

Cost Savings due to the reduction of the header pressure if EDCV is used:

Zone	Avg. Air Flow/zone (scfm)	Operating hrs.	Operating days/week	Total Avg Air Flow (scf/week)
Zone 1-1	1,034	24	7	10,422,720
Zone 1-2	1,047	2	1	125,640
Zone 1-3	1,273	24	7	12,831,840
Zone 1-4	790	24	7	7,963,200
Total				31,343,400

Estimated Average Air Flow Q: 3,109 scfm
 Power Cost (USD/KWh): 0.13 USD/ kWh
 Total Operating Hours/year: 8,760 Hr/year

Pressure loss through the BFV: 0.500 psi (minimum)
 Pressure loss through the EDCV: 0.120 psi (by design)
 Reduction of Header Pressure: **0.380** psi

Reduction of Header Pressure Δp (psi)	Power Savings ΔP (KW)	Blower Efficiency (assumption)	Actual Power Savings (KW)	Savings 1 year (KWh)	Savings 1 year (USD)	Savings 5 years (USD)	Savings 10 years (USD)
0.300	3.0	80%	3.8	33,275.5	\$4,326	\$21,629	\$43,258
0.350	3.5	80%	4.4	38,821.4	\$5,047	\$25,234	\$50,468
0.375	3.8	80%	4.7	41,594.3	\$5,407	\$27,036	\$54,073
0.400	4.1	80%	5.1	44,367.3	\$5,768	\$28,839	\$57,677
0.450	4.6	80%	5.7	49,913.2	\$6,489	\$32,444	\$64,887
0.475	4.8	80%	6.0	52,686.2	\$6,849	\$34,246	\$68,492
0.500	5.1	80%	6.3	55,459.1	\$7,210	\$36,048	\$72,097
0.600	6.1	80%	7.6	66,551.0	\$8,652	\$43,258	\$86,516
0.700	7.1	80%	8.9	77,642.8	\$10,094	\$50,468	\$100,936

Assumptions and Calculation Basis:

$$\Delta P [\text{HP}] = Q [\text{scfm}] * \Delta p [\text{psi}] / 229 \quad (1 \text{ HP} = 0.746 \text{ kW})$$

Airflow (Nm3/h) as shown in the above screen shot				
Zone	1	2	3	4
Set Point	1500	795	795	2001
Actual	1493	781	787	1998
Δ	0.47%	1.76%	1.01%	0.15%