We design and manufacture hot runner solutions to optimize molding processes, improve efficiency and reduce resin waste. All with the end goal of helping our customers produce complex, accurate and aesthetically-pleasing plastic products at the highest possible levels of productivity.

With over 153,000 systems in use worldwide, the biggest players across every possible plastics market segment depend on Mold-Masters hot runner technology.

**The World’s Leading Supplier of Hot Runner Technology and Systems**

**Technologically Engineered to Drive Down Part Costs**
Run faster cycle times, reduce part scrap, achieve best in class color change times combined with the most reliable and energy efficient heating system. These advancements are why Mold-Masters focuses on and invests so much in innovative technology.

**A Solution for Every Challenge**
Our team of knowledgeable and experienced engineers have the capability and dedication to find solutions to your most demanding applications. With resources on hand like CAE, FEA simulations and an extensive applications library combined with our due diligence you have the ideal foundation for success.

**Technically Engineered to Drive Down Part Costs**
Run faster cycle times, reduce part scrap, achieve best in class color change times combined with the most reliable and energy efficient heating system. These advancements are why Mold-Masters focuses on and invests so much in innovative technology.

**Innovation**
With over 1,000 patents, Mold-Masters continues to drive the injection molding industry. Through our dedicated R&D center, the continuous search for new ways to improve mold performance and enhance molded part quality has led to the creation of industry-leading innovations such as iFLOW Manifold and Brazed Heater technologies. These technologies, and many more, are incorporated into the products we offer.

**Service and Support You Can Count On**
We support you for the entire lifecycle of your mold with our global MasterCARE™ teams and innovative services such as STAMP™ and Milacron eSTORE. Our knowledgeable and passionate people are committed to providing the best customer care experience in the industry.

**Plus we offer the best warranty in the industry.**
HIGHEST PART QUALITY
Delivering excellent thermal profile precision (10% max variation*) and exceptional system thermal balance, Master-Series allows molders to produce molded parts of the highest possible quality with exceptional consistency.

MORE VERSATILE
Featuring the widest nozzle range in the industry, Master-Series nozzles come in six standard sizes, capable of shot sizes ranging from <1g to over 3,500 g. Lengths range from 25mm to 488mm with more than twenty standard gate configurations including hot tip, valve gate, sprue gate and edge gate.

Master-Series nozzles are even capable of tight pitch, inside gating and other advanced molding requirements.

SUPERIOR RELIABILITY
Incorporating Brazed Heater Technology, Master-Series offers superior reliability that often outlasts the life of the mold. Backed by our available industry leading 10 year warranty, molders can minimize downtime and completely eliminate spare part costs associated with traditional heat sources like heater bands.

*Based on test results.

UNIFORM HEATING FOR OPTIMAL GATE CONTROL
The brazed heater (1) delivers uniform heat from flange to gate, uses 20% less power, never shifts and lasts the life of the tool. Using a patented combination of materials in the gate seal area (2), Master-Series creates optimal thermal conditions for the resin while ensuring mechanical integrity.

ROBUST AND DURABLE NOZZLES AND TIPS
Master-Series nozzles are capable of withstand high injection pressures. The flange (3) is designed to reduce heat loss from the back of the nozzle while providing a robust seal-off. A sealed terminal end (4) prevents degradation and corrosion of the heater wiring. The innovative Visco-Seal™ (5) creates secondary leakage protection between the gate seal and cavity. Removeable and robust tips and gate seals (6) machined from innovative materials make in-press service quick and easy.

Optional tips and seals are available for aggressive and corrosive resins.

Brazed-in heaters provide uniform and consistent heating.
WHERE GATE PERFECTION IS THE STANDARD

Accu-Valve’s patented precise cylindrical gate geometry eliminates high gates with no post or flash for a clean, smooth pristine gate finish. Accu-Valve meets the demanding needs of medical, packaging and personal care molding applications.

Accu-Valve is available in 3 variations:

MX
Robust design for long lasting durability and enhanced fill balance

CX
Fast color change performance

LX
Replaceable gate insert ideal for crystalline and glass filled resins

THE SCIENCE OF CYLINDRICAL VALVE GATING

PRECISION GUIDANCE OF THE PIN
Accu-Valve features continuous 360° degree pin guidance (1) in close proximity to the gate (2) for the most precise and reliable alignment possible.

SUPERIOR RELIABILITY
Accu-Valve design has no disengagement during actuation while maintaining precision alignment to gate. Traditional methods rely on cavity steel contact for alignment which causes wear of the valve pin and leads to degradation of gate quality over time. Accu-Valve performance is so reliable it comes with a standard 3 million cycle (1 year) warranty.

BALANCED THERMAL PROFILE
In the gate area (2), because the valve pin is constantly engaged with the liner (1), heat is continuously conducted to the valve pin. This helps enhance gate cosmetics and ensures there is no resistance to pin closing.
iFLOW Manifold Technology

INDUSTRY LEADER IN FILL BALANCE

iFLOW manifolds are an ideal solution for applications requiring balanced fill, fast color changes and complex cavity layouts. As an original Mold-Masters technology, iFLOW features a unique 2-pc brazed design which incorporates patented melt flow geometry, flow path options and runner shapes.

DESIGN FLEXIBILITY

Endless flow path options and runner shapes offer complete design flexibility and eliminate the need for manifold plugs. Designs are not restricted to the straight line requirements of traditional gun-drilled manifolds. iFLOW can also incorporate multi-level designs for multi-material that allows for stack height reductions by up to 22%.

INDUSTRY LEADING BALANCE

Design flexibility allows for manifolds to be produced that are fully naturally balanced. In the field, iFLOW manifolds have been observed with total variation as low as 1.7% @ 96.5% on very small (0.35 g), difficult to mold technical medical applications.

INDUSTRY LEADING COLOR CHANGE

Runners are carefully CNC milled and polished, eliminating sharp corners and dead spots to promote resin flow. The result is industry leading color change performance up to 45% faster compared to traditional gun drilled manifolds.

OPTIMIZED DESIGNS

Every manifold is analyzed to ensure proper thermal uniformity. This enhances fill balance, color change performance and prevents degradation of the material. This performance is aided by brazed-in heater technology that provides energy efficient and long lasting reliable heater performance.

Optimized designs in iFLOW manifolds

Color Change Performance

Valve pin actuation can be powered by pneumatic (PN), hydraulic (HY) or servo electric options. Regardless of your application, valve gating optimizes molding conditions to enhance part quality and reduce costs. Valve gate systems vary from basic to complex with various degrees of control and customization depending on the application and part requirements.

STANDARD PNEUMATIC OR HYDRAULIC ACTUATION

There are a range of actuator choices available to suit the hot runner system. Often they are paired based on nozzle size but tailored to the application. Compact in size, standard actuators require only a minimal stack height increase (vs. thermal gating) and are available with Anti-Rotation as an optional feature. Unless they are paired with an actuation control system they are restricted to basic open/close functionality which is sufficient for many applications.

SEQUENTIAL VALVE GATE (SVG)

Compatible with either standard PN or HY actuation, SVG allows the user to control the order in which the valve gates actuate in addition to the standard open and close.

SYNCHRO PLATE

Offer simultaneous motion control of multiple valve pins at once. Popular for tight pitch applications where there is insufficient space for individual pistons. Synchro-plates are available with PN, HY and electric actuation.

E-Drive is our servo controlled synchro plate system that features valve pin motion control of up to 128 cavities with precise 0.01 mm tolerances. Exclusive ball screw and belt design is highly mechanically efficient and exceptionally reliable. Compatible with all resins, E-Drive is ideal for small shots and tight tolerance applications.

SERVO ELECTRIC VALVE GATE (SEVG+)

Our most advanced actuation control system compatible with all applications. Valve pins are each controlled with individual servo motors to provide absolute process control, repeatability and precision. Critical processing capabilities that enhance balance and prevent visible defects. Ideal for molding complex parts or on family molds.
SUPERIOR DIRECT SIDE GATING MADE SIMPLE

Mold-Masters offers molders several side gating solutions which eliminate wasteful sub-runners to reduce scrap and cost per part while improving part quality. Symmetrical geometry that delivers excellent vestige control, low pressure drop and precise cavity-to-cavity rheological balance. Perfect for deep draw medical parts such as pipette tips, syringe barrels, needle shields or parts where only side gating is permitted.

MELT-CUBE
NEXT GENERATION SIDE GATING
Simultaneous direct side gating solution of up to 16 cavities per cube for high cavitation molds. With up to 4x more gates per cube than competitive side gating solutions achieve up to 43% higher pitch density for smaller, more compact mold bases.

PATENTED SLIDING TIP ARRANGEMENT
Superior leakage protection maintains tip to gate concentricity regardless of gate seal and liner spacing. Removable tips facilitate easy maintenance in the press from the parting line.

AVAILABLE DUAL GATE SYSTEM
A specially configured Melt-CUBE design that allows parts to be efficiently molded using 2 gates per part instead of 1. Dual gating improves balance, lowers cycle time by up to 52% and enhances molded part quality (TIR) by up to 62%.

MELT-DISK
INDUSTRY LEADING SIDE GATING
Simultaneous direct side gating solution capable of up to 8 cavities per disk, up to 2x more than competitive side gating solutions. Removable tips simplify maintenance in the press from the parting line and Brazed Heater Technology delivers optimal heat control in the gate area. Geared toward circular oriented high cavitation mold layouts.
Summit-Series represents the industry’s latest advancement in hot runner technology engineered to deliver peak performance and exceptional part quality with today’s challenging abrasive, corrosive, shear and temperature sensitive resins like PC, POM and PBT. Summit-Series is critical for many demanding medical, personal care and technical molding applications.

SUPERIOR THERMAL PROFILE
Our most precise thermal profile to date, Summit-Series incorporates proprietary heater technology that is capable of maintaining temperature to within 5%* (+/-) total thermal variation from set point. It’s this precision that makes Summit-Series ideal for molding high quality parts by preventing visual defects of material degradation with challenging shear and temperature sensitive resins.

EXCEPTIONAL DURABILITY
Full stainless steel construction and protective coatings of various components offers the greatest resistance and durability from corrosive and abrasive resins. This prevents contamination defects of molded parts. Summit-Series allows you to operate reliably with complete peace of mind.

AVAILABLE GATING STYLES:

Valve Gating Options:
- Accu-Valve MX
- Accu-Valve CX
- Accu-Valve LX
- C-Valve
- Hot Valve

Thermal Gating Options:
- E-Type Torpedo (+Extended)
- F-Type Torpedo
- C-Sprue
- Hot Sprue (+Extended)
THE DROP-IN ADVANTAGE
Convenient single or multiple point hookups for water, hydraulics or pneumatics reduce complex layouts. Wire armour protects and routes electrical wires and plumbing while providing a stable mounting platform. The cavity plate machining is simplified with no counter bore machining and the “thru” bore gate reduces gate detail. The spacer plate is optimized with no system interface required for hot runner support. The machining requirements are strictly for clearance and plate stack-up is greatly reduced. The pre-wired and pre-assembled system reduces set-up time and connection errors allowing customers to spend more time on what matters—molding high quality, flawless parts.

MAXIMIZED FOR UPTIME
Everything about Fusion Series is focused on reliability and rapid in-field serviceability. Fusion Series nozzles thread directly into the manifold to minimize heat expansion differentials and provide a leak-free connection. Brass nozzle heater sleeves can be replaced quickly without removing the nozzle and are available with optional dual thermocouples. Fusion Series is also capable of rapid color change performance. With a wide range of extended nozzle lengths available in excess of 1,000 mm, multiple zones per nozzle are independently controlled for enhanced process control. Fusion Series nozzles can handle a wide range of shot weights from less than 15 g to over 5,000 g.

GLOBAL SUPPORT NETWORK
Fusion Series systems come fully supported at all stages from preliminary design through to production. We understand that hitting timelines are critical and that production time is valuable. Mold-Masters offers solutions aimed at providing the fastest, highest quality service that minimizes downtime and delays.

GLOBAL SOLUTIONS
DURA® PLUS LENS SYSTEMS
Standard components and innovative angled options make Dura® Plus the hot runner of choice for lens molding applications. Customers can mold parts reliably with unbeatable clarity. Compatible with today’s challenging abrasive and corrosive resins such as PC, PC-ABS and PMMA. Dura Plus remains the clearest choice for automotive lens molding applications.

ADVANCED FEATURES
With the introduction of the latest Dura Plus system, a range of enhancements have been incorporated into the new design that work together to improve part quality by preventing contamination defects. These include new full stainless steel construction, highly polished runner channels and new Dura Plus nozzles with improved thermal profile.

THE BENEFITS ARE CLEAR
Based on in-field observations, these advanced features have resulted in exceptionally higher quality parts but also a scrap rate reduction of up to 73% and faster cycle time improvements of up to 22%.
LIGHTING FAST, SPECIALIZED CAP & CLOSURE SYSTEM

Purpose engineered hot runner systems for ultra fast, high performance molding.

COST IS KEY
SPRINT systems are optimized for high-performance molding at 2-6 second cycle times. The nozzle and manifold designs work together, utilizing the advantages of high injection velocity and 10% lower pressure drops than conventional systems, resulting in lightning fast part production. The high cavitation offerings ensure you can produce the number of parts needed, at the rate required. Plus, proven faster color changes are achieved due to the patented iFLOW technology, especially critical for molders changing colors several times a day.

QUALITY PARTS
Reducing scrap means increasing profits. Through iFLOW technology and specially designed SPRINT nozzles, balanced fill and precise gate vestige is always achieved. High quality parts are produced with no stringing and low gate vestige, even at high cycle times. Brazed heaters ensure temperature consistency and cavity to cavity uniformity throughout the system.

LIFECYCLE COST SAVINGS
Minimal wear, ease of maintenance and energy savings are all major benefits of the SPRINT system. While competitor systems utilize a special gate area design and traditional heater bands, SPRINT operates without such wear components and incorporates advanced Brazed Heater Technology, thus eliminating the most significant replacement costs altogether. Additionally, Mold-Masters iFLOW manifolds remain the industry’s leading color change technology reducing color change downtime by up to 45%.

LOW ENERGY CONSUMPTION
EcoDisk ceramic pads reduce energy consumption by up to 29% while providing greater thermal balance to the whole hot runner system.

64-cavity Sprint E-Drive Valve Gate System engineered for CSD closure applications

SERVO CONTROLLED AUXILIARY INJECTION UNIT

The proven all-electric E-Multi platform easily and economically converts your existing single shot injection molding machine equipment for multi-shot capabilities. Compatible with a wide range of resins for applications across every industry, E-Multi is now available for LSR.

PRECISION SHOT CONTROL
Precision is a critical component of molded part quality and helps minimize scrap. E-Multi servos drive barrel screws whose position can be controlled to within 0.01 mm. This shot volume control on smaller E-Multi units means that shot weight can be managed to a weight variation of as little as 0.004 g with complete repeatability and reliability.

COMPACT SIZE
E-Multi’s compact dimensions and all electric operation saves an incredible amount of valuable floor space. In a horizontal configuration it can operate in areas as little as 1.5 m² (16 ft²) which is up to 9.3 m² (100 ft²) less than other systems. When in a vertically mounted configuration this space requirement is almost completely eliminated altogether.

INDUSTRIES WIDEST SELECTION
Over 2,000 standard possible configurations exist for E-Multi. Choose from servos, screws, nozzles and many other variables to ensure the unit you receive is perfectly sized to your applications exact requirements.

FULL COMPATIBILITY
No matter what brand injection molding equipment you have, your space limitations or your application, the E-Multi team can make it work. E-Multi can be mounted horizontally, vertically or anywhere in between.
TempMaster controllers are the industry's most precise and reliable hot runner temperature controllers. With one of the most comprehensive product lines on the market, we have the solution that's right for your application and your budget. Optimize the performance of any hot runner system and unlock your operations full potential with TempMaster.

**PRECISE APS CONTROL TECHNOLOGY**
All TempMaster controllers feature Adaptive Process System (APS) technology. APS is the industry's leading heat control algorithm that continuously monitors and adjusts system temperature. Making almost instantaneous micro adjustments ensures mold temperatures are maintained to set point. APS delivers unmatched precision and reliability that enhances part quality.

**MODULAR CONTROL CARDS**
Powering every TempMaster controller is our advanced M-Series cards. M-Series cards feature the latest technology and innovations to deliver the performance, power and reliability that molders rely on. Patented “All-in-One” Card Design features on-board heater and thermocouple fuses which simplifies maintenance and minimizes cabinet wiring. Advanced APS Microprocessors respond quickly for precision control and can adapt to any load condition. Most importantly M-Series cards offer unbeatable reliability which keeps you in production and minimizes spare part and maintenance costs.

**GLOBAL SOLUTIONS**
**TEMPMASTER PRODUCT RANGE:**
- **TEMPMASTER M-AX**
  - Fully integrated servo and temperature controller for greatest accuracy and easiest process adjustments of automated molds.
- **TEMPMASTER M2+**
  - Advanced, fully featured temperature controller capable of managing 500+ zones.
- **TEMPMASTER iM2**
  - Full integration with any injection molding machine for an OEM appearance. Completely eliminate the entire controller footprint.
- **TEMPMASTER M1**
  - Advanced, compact temperature control for medium sized molds up to 48 zones.
- **TEMPMASTER MT**
  - Economical, precise temperature control for low cavitation molds up to 18 zones.

**INTUITIVE TOUCH SCREEN HMI'S**
Every TempMaster controller is equipped with full color touch screens that make information easy to identify and differentiate. With an intuitive interface, TempMaster controllers can be operated with minimal training. In many cases our customers are able to turn on their controller and start production right away. Depending on the controller, touch screens are available up to 17”.

**CLASS LEADING COMPACT DIMENSIONS**
TempMaster controllers feature some of the industry’s most compact cabinet dimensions in their class. Our flagship TempMaster M2+ cabinet is up to 57% more compact overall and has a footprint up to 53% smaller than competitive systems of equal functionality and number of zones. TempMaster preserves a significant amount of valuable space and makes units easier to handle.
The KORTEC® CONNECT co-injection molding solution includes everything you need to easily and economically convert your existing single shot injection molding machine equipment for co-injection capabilities. Milacron’s co-injection technology is fully customizable to create an oxygen, moisture, gas or light barrier for containers of all shapes and sizes for applications across any industry.

**INDUSTRY LEADING CO-INJECTION TECHNOLOGY**

Proprietary nozzle designs allow two different resins to be combined into a single 3-layer melt stream. Delivers a range of advantages over traditional monolayer parts which include higher quality part production, longer shelf life and lower cost per part.

In addition to co-injecting barriers to extend product shelf life, on non-food applications, co-injection technology can also be used to inject non-virgin/recycled/regrind resins for production cost and weight savings.

**PRECISE PROCESS CONTROL**

KORTEC Connect Co-injection addresses key concerns in the industry including economical use of barrier materials, PET preforms with customizable barrier properties, precise barrier placement and uniform distribution. Depending on part type and shape, barrier materials can be minimized to make up less than 3% of total part weight.

**GLOBAL SOLUTIONS**

Our hot runner systems are so robust and reliable they’re backed by a warranty that exceeds the life of your mold. Behind that warranty, you’ll find the industry’s most comprehensive support network of people dedicated to ensure you stay productive. Put Mold-Masters behind your business!

**APPLICATIONS ACROSS ANY INDUSTRY**

The KORTEC® CONNECT co-injection molding solution includes everything you need to easily and economically convert your existing single shot injection molding machine equipment for co-injection capabilities. Milacron’s co-injection technology is fully customizable to create an oxygen, moisture, gas or light barrier for containers of all shapes and sizes for applications across any industry.

**HIGHLY ECONOMICAL**

Converting your existing injection molding machine equipment significantly reduces your capital investment requirements by up to 80%*, compared to purchasing a new co-injection capable machine, allowing you to produce more economical parts. For most applications, no major changes to the cold half of a mold are required for co-injection versus mono-layer injection.

**RAPID LEAD TIMES**

Another huge advantage of the Kortec Connect solution is the rapid turnover from order to equipment delivery. Receive your equipment up to 8x faster* than ordering a new co-injection machine. Get into production for high priority projects without delay.

*Hot Half excluded.

**AVAILABLE INDUSTRY LEADING 10 YEAR WARRANTY**

- Summit-Series
- Master-Series
- Sprint
- VelocityLS
- Dura Plus

*Certain warranty conditions and/or limitations may apply. Please speak to your Mold-Masters representative for full details.

**OUR COMMITMENT**

Our hot runner systems are so robust and reliable they’re backed by a warranty that exceeds the life of your mold. Behind that warranty, you’ll find the industry’s most comprehensive support network of people dedicated to ensure you stay productive. Put Mold-Masters behind your business!

**UNMATCHED WARRANTY**
Once you receive your Mold-Masters hot runner system and begin production, you’re in the experienced hands of our MasterCARE aftermarket service professionals. Working diligently to ensure your operation runs smoothly, MasterCARE personnel are your service partners that provide rapid global support with a range of services designed to maintain part quality, maximize uptime and minimize unscheduled interruptions. Contact MasterCARE today to unlock your operations full potential.

- Preventative Maintenance
- Refurbishment
- MasterCARE Academy
- Remote Technical Support
- Service and Repair
- Spare Parts

Now available online, eSTORE provides Mold-Masters customers quick, convenient access to our full parts library and other special features to keep your operation in production with as little effort as possible. Register today for full access and see for yourself what the future has in-store.

- Familiar, easy to use format.
- Extensive spare parts library.
- CAD reference library.
- View pricing and order online.
- View order history and system BOM’s.
- Access to spare parts across all Milacron brands.
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