

VORTEC Air Knives and Ionizing Air Knives

High velocity, laminar sheet of air

Air Knives deliver a flat sheet of amplified air designed to:

- Efficiently blow off water and debris from wide surfaces
- Provide high speed drying or cooling
- Kill static, with an added static neutralizing bar on the Ionizing Air Knife

Air Knives are air amplifiers, using a small amount of filtered compressed air to deliver a powerful, high velocity, laminar sheet of air over wide areas such as moving webs, film, sheets, strips, auto bodies and other large assemblies and objects. Vortec's patented design produces increased thrust and velocity, reduced noise and excellent uniformity.



Ionizing Air Knives add a static neutralizing bar, to discharge static to clean surfaces of dust, shavings and debris more effectively. The static neutralizing bar generates positive and negative charged ions that are carried to the target in a uniform sheet of amplified air. Ionizing Air Knives kill the static build up that can attract dust and contaminants that ruin a painted or coated surface; and stop static discharges which can damage electronic equipment and shock personnel.

Features

- More uniform blow off of large surfaces than nozzles or jets
- Dries surfaces quickly and thoroughly
- Costs significantly less than fans or blowers
- Inherently safe, with no electricity or rotating equipment
- Reduced compressed air usage, versus open nozzles
- Easily controlled output via a pressure regulator
- Quiet – meets OSHA requirements
- No electrical connections at the target site
- Easily mounted and moved
- Give a cleaner surface for painting or coating

Benefits

- 25 times air amplification over compressed air input
- High performance, patented design gives high thrust
- Interchangeable shims enable air flow to be adjusted for the specific application
- Air Knives are available in lengths of 3, 6, 12, 18 and 24 inches (3" not available in Ionizing)
- Single compressed air inlet up to 12 inch length; two inlets on longer models
- Instant on/off
- No moving parts; no maintenance
- Quiet – meets OSHA noise specifications

Air Knife Applications:

- Blow off of wood, laminates, metal sheets, moving webs, sheets, autobodies and large objects
- Surface cooling of metal, electronics, etc.
- Shrink wrapping
- Food processing
- Cooling molded parts and castings
- Weigh sorting of pharmaceuticals and other lightweight items
- Drying printing inks
- Creating air curtains
- Containment of fumes



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Air Knife Models:

OAL - Overall Length

EFFECTIVE LENGTH	ALUMINUM		IONIZING		
	MODEL	LENGTH (mm)	MODEL	LENGTH (mm)	
3"	921-3	3 11/32" (85)	-	-	-
6"	921-6	6 11/32" (161)	981-6	7"	(178)
12"	921-12	12 11/32" (313)	981-12	13"	(330)
18"	921-18	18 11/32" (466)	981-18	19"	(483)
24"	921-24	24 11/32" (618)	981-24	25"	(635)

Cool, Clean, Dry or Neutralize Static While Reducing Air Consumption and Noise



Power Supply Units:

A power supply unit is required to operate Ionizing Air Knives. Based on the number of ionizing bars needed, choose from two or four cable models.

Both models are rated at: 115V, 50/60Hz input; 7.0kV output.

Air Knife Performance Specifications

PRESSURE PSIG	AIR CONSUMPTION (SCFM)					VELOCITY AT DISTANCE FROM OUTLET (FT./MIN.)			THRUST* PER IN. (OZ.)
	3"	6"	12"	18"	24"	2"	6"	12"	
30	6	11	23	34	45	12,500	5,100	3,700	1.2
40	7	14	29	43	58	14,400	7,100	4,600	1.7
50	9	17	35	52	70	16,200	8,400	5,800	2.3
60	10	20	40	60	80	17,000	9,900	6,700	2.8
70	12	23	46	69	92	17,800	10,600	7,600	3.4
80	13	26	52	78	104	18,600	12,200	8,400	3.9
90	14	29	57	86	114	19,400	13,200	9,200	4.4
100	16	32	64	95	127	20,200	14,200	10,000	4.9



STANDARD AIR KNIFE

* At 12" from Air Knife outlet (e.g. a 12" Air Knife at 50 PSIG will produce 2.3 x 12 = 27.6 oz. of thrust.)

Air Knife Performance Specifications (METRIC)

PRESSURE BAR	AIR CONSUMPTION (SCFM)					VELOCITY AT DISTANCE FROM OUTLET (M / S)			THRUST* PER CM. (G)
	7.6CM	15CM	31CM	46CM	61CM	5CM	15CM	31CM	
2.1	162	323	642	965	1285	64	26	19	14
2.8	204	408	815	1223	1630	73	36	23	19
3.5	246	492	985	1477	1970	82	43	29	25
4.1	284	569	1138	1707	2275	86	50	34	31
4.8	325	651	1302	1953	2604	90	54	39	38
5.5	368	736	1472	2207	2943	94	62	43	44
6.2	404	807	1613	2420	3226	99	67	47	49
6.9	450	900	1800	2700	3600	103	72	51	55



IONIZING AIR KNIFE

* At 30 cm. from Air Knife outlet.