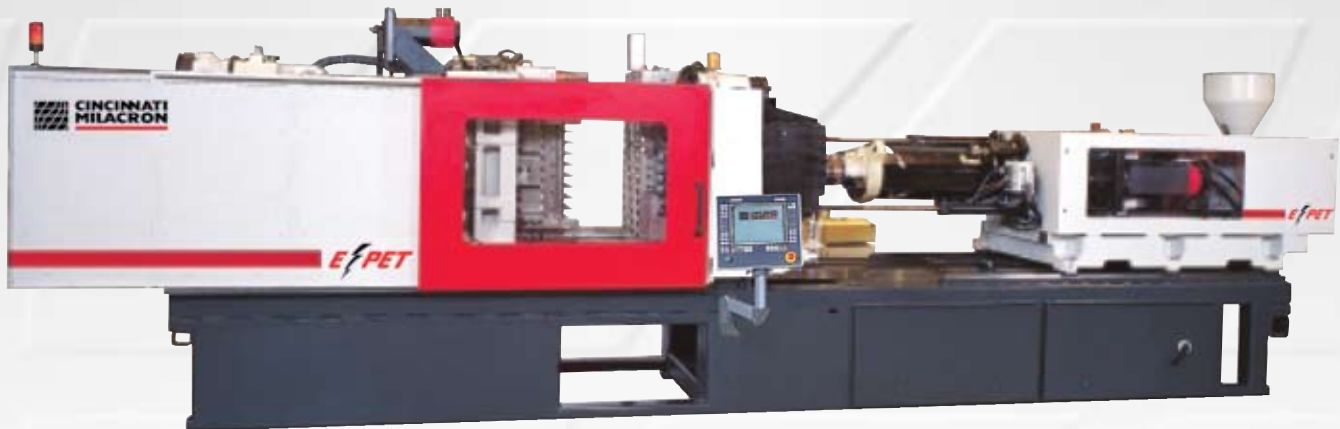


POWERLINE ***E[⚡]PET***

All-Electric PET Preform Injection Molding Systems

C L E A N
Q U I E T
E N E R G Y
S A V I N G
C O S T
S A V I N G



Featuring ***SIDEWINDER*** 2-Stage Injection Unit

and  **MOSAIC** Control



POWERLINE E-PET

All - Electric PET Preform

MILACRON OFFERS YOU FAR MORE THAN PET PROCESSING TECHNOLOGY

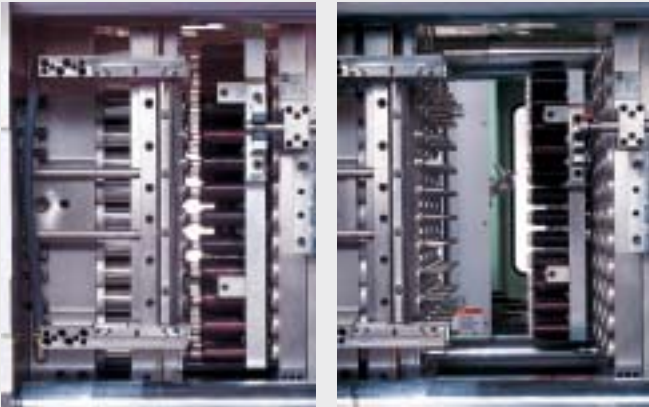
Only Milacron can offer you **MILACRON PET Processing Technology**. Complete systems technology. From the recognized global leader in plastics processing support, productivity and value.

Milacron offers a complete family of PET processing capabilities. Everything from product and systems design assistance – to machine, mold, processing control and peripherals – even operator training and start-up. All from a single source.

At the heart of our preform injection molding system is the **POWERLINE All-Electric E-PET Preform Injection Molding Machine**. Cleaner, quieter operations with higher throughputs than comparable machines. Delivering low-cost production – typical plant-wide energy savings of 60% or more – over comparable hydraulic technology.



Injection Molding Systems



840 mm x 840 mm tie bar spacing provides ample side-out clearance for most 48-cavity and 72-cavity molds. That's PET productivity.



SIDEWINDER 2-STAGE INJECTION UNIT

Milacron's E-PET Machine features Milacron's patented SIDEWINDER 2-Stage Injection Unit – twin-stage injection and extrusion capabilities all in one. Milacron's patented Screw-Tip Plunger ensures first-in/first-out melt handling.

- Thoroughly eliminates material degradation.
- Material cannot accumulate at the screw tip.

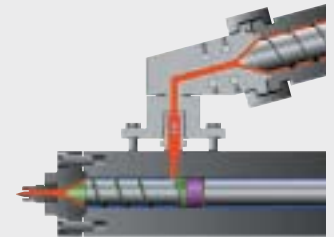
This streamlines material and/or color changeovers. Milacron's Separate In-Line Packing Pot offers you other advantages, as well.

- Overlapping pack and hold function.
- Frees extruder and injection barrel for immediate refill after shot.
- Straight-through material flow path is least harmful to material properties.

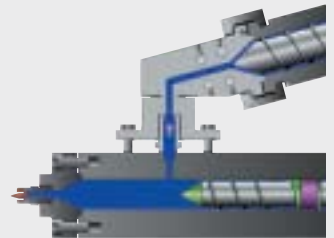
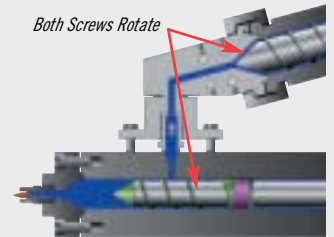
Milacron's patented Rack and Pinion Drive brings you clamping with longer life and higher dependability.

- Ensures higher speeds. Faster open-close times.
- Ensures higher precision.
- Maintenance-friendly lubrication.

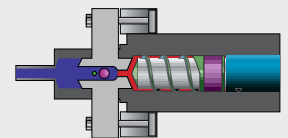
That's PET preform injection molding performance and productivity from Milacron. With clean, quiet all-electric operation by E-PET.



Both Screws Rotate



First-In/First-Out Melt Handling Capability By Sidewinder 2-Stage Injection Unit.



Separate In-Line Packing Pot Assures Straight-Through Material Flow.



POWERLINE E-PET

COMPLETE PET INJECTION SYSTEMS

PELLET-TO-PART PACKAGING SOLUTIONS

WHEN IT COMES TO PET, MILACRON HAS IT DOWN TO A SYSTEM

Complete pellet-to-product PET packaging solutions.

From total plant-wide systems solutions. To individual components. Milacron offers it all.

Comprehensive PET processing auxiliary packages include: dryers, hot runner controllers, chillers, granulators, conveyors, air compressors, vacuum loading systems, complete mold tooling and robotic systems.

HOT RUNNERS

All Milacron hot runner systems feature the latest in active reasoning technology - with light pen operator interface.

- Auto slaving of failed thermocouple.
- Complete security with multi-level codes.
- Instantly detects a bad thermocouple.
- Instantly detects a reversed thermocouple.

CENTRAL CHILLERS

Milacron chillers are available in water or air cooled configurations. The rectangular tank base offers both greater stability and the ability to expand tank capacity with in-line plumbing of additional pumps and tanks.

- Non-ferrous polyethylene tank.
- Multizone microprocessor controller is standard.

DRYERS

Milacron cabinet-style dryers are available in either electric or gas configurations. Advanced Pulse Cooling Technology (PCT) is standard with all models - eliminating heat spikes and cyclic swings in dew point and air flow which occur when the dryer switches desiccant beds. This is essential to uniform drying conditions.

CONVEYOR SYSTEMS

Feature pushing-belt design for smoothest transition between all horizontal and incline sections.

- Frame construction is all extruded aluminum.
- All white FDA belting.
- All components are easily adjustable without use of tools.

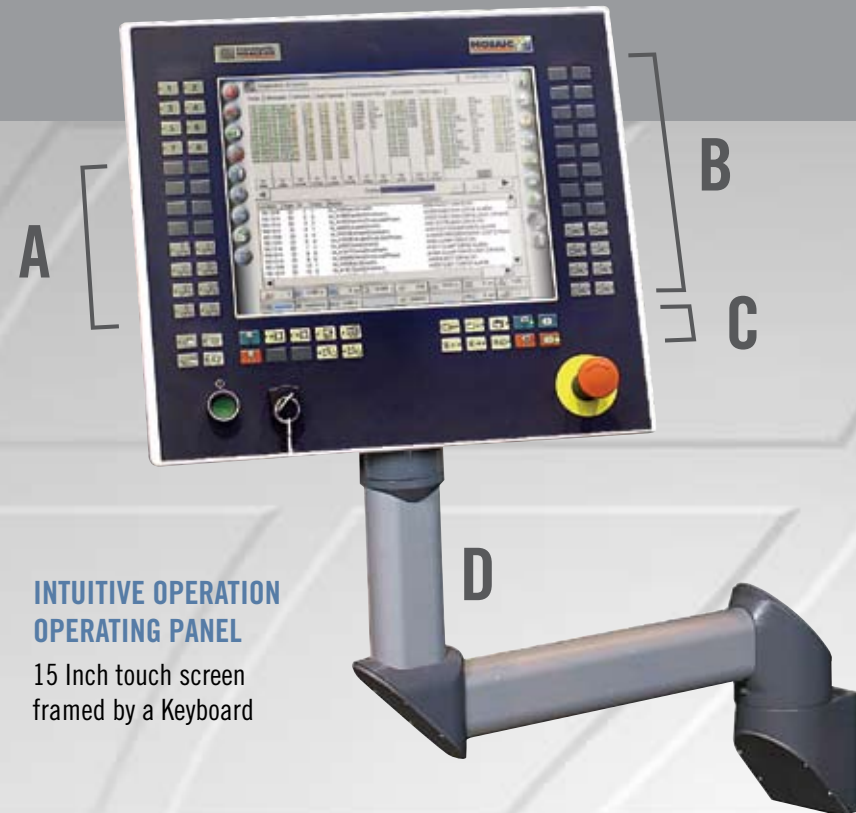
PREFORM MOLDS AND ROBOTIC SYSTEMS

All Milacron PET preform molds and robotic take-out systems are designed for high volumes, easily accommodating up to 72-cavity high-speed production. Milacron PET molds, robotic and post cooling systems are all custom designed and engineered to complete your PET preform injection molding system. Consult Milacron for this design assistance.





PRECISION CONTROL TECHNOLOGY FOR PET PRODUCTION



The MOSAIC Control is the high-performance control system that controls and communicates all machine functions and related parts producing processes. MOSAIC Control provides improved reliability, performance, and user-friendliness to keep your process in control. **A** Individual forward and retract manual movement keys for each axis. **B** Factory programmable buttons for added options. **C** Logical grouping and separation of the machine function and manual operator keys. **D** Swing-arm mount can be optimally positioned for each operator, allowing for an unobstructed view of the mold area.

INTUITIVE OPERATION OPERATING PANEL

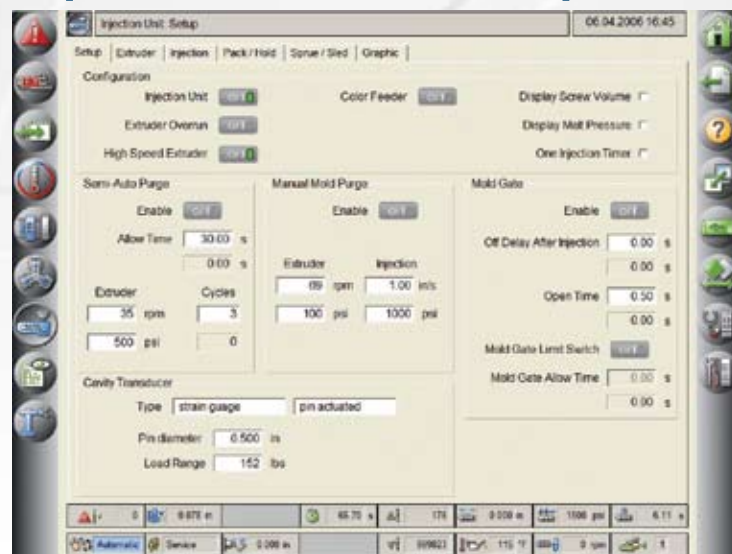
15 Inch touch screen framed by a Keyboard

INTUITIVE OPERATION TOUCH SCREEN

Group Access Keys

- Alarms
- Overview
- Mold Data
- Temperatures
- Clamp Unit
- Cores
- Injection
- Production
- Automation

Message Bar: Displays the active alarm text or the current menu if no alarm exists



Status Bar: The always visible Status Bar provides a quick glance at the current status of critical machine parameters, including actual feedback from sensors, current cycle count and current logged-in user.

Special Function Keys

- Home
- Page Back
- Help
- Screen Export
- Data Export Foreground/Background Data Production
- System



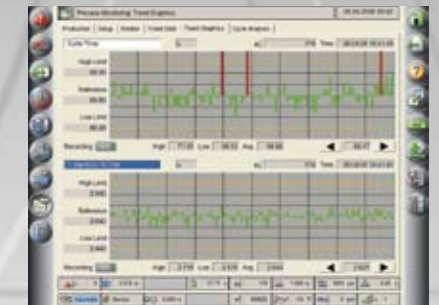
SET POINT OVERVIEW

- Single screen for setting clamp, ejector, injection and extruder
- Follows the configurations that are defined on the Primary Set Up tabs
- Great for quick setups and adjustments
- Improves operator setup efficiency



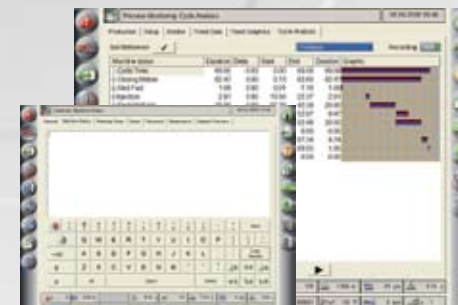
CONFIGURABLE I/O

- Ultimate flexibility for signal interfaces
- Eight 24 Volt DC Input or Output signals
- Signals are configured to Machine to Machine Cycle Status
- 41 Output Cycle States and 14 Input Permissions
- Configurable Pulse Timers for inputs



PROCESS MONITORING TREND GRAPHICS

- Monitors trends on-line using trend graphics
- Select from any of the monitored variables (over 50 to select from)



PROCESS MONITORING

- Track your process for consistency
- High resolution timers and position feedback
- Selectable Alarm Bands
- Choose up to 16 parameters from a list of over 50



ENHANCE PROCESS GRAPHICS

- Ability to display one or two graphs
- Enables comparison to stored reference point
- Easy to use Cursor Control and Zoom Control
- Adjustable "Y" scaling



FLEXIBLE INJECTION SETUP

- Up to 10 segments of Injection Velocity
- Transfer each segment on Position, Volume, Pressure or Time
- Up to 10 Pack/Hold Pressure/Time/Velocisty steps
- Display either Hydraulic or Melt pressure
- Graphic display of Pressure and Velocity actual values

MOSAIC CONTROL

- 15 Inch Diagonal Screen
- TFT Flat Panel
- Touch Screen (Analog, Resistive)
- Dual Intel Processors
- Swing Arm Mount
- IP65 Protection (against contamination)

MOSAIC FEATURES

- Two USB 2.0 Ports
- Ethernet port - TCP/IP & FTP protocols
- All-digital position feedback for accuracy

- Direct Menu Access
- Machine History Notepad
- Setpoint Overview
- Enhanced Operator ID
- Alarm Log
- Change Log
- Process Monitor

- Statistical Process Control (SPC)
- Volume/Position/Pressure Injection Setpoints
- Melt or Hydraulic Pressure Transfer
- Freely Configurable I/O
- Enhanced Plotting Graphics with Cursors
- Built-in Web Server

MOSAIC OPERATOR SCREENS

- Screen layouts are clear, concise and easy to understand
- Direct Group Access Keys for quick machine setup
- Pop-up keyboards for data and text entry
- Drop down selection boxes for choosing items from a list
- Lighted On/Off buttons
- Choice of Language and Units of Measurement

EPET THE 1ST ALL-ELECTRIC PREFORM INJECTION MOLDING MACHINE IN THE INDUSTRY

EPET INJECTION UNIT SPECIFICATIONS		400-90mm	
Plunger Capacity, Maximum PET	oz	110 (31 gm)	
Theoretical Displacement	in ^3	164.4 (2694 cm^3)	
Plunger Maximum Pressure @ rate, Note 1		16,500 psi @ 32 in^3/sec	1138 bar @ 524 cm^3/sec
Plunger Maximum Rate @ pressure, Note 1		67.5 in3/sec @ 10,850 psi	1106 cm^3/sec @ 748 bar
Maximum Plunger Speed, Note 1	in/sec	11.38 (289mm/sec)	
Maximum Pack Pressure with Packing Pot	psi	8,000 (552 bar)	
Maximum Pull Back Force	lb	25,000 (111.205 N)	
Plunger Stroke	in	27.56 (700mm)	
Plunger Diameter	in	2.756 (70mm)	
Extruder L/D Ratio – 90mm		33:1	
Extruder Performance – 90mm		6,686 ft-lbs @ 150 rpm @ 70% duty	9065 Nm @ 150 rpm @ 70% duty
Barrel Heat Control – Extruder and Plunger – Number of Zones	Barrel/Nozzle	10/1	
Total Heat Capacity – Extruder and Plunger	kw	57.4	
Sled Pull-In Force	ton	4.1 (3.7 tonf)	

EPET INJECTION UNIT SPECIFICATIONS		400-120mm	
Plunger Capacity, Maximum PET	oz	110 (31 gm)	
Theoretical Displacement	in ^3	164.4 (2694 cm^3)	
Plunger Maximum Pressure @ rate, Note 1		16,500 psi @ 32 in^3/sec	1138 bar @ 524 cm^3/sec
Plunger Maximum Rate @ pressure, Note 1		67.5 in3/sec @ 10,850 psi	1106 cm^3/sec @ 748 bar
Maximum Plunger Speed, Note 1	in/sec	11.38 (289mm/sec)	
Maximum Pack Pressure with Packing Pot	psi	8,000 (552 bar)	
Maximum Pull Back Force	lb	25,000 (111.205 N)	
Plunger Stroke	in	27.56 (700mm)	
Plunger Diameter	in	2.756 (70mm)	
Extruder L/D Ratio – 120mm		25:1	
Extruder Performance – 120mm		11,360 ft-lbs @ 92 rpm @ 78% duty	15,402 Nm @ 92 rpm @ 78% duty
Barrel Heat Control – Extruder and Plunger – Number of Zones	Barrel/Nozzle	10/1	
Total Heat Capacity – Extruder and Plunger	kw	127.8	
Sled Pull-In Force	ton	4.1 (3.7 tonf)	

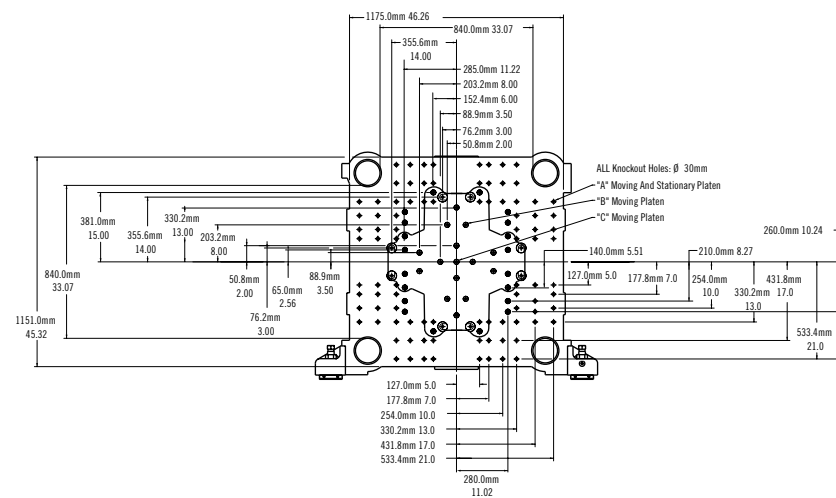
EPET INJECTION UNIT SPECIFICATIONS		400-120mm	
Plunger Capacity, Maximum PET	oz	110 (31 gm)	
Theoretical Displacement	in ^3	164.4 (2694 cm^3)	
Plunger Maximum Pressure @ rate, Note 1		16,500 psi @ 32 in^3/sec	1138 bar @ 524 cm^3/sec
Plunger Maximum Rate @ pressure, Note 1		67.5 in3/sec @ 10,850 psi	1106 cm^3/sec @ 748 bar
Maximum Plunger Speed, Note 1	in/sec	11.38 (289mm/sec)	
Maximum Pack Pressure with Packing Pot	psi	8,000 (552 bar)	
Maximum Pull Back Force	lb	25,000 (111.205 N)	
Plunger Stroke	in	27.56 (700mm)	
Plunger Diameter	in	2.756 (70mm)	
Extruder L/D Ratio – 120mm		25:1	
Extruder Performance – 120mm		11,360 ft-lbs @ 92 rpm @ 78% duty	15,402 Nm @ 92 rpm @ 78% duty
Barrel Heat Control – Extruder and Plunger – Number of Zones	Barrel/Nozzle	10/1	
Total Heat Capacity – Extruder and Plunger	kw	127.8	
Sled Pull-In Force	ton	4.1 (3.7 tonf)	

EPET MACHINE SPECIFICATIONS		
Length, Note 2	in	409.4 (10399mm)
Width	in	100.1 (2543 mm)
Height	in	101.3 (2573 mm)
Centerline Height	in	58 (1474mm)
Shipping Weight	lbs	55,000 (24948 kg)

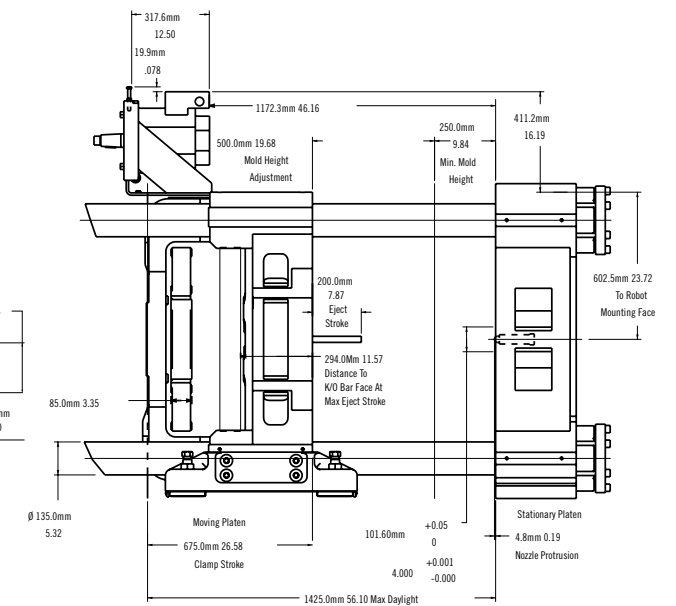
EPET UTILITIES SPECIFICATIONS		
Input Power Source	460 VAC ±10% 3Ph 60Hz	Independent
Machine Power	kVA	285
Optional Core	kVA	–
Maximum Tool Capacity	kVA	285
Main Breaker Size	Amp	450
Machine Transformer Size	kVA	330
Water	gpm	6 @ 50 psi
Air	cfm	20 @ 80 psi

Notes: 1) Limitations may apply in certain conditions. 2) Working position with sled forward.
 All specifications reflect average values based upon typical machine layouts. Actual figures will vary depending on final machine configuration. If you require more specific data, consult a certified installation print for your particular machine. Performance specifications are based upon theoretical data. Due to continual improvements, specifications are subject to change without notice.

PLATEN



CLAMP



THE TOTAL PACKAGE

TECHNOLOGY, EQUIPMENT, SERVICE AND SUPPORT

No other injection molding technology supplier can offer what MILACRON can offer you. In experience, technology, longevity, products and services. We have the broadest product range, with the highest speeds, precision and largest

tonnage range in the industry. We're the global leader in all aspects of multi-component-material-color. We offer the best in after-sale technology. Maintenance and operator training. A full range of auxiliary equipment. MRO

products and supplies. Around-the-clock replacement parts, service and support. From injection end products to retrofitting and complete machinery remanufacturing. Your single source supplier in a total package.



ROBOSHOT S2007-B High Speed, High-Precision All-Electric Machines. 6 through 385 tons.



POWERLINE NT High Value All-Electric Machines. 440 to 1125 ton clamp capacities.



MAGNA V Vertical Insert Machines. 30 to 300 tons. Horizontal, shuttle, rotary table models.



K-TEC High Speed Hydraulic Machines. 44 to 500 ton clamp capacities.



MAGNA MT[®] Advanced Hydraulic Toggle Technology. 170 through 450 ton capacities.



MAXIMA MM Mid-Size 2-Platen Technology. 310 to 880 tons.



MAXIMA MG Advanced 2-Platen Technology. 1100 to industry's largest 6600 tons.



Full line of Auxiliary Equipment from pellet to part handling.



Milacron Inc. Milacron Marketing Company
4165 Half Acre Road Batavia, Ohio 45103
T 513-536-2000 F 513-536-2624
www.milacron.com