

DME Polivalve 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 Polivalve 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).

A few products may be built to the DIN 43710 (Red = positive, Blue = negative) color code specification. Over time these will be changed to the IEC 584-3 (Black = positive, White = negative) color code specification. This color code is common in Europe:



All three 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: Sometimes I see a grey wire and purple wire with a Polivalve nozzle heater. What wires are those?

A: The wires with purple or grey color wire insulator are power wires. Typically a Polivalve heater that has a specific thermocouple color code set, will be delivered with power leads that have a different color, or, have an identifying strip, mark or heat shrink to help identify the power leads. Please note that if the power leads were identified by a strip, mark 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 see a wire that is green with yellow tracer. Is that the ground wire?

A: Yes. If a ground wire is present, the ground wire lead color may be either be solid green, or green with a tracer.

Q: What types of nozzle heaters are available for order as replacement items for a Polivalve hot runner system?

A: The "RBP"-type heaters are used on the nozzle bodies. All suggested replacement items for any Polivalve hot runner system will be listed on the system drawings delivered with the hot runner system.

Q: I would like some information on servicing or installing my Polivalve hot runner system. Where can I find that information?

A: At this time there are no packing slips or installation instructions available for download from the "Resources" section of the DME Website. Please contact your DME Customer Service Representative for assistance, who will put you in touch with a DME Technical Service Representative.

Q: I am interested in a Polivalve Hot Runner System from DME, but I want to process glass-filled thermoplastic. Can I do this?

A: It may be possible depending on the thermoplastic and application. 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 Polivalve Hot Runner System?

A: It typically depends on the application, as well as the tip or tip assembly used. All potential Polivalve applications are reviewed by the DME Technical Service team for feasibility.

When using a high performance bodiless tip with standard conductive capsule, do not use with filled thermoplastics or with applications requiring more than 480°F (249°C) melt processing temperature.

When using a high performance bodiless tip with wear-resistant conductive capsule, filled thermoplastic applications are possible depending on the application (not recommended for filled thermoplastics that have more than 30% filler including glass, talc, mineral, other). Not recommended for applications that require greater than 635°F (335°C) melt processing temperature.

When using a regular bodiless tip, filled thermoplastic applications are possible depending on the application (not recommended for filled thermoplastics that have more than 30% filler including glass, talc, mineral, other). Not recommended for applications that require greater than 635°F (335°C) melt processing temperature.

When using a full body tip or extended full body tip, filled thermoplastic applications are possible depending on the application (not recommended for filled thermoplastics that have more than 30% filler

including glass, talc, mineral, other). Not recommended for applications that require greater than 635°F (335°C) melt processing temperature.

In all cases, if you have an application requiring a valve gate that exceeds the recommended upper processing temperature or if you have an application requiring a valve gate that exceeds 30% filler, 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 Polivalve Hot Runner system?

A: The Polivalve 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 would like to download CAD files from the DME website for the Polivalve hot runner system, but I cannot find any CAD data to download. Where can I find this information or data?

A: At this time there is no Polivalve CAD data available for download from the DME Website. All Valve gate applications are reviewed in detail by the DME Applications Engineering Team. If a Polivalve hot runner system is ordered from DME, DME Applications Engineering will supply a CAD file for the system that will be delivered.

Q: I would like to build my own hot runner system using Polivalve valve gate nozzles and cylinder assemblies. Can I do this?

A: At this time, all DME Polivalve valve gate system orders are delivered as full package systems (or as "Simplicity" drop-in systems). Although some parts are available as replacement items, in general Polivalve hot runner nozzle components and cylinder components are not available for building your own valve gate hot runner system.

Q: What is the benefit or advantage to using a tapered valve pin shut off versus a cylindrical or "straight" valve pin shut off in a Polivalve hot runner system? I notice that DME offers both styles.

A: DME offers both styles of valve pin shut-off, as different customers have different preferences. DME recommends cylindrical valve pin shut-off if possible.

Q: I would like to order a single drop valve gate system. Is this available?

A: DME can offer valve gate hot runner systems for single cavity molds. Please contact your DME Customer Service Representative who will put you in contact with a DME Technical Service Representative to review your application.

Q: Can I order CIH heaters for my Polivalve hot runner system?

A: CIH heaters are not available at this time for the Polivalve hot runner system product line.

Q: I have purchased a DME Polivalve Hot Runner system, and I would like to reduce the amount of heat drawn at the tips 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: 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 for a full-body or extended full-body 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 Polivalve bodiless or high-performance bodiless tip.

For additional information regarding the Polivalve Valve Gate Hot Runner product, please contact your regional DME sales representative. In the USA or Canada only, please contact DME Hot Runner Technical Service at FieldTechs@DME.Milacron.com or call 800-626-6653 (U.S.) or 800-387-6000 (Canada).