

DME Stellar System- FREQUENTLY ASKED QUESTONS

NOTICE: If you have questions that are not answered by the following, please contact your DME Customer Service Representative for assistance, who will help answer your questions or put you in contact with an appropriate person who can answer your questions.

Q: I notice some Stellar system 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):




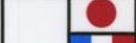



Up to the recent past, most DME thermocouples (or heaters that have integral thermocouples) have had a color code based on the ASTM E230 standard, in which the positive thermocouple wire lead (magnetic) has a white color insulation, and the negative thermocouple lead has a red color insulation. This 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 indentifying 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: What types of nozzle heaters are available with a Stellar hot runner system?

A: Currently there are two types of nozzle heaters currently available for the Stellar hot runner system product line: Standard and High-Performance. Standard heaters are commonly used to process commodity-grade thermoplastic applications, while High-Performance heaters are commonly used to process “engineered-grade” thermoplastics that typically have more demanding process requirements. Depending on your application, it may be possible to use standard Stellar heaters to process certain engineered-grade thermoplastics. For guidance on what is recommended for your application, please contact your DME Customer Service Representative, who will put you in contact with a DME Technical Service Representative to review your application requirements.

Q: I would like some information on servicing or installing my Stellar hot runner system. 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](#). Also, design manuals for the Stellar pre-engineered manifold assemblies (“MNA”) in both rectangular and round styles, are available for download from the DME Website and can be found [here](#). If you have a question that is not covered by the product packing slip/installation instruction or by the design manuals, please contact your DME Customer Service Representative for assistance.

Q: I would like to perform frequent color changes. Do I require a gate shell insulator for each Stellar nozzle assembly?

A: Gate shell insulators are not used with the Stellar hot runner nozzle product line.

Q: What is the processing temperature upper limit that I can use with my Stellar Hot Runner system? Can I process filled thermoplastic with a Stellar Hot Runner system?

A: It depends on the application, as well as both the tip type and heater used.

When attempting to process thermoplastics that require greater than 525°F (274°C) processing temperature, the “High-Performance” Stellar heater is recommended. Some customers have success using standard Stellar heaters in applications that require greater than 525°F (274°C) processing temperature.

The **Stellar standard point tip** is not to be used with any filled thermoplastic, and is not recommended to be used in applications that require greater than 480°F (249°C) melt processing temperature. Stellar standard point tips are used with a threaded retainer, which retains the tip to the nozzle body assembly.

The **Stellar wear-resistant point or through-hole tips** can be used with filled or unfilled thermoplastic (not recommended for applications exceeding 30% filler including glass, talc, mineral, other), and are not recommended to be used in applications that require greater than 635°F (335°C) melt processing temperature. Stellar wear-resistant point or through-hole tips are used with a threaded retainer, which retains the tip to the nozzle body assembly.

The **Stellar sprue tip** can be used with filled or unfilled thermoplastics (not recommended for applications exceeding 30% filler including glass, talc, mineral, other) and is not recommended to be used in applications that require greater than 635°F (335°C) melt processing temperature. Stellar sprue tips are threaded and are not used with an additional threaded retainer, when assembling to the nozzle assembly.

For more information, please refer to the MNA (round or rectangular) design manuals [here](#), or, contact your DME Customer Service Representative for assistance.

If you are interested in using a Stellar hot runner system to processing thermoplastic that has a melt temperature that exceeds 635°F (335°C), or that has filler that exceeds 30%, or if you have questions as to what is appropriate for your intended application, it is recommended that you contact your DME Customer Service Representative, who will put you in contact with a DME Technical Service Representative to review your applications requirements.

Q: What is the upper limit injection pressure that I can use with my Stellar Hot Runner system?

A: The Stellar Hot Runner system 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.

Q: I notice that some Stellar nozzles use a retaining ring to retain the nozzle heater, while other heaters do not. Why is that?

A: When using the Stellar sprue tip, a retaining ring is used to retain the nozzle heater. This would apply regardless if using a standard or high-performance heater. Other Stellar tip styles currently offered by DME do not use a retaining ring to retain the nozzle heater. For more detail, please refer to the MNA (round or rectangular) design manuals [here](#), or, contact your DME Customer Service Representative for assistance.

Q: I would like a nozzle assembly that will fit into a space that is smaller than the gate detail or heater clearance hole size that is shown in the Stellar MNA design guide books. Does DME offer anything that will fit my requirement?

A: We do have options to fit into smaller spaces. Please contact your DME Customer Service Representative, and you will be put in contact with a technical representative that review your application requirements with you.

Q: I am attempting to assemble a Stellar nozzle body and the parts appear to be different than what is shown in the Stellar MNA design guides. Where can I find information regarding the components that I currently have?

A: The Stellar hot runner system has undergone continuous improvement over time to better meet the needs of our customers. Please contact your DME Customer Service Representative for assistance.

Q: I would like to build my own hot runner system but would like to use compression-style Stellar nozzle bodies. Can I do this?

A: The Stellar compression-style hot runner system is available as a package system designed by DME Applications Engineering. Only the threaded-head configurations of the nozzle assemblies are available for ordering off the shelf to build your own hot runner system. For more information, please refer to the MNA (round or rectangular) design manuals [here](#), or, contact your DME Customer Service Representative for assistance.

Q: I am building my own hot runner manifold using Stellar nozzle assemblies that are threaded into an MNA manifold. Do I require a wire channel in the bottom of the manifold pocket of the

nozzle retainer plate, or can I just lay the nozzle heater and thermocouple wires in the manifold pocket or even over the manifold?

A: Stellar nozzle heaters and nozzle thermocouples are designed to be “Front load”, meaning that provided the mold is designed to accommodate front load heaters and thermocouples, you do not have to remove the mold from the injection press in order to replace a Stellar nozzle heater or nozzle thermocouple. For this reason we recommend that a wire channel on the parting line side of the nozzle retainer plate be used to capture and route all the nozzle heater wire leads and nozzle thermocouple wire leads over to the electrical connectors or electrical box for the mold. This will increase the longevity of the nozzle heater and nozzle thermocouples.

It is recommended to keep the nozzle heater lead wires and nozzle thermocouple lead wires as far away from the manifold as possible. It is not recommended to capture and route the Stellar nozzle heater lead wires or the Stellar nozzle thermocouple lead wires inside a wire channel that is located in the manifold pocket in the nozzle retainer plate. Do not drape the Stellar nozzle heater lead wires or the Stellar nozzle thermocouple lead wires over the manifold. Do not lay the lead wires at the bottom of the manifold pocket in the nozzle retainer plate.

Q: What does “MNA” mean?

A: The Stellar Hot Runner system product line includes optional standard manifolds designed to be used specifically with the threaded-style Stellar nozzle assemblies (nozzle assemblies are “threaded” into the manifold). One of these manifolds would be referred to as an “MNA” (plural = “MNAs”). An MNA is an abbreviation for “Manifold Nozzle Assembly”. When you order a Stellar MNA system, you are ordering the manifold, manifold components, manifold extension nozzle (“MEN”), nozzle assemblies and tip assemblies. It is not uncommon for a customer to refer to the Stellar standard manifold itself as an “MNA” but in reality that is a misnomer. For more information on Stellar MNAs, please refer to the MNA (round or rectangular) design manuals [here](#), or, contact your DME Customer Service Representative for assistance.

Q: What does “MEN” mean?

A: An “MEN” is an abbreviation for “Manifold Extension Nozzle”, which mates the injection machine barrel tip to the DME hot runner manifold. “MEN” is common nomenclature for all DME hot runner systems, including Stellar hot runner systems. Another common name is “nozzle seat” which is another term for an “unheated” MEN. Nozzle seats or “unheated” MENs are not used with the Stellar “MNA” hot runner system product line (all MENs used with Stellar MNA hot runner systems, are “heated”).

Please note, some hot runner manufacturers will refer to an MEN as a “Sprue bushing”. At DME, Sprue Bushings are different products and are not heated (do not have a separate heat source). DME Sprue Bushings are shown in the DME Mold Components Catalog.

Q: I have purchased a DME Stellar Hot Runner system and I would like to reduce the amount of heat drawn at the tip for each nozzle assembly. 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: It is not recommended to modify the seal-off diameter any Stellar nozzle tip or tip retainer. It is possible to modify the leading face of a Stellar Sprue tip, however if you are not familiar with what to do, it is recommended that you contact your DME Customer Service Representative first, who will put you in contact with a DME Technical Service Representative to review your application with you. No standard instructions are posted at this time.

For additional information regarding DME Stellar Hot Runner products, please refer to the DME Hot Runner Catalog. For other concerns regarding DME Stellar Hot Runner 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).