

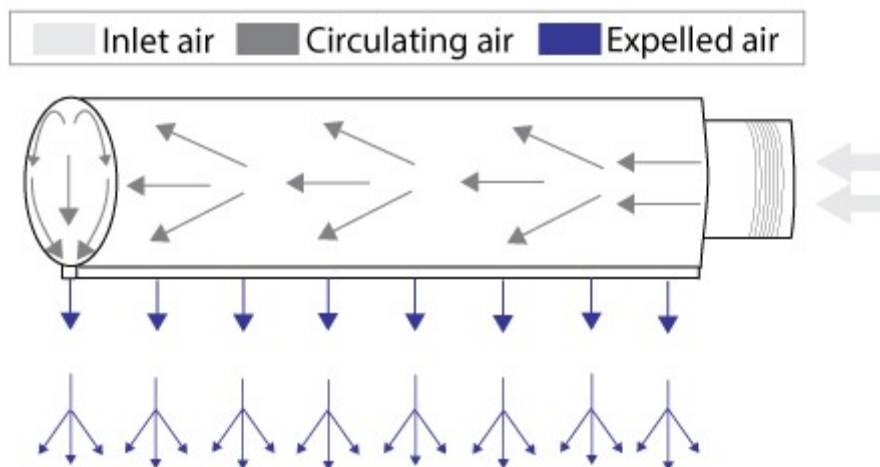


## Air Knives System

Republic Air Knife Systems are engineered, manufactured and tested to provide 99.9% of liquid, dust, and debris removal from products prior to labeling, ink jet laser coating, packaging, or other secondary operations using a high velocity, high impact air stream.

Our air knife systems are available in extruded aluminum or stainless steel with lengths from 2" to 196" with an adjustable gap for better air stream control. We offer nozzle knives for direct drying, air wipes to match your extrusion profile and wire, and a food grade air knife which is USDA and NSF compliant. In house engineering expertise allows us to provide a heat source for your high temperature applications or cold air systems to cool the parts. Custom air knife designs are available to meet your exact needs.

The breadth of our equipment allows us to engineer and manufacture the additional components needed to complete your system; including the Republic Centrifugal Blower, butterfly valves to provide the appropriate pressure and air stream as needed, air knife brackets, elbows, Y-branches, and manifolds.



### **WORKING PRINCIPLE**

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.

## **BENEFITS & FEATURES**

### ***ADVANTAGES OF CENTRIFUGAL AIR VS. COMPRESSED AIR***

Compressed air is highly inefficient and very expensive for drying applications. The horsepower required to create the flow necessary to achieve some success in such applications consumes an exorbitant amount of energy. Consider a compressor air system used to dry product on a 36" length span of conveyor. Running 24/7, this system will cost over \$1,434 per week to operate. However, utilizing a Republic Air Knife System costs only a little over \$104 per week to operate.

Not only is the Republic Air Knife System more efficient to operate than the compressed air system, but the results will be much more impressive with drier and cleaner product.

### ***ADVANTAGES***

- Low energy consumption
- Dry, clean, oil-free air stream
- Filtered blower inlet to prevent particle contamination
- Safe, low pressure
- Increased production speeds and output for a quick payback
- Reduced sound levels when compared to compressed air nozzle or round tube design

### ***AVAILABLE OPTIONS***

- Aluminum or stainless steel construction
- Special inlets available including top, side, dual, and extended
- Custom designs available
- USDA and NSF compliant food grade designs available
- Continuous air slot across the entire length with adjustable gap sizes