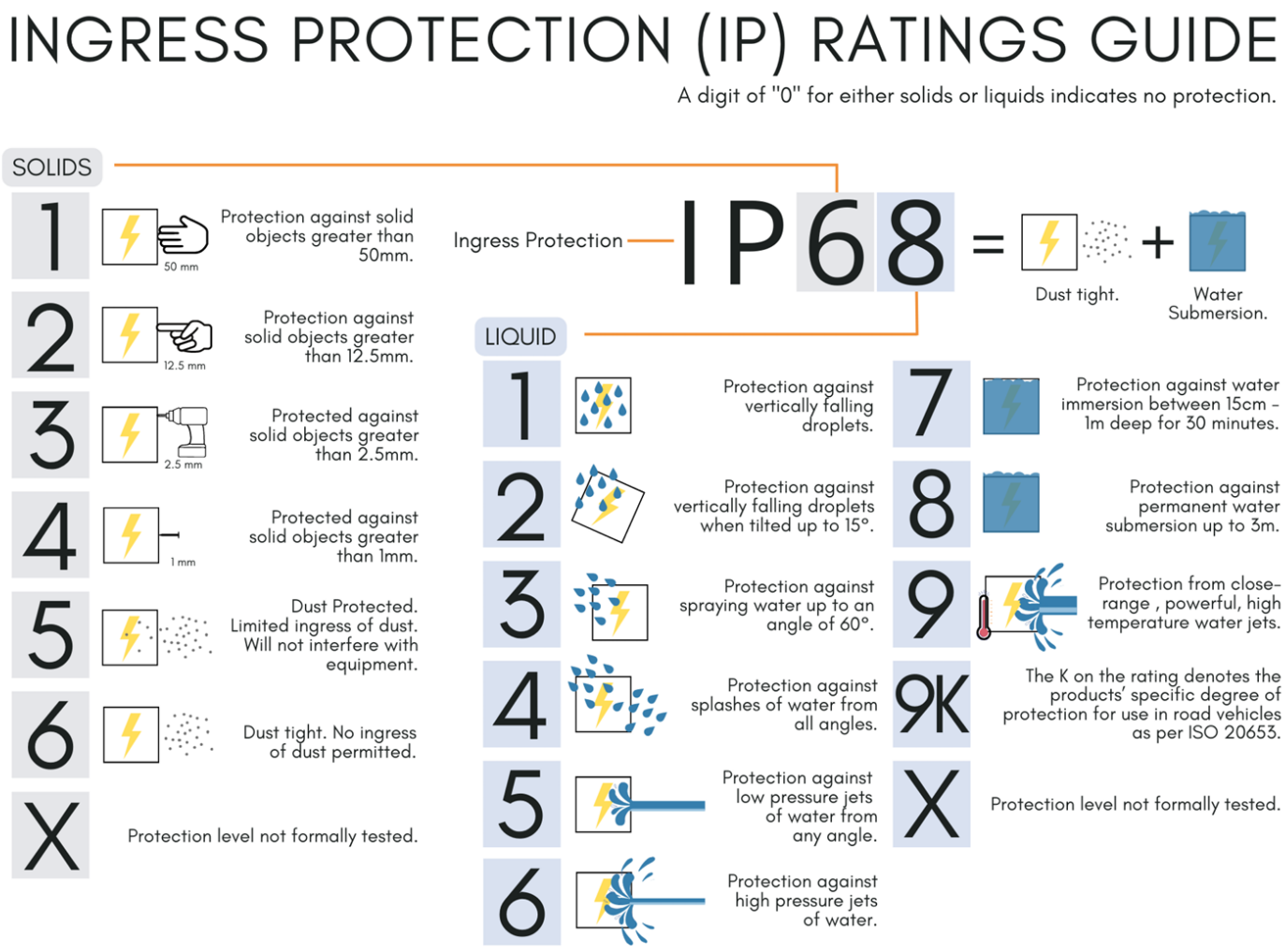
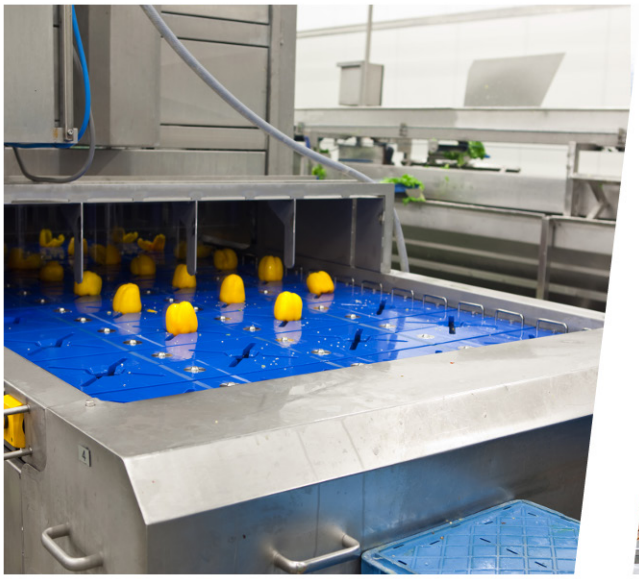
IP69K FAN APPLICATIONS

leanliness and sanitization of equipment continue to evolve and increase in importance in today's world. Recent news headlines discussing the state of food safety and employee working conditions have demonstrated the importance of sanitization in maintaining public health. When cleaning causes downtime in your production it can threaten the supply chains that society depends on. The ability to clean equipment while in service without requiring extensive downtime or disassembly is critical to productivity and commerce. The Ingress Protection (IP) Rating System has been expanded in recent years to include more strenuous liquid conditions.

I P RATING SYSTEM

Component fans are found in many of the everyday products employed in a variety of industries. The assemblies employing cooling fans may require regular cleanings with both high-pressure and high-temperature water. Traditionally, fans were vulnerable to damage from intensive cleaning due to their electronic circuitry and moving parts. Recent developments in conformal coating technologies have enabled Orion Fans to develop fans impervious to dust and water ingress. The latest evolution in IP ratings is IP69K, bringing a new standard in resistance to solids and liquids.





The Ingress Protection (IP) rating system is defined by the letters “IP” followed by numbers and characters denoting the protection level. IP ratings replace commonly used terms such as “airtight” and “watertight” with specific levels demonstrating the exact conditions that a product can withstand. The first character after the IP identifies the level of protection against the ingress of solid foreign objects. The second character identifies the level of protection against moisture/liquids.

The latest IP rating to be introduced is IP69K. The first number of the IP69K rating (the “6”) designates that the fan provides the maximum degree of protection against dust particles that might interfere with operation, rendering it dust tight. The second character (the “9”) designates that the fan is protected against high-pressure (up to 1450 PSI), high-temperature (80° C) washdown spraying from less than 4 inches away, at various different angles, for a minimum of 30 seconds at each angle, and a flow rate of 14–16 L/min. The character “K” denotes the products’ specific degree of protection for use in road vehicles as per ISO 20653.

If the need for protection against permanent water submersion up to 3m is required, IP68 rating is the best-fit for that application.

APPLICATIONS

The IP69K test specification was initially developed for vehicles, especially those that need regular intensive cleaning including garbage/recycling trucks, cement mixers, and agricultural vehicles that require cleaning for food safety reasons.

In 2011, the U.S. Food Safety Modernization Act (FSMA) passed requiring more sanitary practices of food & beverage producers. Applications including food & beverage processing and machinery, where hygiene and cleanliness are vital, like in splash zones, mixing areas, where food exits/enters production flow, or along the packaging line, equipment must withstand high-temperature and high-pressure wash-down procedures with water and cleaning chemicals. High-pressure sanitary cleaning and washdown procedures prevent dangerous contamination and ensure disinfection for optimum sanitation and food safety.

The medical industry has also employed IP69K components to simplify washdown of surgical equipment, monitoring equipment, and other devices that come into contact with patients. Washdown is vital in medical applications to prevent mold and bacteria growth, as well as the spread of germs. Additional markets that commonly employ IP69K rated components include industrial machinery, marine, mining, oil & gas, pharmaceutical, and wastewater.

ORION FANS IP RATED OFFERING

Orion Fans has introduced fans featuring IP69K ratings in both AC and DC versions and continues to expand product lines to feature this new protection level. This ensures that fans will continue to provide consistent reliable service over years of cleaning and exposure to harsh environments. Orion Fans continues to provide thermal management solutions that keep operations running.