

**mastip**<sup>TM</sup>  
hot runner solutions

Your partner in  
hot runner solutions



## Valve Gate Technology

Exceptional Quality, Precise Repeatability



Manifold Valve Gate Series

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VeriShot<sup>TM</sup> Single Valve Gate

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Nexus<sup>TM</sup> Valve Gate System

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High Cavity Solutions

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# Precision Moulding Starts Here

## Mastip's Range of Valve Gate Solutions

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Valve Gate Systems are the optimal solution for eliminating gate vestige, consistently producing fast cycle times with parts of exceptional surface quality. Mastip offers a wide range of valve gated solutions, suitable for any application.

### Why Choose Valve Gates?

Valve Gates have distinct advantages over other gating methods including :

- excellent gate vestige for cosmetic parts
- positive shut-off at the gate
- faster cycle times than thermal can be achieved
- fast filling of thin wall moulding to ensure the part fills correctly
- less shear
- sequential valve pin control allows individual timing of each valve pin closing
- lower moulded in stress due to larger gates
- controlled packing of thick wall parts requires larger gates

Valve Gate systems can be customized with a variety of tip, nut, nozzle and actuator options.

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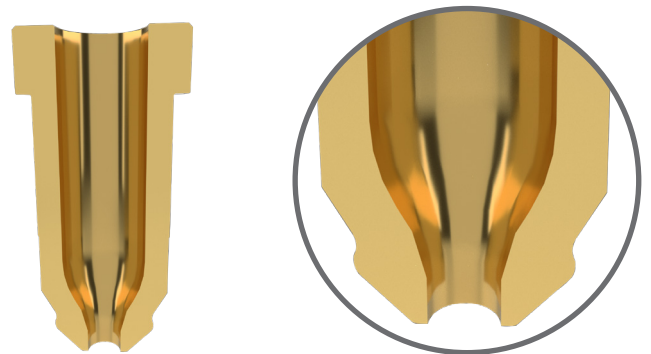
## Valve Gate Tip Options

### Reduce Pin Wear and Improve Long-term Gate Quality

Guided Valve Tips are specifically designed to reduce the wear on the valve pin and gate whilst improving the long-term quality of the gate.

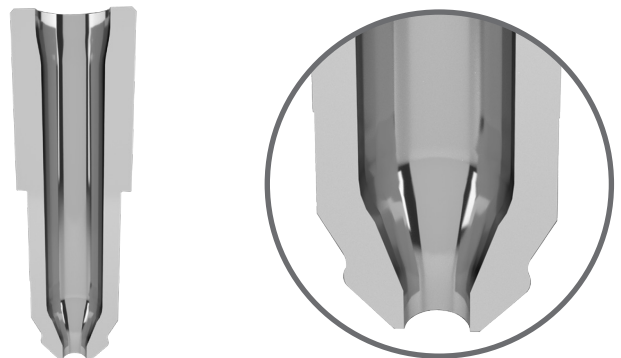
#### GVG5 Tip

- Open flow tip with precise valve pin guidance for cylindrical gate shutoff resulting in longer gate life
- Reduced wear at gate
- Tip supplied in carbide with TiN coating
- Fitted open nut to tip for higher accuracy
- Suitable for highly filled polymers
- Suitable for high melt temperatures
- Optional cap insulator for improved colour change and temperature sensitive polymers



#### OVG1 Tip

- Open flow tip suitable for conical gate shutoff
- Tip supplied in copper alloy with nickel coating
- Suitable for non-filled polymers up to 300°C
- Available with open nut, bush nut and sprue nut
- Optional cap insulator for improved colour change and temperature sensitive polymers



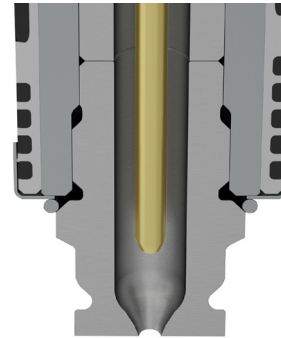
# Tipless Nuts

## YV Open Flow Tipless Nuts

YV nuts are open flow, tipless nuts made from corrosion resistant steel. Available in either conical or cylindrical gate shut-off. YV nuts are an excellent choice for fast colour change and temperature sensitive polymers.

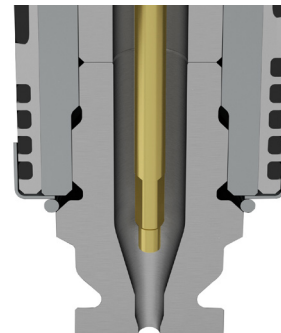
### YV1B Nut

- Open flow tipless nut for conical gate shutoff
- Supplied in 420 corrosion resistant steel
- Nuts available in bush nut (YV1B) and sprue nut (YV1S)
- Suitable for non-filled polymers
- Suitable for high melt temperatures
- Suitable for temperature sensitive polymers
- Suitable for fast colour change



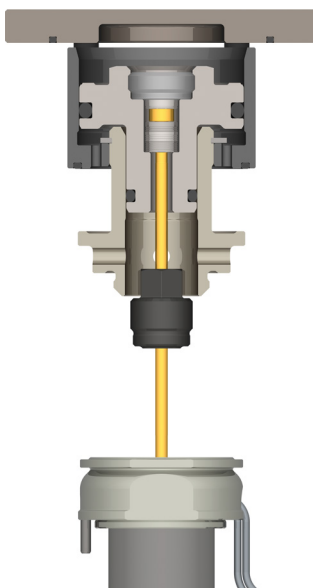
### YV2B Nut

- Open flow tipless nut only with precise valve pin guidance for cylindrical gate shutoff
- Supplied in 420 corrosion resistant steel
- Nuts available in bush nut only
- Suitable for highly filled polymers
- Suitable for high melt temperatures
- Suitable for temperature sensitive polymers
- Suitable for fast colour change



# Manifold Valve Gate (MVG) Actuators

## Fast Cycle, Multi-Cavity Applications



With pneumatic actuation available in three sizes to suit the required flow-rate, the MVG series is ideal for any application that requires high speed, sequential filling or cosmetic gates.

Compatible with MX and BX nozzle ranges, the MVG series is available in nozzle lengths between 45mm to 450mm with standard pitching between 43mm and 74mm.

#### MVG25

Pin Ø - 2.0, 2.5  
Pin Style - Headed P1  
Pitching - Nozzle to Nozzle  
43mm x 60mm  
Sprue Bush to nozzle 62mm  
Nozzle Length 45-250mm

#### MVG40

Pin Ø - 2.0, 2.5, 3.0, 5.0  
Pin Style - Headed P1 + Threaded P2  
Pitching - Nozzle to Nozzle  
58mm x 80mm  
Sprue Bush to nozzle 72mm  
Nozzle Length 45-450mm

#### MVG55

Pin Ø - 5.0  
Pin Style - Headed P1  
Pitching - Nozzle to Nozzle  
74mm x 100mm  
Sprue Bush to nozzle 82mm  
Nozzle Length 75-450mm

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# Expanded Nozzle Range

Now Available in 420 Corrosion Resistant Steel for Corrosive Applications



## MX Nozzle

The MX nozzle has low moulding temperature and pressure, providing excellent temperature profile and thermal stability. Specifically designed for multi-cavity manifold systems, the efficiently designed profile allows for close cavity pitching. Able to process a wide range of polymers, MX nozzle is ideal for small to medium applications in all types of markets. Available now in H13 (F1) or 420 steel (F3).

MX Nozzle Body Lengths**										
Series	Steel	45	55	65	75	95	115	130	145	175
13	H13 (Std)	F1	F1	F1	F1	F1	F1	F1	F1	F1
	420 (SS)	F3*	F3*	F3*	F3	F3	F3*	F3*	F3*	F3*
16	H13 (Std)	F1	F1	F1	F1	F1	F1	F1	F1	F1
	420 (SS)	F3*	F3*	F3	F3	F3	F3	F3*	F3*	F3*
19	H13 (Std)	—	F1	F1	F1	F1	F1	F1	F1	F1
	420 (SS)	—	F3*	F3*	F3	F3	F3	F3*	F3*	F3*

\* Length not currently stocked, available on request

\*\* Custom lengths available on request, BX recommended

Available in H13 and 420 steel

## BX Nozzle

The BX nozzle is a general purpose solution for low to medium cavitation applications not requiring hot half construction. The BX nozzle provides the same moulding performance as the MX nozzle, just in a rear loading configuration. It is suitable for a wide range of applications and delivers excellent performance under demanding conditions. Available now in H13 or 420 Steel.



BX Nozzle Body Lengths**																					
Series	Steel	45	55	65	75	85	95	105	115	130	145	160	175	200	225	250	275	300	350	400	450
13	H13 (Std)	F1	F1	F1	F1	F1	F1	F1	F1	F1	F1	F1	F1	F1*	F1*	—	—	—	—	—	—
	420 (SS)	F3*	F3*	F3	F3	F3*	F3	F3*	F3*	F3*	F3*	F3*	F3*	F3*	F3*	—	—	—	—	—	—
16	H13 (Std)	F1	F1	F1	F1	F1	F1	F1	F1	F1	F1	F1	F1	F1*	F1*	F1*	—	—	—	—	—
	420 (SS)	F3*	F3*	F3	F3	F3*	F3	F3*	F3	F3*	F3*	F3*	F3*	F3*	F3*	F3*	—	—	—	—	—
19	H13 (Std)	F1	F1	F1	F1	F1	F1	F1	F1	F1	F1	F1	F1	F1*	F1*	F1*	F1*	F1*	—	—	—
	420 (SS)	F3*	F3*	F3*	F3	F3*	F3	F3*	F3	F3*	F3*	F3*	F3*	F3*	F3*	F3*	F3*	F3*	—	—	—
27	H13 (Std)	—	—	—	F1	F1	F1	F1	F1	F1	F1	F1	F1	F1	F1	F1	F1	F1*	F1*	F1*	F1*
	420 (SS)	—	—	—	F3	F3*	F3	F3*	F3	F3*	F3*	F3*	F3*	F3*	F3*	F3*	F3*	F3*	F3*	F3*	F3*

\* Length not currently stocked, available on request

\*\* Custom lengths available on request

Available in H13 and 420 steel



## TX Nozzle - FlowLoc™

The FlowLoc™ Technology Nozzle Range is designed to provide a secure, leak-proof solution for multi-cavity manifold systems. Incorporating advanced heating technology for exceptional thermal performance, it is suitable for a wide range of applications including small to medium automotive, medium to large appliances, large packaging and large part electrical. Available in 420 Steel.

TX Nozzle Body Lengths**																		
Series	Steel	75	85	95	105	115	130	145	160	175	200	225	250	275	300	350	400	450
16	420 (SS)	F3	F3	F3	F3	F3	F3	F3	F3	F3	F3*	F3*	F3*	—	—	—	—	—
19	420 (SS)	F3	F3	F3	F3	F3	F3	F3	F3	F3	F3*	F3*	F3*	F3*	F3*	—	—	—
27	420 (SS)	F3	F3	F3	F3	F3	F3	F3	F3	F3	F3	F3	F3	F3	F3*	F3*	F3*	F3*

\* Custom lengths available on request

Available in 420 steel

# Single Valve Gate Technology

Compact, Precise, VeriShot™

The VeriShot™ Single Valve Gate is the optimal solution for single shot applications. Delivered Pre-Assembled for ease of installation, VeriShot™ is ideally suited for applications requiring a cosmetic finish, fast flow rates and large volume parts.

## Features

- Conical or cylindrical valve pin shut off
- Compact design, reducing mould height requirements
- Pneumatic actuation with high closing force
- Wide moulding window, able to process most complex engineering polymers with fillers
- FlowLoc threaded nozzle attaches securely to manifold
- Flow channels manufactured from 420 corrosion resistant steel
- Simple mould assembly
- Valve pin adjustment

Nozzle Series	Nozzle Length
TX16	75-250
TX19	75-300
TX27	75-450



## Sample Product - 5 Litre Bucket

Hot Runner System: VeriShot™

Material: PP

Part Weight: 150gm

Size: 199 H, 201 W, 201 L

Nominal Wall Thickness: 1mm



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# Nexus™ Pre-Assembled Systems

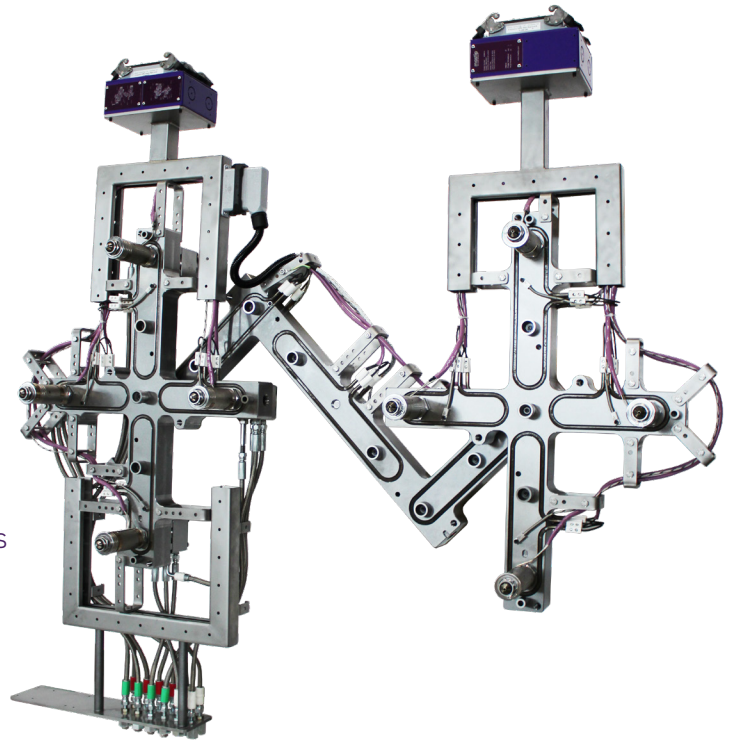
Ready ▶ Set ▶ Inject

Nexus™ Pre-Assembled Systems are delivered as a complete turn-key solution for quick and simple installation.

Nexus™ Systems incorporate the advanced leak protection of FlowLoc™ threaded nozzles and Cylix™ pneumatic actuators for valve gate applications.

## Features

- Thermal and Valve Gate configurations
- Adjustable valve pins
- Fully customisable wiring frame in stainless steel
- Thermally stabilised valve cylinders with cooling circuit
- User friendly maintenance
- Able to process commodity and engineering polymers
- High pressure applications due to threaded nozzle
- Wide moulding window



Nozzle Series	Nozzle Length
TX16	75-250
TX19	75-300
TX27	75-450

## Integrated Sequential Control System

### Individual Valve Gate Control

The G-Series GTV8 Integrated Sequential Control System provides the ideal solution for sequentially controlled part filling when using a valve gate hot runner system.

The GTV8 is easy to set up, simple to operate and enables you to individually control the opening and closing of each valve gate.

## Features

- Pre-configurable operation modes (continuous/intermittent)
- 8 zones of control
- International standard electrical connection
- Optimum control over part fill
- Regulation of injection quantity from each individual gate
- Easy setup and fine tuning



# High Cavity Single Face Systems

## Efficient Solutions for High Volume Production

High cavity systems are designed and manufactured to the highest level of quality, delivering a uniform melt to each nozzle to ensure cavity-to-cavity consistency.

This is achieved through natural balancing of the flow channels and ensuring constant temperature profiles are maintained across the manifold block. Mastip can provide you with a high cavity manifold system to meet your requirements in standard high quality mould base steel or 420 corrosion resistant steel.

### Sample Product - Wood Claw Post Insulator

Hot Runner System: 32 Drop Hot Half

Material: UV Stabilized Polyethylene

Part Weight: 23gm

Nozzle: MXOV16130G1

Gating: MVG40 Valve Gates

Temperature Zones: 41

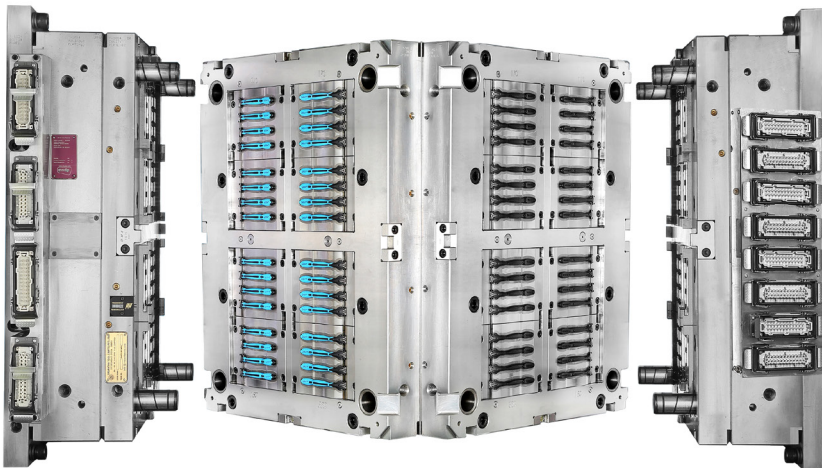


# Increase Efficiency with Cube Moulds

## Reduce Capital and Long-term Energy Costs

### Maximising Return on Investment

Cube Moulds are an efficient solution for high volume production. With the ability to double the effective number of cavities without purchasing additional machinery, it is an excellent choice to reduce both capital and long-term energy costs whilst increasing productivity and lowering the costs per unit.



### Sample Product - Bi-Material Razor

Hot Runner System: 32 + 32 Cube Mould

Material: HIPS & TPE

Part Weight: 4.0gm + 16gm

Part Thickness: 0.6mm - 1.2mm

Gating: MVG25 Valve Gates

Cycle Time: 7 seconds

Temperature Zones: 80



*We make things better*

## Mastip is a leading supplier of innovative hot runner solutions to the global plastic injection moulding industry.

The company believes foremost in providing service and support, throughout the life cycle of the hot runner. This means you can be confident that spares and technical support is always available.

At Mastip we strive to understand our customers exact moulding requirements in order to deliver reliable and high performing solutions. Every Mastip system provides faster cycle times and material savings while producing quality components, all leading to higher efficiencies and a better return on investment.



### Automotive

Mastip's extensive experience in highly cosmetic and structural parts means we can deliver a customised solution which will provide long-term reliability and performance.



### Electrical

Mastip's comprehensive range of nozzles and valve gate solutions are able to withstand the corrosive and abrasive nature of Engineering polymers used for the electrical market.



### Packaging

Mastip's valve gate solutions are ideal for the packaging market, delivering both the reliability and performance needed for fast-cycle thin-wall through to long-cycle thick-wall applications.



### Caps and Closures

Mastip's high cavity hot half solutions, in either thermal or valve gate configuration, allow for maximum productivity while ensuring part quality is maintained even at fast-cycle times.



### Engineering

Mastip's technical expertise and long-life components provide durable hot runner solutions manufactured from high-grade materials to withstand abrasive polymers.



### Medical

Mastip's range of valve gate solutions are ideal for medical applications, producing fast cycle parts of exceptional surface quality while eliminating gate vestige.



*Michael Rose, President of Omega Plastics*

**"I always get such a great response from Mastip, it's one of the many reasons I use them as my hot runner supplier. The Mastip team offers excellent service and technical support every time."**

**Hot Runner:** 2 drop, MVG40 pneumatic valve gate, MX16 series nozzle.

**Application:** 2 shot ABS substrate and TPE over-mould.

**Experience the difference that Mastip makes for our customers in everything we do. Talk to us today about your next project and see for yourself.**