

### Micron Series Hot Runner Nozzles



The Micron Hot Runner system is an exclusive close pitch, flat gate system with the ability to process engineering and glass-filled resins without deteriorating the tips. Pitch can be as small as 0.750" (19mm). Acceptable for crystalline and amorphous materials, this system relies on the gate diameter, gate area cooling and temperature control at the tip to optimize the part quality.

Micron "flat gating" leaves a small mark on the molded part surface (gate vestige). The gate can be sunk into a round depression (referred to as a "recessed gate") so that the mark does not protrude above the part surface.

### Gating Options for the Micron Series



#### Standard Pinpoint Tips –

Exclusive tip design exceeds minimum vestige requirements and tip life expectations. Color change capabilities are enhanced. Ideal for non-erosive commodity resins, these tips are available in 0.010" (0.25 mm) and 0.020" (0.50 mm) tip flat diameters, to better maintain minimum vestige in parts up to 50 grams (see engineering charts on page 5).



#### Wear Resistant Pinpoint Tips –

Recommended for glass-filled and other aggressive engineering grade materials, this tip has an excellent heat profile and high wear resistance characteristics. Innovative design orients molecular flow of the material, glass fibers and fillers in a linear direction. This linear orientation reduces shear which translates to longer tip life. Available in 0.010" (0.25 mm) and 0.020" (0.50 mm) tip flat diameters, to better maintain minimum vestige in parts up to 50 grams (see engineering charts on page 5).



#### Sprue Tips –

Tips can process all types of resins, from commodity to engineering grades, while maintaining optimal performance with minimal vestige. Ideal for retrofitting into existing molds that may have larger gates. Available in standard and wear resistant alloys, this tip is capable of processing parts up to 50 grams (see engineering charts on page 5).



#### Extra Stock Sprue Tips –

Identical to the Standard Sprue tip, except with 0.197" (5mm) of extra stock at the tip, which can be machined to meet customer specific requirements. Ideal for difficult access areas in the part, or for secondary runner applications. Available in standard and wear resistant alloys, this tip is capable of processing parts up to 50 grams (see engineering charts on page 5).



#### Extra Stock Sprue (Nylon) Tips –

Specially developed to process resins with narrow melt flow parameters, this tip design provides optimum control within the high temperature zones of the nozzle. Ideal for materials such as nylon and acetal where vestige is not critical, this wear resistant tip can process parts up to 50 grams (see engineering charts on page 5).

# Micron Technical Specifications

## Nozzle Dimensions

All specifications are subject to change without notification.

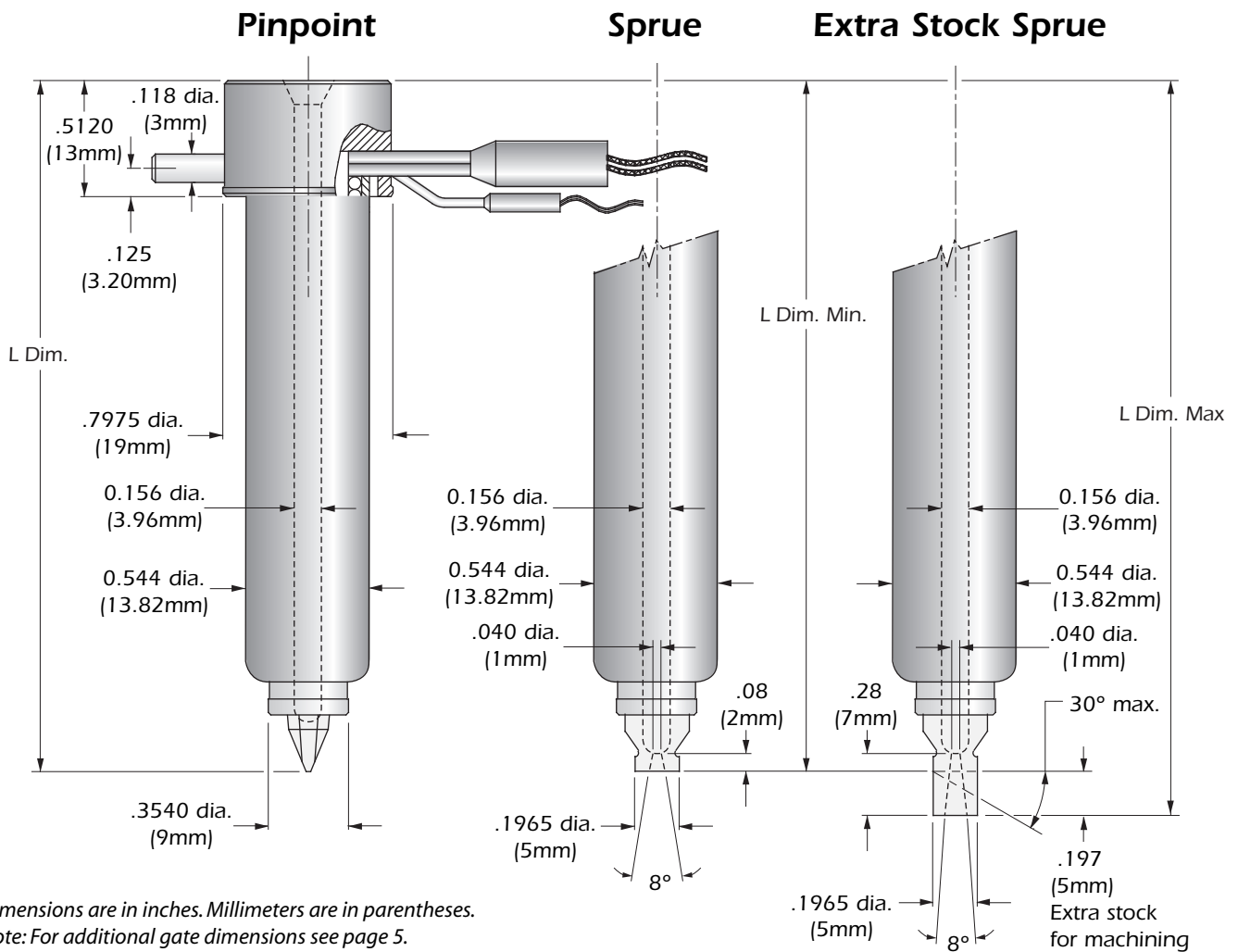


Chart A

Complete Nozzle <small>(Includes subassembly without tip) Tip ordered separately</small>	w /Pin-Point Tips		w / Sprue Tips		w/Extra Stock Sprue Tips	
	L Dimension		L Dim – Minimum		L Dim – Maximum	
	in	mm	in	mm	in	mm
HWM0000 + TIP	2.323	59	2.323	59	2.520	64
HWM0001 + TIP	3.031	77	3.031	77	3.228	82
HWM0002 + TIP	3.583	91	3.583	91	3.780	96
HWM0003 + TIP	4.055	103	4.055	103	4.252	108
HWM0004 + TIP	4.724	120	4.724	120	4.921	125
HWM0005 + TIP	5.511	140	5.511	140	5.708	145

MANIFOLD APPLICATIONS

## Subassembly Ordering Numbers

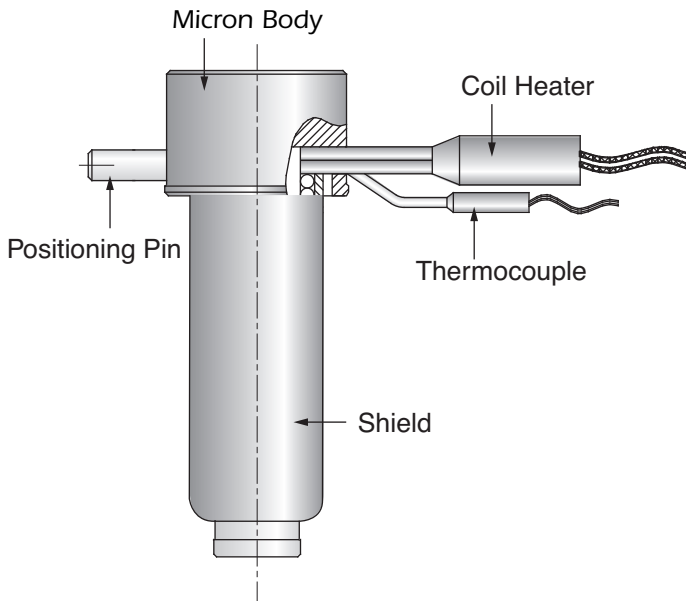
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### Micron Series Hot Runner Nozzles

The Micron Series has an all metric body style and a 0.156" (4mm) flow channel with replaceable heater and thermocouple. Made from pre-hardened steel for maximum high pressure resistance, the Micron Series has an optimum heat profile for a uniform flow.

Designed for pitches as small as 0.750" (19mm), the Micron has minimal contact areas for reduced heat loss and is available in 4 different nozzle lengths.

The Micron Series Nozzles are capable of handling up to 50 grams of resin per drop.  
(See chart 3 page 5 for more details.)



**Chart B**

Assembly w/o tip	Body	Heater	Watts	Thermocouple	Shield	Positioning Pin (Dia.)
HWM0000	MB00000	MC00000	150	TC00000	MS00000	.118" x .375" 3mm x 10mm
HWM0001	MB00001	MC00001	185	TC00001	MS00001	.118" x .375" 3mm x 10mm
HWM0002	MB00002	MC00002	225	TC00002	MS00002	.118" x .375" 3mm x 10mm
HWM0003	MB00003	MC00003	260	TC00003	MS00003	.118" x .375" 3mm x 10mm
HWM0004	MB00004	MC00004	285	TC00004	MS00004	.118" x .375" 3mm x 10mm
HWM0005	MB00005	MC00005	300	TC00005	MS00005	.118" x .375" 3mm x 10mm

## Tip Ordering Numbers

### Micron Series Tip Options

The Micron Series has nine interchangeable tip styles to accommodate most applications. Wear Resistant tips are constructed from a special tip alloy, exclusive to Fast Heat.

**Chart C**

Alloy	Pinpoint .010"	Pinpoint .020"	Sprue	Extra Stock Sprue	Extra Stock Sprue - Nylon
WR	HT15001	HT15003	HT15011	HT15021	HT15031
STD	HT15000	HT15002	HT15010	HT15020	

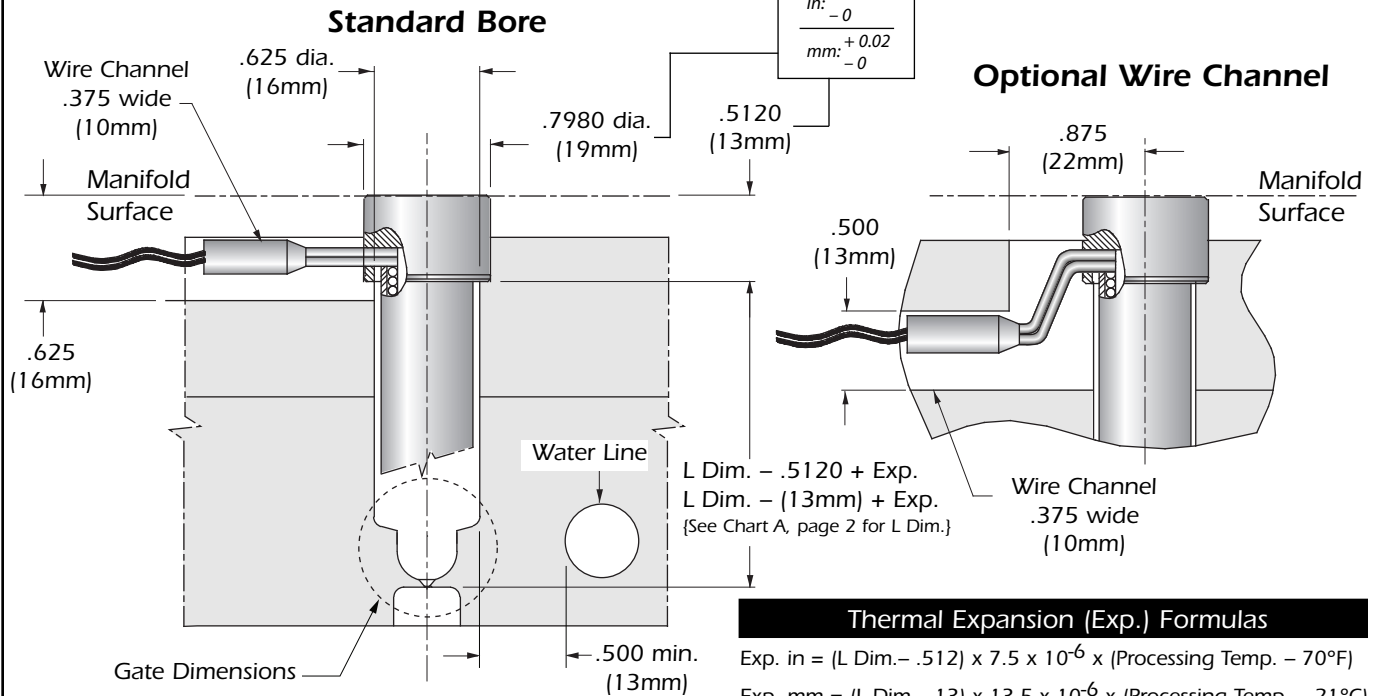
Tip Alloy Reference: STD = Standard, WR = Wear Resistant

MANIFOLD APPLICATIONS

# Micron Technical Specifications

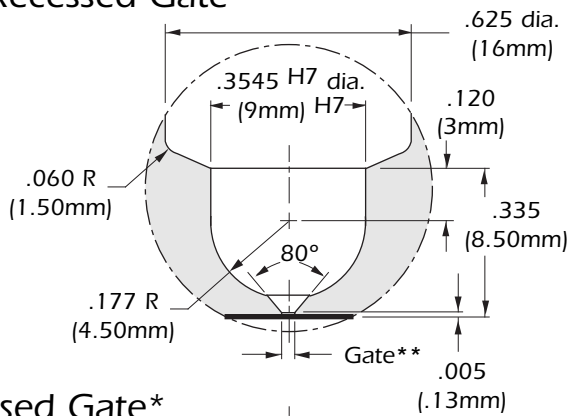
## Bore & Gate Dimensions

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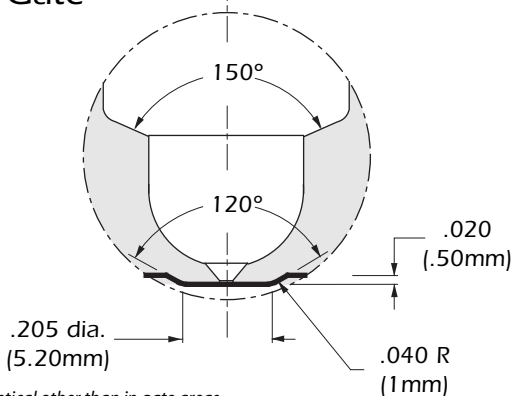


## Pinpoint Gate

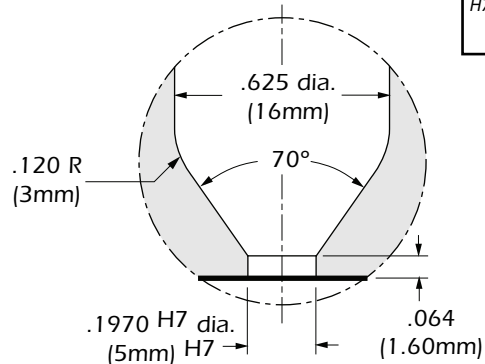
### Non-Recessed Gate\*



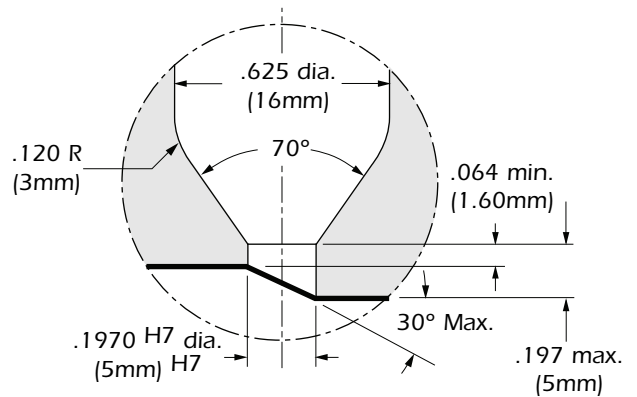
### Recessed Gate\*



## Sprue Gate



## Extra Stock Sprue Gate



$$H7 = \frac{in: +0.0005}{-0}$$

$$mm: \frac{+0.01}{-0}$$

4

\*Dimensions are identical other than in gate areas.  
\*\*See Chart 2, page 5 for gate diameters.

Dimensions are in inches. Millimeters are in parentheses.

MANIFOLD APPLICATIONS

# Micron Technical Specifications

## Engineering Charts

All specifications are subject to change without notification.

### Chart 1

Tip Alloy Reference: STD = Standard, WR = Wear Resistant

Resin Compatibility Chart					
Tip Style	Part No.	Alloy	Commodity Resin	Engineering Resin	Glass-Filled Resin
Pinpoint	HT15001	WR	●	●	●
	HT15000	STD	●	●	●
	HT15003	WR	●	●	●
	HT15002	STD	●	●	●
Sprue	HT15010	STD	●	●	●
	HT15011	WR	●	●	●
Extra Stock Sprue	HT15031	STD	●	●	●
	HT15031	WR	●	●	●

Reference: ● = Recommended

### Chart 2

Gate Diameters				
Part No.	Alloy	Resin Viscosity		
		High	Medium	Low
HT15001	WR	.072" to .104"	.050" to .072"	.030" to .050"
HT15000	STD	(1.80mm to 2.60mm)	(1.30mm to 1.80mm)	(.80mm to 1.30mm)
HT15003	WR	.082" to .114"	.060" to .082"	.040" to .060"
HT15002	STD	(2.10mm to 2.90mm)	(1.50mm to 2.10mm)	(1.00mm to 1.50mm)
<b>Sprue tips</b>				
All Sprue Part Numbers	STD & WR	.040" to .060"* (1.00mm to 1.50mm)	.040" to .060"* (1.00mm to 1.50mm)	.040" to .060"* (1.00mm to 1.50mm)

Reference: High Viscosity = Melt Flow (0.02 – 6); Medium Viscosity = Melt Flow (7 – 16); Low Viscosity = Melt Flow (16 – up). The values expressed in grams are for reference purposes only. Part dimensions, wall thickness, mold condition, and molding parameters must also be considered.

\* Re-machine gate diameter, if necessary, for larger shot weights.

### Chart 3

Maximum Shot Weights in Grams					
Tip Style	Part No.	Alloy	Resin Viscosity		
			High	Medium	Low
Pinpoint 0.010"	HT15001	WR	10g	20g	30g
	HT15000	STD			
Pinpoint 0.020"	HT15003	WR	25g	37g	50g
	HT15002	STD			
Sprue	HT15010	STD	10g to 30g*	20g to 40g*	30g to 50g*
	HT15011	WR			
Extra Stock Sprue	HT15021	STD	10g to 30g*	20g to 40g*	30g to 50g*
	HT15020	WR			

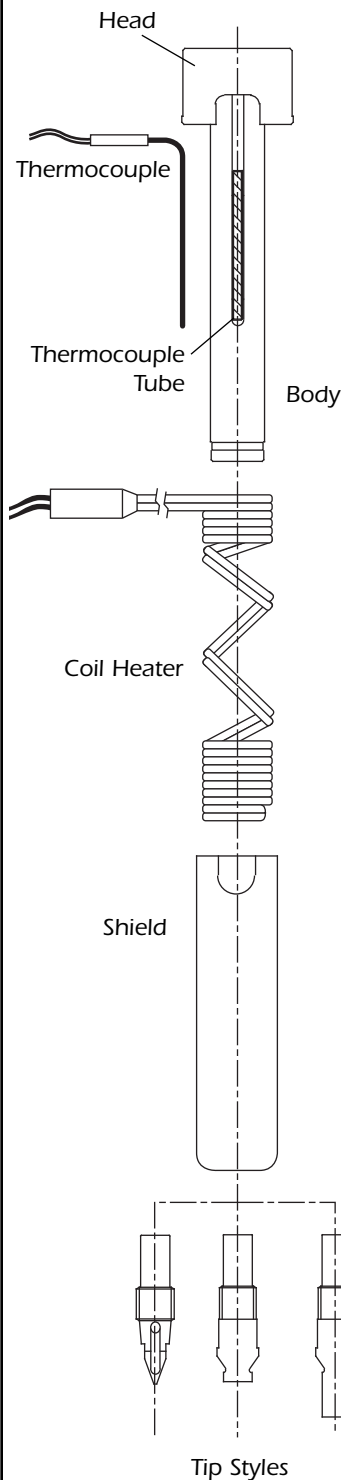
\* Must Re-Machine to larger diameter; See Chart 2.

Consult Heaterwerks when changing max. shot weight in Sprue style tips.

# Micron Technical Specifications

## Operating/Service Instructions

All specifications are subject to change without notification.



### Operating & Servicing Instructions

The Micron body designs and components are identical in diameter, and differ only in length. The Micron features a replaceable coil heater and replaceable Type "J" thermocouple. All Micron nozzle tips are interchangeable.

### Start-up/Operating Procedures

If the temperature controller does not utilize "soft start" technology, set the controller to 200°F (93.3°C) in automatic or 10% in manual. Allow nozzle to "soak" for 15 minutes before increasing to processing temperature. This step will allow the unit to dissipate any moisture and prolong heater life.

### Tip Removal/Installation

#### Removal

- 1) Secure nozzle firmly in "V" block making sure to avoid the press-fit area.
- 2) Insert Heaterwerks Tip tool **6mm socket (Pinpoint)** provided over/into tip. Use a standard 1/4" Allen socket for Pinpoint tips or 1/4" socket wrench for Sprue tips and turn counterclockwise to loosen.

#### Installation

- 1) Secure nozzle firmly in "V" block making sure to avoid the press-fit area.
- 2) Insert Fast Heat Tip tool **6mm socket (Pinpoint) or M1001 (Sprue)** provided over/into tip.
- 3) Apply anti-seize sparingly onto male threads of tip.  
Note: excess anti-seize may contaminate the resin being processed.
- 4) Use a standard 1/4" Allen socket for Pinpoint tips or 1/4" socket wrench for Sprue tips and install tip by turning clockwise.
- 5) **Torque Sprue and Pinpoint STD tips to 40 in./lbs. (4.5 Newton-Meters)**  
**Torque Pinpoint Wear Resistant tips to 50 in./lbs. (5.63 Newton-Meters)**

### Component Disassembly/Assembly

#### Disassembly

- 1) Slide shield off by hand.
- 2) Remove heater by placing hand around coil and carefully turning counterclockwise applying pressure where leads meet the nozzle.
- 3) Remove thermocouple by sliding it out of the T/C tube, which is mounted on the body.


#### Assembly

- 1) Insert thermocouple into T/C tube until thermocouple reaches the end of the tube.
- 2) Install heater over thermocouple and unit by placing hand around coil and carefully turning counterclockwise applying pressure where leads meet the nozzle.
- 3) Slide shield over coil by hand.

### Power Requirements

- 240 Volts AC – 15 amp fuse
- Grounding – Fast Heat nozzles utilize the direct contact of the nozzle, mold plates, and machine platens to establish a path for grounding.

\*WARNING\*

There must be a ground  present between the Mold "Hot Half" and the temperature control system or damage may occur to the nozzle, thermocouple and/or temperature control system.