



# HISASHI INDUSTRIES

E-168 SEC-7 NOIDA-201301

## HISASHI AIR KNIFE SYSTEM



# HISASHI

### Air Knife Systems

Our Air Knife Systems improve production, minimise disruption, and save you time and energy.



**BREATH EASY-STAY HEALTHY**

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## What is an Air Knife System – And How Do They Work?

An Air Knife System is a system designed and engineered to create air jets suitable for industrial purposes. Air Knife Systems use Air Knives that have precision-engineered linear slots to direct and utilise high-velocity air generated by a centrifugal blower. Air Knife Systems are highly effective at cleaning, drying, blow-off and liquid control for a wide range of applications.

**Air is blasted through the air knife slots via a high-speed centrifugal blower to deliver the predetermined exit air volume and velocity needed. Electrical currents from anti-static bars can also be injected into the exit air knife stream to neutralize the static electricity charge on some surfaces.**

Air Knives are often the most energy-efficient and effective method of removing or controlling foreign substances for any surface. Most Air Knives are stationary with products passing through them on a conveyor however there are also systems where the product is stationary and the Air Knives move around it. The potential that Air Knives provide for many different kinds of industries is therefore enormous.

## Air Knife System Components

- High Performance Blowers
- Air Knives and/or Nozzle Manifolds (Air Devices)
- Mounting kits for the Air Devices
- Interconnecting pipework between Air Devices and the system Blower
- Electrical controls to start/stop the Blower and regulate the performance

## Air Knife System Uses

- Remove liquids
- Control the thickness of liquids
- Dry liquid coatings

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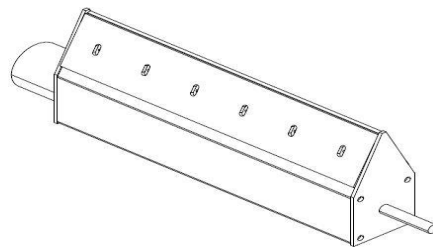
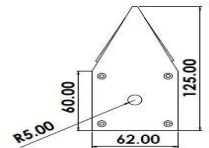
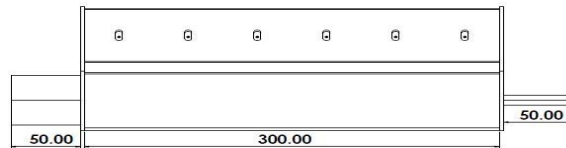
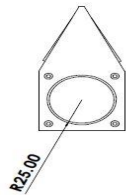
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SN	Parameters	AK100	AK300	AK500	AK700	AK1000
1	Length in mm	100	300	500	700	1000
2	Blower power in kw	0.37	1.5	2.2	3.7	5.5
3	Air flow in CMH	85	200	305	400	650
4	Construction	Stainless steel	SS 202	Stainless Steel 304	Stainless Steel 202 /304	Stainless Steel

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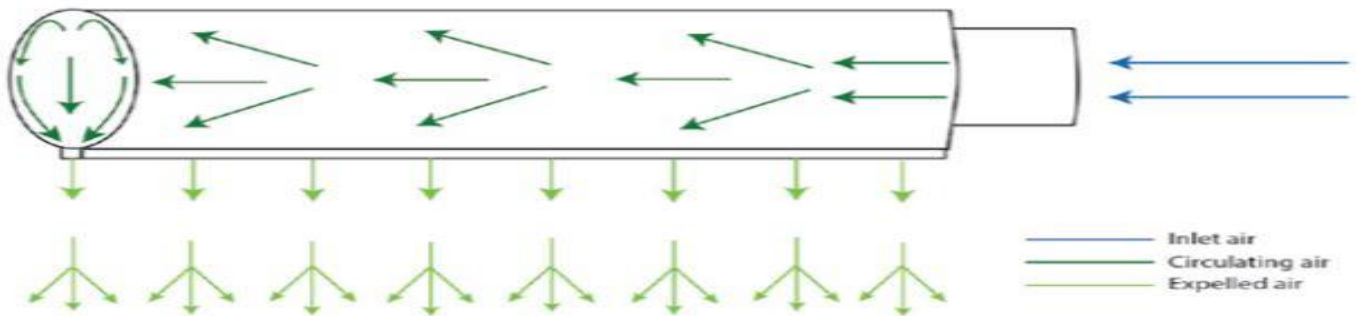
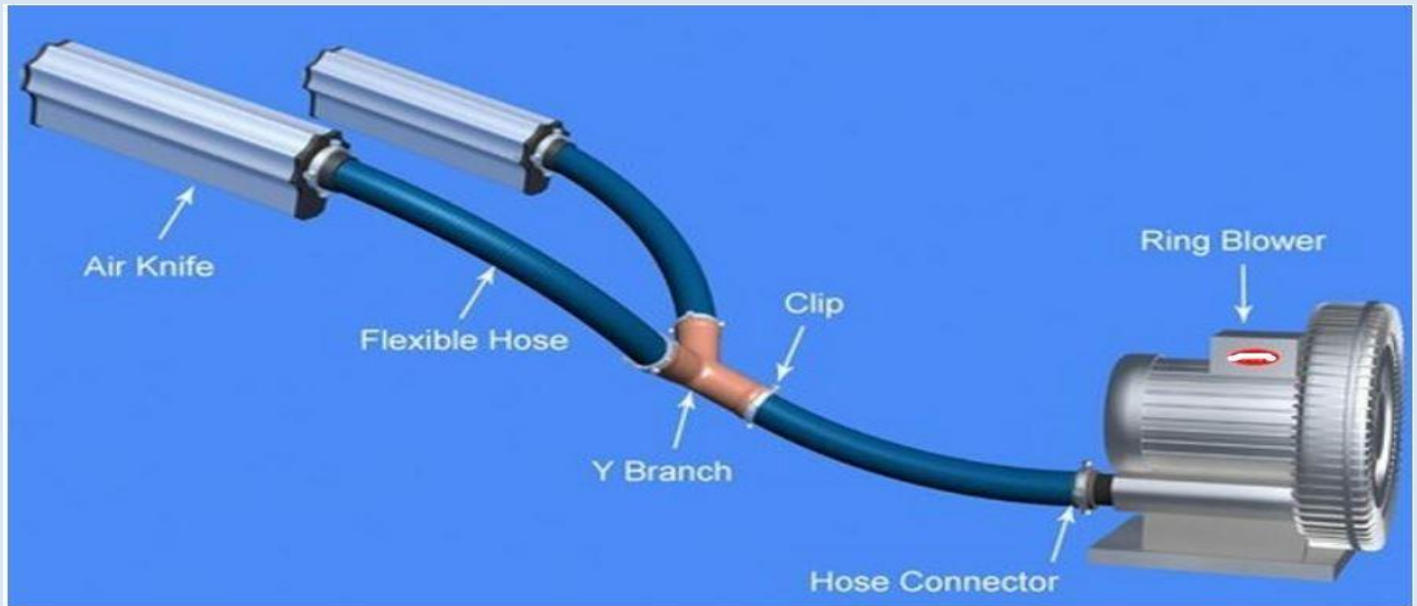
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*An air knife is a pressurized air plenum with a uniform continuous gap which pressurized air exits in a laminar flow pattern. The exiting air velocity creates an impact air velocity directly onto the surface of the product to shear away moisture or particulates without mechanical contact. This impact air velocity can range from a gentle breeze to greater than 40,000 feet per minute.*

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## Air Knife System installed onto an existing production line

Air Knife Systems are typically installed onto existing production lines and can vary in size, shape and scope to produce airstreams that fit a wide range of products sizes, shapes and line configurations.



## Air Blowers generate pressurised air

High speed, high performance centrifugal blowers to generate pressurised air.



## Connecting Pipework

The pressurised air is then delivered through the connecting pipework, to the Air Knives or Devices.

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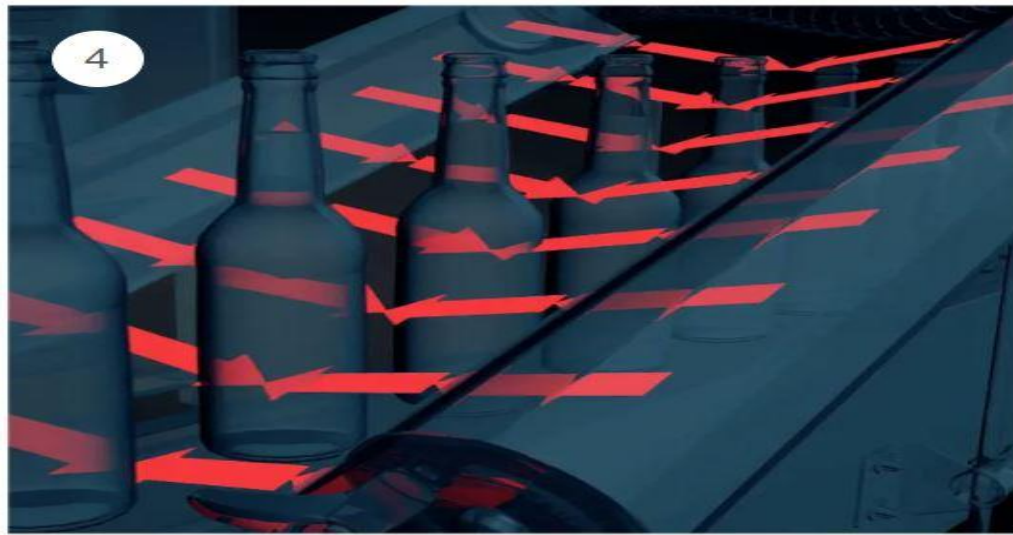
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## Targetted Performance

The Air Knives and Devices are arranged so that they give maximum effect (cooling, drying, cleaning) to the object passing through it.

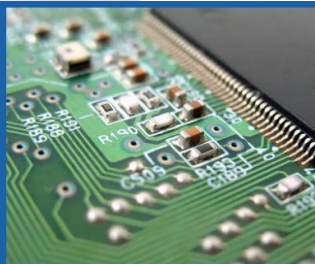
### APPLICATION



#### Food & Beverage

Well designed, easy to use, energy-efficient solutions for the removal of water, residual product and dust from food and beverage packaging.

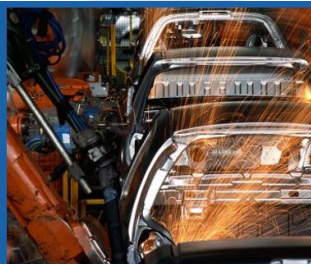
Food & Beverage



#### Industrial & Electrical

Drying, blow-off, cleaning and static neutralisation solutions for manufacturing plants, from heavy industry to more delicate medical or electronic parts.

Industrial & Electrical



#### Automotive & Aerospace

From individual components to assembled vehicles, our systems dry metal/plastics after rinsing, plus remove coolant emulsion and swarf.

Automotive & Aerospace



#### Rubber & Plastics

Suitable for extrusion lines to remove water droplets following liquid cooling, prior to further processing, and prevent moisture and corrosion.

Rubber & Plastics

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## Food & Beverage

Hisashi systems are ideal for bottling, packaging, canning and pouch applications. They offer fast throughputs, with corrosion prevention and rapid cleaning/dry off. They offer versatility and hygienic performance.

Throughout the food and beverage sector manufacturers look for well designed, easy to use and above all energy efficient solutions for the removal of water, residual product and dust from their packaging. Hisashi range of packaged solutions are specifically designed to satisfy the demands of modern production lines.

## Diverse Benefits for Food & Beverage producers

Air Knife Systems provide a wide diversity of benefits for food and beverage production processes.

- Delivers clean, dry, oil-free air
- Speed, efficiency and reliable performance
- No water spots or related problems
- Moisture and corrosion prevention
- Adaptable to various line speeds or conveyor type
- Hardened and durable stainless steel air knives & nozzle manifolds.
- Space-efficient, easy to install, low maintenance



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## Proven Cost Effective

- A Hisashi Air Knife will generate cost savings, speed up operations and/or provide other improvements in the manufacturing process. In many cases, assembly and conveyor line speeds have been increased by as much as 50% due to the efficiency of a Hisashi Air Knife.
- Investment paybacks are often achieved in just a few months, sometimes in a matter of weeks, providing a superior return-on-investment.

## Applications

- Prior to ink jet coding, After wash Rinse, Prevent corrosion under lid, Hot melt labelling, Prior to packaging, Prevent bacteria, Prior to labelling, Prior to date coding, Aluminum cans, Pouches, Tin cans, pet bottles, Glass Bottles, Jars, Crate & Trays, Distribute coating, Prior to wrapping, Blow off Cleaning, Convey & sort, Post shrink tunnel, Prevent Ice Build-up, Packaged meats, Processed Food, Cheese, Food Molds, Frozen Food, Fish, Conveyor belts.

## Industrial & Electronics

Our systems are utilized across all industry sectors. In manufacturing plants, we can provide drying, blow-off, cleaning and static neutralization solutions. Working in heavy industry through to more delicate medical or electronic parts.



## Diverse Benefits for Industry

Air Knife Systems provide a wide diversity of benefits for industrial processes and component manufacturing over a variety of industry sectors. A powerful tool with an extensive range of industrial applications.

- Delivers clean, dry, oil-free air
- Speed, efficiency and reliable performance

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## Drying Electronic Components, Cleaning and Other Applications:

- Drying after washing — drying is critical before coding, marking, painting or coating. Hisashi Air Systems can provide spot drying, or all-over drying, using a custom-engineered air delivery system
- Blowing Off — removal of debris, metal or wood shavings, dust or powder cleaning agents, oils or sealants
- Drying after painting, coating, shrink labeling
- Pneumatic conveying and sorting of plastic parts, plastic caps, small metal parts, or other components
- Static elimination and cleaning of the interior or exterior of cans and bottles; metal sheets; parts or materials before powder coating or painting



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- Conveyor cleaning and drying
- Vacuum hold down of fabrics, wood products, metal sheets

Electronic applications require clean air for drying and blow off. Hisashi Air Systems use 1/5 the energy of compressed air drying, blow off, or static elimination systems, while providing high quality clean air. With the wide variety of air delivery devices available, Hisashi Air Systems can clean and dry any component to meet exacting standards.

## Applications

- Water blows off
- Flat Panel Displays
- After wash or rinse
- Printed Circuit Boards
- Chemical blow off
- Solar panels
- After coating
- Glass
- Pre-packaging
- Photovoltaic cells
- Removal of dust or debris

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## Automotive & Aerospace

For drying metal or plastics parts after rinsing or even removing coolant emulsion and swarf during a machining process. Our systems are employed on individual components through to assembled vehicles.



## Diverse Benefits for the Automotive and Aerospace Industry

Air Knife Systems provide a wide diversity of benefits for manufacturing processes throughout the Automotive and Aerospace industry sectors. A powerful tool with an extensive range of industrial applications.

- Delivers clean, dry, oil-free air
- Speed, efficiency and reliable performance
- No water spots or related problems
- Moisture and corrosion prevention
- Adaptable to various line speeds or conveyor type
- Hardened and durable stainless steel air knives & nozzle manifolds.
- Space-efficient, easy to install, low maintenance

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- Investment paybacks are often achieved in just a few months, sometimes in a matter of weeks, providing a superior return-on-investment.

## Applications:

- Full car and truck body drying
- Pre-treatment for paint finishing
- Engine components (i.e., process drying of Camshafts, Engine Blocks, Clutch Plates)
- Automotive trim (i.e., removal of static from Plastic Bumpers, Fascia, Wheels, Windcreens & Mirrors)
- Rubber and plastic extrusions (i.e. drying of rubber tire extrusion, plastic trim)

## Rubber & Plastics

Extrusion lines are common place in these industries where products pass through water baths in order to cool them. Our solutions are widely used to remove water droplets following liquid cooling and prior to further processing.

## Diverse Benefits for the Rubber and Plastics Industry

Air Knife Systems provide a wide diversity of benefits for industrial processes and component manufacturing within the Rubber and Plastics industry sector. A powerful tool with an extensive range of industrial applications.

- Delivers clean, dry, oil-free air
- Speed, efficiency and reliable performance
- No water spots or related problems



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## Applications

- Tires
- Water blow off
- Vinyl siding
- After wash or rinse
- Coated wire
- After coating
- PVC Piping
- Blow off oils & sealants
- Plastic sheets
- Blow off dust & debris
- Metal rods

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