

MOVING INTELLECTUALLY

Van Dorn IntElect

Demag plastics Group

VAN DORN IntElect 50-170

50 - 385

DemagPlastics Group
VAN DORN

VAN DORN INTELECT

THE POWER OF TWO

Van Dorn and Demag Ergotech

Van D

As a united force, Van Dorn and Demag Ergotech offer you, the customer, a number of advantages that create powerful solutions to your most difficult molding challenges.

$$\begin{array}{r} \text{VAN DORN} \\ + \text{DEMAG ERGOTECH} \\ \hline = \text{POWERFUL CUSTOMER SOLUTIONS} \end{array}$$

OUR EXPERIENCE

You'll find that our combined expertise leverages technical innovation with a reputation for proven performance.

OUR PRODUCT RANGE

With a full range of machinery and molding technology to choose from, we can meet the needs of any application.

OUR SERVICE

We continue to stand behind every machine we make – for as long as you use it – with our Molder Action Network providing technical service, replacement parts, training and process solutions.



Production in Strongsville, Ohio



Van Dorn IntElect



The IntElect combines proven Van Dorn technology with the benefits of all-electric technology.

IntElect Series

All-electric = all-performance

All-electric technology has distinct capabilities and advantages over hydraulic machines. In general, all-electric machines are:

- Quieter. No oil, valves or pumps offers cleaner and quieter machine operation.
- Easier to maintain. No hydraulic parts means maintenance issues decrease.
- Energy efficient. Energy savings vary by application, but energy reduction could be as significant as 50 – 80 % due to the high motor efficiencies and less friction in the mechanical system than hydraulic machines.
- Precise. Due to high-resolution absolute encoders, a digital interface to the drives and Model Predictive Control, the IntElect Series offers significant improvements in position repeatability over hydraulic machines.
- Faster process stabilization. You will immediately notice an electric machine's responsiveness and control. This results in more consistent performance reducing scrap and start-up times.

Designed specifically for the North American market, Van Dorn Demag's all-electric IntElect Series was created from extensive customer input, market research and competitive benchmarking.

Hallmarks of the design include Van Dorn Demag and Demag Ergotech's proven toggle system as well as Demag Ergotech's flexible building block approach to injection unit configurations. Add to that a state-of-the-art, PC-based control system, the Pathfinder 6000, and you have an electric machine ready to perform.

In addition, the IntElect fully complies with all ANSI/SPI B151.1 standards, which many other electrics do not.

MODULAR FLEXIBILITY

Adapting to Your Business

With Van Dorn's unique building block system, you can customize your machine to meet your application needs today or add on to it later when those needs change.

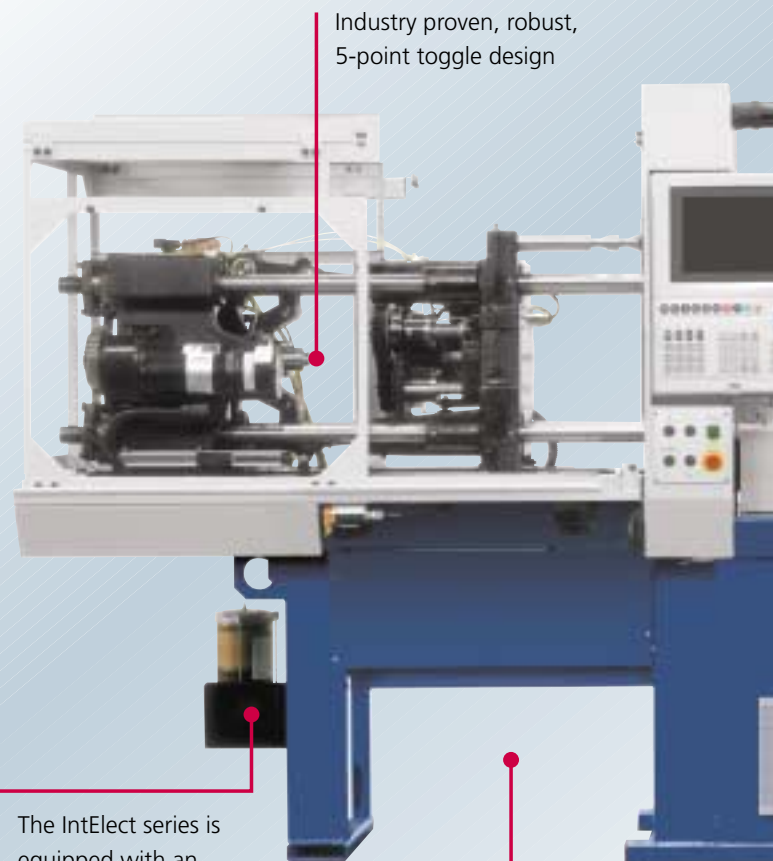
Choose between several injection unit sizes and screw diameters for every machine. It's even simple to adapt the machine bed to accommodate 25:1 screw L/D ratios. In addition, we offer a wide range of equipment and option packages that cost-effectively transform your existing machine to meet the requirements of any new application.

Clamp	Injection Unit	Barrel/Screw
50 (13 x 13)	100	18/22/25/30 mm
	170	25/30/35 mm
	270	30/35/40 mm
80 (15.2 x 15.2)	100	18/22/25/30 mm
	170	25/30/35 mm
	270	30/35/40 mm
110 (16.5 x 16.5)	170	25/30/35 mm
	270	30/35/40 mm
	380	35/40/45 mm
165 (21 x 21)	390	35/40 mm
	500	40/45 mm
	720	45/50 mm
220 (24 x 24)	500	40/45 mm
	720	45/50 mm
	1220	50/60 mm
280 (25.6 x 25.6)	720	45/50 mm
	1220	50/60 mm
	1920	60/70 mm
385 (31.89 x 31.89)	1220	50/60 mm
	1920	60/70 mm
	2800	70/80 mm



General Features

- Sprue break
- Automatic die height and clamp tonnage control
- Auto lubrication of all ball screws
- Pedestal base for three-way part removal
- Platens predrilled (SPI pattern) for simple robot mounting
- SPI robot interface
- Vibration mounting pads
- UL and CUL-approved control cabinet
- 460 volt incoming power



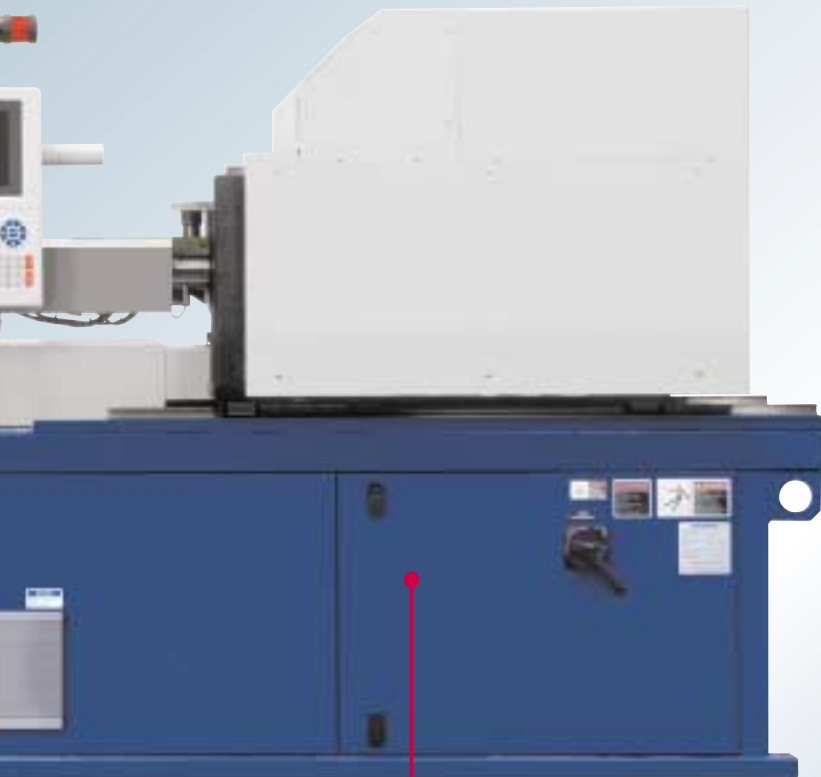
Industry proven, robust, 5-point toggle design

The IntElect series is equipped with an automatic lubrication system providing lubrication to all ball screws.

Pedestal style base open to the floor for complete access to the part drop area.

Options

- Feed-throat temperature control
- High-pressure injection
- Co-injection
- Special application screws and barrels
- Air eject
- Swing-away arm and hopper
- Auxiliary hydraulic cart
- Core pull interface
- Energy monitor
- Auxiliary communications
- SPC program
- Host communications
- Configurable inputs and outputs
- Continuous screw rotate (shut-off nozzle required)



Electrical cabinets fully comply with ANSI/SPI B151.1 standards

Injection Unit – Accuracy and flexibility

Unlike any other competitor's machines, the IntElect incorporates a nonmechanical, yet highly accurate, patented Melt Pressure Observer, which yields a more stable and responsive system, to the ever-changing processing variables.

Because the injection and clamp units operate separately, you benefit from reduced cycle times by using the standard crosshead relax function or optional overlapping cycles. The ability to meet certain special application requirements can be accomplished with the following standard features:

- Breathing
- Coining
- Preinjection

The IntElect benefits from Van Dorn Demag's flexible modular system which provides three screw diameter choices (standard, high pressure and high volume) for machines 110 tons or less and two screw diameter choices (standard and high pressure) for machines 165 tons or larger. The smaller machines have a quick-change (20 minutes to complete) screw and barrel and the larger machines use a pivoting system.

Clamp Unit – A design that delivers

Since the 1940s, Van Dorn has made and perfected its toggle design. Toggle machines are known for their fast and smooth clamp operation. But the expertise required to produce a machine like the IntElect didn't stop there.

The machine's clamp unit is a working example of Van Dorn Demag and Demag Ergotech's innovative collaboration. Together, engineers carefully designed the location of links, geometry, web casting support and longer guidance to create a rugged box style platen. Because of this design, tonnage is evenly directed across the face of the platen resulting in reduced mold wear and reduced tonnage requirements.

Your molds are also protected through superior support from a large-spread, dual-platen bushing design and cam rollers running on hardened steel ways located on the movable platen. A patented Torque Observer protects your molds from closing on any obstructions in the mold. When ejectors are activated, they can control multiple eject sequences such as tip stroking, ejector forward hold and eject on the fly. This overlapping of functions, including an optional continuous screw rotate, contributes to a reduction in cycle time.

PATHFINDER 6000

The Future of Control Technology

The Pathfinder 6000 is a state-of-the-art, PC-based control characterized by its ease of use, long-term accuracy and reliability.

Ease of use

With a 12-inch touch screen, pop-up windows and 3-D graphics, the Pathfinder 6000's output is easily read and understood by your operators. Most importantly, there are no user tuning parameters to set due to the IntElect's Model Predictive Control.

Accuracy

Model Predictive Control, patented by Van Dorn, is a fully closed loop system for all motions. MPC defines every machine motion in a model in real time. Based on this model, MPC predicts future machine states in order to arrive at the desired outcome. MPC analyzes every motion prior to the motion occurring and optimizes the machine's performance.

It means that the IntElect:

- Is more responsive
- Adjusts quickly and precisely to material viscosity changes
- Produces more repeatable positioning
- Provides accuracy, stability and consistency saving you time and money

In addition, the IntElect incorporates absolute (instead of relative) encoders with over 32,000 breaks per revolution, so that position repeatability is a given. By using absolute encoders, the IntElect does not require battery back-up systems.

Reliability

Through the Pathfinder 6000's patented Model Predictive Control, the system is able to define and predict its current and future "health" factoring in physical deterioration. That's reliability you can count on.

The Van Dorn-designed Pathfinder 6000 industrial PC-based system incorporates a Real Time Operating System (RTOS). We think you'll agree that RTOS is a more reliable and tougher operating system than Windows. Please consult the factory for an innovative way we can provide Windows' applications on the P6000 control.



PATHFINDER (P6000)

The Van Dorn IntElect comes with controls that are easily understood yet sophisticated enough to take the machine to the next level of performance.



EXTENDED WARRANTY

The Van Dorn Demag Difference

Van Dorn Demag offers an extended warranty on our IntElect Series machines that is different than any other warranty.

60-Month Major Mechanical Warranty

Van Dorn Demag will repair or, at Van Dorn Demag's option, replace any mechanical part (including base, platens, clamp linkage, tie bars, link pins, bushings, injection carriage, injection housing, gates or guards) that proves to be defective in material or workmanship under normal use within 60 months of the original date of shipment from Van Dorn Demag.

36-Month Control Parts Warranty

Van Dorn Demag will repair or, at Van Dorn Demag's option, replace any AC servo motor, drive, cable or other machine control component that proves to be defective in material or workmanship under normal use within 36 months of the original date of shipment.

24-Month Minor Mechanical Warranty

Van Dorn Demag will repair or, at Van Dorn Demag's option, replace any belt, ball screw, pulley assembly and front-end wear part (including barrels, screws, screw tips, nonreturn valves, junction box and heater bands – subject to inspection by Van Dorn Demag), that proves to be defective in material or workmanship under normal use within 24 months of the original date of shipment.

12-Month Labor Warranty

For the first 12 months after shipment, Van Dorn Demag will provide all service labor for diagnosis and repair or replacement of defective parts as described under the mechanical, control and wear warranty.



MOLDER ACTION NETWORK

Our commitment to 100 percent customer satisfaction is part of the Van Dorn experience. That is why we created the Molder Action Network – total support with one call. Contact us at (866) 491-1045 or visit www.molderactionnetwork.com.



REPLACEMENT PARTS

Van Dorn maintains an extensive, computerized inventory of replacement parts to assure customers of quick delivery.



TECHNICAL SERVICE

The Molder Action Network's Technical Service Department is standing by with a wide range of services – installation and start-up, troubleshooting, field service and preventive maintenance.



TRAINING

We offer classes at three different customer training centers located in Strongsville, Ohio; Greenville, South Carolina; and Roselle, Illinois. Training, tailored to meet your needs, can also be arranged at your facility.



PROCESS SOLUTIONS CENTER

This center, available to customers before and after a sale, is a state-of-the-art lab facility for mold trials, machine run-offs prior to delivery or troubleshooting processes in the field.

ENERGY SAVINGS

Sky-rocketing energy costs have changed the economics of the injection molding business. The Molder Action Network can help you cut your power bills down to size.

ONLINE STORE

Order parts from our new online store where convenience and ease are our main priority. We can accept payment via credit cards or purchase orders.

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Since continuous improvement is Van Dorn Demag's policy, we reserve the right to change information without prior notice or obligation.