

Elix - The Refrigeration air dryers

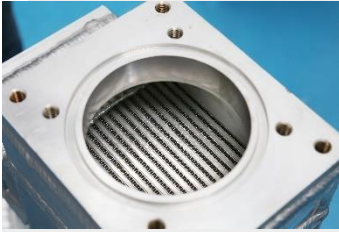


World-class 3 in 1 PHE for optimum performance
Electronic Load Tracking ensures consistency in dT
Microchannel condenser offers potential savings in Energy
PLC based control & protection

New | Dimensions
Solutions



Elix Hx – World class 3 in 1 PHE



Integrally fused fin eliminates **Contact Resistance** between plate and fin leads to highest heat transfer co-efficient.

Offset fins, besides creating better turbulence for heat exchange, it also acts as good preliminary moisture separator.

Wire mesh demister

Countless **impingement** surface coalesces the moisture particle and separate it effectively.

PLC based control and protection

Open platform & fully customizable



Summits Refrigeration dryer uses open platform PLC to control the process.

PLC has numerous facilities including, System monitoring, Preventive maintenance alert and with RS 485 Modbus communication.

Up to 5000cfm: Monochrome + Key pad
6000cfm onwards: Colour + Touch screen

Elix+ Exclusive Features



Electronic Load tracking & Control

Instantaneous response to abrupt change

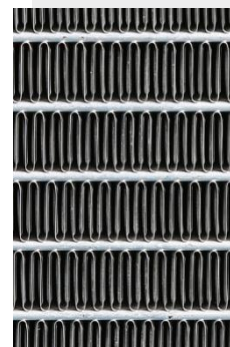


With electronically controlled capacity regulating valve (Selected capacity only), Summits Refrigeration air dryer keeps the Pressure dewpoint nearly constant even in wide operating range with quantum jump load variation.

Suction and discharge pressure transmitter for Precise monitoring and control of process parameters & to protect the system as well.

Microchannel condenser

For increased efficiency



- Efficient heat transfer: Metallurgical bond between tubes and fins, eliminates contact resistance leading to 10% increased efficiency.
- Power saving: Reduced fan power consumption & noise level due to 60% less airside pressure-drop.
- Smaller Sizes: 35% smaller in size when compared to conventional Fin and tube condenser.
- Less weight: 68% less than equivalent Fin & Tube coils.
- 30% reduced Refrigerant Charge.

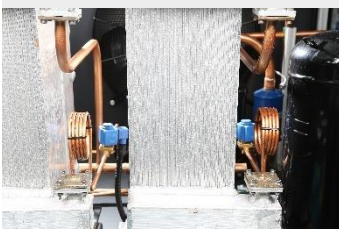
Step cooling for widest operating range

On the 'get-set' even at zero load; Infinite turndown ratio

Flow characteristic plays vital role in the efficiency of Heat transfer. At part load, the flow characteristic changes drastically affecting the efficiency of Heat exchanger.

Summits Modular Cooler configuration & Integrated control make use of **Step cooling technology** to effectively control the flow process inside the cooler and **keep the efficiency at higher level even at part load condition.**

High specific heat capacity of Aluminium adds value to this technology. **Elix+ control** (If opted for) provides energy saving opportunities with this **Step cooling technology**. **Step cooling** enables faster reaction to the varying load.



Step cooling enable the dryer to run even at 0 to 100% of load; always on the 'get-set' – ready to take the task.

Pacto+, The Smart drain valve

Adds bonus savings

- Every Elix+ dryer is fitted with Pacto+ drain valve.
- Zero air loss condensate removal
- Enabled with BMS connectivity
- Sight glass for level monitoring
- 3 Point Sensing
- 3 Mode of Operation
- 3 Sub-modes



Technical Data:

Sl.No	Model	Air Flow		Width	Depth	Height	Weight	Power Supply v/ph 50 Hz	In/Out
		cfm	m3/hr						
1	Elix 001 DA	10	17	360	460	460	31	230/1	1/2"
2	Elix 002 DA	20	34	360	460	460	32	230/1	1/2"
3	Elix 004 DA	40	68	400	520	460	36	230/1	3/4"
4	Elix 006 DA	60	102	400	520	460	37	230/1	3/4"
5	Elix 008 DA	80	136	450	630	550	54	230/1	1"
6	Elix 010 DA	100	170	450	630	550	55	230/1	1"
7	Elix 012 DA	125	212	450	630	550	56	230/1	1"
8	Elix 015 DA	150	255	500	800	820	79	230/1	1-1/2"
9	Elix 020 DA	200	340	500	800	820	90	230/1	1-1/2"
10	Elix 025 DA	250	425	500	800	820	95	230/1	1-1/2"
11	Elix 030 DA	300	510	570	800	950	138	230/1	2"
12	Elix 040 DA	400	680	600	950	1060	142	230/1	2-1/2"
13	Elix 050 DA	500	850	600	950	1060	144	415/3	2-1/2"
14	Elix 060 DA	600	1020	600	950	1060	148	415/3	2-1/2"
15	Elix 080 DA	800	1275	700	950	1450	475	415/3	DN100
16	Elix 100 DA	1000	1700	800	1075	1615	520	415/3	DN100
17	Elix 125 DA	1250	2125	800	1075	1630	530	415/3	DN100
18	Elix+ 160 DA	1600	2550	1000	1600	1630	600	415/3	DN100
19	Elix+ 200 DA	2000	3400	1150	1400	2000	650	415/3	DN150
20	Elix+ 250 DA	2500	4250	1150	1400	2000	655	415/3	DN150
21	Elix+ 300 DA	3000	5100	1150	1700	2000	700	415/3	DN150
22	Elix+ 400 DA	4000	6800	1150	1700	2000	750	415/3	DN200
23	Elix+ 500 DW	5000	8500	1150	1600	2000	980	415/3	DN200
24	Elix+ 600 DW	6000	10200	1500	1900	2100	1250	415/3	DN200
25	Elix+ 700 DW	7000	11900	1800	2500	2100	1550	415/3	DN250
26	Elix+ 800 DW	8000	13600	1800	2600	2100	1750	415/3	DN250
27	Elix+ 900 DW	9000	15300	1800	2600	2100	2250	415/3	DN250
28	Elix+ 999 DW	10000	17000	1800	2600	2100	2500	415/3	DN300

Note:

For more than 10000 cfm, kindly contact our Head office.

Water cooled options are available from 500 cfm onwards.

Air-cooled version can be given for any capacity upon request.

Flow capacities are in accordance with ISO 7183:2007

Selection example

Compressor FAD, cfm	1175
Inlet Air Pressure, bar g	9
Inlet Air Temperature, °C	50
Ambient Temperature, °C	45
Pressure Dew Point, °C	3
Correction factor for Inlet Air pressure, Z1	1.17
Inlet Air temp. 50°C, Z2	0.76
Ambient temp. 45°C, Z3	0.93
Pressure Dew point 3°C, Z4	1.00
Multiplication of CF	1.17X0.76X0.93X1=0.827
Corrected FAD, cfm	1175/0.7068=1420.8
Model to be chosen	Elix+ 160A

Correction factor and Selection

		Inlet Air Pressure, Z1										
Inlet Air Pressure, bar g	Correction Factor, Z3	3	4	5	6	7	8	9	10	12	14	16
		0.54	0.66	0.76	0.87	1	1.02	1.17	1.26	1.38	1.51	1.65

Boundary Conditions			
Operating Parameters	Ideal	Minimum	Maximum
Inlet Air Temperature, °C	45	10	60
Ambient Temperature, °C	40	-5	55
Inlet Air Pressure, bar g	7	2	16
Pressure Dew Point, °C	3	3	10

		Inlet Air Temperature, Z2						
Inlet Air Temperature, °C	Correction Factor, Z1	35	35	40	45	50	55	60
		1.61	1.38	1.22	1.00	0.76	0.6	0.49

		Ambient Temperature, Z3					
Ambient Temperature, °C	Correction Factor, Z2	25	30	35	40	45	50
		1.21	1.14	1.07	1.00	0.93	0.85

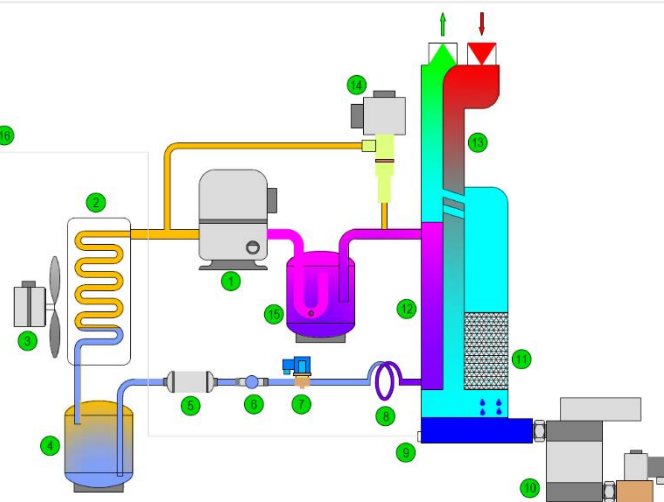
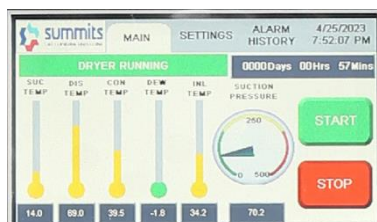
		Pressure dew point, Z4			
Pressure Dew Point, °C	Correction Factor, Z3	3	5	7	10
		1.00	1.14	1.24	1.39

$$\text{Dryer nominal capacity} = \frac{\text{Compressor actual FAD}}{Z1 \times Z2 \times Z3 \times Z4}$$

Refer Selection example given above

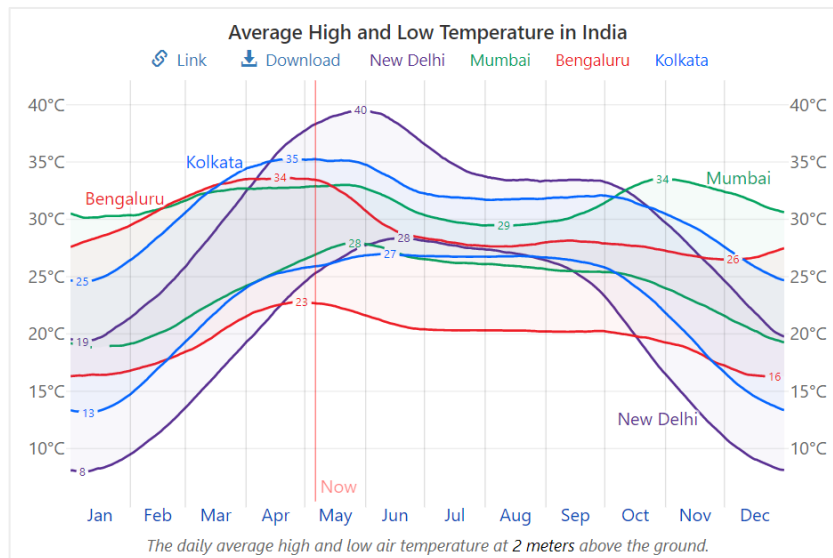
Working of Elix+ Refrigeration air dryer

1. Refrigerant compressor
2. Condenser
3. Condenser cooling fan
4. Liquid receiver
5. Filter dryer
6. Liquid line sight glass
7. Solenoid valve
8. Capillary
9. Dew point sensor
10. Zero air loss drain valve
11. Moisture separator
12. Refrigerant to air heat exchanger
13. Air to air heat exchanger
14. Hot gas bypass valve
15. Accumulator
16. Elix+ Controller

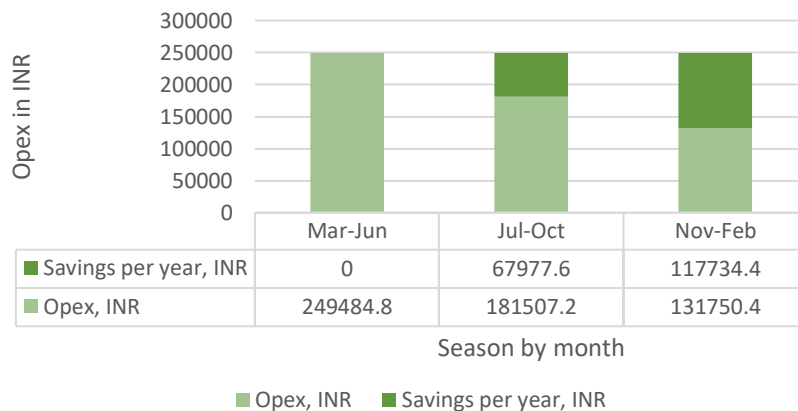


Elix VFD

Thanks to Nature for everything & 23.5 degree - We get seasons. With Elix VFD, we spend only the required energy. The graph shows the seasonal variation in ambient temperature. Ambient temperature plays decisive role in Moisture content and Heat load estimation. 50% energy savings is very much possible with Elix VFD.

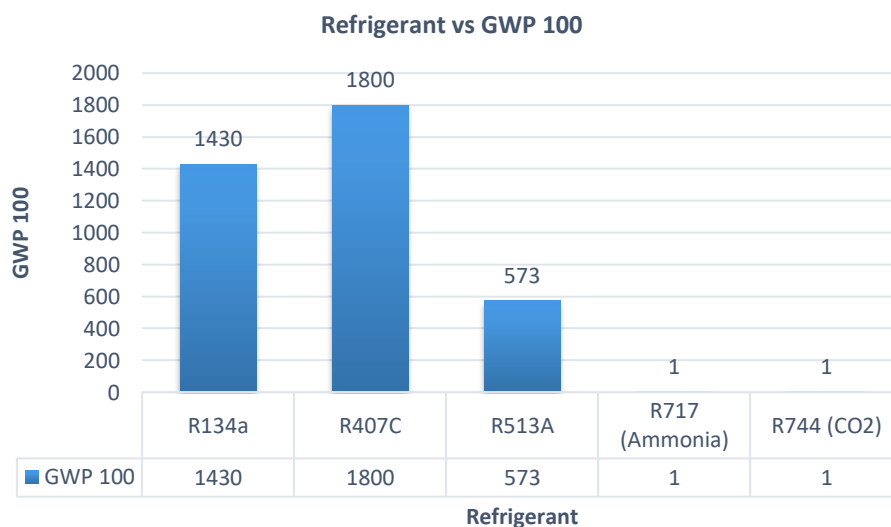


Seasonal Savings in Opex due to Elix VFD in 1000 cfm air dryer



Elix Eco

Future ready, Planet friendly refrigerant
It's non-flammable, with an ASHRAE* A1 safety classification, and offers additional benefits such as:
Low GWP: A 56% reduction of GWP compared to R-134a.
No stratospheric ozone impacts



*ASHRAE: American Society of Heating, Refrigerating and Air-Conditioning Engineers

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