

AiRTX Air Amplification

Air Knives, Air Amplifiers, Nozzles, Blow Guns, Manifolds — For All Your Blow Off Needs
Designed Technology of AiRTX Products to use surrounding FREE air to increase the volume of compressed Air!



Call us 1-800-307-7475
With Your Specific Application

Why AiRTX Air Amplification Products

- Save money on compressed air 50-90%
- Increase volume of air flow – 90 times
- Nozzles meet OSHA Standards
- Relieves duty cycle of air compressor- reduces repair cost
- Reduce noise levels 50 dBA or more

▲ Air Amplification Products

What Is The Cost Of Compressed Air?

A 100 Hp compressor cost approximately \$35,000 per year to operate.

Power Cost = $\frac{\text{Hp} \times 0.746 \times \text{hour} \times \text{rate}}{\text{motor efficiency}}$ = \$34,800

OR

Power Cost = $\frac{100 \times 0.746 \times 6,000 \times 7\text{¢ kw}}{90\%}$ = \$34,800

What are YOU paying for that outdated Copper Tube, Pipe Nipple or Plastic Nozzle?

Look below for savings of 50-90% of your electric bill with AiRTX Nozzles. You may not need that new additional Air Compressor.

Conventional Air Movers - Consumption and Costs

	Size	Air Consumption LPM				Cost per 1000 Cu. Ft. @ 100 psi	
		80 psi	LPM	100 psi	LPM	Per Day	Per Year
Pipe Nipple	3/8" x 2'	290	8207	350	9905	\$41.60	\$10,858
Copper Tube	1/4" x 1'	36	1019	42	1189	\$ 5.04	\$ 1,310
Copper Tube	1/2" x 1'	190	5377	240	6792	\$28.80	\$ 7,488
Hole in Pipe	1/8"	18	509	22	623	\$ 2.64	\$ 686
Hole in Pipe	1/4"	70	198	86	2434	\$10.80	\$ 2,288
AiRTX Model 48009 15 cfm @ 80 psi						\$ 1.76	\$ 458

Cost is based on \$0.25 per 1000 cu. ft. of air per hour and duty cycle of 8 hours a day, 260 days per year.

LPM = cfm x 28.3

Want To Know How Much Air You Are Using? Compressed air discharge to atmosphere through sharp, square edged orifice and sea level cfm

Compressed Air Flow Through Orifice Chart – Orifice Diameter in Inches

psi	1/64	1/32	3/64	1/16	5/64	3/32	7/64	1/8	5/32	3/16	7/32	1/4	5/16	3/8	1/2	3/4	1
20	0.12	0.49	1.07	1.90	2.97	4.28	5.84	7.59	11.8	17.0	23.1	30.4	47.2	68.6	122	269	468
30	0.15	0.63	1.39	2.47	3.87	5.58	7.60	9.89	15.4	22.2	30.4	39.6	61.5	89.4	158	350	634
40	0.19	0.78	1.72	3.05	4.77	6.08	9.38	12.20	19.0	27.3	37.5	48.8	75.8	110.0	195	432	781
50	0.23	0.92	2.04	3.62	5.67	8.17	11.10	14.50	22.6	32.5	44.6	57.0	90.1	131.0	232	513	929
60	0.26	1.07	2.37	4.20	6.57	9.46	12.90	16.80	26.2	37.7	51.6	67.2	104.0	152.0	269	595	1075
70	0.30	1.21	2.69	4.77	7.47	10.80	14.70	19.10	29.7	42.8	58.8	76.4	119.0	173.0	306	676	1223
80	0.33	1.37	3.02	5.35	8.37	12.10	16.50	21.40	33.3	48.0	65.8	85.6	133.0	193.0	343	757	1371
90	0.37	1.52	3.37	5.92	9.27	13.40	18.20	23.70	36.9	53.2	72.9	94.8	148.0	214.0	379	839	1518
100	0.41	1.66	3.66	6.50	10.20	14.70	20.00	26.00	40.5	58.3	80.0	105.0	162.0	235.0	416	920	1664

AiRTX Air Amplification

AiRTX Air Amplification Products gives you More Performance with Less Noise

OSHA Safety Regulations

- Eye protection necessary where using compressed air to remove particles.
- Safety compressed air nozzles should not exceed 30 psi blowing force.
- Safety compressed air nozzles should prevent dead ending pressure from reaching a person's skin.
Vent hoses or slots are necessary so that the full force of the compressed air from a nozzle or tube has a release route to prevent skin impingement of foreign matter from the compressed air line

Noise level of AiRTX Air Amplifiers and Nozzles

Model	Noise level dBA	psi	cfm
38038	76	@80	15
48009	72	@80	15
15008	72	@80	15
15015	76	@80	20
85006	72	@80	24
85012	72	@80	48
38050	74	@80	15

General Information on Noise in the Work Place

Sound Level	Application	Recommended NIOSH Tolerance (w/o ear protection)
110	1/2" Open Pipe	30 min.
105	3/8" Open Pipe	1 hr.
102	1/4" Copper Tube	90 min.
92		6 hrs.
90		8 hrs.
85	Targeted sound levels for most manufacturing facilities	
60	Normal conversation — An increase or decrease of 10% in sound levels makes a substantial difference in the ear damaging effects of noise	

Air Pressure - Some common causes of low air pressure —

- Demand is too high for supply — machines do not perform at peak efficiency
- Air leaks — plant average is 20% of lost capacity
- Undersized piping or connections
- Friction loss from length, pipe bends, old pipes with internal corrosion

Characteristics Of Air Pressure in Hose

Pressure Drop Due to Friction in Hose 100 psi 50 Foot Lengths

cfm	Hose Inside Diameter				
	1/4"	3/8"	1/2"	3/4"	1"
10	1.6	0.7	—	—	—
20	9.0	4.1	0.7	0.2	—
30	26.8	8.6	2.3	0.4	0.1
40	43.7	17.5	4.8	0.6	0.2
50	60.6	29.6	8.4	1.0	0.2
60	—	49.7	13.3	1.4	0.4

Characteristics Of Air Pressure in Pipe

Pressure Drop Due to Friction in Pipe 100 psi 50 Foot Lengths

cfm	Nominal Pipe Size				
	1/4"	3/8"	1/2"	3/4"	1"
10	1.8	0.5	0.3	—	—
20	9.4	4.7	1.3	0.2	—
30	28.6	9.2	3.0	0.5	0.13
40	46.3	18.7	5.1	0.8	0.23
50	64.4	31.0	9.6	1.3	0.35
60	—	53.2	15.0	1.9	0.50

Recommended Air Hoses

Approx. Air Consumption (cfm)	Minimal Air Hose Size (Inches) Length of Run		
	0'-10'	10'-50'	50'-200'
0-20	5/16	3/8	1/2
20-40	3/8	1/2	1/2
40-75	1/2	1/2	3/4
75-120	3/4	3/4	1
120-140	1	1	1-1/4

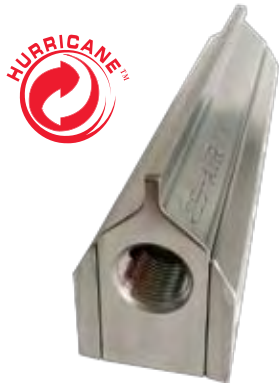
Call the AiRTX Air Line
for Free Technical Support
1-800-307-7475

E-mail Us at
sales@airtx.com

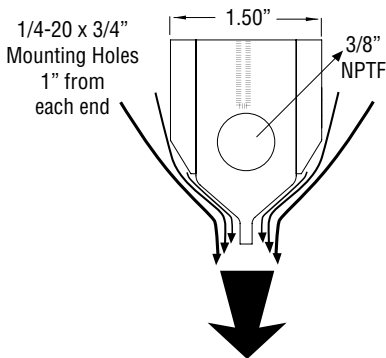
Visit Our Website at
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AiRTX HURRICANE AIR KNIVES

Double the Air Volume of other Air Knives! (50:1 Air Amplification)



▲ Hurricane Air Knife Model 86006 (Aluminum)



Entrained Air from both sides versus conventional one sided Air Knives (50:1 air amplification)

▲ End View Hurricane Air Knife

AiRTX Air Knives Advantages

- 50:1 Air Flow Amplification
- Wide area blow-off or cooling with less noise
- Replace open Jets with AiRTX Air Knives
- Low initial and operating costs
- Up to 70% less compressed air usage than open air lines
- Easy to control flow/force
- Instant on/off
- No rotating machinery, guards or clumsy ducts
- No maintenance, no moving parts
- No electricity or explosion hazard
- No RF/EMI interference

Use Them For

- Removing water from sheet plastic or metal
- Blowing off chips, trim scrap and swarf
- Parts cleaning before painting
- Creating an "air wall" between processes
- Cooling extruded parts
- Cleaning/cooling of metal strip and plastic/paperwebs
- Cleaning/cooling of conveyors and conveyORIZED parts

AIR KNIVES

Overall length is 1" longer than effective length to allow for air connection to either end.

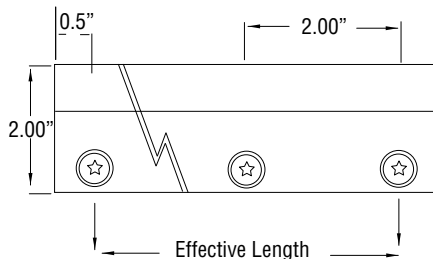
SHIMS

Air Knives over 18" should be supplied with air from both sides. Increase air flow from the Air Knife by installing additional .003" shims. Stainless Steel shims are available for high heat applications.

Custom sizes available.

Part Number - Series 80000 Air Knives:

- 1st digit 8 represents Air Knives Series
- 2nd digit 5 is aluminum
- 2nd digit 0 is stainless steel
- 2nd digit 6 is aluminum Hurricane
- 2nd digit 2 is SlimLine
- 3rd digit 1 = with filter
- 3rd digit 2 = w/ Filter and regulator
- Last 2 digits is effective length

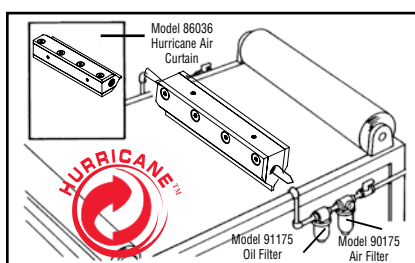
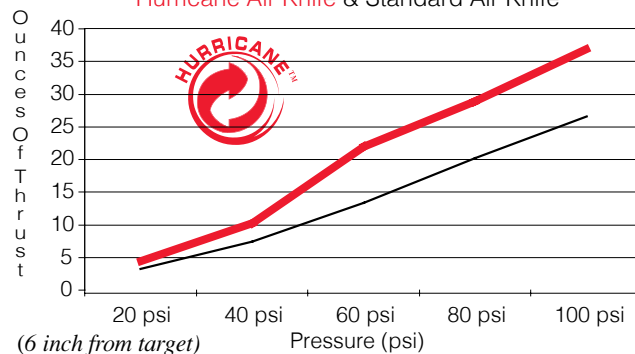


▲ Side View Hurricane Air Knife

Hurricane Air Knife Performance Chart

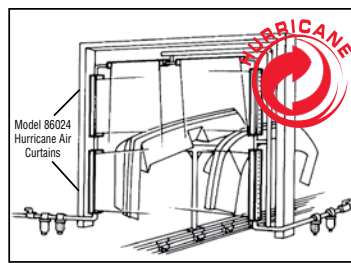
	Air Pressure psi				
	20	40	60	80	100
Air Usage/Inch with .003" Shim					
CFM	2.9	3.7	4.4	6	8.3
LPM	82	105	125	170	235

Hurricane Air Knife & Standard Air Knife



Textiles

The Model 86036 Hurricane Air Knives are ideal for cleaning and drying large rolls of cloth.



Drying and Finishing

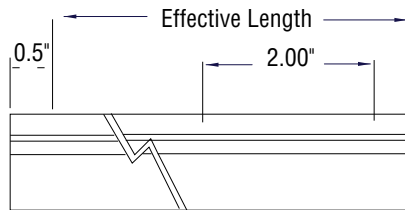
Model 86024 Hurricane Air Knife dries and eliminates dust from these automobile fascia prior to printing. Operating with a fraction of the compressed air of open air lines, Air Knives are quiet and energy efficient.

AiRTX Air Knives

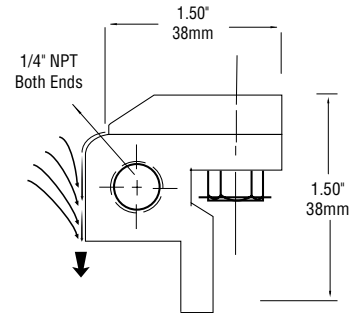
Why Settle For Less Than The Best



▲ Air Knife Model 85012 Aluminum



▲ Side View Aluminum Air Knife

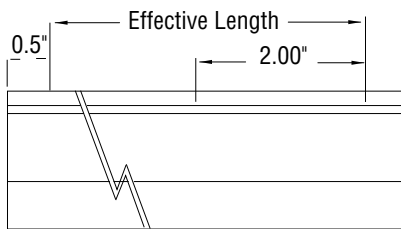


Entrained Air versus conventional Open Air Lines (25:1 air amplification)

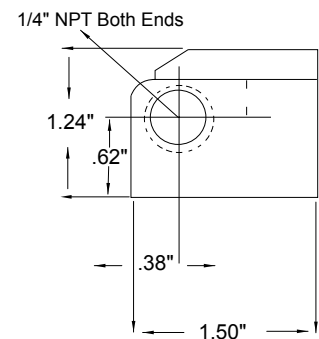
▲ End View Aluminum Air Knife



▲ Air Knife Model 80012 Stainless Steel



▲ Side View Stainless Steel Air Knife



▲ End View Stainless Steel Air Knife

AIR KNIVES

Overall length is 1" longer than effective length to allow for air connection to either end.

SHIMS

Air Knives over 18" should be supplied with air from both sides. Increase air flow from the Air Knife by installing additional .003" shims. Stainless Steel shims are available for high heat applications. Custom sizes available.

Part Number - Series 80000 Air Knives:

1st digit 8 represents Air Knives Series
2nd digit 5 is aluminum
2nd digit 0 is stainless steel
2nd digit 6 is aluminum Hurricane
2nd digit 2 is SlimLine
3rd digit 1 = with filter
3rd digit 2 = w/ Filter and Regulator
Last 2 digits is effective length

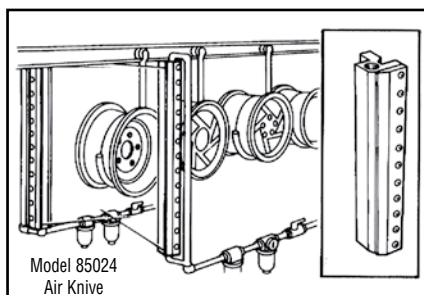
Air Knife Performance Chart

	Air Pressure psi				
	20	40	60	80	100
Air Usage/Inch with .003" Shim					
CFM	2.2	3.0	3.5	4.3	5.4
LPM	62	85	99	122	153

Call the AiRTX Air Line
for Free Technical Support
1-800-307-7475

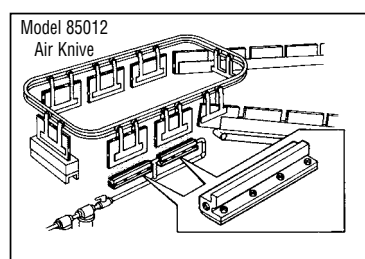
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Visit Our Website at
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Powder Coating and Curing

The Model 85024 Aluminum Air Knife cool wheel rims as they exit powder coating ovens.



Printing and Binding

High-Speed binding requires quick drying of the glue so books can be fed along the stacking conveyor. The high volume of air from the Model 85012 Air Knife speeds the outer drying of the glue so the conveyor can operate at maximum speed.

AIR AMPLIFICATION

AiRTX SLIMLINE Air Knives

Slimmer Profile — Slimmer Cost — Fits in Tighter Places



SlimLine

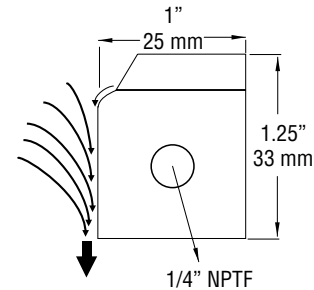
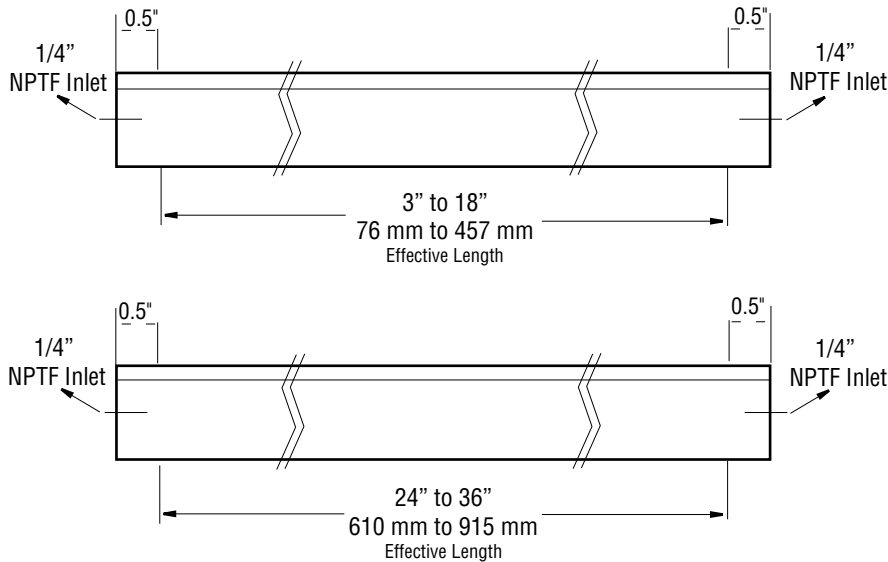
AiRTX SlimLine Air Knives Advantages

- Slimmer Cost – 20 to 25% Cost Savings over conventional Air Knives
- Slimmer Air Usage - 30% less consumption with same 25:1 Air Amplification
- Convenient Rear Connection to compressed air source
- Quiet

Use Them For

- The Slim profile provides a perfect solution in a tight working environment

▲ Air Knife Model 82006 (Aluminum)



Entrained Air versus conventional Open Air Lines (25:1 air amplification)

▲ End View SlimLine Air Knife

▲ Side View SlimLine Air Knife

Slim Line Air Knife Performance Chart

Air Pressure psi					
	20	40	60	80	100
Air Usage/Inch with .003" Shim					
CFM	1	1.5	2.1	3	3.6
LPM	28	42	59	85	102

AIR KNIVES

Overall length is 1" longer than effective length to allow for air connection to either end.

SHIMS

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Custom sizes available.

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2nd digit 0 is stainless steel

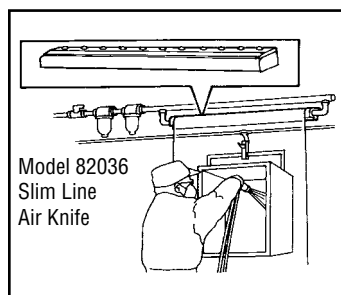
2nd digit 6 is aluminum Hurricane

2nd digit 2 is SlimLine

3rd digit 1 = with filter

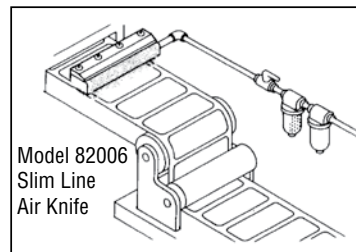
3rd digit 2 = w/ Filter and regulator

Last 2 digits is effective length



Painting

The 36" Model 82036 Slim Line Air Knife with air filter creates an air barrier and helps prevent airborne powder from reaching the worker. The SlimLine construction ensures easy clean-up and long life.



Label Printing

The Model 82006 Slim Line Air Knife cools label adhesive and holds down the ends of the labels until they reach the rollers. This reduces damage and improves quality.