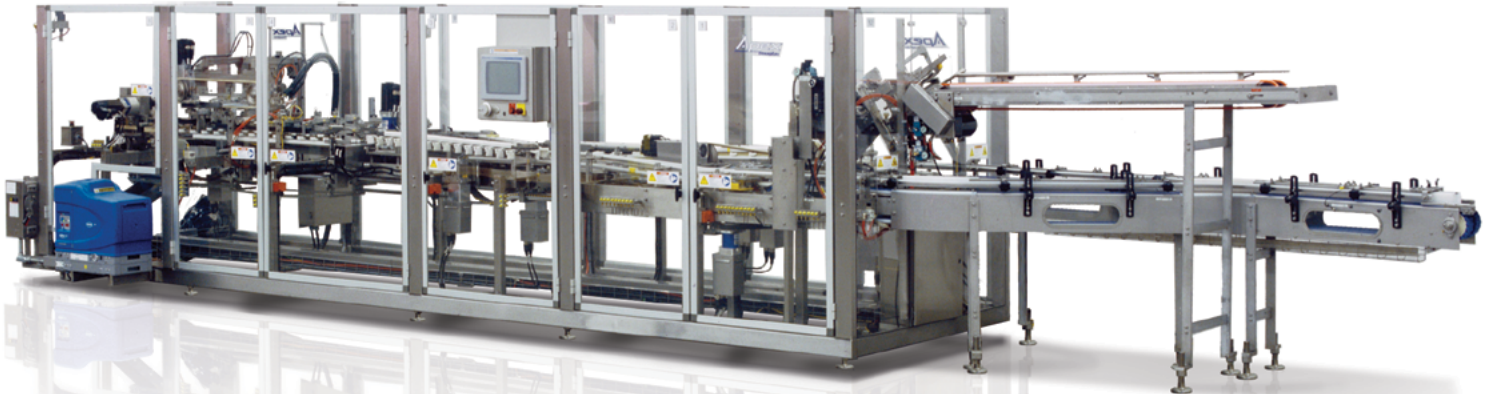


Apex Series
SLEEVERS



Adaptable Performance Without Fail.

Apex offers class-leading paperboard sleeving solutions for a wide range of products, sleeve styles and pack configurations. With speeds up to 300 sleeves per minute, easily adaptable product handling options, advanced servo technology and heavy gauge stainless steel construction, Douglas delivers a non-stop powerhouse of performance, versatility and reliability.

DOUGLAS

Fast, Flexible and Extremely Durable,
Apex™ offers rugged reliability combined with the latest innovative technologies to easily and precisely adapt to your application.



wraparound sleeves

Ideal for sleeving single products or multi-packs with top, side or bottom closure.

Available with bottom glue/top gusset or top glue/bottom gusset.



drop-through sleeves

Perfect for single pack, multi-pack and multi-tier sleeving of tapered cups and containers.



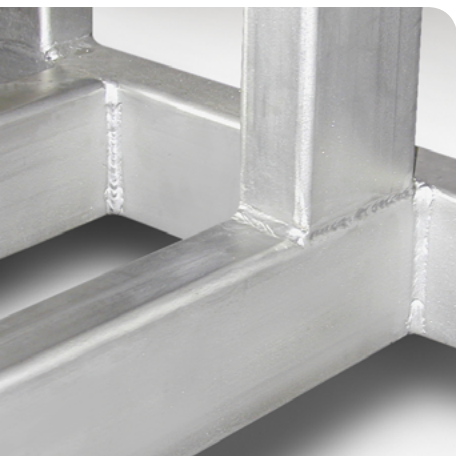
neck-through sleeves

Show off your product while providing excellent pack containment of necked bottles and containers.

Available with bottom glue/top gusset or top glue/bottom gusset.



Heavy-Duty Stainless Steel Frame and Low Maintenance Design



- Heavy Duty seam-welded stainless steel construction for exceptional strength and durability.
- Walk-in frame design for easy access and maintenance.
- Sanitation - fall through, balcony design overhead wiring and servo cable mounting ideal for dusty or wet environments. No through frame wiring is used.
- Operator access - cantilevered design means less reach to the carton flights for easy jam clearing and adjustment.





Collating, Loading, & Infeed Conveying Solutions



▲ Simple balanced lane product infeeds

Flexible and Adaptable Conveying and Product Handling

Douglas offers appropriately applied technologies for infeed conveying, collating and loading solutions that increase line efficiencies for soft, semi-rigid and rigid containers

- Simple balanced lane product infeeds use surge control to enhance line efficiency by increasing or decreasing machine speed to maintain pace with product delivery.
- Timing screws are used for surgeable, semi-rigid containers requiring grouping, spacing, or separation prior to sleeve introduction.
- Side selectors are beneficial for soft products with minimal surface contact area that are susceptible to varied surge conditions.
- Star wheels are used for soft products requiring surge control and spacing prior to sleeve introduction.
- For products requiring orientation prior to sleeving, unique live belt turning reliability orientates products into the proper position.



◀ Star wheels for soft products requiring surge control and spacing

Touch screen
selectable
product “recipes”
automatically
control precise
adjustments
throughout the
machine.

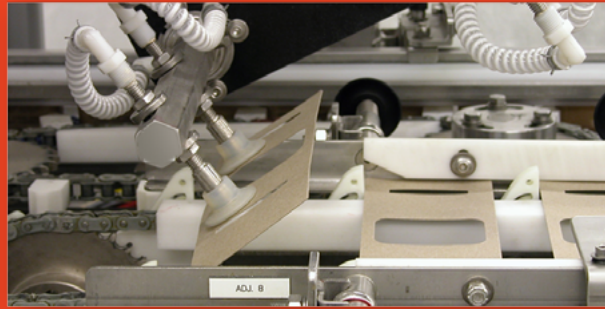
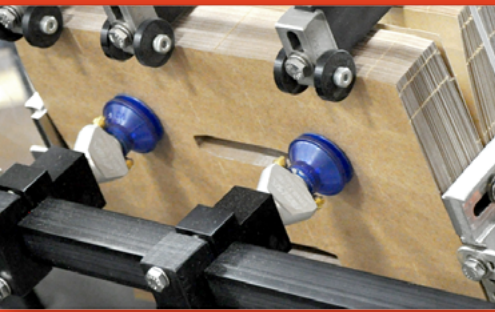


Intuitive interface and the latest in electronic motion control technology simplifies and enhances all areas of operation.

Automated changeovers offer dramatic improvements to line efficiencies and reduce operator errors.

- Machine functions operate simultaneously instead of one at a time, dramatically increasing efficiencies.
- Servo motors are readily programmed with excellent capability to adapt to changes and adjustments.
- Fast, repeatable changeovers and simple adjustments when products or materials vary slightly.
- Smooth, quiet operation reduces component wear for lower maintenance cost.
- On-board diagnostics provide simple troubleshooting from the HMI.





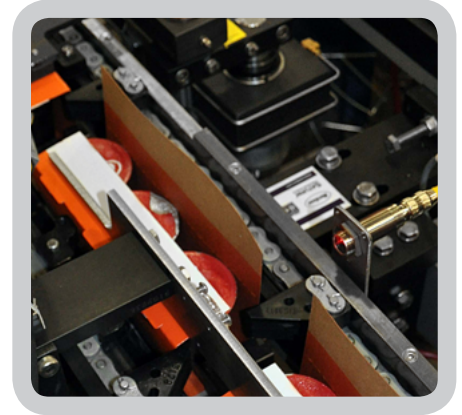
Precision sleeve blank and product control ensures consistent non-stop production for all product types.



Magazines are intelligently designed to ensure precise blank placement and orientation. Optional air-assist is used to enhance blank separation for high speed applications.



Sleeves are introduced from the top or bottom depending on sleeve design. Methods including sleeve flight lugs and capture rail systems maintain constant control of sleeve and product during the loading process.



Closing and sealing are aided with a combination of static plows and live closures to minimize sleeve friction and resistance, ensuring consistently formed end products.

There's a reason Douglas leads the industry in value-added offerings. It's not just our job... IT'S OUR COMPANY.

As a 100% employee owned company, you can rest assured that nobody works harder than Douglas to provide MORE for today's packagers.

As part of that commitment, we offer programs designed to keep your operation on the move and improve your bottom line.

Services like the **Reliability Assurance Program** provide comprehensive machine inspection, audit and analysis services to reach your maintenance goals and ensure maximum productivity.

Our **PartsDirect™ Program**, offers commercial OEM replacement parts at a guaranteed best price. See our web site for details and other value-add programs.

So when you choose Douglas, feel free to expect more. More knowledge, more innovation, more quality, more support. More of everything you need in a secondary packaging partner.

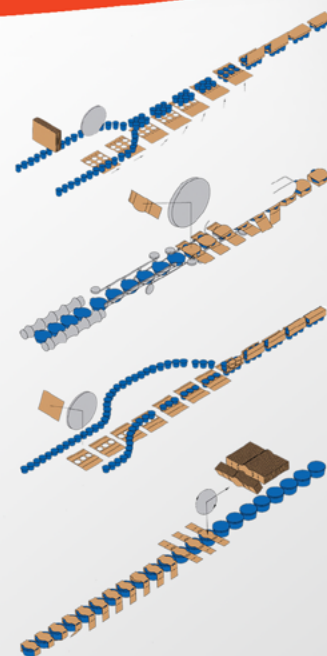


Apex Series SLEEVERS

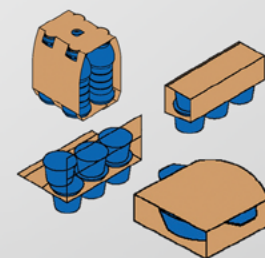
DRIVE:	Servo drive motors.
PITCH:	Application dependent.
FLIGHT CHAINS:	Application dependent.
SPEED:	Variable to 300 sleeves per minute or 800 products per minute (pitch, product, and sleeve design dependent).
PRODUCT SIZE RANGE:	Per project specification.
PACKAGE SIZE RANGE:	Per project specification.
MAGAZINE CAPACITY:	6 ft. (1.85 m). Shorter or longer capacities (optional).
FRAME:	Tubular steel.
ADJUSTMENTS:	Threaded screws, handwheels, scales, and pointers. Digital scales, phase adjustments, and tool-free packages (application dependent) optional.
SLEEVE SETUP/FEEDER:	Rotary placer (application dependent).
SLEEVE POSITIONING:	Traveling flights.
SLEEVE CLOSURES:	Glue or locks.
GLUE SYSTEM:	NORDSON ProBlue® series or per project specification.
COMPRESSION:	Timing belt drive.
GUARDING:	Full length polycarbonate with extruded anodized aluminum frames.
ELECTRICAL:	Allen Bradley programmable logic controller or per project specification. Touchscreen operator interface panel. NEMA 12 wiring and enclosures. NEMA 4 or 4X wiring and enclosures (optional).
FINISH:	Gray metallic powder coat epoxy. Other colors optional. All parts in contact with product are stainless steel, anodized aluminum, or food grade plastic. OEM parts are manufacturers' standard finish.
INSTALLATION REQUIREMENTS:	
POWER:	One drop 230/480 VAC, 50/60 Hz, 3PH. Other power sources available.
AIR:	One drop 80 to 100 PSI (3 to 5 CFM).

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Typical Process Diagrams



Typical Pack Patterns



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EMPLOYEE OWNED, CUSTOMER DRIVEN.