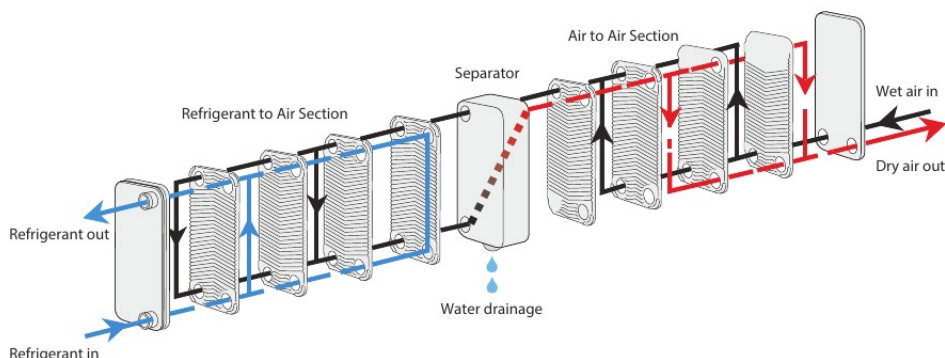


Air Dryer

How it works

Refrigerated air dryers separate humidity from compressed air by cooling the air in an evaporator. This cooling effect comes from the evaporation of the refrigerant. As the air cools, it loses its ability to hold moisture. The condensate is then collected and removed in a separator. A heat recovery air to air heat exchanger that reheats the air to ambient temperature is in the Airdryer for optimal efficiency. This humid air then moves into a separator and then dry air is preheated in the heat recovery side. The total air side pressure drop is typically 20-30 kPa (3-4 psi)



Introduction

AL series Air dryer are brazed plate heat exchangers designed for separation of humidity in compressed air.

Applications

Compressed air drying

Benefits

- Compact
- Easy to install
- Self-cleaning
- Low level of service & maintenance is required
- All units are pressure and leak tested
- Gasket free

Design specification

Airside: $P = 7 \text{ bar(g)}$, $T_{\text{dew}} = 3^\circ\text{C}$, $\Delta P = 20 \text{ kPa}$,
 $T_{\text{in}} = 35^\circ\text{C}$, $T_{\text{out}} = 27^\circ\text{C}$
 Refrigerant R134a, $T_{\text{evap}} = 0^\circ\text{C}$, $\text{SH} = 5\text{K}$

Maxworking Pressure

Air side: 16 bar(g) @ 20°C
 Refrigerant side: 35 bar(g) @ 20°C
 According to PED

Material Specification

Mainparts: Stainless steel
 Brazing material: Copper

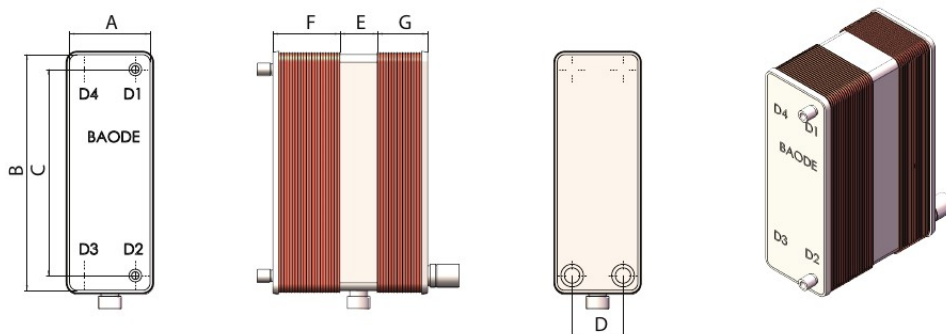
Separator Efficiency rate

Droplets size: 95%

Mounting

Stud-bolts available

"Dew point" is the temperature at which the water vapor in the air starts to condense in the water separator. This is normally maintained slightly above the freezing point of water, $2-5^\circ\text{C}$ ($35-40^\circ\text{F}$).



Model	A	B	C	D	E
AL14	76	206	42	172	44
AL26	111	310	50	250	50-100
AL95	191	616	92	519	85-276

AirDryer Selection

Air in 35°C							
Air in 55°C, pressure 7 barg, dew point=3°C							
Compressor Power HP	Air Flow Rate		Model	B	A	E	Air Connection
	Nm³/min	Nm³/Hr					
5	0.58	35	AL14-(14+8)	206	76	44	3/4"
8	0.83	50	AL14-(20+10)	206	76	44	3/4"
10	1.00	60	AL14-(22+12)	206	76	44	3/4"
12	1.33	80	AL14-(24+16)	206	76	44	3/4"
15	1.67	100	AL14-(40+24)	206	76	44	3/4"
20	2.4	144	AL26-(24+30)	310	111	50	1"
30	4.20	252	AL26-(38+46)	310	111	75	1"
50	7	420	AL26-(54+76)	310	111	100	1"
75	11.00	660	AL95-(24+30)	616	191	85	2"
100	14	840	AL95-(30+38)	616	191	106	2"
150	22.00	1320	AL95-(46+58)	616	191	212	2"
200	28	1680	AL95-(58+74)	616	191	276	2"

Air in 35°C							
Air in 55°C, pressure 7 barg, dew point=7°C							
Compressor Power HP	Air Flow Rate		Model	B	A	E	Air Connection
	Nm³/min	Nm³/Hr					
5	0.58	35	AL14-(12+6)	206	76	44	3/4"
8	0.83	50	AL14-(18+8)	206	76	44	3/4"
10	1.00	60	AL14-(18+10)	206	76	44	3/4"
12	1.33	80	AL14-(22+12)	206	76	44	3/4"
15	1.67	100	AL14-(24+16)	206	76	44	3/4"
20	2.4	144	AL14-(42+28)	206	76	50	1"
30	4.20	252	AL26-(30+38)	310	111	75	1"
50	7	420	AL26-(46+60)	310	111	100	1"
75	11.00	660	AL95-(18+22)	616	191	85	2"
100	14	840	AL95-(22+28)	616	191	106	2"
150	22.00	1320	AL95-(36+44)	616	191	212	2"
200	28	1680	AL95-(44+56)	616	191	276	2"

Air in 35°C							
Air in 55°C, pressure 7 barg, dew point=10°C							
Compressor Power HP	Air Flow Rate		Model	B	A	E	Air Connection
	Nm³/min	Nm³/Hr					
5	0.58	35	AL14-(10+6)	206	76	44	3/4"
8	0.83	50	AL14-(14+8)	206	76	44	3/4"
10	1.00	60	AL14-(18+8)	206	76	44	3/4"
12	1.33	80	AL14-(22+10)	206	76	44	3/4"
15	1.67	100	AL14-(24+14)	206	76	44	3/4"
20	2.4	144	AL14-(40+24)	206	76	50	1"
30	4.20	252	AL26-(26+32)	310	111	75	1"
50	7	420	AL26-(42+54)	310	111	100	1"
75	11.00	660	AL95-(18+22)	616	191	85	2"
100	14	840	AL95-(20+26)	616	191	106	2"
150	22.00	1320	AL95-(34+42)	616	191	212	2"
200	28	1680	AL95C-(40+52)	616	191	276	3"

"Dew point" is the temperature at which the water vapor in the air starts to condense in the water separator. This is normally maintained slightly above the freezing point of water, 2-5 °C (35-40 °F).

AirDryer Selection

Air in 40°C							
Air in 55°C, pressure 7 barg, dew point=3°C							
Air compressor Power HP	Air Flow Rate		Model	B	A	E	Air Connection size inch
	Nm³/min	Nm³/Hr					
5	0.58	35	AL14-(18+8)	206	76	44	3/4"
8	0.83	50	AL14-(22+12)	206	76	44	3/4"
10	1.00	60	AL14-(24+14)	206	76	44	3/4"
12	1.33	80	AL14-(38+22)	206	76	44	3/4"
15	1.67	100	AL26-(22+28)	310	111	50	3/4"
20	2.4	144	AL26-(26+32)	310	111	50	1"
30	4.20	252	AL26-(44+56)	310	111	75	2"
50	7	420	AL95-(20+24)	616	191	85	2"
75	11.00	660	AL95-(28+34)	616	191	85	2"
100	14	840	AL95-(36+44)	616	191	106	2"
150	22.00	1320	AL95-(56+70)	616	191	212	2"

Air in 40°C							
Air in 55°C, pressure 7 barg, dew point=7°C							
Air compressor Power HP	Air Flow Rate		Model	B	A	E	Air Connection size inch
	Nm³/min	Nm³/Hr					
8	0.83	50	AL14-(18+10)	206	76	44	3/4"
10	1	60	AL14-(22+10)	206	76	44	3/4"
12	1.33	80	AL14-(24+14)	206	76	44	3/4"
15	1.67	100	AL14-(36+22)	206	76	44	3/4"
20	2.4	144	AL26-(22+28)	310	111	50	1"
30	4.2	252	AL26-(36+42)	310	111	75	1"
50	7.00	420	AL26-(52+68)	310	111	100	1"
75	11	660	AL95-(24+28)	616	191	85	2"
100	14.00	840	AL95-(26+34)	616	191	106	2"
150	22	1320	AL95-(42+52)	616	191	212	2"
200	28.00	1680	AL95C-(54+66)	616	191	276	2"

Air in 40°C							
Air in 55°C, pressure 7 barg, dew point=10°C							
Air compressor Power HP	Air Flow Rate		Model	B	A	E	Air Connection size inch
	Nm³/min	Nm³/Hr					
8	0.83	50	AL14-(18+8)	206	76	44	3/4"
10	1	60	AL14-(20+10)	206	76	44	3/4"
12	1.33	80	AL14-(24+12)	206	76	44	3/4"
15	1.67	100	AL14-(24+16)	206	76	44	3/4"
20	2.4	144	AL26-(18+24)	310	111	50	1"
30	4.2	252	AL26-(30+38)	310	111	75	1"
50	7.00	420	AL26-(46+60)	310	111	100	1"
75	11	660	AL95-(20+24)	616	191	85	2"
100	14.00	840	AL95-(24+30)	616	191	106	2"
150	22	1320	AL95-(38+46)	616	191	212	2"
200	28.00	1680	AL95C-(46+60)	616	191	276	2"

"Dew point" is the temperature at which the water vapor in the air starts to condense in the water separator. This is normally maintained slightly above the freezing point of water, 2-5 °C (35-40 °F).

AirDryer Selection

Air in 45°C							
Air in 55°C, pressure 7 barg, dew point=3°C							
Air compressor Power HP	Air Flow Rate		Model	B	A	E	Air Connection size inch
	Nm³/min	Nm³/Hr					
5	0.58	35	AL14-(20+10)	206	76	44	3/4"
8	0.83	50	AL14-(24+14)	206	76	44	3/4"
10	1.00	60	AL14-(24+16)	206	76	44	3/4"
12	1.33	80	AL14-(42+28)	206	76	44	3/4"
15	1.67	100	AL26-(24+28)	310	111	50	3/4"
20	2.4	144	AL26-(30+38)	310	111	50	1"
30	4.20	252	AL26-(46+62)	310	111	75	1"
50	7	420	AL95-(20+26)	616	191	85	2"
75	11.00	660	AL95-(32+42)	616	191	85	2"
100	14	840	AL95-(40+52)	616	191	106	2"
150	22.00	1320	AL95-(62+78)	616	191	212	2"

Air in 45°C							
Air in 55°C, pressure 7 barg, dew point=7°C							
Air compressor Power HP	Air Flow Rate		Model	B	A	E	Air Connection size inch
	Nm³/min	Nm³/Hr					
5	0.58	35	AL14-(14+8)	206	76	44	3/4"
8	0.83	50	AL14-(20+10)	206	76	44	3/4"
10	1.00	60	AL14-(22+12)	206	76	44	3/4"
12	1.33	80	AL14-(24+16)	206	76	44	3/4"
15	1.67	100	AL14-(40+24)	206	76	44	3/4"
20	2.4	144	AL26-(24+30)	310	111	50	1"
30	4.20	252	AL26-(38+46)	310	111	75	1"
50	7	420	AL26-(54+76)	310	111	100	1"
75	11.00	660	AL95-(24+30)	616	191	85	2"
100	14	840	AL95-(30+38)	616	191	106	2"
150	22.00	1320	AL95-(46+58)	616	191	212	2"
200	28	1680	AL95-(58+74)	616	191	276	3"

Air in 45°C							
Air in 55°C, pressure 7 barg, dew point=10°C							
Air compressor Power HP	Air Flow Rate		Model	B	A	E	Air Connection size inch
	Nm³/min	Nm³/Hr					
5	0.58	35	AL14-(14+8)	206	76	44	3/4"
8	0.83	50	AL14-(18+10)	206	76	44	3/4"
10	1.00	60	AL14-(22+10)	206	76	44	3/4"
12	1.33	80	AL14-(24+14)	206	76	44	3/4"
15	1.67	100	AL14-(36+22)	206	76	44	3/4"
20	2.4	144	AL26-(22+28)	310	111	50	1"
30	4.20	252	AL26-(36+42)	310	111	75	1"
50	7	420	AL26-(52+70)	310	111	100	1"
75	11.00	660	AL95-(22+26)	616	191	85	2"
100	14	840	AL95-(28+34)	616	191	106	2"
150	22.00	1320	AL95-(42+52)	616	191	212	2"
200	28	1680	AL95-(54+68)	616	191	276	3"

"Dew point" is the temperature at which the water vapor in the air starts to condense in the water separator. This is normally maintained slightly above the freezing point of water, 2-5 °C (35-40 °F).

AirDryer Selection

Air in 50°C							
Air in 55°C, pressure 7 barg, dew point=3°C							
Air compressor Power HP	Air Flow Rate		Model	B	A	E	Air Connection size inch
	Nm³/min	Nm³/Hr					
5	0.58	35	AL14-(22+12)	206	76	44	3/4"
8	0.83	50	AL14-(32+20)	206	76	44	3/4"
10	1.00	60	AL14-(40+24)	206	76	44	3/4"
12	1.33	80	AL26-(24+28)	310	111	44	3/4"
15	1.67	100	AL26-(26+32)	310	111	44	3/4"
20	2.4	144	AL26-(38+44)	310	111	50	1"
30	4.20	252	AL26-(52+68)	310	111	75	1"
50	7	420	AL95-(24+32)	616	191	85	1"
75	11.00	660	AL95-(40+48)	616	191	85	2"
100	14	840	AL95-(48+62)	616	191	106	2"

Air in 50°C							
Air in 55°C, pressure 7 barg, dew point=7°C							
Air compressor Power HP	Air Flow Rate		Model	B	A	E	Air Connection size inch
	Nm³/min	Nm³/Hr					
5	0.58	35	AL14-(18+10)	206	76	44	3/4"
8	0.83	50	AL14-(24+12)	206	76	44	3/4"
10	1.00	60	AL14-(24+16)	206	76	44	3/4"
12	1.33	80	AL14-(40+24)	206	76	44	3/4"
15	1.67	100	AL26-(22+28)	310	111	44	3/4"
20	2.4	144	AL26-(28+36)	310	111	50	1"
30	4.20	252	AL26-(46+60)	310	111	75	1"
50	7	420	AL95-(20+24)	616	191	85	2"
75	11.00	660	AL95-(30+38)	616	191	85	2"
100	14	840	AL95-(38+46)	616	191	106	2"
150	22.00	1320	AL95-(58+74)	616	191	212	2"

Air in 50°C							
Air in 55°C, pressure 7 barg, dew point=10°C							
Air compressor Power HP	Air Flow Rate		Model	B	A	E	Air Connection size inch
	Nm³/min	Nm³/Hr					
5	0.58	35	AL14-(18+8)	206	76	44	3/4"
8	0.83	50	AL14-(22+12)	206	76	44	3/4"
10	1.00	60	AL14-(24+14)	206	76	44	3/4"
12	1.33	80	AL14-(36+22)	206	76	44	3/4"
15	1.67	100	AL14-(42+28)	206	76	44	3/4"
20	2.4	144	AL26-(26+32)	310	111	50	1"
30	4.20	252	AL26-(42+54)	310	111	75	1"
50	7	420	AL95-(18+24)	616	191	85	2"
75	11.00	660	AL95-(28+34)	616	191	85	2"
100	14	840	AL95-(36+42)	616	191	106	2"
150	22.00	1320	AL95-(54+66)	616	191	212	2"

"Dew point" is the temperature at which the water vapor in the air starts to condense in the water separator. This is normally maintained slightly above the freezing point of water, 2-5 °C (35-40 °F).

AirDryer Selection

Air in 55°C							
Air in 55°C, pressure 7 barg, dew point=3°C							
Air compressor Power HP	Air Flow Rate		Model	B	A	E	Air Connection size inch
	Nm³/min	Nm³/Hr					
5	0.58	35	AL14-(24+14)	206	76	44	3/4"
8	0.83	50	AL14-(40+26)	206	76	44	3/4"
10	1.00	60	AL26-(22+28)	310	111	50	3/4"
12	1.33	80	AL26-(26+32)	310	111	50	3/4"
15	1.67	100	AL26-(32+40)	310	111	50	3/4"
20	2.4	144	AL26-(44+56)	310	111	50	1"
30	4.20	252	AL95-(22+26)	616	191	75	2"
50	7	420	AL95-(30+40)	616	191	85	2"
75	11.00	660	AL95-(46+60)	616	191	85	2"
100	14	840	AL95-(60+76)	616	191	106	2"

Air in 55°C							
Air in 55°C, pressure 7 barg, dew point=7°C							
Air compressor Power HP	Air Flow Rate		Model	B	A	E	Air Connection size inch
	Nm³/min	Nm³/Hr					
5	0.58	35	AL14-(22+10)	206	76	44	3/4"
8	0.83	50	AL14-(24+16)	206	76	44	3/4"
10	1.00	60	AL14-(38+22)	206	76	44	3/4"
12	1.33	80	AL26-(22+28)	310	111	50	3/4"
15	1.67	100	AL26-(26+30)	310	111	50	3/4"
20	2.4	144	AL26-(32+42)	310	111	50	1"
30	4.20	252	AL26-(52+70)	310	111	75	1"
50	7	420	AL95-(24+30)	616	191	85	2"
75	11.00	660	AL95-(36+44)	616	191	85	2"
100	14	840	AL95-(46+58)	616	191	106	2"
150	22.00	1320	AL95-(74+94)	616	191	212	2"

Air in 55°C							
Air in 55°C, pressure 7 barg, dew point=10°C							
Air compressor Power HP	Air Flow Rate		Model	B	A	E	Air Connection size inch
	Nm³/min	Nm³/Hr					
5	0.58	35	AL14-(20+10)	206	76	44	3/4"
8	0.83	50	AL14-(24+14)	206	76	44	3/4"
10	1.00	60	AL14-(32+20)	206	76	44	3/4"
12	1.33	80	AL14-(42+28)	206	76	44	3/4"
15	1.67	100	AL26-(24+30)	310	111	50	3/4"
20	2.4	144	AL26-(30+38)	310	111	50	1"
30	4.20	252	AL26-(48+62)	310	111	75	1"
50	7	420	AL95-(22+28)	616	191	85	2"
75	11.00	660	AL95-(32+42)	616	191	85	2"
100	14	840	AL95-(42+52)	616	191	106	2"
150	22.00	1320	AL95-(66+82)	616	191	212	2"

"Dew point" is the temperature at which the water vapor in the air starts to condense in the water separator. This is normally maintained slightly above the freezing point of water, 2-5 °C (35-40 °F).