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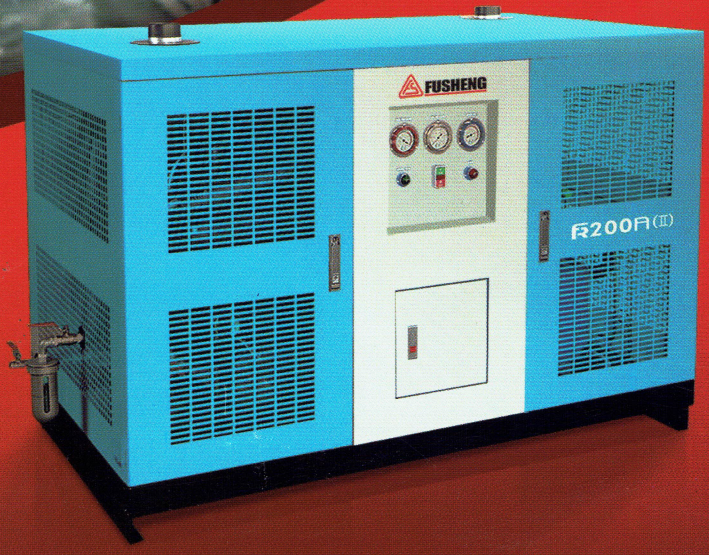


FR SERIES

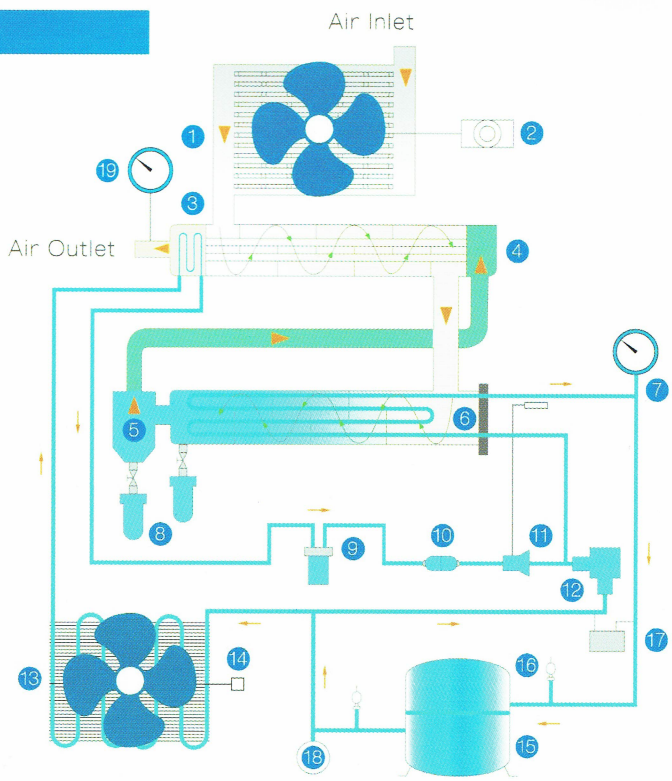
HIGH EFFICIENCY REFRIGERATION DRYERS

eCOOL TECHNOLOGY

Air-cooled refrigeration dryer

System Flow Chart

1	Pre-cooler
2	"Economizer" switch
3	Secondary condenser
4	Air heat exchanger
5	Water separator
6	Evaporator
7	Pressure gauge (dew point)
8	Condensate drain valve
9	Refrigerant receiver
10	Line filter
11	Expansion valve
12	Hot gas bypass valve
13	Air-cooled condenser
14	Anti-freezing protection switch
15	Compressor
16	Service/Inflow valve
17	High-low pressure protection switch
18	Pressure gauge (refrigerant)
19	Pressure gauge (air)



Independent power distribution and high quality accessories

Safe operation guaranteed.

Flange connection for evaporators in power range of 300HP and above

Easy and convenient maintenance.

State of the art application of secondary condenser on the air outlet

Perfectly utilizing outlet cooled air to ensure normal operation even in harsh operational conditions.

Unique air heat exchanger with brass pipe and fin design

Reduces air inlet temperature and increases outlet temperature, preventing piping condensation.

Motor with extruded aluminum alloy casing + 120℃ thermostat

superb heat exchange for prolong operating interval.

Stainless oil-filled type instrumentation

Eliminate shock errors caused by vibrations during long distance or rough transportation.

Technical Data

Type		FR														
Model		05AP	10AP	15AP	20AP	30AP	50AP	75AP	100AP	125AP	150AP	175AP	200AP	250AP	300AP	400AP	500AP
max. capacity (m^3/min)		0.83	1.4	1.7	2.7	3.7	7.2	11.1	15	18.6	22.3	26	29.7	35.6	44.4	59.5	70.8
Air inlet temp.		50℃															
Ambient temp.		32℃															
Dew point		2~10℃ at 7 kg/cm^2															
Operating pressure		0.7 Mpa															
Refrigerant		R134a				R22											
Power consumption (Kw)		0.5	0.55	0.7	0.8	1.1	1.5	2.1	2.7	3.5	4.2	5.4	5.5	6.8	8.2	10.1	12.1
Power supply		220V / 1ph / 50Hz						380V / 3ph / 50Hz									
Air piping size		G 1/2"	G1"	G1"	G1 1/4"	G1 1/2"	G2"	DN80	DN80	DN80	DN80	DN100	DN100	DN100	DN125	DN125	DN150
Dimensions (mm)	H	640	740	740	770	920	920	1150	1150	1150	1360	1360	1360	1360	1760	1760	2120
	W	525	735	735	825	1070	1070	1500	1700	1700	1070	1070	1070	1070	1350	1350	1500
	D	380	470	470	470	600	600	940	940	940	1900	1900	2200	2200	2200	2200	2350
Net weight (kg)		56	68	75	90	140	150	315	365	380	460	480	590	600	900	1000	1200

* Maximum air inlet temperarure limit:80℃
* Maximum operation pressure:0.98Mpa
* ambient temperature:2~40℃

Air-cooled refrigeration dryer product selection

Correction factor(cf1)

Minimum inlet pressure (Mpa)	Maximum inlet temperature (℃)					
	45	50	55	60	70	80
0.4	1.06	0.87	0.77	0.71	0.67	0.61
0.5	1.12	0.92	0.82	0.75	0.71	0.64
0.6	1.17	0.96	0.85	0.79	0.74	0.67
0.7	1.22	1	0.89	0.82	0.77	0.7
0.8	1.24	1.02	0.9	0.84	0.79	0.71
0.95	1.29	1.06	0.94	0.87	0.82	0.74

Ambient temperature correction factor(cf2)

Ambient temperatur (℃)	30	32	35	40
Correction factor	1.03	1	0.96	0.9

Dryer capacity varies with operating pressure, inlet temperature and ambient temperature. Using drying capacity requirement, select dryer model from table, ensuring the dryer model selsected is equal to or greater than your dring capacity requirement.

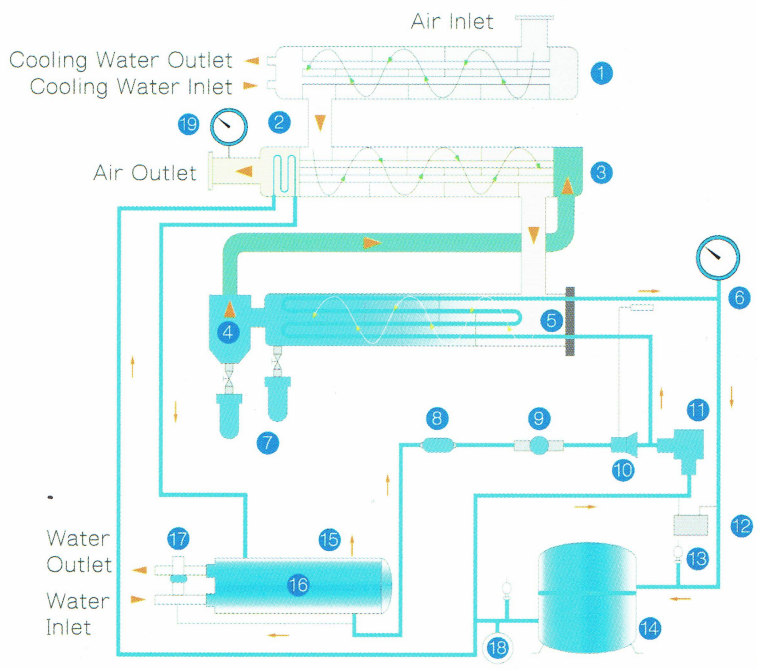
Calculate drying capacity required following the example below
Minimum drying capacity requirements =
Inlet flow requirement ÷ cf1 ÷ cf2

For example :
Inlet flow requirement is 50m^3/min Operating pressure is 0.8Mpa, inlet temperature is 55℃ and ambient temperature is 32℃
Minimum drying capacity requirements =
50m^3/min ÷ 0.9 ÷ 1=55.56m^3/min
The correct dryer model is FR400AP

Water-cooled refrigeration dryer

System Flow Chart

1	Pre-cooler
2	Secondary condenser
3	Air heat exchanger
4	Water separator
5	Evaporator
6	Pressure gauge (dew point)
7	Condensate drain valve
8	Line filter
9	Sight glass
10	Expansion valve
11	Hot gas bypass valve
12	Pressure head switch
13	Service/Inflow valve
14	Compressor
15	Relief valve
16	Water-cooled condenser
17	Water flow regulating valve
18	Pressure gauge (refrigerant)
19	Pressure gauge (air)



Unique air heat exchanger with brass pipe and fin design

Reduces air inlet temperature and increases outlet temperature, preventing piping condensation.

State of the art application of secondary condenser on the air outlet

Perfectly utilizing outlet cooled air to ensure normal operation even in harsh operational conditions.

Cyclone type water separator + moisture isolator

Absolutely free of water.

Stainless oil-filled type instrumentation

Eliminate shock errors caused by vibrations during long distance or rough transportation.

Computerized control panel

Pursuing optimal operation with intelligent functions including simple flow chart display and easiest operating.

Evaporator with flange connection

Easy and convenient maintenance.

Additional condenser bypass valve

Convenient on-site cleaning.

Technical Data

Type		FR										
Model		075WP	100WP	150WP	200WP	250WP	300WP	400WP	500WP	600WP	750WP	1000WP
max. capacity(m^3/min)		10.7	14.4	21.4	28.5	34.2	42.7	59.5	70.8	79.3	106.2	141.4
Air inlet temp.		50℃										
Ambient temp.		32℃										
Dew point		2~10℃ at 7 kg/cm^2										
Operating pressure		0.7 Mpa										
Refrigerant		R22										
Power consumption (Kw)		2.1	2.8	2.8	4.1	5.3	6.1	7.8	8.9	10.3	13.5	16.3
Power supply		380V / 3ph / 50Hz										
Air piping size		DN80	DN80	DN80	DN100	DN100	DN125	DN125	DN150	DN150	DN200	DN200
Condenser piping size		G3/4"	G3/4"	G1"	G1"	G1 1/4"	G1 1/2"	G1 1/2"	G1 1/2"	G1 1/2"	DN50	DN65
Pre-cooler piping size		G1"	G1"	G1"	G1 1/2"	G1 1/2"	G1 1/2"	G2"	G2"	G2"	G2 1/2"	G2 1/2"
Cooling water flow rate (m^3/hr)		6	6	7.6	9	11.3	13.5	18	21.5	27	36	45
Condenser (RT)		4	4	5	6	7.5	9	12	15	17	24	30
Cooling tower (RT)		8	8	10	15	15	20	25	30	40	50	60
Dimensions (mm)	H	1200	1200	1200	1355	1355	1580	1580	1700	1700	1870	1870
	W	940	940	940	1070	1070	1200	1300	1350	1350	1600	1600
	D	1500	1500	1700	1900	1900	2120	2320	2320	2500	2620	3020
Net weight (kg)		260	300	350	500	550	800	900	1000	1100	1400	1600

* Maximum air inlet temperarure limit:80℃
* Maximum operation pressure:0.98Mpa
* ambient temperature:2~40℃

Water-cooled refrigeration dryer product selection

Correction factor(cf1)

Minimum inlet pressure (Mpa)	Air inlet temperature (℃)					
	45	50	55	60	70	80
0.4	1.06	0.87	0.77	0.71	0.67	0.61
0.5	1.12	0.92	0.82	0.75	0.71	0.64
0.6	1.17	0.96	0.85	0.79	0.74	0.67
0.7	1.22	1	0.89	0.82	0.77	0.7
0.8	1.24	1.02	0.9	0.84	0.79	0.71

Cooling water temperature correction factor(cf2)

Cooling water temperature(℃)	30	32	40
Correction factor	1	0.97	0.9

Dryer capacity varies with operating pressure, inlet temperature and cooling water temperature. Using drying capacity requirement, select dryer model from table, ensuring the dryer model selsected is equal to or greater than your dring capacity requirement.

Calculate drying capacity required following the example below
Minimum drying capacity requirements =
Inlet flow requirement ÷ cf1 ÷ cf2

For example :
Inlet flow requirement is 28.5m^3/min
Operating pressure is 0.8Mpa, inlet temperature is 55℃ and cooling water temperature is 32℃
Minimum drying capacity requirements =

28.5m^3/min÷0.9÷0.97=32.6m^3/min

The correct dryer model is FR250WP

FUSHENG

FR SERIES

HIGH EFFICIENCY REFRIGERATION DRYERS

Distributor/Sales Representative

FR(TH)-10509-112A000-E1