



TOTAL SOLUTIONS OF GLUING & INSPECTION SYSTEMS FOR THE
NONWOVEN INDUSTRY



VALCO MELTON

Adhesive Dispensing & Quality Assurance Systems

THE SMART SOLUTION

The Smart Solution is the newest generation of PLC based melting and adhesive dispensing units developed by Valco Melton to help Hygiene Disposable Product manufacturers and machine builders to reduce both, initial capital investment and converting costs. The key concept behind this innovation is the ability to optimize adhesive usage for every application, thus reducing overall glue consumption, with a unique capability of integration and expandability.

▶ SMART CONTROL

The Smart Control HMI is the first Plug'n'Play system of its kind, developed to give unprecedented access and control of up to 20 separate adhesive systems present in the line, thus, allowing the end users to design their interface and screens.



On this user-friendly touch screen, you will be able to visualize your complete line as well as each machine and configure the parameters needed for any specific application. The Smart Control will notify you whenever something is not working properly, allowing you to take corrective actions and avoid production stoppages.

It features a programmable maintenance program, including direct visualization of each component drawings and an easy adhesive recipe set up that will allow you to store and track each parameter for each different product manufactured by the line.



▶ THE SMART ARCHITECTURE

What sets the Smart Melt Series apart is the possibility to perform system upgrades by simply adding SmartBoxes as production demands change. There are 3 different upgrade kits available, which can be easily attached to the melter at a later time, with no additional technical support required.

▶ SMART MELT TANKS

The most compact design in the market. Achieve an accurate control of the glue applied and improve efficiency by reducing waste during the machine ramp up and the excess of adhesive at machine stops. Full pump speed control also based in grams per product, grams per square meter, or through volumetric closed-loop control.



▶ SMART BOXES



Smart Heat

Add up to 2 Smart Heat boxes to your tank, each one capable of controlling 8 heating zones.



Smart Flow

Add up to 2 Smart Flow boxes to your tank, each one capable of hosting 4 flow meters and 4 pressure transducers



Smart Drive

Add up to 2 Smart Drive boxes to your tank featuring 2 frequency drives and 4 inputs for pressure read-out to add extra pump control and process diagnostics



“Each Smart Melt Melter is capable of controlling up to 7 Pumping Stations, 8 Flow Meters and 16 extra heating channels”



▶ EBS PUMPING STATIONS

EBS remote metering stations provide a flexible solution for multiple application points with added consistency and pattern stability.

FLOW CONTROL ◀

SmartFlow controllers feature a programmable mapping of input and output signals to control different production lines with independent product specifications. This intelligent system continuously monitors the amount of adhesive dispensed and compares it to the application's set point; When the actual flow rate deviates from the set point, the FlexFlow system automatically adjusts the pump speed accordingly.



NON-CONTACT APPLICATIONS FOR PRECISION CONVERTING

▶ MITO SERIES

High-Speed Intermittent Applicators



MITO Series Applicators are designed to handle the most demanding high-speed intermittent applications. While providing every pattern required just by choosing the specific nozzle type from our broad BAT Series family.

MITO Series Applicators are available in metering or pressure-fed configurations. Applicator width ranges vary from 25mm to 500mm. Each item in this series includes the MI-III Modules enabling a longer life and performs at 12,000 cycles/min



▶ FLEXSPRAY DUAL SERIES

Spray Applicators with Independent Air Pre-Heater

Spray applicators specially designed for continuous operating applications.

Valco Melton's FlexSpray Series Applicators feature a new independently controlled heating system that increases thermal efficiency while providing full flexibility to adjust your process.

As our MITO applicators, FlexSpray applicators are designed to provide every pattern required just by choosing the specific nozzle type from our wide BAT Series family.



CONTACT APPLICATIONS FOR PRECISION CONVERTING



STELVO SERIES

Continuous and Intermittent Slot Applications

The latest generation of slot coating applicators has been engineered for unmatched durability and consistent adhesive distribution across the entire substrate width. An optimized adhesive channel and newly designed die lips enhance coating uniformity and process stability while reducing material waste.

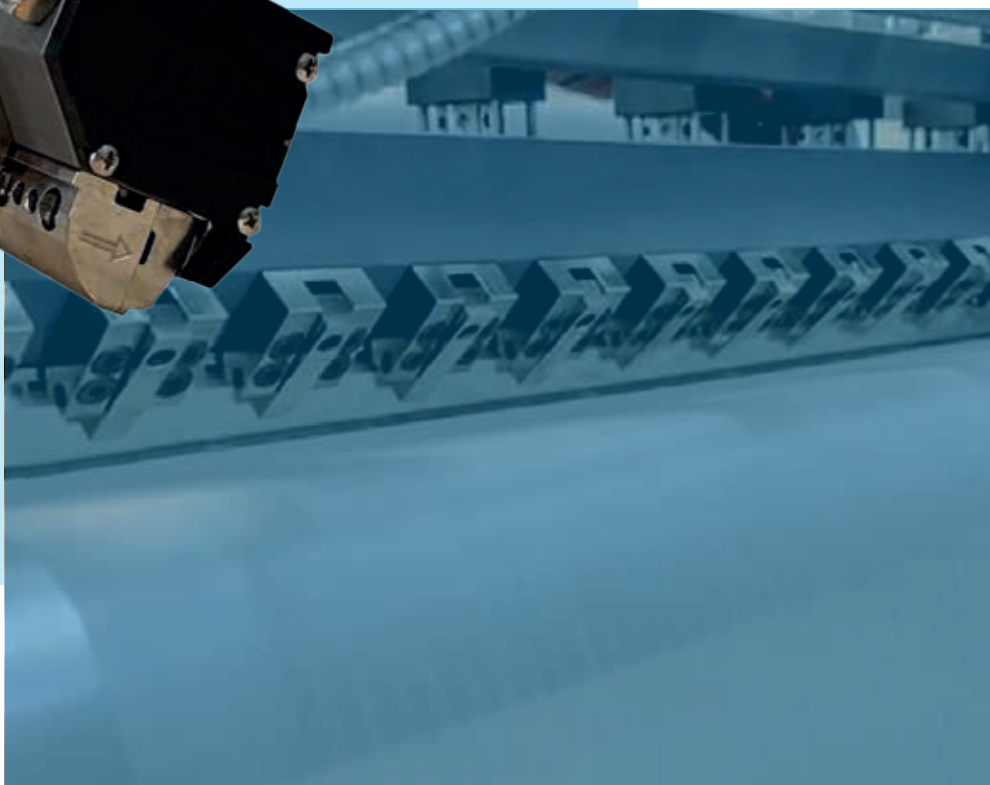
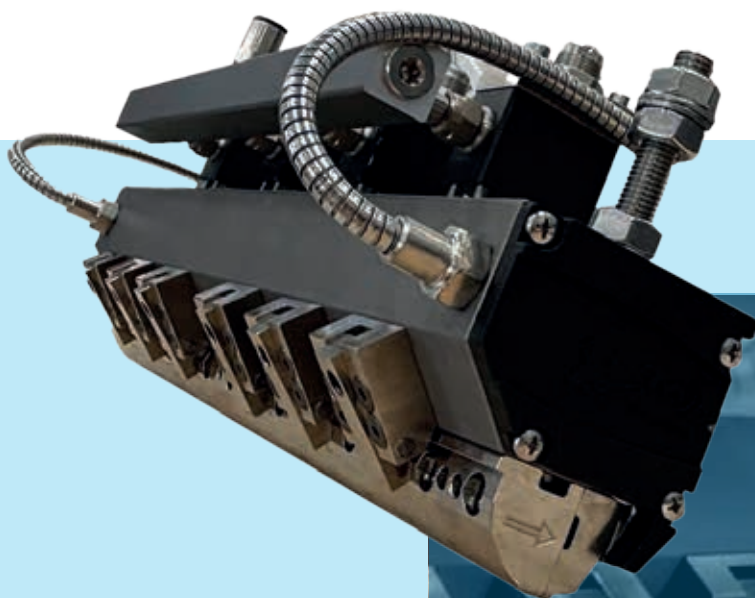
All nozzles are fully hardened to 56HRC, ensuring excellent resistance to abrasion and significantly extending service life under intensive operating conditions. For applications requiring even greater durability, our Fortitude nozzles feature a tungsten carbide die option, providing unparalleled wear resistance for a 10x longer service life.

The system retains proven advantages such as the bidirectional nozzle mounting, quick-change flange design, and the “Eagle Beak” geometry for simplified setup and precise cut-off.



FORTITUDE ◀

MAINTAIN OPTIMAL
PERFORMANCE OVER TIME,
with reduced maintenance and
consistent results run after run



ELASTIC APPLICATION

STRAND COAT

LAMBDA NOZZLE

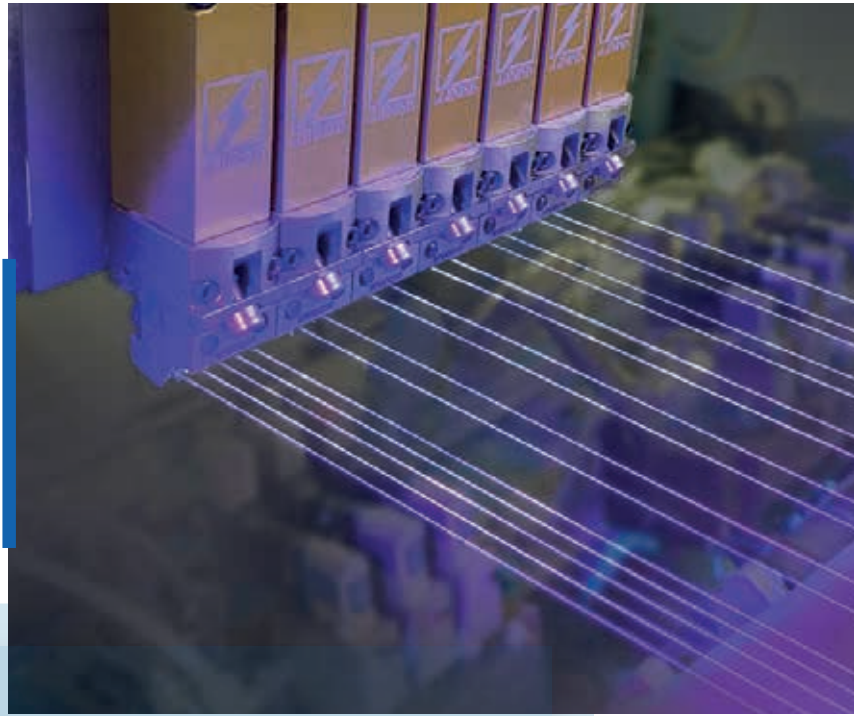


This nozzle provides great creep test results, with a more robust design than any other industry standard for a better adhesive distribution.

Achieve a more stable process, easier set up, cleaner cut off and better adhesive distribution across the different elastic's strands. All of our nozzles are manufactured in stainless steel.

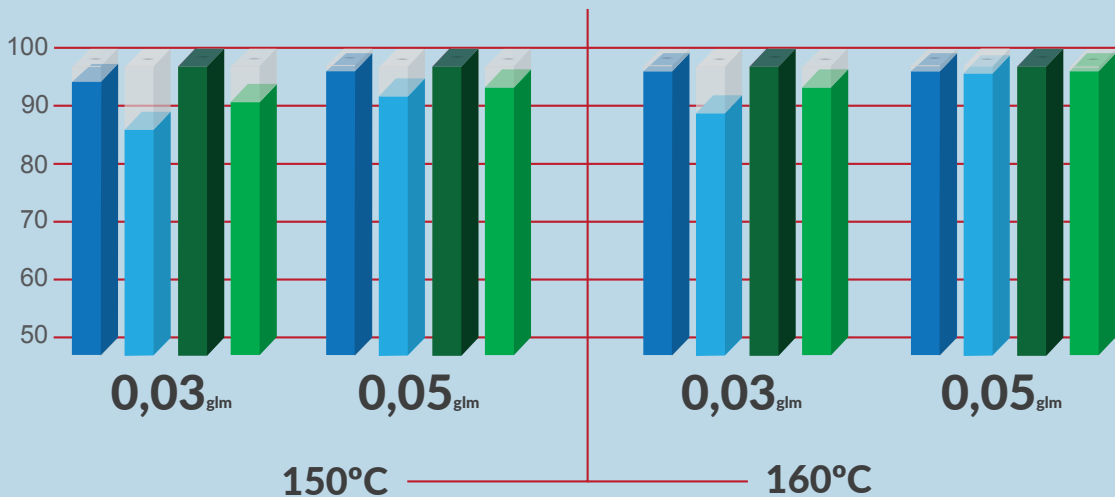
Several nozzle configurations are available (Number of Elastics Strands per nozzle & Spacing between Elastics Strands).

LESS ADHESIVE
SAME CREEP



CREEP TEST COMPARATIVE

- "Other Alternatives" Average retention 1h (%)
- "Other Alternatives" Average retention 4h (%)
- LAMBDA Average retention 1h (%)
- LAMBDA Average retention 4h (%)



MULTI SPRAY APPLICATION

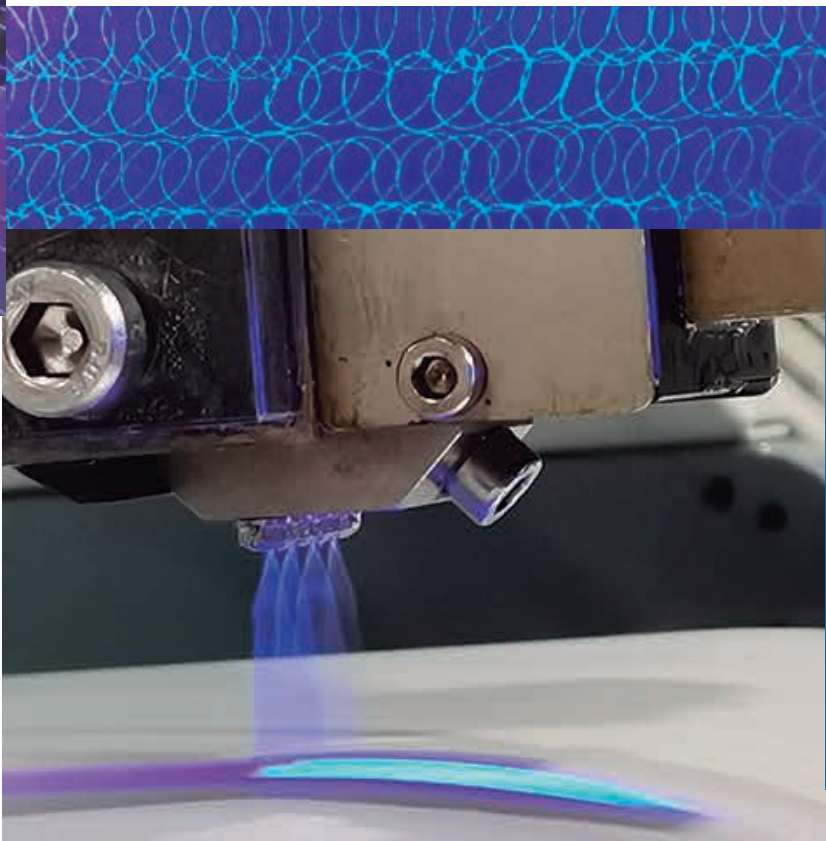
BAT L NOZZLE

Our Nozzle is an insert-based stainless-steel nozzle. By using blank inserts, customers can configure the nozzle to specific application needs, closing unnecessary outputs. Also, if one of the outputs is damaged, only the affected insert needs to be replaced, reducing maintenance costs for our customers. The adhesive channel in these nozzles has a longer extrusion, ensuring a consistent pattern with lower grammage levels.

The main advantage that we provide is that we have inserts with 6 air orifices per adhesive stream for a higher frequency on the swirl, which allows customers benefit from a higher bonding as the number of crossing points of the swirl pattern increases. This feature also allows the end users to run the machine at higher speeds.



6 AIR JETS



Achieve more precise edge control and better adhesive distribution than with large spray applications, as well as a better cut-off. Fibres are also smaller, so this is the ideal solution for applications where a thinner distribution with better hand is needed.

SPRAY APPLICATION

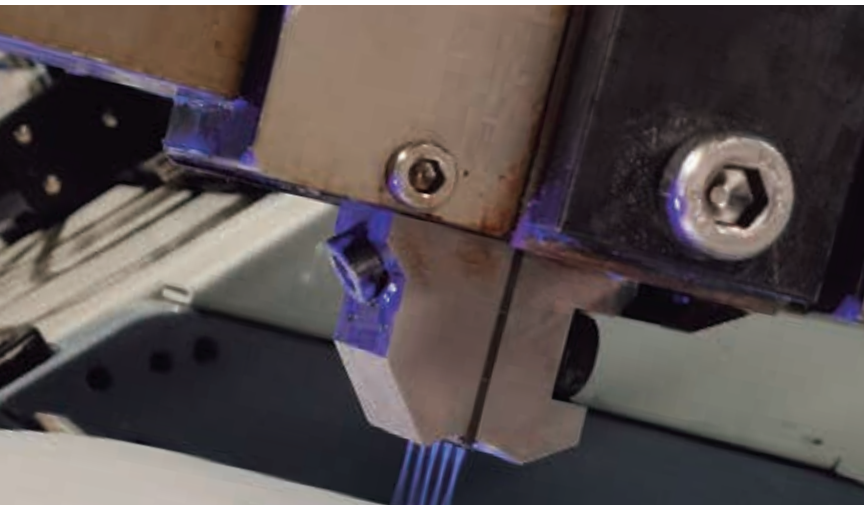
Valco Melton's Alpha Spray Nozzle guarantees a cleaner spray pattern with an excellent edge control, ideal for continuous laminating applications. It helps to drastically reduce adhesive contamination around the application area thus significantly improving machine uptime.

Stainless Steel made, shim-based designed, this nozzle creates a random pattern of broken fibers, making the adhesive filament oscillate from side to side with a sinusoidal Non-Crossing pattern.

ALPHA NOZZLE



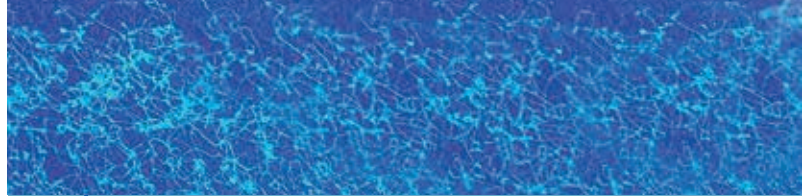
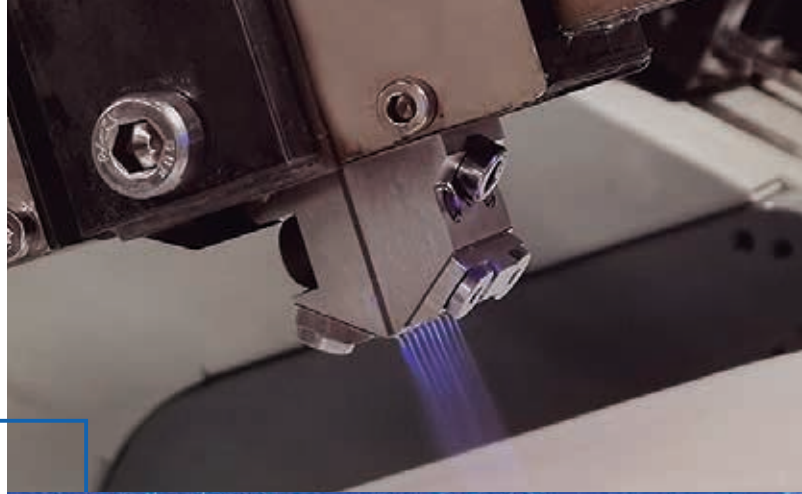
Each nozzle has
UP TO 5 LARGE
ADHESIVE ORIFICES



Each nozzle has
UP TO 9 LARGE
ADHESIVE ORIFICES



SIGMA NOZZLE



Valco Melton's Sigma Nozzles have been specially designed for high-speed intermittent applications, to prevent adhesive bleed-throughs and thermal distortion during intermittent adhesive applications, especially when used to bond thin materials, reducing associated machine downtime and helping to improve product quality.

Sigma Random pattern provides a consistent bonding, great edge control, and an improved appearance of the end product.

Large adhesive passages prevent nozzle clogging improving machine uptime. Provides close edge coverage for a better product quality.

Available in 25mm full width as well as in partial coverage configurations.

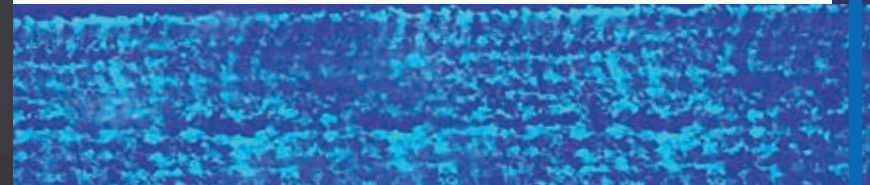
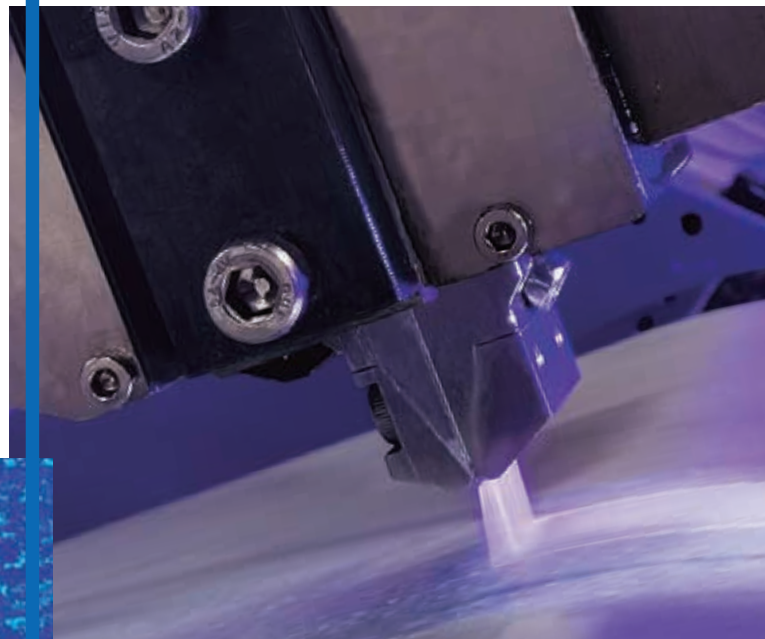
KAPPA NOZZLE



Valco Melton's Kappa Nozzles deliver a wide range of non-contact adhesive patterns, from high dense to very soft random fibers open patterns. They are also the best option when looking for high precision on the adhesive pattern definition. Kappa Nozzles have the best edge, leading and trailing control as well as an excellent cut off. Designed to support both continuous and high-speed intermittent applications.

Produces random patterns formed by broken adhesive fibers and also high dense uniform adhesive coated areas even on porous or irregular surfaces.

Great
BONDING STRENGTH
REPEATABILITY





ELECTRIC DISPENSING APPLICATORS

NO AIR. NO WEAR.

vmGenesis® is a fully electric hot melt application technology engineered for demanding, high-speed hygiene manufacturing. By eliminating compressed air and dynamic seals, it delivers up to 10x longer service life, consistent pattern placement, and lower operating costs across both spray and slot applications



10x longer service

Zero dynamic seals eliminate wear, extending module life up to 2 billion cycles.



Consistent, repeatable pattern placement.

Stable valve operation over time, unaffected by pneumatic air pressure variations or poor compressed air quality.



Less maintenance

Fewer moving components and no air-related wear reduce maintenance interventions and unplanned downtime.



Focus on high-value operations

By reducing the complexity and frequency of maintenance tasks, teams can focus on higher-value activities or more critical operations.



Lower operating costs

Reduced spare parts, maintenance, and energy usage during non-productive machine time.



Silent and safer operation

Electric technology removes the noise associated with pneumatic technology, contributing to improve working environment.

**10 TIMES
THE LIFETIME**
of any other alternatives
in the market

vmGENESIS SPRAY

vmGenesis Spray applicators have been specifically engineered to work with the high viscosity adhesives used in the hygiene disposable product manufacturing processes. An independently controlled air heater allow for optimal process adjustment and their angled manifold design reduces air turbulence, improving adhesive pattern stability.

Nozzle options



Alpha



Kappa



Sigma



BAT L



Lambda



BATS



Slot

vmGENESIS SLOT

The patent-pending vmGenesis Slot applicators feature a newly designed snuff-back module that ensures the precise and clean cut-off required in the most demanding, high-speed intermittent applications, such as release paper, wings, and easy wrap.

Nozzle options

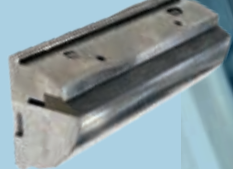
- Standard fully hardened stainless steel nozzle for applications up to 1,000 mm wide, with an upgraded design for longer durability.
- Dual nozzles for applications up to 600 mm wide that require two separate or overlapping application zones.
- Fortitude nozzles with a tungsten carbide insert for 10x longer durability than any stainless steel alternative.



Standard



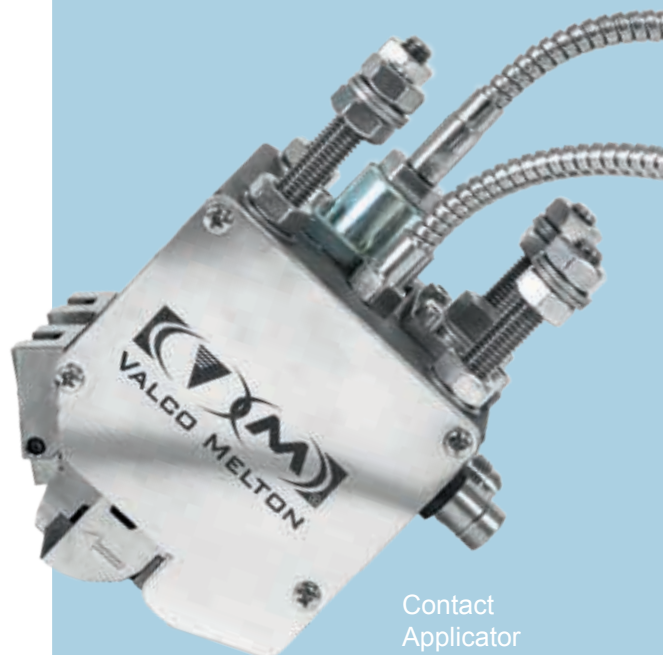
Dual



Fortitude



Spray Applicator



Contact Applicator



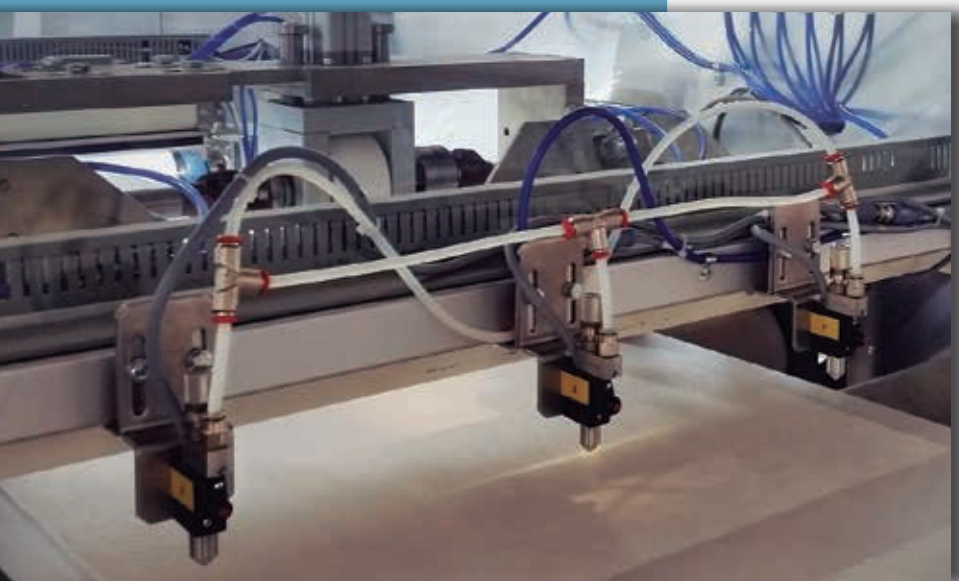
PERFUME MICRODOSING SOLUTION

Hygiene disposable manufacturers use perfume to mask the odor of hot melt adhesive and some other raw materials on the process.

Our solution is developed to be an environmentally friendly and cost-efficient dispensing technology, replacing applications that atomize perfume to provide a much safer working area for the machine operators.

Spray application is substituted by a small dot dispensed on each pad. This ensures that every product receives a precise and equal dose, even during machine startup or at variable line speeds.

Dispense drops
as small as 1mg
per product



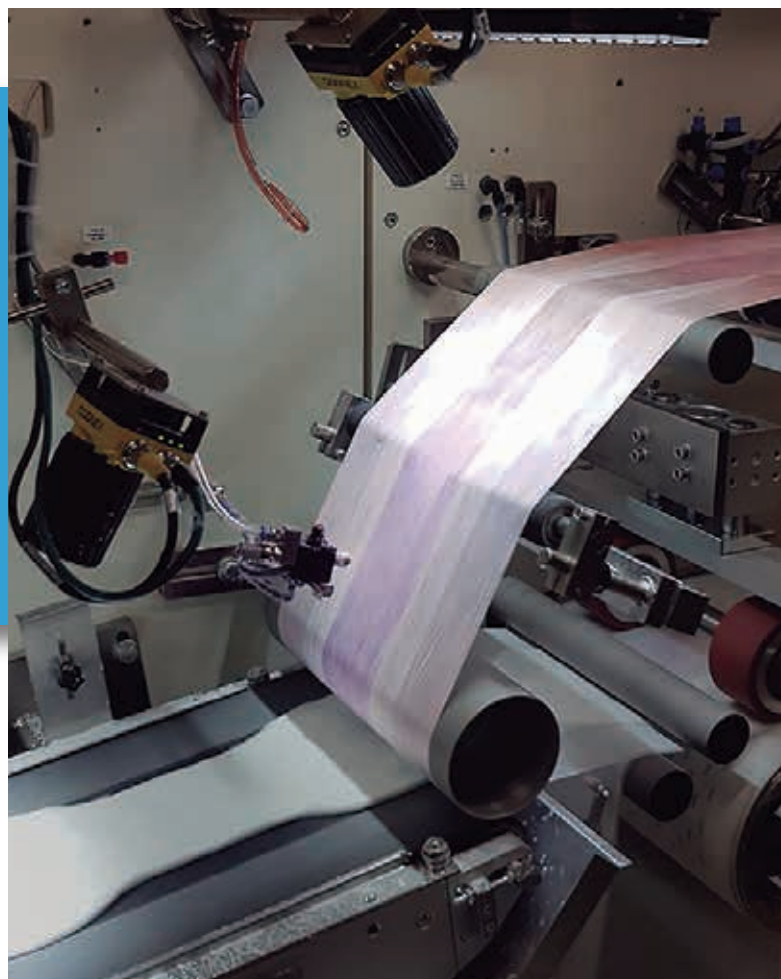
Achieve fluid savings of up to 80% against traditional perfume or lotion dispensers with Valco Melton's Air-Less Perfume Dispensing Technologies.

Most of the perfume dispensing systems out there feature a pressure tank and a spray pneumatic valve, which is normally pulsed by a pattern controller.

OUR SOLUTION

Valco Melton's Perfume Dispensing System solves all the issues described. It's integrated 300EZR has a pulsing rate of up to 21.000 cycles per minute and a life time of 1.5 billion cycles

- Get rid of the spray, we can dispense drops as small as 1mg per product, so we can work directly with the perfume concentrate.
- Get rid of the mixer and any operation associated with the mixing process. We have helped customers to save 120 Tons on alcohol per year in just one manufacturing location.
- Safer Working environment for machine operators.
- No more perfume lost in the air. Huge waste reduction with an average 60% savings vs Spraying systems. Standard perfume concentrates add-on values vary from 0.0015gpp to 0.03gpp.
- Safer Product. The drop is precisely applied to the web, allowing customers to choose the optimal placement to minimize any interference of the perfume with both the product and the user's skin.
- Maintenance-free dispensing valve. Our valve key components are ceramic and stainless steel made, with zero dynamic seals.



ESTIMATED ROI

With Basic KIT*	1,5 Months
With Basic KIT + Flow KIT*	2,5 Months
With Portable Enclosure KIT*	2 Months
With Portable Enclosure + Flow KIT*	3,5 Months

*Based on a 24/7 Production Line 0,85 Efficiency running with the above conditions

▶ BASIC KIT

This kit includes all the needed parts to apply the perfume. The liquid is directly suctioned from the perfume supplier cannister. The parts are packed separately and are intended to remain installed in the same production line. Eventually, if the customer is providing its own pattern controller signal and EPC valve we can supply the kit with a VD-2 Driver instead.

▶ PORTABLE ENCLOSURE KIT

This system is designed like a standalone perfume dispensing system which has its own tank and can be easily moved from line to line. The concept is very similar to the Hot Melt Dispensing Units, where all the elements to dispense the adhesive are place inside the same enclosure. As with the Basic kit, if the customer is providing its own pattern controller signal and EPC we can supply the kit with a VD-2 Driver instead.



▶ FLOW CONTROL CLOSED LOOP KIT

This kit includes an Ultrasonic flow meter and a PLC based controller that allows customers to set up the desired amount of perfume to be deliver on each product. The system automatically adjusts the fluid pressure to ensure that all products receive the same pre-set amount of perfume regardless of the line speed. It also provides different alarms levels in case of defects and real time information of the actual flow.

Its ultrasonic flowmeter doesn't interfere with the perfume flow at all, and doesn't require any cleaning or maintenance compared with other gear-based flow meters available in the market.

Being able to control the amount of perfume dispensed is particularly important, not only from the quality assurance and cost control point of view, but also to prevent customer's skin overexposure to this type of products.

The Real Flow Data can be recorded for a programmable period of time. Once the sampling has been done the system will **generate an Excel compatible file** which can be downloaded into a USB memory stick for further analysis



LEGACY CONTROL CABINET

Electronic components "off the shelf", with a new level of process control and expandability capabilities, similar as our SmartMelt Series.

Reduce waste during machine ramp up and avoid over gluing during the ramp down with the "Ramp Compensation Software utility". Main machine network communication 100% compatible, optional pressure transducers and many other configuration options for each application's specific requirements.

STANDALONE FLOW METERING SYSTEMS

Gain unparalleled control of all technical processes in the nonwovens industry. Valco Melton's Flow Measurement devices are sensors that measure volume rate based on a calibrated gear principle. Designed to work with hot melt adhesives up to 210°C.

The process is then monitored from a Control Cabinet, which provides different options to integrate and communicate with the parent machine.

Our Flow Metering can be incorporated into existing lines independently regardless of the adhesive dispensing brand.



DRUM UNLOADERS

Valco Melton's SmartDrum and DDrum Unloaders achieve industry-leading high melting rates.

Featuring an innovative integrated control system, these drum unloaders are ideal for continuous operation that require the use of multiple drum unloaders working simultaneously. This new system can control up to 8 drum unloaders, sending a signal to the necessary units based on the current production needs.



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ALL LOCATIONS



Adhesive Dispensing & Quality Inspection Systems