



Arizona Vortex Tube Manufacturing Co.

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Cost Comparison with Conventional Blowoff Devices

Type of Blowoff Device	PSIG	BAR	Comp. Air SCFM	Comp. Air SLPM	Horsepower Required	Sound Level dBA	Purchase Price	* Annual Electrical Costs	Approx. Annual Maintenance Costs	First Year Cost
Drilled Pipe	60	4.1	174	4,924	35	91	\$55.00	\$5,539	\$900	\$6,494
Blower Air Curtain	3	0.2	N/A	N/A	10	90	\$5,700	\$1,555	\$1500	\$8,755
Arizona Vortex Air Curtain (45036) 36" Air Curtain	60	4.1	55	1,557	11	69	\$265.00	\$1,710	\$200	\$2,175

Drilled Pipe: A common and inexpensive blowoff device. For the test we used 2 drilled pipes with (25) 1/16" diameter holes on 1/2" centers. Noise level was excessive. Holes became blocked with debris. Frequent dead zones and spikes of air.

Blower Air Curtain: An expensive blowoff device. This device requires slightly lower electrical consumption compared to Arizona Vortex Air Curtain. However, blowers require frequent downtime and costly maintenance of filters, belts, and bearings. Bearing replacement is recommended at least once a year with average cost of \$1,000. Typically, these bearings cannot be replaced in the field and require the unit to be sent back to the manufacturer. Blowers take up a lot of space and typically have noise levels that exceed OSHA standards.

Arizona Vortex Air Curtain: Uniform curtain of air. Electrical costs were higher compared to the blower but could be reduced if cycling on and off are possible. Noise levels were extremely low. Little to no maintenance since there are no moving parts. 5 year manufacturer warranty.

* Based on a national average electricity cost of 10.02 cents per kWh. Annual Cost reflects 40 hours per week. 52 weeks per year.

Sources: Energy Information Administration, Form EIA-826, "Monthly Electric Sales and Revenue With State Distributions Report;" Form EIA-906, "Power Plant Report;" Form EIA-920, "Combined Heat and Power Plant Report;" Beginning with 2008 data, the Form EIA-923, "Power Plant Operations Report," replaced the following: Form EIA-906, "Power Plant Report;" Form EIA-920, "Combined Heat and Power Plant Report;" Form EIA-423, "Monthly Cost and Quality of Fuels for Electric Plants Report;" and Federal Energy Regulatory Commission, FERC Form 423, "Monthly Report of Cost and Quality of Fuels for Electric Plants."