



*aluminum or stainless steel*

**AIR KNIFE SYSTEMS**

The logo features a stylized red and white circular graphic on the left, resembling a sunburst or a fan. To its right, the words "REPUBLIC MISSION" are written in a large, bold, blue serif font.

# REPUBLIC MISSION

Republic Manufacturing services the industrial manufacturing industry by providing high quality solutions utilizing air movement technologies. Committed to quality and innovation, the company is progressive and energetic in its search for unique solutions to challenging problems. Republic strives to be market leaders in the air movement technology industry, and generates an annual profit to be reinvested for growth and to provide competitive salaries and benefits for employees.

The company expects its employees to work hard and wear many hats, but in return offers a fun, energetic, and happy workplace. The company's culture is built around upholding 27 Core Value Essentials; which are actions based on 5 core values:

1. Value, Respect, and Recognize the Customer
2. Continuous Learning, Change and Improvement
3. Respect for People
4. We Keep our Commitments.
5. Open and Honest Communication

## REPUBLIC STANDARD WARRANTY

---

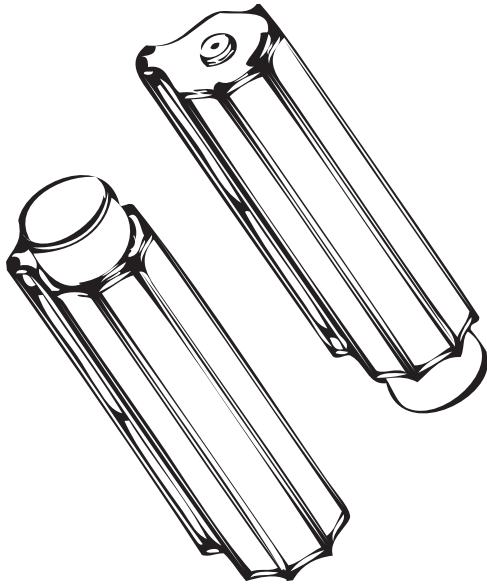
Republic Manufacturing warrants all finished Republic products to be free from functional defects in material and workmanship for a period of twelve (12) months from the date of installation, or no longer than eighteen (18) months from shipment.

Wear parts such as drive belts, filter elements, hoses and pulleys are not covered by the 12 to 18 month warranty.

DISASSEMBLY OF BLOWER MAY VOID WARRANTY.

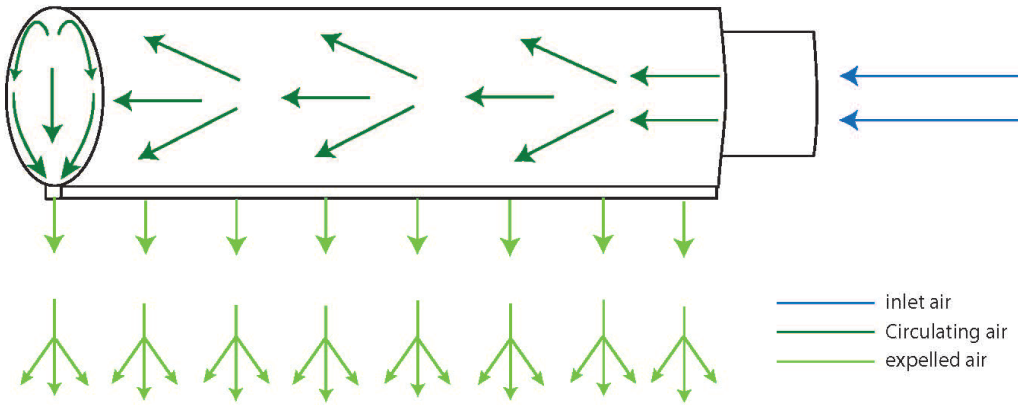


# CONTENTS



Republic Mission Statement.....	2
Republic Standard Warranty.....	2
Air Knife System Working Principle.....	3
System Components.....	4
Options and Accessories.....	5
Systems Applications.....	6-7

## AIR KNIFE SYSTEM WORKING PRINCIPLE



Republic air knives incorporate a tear drop design to minimize the internal turbulence of air entering the knife while projecting it in a highly controlled manner through the discharge. As the air enters the knife, the lack of sharp edges within the knife minimizes pressure loss and turbulence while the air moves along the walls and is concentrated at the discharge.

This creates a laminar flow exit velocity that is able to project much farther before dissipating and causes less excitation of the surrounding air. The air then impacts the target of the application and is able to rapidly shear away water and debris, as well as thermal transfer applications.



# SYSTEM COMPONENTS



## **Air Knife**

- Teardrop shape provides maximum velocity and efficiency
- Clear anodized aluminum or 316 stainless steel
- Two, three, and four inch inlets available
- Gap is incrementally adjustable from 0 to 0.250 inches
- Available in single, dual, middle or multiple inlet styles
- Externally clamped design available for applications requiring precise air streams

## **Custom Air Knife**

- Available in aluminum or stainless steel
- Ideal for extruded applications
- Two, three, and four inch inlets available

## **Nozzle Air Knife**

- 316 Stainless steel construction
- Ideal for applications over six inches away
- Two, three, and four inch inlets available
- Available in inch-long increments

## **Air Wipe**

- All stainless steel body construction
- Adjustable inserts available in stainless steel or UHMW polypropylene
- Flanged for mounting to existing equipment
- 4" inlet allows maximum air stream velocity
- Provides complete circumference drying for extrusion profiles and wire

## **Nozzle**

- Stainless steel construction
- Multiple outlet diameters
- Internal design maintains high velocity air stream
- Hose connections 2" or 3"



## **Blower**

- Robust design is efficient, durable & easy to maintain
- Low energy consumption
- Allows for increased production speeds/levels
- Provides dry, oil-free, high pressure air
- Reduced sound levels compared to compressed air
- Field serviceable



Call **800-847-0380**

*to consult a Republic representative.*

# OPTIONS & ACCESSORIES

AIR KNIFE SYSTEMS

## **Static Control**

- Ideal for static & dust elimination applications
- Mounts directly on all air knife sizes
- Includes power supply

## **Blower/Motor Stand**

- Stainless or painted steel construction
- Standard & custom heights
- Leveling pads

## **VFD/Motor Starter/Soft Starter**

- Energy efficient
- Turn-key solution
- Increases motor life
- Reduces wear

## **Inline Air Heating**

- Ideal for heated air applications
- Mounts directly on all air knife sizes
- Includes power supply

## **HEPA Filters**

- Stainless steel, electro-polished, welded canister
- Horizontal or vertical mounting
- Designed for minimal loss of air flow

## **Blower/Motor Enclosure**

- Stainless or painted steel construction
- Acoustic foam lining reduces noise
- Dual doors with lift-off hinges
- High or low profile available to accommodate existing equipment
- Filter change gauge
- Leveling pads



## **ACCESSORIES**

- Reducers or enlargers
- Y branch
- Butterfly valve
- Manifolds
- Elbows
- Hose & clamps (EPDM Sleeves)
- Discharge silencers
- Inlet filter
- Support brackets

Visit [republic-mfg.com](http://republic-mfg.com)

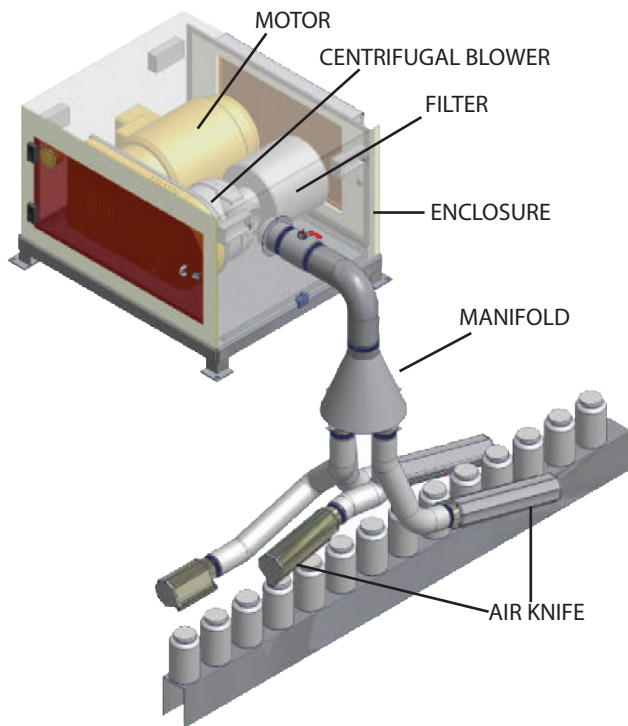


# SYSTEMS APPLICATIONS

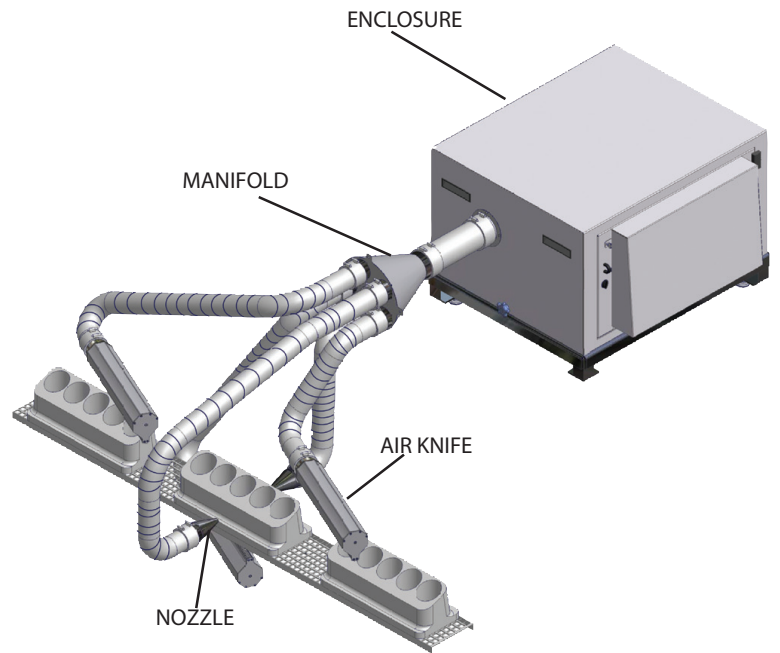
## BOTTLING INDUSTRY

After bottles are filled with liquid and sealed close, the containers are washed. Usually traveling along a conveyor, Republic Air Knives are strategically placed above, below, and/or along-side the conveyor belt to provide the maximum drying available. The air knives are hooked up to a Republic Centrifugal Blower which provides the necessary air flow to insure the product is fully dried before packaging.

### BOTTLE DRYING



### CARTON DRYING



Call **800-847-0380**

*to consult a Republic representative.*

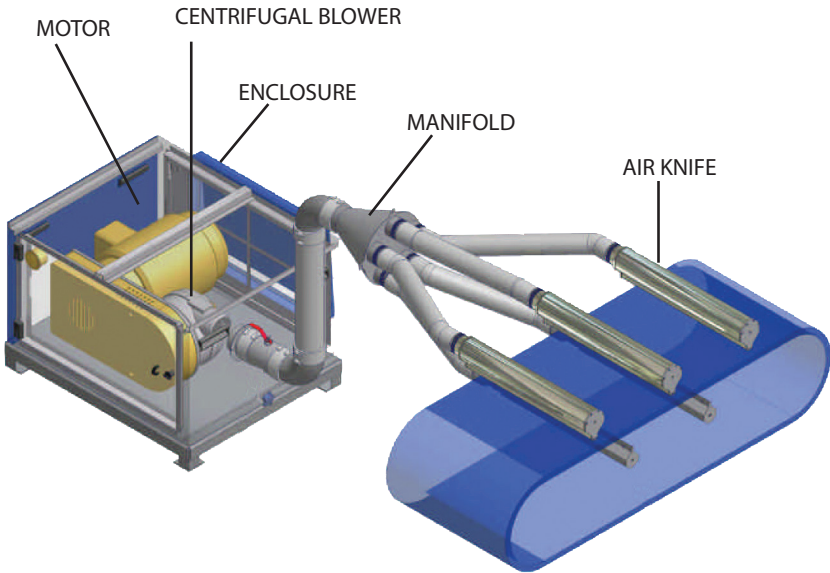
# GENERAL INDUSTRIAL USE

Republic Air Knives and Centrifugal Blowers are commonly used within a multitude of industries to dry product supplies and parts, remove debris and liquid from conveyor belts, and dry packaging before stamping or labeling.

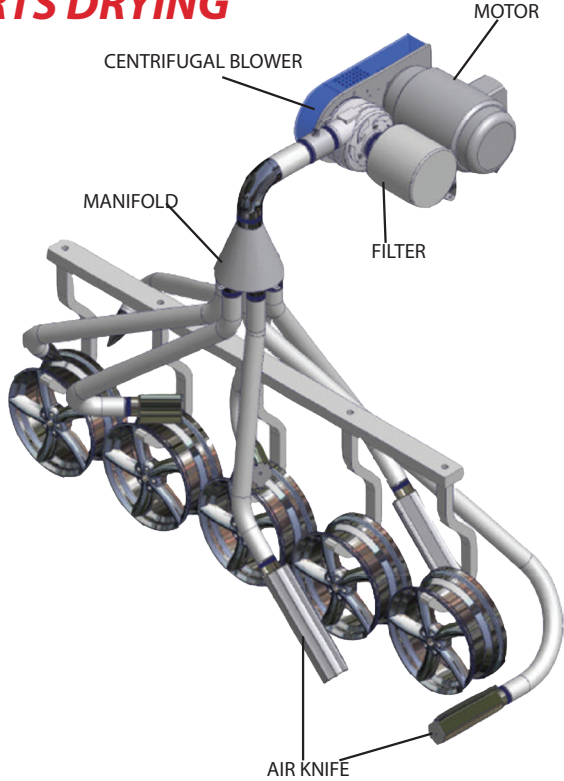
# FOOD INDUSTRY

Republic Air Knives and Centrifugal Blowers offer drying for produce, packaged meat and dairy products. They are also a solution for debris and liquid removal from conveyor belts. Republic Air Knives clean pans, blow-off excess ingredients and prevent items from falling between rollers.

## CONVEYOR BELT BLOW OFF



## PARTS DRYING



Visit [republic-mfg.com](http://republic-mfg.com)  
*to find more product applications.*





5131 Cash Road Dallas, TX 75247

800.847.0380

[www.republic-mfg.com](http://www.republic-mfg.com)

