

Accugate 197 Technical Specifications

Accugate 197 User Guide

All specifications are subject to change without notification.

Accugate 197 Hot Runner Nozzles



The Accugate 197 Hot Runner system is an exclusive medium pitch, flat gate system with the ability to process engineering and glass-filled resins without deteriorating the tips. Acceptable for crystalline and amorphous materials, this system utilizes gate diameter, gate area cooling and temperature control at the tip to optimize the part quality.

Accugate 197 "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. The Accugate 197 is available with two different head styles and five gating options to suit a broad range of applications.

Gating Options for the Accugate 197



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 0.015" (0.40 mm), 0.030" (0.75 mm), and 0.050" (1.25 mm) tip flat diameters, to better maintain minimum vestige in parts up to 150 grams (see engineering charts 1, 2 & 3 on page 5).



Wear Resistant Pinpoint Tips –

Recommended for glass-filled and other aggressive engineering grade materials, these tips have an excellent heat profile and high wear resistance characteristics. The 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 and gate life. Available in 0.015" (0.40 mm), 0.030" (0.75 mm), and 0.050" (1.25 mm) tip flat diameters, to better maintain minimum vestige in parts up to 150 grams (see engineering charts 1, 2 & 3 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, these tips are capable of processing up to 150 grams of low viscosity resin (see engineering charts 1, 2 & 3 on page 5).



Extra Stock Sprue Tips –

Identical to the Standard Sprue tip, except with .512" (13mm) 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, these tips are capable of processing up to 150 grams of low viscosity resin and 75 grams of high viscosity resin (see engineering charts 1, 2 & 3 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. These wear resistant tips can process 75 grams of high viscosity resin (see engineering charts 1, 2 or 3 & page 5).

Head Options for the Accugate 197



Flat Style –

Provides a seal of mating surfaces while allowing for lateral expansion between the manifold and nozzle.



O'Ring Style –

When retrofitting a Heaterwerks Accugate 197 nozzle to an existing manifold, the O'Ring style provides an optimal means of sealing mating surfaces.

Note: O'Ring must be replaced each time the system is disassembled.

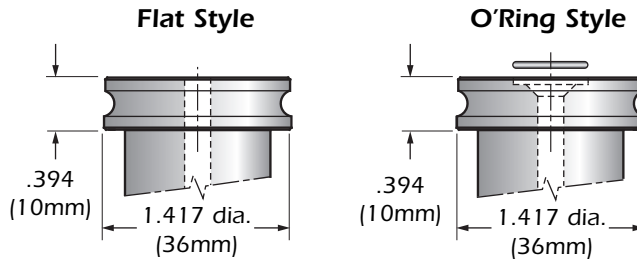
MANIFOLD APPLICATIONS

Accugate 197 Technical Specifications

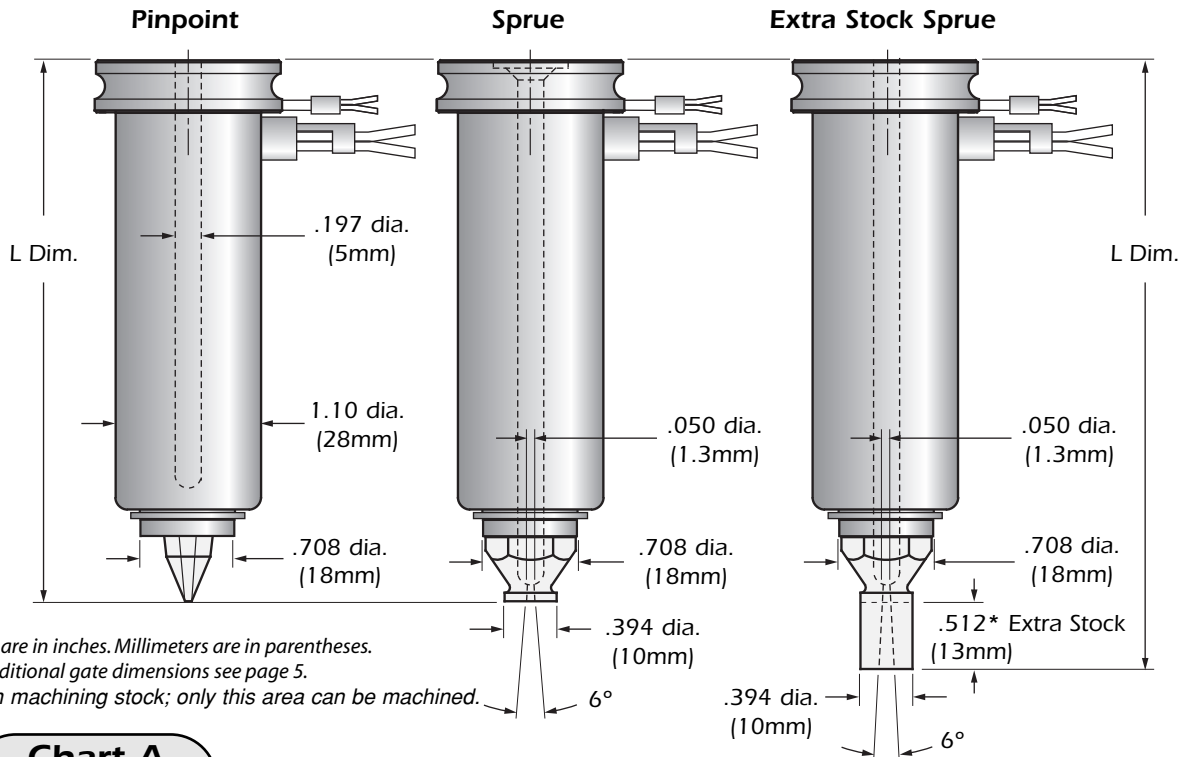
Nozzle Dimensions

All specifications are subject to change without notification.

Head Options



Gating Options / Nozzle Dimensions



Dimensions are in inches. Millimeters are in parentheses.
 Note: For additional gate dimensions see page 5.

* Maximum machining stock; only this area can be machined.

Chart A

Complete Nozzle (Includes subassembly & tip)	w/Pinpoint Tips		w/Sprue Tips		w/Extra Stock Sprue Tips	
	L Dimension		L Dim – Minimum		L Dim – Maximum	
Flat	in	mm	in	mm	in	mm
HWA1902 + TIP	2.205	56	2.205	56	2.717	69
HWA1906 + TIP	2.913	74	2.913	74	3.425	87
HWA1910 + TIP	3.465	88	3.465	88	3.977	101
HWA1914 + TIP	4.173	106	4.173	106	4.685	119
HWA1918 + TIP	4.882	124	4.882	124	5.394	137
O'Ring	in	mm	in	mm	in	mm
HWA1903 + TIP	2.205	56	2.205	56	2.717	69
HWA1907 + TIP	2.913	74	2.913	74	3.425	87
HWA1911 + TIP	3.465	88	3.465	88	3.977	101
HWA1915 + TIP	4.173	106	4.173	106	4.685	119
HWA1919 + TIP	4.882	124	4.882	124	5.394	137

MANIFOLD APPLICATIONS

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Subassembly Ordering Numbers

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Accugate 197 Body

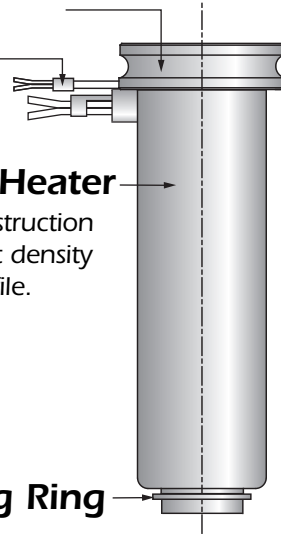
Thermocouple



Integral Sleeve Heater

Exclusive swaged construction provides a higher heat density and an ideal heat profile.

Retaining Ring



Accugate 197 Hot Runner Nozzles

The Accugate 197 has an all metric body style and a .197" (5mm) flow channel with replaceable sleeve heater and thermocouple. Made from pre-hardened steel for maximum high pressure resistance, the Accugate 197 has an optimum heat profile for a uniform flow.

Designed for medium pitches of 1.50" (38 mm), the Accugate 197 has minimal contact areas, reducing heat loss. It is available in 5 different nozzle lengths and 2 head styles.

The Accugate 197 Nozzles are capable of handling up to 150 grams of resin per drop. (See chart 3 page 5 for more details.)

Chart B

Subassembly						
Flat	Body	Sleeve Heater	Watts	Thermocouple	Retaining Ring	
HWA1902	AB190 02	RH19000	285	TC000 2	100101	
HWA1906	AB190 06	RH19001	370	TC000 3	100101	
HWA1910	AB190 10	RH19002	435	TC000 4	100101	
HWA1914	AB190 14	RH19003	520	TC000 5	100101	
HWA1918	AB190 18	RH19004	605	TC000 6	100101	
O'Ring	Body	Sleeve Heater	Watts	Thermocouple	Retaining Ring	O'Ring
HWA1903	AB190 03	RH19000	285	TC000 2	100101	MR010000
HWA1907	AB190 07	RH19001	370	TC000 3	100101	MR010000
HWA1911	AB190 11	RH19002	435	TC000 4	100101	MR010000
HWA1915	AB190 15	RH19003	520	TC000 5	100101	MR010000
HWA1919	AB190 19	RH19004	605	TC000 6	100101	MR010000

Tip Ordering Numbers

Accugate 197 Tip Options

The Accugate 197 has 11 interchangeable tip styles to accommodate most applications. Wear Resistant tips are constructed from a special tip alloy, exclusive to Heaterwerks.

Chart C

Alloy	Pinpoint .015"	Pinpoint .030"	Pinpoint .050"	Sprue	Extra Stock Sprue	
WR	HT19001	HT19003	HT19005	HT19011	HT19021	
STD	HT19000	HT19002	HT19004	HT19010	HT19020	

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

MANIFOLD APPLICATIONS

Accugate 197 Technical Specifications

Engineering Charts

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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 0.015"	HT19001	WR	●	●	●
	HT19000	STD	●	●	●
Pinpoint 0.030"	HT19003	WR	●	●	●
	HT19002	STD	●	●	●
Pinpoint 0.050"	HT19005	WR	●	●	●
	HT19004	STD	●	●	●
Std. Sprue	HT19011	WR	●	●	●
	HT19010	STD	●	●	●
Extra Stock Sprue	HT19021	WR	●	●	●
	HT19020	STD	●	●	●
Extra Stock Sprue (Nylon)	HT050300	WR	●	●	●

Reference: ● = Recommended

Chart 2

Gate Diameters				
Part No. Pinpoint tips	Alloy	Resin Viscosity		
		High	Medium	Low
HT19001	WR	.077" to .109" (1.90mm to 2.80mm)	.055" to .077" (1.40mm to 1.90mm)	.035" to .055" (0.90mm to 1.40mm)
HT19000	STD			
HT19003	WR	.092" to .124" (2.30mm to 3.10mm)	.070" to .092" (1.80mm to 2.30mm)	.050" to .070" (1.30mm to 1.80mm)
HT19002	STD			
HT19005	WR	.132" to .164" (3.40mm to 4.20mm)	.110" to .132" (2.80mm to 3.40mm)	.090" to .110" (2.30mm to 2.80mm)
HT19004	STD			
Sprue tips	Alloy	High	Medium	Low
All Sprue Part Numbers	WR & STD	.050" to .080"* (1.30mm to 2.00mm)	.050" to .080"* (1.30mm to 2.00mm)	.050" to .080"* (1.30mm to 2.00mm)

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

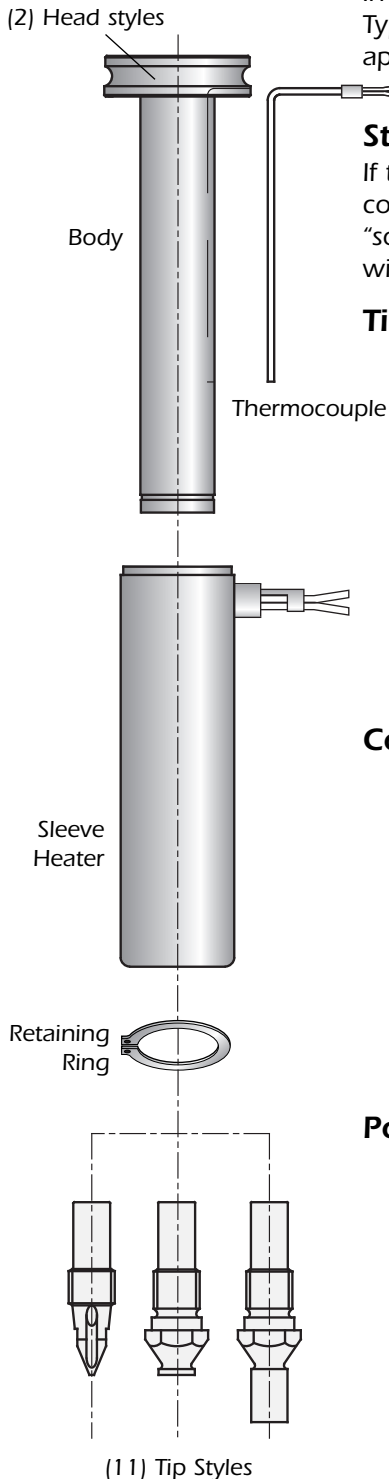
Maximum Shot Weights in Grams					
Tip Style	Part No.	Alloy	Resin Viscosity		
			High	Medium	Low
Pinpoint 0.015"	HT19001	WR	20g	25g	35g
	HT19000	STD			
Pinpoint 0.030"	HT19003	WR	70g	90g	110g
	HT19002	STD			
Pinpoint 0.050"	HT19005	WR	125g	150g	185g
	HT19004	STD			
Std. Sprue	HT19011	WR	150g	225g	300g
	HT19010	STD			
Extra Stock Sprue	HT19021	WR	150g	225g	300g
	HT19020	STD			
Extra Stock Sprue (Nylon)	HT050300	WR			

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

Accugate 197 Technical Specifications

Operating/Service Instructions

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Operating & Servicing Instructions

The Accugate 197 body designs are identical in diameter, and differ only in length and head style. The Accugate 197 features a replaceable sleeve heater, Type "J" thermocouple, and choice of eleven tip styles for a broad range of applications.

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) Place nozzle in "V" block and secure it firmly at the nozzle head.
- 2) Use a standard 1/4" Allen socket for Pinpoint tips, or 15mm socket for Sprue tips, and turn counter-clockwise to loosen.

Installation

- 1) Place nozzle in "V" block and secure it firmly at the nozzle head.
- 2) Apply anti-seize sparingly onto male threads of tip.
Note: excess anti-seize may contaminate the resin being processed.
- 3) Use a standard 1/4" Allen socket for Pinpoint tips or 15mm socket for Sprue tips and install tip by turning clockwise.
- 4) **Torque to 30 ft./lbs. (41 Newton-Meters)**

Component Disassembly/Assembly

Disassembly

- 1) Remove "Retaining Ring" using Retaining Ring Pliers.
- 2) Remove heater by hand.
- 3) Remove thermocouple by sliding it out of the T/C slot on the body.


Assembly

- 1) Insert pre-bent thermocouple into T/C slot until thermocouple reaches the end of the slot.
- 2) Slide heater over T/C and body by hand, making sure to place heater wires in the same position as the thermocouple wires.
- 3) Install "Retaining Ring" using Retaining Ring Pliers.

Power Requirements

- 240 Volts AC – 15 amp fuse
- Grounding – Heaterwerks nozzles do not require any additional grounding wire. The nozzles are grounded through the bodies of the components.

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.