



科林爱尔
AIR DRYER



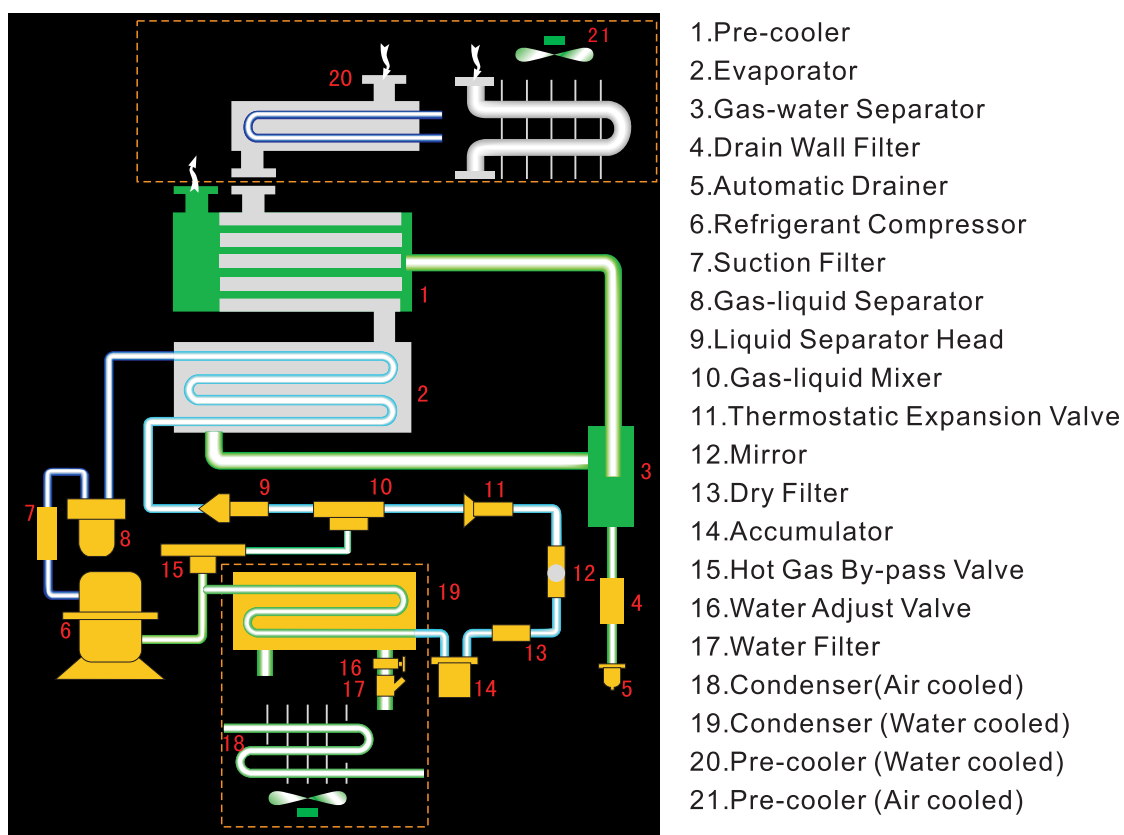
COMPRESSED REFRIGERATED DRYER





Our factory

Working principle diagram



Based on the principle of refrigerated air dryer, KL series refrigerated air dryers cool the compressed air to a certain dew point by the cooling device and separates out the water. It separates the gas and liquid, then make the water out through the automatic water drain valve to ensure the dew point of the compressed air.

Introduction

Plate heat exchanger is a new type of high efficiency heat exchanger that has a corrugated shape by a series of metal piece, it will make heat exchange by through the plate. Compared with the conventional shell and tube type heat exchanger, the heat transfer coefficient is much higher under the same rate of the flow resistance and pump power consumption under the same rate.



Technical Upgrade

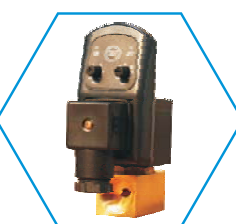
- ★ Ambient temperature : $\leq 40^{\circ}\text{C}$
- ★ Max. Pressure: 1.6 Mpa
- ★ Inlet temperature: $\leq 55^{\circ}\text{C}$ or $\leq 80^{\circ}\text{C}$
- ★ Dew point : $2-5^{\circ}\text{C}$
- ★ Refrigerant: R407c, R134a
- ★ Air loss: $< 0.02\text{Mpa}$

Attention

The installation site No-dust, No-oil. Site formation, 80cm far away from wall. According to the design of non-standard customized products.



Refrigerant
R134a,R407c



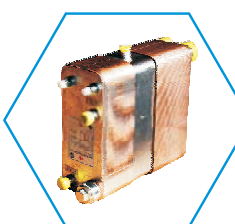
Electronic drain



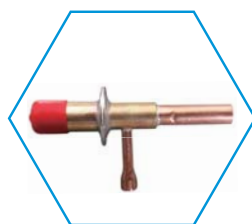
Refrigeration
compressor



Pressure
controller



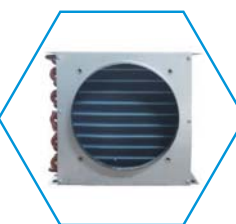
Triad plate heat
exchanger



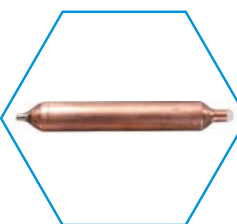
Hot gas bypass valve



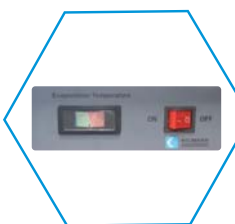
Pre cooler



Efficient finned
tube condenser



Dry filter



Button

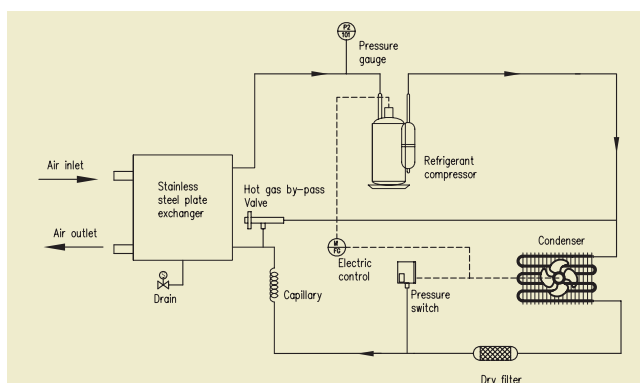
BD –Series Air Dryer Standard Specifications

Parameter Model		Capacity		Working pressure	Power	Air Connect	Power	Dimensions	Net weight
B D L		M³	cfm		Kw	Inch	V/Hz	L*W*H/mm	KG
	5F	0.7	25	Working pressure 2-16bar Inlet temperature ≤55°C	0.45	G1/2	220V/50Hz	450*250*580	30
	10F	1.6	56		0.47	G1		450*250*580	40
	20F	2.6	92		0.85	G1		550*300*775	45
	30F	3.8	134		1.04	G1		550*300*775	55
	50F	6.0	212		1.65	G1		820*360*825	70
	60F	7.0	247		1.65	G1-1/2		820*360*825	75
	75F	8.5	300		1.80	G1-1/2		880*360*825	80
	100F	11.5	406		2.05	G2		1050*480*1200	95

B D H		M³	Cfm		Kw	Inch	V/Hz	L*W*H/mm	KG
	5F	0.7	25	Working pressure 2-16bar Inlet temperature ≤80°C	0.47	G1/2	220V/50Hz	650*300*775	35
	10F	1.6	56		0.53	G1		650*300*775	45
	20F	2.6	92		0.95	G1		700*360*900	50
	30F	3.8	134		1.16	G1		700*360*900	65
	50F	6.0	212		1.65	G1		820*360*825	80
	60F	7.0	247		1.65	G1-1/2		820*360*825	85
	75F	8.5	300		1.80	G1-1/2		880*360*825	90
	100F	11.5	406		2.30	G2		1050*480*1150	110

Technical Upgrade

- 1 Compact structure, small size, good heat exchange effect, saving internal space less pressure loss, reduce pump.
- 2 Power, improve the utilization rate of small volume and easy installation Modular combination to improve the production.
- 3 Efficiency of energy saving and environmental protection energy saving 20%
- 4 Air quality is high, the Aluminum Alloy accessories do not rust, gas is not contaminated.



KD Series Small Refrigerated Dryer (0.7-13.5)m³/min

Introduction

KDL Inlet temperature <45°C

KDH Inlet temperature <80°C

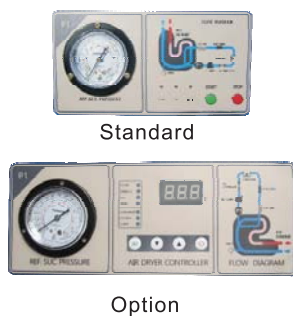


Components

● Plate heat exchanger



● Control panel



● Drain



B Alarm B

● Power

● Working

● Fan

● Drain

● Over current

● Over heat

● Alarm

● Dew point indicator

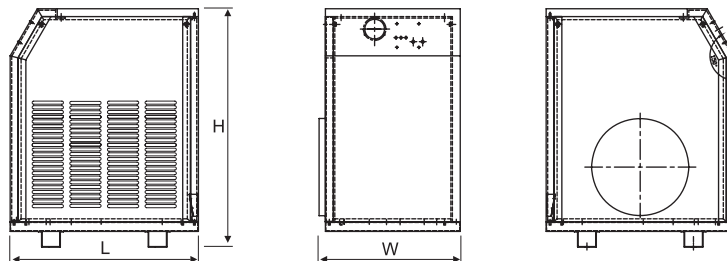
Working conditions

● Maximum inlet temperature	45°C / 80°C
● Maximum ambient temperature	40°C
● Maximum working pressure	16bar
● Dew point	2-10°C
● Refrigerant	R22
● Voltages	220V/1PH/50HZR

Option

- R134a refrigerant
- Special voltages
- NPT connection

KDL Series (Maximum inlet temperature 45°C)

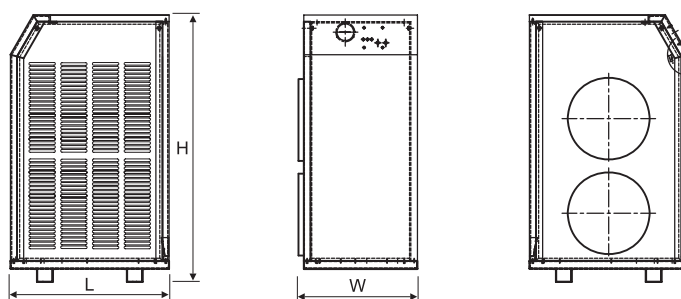


Specification Table

Model	Flow capacity			Power Con.kw	Conn.BSP	Dimensions (mm)			Weight (kg)
	m ³ /min	m ³ /h	CFM			L	W	H	
KDL-5F	0.7	42	25	0.45	1/2"	500	415	640	30
KDL-10F	1.6	96	56	0.47	1"	500	415	680	45
KDL-20F	2.6	156	92	0.85	1"	630	450	790	50
KDL-30F	3.8	228	134	1.04	1"	630	450	790	55
KDL-50F	6.0	360	212	1.65	1 1/2"	770	530	890	70
KDL-60F	7.0	420	247	1.65	1 1/2"	820	530	890	80
KDL-75F	8.5	510	300	1.67	1 1/2"	870	580	890	90
KDL-100F	11.5	690	406	2.05	2"	900	580	870	120
KDL-120F	13.5	810	476	2.30	2"	950	730	1130	140

Water cooled for option

KDH Series (Maximum inlet temperature 80°C)



Specification Table

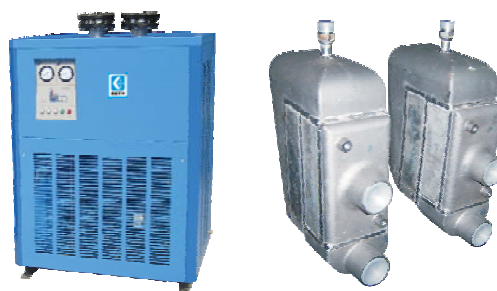
Model	Flow capacity			Power Con.kw	Conn.BSP	Dimensions (mm)			Weight (kg)
	m ³ /min	m ³ /h	CFM			L	W	H	
KDH-5F	0.7	42	25	0.47	1/2"	500	415	830	35
KDH-10F	1.6	96	56	0.53	1"	500	415	880	50
KDH-20F	2.6	156	92	0.95	1"	630	450	1010	55
KDH-30F	3.8	228	134	1.16	1"	630	450	1010	60
KDH-50F	6.0	360	212	1.65	1 1/2"	770	530	1070	70
KDH-60F	7.0	420	247	1.65	1 1/2"	820	530	1070	85
KDH-75F	8.5	510	300	1.80	1 1/2"	870	580	1180	110
KDH-100F	11.5	690	406	2.30	2"	1180	580	1110	150
KDH-120F	13.5	810	476	2.52	2"	1250	730	1230	190

Water cooled for option

KD Series Middle Refrigerated Air Dryer (17-110m³/min)

Introduction

KDL series are energy saving and environment friendly type refrigerated air dryer. It adapts American API plate heat exchanger, mixed the pre-cooled regenerator, evaporator, gas-water separator into one. It improves 20% heat exchange efficient compared to other exchanger, then to reach 2-10°C dew point with less consumption.



KDL Air cooled

(Maximum inlet temperature 45°C)

Specification Table

Model	Flow capacity m ³ /min	Power	Connection	Dimensions (mm)			Weight (kg)	Compressor power
				L	W	H		
KDL-150F	17	3.37	DN65	950	835	1240	175	3.1
KDL-200F	23	4	DN65	950	835	1240	210	3.6
KDL-250F	27	5	DN80	1180	885	1440	300	4.5
KDL-300F	34	6.0	DN80	1180	885	1440	380	5.4
KDL-400F	45	8	DN100	1200	985	1520	480	7.4
KDL-500F	55	8.8	DN100	1300	1035	1580	600	8.0
KDL-600F	65	10.5	DN125	1400	1135	1590	680	9.4
KDL-800F	87	11.6	DN150	1900	1250	1730	780	11.0
KDL-1000F	110	17	DN150	2100	1400	1850	980	15.0

KDH Air cooled

(Maximum inlet temperature 80°C)

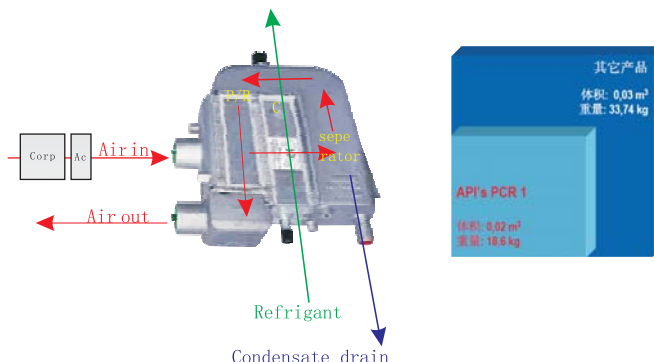
Specification Table

Model	Flow capacity m ³ /min	Power	Connection	Dimensions (mm)			Weight (kg)	Compressor power
				L	W	H		
KDH-150F	17	3.65	DN65	1350	830	1300	210	3.1
KDH-200F	23	4.4	DN65	1350	830	1300	260	3.6
KDH-250F	27	5.5	DN80	1600	980	1480	320	4.5
KDH-300F	34	6.45	DN80	1750	980	1480	460	5.4
KDH-400F	45	9.0	DN100	1750	1030	1530	550	7.4
KDH-500F	55	10.2	DN100	2250	1080	1530	640	8.0
KDH-600F	65	11.5	DN125	2250	1080	1530	760	9.4
KDH-800F	87	14.3	DN150	2540	2150	2600	870	11.0
KDH-1000F	110	19.2	DN150	2540	2150	2600	1200	15.0

Water Cooled Plate Heat Exchanger Refrigerated Air Dryer

Introduction

Plate heat exchanger is a new type of high-efficiency heat exchanger which is assembled layer upon layer by a series of corrugated sheet metal. Thin rectangular channels are formed in between the sheets, heat is exchanged through sheet. Compared to the traditional shell-tube heat exchanger, it's heat transfer coefficient is more higher under the same flow resistance and pumping power consumption. Currently, world-famous brands of dryers all adopt plate heat exchanger instead of shell tube type.



Features

- Compact structure, adopted API plate heat exchanger
- Low pressure drop <0.02Mpa
- Easy to installation
- Energy saving, saves 20% of energy compared to traditional shell tube type
- Quality Aluminum fitting, adopted aluminum fitting, no rust, no air pollution

Specification

- KDL inlet temperature ≤ 45°C
- KDH inlet temperature ≤ 80°C
- Ambient temperature ≤ 40°C
- Dew point 2°C ~ 10°C
- Refrigerant: R22
- Site: No dust, no oil. 80cm far away from the wall.

KDH Water cooled

KDH-Specification	150W	200W	250W	300W	400W	500W	600W	800W	1000W
Flow capacitym³/min	17	23	27	34	45	55	65	87	110
Working pressure	0.2-1.0MPa								
Voltage	3 φ 50Hz / 380V								
Pre-cooling water connection	ZG1 1/2"	ZG1 1/2"	ZG1 1/2"	ZG1 1/2"	ZG2"	ZG2"	ZG2"	ZG2"	ZG2 1/2"
Pre-cooling waterT/H	3	3.6	4	5.0	6.5	8.2	9.9	11.5	13
Compressor power(KW)	3.1	3.6	4.5	5.4	7.4	8.0	9.4	11.0	15.0
Cooling water inlet/outlet connection	RC1"	RC1"	RC1"	RC1 1/2"	RC1 1/2"	RC1 1/2"	RC1 1/2"	RC1 1/2"	RC2"
Cooling waterT/H	1.8	2.4	3	3.7	5.5	6	7	9	12
Air inlet/outlet connection	DN65	DN65	DN80	DN80	DN100	DN100	DN125	DN150	DN150
Length (mm)	700	750	750	850	850	1000	1400	1700	2100
Width (mm)	800	800	800	900	950	1100	900	1000	1800
Height (mm)	1240	1240	1240	1340	1490	1560	1640	1740	1850
Net Weight (kg)	210	260	320	460	550	640	760	870	1160

KDL Water cooled

KDL-Specification	150W	200W	250W	300W	400W	500W	600W	800W	1000W
Flow capacitym³/min	17	23	27	34	45	55	65	87	110
Working pressure	0.2-1.0MPa								
Voltage	3 φ 50Hz / 380V								
Compressor power(KW)	3.1	3.6	4.5	5.4	7.4	8.0	9.4	11.0	15.0
Cooling water inlet/outlet connection	RC1"	RC1"	RC1"	RC1 1/2"	RC1 1/2"	RC1 1/2"	RC1 1/2"	RC1 1/2"	RC2"
Cooling waterT/H	1.8	2.4	3	3.7	5.5	6	7	9	12
Air inlet/outlet connection	DN65	DN65	DN80	DN80	DN100	DN100	DN125	DN150	DN150
Length (mm)	1300	1300	1550	1550	1700	2100	2120	2120	2100
Width (mm)	750	750	900	900	900	950	950	1600	1800
Height (mm)	1290	1290	1430	1430	1530	1640	1900	1670	18500
Net Weight (kg)	165	195	280	360	450	580	650	750	960

AD Series Large Refrigerated Air Dryer (110-510m³/min)

Introduction

ADL Inlet temperature <45 °C

ADH Inlet temperature <80 °C



Features

- Flow adjustment
- Electrical protection
- High low pressure protection
- Drain leak protection
- Phase protection
- Dew point display

ADL Series (Maximum inlet temperature 45 °C)

Model	Flow capacity m ³ /min	Power (kw)	Air connection	Water connection	Dimensions (mm)
ADL-1200W	130	24	DN150	2 1/2"	2750×1400×2180
ADL-1500W	160	31	DN200	DN65	2750×1500×2324
ADL-2000W	210	38	DN200	DN80	3000×1600×2347
ADL-2500W	260	42	DN250	DN80	3340×1580×2332
ADL-3000W	310	55	DN250	DN80	3650×1700×2713
ADL-3500W	360	62	DN300	DN80	3800×1850×2596
ADL-4000W	410	72	DN300	DN100	4300×1800×2646
ADL-5000W	510	87	DN350	DN100	4200×2000×2940

ADH Series (Maximum inlet temperature 80 °C)

Model	Flow capacity m ³ /min	Power (kw)	Air connection	Water connection	Dimensions (mm)
ADH-1200W	130	24	DN150	2 1/2"	2650×1500×2028
ADH-1500W	160	31	DN200	DN65	2750×1650×2187
ADH-2000W	210	38	DN200	DN80	3300×1650×2192
ADH-2500W	260	42	DN250	DN80	3500×2100×2602
ADH-3000W	310	55	DN250	DN80	4060×1850×2499
ADH-3500W	360	62	DN300	DN80	4200×2300×2680
ADH-4000W	410	72	DN300	DN100	4500×2320×2850
ADH-5000W	510	87	DN350	DN100	4650×2350×3000

Air pre-cooling machine



Introduction

Air pre-cooling machine provides the low temperature dry air by cooling compressed air and remove the water of it. Mainly used in air separation industry. KL air pre-cooling machine adopted all the main components by importing from the famous brand. It is compact structure, automatic, stable and easy operating.

Features

- The main components import from famous compressor, like Germany Bitzer, Taiwan Hanbell.
- They have long working lifetime, high efficient, stable running, small noise.
- The hot expansion valve, bypass valve, high-low pressure controller are all adopted Danfoss, American Sporlan.
- Imported automatic drainer.

Working Conditions

- Working pressure: 1.0MPa
- Cooling water inlet pressure: 0.2-0.4MPa
- Air inlet temperature: $\leq 45^{\circ}\text{C}$
- Cooling water outlet pressure: $\leq 32^{\circ}\text{C}$
- Air outlet temperature: $5-8^{\circ}\text{C}$
- Power supply: 380V/3V/50HZ(220V/1/50HZ)

Specification table

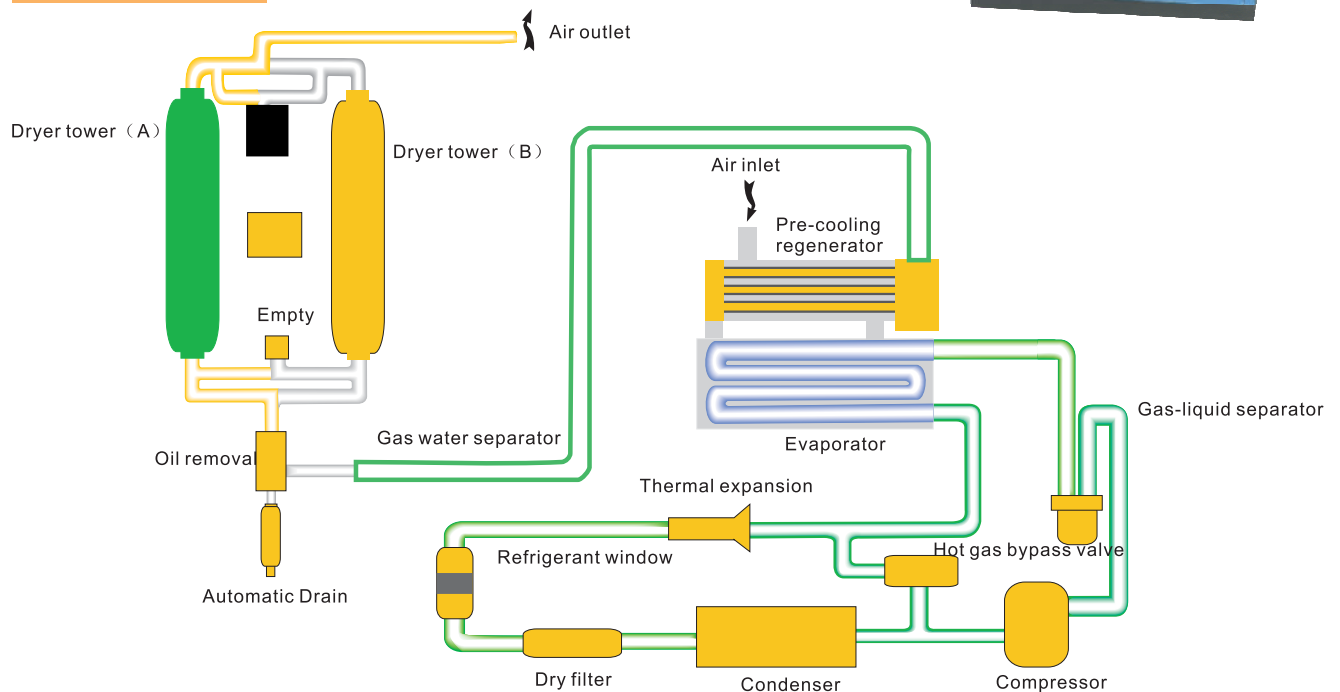
Model YADL-	60	180	360	600	900	1200	1500	1800	2400	3600	4800	6000	7500	9000	12000	18000
Flow capacity Nm ³ /h	60	180	360	600	900	1200	1500	1800	2400	3600	4800	6000	7500	9000	12000	18000
Heat load KW	1.21	4.25	7.5	11.8	19.2	24.5	29.9	40.5	55.4	70	82	111.8	160	194.7	252	347
Compressor power KW	0.42	1.4	2.6	3.6	6	7.4	9.4	10.1	14	17.5	24	30.2	42	51	62	87
Air inlet/outlet connection	ZG1"	ZG1"	ZG1 1/2"	ZG2"	DN65	DN65	DN80	DN80	DN100	DN125	DN150	DN150	DN150	DN200	DN200	DN250
Cooling water m ³ /h	Air cooled	Air cooled	Air cooled	3	4.8	6	7.5	9.6	13	16.5	20	27	38	47	60	82
Cooling water inlet /outlet connection	-	-	-	1"	1 1/2"	1 1/2"	1 1/2"	1 1/2"	2"	2"	2 1/2"	DN65	DN80	DN80	DN100	DN100

Combination Air Dryer

Introduction

Combination air dryer is a new kind of compressed air treatment product which consists of refrigeration and adsorption unit. The refrigeration unit can remove about 85% of moist air while the adsorption unit removes the other portion of moist water, the final dew point can reach to -70°C .

System flow chart



Main Technical Data

● Working pressure	6-10bar	● Switch time	15min
● Inlet temperature	$\leq 45^{\circ}\text{C}$	● Pressure drop	$\leq 0.5\text{bar}$
● Ambient temperature	$\leq 45^{\circ}\text{C}$	● Desiccant	Activated alumina
● Pressure dew point	$\leq 40^{\circ}\text{C}$	● Control method	PLC controller
● Purge loss	3%		

Options

- Special voltages
- Molecular sieve desiccant
- Mounted air filters
- Dew point as low as -70°C
- Higher inlet temperature up to 80°C
- Dew point display
- Higher protection grade up to IP65
- Remote control
- ASME certificated pressure vessel
- Stainless steel pipes lines and fittings
- Stainless steel pressure vessel
- Different inlet/outlet connection

Specification Table

Air cooled

Model	Flow capacity		Voltage	Compressor power (kw)	Conn.BSP	Dimensions (mm)		H	Weight (kg)
	m ³ /min	CFM				L	W		
KLCF-5	0.7	25	220/1/50	0.42	1/2"	820	550	1046	180
KLCF-10	1.6	56	220/1/50	0.42	1"	920	550	1356	250
KLCF-20	2.6	92	220/1/50	0.75	1"	1020	600	1326	350
KLCF-30	3.8	134	220/1/50	0.92	1"	1100	600	1326	380
KLCF-60	7.0	247	220/1/50	1.5	1 1/2"	1300	800	1636	680
KLCF-75	8.5	300	220/1/50	1.5	1 1/2"	1400	900	1776	760
KLCF-100	11.5	406	220/1/50	1.85	2"	1350	1000	2030	1100
KLCF-120	13.5	476	220/1/50	2.04	2"	1600	1140	2275	1200
KLCF-150	17	600	380/3/50	3.6	DN65	1500	1510	2260	1300
KLCF-200	23	812	380/3/50	4.5	DN65	1550	1300	2413	1520
KLCF-250	27	953	380/3/50	5.4	DN80	1850	1830	2410	1750
KLCF-300	34	1200	380/3/50	6.0	DN80	1850	1820	2451	1850
KLCF-400	45	1588	380/3/50	8.0	DN100	2000	1940	2486	2500
KLCF-500	55	1941	380/3/50	11.0	DN100	2300	2240	2588	2690
KLCF-600	65	2294	380/3/50	13.0	DN125	2380	2340	2725	3530
KLCF-800	87	3071	380/3/50	15.0	DN150	2500	3000	2708	4310
KLCF-1000	110	3883	380/3/50	17.5	DN150	3100	3150	2960	6100

Water cooled

Model	Flow capacity		Voltage	Compressor power (kw)	Conn.BSP	Dimensions (mm)		H	Weight (kg)
	m ³ /min	CFM				L	W		
KLCW-150	17	600	380/3/50	3.6	DN65	1500	1510	2260	1300
KLCW-200	23	812	380/3/50	4.5	DN65	1550	1100	2415	1600
KLCW-250	27	953	380/3/50	5.4	DN80	1850	1730	2410	1850
KLCW-300	34	1200	380/3/50	6.0	DN80	1850	1770	2451	2100
KLCW-400	45	1588	380/3/50	8.0	DN100	2000	1550	2510	2750
KLCW-500	55	1941	380/3/50	11.0	DN100	2300	2240	2588	3500
KLCW-600	65	2294	380/3/50	11.0	DN125	2220	2340	2588	4000
KLCW-800	87	3071	380/3/50	15.0	DN150	2500	2540	2714	5200
KLCW-1000	110	3883	380/3/50	17.5	DN150	2650	2900	2968	7000
KLCW-1200	130	4589	380/3/50	24.0	DN150	2800	2860	2900	8500
KLCW-1500	160	5648	380/3/50	30.0	DN200	3230	3300	3165	9800
KLCW-2000	210	7413	380/3/50	37.0	DN200	3300	3480	3246	12000
KLCW-2500	260	9178	380/3/50	45.0	DN250	3990	3650	3350	13500
KLCW-3000	320	10943	380/3/50	60.0	DN250	4270	3800	3350	14800
KLCW-3500	360	12708	380/3/50	62.0	DN300	4350	4160	3300	16600
KLCW-4000	410	14473	380/3/50	70.0	DN300	4850	5300	3350	18600
KLCW-5000	510	18003	380/3/50	87.0	DN350	5100	5600	3550	20300

Each user can choose the compressed air system according to your different requirements about dew point, oil content, dust etc.

GB/T13277-1991 General use gas quality grade

Application	Air stirring	Shoe machine	Glass making machine	Parts cleaning	Particulate product transport	Powder product transport	Foundry machinery	Food and drink processing	Power tools	Mining	Packaging and textile machinery	Photographic film processing	Public civil construction	Rock drill	Sand blasting	Painting	Welder
Typical quality grade	Fixed particles	3	4	4	4	2	2	4	2	4	4	4	1	4	4	3	4
	Water	5	6	6	6	6	3	6	6	3	5	3	1	5	5-2	3	6
	Oil	3	5	5	4	3	2	5	1	5	5	3-2	1	5	5	3	5

一、Atmospheric dew point-----Water content

Dew point℃	90	85	80	75	70	65	60	55	50	45	40	35	30	25	20	15	10
Water content (g/m ³)	420.1	349.9	290.8	240.2	197.0	160.5	130.3	104.4	83.06	65.50	51.19	39.63	30.38	23.05	17.30	12.83	9.319
Dew point℃	5	0	-5	-10	-15	-20	-25	-30	-35	-40	-45	-50	-55	-60	-65	-70	-75
Water content (g/m ³)	6.797	4.847	3.407	2.358	1.605	1.074	0.7047	0.4534	0.2856	0.1757	0.1055	0.0617	0.0343	0.0192	0.0099	0.0051	0.0009

二、How to choose refrigerated air dryer

To choose a correct refrigerated air dryer should consider about the flow capacity, pressure, temperature, ambient temperature and required dew point. Handling capacity $Q_s = Q_a \times C_1 \times C_2$, Q_a is the actual compressed air flow capacity, C_1 and C_2 is correction factors.

For example

The inlet pressure of compressed air is 0.7Mpa, inlet temperature is 40°C, ambient temperature is 45°C, the actual compressed air flow rate Q_a is 10Nm³/min, ask the dew point (P.D.P) for +2°C.

So the refrigerated handling capacity $Q_s = Q_a \times C_1 \times C_2$, check sheet 1 and 2, $C_1=0.80, C_2=1.22$,

$Q_s=9.76$. ADL-100F is the best choose.

ISO 8573-1 Air quality grade

Grade	Fixed particles	Water	Oil
	μm	g/m ³	mg/m ³ ppm
1	0.1	-70	0.0003 0.01 0.008
2	1	-40	0.0116 0.1 0.08
3	5	-20	0.096 1 0.8
4	15	+3	0.709 5 4
5	40	+7	0.937 >5 >4
6	-	+10	1.15 - -

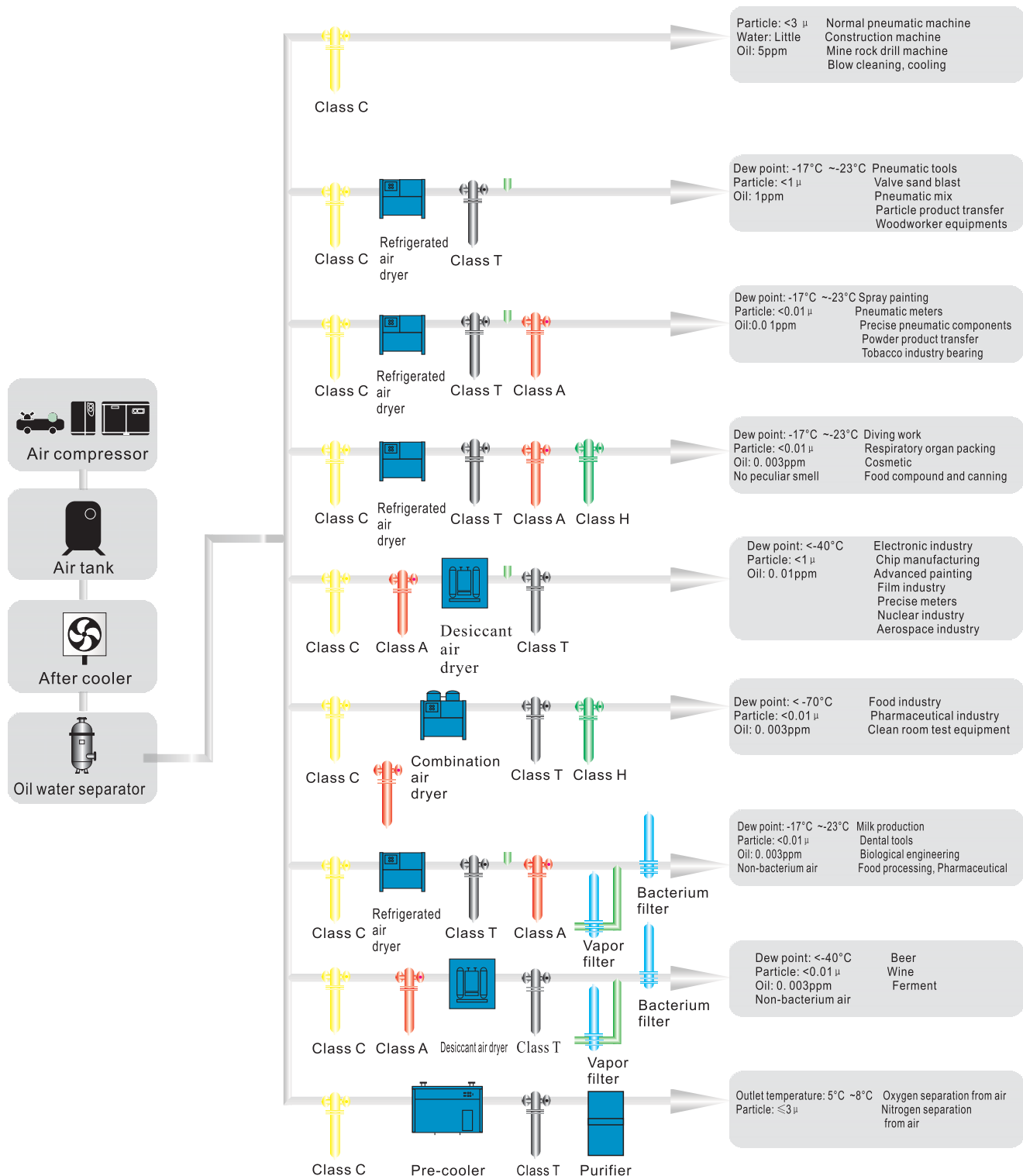
Sheet 1 Compressed air pressure and temperature correction factor(C_1)

Inlet temperature ℃	Inlet pressure(MPa)						
	0.4	0.5	0.6	0.7	0.8	0.9	1.0
25	0.49	0.43	0.40	0.37	0.35	0.33	0.32
30	0.57	0.50	0.46	0.42	0.40	0.37	0.36
35	0.84	0.77	0.71	0.65	0.62	0.59	0.57
40	0.99	0.91	0.85	0.80	0.77	0.74	0.72
45	1.20	1.11	1.05	1	0.97	0.94	0.92
50	1.37	1.30	1.24	1.18	1.14	1.10	1.07

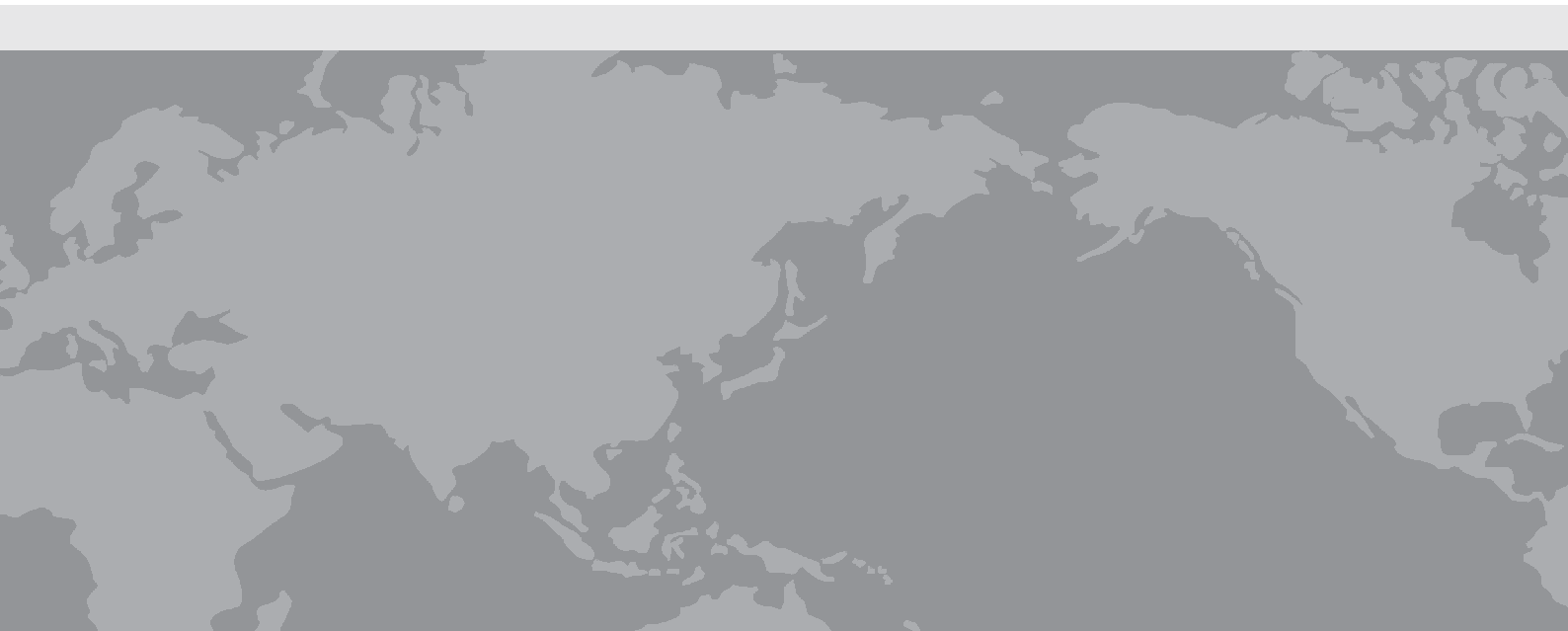
Sheet 2 Ambient temperature and pressure dew point correction factor(C_2)

Ambient temperature ℃	pressure dew point	
	2℃	10℃
30	0.65	0.34
35	0.78	0.46
40	1	0.66
45	1.22	0.86

System recommended configuration



Note: Above configurations are only for reference. Customization may be needed according to the actual situation. We are sorry for late information if any further parameter changes take into effect.



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