach environment: requirement to the river.

The damage of the unprocessed compressed air

Compressed air is an important driving force which is widely used in various industrial fields. After the air around us is compressed,a sharp rise in the number of water vapor and dust contained in unit volume.

Meanwhile the water vapor and oil mist condense liquid drops during compressing process.then mixing with dusts in high concentration.forming mostly acidic sludge.

If there is no air after treatment equipment, these acidic sludge will enter the air line. corrode pipeline material,destroy pneumatic tools, equipment, and ultimately resulting in lower-quality product, production stagnated, costs rising, health and safety at risk.

The cost will be increased because of the bad quality compressed air

If acidic sludge entering air line,the caused problem will come soon.Below are some common problems:

- Damage of pneumatic tools and equipment more frequently, life reduction.
- Finished production and other materials that will expose to air will be damaged or quality reduction.
- Corroded air line will result in air leaking,wasting of compressed air and energy.
- In fact,a leak with thickness 3 mm will cause 3.7KW energy consumption, which means there will be extra energy cost every year.

The solution of the power consumption

- Sunfilter air dryer is a durable and low energy consumed air solution.
- Drying process on compressed air is needed in order to prevent the condensed water precipitation and the followed corrosion and equipment damage.Sunfilter series air dry can remove the water from the compressed air,which remove the biggest damage on air pipe system.
- More filters,complete the installation of equipment.
- More filters in the compressed air system will further improve the quality of air,reducing the possibility of damage of pneumatic tools and equipment,enhance the quality of finished production.

SF Series

Refrigerated Compressed Air Dryer

Features

- 1.SF series air dryer with aluminum plate heat exchanger.
- 2.Pre-cooler,evaporator,gas/liquid separator are all following all-in-one modular structure design,the aluminum alloy material are specially treated to be highly corrosion-resistant and it protects finished gas from second contamination.
- 3.The SF series dryer have passed latest CE safety certification with multiple overload protection devices configured.

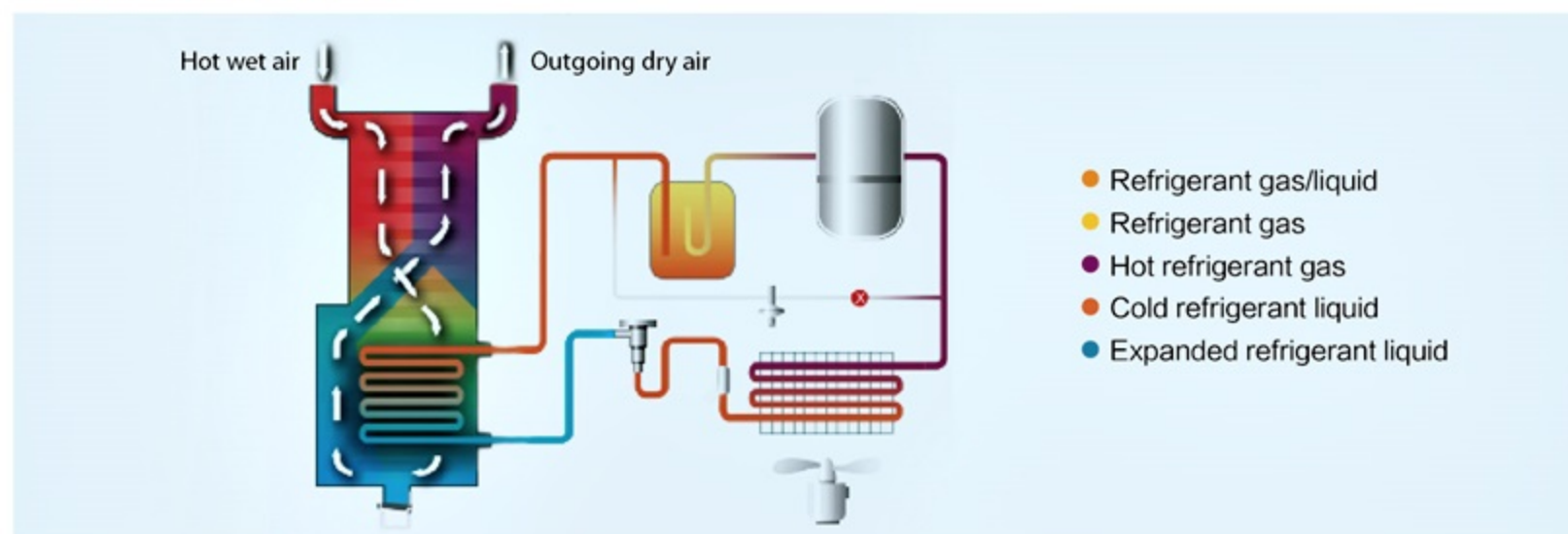


Working Condition And Technical Data

Capacity: 1~200 m³/min
 Working pressure: ≤1.5Mpa(15bar)
 Max.inlet temperature: 60℃
 Max.ambient temperature: 50℃
 Max.water-cooling temperature: 35℃
 Cooling type: Air-cooling or Water-cooling
 Power supply: 220V/1Ph/50Hz(1HTF~8HTF)、
 380V/3Ph/50Hz(10HTF~80HTF)
 Refrigerant: R134A(1HTF~2HTF),R410A or R407C
 PDP: 3~5℃



Technical Flow



Technical Specification of SFAD Air-cooling Refrigerated Air Dryer

Model	Capacity	Nominal Power	Power Supply	Air Connections	Dimensions (mm)			Weight
	Nm ³ /min	HP	V/P/H		L	W	H	kg
SFAD-1HTF	1.2	1/3	220/1/50	3/4	580	400	730	42
SFAD-2HTF	2.4	1		3/4	600	400	730	45
SFAD-3HTF	3.8	1 1/4		1	750	450	790	63
SFAD-6HTF	6.5	1 1/2		1 1/2	800	450	820	79
SFAD-8HTF	8.5	1 1/2		1 1/2	800	450	820	82
SFAD-10HTF	10.7	3	380/3/50	2	950	580	900	106
SFAD-13HTF	13.5	3		2	950	580	900	110
SFAD-15HTF	17	3 1/2		2	1100	680	910	135
SFAD-20HTF	23	4		2.5	1250	800	1050	180
SFAD-25HTF	28	5		DN80	1250	800	1050	220
SFAD-30HTF	35	6		DN100	1300	800	1170	280
SFAD-40HTF	45	10		DN100	1600	1000	1340	320
SFAD-50HTF	55	12		DN125	1600	1000	1340	550
SFAD-60HTF	65	12		DN125	1760	1100	1680	680
SFAD-80HTF	85	20		DN150	1760	1100	1680	900

Technical Specification of SFAD Water-cooling Refrigerated Air Dryer

Model	Capacity	Nominal Power	Power Supply	Air Connections	Dimensions (mm)			Weight
	Nm ³ /min	HP	V/P/H		L	W	H	kg
SFAD-10HTW	10.7	3	380/3/50	2	1070	560	900	108
SFAD-15HTW	18	3 1/2		2	1070	560	900	140
SFAD-20HTW	25	4		2.5	1150	620	1050	170
SFAD-30HTW	35	6		DN100	1300	800	1170	260
SFAD-40HTW	45	10		DN100	1600	880	1340	310
SFAD-50HTW	55	12		DN125	1600	880	1340	530
SFAD-60HTW	65	12		DN125	1760	1100	1680	640
SFAD-80HTW	85	20		DN150	1760	1100	1680	880
SFAD-100HTW	100	25		DN150	1850	1300	1750	1020
SFAD-120HTW	120	30		DN150	1850	1300	1750	1180
SFAD-150HTW	150	40		DN200	1850	1400	1780	1320
SFAD-200HTW	200	50		DN200	2000	1400	1950	1600

SH Series

Refrigerated Compressed Air Dryer

Features

- 1.SH series with stainless steel plate heat exchanger and air connection pipe.
- 2.High efficiency plate heat exchanger with counter-flow on both air-to-air and air-to-refrigerant sides for efficient heat transfer. As the outgoing air is reheated, it protects the outlet piping against pipe sweating.
- 3.SH series dryer have passed latest CE safety certification with multiple overload protection devices configured.

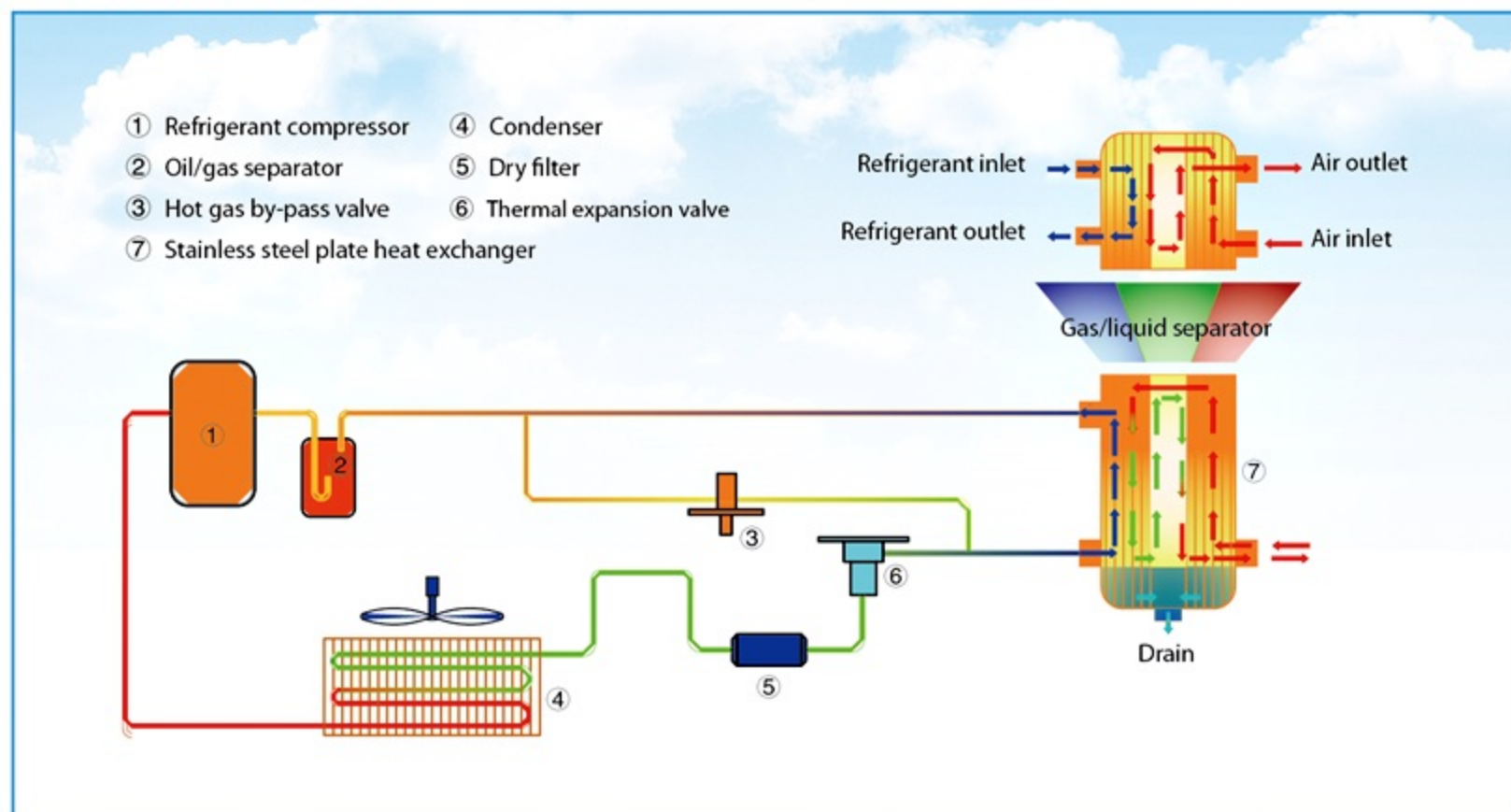


Working Condition And Technical Data

Capacity: 0.6~25.0 m³/min
 Working pressure: ≤1.6Mpa (16bar)
 Max.inlet temperature: 60℃
 Max.ambient temperature: 50℃
 Cooling type: Air-cooling
 Refrigerant: R134A(06HTF~24HTF)、 R410A(38HTF~135HTF)
 R407C(180HTF~250HTF)
 PDP: 3~5℃



Technical Flow



Technical Specification of SHAD Refrigerated Air Dryer

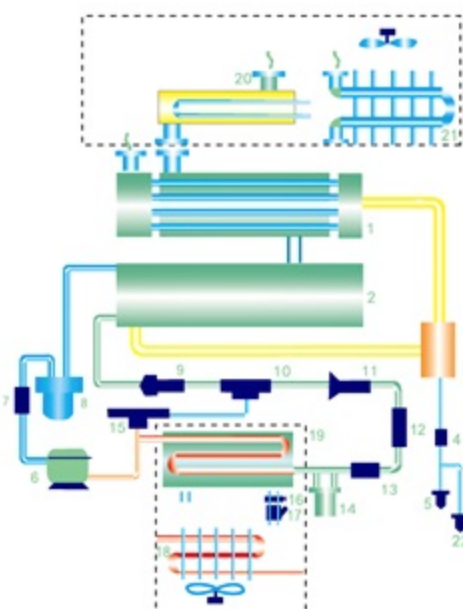
Model	Capacity	Nominal Power	Power Supply	Air Connections	Dimensions (mm)			Weight
	Nm ³ /min	HP	V/P/H		L	W	H	kg
SHAD-06HTF	0.6	1/4	220/1/50	1/2	500	300	525	27
SHAD-14HTF	1.4	1/3		1/2	500	300	525	31
SHAD-18HTF	1.8	1/3		3/4	520	440	780	52
SHAD-24HTF	2.4	1/2		3/4	520	440	780	54
SHAD-38HTF	3.8	1 1/4		1	680	490	830	72
SHAD-65HTF	6.5	1 1/2		1 1/2	680	490	830	84
SHAD-80HTF	8	1 1/2		1 1/2	680	490	830	89
SHAD-107HTF	10.7	3	380/3/50	1 1/2	950	580	900	130
SHAD-135HTF	13.5	3		1 1/2	950	580	900	142
SHAD-180HTF	18	3 1/2		2	1250	800	1050	160
SHAD-250HTF	25	4		2 1/2	1250	800	1050	200

SAD Series

Refrigerated Compressed Air Dryer

Technical Flow

1. Heat exchanger
2. Evaporator
3. Gas/liquid separator
4. Jam-prevent drain filter
5. Manual draining valve
6. Refrigerated compressor
7. Aspirating filter
8. Vaporization
9. Separator
10. Gas/liquid mixer
11. Thermal expansion valve
12. View monitor
13. Dry filter
14. Tank
15. Hot gas by-pass valve
16. Water adjustable valve
17. Water filter
18. Condenser(Air-cooling)
19. Condenser(Water-cooling)
20. Per-cooler(Water-cooling)
21. Per-cooler(Air-cooling)
22. Auto-drainer



Working Condition And Technical Data

Capacity: 1.2~400 m³/min
 Working pressure: ≤1.3Mpa (13bar)
 Max. inlet temperature: 80℃
 Max. ambient temperature: 40℃
 Min. ambient temperature: 5℃
 Cooling type: Air-cooling or Water-cooling
 Refrigerant: R134a or R407C
 PDP: 2~10℃

Technical Specification of SAD Air-cooling Refrigerated Dryer

Model	Capacity	Nominal Power	Power Supply	Air Connections	Dimensions(mm)			Weight
	Nm ³ /min	Kw	V/Ph/Hz		L	W	H	kg
SAD-1HTF	1.2	0.85	220/1/50	Rc1"	630	450	640	50
SAD-2HTF	2.4	1	220/1/50	Rc1"	700	450	830	80
SAD-3HTF	3.8	1.25	220/1/50	Rc1.5"	850	500	920	105
SAD-6HTF	6.5	1.5	220/1/50	Rc1.5"	880	550	1020	150
SAD-8HTF	8.5	1.8	220/1/50	Rc1.5"	880	550	1020	160
SAD-10HTF	10.7	2.5	380/3/50	Rc2"	1180	670	1080	240
SAD-13HTF	13.5	2.5	380/3/50	Rc2"	1180	670	1080	260
SAD-15HTF	18	3	380/3/50	DN65	1360	710	1220	310
SAD-20HTF	25	4	380/3/50	DN80	1360	710	1220	400
SAD-25HTF	28	4.5	380/3/50	DN80	1650	750	1290	450
SAD-30HTF	35	6.5	380/3/50	DN100	1670	750	1575	780
SAD-40HTF	45	8.8	380/3/50	DN100	2000	950	1740	820
SAD-50HTF	55	10.2	380/3/50	DN125	2350	1050	1910	900
SAD-60HTF	65	13	380/3/50	DN125	2550	1100	1940	1100

Technical Specification of SAD Water-cooling Refrigerated Dryer

Model	Capacity	Nominal Power	Power Supply	Air Connections	Dimensions(mm)			Weight
	Nm ³ /min	Kw	V/Ph/Hz		L	W	H	kg
SAD-10HTW	10.7	2.5	380/3/50	Rc2"	1180	670	1080	240
SAD-20HTW	25	4.0	380/3/50	DN80	1360	710	1220	400
SAD-30HTW	35	6.1	380/3/50	DN100	1670	750	1575	780
SAD-40HTW	45	8.0	380/3/50	DN100	1850	850	1630	980
SAD-50HTW	55	9.0	380/3/50	DN125	2100	920	1645	1150
SAD-60HTW	65	11.3	380/3/50	DN125	2280	1300	1880	1250
SAD-80HTW	85	16	380/3/50	DN150	2420	1340	1900	1600
SAD-100HTW	110	19	380/3/50	DN150	2750	1350	2004	2200

The introduction of Desiccant Air Dryer



- The control system uses single-chip microcomputer program for automatic control, performance stable and reliable (PLC control can optional);
- With the valve switch automatic display function, friendly interface, Simple operation, easy routine maintenance;
- Automatic alarm system, intake air temperature too high alarm, the intake pressure too low alarm, the heating temperature alarm (micro heat regeneration type);
- According to the actual load and temperature, adjustable gas consumption proportion, to save gas consumption;
- Can choose cycle switch time, meet the requirements of dew point of the products.



- Imported electromagnetic valve performance is reliable, modular design, and with motion indication, simple maintenance.
- Pneumatic dust filter, prevent dust from entering the pneumatic control components, lower valve failure rate.



- The new muffler sound-absorbing glass with high temperature ultra-fine cotton and combined with the imported special treatment silencer filter and other material, the regeneration noises $\leq 72\text{dB (A)}$.



- Compared with other electromagnetic control valve, pneumatic control valve's lifetime longer, to ensure long-term stable operation of the dryer.



- Stainless steel material diffuser, has stability, diffusion, filtering, and other functions of the airflow



- High quality adsorbent

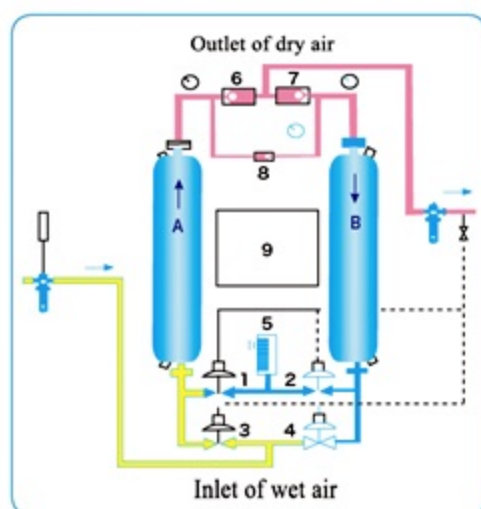


- Reliable performance no return valve



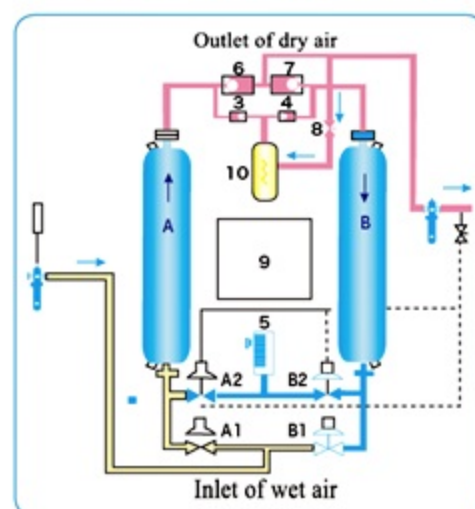
- Quality and efficient heater (use for heated purge desiccant air dryer)

Heatless desiccant dryer flowchart



- A, B, Absorb tower
1, 2, 3, 4, Switch valve
5, Silencer
6, 7, Check valve
8, Throttle
9, Program controller

Heated desiccant dryer flowchart



- A, B, Absorb tower
A1, A2, B1, B2, Switch valve
5, Silencer
3, 4, 6, 7, Check valve
8, Throttle
9, Program controller
10, Heating element

Heatless Purge

Desiccant Air Dryer

- Purge air: $\leq 12 \sim 15\%$
- Working pressure: $0.6 \sim 1.0\text{Mpa}$
- Inlet oil content: $\leq 0.01\text{ppm}$
- Pressure dew point: $-20^{\circ}\text{C} \sim -40^{\circ}\text{C}$
- Desiccant: Activated aluminum or Molecular sieze
- Working periods: $T = 4 \sim 20$ Minutes
- Inlet temperature: $0^{\circ}\text{C} \sim 45^{\circ}\text{C}$



Type	Items	Capacity (Nm ³ /min)	Air inlet/outlet pipe diameter	Dimensions(mm)			Weight(kg)
				L	W	H	
SAD-1WXF		1.2	ZG1	800	400	1376	120
SAD-2WXF		2.4	ZG1	800	400	1476	180
SAD-3WXF		3.8	ZG1.5	1000	450	1600	270
SAD-5WXF		5.5	ZG1.5	1000	450	1890	300
SAD-6WXF		6.5	ZG1.5	1200	500	1950	400
SAD-8WXF		8.5	ZG1.5	1400	600	2000	510
SAD-10WXF		10.7	ZG2	1400	600	2090	700
SAD-13WXF		13.5	ZG2	1400	600	2140	740
SAD-15WXF		18	DN65	1400	600	2200	780
SAD-20WXF		25	DN80	1670	650	2435	1180
SAD-30WXF		35	DN100	1670	650	2566	1760
SAD-40WXF		45	DN100	1750	750	2700	2200
SAD-50WXF		55	DN125	1800	750	2755	2600
SAD-60WXF		65	DN125	1900	700	3070	3100
SAD-80WXF		85	DN150	2620	1120	3070	4100
SAD-100WXF		110	DN150	3100	1650	3200	5200
SAD-160WXF		160	DN200	3240	1770	3190	6000

Externally Heated

Purge Desiccant Air Dryer

- Purge air: $\leq 4 \sim 6\%$
- Working pressure: $0.4 \sim 1.0\text{Mpa}$
- Inlet oil content: $\leq 0.01\text{ppm}$
- Pressure dew point: $-20^{\circ}\text{C} \sim -70^{\circ}\text{C}$
- Power: 380V 50HZ
- Desiccant: Activated aluminum or Molecular sieze
- Working periods): $T = 60 \sim 180$ Minutes
- Inlet temperature: $0^{\circ}\text{C} \sim 45^{\circ}\text{C}$



Type	Items	Capacity (Nm ³ /min)	Heater power (kw)	Air inlet/outlet pipe diameter	Dimensions(mm)			Weight(kg)
					L	W	H	
SAD-1MXF		1.2	1.5	ZG1	800	480	1420	145
SAD-2MXF		2.4	1.5	ZG1	800	480	1520	200
SAD-3MXF		3.8	1.5	ZG1.5	1000	525	1600	330
SAD-5MXF		5.5	1.5	ZG1.5	1000	525	1890	350
SAD-6MXF		6.5	3	ZG1.5	1200	550	1950	430
SAD-8MXF		8.5	3	ZG1.5	1400	600	2000	550
SAD-10MXF		10.7	4.5	ZG2	1400	600	2090	750
SAD-13MXF		13.5	4.5	ZG2	1400	600	2140	790
SAD-15MXF		18	4.5	DN65	1400	650	2200	830
SAD-20MXF		25	6	DN80	1670	725	2435	1250
SAD-30MXF		35	8	DN100	1670	725	2566	1480
SAD-40MXF		45	8	DN100	1750	775	2700	1740
SAD-50MXF		55	15	DN125	1800	775	2755	2260
SAD-60MXF		65	15	DN125	1900	800	3070	2600
SAD-80MXF		85	20	DN150	2620	1120	3073	3380
SAD-100MXF		110	30	DN150	3100	1650	3200	4390
SAD-160MXF		160	50	DN200	3240	1770	3190	5800

K Series

Compressed Air Filters

Features

1. Air filter with differential pressure indicator and sight glass.
2. Filter housing internal with anti-corrosion treatment.

Technical Data

Max. working temperature: $\leq 80^{\circ}\text{C}$

Service life of filter element: 6000 hour

Differential pressure: 0.007Mpa

Max. working pressure:

Model	Max. Working Pressure (Mpa)
001-013	1.3Mpa
015-025	1.3Mpa
030-200	1.0Mpa



Technical Specification of Air Filter

Model	Capacity (Nm ³ /min)	Air Connections	Dimensions (mm)			Weight (kg)
			L	W	H	
C、T、A、AA、H-001	1.2	ZG1	105	76	250	2
C、T、A、AA、H-002	2.4	ZG1	105	78	310	3
C、T、A、AA、H-003	3.8	ZG1.5	137	99	400	4
C、T、A、AA、H-006	6.5	ZG1.5	137	99	425	5
C、T、A、AA、H-008	8	ZG1.5	137	99	620	5
C、T、A、AA、H-010	10.7	ZG2	137	99	620	5
C、T、A、AA、H-010	10.7	DN50	310	133	860	25
C、T、A、AA、H-013	14	ZG2	135	108	750	10
C、T、A、AA、H-013	14	DN50	310	133	860	25
C、T、A、AA、H-015	18	ZG2.5	148	125	920	13
C、T、A、AA、H-015	18	DN65	310	133	860	25
C、T、A、AA、H-020	22	ZG2.5	148	125	920	14
C、T、A、AA、H-020	25	DN80	379	133	1040	44
C、T、A、AA、H-025	28	DN80	379	133	1140	52
C、T、A、AA、H-030	35	DN100	465	219	1060	65
C、T、A、AA、H-040	45	DN100	470	219	1060	68
C、T、A、AA、H-050	55	DN125	513	273	1215	96
C、T、A、AA、H-060	65	DN125	513	273	1215	96
C、T、A、AA、H-080	85	DN150	615	325	1395	140
C、T、A、AA、H-110	110	DN150	615	377	1300	145
C、T、A、AA、H-130	130	DN150	615	416	1395	210
C、T、A、AA、H-150	150	DN200	615	462	1470	220
C、T、A、AA、H-180	180	DN200	615	462	1470	235
C、T、A、AA、H-200	200	DN200	615	516	1504	240



Atmospheric Dew-Water Content Relation Table

Dew Point (°C)	Water (g/m³)	Dew Point (°C)	Water (g/m³)	Dew Point (°C)	Water (g/m³)	Dew Point (°C)	Water (g/m³)	Dew Point (°C)	Water (g/m³)
33	35.7	14	12.07	-5	3.407	-24	0.7678	-43	0.1298
32	33.8	13	11.35	-6	3.169	-25	0.7074	-44	0.1172
31	32.1	12	10.66	-7	2.946	-26	0.6463	-45	0.1055
30	30.3	11	10.01	-8	2.737	-27	0.5922	-46	0.09501
29	28.8	10	9.309	-9	2.541	-28	0.5422	-47	0.08544
28	27.2	9	8.819	-10	2.358	-29	0.496	-48	0.07675
27	25.8	8	8.27	-11	2.186	-30	0.4534	-49	0.06886
26	25.4	7	7.75	-12	2.206	-31	0.4141	-50	0.06171
25	23.1	6	7.26	-13	1.876	-32	0.3779	-51.1	0.054
24	21.8	5	6.797	-14	1.736	-33	0.3445	-53.9	0.04
23	20.6	4	6.36	-15	1.605	-34	0.3138	-56.7	0.029
22	19.4	3	5.947	-16	1.483	-35	0.2856	-59.4	0.021
21	18.3	2	5.559	-17	1.369	-36	0.2597	-62.2	0.014
20	17.3	1	5.192	-18	1.261	-37	0.2359	-65	0.011
19	16.3	0	4.847	-19	1.165	-38	0.2141	-67.8	0.008
18	15.4	-1	4.523	-20	1.074	-39	0.194	-70.6	0.005
17	14.5	-2	4.217	-21	0.9884	-40	0.1757	-73.3	0.003
16	13.6	-3	3.93	-22	0.9093	-41	0.159		
15	12.8	-4	3.66	-23	0.8359	-42	0.1438		



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