Condair EcoPro Report

Condair EcoPro Analysis

Condair PM

Christina McKercher

6/18/2025

Analysis Information

Analysis Name	**Condair EcoPro Analysis**
Customer Name	**N/A**
Customer Email	**N/A**
Report Date	**2025/06/18**
Currency	**cad**
Units of Measure	**imperial**
Country	**CA**
State / Province	**British Columbia**
City	**Vancouver Int'L A**

Background

N/A

Goals and Objectives

N/A

Assumptions

Building Density & Setpoints used defaults
18 total AHUs totaling 720000 CFM
Assumed 1 time cost of 10,000 CAD per extra foot of SST wet section for HPs unit

Input Information

Utility Rate Information

Utility Type	Rate
Electricity Rate	0.0675 $/kWh
Electricity Demand Charge	13.75 $/kW/month
Natural Gas Rate	0.03 $/kWh
Propane Rate	0.04 $/kWh
Central Steam Rate	0.008 $/lb
District Heating Rate	0.08 $/kWh
Water Rate	0.083 $/ft³
Sewer Rate	0.05 $/ft³

Analysis Setup

Building	
Project Location WMO	718920
Climate Zone	4
Building Type	Hospital
Total Floor Area	305000 sq.ft
Window to Wall Ratio	25 %
Height Calculation	Building Height
Building Height	176 ft
Number of Floors	11
Envelope Performance	ASHRAE 90.1-2019
Infiltration	Airtight Building

Building Density	Peak	Off-Peak
Lighting	1.04 W/ft²	0.21 W/ft²
Sensible Equipment	1 W/ft²	0.2 W/ft²
Latent Equipment	0 W/ft²	0 W/ft²
Average Occupancy	53.82 ft²/person	269.1 ft²/person

Building Setpoints	Setpoint	Setback
Cooling	72 °F	85 °F
Heating	72 °F	55 °F
Humidification	40 %	20 %
Dehumidification	60 %	85 %

Operational Schedule - Peak Hours	Begins	Ends
Sunday	00:00	24:00
Monday	00:00	24:00
Tuesday	00:00	24:00
Wednesday	00:00	24:00
Thursday	00:00	24:00
Friday	00:00	24:00
Saturday	00:00	24:00

Air System	
HVAC Air System Type	VAV
HVAC Cooling Type	Water-cooled chiller
HVAC Heating Type	Heat Pump
Total Air Volume	720000 CFM
Minimum Outside Air	100
Fan Efficiency	70
Preheat Energy Source	Electricity
Preheat System COP	4
Cooling System COP	3
Include Economizer	Yes

Energy Recovery (optional)		
Recovery System Present	Yes - Total Energy	
Recovery Type	Rotary Thermal Wheel	
	Summer	**Winter**
Sensible Effectiveness	80 %	80 %
Latent Effectiveness	70 %	70 %

Product Comparison

Parameters	Product 1	Product 2	Product 3
System Type	In-Duct	In-Duct	In-Duct
Technology	DL-A	HP VFD	RS
Bypass Dampers	No	No	No
Initial Purchase	1293780.78 $	710018 $	1329642 $
Installation Cost	0 $	0 $	0 $
One-Time Cost	0 $	540000 $	0 $
Recurring Costs (yearly)	25875 $	21300 $	93074 $
Water Type	Reverse Osmosis	Reverse Osmosis	Potable
Water Efficiency	90 %	81 %	73 %
Water Treatment System			
Water Treatment System	MLRO	RO by Others	-- Select --
Water Treatment System Water Efficiency	75 %	75 %	0 %
Water Treatment System Purchase	188000 $	177000 $	0 $
Steam Generation			
Facility Boiler Type	None	None	None
Facility Boiler Efficiency	0 %	0 %	0 %
Steam Distribution Losses	0 %	0 %	0 %

Financial Analysis

Financial Analysis	
Time Period	20 yrs
Utility Inflation Rate	5 %
Non-utility Inflation Rate	2 %
Discount Rate	10 %
Benefit	0 $

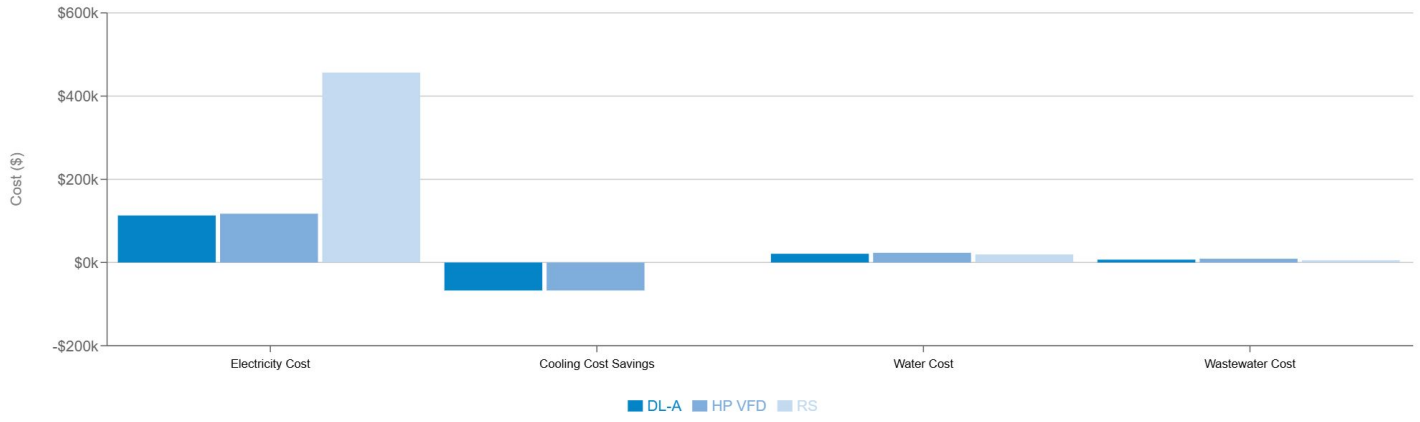
Comparison Summary

Condair Model	DL-A Series	HP VFD Series	RS Series
System Type	In-Duct	In-Duct	In-Duct
Technology	DL-A	HP VFD	RS
Water Type	Reverse Osmosis	Reverse Osmosis	Potable
Water Treatment System	MLRO	RO by Others	N/A
Facility Boiler Type	None	None	None

Financial Summary

Condair Model	DL-A Series	HP VFD Series	RS Series
First Cost	$1,481,781	$1,427,018	$1,329,642
Recurring Costs	$25,875	$21,300	$93,074
Electricity Cost	$113,010	$117,279	$456,525
Gas Cost	$0	$0	$0
Cooling Cost Savings	($67,303)	($67,303)	$0
Water Cost	$20,952	$23,280	$19,374
Wastewater Cost	$6,809	$9,138	$5,231
District Steam Cost	$0	$0	$0
Total Utility Cost incl. Cooling Savings	$73,469	$82,394	$481,129

Yearly Cost Summary

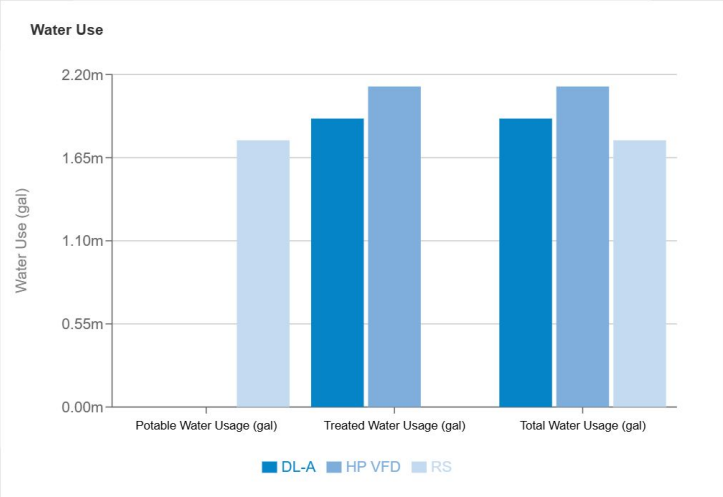


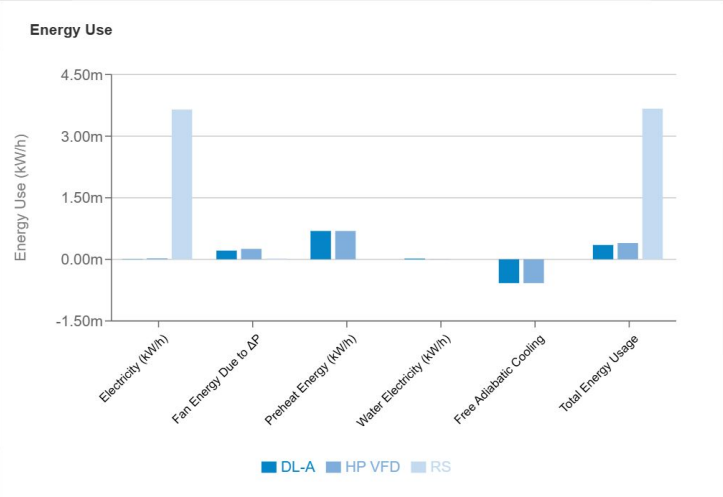
Energy and Water Usage Summary

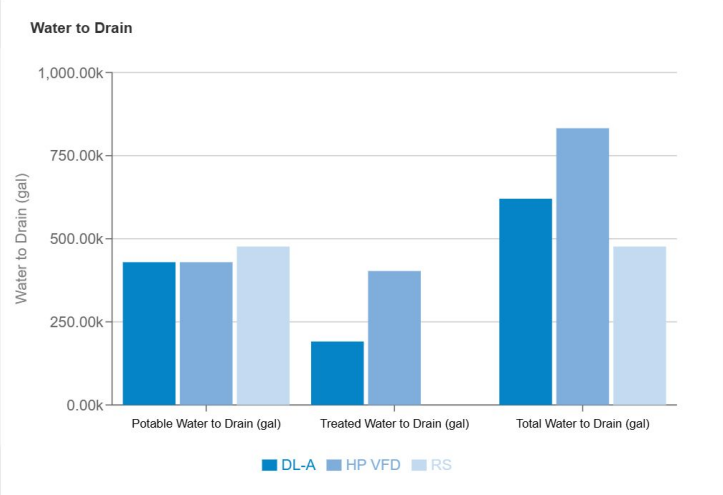
Condair Model	DL-A Series	HP VFD Series	RS Series
Product Electricity Usage (kWh)	6,742	25,626	3,647,863
Fan Energy due to Pressure Change (kWh)	212,619	255,143	21,262
Preheat Energy (kWh)	690,329	690,329	0
Water Electricity Usage (kWh)	19,249	5,043	0
Boiler Electricity Use (kWh)	0	0	0
Product Gas Usage (kWh)	0	0	0
Gas Preheat Energy (kWh)	0	0	0
Boiler Gas Usage (kWh)	0	0	0
Adiabatic Cooling (kWh)	(578,921)	(578,921)	0
Total Energy Usage incl. Adiabatic Cooling (kWh)	**350,017**	**397,219**	**3,669,125**
Potable Water Usage (gal)	0	0	1,765,014
Treated Water Usage (gal)	1,908,830	2,120,922	0
Total Water Usage (gal)	**1,908,830**	**2,120,922**	**1,765,014**
Potable Water to Drain (gal)	429,487	429,487	476,554
Treated Water to Drain (gal)	190,883	402,975	0
Total Water to Drain (gal)	**620,370**	**832,462**	**476,554**

Energy and Water Analysis

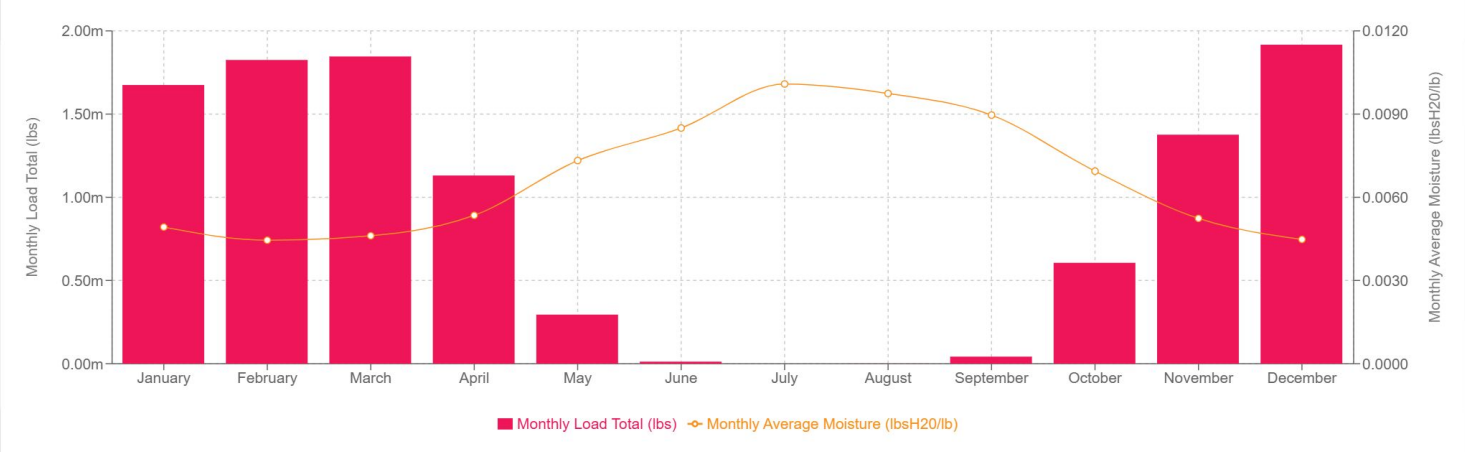
Max. Humidification Load	5,793.38 lbs / hr
Annual Humidification Hours	4,670 hrs



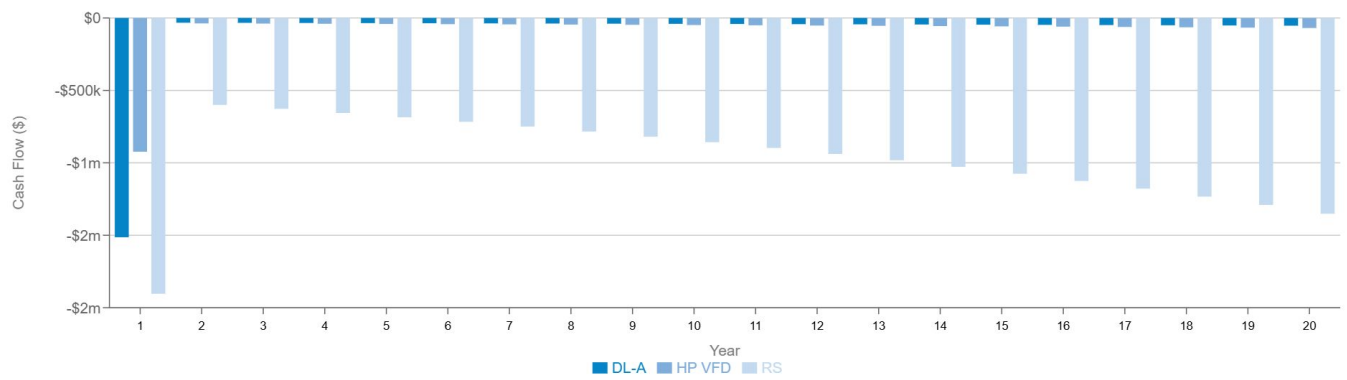




Monthly Load Total & Monthly Average Moisture

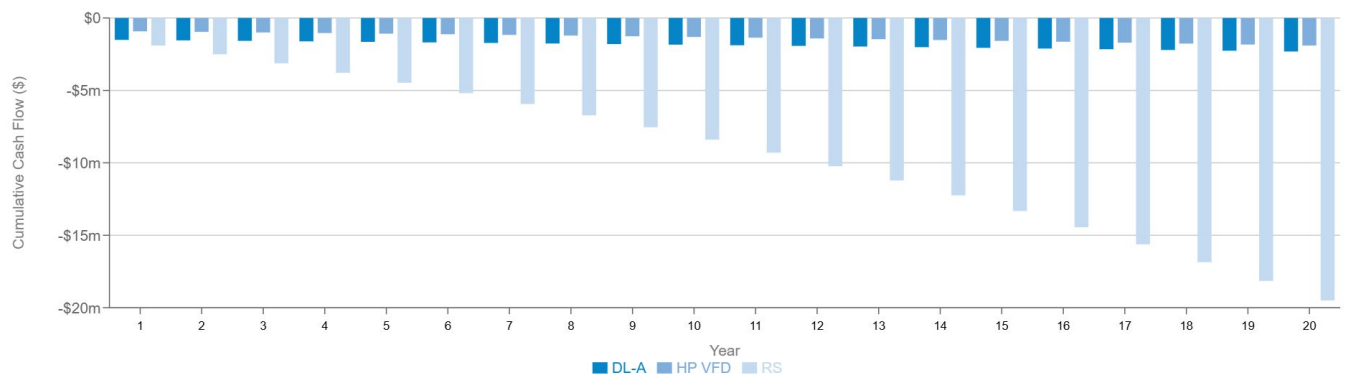


Cash Flow



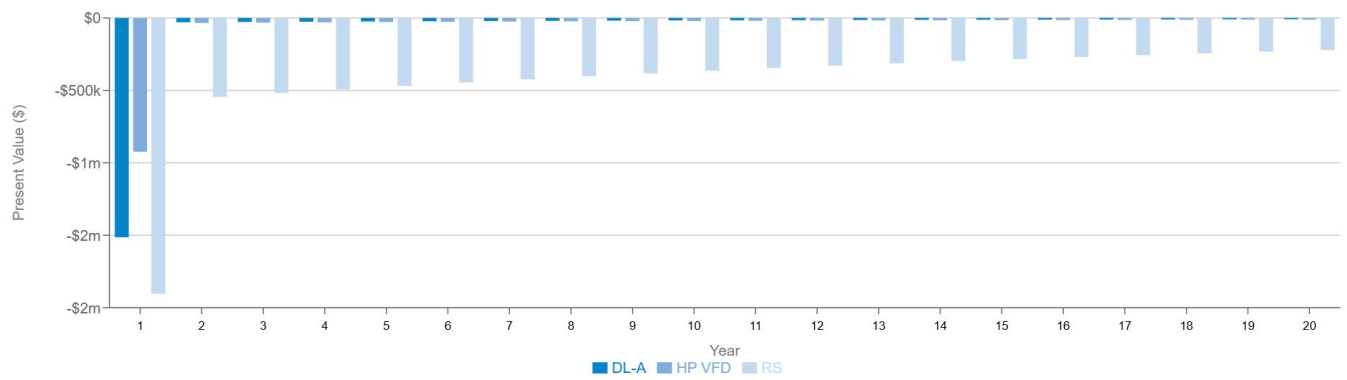
Year	DL-A	HP VFD	RS
1	-$1,513,822	-$923,409	-$1,903,845
2	-$32,867	-$37,572	-$600,121
3	-$33,718	-$38,799	-$627,279
4	-$34,597	-$40,074	-$655,738
5	-$35,503	-$41,400	-$685,562
6	-$36,438	-$42,778	-$716,818
7	-$37,403	-$44,211	-$749,576
8	-$38,398	-$45,702	-$783,910
9	-$39,427	-$47,253	-$819,898
10	-$40,489	-$48,867	-$857,622
11	-$41,585	-$50,547	-$897,166
12	-$42,718	-$52,295	-$938,620
13	-$43,889	-$54,116	-$982,079
14	-$45,099	-$56,011	-$1,027,642
15	-$46,350	-$57,985	-$1,075,412
16	-$47,643	-$60,041	-$1,125,499
17	-$48,981	-$62,183	-$1,178,016
18	-$50,364	-$64,415	-$1,233,083
19	-$51,795	-$66,741	-$1,290,828
20	-$53,276	-$69,166	-$1,351,381

Cumulative Cash Flow



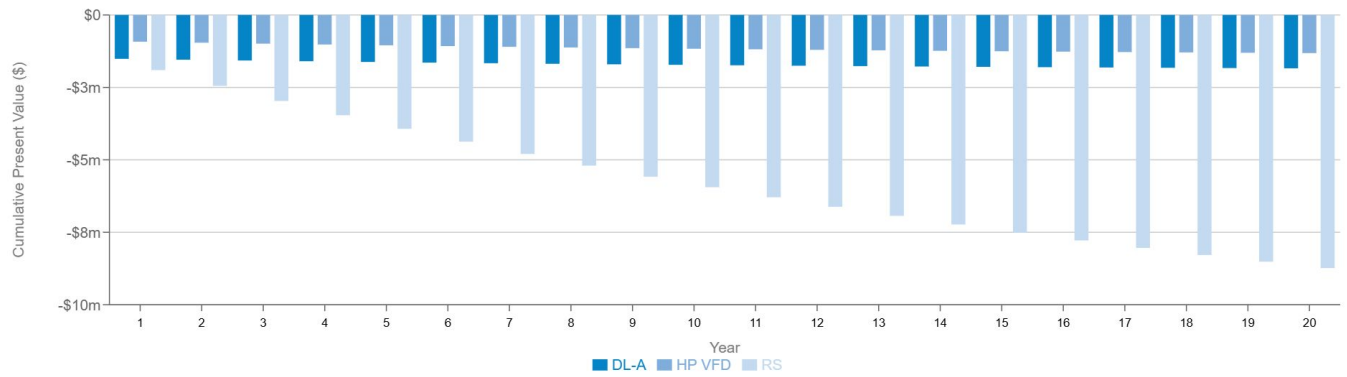
Year	DL-A	HP VFD	RS
1	-$1,513,822	-$923,409	-$1,903,845
2	-$1,546,689	-$960,982	-$2,503,967
3	-$1,580,407	-$999,780	-$3,131,246
4	-$1,615,004	-$1,039,854	-$3,786,984
5	-$1,650,507	-$1,081,254	-$4,472,546
6	-$1,686,944	-$1,124,032	-$5,189,364
7	-$1,724,347	-$1,168,243	-$5,938,939
8	-$1,762,745	-$1,213,946	-$6,722,849
9	-$1,802,172	-$1,261,199	-$7,542,748
10	-$1,842,661	-$1,310,066	-$8,400,369
11	-$1,884,246	-$1,360,613	-$9,297,535
12	-$1,926,964	-$1,412,909	-$10,236,155
13	-$1,970,853	-$1,467,024	-$11,218,234
14	-$2,015,953	-$1,523,035	-$12,245,876
15	-$2,062,302	-$1,581,020	-$13,321,289
16	-$2,109,945	-$1,641,062	-$14,446,787
17	-$2,158,926	-$1,703,245	-$15,624,803
18	-$2,209,290	-$1,767,660	-$16,857,886
19	-$2,261,085	-$1,834,401	-$18,148,714
20	-$2,314,361	-$1,903,567	-$19,500,095

Present Value



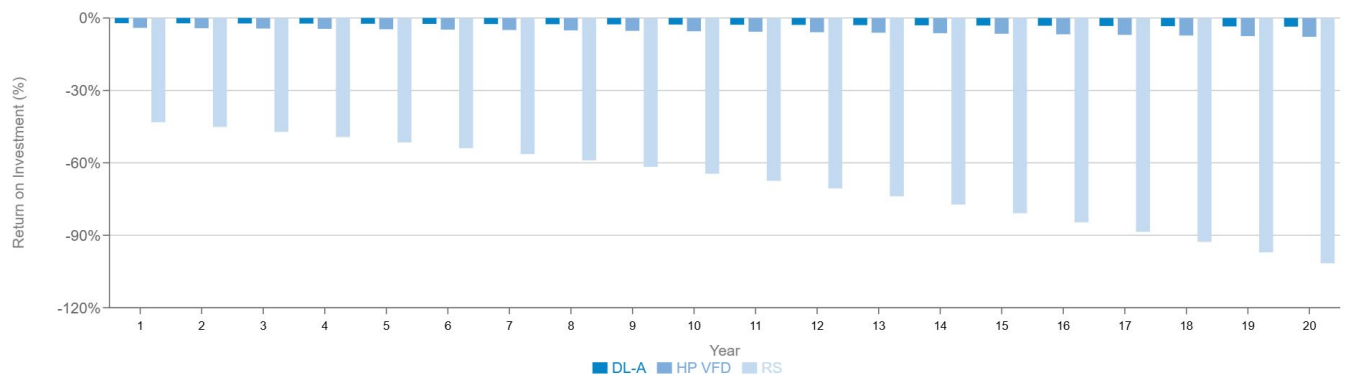
Year	DL-A	HP VFD	RS
1	-$1,513,822	-$923,409	-$1,903,845
2	-$29,879	-$34,156	-$545,565
3	-$27,866	-$32,065	-$518,413
4	-$25,993	-$30,108	-$492,666
5	-$24,249	-$28,276	-$468,248
6	-$22,625	-$26,562	-$445,087
7	-$21,113	-$24,956	-$423,116
8	-$19,705	-$23,452	-$402,270
9	-$18,393	-$22,044	-$382,489
10	-$17,171	-$20,725	-$363,715
11	-$16,033	-$19,488	-$345,896
12	-$14,973	-$18,329	-$328,981
13	-$13,984	-$17,243	-$312,921
14	-$13,064	-$16,224	-$297,671
15	-$12,205	-$15,269	-$283,190
16	-$11,405	-$14,373	-$269,435
17	-$10,660	-$13,533	-$256,371
18	-$9,964	-$12,744	-$243,959
19	-$9,316	-$12,004	-$232,167
20	-$8,711	-$11,309	-$220,962

Cumulative Present Value



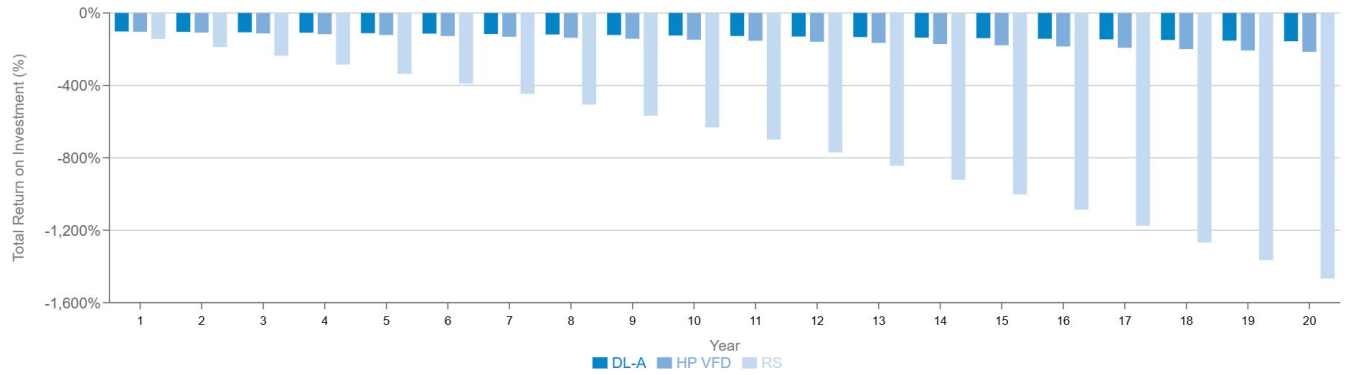
Year	DL-A	HP VFD	RS
1	-$1,513,822	-$923,409	-$1,903,845
2	-$1,543,701	-$957,566	-$2,449,410
3	-$1,571,567	-$989,631	-$2,967,823
4	-$1,597,560	-$1,019,739	-$3,460,488
5	-$1,621,809	-$1,048,016	-$3,928,737
6	-$1,644,434	-$1,074,578	-$4,373,824
7	-$1,665,547	-$1,099,534	-$4,796,940
8	-$1,685,251	-$1,122,986	-$5,199,210
9	-$1,703,644	-$1,145,030	-$5,581,698
10	-$1,720,815	-$1,165,755	-$5,945,413
11	-$1,736,848	-$1,185,243	-$6,291,310
12	-$1,751,821	-$1,203,572	-$6,620,290
13	-$1,765,805	-$1,220,815	-$6,933,211
14	-$1,778,869	-$1,237,039	-$7,230,882
15	-$1,791,074	-$1,252,309	-$7,514,072
16	-$1,802,480	-$1,266,682	-$7,783,507
17	-$1,813,139	-$1,280,215	-$8,039,878
18	-$1,823,103	-$1,292,959	-$8,283,837
19	-$1,832,419	-$1,304,963	-$8,516,004
20	-$1,841,130	-$1,316,272	-$8,736,965

Return on Investment



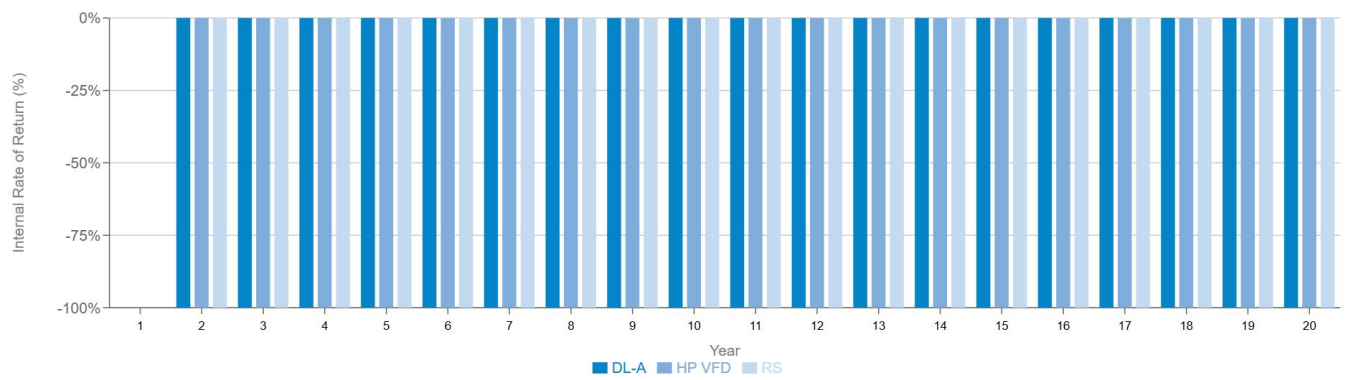
Year	DL-A	HP VFD	RS
1	-2%	-4%	-43%
2	-2%	-4%	-45%
3	-2%	-4%	-47%
4	-2%	-5%	-49%
5	-2%	-5%	-52%
6	-2%	-5%	-54%
7	-3%	-5%	-56%
8	-3%	-5%	-59%
9	-3%	-5%	-62%
10	-3%	-6%	-65%
11	-3%	-6%	-67%
12	-3%	-6%	-71%
13	-3%	-6%	-74%
14	-3%	-6%	-77%
15	-3%	-7%	-81%
16	-3%	-7%	-85%
17	-3%	-7%	-89%
18	-3%	-7%	-93%
19	-4%	-8%	-97%
20	-4%	-8%	-102%

Total Return on Investment



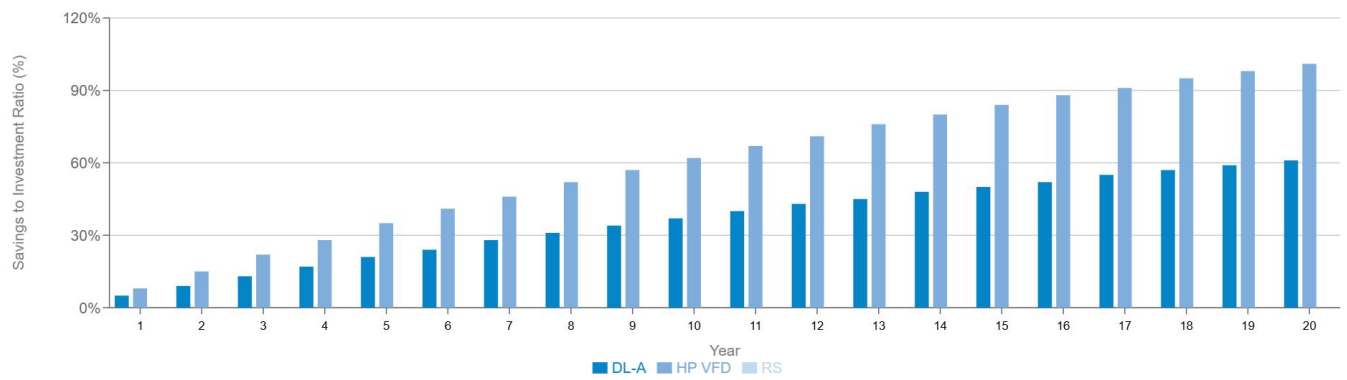
Year	DL-A	HP VFD	RS
1	-102%	-104%	-143%
2	-104%	-108%	-188%
3	-107%	-113%	-235%
4	-109%	-117%	-285%
5	-111%	-122%	-336%
6	-114%	-127%	-390%
7	-116%	-132%	-447%
8	-119%	-137%	-506%
9	-122%	-142%	-567%
10	-124%	-148%	-632%
11	-127%	-153%	-699%
12	-130%	-159%	-770%
13	-133%	-165%	-844%
14	-136%	-172%	-921%
15	-139%	-178%	-1,002%
16	-142%	-185%	-1,087%
17	-146%	-192%	-1,175%
18	-149%	-199%	-1,268%
19	-153%	-207%	-1,365%
20	-156%	-215%	-1,467%

Internal Rate of Return



Year	DL-A	HP VFD	RS
1	0%	0%	0%
2	-100%	-100%	-100%
3	-100%	-100%	-100%
4	-100%	-100%	-100%
5	-100%	-100%	-100%
6	-100%	-100%	-100%
7	-100%	-100%	-100%
8	-100%	-100%	-100%
9	-100%	-100%	-100%
10	-100%	-100%	-100%
11	-100%	-100%	-100%
12	-100%	-100%	-100%
13	-100%	-100%	-100%
14	-100%	-100%	-100%
15	-100%	-100%	-100%
16	-100%	-100%	-100%
17	-100%	-100%	-100%
18	-100%	-100%	-100%
19	-100%	-100%	-100%
20	-100%	-100%	-100%

Savings to Investment Ratio



Year	DL-A	HP VFD	RS
1	5%	8%	0%
2	9%	15%	0%
3	13%	22%	0%
4	17%	28%	0%
5	21%	35%	0%
6	24%	41%	0%
7	28%	46%	0%
8	31%	52%	0%
9	34%	57%	0%
10	37%	62%	0%
11	40%	67%	0%
12	43%	71%	0%
13	45%	76%	0%
14	48%	80%	0%
15	50%	84%	0%
16	52%	88%	0%
17	55%	91%	0%
18	57%	95%	0%
19	59%	98%	0%
20	61%	101%	0%

Detailed Financial Calculations

FINANCIAL ANALYSIS / Calculations			Cash Out ($) (Acquisition & Expenses)				Cash In ($) (Savings)			Cash Flow ($)				Returns (%)			
Product	Year	Discount Period	First Cost	Recurring Cost	Utility Cost	Subtotal Outflow	Cooling Cost plus Other Savings	Discounted Cost Savings	Subtotal Inflow	Cash Flow	Present Value of Cash Flow	Cumulative Cash Flow	Cumulative of Present Value	ROI Return on Investment	Total Return on Investment	Internal Rate of Return	Savings to Investment Ratio
DL-A	1	0	1,481,781	25,875	73,469	1,581,125	67,303	67,303	67,303	-1,513,822	-1,513,822	-1,513,822	-1,513,822	-2	-102	0	5
DL-A	2	1	0	26,393	77,142	103,535	70,668	64,244	70,668	-32,867	-29,879	-1,546,689	-1,543,701	-2	-104	-100	9
DL-A	3	2	0	26,920	81,000	107,920	74,201	61,324	74,201	-33,718	-27,866	-1,580,407	-1,571,567	-2	-107	-100	13
DL-A	4	3	0	27,459	85,050	112,508	77,912	58,536	77,912	-34,597	-25,993	-1,615,004	-1,597,560	-2	-109	-100	17
DL-A	5	4	0	28,008	89,302	117,310	81,807	55,875	81,807	-35,503	-24,249	-1,650,507	-1,621,809	-2	-111	-100	21
DL-A	6	5	0	28,568	93,767	122,335	85,897	53,336	85,897	-36,438	-22,625	-1,686,944	-1,644,434	-2	-114	-100	24
DL-A	7	6	0	29,139	98,455	127,595	90,192	50,911	90,192	-37,403	-21,113	-1,724,347	-1,665,547	-3	-116	-100	28
DL-A	8	7	0	29,722	103,378	133,100	94,702	48,597	94,702	-38,398	-19,704	-1,762,745	-1,685,251	-3	-119	-100	31
DL-A	9	8	0	30,317	108,547	138,864	99,437	46,388	99,437	-39,427	-18,393	-1,802,172	-1,703,644	-3	-122	-100	34
DL-A	10	9	0	30,923	113,974	144,897	104,409	44,280	104,409	-40,489	-17,171	-1,842,661	-1,720,815	-3	-124	-100	37
DL-A	11	10	0	31,541	119,673	151,215	109,629	42,267	109,629	-41,585	-16,033	-1,884,246	-1,736,848	-3	-127	-100	40
DL-A	12	11	0	32,172	125,657	157,829	115,111	40,346	115,111	-42,718	-14,973	-1,926,964	-1,751,821	-3	-130	-100	43
DL-A	13	12	0	32,816	131,940	164,755	120,866	38,512	120,866	-43,889	-13,984	-1,970,853	-1,765,805	-3	-133	-100	45
DL-A	14	13	0	33,472	138,537	172,009	126,910	36,761	126,910	-45,099	-13,064	-2,015,953	-1,778,869	-3	-136	-100	48
DL-A	15	14	0	34,142	145,464	179,605	133,255	35,090	133,255	-46,350	-12,205	-2,062,302	-1,791,074	-3	-139	-100	50
DL-A	16	15	0	34,824	152,737	187,561	139,918	33,495	139,918	-47,643	-11,405	-2,109,945	-1,802,480	-3	-142	-100	52
DL-A	17	16	0	35,521	160,374	195,894	146,914	31,973	146,914	-48,981	-10,660	-2,158,926	-1,813,139	-3	-146	-100	55
DL-A	18	17	0	36,231	168,392	204,623	154,260	30,519	154,260	-50,364	-9,964	-2,209,290	-1,823,103	-3	-149	-100	57
DL-A	19	18	0	36,956	176,812	213,768	161,973	29,132	161,973	-51,795	-9,316	-2,261,085	-1,832,419	-3	-153	-100	59
DL-A	20	19	0	37,695	185,652	223,347	170,071	27,808	170,071	-53,276	-8,711	-2,314,361	-1,841,130	-4	-156	-100	61
HP VFD	1	0	887,018	21,300	82,394	990,712	67,303	67,303	67,303	-923,409	-923,409	-923,409	-923,409	-4	-104	0	8
HP VFD	2	1	0	21,726	86,514	108,240	70,668	64,244	70,668	-37,572	-34,156	-960,982	-957,566	-4	-108	-100	15
HP VFD	3	2	0	22,161	90,840	113,000	74,201	61,324	74,201	-38,799	-32,065	-999,780	-989,631	-4	-113	-100	22
HP VFD	4	3	0	22,604	95,382	117,986	77,912	58,536	77,912	-40,074	-30,108	-1,039,854	-1,019,739	-5	-117	-100	28
HP VFD	5	4	0	23,056	100,151	123,207	81,807	55,875	81,807	-41,400	-28,276	-1,081,254	-1,048,016	-5	-122	-100	35
HP VFD	6	5	0	23,517	105,158	128,675	85,897	53,336	85,897	-42,778	-26,562	-1,124,032	-1,074,578	-5	-127	-100	41
HP VFD	7	6	0	23,987	110,416	134,404	90,192	50,911	90,192	-44,211	-24,956	-1,168,243	-1,099,534	-5	-132	-100	46
HP VFD	8	7	0	24,467	115,937	140,404	94,702	48,597	94,702	-45,702	-23,452	-1,213,946	-1,122,986	-5	-137	-100	52
HP VFD	9	8	0	24,956	121,734	146,690	99,437	46,388	99,437	-47,253	-22,044	-1,261,199	-1,145,030	-5	-142	-100	57
HP VFD	10	9	0	25,455	127,821	153,276	104,409	44,280	104,409	-48,867	-20,725	-1,310,066	-1,165,755	-6	-148	-100	62
HP VFD	11	10	0	25,965	134,212	160,176	109,629	42,267	109,629	-50,547	-19,488	-1,360,613	-1,185,243	-6	-153	-100	67
HP VFD	12	11	0	26,484	140,922	167,406	115,111	40,346	115,111	-52,295	-18,329	-1,412,909	-1,203,572	-6	-159	-100	71
HP VFD	13	12	0	27,014	147,969	174,982	120,866	38,512	120,866	-54,116	-17,243	-1,467,024	-1,220,815	-6	-165	-100	76
HP VFD	14	13	0	27,554	155,367	182,921	126,910	36,761	126,910	-56,011	-16,224	-1,523,035	-1,237,039	-6	-172	-100	80
HP VFD	15	14	0	28,105	163,135	191,240	133,255	35,090	133,255	-57,985	-15,269	-1,581,020	-1,252,309	-7	-178	-100	84
HP VFD	16	15	0	28,667	171,292	199,959	139,918	33,495	139,918	-60,041	-14,373	-1,641,062	-1,266,682	-7	-185	-100	88
HP VFD	17	16	0	29,240	179,857	209,097	146,914	31,973	146,914	-62,183	-13,533	-1,703,245	-1,280,215	-7	-192	-100	91
HP VFD	18	17	0	29,825	188,849	218,675	154,260	30,519	154,260	-64,415	-12,744	-1,767,660	-1,292,959	-7	-199	-100	95
HP VFD	19	18	0	30,422	198,292	228,714	161,973	29,132	161,973	-66,741	-12,004	-1,834,401	-1,304,963	-8	-207	-100	98
HP VFD	20	19	0	31,030	208,207	239,237	170,071	27,808	170,071	-69,166	-11,309	-1,903,567	-1,316,272	-8	-215	-100	101
RS	1	0	1,329,642	93,074	481,129	1,903,845	0	0	0	-1,903,845	-1,903,845	-1,903,845	-1,903,845	-43	-143	0	0
RS	2	1	0	94,935	505,186	600,121	0	0	0	-600,121	-545,565	-2,503,967	-2,449,410	-45	-188	-100	0
RS	3	2	0	96,834	530,445	627,279	0	0	0	-627,279	-518,413	-3,131,246	-2,967,823	-47	-235	-100	0
RS	4	3	0	98,771	556,967	655,738	0	0	0	-655,738	-492,666	-3,786,984	-3,460,488	-49	-285	-100	0
RS	5	4	0	100,746	584,816	685,562	0	0	0	-685,562	-468,248	-4,472,546	-3,928,737	-52	-336	-100	0
RS	6	5	0	102,761	614,056	716,818	0	0	0	-716,818	-445,087	-5,189,364	-4,373,824	-54	-390	-100	0

FINANCIAL ANALYSIS / Calculations			Cash Out ($) (Acquisition & Expenses)				Cash In ($) (Savings)			Cash Flow ($)				Returns (%)			
Product	Year	Discount Period	First Cost	Recurring Cost	Utility Cost	Subtotal Outflow	Cooling Cost plus Other Savings	Discounted Cost Savings	Subtotal Inflow	Cash Flow	Present Value of Cash Flow	Cumulative Cash Flow	Cumulative of Present Value	ROI Return on Investment	Total Return on Investment	Internal Rate of Return	Savings to Investment Ratio
RS	7	6	0	104,816	644,759	749,576	0	0	0	-749,576	-423,116	-5,938,939	-4,796,940	-56	-447	-100	0
RS	8	7	0	106,913	676,997	783,910	0	0	0	-783,910	-402,270	-6,722,849	-5,199,210	-59	-506	-100	0
RS	9	8	0	109,051	710,847	819,898	0	0	0	-819,898	-382,489	-7,542,747	-5,581,698	-62	-567	-100	0
RS	10	9	0	111,232	746,389	857,622	0	0	0	-857,622	-363,715	-8,400,369	-5,945,413	-64	-632	-100	0
RS	11	10	0	113,457	783,709	897,166	0	0	0	-897,166	-345,896	-9,297,535	-6,291,310	-67	-699	-100	0
RS	12	11	0	115,726	822,894	938,620	0	0	0	-938,620	-328,981	-10,236,155	-6,620,290	-71	-770	-100	0
RS	13	12	0	118,040	864,039	982,079	0	0	0	-982,079	-312,921	-11,218,234	-6,933,211	-74	-844	-100	0
RS	14	13	0	120,401	907,241	1,027,642	0	0	0	-1,027,642	-297,671	-12,245,876	-7,230,882	-77	-921	-100	0
RS	15	14	0	122,809	952,603	1,075,412	0	0	0	-1,075,412	-283,190	-13,321,289	-7,514,072	-81	-1,002	-100	0
RS	16	15	0	125,265	1,000,233	1,125,499	0	0	0	-1,125,499	-269,435	-14,446,787	-7,783,507	-85	-1,087	-100	0
RS	17	16	0	127,771	1,050,245	1,178,016	0	0	0	-1,178,016	-256,371	-15,624,803	-8,039,878	-89	-1,175	-100	0
RS	18	17	0	130,326	1,102,757	1,233,083	0	0	0	-1,233,083	-243,959	-16,857,886	-8,283,837	-93	-1,268	-100	0
RS	19	18	0	132,933	1,157,895	1,290,828	0	0	0	-1,290,828	-232,167	-18,148,714	-8,516,004	-97	-1,365	-100	0
RS	20	19	0	135,591	1,215,790	1,351,381	0	0	0	-1,351,381	-220,962	-19,500,095	-8,736,965	-102	-1,467	-100	0

Options Analysis

Options	Benefits	Considerations
DL-A Series	N/A	N/A
HP VFD Series	N/A	N/A
RS Series	N/A	N/A

Additional Comments

N/A

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Glossary

First Cost

Sum of the initial purchase, installation, one-time cost and water treatment system purchase costs

Non-utility Inflation Rate

The rate (%) at which non-utility cost is to increase annually due to inflation

Utility Inflation Rate

The rate (%) at which utility cost is to increase annually due to inflation

Discount Rate

The rate (%) at which the purchase power of a fixed amount is to decrease year-over-year

Benefit

An estimate of the cost savings due to humidification benefits (e.g. amount saved per year on employee sick days) entered by the user in their local currency

Payback Period

The period (in number of years) it takes to recover the First Cost when based on cumulative cash flow (also known as Cumulative Payback Period) or when based on cumulative of present value of cash flows (also known as Discounted Payback Period). Within each method (i.e. cumulative or discounted), this statistic can be of use in direct product comparison with a word of caution: Relative product performance can differ for different sets of input values.

Subtotal Outflow

Annual expenses, including first cost in Year One plus recurring costs in each year.

Subtotal Inflow

Annual savings in each year.

Cash Flow

The Subtotal Outflow minus the Subtotal Inflow.

Cumulative Cash Flow

Running total of Cash Flow.

Present Value

Present value of cash flows discounted by the discount rate.

Cumulative Present Value

Running total of Cumulative Cash Flows.

Return on Investment

Cash flow in the year, as percentage of First Cost in Year One.

Note that First Cost does not include recurring costs in year 1.

Total Return on Investment

Calculated as 100 minus the running total of ROI.

This measure describes the effect of return on investment on (a) the recovery of First Cost as well as (b) beyond.

Both (a) and (b) are expressed as a percentage of the First Cost.

Internal Rate of Return

The internal rate of return, calculated for a specific year, is the inputed rate of return that sets the net present value of observed cash flow (up to and including the year of calculation) equal to 0.

Discounted Cost Savings

The present value of cost savings (including savings from cooling and/or other)

Savings to Investment Ratio

The running total of discounted cost savings expressed as percentage of first cost*

** Special note: First Cost does not include recurring costs in year 1*