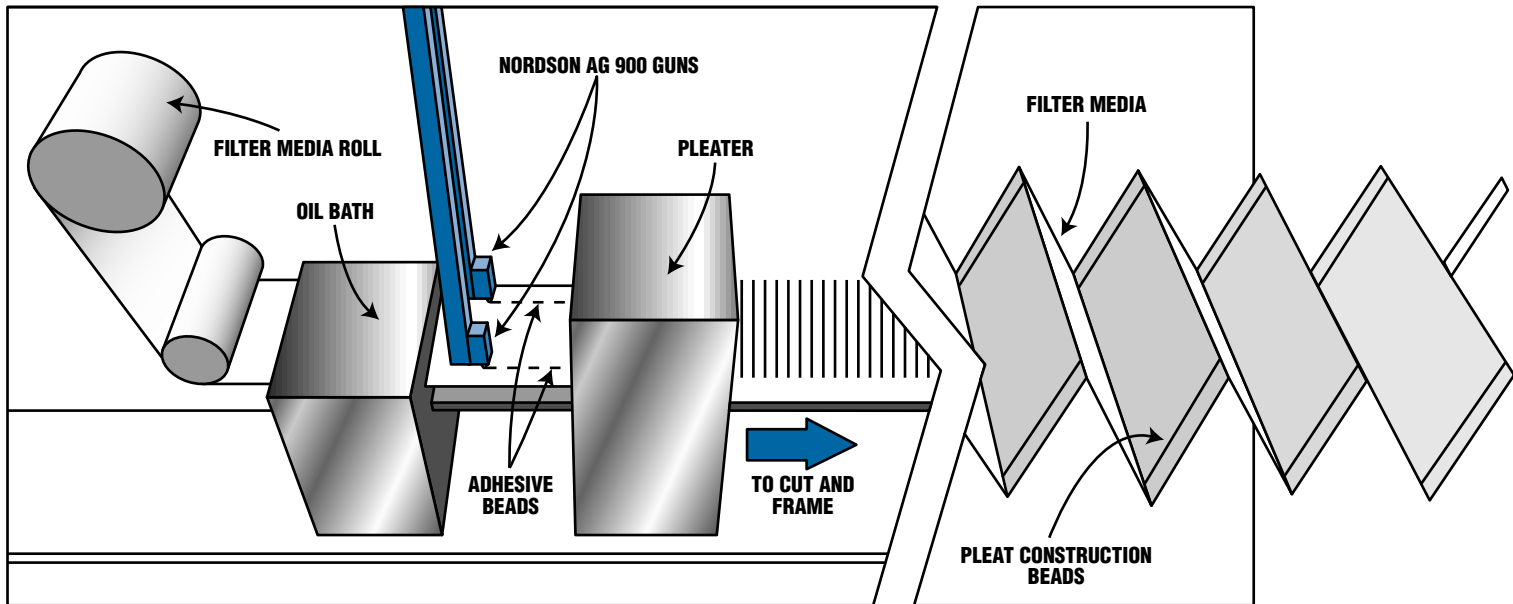


FILTER MANUFACTURING SOLUTIONS

FILTER PLEATING WITH FOAMED POLYAMIDE MATERIALS



Situation

Rectangular-shaped panel air filters are used to clean air in automobile, tractor and airplane engines as well as industrial and residential heating, ventilating and air conditioning (HVAC) systems.

The core of the filter media is constructed of chemically treated paper which catches and holds dirt and contaminants while allowing maximum air flow.

The paper is pleated to provide the maximum number of square inches of filter media in a limited amount of space. The pleats also prevent the air from leaking out the sides of the paper media by completely sealing the sides and assuring that particulates in the incoming air are captured.

Traditional filter pleating operations use an open, gravity-feed system in which materials must be manually loaded into a feed hopper. Heat and moisture in the air can cause material contamination and charring as the adhesive materials are melted and fed to a gun. Large amounts of EVA hot melt material are applied to the flat paper media before it is mechanically pleated. As the adhesive-laden paper is run through the pleating machine, the paper is folded and the adhesive bonds both the top and the sides of the paper pleats. These systems often require high levels of maintenance, are inefficient and result in high material costs.

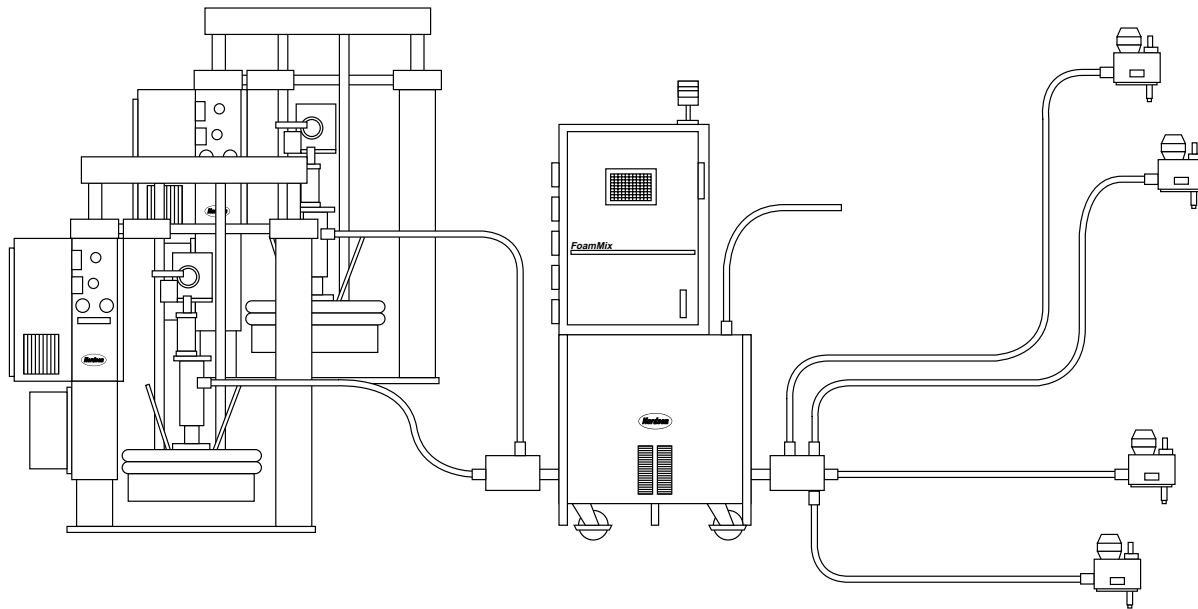
Nordson Solution

Compared to EVAs and conventional hot melt materials, polyamide materials offer superior temperature resistance and flexibility. This can be especially important in automotive and other applications where filters are exposed to very high and very low temperatures.

The Nordson FoamMix® system heats and pumps polyamide materials directly from their bulk containers to the FoamMix unit. The bulk materials are less costly than pellets or other forms of manually loaded adhesives and little operator involvement is required. In the FoamMix unit, the polyamide material is combined with inert gas to form a flowable solution. The solution foams and expands as it is dispensed from a zero-cavity gun. This pressure-fed, closed-system design prevents degradation of polyamide material due to moisture in the air and reduces maintenance.

The foamed bead of polyamide can be placed close to the side edges of the paper, maximizing the amount of filter media exposed to the incoming air and resulting in improved filter efficiency and performance.

FILTER MANUFACTURING SOLUTIONS



The Nordson FoamMix Dispensing System

The foamed polyamide bead of material is even more flexible than unfoamed polyamide and far superior to EVAs and other hot melt materials.

The FoamMix system allows filter manufacturers to reduce material costs by up to 50 percent. Foaming the polyamide reduces material density and weight significantly without affecting material performance. Purchasing adhesives in bulk form also reduces material and inventory costs. These combined savings result in systems that pay for themselves in one year or less.

Benefits

- Material cost savings up to 50 percent or more can be achieved by foaming the material and eliminating manual loading of adhesive pellets.
- Built-in flexibility allows dispensing of foamed or unfoamed material to meet manufacturing or customer specifications.
- Foamed polyamide materials provide maximum flexibility and durability.
- Materials can be placed close to the edges of the filter, increasing filter media utilization, as well as filter performance.

Backup that keeps you productive.

Nordson offers a broad range of application equipment to tailor a system that is right for you.

Our promise of customer satisfaction is backed by a team of application engineers, sales specialists and service technicians. The Nordson Package of Values™ helps keep you productive and profitable with local sales and service, support, readily available parts, comprehensive product manuals and customer training programs.

For more information, talk with your Nordson representative or contact your regional headquarters office.

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