



29111 Stephenson Hwy.  
Madison Heights, MI 48071 USA  
800-626-6653

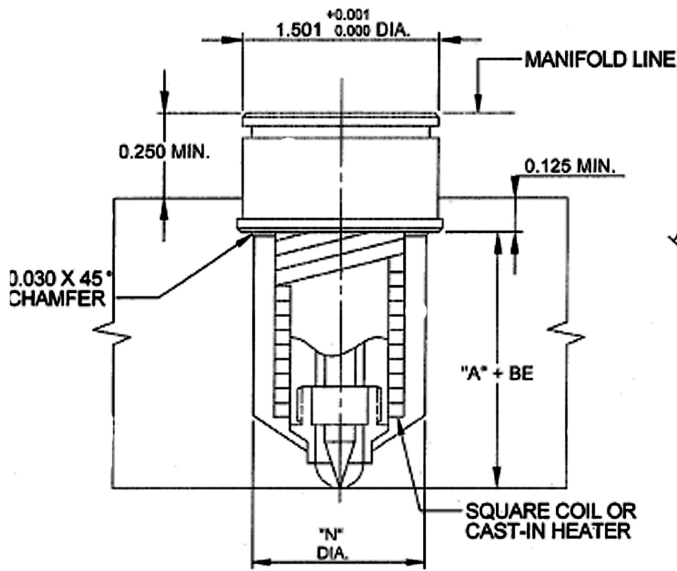
## 250 Series Point Gate Nozzle

INSTALLATION DATA

Refer to mini print #1800

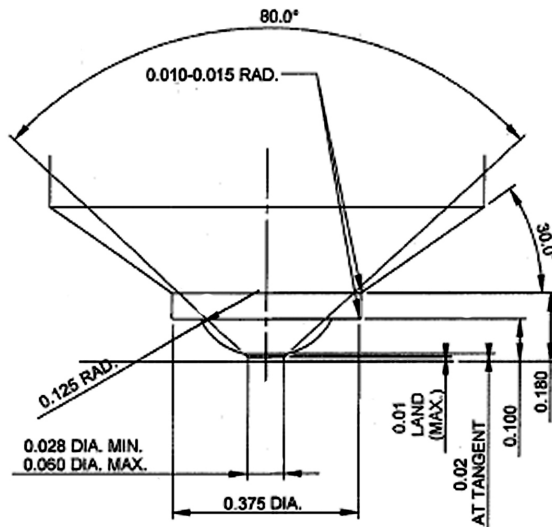
**NOTE:**

Before installing Point Gate Nozzle, it is important to take the nozzle's expansion factor into consideration. For best results please follow the information below.



### MACHINING DETAILS

"N" Dia. (max.) square coil or cast-in	"N" Dia. (min.) square coil or cast-in
1.250	1.187



For selection of gate diameter it is important to take into consideration the materials flow characteristics, shear rate of resin, molding conditions, fill time requirements, gate vestige, wall thickness and configuration of part to be molded. Situations requiring high injection velocities must be considered when selecting small gate diameters. High injection rates may require larger gates due to shear heat buildup. (e.g. high weight/thin wall applications). The minimum and maximum gate diameters indicated are consistent with previous designed gate sizes. See material manufacturer literature for further information regarding material to be molded.

Please note that the needle position in relation to the cavity is of extreme importance. To compensate for the nozzle's growth when heat is applied, the linear expansion of the nozzle (BE) at a given temperature must be added to the nominal dimension "A". The position of the needle will now be flush or slightly protruding through the gate. The formula below shows how to figure boring depth (dimension "A" + BE). The 0.100 and the 0.180 dimensions as shown in the above drawing are constant.

Formula for determining this expansion factor as follows:

$$BE = "A" \text{ dimension} \times 0.00000633 \times (\text{nozzle set-point temperature } 68^\circ\text{F}.$$

Example:

500°F

Given a 3 inch "A" dimension, with a nozzle set point temperature of 500° F:

$$BE = 3 \times 0.00000633 \times (500 - 68) = 0.008$$

Thus "A" + BE will be 3.008

Note: The above information is only given as an example, variations may occur based on mold configurations and cooling factor. In some instances,

### WIRING INFORMATION

Square Coil Heaters are supplied with 2" pre-stripped, 36" long leads, 240 VAC

(2) power leads are Multicolor

(1) ground lead is GREEN

Thermocouple is "J" Type

Thermocouple supplied with 36" leads

(1) T/C lead is WHITE and negative (-) constantin (non-magnetic)

(1) lead is BLACK positive (+) magnetic

Nozzle Sub-Assy Catalog #		"A" Dimension For Nozzle Assembly
Sq. Coil Heater	Cast In Heater	
EHA0001	CIA0001	2.00
EHA0002	CIA0002	2.500
EHA0003	CIA0003	3.000
EHA0004	CIA0004	3.500
EHA0005	CIA0005	4.000
EHA0006	CIA0006	5.000
EHA0007	CIA9997	6.000

Point Gate Tip Sub-Assembly	
Catalog Number	Tip Style
EHT0005	Standard
EHT0302	Wear Resistant

Note: Nozzle assembly requires nozzle sub-assembly & tip-assembly

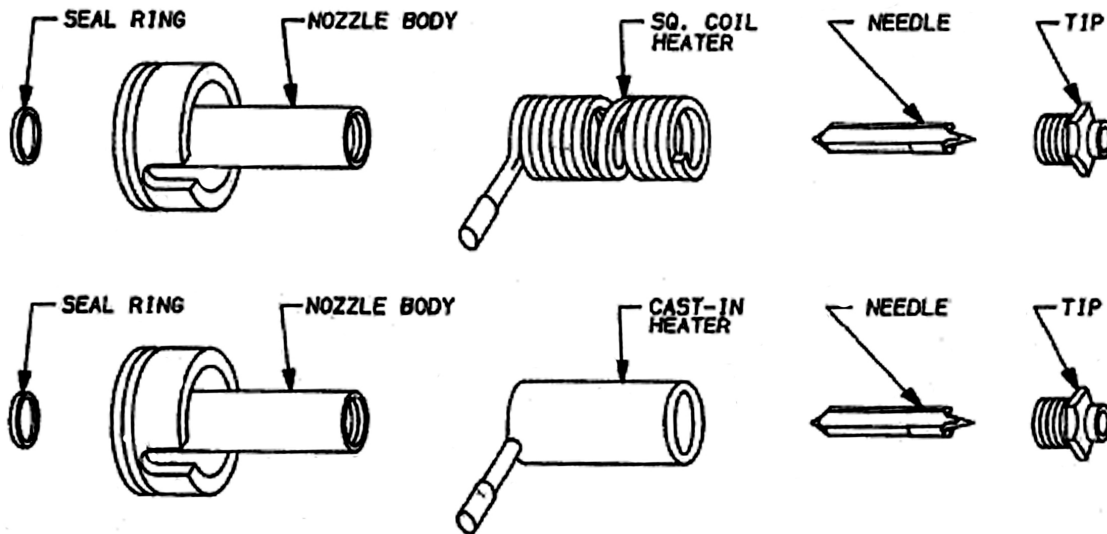


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### OPERATING & SERVICING INSTRUCTIONS: 250 SERIES POINT GATE NOZZLES

All interchangeable nozzles are similar, and differ only in size and material flow capacity. The information found below applies to the 250 Series Point Gate Nozzles.

#### OPERATING PROCEDURE

The nozzles are supplied with a Square (Flat) Coil or Cast-In heater equipped with a Type J Thermocouple.

(It is also recommended to use a DME Closed Loop Temperature Controller for optimum temperature control).

When Starting the Nozzle, set the controller to 10% voltage if using an open loop manual type, or to 200°F if using a closed loop automatic type. In either case, this procedure will allow the heater to dissipate any moisture. Be certain to maintain this start-up setting for 15 minutes. (Controller equipped with Step Start ® , Smart Start® or other heater warm-up circuitry will cycle automatically.)

#### DISASSEMBLY PROCEDURE

1. Place the nozzle in a vice using "V" Block, then secure it firmly at the nozzle head.
2. For removal of tip from nozzle, a six point deep well socket is recommended. The nozzle must be at processing temperature and the heater should be turned off when removing tip counter-clockwise from the nozzle. If nozzle is still in the mold, the nozzle must be "keyed" to prevent wire damages.
3. Tip and needle must be cleaned of any material before reassembling.
4. Remove the heater using a Square Coil Heater wrench (Wrench is included with replacement heater).
5. Cast-In heater may be removed if failure occurs and replaced with a Square Coil Heater. Follow assembly procedures for Square Coil Heater.

#### ASSEMBLY PROCEDURE

1. Nozzle body must be cleaned of any material in the seal-off area and threaded areas before reassembling.
2. Careful attention should be taken to the needle as damage could occur if needle is dropped or strikes a rigid material. Treat needle like a glass or ceramic material.
3. Install the heater using a Square Coil Heater wrench (Wrench included with replacement heater). After the heater is installed, it should cover the entire length of the nozzle body - stretch the heater by hand if necessary.
4. Apply an anti-seize compound on the tip threads.
5. Firmly screw the tip sub-assembly into the shank of the nozzle body. Tighten and untighten two or three times making sure there is a good contact between the tip and the shank. Torque the sub-assembly into the nozzle body using 30± 5 ft-lbs. For protection of the tip sub-assembly, a six point deep well socket is recommended.
6. Careful attention should be taken to the heater and thermocouple leads as damage could occur when working on nozzle assembly.
7. Seal ring for nozzle body must be replaced each time nozzle body and/or manifold are removed to ensure seal-off.
8. Wait a minimum of 5 minutes after set point has been achieved for sufficient heat to transfer into the tip before molding.



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ME-0741-PS-391-D  
EHT-9999

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Failure to comply can result in serious injury or death:

### **STORED ENERGY AND HIGH TEMPERATURE HAZARDS**

This product maintains molten plastic at high pressure. Use caution when operating and servicing the system.

Physical contact with molten plastic may result in severe burns. Proper protective equipment, including eye protection, must be worn. This product has heated surfaces. Use caution when operating and servicing the system to avoid severe burns. Proper protective equipment should be worn.

### **IMPORTANT SAFETY INFORMATION**

A hot-runner system includes electrical elements and may contain molten plastic at elevated temperature and pressure. To avoid injury, exercise caution by reading these instructions before servicing or operating the system.

These instructions must be passed on to the end user where they should be read before using this product. Failure to do so can result in serious injury or death.

Failure to comply will result in serious injury or death:

### **ELECTRICAL HAZARDS**

Improper voltages or grounding can result in electrical shock. Use only with proper voltage and a proper earth ground.

To avoid electrical shock, do not operate product when wet.

Do not operate this equipment with covers or panels removed.

To avoid electrical shock, turn off main power disconnect and lockout/tag out before servicing this device. Do not connect temperature sensors to electrical power. It will damage the product and it can cause fire, severe injuries or even death.

If green ground wire present wire must be connected to the ground.

Do not rebend rigid leads. Rebending leads might result in damage to circuit. Product might absorb moisture when cool. Use low Voltage or power to drive out residual moisture before applying full power. Failure to do so may cause damage to this product.

### **IMPORTANT**

It is essential to use controllers with the proper voltage and wattage capabilities. The voltage and wattage of each heater is clearly marked on the heater tag.

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