

DME Hot One Nozzles - FREQUENTLY ASKED QUESTIONS

Q: I notice some DME Hot One thermocouples (or heaters with integral thermocouples) have different color codes for the thermocouple lead wire insulation. What do the different color code sets mean?

A: Note: The following applies to thermocouples (or heaters with integral thermocouples) sold out of the DME USA Hot Runner Catalog. It does not apply to heaters or thermocouples sold out of the DME Molding Supply Catalog.

DME has taken steps to meet the growing needs of our customers around the world. One of these steps has been to progress to an "International" thermocouple color code per IEC 584-3 (Black = positive, White = Negative):




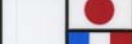



Up to the recent past, most DME thermocouples (or heaters that have integral thermocouples) have had a color code based on the ASTM E230 standard, in which the positive thermocouple wire lead (magnetic) has a white color insulation, and the negative thermocouple lead has a red color insulation. This is traditionally common in North America:



Please note that some products will continue to have the ASTM E230 standard color code (White=positive, Red = negative).

Both color codes shown above are correct. It will be important to ensure proper wire up of the thermocouple. If the thermocouple is wired up backwards (polarity of the thermocouple is reversed), the thermocouple will fail to give the temperature controller a correctly interpretable signal. For clarity, the following color code chart may be used:

J TYPE THERMOCOUPLE STANDARDS			
	STANDARD	+ LEAD (MAGNETIC)	- LEAD
INTERNATIONAL	IEC 584-3	Black	White
	ASTM E230	White	Red
	BS 1843	Yellow	Blue
	DIN 43710	Red	Blue
	JIS C 1610-1981	Red	White
	NFC 42-324	Yellow	Black

Q: If there are different thermocouple color code sets (example: IEC 584-3 or ASTM E230) that might be delivered on a replacement heater, how do I distinguish the thermocouple leads from the power leads?

A: The power leads will be a different color from the two thermocouple leads, or, will have an identifying mark, strip or heat shrink. Please note that if the power leads were identified by an identifying mark, strip or heat shrink and the leads are cut, the identifying strip, mark or heat shrink will be removed. In such cases it is recommended to add marker tape to each power lead for ease of future maintenance.

Q: I would like a Hot One nozzle with a spherical radius, to be used as a sprue bushing in a single drop mold. Is this design available?

A: Such configurations are available in the Polimax Hot Sprue Bushing product family, which are very similar to Hot One nozzles. The DME Webpage for Polimax Hot Sprue Bushings can be found [here](#). If you require a nozzle configuration that is different than what is offered in the Polimax Hot Sprue Bushing product family, please contact your DME Customer Service Representative.

Q: I would like a CIH heater that is “Slip on”, like an SCH heater. Is this available?

A: At this moment, CIH heaters are available only as “press-on”, which means the heaters need to be heated up prior to installing over the nozzle body. If attempting to remove a CIH heater from a nozzle body, the heater will need to be heated up with an external heat source. It is not recommended to use a torch as this method can apply to much localized heat to the nozzle body and reduce the product life. Instead, it is recommended to use an external band heater, clamped over the CIH heater that will be removed. The manufacture or type of band heater used is not critical, provided the band heater (or similar heater) can be easily installed over the CIH heater.

Q: I would like a CIH heater for the 625 series nozzle. Is this available?

A: At this moment, 625 series Hot One nozzle assemblies are available only with SCH coil heaters.

Q: I would like some information on servicing or installing my Hot One nozzle assembly. Where can I find that information?

A: The necessary information is located in the “Resources” section of the DME Website, under “Packing Slips”, and can be found [here](#). If you have a question that is not covered by the product packing slip/installation instruction, please contact your DME Customer Service Representative for assistance.

Q: Older SCH heaters appear to be easier to install. Did something change?

A: New SCH heaters have a slightly tighter fit and are designed to maximize system performance over the life of the tool. DME is constantly improving product to meet or exceed customer needs.

Q: I would like to gate into a dimple. Can I modify a standard 250, 375 or 625 series gate detail?

A: It may be possible depending on intended application. Please contact your DME Customer Service Representative for assistance.

Q: I have purchased a DME Hot One nozzle assembly and I would like to reduce the amount of heat drawn at the tip. I would like to relieve or reduce the amount of land contact between the seal off diameter of the nozzle tip and the surrounding mold steel. Where can I find instructions for this?

A: Please contact your DME Customer Service Representative, who will put you in contact with a DME Technical Service Representative to review your application with you. Because the amount that may be relieved from the seal-off diameter of a DME Hot One ring gate retainer or sprue gate tip depends on the intended application, no standard instructions are posted at this time. Do not modify or relieve the seal off diameter of a DME Hot One point gate retainer.

Q: I am retrofitting a mold with a DME Hot One nozzle assembly that requires a different body length than what is offered as standard. Can I have a special nozzle body length made by DME?

A: It is recommended against using nozzle lengths that differ from standard offering as the SCH and CIH nozzle heaters have been developed over many years, and special orders could increase both product price and delivery time required. It is recommended to use the next longer length (if available) and use a spacer plate behind the A-plate to make up the required difference. Please note that if a special nozzle

length is required, it may not be possible to order a special nozzle length depending on the requirement. In such cases, please contact your DME Customer Service Representative for assistance.

Q: I am interested in a DME Hot One nozzle assembly, but I want to process glass-filled thermoplastic. Can I do this?

A: It may be possible depending on the thermoplastic and application. If you are uncertain as to what is feasible and would like a recommendation, please contact your DME Customer Service Representative, who will put you in contact with a DME Technical Service Representative who will review your application requirements.

Q: What is the processing temperature upper limit that I can use with my DME Hot One nozzle assembly?

A: It depends on the application, as well as nozzle heater and the tip or tip assembly used.

For DME 250 or 375 series Hot One applications that require greater than 575°F (302°C) processing temperature, it is recommended to use a CIH heater assembly. CIH heaters are not available for the 625 series Hot One nozzle assemblies at this time. Some customers have success using DME 250, 375 or 625 series Hot One assemblies with SCH heaters when processing thermoplastics that require greater than 575°F (302°C) processing temperature, however that success is largely based on the molding application. If you are unfamiliar with using Hot One nozzles with SCH heaters in applications requiring greater than 575°F (302°C) melt processing temperature and you would like a recommendation, please contact your DME Customer Service Representative and you will be put in contact with a DME Technical Service Representative to review your application.

The DME Hot One point-gate tip assemblies are available with standard needles as well as wear-resistant needles. For DME Hot One nozzle assemblies with Ring Gate Retainers, some customers prefer to use the Ring Gate needle type (see DME Hot Runner Catalog for details) however it is recommended to use a Point Gate Needle with a Ring Gate Retainer. If using a DME Ring Gate needle, it is not recommended to use the Ring Gate needle in applications that require greater than 480°F (249°C) melt processing temperature, and even at lower processing temperatures a Point Gate needle may be required to process the intended grade of resin.

Standard Hot One needles are not recommended to be used with any filled thermoplastic, and are not recommended to be used in applications that require greater than 480°F (249°C) melt processing temperature. Depending on the application, wear-resistant Hot One needles may be used with filled thermoplastics (not recommended for thermoplastics that have greater than 30% filler including glass, mineral, talc, other), and are not recommended to be used in applications requiring greater than 635°F (335°C) melt processing temperature.

DME Hot One sprue tips can be used with filled thermoplastics (not recommended for thermoplastics that have greater than 30% filler including glass, mineral, talc, other) and are not recommended to be used in applications requiring greater than 635°F (335°C) melt processing temperature.

If you have an application that requires greater than 635°F (335°C) melt processing temperature, if the intended thermoplastic has greater than 30% filler, or if you would like a recommendation for the parts best suited for your intended application, please contact your DME Customer Service Representative, and you will be put in contact with a DME Technical Service Representative to review your application requirements.

Q: What is the upper limit injection pressure that I can use with my DME Hot One nozzle assembly?

A: The DME Hot One nozzle assembly is not to be used in applications that exceed 20000 PSI injection pressure. However please note that if you are approaching 20000 PSI injection pressure, the injection processing window for a typical injection molding machine will most likely become significantly reduced, which may affect your ability to mold good parts. In such cases it is recommended to refer to your injection molding machine specifications or to speak to a technical representative for the manufacture of your injection molding machine.

For additional information regarding DME Hot One products, please refer to the DME Hot Runner Catalog. For other concerns regarding DME Hot One products, please contact us by visiting our website at <http://www.dme.net>, or contact your regional DME sales representative. In the USA or Canada only, please contact DME Customer Service by visiting our website at <http://www.dme.net>, or call 800-626-6653 (U.S.) or 800-387-6000 (Canada).