



Elite Series

Non-Cycling Refrigerated Air Dryers

Built-In Filtration
Air Treatment Package

Elite Series

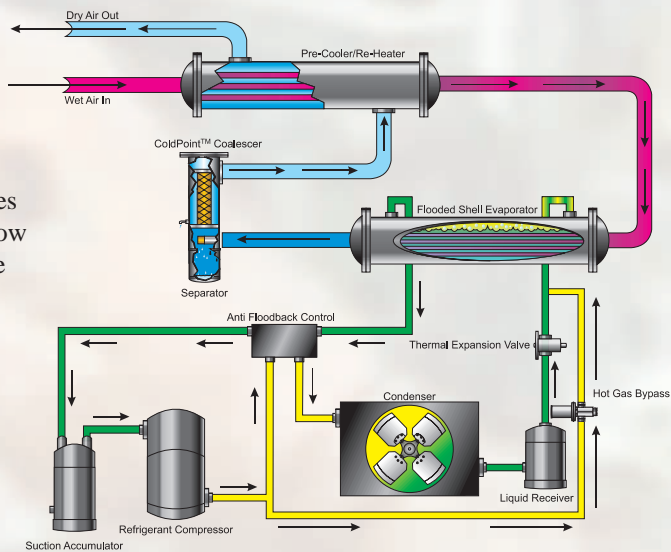
Designed to provide maximum reliability and consistent performance, Airtek's Elite Series Refrigerated Dryer uses virtually the same refrigeration design as the award-winning Smart Cycle dryer. The Elite Series is a good choice when pricing flexibility is necessary.

Airtek's Elite Series with the "clean air package" design provides cleaner air due to the increased efficiency of the filtration process achieved at lower temperatures. Additionally, significant pressure drop reduction is achieved because of the pre-separation of bulk contaminant's in the first stage of the built-in filter. Elite Series performance is unmatched by any competitor's dryer, at any price.



Flow Schematic

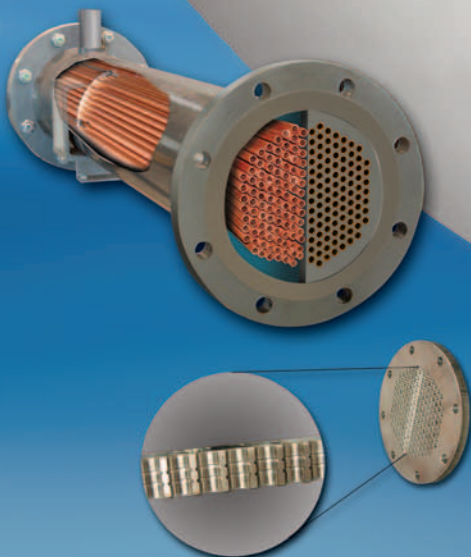
Diagram of air flow through the Elite Series Air Dryer. Also shown is the refrigerant flow along with all the major components of the Elite Series patented refrigeration system.



Tube & Shell Heat Exchangers

The Elite Series Dryers use high efficiency, non-fouling, tube and shell heat exchangers. They are simple, reliable, and time proven. The flow of raw compressed air is directed through straight, smooth bore, copper tubes that are surrounded by cold air in the Pre-Cooler/ Re-Heater and colder liquid refrigerant in the main evaporator. This envelope of cold allows the Elite Series Dryer to achieve and maintain optimum performance and dew point within minutes of start up. The fully active, flooded evaporator eliminates hot spots and assures a optimum dew point performance.

Designed with Airtek's exclusive grooved tube sheet, each tube sheet hole is precision milled for leak proof joints and greater mechanical strength.



Standard Equipment

- Fully Active Evaporator
- Patented Anti-Floodback Control
- Optimum Capacity Bypass Control
- Low Ambient Fan Control (Air Cooled Units)
- High/Low Refrigeration Shutdown
- Refrigerant Expansion Valve
- High Efficiency Centrifugal Separator
- Cold Point Coalescing Filter (ECP Units)
- Separator, 3 Micron Filter (ES Units)
- Element Replacement Indicator Light
- Power On Indicator Light
- Dryer Run Indicator Light
- Drain Open Indicator Light
- High Evaporator Indicator Light
- High/Low Refrigerant PSI Indicator Light
- Coalescer Delta P Gauge (ECP330 & larger)
- Refrigerant Suction Gauge (ES/ECP330 & larger)
- Refrigerant Discharge PSI (ES/ECP330 & larger)
- Demand Drain

Optional Equipment

- Ambient Filter
- Air In/Out PSI Gauge
- Air In & Out Temperature Gauge
- ETL Certified Control Panel

Engineering Data Specifications

MODEL	Capacity SCFM @ 100 PSIG	Ref. HP	Dimensions				Approx. Weight	Connection IN/OUT
			L	W	Height ES	Height ECP		
ES / ECP 80	80	1/2	35	20	32	33	220	1"
ES / ECP100	100	3/4	35	20	32	33	256	1"
ES / ECP130	130	3/4	35	20	32	33	258	1-1/2"
ES / ECP150	150	3/4	35	20	32	33	270	1-1/2"
ES / ECP 220	210	1	47	22	38	38	390	2"
ES / ECP 250	250	1-1/2	47	22	38	38	418	2"
ES / ECP 330	315	1-1/2	55	28	52	52	700	2"
ES / ECP 400	400	2	55	28	52	52	925	2-1/2" NPT
ES / ECP 500	500	3	55	28	52	52	968	2-1/2" NPT
ES / ECP 650	625	3	55	28	52	52	982	2-1/2" NPT
ES / ECP 800	800	4	74	41	61	61	1620	3" FLG
ES / ECP1000	1050	5	74	41	61	61	1860	3" FLG
ES / ECP1200	1200	5	74	41	61	61	1754	3" FLG
ES / ECP1500	1600	7-1/2	78	48	62	65	2365	4" FLG
ES / ECP 2000	2050	10	102	54	67	72	3150	6" FLG
ES / ECP 2500	2500	15	102	54	67	72	3370	6" FLG
ES / ECP 3000	3050	15	108	66	77	83	4015	6" FLG

Notes:

1. Rated conditions meet recommended Standard NFPA/T3.27.2-198 (ANSI B93, 45M) and CAGI Standard No. ADF 100 for Class H 33°F - 39°F (1°C - 4°C) pressure dew point, based on 100 PSIG (6.9 Bar) inlet air pressure, 100°F (38°C) inlet air temperature, 85°F (29°C) cooling water temperature and 100°F (38°C) Ambient air temperature. Maximum air side pressure drop is 5 psi (0.3 Bar).
2. Voltages: 120v/1 -ES/ECP80 to 150, 208/230/1-ES/ECP220 to330, 480v/3 -ES/ECP400 to 3000
3. Due to continuing research and development, specifications and dimensions are subject to change without notice.
4. All ECP Dryers weigh approximately 3% more.

ES prefix designates non-cycling configuration
ECP prefix designates non-cycling ColdPoint™ Coalescing configuration

Cold Point Coalescing Minimizes Pressure Drop

ITEM	CONVENTIONAL		AIRTEK COLDPOINT™ COALESCING	
	ΔP Range PSID	ΔP Average PSID	ΔP Range PSID	ΔP Average PSID
PARTICULATE PREFILTER	1 - 15	7.5	0	0
DRYER	3 - 5	5.0	4 - 13 <small>INCLUDES COLDPOINT COALESCER</small>	5.5 <small>INCLUDES COLDPOINT COALESCER</small>
COALESCING AFTER FILTER	1 - 15	7.5	0	0
TOTAL	5 - 35	20	4 - 13	5.5

EXAMPLE: Cost of Pressure Drop, 100 HP Compressed Air System		
$KW = BHP \times \frac{.746}{.90}$	ANNUAL POWER COST	$= KW \times \$/KWH \times HRS/YR$
$= 108 \times \frac{.746}{.90}$		$= 90 \times \$.08 \times 8000$
$= 90 KW$		$= \$57,600.00$
1 PSIG PRESSURE DROP = 1/2% OF TOTAL POWER COST		
$= .005 \times \$57,600.00$		
$= \$288.00$		
CONVENTIONAL SYSTEM	AIRTEK COLDPOINT COALESCING®	
20 PSIG ΔP = \$288.00 X 20 PSIG	5.5 PSIG ΔP = \$288.00 X 5.5 PSIG	
= \$5,760.00	= \$1,584.00	
SAVINGS = COST OF ΔP CONVENTIONAL - COST OF AIRTEK COLDPOINT COALESCING®		
$= \$5,760.00 - \$1,584.00$		
$= \$4,176.00 PER YEAR$		

Correction Factors

A	INLET AIR PRESSURE CORRECTION	B	AMBIENT AIR TEMPERATURE CORRECTION	C	INLET AIR TEMPERATURE CORRECTION																																																						
	<table border="1"> <tr><td>PSI</td><td>50</td><td>75</td><td>100</td><td>125</td><td>150</td></tr> <tr><td>BAR</td><td>3.5</td><td>5.2</td><td>6.9</td><td>8.6</td><td>10.3</td></tr> <tr><td>FACTOR</td><td>0.8</td><td>0.9</td><td>1</td><td>1.02</td><td>1.05</td></tr> </table>	PSI	50	75	100	125	150	BAR	3.5	5.2	6.9	8.6	10.3	FACTOR	0.8	0.9	1	1.02	1.05		<table border="1"> <tr><td>TEMP °F</td><td>90</td><td>100</td><td>110</td><td>-</td><td>-</td></tr> <tr><td>°C</td><td>32</td><td>38</td><td>43</td><td>-</td><td>-</td></tr> <tr><td>FACTOR</td><td>1.05</td><td>1</td><td>0.9</td><td>-</td><td>-</td></tr> </table>	TEMP °F	90	100	110	-	-	°C	32	38	43	-	-	FACTOR	1.05	1	0.9	-	-		<table border="1"> <tr><td>TEMP °F</td><td>80</td><td>90</td><td>100</td><td>110</td><td>120</td></tr> <tr><td>°C</td><td>27</td><td>32</td><td>38</td><td>43</td><td>49</td></tr> <tr><td>FACTOR</td><td>1.5</td><td>1.22</td><td>1</td><td>.83</td><td>.69</td></tr> </table>	TEMP °F	80	90	100	110	120	°C	27	32	38	43	49	FACTOR	1.5	1.22	1	.83	.69
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EXAMPLE CONDITION			EXAMPLE CALCULATIONS																																																								
<p>ES/ECP 500 CORRECTED FOR:</p> <p>Inlet Pressure.....125 PSIG / 8.6 BAR</p> <p>Inlet Temperature.....120° F / 49° C</p> <p>Ambient Temperature.....110° F / 43° C</p>			<p>CORRECTED CAPACITY</p> <p>= STANDARD CAPACITY X (A) X (B) X (C)</p> <p>= 520 SCFM (13.9 Nm³/min) X (1.02) X (.9) X (.69)</p> <p>= 329 SCFM (8.8 Nm³/min)</p>																																																								

Member



Patents issued: 6,099,620; 5,207,072; 5,099,655; 5,062,571; other patents pending. The equipment indicated in the catalog is meant for use in operating "compressed air driven" apparatuses. At no time should any Airtek equipment be used for breathing air situations unless all government regulations regarding breathing air are met.

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