

Pumped Product Inspection

Eagle Pipeline Machine

Application
Note



The cost of waste due to metal, stone or bone contamination in pumped product can be inherently high, as it can impact the packaging, production cost or the product itself. If your product flows through a pipeline, it can be inspected with the Eagle Pipeline inspection system before it gets to the packaging stage allowing you to save costs, minimize waste and maximize uptime.

Common Inspection Challenges

Many pumped food processors use conventional technologies such as metal detectors for the detection and removal of metal contaminants. However, applications such as ground meat, slurries, liquids and other raw food ingredients can be challenging for standard metal detector systems to detect contaminants that are not ferrous metals and do not have magnetic properties.

In addition, depending on the ingredients in the final product, contamination detection with metal detectors can be difficult. For example, salt content reduces the detection level because it interferes with the magnetic field of the detector causing false results.

While conventional technologies can provide adequate protection against metal contamination, they cannot protect against non-metal foreign materials encountered during food processing such

as calcified bones, rocks or any other material denser than the product being inspected. These potentially dangerous contaminants could make their way through production causing damage to machinery, or even worse, make it all the way to the consumer.

X-ray Inspection Methods

X-ray inspection adds a new dimension to ensure your product is safe. Unlike metal detectors, it does not rely on the magnetic properties of contaminants thereby broadening the types of materials that can be detected and reducing the outside influences, which can negatively affect detection performance. Typical food products pumped through a pipeline are meat, poultry, liquids and slurries. One misconception is that solid products, such as whole chicken breasts, will get damaged when they pass through a pipeline manifold. However, because the inspection manifold has the same internal area as the pipeline (just shaped differently) there is no additional pressure on the product, resulting in damage-free passage.

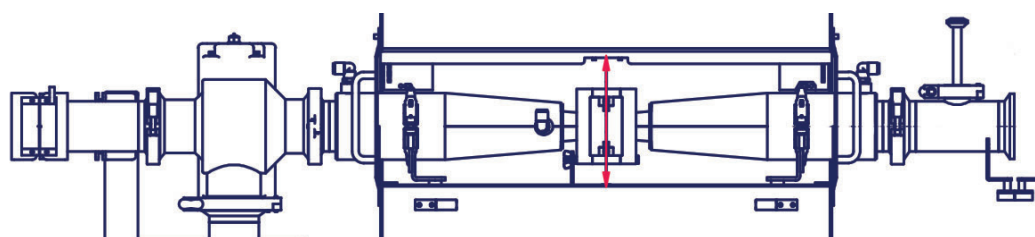
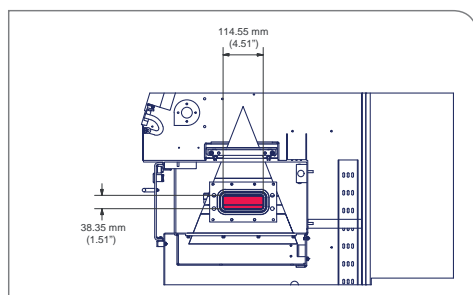
Not all pipeline inspection machines are the same, many pipeline machines run the risk of clogging and breaking down when inspecting very cold and/or fatty products. Special attention should be given to these applications including the use of a water jacketed manifold assembly to ensure a successful installation. Finally, you need to consider the right image software, reject mechanism and pipe dimension for your pumped product.

The Eagle Advantage

An Eagle Pipeline system installed at a critical control point will help food processors increase production uptime as well as reduce maintenance and repair costs of downstream processing equipment by removing foreign objects prior to further processing or packaging. Eagle Pipeline's x-ray inspection manifold design provides a uniform area to maximize detection capabilities at 2.5", 3", 4" and 6" pipe diameters.

Eagle's proven x-ray systems overcome inspection challenges with easy to use detection routines resident within our SimulTask™ PRO operating system and image processing software that discriminates contaminants by density. This enables the Eagle Pipeline x-ray inspection system to clearly identify foreign body contaminants contained within the product flow for a broader range of detection for either metal, bone, stone, glass or other dense materials. This results in reduced maintenance costs and increased uptime. Additionally, Eagle's proven robust design has been developed to comply with IP69K ingress protection standards to withstand harsh wash-down environments, making this the right choice for pumped product inspection.

Beam Geometry Diagram



Eagle™ Pipe Manifold Inspection Area, front open cabinet view, provides a uniform area to maximize detection capabilities at 2.5", 3", 4" and 6" pipe diameters.

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