

**THOMPSON**

Electric Industries INC

CATALOG

***YOUR PARTNER IN AIR KNIFE DRYING,  
COOLING & CLEANING***



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## MV STAINLESS STEEL AIR KNIFE



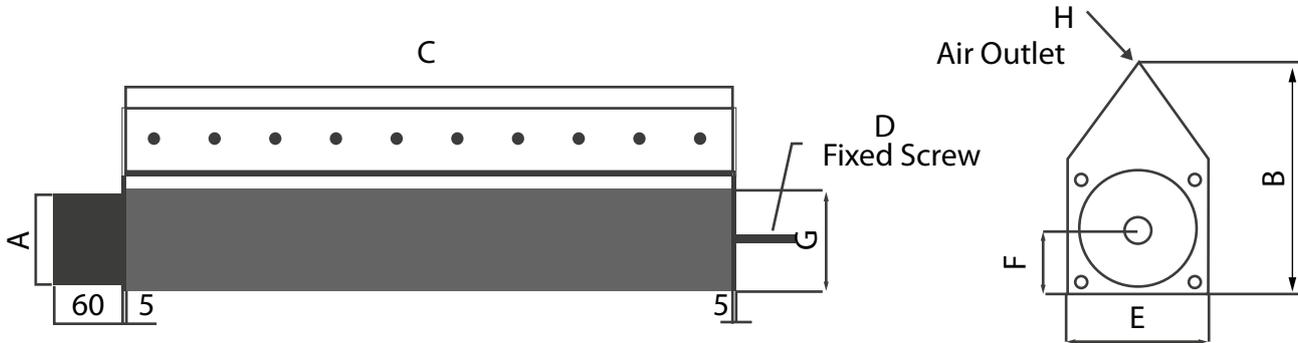
### Introduction of stainless steel air knife

Thompson Electric Industries stainless steel air knife, which has high precision, higher hardness, higher pressure resistance, and higher temperature resistance, adopts German manufacturing technology and production equipment. It is highly suitable for all kinds of air drying and slow-moving systems, including air knife drying systems. It is widely used for water removal and drying in various industrial processes such as ultrasonic cleaning, glass cleaning machines, circuit boards, electroplating film coating, non-ferrous metal plate/wire/sheet production. It can also be used for barrier-free isolation of harmful gases, dust, and both hot and cold air.

### Advantages of stainless steel air knife

- All stainless steel SUS304 or medical grade 316 stainless steel is adopted, which has stronger hardness and higher endurance.
- The unique design of the structure ensures small wind resistance and uniform wind speed, and the accuracy can reach 5%.
- The width of the air outlet is adjustable, and the adjustable range is 0.3 ~ 3 mm.
- The length of air knife can be customized according to customer's requirements, and the length can reach 6m.
- A variety of air inlet diameters and positions are selected to meet the requirements of screw connection or hose connection, which is convenient for installation.
- It can withstand the maximum wind speed of 400m/s, the maximum temperature resistance of 250°C and the maximum pressure resistance of 5kgf/cm<sup>2</sup>.
- It can be used in combination with Thompson Electric Industries high-speed centrifugal fan and high-pressure fan, with flexible and convenient application.

Installation Dimension



Modelo	A	B	C	D	E	F	G	H
SUS-32/38-C-H	32/38	104	100-2400	M8×50	50	25	49	0.3-5
SUS-45/51-C-H	45/51	120	100-2400	M8×50	60	28	63	0.3-5
SUS-60/63-C-H	57/63	142	100-2400	M8×50	77	38	82	0.5-5
SUS-76-C-H	76	155	100-2400	M8×50	89	45	86	0.5-5
SUS-89-C-H	89	188	100-2400	M10×50	100	50	81	1-5
SUS-108-C-H	108	253	100-2400	M10×50	89	63	110	1-8

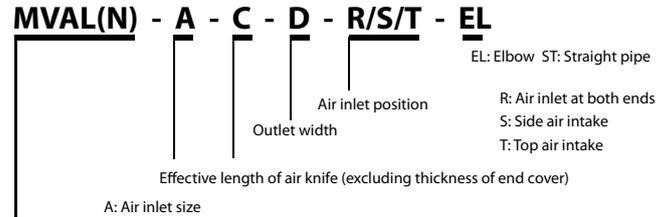
The effect is as follows



Note:

- Pay attention to avoid collision with the knife edge, and the medium used should avoid containing too coarse impurity particles, so as not to block or damage the knife edge.
- The width of the tuyere has been calibrated according to the customized requirements when the products leave the factory. If it is necessary to change the tuyere, please deliver it to the original merchant or professional for adjustment to avoid weakening the performance of the products by self-adjustment.

## MV ALUMINUM ALLOY AIR KNIFE



MVET aluminum alloy air knife

### Brief introduction of aluminum alloy air knife

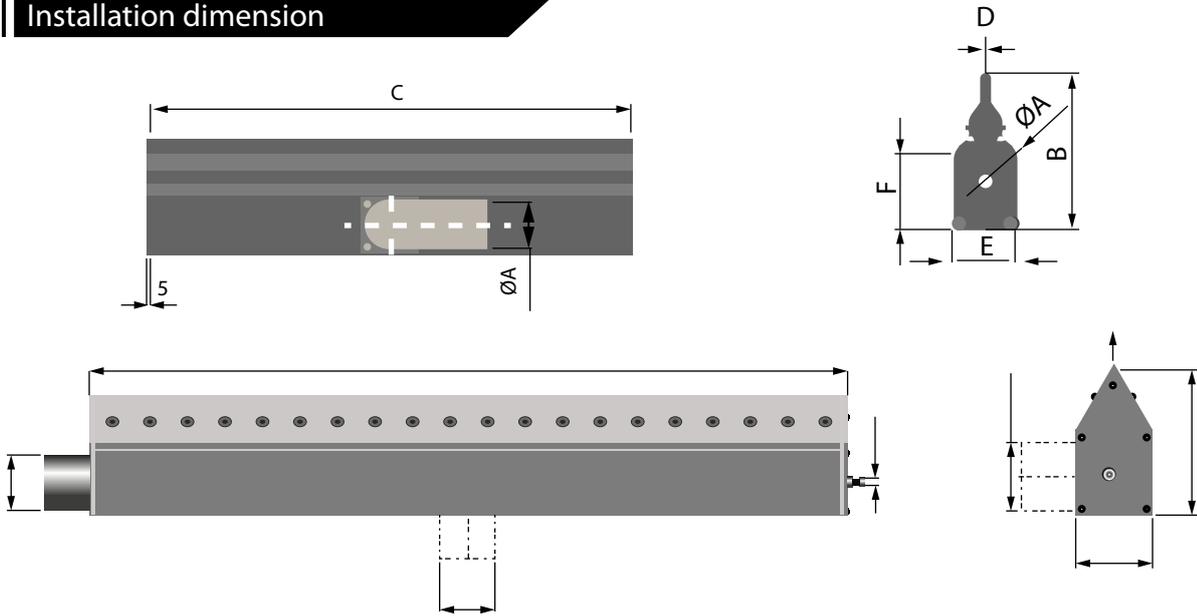
Thompson Electric Industries aluminum alloy air knife — this series of products consists of a circular air inlet, a wide and straight shunt, a shunt plate, a gradually narrowing air duct, and a straight and narrow air duct. The width of the air duct is adjustable, which has the advantages of small wind resistance and pressure loss. It adopts German manufacturing technology and production equipment and is very suitable for various air drying systems and air knife systems.

Widely used in ultrasonic cleaning, glass cleaning machines, circuit boards, electroplated parts, film coating, painting, non-ferrous metal plate/wire/sheet production, and other different industrial processes. It can also be used for barrier-free isolation of harmful gases, dust, cold and hot air, paper blowing, and post-press drying on printed paper, rapid heating, thawing, and high-temperature sterilization of food and medicine.

### Advantages of aluminum alloy air knife

- Using extruded aluminum alloy 6061 as the blade, it is precise, strong in air outlet, energy-saving, efficient, practical and reliable.
- The structure adopts unique design, which ensures small wind resistance, uniform wind speed and accuracy of  $\pm 5\%$ .
- The width of the air outlet is adjustable, and the adjustable range is 0.3 ~ 3 mm.
- The length of air knife can be customized according to customer's requirements, and the length can reach 6m.
- A variety of air inlet diameters and positions can be selected to meet the requirements of screw connection or hose connection, which is convenient for installation.
- It can withstand the maximum wind speed of 400m/s, the maximum temperature resistance of 250°C and the maximum pressure resistance of 5kgf/cm<sup>2</sup>.
- Thompson Electric Industries high-speed centrifugal fan and high-pressure fan can be used together, and the application is flexible and convenient.

Installation dimension



Model	A	B	C	D	E	F
AL-C-D-A-EL	32/38/45/51	125	100-3000	0.2-3	50	63
AL-C-D-A-EL	51/63/76	160	100-3000	0.5-5	85	45

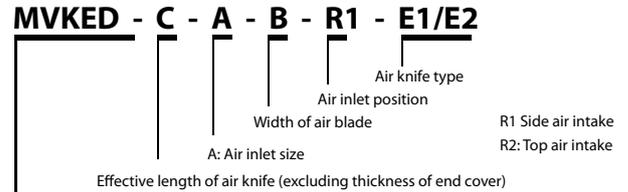
The effect is as follows



**Note:**

- Pay attention to avoid collision with the knife edge, and the medium used should avoid containing too coarse impurity particles, so as not to block or damage the knife edge.
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**MV ALUMINUM ALLOY AIR KNIFE**



Et coanda effect air knife

**Brief introduction of aluminum alloy air knife**

Thompson Electric Industries Aluminum alloy air knife — this series of products consists of a circular air inlet, a wide straight shunt, a shunt plate, a tapered air duct and a straight narrow air duct. The width of the air duct is adjustable, which has the advantages of small wind resistance and small pressure loss. It adopts German manufacturing technology and production equipment and is very suitable for various air drying systems and air knife systems.

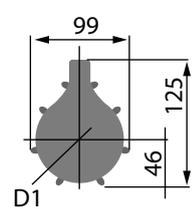
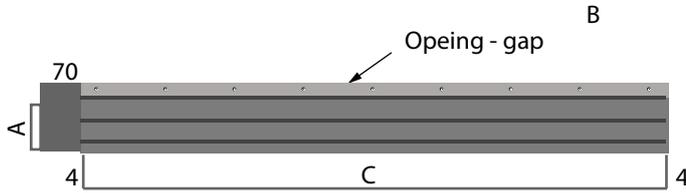
Widely used in ultrasonic cleaning, glass cleaning machines, circuit boards, electroplated parts, film coating, painting, non-ferrous metal plate/wire/sheet production and other different industrial processes. It can also be used for barrier-free isolation of harmful gases, dust, cold and hot air, paper blowing and post-press drying on printed paper, rapid heating, thawing and high-temperature sterilization of food and medicine.

**Advantages of aluminum alloy air knife**

- Using extruded aluminum alloy 6061 as the blade, it is precise, strong in air outlet, energy-saving, efficient, practical and reliable.
- Droplet shape and improved air entrainment design provide high-speed and stable airflow.
- Design of anti-corrosion and anti-leakage end cover.
- The length of air knife can be customized according to customer's requirements, and the length can reach 6m.
- A variety of air inlet diameters and positions are selected to meet the requirements of screw connection or hose connection, which is convenient for installation.
- It can withstand the maximum wind speed of 400m/s, the maximum temperature resistance of 250°C and the maximum pressure resistance of 5kgf/cm<sup>2</sup>.

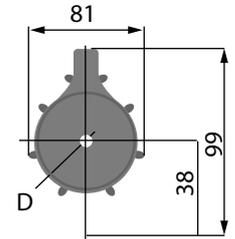
It can be used in combination with Thompson Electric Industries high-speed centrifugal fan and high-pressure fan, with flexible and convenient application.

Installation dimension



E1

Mounting method E1



E2

Mounting method E2

Model	A	B	C	D	Type
KED - C - 51 - B	51	0.5-3	100-3000	M8	E1/E2
KED - C - 63 - B	63	0.5-3	100-3000	M8	E1/E2
KED - C - 76 - B	76	0.5-3	100-3000	M8	E1

The effect is as follows



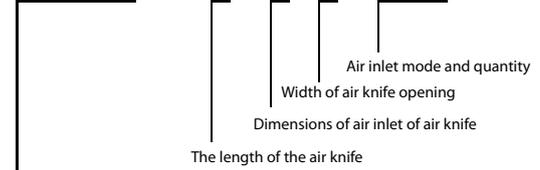
Note:

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## THOMPSON SUPER AIR KNIFE



**MVSAL(SU) - C - A - B - R/S/T**



ET air knife, AL stands for aluminum alloy, SU stands for stainless steel

### Introduction of super air knife

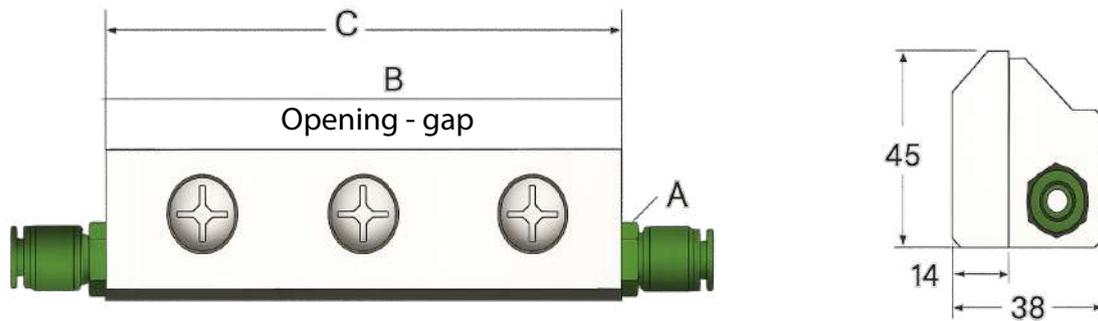
Thompson Electric Industries super air knife, which is based on the principle of high compression ratio to air flow, forms high-intensity impact air flow, and has the advantages of small air flow speed loss and high pressure. It adopts German manufacturing technology and production equipment, and is very suitable for all kinds of air flow drying systems and air knife systems.

It is widely used in internal cleaning and drying, air drying after beverage can, plate cleaning, conveyor belt cleaning, parts cooling, dehydration and drying before packaging of vegetables and fruits, fabric drying and cleaning, pre-treatment before electroplating or painting, paper making and printing industries.

### Super air knife advantage

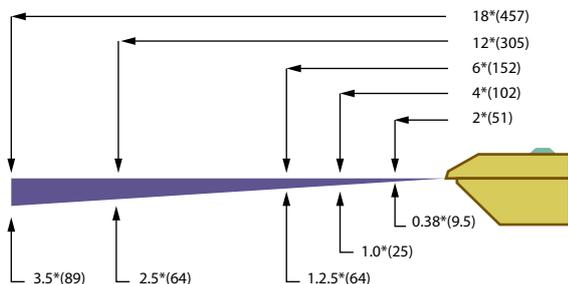
- Low noise, the noise is 11 times lower than that of the air curtain of the conventional drilling pipe.
- Save compressed air, and the gas consumption is 63% less than that of the hole pipe air curtain occupied by the hall gauge.
- The airflow is balanced, and the air compression ratio can reach 40:1.
- No moving parts, made of aluminum or stainless steel.
- Small size, easy installation and maintenance-free
- Provide a variety of specifications of air-space width (100–1220mm), with adjustable airflow intensity.
- It can be used with an air compressor, and the application is flexible and convenient.

Installation dimension



Model	Effective air curtain length	Airflow Amplification	Air consumption at different pressure (bar)		
			4.1	5.5	6.9
SAL - C - A - B	3"(76mm)	40	0.20	0.25	0.30
SAL - C - A - B	6"(152mm)	40	0.40	0.50	0.60
SAL - C - A - B	9"(229mm)	40	0.60	0.75	0.90
SAL - C - A - B	12"(305mm)	40	0.80	1.00	1.20
SAL - C - A - B	18"(457mm)	40	1.20	1.50	1.80
SAL - C - A - B	20"(508mm)	40	1.33	1.67	2.00
SAL - C - A - B	24"(610mm)	40	1.60	2.00	2.40
SAL - C - A - B	30"(762mm)	40	2.00	2.50	3.00
SAL - C - A - B	36"(914mm)	40	2.40	3.00	3.60

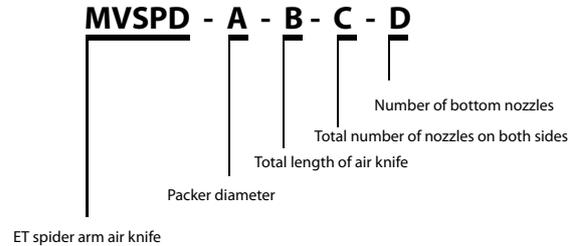
Diffusivity of air curtain blown by super air knife



Note:

- Pay attention to avoid collision with the knife edge, and the medium used should avoid containing too coarse impurity particles, so as not to block or damage the knife edge.
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## THOMPSON SPIDER ARM AIR KNIFE



### Brief introduction of spider arm air knife

Thompson Electric Industries spider hand air knife comes from numerous tests and practical experience. Its pioneering design concept improves the effect of the air knife drying system in the wine and beverage industry, while significantly reducing the energy consumption of the system.

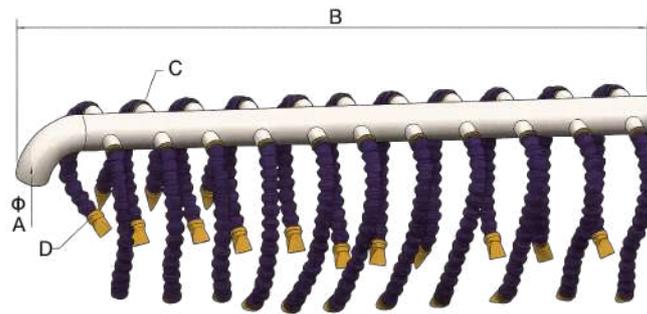
When the traditional air knife is used in wine and beverage filling production lines, the blowing forces of the two air knives cancel each other out, resulting in a dry blind area. Due to the large volume of the air knife, it is blocked by the guardrail and cannot be positioned close to the bottle when installed, and its angle is fixed and non-adjustable. The invention of the Thompson Spider Hand Air Knife solved these problems.

### Advantages of spider arm air knife

- Multi-angle wind cutting, no blind area and no dead angle.
- The blowing time of a single bottle is 3–5 times that of the original bottle.
- Adapt to different bottle types, convenient and fast adjustment.
- Closest to the bottle, keep the wind cutting effect.
- The blowing frequency of a single bottle is 10–20 times that of the traditional air knife system.
- The stepped tuyeres cover the bottle body from top to bottom, which conforms to the principle of fluid mechanics.
- It can be used in combination with Thompson Electric Industries high-speed centrifugal fan and high-pressure fan, with flexible and convenient application.

**Installation dimension**

Thompson Electric Industries spider hand air knife uses a high-speed centrifugal blower or high-pressure blower as the air source. The generated high-speed and high-pressure air passes through the main air distributor and is diverted into the high-speed air nozzles at the bottom and both sides. Because of its shape resembling a spider, it is named spider hand air knife. The drying system mainly composed of the spider hand air knife is called the spider hand air knife drying system.



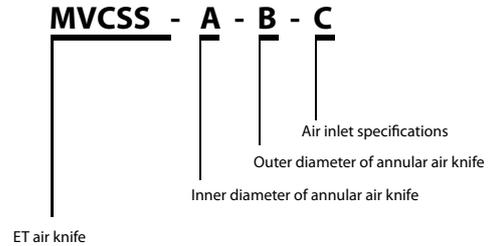
Model	A	B	C	D
SPD - A - B - C - D	51	100-3000	4-20	2-4
SPD - A - B - C - D	63	100-3000	4-30	2-4
SPD - A - B - C - D	76	100-3000	4-50	2-6
SPD - A - B - C - D	102	100-3000	4-60	2-8

**The effect is as follows**



- When ordering, please note that the effective length B of the spider hand air knife is the length including the elbow, and the conventional diameter of the spider hand air nozzle is 25\*1.8 mm.
- The main body of the spider hand air knife is welded with stainless steel pipe SUS304, and the air nozzle is made of polyoxymethylene, commonly known as Saigang, which can be used for a long time at -50°C to 110°C without aging and deformation in China. It has wear resistance and good temperature resistance.
- When the spider hand is installed, it is distributed in a ladder shape, and it is distributed from top to bottom in the direction from the bottle to the air knife system.

**THOMPSON AIR WIPE/RING AIR KNIFE**



**Brief introduction of annular air knife**

Thompson Electric Industries annular air knife is also called circular air knife, annular air knife, air scrubber, air ring scrubber, circular air knife, air ring, etc. The annular air knife is a device that provides blowing, drying, cleaning, and cooling for pipes, cables, extruded products, hoses, or other products. It provides a uniform 360° annular airflow. The annular air knife consists of two curved air knives connected by a chain. Its gas consumption is small, but it can produce a strong blowing force.

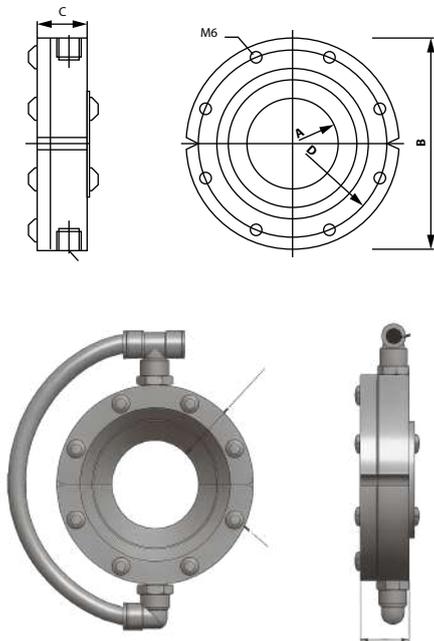
**Advantages of circular air knife**

- Low noise, within 70 decibels in most cases.
- Environmental protection and energy saving, air flow balance.
- Adapt to different bottle types, convenient and rapid adjustment, low compressed air consumption, and air compression ratio of 40:1.
- Wind power and flow are adjustable.
- The structural design is open, compact, firm and easy to install.
- No electricity, no moving mechanical parts.
- The annular edge is small and easy to install.

**Note:**

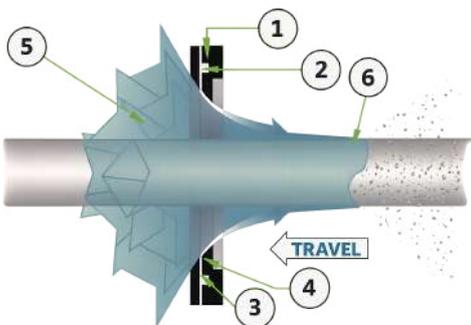
- Pay attention to avoid collision with the knife edge, and the medium used should avoid containing too coarse impurity particles, so as not to block or damage the knife edge.
- The width of the tuyere has been calibrated according to the customized requirements when the products leave the factory. If it is necessary to change the tuyere, please deliver it to the original merchant or professional for adjustment to avoid weakening the performance of the products by self-adjustment.

**Installation dimension**



PRESSURE 0.55 Mpa		A	B	C	D	Air consumption	Noise
Model		mm	mm	mm	mm	L/min	dBA
CSS - 13	44013 ss	13	80	28	66	360	70
CSS - 25	44025 ss	25	90	28	78	500	72
CSS - 51	44051 ss	51	118	28	104	720	75
CSS - 76	44076 ss	76	143	28	129	850	75
CSS - 102	440102 ss	102	169	28	155	1040	76
CSS - 127	440127 ss	127	194	28	180	1380	76
CSS - 152	440152 ss	152	219	28	205	1670	80
CSS - 178	440178 ss	178	245	28	231	1980	80

**Working principle**



The connected compressed air enters the annular cavity (1) through air circulation. Then throttled and passed through the annular nozzle (3) at high speed. At first, the air flows out at a high speed along the side wall (4) of the Coanda, and this air flow is sprayed at an oblique angle along the side wall of the hollow ring.

In this way, a low-pressure area (5) will be created in the center of one side of the air ring, which will force a lot of air around to flow to the other side of the air ring together with the high-pressure airflow. When the air flow leaves the air ring, a 360-degree conical annular air flow is generated, and this uniform and powerful airflow can continuously and stably wipe the water, dirt and other impurities on the material (6) passing through the air ring.

**Application area**

- 1) Blowing off oil, debris, waste, water, and dust
- 2) Cooling of molds or castings
- 3) Materials formed by cooling and extrusion
- 4) Replacing the open compressed air direct spray pipe for post-processing cleaning of parts
- 5) Continuous cooling of longer components (wire and pipe)
- 6) Drying treatment required after cleaning, washing, coating or painting
- 7) Removal of dirt during radial transfer of materials
- 8) Provide an ideal drying scheme for pipes, cables, extrusion molding materials, conductors, rulers, and water pipes

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**MANUFACTURING FOR WORLD PRESENCE**

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