

ME-0741-PS-121-B 08-08 GM4N-PS
INSTALLATION DATA
GATE-MATE 4 NOZZLE ASSEMBLIES
 Please read carefully before installing components.



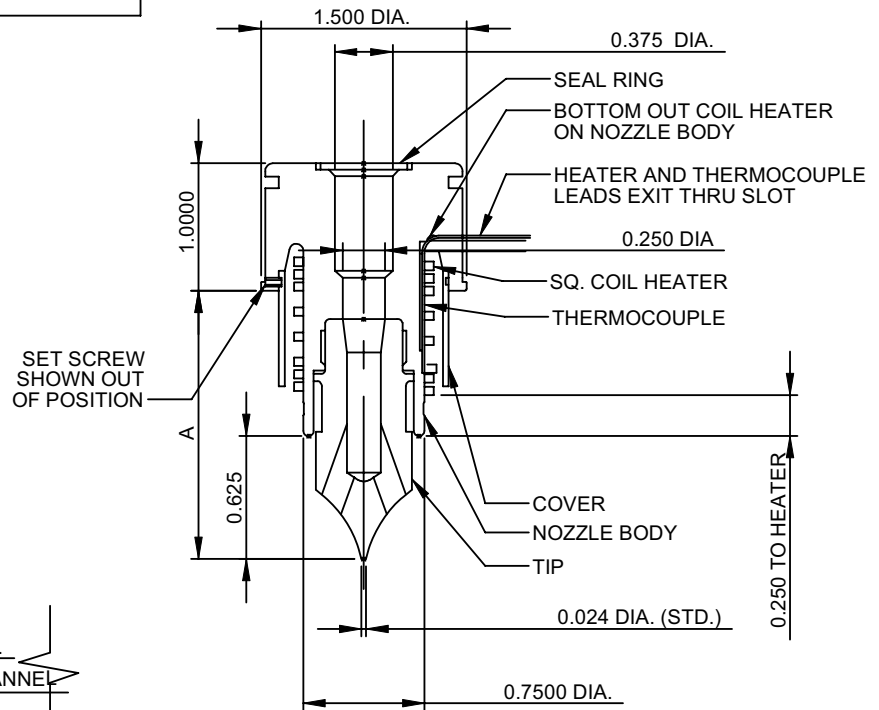
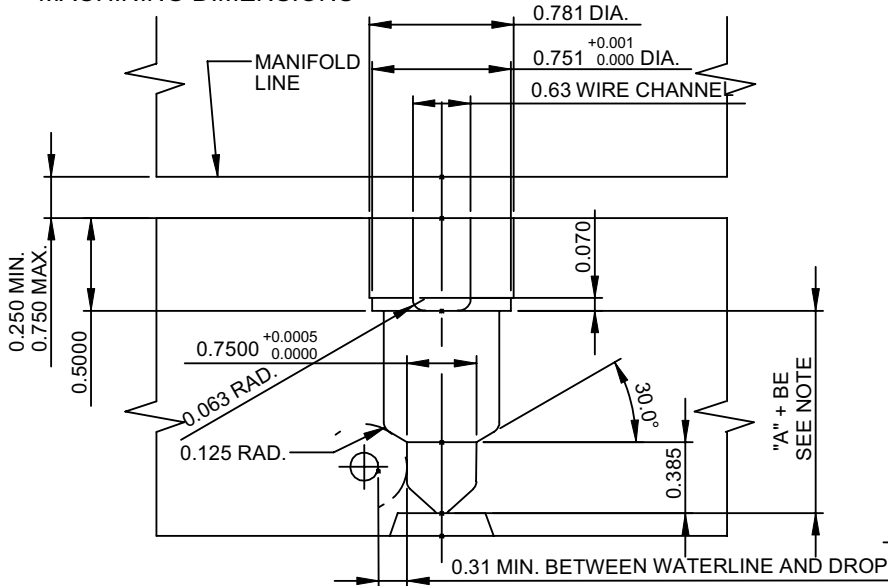
Note: Dimensions shown in Inches.

GATE-MATE NOZZLE ASSEMBLY INCLUDES.

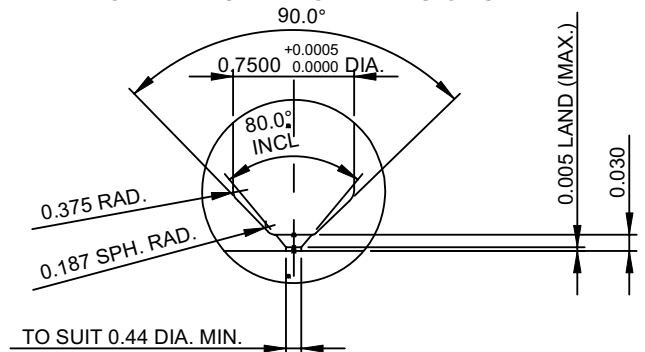
- 1-NOZZLE BODY
- 1-TIP
- 1-SQ. COIL HEATER
- 1-THERMOCOUPLE
- 1-COVER
- 1-SET SCREW
- 1-SEAL RING

CAT. NO.	"A" DIM.
GMB0050	2.000
GMB0051	2.500
GMB0052	3.000
GMB0053	3.500
GMB0054	4.000
GMB0055	5.000
GMB0056	6.000

MACHINING DIMENSIONS



GATE MACHINING DIMENSIONS



NOTE: The expansion factor must be taken into consideration prior to machining for, and installing nozzle. This factor (BE) must then be added to the nominal "A" dimension. Formula for determining this expansion is as follows:

$$BE = "A" \text{ dimension} \times 0.0000633 \times (\text{nozzle setpoint} - 68^\circ \text{ F})$$

EXAMPLE: Given a 2.500 Inch "A" dimension, with a nozzle setpoint temperature of 500° F.

$$BE = 2.500 \times 0.0000633 \times (500 - 68) = 0.0068 \dots \text{ thus "A" + BE will be } 2.5068.$$

Please note that the above information is given as an example. Variations may occur based on mold configuration and cooling factor. In some instances, it may be necessary to obtain an empirical factor.

NOZZLE ASSEMBLY REFERENCE	SQUARE COIL HEATER 240 VAC (INCLUDES WRENCH)		THERMOCOUPLES (36" LEADS)	SEAL RINGS (PKG. OF 4)	TIP	
	CAT. NO.	WATTS	CAT. NO.	CAT. NO.	CAT. NO.	STYLE
GMB0050	SCH0060	250	TCG0060	EHR0155	GMT-2	STANDARD
GMB0051	SCH0061	300	TCG0061			
GMB0052	SCH0062	350	TCG0062			
GMB0053	SCH0063	400	TCG0063			
GMB0054	SCH0064	425	TCG0064			
GMB0055	SCH0065	500	TCG0065			
GMB0056	SCH0066	500	TCG0066			

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OPERATING PROCEDURE:

The nozzles are supplied with a Square (flat) Coil Heater.

D-M-E SHALL NOT BE LIABLE FOR MISUSE OR FAILURE TO FOLLOW THE ENCLOSED INSTRUCTIONS AND SPECIFICATIONS. D-M-E HERBY TO DISCLAIM ALL IMPLIED WARRANTIES, INCLUDING MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. IN NO EVENT SHALL D-M-E BE RESPONSIBLE FOR LOSS OF USE, REVENUE OR PROFIT, OR FOR INCIDENTAL OR CONSEQUENTIAL DAMAGED.

It is recommended to use a D-M-E closed loop Temperature Controller for optimum Temperature Control. When starting the nozzle, set the temperature to 10% voltage if using in open loop manual type or to 200 °F if using 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 Smart® , Smart Step® or other heater warm-up circuitry will change automatically. 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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RECOMMENDATIONS AND GUIDELINES

1. Nozzle (multiple-applications) 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 tip as damage could occur if tip is dropped or strikes a rigid material. Treat tip like a glass or ceramic material.
3. Do NOT lubricate or use anti-sieze compound on the threads.
4. Tip must be torqued into the nozzle using a torque wrench at 30 ± 5 ft-lbs when reassembling. For protection of the tip point, use a 11 mm deep well 6 point socket.
5. Careful attention should be taken to the heater and thermocouple leads as damage could occur when working on nozzle assembly.
6. Seal ring for nozzle body must be replaced each time nozzle body and / or manifold are removed to ensure seal off.
7. Machine the 1.501 diameter + 0.001/ -0.000 directly into the nozzle plate, 0.250 minimum to 0.750 maximum deep, to fit the nozzle's head.
8. Machine the 0.7500 diameter + 0.0005 -0.0000 directly into the cavity carefully, as this is a seal-off dimension to fit the nozzle's seat.
9. For best processing and lowest gate vestige, tip must be 0.000 to 0.005 into the cavity at processing temperature. The smallest gate diameter will yield the best gate vestige. Depending on part configuration and plastic being used, the gate may have to be enlarged to achieve greater flow. This increase in diameter may result in a larger gate vestige.
10. Provide maximum water cooling in the nozzle plate and in cavity insert around gate.
11. Route wires through wire channel in nozzle plate.
12. Provide a gate dimple on core/cavity opposite gate. This will allow for best material flow.
13. Wait a minimum of 5 minutes after set point has been achieved for sufficient heat to transfer into the tip before molding.

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.



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.

WIRING INFORMATION

Square Coil Heaters are supplied with 2" prestripped 36" long leads. Heaters are 240 VAC. (120 VAC heaters are available on request).

2 power leads are Multi Color.
1 ground lead is GREEN.

Thermocouple is "J" Type.
Thermocouple is supplied with 36" leads.

- 1 T/C lead is WHITE and negative (-) constantan (non-magnetic).
- 1 T/C lead is BLACK and positive (+) iron (magnetic).

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