Davis-Standard Is More Than Equipment

Davis-Standard is recognized as a global leader in high-performance extruders and processing equipment. The reason for this goes far beyond our ability to build efficient, well-designed machinery. It extends to our professional training experts, laboratory personnel, design engineers, and hands-on field and service technicians who work with you every step of the way. Your success is our success. Let us put The Global Advantage™ to work for you.

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dsX s-tretch™
Cast Film Extrusion Line
PATENT PENDING

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Experience Quality at Higher Speeds.

Protecting products from damage while they move through the supply chain is critical to ensuring profitability. The dsX s-tretch™ cast film extrusion line is the first in-line pre-stretch machine to provide exceptionally strong, thin film that can be run at higher speeds. This means you benefit from higher output, optimum energy efficiency, and a faster return on investment.

Superior Product at a Manageable Investment.

The dsX s-tretch™ cast film extrusion line takes advantage of exciting new technologies to deliver film as thin as 6μ at 550-1000 mpm. It is your choice to produce film with either a 2-inch thin core or innovative coreless technology. Comprehensive, flexible and pre-configured, the dsX s-tretch™ is only two meters wide making it easy to install and operate.

The dsX s-tretch™ works hard for every customer.

- **Providers** – Achieve a competitive advantage and produce thin, pre-stretched films at higher line speeds with greater strength.
- **Distributors** – Maximize pallet protection with consistent performance while reducing costs.
- **Manufacturers** – Enjoy a machine that is easy to configure, implement, and manage according to your needs.
Built To Give You Exceptional Performance – And Tremendous Value.

There is no other machine like the dsX s-tretch™ cast film extrusion line. The first of its kind, it gives you a competitive advantage by producing three-, five- or seven-layer conventional or pre-stretched films with greater efficiency and unmatched consistency.

And because it’s backed by Davis-Standard, the recognized leader in plastics and rubber extrusion and converting systems, you can count on superior performance and reliability.

dsX s-tretch™ Cast Key Benefits

- **Thinner films, higher line speeds, greater strength** – Produce consistent, high quality pre-stretch film with greater efficiency.
- **Coreless technology reduces costs** – Appeal to environmental market demands by reducing material and disposable costs.
- **Manageable investment, comprehensive and flexible** – Maximize your return on investment quickly with a comprehensive, flexible machine that has you up and running in as little as six months after order placement.
- **Eliminate secondary converting process** – Run high-speed in-line production and eliminate the need for multiple units to maximize productivity and profitability.
dsX s-tretch™ Cast Film Extrusion Line

**Design Advantages**

**MACHINE DESCRIPTION/SPECIFICATION**
- Plastcontrol blenders made by each four-component gravimetric batch, controlled with Davis-Standard control software
- Gravimetric weigh-type hoppers with Davis-Standard gravimetric rate control
- Blenders for the re-feed machines are elevated to the top of the re-feed hopper and serviced with a simple access deck
- Plastcontrol resin loading system

**EXTRUDERS**
- Newest low-boy design extruders and casting section
- DSB® 2 barrier feedscrews
- Two 30:1 L/D core extruders of 114mm/4.5-inch
- Remainder 30:1 L/D 63.5mm/2.5-inch machines
- Mounted on a mezzanine for easy access and for shorter feed pipes

**FEED BLOCK, DIE & VACUUM BOX**
- Cloeren fixed geometry 5-layer
- Cloeren fixed geometry 7-layer
- Cloeren EPOCH auto die
- Dual chamber vacuum box, brush type adjustable seals

**CASTING SECTION**
- Moves by hydraulics and locks into position
- Frame is open on the casting section to allow access for threading, cleaning and service
- Fixed chill roll height, air gap adjustment by moving in and out in small increments
- 1.2m chill roll diameter
- 500mm diameter optional secondary chill roll supplied with a nip

**REFEED SYSTEM**
- 2 PAC fluff systems for trim removal through granulation
- 2 trim systems are required
- 2550mm die to produce a 2000mm finished film

**WATER PUMPING SYSTEMS**
- Located under the mezzanine
- Skid mounted and pre-piped to headers
- Motor starters in the etainer
- PLC control is locally mounted

**GAUGE SYSTEM**
- NDC IR system
RANDOMIZER
• Space saving single web randomizer mounted over the slitting section
• Same adjustable stroke and rate adjustment are offered

WINDING MODULES
• Two basic modules:
  - Single 2-meter wide MDO, slitting and bleedless guiding section
  - Pair of side-by-side 3 spindle turret winders (S-3 winder) with roll and core automation built into a single machine frame
• Offers a space saving floor plan with product rolls from both winders being off-loaded to one side of the machine

TRIPLE STAGE MDO/PRE-STRETCHING & SLITTING
• New pre-stretch system, a group of four driven rolls mounted after the first roll in the MDO/slitting unit
• Taking trim prior to the MDO or prior to doing extensive stretching, allows the trim to be removed at slower line speed
• Run the pre-stretch up to 1000 MPM/3280 FPM

MDO
• One slitting station built into one MDO unit which feeds into two side-by-side winders
• Three nipped high performance stretching rolls in the second and third stage of the MDO proven to pre-stretch films successfully to 1000 MPM at 1 meter in width

BLEEDLESS GUIDING SYSTEM & CORE SPACING
• Eliminates issues with bleed dropouts and associated downtime for conventional film
• Core loading system has the ability to space the cores to align with respective slit lanes that are necked in as a result of being pre-stretched

LAY-ON ROLL – TORQUE LOADING & POSITION CONTROLLED
• Motorized system for loading the lay-on roll against the winding roll
• Uniformly controls the amount of air and the thickness of air

WINDER ORIENTATION FOR RE-CORE AND ROLL REMOVAL
• Features three spindles for winding, stripping finished rolls and recoring simultaneously
• Cycle time less than 20 seconds
• Uniqueness of the side-by-side design allows for all the finished film rolls to be discharged and new cores to be inserted from the same
• Cores are loaded on the drive side of the line from the back while the rolls are discharged from the front

TURRET DESIGN
• Features a wheel on the control side that rigidly mounts each of the three winding shafts and their respective drives
• Winding shafts do not pivot or remove
• Opposite side features a rotating flange with three pneumatically actuated spindles that are used when indexing takes place for roll change
• Once the new shaft is indexed into the winding position, the winding core shaft is clamped, all of the pneumatically actuated spindles retract from the core shafts
• Flange then rotates 60 degrees back, this places the nonwinding core-shafts in a cantilevered state to allow cycle time saving core loading and product roll unloading simultaneously
• Once complete the rotating flange rotates back to prechange position and the spindles are then engaged to the core shafts

WINDING SHAFTS
• Designed for 2-inch and 3-inch ID conventional cores, thin wall cores and for core-less winding
• Air expanding shafts are supplied
• No moving parts in the winding shaft, the shaft does not need to be collapsed to remove a roll of film
• Film will not bleed into any grooves in the shaft where mating pieces are coming together

WINDER ACCESS
• Configured for ease of operator servicing (BMW2, S2, S4)
• No core box or roll removal system directly in front of the winding turret blocking access to the outer winding shafts

ELECTRICS
• Etainer is supplied for the extruder and casting section drives and also includes the MCC starters, vacuum box drives and general power distribution
• Heat control devices and PLC based temperature control are mounted to respective extruders
• Winder drives are with the winder in a separate floor mounted cabinet
• Drives and PLC are Siemens, the SCADA system is EXACT
• Metric and with 380V/50Hz
dsX S-tretch™ Cast Film Extrusion Line

Why Davis-Standard?

Excellence in engineering and construction — the dsX s-tretch™ cast was designed and developed by our top experts utilizing innovative technology platforms. You can trust Davis-Standard.

Experienced process knowledge and applications expertise — we offer over 50 years of experience in helping converters achieve their business goals. Our large global installed base is proof.

Expedited delivery program — it is only six months from order to acceptance enabling you to start producing before your competition.

Exceptional after-sale service and support — Davis-Standard resources are local and available 24/7 to help optimize your productivity.

Exceeding your value expectations — you get more capability and more reliability for the price.
dsX s-tretch™ Cast Film Extrusion Line Specifications

**Web width: 2000mm**

**Containerized Control Room**
Single source power termination with power distribution and Siemens AC drives

**Extruders on Mezzanine**
(2) 115mm and (2) 65mm, 30:1 L/D with Xaloy screen changers
Optional fifth 65mm extruder for seven-layer structures

**Coextrusion Feedblock and Die**
Cloeren five- or seven-layer FG feedblock and 2550mm Epoch automatic die

**Casting Unit**
1200mm primary and 450mm secondary chill roll
Dual chamber vacuum box

**Thickness Gauge**
Infrared gauge to measure from 6 - 20µ film

**Bleedless Guide System**
Four sets of guiders to eliminate requirements for bleed trim

**Winder**
Two (2) dsX S3 Winders to wind pre-stretch or conventional film on thin wall core, coreless and tailless
2- and 3-inch cores, diameter 150 – 250mm

**Controls**
Streamlined distributed control system for easy installation, operation and maintenance

**Optional Pre-Stretch Unit**
Three driven rolls to stretch and relax film with 3:1 overall orientation