DME Externally Heated Manifolds - FREQUENTLY ASKED QUESTONS

Q: The DME Hot Runner catalog shows components such as "End Plugs" and "Tapered Dowel Pins". Are all DME Hot Runners built with these components?
A: Externally heated manifolds offered by DME have evolved and improved over time to meet the pace of changing technologies. In the past, manifolds were relatively large and heated by cartridge heaters. Many customers still have molds today that use these older components, and other customers prefer to build their own hot runner manifolds using this method. For this reason, DME continues to offer components for this older type of hot runner system, both as replacement items and for customers who wish to build their own. All the necessary information is provided in the DME Catalog.

Over time DME has moved to using tubular heaters to lead manifolds. An example of this are the DME Meteor Manifold system. The manifold melt channel plugs are machined to a different method than the older, cartridge-heated manifolds. Custom hot runner manifolds produced today by DME are built in a manner very similar to the DME Meteor manifolds.

Q: I have a hot runner manifold that has flexible-type tubular manifold heaters. I have also have older DME manifold systems with non-flexible tubular manifold heaters. Can you explain?
A: One of the improvements that DME has made over time is to move many of the hot runner designs from a pre-bent tubular heater design over to a flexible tubular heater design. A "Flexible" tubular heater offered by DME can be identified by the distinctive segmented heater body. The heater is retained inside the heater groove with standard retaining rings which are installed periodically over the manifold heater groove.

DME manifolds built in the past with conventional tubular heaters do not use retaining rings or clips to retain the manifold heaters, and instead are pressed into place and may use a set of retainer plates to help retain the pre-bent tubular heaters in place. The DME Meteor Manifold is constructed with pre-bent tubular heaters. Replacement heaters can be ordered for your particular manifold system by calling your DME Customer Service Representative.

Q: What material are DME manifolds made from?
A: DME Manifolds are typically manufactured from one of three steel groups: "A" type (P20 or equivalent), "B" type (H13 or equivalent), or "C" type (Stainless Steel type). When ordering a DME manifold system, you may choose to specify the manifold steel type desired.

Q: If I am ordering a DME manifold system, how many plates are typically used?
A: Most often DME manifold systems are built with two plates: A "Nozzle Retainer" plate, in which the nozzle assemblies are retained and the manifold is partially retained, and, a "Top Clamp" plate in which the remainder of the manifold is retained.

DME Manifold system scan also be built as "three plate" systems in which a third, middle plate called the ""Manifold Retainer Plate" is used. In Automotive-type applications where mold bases are very large, it is not uncommon to substitute the "Manifold Retainer Plate" with Rails.

Some mold makers will refer to the hot runner manifold as one of the system plates. DME normally refers to the hot runner manifold as the "Manifold".

Q: I have a mold with a large number of cavities. What is the upper limit of cavities that DME will consider in a hot runner design?
A: The correct answer is that DME will review every application for feasibility. Sometimes a "high cavitation" mold concept will use a mold plate that is too small to accommodate a hot runner manifold or set of hot runner manifolds. This must be considered in all three dimensions (X,Y, Z) when reviewing a molding application for hot runner design feasibility.

Q: What is the maximum system temperature that I can take my DME manifold to?
A: The maximum temperature applied to a DME manifold is a function of what is being used with the manifold, and the type/grade of plastic processed. Please refer to the FAQ sheets associated to the DME Hot Runner nozzle that you intend to use, to find recommended temperature limitations for that nozzle type.

Please note: All DME manifold systems are designed with the intended molding application in mind. Since manifolds get very hot, they are designed to accommodate thermal expansion, such that at the desired operating temperature, melt channels in the manifold line up properly with hot runner nozzles. The desired operating temperature (melt processing temperature) is provided by the customer.

Q: I have build my own hot runner, I have had a molding problem and now I need to have my Hot runner repaired. Does DME offer this form of service?
A: Yes, DME does offer a service to repair Hot Runner systems, for a fee. Please contact your DME Customer Service Representative for more details.

Q: There is a strange set of numbers engraved on the top of my DME manifold, starting with "US…". What does that mean?
A: This number is the US "STAT" number. With it we can track the hot runner design to which the manifold was build, as well as a list of recommended replacement parts.

Q: I am using cartridge heaters to heat my manifold, but I drilled my cartridge heater holes in the manifold too large by accident. What can I do?
A: Using standard heaters in oversized holes can lead to premature failure of the cartridge heater. The heaters should be contact with the surrounding steel. Thermal paste is available from various heater manufacturers. It is recommended (if possible) in such situations to further increase the heater hole diameter to accept the next larger diametrical size of cartridge heater.

Q: I am building a hot runner system using DME Hot One Components and I need to modify a manifold riser pad. What is permitted?
A: Instructions on how to assemble a DME Hot One manifold system are provided in the DME Tubular Manifold Assembly Guide (similar approach takes place with a DME Cartridge Heated Manifold). A electronic copy of this guide can be downloaded from here.

Q: I am building a hot runner system using DME Hot One Components and I am using a nozzle seat. Do I have to use a drool ring?
A: It such cases it is recommended to use a drool ring. If it is desired to not use a drool ring, the DME Hot Runner catalog provides a suggested manifold modification to accommodate.

Q: What is the difference between an "Eco-Smart" hot runner manifold, and a hot runner manifold built or designed for a Hot One, Galaxy or Stellar Nozzle application? Are the manifolds different?

A: Because Eco-Smart nozzles were designed to process PLA (Polylactic Acid) bio-resin which can degrade depending on the application or resin grade used, an Eco-Smart manifold is typically built out of stainless steel.

Q: I would like to process PVC. Does DME build hot runners for processing PVC?
A: Some of our customers have had success processing flexible PVC using hot runner manifold systems that are built with DME hot runner components. Polyvinyl Chloride (PVC) has a unique property of having a degradation temperature that is typically lower than the resin injection processing temperature, which means that if you successfully process flexible PVC, you are immediately generating hydrochloric acid which will corrode the surrounding manifold steel. In such cases it is recommended to build the manifold system using stainless steel components, thereby maximizing component life. However, it cannot be guaranteed as to how long a DME component will last when subject to hydrochloric acid on a regular basis. For this reason customers who do purchase DME components for processing flexible PVC, will typically build their own manifolds to help offset the increased cost of system maintenance over the life of the tool.

For additional information regarding DME Externally Heated Manifolds, please refer to the *DME Hot Runner Catalog. For other concerns regarding DME Externally Heated Manifolds, 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).*