



DME

HOT RUNNER & CONTROL SYSTEMS

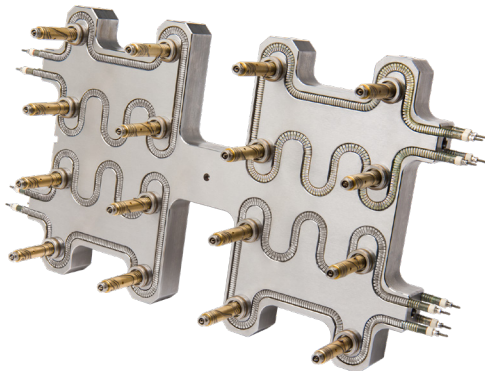


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Customer Commitment

Application Engineering

Is there a hot runner application on your wish list that you don't see here? DME can help. Our design and applications engineering group consists of professional engineers and experienced designers. Once you provide the information necessary for proper application design and analysis, the DME applications engineering team will go to work diligently analyzing, designing and manufacturing a hot runner system that will best suit your needs and requirements.

Technical Service

DME is proud to say that it is an industry model for technical service coverage and response. The DME technical service department covers the entire United States and Canada, with additional service representatives in Europe, Asia and throughout the world. Because DME knows you need assistance starting, operating, and maintaining hot runner systems it has made a great effort to strategically staff a Technical Service Department that is responsible for the success of DME's molding systems.

Field Sales and Customer Service

When you need a knowledgeable person to help you order parts and components, DME has you covered. Our direct field sales force puts a local sales representative in your area. One who understands your business and can offer valuable assistance in helping you select the molding system best suited to your application and your budget. In addition, DME provides a customer service department that has been extensively trained on all of DME's products and systems, making it easier for you to order and have your questions answered. We can provide you price and delivery information on all DME items quickly and accurately.

To take advantage of any or all of these services, or if you have any questions, problems, or ideas please call DME at:

- 800-626-6653 (U.S.)
- 800-387-6600 (Canada)

Part prints or system design prints may be sent in the following ways:

- dme_appl_eng@dme.net
- 248-544-5707 (U.S.) fax
- 905-677-5280 (Canada) fax

DME offers you a wide range of services from component selection to on-site system installation. Our ever-growing list of services include the ability to:

- Analyze the best system to fit your needs
- Assist in system design
- Perform computerized system analysis and resin qualification before any metal is cut
- Marry your system to the mold base, plates and components required
- Provide quotations for and perform all of the special machining required
- Assemble and wire the system
- Check mechanical fit of all components and perform electrical load testing
- Assist with system start-up and maintenance

All of which gives you ... more time to concentrate on cavities and cores!

Terms and Conditions of Sale

DME COMPANY LLC ("SELLER") TERMS AND CONDITIONS OF SALE

1. **ACCEPTANCE OF TERMS:** Seller's offer is expressly conditioned upon Buyer's acceptance of these Terms and Conditions, and Seller expressly objects to any additional or different terms proposed by Buyer. Any subsequent purchase order issued by Buyer shall constitute Buyer's agreement to these Terms and Conditions. Any contrary terms and conditions contained in any purchase order, facility entry form, or other instrument issued by the Buyer are expressly rejected and shall not apply to this transaction. Unless otherwise specified in the quotation, Seller's quotation shall expire 30 days from its date and may be modified or withdrawn by Seller before receipt of Buyer's conforming purchase order.

2. **PAYMENT TERMS:** Payment is due in accordance with any applicable progress, advance or other agreed upon payment schedule, or, if no such schedule has been agreed to, no later than 30 days from the date of invoice. Buyer shall pay a late payment charge computed at the lower of 1.5% per month on any overdue balance, or the maximum rate permitted by law. No cash discount is provided. If at any time Seller reasonably determines that Buyer's financial condition or payment history does not justify continuation of Seller's performance, Seller shall be entitled to require full or partial payment in advance or otherwise restructure payments, request additional forms of payment security, suspend its performance or terminate the order.

3. DELIVERY

3.1 In the United States, products are sold FCA Incoterms 2020 point of origin; for export sales, terms are FCA Incoterms port of export. Unless otherwise agreed in writing, title and risk of loss shall pass at the time of shipment. Buyer is responsible for all taxes, duties, fees, or other governmental charges related to its purchase of goods, with the sole exception of taxes on Seller's income. Unless otherwise agreed, Buyer shall pay all packing and delivery costs.

3.2 Seller's quoted lead times and targeted delivery dates are good faith estimates and are not binding on Seller. Buyer's acceptance of delivery of Seller's products from the carrier shall constitute a waiver of any claim for delay. If Seller notifies Buyer that the products are ready for shipment and Buyer delays delivery, then Seller may charge Buyer a storage fee equal to 1.5% of the contract price per month for each month of delay. Such storage fees are in addition to any other remedies Seller may have.

3.3 Buyer shall have a reasonable opportunity to inspect any products prior to shipment. Products shall be deemed to be accepted upon the earlier of: (i) inspection at Seller's plant (provided that no reasonable objection is then raised by Buyer), or (ii) if no inspection is requested, then at shipment. If an objection is made during inspection, then Products shall be deemed accepted upon resolution of the objection by Seller.

4. WARRANTY:

4.1 Seller's express product warranty be as stated in DME's order specification documentation and shall run from the date of shipment (the "Warranty Period"). During the Warranty Period, Seller warrants that the products and services sold hereunder will be free from material defects in material, workmanship and title (the "Warranty").

4.2 If, during the Warranty Period, Seller reasonably determines that the products do not meet the Warranty, then Seller shall, at its option, repair or replace the defective product or component thereof, reperform any defective services at Seller's expense, or refund or credit to Buyer its purchase price for the defective products or services.

4.3 The Warranty will be void and will not apply: (i) when Buyer fails to promptly notify Seller of any alleged defect, (ii) when Buyer fails to properly install, maintain, or operate the products, (iii) to any product or parts thereof with a useful life, under normal operating conditions, inherently shorter than 1 month, or (iv) to products which were not made by Seller or any of Seller's affiliates, provided that in such cases Seller shall use reasonable efforts to pass on to Buyer the manufacturer's warranty.

4.4 If Seller provides any parts or services to repair a product that is not under Warranty, then such parts and services will be billed to Buyer at Seller's prevailing rates for time and materials.

4.5 The Warranty set out above is the sole and exclusive warranty provided by Seller for its products and is in lieu of, and Seller expressly disclaims, all other warranties, express or implied, oral, written or statutory. **THERE ARE NO WARRANTIES OF MERCHANTABILITY OR FITNESS FOR PURPOSE FOR SELLER'S PRODUCTS.**

5. LIMITATION OF LIABILITIES:

5.1 Seller's total liability to Buyer arising out of or resulting from this Contract or related in any way to Seller's products or parts thereof shall not exceed the contract price for such products.

5.2 Seller shall not be liable for loss of profit or revenues, loss of use of products, interruption of business, downtime costs, increased operating costs, or any special, consequential, incidental indirect or punitive damages, whether incurred by Buyer or Buyer's customers.

5.3 Because the conditions of actual production in each end user's plant vary con-

siderably, Buyer assumes all risk for the results obtained by use of Seller's products in the practice of any process, whether in terms of operating costs, general effectiveness, success or failure, and regardless of any oral or written statements made by Seller related to the use of its products.

6. **SECURITY INTEREST.** Buyer agrees that the Seller shall have and retain a purchase money security interest in the Products securing the payment of all sums becoming due hereunder. Such security interest shall attach, upon completion of manufacture, to the Products and to any parts or accessories attached to the Products and to the proceeds of any sale thereof. Buyer represents that the Products are being acquired for use in its business and that such Products will not, without prior written consent of the Seller, be sold or removed from the Buyer's place of business to which delivery is made. Buyer agrees upon Seller's request to execute any financing statements or other documents required to perfect, continue or renew Seller's security interest in the Products.

7. **CANCELLATION:** Unless otherwise agreed, Buyer may cancel all or any part of the order by written notice received by Seller before the completion of the order. On receipt of such cancellation notice, all work on the order or part thereof canceled will be stopped as promptly as is reasonably possible. Buyer will then be invoiced for and will pay to Seller as liquidated damages a cancellation charge. For completed items, the charge will be equal to their established prices. For items not completed, the charge will be equal to 135% of Seller's full cost as determined by Seller in accordance with Seller's standard accounting practices (which includes burden and overhead), plus a charge for any packing and storage, less a credit for the balance of the material as scrap.

8. **RETURNS:** All returned items require a Return Merchandise Authorization (RMA) number from DME. Returns are subject to a quality inspection to validate whether it can be returned to inventory. Mold bases, plates, special components, made-to-order products and other date-sensitive products are non-returnable items. Items returned to DME without prior authorization(RMA) may be returned to sender. Items returned for stated defect or non-conforming reason require detailed explanation. No products are returnable beyond 30 days after receipt.

9. **CONFIDENTIALITY.** Any nonpublic information, including without limitation, Seller's pricing information and the contents of Seller's quotation or proposal and Buyer's purchase order, exchanged between the parties is deemed confidential ("Confidential Information"). Each party agrees to maintain the other party's Confidential Information in confidence, to not disclose the same to any third parties, and to use it only in connection with this sale. These restrictions shall expire two (2) years after the date of disclosure. This provision does not modify or supersede any separate confidentiality or nondisclosure contract signed by the parties.

10. **FORCE MAJEURE:** Seller shall not be liable for any delay in performance or nonperformance which is due to war, fire, flood, pandemic, acts of God, acts of third parties, acts of governmental authority or any agency or commission thereof, accident, breakdown of products, differences with employees or similar or dissimilar causes beyond Seller's reasonable control, including but not limited to, those interfering with production, supply or transportation of products, raw materials or components or Seller's ability to obtain, on terms Seller deem reasonable, material, labor, products or transportation.

11. **MERGER CLAUSE:** This Contract entirely supersedes any prior oral or written representations, correspondence, proposals, or contracts between the parties regarding the products. This writing constitutes the final and total expression of such contract between the parties, and it is a complete and exclusive statement of the terms of that contract.

12. **ASSIGNMENT:** Neither party may assign this Contract without the written consent of the other party, except that Seller may assign this Contract to a third party that acquires substantially all of Seller's assets and Seller may assign the flow of funds arising out of this Contract.

13. **COMPLIANCE WITH LAWS.** Each party agrees to comply with all applicable laws in the performance of its obligations; Buyer shall not trans-ship, re-export, divert or redirect Products outside of the original country of delivery without Seller's prior written consent.

14. **GOVERNING LAW:** This Contract shall be governed by and construed in accordance with the laws of the State of Michigan, without regard to the Convention for the International Sale of Goods (CISG), which shall not apply.

Sales and Ordering Information

U.S.A.

TERMS AND CONDITIONS OF SALE: See previous page.

PHONE ORDERS – TOLL FREE: 800-626-6653. DME's Customer Service Dept. operates Monday through Friday from 8 a.m. to 6 p.m. E.S.T. Calls can be made from anywhere in the continental U.S. and Puerto Rico (Puerto Rico: use "137" prefix instead of "1"). Our Customer Service Representatives will be happy to answer your questions on DME products or services, provide on-the-spot feedback on product availability and shipping details, or take any messages you wish relayed to your local DME sales, manufacturing or technical service representatives.

MAIL ORDERS: If you prefer to order by mail, please address your order to:

- DME Company, 29111 Stephenson Highway, Madison Heights, Michigan 48071-2330, FAX: 888-808-4363
ATTN: Customer Service Dept.

FAX: You may fax your order to:

- DME Customer Service
- 248-544-5113 or 888-808-4363

CHECKS OR MONEY ORDERS: When paying invoices by check or money order, please make payable to DME Company. include remittance copy of invoice and mail to:

DME Company, PO Box 854867 Minneapolis, MN 55485-4867

WALK-IN ORDERS, PICK-UPS AND RETURNS: If desired, ordered products in stock at your nearest DME Service Center can be picked up rather than shipped. Walk-in orders at Service Center locations can also be processed while you wait. Products being returned for repair or exchange should be processed through Customer Service prior to being returned.

SPECIAL MACHINING SERVICES: Prints for quotation on special machining work can be sent by EDI to dme_cad@dme.net.

For delivery information on special mold base orders or to check status of special work in progress please contact Customer Service at 800-626-6653 or email dme@dme.net

CANADA

Terms and Conditions of Sale: See previous page.

Orders, Quotes, Pickups, Returns: Please contact 800-387-6600

Check or Money Orders: Make payable to DME Company. Include remittance copy of invoice and mail to:
5345 Outerdrive - Unit 3, Oldcastle, ONT N9G 0C4.

Hot Runner & Temperature Control Warranty



DME Company

29111 Stephenson Highway, Madison Heights, MI 48071
Tel. 248/398-6000

DME Hot Runner Systems and Temperature Controllers are warranted pursuant to DME Company's standard terms and conditions (see page 5) for the time periods set forth below. The warranty (i) covers items sold and shipped [supplied in accordance with orders placed by the customer with DME on or after JULY 1, 2003], (ii) applies only to the original DME customer and, (iii) is not transferable to subsequent owners of the product except as specifically set forth herein (see Transferability below for conditions).

WARRANTY PERIODS APPLICABLE TO SPECIFIED DME PRODUCTS; COVERAGE STARTS UPON DATE OF SHIPMENT:

| Item | Coverage |
|--|--|
| DME EcoONE Systems and Hot Halves (plates designed, machined & assembled by DME, excluding Electrical Parts) | 1) Heater elements two (2) years 2) Non-wear components one (1) year 3) Wear components sixty (60) days. For hot halves, plastic leakage due to manufacturing defect of plates (2) years, excluding Gate Detail. |
| DME StellarONE Thermal and Valve Gate Hot Halves (plates designed, machined & assembled by DME, excluding Electrical Parts) DME-Global Blue Warranty tag provided with components | Plastic leakage, due to manufacturing defect, within hot runner plates covered for one (1) year; excluding Gate Detail. |
| DME StellarONE Thermal and Valve Gate Manifold and Components (neither plates nor assembly supplied by DME, excluding Electrical Parts) DME-Global Blue Warranty tag provided with components | One (1) year on components only. Wear components sixty (60) days |
| DME-CN Smart Thermal Gate and Valve Gate Hot Halves and Manifold & Components (excluding Electrical Parts) DME-Global Black Warranty tag provided with components | No warranty outside of Country of Manufacture. Contact Country of Manufacture for local warranty coverage. Warranty Coverage is not transferrable outside of country of origin. |
| DME Electrical Parts (all heaters and thermocouples) | One (1) year |
| DME Mold Temperature Controls and Valve Gate Controls (excluding Fuses & Triacs, Power Packs & Trolley as appropriate) | One (1) year - Pumping systems, Valves & Solenoids Two (2) years - Smart Series Mainframes & Modules, Me, ITSP and M2 temperature controllers & SVG valve gate controllers |

Replacement or repair will be made at the election of DME; implemented at a DME facility and/or by shipment of replacement parts to the customer for installation and/or return of defective parts to DME for repair.

Transferability:

This warranty may be transferred by the original DME Customer to a subsequent owner of the product if all of the following conditions exist: (i) the original DME Customer purchased the product for purposes of re-sale or other immediate transfer and DME was made aware of these purposes at the time of purchase in writing, (ii) within thirty (30) days from the date of invoice, DME is notified in writing of the transfer and provided with the name of the new owner (hereafter "Transferee"), the contact person of the Transferee and the Transferee's address.

Exclusions:

- Normal wear of the system and components including, but not limited to: Nozzle Tips, Nozzle Seal Rings, and Electrical connectors
- Damage to the critical seal-off areas on the manifold, nozzle bodies, or in the mating cavities or cavity inserts caused by improper assembly, operation, disassembly and maintenance
- Wear or damage resulting from corrosion or processing of abrasive/aggressive resins not previously approved by DME
- Damage due to failure to follow recommended operation and maintenance procedures specified in the DME Hot Runner Manual, Hot Runner Nameplate, Service Bulletins, User Manuals or failure to follow standard industry operation and maintenance procedures
- Damage caused by abuse, neglect, and failure to adhere to DME instructions and operational recommendations
- Damage caused by improper installation, operation and maintenance
- Damage resulting from modifications to the product or component parts, abuse or neglect
- Failure caused by modifications made to the product without the prior written approval of DME
- Damage resulting from operation of products at injection pressures greater than 20,000 psi (1360 bar) on EcoONE & StellarONE hot runner systems and hydraulic pressure greater than 700 psi (48bar) on EcoONE and StellarONE valve gate systems; unless specifically designed and manufactured for higher pressure applications in agreement with manufacturer
- Damage or failure caused by the product's inability to perform as a component of a system design not supplied by DME
- Operator absence or operator error
- Inadequate operator maintenance and training
- Electrical interruptions and/or instability
- Events beyond the control of DME
- Errors or actions by a third party
- Non-compliance with local laws, codes, ordinances or regulations codes or bylaws unless DME is informed of them by our customer at the time of order placement

DME Hot Runner Overview

DME:

Your essential resource for hot runner solutions



Whether your application requires best-in-class components or a turnkey hot-half system, DME has a hot runner solution that meets your needs.

DME: An Essential Resource for Hot Runner Productivity

Moldmakers, molders and mold designers worldwide look to DME for essential hot runner solutions — whether that is a single, best-in-class component or a complete, fully functioning hot half system. Offering the industry's broadest range of hot runner products and services as well as an unsurpassed knowledge and expertise, DME is committed to helping customers achieve maximum productivity, reliable operation, and better performance.

System Solutions

DME offers a comprehensive family of hot runner systems built on our modular architecture making custom configuration easy and quick.

Systems include:

- Stellar® Micromolding Systems engineered for tight pitch molding
- The Hot One 250, 375 and 625 series



A wide range of DME nozzles allows versatility in system selection



Stellar Micromolding Nozzles provide application flexibility

...from components and manifolds to turnkey hot halves



TURNKEY
SYSTEMS



SERVICE



Our goal is simple: to be an essential resource for your molding challenges.

Every step of the way.

Specialized Systems

As one of the world's leading hot runner manufacturers, we recognize that some application challenges demand specialized solutions. Offerings include:

- Stellar Manifold and Components
- Stellar Hot Halves
- Hot One Manifold and Components
- Hot One Hot Halves

Knowledge That Gives You an Advantage

Our team of trained, experienced experts can help you with needs analysis, design, configuration, operation, and all the other services that enable you to focus on your core business.

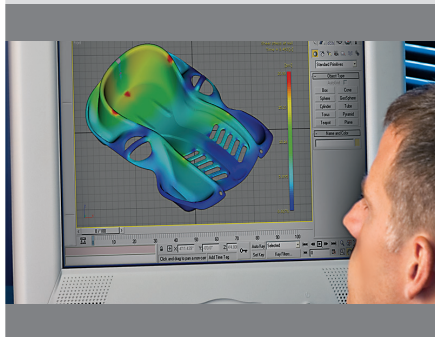
- Applications engineering
- Moldflow analysis

Service and Support to Keep You Productive

DME provides essential support to keep your hot runner systems in-service. Our dedicated hot runner service center is staffed by trained, experienced technicians who support DME systems, as well as other brands, to provide help when and where you need it, every step of the way.



Stellar & Hot One Systems are custom configured for your application



Moldflow predictive analysis optimizes part design and lowers costs



DME Hot Runner Service Center provides total support for your hot runner system

| | | | | | | | | | GENERIC POLYMER NAME (TRADE NAME) [A=AMORPHOUS or C=CRYSTALLINE] | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|-------------------------------------|-------------------------------|-----|-----|----------|----------|---------------------------------|-----------------|----------------|---|-----------------------|--------------------------|----------------------|-------------------------|---------|---------|------------------------|---------------------------|---------------------------|-----|---------|------------|--------------------|------------------|----------------|-------------------|-----------------------|---------|-----------------|--------------------|-------------------|----------------------|---------|------------------------|---------------------------|---------|---------|------------|--------------------|---------|-----------------|
| | | | | | | | | | NOTE: THE CHART BELOW SHOWS COMMODITY RESINS IN ORANGE TYPE; ALL OTHERS ARE ENGINEERING RESINS. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | TPE (Elastomer) [A] | PE (Polyethylene) [C] | PE GF (Polyethylene) [C] | PS (Polystyrene) [A] | PS GF (Polystyrene) [A] | SAN [A] | TPO [C] | PP (Polypropylene) [C] | PP GF (Polypropylene) [C] | PP TF (Polypropylene) [C] | TPU | ABS [A] | ABS/PC [A] | PMMA (Acrylic) [A] | POM (Acetal) [C] | PA (Nylon) [C] | PA GF (Nylon) [C] | PA MF GF (Minlon) [C] | PPE [A] | PPO (Noryl) [A] | PPO GF (Noryl) [A] | PBT Polyester [C] | PBT GF Polyester [C] | PET [C] | PC (Polycarbonate) [A] | PC GF (Polycarbonate) [A] | PPS [C] | PSU [A] | PSU GF [A] | PUR (Urethane) [A] | LCP [C] | PEI (Ultem) [A] |
| Resin Application Key | | | | | | Flow Capacity (Grams) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Polymer Viscosity Key | | | | | | Recommended Gate Diameter Range | | | Viscosity | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| L=Low M=Medium H=High | | | | | | Low MFI-16 | Medium MFI 7-16 | High MFI .02-7 | L | L | H | M | H | M | L | M | H | M | M | M | H | H | M | L | H | H | H | H | L | H | H | M | H | H | L | L | H | H | H | M |
| NOZZLES | | TIP | | Min (mm) | Max (mm) | Min (inch) | Max (inch) | Low MFI-16 | Medium MFI 7-16 | High MFI .02-7 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Hot One 250 Series (Coil Heater) | Sprue Tip | 2.0 | 3.1 | 0.080 | 0.125 | 625 | 475 | 315 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Standard Point Gate Tip | 0.7 | 2.5 | 0.028 | 0.100 | 200 | 150 | 100 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Hot One 250 Series (Cast-in Heater) | Sprue Tip | 2.0 | 3.1 | 0.080 | 0.125 | 625 | 475 | 315 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Standard Point Gate Tip | 0.7 | 2.5 | 0.060 | 0.100 | 200 | 150 | 100 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Hot One 375 Series (Coil Heater) | Sprue Tip | 3.2 | 4.7 | 0.125 | 0.187 | 1000 | 750 | 450 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Standard Point Gate Tip | 0.7 | 3.1 | 0.028 | 0.125 | 310 | 200 | 150 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Hot One 375 Series (Cast-in Heater) | Sprue Tip | 3.2 | 4.7 | 0.125 | 0.187 | 1000 | 750 | 450 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Standard Point Gate Tip | 0.7 | 3.1 | 0.060 | 0.125 | 310 | 200 | 150 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Hot One 625 Series (Coil Heater) | Sprue Tip | 4.7 | 7.9 | 0.187 | 0.312 | 1500 | 1100 | 750 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Standard Point Gate Tip | 3.2 | 4.4 | 0.125 | 0.175 | 800 | 550 | 400 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Hot One 625 Series (Cast-in Heater) | Sprue Tip | 4.7 | 7.9 | 0.187 | 0.187 | 1500 | 1100 | 750 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Standard Point Gate Tip | 3.2 | 4.4 | 0.125 | 0.175 | 800 | 550 | 400 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Radius Hot Sprue Bushing | S-Series & T-Series | 4.1 | 4.1 | 0.160 | 0.160 | 700 | 500 | 300 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | E-Series | 1.5 | 1.5 | 0.060 | 0.060 | 300 | 150 | 50 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | ER-Series & TR-Series | 3.2 | 3.2 | 0.125 | 0.125 | 500 | 300 | 200 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | High Performance Series | 1.6 | 1.6 | 0.062 | 0.062 | 300 | 150 | 50 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| D-MAX 250 Series High Performance | Sprue Tip | 3.2 | 3.2 | 0.125 | 0.125 | 500 | 300 | 200 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Standard Point Gate Tip | 2.0 | 3.1 | 0.080 | 0.125 | 700 | 500 | 350 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Wear Resistant Point Gate Tip | 1.3 | 2.5 | 0.050 | 0.100 | 250 | 175 | 125 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| D-MAX 375 Series High Performance | Sprue Tip | 1.5 | 2.5 | 0.060 | 0.100 | 250 | 175 | 125 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Standard Point Gate Tip | 3.2 | 4.7 | 0.125 | 0.187 | 1100 | 800 | 500 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Wear Resistant Point Gate Tip | 1.3 | 3.1 | 0.050 | 0.125 | 350 | 250 | 200 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| D-MAX 625 Series High Performance | Sprue Tip | 1.7 | 7.9 | 0.187 | 0.312 | 1600 | 1200 | 850 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 250 Series | 3.0 | 4.4 | 0.125 | 0.175 | 900 | 650 | 500 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | High Performance | 3.0 | 4.4 | 0.125 | 0.175 | 900 | 650 | 500 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

Available only as a DME Designed and Manufactured Manifold & Components or Fully Assembled and Wired Hot Half

Hot Runner Selection Guide

DME Hot Runner Technology Selection Guide - APRIL 2024 - www.dme.net

[illegible]

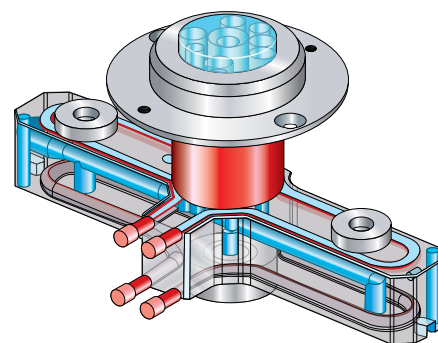
If you are not finding all the information you require to select a Hot Runner System please contact:
 Technial Service Department - [DME Tech Service@DME.net](mailto:DME_Tech_Service@DME.net)

Standard Global Manifold & Plastic Materials and Specifications

DME Global Manifolds and Components are standardized worldwide to ensure that even the smallest detail provides operational excellence regardless of where DME hot runner products are used. Whether you're relying on a quick-delivery manifold or an applications-engineered, custom manifold, the DME Global Manifold Standard ensures optimal hot runner performance no matter where in the world it was built.

Key Features of the DME Global Manifold Include:

- Flexible tubular heaters
- Locating rings that fit virtually any injection press platen hole diameters
- Heated Manifold Extension Nozzles available
- High-tolerance, press-fit heaters
- Upper and center Manifold supports constructed of high-strength, low-heat conductive titanium that minimizes heat loss and maintains an even heat profile
- J-type thermocouples are black-and-white, coinciding with the IEC 584-3 International Standard
- Flow channel sizes range from 6mm to 16mm



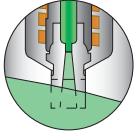
DME customers are assured that DME Manifold Systems are designed and built with a global standard that ensures efficient molding anywhere in the world. And, since replacement parts are identical worldwide, they are readily available wherever your mold is operating, not just where it was built. All DME nozzles, including, Stellar and the Hot One, perform flawlessly with the DME Global Manifold Standard.

| PLASTIC MATERIAL PROCESS CONDITIONS | | | | | | | | | | | |
|-------------------------------------|-----------------------|---------------------|------|------------------|------|------------------------|------|----------------------|--------------------------|----------------------|--------------------------|
| MATERIAL | STANDARD RESIN SYMBOL | PROCESS TEMPERATURE | | MOLD TEMPERATURE | | HOT RUNNER TEMPERATURE | | DENSITY MELTING | | SOLID DENSITY | |
| | | [°C] | [°F] | [°C] | [°F] | [°C] | [°F] | [g/cm ³] | [lbs/inch ³] | [g/cm ³] | [lbs/inch ³] |
| Styrene Butadiene | SB | 210 | 410 | 70 | 158 | 230 | 446 | 0.93 | 0.0366 | 1.02 | 0.0369 |
| Polyurethane | PUR | 220 | 428 | 45 | 113 | 240 | 464 | 0.93 | 0.0366 | 1.11 | 0.0401 |
| Styrene-acrylonitrile | SAN | 230 | 446 | 80 | 176 | 255 | 491 | 0.99 | 0.0358 | 1.08 | 0.0390 |
| Polystyrene | PS | 210 | 410 | 45 | 113 | 230 | 446 | 0.95 | 0.0343 | 1.05 | 0.0379 |
| Polycarbonate | PC | 300 | 572 | 80 | 176 | 330 | 626 | 1.08 | 0.0390 | 1.20 | 0.0434 |
| Polyphenylene Oxide-Styrene | PPO | 260 | 500 | 80 | 176 | 300 | 572 | 0.99 | 0.0358 | 1.13 | 0.0408 |
| Polyethylene | PE | 200 | 392 | 25 | 77 | 225 | 437 | 0.74 | 0.0267 | 0.96 | 0.0347 |
| Polypropylene | PP | 225 | 437 | 40 | 104 | 245 | 473 | 0.73 | 0.0264 | 0.91 | 0.0329 |
| Polyether-etherketone | PEEK | 330 | 626 | 165 | 329 | 370 | 698 | 1.13 | 0.0408 | 1.37 | 0.0495 |
| Polyphenylene Sulfide | PPS | 300 | 572 | 110 | 230 | 330 | 626 | 1.53 | 0.0553 | 1.70 | 0.0614 |
| Polybutylene Terephthalate | PBT | 265 | 509 | 60 | 140 | 290 | 554 | 1.44 | 0.0520 | 1.57 | 0.0567 |
| Polyamide 6 | PA 6 | 220 | 428 | 90 | 194 | 250 | 482 | 0.98 | 0.0354 | 1.14 | 0.0412 |
| Polyamide 66 | PA 66 | 255 | 491 | 90 | 194 | 280 | 536 | 1.09 | 0.0394 | 1.26 | 0.0455 |
| Thermal Plastic Elastomers | TPE | 240 | 464 | 35 | 95 | 265 | 509 | 0.78 | 0.0282 | 0.90 | 0.0325 |
| Polyoxymethylene (Polyacetal) | POM | 180 | 356 | 100 | 212 | 200 | 392 | 1.16 | 0.0419 | 1.42 | 0.0513 |
| Polymethyl Methacrylate | PMMA | 235 | 455 | 70 | 158 | 250 | 482 | 1.09 | 0.0394 | 1.18 | 0.0426 |
| Acrylonitrile Butadiene Styrene | ABS | 225 | 437 | 70 | 158 | 250 | 482 | 0.95 | 0.0343 | 1.08 | 0.0390 |

NOTE: Temperature and density values shown above are general, and may not apply to your application. Please refer to proper processing data for the resin grade intended for your specific application. Failure to use temperature settings appropriate to the specific resin and resin grade intended for your application may result in poor part quality, or inability to produce acceptable molded parts.

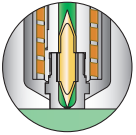
Bushing Selection

HOT SPRUE BUSHING TIP STYLE



SPRUE GATE TIP
STANDARD / EXTENDED

For use where gate vestige is allowed. Provides low resistance to flow with excellent flow rates. Extended style provides additional stock for machining profiles or part contours.



RING GATE TIP
STANDARD / EXTENDED

Ideal for low vestige commodity and engineering grade resin applications. The Ring Gate features a sealed tip for efficient shut-off at the part surface. Available with standard or wear resistant needles. Extended style provides additional stock for machining profiles or part contours.



POINT GATE TIP

Suitable for high viscosity resins, engineering plastics and applications requiring optimum gate cosmetics with minimal gate vestige. Available with standard or wear resistant needles.

BUSHING TIP AND PLASTIC MATERIAL COMPATIBILITY

| NOZZLE | THERMOPLASTIC RESIN TYPE | | | | | | | | | | | | | | | | | | |
|---------------------------------------|--------------------------|-------|-------|-------|----|------|-------|----|------------------|------|-------|-------|-------|------|-------|-------|--------|-----|-------|
| | AMORPHOUS | | | | | | | | SEMI-CRYSTALLINE | | | | | | | | | | |
| | SB | PUR * | PEI * | SAN * | PS | PC * | PPO * | PE | PP | PEEK | PPS * | PET * | PBT * | PA * | TPE * | POM * | PMMA * | ABS | TP0 * |
| SPRUE GATE TIP STANDARD / EXTENDED | ● | ● | ● | ● | ■ | ● | ● | ■ | ● | ▲ | ● | ● | ● | ● | ● | ● | ● | ● | ● |
| RING GATE TIP STANDARD / EXTENDED | ● | ● | ● | ● | ■ | ● | ● | ● | ● | ▲ | ● | ● | ● | ● | ● | ● | ● | ● | ● |
| POINT GATE TIP | ● | ● | ● | ● | ■ | ● | ● | ■ | ● | ▲ | ● | ● | ● | ● | ● | ● | ● | ● | ● |

■ Green – Works well with this resin
● Yellow – Contact DME Engineering for guidance
▲ Red – Not recommended

Hot Runner Quote Request Form

EMAIL TO DME_TECH_SERVICE@DME.NET OR FAX

United States: 888-808-4363 • Canada: 800-461-9965 • International: 248-398-7394


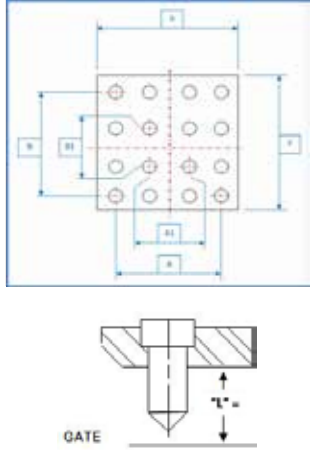
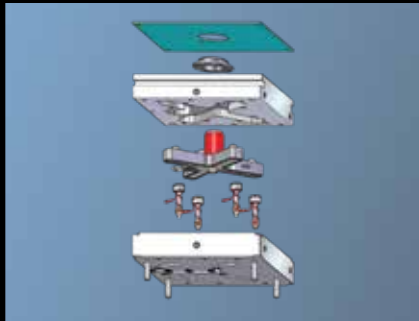
| | | | | | |
|---|--|--|--|---|--|
|  | | DME 29111 Stephenson Highway Madison Heights, MI. 48071-2383 | | Applications Engineering QUOTE REQUEST FORM Email to: mailto: DME_Tech_Service@dme.net | |
| Tech Service Approval, Final Drawings and In-House Due Date Required for Firm Quote - QUOTE TYPE <input type="checkbox"/> Preliminary <input type="checkbox"/> Firm | | | | | |
| Customer's In-House Date Requirement | | | | | |
| Date | | Sales Rep | | | |
| Company | | Contact | | | |
| Address | | Phone | | | |
| Address | | Fax | | | |
| City | | E-Mail | | | |
| State | | Zip | | Acct# | |
| Molding Material | | Melt Temp | | deg. | |
| Manufacturer | | Range | | (min) (max) | |
| Filler <input type="checkbox"/> None <input type="checkbox"/> Glass <input type="checkbox"/> Other Percent % | | | | | |
| Flame Retardant <input type="checkbox"/> Yes <input type="checkbox"/> No Melt Flow Index | | | | | |
| Color Changes <input type="checkbox"/> Yes <input type="checkbox"/> No | | Mold Temp | | deg. | |
| New Mold | | Retrofit | | DME Mold Base to be Quoted | |
| Mold Base Size | | | | Mold Base Drawings Supplied | |
| Gating Into <input type="checkbox"/> Part <input type="checkbox"/> Dimple <input type="checkbox"/> Runner | | | | | |
| Gate Style | | | StellarONE (Fixed Point/Sprue Tip only) / Hot One | | |
| | | | StellarONE (Valve Gate) | | |
| <input type="checkbox"/> Sprue <input type="checkbox"/> Ext Sprue <input type="checkbox"/> Tip/Point <input type="checkbox"/> WR | | | <input type="checkbox"/> VG-Bodiless <input type="checkbox"/> VG-Full Body <input type="checkbox"/> VG-Full Body Ext'd | | |
| <input type="checkbox"/> Other | | | <input type="checkbox"/> VG-Sprue | | |
| Number of Drops | | Number of Cavities | | Control: <input type="checkbox"/> Pneumatic <input type="checkbox"/> Hydraulic *** 700 PSI MAX*** | |
| Part Name | | Part Number | | Job # | |
| Part Drawing Supplied <input type="checkbox"/> Yes <input type="checkbox"/> No | | Sample Supplied <input type="checkbox"/> Yes <input type="checkbox"/> No | | | |
| Wall Thickness of Part | | CAD Data Supplied <input type="checkbox"/> Yes <input type="checkbox"/> No | | | |
| Part Weight <input type="checkbox"/> Grams <input type="checkbox"/> Ounces | | Total Shot Weight <input type="checkbox"/> Grams <input type="checkbox"/> Ounces | | | |
| Runner Weight <input type="checkbox"/> Grams <input type="checkbox"/> Ounces | | | | | |
| Type of Quote Requested <input type="checkbox"/> M&C (system) <input type="checkbox"/> Hot Half - Plate Steel <input type="checkbox"/> #2 (standard) <input type="checkbox"/> 420SS <input type="checkbox"/> iControl | | | | | |
| Drop Spacing | | A= | | A1= | |
| Drop Spacing | | B= | | B1= | |
| Plate Width | | X= | | | |
| Plate Length | | Y= | | | |
| Molding Elevation | | L= | | | |
| # of Columns | | | | | |
| # of Rows | | | | | |
|  | | | | | |
| NOTES: | | | | | |

Table of Contents



Hot Runner Technology.....17-19
The best solution for precision thermoplastic micromolding



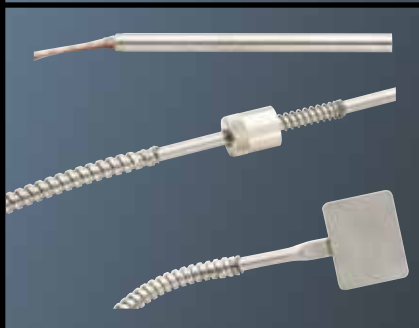
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Cost efficient and capable, the DME StellarONE gives you all you need in a melt delivery system at an economical price.



Stellar Micromolding Hot Runner Systems.....28-33
The best solution for precision thermoplastic micromolding.



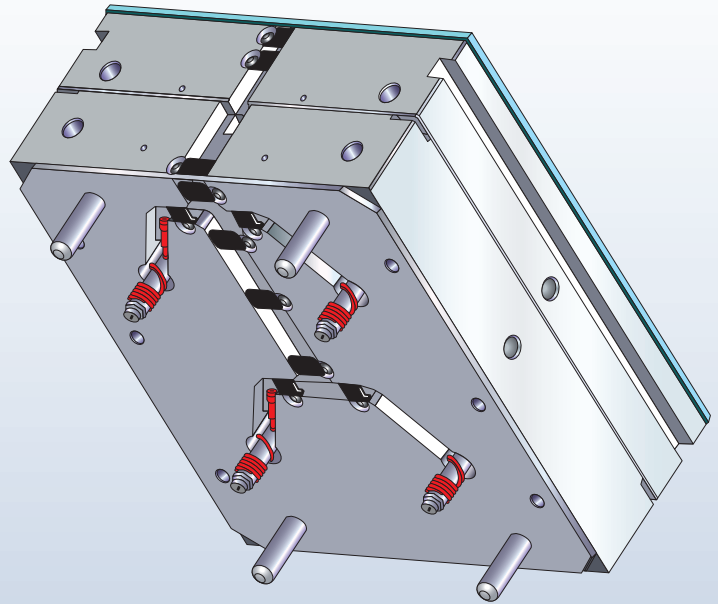
Hot One Nozzles.....34-60
A long-standing industry standard in user-friendliness and affordability.



Components: Heaters & Thermocouples47-52
Custom-configured manifolds, manifold and component systems, and complete hot half assemblies for quick delivery.

Hot Runner Technology

A LONG-STANDING
INDUSTRY STANDARD
IN USER-FRIENDLINESS
AND AFFORDABILITY

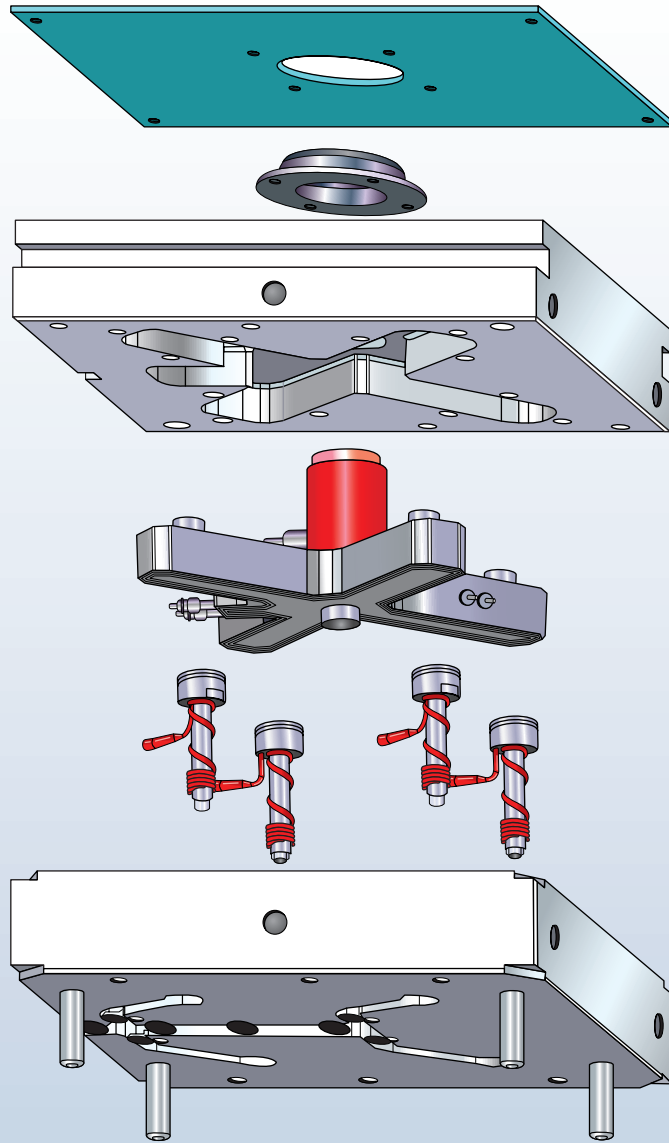


Features and Benefits

Our ongoing customer-driven philosophy has fostered many new and innovative systems and components, allowing you to take advantage of more than seven decades of leadership in injection molding technology. DME's Hot Runner Technology has become an industry standard in technology, user-friendliness, and affordability. Available in two styles – Manifold & Components and as a complete Hot Half System.

Tubular Heated Systems

Using exclusive, distributed wattage Tubular Heaters, the DME Hot Runner Systems can process many engineering grade resins. Tubular Heaters reduce the number of zones of heat required, providing the added benefit of lowering your temperature control costs.



DME's Hot Runner Technology has become an industry standard in technology, user-friendliness, and affordability. Available in two styles – Manifold & Components and as a complete Hot Half System.

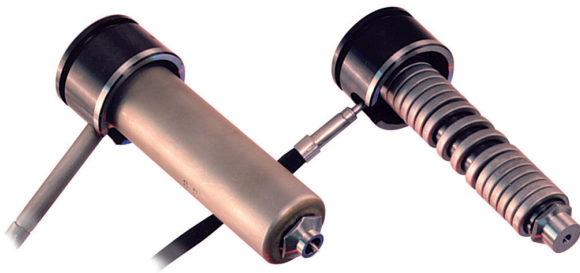
Nozzles

Each DME nozzle series has its own advantages and characteristics to meet your needs.

Stellar Nozzles



"CIA"/"EHA" Nozzles



Nozzles

The DME Hot One is accompanied by a nozzle offering that allows versatility in system selection to best suit the material and molded part configuration. DME offers different styles of nozzles: The "EHA" series, using square coil heaters and the "CIA" series, using replaceable, slip-on high performance heaters. Each nozzle series has its own characteristics and advantages.

For example, the "EHA" series of nozzles can be used for many applications using commodity resins with low crystallinity. The "CIA" series, with high performance heaters developed exclusively for DME, can be used for all applications, especially engineering grade resins with a high degree of crystallinity.

"EHA"/"CIA" Nozzle Tips



- **Sprue Gate/Extended Sprue Gate** – Used primarily in applications where gate vestige is not a concern. Offers minimal flow resistance and handles most resins very effectively. Extended style provides additional stock for machining of runner profiles or part contours.

- **Point Gate** – Used for applications needing optimum gate cosmetics, this tip can run a wide range of resins. It has two interchangeable needles, standard and wear resistant. The wear resistant needle is especially useful for abrasive or filled material applications.

- **Full Body Point Gate** – Used for low vestige, commodity grade resin applications. The Full Body Point Gate features a sealed tip for efficient shut-off at the parting line.

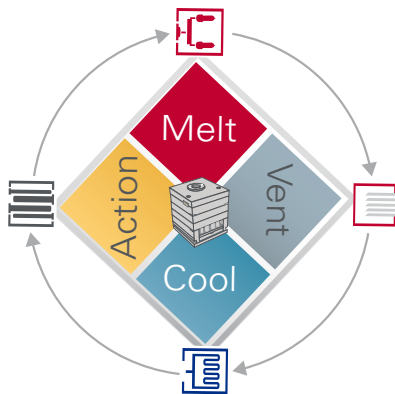
Ordering Options: Use this information and our design and machining guidelines to build your system, or take advantage of DME Applications Engineering services to help you select the system best suited to your requirements. Then, either order the steel and components to construct your system or let DME do all of the machining, assembly and wiring for you.

Solutions

THE BALANCED SOLUTION

Every plastic part is unique and requires a tailored solution.

The successful molding of a plastic part relies on the optimal balance of temperature and pressure. The ideal process integrates each element of the system from plastic pellet, design analysis, through the molding process, to the final molded part. It is this holistic approach to mold design and processing that differentiates DME from other hot runner companies.



We draw upon DME's years of technical application experience and wide breadth of advanced technologies to build high performance and reliable systems that enable you to reliably produce the perfect plastic part at the lowest possible cost.

 **DME**
HOTRunner

 **DME**
COOLING

 **DME**
VENTING
Solutions

 **DME**
HRService

 **DME**
Controllers

 **DME**
MOLD Bases

From pellet to part our designed system carefully balances thermal transfer and flow pressure, of even the most complex geometries, to generate high output quality parts.



The DME Molding Design Process

Reference for details to choose the optimal DME Hot Runner Technology
Hot Runner Selection Guide (see page 10)

or contact

Hot Runner Service via email - DME_Tech_Services@DME.net

Control Your Destiny

Precise temperature control and management are critical elements to successfully producing high quality parts. DME's Smart Series® Temperature Controller Systems deliver unparalleled performance for ALL hot runner systems. When combining the DME StellarONE hot runner system with a Smart Series Controller, the results are unmatched. User-friendly performance, Plug-And-Play system approach, Intuitive diagnostic software and System Optimization are just several features that allow all processors to fine tune and control the injection molding process.

The Smart Series Controller can be configured with standard features or can be built to suit valve gate control too! Available in both Hydraulic or Pneumatic, our valve gate control provides the user full management over the valve gate sequence, critical when molding complex or large parts. Same great features built on the same platform to deliver high quality molded parts.

Whether your molding a simple single cavity with PP or 96 cavities with a high-grade glass filled engineered resin we have the controller for you. DME understands not all applications require high end temp control however there are many that do. That's why we offer a wide range of Smart Series controllers from single zone push button to fully advanced 216 zones of control to meet your application needs.

The DME Smart Series blue box set the industry standard over 30 years ago and is still a reliable solution for many molding applications.



DME Mainframes: Available in 2, 5, 8, & 12-zones • Heavy-duty Welded Construction • RoHS/WEEE Compliant

TSM1512 MODULES: Color touch screen digital display providing readouts for: Actual Temperature, Current Mode, Percentage Power and Current Reading • Leak Alarm

SSM1512 Modules: Maintains simplicity of operation with simultaneous display of setpoint and temperature

ITSP Plus SmartSeries controller brings another level of sophistication and at the same time offer sa plug and play ease of use.

ITSP Plus (Touch Screen Panel) offers users friendly performance by utilizing an intuitive touch screen display. The controller automatically employs diagnostics to ensure optimal hardware configuration, easy startups, and continuously monitors for ground fault and current measurements. At the heart of each controller is a patented "all-in-one" control card designed for reliability, configured in a modular 6-zone per card/15 amps per zone, that can be field calibrated and with universal power supply the TSP is a snap to connect. All these features are wrapped in a robust high quality, compact, solid metal enclosure with heavy-duty industrial connectors making this controller and easy choice for your next application.



TempMaster M2 Superior Control To Maximize Molding Performance The TempMaster M2 controller offers the precision control needed to make perfect parts. All TempMaster controllers feature the NEW APS (Adaptive Process System) technology providing faster processing and response speed.



SVGP Pneumatic & SVG Hydraulic Sequential Valve Gate Controllers

The SVGP and SVG controllers provides the user with full control over valve gate flow sequence, critical when molding complex or large parts. All SVG(P) controllers feature the NEW APS (Adaptive Process System) technology providing faster processing and response speed. The sequential valve gate technology is integrated in a precise hot runner control unit with all available features or standalone unit and has been designed to easily connect to any valve gate system. Each controller provides precise filling control with performance graphs displaying time and position, with up to 4 steps per cycle. Each controller is able to accommodate for 2-shot applications as well.



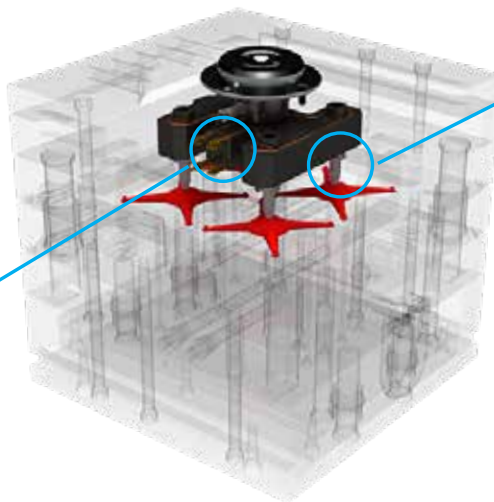
StellarONE

Key To A Balanced Thermal Dynamics System

A Global offering from DME, providing a common design platform no matter where your molds are built. This DME-Engineered solution is available as a Manifold & Components offering, or as a complete Hot Half, ready to interface with your cavity plate.

Cost efficient and capable, the DME StellarONE provides all you need in a melt delivery system at an economical price.

Global Manifold Systems



StellarONE RETHINKING MELT DELIVERY

Precision Temperature

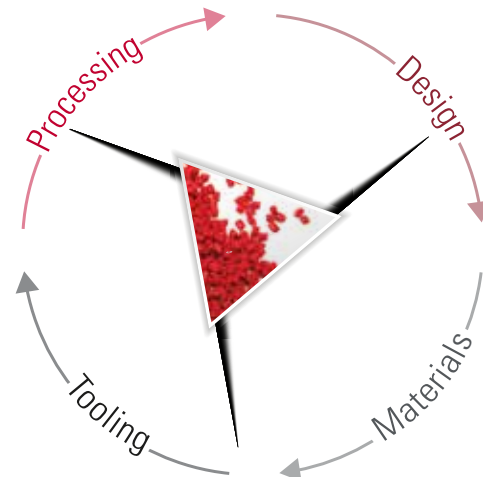
Our heat control technology offers stable heating with minimized loss. Direct heating via replaceable brass sleeve heaters for diffusion into the nozzle body. Thermocouples are ideally positioned for accurate temperature control, all serviceable within the molding machine. The result is an even temperature profile along the entire length of the nozzle guaranteeing high process reliability. The smart system balance allows for the use with a broad range of polymers.

More Processing Control

Accurate melt distribution from the barrel to the gate and throughout the cavity delivers consistent molding results. Our specially designed melt seal directly at the gate, ensures quick color change performance.

Extreme Durability

Our systems are built to perform through the life cycle of the tool 24/7. Our Hardened Nozzle body can handle melt pressures up to 20,000 psi.



StellarONE

Features:

- 6 different nozzles sizes to match your application requirements
- Tip styles include Bodiless, Full Body, Full Body with Extended Sprue, and Sprue Gate
- Available with Pneumatic or Hydraulic cylinders
- Actuation options include individual (sequential) or all open/all close
- Available for 2- to 32-drops, using a naturally balanced manifold flow path design

Benefits:

- Valve Gate style available for superior gate cosmetics, sequential part filling and the elimination of trimming and secondary operations
- Valve Gate Cylinder design allows removal/setting of Valve Pins without system disassembly
- Easily matched with DME Pneumatic or Hydraulic control systems
- Replacement/spare part availability in North America
- A value offering to provide a competitive edge over other manufacturers
- Designed, Manufactured and Supported by DME North America



Stellar Hot Runner Manifold Systems

StellarONE Hot Runner Manifold Systems are designed with balanced runner systems to maximize part productivity. The final design is based on process variables such as resin, shot size, gate vestige and overall system performance requirements.

- All Manifold systems come complete with: Tubular Heaters, Thermocouples, Titanium Pressure Pads, Manifold & Nozzle Locators to suit.
- All Manifold systems are supplied with full system drawings.
- Balanced Design: Thermal and geometric balancing provides uniform production, cavity to cavity.
- Turn-Key Systems: These are ready to install, eliminating the need for machining, wiring and testing the hot half.
- Tubular Heating Element: These provide excellent heat distribution throughout the manifold and standard replacement parts are available off the shelf for quick service
- Streamlined Flow Channels: To ensure optimized melt flow and come complete with fully radiused corners and plugs.
- Hardened Steel Construction: To provide a solid, stress-free foundation.
- Titanium Pressure Pads minimize heat transfer to the plates, ensuring a consistent and efficient heat profile.
- Mold flow analysis is available, on request, for all manifold inquiries.

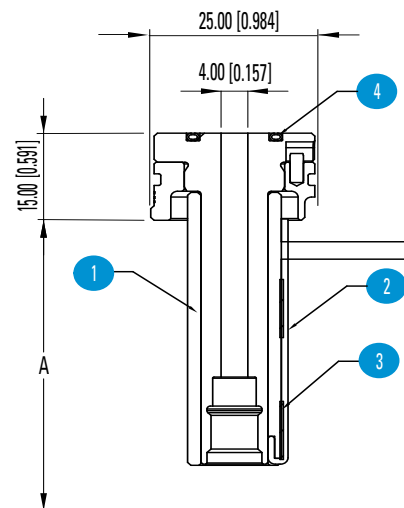


StellarONE

NOZZLE SUB-ASSEMBLIES

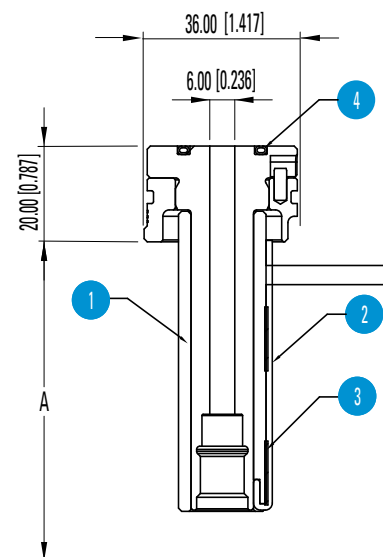
StellarONE-04 Series Nozzle Sub-Assembly

| A | 1 NOZZLE HEATER (230V) | WATTS | 2 TC | 3 TC RETAINER 2 PC. | 4 SEAL RING |
|-----|------------------------------|-------|-------------|---------------------------|----------------|
| 50 | SONH10047 | 180 | SOTC10150-J | SONHC04 | EHR7154 |
| 60 | SONH10057 | 250 | | | |
| 70 | SONH10067 | 250 | | | |
| 80 | SONH10077 | 250 | | | |
| 90 | SONH10087 | 250 | SOTC10200-J | | |
| 100 | SONH10097 | 250 | | | |
| 110 | SONH10107 | 260 | | | |
| 120 | SONH10117 | 270 | | | |
| 130 | SONH10127 | 280 | | | |
| 140 | SONH10137 | 290 | | | |
| 150 | SONH10147 | 300 | | | |



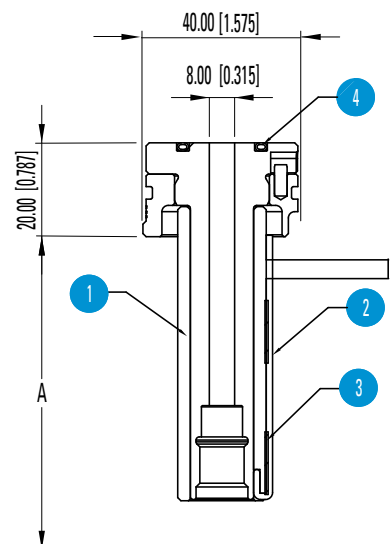
StellarONE-06 Series Nozzle Sub-Assembly

| A | 1 NOZZLE HEATER (230V) | WATTS | 2 TC | 3 TC RETAINER 2 PC | 4 SEAL RING |
|-----|------------------------------|-------|-------------|--------------------------|----------------|
| 50 | SONH18045 | 300 | SOTC10150-J | SONHC06 | EHR7154 |
| 60 | SONH18055 | 350 | | | |
| 70 | SONH18065 | 400 | | | |
| 80 | SONH18075 | 400 | | | |
| 90 | SONH18085 | 450 | SOTC10200-J | | |
| 100 | SONH18095 | 450 | | | |
| 120 | SONH18115 | 550 | | | |
| 140 | SONH18135 | 600 | | | |
| 160 | SONH18155 | 700 | SOTC10250-J | | |
| 180 | SONH18175 | 800 | | | |



StellarONE-08 Series Nozzle Sub-Assembly

| A | 1 NOZZLE HEATER (230V) | WATTS | 2 TC | 3 TC RETAINER 2 PC | 4 SEAL RING |
|-----|------------------------------|-------|-------------|--------------------------|----------------|
| 50 | SONH20045 | 350 | SOTC10150-J | SONHC08 | EHR7155 |
| 60 | SONH20055 | 350 | | | |
| 70 | SONH20065 | 400 | | | |
| 80 | SONH20075 | 400 | | | |
| 90 | SONH20085 | 450 | SOTC10200-J | | |
| 100 | SONH20095 | 450 | | | |
| 110 | SONH20105 | 450 | | | |
| 120 | SONH20115 | 550 | | | |
| 140 | SONH20135 | 600 | SOTC10250-J | | |
| 160 | SONH20155 | 650 | | | |
| 180 | SONH20175 | 700 | | | |

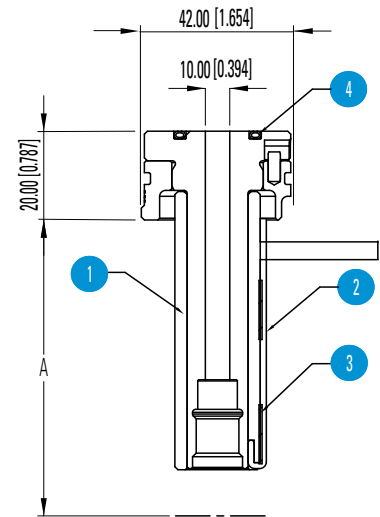


StellarONE

NOZZLE SUB-ASSEMBLIES

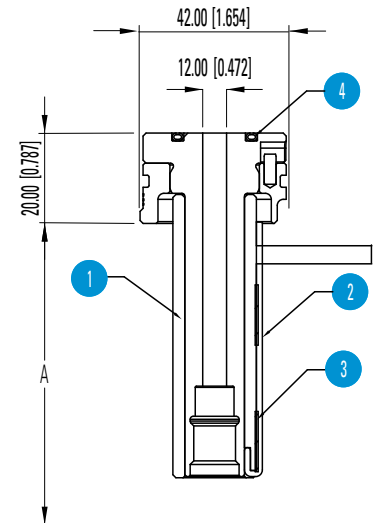
StellarONE-10 Series Nozzle Sub-Assembly

| A | 1 NOZZLE HEATER (230V)450 | WATTS | 2 TC | 3 TC RETAINER 2 PC. | 4 SEAL RING |
|-----|---------------------------------|-------|-------------|---------------------------|----------------|
| 50 | SONH22045 | 450 | SOTC10150-J | SONHC10 | EHR7155 |
| 60 | SONH22055 | 450 | | | |
| 70 | SONH22065 | 500 | | | |
| 80 | SONH22075 | 500 | | | |
| 90 | SONH22085 | 550 | SOTC10200-J | | |
| 100 | SONH22095 | 550 | | | |
| 110 | SONH22105 | 600 | | | |
| 120 | SONH22115 | 600 | | | |
| 140 | SONH22135 | 700 | SOTC10250-J | | |
| 160 | SONH22155 | 700 | | | |
| 180 | SONH22175 | 700 | | | |



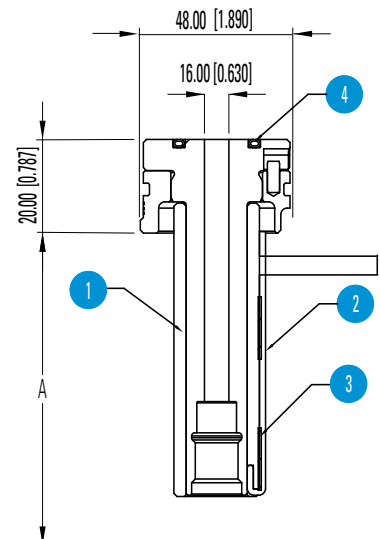
StellarONE-12 Series Nozzle Sub-Assembly

| A | 1 NOZZLE HEATER | WATTS | 2 TC | 3 TC RETAINER 2 PC. | 4 SEAL RING |
|-----|--------------------|-------|-------------|---------------------------|----------------|
| 50 | SONH24043 | 500 | SOTC10150-J | SONHC12 | EHR7001 |
| 60 | SONH24053 | 550 | | | |
| 70 | SONH24063 | 700 | | | |
| 80 | SONH24073 | 800 | | | |
| 90 | SONH24083 | 850 | SOTC10200-J | | |
| 100 | SONH24093 | 850 | | | |
| 110 | SONH24103 | 900 | | | |
| 120 | SONH24113 | 950 | | | |
| 140 | SONH24133 | 950 | SOTC10250-J | | |
| 160 | SONH24153 | 1000 | | | |
| 180 | SONH24173 | 1100 | | | |
| 200 | SONH24193 | 1100 | | | |



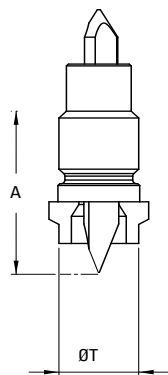
StellarONE-16 Series Nozzle Sub-Assembly

| A | 1 NOZZLE HEATER | WATTS | 2 TC | 3 TC RETAINER 2 PC. | 4 SEAL RING |
|-----|--------------------|-------|-------------|---------------------------|----------------|
| 70 | SONH28062 | 550 | SOTC10200-J | SONHC16 | EHR7156 |
| 80 | SONH28072 | 550 | | | |
| 90 | SONH28082 | 700 | | | |
| 100 | SONH28092 | 800 | | | |
| 120 | SONH28112 | 850 | | | |
| 140 | SONH28132 | 850 | | | |
| 160 | SONH28152 | 900 | SOTC10250-J | | |
| 180 | SONH28172 | 950 | | | |
| 200 | SONH28192 | 950 | | | |
| 220 | SONH28212 | 1000 | SOTC10350-J | | |
| 240 | SONH28232 | 1050 | | | |
| 260 | SONH28252 | 1050 | | | |
| 280 | SONH28272 | 1100 | | | |
| 300 | SONH28292 | 1100 | | | |



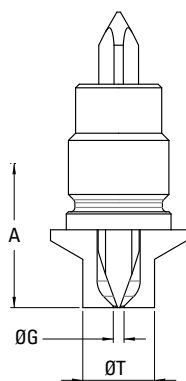
StellarONE Thermal Gate Tips

Point Gate (Bodiless)

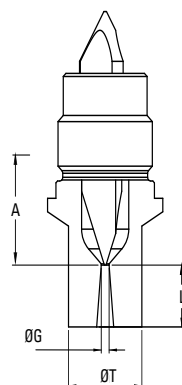


| SERIES | GATE TIP | ITEM NUMBER | INCLUDES | | T DIA. |
|---------------|----------------|-------------|--------------|-----------|--------|
| | | | NEEDLE | RETAINER | |
| StellarONE-04 | Standard | SOPGA04 | SOPGN0401 | SOBRT0401 | 8 |
| | Wear Resistant | SOPGA04-WR | SOPGN0401-WR | | |
| StellarONE-06 | Standard | SOPGA06 | SOPGN0601 | SOBRT0601 | 10 |
| | Wear Resistant | SOPGA06-WR | SOPGN0601-WR | | |
| StellarONE-08 | Standard | SOPGA08 | SOPGN0801 | SOBRT0801 | 12 |
| | Wear Resistant | SOPGA08-WR | SOPGN0801-WR | | |
| StellarONE-10 | Standard | SOPGA10 | SOPGN1001 | SOBRT1001 | 14 |
| | Wear Resistant | SOPGA10-WR | SOPGN1001-WR | | |
| StellarONE-12 | Standard | SOPGA12 | SOPGN1201 | SOBRT1201 | 16 |
| | Wear Resistant | SOPGA12-WR | SOPGN1201-WR | | |
| StellarONE-16 | Standard | SOPGA16 | SOPGN1601 | SOBRT1601 | 20 |
| | Wear Resistant | SOPGA16-WR | SOPGN1601-WR | | |

Point Gate (Full Body)

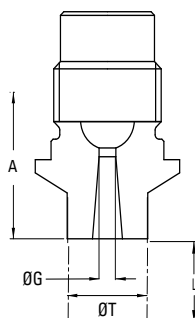


| SERIES | GATE TIP | ITEM NUMBER | INCLUDES | | G DIA. | T DIA. |
|---------------|----------------|-------------|--------------|-----------|--------|--------|
| | | | NEEDLE | RETAINER | | |
| StellarONE-04 | Standard | SOFBOP04 | SOPGN0401 | SOFRT0401 | 1.0 | 8 |
| | Wear Resistant | SOFBOP04-WR | SOPGN0401-WR | | | |
| StellarONE-06 | Standard | SOFBOP06 | SOPGN0601 | SOFRT0601 | 1.5 | 10 |
| | Wear Resistant | SOFBOP06-WR | SOPGN0601-WR | | | |
| StellarONE-08 | Standard | SOFBOP08 | SOPGN0801 | SOFRT0801 | 1.5 | 12 |
| | Wear Resistant | SOFBOP08-WR | SOPGN0801-WR | | | |
| StellarONE-10 | Standard | SOFBOP10 | SOPGN1001 | SOFRT1001 | 1.5 | 14 |
| | Wear Resistant | SOFBOP10-WR | SOPGN1001-WR | | | |
| StellarONE-12 | Standard | SOFBOP12 | SOPGN1201 | SOFRT1201 | 2.0 | 16 |
| | Wear Resistant | SOFBOP12-WR | SOPGN1201-WR | | | |
| StellarONE-16 | Standard | SOFBOP16 | SOPGN1601 | SOFRT1601 | 2.5 | 20 |
| | Wear Resistant | SOFBOP16-WR | SOPGN1601-WR | | | |

Point Gate
(Full Body Extended)

| SERIES | GATE TIP | ITEM NUMBER | INCLUDES | | G DIA. | T DIA. | L |
|---------------|----------------|---------------|--------------|-----------|--------|--------|----|
| | | | NEEDLE | RETAINER | | | |
| StellarONE-04 | Standard | SOFBOP04EX | SOPGN0401 | SOFRT0402 | 1.0 | 8 | 10 |
| | Wear Resistant | SOFBOP04EX-WR | SOPGN0401-WR | | | | |
| StellarONE-06 | Standard | SOFBOP06EX | SOPGN0601 | SOFRT0602 | 1.5 | 10 | 10 |
| | Wear Resistant | SOFBOP06EX-WR | SOPGN0601-WR | | | | |
| StellarONE-08 | Standard | SOFBOP08EX | SOPGN0801 | SOFRT0802 | 1.5 | 12 | 10 |
| | Wear Resistant | SOFBOP08EX-WR | SOPGN0801-WR | | | | |
| StellarONE-10 | Standard | SOFBOP10EX | SOPGN1001 | SOFRT1002 | 1.5 | 14 | 10 |
| | Wear Resistant | SOFBOP10EX-WR | SOPGN1001-WR | | | | |
| StellarONE-12 | Standard | SOFBOP12EX | SOPGN1201 | SOFRT1202 | 2.0 | 16 | 10 |
| | Wear Resistant | SOFBOP12EX-WR | SOPGN1201-WR | | | | |
| StellarONE-16 | Standard | SOFBOP16EX | SOPGN1601 | SOFRT1602 | 2.5 | 20 | 10 |
| | Wear Resistant | SOFBOP16EX-WR | SOPGN1601-WR | | | | |

Sprue Gate

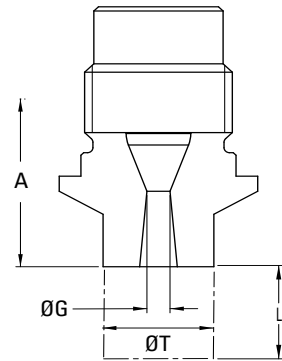


| Series | Gate Tip | Item Number | G DIA. | T DIA. | L |
|---------------|---------------------|-------------|--------|--------|----|
| StellarONE-04 | Sprue Gate | SOSRT0401 | 1.5 | 8 | NA |
| | Extended Sprue Gate | SOSRT0402 | | | 10 |
| StellarONE-06 | Standard | SOSRT0601 | 2 | 10 | NA |
| | Extended Sprue Gate | SOSRT0602 | | | 10 |
| StellarONE-08 | Standard | SOSRT0801 | 2.5 | 12 | NA |
| | Extended Sprue Gate | SOSRT0802 | | | 10 |
| StellarONE-10 | Standard | SOSRT1001 | 2.5 | 14 | NA |
| | Extended Sprue Gate | SOSRT1002 | | | 10 |
| StellarONE-12 | Standard | SOSRT1201 | 3.0 | 16 | NA |
| | Extended Sprue Gate | SOSRT1202 | | | 10 |
| StellarONE-16 | Standard | SOSRT1601 | 3.0 | 20 | NA |
| | Extended Sprue Gate | SOSRT1602 | | | 10 |

StellarONE Valve Gate Tips

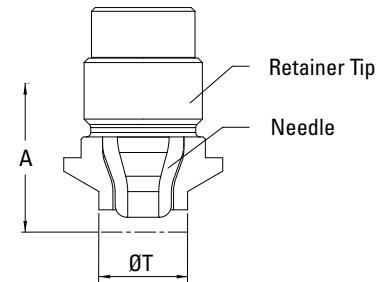
Valve Gate (Sprue Tip)

| SERIES | GATE TIP | ITEM NUMBER | G DIA. | T DIA. | L |
|---------------|---------------------|-------------|--------|--------|----|
| StellarONE-06 | Standard | SOSRT0603 | 1.5 | 10 | NA |
| | Extended Sprue Gate | SOSRT0604 | | | 10 |
| StellarONE-08 | Standard | SOSRT0803 | 2.5 | 12 | NA |
| | Extended Sprue Gate | SOSRT0804 | | | 10 |
| StellarONE-10 | Standard | SOSRT1003 | 2.5 | 14 | NA |
| | Extended Sprue Gate | SOSRT1004 | | | 10 |
| StellarONE-12 | Standard | SOSRT1203 | 4.0 | 16 | NA |
| | Extended Sprue Gate | SOSRT1204 | | | 10 |
| StellarONE-16 | Standard | SOSRT1603 | 5.0 | 20 | NA |
| | Extended Sprue Gate | SOSRT1604 | | | 10 |



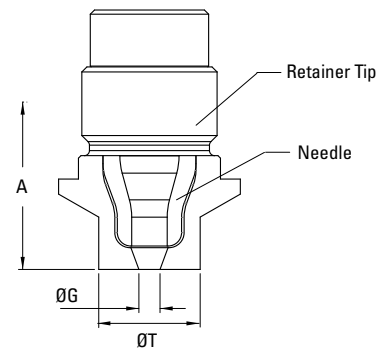
Valve Gate (Bodiless)

| SERIES | GATE TIP | ITEM NUMBER | INCLUDES | | T DIA. |
|---------------|----------------|-------------|--------------|-----------|--------|
| | | | NEEDLE | RETAINER | |
| StellarONE-06 | Standard | SOVGBA06 | SOVGN0601 | SOBRT0602 | 10 |
| | Wear Resistant | SOVGBA06-WR | SOVGN0601-WR | | |
| StellarONE-08 | Standard | SOVGBA08 | SOVGN0801 | SOBRT0802 | 12 |
| | Wear Resistant | SOVGBA08-WR | SOVGN0801-WR | | |
| StellarONE-10 | Standard | SOVGBA10 | SOVGN1001 | SOBRT1002 | 14 |
| | Wear Resistant | SOVGBA10-WR | SOVGN1001-WR | | |
| StellarONE-12 | Standard | SOVGBA12 | SOVGN1201 | SOBRT1202 | 16 |
| | Wear Resistant | SOVGBA12-WR | SOVGN1201-WR | | |
| StellarONE-16 | Standard | SOVGBA16 | SOVGN1601 | SOBRT1602 | 20 |
| | Wear Resistant | SOVGBA16-WR | SOVGN1601-WR | | |



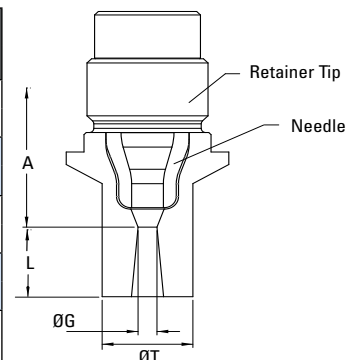
Valve Gate (Full Body)

| SERIES | GATE TIP | ITEM NUMBER | INCLUDES | | G DIA. | T DIA. |
|---------------|----------------|-------------|--------------|-----------|--------|--------|
| | | | NEEDLE | RETAINER | | |
| StellarONE-06 | Standard | SOVGFA06 | SOVGN0601 | SOFRT0603 | 1.5 | 10 |
| | Wear Resistant | SOVGFA06-WR | SOVGN0601-WR | | | |
| StellarONE-08 | Standard | SOVGFA08 | SOVGN0801 | SOFRT0803 | 2.5 | 12 |
| | Wear Resistant | SOVGFA08-WR | SOVGN0801-WR | | | |
| StellarONE-10 | Standard | SOVGFA10 | SOVGN1001 | SOFRT1003 | 2.5 | 14 |
| | Wear Resistant | SOVGFA10-WR | SOVGN1001-WR | | | |
| StellarONE-12 | Standard | SOVGFA12 | SOVGN1201 | SOFRT1203 | 4.0 | 16 |
| | Wear Resistant | SOVGFA12-WR | SOVGN1201-WR | | | |
| StellarONE-16 | Standard | SOVGFA16 | SOVGN1601 | SOFRT1603 | 5.0 | 20 |
| | Wear Resistant | SOVGFA16-WR | SOVGN1601-WR | | | |



Valve Gate (Full Body Extended)

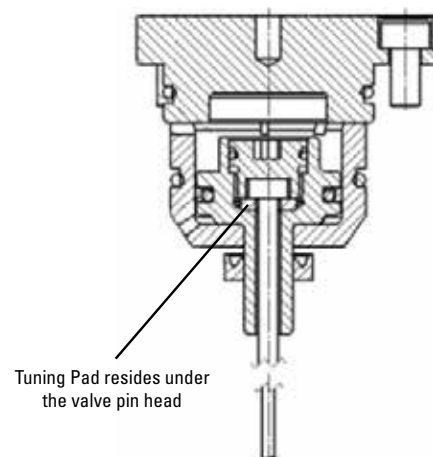
| SERIES | GATE TIP | ITEM NUMBER | INCLUDES | | G DIA. | T DIA. | L |
|---------------|----------------|---------------|--------------|-----------|--------|--------|----|
| | | | NEEDLE | RETAINER | | | |
| StellarONE-06 | Standard | SOVGFA06EX | SOVGN0601 | SOFRT0604 | 1.5 | 10 | 10 |
| | Wear Resistant | SOVGFA06EX-WR | SOVGN0601-WR | | | | |
| StellarONE-08 | Standard | SOVGFA08EX | SOVGN0801 | SOFRT0804 | 2.5 | 12 | 10 |
| | Wear Resistant | SOVGFA08EX-WR | SOVGN0801-WR | | | | |
| StellarONE-10 | Standard | SOVGFA10EX | SOVGN1001 | SOFRT1004 | 2.5 | 14 | 10 |
| | Wear Resistant | SOVGFA10EX-WR | SOVGN1001-WR | | | | |
| StellarONE-12 | Standard | SOVGFA12EX | SOVGN1201 | SOFRT1204 | 4.0 | 16 | 10 |
| | Wear Resistant | SOVGFA12EX-WR | SOVGN1201-WR | | | | |
| StellarONE-16 | Standard | SOVGFA16EX | SOVGN1601 | SOFRT1604 | 5.0 | 20 | 10 |
| | Wear Resistant | SOVGFA16EX-WR | SOVGN1601-WR | | | | |



StellarONE Cylinders & Valve Pins

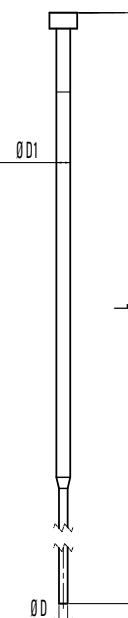
PNEUMATIC & HYDRAULIC CYLINDERS

| SERIES | D-DIA. REF. | SEAL KIT # | VALVE PIN TUNING PAD (Ø) |
|----------------------|-------------|------------|--------------------------|
| StellarONE-06 | | | |
| 30 Series-B | 70mm | SM30BSK | PTPSC30025A (Ø11.5) |
| StellarONE-08 | | | |
| 40 Series-B | 80mm | SM40BSK | PTPSC40025A (Ø12.0) |
| StellarONE-10 | | | |
| 50 Series-B | 92mm | SM50BSK | PTPSC50025A (Ø14.0) |
| StellarONE-12 | | | |
| 65 Series-A | 110mm | SM65ASK | PTPSC65025A (Ø16.0) |
| StellarONE-16 | | | |
| 80 Series-A | 128mm | SM80ASK | PTPSC80025A (Ø17.0) |

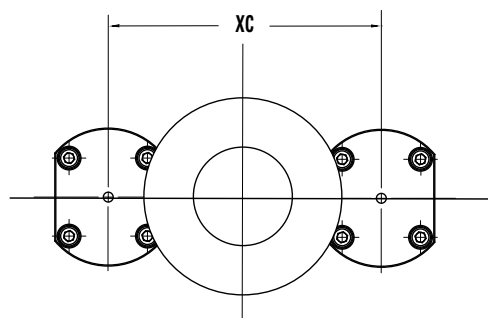


VALVE PINS

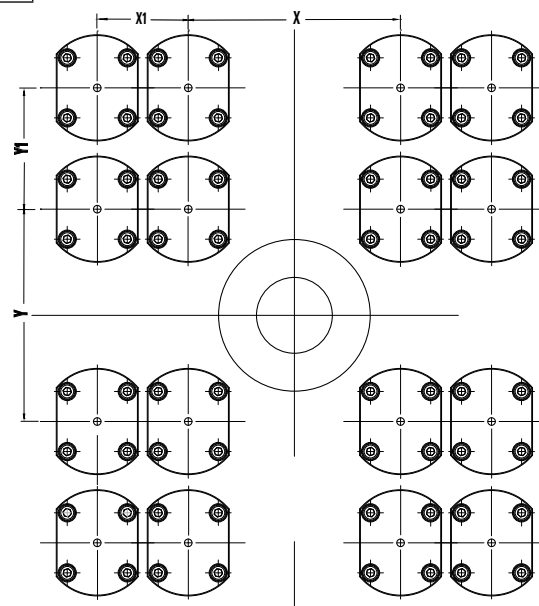
| PART NUMBER | Ø D | Ø D1 | L (MM) | TUNING PAD |
|-------------|-----|------|--------|-------------|
| P25VP40210A | 2.5 | 4 | 210 | PTPSC30025A |
| P25VP40260A | | | 260 | |
| P30VP40230A | 3 | | 230 | PTPSC40025A |
| P30VP40280A | | | 280 | |
| P37VP40250A | 3.7 | | 250 | PTPSC50025A |
| P37VP40280A | | | 280 | |
| P37VP40330A | | | 330 | |
| P57VP60270A | 5.7 | 6 | 270 | PTPSC65025A |
| P57VP60320A | | | 320 | |
| P57VP60370A | | | 370 | |
| P57VP60420A | | | 420 | |
| P57VP60450A | | | 450 | |
| P57VP80270A | 7.7 | 8 | 270 | PTPSC80025A |
| P57VP80320A | | | 320 | |
| P57VP80370A | | | 370 | |
| P57VP80420A | | | 420 | |
| P57VP80450A | | | 450 | |



MINIMUM DROP PITCH

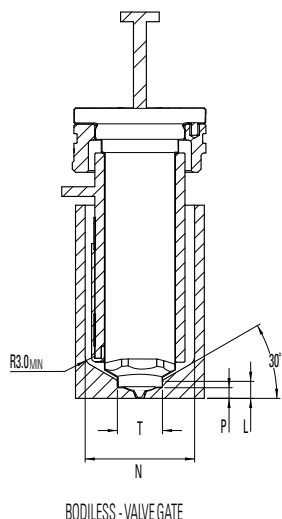


| VALVE GATE SERIES | X1 min | Y1 min | X min | Y min | XC |
|-------------------|--------|--------|-------|-------|-----|
| StellarONE-06 | 54 | 72 | 90 | 84 | 90 |
| StellarONE-08 | 61 | 82 | 98 | 92 | 98 |
| StellarONE-10 | 70 | 94 | 106 | 100 | 106 |
| StellarONE-12 | 86 | 112 | 118 | 112 | 118 |
| StellarONE-16 | 104 | 130 | 130 | 124 | 130 |

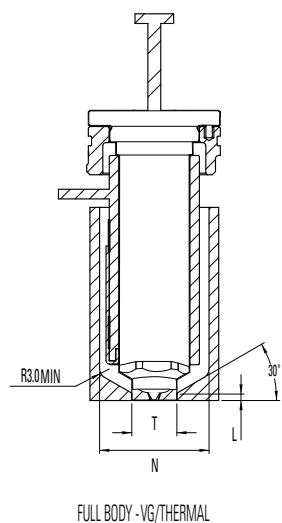


StellarONE Cylinders & Valve Pins

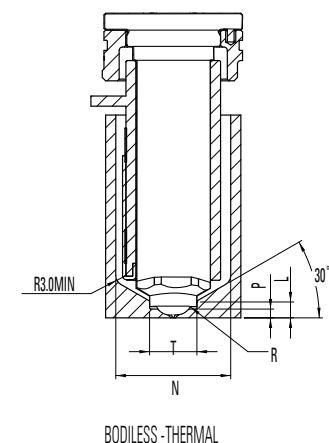
StellarONE Cylinders & Valve Pins



| VALVE GATE | L | N | P | T |
|---------------|-----|----|-----|----|
| StellarONE-06 | 5.6 | 30 | 3.1 | 10 |
| StellarONE-08 | 5.6 | 32 | 3.3 | 12 |
| StellarONE-10 | 5.6 | 34 | 3.3 | 14 |
| StellarONE-12 | 7.0 | 36 | 4.6 | 16 |
| StellarONE-16 | 7.5 | 42 | 4.6 | 20 |



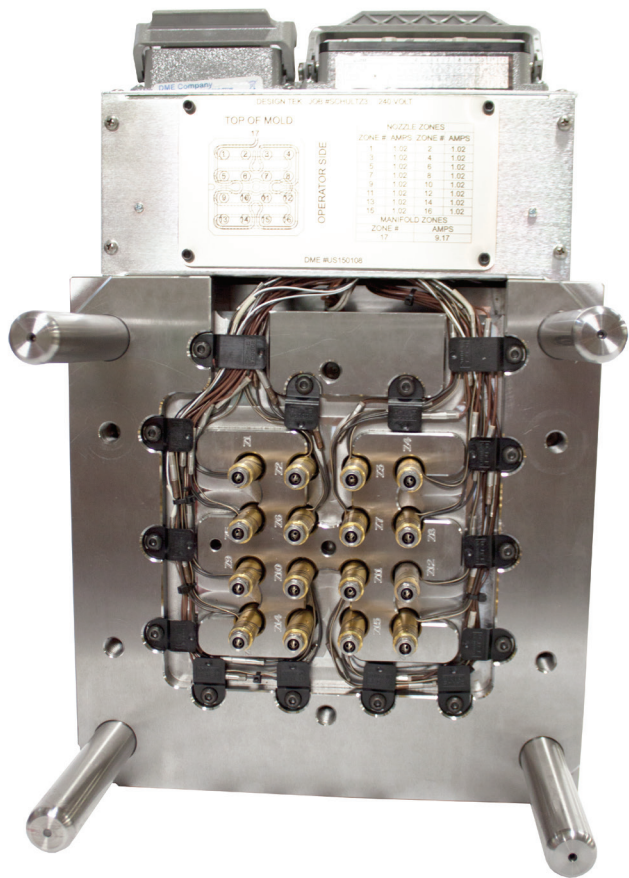
| VG/THERMAL | L | N | T |
|---------------|-----|----|----|
| StellarONE-04 | 3.0 | 18 | 8 |
| StellarONE-06 | 4.0 | 30 | 10 |
| StellarONE-08 | 4.0 | 32 | 12 |
| StellarONE-10 | 4.0 | 34 | 14 |
| StellarONE-12 | 4.0 | 36 | 16 |
| StellarONE-16 | 4.0 | 42 | 20 |



| THERMAL | L | N | P | R | T |
|---------------|-----|----|-----|------|----|
| StellarONE-04 | 4.7 | 18 | 2.6 | 3.5 | 8 |
| StellarONE-06 | 4.9 | 30 | 2.6 | 3.6 | 10 |
| StellarONE-08 | 5.0 | 32 | 2.6 | 5.5 | 12 |
| StellarONE-10 | 5.0 | 34 | 2.6 | 6.5 | 14 |
| StellarONE-12 | 7.0 | 36 | 4.6 | 7.0 | 16 |
| StellarONE-16 | 7.4 | 42 | 4.6 | 10.0 | 20 |

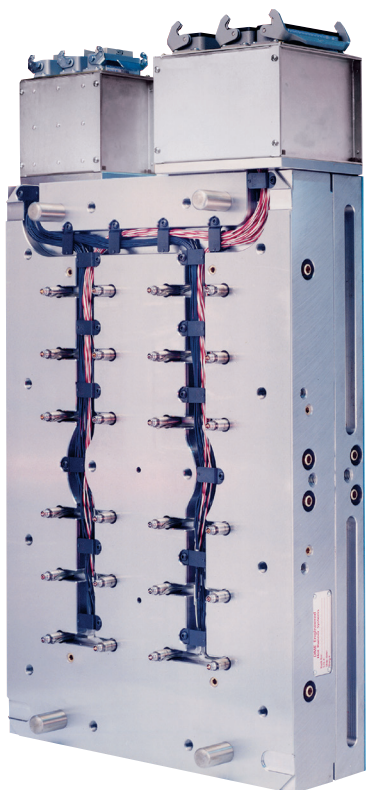
CAD data available at: www.DME.net/cad-data

Stellar Micromolding Hot Runner Systems



PROVEN SOLUTIONS FOR
PRECISION
THERMOPLASTIC
MICROMOLDING

Stellar Hot Runner Systems – Benefits



Engineered for the Challenges of Tight Pitch Molding

The DME Stellar™ Hot Runner System brings high performance, exacting precision and flexible, cost-effective modular construction to very small part molding. With as little as 17mm between centers, Stellar is also ideal for high-cavitation molding.

Demand the Best – Demand DME

DME has been a leader in mold technologies for seven decades. Nobody beats DME for quality products, quality service and quick delivery. Like all DME products, Stellar Hot Runner Systems come with your satisfaction 100% guaranteed.

Get the Modular Advantage

Stellar is based on new DME hot runner system architecture to deliver tremendous flexibility. Seven different “A” dimensions, two interchangeable tip options, and a choice of manifold styles enable DME to easily configure a Stellar solution that matches your application.



For a Wide Range of Applications

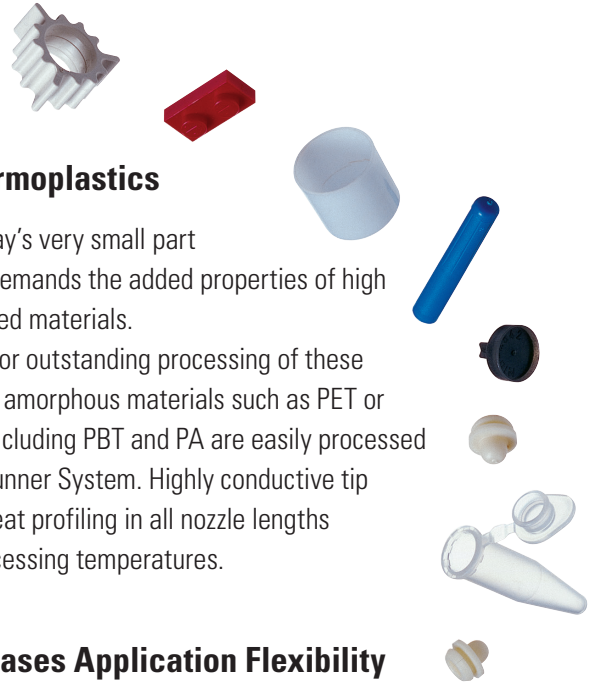
Stellar is perfect for today's rapidly expanding array of micromolding projects. Stellar was designed to perform in a broad spectrum of applications – including electrical, electronic, medical, and cosmetic packaging. And, Stellar was designed to process demanding engineering resins without property degradation.

Stellar Hot Runner Systems – Benefits



Excellent Results with Engineering Thermoplastics

The complexity of today's very small part molding applications demands the added properties of high performance engineered materials. Stellar was designed for outstanding processing of these materials. Challenging amorphous materials such as PET or crystalline materials including PBT and PA are easily processed with the Stellar Hot Runner System. Highly conductive tip designs and precise heat profiling in all nozzle lengths ensure consistent processing temperatures.



Modularity Increases Application Flexibility

The Stellar Hot Runner System from DME is built on a standardized architecture of modular components. Key features include:

- Seven different "A" dimensions from 65-145mm are available for compression style nozzles
- Two interchangeable tip styles – Point Gate and Sprue Gate
- High Performance Nozzle Heater with embedded thermocouple
- Two tip material choices, standard and high performance



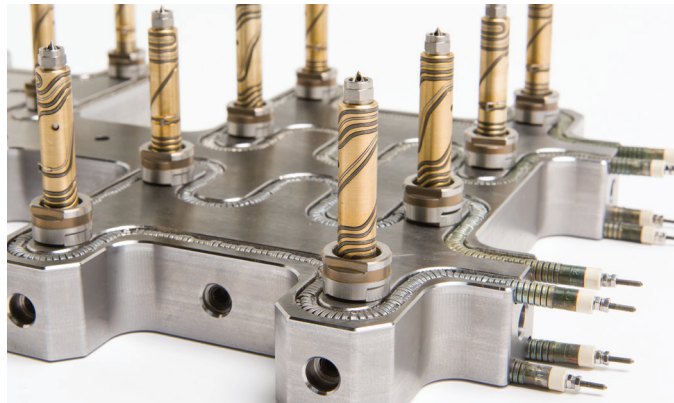
Stellar Hot Runner Systems Benefits

High Process Temperature Capability with Precision Heat Profiling

Today's engineered materials challenge hot runner systems with high processing temperatures – often with very narrow operating windows. Stellar hot runner nozzles utilize reliable profiled mini-tubular heaters to ensure optimal heat distribution. In addition, Stellar nozzles are engineered with low conductivity heads and high conductivity tips for consistent thermal performance.

Easy Serviceability – Right in the Machine

Productivity is especially critical when micromolding thousands of parts per hour. Every Stellar Hot Runner System can be rapidly serviced for maximum uptime. Nozzle tips, retainers, mini-tubular heaters and thermocouples are all front-loaded and easily replaced with the mold in the press.



Increase Productivity and Reduce Molding Costs With Stellar-Infused Quick-Change Systems

Now the production efficiencies of hot runner molding can be further enhanced when combined with a Master Unit Die (MUD) Quick-Change Frame. An unlimited number of different parts can be produced with this industry-leading combination of hot runners within a quick-change system because only the MUD Companion Insert Mold is swapped out. The MUD Frame/Hot Runner System remains in the mold.

Combining DME Hot Runners with MUD Quick-Change Systems provides many advantages to virtually any injection molding operation, including:

- Enables molders to use the same DME Hot Runner System with many different cavity and core configurations with MUD Companion Insert Molds
- Quickens production changeovers, often in as little as five minutes
- Provides cost justification for the Hot Runner System and/or the MUD Quick-Change System for multiple tooling projects
- Simplifies design with the use of the MUD Quick-Change Straps

Contact your DME representative or call us today to find out more about how the combination of a DME Hot Runner System and the MUD Quick-Change System will not only substantially increase your production efficiency but significantly reduce your molding costs. Many companies incorporate the DME hot runner/quick-change combo into their Lean initiatives.

Gating Style Selection

Gating Style Selection

Fig. 1 Standard Point Gate Tip Sub-Assembly, [SXG5110](#)

- For use with unfilled resins up to 290°C (550°F)

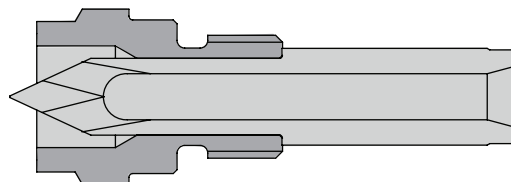


Fig. 2 High Performance Point Gate Tip Sub-Assembly, [SXG5020](#)

- For use with unfilled and filled resins up to 330°C (625°F)

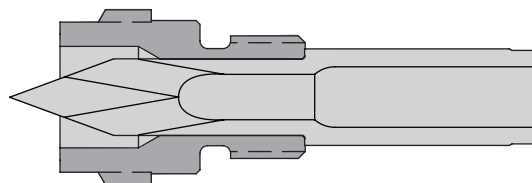


Fig. 3 Sprue Gate Tip, [SXT7040](#) - T=10mm

- For use with unfilled and filled resins up to 330°C (625°F)

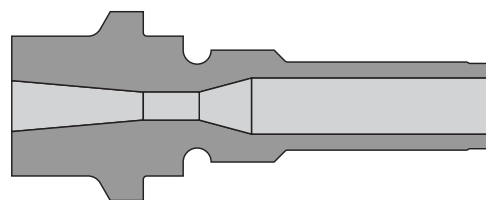


Fig. 4 Sprue Gate Tip, [SXT7140](#) - T=.750

- For use with unfilled and filled resins up to 330°C (625°F)

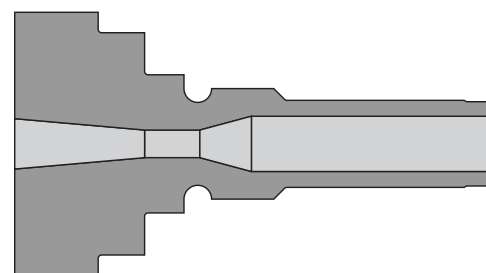


Table 1: Gating Style Item Numbers

| TIP SUB-ASSEMBLY ITEM NUMBER | DESCRIPTION | TIP ITEM NUMBER | TIP CTE (10-6/degC) | RETAINER ITEM NUMBER | GATING STYLE | APPLICABLE STELLAR SYSTEM |
|------------------------------|--|-----------------|---------------------|----------------------|--------------|---------------------------|
| SXG5110 | Standard Point Gate Tip Sub-Assembly | SXT4010 | 17.5 | SXF5100 | Point Gate | Standard |
| SXG5020 | High Performance Point Gate Tip Sub-Assembly | SXT5010 | 4.5 | SXF5000 | Point Gate | High Performance |
| N/A | Sprue Gate Tip | SXT7040 | 12.8 | N/A | Sprue Gate | All |
| N/A | Sprue Gate Tip | SXT7140 | 12.8 | N/A | Sprue Gate | All |

NOTE: All units are in mm.

Stellar Systems | Gate Details for use with Hardened Steel (50HRC min.)

Fig. 6 Gate Details for Standard Point Gate, High Performance Point Gate Tips (SXG5110 & SXG5020) For gating onto a flat surface or into a recess* ("dimple")

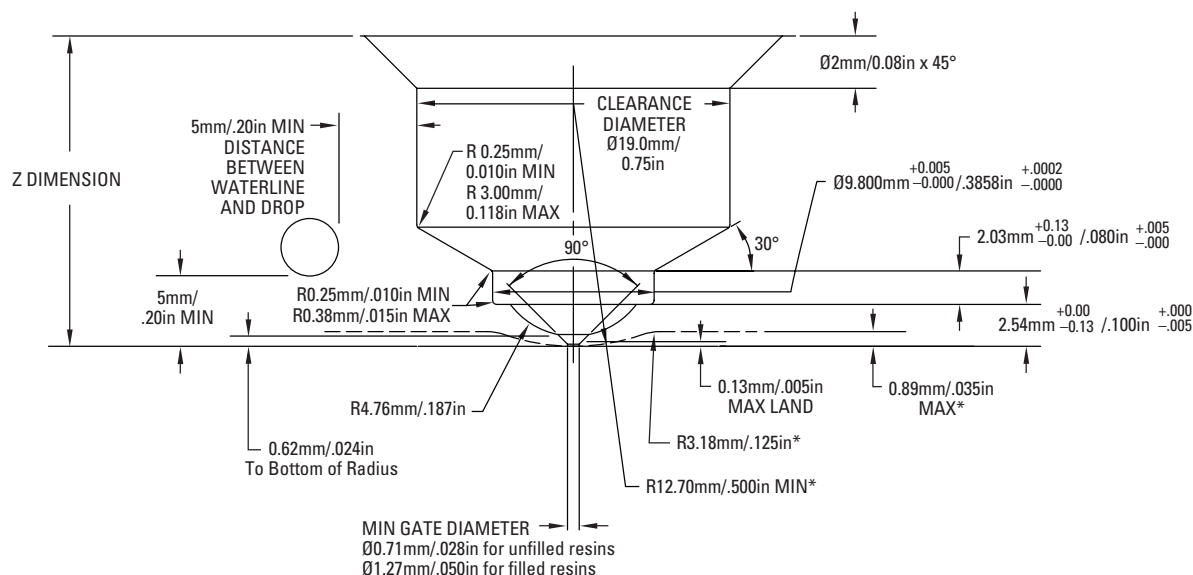
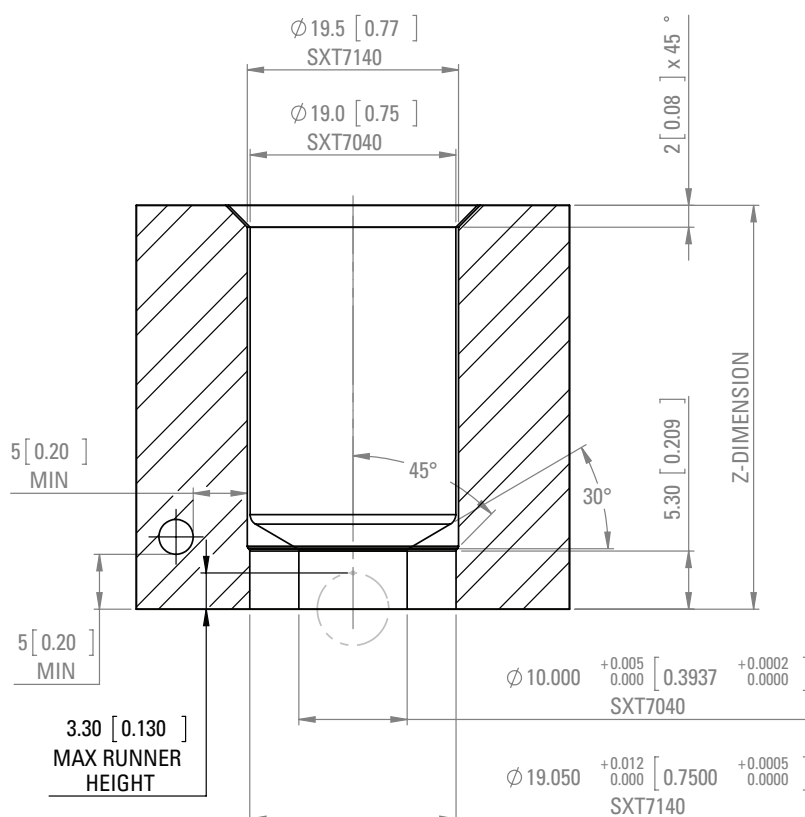


Fig. 7 Gate Details for Sprue Gate Tips, SXT7040 & SXT7140



1. If gate detail does not properly fit the application, contact DME for assistance about gate detail options.
2. Position gate detail within $\pm 0.013\text{mm}/.0005\text{in}$ from nominal.
3. The gate diameter can be opened by the customer to suit the application. (The land must be re-machined to the maximum dimension after increasing the gate diameter.)
4. Water lines are required in "A" plate for proper gate cooling.
5. Position water lines as close as possible but not closer than the minimum distance shown to provide a safe steel condition.
6. For faster color changes, remove ("decone") the resin from the front of each point gate tip prior to changing colors.
7. The minimum "Z" dimension is 13.00 and the maximum "Z" dimension is 115 for point gate and sprue gate tips.

Hot One Nozzles

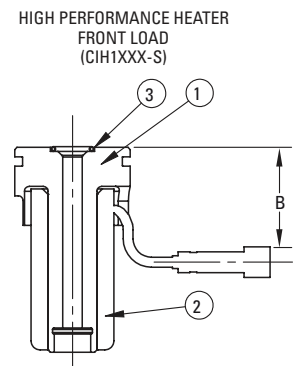
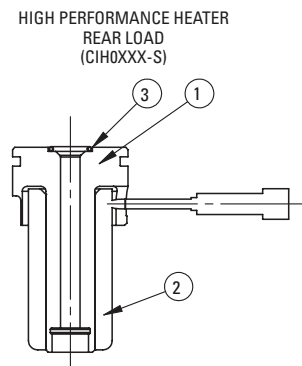
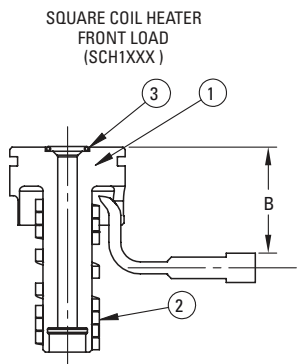
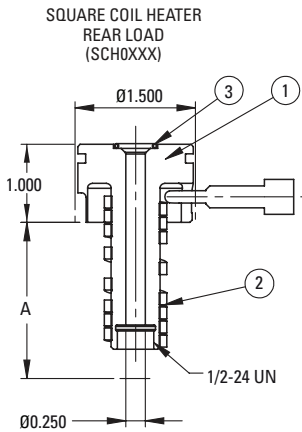


ENABLING VERSATILITY
IN SYSTEM SELECTION

250 Series Nozzles (.250 Diameter Flow Channel)

250 Series Nozzle Sub-Assembly

(Add .750 to A dimension for extended sprue gate and extended full body point gate tips.)



| A | B | SUB-ASSEMBLY ITEM NUMBER | 1 NOZZLE BODY | 2 HEATER | 3 SEAL RING |
|-------|-------|-----------------------------|------------------|-------------|----------------|
| 2.000 | — | EHA0001 | CIB1359 | SCH0081 | EHR7154 |
| | 1.250 | EHA1001 | | SCH1081 | |
| | — | CIA0001S | | CIH0081S | |
| | 1.250 | CIA1001S | | CIH1081S | |
| 2.500 | — | EHA0002 | CIB1360 | SCH0082 | |
| | 1.250 | EHA1002 | | SCH1082 | |
| | — | CIA0002S | | CIH0082S | |
| | 1.250 | CIA1002S | | CIH1082S | |
| 3.000 | — | EHA0003 | CIB1361 | SCH0083 | |
| | 1.250 | EHA1003 | | SCH1083 | |
| | — | CIA0003S | | CIH0083S | |
| | 1.250 | CIA1003S | | CIH1083S | |
| 3.500 | — | EHA0004 | CIB1362 | SCH0084 | |
| | 1.250 | EHA1004 | | SCH1084 | |
| | — | CIA0004S | | CIH0084S | |
| | 1.250 | CIA1004S | | CIH1084S | |
| 4.000 | — | EHA0005 | CIB1363 | SCH0085 | |
| | 1.250 | EHA1005 | | SCH1085 | |
| | — | CIA0005S | | CIH0085S | |
| | 1.250 | CIA1005S | | CIH1085S | |
| 5.000 | — | EHA0006 | CIB1364 | SCH0086 | |
| | 1.250 | EHA1006 | | SCH1086 | |
| | — | CIA0006S | | CIH0086S | |
| | 1.250 | CIA1006S | | CIH1086S | |
| 6.000 | — | EHA0007 | CIB1365 | SCH0087 | |
| | 1.250 | EHA1007 | | SCH1087 | |
| | — | CIA0007S | | CIH0087S | |
| | 1.250 | CIA1007S | | CIH1087S | |

WIRING INFORMATION:

Power leads are tan

Ground leads are green

Thermocouple leads are black and white

White is negative (-) and constantan (non-magnetic)

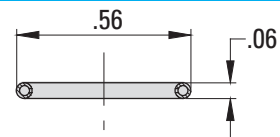
Black is positive (+) and iron (magnetic)

Replacement Seal Rings

Used between manifold and nozzle to prevent leakage. New seal rings must be installed each time manifold is assembled.

ITEM NUMBER

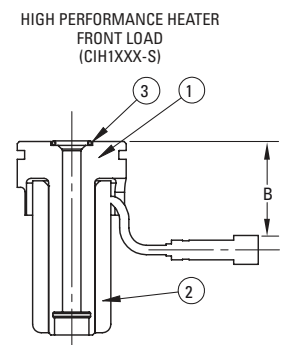
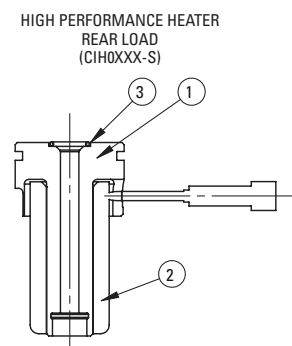
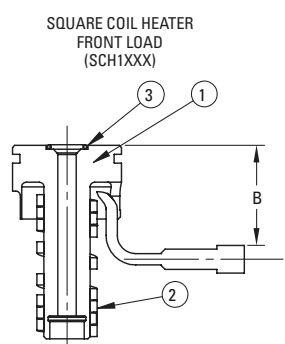
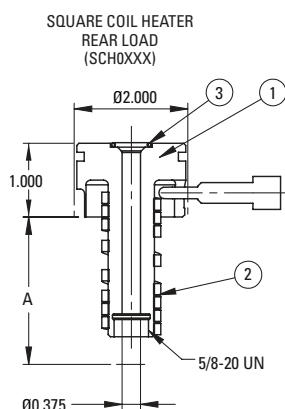
EHR7154



375 Series High Performance Nozzles (.375 Diameter Flow Channel)

375 Series Nozzle Sub-Assembly

(Add .750 to A dimension for extended sprue gate and extended full body point gate tips.)



| A | B | SUB-ASSEMBLY ITEM NUMBER | 1 NOZZLE BODY | 2 HEATER | 3 SEAL RING |
|-------|-------|-----------------------------|------------------|-------------|----------------|
| 2.000 | — | EHA0008 | CIB1366 | SCH0088 | EHR7155 |
| | 1.250 | EHA1008 | | SCH1088 | |
| | — | CIA0008S | | CIH0088S | |
| | 1.250 | CIA1008S | | CIH1088S | |
| 2.500 | — | EHA0009 | CIB1367 | SCH0089 | |
| | 1.250 | EHA1009 | | SCH1089 | |
| | — | CIA0009S | | CIH0089S | |
| | 1.250 | CIA1009S | | CIH1089S | |
| 3.000 | — | EHA0010 | CIB1368 | SCH0090 | |
| | 1.250 | EHA1010 | | SCH1090 | |
| | — | CIA0010S | | CIH0090S | |
| | 1.250 | CIA1010S | | CIH1090S | |
| 3.500 | — | EHA0011 | CIB1369 | SCH0091 | |
| | 1.250 | EHA1011 | | SCH1091 | |
| | — | CIA0011S | | CIH0091S | |
| | 1.250 | CIA1011S | | CIH1091S | |
| 4.000 | — | EHA0012 | CIB1370 | SCH0092 | |
| | 1.250 | EHA1012 | | SCH1092 | |
| | — | CIA0012S | | CIH0092S | |
| | 1.250 | CIA1012S | | CIH1092S | |
| 5.000 | — | EHA0013 | CIB1371 | SCH0093 | |
| | 1.250 | EHA1013 | | SCH1093 | |
| | — | CIA0013S | | CIH0093S | |
| | 1.250 | CIA1013S | | CIH1093S | |
| 6.000 | — | EHA0014 | CIB1372 | SCH0094 | |
| | 1.250 | EHA1014 | | SCH1094 | |
| | — | CIA0014S | | CIH0094S | |
| | 1.250 | CIA1014S | | CIH1094S | |
| 7.000 | — | EHA0015 | CIB1373 | SCH0095 | |
| | 1.250 | EHA1015 | | SCH1095 | |
| | — | CIA0015S | | CIH0095S | |
| | 1.250 | CIA1015S | | CIH1095S | |

WIRING INFORMATION:

Power leads are tan
Ground leads are green
Thermocouple leads are black and white

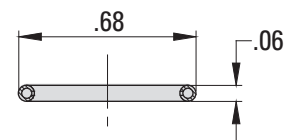
- White is negative (-) and constantan (non-magnetic)
- Black is positive (+) and iron (magnetic)

Replacement Seal Rings

Used between manifold and nozzle to prevent leakage. New seal rings must be installed each time manifold is assembled.

ITEM NUMBER

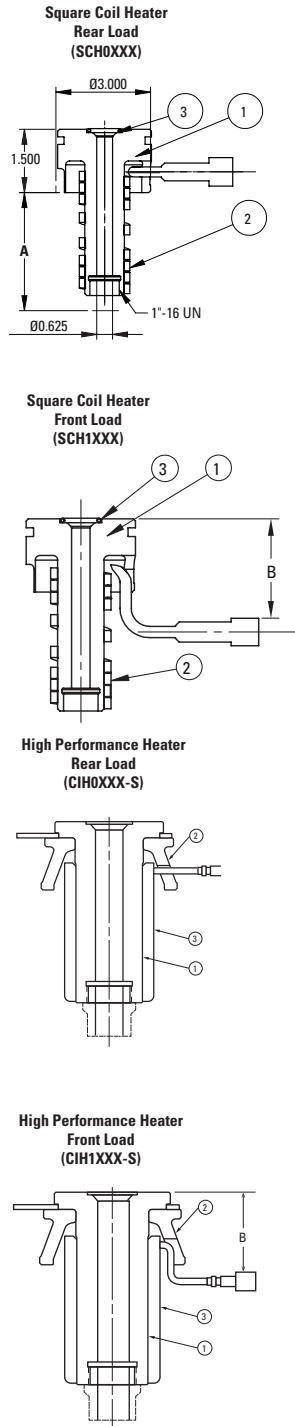
EHR7155



625 Series Nozzles (.625 Diameter Flow Channel)

625 Series Nozzle Sub-Assembly

(Add .750 to A dimension for extended sprue gate and extended full body point gate tips.)



| A | B | SUB-ASSEMBLY ITEM NUMBER | 1 NOZZLE BODY | 2 HEATER | 3 SEAL RING |
|--------|------|--------------------------|---------------|----------|-------------|
| 3.000 | — | CIA0023S | CIB1381 | CIH0104S | EHR7156 |
| | 1.75 | CIA1023S | | CIH1104S | |
| 4.000 | — | EHA0016 | EHB0074 | SCH0096 | |
| | 1.75 | EHA1016 | | SCH1096 | |
| | — | CIA0016S | CIB1374 | CIH0096S | |
| | 1.75 | CIA1016S | | CIH1096S | |
| 5.000 | — | EHA0017 | EHB0075 | SCH0097 | |
| | 1.75 | EHA1017 | | SCH1097 | |
| | — | CIA0017S | CIB1375 | CIH0097S | |
| | 1.75 | CIA1017S | | CIH1097S | |
| 6.000 | — | EHA0018 | EHB0076 | SCH0098 | |
| | 1.75 | EHA1018 | | SCH1098 | |
| | — | CIA0018S | CIB1376 | CIH0098S | |
| | 1.75 | CIA1018S | | CIH1098S | |
| 7.000 | — | EHA0019 | EHB0077 | SCH0099 | |
| | 1.75 | EHA1019 | | SCH1099 | |
| | — | CIA0019S | CIB1377 | CIH0099S | |
| | 1.75 | CIA1019S | | CIH1099S | |
| 8.000 | — | EHA0020 | EHB0078 | SCH0100 | |
| | 1.75 | EHA1020 | | SCH1100 | |
| | — | CIA0020S | CIB1378 | CIH0101S | |
| | 1.75 | CIA1020S | | CIH1101S | |
| 9.000 | — | EHA0021 | EHB0079 | SCH0101 | |
| | 1.75 | EHA1021 | | SCH1101 | |
| | — | CIA0021S | CIB1379 | CIH0102S | |
| | 1.75 | CIA1021S | | CIH1102S | |
| 10.000 | — | EHA0022 | EHB0080 | SCH0102 | |
| | 1.75 | EHA1022 | | SCH1102 | |
| | — | CIA0022S | CIB1380 | CIH0103S | |
| | 1.75 | CIA1022S | | CIH1103S | |

WIRING INFORMATION:

Power leads are tan
Ground leads are green
Thermocouple leads are black and white

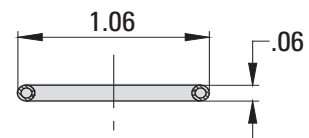
- White is negative (-) and constantan (non-magnetic)
- Black is positive (+) and iron (magnetic)

Replacement Seal Rings

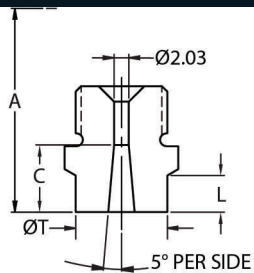
Used between manifold and nozzle to prevent leakage. New seal rings must be installed each time manifold is assembled.

ITEM NUMBER

EHR7156



Gate Tip Detail



Sprue Gate/Extended Sprue Gate

| SERIES | GATE TIP | ITEM NUMBER | B DIA. | T DIA. | L | C |
|--------|---------------------|-------------|--------|--------|-------|-------|
| 250 | SPRUE GATE | EHT0010 | .080 | .500 | .250 | .375 |
| | | EHT0011 | | .750 | | |
| | | EHT0012 | | 1.000 | | |
| | EXTENDED SPRUE GATE | EHT0013 | | .500 | 1.000 | 1.125 |
| | | EHT0014 | | .750 | | |
| | | EHT0015 | | 1.000 | | |
| 375 | SPRUE GATE | EHT0016 | .125 | .500 | .250 | .375 |
| | | EHT0017 | | .750 | | |
| | | EHT0018 | | 1.000 | | |
| | EXTENDED SPRUE GATE | EHT0019 | | .500 | 1.000 | 1.125 |
| | | EHT0020 | | .750 | | |
| | | EHT0021 | | 1.000 | | |
| 625 | SPRUE GATE | EHT0022 | .187 | 1.000 | .250 | .500 |
| | EXTENDED SPRUE GATE | EHT0023 | | | 1.000 | 1.250 |

Add .750 to A dimension for extended sprue gate tips.)

Point Gate (Bodiless)

| SERIES | GATE TIP | ITEM NUMBER | T DIA. | INCLUDES | |
|--------|----------------|-------------|--------|----------|--------------|
| | | | | NEEDLE | RETAINER TIP |
| 250 | STANDARD | EHT0005 | .375 | EHN0015 | EHT0024 |
| | | EHT1314 | | | EHT0324 |
| | WEAR RESISTANT | EHT1308 | | EHN0401 | EHT0324 |
| | | EHT1313 | | | EHT1324 |
| 375 | STANDARD | EHT0039 | .500 | EHN0016 | EHT0025 |
| | | EHT1312 | | | EHT0325 |
| | WEAR RESISTANT | EHT1303 | | EHN0400 | EHT1325 |
| | | EHT1309 | | | EHT0325 |
| | | EHT1306 | | | EHT1354 |
| | | EHT1311 | | | EHT0326 |
| 625 | STANDARD | EHT1307 | .625 | EHN0019 | EHT0326 |
| | | EHT1310 | | | EHT0326 |
| | WEAR RESISTANT | EHT1307 | | EHN0402 | EHT0326 |
| | | EHT1310 | | | EHT1354 |

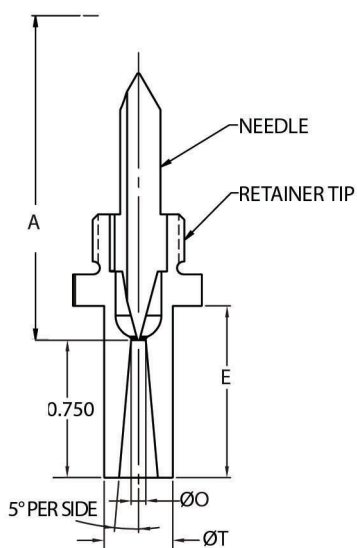
Point Gate (Full Body)

| SERIES | TYPE | ITEM NUMBER | T DIA. | O DIA. | E | INCLUDES | | | | | |
|--------|----------------|----------------|--------|---------|------|----------|--------------|---------|---------|---------|---------|
| | | | | | | NEEDLE | RETAINER TIP | | | | |
| 250 | STANDARD | EHT2001 | .375 | .060 | .187 | EHN0015 | EHT0026 | | | | |
| | | EHT2002 | | .080 | | | EHT0027 | | | | |
| | | EHT2003 | | .060 | | | EHT0028 | | | | |
| | | EHT2004 | | .080 | | | EHT0029 | | | | |
| | WEAR RESISTANT | EHT2005 | .375 | .060 | | EHN0401 | EHT1326 | | | | |
| | | EHT2006 | | .080 | | | EHT1327 | | | | |
| | | EHT2007 | | .060 | | | EHT1328 | | | | |
| | | EHT2008 | | .080 | | | EHT1329 | | | | |
| 375 | STANDARD | EHT2009 | .500 | .080 | .230 | EHN0016 | EHT0030 | | | | |
| | | EHT2010 | | .100 | | | EHT0031 | | | | |
| | | EHT2011 | | .750 | | | .080 | EHT0032 | | | |
| | | EHT2012 | | | | | .100 | EHT0033 | | | |
| | | EHT2013 | | | | | 1.000 | .080 | EHT0034 | | |
| | | EHT2014 | | | | | | .100 | EHT0035 | | |
| | | WEAR RESISTANT | | EHT2015 | | | | .500 | .080 | EHN0400 | EHT1330 |
| | | | | EHT2016 | | | | | .100 | | EHT1331 |
| | EHT2017 | | .080 | EHT1332 | | | | | | | |
| | EHT2018 | | .750 | .100 | | EHT1333 | | | | | |
| | EHT2019 | | 1.000 | .080 | | EHT1334 | | | | | |
| | EHT2020 | | | .100 | | EHT1335 | | | | | |
| | EHT2021 | | | 1.000 | | .125 | | EHN0019 | EHT0036 | | |
| | EHT2022 | | | | | | | EHN0402 | EHT1336 | | |

Point Gate (Full Body Extended)

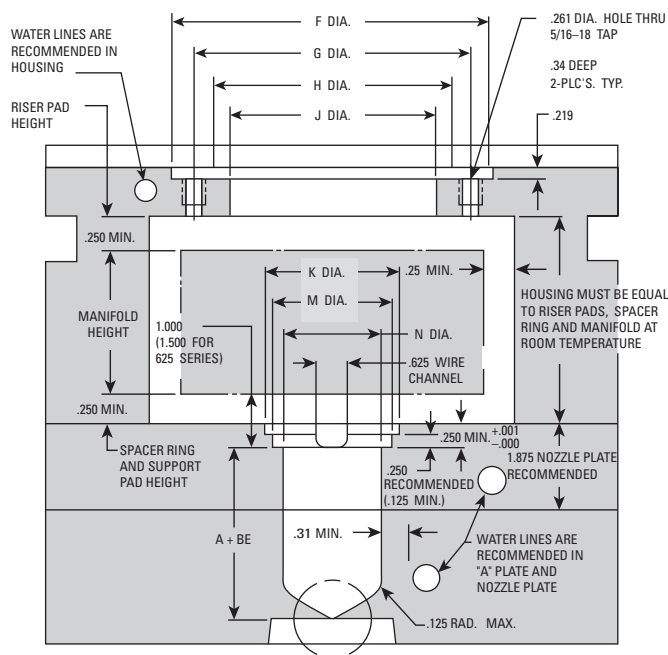
| SERIES | TYPE | ITEM NUMBER | T DIA. | O DIA. | E | INCLUDES | | | | | |
|--------|----------------|----------------|---------|---------|------|----------|--------------|-------|---------|---------|---------|
| | | | | | | NEEDLE | RETAINER TIP | | | | |
| 250 | STANDARD | EHT2301 | .375 | .060 | .938 | EHN0015 | EHT2326 | | | | |
| | | EHT2302 | | .080 | | | EHT2327 | | | | |
| | | EHT2303 | | .060 | | | EHT2328 | | | | |
| | | EHT2304 | | .080 | | | EHT2329 | | | | |
| | WEAR RESISTANT | EHT2305 | .375 | .060 | | EHN0401 | EHT2326 | | | | |
| | | EHT2306 | | .080 | | | EHT2327 | | | | |
| | | EHT2307 | | .060 | | | EHT2328 | | | | |
| | | EHT2308 | | .080 | | | EHT2329 | | | | |
| 375 | STANDARD | EHT2309 | .500 | .080 | .980 | EHN0016 | EHT2330 | | | | |
| | | EHT2310 | | .100 | | | EHT2331 | | | | |
| | | EHT2311 | | .080 | | | EHT2332 | | | | |
| | | EHT2312 | | .100 | | | EHT2333 | | | | |
| | | EHT2313 | | .080 | | | EHT2334 | | | | |
| | | EHT2314 | | .100 | | | EHT2335 | | | | |
| | | WEAR RESISTANT | | EHT2315 | | | .500 | .080 | EHN0400 | EHT2330 | |
| | | | | EHT2316 | | | | .100 | | EHT2331 | |
| | EHT2317 | | .080 | EHT2332 | | | | | | | |
| | EHT2318 | | .100 | EHT2333 | | | | | | | |
| | EHT2319 | | .080 | EHT2334 | | | | | | | |
| | EHT2320 | | 1.000 | .100 | | EHT2335 | | | | | |
| | STANDARD | | EHT2321 | 1.000 | | .125 | | 1.000 | | EHN0019 | EHT2336 |
| | | | EHT2322 | | | | | | | EHN0402 | |

| SERIES | THREAD TYPE |
|--------|-------------|
| 250 | 1/2-24 UN |
| 375 | 5/8-20 UN |
| 625 | 1"-16 UN |



Housing, Nozzle Plate and Gate Machining Dimensions Detail

Manifold Housing, Nozzle Plate, "A" Plate and Gate Machining Dimensions



LOCATING RING

| ITEM NUMBER | F DIA. | G DIA. | H DIA. | J DIA. |
|-------------|--------|--------|--------|--------|
| EHL0252 | 4.000 | 3.312 | 3.000 | 2.500 |
| EHL0253 | 5.500 | 4.625 | 4.000 | 3.750 |
| EHL0254 | 4.000 | 3.312 | 3.000 | 2.500 |
| EHL0255 | 5.500 | 4.625 | 4.000 | 3.750 |

Manifold housing and insulator sheet are to be same width and length as mold base. Height of manifold housing to vary with stackup of manifold, riser pads and spacer rings.

NOZZLES

| SERIES | K DIA. | $\pm .001$ -.000 M DIA. | N DIA. MIN for SQ. COIL | N DIA. MIN for HIGH PERFORMANCE |
|--------|--------|-------------------------------|----------------------------|------------------------------------|
| 250 | 1.56 | 1.501 | 1.062 | 1.187 |
| 375 | 2.06 | 2.001 | 1.250 | 1.437 |
| 625 | 3.06 | 3.001 | 1.875 | 2.125 |

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

Formula for determining this expansion factor is as follows:

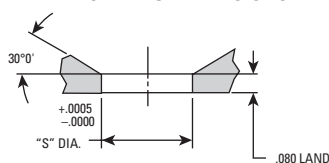
$BE = "A" \text{ dimension} \times .0000633 \times \text{nozzle setpoint temp} - 68^\circ (\text{assuming the mold is at } 68^\circ\text{F during operation}).$ If mold temperature is different, substitute 68°F with actual mold temperature.

EXAMPLE: Given a 3 inch "A" dimension, with a nozzle setpoint temp. of 500° :

$BE = 3 \times .0000633 \times (500 - 68) = .008 \dots$ thus $A + BE = 3.008$.

The above information is only given as an example. Variations may occur based on mold configurations and cooling factor. In some instances, it may be necessary to obtain an empirical factor.

SPRUE AND POINT GATE (FULL BODY) MACHINING DIMENSIONS

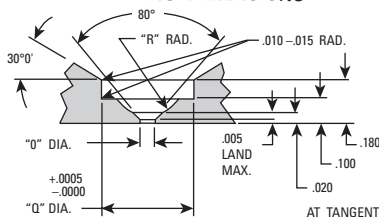


NOTE: Extended sprue length will add .750 to land.

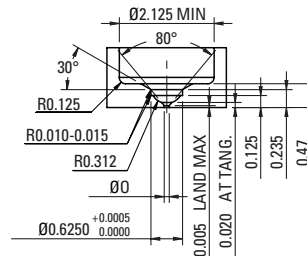
| SERIES | T DIA. | S DIA. |
|-------------|--------|--------|
| 250 AND 375 | .375 | .3755 |
| | .500 | .5005 |
| | .750 | .7505 |
| | 1.000 | 1.0005 |
| 625 | 1.000 | 1.0005 |

*250 Point Gate (Full Body) only.

250 & 375 SERIES POINT GATE (BODILESS) MACHINING DIMENSIONS



625 SERIES POINT GATE (BODILESS) MACHINING DIMENSIONS

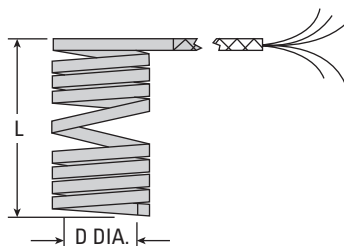


| SERIES NOZZLE | O DIA. | | Q DIA. | R RAD. |
|---------------|----------------|--------------|--------|--------|
| | UNFILLED RESIN | FILLED RESIN | | |
| 250 | .028 MIN. | .060 MIN. | .3750 | .125 |
| 375 | .028 MIN. | .060 MIN. | .5000 | .187 |
| 625 | .080 MIN. | .100 MIN. | .6250 | .312 |

NOTE: The "O" diameter can be opened by the customer to suit the application. Also the land must be remachined to .005 max. after increasing the gate diameter.

Replacement Nozzle Heater Detail

Replacement Square Coil Nozzle Heater

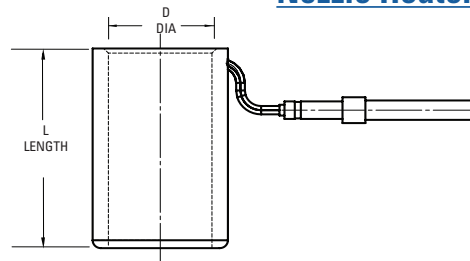


250, 375 AND 625 NOZZLE HEATER 240 VAC, T/C TYPE "J", 36" LONG

WIRING INFORMATION:

- Power leads are black
Ground lead is green
Thermocouple leads are black and white
- White is negative (-) and constantan (non-magnetic)
 - Black is positive (+) and iron (magnetic)

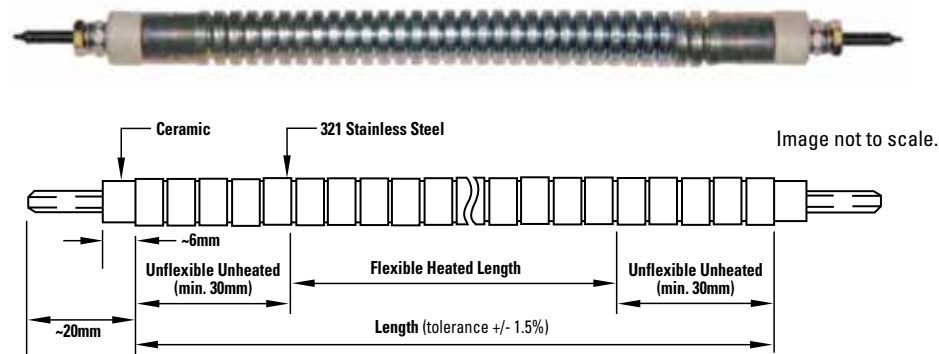
Replacement High Performance Nozzle Heater



| SERIES | ITEM NUMBER | D DIA. NOMINAL NOZZLE | L DIM. | WATTS | USED WITH NOZZLE SUB-ASSEMBLY |
|--------|-------------|-----------------------|--------|-------|-------------------------------|
| 250 | SCH0081 | .625 | 2.000 | 300 | EHA0001 |
| | SHC1081 | | | | EHA1001 |
| | SCH0082 | | 2.500 | 350 | EHA0002 |
| | SCH1082 | | | | EHA1002 |
| | SCH0083 | | 3.000 | 400 | EHA0003 |
| | SCH1083 | | | | EHA1003 |
| | SCH0084 | | 3.500 | 425 | EHA0004 |
| | SCH1084 | | | | EHA1004 |
| | SCH0085 | | 4.000 | 500 | EHA0005 |
| | SCH1085 | | | | EHA1005 |
| | SCH0086 | | 5.000 | 500 | EHA0006 |
| | SCH1086 | | | | EHA1006 |
| | SCH0087 | | 6.000 | 550 | EHA0007 |
| | SCH1087 | | | | EHA1007 |
| 375 | SCH0088 | .875 | 2.125 | 400 | EHA0008 |
| | SCH1088 | | | | EHA1008 |
| | SCH0089 | | 2.625 | 450 | EHA0009 |
| | SCH1089 | | | | EHA1009 |
| | SCH0090 | | 3.125 | 550 | EHA0010 |
| | SCH1090 | | | | EHA1010 |
| | SCH0091 | | 3.625 | 700 | EHA0011 |
| | SCH1091 | | | | EHA1011 |
| | SCH0092 | | 4.125 | 800 | EHA0012 |
| | SCH1092 | | | | EHA1012 |
| | SCH0093 | | 5.125 | 900 | EHA0013 |
| | SCH1093 | | | | EHA1013 |
| | SCH0094 | | 6.125 | 1000 | EHA0014 |
| | SCH1094 | | | | EHA1014 |
| 625 | SCH0095 | 1.500 | 7.125 | 1100 | EHA0015 |
| | SCH1095 | | | | EHA1015 |
| | SCH0096 | | 4.000 | 1000 | EHA0016 |
| | SCH1096 | | | | EHA1016 |
| | SCH0097 | | 5.000 | 1030 | EHA0017 |
| | SCH1097 | | | | EHA1017 |
| | SCH0098 | | 6.000 | 1100 | EHA0018 |
| | SCH1098 | | | | EHA1017 |
| | SCH0099 | | 7.000 | 1000 | EHA0019 |
| | SCH1099 | | | | EHA1019 |
| | SCH0100 | | 8.000 | 1200 | EHA0020 |
| | SCH1100 | | | | EHA1020 |
| | SCH0101 | | 9.000 | 1200 | EHA0021 |
| | SCH1101 | | | | EHA1021 |
| | SCH0102 | | 10.000 | 1200 | EHA0022 |
| | SCH1102 | | | | EHA1022 |

| SERIES | ITEM NUMBER | D DIA. NOMINAL NOZZLE | L DIM. | WATTS | USED WITH NOZZLE SUB-ASSEMBLY |
|--------|-------------|-----------------------|--------|-------|-------------------------------|
| 250 | CIH0081S | .625 | 2.000 | 440 | CIA0001S |
| | CIH1081S | | | | CIA1001S |
| | CIH0082S | | 2.500 | 350 | CIA0002S |
| | CIH1082S | | | | CIA1002S |
| | CIH0083S | | 3.000 | 400 | CIA0003S |
| | CIH1083S | | | | CIA1003S |
| | CIH0084S | | 3.500 | 565 | CIA0004S |
| | CIH1084S | | | | CIA1004S |
| | CIH0085S | | 4.000 | 500 | CIA0005S |
| | CIH1085S | | | | CIA1005S |
| | CIH0086S | | 5.000 | 500 | CIA0006S |
| | CIH1086S | | | | CIA1006S |
| | CIH0087S | | 6.000 | 550 | CIA0007S |
| | CIH1087S | | | | CIA1007S |
| 375 | CIH0088S | .875 | 2.125 | 400 | CIA0008S |
| | CIH1088S | | | | CIA1008S |
| | CIH0089S | | 2.625 | 450 | CIA0009S |
| | CIH1089S | | | | CIA1009S |
| | CIH0090S | | 3.125 | 550 | CIA0010S |
| | CIH1090S | | | | CIA1010S |
| | CIH0091S | | 3.625 | 700 | CIA0011S |
| | CIH1091S | | | | CIA1011S |
| | CIH0092S | | 4.124 | 800 | CIA0012S |
| | CIH1092S | | | | CIA1012S |
| | CIH0093S | | 5.125 | 900 | CIA0013S |
| | CIH1093S | | | | CIA1013S |
| | CIH0094S | | 6.125 | 1000 | CIA0014S |
| | CIH1094S | | | | CIA1014S |
| 625 | CIH0095S | 1.500 | 7.125 | 1100 | CIA0015S |
| | CIH1095S | | | | CIA1015S |
| | CIH0104S | | 3.038 | 847 | CIA0023S |
| | CIH1104S | | | | CIA1023S |
| | CIH0096S | | 4.038 | 1000 | CIA0016S |
| | CIH1096S | | | | CIA1016S |
| | CIH0097S | | 5.038 | 1030 | CIA0017S |
| | CIH1097S | | | | CIA1017S |
| | CIH0098S | | 6.038 | 1100 | CIA0018S |
| | CIH1098S | | | | CIA1018S |
| | CIH0099S | | 7.038 | 1000 | CIA0019S |
| | CIH1099S | | | | CIA1019S |
| | CIH0101S | | 8.038 | 1200 | CIA0020S |
| | CIH1101S | | | | CIA1020S |
| | CIH0102S | | 9.038 | 1200 | CIA0021S |
| | CIH1102S | | | | CIA1021S |
| | CIH0103S | | 10.038 | 1200 | CIA0022S |
| | CIH1103S | | | | CIA1022S |

Standard Global Manifold Replacement Heaters

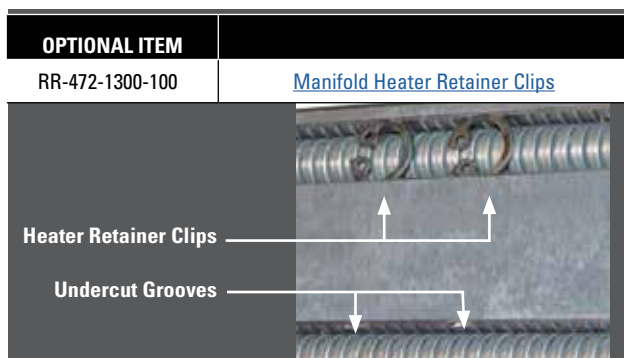


DME Manifold Flexible Replacement Heaters

6.5 & 8.0mm diameter. Operating voltage 230 Volt. Threaded pins on both ends.

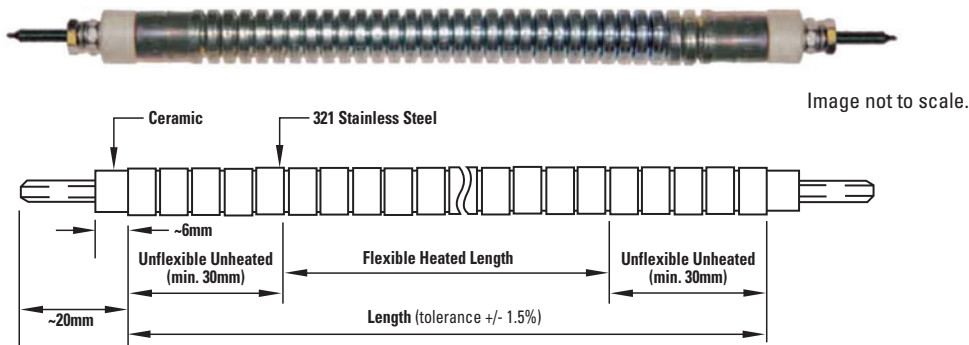
| 6.5MM FLEXIBLE TUBULAR HEATERS | | |
|--------------------------------|-------------|---------|
| ITEM NO. | LENGTH (mm) | WATTAGE |
| HFL650300 | 300 | 480 |
| HFL650350 | 350 | 480 |
| HFL650400 | 400 | 500 |
| HFL650450 | 450 | 600 |
| HFL650500 | 500 | 700 |
| HFL650550 | 550 | 700 |
| HFL650600 | 600 | 860 |
| HFL650650 | 650 | 950 |
| HFL650700 | 700 | 1000 |
| HFL650750 | 750 | 1100 |
| HFL650800 | 800 | 1100 |

| 8.0MM HIGH-WATT FLEXIBLE TUBULAR HEATERS | | |
|--|-------------|---------|
| ITEM NO. | LENGTH (mm) | WATTAGE |
| HFH8030 | 300 | 605 |
| HFH8035 | 350 | 675 |
| HFH8040 | 400 | 795 |
| HFH8045 | 450 | 910 |
| HFH8050 | 500 | 1025 |
| HFH8055 | 550 | 1145 |
| HFH8060 | 600 | 1260 |
| HFH8065 | 650 | 1380 |
| HFH8070 | 700 | 1495 |
| HFH8075 | 750 | 1615 |
| HFH8080 | 800 | 1730 |
| HFH8085 | 850 | 1845 |
| HFH8090 | 900 | 1960 |
| HFH8095 | 950 | 2080 |
| HFH8100 | 1000 | 2195 |
| HFH8105 | 1050 | 2316 |
| HFH8110 | 1100 | 2430 |
| HFH8115 | 1150 | 2545 |
| HFH8120 | 1200 | 2665 |
| HFH8125 | 1250 | 2780 |
| HFH8130 | 1300 | 2895 |
| HFH8135 | 1350 | 3015 |
| HFH8140 | 1400 | 3130 |
| HFH8145 | 1450 | 3245 |
| HFH8150 | 1500 | 3365 |



Replacing a DME Manifold Flexible Tubular Heater may also require the replacement of retaining rings that hold the heater in place. After installing the manifold heater, insert a retaining ring into each of the existing undercut grooves in the manifold. Use a brass hammer to lightly tap a small piece of brass and each retaining ring to secure the manifold heater.

Standard Global Manifold Replacement Heaters



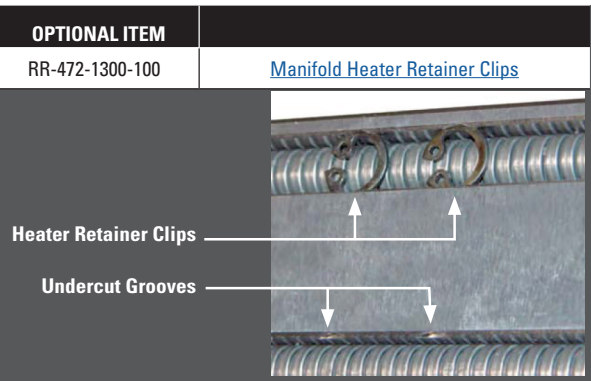
DME Manifold Flexible Replacement Heaters

8.5mm diameter. Operating voltage 230 Volt. Threaded pins on both ends.

| HIGH-WATT FLEXIBLE TUBULAR HEATERS | | |
|------------------------------------|-------------|---------|
| ITEM NO. | LENGTH (mm) | WATTAGE |
| HFH850300 | 300 | 650 |
| HFH850350 | 350 | 750 |
| HFH850400 | 400 | 900 |
| HFH850450 | 450 | 1050 |
| HFH850500 | 500 | 1150 |
| HFH850550 | 550 | 1300 |
| HFH850600 | 600 | 1450 |
| HFH850650 | 650 | 1600 |
| HFH850700 | 700 | 1750 |
| HFH850750 | 750 | 1900 |
| HFH850800 | 800 | 2050 |
| HFH850850 | 850 | 2200 |
| HFH850900 | 900 | 2350 |
| HFH850950 | 950 | 2500 |
| HFH851000 | 1000 | 2650 |
| HFH851050 | 1050 | 2800 |
| HFH851100 | 1100 | 2930 |
| HFH851150 | 1150 | 3060 |
| HFH851200 | 1200 | 3190 |
| HFH851250 | 1250 | 3320 |
| HFH851300 | 1300 | 3450 |
| HFH851350 | 1350 | 3580 |
| HFH851400 | 1400 | 3710 |
| HFH851450 | 1450 | 3840 |
| HFH851500 | 1500 | 3970 |

| LOW-WATT FLEXIBLE TUBULAR HEATERS | | |
|-----------------------------------|-------------|---------|
| ITEM NO. | LENGTH (mm) | WATTAGE |
| HFL850500 | 500 | 700 |
| HFL850550 | 550 | 780 |
| HFL850600 | 600 | 860 |
| HFL850650 | 650 | 950 |
| HFL850700 | 700 | 1000 |
| HFL850750 | 750 | 1100 |
| HFL850800 | 800 | 1190 |
| HFL850850 | 850 | 1250 |
| HFL850900 | 900 | 1350 |
| HFL850950 | 950 | 1430 |
| HFL851000 | 1000 | 1500 |
| HFL851050 | 1050 | 1590 |
| HFL851100 | 1100 | 1650 |
| HFL851150 | 1150 | 1750 |
| HFL851200 | 1200 | 1830 |
| HFL851250 | 1250 | 1900 |
| HFL851300 | 1300 | 1990 |
| HFL851350 | 1350 | 2070 |
| HFL851400 | 1400 | 2150 |
| HFL851450 | 1450 | 2230 |
| HFL851500 | 1500 | 2300 |

Replacing a DME Manifold Flexible Tubular Heater may also require the replacement of retaining rings that hold the heater in place. After installing the manifold heater, insert a retaining ring into each of the existing undercut grooves in the manifold. Use a brass hammer to lightly tap a small piece of brass and each retaining ring to secure the manifold heater.



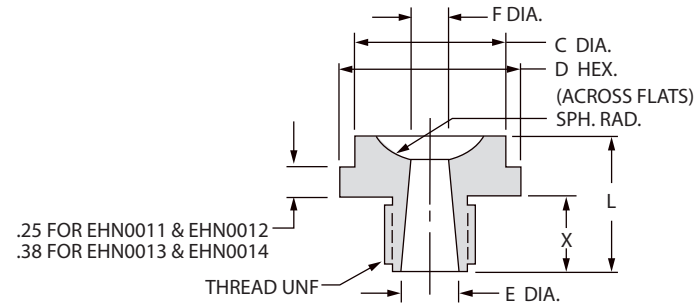
Replacement Parts Detail

Terminal Mounting Box

For information on terminal mounting boxes, mold power and thermocouple connectors, see the DME Control Systems Catalog.

Nozzle Seat

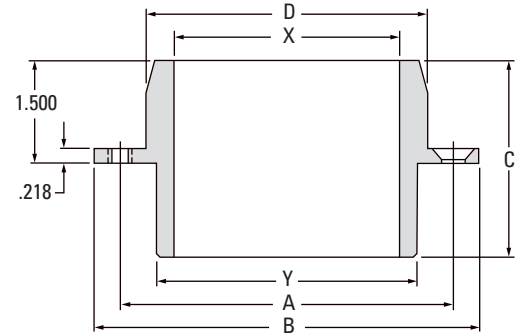
Replaceable interface between manifold and machine nozzle.



| ITEM NUMBER | SPH. RAD. | X | L | C DIM. | D HEX. | E DIA. | F DIA. | THREAD |
|-------------|-----------|-----|-------|--------|--------|--------|--------|--------|
| EHN0011 | .500 | .62 | 1.250 | 1.250 | 1.50 | .363 | .312 | 3/4-16 |
| EHN0012 | .750 | | | | | | | |
| EHN0013 | .500 | .75 | 1.750 | 1.500 | 1.88 | .457 | .375 | 1-12 |
| EHN0014 | .750 | | | | | | | |

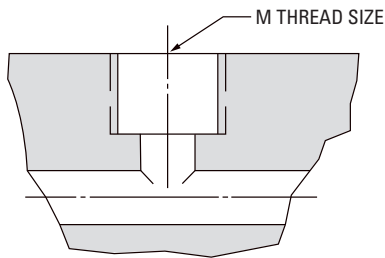
Locating Ring

INCLUDES (2) 5/16 - 18 x 1/2" LG. FLAT HEAD CAP SCREWS



| ITEM NUMBER | D DIA. | X DIA. | Y DIA. | A DIM. | B DIA. | C DIM. |
|-------------|--------|--------|--------|--------|--------|--------|
| EHL0252 | 2.990 | 2.000 | 2.500 | 3.312 | 3.990 | 2.875 |
| EHL0253 | 3.990 | 3.250 | 3.750 | 4.625 | 5.495 | 2.875 |
| EHL0254 | 2.990 | 2.000 | 2.500 | 3.312 | 3.990 | 4.500 |
| EHL0255 | 3.990 | 3.250 | 3.750 | 4.625 | 5.495 | 4.500 |

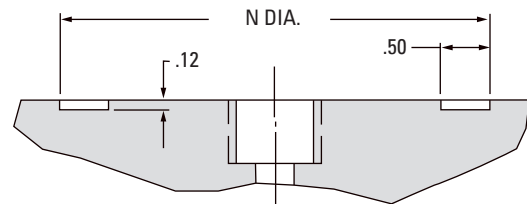
Nozzle Seat Machining



| ITEM NUMBER | M THREAD SIZE |
|-------------|---------------------------|
| EHN0011 | .687 DIA. HOLE x .56 DEEP |
| EHN0012 | 3/4-16 UNF TAP x .50 DEEP |
| EHN0013 | .922 DIA. HOLE x .69 DEEP |
| EHN0014 | 1-12 UNF TAP x .62 DEEP |

Locating Ring Machining

Relief in top of manifold for locating ring.

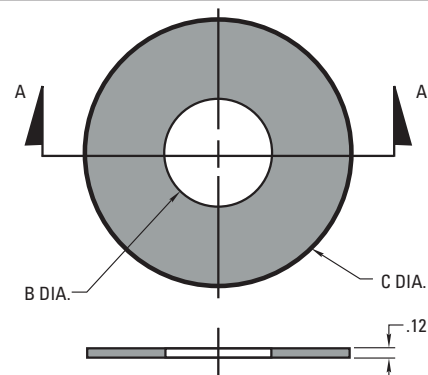
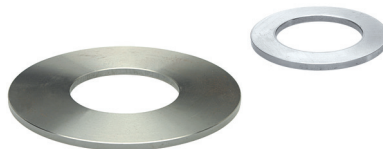


| ITEM NUMBER | N DIA. ^{+0.005} / _{-.000} |
|-------------|---|
| EHL0252 | 2.505 |
| EHL0253 | 3.755 |
| EHL0254 | 2.505 |
| EHL0255 | 3.755 |

Drool Rings

Used in conjunction with nozzle seat and locating ring to prevent nozzle purging and drooling from entering manifold area.

| ITEM NUMBER | B DIA. | C DIA. |
|-------------|--------|--------|
| EHL1001 | 1.38 | 2.19 |
| EHL1002 | 1.62 | |
| EHL1003 | 1.38 | 3.44 |
| EHL1004 | 1.62 | |



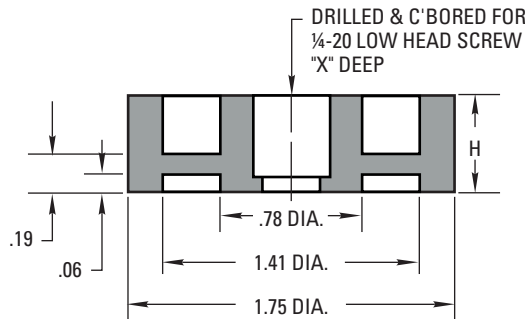
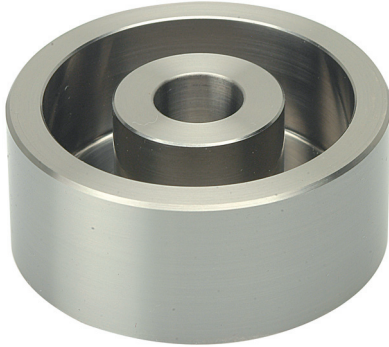
See application information on the preceding page for appropriate use of nozzle seats, drool rings and locating rings.

Components for Externally Heated Manifold Systems

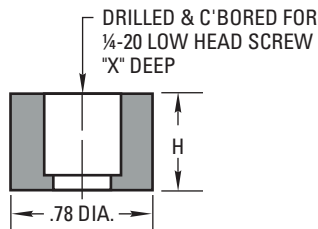
Used primarily with tubular heated manifolds, these components are made from a non-magnetic material with low thermal conductivity. They provide the higher efficiency and performance required for tubular manifold applications.

Riser Pads

Supports manifold opposite nozzles and prevents heat loss.



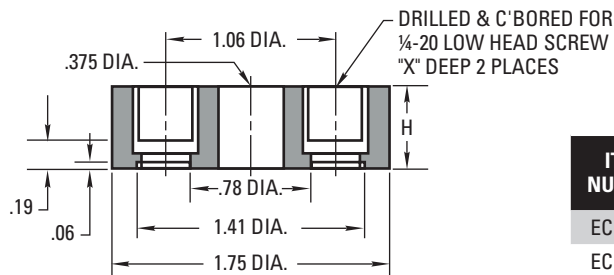
| ITEM NUMBER | H | X |
|-------------|------|------|
| ERP1001 | .500 | .405 |
| ERP1002 | .750 | .655 |



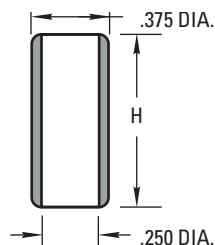
| ITEM NUMBER | H | X |
|-------------|------|------|
| ERP1011 | .500 | .405 |
| ERP1012 | .750 | .655 |

Center Support Pads and Tubular Dowels

Supports manifold center spacing, while minimizing heat transfer from manifold.



| ITEM NUMBER | H | X |
|-------------|------|------|
| ECB1001 | .500 | .405 |
| ECB1002 | .750 | .655 |

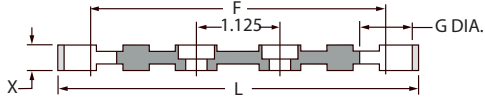


| ITEM NUMBER | L LENGTH |
|-------------|----------|
| 3834TD | .750 |
| 38114TD | 1.250 |

Parts Detail

Riser Pad

Supports manifold opposite nozzles. Prevents heat loss and maintains spacing between manifold and clamping plate.

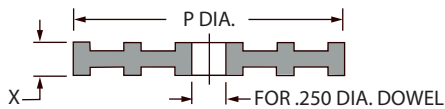


INCLUDES (2) #10-24 LOW HEAD CAP SCREWS

| ITEM NUMBER | X DIM. $\begin{smallmatrix} +.010 \\ -.000 \end{smallmatrix}$ | L DIM. | F DIM. | G DIA. | USED WITH |
|-------------|---|--------|--------|--------|--|
| ERP0163 | .250 | | | | GATE-MATE 4, 250 SERIES AND 375 SERIES |
| ERP0167 | .375 | 4.000 | 3.250 | .625 | |
| ERP0164 | .750 | | | | |
| ERP0165 | .250 | | | | |
| ERP0168 | .375 | 5.000 | 4.000 | .781 | 625 SERIES |
| ERP0166 | .750 | | | | |

Center Support Pad

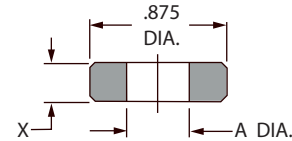
Aligns and supports manifold center while minimizing heat transfer from manifold.



| ITEM NUMBER | X DIM. $\begin{smallmatrix} +.010 \\ -.000 \end{smallmatrix}$ | P DIA. |
|-------------|---|--------|
| ECB0161 | .250 | 2.500 |
| ECB0162 | .750 | 2.500 |
| ECB0163 | .250 | 1.500 |
| ECB0164 | .750 | 1.500 |

Spacer Ring

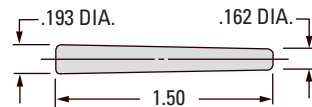
Maintains spacing between manifold and nozzle plate.



| ITEM NUMBER | X DIM. $\begin{smallmatrix} +.010 \\ -.000 \end{smallmatrix}$ | A DIA. | USED WITH |
|-------------|---|--------|--|
| ESR0157 | .250 | | GATE-MATE 4, 250 SERIES AND 375 SERIES |
| ESR0158 | .750 | .406 | |
| ESR0159 | .250 | | |
| ESR0160 | .750 | .531 | 625 SERIES |

Tapered Dowel Pin

Aligns and prevents end plug from rotating. Tapered dowel pin must conform to ANSI B18.8.2-1978 standard.

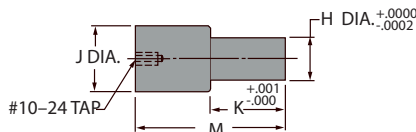


| ITEM NUMBER |
|-------------|
| EDP0001 |

End Plug

Used to plug horizontal flow channels.

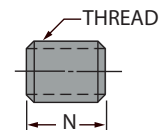
Material : P-20



| SERIES | ITEM NUMBER | H DIA. | J DIA. | K DIM. | M DIM. |
|-------------|-------------|--------|--------|--------|--------|
| GATE-MATE 4 | EEP0002 | .5615 | .800 | .750 | 1.500 |
| 250 | EEP0001 | .4365 | .675 | .750 | 1.500 |
| 375 | EEP0002 | .5615 | .800 | .750 | 1.500 |
| 625 | EEP0003 | .6875 | .894 | 1.125 | 1.875 |

End Plug Set Screw

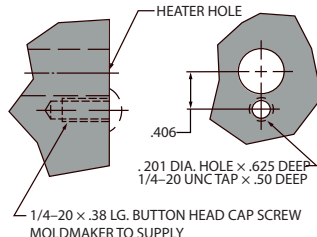
Used to secure end plug into manifold (2 required). End plug set screw must conform to the following standards. ANSI B1.1. ANSI B18.3 and ASTM F912.



| SERIES | ITEM NUMBER | THREAD | N DIM. |
|-------------|-------------|---------------|--------|
| GATE-MATE 4 | SSS7878 | 7/8-14 UNF-3A | .875 |
| 250 | SSS3434 | 3/4-16 UNF-3A | .750 |
| 375 | SSS7878 | 7/8-14 UNF-3A | .875 |
| 625 | SSS11 | 1-12 UNF-3A | 1.000 |

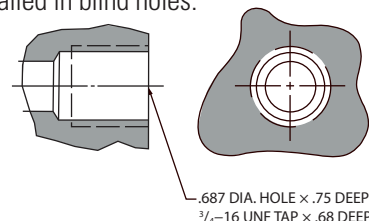
Heater Stop Machining

Used for ECH-Series cartridge heaters.



Heater Puller Machining

Used for CHS-Series cartridge heaters recommended for heaters installed in blind holes.



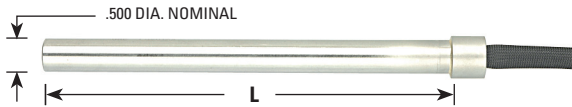
Cartridge Heaters & Thermocouples

240 VAC, 36" Leads with 6" of Lead Protection

Cartridge Heater – Power Leads are multi-colored



Shoulder Style Cartridge Heater



Cartridge Heaters

Can be installed through hole or installed using retainer plate construction.

Shoulder Style Cartridge Heaters

These heaters are used in conjunction with heater pullers to insure easy removal of blind or through hole installations.

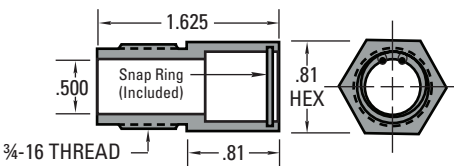
Shoulder Style Cartridge Heaters

| ITEM NUMBER | L IN INCHES | WATTS | WATTS PER LIN. IN. |
|-------------|-------------|-------|--------------------|
| CHS0119 | 4.0 | 500 | 125 |
| CHS0120 | 4.5 | 575 | 128 |
| CHS0121 | 5.0 | 650 | 130 |
| CHS0122 | 5.5 | 725 | 132 |
| CHS0123 | 6.0 | 800 | 133 |
| CHS0124 | 6.5 | 875 | 135 |
| CHS0125 | 7.0 | 950 | 136 |
| CHS0126 | 7.5 | 1025 | 137 |
| CHS0127 | 8.0 | 1100 | 138 |
| CHS0128 | 8.5 | 1175 | 138 |
| CHS0129 | 9.0 | 1200 | 133 |
| CHS0130 | 10.0 | 1350 | 135 |
| CHS0131 | 11.0 | 1500 | 136 |
| CHS0132 | 12.0 | 1650 | 137 |
| CHS0133 | 15.0 | 2050 | 137 |
| CHS0134 | 18.0 | 2500 | 139 |

Heater puller to be ordered separately.

Heater Puller (with Snap Ring)

Provides trouble-free removal of Shoulder Style Cartridge Heater.



PULLER WITH RING

ITEM NUMBER

EHP0250

REPLACEMENT SNAP RINGS

ITEM NUMBER*

EHP0001

*Pkg. of 25

Manifold Thermocouples

Installed in manifold to maintain precise temperature control.

Flat Washer Type

Utilized in limited space applications.

→ .28 DIA.

**OBSELETE
NO LONGER AVAILABLE**

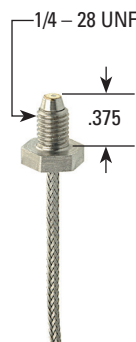


ITEM NUMBER

ETC0168

Threaded Type

Installed between heat source and flow channel for more precise control.



ITEM NUMBER

ETC0251

Although these heaters do not employ integral thermocouples, they're designed and constructed to run at higher molding temperatures and provide longer life than conventional heaters.

Cartridge Heaters

.500 DIAMETER NOMINAL

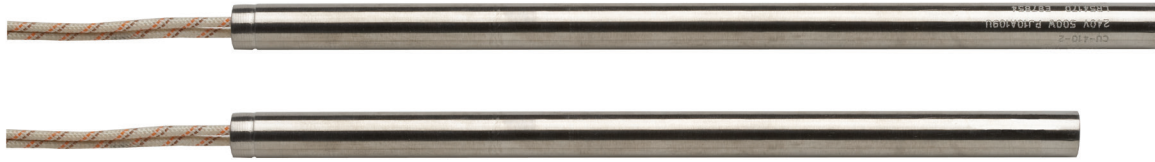
| ITEM NUMBER | LENGTH L | WATTS | WATTS PER LIN. IN. |
|-------------|----------|-------|--------------------|
| ECH0103 | 4.0 | 500 | 125 |
| ECH0119 | 4.0 | 750 | 188 |
| ECH0104 | 4.5 | 575 | 128 |
| * ECH0138 | 5.0 | 500 | 100 |
| ECH0105 | 5.0 | 650 | 130 |
| * ECH0139 | 5.0 | 750 | 150 |
| ECH0120 | 5.0 | 1000 | 200 |
| * ECH0148 | 5.5 | 500 | 91 |
| ECH0106 | 5.5 | 725 | 132 |
| * ECH0140 | 6.0 | 750 | 125 |
| ECH0107 | 6.0 | 800 | 133 |
| ECH0121 | 6.0 | 1000 | 167 |
| ECH0108 | 6.5 | 875 | 135 |
| * ECH0141 | 7.0 | 600 | 86 |
| ECH0109 | 7.0 | 950 | 136 |
| ECH0122 | 7.0 | 1000 | 143 |
| * ECH0149 | 7.5 | 1000 | 133 |
| ECH0110 | 7.5 | 1025 | 137 |
| * ECH0142 | 8.0 | 1000 | 125 |
| ECH0111 | 8.0 | 1100 | 138 |
| ECH0123 | 8.0 | 1500 | 188 |
| ECH0124 | 8.0 | 2000 | 250 |
| ECH0112 | 8.5 | 1175 | 138 |
| ECH0113 | 9.0 | 1200 | 133 |
| ECH0114 | 10.0 | 1350 | 135 |
| ECH0125 | 10.0 | 1500 | 150 |
| ECH0126 | 11.0 | 1000 | 91 |
| ECH0115 | 11.0 | 1500 | 136 |
| ECH0128 | 12.0 | 1000 | 83 |
| ECH0127 | 12.0 | 1500 | 125 |
| ECH0116 | 12.0 | 1650 | 137 |
| * ECH0144 | 12.0 | 2000 | 167 |
| * ECH0146 | 14.0 | 1000 | 71 |
| * ECH0145 | 14.0 | 2300 | 164 |
| ECH0129 | 15.0 | 1500 | 100 |
| ECH0117 | 15.0 | 2050 | 137 |
| * ECH0147 | 18.0 | 1500 | 83 |
| ECH0130 | 18.0 | 1700 | 94 |
| ECH0118 | 18.0 | 2500 | 139 |

NOTE: Sizes preceded by an * are the newest additions.

See the Hot One Design and Machining Guidelines at the end of this Hot One Nozzles section for manifold size recommendation and installation drawings.

Cartridge Heaters

Cartridge Heaters - CU



DME Standard Cartridge heaters employ a swaged construction using the finest resistance wire and insulation available for optimum heating performance, long life and maximum dependability. These heaters are furnished with 10" long flexible lead wires, ready for fast installation. Thermocouple cartridge heaters are also available.

NOTE: Lead wires can withstand temperatures up to 450°F. If temperatures will exceed this amount, leads must be insulated.

| DIA. | LENGTH (INCHES) | VOLTS | WATTS | ITEM NUMBER |
|------|-----------------|-------|-------|-------------|
| 1/4 | 2 | 120 | 40 | CU2021 |
| | 2 | 240 | 40 | CU2022 |
| | 3 | 120 | 75 | CU2031 |
| | 3 | 240 | 75 | CU2032 |
| | 4 | 120 | 100 | CU2041 |
| | 4 | 240 | 100 | CU2042 |
| | 6 | 120 | 150 | CU2061 |
| | 6 | 240 | 150 | CU2062 |
| 3/8 | 2 | 120 | 75 | CU3021 |
| | 2 | 240 | 75 | CU3022 |
| | 3 | 120 | 100 | CU3031 |
| | 3 | 240 | 100 | CU3032 |
| | 4 | 120 | 150 | CU3041 |
| | 4 | 240 | 150 | CU3042 |
| | 5 | 120 | 185 | CU3051 |
| | 5 | 240 | 185 | CU3052 |
| | 6 | 120 | 225 | CU3061 |
| | 6 | 240 | 225 | CU3062 |
| | 8 | 120 | 300 | CU3081 |
| | 8 | 240 | 300 | CU3082 |
| 1/2 | 2 | 120 | 75 | CU4021 |
| | 2 | 240 | 75 | CU4022 |
| | 3 | 120 | 150 | CU4031 |
| | 3 | 240 | 150 | CU4032 |
| | 4 | 120 | 180 | CU4041 |
| | 4 | 240 | 180 | CU4042 |
| | 5 | 120 | 200 | CU4051 |
| | 5 | 240 | 200 | CU4052 |
| | 6 | 120 | 300 | CU4061 |
| | 6 | 240 | 300 | CU4062 |
| | 8 | 120 | 400 | CU4081 |
| | 8 | 240 | 400 | CU4082 |
| | 10 | 120 | 500 | CU4101 |
| | 10 | 240 | 500 | CU4102 |
| | 12 | 120 | 600 | CU4121 |
| | 12 | 240 | 600 | CU4122 |
| | 16 | 120 | 800 | CU4161 |
| | 16 | 240 | 800 | CU4162 |

| DIA. | LENGTH (INCHES) | VOLTS | WATTS | ITEM NUMBER |
|------|-----------------|-------|-------|-------------|
| 5/8 | 2 | 120 | 100 | CU5021 |
| | 2 | 240 | 100 | CU5022 |
| | 3 | 240 | 200 | CU5032 |
| | 4 | 240 | 250 | CU5042 |
| | 5 | 120 | 300 | CU5051 |
| | 5 | 240 | 300 | CU5052 |
| | 6 | 120 | 375 | CU5061 |
| | 6 | 240 | 375 | CU5062 |
| | 8 | 120 | 500 | CU5081 |
| | 8 | 240 | 500 | CU5082 |
| | 10 | 120 | 650 | CU5101 |
| | 10 | 240 | 650 | CU5102 |
| | 12 | 120 | 775 | CU5121 |
| | 12 | 240 | 775 | CU5122 |
| | 14 | 240 | 900 | CU5142 |
| | 16 | 240 | 1050 | CU5162 |
| 3/4 | 3 | 240 | 225 | CU6032 |
| | 4 | 120 | 300 | CU6041 |
| | 4 | 240 | 300 | CU6042 |
| | 5 | 120 | 375 | CU6051 |
| | 5 | 240 | 375 | CU6052 |
| | 6 | 120 | 450 | CU6061 |
| | 6 | 240 | 450 | CU6062 |
| | 8 | 120 | 600 | CU6081 |
| | 8 | 240 | 600 | CU6082 |
| | 10 | 120 | 800 | CU6101 |
| | 10 | 240 | 800 | CU6102 |
| | 12 | 120 | 950 | CU6121 |
| | 12 | 240 | 950 | CU6122 |
| | 14 | 240 | 1100 | CU6142 |
| | 16 | 240 | 1250 | CU6162 |

NOTE: Special heaters are available on special order.

High Watt Density Cartridge Heaters



Fit Tolerances

The cavity or hole, into which a cartridge heater is inserted, should be reamed* to the nominal diameter of the heater. DME cartridge heater diameters are actually .002 to .007 undersize. High Watt Density Cartridge Heaters are .004 undersize, held to a tolerance of $\pm .002$. This sizing is maintained for easy installation and for best heat transfer. However, if close hole tolerances are not maintained, operating life of the heater may be drastically reduced. Also make sure that the heated area of the cartridge does not extend beyond the hole.

Spacing of Heaters

As a general rule it is not recommended to space heaters in a mold, die or platen any closer to each other than the diameter of the heater.

Contamination

Contamination consists of any foreign matter such as plastics, oil, grease, dirt or water entering through the terminal end or the end opposite the terminal. Care must be taken to protect the heater or these contaminants will shorten the effective heater life.

Proper Care and Maintenance

1. Heaters should be stored in a dry area, especially during periods of excess humidity.
2. Protect leads from abuse, abrasion, fatigue, etc.
3. Maintain temperature controllers and accessories in good working condition to avoid an overheating condition.
4. Transferring heaters from one die or platen to another is not recommended.

DME High Watt Density Cartridge Heaters employ swaged construction for maximum heat transfer and high watt density for more demanding applications. Recommended for use when high temperatures are required (up to 1500°F) or where heaters will be subjected to vibration. Furnished with 10" long flexible lead wires. Special heaters are available on special order. Thermocouple cartridge heaters are also available.

| DIA. | LENGTH (INCHES) | VOLTS | WATTS | ITEM NUMBER |
|------|-----------------|-------|-------|-------------|
| 1/4 | 1 | 120 | 100 | CM1001 |
| | 1 | 240 | 100 | CM1002 |
| | 1 1/2 | 120 | 150 | CM1121 |
| | 1 1/2 | 240 | 150 | CM1122 |
| | 2 | 120 | 200 | CM2021 |
| | 2 | 240 | 200 | CM2022 |
| | 3 | 120 | 300 | CM2031 |
| | 3 | 240 | 300 | CM2032 |
| | 4 | 240 | 375 | CM2042 |
| 3/8 | 5 | 240 | 450 | CM2052 |
| | 2 | 240 | 250 | CM3022 |
| | 3 | 240 | 350 | CM3032 |
| | 4 | 240 | 500 | CM3042 |
| | 5 | 240 | 550 | CM3052 |
| 1/2 | 6 | 240 | 600 | CM3062 |
| | 2 | 240 | 250 | CM4022 |
| | 3 | 240 | 300 | CM4032 |
| | 4 | 240 | 400 | CM4042 |
| | 5 | 240 | 800 | CM4052 |
| | 6 | 240 | 1000 | CM4062 |
| | 8 | 240 | 1200 | CM4082 |
| 5/8 | 10 | 240 | 1500 | CM4102 |
| | 12 | 240 | 2000 | CM4122 |
| | 2 | 240 | 300 | CM5022 |
| | 4 | 240 | 700 | CM5042 |
| | 6 | 240 | 1000 | CM5062 |
| | 8 | 240 | 1200 | CM5082 |
| | 9 | 240 | 1400 | CM5092 |
| 3/4 | 10 | 240 | 1500 | CM5102 |
| | 14 | 240 | 2000 | CM5142 |
| | 2 | 240 | 300 | CM6022 |
| | 4 | 240 | 750 | CM6042 |
| | 6 | 240 | 1200 | CM6062 |
| | 10 | 240 | 1600 | CM6102 |
| | 14 | 240 | 2200 | CM6142 |

*See DME Equipment and Supplies Catalog for DME machine reamers and DME straight shank long drills.

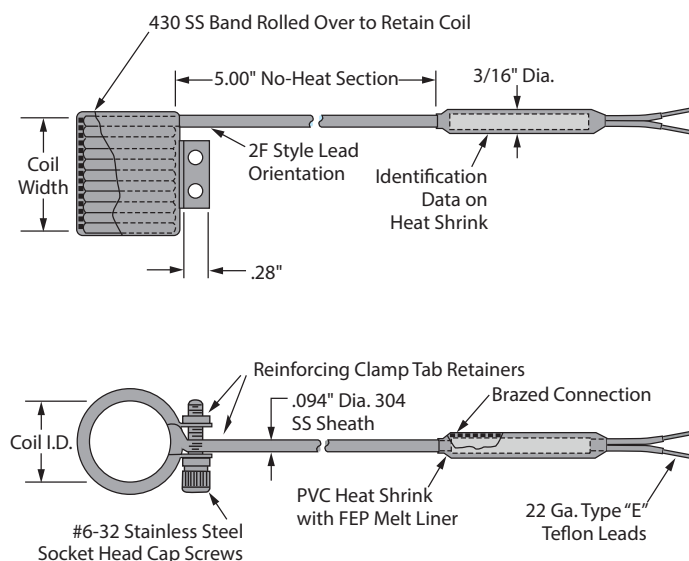
NOTE: Lead wires can withstand temperatures up to 450°F. If temperatures will exceed this amount, leads must be insulated.

Nozzle Heaters for Injection Molds



Features

- Square coil design for improved heat transfer
- High watt density on nozzle ... up to 106 watts/in²
- Heat is conducted from entire heater circumference ... 360° heat
- Unheated tail section reduces temperature at adapter
- Moisture-resistant seal
- Low profile
- 1200°F maximum operating temperature
- Available for same-day shipping



Nozzle Heaters (240 VAC)

| WATTS | COIL I.D. | COIL O.D. | COIL WIDTH | LEAD LENGTH | THERMO-COUPLE | ITEM NUMBER |
|-------|-----------|-----------|------------|-------------|---------------|-------------|
| 125 | .750 | .980 | 1.0" | 36" | NO | SCH0103 |
| 125 | .750 | .980 | 1.0" | 72" | NO | SCH0104 |
| 250 | .750 | .980 | 1.0" | 36" | NO | SCH0105 |
| 250 | .750 | .980 | 1.0" | 72" | NO | SCH0106 |
| 125 | .750 | .980 | 1.0" | 36" | YES* | SCH0107 |
| 250 | .750 | .980 | 1.0" | 36" | YES* | SCH0108 |
| 125 | .875 | 1.10 | 1.0" | 36" | NO | SCH0109 |
| 250 | .875 | 1.10 | 1.0" | 36" | NO | SCH0110 |

*A thermocouple is externally spotwelded to the sheath.

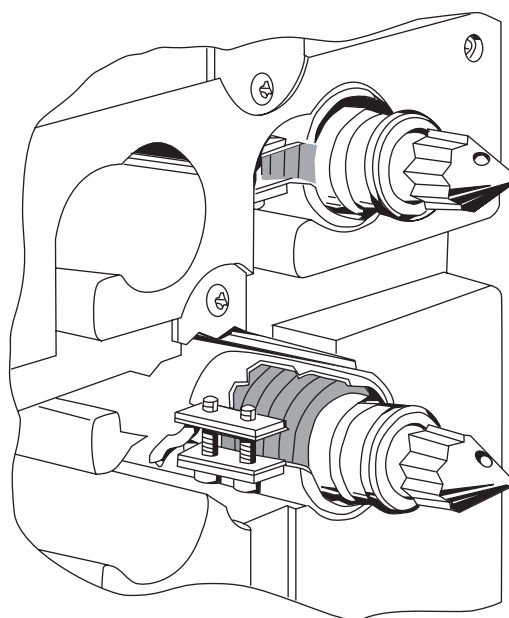
This nozzle heater features a five-inch long unheated tail section, and the adapter is provided with a moisture-resistant seal. These two design advantages practically eliminate failures in the adapter area due to overheating and moisture contamination.

As with all DME heaters, these new nozzle heaters are designed to give long life even when operated at 1200°F. These are very low profile heaters to facilitate easy installation in the tight environment of multiple gate molds.

All units have a resistance tolerance of $\pm 5\%$ to provide consistent operation and reduced adjustment time when it is necessary to replace a heater or bushing.

A stainless steel clamping band is installed on all units.

All units are stock coiled per the dimensions listed below. All units have Teflon[®] covered power leads and fiberglass thermocouple leads as indicated.



This installation illustrates DME's square coil design fit over a nozzle. This heater was designed to fit any industry nozzle as a replacement for runnerless molding.

High Watt Density Thermocouple Cartridge Heaters



DME High Watt Density Thermocouple Cartridge Heaters employ swaged construction for maximum heat transfer and high watt density for more demanding applications. Recommended for use when high temperatures are required (up to 1500°F) or where heaters will be subjected to vibration.

Fit Tolerances

The cavity or hole into which a cartridge heater is inserted should be reamed* to the nominal diameter of the heater. DME cartridge heater diameters are actually .002 to .007 undersize. High Watt Density Cartridge Heaters are .003 undersize, held to a tolerance of $\pm .002$. This sizing is maintained for easy installation and for best heat transfer. However, if close hole tolerances are not maintained, operating life of the heater may be drastically reduced. Also make sure that the heated area of the cartridge does not extend beyond the hole.

Contamination

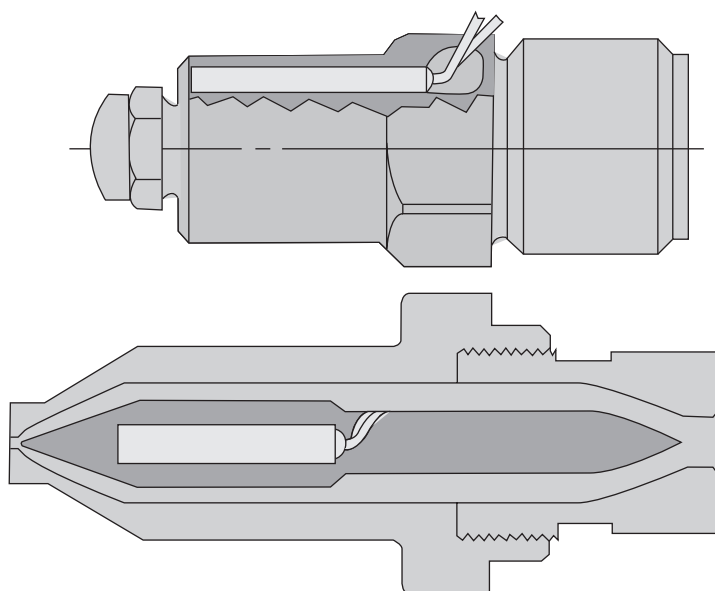
Contamination consists of any foreign matter such as plastics, oil, grease, dirt or water entering through the terminal end or the end opposite the terminal. Care must be taken to protect the heater or these contaminants will shorten the effective heater life.

Proper Care and Maintenance

1. Heaters should be stored in a dry area, especially during periods of excess humidity.
2. Protect leads from abuse, abrasion, fatigue, etc.
3. Maintain temperature controllers and accessories in good working condition to avoid an overheating condition.
4. Transferring heaters from one die or platen to another is not recommended.

*See DME Equipment and Supplies Catalog for DME machine reamers and DME straight shank long drills.

These diagrams show typical installations of a thermocouple replacement cartridge heater.



High Watt Density Thermocouple Cartridge Heaters (240 VAC, Type J Thermocouple, 36" Long Leads)

| DIAMETER | LENGTHS | | VOLTS | WATTS | ITEM NUMBER |
|-------------------|---------|-------|-------|-------|-------------|
| | IN | CM | | | |
| 3/8" (9.42mm) | 1 3/4 | 4.445 | 240 | 200 | TCH0001 |
| | 2 | 5.08 | 240 | 250 | TCH0002 |
| | 2 1/2 | 6.35 | 240 | 250 | TCH0003 |
| | 3 | 7.52 | 240 | 250 | TCH0004 |
| | 3 1/2 | 8.39 | 240 | 320 | TCH0005 |
| | 4 | 10.15 | 240 | 370 | TCH0006 |
| | 4 1/2 | 11.43 | 240 | 420 | TCH0007 |
| | 5 | 12.70 | 240 | 470 | TCH0008 |
| | 5 1/2 | 13.97 | 240 | 525 | TCH0009 |
| | 6 | 15.24 | 240 | 575 | TCH0010 |
| | 6 1/2 | 16.51 | 240 | 625 | TCH0011 |
| | 7 | 17.78 | 240 | 675 | TCH0012 |
| | 7 1/2 | 19.05 | 240 | 725 | TCH0013 |
| | 8 | 20.32 | 240 | 775 | TCH0014 |
| 1/2" (12.50mm) | 3 1/2 | 8.89 | 240 | 420 | TCH0015 |
| | 4 | 10.16 | 240 | 480 | TCH0016 |
| | 4 1/2 | 11.43 | 240 | 550 | TCH0017 |
| | 5 | 12.70 | 240 | 625 | TCH0018 |
| | 5 1/2 | 13.97 | 240 | 700 | TCH0019 |
| | 6 | 15.24 | 240 | 775 | TCH0020 |
| | 6 1/2 | 16.51 | 240 | 850 | TCH0021 |
| | 7 1/2 | 19.05 | 240 | 975 | TCH0022 |

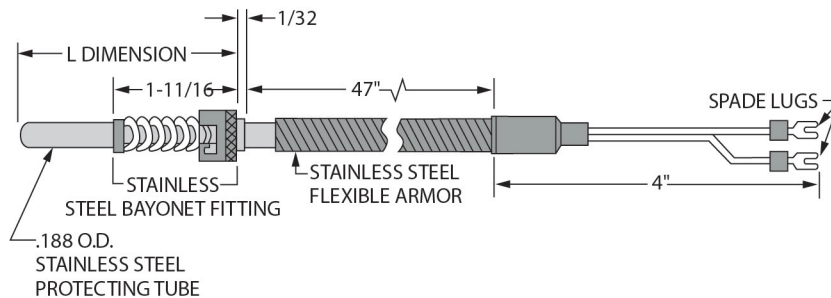
Thermocouples



DME Bayonet Thermocouples are made of 20 gauge stranded glass-insulated wires. The grounded hot junction is in the end of a .188 O.D. stainless steel protecting tube for fast response and long life. Tube features a round tip and is fitted with a stainless steel spring loaded bayonet fitting. Lead wires are protected by rugged .188 I.D. flexible armor (lead wire calibration is ANSI Type J Iron/Constantan). Armor cable is 47" long; spade lugs are attached at the end of the lead wires for easy connection to terminal strip or plug.

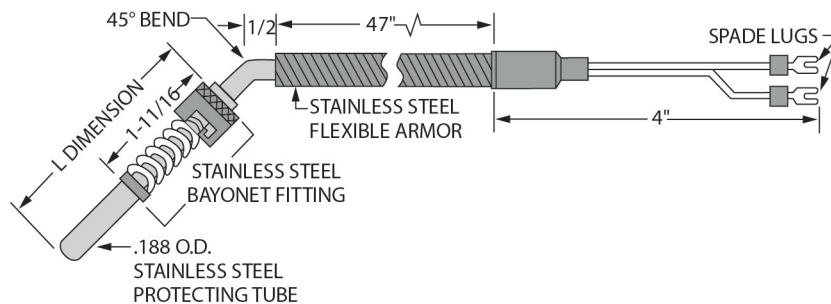
DME Adjustable Bayonet Type Thermocouples fit hole depths up to $10\frac{1}{2}$ " and will conform to any angle.

DME Spade Type Thermocouples are used between band heaters and machine nozzles in applications where space will not permit bayonet-type thermocouples. The stainless steel spade is only .025 thick and can be easily contoured to fit various diameters.



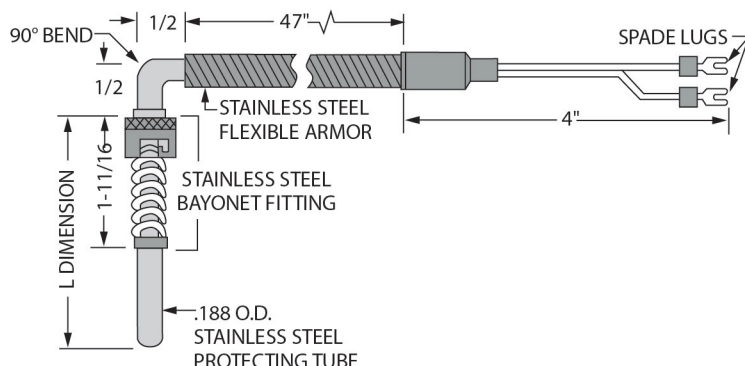
Straight Type

| ITEM NUMBER | L |
|-------------|-------|
| TC2500 | 2 1/2 |
| TC3500 | 3 1/2 |
| TC6000 | 6" |



45° Angle Type

| ITEM NUMBER | L |
|-------------|-------|
| TC2545 | 2 1/2 |
| TC3545 | 3 1/2 |



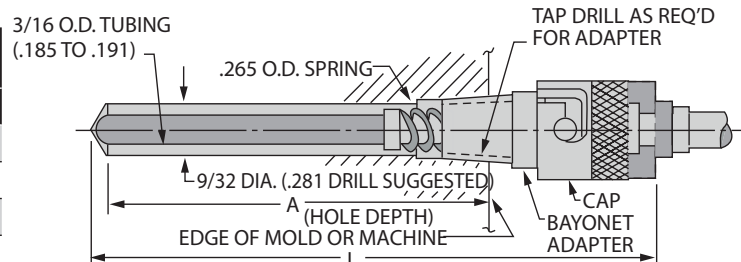
90° Angle Type

| ITEM NUMBER | L |
|-------------|-------|
| TC2590 | 2 1/2 |
| TC3590 | 3 1/2 |
| TC6090 | 6" |

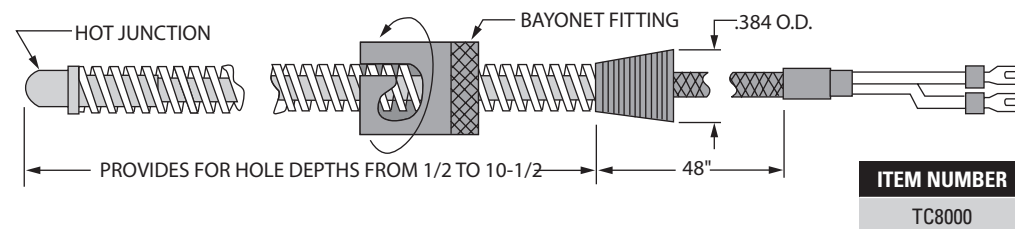
Thermocouples and Accessories

Hole Depth Chart

| L THERMOCOUPLE LENGTH | A HOLE DEPTH FOR ADAPTER LENGTH | |
|-----------------------------|------------------------------------|----------------|
| | 7/8 | 1 3/8 |
| 2 1/2 | 1" TO 1 3/8 | 1/2 TO 7/8 |
| 3 1/2 | 2" TO 2 3/8 | 1 1/2 TO 1 7/8 |
| 6" | 4 1/2 TO 4 7/8 | 4" TO 4 3/8 |
| 10 1/2 ADJ. | 1/2 TO 10 1/2 | 1/2 TO 10" |

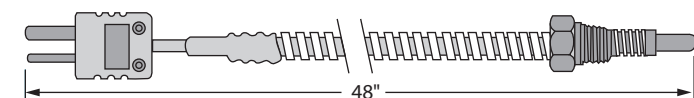


Adjustable Thermocouple



By turning the adjustable bayonet fitting along the spring, the DME Adjustable Thermocouple can be set for the desired immersion length, from 1/2" to 10 1/2". Spring will conform to any angle. Hot junction of ANSI Type J /C calibrated leads is inside round tip. Flexible metal braid is 48" long with 2 1/2" of lead wires at the end and spade lugs for ease of connection.

Threaded Type Thermocouple

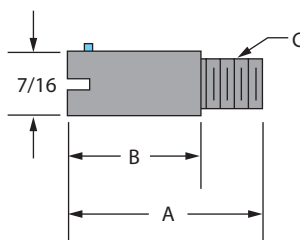


ITEM NUMBER
TCT4

Threaded type thermocouple is spring loaded and supplied with cable and mini plug.

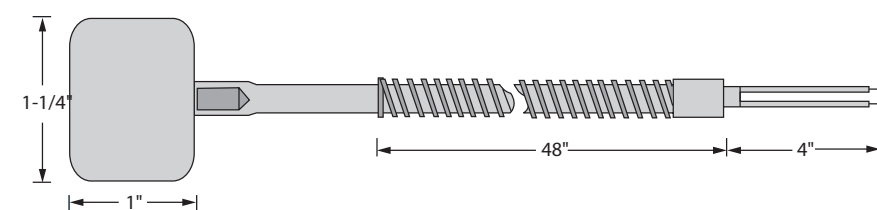
Bayonet Adapters

The stainless steel bayonet adapters accommodate the spring loaded bayonet fitting on the thermocouple, to bottom the hot junction where temperature sensing is desired. Adapter requires tapped hole for mounting.



| ITEM NUMBER | A | B | C |
|-------------|-------|------|------------|
| BA1007 | 7/8 | .465 | 1/8-27 NPT |
| BA1013 | 1 3/8 | .934 | 1/8-27 NPT |
| BA4007 | 7/8 | .465 | 3/8-24 NF |
| BA4013 | 1 3/8 | .934 | 3/8-24 NF |

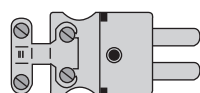
Spade Type Thermocouple



Used between band heaters and machine nozzles in applications where space will not permit bayonet type thermocouples. Stainless steel spade measures 1" x 1 1/4" x .025 thick and can be easily contoured to fit various diameters. Thermocouple is Type J /C. Flexible stainless steel armor cable is 48" long with 4" of lead wires at the end.

ITEM NUMBER
TC9000

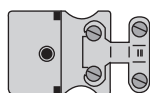
Plug (with Cable Clamp)



ITEM NUMBER
PL10

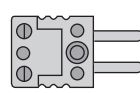
ROUND PINS
AND
SOCKETS
(3/16 & 1/8)

Jack (with Cable Clamp)



ITEM NUMBER
PL20

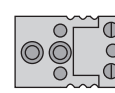
Mini Plug



ITEM NUMBER
M2MJ

FLAT PINS
AND
SOCKETS

Mini Jack

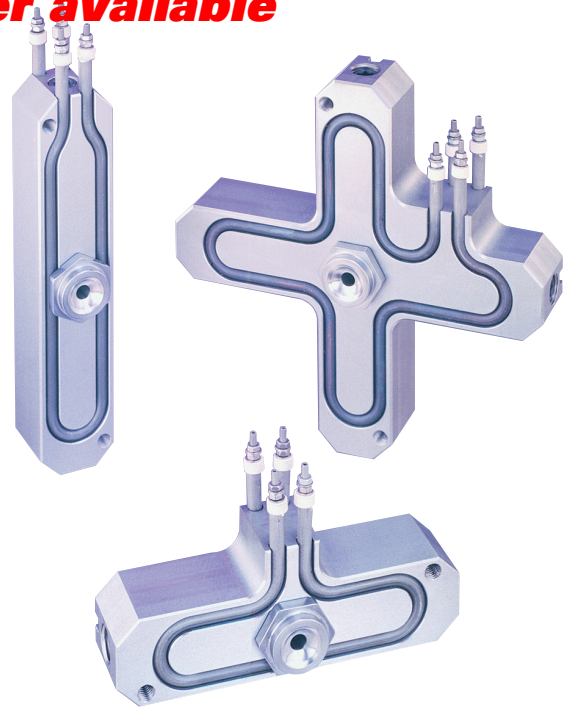


ITEM NUMBER
M2FJ

DME Meteor®
Hot Runner Systems

***The Meteor Hot Runner product
line is no longer available***

CUSTOM-CONFIGURED,
ECONOMICAL SOLUTIONS
FOR QUICK DELIVERY

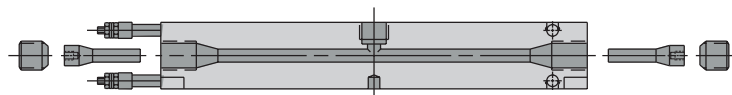


More Solutions. More Choices. Always Quick Delivery.

The Meteor Package

Each Meteor manifold kit includes the following standard items:

- Manifold with pre-machined horizontal flow channel
- Pre-installed, replaceable tubular heaters
- End plugs
- End plug set screws

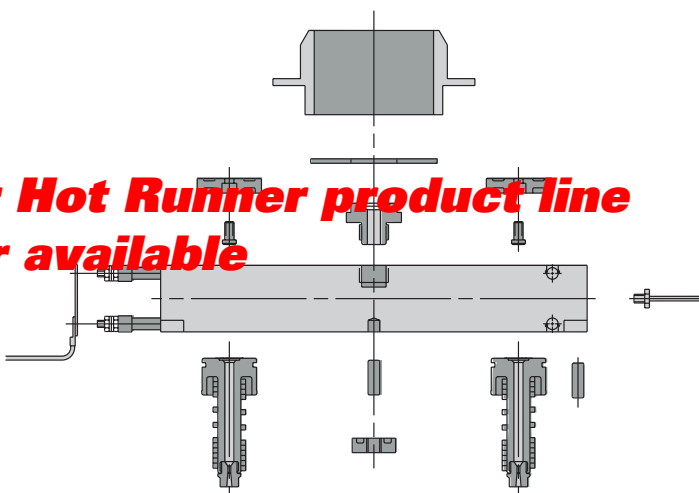


Ancillary Components

A variety of ancillary components available include:

- Locating rings
- Drool rings
- Nozzle seats
- Riser pads and cap screws
- Center support pads and dowel pins
- Thermocouples

The Meteor Hot Runner product line is no longer available



Nozzle Options

All nozzles have a selection of tip styles to suit material flow and gate cosmetic requirements.

| METEOR SYSTEM | EHA AND CIA | |
|---------------|-------------|------------|
| | 250 SERIES | 375 SERIES |
| METEOR 1 | X | X |
| METEOR 2 | X | X |

Application Notes

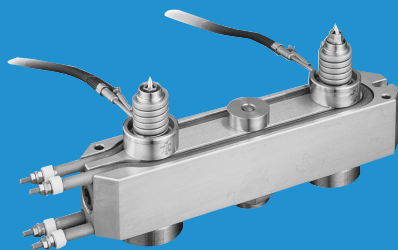
- 250 Series nozzles to be used with manifold kits MEM0100K thru MEM0200K, MCM0100K thru MCM0200K and MXM0100K thru MXM0200K. 375 Series nozzles to be used with all other manifold kits.
- All manifolds with suffix of 100K, 150K and 200K have a 9mm diameter flow channel; all other manifolds have a 12mm diameter flow channel.
- CIA High Performance nozzles are recommended for materials that process above 260°C/500°F.
- For filled or abrasive materials, wear-resistant tips are recommended.
- Meteor manifolds are not recommended for use with PVC material.
- Contact DME for assistance.

More Solutions. More Choices.



Meteor 1 manifold

Meteor manifolds are supplied with replaceable, press-fit tubular heaters.



Meteor 2 manifold and components

The Meteor® Manifold System provides a versatile yet economical solution for many hot runner mold designs. Two-drop (in-line) and four-drop (X-style) manifolds are available in sizes to suit a variety of applications. Pre-engineered with accurately machined flow channels, nozzle ports can be freely located anywhere within each manifold's flow channel limits. Meteor manifolds are supplied with replaceable, press-fit tubular heaters which are stocked for quick delivery. A full complement of ancillary components are also available to complete the system design and construction.

The Meteor Hot Runner product line is no longer available

- Two levels of quick-delivery hot runner systems
- In-line and X-style manifolds for 2- and 4-drop applications
- Suitable for engineered and commodity resins
- Cost-effective
- Satisfaction 100% guaranteed

Choose the Meteor System that's right for you

DME offers two quick-delivery hot runner systems with varying levels of customization – you pick the one that fits your needs.

Meteor 1

- Standardized manifolds with machined horizontal flow channel
- Customer machines vertical flow channel locations and end plugs for maximum configuration flexibility
- Customer can easily order a Meteor 1 manifold kit and select nozzles, supports, nozzle seat, locating ring, thermocouples and other necessary items

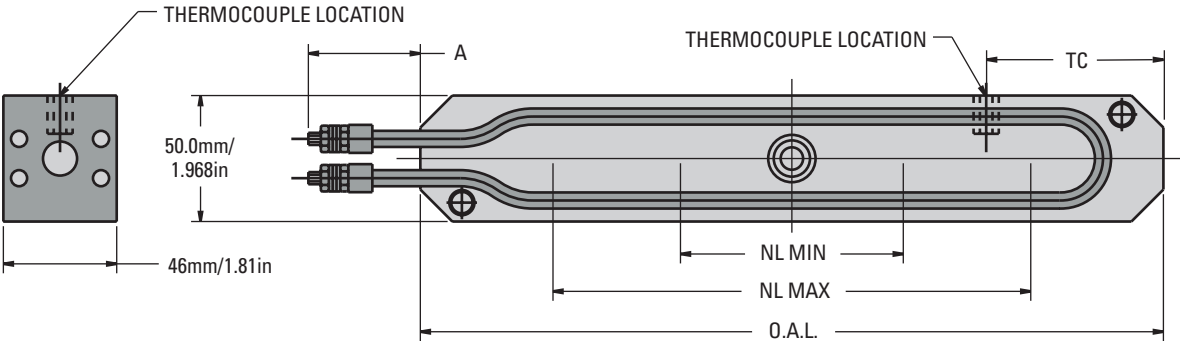
Meteor 2

- Manifold and components system, integrated with a Meteor 1 manifold kit
- Customer specifies nozzles, supports, nozzle seat, locating ring, thermocouples, etc.
- DME performs vertical flow channel and end plug machining

Meteor 1 In-Line and X-Style Manifolds

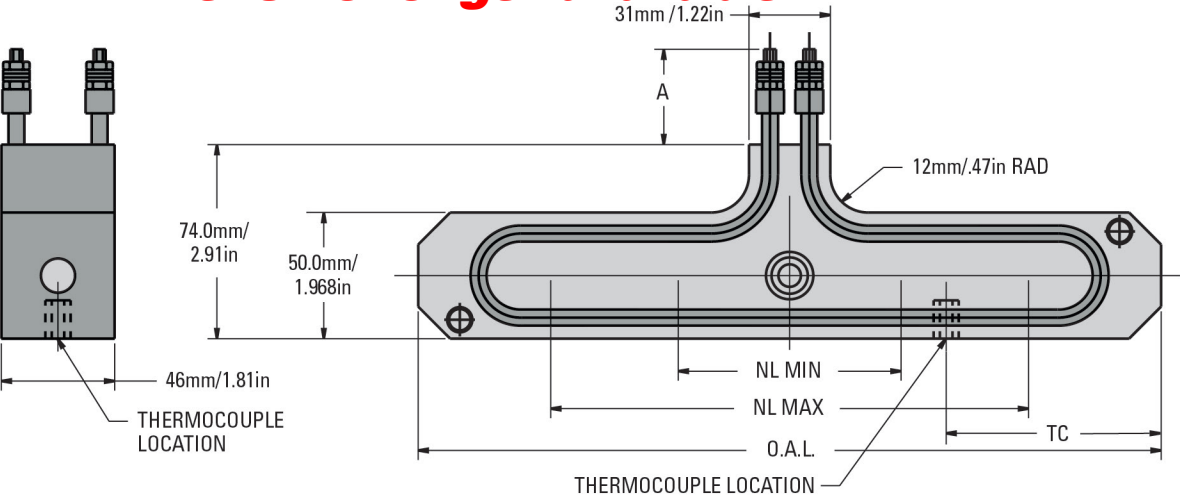
Meteor 1

Meteor 1 In-Line End Exit



The Meteor Hot Runner product line is no longer available

Meteor 1 In-Line Center Exit

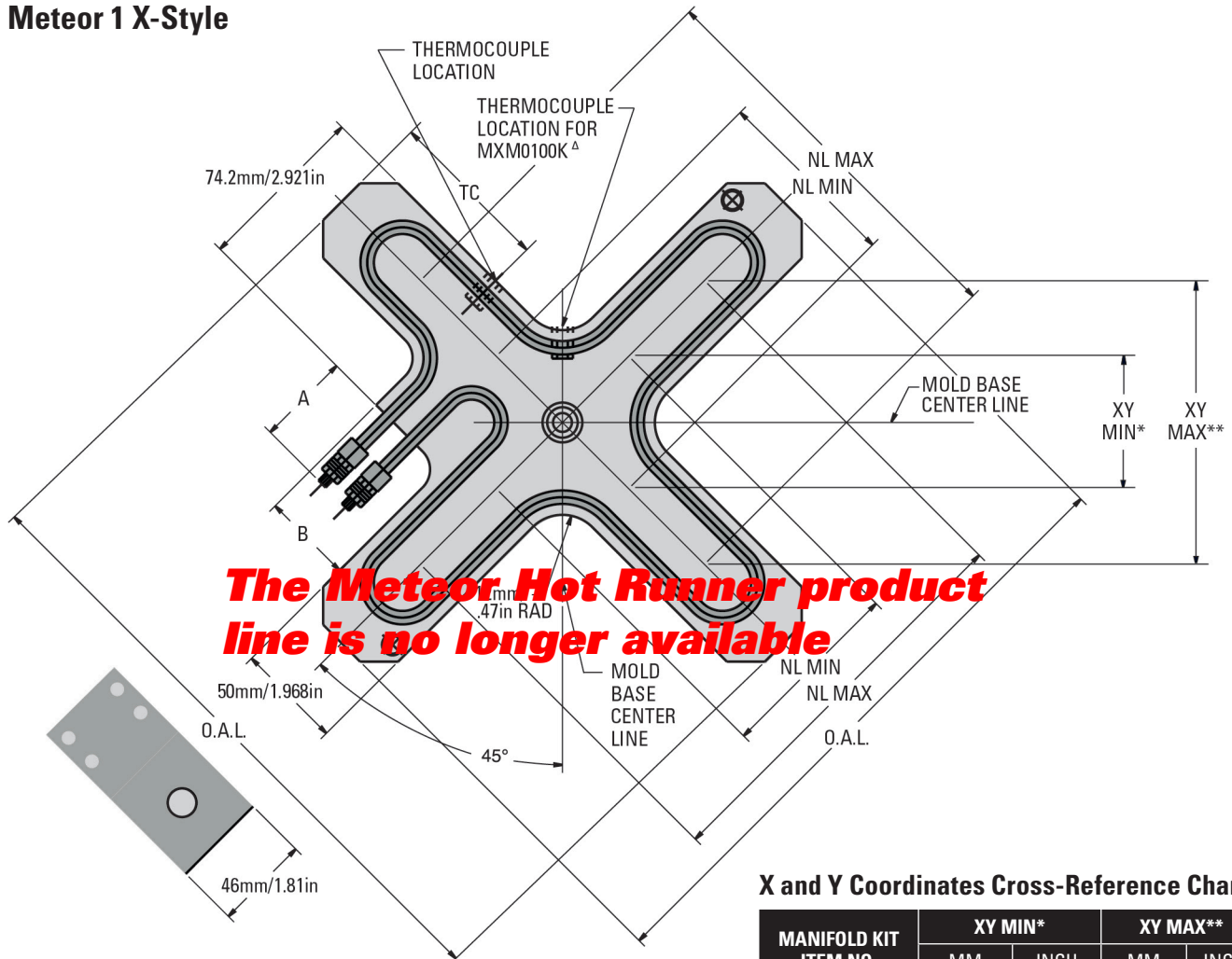


Meteor Systems

| MANIFOLD TYPE | MANIFOLD KIT ITEM NO. | NL MIN. | | NL MAX. | | O.A.L. | | A | | B | | TC | |
|---------------------|-----------------------|---------|--------|---------|--------|--------|--------|------|------|------|-------|------|-------|
| | | MM | INCH | MM | INCH | MM | INCH | MM | INCH | MM | INCH | MM | INCH |
| IN-LINE END EXIT | MEM0100K | 55 | 2.165 | 100 | 3.937 | 195 | 7.677 | 44.5 | 1.75 | — | — | 60 | 2.362 |
| | MEM0150K | 100 | 3.937 | 150 | 5.906 | 245 | 9.646 | 44.5 | 1.75 | — | — | | |
| | MEM0200K | 150 | 5.906 | 200 | 7.874 | 295 | 11.614 | 44.5 | 1.75 | — | — | | |
| | MEM0300K | 200 | 7.874 | 300 | 11.811 | 395 | 15.551 | 44.5 | 1.75 | — | — | 72.5 | 2.362 |
| | MEM0400K | 300 | 11.811 | 400 | 15.748 | 495 | 19.488 | 50.8 | 2.00 | — | — | | |
| IN-LINE CENTER EXIT | MEM0500K | 400 | 15.748 | 500 | 19.685 | 595 | 23.425 | 50.8 | 2.00 | — | — | 60 | 2.362 |
| | MCM0100K | 55 | 2.165 | 100 | 3.937 | 195 | 7.677 | 44.5 | 1.75 | — | — | | |
| | MCM0150K | 100 | 3.937 | 150 | 5.906 | 245 | 9.646 | 44.5 | 1.75 | — | — | | |
| | MCM0200K | 150 | 5.906 | 200 | 7.874 | 295 | 11.614 | 44.5 | 1.75 | — | — | 72.5 | 2.854 |
| | MCM0300K | 200 | 7.874 | 300 | 11.811 | 395 | 15.551 | 44.5 | 1.75 | — | — | | |
| X-STYLE | MCM0400K | 300 | 11.811 | 400 | 15.748 | 495 | 19.488 | 50.8 | 2.00 | — | — | 60 | 2.362 |
| | MCM0500K | 400 | 15.748 | 500 | 19.685 | 595 | 23.425 | 50.8 | 2.00 | — | — | | |
| | MXM0100K | 55 | 2.165 | 100 | 3.937 | 195 | 7.677 | 44.5 | 1.75 | 56.8 | 2.236 | 72.5 | 2.854 |
| | MXM0150K | 100 | 3.937 | 150 | 5.906 | 245 | 9.646 | 44.5 | 1.75 | 51.3 | 2.020 | | |
| X-STYLE | MXM0200K | 150 | 5.906 | 200 | 7.874 | 295 | 11.614 | 50.8 | 2.00 | 51.3 | 2.020 | 60 | 2.362 |
| | MXCM0300K | 200 | 7.874 | 300 | 11.811 | 395 | 15.551 | 50.8 | 2.00 | 51.3 | 2.020 | | |

Meteor 1 In-Line and X-Style Manifolds

Meteor 1 X-Style



X and Y Coordinates Cross-Reference Chart

| MANIFOLD KIT ITEM NO. | XY MIN* | | XY MAX** | |
|--------------------------|---------|-------|----------|-------|
| | MM | INCH | MM | INCH |
| MXM0100K | 38.90 | 1.531 | 70.71 | 2.783 |
| MXM0150K | 70.71 | 2.783 | 106.07 | 4.176 |
| MXM0200K | 106.07 | 4.176 | 141.42 | 5.568 |
| MXM0300K | 141.42 | 5.568 | 212.13 | 8.352 |

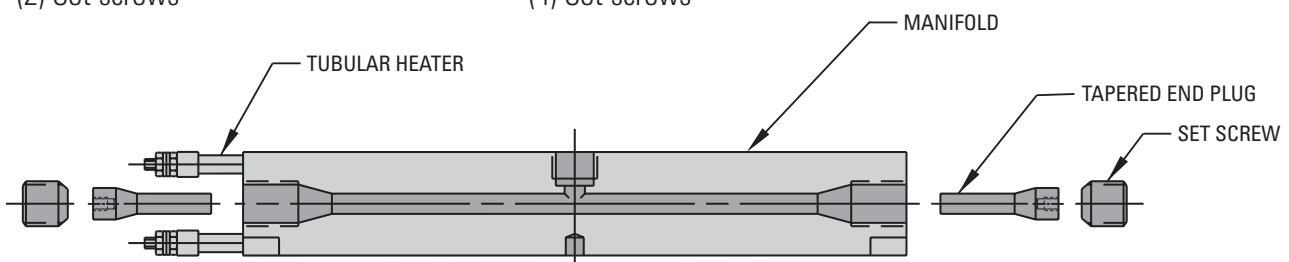
Meteor 1 Manifold Kit Includes:

In-Line System:

- (1) Manifold (center or end heater exit)
- (2) Tubular heaters (installed)
- (2) Tapered end plugs
- (2) Set screws

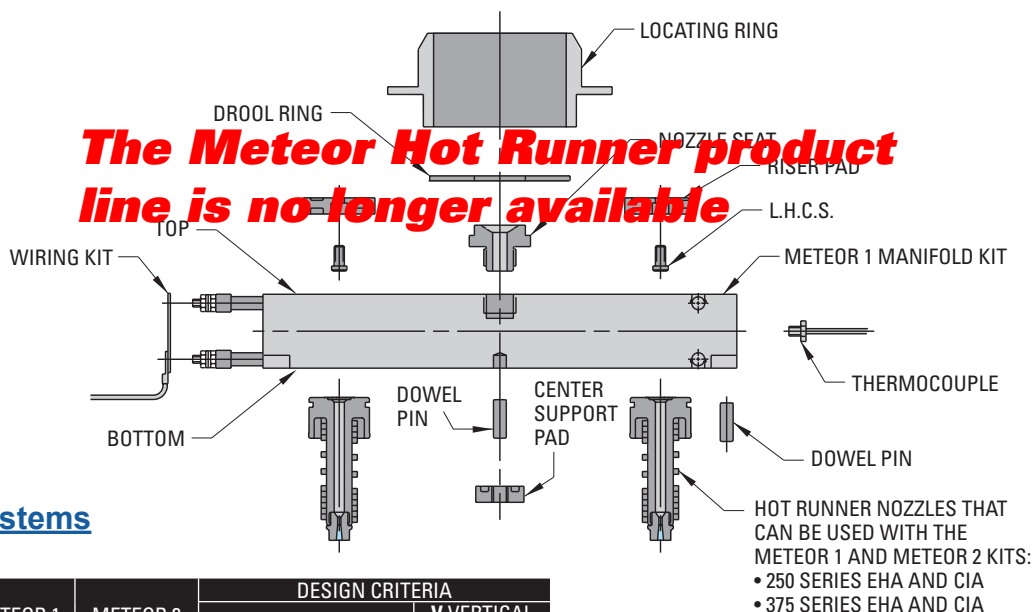
X-Style System:

- (1) Manifold
- (2) Tubular heaters (installed)
- (4) Tapered end plugs
- (4) Set screws



Meteor 1 & 2 Ancillary Component Options

Meteor 2



Meteor Systems

| MANIFOLD TYPE | METEOR 1 MANIFOLD KIT ITEM NO. | METEOR 2 MANIFOLD KIT PLUS ITEM NO. | DESIGN CRITERIA | | |
|---------------------|--------------------------------|-------------------------------------|-----------------------|------------------------------|------|
| | | | NOZZLE OPTIONS | V VERTICAL FLOW CHANNEL DIA. | |
| IN-LINE END EXIT | MEM0100K | MEM0100KP | 250, EHA & CIA SERIES | 9 | .354 |
| | MEM0150K | MEM0150KP | | | |
| | MEM0200K | MEM0200KP | | | |
| | MEM0300K | MEM0300KP | 375, EHA & CIA SERIES | 12 | .472 |
| | MEM0400K | MEM0400KP | | | |
| IN-LINE CENTER EXIT | MEM0500K | MEM0500KP | | | |
| | MCM0100K | MCM0100KP | 250, EHA & CIA SERIES | 9 | .354 |
| | MCM0150K | MCM0150KP | | | |
| | MCM0200K | MCM0200KP | | | |
| | MCM0300K | MCM0300KP | 375, EHA & CIA SERIES | 12 | .472 |
| X-STYLE | MCM0400K | MCM0400KP | | | |
| | MCM0500K | MCM0500KP | | | |
| | MXM0100K | MXM0100KP | 250, EHA & CIA SERIES | 9 | .354 |
| | MXM0150K | MXM0150KP | | | |
| | MXM0200K | MXM0200KP | | | |
| | MXM0300K | MXM0300KP | 375, EHA & CIA SERIES | 12 | .472 |

Meteor 1 Manifold Kit includes manifold, tubular heaters installed, two end plugs, and two set screws. The customer machines the vertical flow channel locations and end plugs for maximum configuration flexibility.

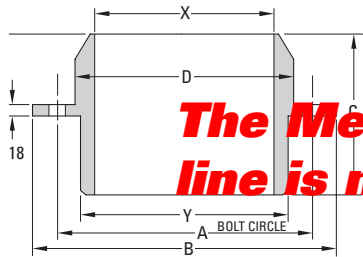
Meteor 2 Manifold Kit Plus includes the machining of the vertical flow channels and the installation of the end plugs and set screws by DME.

The customer provides DME with the gate locations on a Meteor 2 Criteria Form.

| MANIFOLD TYPE | METEOR 1 MANIFOLD KIT ITEM NO. | METEOR 2 MANIFOLD KIT PLUS ITEM NO. | ANCILLARY COMPONENT OPTIONS | | | | | | | | |
|---------------------|--------------------------------|-------------------------------------|-----------------------------|----------------------------------|---------------------|----------------------|--|---|---|------------------------------------|---------------------|
| | | | THERMOCOUPLE ITEM NO. | LOCATING RING ITEM NO. | DROOL RING ITEM NO. | NOZZLE SEAT ITEM NO. | RISER PADS ITEM NO. | CTR. SUPPORT PADS ITEM NO. | DOWEL PINS ITEM NO. | 1/4-20 X .50 LG. L.H.C.S. ITEM NO. | WIRING KIT ITEM NO. |
| IN-LINE END EXIT | MEM0100K | MEM0100KP | ETC0252 | EHL0253 EHL0255 (1 REQ'D.) | EHL1003 | MNS0009 | ERP1001 ERP1002 ERP1011 ERP1012 (2 OF SAME REQ'D.) | ECB0468 ECB0469 ECB0503 (1 REQ'D.) | DP820 DP828 DP832 (2 OF SAME REQ'D.) | 1412LH (2 REQ'D.) | MWK1001 |
| | MEM0150K | MEM0150KP | | | | MNS0012 | | | | | MWK1002 |
| | MEM0200K | MEM0200KP | | | | | | | | | |
| | MEM0300K | MEM0300KP | ETC0252 (2 REQ'D.) | | | | | | | | |
| | MEM0400K | MEM0400KP | | | | | | | | | |
| IN-LINE CENTER EXIT | MEM0500K | MEM0500KP | | | | | | | | | |
| | MCM0100K | MCM0100KP | ETC0252 | EHL0253 EHL0255 (1 REQ'D.) | EHL1003 | MNS0009 | ERP1001 ERP1002 ERP1011 ERP1012 (2 OF SAME REQ'D.) | ECB0468 ECB0469 ECB0503 (1 REQ'D.) | DP820 DP828 DP832 (2 OF SAME REQ'D.) | 1412LH (2 REQ'D.) | MWK1001 |
| | MCM0150K | MCM0150KP | | | | MNS0012 | | | | | MWK1002 |
| | MCM0200K | MCM0200KP | | | | | | | | | |
| | MCM0300K | MCM0300KP | ETC0252 (2 REQ'D.) | | | | | | | | |
| | MCM0400K | MCM0400KP | | | | | | | | | |
| X-STYLE | MCM0500K | MCM0500KP | | | | | | | | | |
| | MXM0100K | MXM0100KP | ETC0252 | EHL0253 EHL0255 (1 REQ'D.) | EHL1003 | MNS0009 | ERP1001 ERP1002 ERP1011 ERP1012 (4 OF SAME REQ'D.) | ECB0468 ECB0469 ECB0503 (1 REQ'D.) | DP820 DP828 DP832 (2 OF SAME REQ'D.) | 1412LH (2 REQ'D.) | MWK1001 |
| | MXM0150K | MXM0150KP | | | | MNS0012 | | | | | MWK1002 |
| | MXM0200K | MXM0200KP | ETC0252 (2 REQ'D.) | | | | | | | | |
| | MXM0300K | MXM0300KP | | | | | | | | | |

Meteor 1 & 2 Ancillary Component Options

Locating Rings

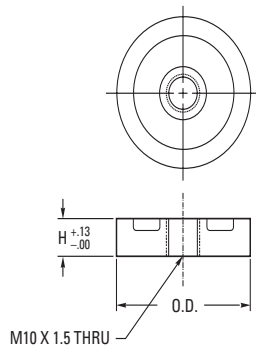


The Meteor Hot Runner product line is no longer available

| ITEM NO. | Ø D | Ø X | Ø Y | A | Ø B | C |
|----------|--------------------|---------------------|-------------------|--------------------|----------------------|--------------------|
| EHL0253 | 101 MM 3.990 IN | 82.5 MM 3.250 IN | 95 MM 3.750 IN | 117 MM 4.625 IN | 139.5 MM 5.495 IN | 73 MM 2.875 IN |
| EHL0255 | 101 MM 3.990 IN | 82.5 MM 3.250 IN | 95 MM 3.750 IN | 117 MM 4.625 IN | 139.5 MM 5.495 IN | 114 MM 4.500 IN |

Includes (2) 1/2 inch long, 5/16 Flat Head Cap Screws.

Center Support Pads

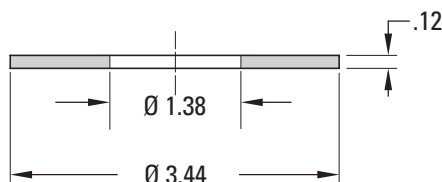


| ITEM NO. | O.D. | | H | |
|----------|------|-------|----|------|
| | MM | IN | MM | IN |
| ECB0468 | 30 | 1.181 | 20 | .787 |
| ECB0469 | 30 | 1.181 | 10 | .394 |
| ECB0503 | 40 | 1.575 | 10 | .394 |

NOTES:

1. The M10 X 1.5 tapped hole is used to screw the center support pad to a plate for machining the pad to the correct height.
2. An 8mm dia. dowel pin is required for assembly.

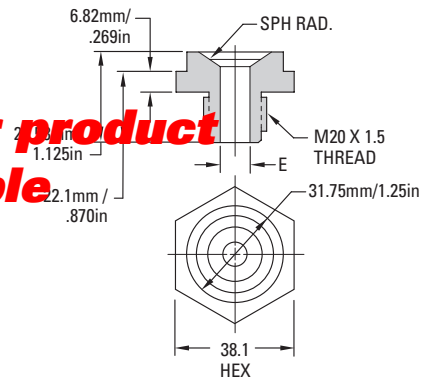
Drool Ring



ITEM NO.

EHL1003

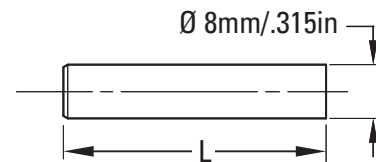
Machine Nozzle Seats



| ITEM NO. | E FLOW CHANNEL | | SPHERICAL RADIUS |
|----------|----------------|---------|------------------|
| | MM | IN | |
| MNS0009 | 9 MM | .354 IN | 1/2 + 3/4 IN |
| MNS1009 | 9 MM | .354 IN | 15.5 MM |
| MNS0012 | 12 MM | .472 IN | 1/2 + 3/4 IN |
| MNS1012 | 12 MM | .472 IN | 15.5 MM |

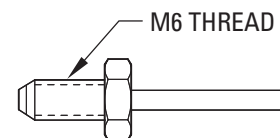
NOTE: Machine nozzle tip orifice to be matched properly with nozzle seat flow channel.

Dowel Pins



| ITEM NO. | L | |
|----------|----|-------|
| | MM | IN |
| DP820 | 20 | .787 |
| DP828 | 28 | 1.102 |
| DP832 | 32 | 1.260 |

Manifold Thermocouple



ITEM NO.

ETC0252

Meteor 1 & 2 Ancillary Component Options

Riser Pads and Screws



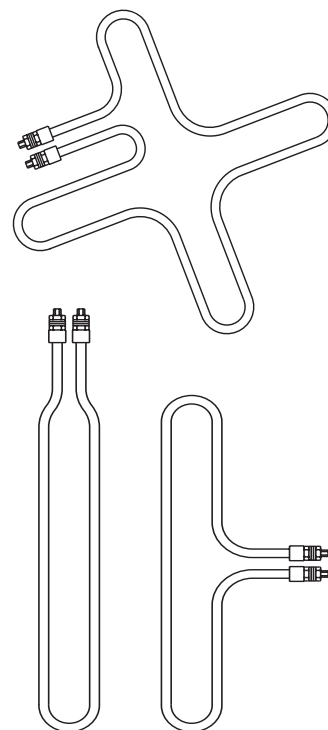
| ITEM NO. | H | | X | |
|----------|------|------|------|------|
| | MM | IN | MM | IN |
| ERP1001 | 12.7 | .500 | 10 | .405 |
| ERP1002 | 19 | .750 | 16.6 | .655 |

| ITEM NO. | H | | X | |
|----------|------|------|------|------|
| | MM | IN | MM | IN |
| ERP1011 | 12.7 | .500 | 10 | .405 |
| ERP1012 | 19 | .750 | 16.6 | .655 |

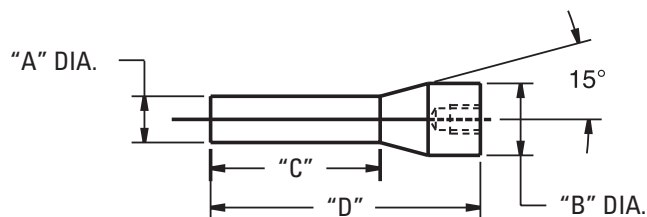
NOTE: For maximum support, use riser pads ERP1001 or ERP1002 whenever possible. Only use riser pads ERP1011 or ERP1012 when there are space constraints.

Meteor Spare Parts

| MANIFOLD TYPE | MANIFOLD KIT ITEM NO. | TUBULAR HEATER | | END PLUG ITEM NO. | SET SCREW ITEM NO. |
|---------------------------|-----------------------|----------------|---------|-------------------|--------------------|
| | | ITEM NO. | WATTAGE | | |
| IN-LINE END EXIT | MEM0100K | MEH0100 | 600 | MTP0009 | MSS0001 |
| | MEM150K | MEH0150 | 750 | | |
| | MEM0200K | MEH0200 | 900 | | |
| | MEM0300K | MEH0300 | 1225 | MPT0012 | |
| | MEM0400K | MEH0400 | 1550 | | |
| | MEM0500K | MEH0500 | 1850 | | |
| IN-LINE CENTER EXIT | MCM0100K | MCH0100 | 600 | MTP0009 | |
| | MCM0150K | MCH0150 | 750 | | |
| | MCM0200K | MCH0200 | 900 | | |
| | MCM0300K | MCH0300 | 1225 | MTP0012 | |
| | MCM0400K | MCH0400 | 1550 | | |
| | MCM0500K | MCH0500 | 1850 | | |
| X-STYLE | MXM0100K | MXH0100 | 575 | MPT0009 | |
| | MXM0150K | MXH0150 | 1350 | | |
| | MXM0200K | MXH0200 | 1675 | | |
| | MXM0300K | MXH0300 | 2150 | MPT0012 | |



End Plugs



| ITEM NO. | A | | B | | C | | D | |
|----------|----|------|----|------|----|-------|------|-------|
| | MM | IN | MM | IN | MM | IN | MM | IN |
| MTP0009 | 9 | .354 | 14 | .551 | 33 | 1.299 | 52.5 | 2.067 |
| MTP0012 | 12 | .472 | 16 | .630 | 60 | 2.362 | 77.5 | 3.051 |

Set Screw



- Thread: M20 x 2.5
- Thickness: 20MM (.787IN)
- Hex flat: 10MM (.394IN)

DME Hot Sprue Bushings



Table of Contents



EcoONE Hot Sprue Bushings 63-69

For simple hot sprue bushing applications



D-MAX High Performance Hot Sprue Bushings..... 63-69

Capability with engineered and commodity-grade resins



Gate-Mate® Hot Sprue Bushings 70-77

Ideal for direct part gating, single-cavity molds



Straight Shot® Hot Sprue Bushings 78-88

Reduce cycle times and save material costs



Integrally Heated Hot Sprue Bushings.....89-94

Advanced heat transfer capability promotes a more uniform heat profile



Hot Runner Services.....95-100

Total support for your hot runner systems



Obsolete Replacement Parts101-111

Obsolete replacement parts for hot runner systems and nozzles

EcoONE Hot Sprue Bushings

Simplicity

The EcoONE Single Nozzle / Hot Sprue Bushing is an economical solution for simple hot sprue requirements. The one-piece body, single heater construction is suitable for commodity, non-filled resin applications.

The nozzle uses the same tips / gate seals as DME's multi-drop StellarONE hot runner system, making this single nozzle perfect for prototype tools intended to go to multi-drops after validation.

Six runner sizes and length combinations with five gating options makes EcoONE a cost effective and versatile solution for single drop applications.



| Polymer Viscosity Key L=Low M=Medium H=High | EcoONE-Series Gate Selection Guide | | | | | | | | NOVEMBER 2024 | | | | | | |
|--|---|---------------------------------|----------|------------|------------|-------------------------------|--------|------|-----------------------------------|--|----------------------|---------|------------------------|---------|--|
| | The values expressed in grams are for reference only and are determined by using a nominal wall thickness of 1.8mm (.070") and unfilled polypropylene Part dimension, wall thickness, length of fill within part, mold conditions and molding parameters must also be considered. | Recommended Gate Diameter Range | | | | Maximum Flow Capacity (Grams) | | | GENERIC POLYMER NAME (TRADE NAME) | | | | | | |
| | | | | | | | | | [A=AMORPHOUS or C=CRYSTALLINE] | | | | | | |
| | | | | | | | | | COMMODITY RESINS | | | | | | |
| | | | | | | | | | TPE (Elastomer) [A] | PE (Polyethylene) [C] Includes LDFE, HDPE, LLDPE & MDPE | PS (Polystyrene) [A] | TPO [C] | PP (Polypropylene) [C] | ABS [A] | |
| Viscosity | | | L | L | M | L | M | M | | | | | | | |
| NOZZLES | TIP | Min (mm) | Max (mm) | Min (inch) | Max (inch) | Low | Medium | High | L | L | M | L | M | M | |
| THERMAL GATE | | | | | | | | | | | | | | | |
| EcoONE-04 | Sprue Gate | 1.5 | 2.0 | 0.061 | 0.079 | 20 | 15 | 10 | | | | | | | |
| | Point Gate Bodiless | 0.8 | 1.5 | 0.033 | 0.059 | 10 | 10 | 7 | | | | | | | |
| | Point Gate Full Body | 1.0 | 1.5 | 0.041 | 0.059 | 10 | 10 | 7 | | | | | | | |
| EcoONE-06 | Sprue Gate | 1.5 | 3.0 | 0.061 | 0.118 | 500 | 400 | 225 | | | | | | | |
| | Point Gate Bodiless | 0.8 | 2.0 | 0.033 | 0.079 | 175 | 125 | 80 | | | | | | | |
| | Point Gate Full Body | 1.0 | 2.0 | 0.041 | 0.079 | 175 | 125 | 80 | | | | | | | |
| EcoONE-08 | Sprue Gate | 2.5 | 3.0 | 0.102 | 0.118 | 625 | 575 | 325 | | | | | | | |
| | Point Gate Bodiless | 0.8 | 2.5 | 0.033 | 0.098 | 250 | 175 | 125 | | | | | | | |
| | Point Gate Full Body | 1.5 | 2.5 | 0.061 | 0.098 | 250 | 175 | 125 | | | | | | | |
| EcoONE-10 | Sprue Gate | 2.5 | 3.5 | 0.102 | 0.138 | 850 | 700 | 425 | | | | | | | |
| | Point Gate Bodiless | 1.0 | 3.0 | 0.041 | 0.118 | 310 | 200 | 150 | | | | | | | |
| | Point Gate Full Body | 1.5 | 3.0 | 0.061 | 0.118 | 310 | 200 | 150 | | | | | | | |
| EcoONE-12 | Sprue Gate | 3.0 | 4.0 | 0.122 | 0.157 | 1000 | 775 | 475 | | | | | | | |
| | Point Gate Bodiless | 1.0 | 3.2 | 0.041 | 0.126 | 500 | 375 | 275 | | | | | | | |
| | Point Gate Full Body | 2.0 | 3.2 | 0.082 | 0.126 | 500 | 375 | 275 | | | | | | | |
| EcoONE-16 | Sprue Gate | 3.0 | 4.5 | 0.122 | 0.177 | 1500 | 1100 | 750 | | | | | | | |
| | Point Gate Bodiless | 1.5 | 3.5 | 0.061 | 0.138 | 800 | 550 | 400 | | | | | | | |
| | Point Gate Full Body | 2.5 | 3.5 | 0.102 | 0.138 | 800 | 550 | 400 | | | | | | | |

EcoONE-04 Series Single Nozzles

EcoONE-04

Technical drawing of the EcoONE-04 door profile, showing dimensions in millimeters (mm) and inches (in).

Top View Dimensions:

- Overall width: 101.35 [3.990]
- Radius: R: 19.05 [0.750]
- Radius: R: 12.70 [0.500]

Side View Dimensions:

- Overall height: A
- Top flange height: 15.00 [0.591]
- Top flange width: 25.00 [0.984]
- Top flange thickness: 4.00 [0.157]
- Internal cavity width: 101.35 [3.990]
- Internal cavity height: 101.35 [3.990]
- Internal cavity width: 101.35 [3.990]
- Internal cavity height: 101.35 [3.990]

Callouts:

- 1: Top flange
- 2: Internal cavity
- 3: Bottom flange
- 4: Internal cavity
- 5: Top flange

EcoONE-06 Series Single Nozzles

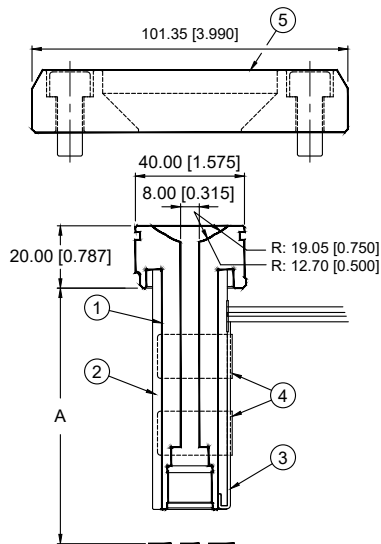
| A LENGTH | HSB ASSEMBLY | TIP TYPE | ASSEMBLY INCLUDES | | | | | | 5 LOCATING RING | | |
|-------------|-----------------|--------------------|-------------------|------------------|------------------|-----------------|-------------------|-------------------|--------------------|---------|-----------|
| | | | GATE PACKAGE | 1 NOZZLE BODY | 2 BODY HEATER | WATTS (230V) | 3 THERMOCOUPLE | 4 T/C RETAINER | | | |
| 60 | SOHSB6060SRT01 | STD SPRUE | SOSRT0601 | SOHSBNB6060 | SONH18055 | 350 | SOTC10150-J | SONHC06 | SOHSBLR06 | | |
| | SOHSB6060SRT02 | EXT SPRUE | SOSRT0602 | | | | | | | | |
| | SOHSB6060PGA | BODILESS PT GT | SOPGA06 | | | | | | | | |
| | SOHSB6060FBOP | FULL BODY PT GT | SOFBOP06 | | | | | | | | |
| | SOHSB6060FBOPEX | EX FULL BODY PT GT | SOFBOP06EX | | | | | | | | |
| 100 | SOHSB6100SRT01 | STD SPRUE | SOSRT0601 | SOHSBNB6100 | SONH18095 | 400 | SOTC10200-J | | | SONHC06 | SOHSBLR06 |
| | SOHSB6100SRT02 | EXT SPRUE | SOSRT0602 | | | | | | | | |
| | SOHSB6100PGA | BODILESS PT GT | SOPGA06 | | | | | | | | |
| | SOHSB6100FBOP | FULL BODY PT GT | SOFBOP06 | | | | | | | | |
| | SOHSB6100FBOPEX | EX FULL BODY PT GT | SOFBOP06EX | | | | | | | | |

EcoONE-Series Single Nozzle Assemblies

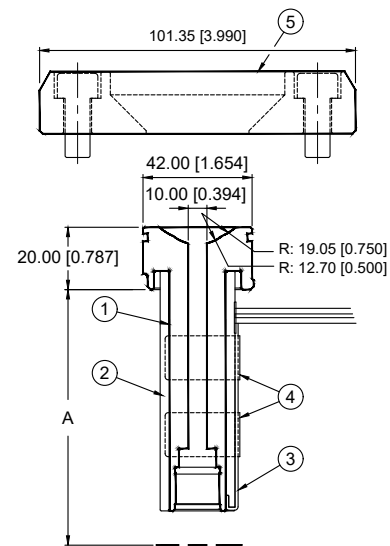
EcoONE-08 Series Single Nozzles

| A LENGTH | HSB ASSEMBLY | TIP TYPE | ASSEMBLY INCLUDES | | | | | | 5 LOCATING RING |
|-------------|-----------------|--------------------|-------------------|------------------|------------------|-----------------|-------------------|-------------------|--------------------|
| | | | GATE PACKAGE | 1 NOZZLE BODY | 2 BODY HEATER | WATTS (230V) | 3 THERMOCOUPLE | 4 T/C RETAINER | |
| 60 | SOHSB8060SRT01 | STD SPRUE | SOSRT0801 | SOHSBNB8060 | SONH20055 | 350 | SOTC10150-J | SONHC08 | SOHSBLR08 |
| | SOHSB8060SRT02 | EXT SPRUE | SOSRT0802 | | | | | | |
| | SOHSB8060PGA | BODILESS PT GT | SOPGA08 | | | | | | |
| | SOHSB8060FBOP | FULL BODY PT GT | SOFBOP08 | | | | | | |
| | SOHSB8060FBOPEX | EX FULL BODY PT GT | SOFBOP08EX | | | | | | |
| 100 | SOHSB8100SRT01 | STD SPRUE | SOSRT0801 | SOHSBNB8100 | SONH20095 | 500 | SOTC10200-J | SONHC08 | SOHSBLR08 |
| | SOHSB8100SRT02 | EXT SPRUE | SOSRT0802 | | | | | | |
| | SOHSB8100PGA | BODILESS PT GT | SOPGA08 | | | | | | |
| | SOHSB8100FBOP | FULL BODY PT GT | SOFBOP08 | | | | | | |
| | SOHSB8100FBOPEX | EX FULL BODY PT GT | SOFBOP08EX | | | | | | |

EcoONE-08



EcoONE-10

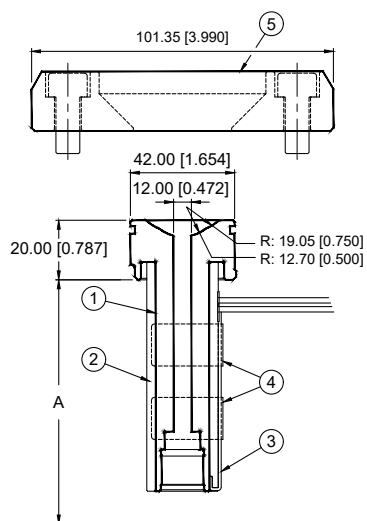


EcoONE-10 Series Single Nozzles

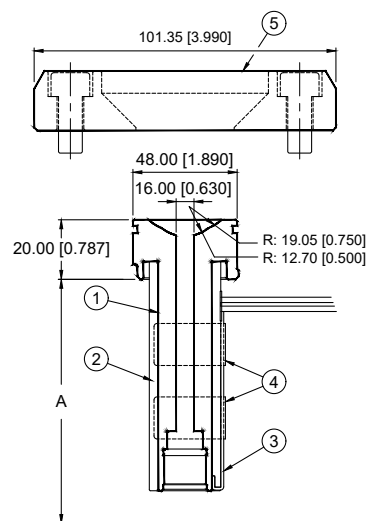
| A LGTH | HSB ASSEMBLY | TIP TYPE | ASSEMBLY INCLUDES | | | | | | 5 LOCATING RING |
|-----------|------------------|--------------------|-------------------|------------------|------------------|-----------------|-------------------|-------------------|--------------------|
| | | | GATE PACKAGE | 1 NOZZLE BODY | 2 BODY HEATER | WATTS (230V) | 3 THERMOCOUPLE | 4 T/C RETAINER | |
| 70 | SOHSB10070SRT01 | STD SPRUE | SOSRT1001 | SOHSBN10070 | SONH22065 | 400 | SOTC10150-J | SONHC10 | SOHSBLR10 |
| | SOHSB10070SRT02 | EXT SPRUE | SOSRT1002 | | | | | | |
| | SOHSB10070PGA | BODILESS PT GT | SOPGA10 | | | | | | |
| | SOHSB10070FBOP | FULL BODY PT GT | SOFBOP10 | | | | | | |
| | SOHSB10070FBOPEX | EX FULL BODY PT GT | SOFBOP10EX | | | | | | |
| 120 | SOHSB10120SRT01 | STD SPRUE | SOSRT1001 | SOHSBN10120 | SONH22115 | 600 | SOTC10200-J | SONHC10 | SOHSBLR10 |
| | SOHSB10120SRT02 | EXT SPRUE | SOSRT1002 | | | | | | |
| | SOHSB10120PGA | BODILESS PT GT | SOPGA10 | | | | | | |
| | SOHSB10120FBOP | FULL BODY PT GT | SOFBOP10 | | | | | | |
| | SOHSB10120FBOPEX | EX FULL BODY PT GT | SOFBOP10EX | | | | | | |

EcoONE-12 Series Single Nozzles

EcoONE-12



EcoONE-16



ASS
HSB1
HSB1

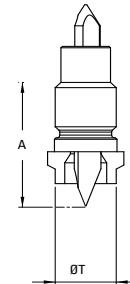
U.S. 800-626-6653 ▪ Canada 800-387-6600 ▪ DME.net ▪ store.DME.net

EcoONE-Series Thermal Gate Tips

THERMAL GATE TIPS

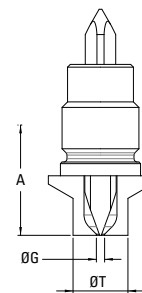
Bodiless Point Gate

| SERIES | ITEM NUMBER | INCLUDES | | T DIA. |
|---------------|-------------|-----------|-----------|--------|
| | | NEEDLE | RETAINER | |
| StellarONE-04 | SOPGA04 | SOPGN0401 | SOBRT0401 | 8 |
| StellarONE-06 | SOPGA06 | SOPGN0601 | SOBRT0601 | 10 |
| StellarONE-08 | SOPGA08 | SOPGN0801 | SOBRT0801 | 12 |
| StellarONE-10 | SOPGA10 | SOPGN1001 | SOBRT1001 | 14 |
| StellarONE-12 | SOPGA12 | SOPGN1201 | SOBRT1201 | 16 |
| StellarONE-16 | SOPGA16 | SOPGN1601 | SOBRT1601 | 20 |



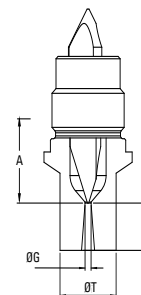
Full Body Point Gate

| SERIES | ITEM NUMBER | INCLUDES | | G DIA. | T DIA. |
|---------------|-------------|-----------|-----------|--------|--------|
| | | NEEDLE | RETAINER | | |
| StellarONE-04 | SOFBOP04 | SOPGN0401 | SOFRT0401 | 1.0 | 8 |
| StellarONE-06 | SOFBOP06 | SOPGN0601 | SOFRT0601 | 1.5 | 10 |
| StellarONE-08 | SOFBOP08 | SOPGN0801 | SOFRT0801 | 1.5 | 12 |
| StellarONE-10 | SOFBOP10 | SOPGN1001 | SOFRT1001 | 1.5 | 14 |
| StellarONE-12 | SOFBOP12 | SOPGN1201 | SOFRT1201 | 2.0 | 16 |
| StellarONE-16 | SOFBOP16 | SOPGN1601 | SOFRT1601 | 2.5 | 20 |



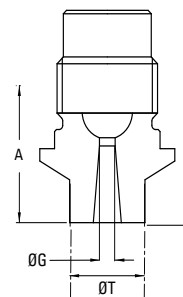
Full Body Extended Point Gate

| SERIES | ITEM NUMBER | INCLUDES | | G DIA. | T DIA. | L |
|---------------|-------------|-----------|-----------|--------|--------|----|
| | | NEEDLE | RETAINER | | | |
| StellarONE-04 | SOFBOP04EX | SOPGN0401 | SOFRT0402 | 1.0 | 8 | 10 |
| StellarONE-06 | SOFBOP06EX | SOPGN0601 | SOFRT0602 | 1.5 | 10 | 10 |
| StellarONE-08 | SOFBOP08EX | SOPGN0801 | SOFRT0802 | 1.5 | 12 | 10 |
| StellarONE-10 | SOFBOP10EX | SOPGN1001 | SOFRT1002 | 1.5 | 14 | 10 |
| StellarONE-12 | SOFBOP12EX | SOPGN1201 | SOFRT1202 | 2.0 | 16 | 10 |
| StellarONE-16 | SOFBOP16EX | SOPGN1601 | SOFRT1602 | 2.5 | 20 | 10 |



Standard Sprue Gate

| Series | Item Number | G DIA. | T DIA. | L |
|---------------|-------------|--------|--------|----|
| StellarONE-04 | SOSRT0401 | 1.5 | 8 | NA |
| StellarONE-06 | SOSRT0601 | 2 | 10 | NA |
| StellarONE-08 | SOSRT0801 | 2.5 | 12 | NA |
| StellarONE-10 | SOSRT1001 | 2.5 | 14 | NA |
| StellarONE-12 | SOSRT1201 | 3.0 | 16 | NA |
| StellarONE-16 | SOSRT1601 | 3.0 | 20 | NA |



Extended Sprue Gate

| Series | Item Number | G DIA. | T DIA. | L |
|---------------|-------------|--------|--------|----|
| StellarONE-04 | SOSRT0402 | 1.5 | 8 | 10 |
| StellarONE-06 | SOSRT0602 | 2 | 10 | 10 |
| StellarONE-08 | SOSRT0802 | 2.5 | 12 | 10 |
| StellarONE-10 | SOSRT1002 | 2.5 | 14 | 10 |
| StellarONE-12 | SOSRT1202 | 3.0 | 16 | 10 |
| StellarONE-16 | SOSRT1602 | 3.0 | 20 | 10 |

EcoONE-Series Thermal Expansion Allowance

THERMAL EXPANSION ALLOWANCE

The expansion factor must be taken into consideration prior to machining and installing the nozzle. This factor must be added to the nozzle nominal "A" dimension.

$Z-1$ = Nozzle Length "A" + "BE" Thermal Expansion (ΔL) - Nozzle Plate Thickness

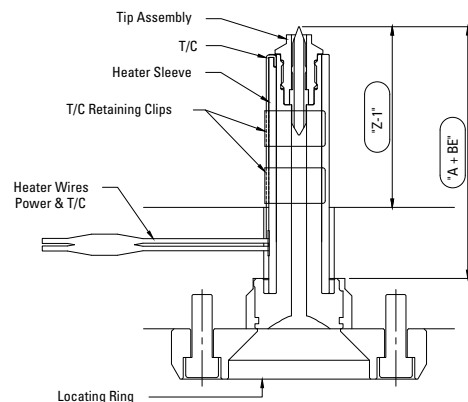
The formula for determining the thermal expansion is as follows:

$BE = \text{"A" dimension} * 0.0000115 * (\text{nozzle setpoint temperature} - \text{mold temperature } ^\circ\text{C})$

Note: The expansion coefficient for $^\circ\text{F}$ is 0.00000633

EXAMPLE: Nozzle "A" dimension 120mm, setpoint temperature 260°C , mold operating temperature 50°C .

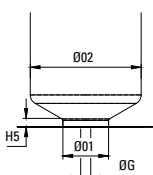
$BE = 120\text{mm} * 0.0000115 * (260^\circ - 50^\circ) = 0.2898\text{mm}$. Thus nozzle length "A" 120mm + BE 0.2898 = 120.290mm



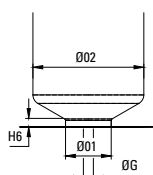
EcoONE SNHR / HSB Nozzle Pocket Dimensions

| NOZZLE SERIES | Ø01 | Ø02 | H1 | H2 | H5 | H6 |
|---------------|-----|-----|-----|-----|-----|------|
| EcoONE-04 | 8 | 18 | 2.6 | 4.5 | 4.5 | 14.5 |
| EcoONE-06 | 10 | 28 | 2.6 | 4.6 | 5 | 15 |
| EcoONE-08 | 12 | 30 | 2.6 | 4.7 | 5 | 15 |
| EcoONE-10 | 14 | 34 | 2.6 | 4.7 | 5 | 15 |
| EcoONE-12 | 16 | 36 | 4.6 | 6.7 | 6.5 | 14 |
| EcoONE-16 | 20 | 42 | 4.6 | 7.1 | 7 | 17 |

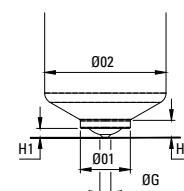
THERMAL SPRUE
THERMAL FULL BODY



THERMAL EXT SPRUE
THERMAL EXT FULL BODY

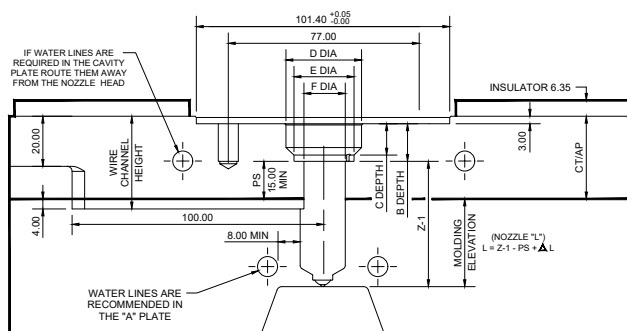


THERMAL BODILESS



EcoONE SNHR / HSB Plate & Nozzle Pocket Dimensions

| NOZZLE SERIES | HEAD HEIGHT mm | B DEPTH mm (+0.02mm / -0.00mm) | C DEPTH mm | D DIA mm | E DIA mm (+0.02mm / -0.00mm) | F DIA mm | PS mm MINIMUM | CT/AP mm MINIMUM |
|---------------|-------------------|-----------------------------------|---------------|-------------|---------------------------------|-------------|------------------|---------------------|
| EcoONE-04 | 15 | 15 | 12.5 | 31 | 25 | 18 | 15 | 33 |
| EcoONE-06 | 20 | 20 | 16.5 | 42 | 36 | 28 | 15 | 38 |
| EcoONE-08 | 20 | 20 | 16.5 | 46 | 40 | 30 | 15 | 38 |
| EcoONE-10 | 20 | 20 | 16.5 | 48 | 42 | 32 | 15 | 38 |
| EcoONE-12 | 20 | 20 | 16.5 | 48 | 42 | 36 | 15 | 38 |
| EcoONE-16 | 20 | 20 | 16.5 | 54 | 48 | 42 | 15 | 38 |



D-MAX High Performance Hot Sprue Bushings

HIGH-PERFORMANCE CAPABILITY
WITH ENGINEERED AND
COMMODITY-GRADE RESINS



Plastic Materials and Specifications

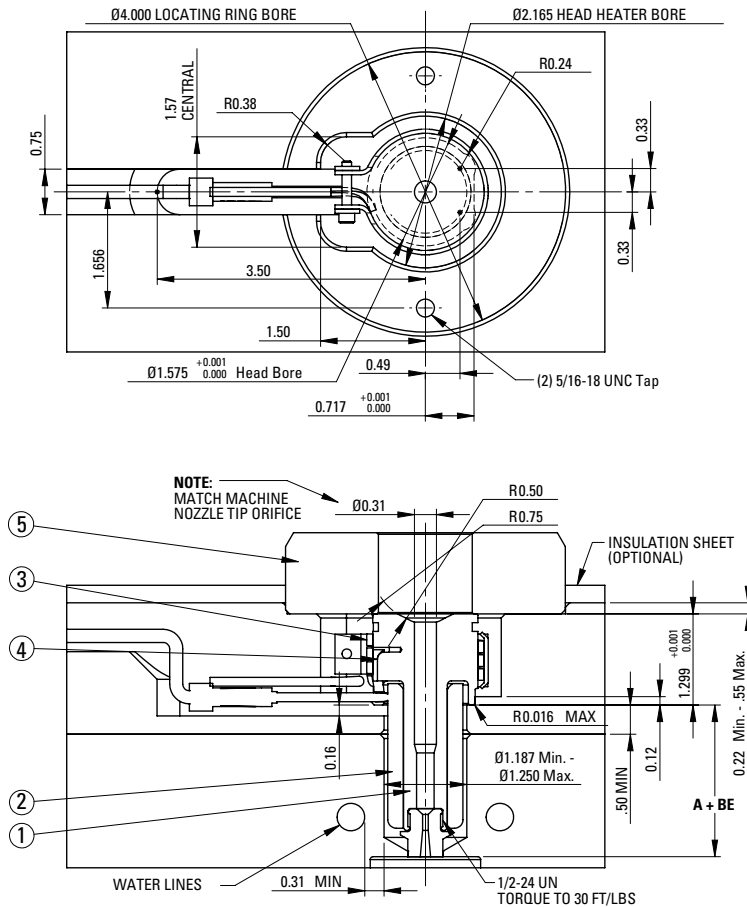
- Large number of bushing and tip combinations
- Three flow channel sizes
- Lengths up to 190mm
- High performance capability
- Standard and wear-resistant tips
- Precise thermal control

| PLASTIC MATERIAL PROCESS CONDITIONS | | | | | | | | | | | |
|-------------------------------------|-----------------------|---------------------|------|------------------|------|------------------------|------|-----------------|-------------|---------------|-------------|
| MATERIAL | STANDARD RESIN SYMBOL | PROCESS TEMPERATURE | | MOLD TEMPERATURE | | HOT RUNNER TEMPERATURE | | DENSITY MELTING | | SOLID DENSITY | |
| | | [°C] | [°F] | [°C] | [°F] | [°C] | [°F] | [g/cm³] | [lbs/inch³] | [g/cm³] | [lbs/inch³] |
| Styrene Butadiene | SB | 210 | 410 | 70 | 158 | 230 | 446 | 0.93 | 0.0366 | 1.02 | 0.0369 |
| Polyurethane | PUR | 220 | 428 | 45 | 113 | 240 | 464 | 0.93 | 0.0366 | 1.11 | 0.0401 |
| Styrene-acrylonitrile | SAN | 230 | 446 | 80 | 176 | 255 | 491 | 0.99 | 0.0358 | 1.08 | 0.0390 |
| Polystyrene | PS | 210 | 410 | 45 | 113 | 230 | 446 | 0.95 | 0.0343 | 1.05 | 0.0379 |
| Polycarbonate | PC | 300 | 572 | 80 | 176 | 330 | 626 | 1.08 | 0.0390 | 1.20 | 0.0434 |
| Polyphenylene Oxide-Styrene | PPO | 260 | 500 | 80 | 176 | 300 | 572 | 0.99 | 0.0358 | 1.13 | 0.0408 |
| Polyethylene | PE | 200 | 392 | 25 | 77 | 225 | 437 | 0.74 | 0.0267 | 0.96 | 0.0347 |
| Polypropylene | PP | 225 | 437 | 40 | 104 | 245 | 473 | 0.73 | 0.0264 | 0.91 | 0.0329 |
| Polyether-etherketone | PEEK | 330 | 626 | 165 | 329 | 370 | 698 | 1.13 | 0.0408 | 1.37 | 0.0495 |
| Polyphenylene Sulfide | PPS | 300 | 572 | 110 | 230 | 330 | 626 | 1.53 | 0.0553 | 1.70 | 0.0614 |
| Polybutylene Terephthalate | PBT | 265 | 509 | 60 | 140 | 290 | 554 | 1.44 | 0.0520 | 1.57 | 0.0567 |
| Polyamide 6 | PA 6 | 220 | 428 | 90 | 194 | 250 | 482 | 0.98 | 0.0354 | 1.14 | 0.0412 |
| Polyamide 66 | PA 66 | 255 | 491 | 90 | 194 | 280 | 536 | 1.09 | 0.0394 | 1.26 | 0.0455 |
| Thermal Plastic Elastomers | TPE | 240 | 464 | 35 | 95 | 265 | 509 | 0.78 | 0.0282 | 0.90 | 0.0325 |
| Polyoxymethylene (Polyacetal) | POM | 180 | 356 | 100 | 212 | 200 | 392 | 1.16 | 0.0419 | 1.42 | 0.0513 |
| Polymethyl Methacrylate | PMMA | 235 | 455 | 70 | 158 | 250 | 482 | 1.09 | 0.0394 | 1.18 | 0.0426 |
| Acrylonitrile Butadiene Styrene | ABS | 225 | 437 | 70 | 158 | 250 | 482 | 0.95 | 0.0343 | 1.08 | 0.0390 |

NOTE: Temperature and density values shown above are general, and may not apply to your application. Please refer to proper processing data for the resin grade intended for your specific application. Failure to use temperature settings appropriate to the specific resin and resin grade intended for your application may result in poor part quality, or inability to produce acceptable molded parts.

HIGH PERFORMANCE HOT SPRUE BUSHING 250 SERIES

NOTE: Dimensions shown in inches unless specified otherwise.



For selection of gate diameter it is important to take into consideration the material flow characteristics, share rate of resin, molding conditions, fill time requirements, gate vestige, wall thickness and configuration of parts to be molded. Situations requiring high injection velocities must be considered when selecting small gate diameters. High injection rates may require larger gates due to shear heat build up (e.g. high weight thin wall applications). See material manufacturer's literature for further information regarding material to be molded.

To compensate for nozzle's growth when heat is applied, the linear expansion of the nozzle (BE) at a given temperature must be added to the nominal "A" dimension. The formula below shows how to figure boring depth (dimension "A" + BE). The tip of the nozzle will now be flush with the cavity line at processing temperature.

Formula for determining this expansion factor is as follows:
 $BE = "A" \text{ dimension} \times 0.00000633 \times (\text{nozzle set point} - 68^{\circ}\text{F})$
 (assuming the mold is at 68°F during operation). If mold temperature is different, substitute 68°F with actual mold temperature.

EXAMPLE: Given a 4.134 inch "A" dimension, with a set point of 500°F:

$$BE = 4.134 \times 0.00000633 \times (500 - 68) = 0.011$$

Thus "A" + BE will be 4.145

NOTE: The above information is only given as an example; variations may occur based on mold configurations and cooling factor. In some instances, it may be necessary to obtain an empirical factor.

| "O" DIA. | | "S" DIA. |
|----------------|--------------|----------|
| UNFILLED RESIN | FILLED RESIN | |
| 0.028 Min. | 0.062 Min. | *0.3750 |
| | | 0.5005 |
| | | 0.7505 |
| | | 1.0005 |

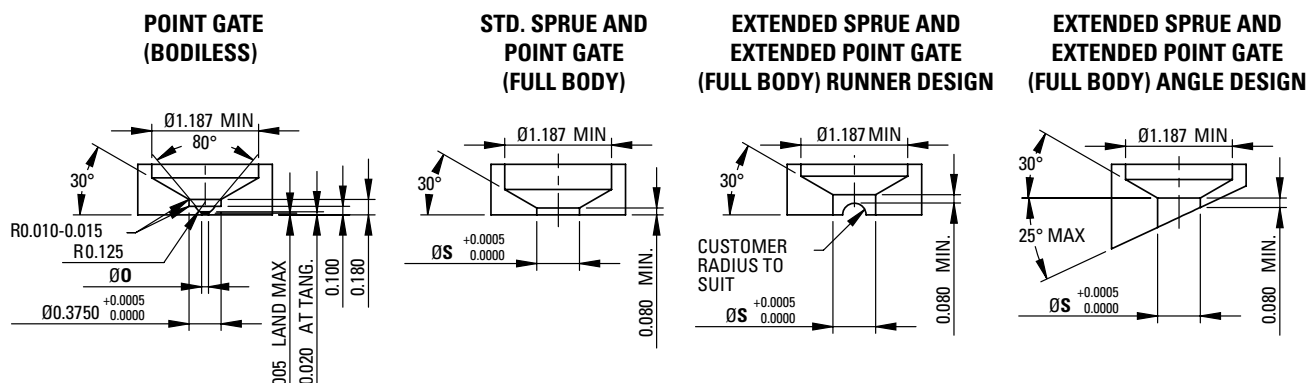
* Point Gate (Full Body) only.

High Performance Hot Sprue Bushing - 250 Series

| BUSHING AND COMPONENT SPECIFICATIONS | | | | | | | |
|--------------------------------------|-------------------|------------------------|-----------------------------------|---------|-----------------------|---------|-----------------------------------|
| ASSEMBLY | "A" DIMENSION | ASSEMBLY COMPONENTS | | | | | |
| | | BUSHING BODY DETAIL #1 | HIGH PERFORMANCE HEATER DETAIL #2 | WATTAGE | HEAD HEATER DETAIL #3 | WATTAGE | THERMOCOUPLE DETAIL #4 |
| DMAX06055 | 2.165in (55.00mm) | DEP06055 | CIH0081S | 440 | RDP38021 | 500 | DTC38001 or DTC38002* (High-Heat) |
| DMAX06067 | 2.657in (67.50mm) | DEP06067 | CIH0082S | 350 | | | |

* Locating rings must be ordered separately.

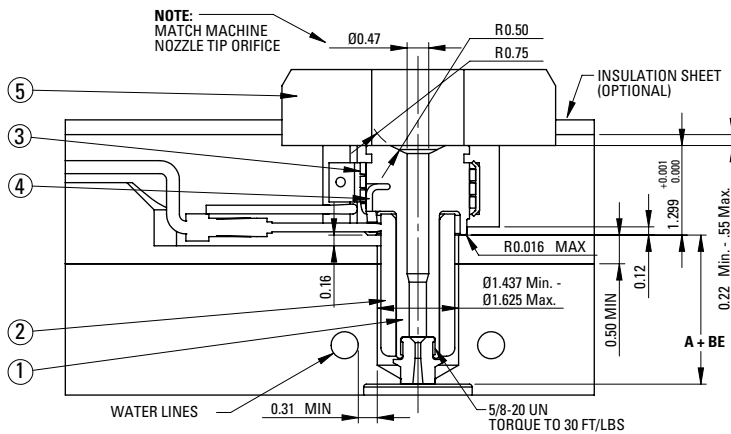
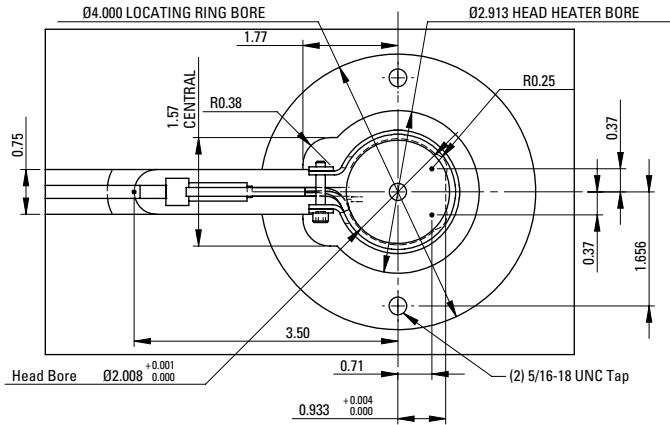
* NOTE: FOR HIGH-HEAT APPLICATIONS (>625°F) PLEASE CONTACT DME APPLICATION ENGINEERING FOR DESIGN ASSISTANCE- appl_eng@dme.net



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High Performance Hot Sprue Bushing 375 Series

NOTE: Dimensions shown in inches unless specified otherwise.



For selection of gate diameter it is important to take into consideration the material flow characteristics, share rate of resin, molding conditions, fill time requirements, gate vestige, wall thickness and configuration of parts to be molded. Situations requiring high injection velocities must be considered when selecting small gate diameters. High injection rates may require larger gates due to shear heat build up (e.g. high weight thin wall applications). See material manufacturer's literature for further information regarding material to be molded.

To compensate for nozzle's growth when heat is applied, the linear expansion of the nozzle (BE) at a given temperature must be added to the nominal "A" dimension. The formula below shows how to figure boring depth (dimension "A" + BE). The tip of the nozzle will now be flush with the cavity line at processing temperature.

Formula for determining this expansion factor is as follows:
 $BE = "A" \text{ dimension} \times 0.00000633 \times \text{nozzle set point} - 68^{\circ}\text{F}$
 (assuming the mold is at 68°F during operation). If mold temperature is different, substitute 68°F with actual mold temperature.

EXAMPLE: Given a 2.362 inch "A" dimension, with a set point of 500°F:

$$BE = 2.362 \times 0.00000633 \times (500 - 68) = 0.0064$$

Thus "A" + BE will be 2.368

NOTE: The above information is only given as an example; variations may occur based on mold configurations and cooling factor. In some instances, it may be necessary to obtain an empirical factor.

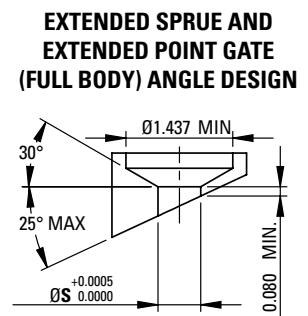
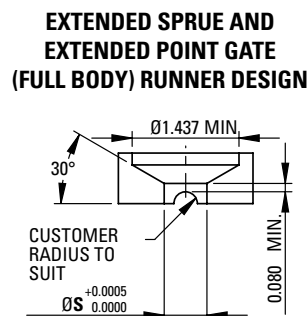
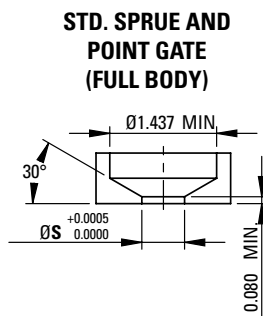
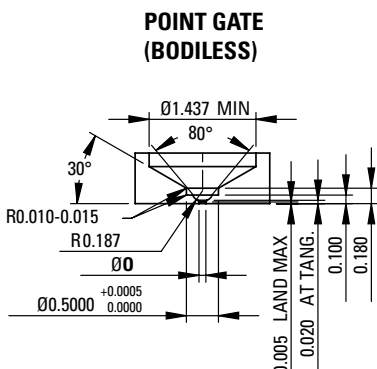
| "O" DIA. | | "S" DIA. |
|----------------|--------------|----------|
| UNFILLED RESIN | FILLED RESIN | |
| 0.028 Min. | 0.062 Min. | 0.5005 |
| | | 0.7505 |
| | | 1.0005 |

High Performance Sprue Bushing - 375 Series

| BUSHING AND COMPONENT SPECIFICATIONS | | | | | | | |
|--------------------------------------|-------------------|------------------------|-----------------------------------|---------|-----------------------|---------|-----------------------------------|
| ASSEMBLY | "A" DIMENSION | ASSEMBLY COMPONENTS | | | | | |
| | | BUSHING BODY DETAIL #1 | HIGH PERFORMANCE HEATER DETAIL #2 | WATTAGE | HEAD HEATER DETAIL #3 | WATTAGE | THERMOCOUPLE DETAIL #4 |
| DMAX10060 | 2.362in (60.00mm) | DEP10060 | CIH0088S | 400 | RDP50021 | 750 | DTC38001 or DTC38002* (High-Heat) |
| DMAX10072 | 2.854in (72.50mm) | DEP10072 | CIH0089S | 450 | | | |
| DMAX10085 | 3.346in (85.00mm) | DEP10085 | CIH0090S | 550 | | | |

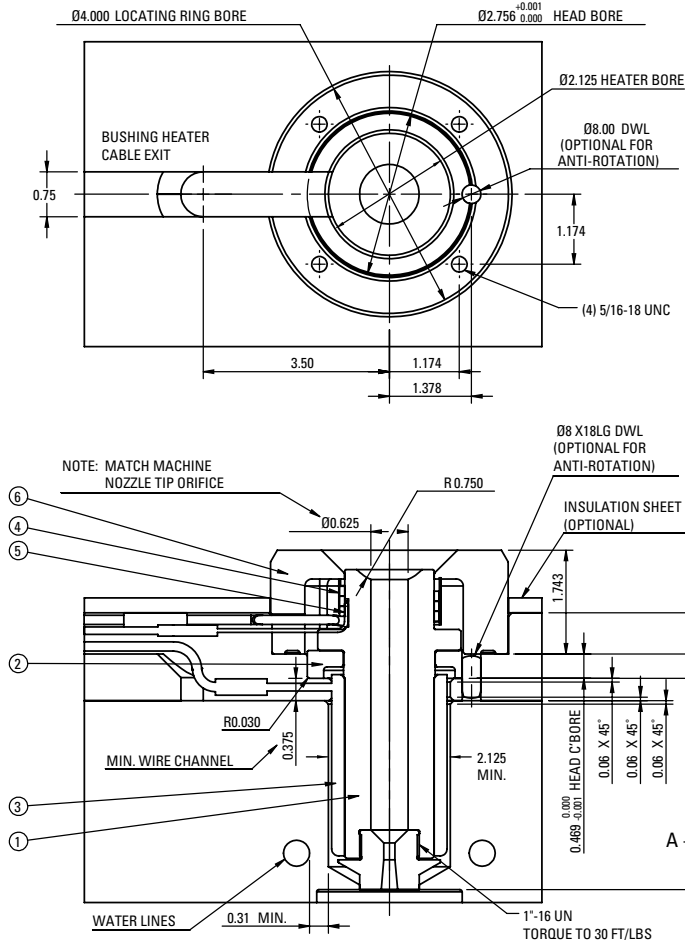
* Locating rings must be ordered separately.

* NOTE: FOR HIGH-HEAT APPLICATIONS (>625F) PLEASE CONTACT DME APPLICATION ENGINEERING FOR DESIGN ASSISTANCE- appl_eng@dme.net



High Performance Hot Sprue Bushing 625 Series

NOTE: Dimensions shown in inches unless specified otherwise.



For selection of gate diameter it is important to take into consideration the material flow characteristics, shear rate of resin, molding conditions, fill time requirements, gate vestige, wall thickness and configuration of parts to be molded. Situations requiring high injection velocities must be considered when selecting small gate diameters. High injection rates may require larger gates due to shear heat build up (e.g. high weight thin wall applications). See material manufacturer's literature for further information regarding material to be molded.

To compensate for nozzle's growth when heat is applied, the linear expansion of the nozzle (BE) at a given temperature must be added to the nominal "A" dimension. The formula below shows how to figure boring depth (dimension "A" + BE). The tip of the nozzle will now be flush with the cavity line at processing temperature.

Formula for determining this expansion factor is as follows:
 $BE = "A" \text{ dimension} \times 0.00000633 \times \text{nozzle set point} - 68^{\circ}\text{F}$
 (assuming the mold is at 68°F during operation). If mold temperature is different, substitute 68°F with actual mold temperature.

EXAMPLE: Given a 3.543in "A" dimension, with a set point of 500°F and mold temperature 68°F :

$$BE = 3.543 \times 0.00000633 \times (500 - 68) = .010$$

Thus "A" + BE will be 3.553

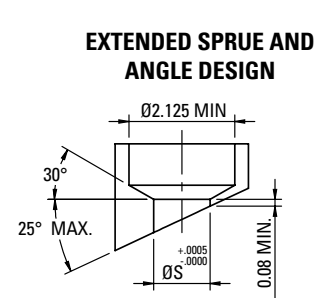
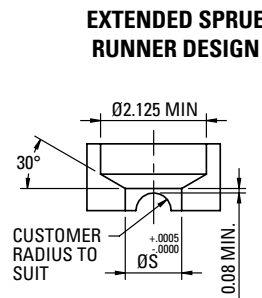
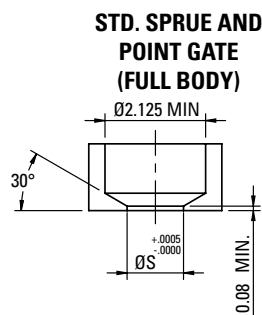
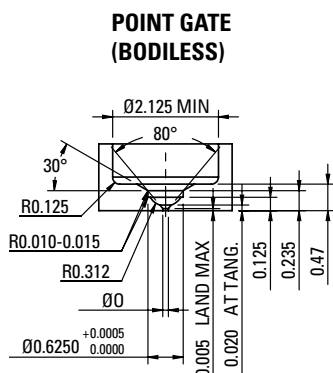
NOTE: The above information is only given as an example; variations may occur based on mold configurations and cooling factor. In some instances, it may be necessary to obtain an empirical factor.

| "O" DIA. | | "S" DIA. |
|----------------|--------------|----------|
| UNFILLED RESIN | FILLED RESIN | |
| 0.080 Min. | 0.100 Min. | 1.0005 |

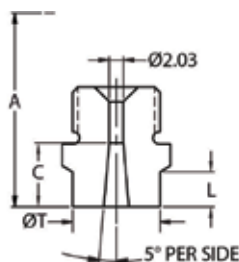
High Performance Bushing -625 Series

| BUSHING AND COMPONENT SPECIFICATIONS | | | | | | | | |
|--------------------------------------|-------------------|---------------------------|---------------------------|-----------------------------|---------|--------------------------|---------|---------------------------|
| ASSEMBLY | "A" DIMENSION | ASSEMBLY COMPONENTS | | | | | | |
| | | BUSHING BODY DETAIL #1 | BUSHING HEAD DETAIL #2 | CAST-IN HEATER DETAIL #3 | WATTAGE | HEAD HEATER DETAIL #4 | WATTAGE | THERMOCOUPLE DETAIL #5 |
| DMAX16090 | 3.543in (90.00mm) | DEP16090 | DBP16001 | CIH0104-S | 847 | RDP38021 | 500 | DTC62501 |

* Locating rings must be ordered separately.



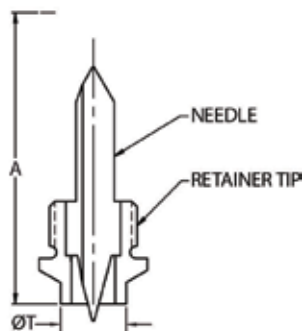
Gate Tip Detail



Sprue Gate/Extended Sprue Gate

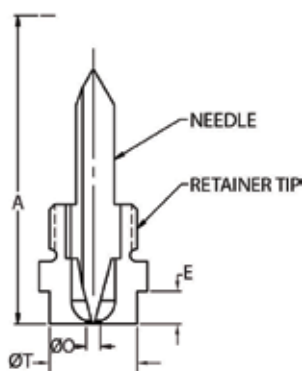
| SERIES | GATE TIP | ITEM NUMBER | B DIA. | T DIA. | L | C |
|--------|---------------------|-------------|--------|--------|-------|-------|
| 250 | SPRUE GATE | EHT0010 | .080 | .500 | .250 | .375 |
| | | EHT0011 | | .750 | | |
| | | EHT0012 | | 1.000 | | |
| | EXTENDED SPRUE GATE | EHT0013 | | .500 | 1.000 | 1.125 |
| | | EHT0014 | | .750 | | |
| | | EHT0015 | | 1.000 | | |
| 375 | SPRUE GATE | EHT0016 | .125 | .500 | .250 | .375 |
| | | EHT0017 | | .750 | | |
| | | EHT0018 | | 1.000 | | |
| | EXTENDED SPRUE GATE | EHT0019 | | .500 | 1.000 | 1.125 |
| | | EHT0020 | | .750 | | |
| | | EHT0021 | | 1.000 | | |
| 625 | SPRUE GATE | EHT0022 | .187 | 1.000 | .250 | .500 |
| | EXTENDED SPRUE GATE | EHT0023 | | | 1.000 | 1.250 |

(Add .750 to A dimension for extended sprue gate tips.)



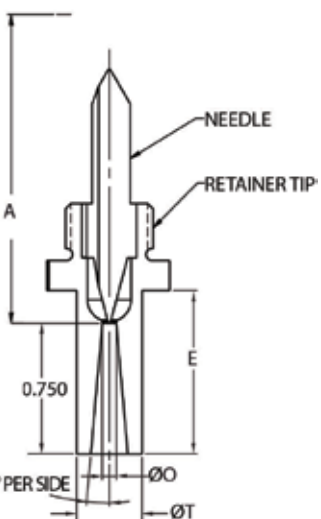
Point Gate (Bodiless)

| SERIES | GATE TIP | ITEM NUMBER | T DIA. | INCLUDES | |
|--------|----------------|-------------|--------|----------|--------------|
| | | | | NEEDLE | RETAINER TIP |
| 250 | STANDARD | EHT0005 | .375 | EHN0015 | EHT0024 |
| | WEAR RESISTANT | EHT1314 | | | EHT0324 |
| | STANDARD | EHT1308 | | EHN0401 | EHT0324 |
| | | EHT1313 | | | EHT1324 |
| 375 | STANDARD | EHT0039 | .500 | EHN0016 | EHT0025 |
| | WEAR RESISTANT | EHT1312 | | | EHT0325 |
| | STANDARD | EHT1303 | | EHN0400 | EHT0325 |
| | | EHT1309 | | | EHT1325 |
| 625 | STANDARD | EHT1306 | .625 | EHN0019 | EHT1354 |
| | WEAR RESISTANT | EHT1311 | | | EHT0326 |
| | STANDARD | EHT1307 | | EHN0402 | EHT0326 |
| | | EHT1310 | | | EHT1354 |



Point Gate (Full Body)

| SERIES | TYPE | ITEM NUMBER | T DIA. | O DIA. | E | INCLUDES | |
|--------|----------------|-------------|--------|--------|------|----------|--------------|
| | | | | | | NEEDLE | RETAINER TIP |
| 250 | STANDARD | EHT2001 | .375 | .060 | .187 | EHN0015 | EHT0026 |
| | | EHT2002 | | .080 | | | EHT0027 |
| | | EHT2003 | .500 | .060 | | | EHT0028 |
| | | EHT2004 | | .080 | | | EHT0029 |
| | WEAR RESISTANT | EHT2005 | .375 | .060 | | EHN0401 | EHT1326 |
| | | EHT2006 | | .080 | | | EHT1327 |
| | | EHT2007 | .500 | .060 | | | EHT1328 |
| | | EHT2008 | | .080 | | | EHT1329 |
| | STANDARD | EHT2009 | .500 | .080 | | EHN0016 | EHT0030 |
| | | EHT2010 | | .100 | | | EHT0031 |
| | | EHT2011 | | .080 | | | EHT0032 |
| | | EHT2012 | | .100 | | | EHT0033 |
| | | EHT2013 | | .080 | | | EHT0034 |
| | | EHT2014 | | .100 | | | EHT0035 |
| 375 | STANDARD | EHT2015 | .500 | .080 | .230 | EHN0016 | EHT1330 |
| | | EHT2016 | | .100 | | | EHT1331 |
| | | EHT2017 | | .080 | | | EHT1332 |
| | | EHT2018 | | .100 | | | EHT1333 |
| | | EHT2019 | | .080 | | | EHT1334 |
| | | EHT2020 | | .100 | | | EHT1335 |
| | WEAR RESISTANT | EHT2021 | .500 | .080 | | EHN0400 | EHT0036 |
| | | EHT2022 | | .100 | | | EHT1336 |
| | | EHT2023 | | .080 | | | EHT1337 |
| | | EHT2024 | | .100 | | | EHT1338 |
| 625 | STANDARD | EHT2021 | 1.000 | .125 | .250 | EHN0019 | EHT0036 |
| | WEAR RESISTANT | EHT2022 | | | | EHN0402 | EHT1336 |



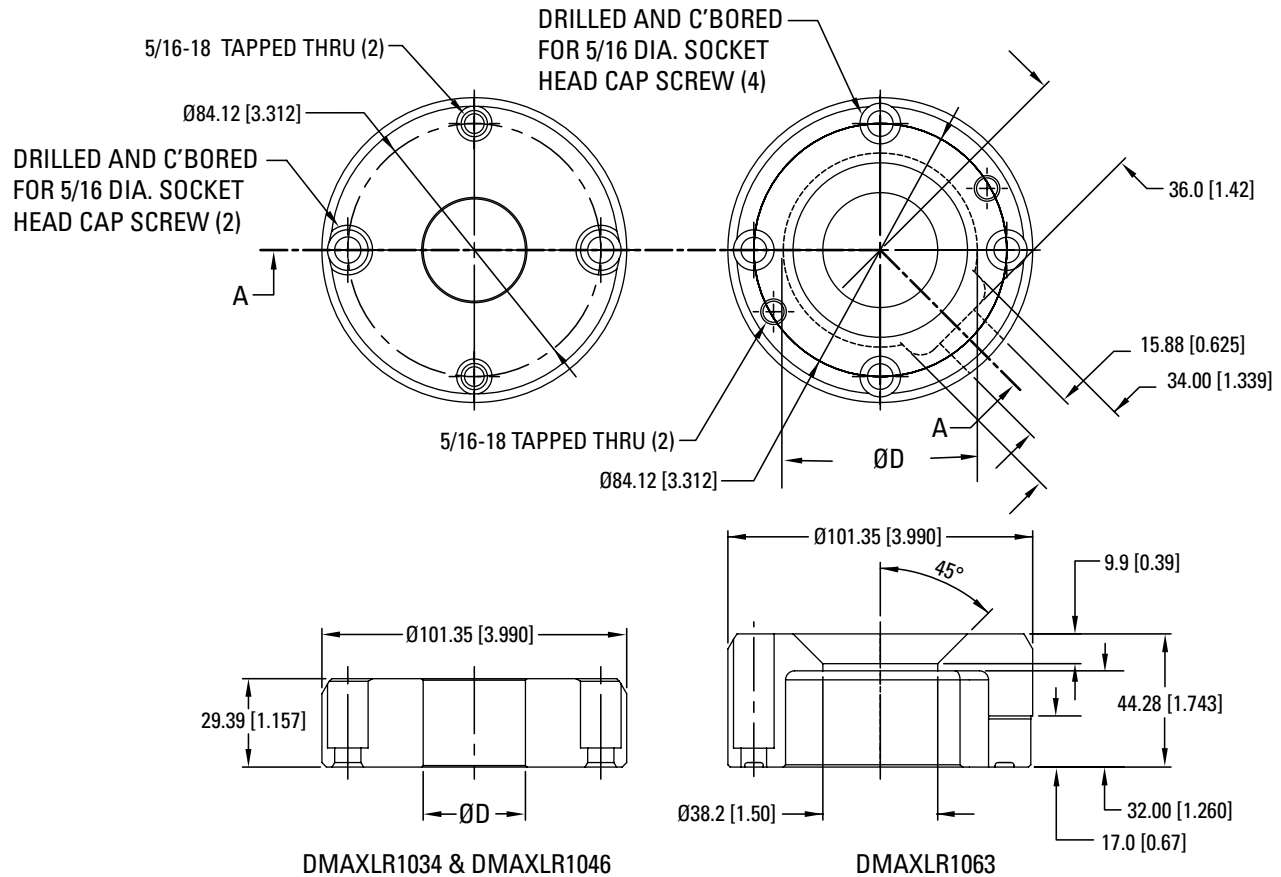
Point Gate (Full Body Extended)

| SERIES | TYPE | ITEM NUMBER | T DIA. | O DIA. | E | INCLUDES | |
|--------|----------------|-------------|--------|--------|-------|----------|--------------|
| | | | | | | NEEDLE | RETAINER TIP |
| 250 | STANDARD | EHT2301 | .375 | .060 | .938 | EHN0015 | EHT2326 |
| | | EHT2302 | | .080 | | | EHT2327 |
| | | EHT2303 | .500 | .060 | | | EHT2328 |
| | | EHT2304 | | .080 | | | EHT2329 |
| | WEAR RESISTANT | EHT2305 | .375 | .060 | | EHN0401 | EHT2326 |
| | | EHT2306 | | .080 | | | EHT2327 |
| | | EHT2307 | .500 | .060 | | | EHT2328 |
| | | EHT2308 | | .080 | | | EHT2329 |
| | STANDARD | EHT2309 | .500 | .080 | | EHN0016 | EHT2330 |
| | | EHT2310 | | .100 | | | EHT2331 |
| | | EHT2311 | | .080 | | | EHT2332 |
| | | EHT2312 | | .100 | | | EHT2333 |
| | | EHT2313 | | .080 | | | EHT2334 |
| | | EHT2314 | | .100 | | | EHT2335 |
| 375 | STANDARD | EHT2315 | .500 | .080 | .980 | EHN0016 | EHT2330 |
| | | EHT2316 | | .100 | | | EHT2331 |
| | | EHT2317 | | .080 | | | EHT2332 |
| | | EHT2318 | | .100 | | | EHT2333 |
| | | EHT2319 | | .080 | | | EHT2334 |
| | | EHT2320 | | .100 | | | EHT2335 |
| | WEAR RESISTANT | EHT2321 | .500 | .080 | | EHN0400 | EHT2336 |
| | | EHT2322 | | .100 | | | EHT2337 |
| | | EHT2323 | | .080 | | | EHT2338 |
| | | EHT2324 | | .100 | | | EHT2339 |
| 625 | STANDARD | EHT2321 | 1.000 | .125 | 1.000 | EHN0019 | EHT2336 |
| | WEAR RESISTANT | EHT2322 | | | | EHN0402 | EHT2336 |

| SERIES | THREAD TYPE |
|--------|-------------|
| 250 | 1/2-24 UN |
| 375 | 5/8-20 UN |
| 625 | 1"-16 UN |

250, 375 & 625 Series Locating Rings

250, 375 & 625 Series Locating Rings



SECTION A-A

| ITEM NUMBER | Ø D |
|-------------|---------------|
| DMAXLR1034 | 34.00 (1.34") |
| DMAXLR1046 | 46.00 (1.81") |
| DMAXLR1063 | 63.00 (2.48") |

NOTE: Dimensions shown in millimeters, inches in parentheses

DME Gate-Mate® Hot Sprue Bushings

IDEAL FOR DIRECT
PART GATING,
SINGLE-CAVITY MOLDS



Gate-Mate Applications and Benefits

DME Gate-Mate Hot Sprue Bushings

The DME Gate-Mate Hot Sprue Bushing is designed for direct part gating in single-cavity molds, eliminating the conventional cold sprue. The unique design of the bushing provides minimal gate vestige, without the objectionable witness lines so commonly found on direct gated parts.

The bushing transfers molten plastics from the machine nozzle to the mold cavity via a direct channel in the body. The plated copper alloy tip provides an improved temperature profile in the gate area.

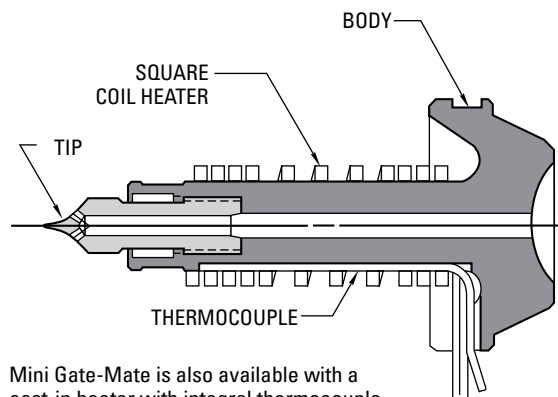
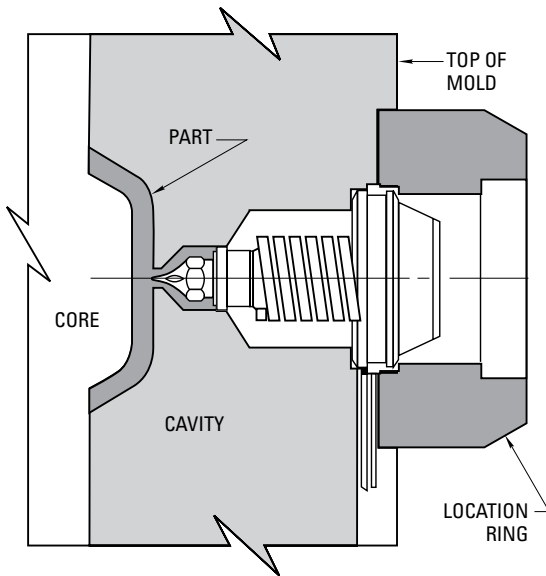
The DME Gate-Mate Hot Sprue Bushing utilizes an advanced design square coil heater and independent thermocouple, strategically located for precise temperature control. The bushing is available in three sizes to suit a variety of applications.

See the DME Control Systems Catalog for Smart Series® Single Zone Temperature Controllers.



Mini and Jumbo Style Gate-Mate Bushings Shown

Typical Applications



NOTE: Mini Gate-Mate is also available with a cast-in heater with integral thermocouple.

Advantages

- Direct part gating eliminating a cold sprue to trim and no witness lines on the molded part
- Minimal gate vestige resulting in better part appearance
- Faster start-ups providing positive temperature control of gate area
- Reduced cycle times because the bushing allows cooling channels to be placed closer to the gate area
- Cooler cavities with no direct contact between bushing tip and cavity
- Improved part quality with a shorter injection path and elimination of sprue, meaning no regrind
- Increased production with faster cycles and no sprue trimming
- Easy installation and operation, and available in three standard sizes suitable for most applications
- Positive temperature control with J-Type thermocouple and DME Smart-Series (and G-Series) controllers

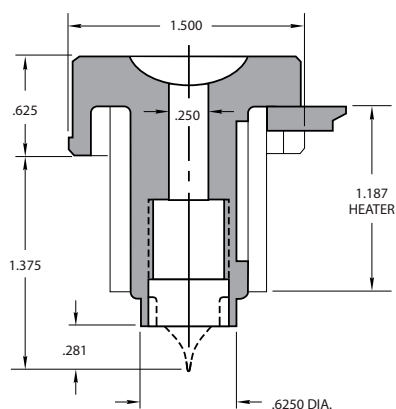
Benefits

- Eliminates sprues, reduces cycle time, improves part quality, increases production
- Provides optimum gate cosmetics
- Plated copper alloy tip improves temperature profile in gate area
- Self insulating material layer surrounds tip for better tip control and part cooling
- Square coil heater and independent thermocouple provide precise temperature control
- Optional cast in heater available for Mini Gate-Mate bushing

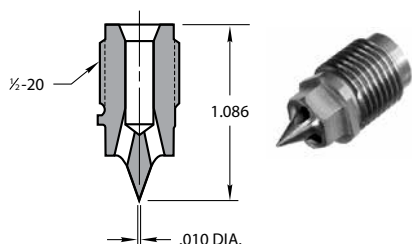
Mini Gate-Mate



1/2" SPH. Radius Type Bushing



Mini Gate-Mate Tips



NOTE:

The expansion factor must be taken into consideration prior to machining for and installation of the bushing. This factor (BE) must then be added to the A dimension. The formula for determining this expansion factor is as follows:

BE = "A" dimension x 0.00000633 x nozzle set point - 68°F (assuming the mold is at 68°F during operation). If mold temperature is different, substitute 68°F with actual mold temperature.

EXAMPLE:

Given a setpoint of 500°F: BE = 1.375 x .00000633 x (500 - 68) = .004 thus 1.375 + .004 = 1.379.

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.

The Mini Gate-Mate Bushings are ideal for fast cycling single cavity molds. The compact design permits shorter overall stack-up of the "A" side mold plates. The Mini Gate-Mate Bushings are provided with either a square coil heater or a cast-in heater. Thermocouple placement provides better heater control, and the overall body design improves thermal insulation. Square coil heater, thermocouple and tip are all replaceable.

Sub-assemblies include square coil heater and thermocouple or cast-in heater with integral thermocouple. Tip to be ordered separately.

1/2" SPH. RADIUS BUSHING SUB-ASSEMBLY

| ITEM NUMBER | HEATER TYPE |
|-------------|-------------|
| GMB0116 | SQUARE COIL |
| GMB0111 | CAST-IN |

NOTE: Tip to be ordered separately

| ITEM NUMBER | TIP STYLE |
|-------------|----------------|
| GMT0100 | STANDARD |
| GMT4101 | WEAR RESISTANT |

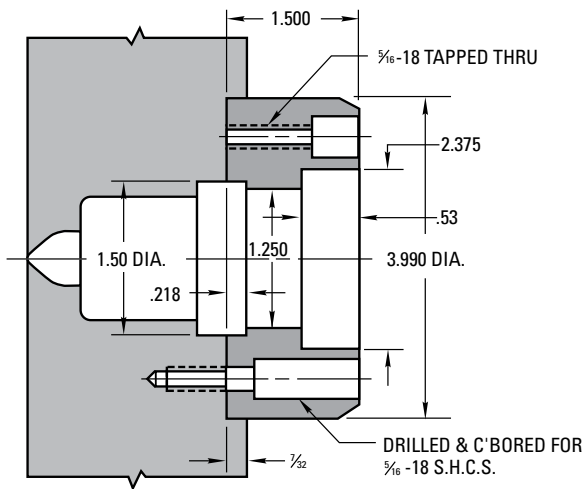
Contact for DME for tip recommendations and assistance with your application.

Replacement Parts

| SUB-ASSEMBLY REFERENCE | BODY TYPE | HEATER TYPE (240 VAC, 250 WATT) | THERMOCOUPLE (36" LEADS) | NOZZLE BODY ONLY |
|------------------------|------------|---------------------------------|-----------------------------|------------------|
| GMB0111 | 1/2 RADIUS | (CAST IN) CIH0100 | N/A (INTEGRAL TO HEATER) | GMB0103 |
| GMB0116 | 1/2 RADIUS | (SQUARE COIL) SCH0004 | TCG0100 | GMB0103 |

Mini Gate-Mate Machining Dimensions

Mini Gate-Mate Bushing Locating Ring



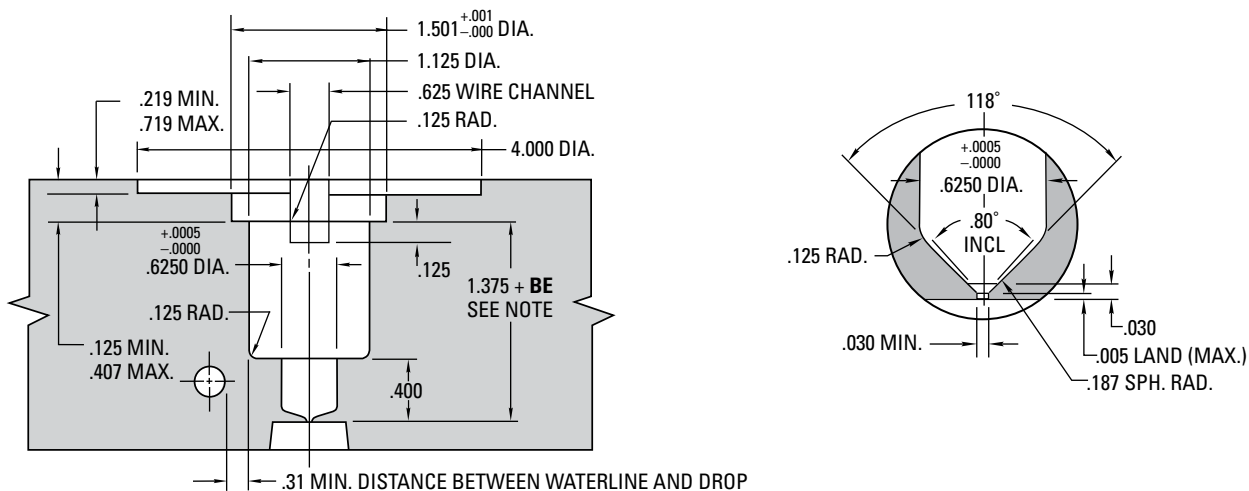
ITEM NUMBER

6548

NOTES:

1. Two (2) $\frac{5}{16}$ -18 S.H.C.S. are included with Locating Ring
2. Two (2) Drilled and C'bored holes for $\frac{5}{16}$ -18 S.H.C.S. are on a 1.656 circle radius in Locating Ring
3. C'bore depth in Top Clamp Plate and C'bore depth in Locating Ring can be altered to suit application

Machining Dimensions for Bushings



NOTE:

The expansion factor must be taken into consideration prior to machining for and installation of the bushing. This factor (BE) must then be added to the A dimension. The formula for determining this expansion factor is as follows:

BE = "A" dimension x 0.00000633 x nozzle set point - 68°F (assuming the mold is at 68°F during operation). If mold temperature is different, substitute 68°F with actual mold temperature.

EXAMPLE:

Given a setpoint of 500°F: BE = $1.375 \times .00000633 \times (500 - 68) = .004$ thus $1.375 + .004 = 1.379$.

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.

Medium Gate-Mate

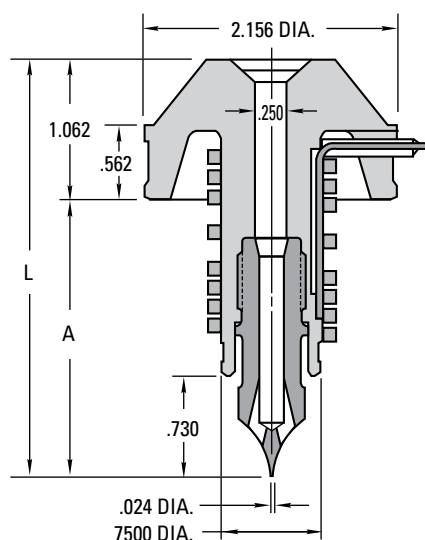
The Medium Gate-Mate Bushing is designed for direct part gating in single cavity molds, eliminating the conventional cold sprue. The unique design of the bushing provides minimal gate vestige, without the objectionable witness lines so commonly found on direct gated parts.

The bushing transfers molten plastics from the machine nozzle to the mold cavity via a direct channel in the body. The bushing, in conjunction with the recommended tip and gate configuration, controls gate vestige height.

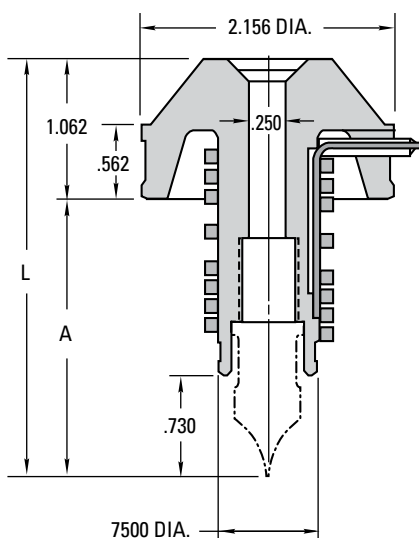
The Medium Gate-Mate Bushing utilizes an advanced design square coil heater and an independent thermocouple, strategically located for precise temperature control.



Bushing Assembly



Bushing Sub-Assembly



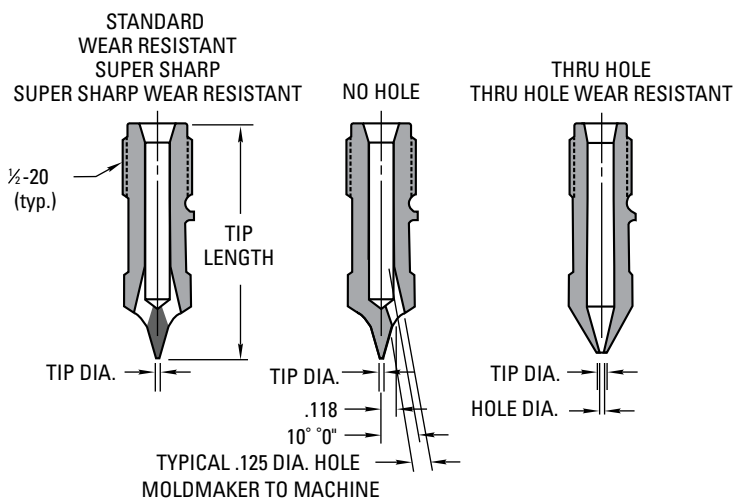
BUSHING ASSEMBLY (INCLUDES GMT2 TIP)

| ITEM NUMBER | A | L | DUAL SPH. RAD. |
|-------------|-------|-------|----------------|
| GMB5232 | 2.375 | 3.437 | 1/2 & 3/4 |
| GMB5332 | 3.375 | 4.437 | |

BUSHING SUB-ASSEMBLY (ORDER TIP SEPARATELY)

| ITEM NUMBER | A | L | DUAL SPH. RAD. |
|-------------|-------|-------|----------------|
| GMB0020 | 2.375 | 3.437 | 1/2 & 3/4 |
| GMB0030 | 3.375 | 4.437 | |

Medium Gate-Mate Tips



| TIP STYLE | TIP ITEM NUMBER | O DIA. | TIP LENGTH | TIP DIA. | HOLE DIA. |
|----------------------------|-----------------|-----------------------|------------|----------|-----------|
| STANDARD | GMT2 | .044 MIN. | 1.730 | .024 | N/A |
| WEAR RESISTANT | GMT0400 | .055 MIN. | | | |
| SUPER SHARP | GMT0301 | .030 MIN. | | | |
| SUPER SHARP WEAR RESISTANT | GMT0401 | .055 MIN. | 1.690 | .010 | .050 |
| THRU HOLE | GMT0302* | .030 MIN. .050 MAX | | | |
| THRU HOLE WEAR RESISTANT | GMT0402* | .055 MIN. | | .090 | |
| NO HOLE | GMT0303 | .044 MIN. | 1.730 | .024 | N/A |

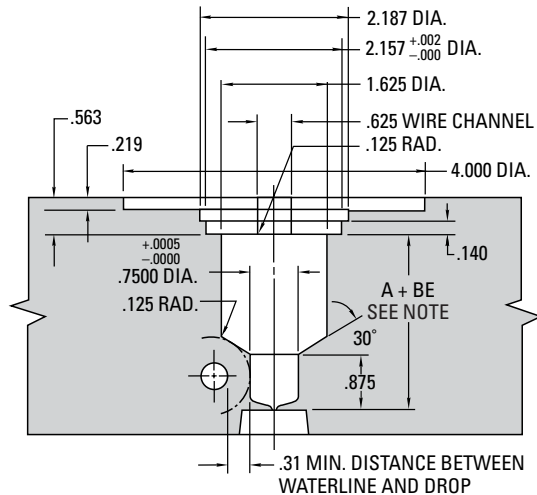
NOTES:

1. Thru-hole tip is designed .040 shorter in length to be a direct replacement for the standard tip; use a .030 to .060 diameter gate
2. A .030 minimum diameter gate is recommended when using the super sharp tip
3. Contact DME for tip recommendations and assistance with your application

*Contact DME for details to modify thru-hole tips for larger "O" diameters.

Medium Gate-Mate Machining Dimensions

Machining Dimensions for Bushings



NOTE:

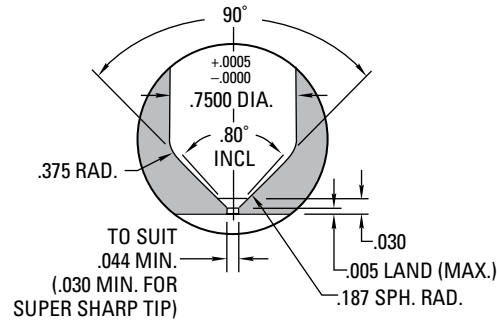
The expansion factor must be taken into consideration prior to machining for, and installing bushing. This factor (BE) must then be added to the nominal A dimension. Formula for determining this expansion is as follows: $BE = "A" \text{ dimension} \times 0.00000633 \times \text{nozzle set point} - 68^\circ\text{F}$ (assuming the mold is at 68°F during operation). If mold temperature is different, substitute 68°F with actual mold temperature.

EXAMPLE:

Given a 2.375 inch A dimension, with a Bushing Set Point temp. of 500°F :
 $BE = 2.375 \times 0.000063 \times (500 - 68) = .006$ thus $A + BE$ will be 2.381.

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

Improved tip insulation, elimination of material degradation in threaded area of tip, and faster color changes can be achieved through use of a Gate Shell Insulator.

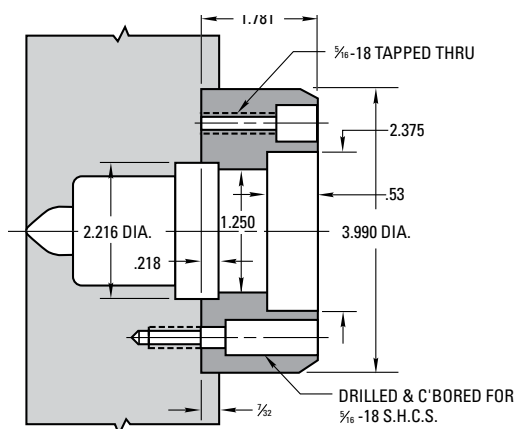


| ITEM NUMBER REFERENCE | | A |
|--------------------------|-------------------------|-------|
| BUSHING ASSEMBLY | BUSHING SUB-ASSEMBLY | |
| GMB5232 | GMB0020 | 2.375 |
| GMB5332 | GMB0030 | 3.375 |

Replacement Parts

| ITEM NUMBER REFERENCE | | SQUARE COIL HEATERS (240 VAC) | | | THERMOCOUPLE (TYPE J, 36" LEADS) | | NOZZLE BODY ONLY |
|--------------------------|-------------------------|----------------------------------|-------|--------|-------------------------------------|--------|------------------------|
| BUSHING ASSEMBLY | BUSHING SUB-ASSEMBLY | ITEM NUMBER | WATTS | LENGTH | ITEM NUMBER | LENGTH | |
| GMB5232 | GMB0020 | SCH3142 | 315 | 1.70 | TC9600 | 1.35 | GMC-523 |
| GMB5332 | GMB0030 | SCH3242 | 315 | 2.70 | TC9700 | 2.35 | GMC-533 |

Medium Gate-Mate Locating Ring



ITEM NUMBER

6545

NOTES:

- Two (2) $\frac{3}{16}$ - 18 S.H.C.S. are included with Locating Ring
- Two (2) Drilled and C'bored holes for $\frac{3}{16}$ - 18 S.H.C.S. are on a 1.656 circle radius in Locating Ring
- C'bore depth in Top Clamp Plate and C'bore depth in Locating Ring can be altered to suit application

Jumbo Gate-Mate

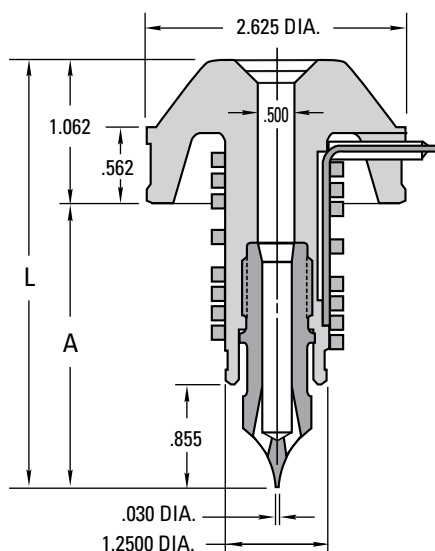


The Jumbo Gate-Mate Bushing is designed for direct part gating in single cavity molds, eliminating the conventional cold sprue. The unique design of the bushing provides minimal gate vestige, without the objectionable witness lines so commonly found on direct gated parts.

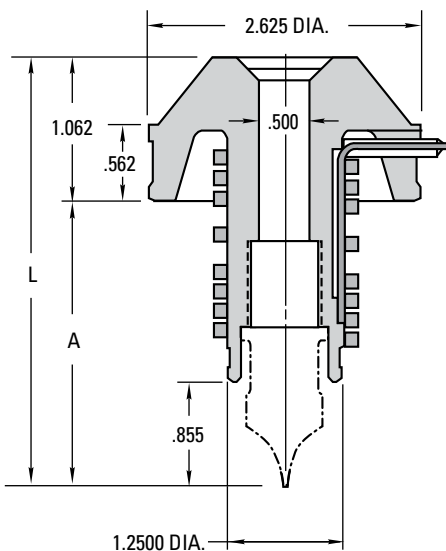
The bushing transfers molten plastics from the machine nozzle to the mold cavity via a direct channel in the body. The bushing, in conjunction with the recommended tip and gate configuration, controls gate vestige height.

The Jumbo Gate-Mate Bushing utilizes an advanced design square coil heater and an independent thermocouple, strategically located for precise temperature control.

Bushing Assembly



Bushing Sub-Assembly



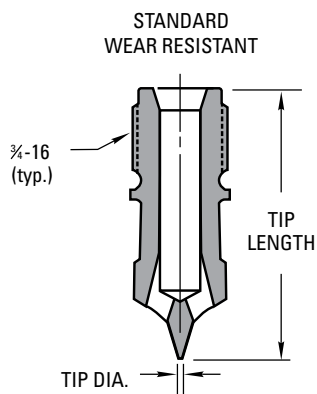
BUSHING ASSEMBLY (INCLUDES GMT0004 TIP)

| ITEM NUMBER | A | L | SPH. RAD. |
|-------------|-------|-------|-----------|
| GMB0008 | 2.500 | 3.562 | 1/2 & 3/4 |
| GMB0009 | 3.500 | 4.562 | 1/2 & 3/4 |

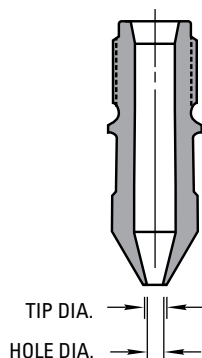
BUSHING SUB-ASSEMBLY (ORDER TIP SEPARATELY)

| ITEM NUMBER | A | L | SPH. RAD. |
|-------------|-------|-------|-----------|
| GMB0113 | 2.500 | 3.562 | 1/2 & 3/4 |
| GMB0114 | 3.500 | 4.562 | 1/2 & 3/4 |

Jumbo Gate-Mate Tips



THRU HOLE THRU HOLE WEAR RESISTANT



| TIP STYLE | ITEM NUMBER | TIP LENGTH | TIP DIA. | HOLE DIA. |
|--------------------------|-------------|------------|----------|-----------|
| STANDARD | GMT0004 | 1.855 | .030 | N/A |
| WEAR RESISTANT | GMT0406 | | | |
| THRU HOLE | GMT0007 | | | |
| THRU HOLE WEAR RESISTANT | GMT0407 | 1.815 | .140 | .100 |

NOTES:

1. Thru-hole tip designed .040 shorter in length to be a direct replacement for the standard tip; use a .080 to .125 diameter gate
2. Contact DME for tip recommendations and assistance with your application

DME Straight Shot® Hot Sprue Bushings



REDUCE CYCLE TIMES
AND SAVE MATERIAL COSTS

S-Series Straight Shot

Larger Shots – Extended Heater Life

DME developed Straight Shot Hot Sprue Bushings to eliminate sprues, permit larger shots and faster fills, and greatly extend heater life.

The bushings feature an unrestricted “straight-shot” channel to feed the part or runner. Material in the channel is heated by a special helical tubular heater which surrounds the melt stream. This heater distributes heat uniformly throughout the bushing and is virtually impervious to moisture, gases and plastics contamination.



U.S. Patent No. 4,273,525

| R | SHOULDER LENGTH A | WITH 240 VOLT HEATER |
|-----|-------------------|----------------------|
| | | ITEM NUMBER |
| 1/2 | 1 7/8 | SSBT4517S2 |
| | 2 3/8 | SSBT4523S2 |

NOTE: 5° heater lead is standard. For 90° lead, add “90” to end of item number (e.g., SSBT4517S290).

NOTE:

The expansion factor must be taken into consideration prior to machining for and installation of the bushing. This factor (BE) must then be added to the A dimension. The formula for determining this expansion factor is as follows:

$BE = \text{“A” dimension} \times 0.00000633 \times \text{nozzle set point} - 68^\circ\text{F}$
(assuming the mold is at 68°F during operation). If mold temperature is different, substitute 68°F with actual mold temperature.

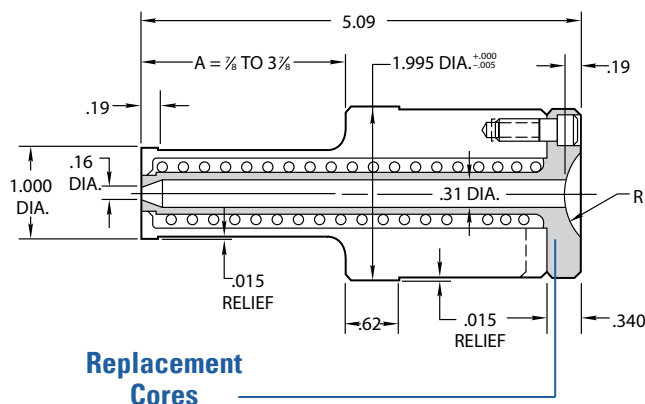
EXAMPLE:

Given a setpoint of 500°F:

$BE = 1.375 \times 0.0000063 \times (500 - 68) = .004$ thus $1.375 + .004 = 1.379$. 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.

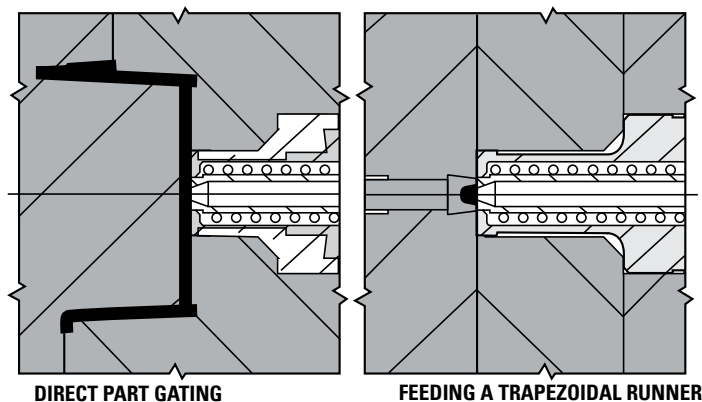
The helical tubular heater (120 or 240 volt) is thermocouple equipped so temperature can be closely controlled using a DME single-zone Closed Loop Temperature Controller.

The standard S-Series Straight Shot is designed for direct part gating or for feeding half-round or trapezoidal runners. It is supplied with a .16 diameter gate and no gate land. Available in seven standard shoulder lengths with either a 1/2" or 3/4" spherical radius and 120 or 240 volt heater. The S-Series Straight Shot can be retrofitted to almost any mold that uses a conventional sprue bushing.



| ITEM NUMBER | SPH. RAD. |
|-------------|-----------|
| SSBT45 | .500 |
| SSBT65 | .750 |

Typical Applications



E-Series Straight Shot

DME standard E-Series Straight Shot Hot Sprue Bushings (Long and Short Styles) provide a .25 inch extra stock allowance on the front face to permit machining of runner profiles or part contours into that face. They are supplied with a .06 diameter gate and a .25 inch gate land. The gate diameter can be enlarged to suit the particular molding application.

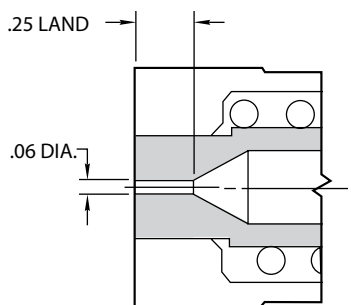


Long Style

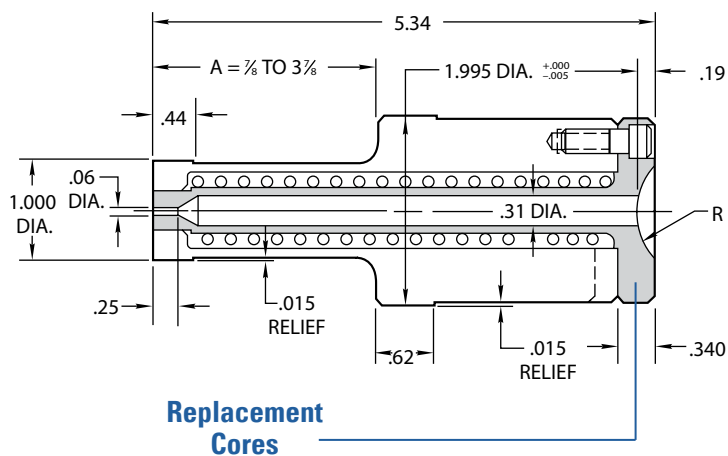
E-Series (Long Style)

NOTE:

Must always be altered as shown in Figures 1 thru 6 (see next page).



ENLARGED VIEW AS SUPPLIED



Replacement Cores

E-Series Straight Shot (Long Style)
Hot Sprue Bushings

| R | SHOULDER LENGTH A | WITH 240 VOLT HEATER |
|-----|-------------------|----------------------|
| | | ITEM NUMBER |
| 1/2 | 1 3/8 | SSBT4517E2 |
| | 2 3/8 | SSBT4523E2 |
| | 3 3/8 | SSBT4533E2 |
| 3/4 | 2 7/8 | SSBT6527E2 |

| ITEM NUMBER | SPH. RAD. |
|-------------|-----------|
| SSBT45E | .500 |
| SSBT65E | .750 |

NOTE:

The expansion factor must be taken into consideration prior to machining for and installation of the bushing. This factor (BE) must then be added to the A dimension. The formula for determining this expansion factor is as follows:
 $BE = "A" \text{ dimension} \times 0.00000633 \times \text{nozzle set point} - 68^{\circ}\text{F}$ (assuming the mold is at 68°F during operation). If mold temperature is different, substitute 68°F with actual mold temperature.

EXAMPLE:

Given a setpoint of 500°F :

$$BE = 1.375 \times .0000063 \times (500 - 68) = .004 \text{ thus } 1.375 + .004 = 1.379.$$

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.

The E-Series Straight Shot (Long Style) can be retrofitted to suit the particular molding application.

NOTE: 5° heater lead is standard. For 90° lead, add "90" to end of item number (e.g., SSBT4517S290).

See DME Control Systems Catalog for temperature controllers.

E-Series Straight Shot

The DME standard E-Series Straight Shot (Short Style) is intended to suit the requirements of smaller injection molding machines and is supplied with a $\frac{7}{8}$ " A dimension. The A dimension can be altered to suit the particular molding application.



Short Style

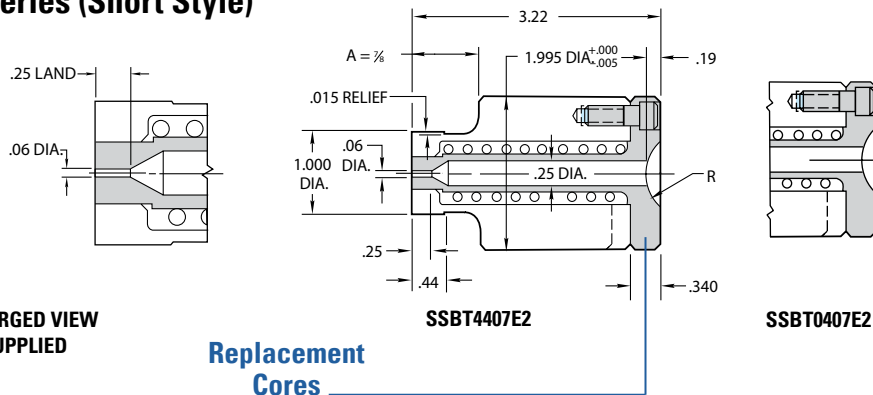
See the DME Control Systems Catalog for temperature controllers.

E-Series Straight Shot Hot Sprue Bushings (Short Style)

| WITH 240 VOLT HEATER | R | A DIMENSION |
|----------------------|---------------|---------------|
| SSBT4407E2 | $\frac{1}{2}$ | $\frac{7}{8}$ |
| SSBT0407E2 | NONE | |

NOTE: 5° heater lead is standard. For 90° lead, add "90" to end of item number (e.g., SSBT4407E290).

E-Series (Short Style)



Replacement
Cores

| ITEM NUMBER | SPH. RAD. |
|-------------|-----------|
| SSC44E | .500 |
| SSC04E | Flat |

NOTE:

The expansion factor must be taken into consideration prior to machining for and installation of the bushing. This factor (BE) must then be added to the A dimension. The formula for determining this expansion factor is as follows:

$BE = "A" \text{ dimension} \times 0.00000633 \times \text{nozzle set point} - 68^\circ\text{F}$ (assuming the mold is at 68°F during operation). If mold temperature is different, substitute 68°F with actual mold temperature.

EXAMPLE:

Given a setpoint of 500°F :
 $BE = 1.375 \times .00000633 \times (500 - 68) = .004$ thus $1.375 + .004 = 1.379$.

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.

NOTE: Must always be altered as shown in Figures 1 thru 6 (see below).

Design Guidelines for Altering E-Series Straight Shot Hot Sprue Bushings (Long and Short Styles)

Always remove the .25 extra stock allowance and alter the A dimension to suit whenever gating into a flat part surface. Minimum stock removal of .25 provides an approximate .06 gate diameter (Figure 1).

Maximum stock removal of .268 provides an approximate .08 gate diameter (Figure 2). Maximum stock removal of .268 is recommended for gate diameters larger than .08 (Figures 3 and 4).

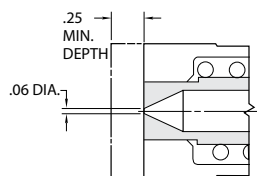


FIG. 1

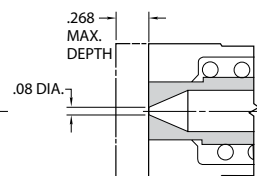


FIG. 2

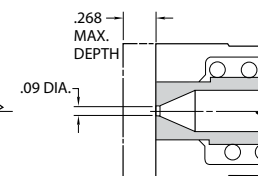


FIG. 3

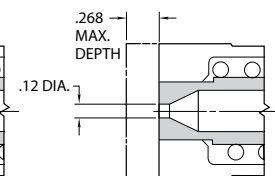


FIG. 4

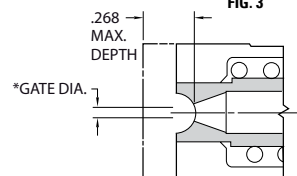


FIG. 5

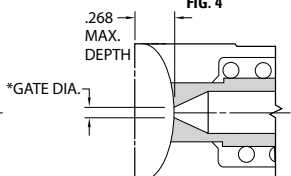


FIG. 6

Always machine runner profile or part contour to the .268 maximum depth at centerline of gate (Figures 5 and 6). However, do not weaken the bushing face by exceeding this maximum dimension.

* Resultant gate diameter may be enlarged to suit the particular molding application.

ER-Series Straight Shot

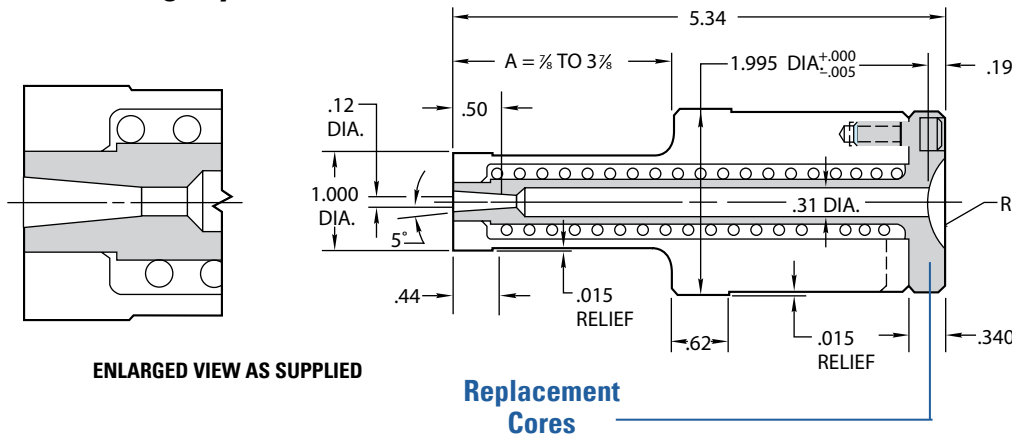
The DME standard ER-Series Straight Shot Hot Sprue Bushings (Long and Short Styles), like the standard E-Series, are supplied with a .25 inch extra stock allowance on the front face to permit machining of runner profiles or part contours into that face. These bushings feature a "reverse taper" design that originates from under the heat source, providing easier start-ups.

The ER-Series design can also be used when a reverse taper will benefit a particular application. These bushings are supplied with a .12 diameter orifice and a .50 long reverse taper. The orifice may be enlarged and the taper increased to suit.



(Long Style)

ER-Series (Long Style)



NOTE: For minimum projection on runner/part, alter the bushing face (See figures 1 thru 3 on next page).

Replacement Cores

| IEM NUMBER | SPH. RAD. |
|------------|-----------|
| SSBT45ER | .500 |
| SSBT65ER | .750 |

ER-Series Straight Shot (Long Style)
Hot Sprue Bushings

| R | WITH 120 VOLT HEATER | SHOULDER LENGTH A | WITH 240 VOLT HEATER |
|-----|----------------------|-------------------|----------------------|
| | ITEM NUMBER | | ITEM NUMBER |
| 1/2 | | 1 7/8 | SSBT4517ER2 |
| | SSBT4523ER1 | 2 3/8 | SSBT4523ER2 |
| | | 2 7/8 | SSBT4527ER2 |
| | | 3 3/8 | SSBT4537ER2 |

NOTE:

The expansion factor must be taken into consideration prior to machining for and installation of the bushing. This factor (BE) must then be added to the A dimension. The formula for determining this expansion factor is as follows:

BE = "A" dimension x 0.00000633 x nozzle set point - 68°F (assuming the mold is at 68°F during operation). If mold temperature is different, substitute 68°F with actual mold temperature.

EXAMPLE:

Given a setpoint of 500°F:

$$BE = 1.375 \times 0.00000633 \times (500 - 68) = .004 \text{ thus } 1.375 + .004 = 1.379.$$

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.

The DME standard ER-Series Straight Shot (Long Style) is available in seven standard shoulder lengths with a 1/2" spherical radius and 120 or 240 volt heater. The ER-Series Straight Shot (Long Style) can be retrofitted to suit the particular molding application.

NOTE: 5° heater lead is standard. For 90° lead, add "90" to end of item number (e.g., SSBT4507ER190).

ER-Series Straight Shot

The DME standard ER-Series Straight Shot (Short Style) is intended to suit the requirements of smaller injection molding machines and is supplied with a $\frac{7}{8}$ " A dimension. The A dimension can be altered to suit the particular molding application.

NOTE: 5° heater lead is standard. For 90° lead, add "90" to end of item number (e.g., SSBT4507ER190).

NOTE:

The expansion factor must be taken into consideration prior to machining for and installation of the bushing. This factor (BE) must then be added to the A dimension. The formula for determining this expansion factor is, as follows: $BE = "A" \text{ dimension} \times 0.00000633 \times \text{nozzle set point} - 68^\circ\text{F}$ (assuming the mold is at 68°F during operation). If mold temperature is different, substitute 68°F with actual mold temperature.

EXAMPLE:

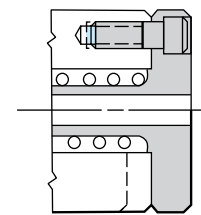
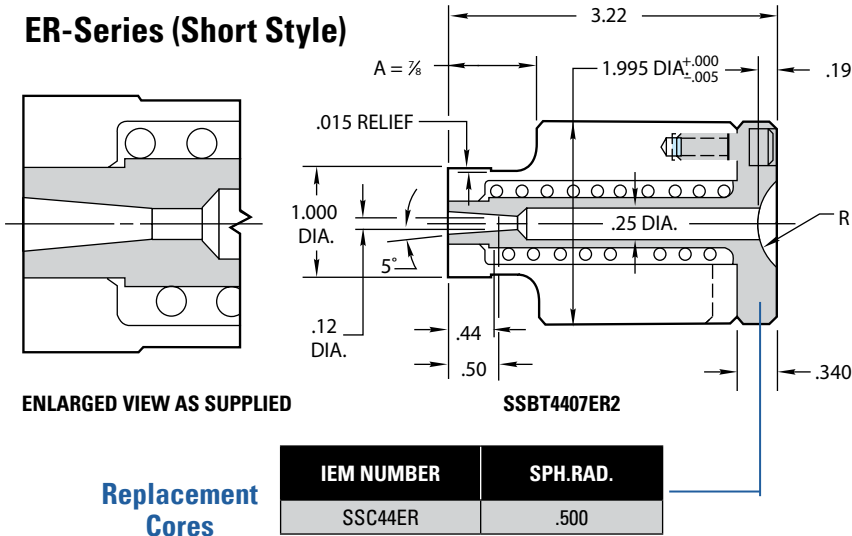
Given a setpoint of 500°F : $BE = 1.375 \times .0000063 \times (500 - 68) = .004$ thus $1.375 + .004 = 1.379$. Please note that the above information is given as an example. Variations may occur based on mold configuration and cooling factor. In some instances, it may be necessary to obtain an empirical factor.



Short Style

ER-Series Straight Shot Hot Sprue Bushings (Short Style)

| WITH 240 VOLT HEATER | R | A DIMENSION |
|----------------------|---------------|---------------|
| ITEM NUMBER | | |
| SSBT4407ER2 | $\frac{1}{2}$ | $\frac{7}{8}$ |

ER-Series (Short Style)

SSBT0407ER2

NOTE: For minimum projection on runner/part, alter the bushing face (See figures 1 through 3 below).

Design Guidelines for Altering ER-Series Straight Shot® Hot Sprue Bushings (Long and Short Styles)

FIG. 1

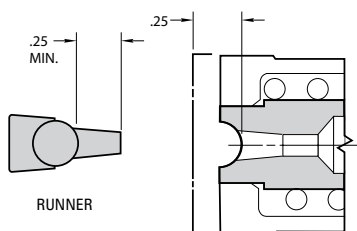


FIG. 2

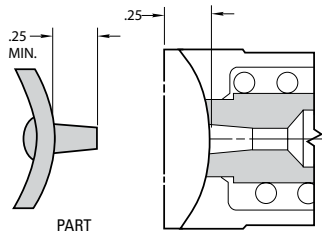
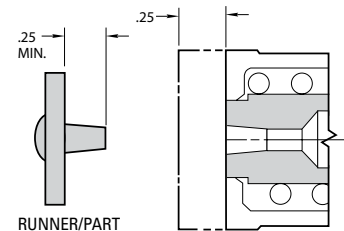


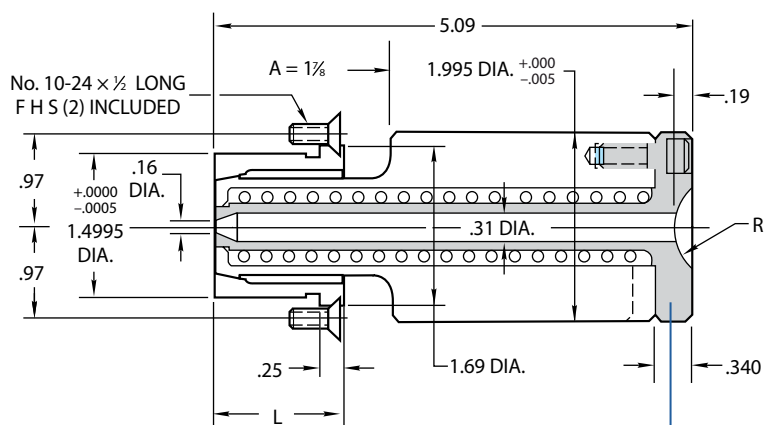
FIG. 3



For minimum projection on runner/part, machine the runner profile or part contour .25 inch deep into the bushing face at the centerline of the orifice (See Figures 1 and 2). When gating into a flat surface, remove the .25 inch extra stock allowance on the bushing face (See Figure 3). However, do not weaken the bushing face by exceeding the .25 inch dimension. The A dimension can be altered by removing stock from the front face of the 2.00 diameter bushing shoulder.

T-Series Straight Shot

The DME standard "T" Series Straight Shot improves the performance of three-plate molds by virtually eliminating the sprue from the runner system. It is available with 1/2" spherical radius, and 240 volt heater and a 7/8" or 1 3/8" long stripper plate bushing to suit the application.

Replacement
Cores

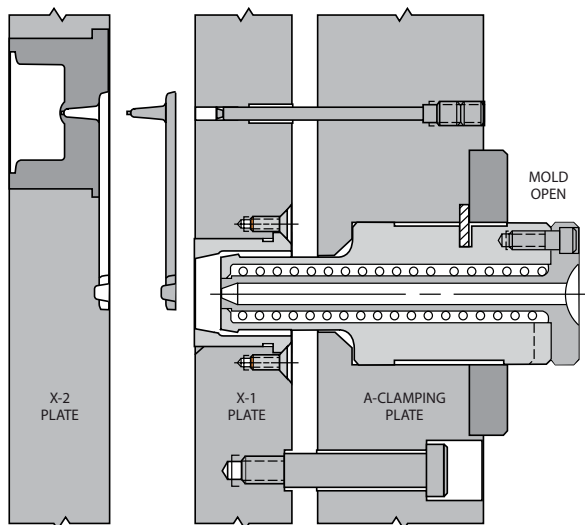
| ITEM NUMBER | SPH. RAD. |
|-------------|-----------|
| SSBT65 | .750 |

T-Series Straight Shot Hot Sprue Bushings

| R | L | WITH 240 VOLT HEATER |
|-----|-------|----------------------|
| | | ITEM NUMBER |
| 1/2 | 7/8 | SSBT4517T207 |
| | 1 3/8 | SSBT4517T213 |

NOTE: 5° heater lead is standard. For 90° lead, add "90" to end of item number (e.g., SSBT4507ER190).

Typical Application

**NOTE:**

The expansion factor must be taken into consideration prior to machining for and installation of the bushing. This factor (BE) must then be added to the A dimension. The formula for determining this expansion factor is as follows:

$BE = "A" \text{ dimension} \times 0.00000633 \times \text{nozzle set point} - 68^{\circ}\text{F}$
(assuming the mold is at 68°F during operation). If mold temperature is different, substitute 68°F with actual mold temperature.

EXAMPLE:

Given a setpoint of 500°F:

$BE = 1.375 \times .0000063 \times (500 - 68) = .004$ thus $1.375 + .004 = 1.379$.

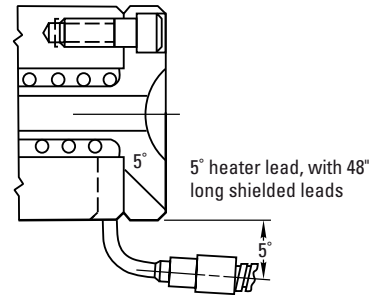
Please note that the above information is given as an example. Variations may occur based on mold configuration and cooling factor. In some instances, it may be necessary to obtain an empirical factor.

Straight Shot Bushings Replacement Parts

Replacement Heaters for Straight Shot Hot Sprue Bushings Standard

| ITEM NUMBER* | VOLTS | WATTS | L | BUSHING SERIES |
|--------------|-------|-------|----|--------------------------------|
| SSTC31 | 120 | 300 | 4% | S, E & ER (Long Style), T & TR |
| SSTC32 | 240 | 300 | 4% | S, E & ER (Long Style), T & TR |
| SSTC42 | 240 | 250 | 2½ | E & ER (Short Style) |

* Includes installation wrench.



Straight Shot Heater Installation and Removal Wrench

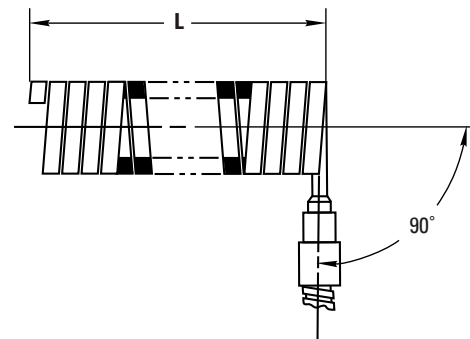
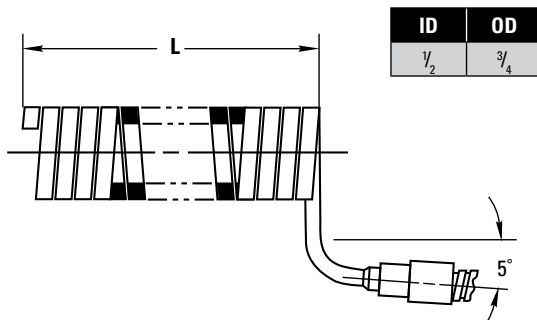
(Included with heaters above).

| ITEM NUMBER | USED WITH |
|-------------|---------------|
| VR0874 | SSTC42 Series |

Available On Request:

Heaters with 90° exit leads. Add "90" to item number.

Example: SSTC3190



Integrally Heated Sprue Bushings

The **Integrally Heated Sprue Bushing** is uniquely designed for high performance and reliability for direct gating applications, even with the most demanding molding cycles and plastic resins.

The product's advanced heat transfer capability is attributed to its integrally heated design, resulting in a more uniform heat profile. Maximum heat 600°F.

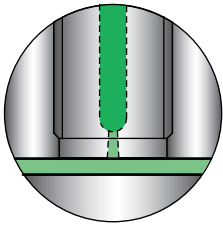
A replaceable thermocouple is strategically located near the melt flow channel to optimize processing conditions with all thermoplastics.

Features and Benefits:

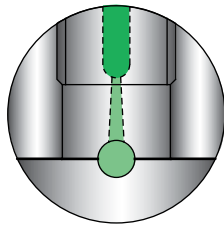
- **Distributed watt density** – maintains a more uniform heat profile.
- **High refractory insulation** – provides superior heat transfer.
- **Streamlined flow channel** – minimizes pressure loss.
- **Fully sealed construction** – maintains highest product reliability.
- **High-grade alloy steel construction** – increases durability and longer life.
- **Replaceable thermocouple** – allows for Type "J" or "K".



Tip Styles and Flow Diagrams



Sprue Tip

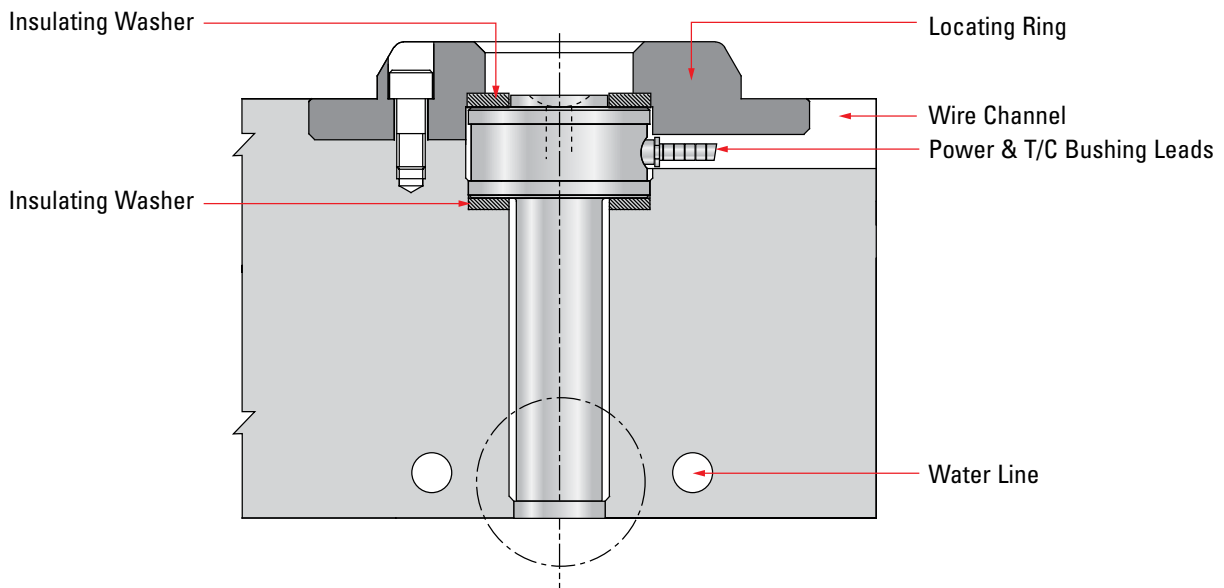


Extra Stock Sprue Tip

Maximum heat 600°F

**Recommended for
Commodity Resins
Only**

Direct Gating Diagram

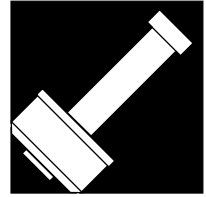


Integrally Heated Sprue Bushings SERIES USER GUIDE

Integrally Heated Sprue Bushings

The DME Integrally Heated Sprue Bushing is an exclusive medium volume bushing with the ability to process a wide range of resins. Its streamlined flow channel terminates in a reverse taper gate, providing minimal pressure loss and allowing for rapid gate freeze. The formation of a small gate stub on the part or runner results in a machine hold-time reduction, with no increase in sink marks on the part.

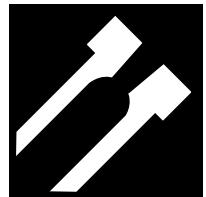
The Sprue Bushing's superior heat transfer capacity is attributed to its integrally heated design. To optimize processing conditions for all thermoplastics, a replaceable thermocouple is strategically located near the flow channel. The Integrally Heated Sprue Bushing has a .187" flow diameter, and is offered in two head styles and two gate styles to suit a broad range of applications.



Gating Options for Sprue Bushings

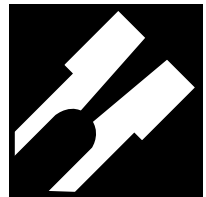
SPRUE GATE

Suitable for most applications, the Sprue Gate is provided as standard on the Heated Sprue Bushing. **(Please note that this gate style is not intended for machining.)** The press fit areas are held to $\pm .0005"$.



EXTRA STOCK SPRUE GATE

The Extra Stock Sprue Gate is available for applications requiring machining of the gate area for runner profiles, part contours, or adjustment of the bushing height. The .750" diameter bushing has .500" of extra stock. The press fit areas are held to $\pm .0005"$.



Head Options for Sprue Bushings

.500" Radius*

Provided with a 0.500" radius to mate with 0.500" radius machine nozzles. Reinforced contact area for improved strength and heat transfer.



.750" Radius*

Provided with a 0.750" radius to mate with 0.750" radius machine nozzles. Reinforced contact area for improved strength and heat transfer.



***Other radii are available by special request.**

| Gating Options | Gate Diameters |
|-------------------|---|
| Sprue | .080" to .125"* max. (2mm to 3.2mm* max.) |
| Extra Stock Sprue | .080" to .125"* max. (2mm to 3.2mm* max.) |

* Re-machine gate diameter, if necessary, for larger shot weights. Maintain gate angle and remove all machine marks.

.750" Series Maximum Shot Weights (0.080" Gate)

| Gating Options | Resin Viscosity | | |
|-------------------|-----------------|--------|------|
| | High | Medium | Low |
| Sprue | 50g | 150g | 300g |
| Extra Stock Sprue | 50g | 150g | 300g |

Contact DME when exceeding minimum shot weight and process heat temperature at 600°F.

Reference: High Viscosity = Melt Flow (0.02 – 6); Medium Viscosity = Melt Flow (7 – 15); Low Viscosity = Melt Flow (16 – up). The values expressed in grams are for reference purposes only. Part dimensions, wall thickness, mold condition, and molding parameters must also be considered.

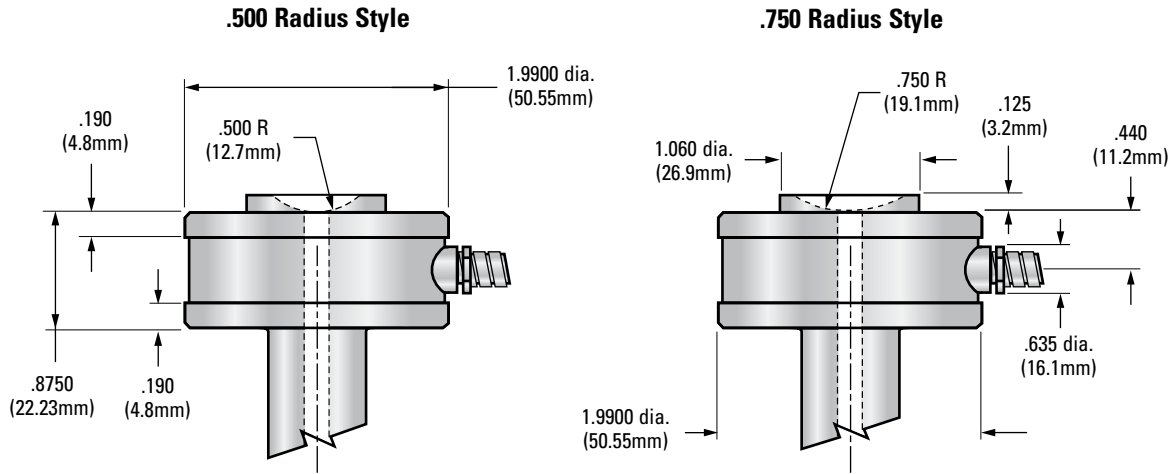
.750" Series Resin Compatibility

| Gating Options | Commodity Resin |
|-------------------|-----------------|
| Sprue | ⚡ |
| Extra Stock Sprue | ⚡ |

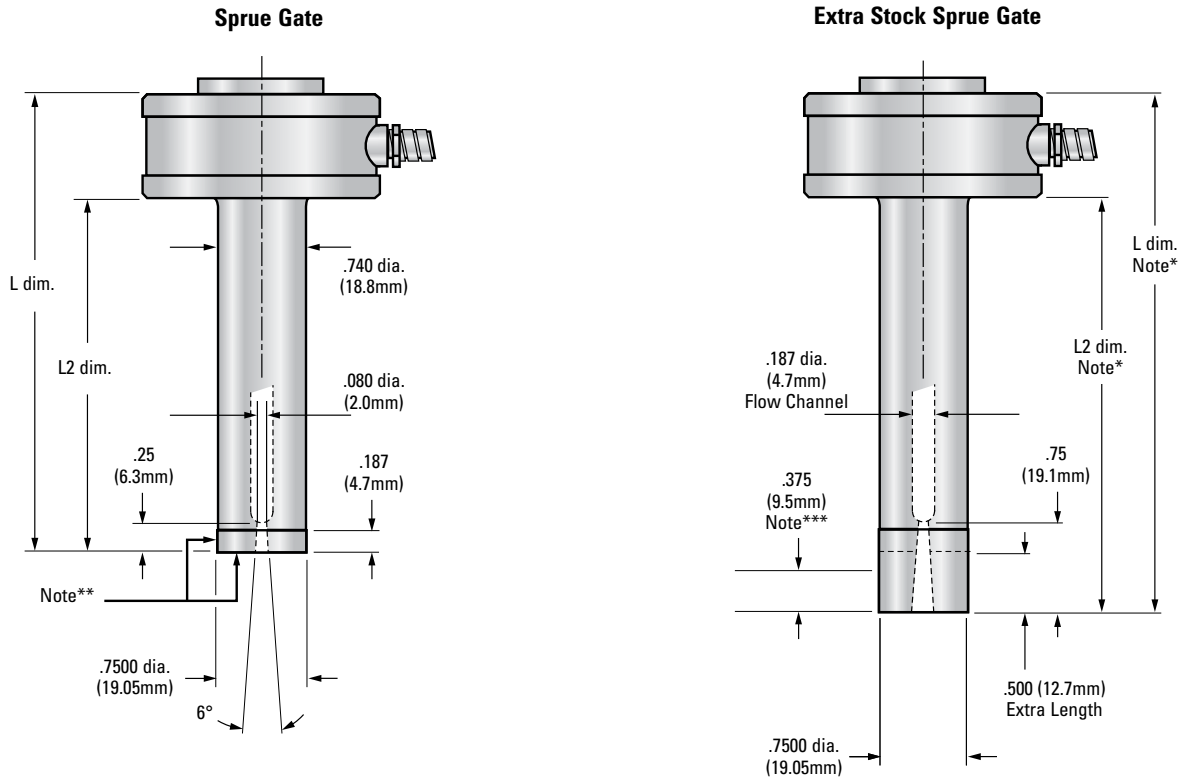
⚡ = Recommended

Integrally Heated Sprue Bushings .750" SERIES

Head Options



Gating Options / Bushing Dimensions



* Dimensions include extra length.

** This surface cannot be machined, modified or altered.


*** Maximum machining stock; only this area can be machined.


Dimensions are in inches; millimeters are in parentheses.

Note: For additional gate dimensions see next page.

Integrally Heated Sprue Bushings .750" SERIES SPECIFICATIONS

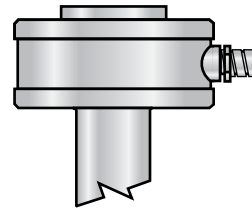
Integrally Heated Sprue Bushing - 750 Series

| Gate Style | L Dim. | | L2 Dim. | | .500 Radius Head | Watts | Thermocouple |
|---|--------|---------|---------|--------|------------------|-------|--------------|
|  | 2.375" | (60.3) | 1.500" | (38.1) | SB031000 | 315 | MT020020 |
| | 2.875" | (73.0) | 2.000" | (50.8) | SB031008 | 370 | MT020020 |
| | 3.375" | (85.7) | 2.500" | (63.5) | SB031016 | 425 | MT020020 |
| | 4.375" | (111.1) | 3.500" | (88.9) | SB031032 | 535 | MT020021 |

| Gate Style | L Dim. | | L2 Dim. | | .500 Radius Head | .750 Radius Head | Watts | Thermocouple |
|---|--------|---------|---------|---------|------------------|------------------|-------|--------------|
|  | 2.875" | (73.0) | 2.000" | (50.8) | SB031004 | | 315 | MT020020 |
| | 3.375" | (85.7) | 2.500" | (63.5) | SB031012 | | 370 | MT020020 |
| | 3.875" | (98.4) | 3.000" | (76.2) | SB031020 | | 425 | MT020020 |
| | 4.375" | (111.1) | 3.500" | (88.9) | SB031028 | SB031029 | 480 | MT020020 |
| | 4.875" | (123.8) | 4.000" | (101.6) | SB031036 | | 535 | MT020021 |

All specifications are subject to change without notification.
Dimensions are in inches; millimeters are in parentheses.

Right (Standard)*



* Standard Lead exit –
60" (1.52m) wrapped - 600 volt leads;
right angle lead exit; and 6" (15.2cm)
stainless steel, square-lock armored cable.

ITEM NUMBER

CKPTIC1

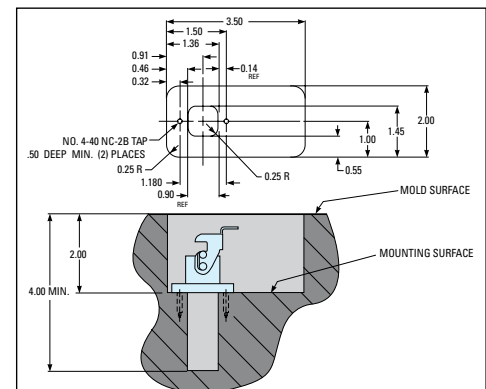


Mold Power-Thermocouple Input Connector

A Single-Zone Power-Thermocouple Input Connector is available for mounting in or on the mold to accept the power-thermocouple cable from the mainframe. The water-resistant connector has an integral retaining latch for a secure cable connection and numbered screw-type terminals for power and thermocouple lead wires.

*Can be mounted on top of mold

Recommended Mold Pocket Layout For Mold Power-Thermocouple Input Connector (CKPTIC1)



ITEM NUMBER

MPTC10

MPTC20



Armored Mold Power-Thermocouple Cables

Single-Zone Mold Power-Thermocouple Cables are constructed of special lead wire for use in high temperature environments, and are available to connect the mainframe to the input connector on the mold. Available in lengths of 10 or 20 feet. Integral retaining latches on the mainframe and mold connections provide secure cable connections. Connector configurations ensure proper insertion of cable.

For complete information on temperature controls, please see DME Control Systems Catalog.

U.S. 800-626-6653 ▪ Canada 800-387-6600 ▪ DME.net ▪ store.DME.net

Integrally Heated Sprue Bushings .750" SERIES

.750" Series Bore & Gate Dimensions

Insulating Washer Specifications

| | Top | Bottom |
|-------------|---------------|---------------|
| Item Number | MAX10015 | MAX10027 |
| O.D. | 1.99 (50.5mm) | 1.99 (50.5mm) |
| I.D. | 1.07 (27.2mm) | .810 (20.6mm) |
| Thickness | .125 (3.2mm) | .125 (3.2mm) |

Note: Insulating Washers are not required, but are recommended for high temperature applications.

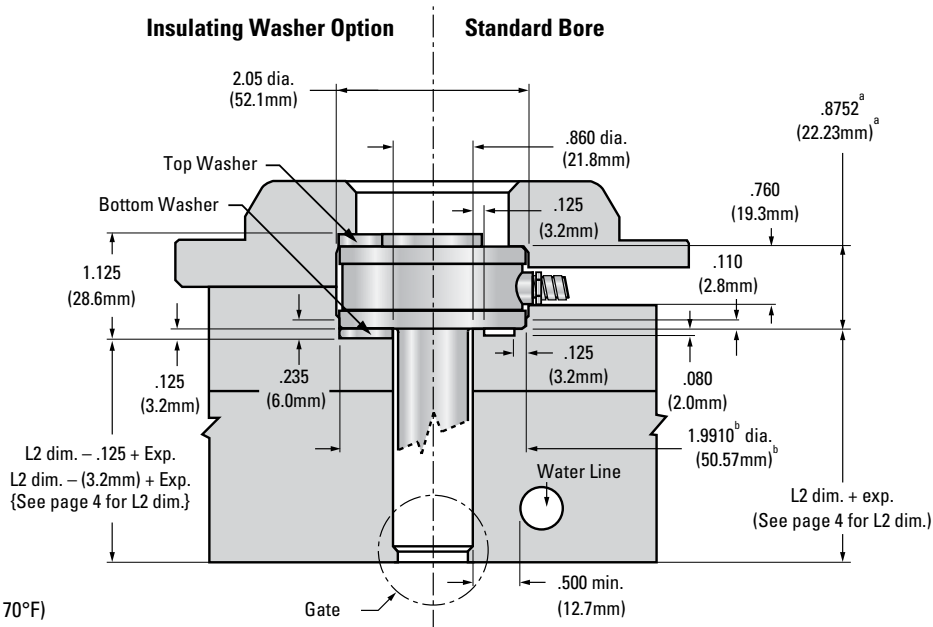
Thermal Expansion (Exp.) Formulas

Exp. in = L2 in. $\times 6.88 \times 10^{-6} \times (\text{Processing Temp.} - 70^{\circ}\text{F})$

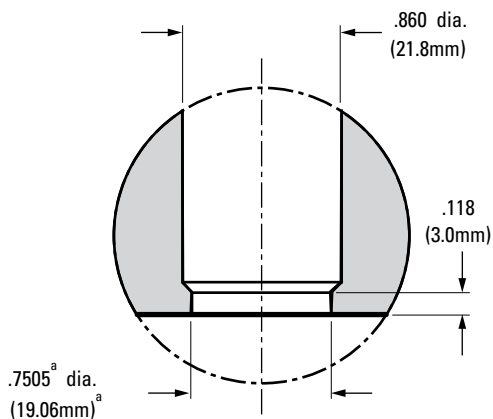
Exp. mm = L2 mm $\times 13 \times 10^{-6} \times (\text{Processing Temp.} - 21^{\circ}\text{C})$

Ref: $10^{-6} = 0.000001$

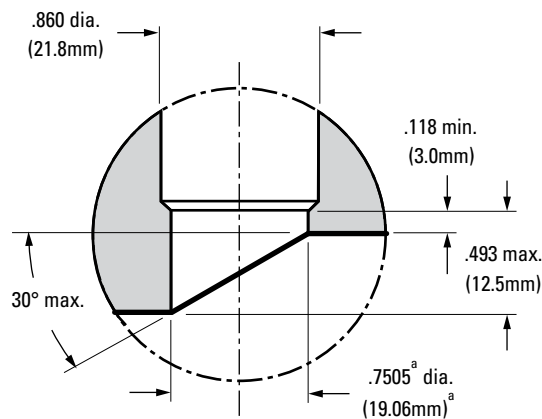
All specifications are subject to change without notification.



Sprue Gate



Extra Stock Sprue Gate



Bore & Gate Tolerances

Tol. "a" Table

| | |
|-----|----------|
| in: | + 0.0005 |
| | - 0 |
| mm: | + 0.01 |
| | - 0 |

Tol. "b" Table

| | |
|-----|----------|
| in: | + 0.0010 |
| | - 0 |
| mm: | + 0.02 |
| | - 0 |

Dimensions are inches. Millimeters are in parentheses.

Integrally Heated Sprue Bushings .750" SERIES

Operating & Servicing Instructions

The Integrally Heated Sprue Bushing bodies are identical in design, but differ in length and head style. All Sprue Bushings feature an integrated heater; Type "J" thermocouple; 60" wrapped - 600 volt leads; right angle lead exit; and 6" stainless steel, square-lock armored cable.

Start-Up/Operating Procedures

If the temperature controller does not utilize "soft start" technology, set the controller to 200°F (93.3°C) in automatic mode or 10% in manual mode. Allow bushing to "soak" for 15 minutes before increasing to processing temperature. This step will allow the unit to dissipate potential moisture and prolong heater life.

Power Requirements

- 240 Volts AC – 15 amp fuse
- Grounding – Integrally Heated Bushings utilize the direct contact of the bushing, mold plates, and machine platens to establish a path for grounding.

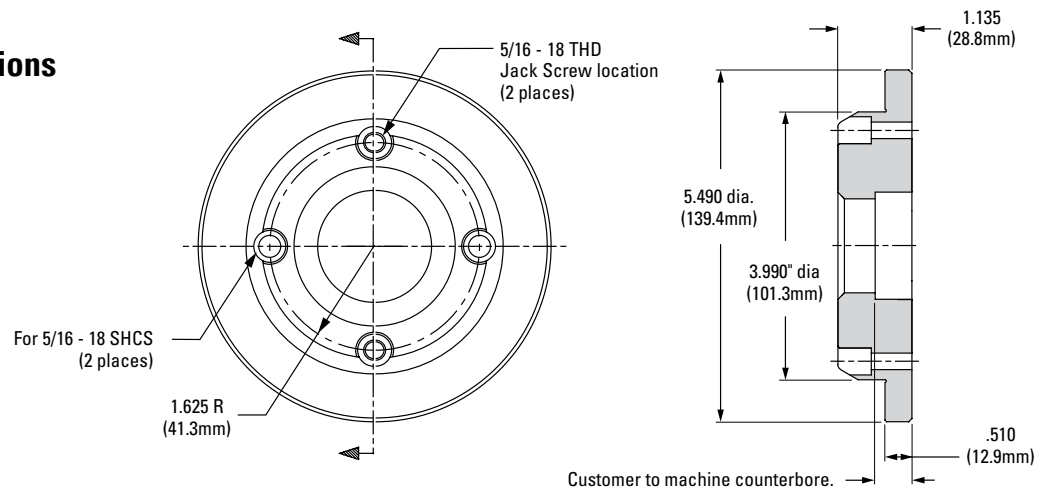
WARNING

There must be a ground \equiv present between the mold "hot half" and the temperature control system or damage may occur to the bushing, thermocouple and/or temperature control system.

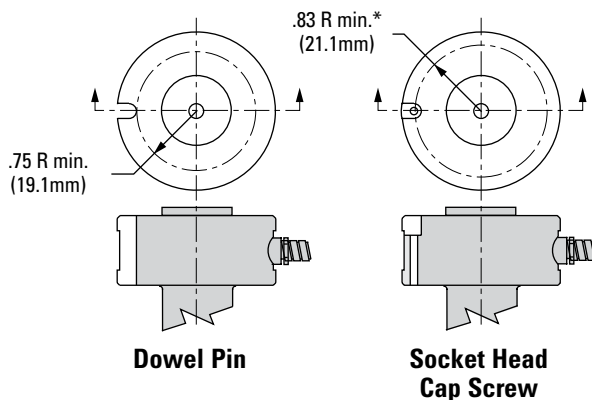
Maximum heat 600°F

Locating Ring Dimensions

| ITEM NUMBER | L.R.D. |
|--------------------------|---------------------|
| ML010012 | 3.990" (101.3mm) |



Machining Options for Keying

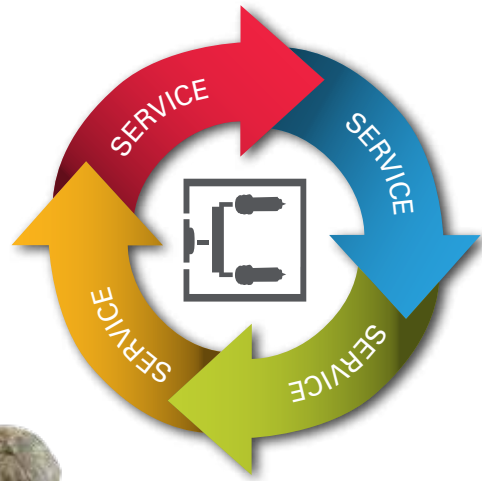


*Centerline for #10 Screw

Dimensions are in inches; millimeters are in parentheses.

DME Hot Runner Services

TOTAL SUPPORT FOR YOUR
HOT RUNNER SYSTEMS



DME Service Centers

Ensuring the Productivity of every Hot Runner System

Full-Service Hot Runner Support

Mold technology leader DME - known for servicing its customers every step of the way - provides total support for your hot runner systems. No matter what brand of hot runner, DME will repair, reconfigure or even totally rebuild it to ensure maximum performance of your system.

A Dedicated Center for Hot Runner Systems

Our Service Center, located in Madison Heights, Mich., is exclusively dedicated to supporting your hot runner systems. Staffed by a team of industry experts whose sole focus is hot runner systems, we aim to provide optimal repair and troubleshooting to maintain and get your system operating at maximum efficiency. This group has over three decades of experience installing, assembling, and repairing hot runner systems. And, our dedicated staff will get your system back into your facility quickly and cost-effectively.

Hot Runner Services Overview



The DME family of hot runner products and services offers a comprehensive array of solutions for a wide range of applications.



Unrivalled Support When and Where You Need It

Since the 1970s, DME has developed and marketed a full spectrum of hot runner systems and components. From Moldflow analysis to turnkey hot half systems and everything in between, the DME family of hot runner products and services offers a comprehensive array of solutions for a wide range of applications. Whether your need is for standard, off-the-shelf components, customer engineered manifolds, or fully assembled systems ready for bolt-on installation, DME has a proven solution to match your application.

Applications Engineering and Technical Service

Our dedicated and experienced team of mold designers, technicians and applications engineers assists DME customers with product selection, system design, performance analysis and technical advice. DME technical service representatives are globally located for complete coverage and quick availability no matter where your hot runner production takes place. Technical experts employed worldwide are available for start-ups, personnel training or system service.

Comprehensive Hot Runner and Aftermarket Service

Staffed by a team whose sole focus is hot runner systems, the DME Hot Runner Service Center offers a single source for hot runner system optimization and maintenance. Our services include expedited repairs, system cleaning, system rebuilds, re-configuration and refurbishment for virtually any type of hot runner system.

DME Service Centers

A Wide Range of Services

We recognize the value of your time - that's why we've developed a comprehensive suite of hot runner services to provide a single source for maintenance and optimization of your system.

Key capabilities and services include:

- System evaluations
- Repairs - systems and components
- System cleaning and rewiring of all hot runner systems - including complete bake-out
- Total system rebuild/reburbishment
- Re-configuration
- Operating training
- All machining capabilities
- Processing support

Cost-Effective Reconfiguration

When your process needs change, without a significant tooling change, we can adapt your hot runner to the new process. Whether it's a material switch, or a part design change, DME can help reconfigure your existing system.

Training Maximizes Productivity, Speeds Set-Up

The DME Hot Runner Service Center and technicians can provide comprehensive operator training from start-up to production processing. Our hands-on programs help your operators get up-to-speed, or stay current on hot runner technology.

Preventative Maintenance (PM)

It is important to protect and update your hot runner system to ensure it is running at the highest efficiency. The PM Program is designed to provide life cycle management of your systems and enhance equipment reliability by:

- Replacing worn components before they fail
- Maximizes system performance
- Reduces cost of replacement
- Ensures peak part quality
- Decreases system downtime
- Protects your investment

The PM Program can be set up either by system cycles or by scheduled PM

Rebuilds Ensure Performance

After tens of thousands of cycles you may have noticed your system just doesn't perform the way it used to. Or maybe you've run high-temperature engineered materials and the tolerances just aren't as tight. Key benefits of system rebuilds include:

- Cost savings of at least 40% as compared to new systems
- Extended life for your tool
- Maximizing system uptime and performance

Whether you need a total system rebuild, or a simple cleaning and inspection DME can help. System rebuilds can be performed on any brand of hot runner system and typically include:

- Complete bake-out cleaning
- Check and replace heaters and thermocouples
- Inspect and correct wiring
- Replace seals, bushings and other wear items
- Clean or replace nozzle components
- Check and validate all dimensions before re-assembling the system

Repairs Get You Back Up Quickly

Time is money. When a critical tool is out of commission, productivity is lost and production schedules can be threatened. We understand this at DME. That's why our team of hot runner technical specialists are always available to get you back in service.

Whether you're experiencing leaks, heating issues, flow problems, or would simply like a system bake-out, we'll repair your system quickly and cost-effectively.

Standard turnaround for repairs on systems from 1-12 drops (depending on parts availability for non-DME systems) is 5 working days or less. If your system has over 12 drops, contact us for an estimated turnaround time.

DME Service Centers

DME Obsolete Replacement Parts

REPLACEMENT PARTS FOR OBSOLETE
HOT RUNNER SYSTEMS & NOZZLES



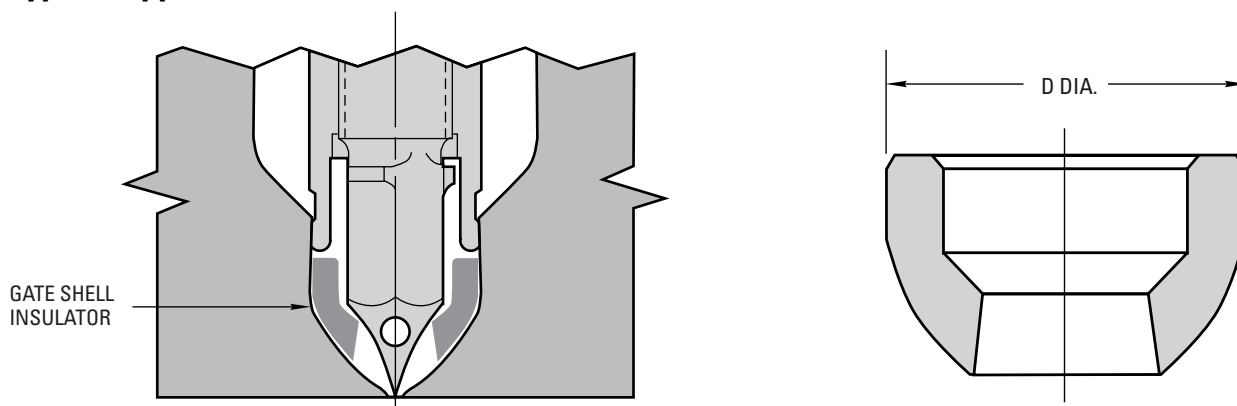
Gate Shell Insulators

Gate Shell Insulators

- Improves insulation in the tip area
- Provides seal-off to eliminate material degradation in threaded area of tip
- Minimizes material in gate area to allow for faster color changes
- Withstands temperatures up to 550° F



Typical Application



| FOR BUSHING OR NOZZLE STYLE | FOR TIP STYLE | ITEM NUMBER |
|-----------------------------------|--------------------------------|-------------|
| Gate-Mate 4 Nozzle | Standard, Super Sharp, No Hole | GS10001 |
| | Thru Hole | GS10002 |
| Jumbo Gate-Mate Bushing or Nozzle | Standard | GS10003 |
| | Thru Hole | GS10004 |
| Medium Gate-Mate Bushing | Standard, Super Sharp, No Hole | GS10005 |
| | Thru Hole | GS10006 |

| D DIA. | ITEM NUMBER |
|--------|-------------|
| .748 | GS10001 |
| | GS10002 |
| 1.248 | GS10003 |
| | GS10004 |
| .748 | GS10005 |
| | GS10006 |

APPLICATION NOTES:

1. Use only with bushings, nozzles and tip styles shown in the reference chart above
2. Gate machining must be done according to DME specifications
3. Nozzle tip cannot be altered in any way for the Gate Shell Insulator to perform properly
4. If dissimilar resins are to be processed in the same mold, it is recommended that their processing temperatures be within a similar range
5. For best results, the outer surface of the tip should be free from all resin before the Gate Shell Insulator is installed or used

Components for Micro Cool One Split Plate/Solid Block Designs

Obsolete Replacement Parts

Thermocouple (T/C) Distributor Tube Heaters (240 VAC, T/C Type J, 34" Leads)

Distributed wattage heater design for more uniform temperature control. Sealed, flexible teflon covered leads to prevent lead damage and improve moisture resistance.

| DIA (AMPS)* | ITEM NUMBER | OVERALL LENGTH | HEATED LENGTH | WATTS | DIA (AMPS)* | ITEM NUMBER | OVERALL LENGTH | HEATED LENGTH | WATTS |
|---------------|-------------|----------------|---------------|-------|---------------|-------------|----------------|---------------|-------|
| .375 (10 AMP) | HCTC034 | 5.000 | 4.000 | 320 | .375 (10 AMP) | HCTC0375 | 8.500 | 7.500 | 515 |
| | HCTC0345 | 5.500 | 4.500 | 340 | | HCTC038 | 9.000 | 8.000 | 550 |
| | HCTC035 | 6.000 | 5.000 | 400 | | HCTC039 | 10.000 | 9.000 | 650 |
| | HCTC0355 | 6.500 | 5.500 | 430 | | HCTC0310 | 11.000 | 10.000 | 710 |
| | HCTC036 | 7.000 | 6.000 | 450 | | HCTC0311 | 12.000 | 11.000 | 720 |
| | HCTC0365 | 7.500 | 6.500 | 470 | | HCTC0312 | 13.000 | 12.000 | 760 |
| | HCTC037 | 8.000 | 7.000 | 480 | | HCTC0313 | 14.000 | 13.000 | 810 |

*(AMPS) = Amperage requirement for temp. control module.

Distributor Tubes

MATERIAL: AISI 4140 STEEL
HARDNESS: 28-35 HRC

| ITEM NUMBER | LENGTH |
|-------------|--------|
| HT050312 | 11.82 |
| HT050316 | 15.76 |

End Cap

MATERIAL: AISI 4140 STEEL

| ITEM NUMBER |
|-------------|
| EC1105 |

Components for Micro Cool One Solid Block Designs

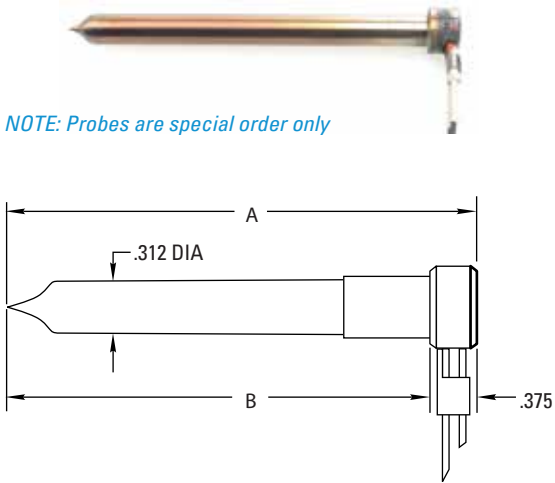
Auto-fixed® "Integral Heater" Micro Probes (240 VAC, T/C Type J, 48" Leads)

MATERIAL: AISI D-2 STEEL
HARDNESS: 50-55 HRC

| ITEM NUMBER* | A | B | WATTS |
|--------------|-------|-------|-------|
| AFIP331090 | 3.095 | 2.720 | 110 |
| AFIP336090 | 3.595 | 3.220 | 130 |
| AFIP341090 | 4.095 | 3.720 | 150 |
| AFIP346090 | 4.595 | 4.220 | 170 |

Replacement Thermocouple

| ITEM NUMBER | LEAD LENGTH |
|-------------|-------------|
| TC9900 | 48" |



Register Ring

MATERIAL: AISI H-13 STEEL
HARDNESS: 48-52 HRC
I.D. = .313
O.D.= 1.000

| ITEM NUMBER* |
|--------------|
| RAF3062 |

*Package of 10.



The Cool One – Heated Nozzle Locator Replacement Parts

Heated Nozzle Locator Assemblies

HNL462 and HNL662 assemblies include:

- HNC46 or HNC66 core, respectively
- SSTC6290 heater
- HNS67 spacer

HNL472 and HNL672 assemblies include:

- HNC47 or HNC67 core, respectively
- SSTC7290 heater
- HNS67 spacer

Obsolete Replacement Parts

| R | ITEM NUMBER |
|-----|-------------|
| 1/2 | HNL462 |
| | HNL472 |
| 3/4 | HNL662 |
| | HNL672 |

Cores

| R | ITEM NUMBER |
|-----|-------------|
| 1/2 | HNC46 |
| | HNC47 |
| 3/4 | HNC66 |
| | HNC67 |



CORE

Thermocouple Heaters

(240 VAC, 250 WATTS T/C type J 36" leads)

| ITEM NUMBER | USED WITH CORES |
|-------------|-----------------|
| SSTC6290 | HNC46 & 66 |
| SSTC7290 | HNC47 & 67 |



HEATER

Spacer

| ITEM NUMBER |
|-------------|
| HNS67 |



SPACER

| ITEM NUMBER | R |
|-------------|-----|
| NL6702 | 1/2 |
| NL6703 | 3/4 |



The Cool One – End Caps and Distributor Tubes

Internally Heated Hot Runner Systems | The Cool One – End Caps & Distributor Tubes

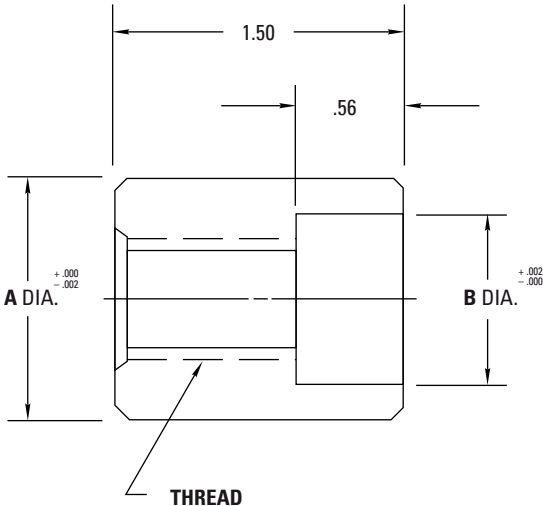
End Caps (for use with solid distributor block designs)

[Obsolete Replacement Parts](#)

MATERIAL: AISI 4140 STEEL

End caps provide concentricity between distributor tube and distributor bore. Thread accommodates heater stop or lead wire protector.

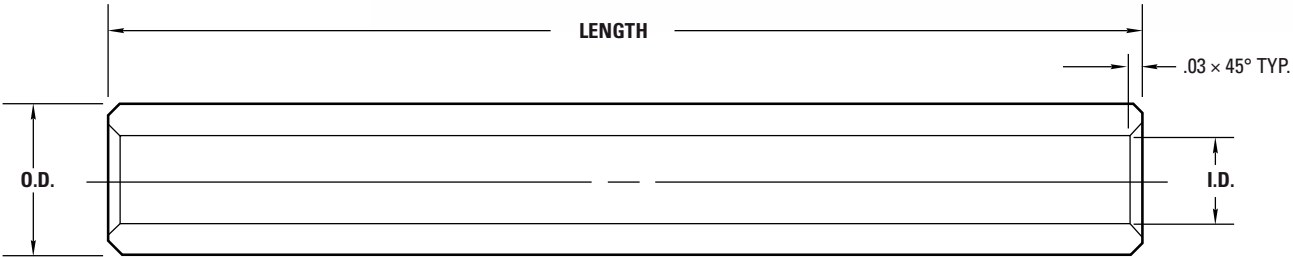
END CAPS FOR SPLIT PLATE DESIGNS: Moldmaker to supply to suit.



| ITEM NUMBER | DIA. A | DIA. B | THREAD | USED WITH DIST. BORE/TUBE |
|-------------|--------|--------|-----------|---------------------------|
| EC1207 | 1.249 | 0.875 | 5/8" - 11 | 1.25 DIA./ .87 O.D. |
| EC2015 | 1.999 | 1.625 | 3/4" - 10 | 2.00 DIA./ 1.62 O.D. |

Distributor Tubes

MATERIAL: AISI P-20 STEEL
HARDNESS: 28-35 HRC



| USED WITH 1.25 DIAMETER DISTRIBUTOR BORE/CHANNEL | | |
|--|-----------------------|-------------|
| LENGTH | I.D. = .50 O.D. = .87 | ITEM NUMBER |
| | | |
| 6" | | HT07046 |
| 10" | | HT070410 |
| 16" | | HT070416 |
| 20" | | HT070420 |
| 24" | | HT070424 |
| 29" | | HT070429 |
| 34" | | HT070434 |

| USED WITH 2.00 DIAMETER DISTRIBUTOR BORE/CHANNEL | | |
|--|------------------------|-------------|
| LENGTH | I.D. = .62 O.D. = 1.62 | ITEM NUMBER |
| | | |
| 10" | | HT150510 |
| 18" | | HT150518 |
| 24" | | HT150524 |
| 29" | | HT150529 |
| 34" | | HT150534 |
| 40" | | HT150540 |
| 46" | | HT150546 |

NOTES:

Stainless Steel Distributor Tubes available on special order for molding highly corrosive plastics materials.

The Cool One – Thermocouple Distributor Tube Heaters

Obsolete Replacement Parts

Thermocouple (T/C) Distributor Tube Heaters

(240 VAC, T/C type J, 34" leads)



| DIA. (AMPS)* | ITEM NUMBER | LENGTH | WATTS |
|------------------|----------------|--------|-------|
| .500 (10 AMP) | HCTC044 | 4" | 380 |
| | HCTC045 | 5" | 500 |
| | HCTC046 | 6" | 600 |
| | HCTC047 | 7" | 700 |
| | HCTC048 | 8" | 820 |
| | HCTC049 | 9" | 920 |
| | HCTC0410 | 10" | 1030 |
| | HCTC0411 | 11" | 1140 |
| | HCTC0412 | 12" | 1250 |
| | HCTC0413 | 13" | 1350 |
| | HCTC0414 | 14" | 1460 |
| | HCTC0415 | 15" | 1570 |
| | HCTC0416 | 16" | 1680 |
| | HCTC0417 | 17" | 1780 |
| | HCTC0418 | 18" | 1900 |
| | HCTC0419 | 19" | 2010 |
| | HCTC0420 | 20" | 2110 |
| | HCTC0421 | 21" | 2220 |
| | HCTC0422 | 22" | 2330 |
| | HCTC0423 | 23" | 2400 |
| .625 (10 AMP) | HCTC0424 | 24" | 2400 |
| | HCTC0425 | 25" | 2400 |
| | HCTC0426 | 26" | 2400 |
| | HCTC0427 | 27" | 2400 |
| | HCTC0428 | 28" | 2400 |
| | HCTC0429 | 29" | 2400 |
| | HCTC0430 | 30" | 2400 |
| | HCTC055 | 5" | 620 |
| | HCTC056 | 6" | 750 |
| | HCTC057 | 7" | 880 |
| | HCTC058 | 8" | 1020 |
| | HCTC059 | 9" | 1160 |
| | HCTC0510 | 10" | 1300 |

| DIA. (AMPS)* | ITEM NUMBER | LENGTH | WATTS |
|------------------|----------------|--------|-------|
| .625 (10 AMP) | HCTC0511 | 11" | 1430 |
| | HCTC0512 | 12" | 1570 |
| | HCTC0513 | 13" | 1700 |
| | HCTC0514 | 14" | 1840 |
| | HCTC0515 | 15" | 1980 |
| | HCTC0516 | 16" | 2110 |
| | HCTC0517 | 17" | 2250 |
| | HCTC0518 | 18" | 2390 |
| .625 (15 AMP) | HCTC0519 | 19" | 2520 |
| | HCTC0520 | 20" | 2660 |
| | HCTC0521 | 21" | 2800 |
| | HCTC0522 | 22" | 2930 |
| | HCTC0523 | 23" | 3070 |
| | HCTC0524 | 24" | 3200 |
| | HCTC0525 | 25" | 3340 |
| | HCTC0526 | 26" | 3480 |
| .625 (30 AMP) | HCTC0527 | 27" | 3620 |
| | HCTC0528 | 28" | 3750 |
| | HCTC0529 | 29" | 3900 |
| | HCTC0530 | 30" | 4020 |
| | HCTC0531 | 31" | 4160 |
| | HCTC0532 | 32" | 4300 |
| | HCTC0534 | 34" | 4570 |
| | HCTC0535 | 35" | 4710 |
| | HCTC0536 | 36" | 4840 |
| | HCTC0537 | 37" | 4980 |
| | HCTC0538 | 38" | 5120 |
| | HCTC0539 | 39" | 5250 |
| | HCTC0540 | 40" | 5390 |
| | HCTC0541 | 41" | 5520 |
| | HCTC0542 | 42" | 5520 |
| | HCTC0543 | 43" | 5520 |
| | HCTC0544 | 44" | 5520 |

*(AMPS) Amperage requirement for temperature control module.

NOTE: Heaters should be at least 2" shorter than distributor tube length in mold design.

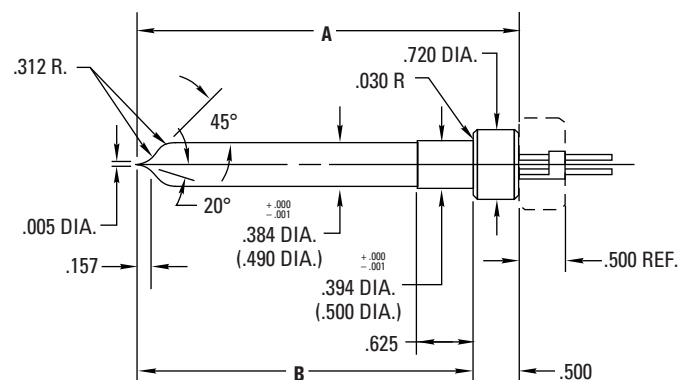
The Cool One – Components

Obsolete Replacement Parts

Auto-Fixed™ "Integral Heater" Probes (240 VAC, T/C Type J Grounded, 48" Leads)

MATERIAL: AISI D-2 STEEL

HARDNESS: 50-55 HRC



Important: Dimensions shown in parentheses apply to larger probes AFIP5372 thru 622 only. Tolerances shown also apply to dimensions in parentheses.

| ITEM NUMBER** | | AFIP4 SERIES PROBES .394 (10 mm) DIAMETER | | |
|------------------------|-------------------|--|-----------|-------|
| STRAIGHT EXIT LEADS | 90° EXIT LEADS | A DIM. | B DIM. | WATTS |
| AFIP4322 | AFIP432290 | 3.220 | 2.720 | 135 |
| AFIP4372 | AFIP437290 | 3.720 | 3.220 | 160 |
| AFIP4422 | AFIP442290 | 4.220 | 3.720 | 185 |
| AFIP4472 | AFIP447290 | 4.720 | 4.220 | 210 |

**Includes probe, integral heater, thermocouple, adjustment ring and hold down nut.



AVAILABLE WITH
STRAIGHT OR 90°
EXIT HEATER LEADS

NOTE: Probes are special order only



These probes feature a swaged in heating element which is an integral part of the probe. A separate replaceable thermocouple is installed in each probe as supplied. The integral heater design provides highly efficient heat transfer, uniform heat distribution and is guaranteed for one year.

| ITEM NUMBER** | | AFIP5 SERIES PROBES .500 (12.9 mm) DIAMETER | | |
|------------------------|-------------------|--|-----------|-------|
| STRAIGHT EXIT LEADS | 90° EXIT LEADS | A DIM. | B DIM. | WATTS |
| AFIP5372 | AFIP537290 | 3.720 | 3.220 | 200 |
| AFIP5422 | AFIP542290 | 4.220 | 3.720 | 230 |
| AFIP5472 | AFIP547290 | 4.720 | 4.220 | 265 |
| AFIP5522 | AFIP552290 | 5.220 | 4.720 | 295 |
| AFIP5572 | AFIP557290 | 5.720 | 5.220 | 325 |
| AFIP5622 | AFIP562290 | 6.220 | 5.720 | 360 |

Replacement Thermocouples

(ALL PROBES)

| ITEM NUMBER | LEAD LENGTH |
|-------------|-------------|
| TC9900 | 48" |

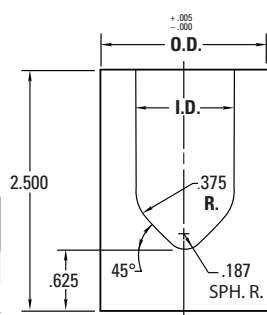
Gate Inserts

MATERIAL: AISI S-7 STEEL (pre-hardened)

HARDNESS: 30-34 HRC

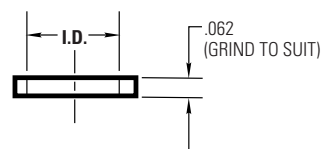
Hardness can be increased to a higher value by heat treatment, if desired.

| ITEM NUMBER | O.D. | I.D. | USED WITH |
|----------------|-------|-------|--------------|
| AFGI04N | 1.625 | .875 | AFIP4 SERIES |
| AFGI10N | 1.750 | 1.000 | AFIP5 SERIES |



Adjustment Rings

(Packaged with all probes)



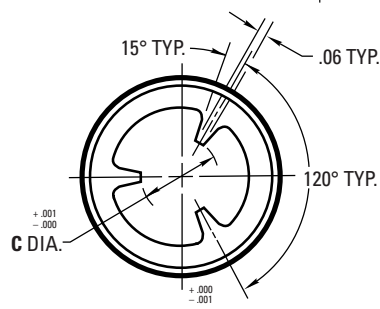
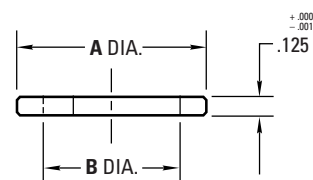
| ITEM NUMBER† | I.D. | USED WITH |
|--------------|------|--------------|
| RAF4062 | .469 | AFIP4 SERIES |
| RAF5062 | .565 | AFIP5 SERIES |

†Bag of 5 rings.

Register Rings

MATERIAL: AISI H-13 STEEL

HARDNESS: 48-52 HRC



| ITEM NUMBER | A DIM. | B DIM. | C DIM. | USED WITH |
|-------------|--------|--------|--------|--------------|
| AFRR04N | 1.062 | .865 | .387 | AFIP4 SERIES |
| AFRR05N | 1.187 | .937 | .493 | AFIP5 SERIES |

Hold-Down Nut

(Packaged with all probes)

THICKNESS = .500

THREAD = 1" - 8

HEX FLAT = 5/16

| ITEM NUMBER |
|-------------|
| AFN100 |



Hold-Down Nut Wrench*

| ITEM NUMBER |
|-------------|
| WR916 |

*Required for straight exit leads only.

The Cool One – Probes and Probe Heaters

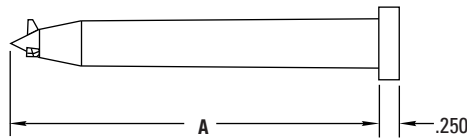
Auto-Fixed™ Probes (3" to 6" long)

MATERIAL: AISI D-2 STEEL

HARDNESS: 50-55 HRC

| LENGTH A | ITEM NUMBER ** |
|-------------|----------------|
| 2.893 | AFP310 |
| 3.625 | AFP410 |
| 4.625 | AFP510 |
| 5.609 | AFP610 |

**Includes probe, stop sleeve and hold down nut only.



Obsolete Replacement Parts



These finned style Auto-Fixed probes employ a precision engineered tip configuration that automatically "fixes" the relationship between probe tip and gate, centering the probe and limiting tip protrusion into the gate. Thermocouple heaters are guaranteed for one year as detailed under the

heater chart below. Gate inserts (shown on next page), pre-machined for use with these probes, can save valuable machining time and help assure optimum probe performance.

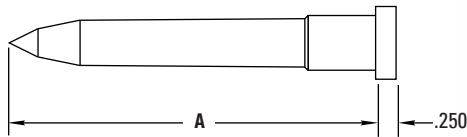
Auto-Fixed™ Finless Probes (3" to 6" long)

MATERIAL: AISI D-2 STEEL

HARDNESS: 50-55 HRC

| LENGTH A | ITEM NUMBER ** |
|-------------|----------------|
| 2.893 | AFPN310 |
| 3.625 | AFPN410 |
| 4.625 | AFPN510 |
| 5.609 | AFPN610 |

**Includes probe, stop sleeve and hold down nut only.



These finless style Auto-Fixed probes are available in the same sizes as the finned probes above and also in lengths up to 10". An optional register ring is available to provide added stability at the probe tip if desired. As with the finned probes, thermocouple heaters are guaranteed for one year and pre-machined gate inserts are available.

NOTE: Due to minimum distance requirements specified, the AFPO310 and AFPN310 probes cannot be used in a Cool One system. They may, however, be used in an insulated runner system.

Thermocouple (T/C) Probe Heaters†

(.246 diameter, 240 VAC, T/C type J grounded, 34" leads)



| ITEM NUMBER | FOR PROBE | WATTS | LENGTH |
|-------------|-----------|-------|--------|
| AFTC2132 | AFP(N)310 | 150 | 3.00 |
| AFTC2142 | AFP(N)410 | 220 | 3.75 |
| AFTC2152 | AFP(N)510 | 275 | 4.75 |
| AFTC2162 | AFP(N)610 | 350 | 5.75 |

Non-Thermocouple Probe Heaters

(.246 diameter, 240 VAC, 34" leads)



| ITEM NUMBER | FOR PROBE | WATTS | LENGTH |
|-------------|-----------|-------|--------|
| AFC2132 | AFP(N)310 | 150 | 3.00 |
| AFC2142 | AFP(N)410 | 220 | 3.75 |
| AFC2152 | AFP(N)510 | 275 | 4.75 |
| AFC2162 | AFP(N)610 | 350 | 5.75 |

†Thermocouple (T/C) Probe Heaters are guaranteed for one year from date of shipment.

U.S. 800-626-6653 ▪ Canada 800-387-6600 ▪ DME.net ▪ store.DME.net

The Cool One – Accessories and Replacement Parts

Obsolete Replacement Parts

Accessories/Replacement Parts for 3" to 6" Long Auto-fixed Probes

See design and machining guidelines at the end of this Internally Heated Hot Runner Systems section.

Hold-Down Nut

(Packaged with all probes)

Thickness = .50

Thread = 1"-8

Hex Flat = $\frac{9}{16}$



ITEM NUMBER

AFN100

Stop Sleeve

(Packaged with all probes)

Length = 1.375

Thread = $\frac{3}{8}$ "-24

Dia. = .375



ITEM NUMBER

AFSS38

Register Ring

(For Finless Probes Only)

AISI H-13 STEEL

48-52 HRC

I.D. = .562

O.D. = 1.375

Thickness = .125



ITEM NUMBER

AFRR10N

Gate Inserts

MATERIAL: AISI S-7 STEEL (pre-hardened)

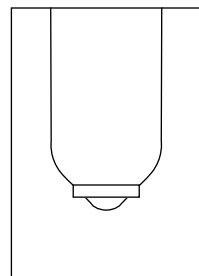
HARDNESS: 30-34 HRC

Hardness can be increased to a higher value by heat treatment, if desired.

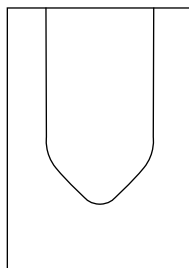
I.D. = 1.000 O.D. = 1.750 Height = 2.500



| ITEM NUMBER | FOR PROBE |
|-------------|------------------|
| AFGI10 | AFP310 thru 610 |
| AFGI10N | AFPN310 thru 610 |



AFGI10



AFGI10N

Gate inserts are supplied premachined. See design and machining guidelines at the end of this Internally Heated Hot Runner Systems section.

Adjustment Rings

For simplified counterbore depth adjustment (No change from previous rings).

I.D. = .687 O.D. = .868



| ITEM NUMBER* | THICKNESS |
|--------------|-----------|
| RAF002 | .002 |
| RAF003 | .003 |
| RAF005 | .005 |
| RAF007 | .007 |
| RAF032 | .032 |
| RAF062 | .062 |
| RAF125 | .125 |

*Package of 10.

Replacement Thermocouple (T/C) And Non T/C Heaters

FOR DISCONTINUED AUTO-FIXED PROBES AFP300, 400, 500, 600
(.250 diameter, 240 VAC, T/C type J grounded, 36" leads)

While the original Auto-Fixed probes (AFP300, 400, 500, 600) have been replaced with the AFP310 thru 610 series, replacement heaters for these previous probes are still available as detailed here.

| T/C HEATERS ITEM NUMBER | NON T/C HEATERS ITEM NUMBER | FOR PROBE | WATTS | LENGTH |
|-------------------------|-----------------------------|-----------|-------|--------|
| AFTC2022 | AFC2022 | AFP300 | 200 | 2" |
| AFTC2032 | AFC2032 | AFP400 | 300 | 3" |
| AFTC2042 | AFC2042 | AFP500 | 375 | 4" |
| AFTC2052 | AFC2052 | AFP600 | 475 | 5" |

The Cool One – Accessories and Replacement Parts

Obsolete Replacement Parts

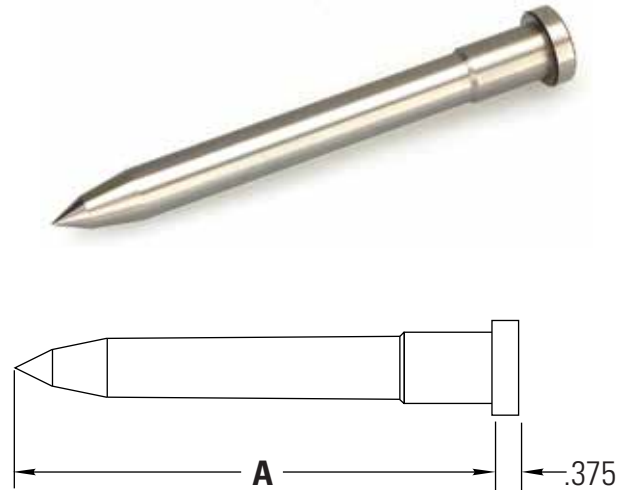
Auto-Fixed™ Finless Probes (7" to 10" long)

MATERIAL: AISI D-2 STEEL
HARDNESS: 50-55 HRC

These longer probes are ideal for larger molds or gating into deeper cavity configurations. The optional register ring shown below may be used to provide added stability at the probe tip if desired. Thermocouple heaters are guaranteed for one year as detailed under the heater chart below.

| LENGTH A | ITEM NUMBER** |
|-------------|------------------|
| 7.000 | AFPN720 |
| 8.000 | AFPN820 |
| 9.000 | AFPN920 |
| 10.000 | AFPN1020 |

**Includes probe, stop sleeve and hold down nut only.



Hold-Down Nut

(Packaged with all probes)

Thickness = .50
Thread = 1 1/4"-12
Hex Flat = 5/8



ITEM NUMBER

AFN125

Stop Sleeve

(Packaged with all probes)

Length = 1.375
Thread = 1/2"-20
Dia. = .500



ITEM NUMBER

AFSS12

Register Ring

AISI H-13 STEEL
48-52 HRC
I.D. = .693
O.D. = 1.500



ITEM NUMBER

AFRR20N

Thermocouple (T/C) Probe Heaters†

(.375 diameter, 240 VAC, T/C type J grounded, 46" leads)



| ITEM NUMBER | FOR PROBE | WATTS | LENGTH |
|-------------|-----------|-------|--------|
| AFTC3272 | AFPN720 | 645 | 7.15 |
| AFTC3282 | AFPN820 | 760 | 8.15 |
| AFTC3292 | AFPN920 | 870 | 9.15 |
| AFTC32102 | AFPN1020 | 980 | 10.15 |

†Thermocouple (T/C) Probe Heaters are guaranteed for one year from date of shipment.

Gate Insert

MATERIAL: AISI S-7 STEEL (pre-hardened)
HARDNESS: 30-34 HRC

Hardness can be increased to a higher value by heat treatment, if desired.

I.D. = 1.125 O.D. = 2000 Height = 2.500

ITEM NUMBER

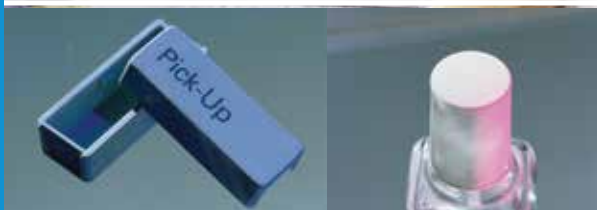
AFGI20N



Adjustment Rings

Moldmaker to supply to suit (.990 O.D., .820 I.D.)

Modular Components Deliver High-Performance Solutions



Today's increasingly feature-packed plastic products benefit tremendously from the right hot runner solution. Increasing resin costs and the complexity of engineered materials only compound this challenge. From hot sprue bushings to turnkey hot halves, DME offers a wide range of solutions to almost any molding application.

Get the modular advantage with DME hot runner systems

DME's newest family of hot runner systems are built on an architecture of modular components so we can quickly custom configure a system that is ideal for your application. With the tremendous time pressures on moldmakers today, our modular architecture enables industry-leading delivery times. This modular approach shortens delivery, improves cost-effectiveness and optimizes performance. DME's Stellar hot runner systems offer standardized products, custom-configured to each application in only a few days.

Our dedicated team of application engineers works to understand the critical variables of your molding equation.

Here are a few areas in which our global capabilities make hot runner solutions more efficient and more economical.

Micromolding solutions

As plastic parts get smaller and more complex, micromolding solutions become more challenging. DME Stellar Hot Runner Systems were designed for the demands of very small part molding with engineered or commodity materials. The Stellar hot runner system is available for applications with center-to-center dimensions as close as 17mm.

Application engineered solutions

As an industry leader in hot runner systems, DME is able to offer our customers a comprehensive resource for hot runner solutions. Our dedicated team of application engineers works to understand the critical variables of your molding equation and engineer a hot runner system solution that is optimal for your project.

Powerful custom manufacturing capabilities

For more complex, custom and even high cavitation applications, DME offers extensive manufacturing capabilities enabling complete, custom solutions. For example, turnkey hot half systems — fully assembled, wired, and electrically tested — are ready to drop in with no machining and minimal installation demands.



DME

CONTROL SYSTEMS



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Smart Series® ITSP Plus Temperature Control System 114-119

Touch screen panel, powerful, flexible and affordable



Smart Series® Temperature Control Systems 120-161

RoHS/WEEE-compliant temperature controls for hot runner systems



Smart Series® Me Temperature Control System 162-163

Powerful performance made simple & economical



Smart Series® M2+ Temperature Control System 164-166

Advanced Hot Runner Temperature Control & Process Monitoring



Smart Series® Mt2 Temperature Control System 167-168

Precision control for 2-zone hot sprue applications



Valve Gate Controls..... 169-175

Energy efficient, reliable and compact hydraulic and pneumatic controls

Technical Support 176-177

*Customer power requirement worksheet
Breaker wattage size table
Control system repairs/calibrations
Product returns*

Smart Series® ITSP Plus™ Temperature Control System Series

POWERFUL, FLEXIBLE
AND AFFORDABLE



Features and Benefits

Everything you loved about the original TSP controller with new enhanced features for optimal control

- Automatic Leak detection
- Enhanced 7" Color Touch screen
- Storage : up to 100 Tools
- Optional Thermocouple to monitor steel temperature and alarm if cooling is off
- Accuracy 0.01 oF
- Ability to control Small Mass / High Watt density nozzles
- Field selectable PID (parameters) to optimize control process
- APS technology (Adaptive Process System)
- SPI communication Protocol via RS232/RS485 included
- Optional Full IO function card with 4 input + 4 output for communication (ordered separately - IOCARD-KIT)



| ITEM NUMBER | SLOTS | # OF ZONES | MAIN |
|----------------------------|-------|------------|---------|
| ITSP-12-15 | 2 | 12 | 40 AMPS |
| ITSP-24-15 | 4 | 24 | 63 AMPS |
| ITSP-36-15 | 6 | 36 | |
| ITSP-48-15 | 8 | 48 | |

| ITEM NUMBER | DESCRIPTION |
|--------------------------|--|
| ITSCGR-A | PCB replacement card, 6 zones @ 15 AMP |

Custom zone configurations available upon request

ITSP Specifications

SMART SERIES USER-FRIENDLY PERFORMANCE

- Intuitive, leading edge touch screen display with adjustable viewing angle
- Automatically employed diagnostics to ensure optimal hardware configuration and performance
- Advanced micro controller technology
- Continuous ground fault and current measurement

PLUG-AND-PLAY SYSTEM ARCHITECTURE

- “All-in-one” control card designed for reliability
- Modular 6-zone cards; 15 amps per zone
- Field calibration mode
- Universal power supply

OPTIMIZES PERFORMANCE FOR ALL HOT RUNNER SYSTEMS

- Unique low voltage soft-start feature maximizes heater life
- Uniform startup feature reduces scrap and energy usage
- Proprietary adaptive auto-tuning control algorithm
- Phase angle or burst firing modes (time proportional, zero-crossing)

ROBUST, HIGH-QUALITY DESIGN













- Compact solid metal enclosure with heavy-duty industrial connectors
- Mold and controller protection features
- On-board heater and thermocouple fuses
- Portable stand available

IMPORTANT NOTICE: Smart Series Controllers are not designed to control all zones as manifold zones.

Doing so will cause the main circuit breaker to trip.



ITSP Plus Component Ordering Information

| ZONES | CONTROLLER | CABLES | TERMINAL MOUNTING BOX |
|------------------------------------|--|--|---|
| 12 ZONES OF CONTROL (15 AMP) |  ITSP-12-15 |  MPC12C10G (1 each) |  PTC12TBTS (1 each) |
| 24 ZONES OF CONTROL (15 AMP) |  ITSP-24-15 |  MPC12C10G (2 each) |  PTC12TBTS (2 each) |
| 36 ZONES OF CONTROL (15 AMP) |  ITSP-36-15 |  MPC12C10G (3 each) |  PTC12TBTS (3 each) |
| 48 ZONES OF CONTROL (15 AMP) |  ITSP-48-15 |  MPC12C10G (4 each) |  PTC12TBTS (4each) |

ITSP Plus Temperature Control System

Mold Power Cables
(15 AMP Max)[MPC12C10G](#)

| ITEM NUMBER | ITEM NUMBER | ITEM NUMBER | NUMBER OF ZONES (MAX.) | FROM 15 AMP FRAME (S) | TO POWER INPUT CONNECTOR |
|-----------------|-----------------|-----------------|------------------------------|--------------------------|--------------------------------|
| 10 FOOT LONG | 20 FOOT LONG | 30 FOOT LONG | | FOR CONNECTIONS | |
| MPC12C10G | MPC12C20G | MPC12C30G | 12 | 12 ZONE | PIC12G |

Thermocouple Cables
(for 15 or 30 AMP Mainframes)[TC12C10G](#)

| ITEM NUMBER | ITEM NUMBER | ITEM NUMBER | NUMBER OF ZONES (MAX.) | FROM 15 AMP FRAME (S) | TO POWER INPUT CONNECTOR |
|-----------------|-----------------|-----------------|------------------------------|--------------------------|--------------------------------|
| 10 FOOT LONG | 20 FOOT LONG | 30 FOOT LONG | | FOR CONNECTIONS | |
| TC12C10G | TC12C20G | TC12C30G | 12 | 12 ZONE | MTC12G |

| ITEM |
|-----------------------------|
| ITS-TK15KVA |
| ITS-TK30KVA |

480/240VAC Transformer and Trolley
Assembly (controller not included)

| ITEM |
|-----------------------------|
| ITSPTROLLEY |

Controller not included



ITSP Plus controllers do not come standard with wiring for an alarm beacon. The controller with additional internal wiring and the alarm beacon installed must be purchased as a special.

Contact customer service at
800-626-6653 or dme@dme.net.

Smart Series®

ROHS/WEEE-COMPLIANT
TEMPERATURE CONTROLS
FOR HOT RUNNER SYSTEMS



RoHS/WEEE Compliant Advanced Temperature Control for Hot Runner Systems



Capability/RoHS and WEEE Compliant

DME offers 2-, 5-, 8-, and 12-zone standard mainframes for 15A operation and 1-, 2-, 3-, and 5-zone standard mainframes for 30A operation. Components listed in this catalog satisfy all international compliances. This includes RoHS (Restriction of Hazardous Substances) that prohibits or restricts the use of six potentially harmful materials in electronic equipment, and WEEE (Waste Electrical and Electronic Equipment) that requires equipment made after August 2005 to be taken back and recycled by the manufacturer, rather than just “thrown away.”

Two-Year Warranty

All DME temperature controllers are now covered by a two-year warranty, excluding fuses and triacs.

Electrical Noise Immunity

To enhance immunity from electrical noise, power and thermocouple wire are harnessed in separate wire ways within the body of the frame. Additional noise immunity is provided through the use of shielded thermocouple wires.

The DME Smart Series® is the result of intensive and dedicated research with a goal of designing today's most versatile and reliable line of temperature controllers. DME achieved this goal by not only incorporating the latest technology, but by also making certain that each controller is easy to install and above all...easy to operate.

Heavy Duty Welded Construction

With years of experience behind its design, the Smart Series line is built to last under the most rigorous conditions. The mainframe's welded 16 gauge steel construction ensures long life and peak performance. Cooling fans in the frame are strategically located to increase air ventilation, maintain cooler running conditions, and promote control module reliability.



CE COMPLIANT! DME Mainframes and Modules comply with Electromagnetic compatibility and low voltage directives



SSM1512



TSM1512

Control Modules

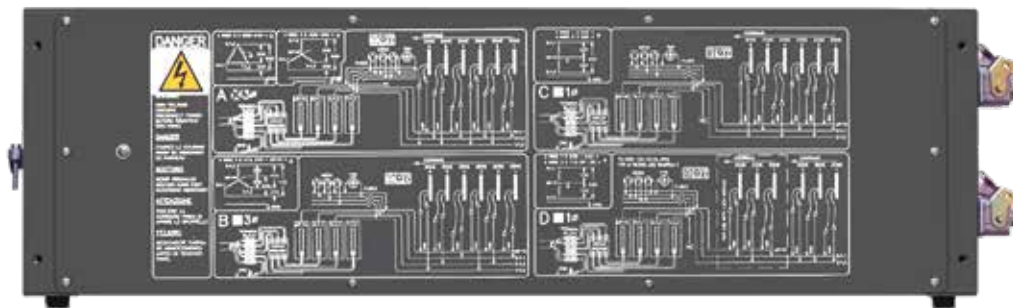
SSM (15 AMP): The SSM module provides accurate temperature control, including Smart Start® heater dry out circuitry, thermocouple fault displays and auto/manual modes of operation. The SSM features automatic or manual bumpless transfer which, in the event of a thermocouple fault, provides switch over to manual mode at the proper power setting to continue molding until the fault can be corrected. This module can also trigger remote standby heat (idle), boost, off, and alarm functions when used with the TAS module.

TSM (15 AMP): The TSM15 Smart Series Module has a color touch screen digital display providing readouts for Actual Temperature, Current Mode, Percentage Power and Current Reading. Closed-loop, fuzzy logic PID control, and auto-tuning of PID parameters provide precise control even under the most adverse processing conditions..

Accessory Modules

TAS: The TAS module provides over/under visual and audible alarms, boost, and standby heat control with control modules as stated above. The TAS module can accommodate up to 63 zones of control. Alarm is activated at $\pm 30^{\circ}$ F. See pages 143-144 for details.

NOTE: The TAS accessory module requires the use of "MFC" style communications mainframes. Non-communications frames may be upgraded on-site with installable kits.



Simplified Power Hook-Up

Concern for user convenience didn't stop with improved operation features. DME went one step beyond to ensure that the power hook-up procedure goes smoothly as well. For this reason, detailed schematics for various hook-ups are provided directly on all mainframe back panels. If it is ever necessary to change the configuration, these diagrams will help ensure : wiring diagrams can be referenced at the end of this section.

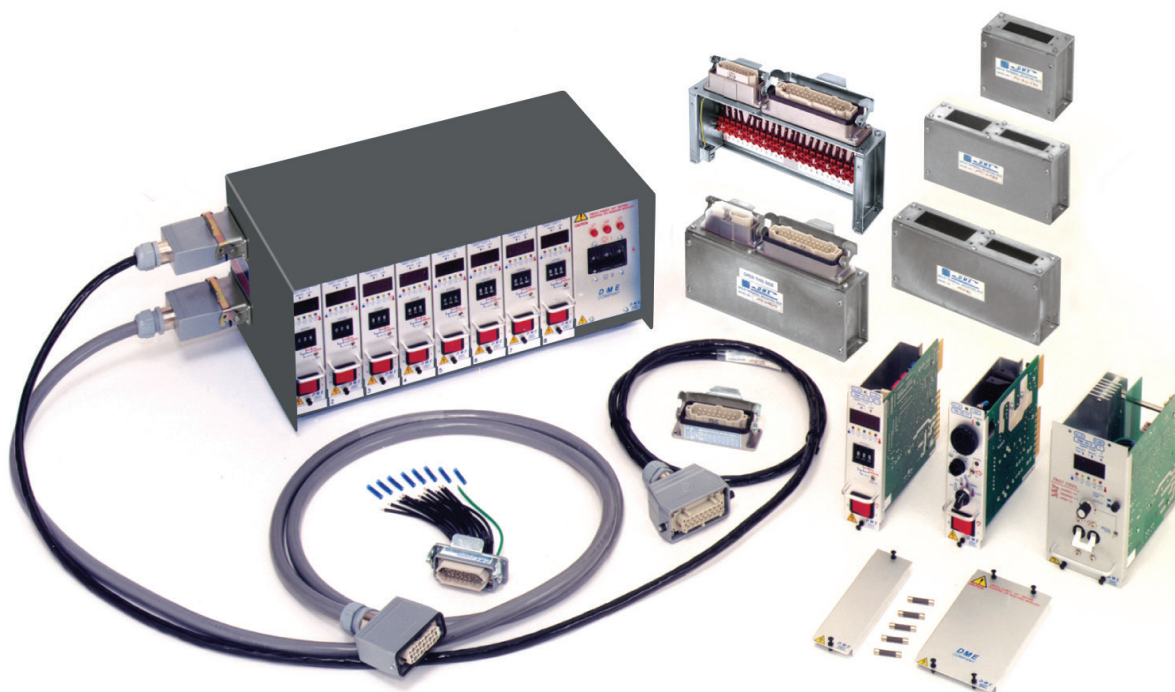
SSH Controller (10 AMP)

The SSH is a stand-alone single zone controller ideal for use with hot sprue bushings or machine nozzles.



SSH1022

Smart Series® Temperature Control Systems



- ① Mainframe
- ② Circuit Breaker/Disconnect
- ③ Mold Power Cable
- ④ Thermocouple Cable
- ⑤ Mold Power Input Connector
- ⑥ Insulated Crimp Connector
- ⑦ Thermocouple Connector
- ⑧ Terminal Mounting Boxes
- ⑨ Mainframe Blank Panels
- ⑩ Module Replacement Fuses
- ⑪ Control Modules

Typical System Configurations

SSM1512
TSM1512

5 Zones of Control (15 AMP)



X5

+



MFP5G

+



MPC5C10G

+



TC5C10G

PTC5TBTS



+



MFS512G

SSM1512
TSM1512

8 Zones of Control (15 AMP)



X8

+



MFP8G

+



MPC8C10G

+



TC8C10G

PTC8TBTS



+



MFS512G

SSM1512
TSM1512

12 Zones of Control (15 AMP)



X12

+



MFP12G

+



MPC12C10G

+



TC12C10G

PTC12TBTS



+



MFS512G

RoHS/WEEE Compliant

Smart Series® Single Zone Temperature Controller

SSH1022/

- Compact
- Easy-to-use
- Includes new, improved and unique features
- Provides microprocessor- based PID control
- More accurate than analog or variac controllers
- Built-in thermocouple diagnostics
- Ideal for use with a hot sprue bushing or a machine nozzle



Key Features

- **Large Digital Display**
 - For easier readability of temperature, % power and faults
- **Setpoint Pushwheel**
 - For setting desired setpoint temperature
 - Allows adjustment of setpoint before turning power on
- **AUTO % Power Display**
 - Shows % power output while in AUTO mode
 - Indicates average % power requirement on thermocouple failure
 - A diagnostic tool for solving problems

Switchable Options

- **Shorted Thermocouple Sensitivity Adjustment**
 - Operation can be tailored to fast or slow reaction times
 - Sensitivity can be adjusted with internal switches
 - Very useful for zones with long startup times
- **Switchable °C/°F Operation**
 - Scale indicated at startup
- **K Type Thermocouple Support**
- **Cut Feature**
 - Gain cut feature for small nozzles and heaters with ungrounded internal thermocouples

Operational Refinements

- **Improved SmartStart®**
 - A more gradual temperature rise leads to a more effective heater dry out period, thereby extending heater life
 - SmartStart® now available as an option in manual mode
- **SelectiveCycle®**
 - A very high speed power output approach
 - Enables accurate temperature control and longer heater life
- **Bumpless Transfer**
 - When a thermocouple failure occurs, operation is automatically continued with a learned % power
 - Unique software accurately assigns percent power setting
- **Third Fuse**
 - Allows for display of low temperature alarm when the load fuses are blown

Front Panel Digital LED Indicators

| | | | | | | | | | |
|-----------------------|----------------------|-------------------|-------------------|---------------------|----------------------|----------------------|--------------|----------------|---------------|
| | | | | | | | | | |
| BACKWARD THERMOCOUPLE | SHORTED THERMOCOUPLE | OPEN THERMOCOUPLE | BUMPLESS TRANSFER | FRONT PANEL LOCKOUT | TEMP MODE FAHRENHEIT | TEMP MODE CENTIGRADE | PROCESS TEMP | MANUAL % POWER | LOCKOUT ERROR |

RoHS/WEEE Compliant
Smart Series® Single Zone Temperature Controller

SSH1022

Controller includes 19-foot power cord, mating mold power and thermocouple connector (CKPTM1) and two spare fuses (ABC10). Additional cables and/or connectors must be ordered separately. See Page 121 for detailed information on cables and connectors.
Warranty: Two year (excluding triac and fuses).

| CONTROLLER ITEM NUMBER | VOLTS (VAC) |
|---------------------------|----------------|
| SSH1022 | 240 |
| | |

| CABLE* ITEM NUMBER | LENGTH (FEET) |
|------------------------|------------------|
| MPTC10 | 10 |
| MPTC20 | 20 |

See page 119

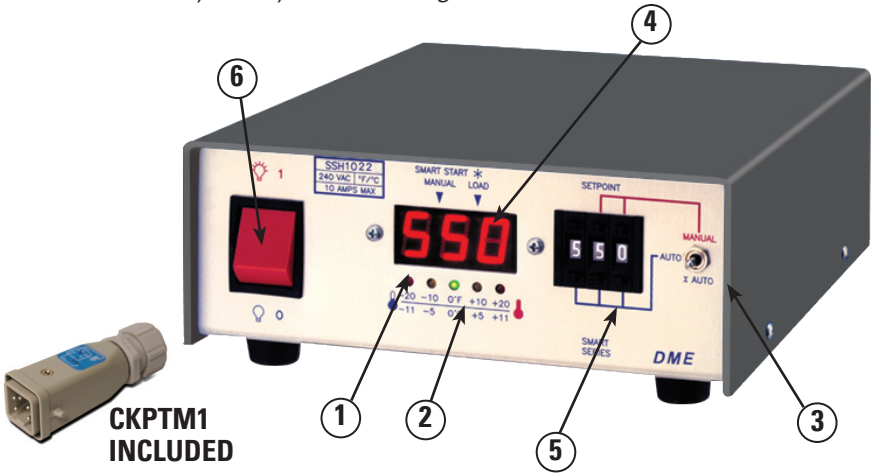


| MOLD POWER AND THERMOCOUPLE CONNECTOR* ITEM NUMBER |
|--|
| CKPTIC1 |

See page 119



* ITEMS ORDERED
SEPARATELY

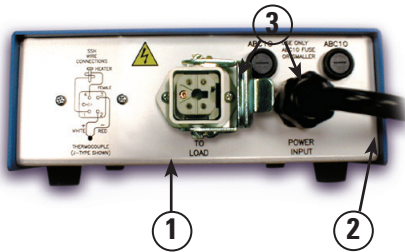


Front Panel Controls and Indicators

- Process Temperature Display:**
Shows process temperature, thermocouple faults and other operational modes. Displays % power when switch (3) is pressed down.
- Temperature Deviation Lights:**
Indicates deviation from setpoint. Outer lights blink at more than $\pm 40^{\circ}\text{F}$ (22°C) from setpoint.
- Auto / Manual / % Auto Power Switch:**
Selects AUTO or MANUAL control mode. Shows % power when pressed into “% AUTO” position.
- LED Mode Indicators:**
Left LED illuminates during manual mode. Right LED illuminates when power is supplied to heater. Right LED blinks during SmartStart®.
- Setpoint Pushwheel:**
Three digit switch programs setpoint in AUTO mode. Right two digits program % power in MANUAL mode.
- Power On/Off Switch:**
Controls AC power to module.

Rear Panel

- Mold Power and Thermocouple Output Connector:**
CKPTIC1 connects to the heater and thermocouple. Mating connector CKPTM1 is supplied with controller.
- Power Input Cord:**
Nineteen foot cord supplies power to controller. Plug supplied with SSH1021 (120 VAC) units. No plug supplied with SSH1022.
- Load Fuse Receptacles:**
Provides safe and easy replacement of load fuses.



RoHS/WEEE Compliant

Smart Series® Single and 2-Zone Mainframes (10 AMP max.)



MFP1G
MFP1G1

A: AC2024F (Power to Mainframe);
AC1512F supplied with MFP1G1

B: CKPTM1 (Connector to heater)

This single-zone controller is ideal for use with Straight-Shot and Gate-Mate hot sprue bushings.



MFPR2G

A: AC2024F (Power to Mainframe)

B: CKPTM1 (Connector to heater)

**Single zone, horizontal
10 amp controllers
(SSH1022/21) also
available. See page 116**

DIMENSIONS

(all frames)
7"W x 9"H x 10"D
(9"H dimension does not
include connectors or handle)

Single and Two-Zone 10 AMP Mainframes

The DME Portable 10 AMP Mainframes are designed for use with 10 or 15 AMP* Smart Series or G-Series Temperature Control Modules. Mainframe is supplied with power input and power-thermocouple output connectors. Circuit breaker provides safety for operation. Control modules and cables are to be ordered separately.

NOTE: Maximum safe operating amperage is 10 AMPS per zone when using 15 AMP modules. If application will draw more than 10 AMPS per zone, use 15 AMP Mainframe (MFFPR2G).

*User must install ABC10 (10 AMP) fuses in the 15 AMP control modules to protect the mainframe.

Single and Two-Zone 10 AMP Mainframes (50-60 Hz, single phase)

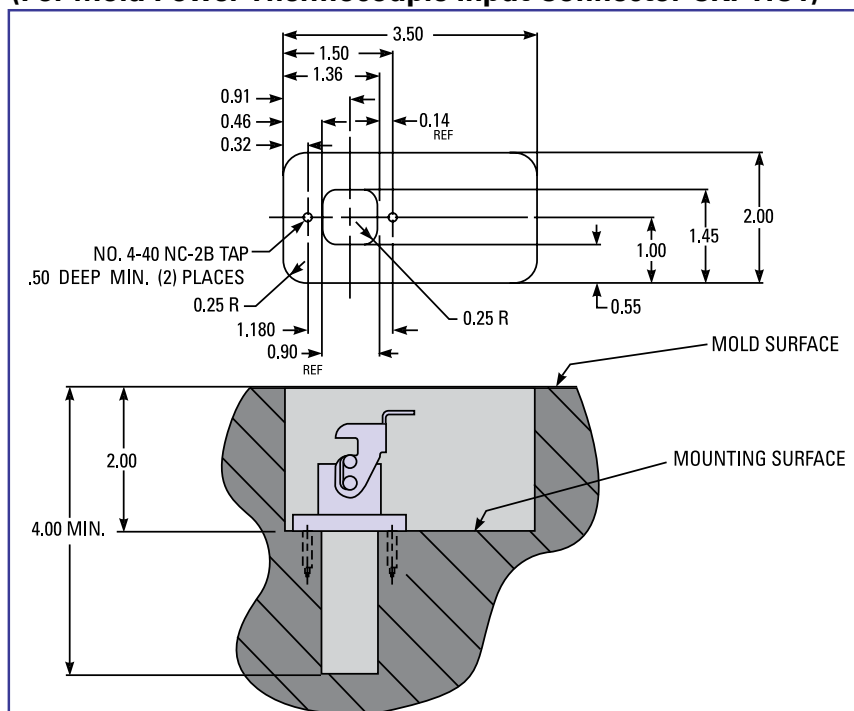
| ZONES | ITEM NUMBERS ** | VOLTS | WATTS PER ZONE | CONNECTORS SUPPLIED |
|-------|-----------------|-------|----------------|--|
| 1 | MFP1G1 | 120 | 1200 | (1) AC1512F (POWER IN) (1) CKPTM1 (POWER-T/C OUT) |
| 1 | MFP1G | 240 | 2400 | (1) AC2024F (POWER IN) (1) CKPTM1 (POWER-T/C OUT) |
| 2 | MFPR2G | 240 | 2400 | (1) AC2024F (POWER IN) (2) CKPTM1 (POWER-T/C OUT) |

**Includes frame and connectors listed. Modules and cables ordered separately.

NOTE: Replacement power connectors in frame are also available on special order.

Recommended Mold Pocket Layout

(For Mold Power-Thermocouple Input Connector CKPTIC1)



RoHS/WEEE Compliant: Smart Series® Single and 2-Zone Mainframe Accessories (10 AMP)

For Use With MFP1G, MFP1G1, MFPR2G, SSH1022 and SSH1021

Mold Power-Thermocouple Input Connector

| ITEM NUMBER |
|-------------------------|
| CKPTIC1 |



A Single-Zone Power-Thermocouple Input Connector is available for mounting in or on the mold to accept the power-thermocouple cable from the mainframe. Water resistant, the connector has an integral retaining latch for a secure cable connection and numbered screw-type terminals for power and thermocouple lead wires.
*Can be mounted on top of mold for use with hot sprue bushings.

Armored Mold Power-Thermocouple Cables

| ITEM NUMBER |
|------------------------|
| MPTC10 |
| MPTC20 |



Single-Zone Mold Power-Thermocouple Cables are constructed of special lead wire for use in high temperature environments, and are available to connect the mainframe to the connector on the mold. Available in lengths of 10 or 20 feet. Integral retaining latches on the mainframe and mold connections provide secure cable connections. Connector configurations ensure proper insertion of cable.

Replacement Connector Kits (for Controller & Cables)

MALE POWER – T/C CONNECTORS:

- CKPTM1 is on MPTC10/20 Cables;
Mates with Frame or CKPTF1L only
- CKPTM1L Mates With CKPTF1 only

FEMALE POWER – T/C CONNECTORS:

- CKPTF1 is on MPTC10/20 Cables;
Mates with Mold or CKPTM1L only
- CKPTF1L Mates with CKPTM1 only

Power Input Connectors
For Mainframe



AC1512F



CKPTM1



CKPTF1



PTC210



AC2024F



CKPTM1L



CKPTF1L

| ITEM NUMBER | VOLTS |
|-------------------------|-------|
| AC1512F | 120 |
| AC2024F | 240 |

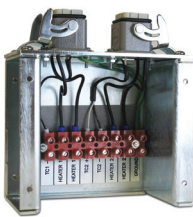
| ITEM NUMBER |
|-------------------------|
| CKPTM1 |
| CKPTM1L |

| ITEM NUMBER |
|-------------------------|
| CKPTF1 |
| CKPTF1L |

| ITEM NUMBER |
|------------------------|
| PTC210 |

Power-Thermocouple Output
Connector (for Mainframe Bulkhead)

| ITEM NUMBER |
|-------------------------|
| CKPTOC1 |

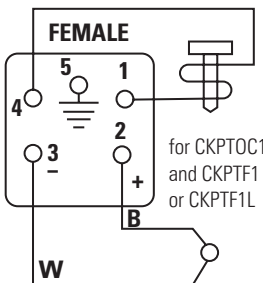
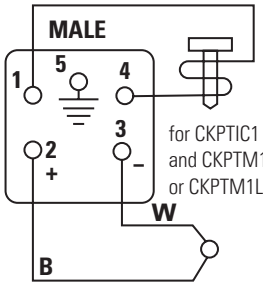


| ITEM NUMBER |
|-----------------------------|
| PTC210TBGTS |

Terminal Mounting
Boxes – Prewired
(10 AMP) 5 Pin

Terminal Mounting Boxes provide the easiest and most economical method of mounting power and thermocouple connectors on the mold. Constructed of plated heavy gauge steel, each box is precut and drilled for quick mounting of the box to the mold (2-zone, prewired terminal mounting box with terminal strip shown with cover plate removed).

WIRING
DIAGRAMS



Smart Series® 2-Zone Mainframes (15 AMP) and Accessories

MFFPR2G



FRAME DIMENSIONS:

7"W x 9"H x 10"D
(9"H dimension does not include connectors or handle)

Two-Zone 15 AMP Mainframes

Provides 15 AMP (3600 watts) per zone. For use with Smart Series or G-Series modules. Supplied with built-in cooling fan, power input, power output and thermocouple input connectors. Control modules and cables are ordered separately.

TWO-ZONE 15 AMP MAINFRAME (240 VAC, 50-60 Hz, SINGLE PHASE)

| ITEM NUMBER | WATTS PER ZONE | CONNECTORS SUPPLIED |
|-------------------------|----------------|--|
| MFFPR2G | 3500 | (1) AC1240F (POWER IN) (1) AC1524M (POWER OUT) (2) M2MJ (T/C IN) |

Includes frame and connectors listed. Modules and cables ordered separately.

NOTE: Replacement parts in frame are also available by special order.
See pages 146-147.

| ITEM NUMBERS | DESCRIPTION |
|---------------------------|--|
| AC1240F* | Female 240 VAC twist-lock power input connector (mates with male frame power input) |
| AC1524M* | Male 240 VAC power output connector (mates with female frame power outputs) |
| M2MJ* | Thermocouple mini-plug (mates with frame jack strip connector) |
| PTC2TBGTS | 2 zone, pre-wired terminal mounting box with terminal strip (mounts to mold; mates with PTC0110 or PTC0129 cables) |

* Included with MFFPR2G



| ITEM NUMBER |
|-------------------------|
| PTC0110 |
| PTC0120 |

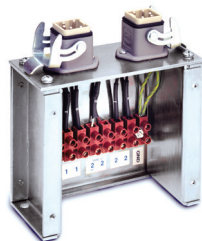
For use with MFFPR2G only

Armored Mold Power – Thermocouple Cables (15 AMP)

Single-Zone Mold Power-Thermocouple Cable is constructed of special lead wire for use in high temperature environments. This cable connects the mainframe to the connector on the mold. Available in lengths of 10 or 20 feet. Retaining latches on the mold connector provide secure cable connections.

Terminal Mounting Boxes – Prewired (15 AMP)

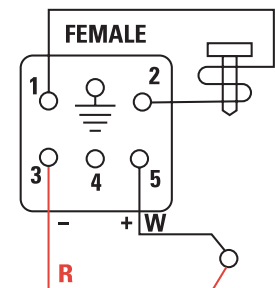
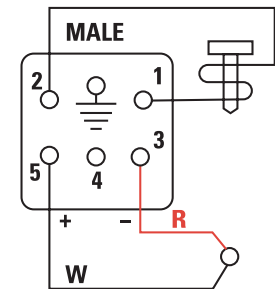
Terminal Mounting Boxes provide the easiest and most economical method of mounting power and thermocouple connectors on the mold. Constructed of plated heavy gauge steel, each box is pre-cut and drilled for quick mounting of the box to the mold (2-zone, prewired terminal mounting box with terminal strip shown with cover plate removed).



| ITEM NUMBER |
|---------------------------|
| PTC2TBGTS |

For use with MFFPR2G only

WIRING DIAGRAMS



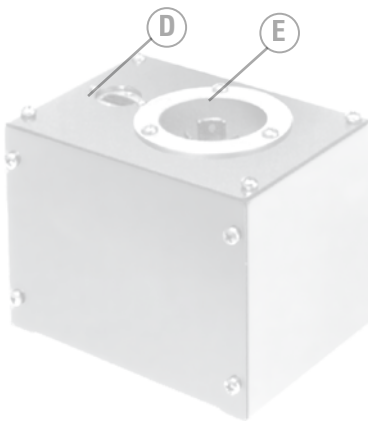
NOTE: 6-pin connectors and pins are available as a special order only. These are crimp contacts. (See pages 148-149 for mounting dimensions.)

Smart Series® Single Zone
High Power Mainframes (30 AMP Max.)

MFHP1G



FRAME DIMENSIONS:
7"W x 9"H x 10"D
(9"H dimension does not
include connectors or handle)



**TERMINAL MOUNTING BOX
PTCH1TBG**
(Connectors shown are
ordered separately)
D: TCS1
E: AC1240MI

The DME Portable Single-Zone High Power Mainframe is designed for use with 30 AMP Smart Series or G-Series temperature control modules. Mainframe is supplied with built-in cooling fan, power input, power output, and thermocouple input connectors. Circuit breaker provides safety for the operator. Control modules and cable are ordered separately.

Single Zone 30 AMP Mainframes (240 VAC, 50-60 Hz, Single Phase)

| ITEM NUMBER | WATTS (OUTPUT) | CONNECTORS SUPPLIED |
|-------------|----------------|--|
| MFHP1G | 7200 | (1) AC1240F (POWER IN) (1) AC1240M (POWER OUT) (1) M2MJ (T / C IN) |

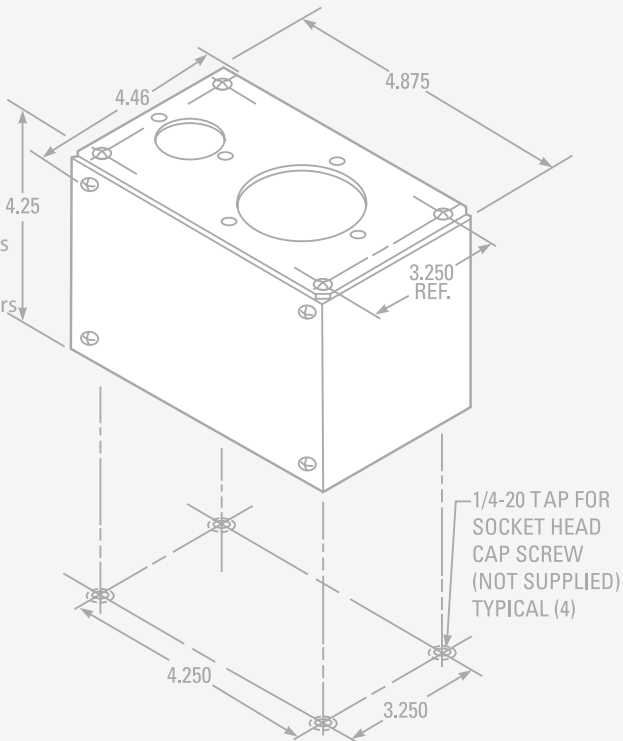
Replacement Connectors and Accessories

| ITEM NUMBER | DESCRIPTION |
|-------------|--|
| MPCH110 | 10 ft. mold power cable (240 VAC) (1 AC1240F twist-lock connector on mold end; 1 AC1240M twist-lock connector on frame end) |
| MPCH120 | 20 ft. mold power cable (240 VAC) (same connectors as MPCH110) |
| AC1240MI | 1-Zone twist-lock mold power input connector (mounts in mold or terminal mounting box; accepts AC1240F twist-lock connector or MPCH110 or MPCH120 cable) |
| TC120 | 20 ft. thermocouple cable (1 M2MJ mini-plug each end) |
| AC1240F* | 240 VAC twist-lock power input connector (mates with frame power input) |
| AC1240M* | 240 VAC twist-lock power output connector (mates with frame power output) |
| M2MJ* | thermocouple mini-plug (mates with frame or jack strip connector) |
| PTCH1TBG | terminal mounting box (mounts to mold; accepts 1 AC1240MI and 1 TCS1) |
| TCS1 | jack strip connector |

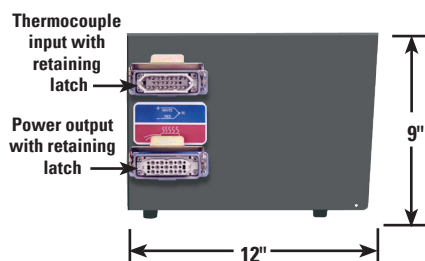
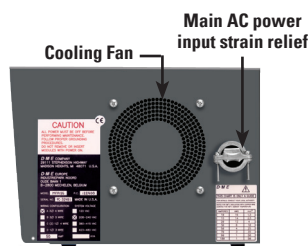
*Included with MFHP1G mainframe

TERMINAL
MOUNTING BOX
PTCH1TBG

NOTE: Overall dimensions
shown include allowances
for hardware (assembly
screws) but not connectors



Smart Series® Mainframes (15 AMP)



WORLDWIDE WIRING CAPABILITIES

Unless otherwise specified, all Smart Series Mainframes will be supplied to accept 240 VAC, 3 phase, 4-wire, 50-60 Hz input power. Wiring diagram (included on the access cover) illustrates the variety of other voltage, phase and load balancing arrangements possible, such as: (380-415V, 3 phase, 5-wire, 50-60 Hz), (208-240V, single phase, 3-wire, 50-60 Hz) and (110-120V, single phase, 3-wire, 50-60 Hz).

These wiring adjustments can be performed in the field to suit the requirements of the application. If specified at the time of original order, DME will supply the Mainframe required.

| ITEM NUMBER | W* |
|------------------------|---------------------------------|
| MFP5G | 14 ³ / ₁₆ |
| MFP8G | 20 ³ / ₁₆ |
| MFP12G | 28 ³ / ₁₆ |

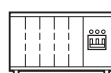
* Dimension does not include connectors

NOTE: Combination frames to accommodate both 15 and 30 AMP modules (with or without communications) are available by special order.

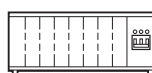
Smart Series® Mainframe (15 AMP Max.) Configurations

The 12 configurations illustrated below provide a wide selection of zone capacities to suit most control applications. The 5-, 8- and 12-zone frames (MFP5G, 8, and 12G) use individual frame sections. The 16 thru 48 zone frames use 2, 3, or 4 frame sections rigidly fastened together into one prewired integral unit which requires only one main AC power input connection. The Current Voltage monitor option will be factory installed when ordered at same time as Mainframe. Control modules, cables, mold connectors and other accessories are ordered separately (see table on next page).

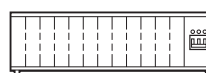
MAINFRAMES (Supplied with 50 AMP, 3-phase circuit breaker)



MFP5G

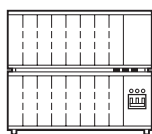


MFP8G

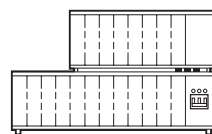


MFP12G

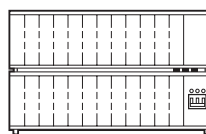
STACK FRAMES (Supplied with 70 AMP, 3-phase circuit breaker)



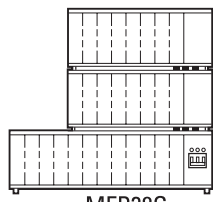
MFP16G



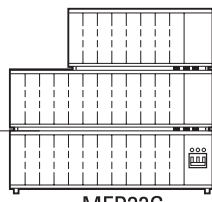
MFP20G



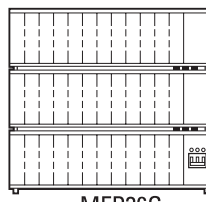
MFP24G



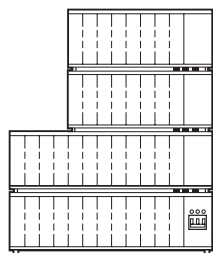
MFP28G



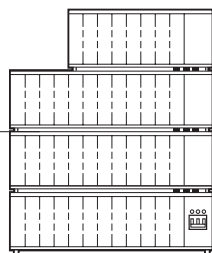
MFP32G



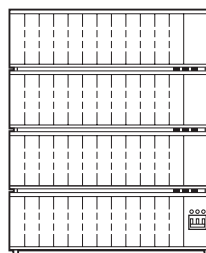
MFP36G



MFP40G

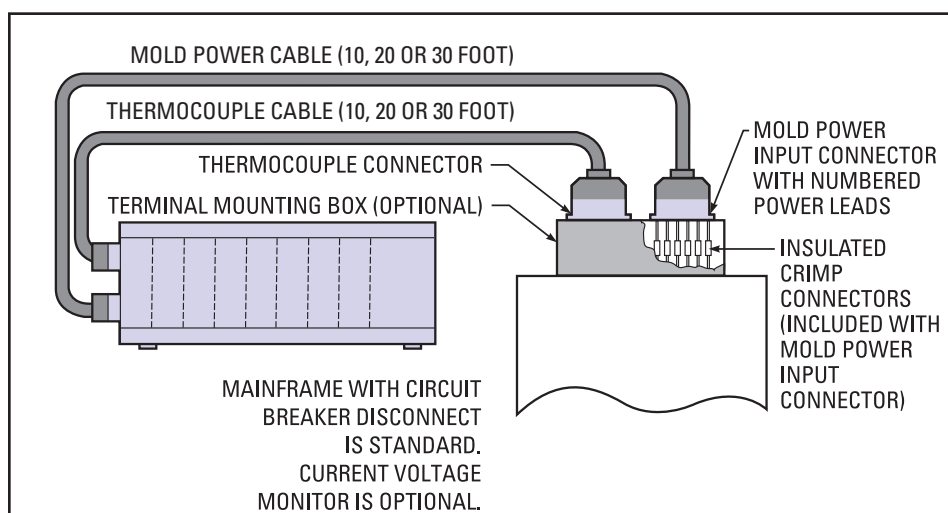


MFP44G



MFP48G

- Each frame section (MFP5G, MFP8G, and MFP12G) has its own cooling fan.
- Multi-section frame heights are multiples of 9" height shown (e.g. MFP32G is 27" high).
- Main AC input shown will always be in bottom frame section. For higher power requirements, individual power inputs and circuit breakers can be factory installed in each section of a stack frame on a special order basis.



Smart Series® Mainframes (15 AMP)

Smart Series Mainframes

Cables & Connectors

| SMART SERIES MAINFRAMES | | | | | CABLES AND MOLD CONNECTORS REQUIRED (Not included with Mainframes and Must be Ordered Separately) | | | | | | | |
|-------------------------|--|--|--|--|--|-------------------------|--|------------------------|--|-------------|-------------------------|-------------|
| ZONES | "MFP" TYPE FOR TEMP. AND POWER CONTROL | | "MFCP" TYPE FOR TEMP. CONTROL AND COMMUNICATIONS | | MOLD POWER CABLES C10=10 FT. C20=20 FT. C30=30 FT. (SELECT LENGTH DESIRED) | | THERMOCOUPLE CABLES C10=10 FT. C20=20 FT. C30=30 FT. (SELECT LENGTH DESIRED) | | MOLD POWER INPUT CONNECTORS (INCL. CRIMP CONNECTORS) | | THERMOCOUPLE CONNECTORS | |
| | ITEM NUMBER | | ITEM NUMBER | | QTY. | ITEM NUMBER | QTY. | ITEM NUMBER | QTY. | ITEM NUMBER | QTY. | ITEM NUMBER |
| 5 | MFP5G | | MFCP5G | | 1 | MPC5C10G, C20G or C30G | 1 | TC5C10G, C20G or C30G | 1 | PIC5G | 1 | MTC5G |
| 8 | MFP8G | | MFCP8G | | 1 | MPC8C10G, C20G or C30G | 1 | TC8C10G, C20G or C30G | 1 | PIC8G | 1 | MTC8G |
| 12 | MFP12G | | MFCP12G | | 1 | MPC12C10G, C20G or C30G | 1 | TC12C10G, C20G or C30G | 1 | PIC12G | 1 | MTC12G |
| 16 | MFP16G | | MFCP16G | | 2 | MPC8C10G, C20G or C30G | 2 | TC8C10G, C20G or C30G | 2 | PIC8G | 2 | MTC8G |
| 20 | MFP20G | | MFCP20G | | 1 | MPC8C10G, C20G or C30G | 1 | TC8C10G, C20G or C30G | 1 | PIC8G | 1 | MTC8G |
| | | | | | 1 | MPC12C10G, C20G or C30G | 1 | TC12C10G, C20G or C30G | 1 | PIC12G | 1 | MTC12G |
| 24 | MFP24G | | MFCP24G | | 2 | MPC12C10G, C20G or C30G | 2 | TC12C10G, C20G or C30G | 2 | PIC12G | 2 | MTC12G |
| 28 | MFP28G | | MFCP28G | | 2 | MPC8C10G, C20G or C30G | 2 | TC8C10G, C20G or C30G | 2 | PIC8G | 2 | MTC8G |
| | | | | | 1 | MPC12C10G, C20G or C30G | 1 | TC12C10G, C20G or C30G | 1 | PIC12G | 1 | MTC12G |
| 32 | MFP32G | | MFCP32G | | 1 | MPC8C10G, C20G or C30G | 1 | TC8C10G, C20G or C30G | 1 | PIC8G | 1 | MTC8G |
| 36 | MFP36G | | MFCP36G | | 2 | MPC12C10G, C20G or C30G | 2 | TC12C10G, C20G or C30G | 2 | PIC12G | 2 | MTC12G |
| | | | | | 3 | MPC12C10G, C20G or C30G | 3 | TC12C10G, C20G or C30G | 3 | PIC12G | 3 | MTC12G |
| 40 | MFP40G | | MFCP40G | | 2 | MPC8C10G, C20G or C30G | 2 | TC8C10G, C20G or C30G | 2 | PIC8G | 2 | MTC8G |
| | | | | | 2 | MPC12C10G, C20G or C30G | 2 | TC12C10G, C20G or C30G | 2 | PIC12G | 2 | MTC12G |
| 44 | MFP44G | | MFCP44G | | 1 | MPC8C10G, C20G or C30G | 1 | TC8C10G, C20G or C30G | 1 | PIC8G | 1 | MTC8G |
| 48 | MFP48G | | MFCP48G | | 3 | MPC12C10G, C20G or C30G | 3 | TC12C10G, C20G or C30G | 3 | PIC12G | 3 | MTC12G |
| | | | | | 4 | MPC12C10G, C20G or C30G | 4 | TC12C10G, C20G or C30G | 4 | PIC12G | 4 | MTC12G |

NOTE: For details on cables and connectors, see pages 130-132.

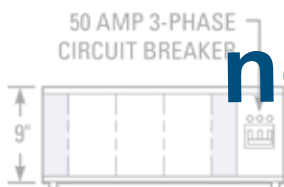
Terminal Mounting Boxes

| ORDER ITEMS A and B or C | | | | | | | ORDER ITEMS A and B or C | | | | | | |
|--------------------------|-----------------------------------|-------------|---|----------------------------|-------------------------------|----------------------------|--------------------------|-----------------------------------|-------------|---|-------------|-------------------------------|-------------|
| ZONES | (A) FOR POWER INPUT CONNECTORS | | (B) FOR THERMOCOUPLE CABLES CONNECTORS | | (C) COMBINATION POWER & TC | | ZONES | (A) FOR POWER INPUT CONNECTORS | | (B) FOR THERMOCOUPLE CABLES CONNECTORS | | (C) COMBINATION POWER & TC | |
| | QTY. | ITEM NUMBER | QTY. | ITEM NUMBER | QTY. | ITEM NUMBER | | QTY. | ITEM NUMBER | QTY. | ITEM NUMBER | QTY. | ITEM NUMBER |
| 5 | 1 | PIC512TBG | 1 | MTC5TBG | 1 | PTC5TBG | 32 | 3 | PIC512TBG | 1 | MTC8TBG | 1 | PTC8TBG |
| 8 | 1 | PIC512TBG | 1 | MTC8TBG | 1 | PTC8TBG | | | | 2 | MTC12TBG | 2 | PTC12TBG |
| 12 | 1 | PIC512TBG | 1 | MTC12TBG | 1 | PTC12TBG | 36 | 3 | PIC512TBG | 3 | MTC12TBG | 3 | PTC12TBG |
| 16 | 2 | PIC512TBG | 2 | MTC8TBG | 2 | PTC8TBG | 40 | 4 | PIC512TBG | 2 | MTC8TBG | 2 | PTC8TBG |
| 20 | 2 | PIC512TBG | 1 | MTC8TBG and MTC12TBG | 1 | PTC8TBG and PTC12TBG | | | | 2 | MTC12TBG | 2 | PTC12TBG |
| 24 | 2 | PIC512TBG | 2 | MTC12TBG | 2 | PTC12TBG | 44 | 4 | PIC512TBG | 1 | MTC8TBG | 1 | PTC8TBG |
| 28 | 3 | PIC512TBG | 2 | MTC8TBG | 2 | PTC8TBG | | | | 3 | MTC12TBG | 3 | PTC12TBG |
| | | | 1 | MTC12TBG | 1 | PTC12TBG | 48 | 4 | PIC512TBG | 4 | MTC12TBG | 4 | PTC12TBG |

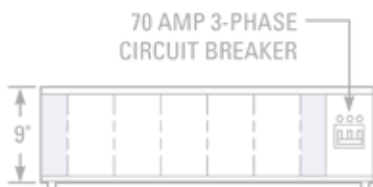
NOTES: Combination terminal mounting boxes are available with connectors prewired to terminal strips. See page 135 for details. See page 136 for dimensional details. For below flush mounting of connectors, see mold pocket layouts on pages 133-134. See page 125 for current voltage monitor.

Smart Series® High Power Mainframes (30 AMP)

This product is no longer available



MFHP3G
(20 3/16" WIDE)



MFHP5G
(28 3/16" WIDE)

DIMENSIONS ABOVE DO NOT INCLUDE CONNECTORS

all frames are 12" deep

NOTE: Blank panels cover unused zones in frames (shaded panels above). For communications (MFCHP) type frames, these zones may be used for communication modules.



NOTE: Combination frames to accommodate both 15 and 30 AMP modules (with or without communications) are available by special order.

HIGH POWER MOLD POWER CABLE (10, 20 OR 30 FOOT)

THERMOCOUPLE CABLE (10, 20 OR 30 FOOT)
(USE 5-ZONE CABLE)

THERMOCOUPLE CONNECTOR

TERMINAL MOUNTING BOX (OPTIONAL)

HIGH POWER MOLD POWER INPUT CONNECTOR

INSULATED CRIMP CONNECTORS (INCLUDED WITH MOLD POWER INPUT CONNECTOR)

The 3 configurations illustrated at left provide 2, 3 or 5-zones of 30 AMP control for higher wattage heater applications. The Current Voltage monitor option will be factory installed when ordered at the same time as Mainframe. Control modules, cables, mold connectors and other accessories are ordered separately.

SMART SERIES HIGH POWER MAINFRAMES

Optional Current Voltage Monitor is Factory Installed in CV-Style Frames

| ZONES | "MFHP" TYPE FOR TEMP. CONTROL | "MFCHP" TYPE FOR TEMP. CONTROL AND COMMUNICATIONS |
|-------|-------------------------------|---|
| | ITEM NUMBER | ITEM NUMBER |
| 3 | MFHP3G | MFCHP3G |
| 5 | MFHP5G | MFCHP5G |

CABLES AND MOLD CONNECTORS REQUIRED

(Not included with Mainframes and Must be Ordered Separately)

| ZONES | MOLD POWER CABLES C10=10 FT. C20=20 FT. C30=30 FT. (SELECT LENGTH DESIRED) | | THERMOCOUPLE CABLES C10=10 FT. C20=20 FT. C30=30 FT. (SELECT LENGTH DESIRED) | | MOLD POWER INPUT CONNECTORS (INCL. CRIMP CONNECTORS) | | THERMOCOUPLE CONNECTORS | |
|-------|--|--------------------------|--|-----------------------|---|-------------|-------------------------|-------------|
| | QTY. | ITEM NUMBER | QTY. | ITEM NUMBER | QTY. | ITEM NUMBER | QTY. | ITEM NUMBER |
| 2 | 1 | MPCH23C10G, C20G or C30G | 1 | TC5C10G, C20G or C30G | 1 | PICH23G | 1 | MTC5G |
| 3 | 1 | MPCH23C10G, C20G or C30G | 1 | TC5C10G, C20G or C30G | 1 | PICH23G | 1 | MTC8G |
| 5 | 1 | MPCH5C10G, C20G or C30G | 1 | TC5C10G, C20G or C30G | 1 | PICH5G | 1 | MTC12G |

NOTE: For details on cables and connectors, see pages 130-132.

Terminal Mounting Boxes

| ZONES | ORDER ITEMS A and B or C | | | | | |
|-------|-----------------------------------|-------------|---|-------------|-------------------------------|-------------|
| | (A) FOR POWER INPUT CONNECTORS | | (B) FOR THERMOCOUPLE CABLES CONNECTORS | | (C) COMBINATION POWER & TC | |
| | QTY. | ITEM NUMBER | QTY. | ITEM NUMBER | QTY. | ITEM NUMBER |
| 2 | 1 | PICH23TBG | 1 | MTC5TBG | 1 | PTCH23TBG |
| 3 | 1 | PICH23TBG | 1 | MTC5TBG | 1 | PTCH23TBG |
| 4 | 1 | PICH5TBG | 1 | MTC5TBG | 1 | PTCH5TBG |

NOTE: See page 135-136 for dimensional details. For below-flush mounting of connectors, see mold pocket layouts on pages 133-134.

Smart Series® Digital Current/Voltage Monitor

Streamlined Design For Improved Performance

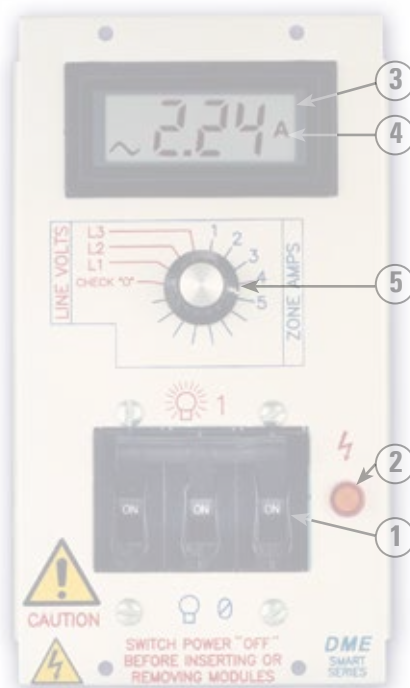
The new Current/Voltage Monitor is simple to operate and features a large easy-to-read digital display. Ease of operation has been enhanced by streamlining the unit and eliminating unnecessary switches and controls. When setting the selector switch to the desired zone number, the 'AMPS' function is selected. The meter will then display the amount of current being delivered by the selected module. Input voltage to the system can be measured by rotating the selector switch to one of the three 'line voltage' positions. This will set the meter in the 'voltage' function and display the voltage of the selected phase.

Current Supply To Each Zone

To monitor the current supply to each zone, simply set the rotary selector switch to the desired module zone number. The "AMPS" function is then automatically selected and is indicated by the letter 'A' just to the right of the numbers in the display window. The meter displays the current being delivered to the heater load in amperes.

Input Voltage From Each Phase

Set the rotary selector to the desired phase voltage position. This automatically selects the 'volts' function which is indicated when the letter 'V' appears to the right of the numbers in the display window. The meter will display the line voltage of the selected phase.



**This product is
no longer available**

1. **CIRCUIT BREAKER/DISCONNECT** – Applies or removes power to all modules in the frame.
2. **POWER ON LIGHT (amber)** – Indicates when CIRCUIT BREAKER is in the ON position.
3. **AMPS/VOLTS METER** – Digital multi-scale meter provides accurate readings of zone current (AMPS) or input voltage (VOLTS).
4. **AMPS/VOLTS INDICATOR** – Appears automatically when either AMPS or VOLTS is selected.
5. **SELECTOR SWITCH** – Multi-position switch automatically selects zone current or phase line voltage to be monitored. For systems with more than 12-zones, additional meter and selector switch panels are supplied.

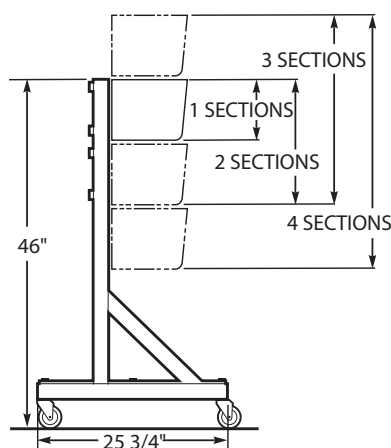
Specifications

| | |
|--------------------------------|---|
| Voltmeter Range | 190 to 290 VAC (for 240 volt systems) 90 to 145 VAC (for 120 volt systems) |
| Voltmeter Accuracy | ± 3% of reading, 50 to 60 Hz |
| Maximum Voltmeter Input | 400 VAC |
| Input Voltage | 240/120 VAC, 50 to 60 Hz |
| Ammeter Range | 0 to 2; 0 to 30; 0 to 40 Amperes |
| Ammeter Accuracy | ± 2% @ 0 to 100% Duty Cycle, 50-60 Hz |
| Maximum Ammeter Input | 30 Amperes |

NOTE: The Digital Current/Voltage Monitor is a factory installed option which replaces the standard circuit breaker/disconnect, and is supplied when "CV-style" mainframes are ordered.

See pages 123 and 124 for appropriate mainframe item numbers.

Smart Series® Accessories

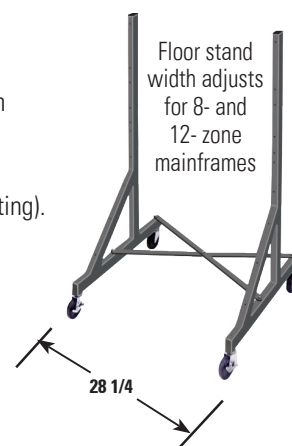
**Universal Floor Stand**

The Universal Floor Stand will accommodate all 15 or 30 amp Mainframes from one to four sections high. Stand is made from heavy gauge steel and includes locking casters (400 lb. rating). All assembly and Mainframe mounting hardware is included. Heavy duty floor stand available for larger systems (1000 lb. rating).

| ITEM NUMBER | RATING |
|----------------------------|----------|
| MFS512G | 400 LBS |
| MFS512GHD* | 1000 LBS |

* HD stand not shown.

Floor stand comes with plates for 5-zone frame mounting on 8-zone "x" pattern

**Step-Down Transformer Kits (from 480 VAC to 240 VAC)**

Transformer Kits are pre-wired and include enclosed transformer (480 VAC input, 240 VAC output) with adjustable transformer voltage taps, one 10-foot cable for AC power-in (no connector), one 6-foot cable for mainframe (AC input), one safety switch, two extra fuses, floor stand (MFS512G) and all mounting brackets and hardware required. Shipped with instructions for easy assembly.

Single section frames mount to front or rear of stand.

| ITEM NUMBER | RATING |
|-------------|--------|
| TK91AG* | 9 KVA |
| TK151AG* | 15 KVA |
| TK301AG** | 30 KVA |

Mainframe not included.

Adapter plates for narrower frames available by special order.

* Comes with plates for mounting 8-zone on 12-zone "x" pattern

** Supplied with MFS512GHD for this transformer size or larger and transformers mounted flat.

NOTE: Power capacity needed depends on total load of system (i.e. number of zones and heater load per zone).

Also Available:

1. Transformer only
 2. Transformer and cables only
 3. Transformers with other voltage or current capacities
 4. Isolation Transformers
- Contact DME for details and prices.

Mainframe Blank Panels

Used. to cover unused zones in mainframes. Push-pull fasteners included in panel.

MFBP10G covers one 15 AMP zone;

MFBP30G covers one 30 AMP zone (or two 15 AMP zones).

| ITEM NUMBER |
|-------------|
| MFBP10G |
| MFBP30G |

Module Replacement Fuses

(sold in packages of 5)



| ITEM NUMBER | AMPS |
|-------------|------|
| ABC1 | 1 |
| ABC15 | 15 |
| ABC10 | 10 |
| 13X10 | 10 |
| 13X15 | 15 |
| RPM0123 | 15 |
| RPM0124 | .062 |

Insulated Crimp Connectors

For connection of mold power input connector leads to heater leads. (195°F / 90°C maximum temperature)



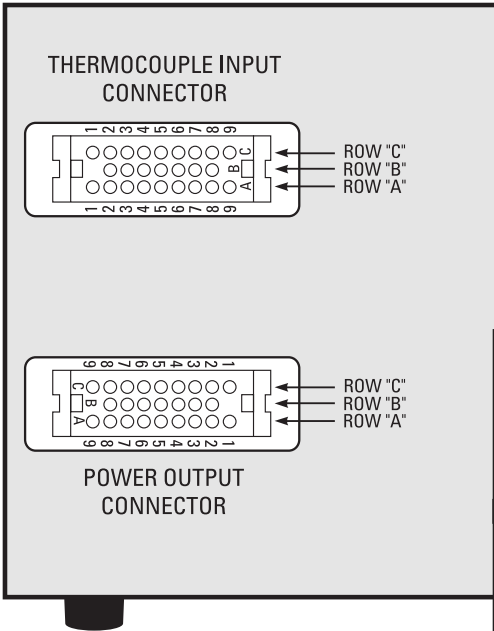
| ITEM NUMBER | AMPS | RATING |
|-------------------|-------|--------------|
| HWCC1 (Bag of 30) | 10-15 | 16-22 RED |
| HWCC3 (Bag of 30) | 10-15 | 14-16 BLUE |
| HWCC2 (Bag of 20) | 15-30 | 10-12 YELLOW |

NOTE: Initial supply is provided with mold power input connectors.

Smart Series® Mainframe Connector Wiring

Standard Mainframe Connector Wiring

SIDE OF
MAINFRAME



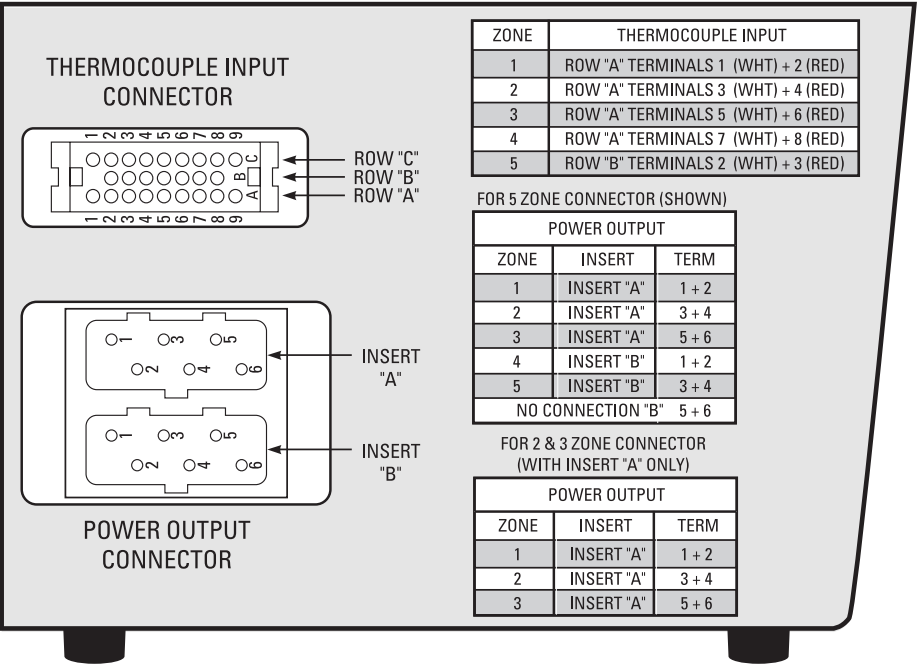
| ZONE | THERMOCOUPLE INPUT |
|--------------------------------|---|
| 1 | ROW "A" TERMINALS 1 (WHT) + 2 (RED) |
| 2 | ROW "A" TERMINALS 3 (WHT) + 4 (RED) |
| 3 | ROW "A" TERMINALS 5 (WHT) + 6 (RED) |
| 4 | ROW "A" TERMINALS 7 (WHT) + 8 (RED) |
| 5 | ROW "B" TERMINALS 2 (WHT) + 3 (RED) |
| 6 | ROW "B" TERMINALS 4 (WHT) + 5 (RED) |
| 7 | ROW "B" TERMINALS 6 (WHT) + 7 (RED) |
| 8 | ROW "C" TERMINALS 1 (WHT) + 2 (RED) |
| 9 | ROW "C" TERMINALS 3 (WHT) + 4 (RED) |
| 10 | ROW "C" TERMINALS 5 (WHT) + 6 (RED) |
| 11 | ROW "C" TERMINALS 7 (WHT) + 8 (RED) |
| 12 | ROW "A" TERM. 9 (WHT) ROW "C" TERM. 9 (RED) |
| ROW "B" TERMINAL 8 IS NOT USED | |

| ZONE | POWER OUTPUT |
|--------------------------------|---------------------------|
| 1 | ROW "A" TERMINALS 1 + 2 |
| 2 | ROW "A" TERMINALS 3 + 4 |
| 3 | ROW "A" TERMINALS 5 + 6 |
| 4 | ROW "A" TERMINALS 7 + 8 |
| 5 | ROW "B" TERMINALS 2 + 3 |
| 6 | ROW "B" TERMINALS 4 + 5 |
| 7 | ROW "B" TERMINALS 6 + 7 |
| 8 | ROW "C" TERMINALS 1 + 2 |
| 9 | ROW "C" TERMINALS 3 + 4 |
| 10 | ROW "C" TERMINALS 5 + 6 |
| 11 | ROW "C" TERMINALS 7 + 8 |
| 12 | ROW "A" + "C" TERMINALS 9 |
| ROW "B" TERMINAL 8 IS NOT USED | |

- NOTE:**
1. Mating cable connectors are wired the same as frame connectors shown.
 2. Wires in frames are color coded for reference when rewiring of frame connectors is necessary (see owner's manual).
 3. All grounds must be connected to ensure operator safety.

High Power Mainframe Connector Wiring

SIDE OF
MAINFRAME



| ZONE | THERMOCOUPLE INPUT |
|------|-------------------------------------|
| 1 | ROW "A" TERMINALS 1 (WHT) + 2 (RED) |
| 2 | ROW "A" TERMINALS 3 (WHT) + 4 (RED) |
| 3 | ROW "A" TERMINALS 5 (WHT) + 6 (RED) |
| 4 | ROW "A" TERMINALS 7 (WHT) + 8 (RED) |
| 5 | ROW "B" TERMINALS 2 (WHT) + 3 (RED) |

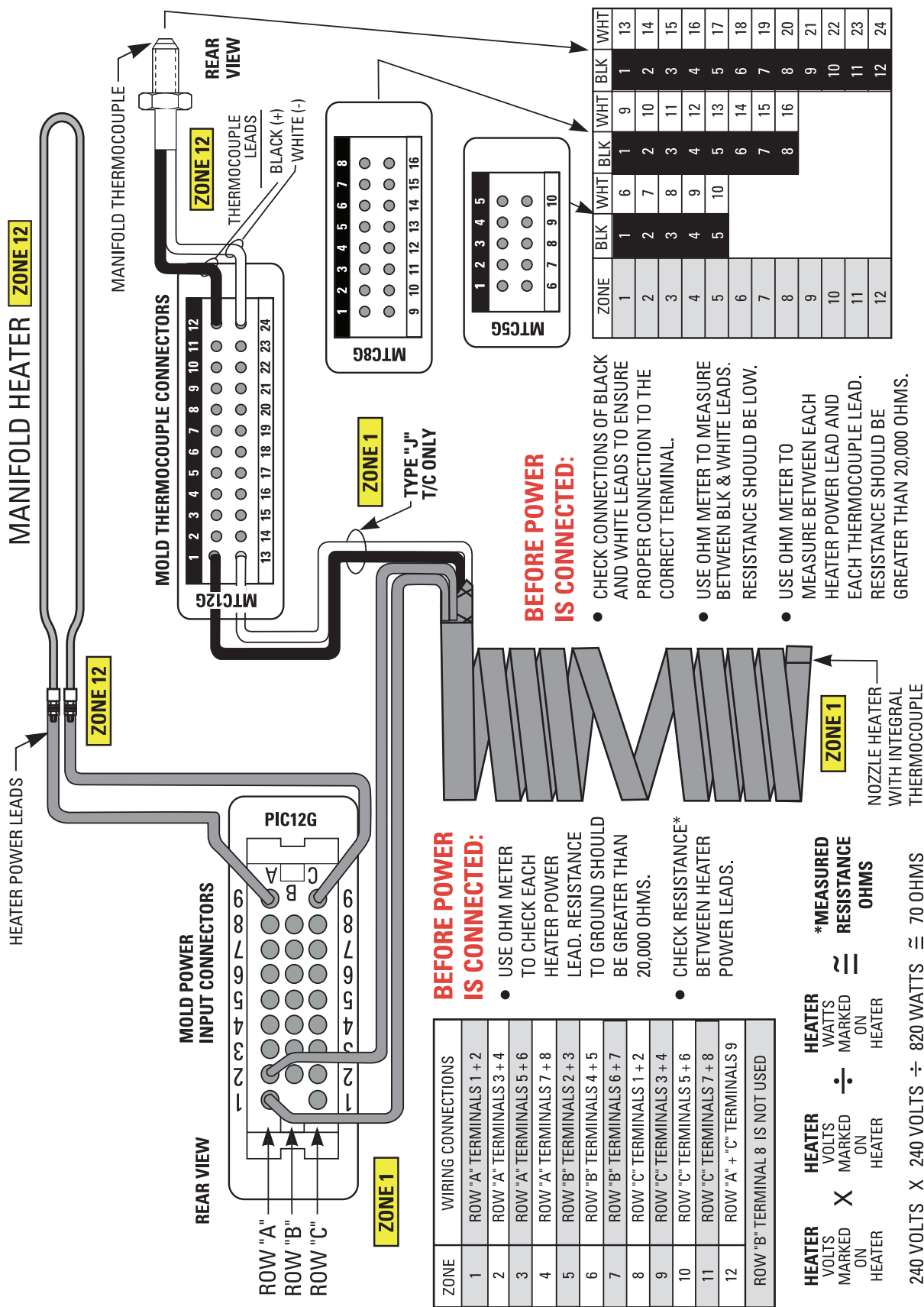
FOR 5 ZONE CONNECTOR (SHOWN)

| POWER OUTPUT | | |
|-------------------|------------|-------|
| ZONE | INSERT | TERM |
| 1 | INSERT "A" | 1 + 2 |
| 2 | INSERT "A" | 3 + 4 |
| 3 | INSERT "A" | 5 + 6 |
| 4 | INSERT "B" | 1 + 2 |
| 5 | INSERT "B" | 3 + 4 |
| NO CONNECTION "B" | | 5 + 6 |

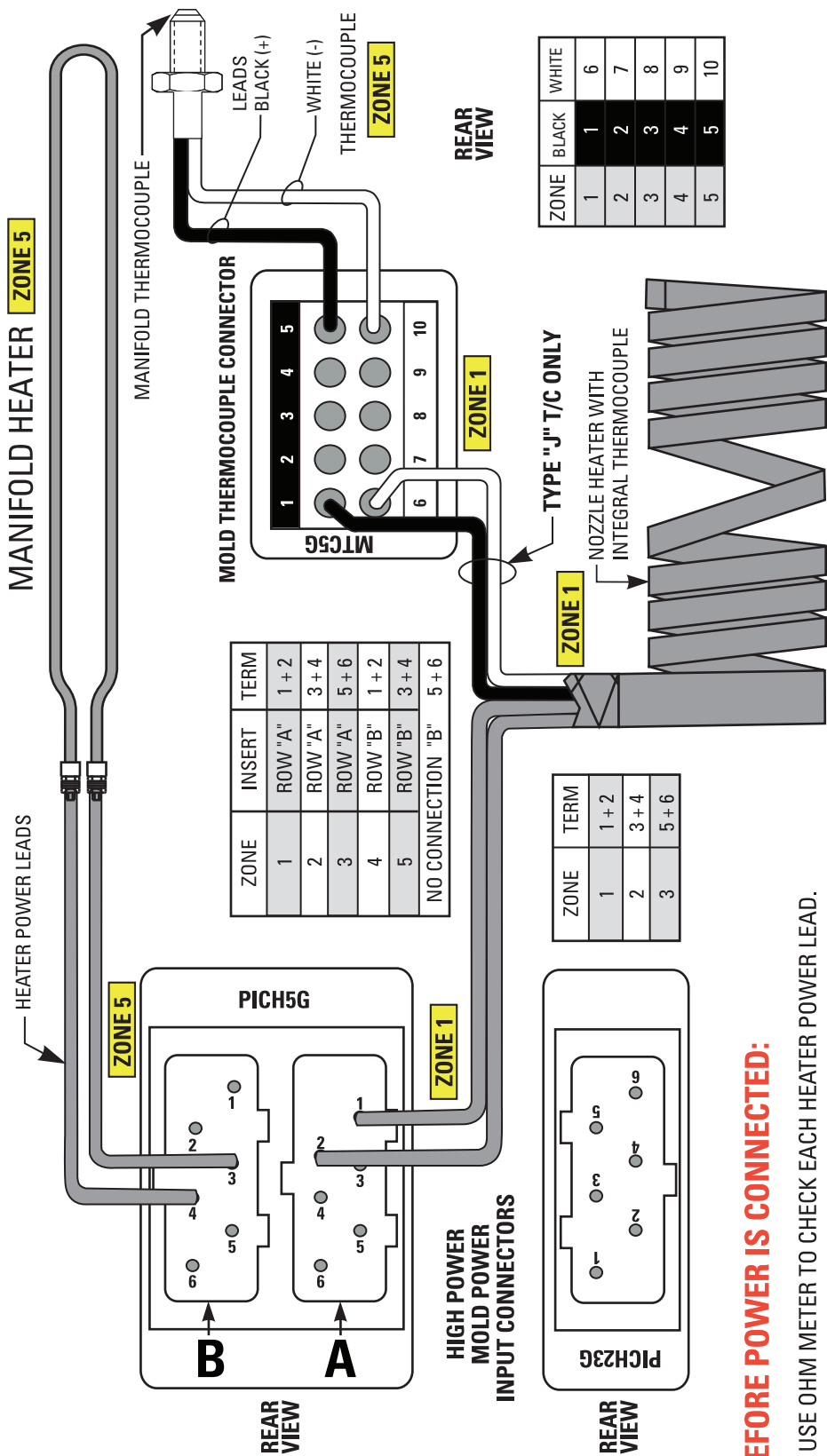
FOR 2 & 3 ZONE CONNECTOR
(WITH INSERT "A" ONLY)

| POWER OUTPUT | | |
|--------------|------------|-------|
| ZONE | INSERT | TERM |
| 1 | INSERT "A" | 1 + 2 |
| 2 | INSERT "A" | 3 + 4 |
| 3 | INSERT "A" | 5 + 6 |

Wiring Diagram for DME Hot Runner Molding System
with Smart Series® Mold Connectors



Wiring Diagram for DME Hot Runner Molding System with High Power Smart Series® Mold Connectors



BEFORE POWER IS CONNECTED:

- CHECK CONNECTIONS OF BLACK AND WHITE LEADS TO ENSURE PROPER CONNECTION TO THE CORRECT TERMINAL.
- USE OHM METER TO MEASURE BETWEEN BLACK AND WHITE LEADS. RESISTANCE SHOULD BE LOW.
- USE OHM METER TO MEASURE BETWEEN EACH HEATER POWER LEAD AND EACH THERMOCOUPLE LEAD. RESISTANCE SHOULD BE GREATER THAN 20,000 OHMS.

BEFORE POWER IS CONNECTED:

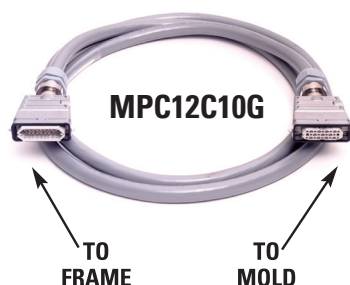
- USE OHM METER TO CHECK EACH HEATER POWER LEAD. RESISTANCE TO GROUND SHOULD BE GREATER THAN 20,000 OHMS.
- CHECK RESISTANCE* BETWEEN HEATER POWER LEADS.

| HEATER VOLTS MARKED ON HEATER | HEATER VOLTS MARKED ON HEATER | HEATER WATTS MARKED ON HEATER | *MEASURED RESISTANCE OHMS |
|---|---|---|---------------------------------|
| \times | \div | \approx | |

240 VOLTS \times 240 VOLTS \div 820 WATTS \approx 70 OHMS

NOTES: All grounds must be connected to mold to ensure operator safety. All crimp connections may be eliminated. Simply remove 6" leads from PIC connectors and wire directly.

Mold Power and Thermocouple Cables



Mold Power Cables are used to connect the Mainframe to the Power Input Connector on the mold. Available in lengths of 10, 20 or 30 feet. Integral retaining latches on both the frame and mold connectors provide secure cable connections. Connector configurations ensure proper insertion of cable. Cables are wired for 5, 8 or 12 zones and 3 or 5 zones (30 AMP) for use with the appropriate Smart Series Mainframes and Mold Power Input Connectors.

Universal Mold Power Cable

The MPC12C10G, 20G or 30G Mold Power Cable also serves as a universal cable for connecting any Smart Series Mainframe to any Mold Power Input Connector. The maximum number of zones will be determined by the connector in the mold.

Mold Power Cables

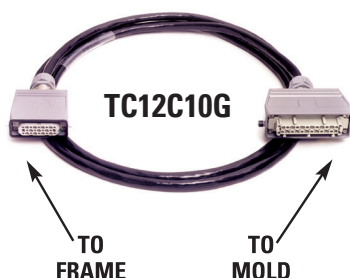
| 10 FOOT LONG | 20 FOOT LONG | 30 FOOT LONG | NUMBER OF ZONES (MAX.) | FOR CONNECTIONS | |
|--------------|--------------|--------------|------------------------|-----------------|--------------------------|
| ITEM NUMBER | ITEM NUMBER | ITEM NUMBER | | FROM FRAME (S) | TO POWER INPUT CONNECTOR |
| MPC5C10G | MPC5C20G | MPC5C30G | 5 | 5, 8, 12 ZONE | PIC5G |
| MPC8C10G | MPC8C20G | MPC8C30G | 8 | 8, 12 ZONE | PIC8G |
| MPC12C10G | MPC12C20G | MPC12C30G | 12 | 12 ZONE | PIC12G |

Mold Power Cables (30 AMP Max)

| 10 FOOT LONG | 20 FOOT LONG | NUMBER OF ZONES (MAX.) | FOR CONNECTIONS | |
|--------------|--------------|------------------------|-----------------------|--------------------------|
| ITEM NUMBER | ITEM NUMBER | | FROM 30 AMP FRAME (S) | TO POWER INPUT CONNECTOR |
| MPCH23C10G | MPCH23C20G | 3 | 2-3 ZONE | PICH23G |
| MPCH5C10G | MPCH5C20G | 5 | 5 ZONE | PICH5G |

SPECIAL CABLES

Virtually any type of Conversion or Special Cable configuration can be provided by special order



Thermocouple Cables are used to connect the Mainframe to the Thermocouple Connector on the mold, and are available in lengths of 10, 20 or 30 feet. Integral retaining latches on both the frame and mold connectors provide secure cable connections. Connector configurations ensure proper insertion of cable. Cables available are wired for 5, 8 or 12 zones for use with the appropriate Smart Series Mainframes and Thermocouple Connectors.

Thermocouple Cables (for use with 15 or 30 AMP Mainframes)

These Thermocouple Cables serve as cables for connecting dissimilar Mainframes and Thermocouple Connectors. For example, the TC8C10G could be used to connect a 12-zone frame to an 8-zone MTC8G connector. The maximum number of zones will be determined by the connector in the mold.

Thermocouple Cables

| 10 FOOT LONG | 20 FOOT LONG | 30 FOOT LONG | NUMBER OF ZONES (MAX.) | FOR CONNECTIONS | |
|--------------|--------------|--------------|------------------------|-----------------------|---------------------------|
| ITEM NUMBER | ITEM NUMBER | ITEM NUMBER | | FROM 15 AMP FRAME (S) | TO THERMOCOUPLE CONNECTOR |
| TC5C10G | TC5C20G | TC5C30G | 5 | 5, 8, 12 ZONE | MTC5G |
| TC8C10G | TC8C20G | TC8C30G | 8 | 8, 12 ZONE | MTC8G |
| TC12C10G | TC12C20G | TC12C30G | 12 | 12 ZONE | MTC12G |

* Used with all 30 AMP Mainframes.

RoHS/WEEE Compliant: Mold Power Input Connectors

For 15 AMP Applications



PIC5G



PIC8G

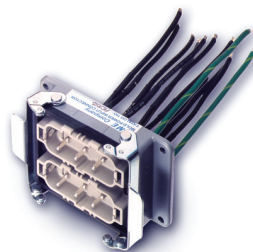


PIC12G

For 30 AMP Applications



PICH23G



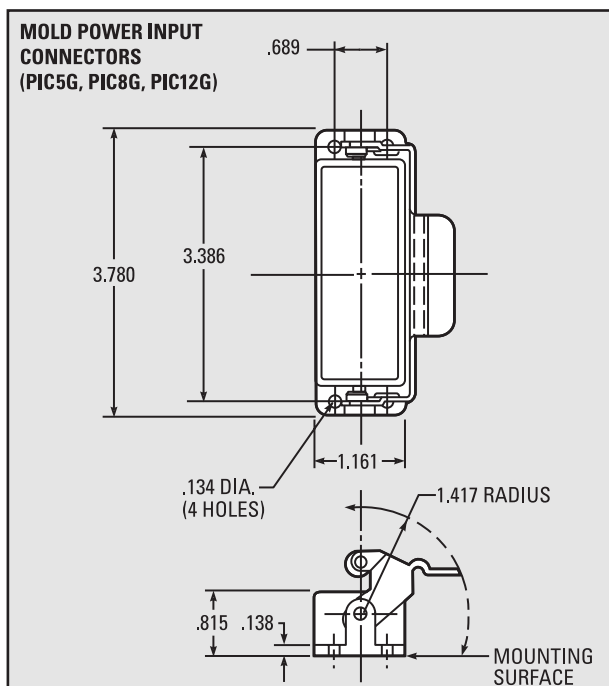
PICH5G

NOTES:

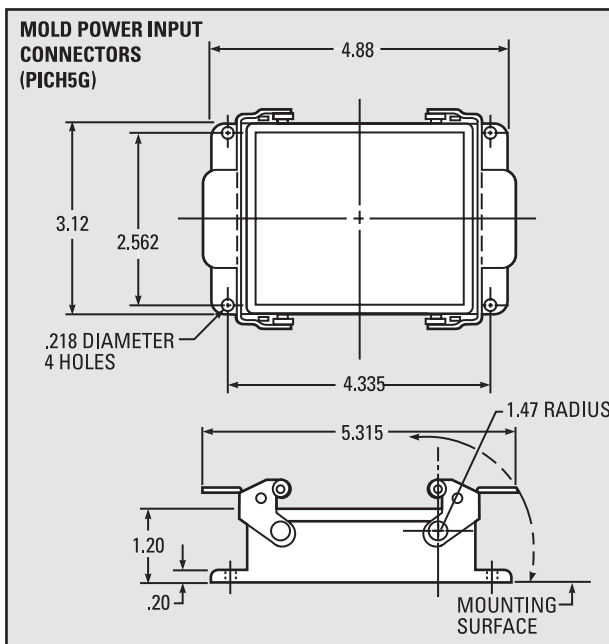
Connector PICH23G is dimensionally identical to thermocouple connector MTC8G. See next page.

For PICH23G and PICH5G, direct wiring without crimp connectors is possible by removing 6" leads.

Mold Power Input Connectors are mounted on the mold to accept power cable(s) from the Mainframe. They are supplied with six inches of numbered leads and a ground wire. All three 15 AMP connectors are the same physical size and use 14-gauge wire. Only the number of active pins change. The 30 AMP connectors are supplied with 10-gauge leads and are attached to screw terminals. Each is equipped with an integral retaining latch to provide a secure cable connection. Connector configuration ensures proper insertion of cable. Splicing of 6" leads to heater power leads is easily accomplished with the Insulated Crimp Connectors supplied.



NOTE: Dimensions shown may vary slightly.



NOTE: Ground wire must be connected to mold to ensure operator safety.

Mold Power Input Connectors

| ITEM NUMBER | NUMBER OF ZONES (MAX.) | AMPS (MAX.) PER ZONE |
|-------------|------------------------|----------------------|
| PIC5G | 5 | 15 |
| PIC8G | 8 | 15 |
| PIC12G | 12 | 15 |
| PICH23G | 3 | 30 |
| PICH5G | 5 | 30 |

NOTE: Replacement parts and extraction tools can be found on page 146

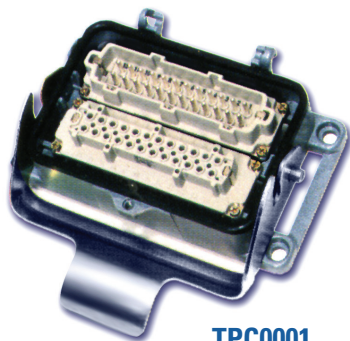
Insulated Crimp Connectors

| ITEM NUMBER | AMPS | FOR WIRE GAUGE |
|------------------|-------|----------------|
| HWCC1 30 PCS. | 10-15 | 16-22 |
| HWCC3 30 PCS. | 15 | 14-16 |
| HWCC2 20 PCS. | 30 | 10-12 |

NOTE: Initial supply is provided with mold power input connectors. Also, see page 126.



RoHS/WEEE Compliant: Mold Thermocouple Connectors

**MTC5G****MTC8G****MTC12G****TPC0001**

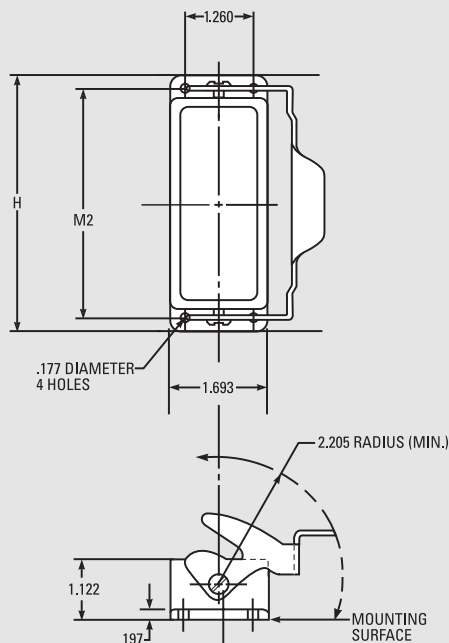
Thermocouple Connectors are mounted on the mold to use with thermocouple cable(s) from the Mainframe. Screw type terminals for use with iron(+) and constantan(-) thermocouple leads are numbered and coded on the side and bottom of each connector. All three connectors are equipped with integral retaining latches to provide a secure cable connection. Connector configuration ensures proper insertion of cable. Pins are made of copper alloy and are silver plated. Experience has proven that iron and constantan are not required.

| ITEM NUMBER | NUMBER OF PINS | DIMENSION | |
|-------------|----------------|-----------|-------|
| | | M2 | H |
| MTC5G | 10 | 3.268 | 3.662 |
| MTC8G | 16 | 4.055 | 4.449 |
| MTC12G | 24 | 5.118 | 5.512 |
| TPC0001 | 48 | 5.827 | 6.496 |

NOTE: MOLD POWER INPUT CONNECTOR PICH23G IS DIMENSIONALLY IDENTICAL TO MTC8G

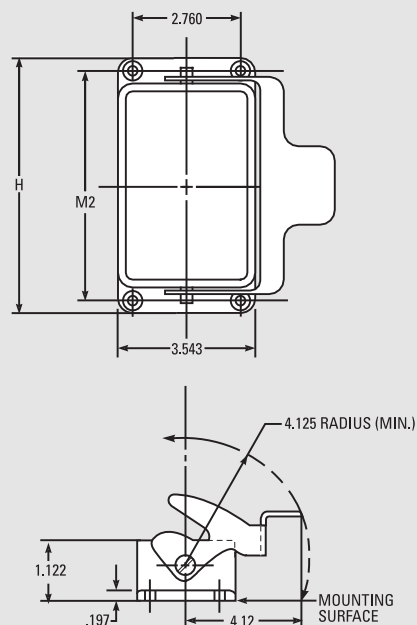
MOLD THERMOCOUPLE CONNECTOR

MTC5G
MTC8G
MTC12G



NOTE: DIMENSIONS SHOWN ARE FOR THE MTC5G, MTC8G AND MTC12G CONNECTORS

MOLD POWER AND THERMOCOUPLE CONNECTOR TPC0001



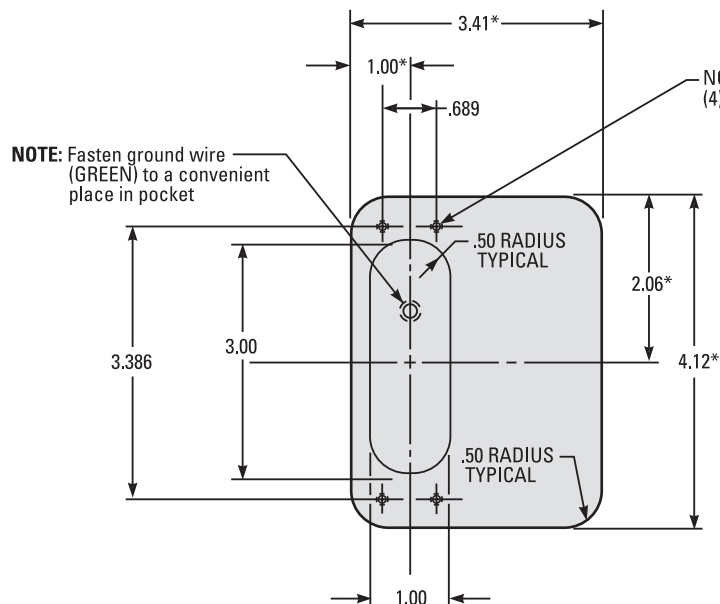
Connectors

| ITEM NUMBER | NUMBER OF ZONES (MAX.) |
|-------------|------------------------|
| MTC5G* | 5 |
| MTC8G | 8 |
| MTC12G | 12 |
| TPC0001 | 12 |

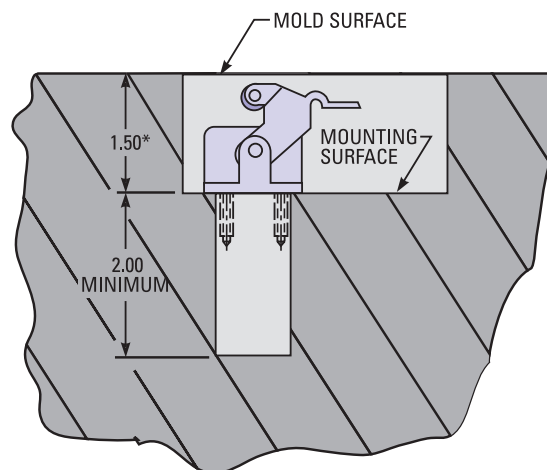
* Use with 2, 3 and 5-zone, 30 AMP mainframes

Where space or mold handling and storage requirements do not permit the use of Terminal Mounting Boxes, the connectors can be below-flush or surface mounted. See drawings below and next page for dimensions.

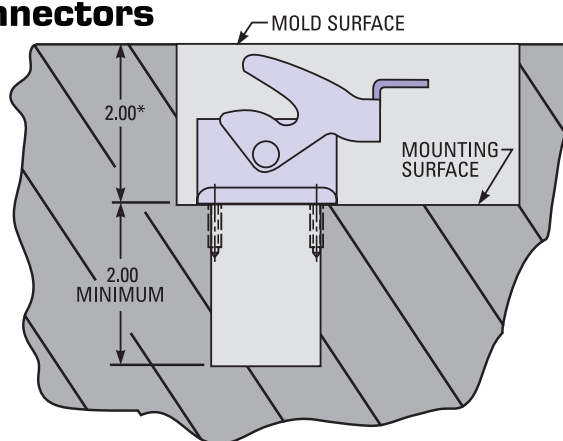
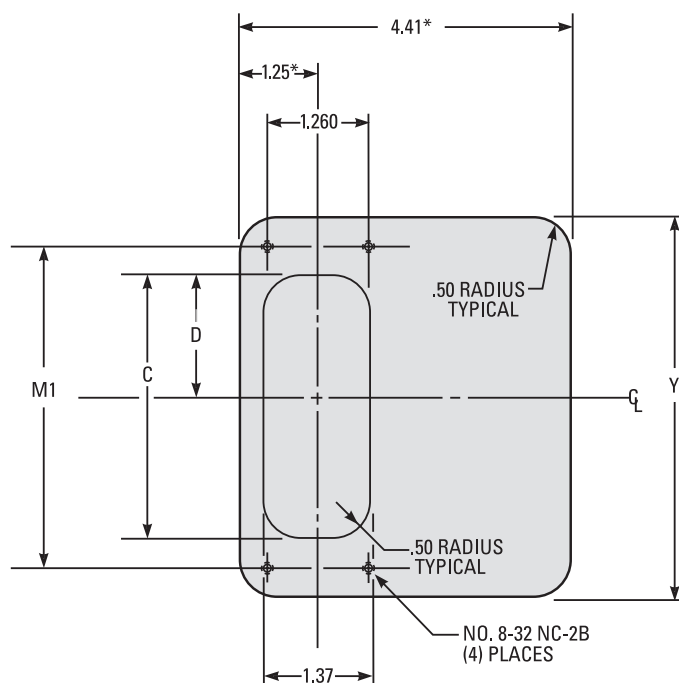
Below-Flush and Surface Mounting of Mold Power Input Connectors (15 AMP)



Typical for: PIC5G
PIC8G
PIC12G



Below-Flush and Surface Mounting of Thermocouple Connectors

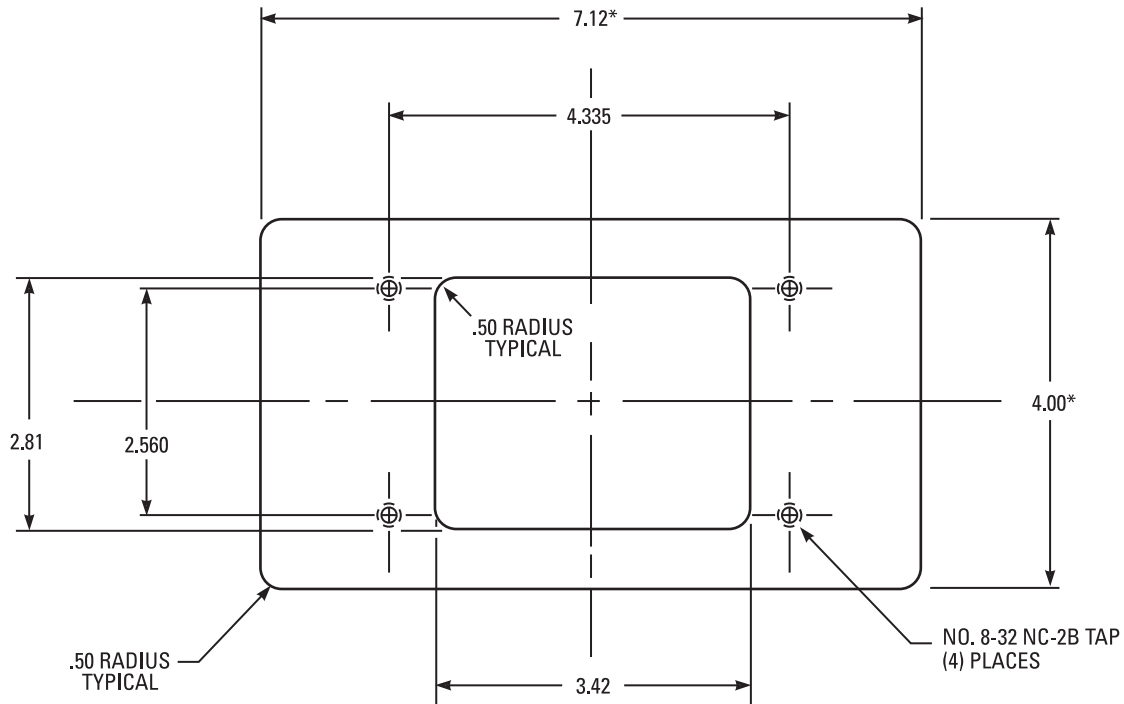


| ITEM NUMBER | DIMENSION | | | |
|----------------|-----------|------|-------|------|
| | M1 | C | D | Y |
| MTC5G | 3.268 | 2.55 | 1.275 | 4.00 |
| MTC8G | 4.055 | 3.34 | 1.670 | 4.80 |
| MTC12G | 5.118 | 4.40 | 2.200 | 5.86 |

NOTE: Mold power input connector PICH23G is dimensionally identical to MTC8G.

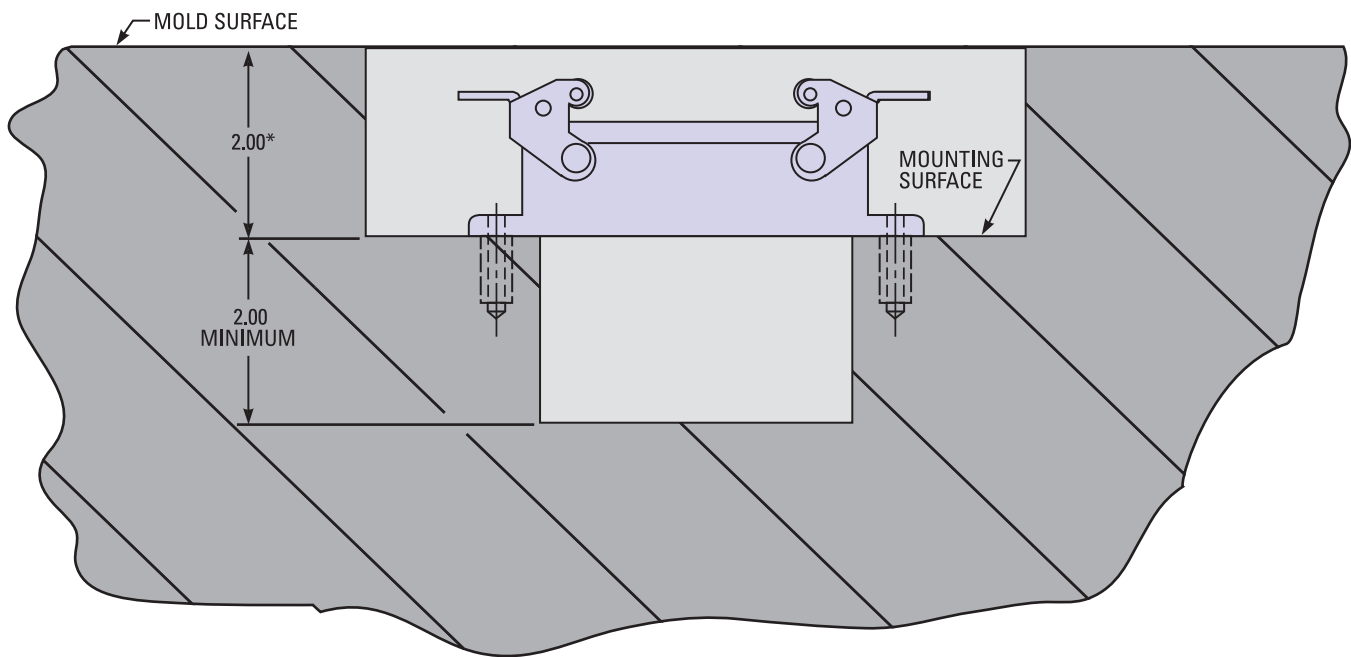
Mold Connector Pocket Layouts

Below-Flush and Surface Mounting of Mold Power Input Connectors (30 AMP)



For PICH5G

NOTE: Drawing depicts below-surface mounting. Disregard dimensions marked with * for surface mounting.



For PICH23G

(Use pocket dimensions shown on pages 131-132 as detailed for thermocouple connector MTC8G.)

RoHS/WEEE Compliant: Terminal Mounting Boxes

Pre-wired Combination Terminal Mounting Boxes

Includes terminal strip for ease of wiring, all necessary connectors installed, and power connector pre-wired to a terminal strip. All units shown without covers.



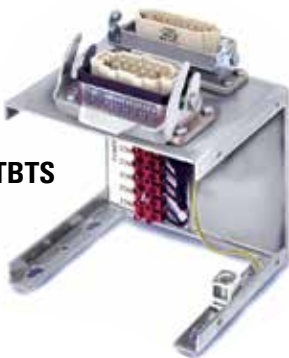
PTC5TBGTS



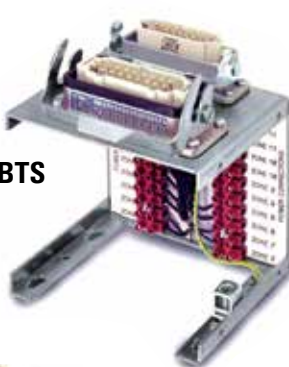
PTC8TBGTS



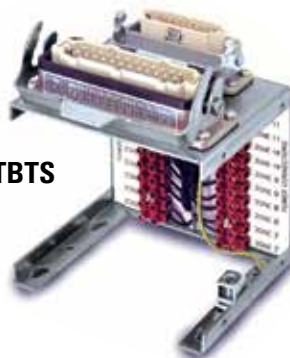
PTC12TBGTS



PTC5TBTS



PTC8TBTS



PTC12TBTS



PTC210TBGTS

PTC2TBGTS is not to be used with SSH1022, SSH1021, MFP1G, MFP1G1, MFP2G, MFPR2G controls & mainframes

Combination Terminal Mounting Boxes – with Terminal Strip

| ITEM NUMBER | X | Y | H | M1 | M2 | ACCEPTS |
|--------------|------|-------|------|-------|-------|------------------------------------|
| PTC210TBGTS* | 2.75 | 4.88 | 4.25 | 1.500 | 4.250 | MPTC10/MPTC20 |
| PTC2TBGTS* | 2.75 | 4.88 | 4.25 | 1.500 | 4.250 | PTC0110/PTC0120 |
| PTC5TBGTS** | 2.75 | 8.66 | 4.25 | 1.500 | 8.031 | MPC5C(10 or 20)G/TC5C(10 or 20)G |
| PTC8TBGTS** | 2.75 | 9.47 | 4.25 | 1.500 | 8.843 | MPC8C(10 or 20)G/TC8C(10 or 20)G |
| PTC12TBGTS** | 2.75 | 10.53 | 4.25 | 1.500 | 9.906 | MPC12C(10 or 20)G/TC12C(10 or 20)G |
| PTC5TBTS** | 5.00 | 6.13 | 5.12 | 2.625 | 5.000 | MPC5C(10 or 20)G/TC5C(10 or 20)G |
| PTC8TBTS** | 5.00 | 6.13 | 5.12 | 2.625 | 5.000 | MPC8C(10 or 20)G/TC8C(10 or 20)G |
| PTC12TBTS** | 5.00 | 6.13 | 5.12 | 2.625 | 5.000 | MPC12C(10 or 20)G/TC12C(10 or 20)G |

** Comes with all necessary connectors installed and power connector pre-wired to a terminal strip.
* Power and thermocouple connectors are pre-wired.

Terminal Mounting Boxes



PTC8TBG



PTC5TBG



PTC0012



PIC512TBG



PTC210

Terminal Mounting Boxes provide the easiest and most economical method of mounting power and thermocouple connectors on the mold. Constructed of plated heavy gauge steel, each box is pre-cut and drilled for quick mounting of the connector to the box, and box to the mold. Connector mounting hardware is supplied. Connectors are ordered separately.

Terminal Mounting Boxes for Mol Power Input Connectors

| ITEM NUMBER | X* | Y | H | M1 | M2 | ACCEPTS |
|-------------|------|-------|------|-------|-------|----------------|
| PIC512TBG | 2.75 | 4.875 | 4.25 | 1.500 | 4.250 | PIC5, 8 OR 12G |
| PICH23TBG | 2.75 | 5.614 | 4.25 | 1.500 | 4.990 | PICH23G |
| PICH5TBG | 4.46 | 6.676 | 4.25 | 3.250 | 6.052 | PICH5G |

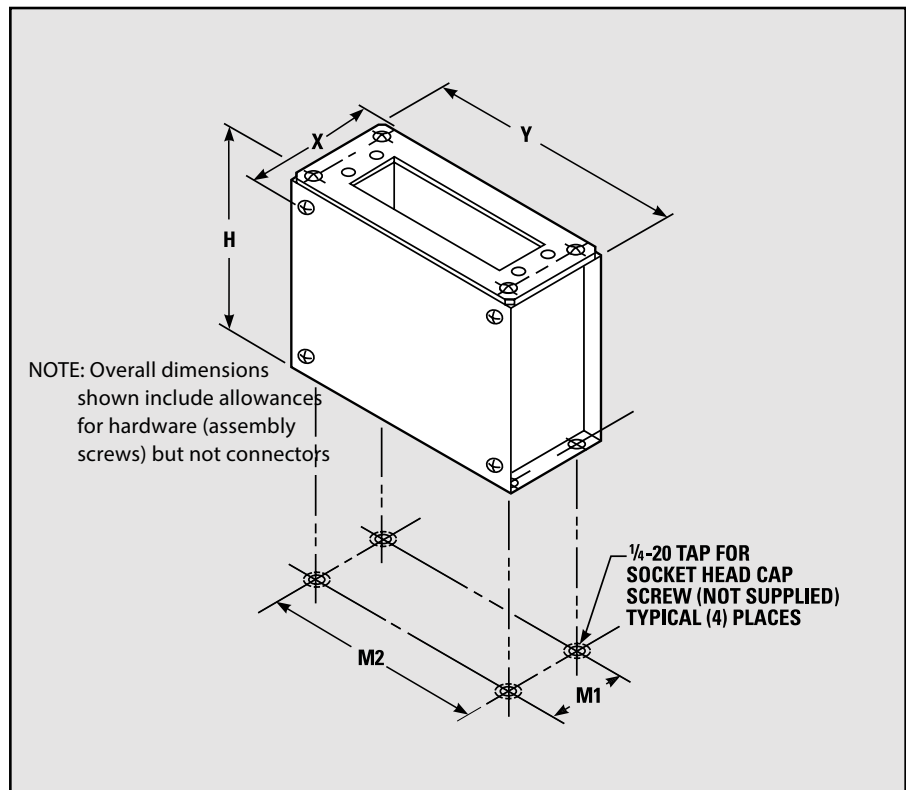
Terminal Mounting Boxes for Mol Power Input Connectors

| ITEM NUMBER | X* | Y | H | M1 | M2 | ACCEPTS |
|-------------|------|-------|------|-------|-------|---------|
| MTC5TBG | 2.75 | 4.875 | 4.25 | 1.500 | 4.250 | MTC5G |
| MTC8TBG | 2.75 | 5.614 | 4.25 | 1.500 | 4.990 | MTC8G |
| MTC12TBG | 2.75 | 6.676 | 4.25 | 1.500 | 6.052 | MTC12G |

Terminal Mounting Boxes for Mol Power Input Connectors

| ITEM NUMBER | X* | Y | H | M1 | M2 | ACCEPTS |
|-------------|------|-------|------|-------|--------|----------------|
| PTC210 | 2.75 | 4.88 | 4.25 | 1.50 | 4.2.50 | (2) CKPTIC1 |
| PTC5TBG | 2.75 | 8.66 | 4.25 | 1.50 | 8.031 | PIC5G, MTC5G |
| PTC8TBG | 2.75 | 9.47 | 4.25 | 1.50 | 8.843 | PIC8G, MTC8G |
| PTC12TBG | 2.75 | 10.53 | 4.25 | 1.50 | 9.906 | PIC12G, MTC12G |
| PTC0012 | 4.46 | 7.66 | 4.25 | 3.350 | 7.160 | TPC0001 |

Terminal Mounting Boxes



RoHS/WEEE Compliant: Microprocessor-Based Temperature Control Modules with Digital Display and Setpoint Pushwheel

COMPATIBLE WITH TAS0512

ALARM AND SYSTEM CONTROL
FUNCTIONS. SEE PAGES 143-144.



SSM1512/11 (15 AMP)

The SSM1512 is the second generation of the popular SSM15G. This version maintains simplicity of operation with simultaneous display of setpoint and temperature. Other new, improved, and unique features include:

Key Features

- **Large Digital Display**
 - For easier readability of temperature, % power and faults
- **Setpoint Pushwheel**
 - For setting desired setpoint temperature
 - Allows adjustment of setpoint before turning power on
- **Auto % Power Display**
 - Shows % power output while in AUTO mode
 - Indicates average % power requirement on thermocouple failure
 - Serves as a diagnostic tool for solving hot runner system problems

Operational Refinements

- **Improved SmartStart®**
 - A more gradual temperature rise leads to a more effective heater dry-out period, thereby extending heater life
 - SmartStart® now available in MANUAL mode (optional)
- **SelectiveCycle®**
 - A very high speed power output approach
 - Enables accurate temperature control and longer heater life
- **Bumpless Transfer**
 - When a thermocouple failure occurs, operation is automatically continued with a learned % power
 - Unique software accurately assigns percent power setting
- **Third Fuse**
 - Allows for alarm output when the load fuses are blown
 - Protects module from application of excessive voltage
- **Anti-Arcing Feature**
 - Protects circuit board from damage when module is either inserted or removed under power

Switchable Options

- **Boost, Idle and Power Off Features**
 - Provides system-wide adjustment of temperatures
 - Enables alarm audio/visual output and remote alarms
 - Requires TAS0512 module and communications mainframe (See pages 148-149 for more information on these capabilities)
- **Unique AutoBoost Option**
 - Instantaneously opens frozen gates on startup
 - TAS module or mainframe communications are not required
- **Lights Out Feature**
 - After stabilizing at setpoint, display turns off; when a fault occurs, display is turned on and flashes
 - For easier detection of faults
- **Shorted Thermocouple Sensitivity Adjustment**
 - Operation can be tailored to fast or slow reaction times
 - Sensitivity can be adjusted with internal switches
 - Very useful for manifold zones with long startup times
- **Switchable °C/°F Operation**
 - Scale indicated at startup
- **K Type Thermocouple Support**
- **Cut Feature**
 - Gain cut feature for small nozzles and heaters with ungrounded internal thermocouples

RoHS/WEEE Compliant: Microprocessor-Based Temperature Control Modules with Digital Display and Setpoint Pushwheel

Warranty:

Two years
(excluding triac and fuses)

Fuse Requirements

(15 AMP only)

- (2) ABC15 fuses (Bussman only)
- (2) spare fuses included with module

SSM1512/11 (15 AMP)

| MODULE ITEM NUMBER | VOLTAGE (VAC) | AMPS | WATTS |
|-------------------------|------------------|------|-------|
| SSM1512 | 240 | 15 | 3600 |
| SSM1511 | 120 | 15 | 1800 |

NOTE: Standard (240 VAC) modules are compatible with mainframes wired for either 240 VAC three phase (standard) or 240 VAC single phase.

Front Panel Controls and Indicators

1. Process Temperature Display

Indicates process temperature, thermocouple faults and other operational modes. Displays % power when switch (3) is in "% Auto" position.

2. Temperature Deviation Lights

Indicates deviation from setpoint. Outer lights blink when temperature is more than $\pm 40^{\circ}\text{F}$ (22°C) from setpoint.

3. Auto/Manual/Auto % Power Switch

Selects AUTO or MANUAL control mode. Shows % power when pressed into "% AUTO" position.

4. LED Mode Indicators

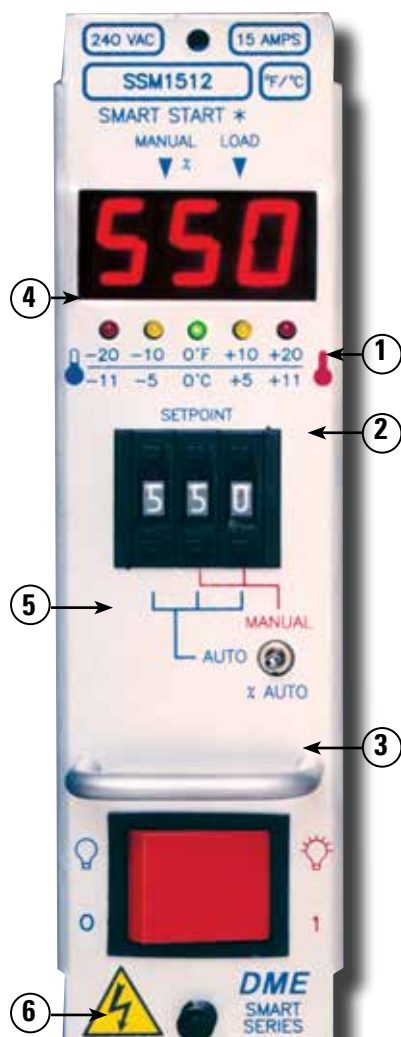
Left LED illuminates during MANUAL mode.
Right LED illuminates when power is supplied to heater.
Right LED blinks on and off during SmartStart®.

5. Setpoint Pushwheel

Three-digit switch programs setpoint in AUTO mode. Right two digits program % power in MANUAL mode.

6. Power On/Off Switch

Controls AC power to module.



**CHECK OLDER
MAINFRAMES!
CONTACT
REQUIRED
TO ACTIVATE
CONTROLLER!**

**MAINFRAME
ZONE EDGE
CONNECTOR
(WHITE)**



**RPM0046
REQUIRED**

Front Panel Digital LED Indicators

| | | | | | | |
|--------------------------|-------------------------|----------------------|----------------------|------------------------|------------------|-------|
| 6AC | SHO | OPE | bPL | OFF | 5bH | b5t |
| BACKWARD THERMOCOUPLE | SHORTED THERMOCOUPLE | OPEN THERMOCOUPLE | BUMPLESS TRANSFER | POWER OFF | STANDBY HEAT | BOOST |
| 0F | 0C | 550 | 40 | Loc | Err | |
| TEMP MODE FAHRENHEIT | TEMP MODE CENTIGRADE | PROCESS TEMP | MANUAL % POWER | FRONT PANEL LOCKOUT | LOCKOUT ERROR | |

RoHS/WEEE Compliant: Microprocessor-Based Temperature Control Modules with Color Touch Screen Display



Front Panel Controls and Indicators

TSM-15-12

The TSM15 Smart Series Module has a color touch screen digital display providing readouts for Actual Temperature, Current Mode, Percentage Power and Current Reading. Closed-loop, fuzzy logic PID control, and auto-tuning of PID parameters provide precise control even under the most adverse processing conditions.

In the event of a thermocouple failure, the TSM can automatically invoke bumpless transfer to a percent power mode based on the last valid percentage learned before the thermocouple failure. If desired, manual bumpless transfer may be selected, in which case a thermocouple fault will turn off power to the heater until the manual percent power mode is activated by the operator.

The TSM boost level option limits boosting of the temperature by 75°C or 135°F to limit the degradation of material.

The TSM module also includes a Smart Start® mode to safely bake out damaging internal heater moisture at system start-up and to prolong heater life. Fast or slow load modes may also be selected to protect smaller heaters or compensate for “slow” loads such as externally heated manifolds. An accurate, durable and full-featured module, the TSM is fully compatible with all Smart Series or G-Series® 15 AMP mainframes.

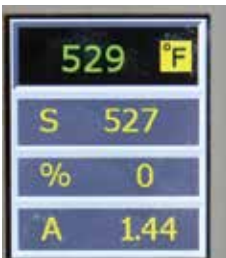
Leak Detection capabilities (reference TSM1512 User Manual)

TSM15 SmartSeries® Controller with Default Settings (Factory Settings)

| | |
|---|----------------|
| Zone temperature | 260°C or 500°F |
| Standby level | 100°C or 180°F |
| Boost level | 75°C or 135°F |
| Over temperature range | 10°C or 18°F |
| Under temperature range | |
| Ramp | On |
| Auto-Manual | On |
| Extended alarms for Manual, Standby and Boost | Off |

When reconfiguring your controller for a new tool or environment, this chapter of the manual shows how to alter controller default settings to your preferred values and afterward to save them.

Should anything seem wrong with your new settings then it is possible to restore the default settings at any time.



- ① Actual temperature (and scale)
- ② Current mode shows set-point
- ③ Percentage power applied
- ④ Current reading

MAINFRAME
ZONE EDGE
CONNECTOR
(WHITE)



CHECK OLDER
MAINFRAMES!
CONTACT
REQUIRED
TO ACTIVATE
CONTROLLER!

RoHS/WEEE Compliant: Microprocessor-Based Temperature Control Modules with Color Touch Screen Display

Individual Card Diagnostics

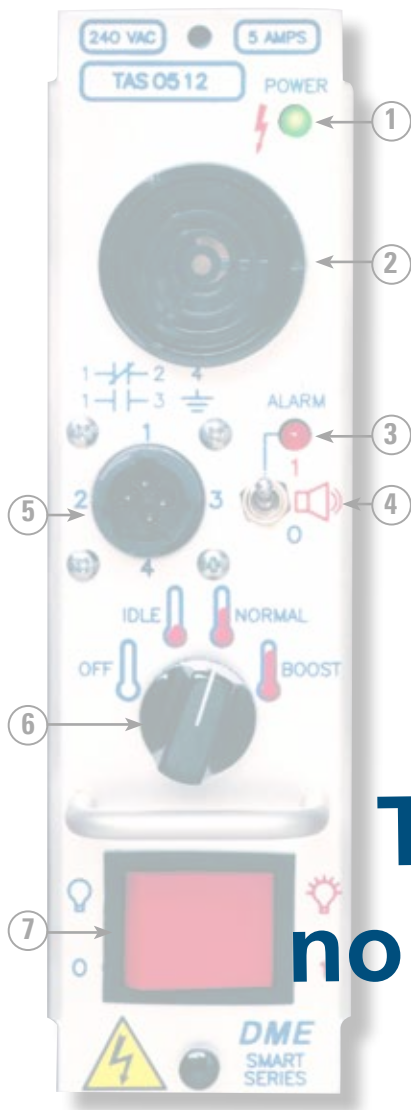
The control system has several features which provide a diagnosis of faults in the control system, the tool heaters and thermocouple sensors.

If a zone temperature is seen to deviate from the actual setting beyond the alarm limits then the display will change to White text in Red box and generate a remote alarm.

The following is a list of alarm conditions that may be detected and which will also activate the output contacts.

| ERROR MESSAGE | CAUSE | ACTION |
|---------------|---|--|
| ERR! | Little or no temperature rise has been detected in that zone. When the console starts to apply power it expects to see an equivalent heat rise at the thermocouple. If the thermocouple has been trapped and pinched elsewhere in the tool or cable then it cannot sense the full heat rise that occurs at the tip. If left uncorrected, there is a danger that the zone could overheat and damage the tip. Instead the circuit maintains the output at whatever level it reached when the monitor circuit detected the fault. | Check thermocouple wiring; it may be reversed. Heater wiring may be faulty or element may be open circuit. |
| FUSE | The output fuse for that zone has failed. Please note: A fuse can only fail due to a fault external to the controller. Identify and rectify the fault before replacing the fuse. Note: The fuse detection circuit requires a continuous low level current through a high impedance bleed resistor to maintain the alarm condition. As a result the load circuit is still connected to the main's voltage supply and it is not safe to attempt to repair or replace the fuse without first isolating the circuit. If the fuse in question is mounted on a control card then it is safe to unplug the board in order to isolate the circuit and replace the fuse on the card. | Replace the fuse with one of the same rating and type; i.e. High Rupture Current load fuse. The blown fuse is located on the control card. |
| GND | The system has detected an ground fault. | Check your heater wiring for a low impedance path to the ground. |
| LINE | No mains supply synchronization pulses being received. The 3-phase supply is used in a cross-over detection circuit to generate timing pulses for accurate phase control and firing the triac. If the phase detection fails on one or two phases then there is no pulse to use to measure phase angle and the LINE error message is generated. Meanwhile, all circuits on the healthy phases will continue to work normally. | There is a phase detection circuit on each TMS15-Series card and a common phase detection circuit on all other controller types. Although a fault in such circuits may cause the LINE error message, such fault is very rarely seen. The most common error is either the absence of one phase or, if a plug has been re-wired incorrectly, a swapped phase and neutral. If a LINE error message occurs then switch off and isolate the controller then check supply wiring for presence of all three phases. |
| REV | The card has detected an abnormal input at the T/C termination that indicates a shorted or reversed thermocouple. | If the REV alarm persists, switch off the controller and investigate the offending zone. |
| T/C | An open circuit thermocouple has been detected and no auto-response has been selected in the T/C Open Error column of the Setup page. | For immediate recovery, change to open loop control. Make a note of the above action so that when the controller is free you can check to see whether the input fuse on the control card has ruptured. If the fuse is good then you may need to check the wiring for faults or even replace the thermocouple. |

Temperature Alarm/System Control Modules



TAS0512/11 Temperature Alarm Function

- Provides alarm for over or under temperature, or diagnostic error
- Provides visual and audible indications of an alarm
- The audible alarm (2) can be turned on or off with switch (4)
- Relay contacts (5) are provided to allow hook-up of remote equipment such as a light, a conveyor or a machine function
- Relay contacts are unaffected by the position switch (4)
- An infinite number of zones of control can be monitored as long as they are contained within the same communications-style mainframe as the TAS module

System Control Functions

Up to 63 zones can be controlled remotely at one time. These zones must be contained within the same communications-style mainframe as the TAS module.

NORMAL / IDLE

- Rotary switch (6) provides remote control of DSS1502/01, DSS1512/11, CSS1502/01, SSM1502/01, and SSM1512/11
- Control modules can all be commanded to respond from NORMAL to IDLE (Standby Heat)
- In IDLE, the modules will adjust to a setting of 93°C (200°F)

Exceptions: SSM1502/01 and SSM1512/11 adjust to a setting of 100°C (212°F)

- Turning the rotary switch into the IDLE position will respond to their established setpoints
- The user can select IDLE for temporary lowering of all zones to prevent material degradation
- This feature can be used to keep heaters warm enough to prevent absorption of moisture

BOOST / OFF

- The SSM1502/01 and SSM1512/11 can be placed into BOOST and OFF
- BOOST will raise the setpoint of the module by 10, 20, or 30%
- OFF shuts off power to the heater but allows the user to monitor cool down of the hot runner system
- Each SSM1502/01 and SSM1512/11 can be individually programmed to respond to OFF, IDLE and BOOST commands
- The user can quickly drive all nozzle zones into BOOST to open frozen gates

Front Panel Controls and Indicators

- 1. Power On Indicator:** LED illuminates when power is applied to the module.
- 2. Audible Alarm:** Emits a loud audible alarm when the alarm switch (4) is placed in the "1" position (ON) and an alarm condition is sent by a compatible control module.
- 3. Alarm Indicator:** LED illuminates when an alarm condition is sent by a compatible module.
- 4. Audio Alarm On/Off Switch:** Turns the audio alarm (2) on or off.
- 5. Alarm Relay Connector** Provides relay contacts for use with remote equipment. Mating connector is supplied.
- 6. System Control Switch:** Activates the OFF, IDLE and BOOST mode in all compatible modules.
- 7. Power On/Off Switch:** Controls AC power to the module.

This product is no longer available

Temperature Alarm/System Control Modules

| ITEM NUMBER | VOLTS |
|-------------|---------|
| TAS0512 | 240 VAC |
| TAS0511 | 120 VAC |

NOTE: Standard (240 VAC) modules are compatible with mainframes wired for either 240 VAC three-phase (standard) or 240 VAC single-phase. Use TAS0511 for 120 VAC operation.

FUSE REQUIREMENTS: (2) ABC1 fuses. **NOTE:** (2) spare fuses included with module.

WARRANTY: Two years (excluding fuses).

TAS Module Compatibility

NOTE:

TAS module is not compatible with older CSS15G/30G or DSS15G/30G modules.

| MODULE | FUNCTIONS | | | |
|------------------|-----------|------|-------|-----|
| | ALARM | IDLE | BOOST | OFF |
| SSM1502/01/12/11 | ✓ | ✓ | ✓ | ✓ |
| SSM3002/12 | ✓ | ✓ | ✓ | ✓ |
| TSM1512 | ✓ | ✓ | ✓ | ✓ |

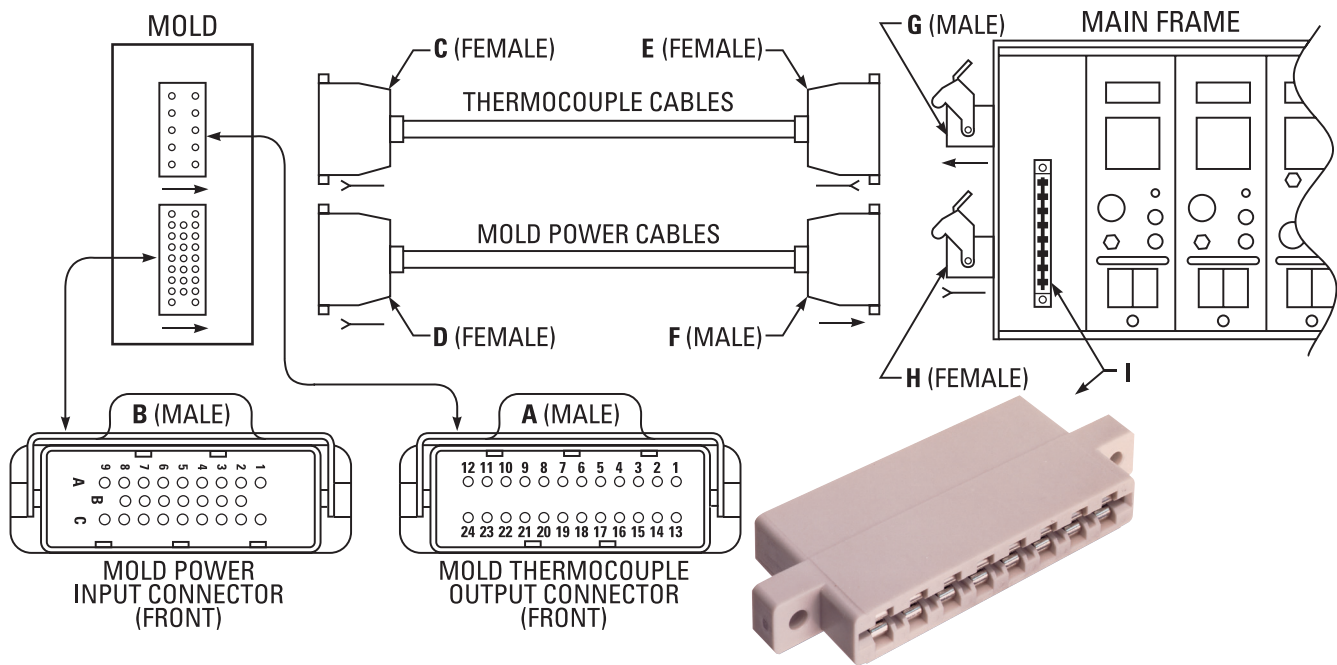
| MODULE | FUNCTIONS | | | |
|------------|-----------|------|-------|-----|
| | ALARM | IDLE | BOOST | OFF |
| CSS1502/01 | ✓ | ✓ | | |
| CSS3002 | ✓ | ✓ | | |
| SSM15G | ✓ | | | |
| SSM15G1 | ✓ | | | |
| SSM30G | ✓ | | | |



Upgrade Kits For Converting to Communications Mainframes

| ITEM NUMBER | MAIN FRAME | ITEM NUMBER | MAIN FRAME |
|-------------|------------|-------------|-------------------|
| CIK4 | 4-ZONE | CIK28 | 28-ZONE |
| CIK5 | 5-ZONE | CIK32 | 32-ZONE |
| CIK7 | 7-ZONE | CIK36 | 36-ZONE |
| CIK8 | 8-ZONE | CIK40 | 40-ZONE |
| CIK11 | 11-ZONE | CIK44 | 44-ZONE |
| CIK12 | 12-ZONE | CIK48 | 48-ZONE |
| CIK16 | 16-ZONE | CIK2HP | 2-ZONE HIGH POWER |
| CIK20 | 20-ZONE | CIK3HP | 3-ZONE HIGH POWER |
| CIK24 | 24-ZONE | CIK5HP | 5-ZONE HIGH POWER |

Replacement Parts and Service Items for DME
Smart Series® Temperature Control Systems



NOTE: For upper inside communications connectors, see previous page.

Connectors / Connector Kits (5-48 zone, 15 Amp; 2-5 zone, 30 Amp)

| REFERENCE LETTER | DESCRIPTION | ITEM NUMBER |
|------------------|--|--------------|
| A | Mold Thermocouple Output Connector | see page 141 |
| B | Mold Power Input Connector | see page 140 |
| C | Mold End Kit for 5-Zone Thermocouple Cable (10, 15 or 30 AMP) | CKTF15G |
| | Mold End Kit for 8-Zone Thermocouple Cable (10, 15 or 30 AMP) | CKTF18G |
| | Mold End Kit for 12-Zone Thermocouple Cable (10, 15 or 30 AMP) | CKTF112G |
| D | Mold End Kit for all 10 or 15 AMP Power Cables | CKPF112BG |
| | Mold End Kit for all 2 or 3-Zone 30 AMP Power Cables | CKPF13CG |
| | Mold End Kit for all 5-Zone 30 AMP Power Cables | CKPF15CG |
| E | Frame End Kit for all Thermocouple Cables (10, 15 or 30 AMP) | CKTF112AG |
| F | Frame End Kit for all 10 or 15 AMP Power Cables | CKPM112BG |
| | Frame End Kit for 2 or 3-Zone 30 AMP Power Cables | CKPM13CG |
| | Frame End Kit for all 5-Zone 30 AMP Power Cables | CKPM15CG |
| G | Thermocouple Input Kit for all Mainframes (10, 15 or 30 AMP) | CKTM212AG |
| H | Power Output Kit for all 10 or 15 AMP Mainframe | CKPF212BG |
| | Power Output for all 2 or 3-Zone 30 AMP Mainframe | CKPF32CG |
| | Power Output Kit for all 5-Zone 30 AMP Mainframe | CKPF25CG |
| I | Edge Card Connector Kit for all Mainframe PC Boards (10, 15 or 30 AMP) | CKF312G |

Replacement Parts and Service Items for DME Smart Series® Temperature Control Systems

Mainframe, Cable Components, and Service Tools*

| | | |
|---------|---|-------------------|
| CBD10M | 10 AMP 2 POLE, CIRCUIT BREAKER USED IN MFP1G AND MFP1G1 | |
| CBD20M | 20 AMP 2 POLE, CIRCUIT BREAKER USED IN MFR2G | |
| CBD30M | 30 AMP 2 POLE, CIRCUIT BREAKER USED IN MFFPR2G AND MFHP1G | |
| CBD50 | 50 AMP 3 POLE, CIRCUIT BREAKER USED IN 5 THROUGH 12 ZONE MAINFRAMES | |
| CBD70 | 70 AMP 3 POLE, CIRCUIT BREAKER USED IN 16 THROUGH 48 ZONE & HIGH POWER MAINFRAMES | |
| PIN0114 | 14 GAUGE MALE PIN FOR "B" & "F" POWER CONNECTORS (PACKAGE OF 30) | SEE PREVIOUS PAGE |
| PIN0214 | 14 GAUGE FEMALE SOCKET FOR "D" & "H" POWER CONNECTORS (PACKAGE OF 30) | SEE PREVIOUS PAGE |
| PIN0120 | 20 GAUGE MALE PIN FOR "G" THERMOCOUPLE CONNECTOR (PACKAGE OF 30) | SEE PREVIOUS PAGE |
| PIN0220 | 20 GAUGE FEMALE PIN FOR "E" THERMOCOUPLE CONNECTOR (PACKAGE OF 30) | SEE PREVIOUS PAGE |
| | | |
| RPM0048 | EXTRACTION TOOL FOR ALL PIN-TYPE CONNECTOR PINS | |
| RPM0038 | NEON INDICATORS USED ON 240 VAC MAINFRAME CIRCUIT BREAKER PANELS | |
| RPM0044 | CARD GUIDES FOR ALL MAINFRAMES | |
| RPM0046 | PINS FOR WHITE EDGE CARD CONNECTORS "I" (PACKAGE OF 20) | |
| RPM0059 | PANEL MOUNT BASE & LATCH FOR 5-ZONE THERMOCOUPLE MOLD CONNECTION "A" | SEE PREVIOUS PAGE |
| RPM0060 | PANEL MOUNT BASE & LATCH FOR 8-ZONE THERMOCOUPLE MOLD CONNECTION "A" | SEE PREVIOUS PAGE |
| RPM0061 | PANEL MOUNT BASE & LATCH FOR 12-ZONE THERMOCOUPLE MOLD CONNECTION "A" | SEE PREVIOUS PAGE |
| RPM0062 | MALE INSERT FOR 5 ZONE THERMOCOUPLE MOLD CONNECTION "A" | SEE PREVIOUS PAGE |
| RPM0063 | MALE INSERT FOR 8-ZONE THERMOCOUPLE MOLD CONNECTION "A" | SEE PREVIOUS PAGE |
| RPM0064 | MALE INSERT FOR 12-ZONE THERMOCOUPLE MOLD CONNECTION "A" | SEE PREVIOUS PAGE |
| RPM0065 | FEMALE INSERT FOR 5-ZONE THERMOCOUPLE CABLE CONNECTOR "C" | SEE PREVIOUS PAGE |
| RPM0066 | FEMALE INSERT FOR 8-ZONE THERMOCOUPLE CABLE CONNECTOR "C" | SEE PREVIOUS PAGE |
| RPM0067 | FEMALE INSERT FOR 12-ZONE THERMOCOUPLE CABLE CONNECTOR "C" | SEE PREVIOUS PAGE |
| RPM0068 | HOOD FOR 5 ZONE THERMOCOUPLE CABLE CONNECTOR "C" | SEE PREVIOUS PAGE |
| RPM0069 | HOOD FOR 8 ZONE THERMOCOUPLE CABLE CONNECTOR "C" | SEE PREVIOUS PAGE |
| RPM0070 | HOOD FOR 12 ZONE THERMOCOUPLE CABLE CONNECTOR "C" | SEE PREVIOUS PAGE |
| RPM0071 | HOOD FOR 5, 8 & 12 POWER & THERMOCOUPLE CABLE CONNECTIONS "D", "E" & "F" | SEE PREVIOUS PAGE |
| RPM0072 | MALE INSERT FOR "B", "F" & "G" (15 AMP CONNECTOR RATING IS EXCLUSIVE TO DME) | SEE PREVIOUS PAGE |
| RPM0073 | FEMALE INSERT FOR "D", "E" & "H" (15 AMP CONNECTOR RATING IS EXCLUSIVE TO DME) | SEE PREVIOUS PAGE |

*(Reference page 134-147 for Letter Designations)

All Smart Series Modules

| | |
|---------|---|
| ABC1 | 1 AMP 250 VAC FUSE |
| ABC3 | 3 AMP 250 VAC FUSE - NOTE: THESE LOWER POWER FUSES ARE RECOMMENDED FOR NOZZLES |
| ABC5 | 5 AMP 250 VAC FUSE - NOTE: THESE LOWER POWER FUSES ARE RECOMMENDED FOR NOZZLES |
| ABC10 | 10 AMP 250 VAC FUSE - NOTE: REQUIRED FOR 15 AMP MODULES USED IN 10 AMP FRAMES |
| ABC15 | 15 AMP 250 VAC FUSE |
| RPM0123 | 15 AMP 250 VAC FUSE - ULTRAFast |
| RPM0124 | .062 AMP TC FUSE FOR TSM MODULES ONLY |
| NYL0001 | "NYLATCH" MODULE RETENTION PLUNGER AND GROMMET (10/PKG) - NOTE: AT THE BOTTOM OF EACH MODULE |
| RPM0008 | POWER ROCKER SWITCH FOR ALL MODULES EXCEPT DSS AND CSS1524 |
| RPM0009 | TRANSFORMER TYPE DST416 FOR ALL MODULES EXCEPT DSS & TAS |
| RPM0027 | ALUMINUM HANDLE FOR 15 AMP MODULES |
| RPM0039 | 30 AMP 2 POLE, CIRCUIT BREAKER FOR MODULES |
| RPM0023 | TRIAC - TYPE Q6040P 40 AMP 600 VOLT FOR USE ON ALL MODULES |
| RPM0054 | TRIAC - TYPE BTA40800B 40 AMP 800 VOLT FOR USE ON ALL MODULES EXCEPT CSS |
| RPM0050 | 2200 OHM FLAME PROOF FUSIBLE LINK RESISTOR USED IN THERMOCOUPLE CIRCUIT (10/PK) USED ON ALL MODULES |
| RPM0088 | A/D CONVERTER FOR SSM15G, SSM15G1, SSM30G, SSH1001, SSH-1002 AND ALL CSS MODULES |

Replacement Parts and Service Items for DME Smart Series® Temperature Control Systems

SSM15G, SSM30G, SSH1002, ESH1012

| | |
|---------|--------------------------------------|
| RPM0010 | TRIAC DRIVER U5 |
| RPM0012 | OPTOCOUPLER U6 & U7 |
| RPM0013 | OPERATIONAL AMPLIFIER U2 |
| RPM0014 | OPERATIONAL AMPLIFIER U8 |
| RPM0015 | SETPOINT POTENTIOMETER (FRONT PANEL) |

CSS15G, CSS30G, CSS1502, CSS3002

| | |
|---------|--------------------------------|
| CSS0001 | MICROPROCESSOR FOR CSS15G |
| CSS0002 | MICROPROCESSOR FOR CSS1502 |
| RPM0011 | TRIAC DRIVER U14 |
| RPM0012 | OPTOCOUPLER U9 & U11 |
| RPM0013 | OPERATIONAL AMPLIFIER U8 & U13 |
| RPM0014 | OPERATIONAL AMPLIFIER U3 |

SSM1501, SSM1502, SSM3002, SSH1011, SSH1012, ESH1012

| | |
|---------|--|
| SSM0002 | MICROPROCESSOR |
| RPM0010 | TRIAC DRIVER U5 |
| RPM0014 | OPERATIONAL AMPLIFIER U3 & U8 |
| RPM0053 | PUSHWHEEL ASSEMBLY, WITH CABLE |
| RPM0055 | AUTO/MANUAL/AUTO% SWITCH FOR FRONT PANEL (SSM ONLY) (FRONT PANEL) |
| RPM0056 | AUTO/MANUAL/AUTO% SWITCH FOR FRONT PANEL (SSH & ESH) (FRONT PANEL) |
| RPM0087 | 250 MA TIME LAG FUSE F3; CHECK YOUR MODULE! |
| RPM0090 | 160 MA TIME LAG FUSE F3; CHECK YOUR MODULE! |

TAS0501, TAS0502, TAS0511, TAS0512

| | |
|---------|--|
| RPM0025 | BEEPER |
| RPM0026 | TRANSFORMER |
| RPM0028 | SWITCH STANDBY HEAT (TAS0501, TAS0502, ONLY) & ALARM (ALL UNITS) (FRONT PANEL) |
| RPM0057 | ROTARY SWITCH FOR OFF, STANDBY HEAT, NORMAL, BOOST (TAS0511, TAS0512, ONLY) |
| RPM0058 | KNOB FOR RPM0057 |
| RPM0029 | RECEPTACLE CONNECTOR FOR FRONT PANEL |
| RPM0030 | MATING CONNECTOR (PLUG) FOR RPM0029 |
| RPM0031 | PINS FOR RPM0030 |
| RPM0032 | SOCKETS FOR RPM0029 |
| RPM0033 | RELAY #1 - ALARM OUTPUT CONNECTOR |
| RPM0034 | RELAY #2 - BEEPER CONTACTS |

Input Power Wiring Diagrams (Option A)

The diagrams on pages 148 through 150 are printed on the back panels of the mainframes. For your convenience, they are depicted here along with additional information.

For information on input wiring for 30 AMP mainframes, contact DME.

Standard input wiring for mainframes, unless specified otherwise at time of order, is 240 VAC, three-phase, 4-wire, 50/60 Hz. (OPTION A). If it becomes necessary to change to another configuration, refer to the appropriate diagram and information on the following pages:

Page 148: (OPTION A) 208-240 VAC, 3-phase, 4-wire

Page 149: (OPTION B) 380-415 VAC, 3-phase, 5-wire

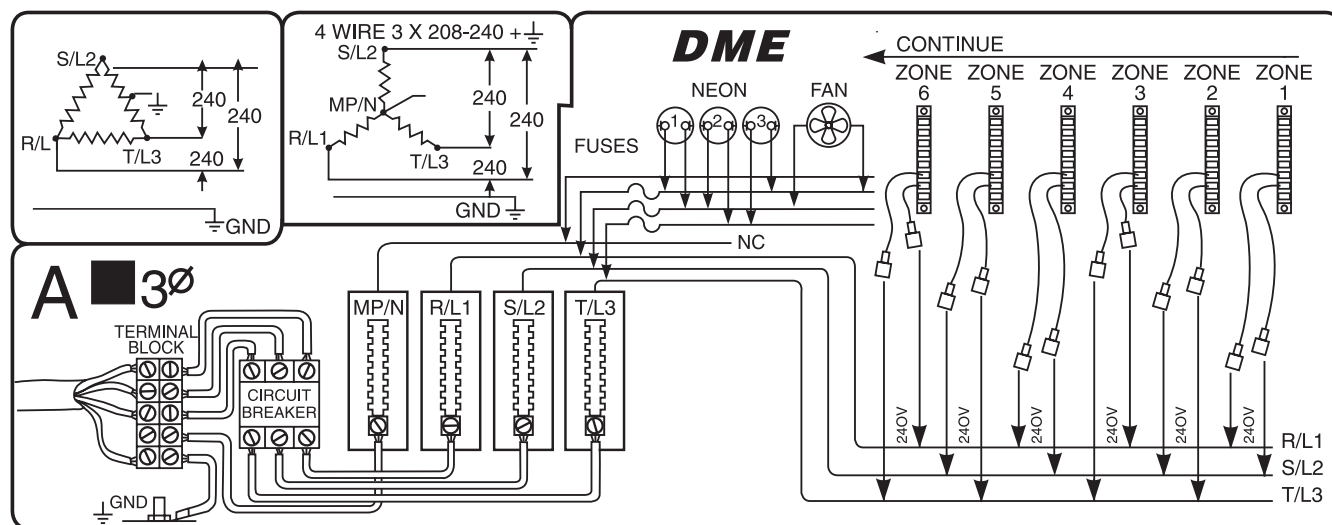
Page 150: (OPTION C) 240 VAC, 2-phase, 4-wire

(OPTION D) 208-240 VAC, single phase, 3-wire 120 VAC, 2-phase, 4-wire

NOTE: For mold power and thermocouple connector wiring information, see pages 128-129.

OPTION A (Standard)

208 – 240 VAC, Three-Phase, 4-Wire Delta or “Y” Power Distribution System



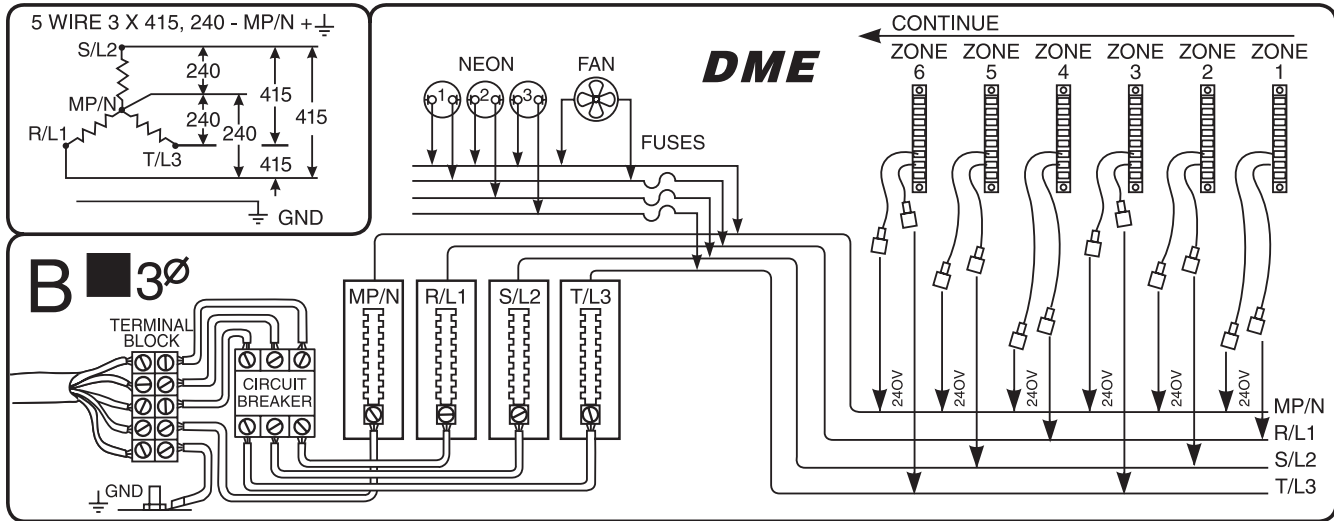
As shown above, each module is powered from one of the three phases. Zone (1), for example, is powered from Phase 1, which is supplied by R/L1 and S/L2. Zone (2) is powered by Phase 2, which is supplied by S/L2 and T/L3. Zone (3) is powered by Phase 3, which is supplied by R/L1 and T/L3.

NOTE: At this point, the sequence repeats itself. For example, Zone (4) is connected the same as Zone (1) to R/L1 and S/L2 and Zone (5) is connected the same as Zone (2) to S/L2 and T/L3 and Zone (6) is connected the same as Zone (3) to R/L1 and T/L3. Zone (7) is then connected to the same phase as Zone (1) and (4), etc. This method of connection assures the greatest likelihood of line balance.

Input Power Wiring Diagrams (Option B)

OPTION B

**380 – 415 VAC, Three-Phase, 5-Wire
"Y" Power Distribution System**



CAUTION NOTE: The voltages from line-to-line in this system are 380 to 415 volts. Severe damage to module and mainframe could result if this type of AC input system is connected to a mainframe wired as OPTION A. This type of power distribution is not found or is very uncommon in the United States but is the most common system found in many other countries worldwide.

WARNING: If export of this system is intended, make sure that wiring is reconfigured for the country where it is to be used.

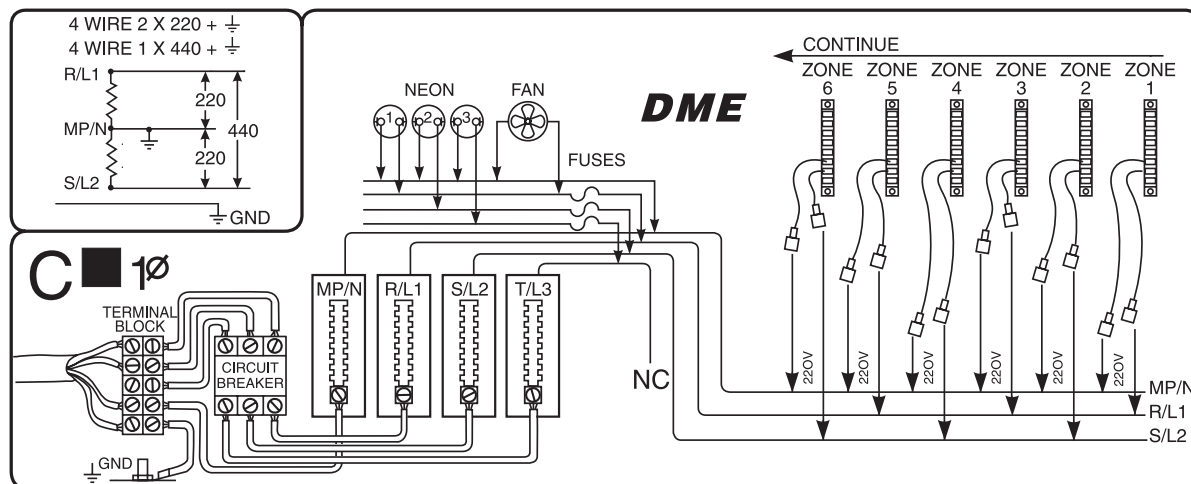
Please note that the 380-415 Volt Power Distribution System is the same as the "Y" connection shown in OPTION A except for the voltage levels and the use of the MP/N to develop the 240 volt from the 380-415 volt system. Notice that all modules have one line connected to MP/N and the other side connected to one of the three phase lines.

Example: Zone (1) is connected to Phase 1, which is supplied by R/L1 and MP/N.
 Zone (2) is connected to Phase 2, which is supplied by S/L2 and MP/N.
 Zone (3) is connected to Phase 3, which is supplied by T/L3 and MP/N.
 Zone (4) starts the sequence over again. It is connected to Phase 1 R/L1 and MP/N, etc.

Input Power Wiring Diagrams (Options C and D)

Example: Zone (1) is connected to MP/N and R/L1. Zone (2) is connected to MP/N and S/L2, etc.
Zone (3) starts the sequence over again. It is connected to MP/N and R/L2, same as zone (1).

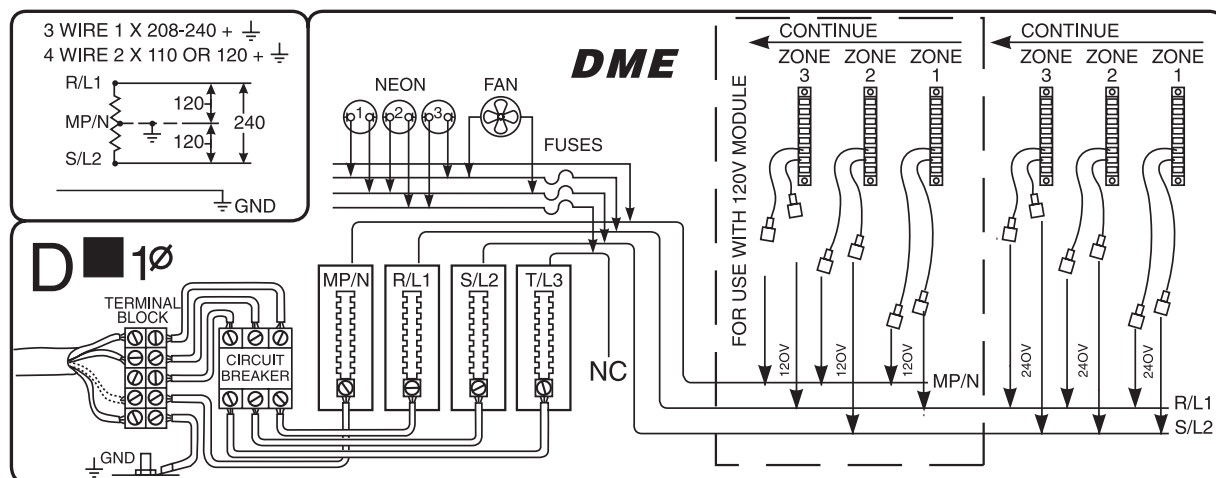
OPTION C 240 VAC, Two-Phase, 4-Wire



The 240 volt single-phase connection only uses two power lines plus ground.

CAUTION: Only power conductors should be connected through the circuit breaker. Never make ground connections through a circuit breaker. Notice that the output of the circuit breaker is connected to terminal strips R/L1 and S/L2. Also notice that ground is common with MP/N in this system. All zones in this system have to be connected to MP/N and either R/L1 or S/L2. Line balance is achieved by alternating between R/L1 and S/L2.

OPTION D 208 – 240 VAC, Single-Phase, 3-Wire or 120 VAC, Two-Phase, 4-Wire



Above diagram depicts two different wiring configurations. One is 208-240 volt, single-phase, 3-wire. Note that lines R/L1 and S/L2 are connected through the circuit breaker to the appropriate terminal strips. All zones will be connected between R/L1 and S/L2. MP/N is common with ground and is not connected through the circuit breaker.

In the 120 volt connection (zone connections shown within the dashed-line area), the 120 volts is developed between R/L1 and MP/N and S/L2 and MP/N. Again, ground and MP/N are not connected through the circuit breaker. Each zone in this system will be connected to MP/N and either R/L1 or S/L2. Line balance is achieved by alternating between R/L1 and S/L2.

Alternate Cable Configuration
DME® Smart Series® Conversion Cables



Combination Mold Power and Thermocouple Conversion Cables allow ease of conversion between Mold-Masters and DME systems

- Mold Power and Thermocouple combined in a single cable
- Conversion for 12 zones
- Cables available in standard lengths of 10’ and 20’ (custom lengths are available)

| Item Number | Mold Power Zones | Thermocouple Zones | Cable Length | Mainframe Connector | Mold Connector | Splits |
|-----------------------------|------------------|--------------------|--------------|------------------------------|------------------------------|---------------|
| PITC1210YFE | 12 | 12 | 10’ | DME “G” Series | HBE48 (Mold Master MPlug.12) | 5 (Frame End) |
| PITC1220YFE | | | 20’ | | | |
| PITC1210YME | | | 10’ | HBE48 (Mold Master MPlug.12) | DME “G” Series | 5 (Mold End) |
| PITC1220YME | | | 20’ | | | |

Works with the following connectors:



[PIC12G](#)



[MTC12G](#)



[MPlug.12](#)

Alternate Cable Configuration

DME® Smart Series® Conversion Cables

5-ZONES OF CONTROL

| | | |
|---|----------------|--|
| B | PTC05TB | 5-ZONE TERMINAL MOUNTING BOX |
| C | MPC05C10 / 20G | 5-ZONE MOLD POWER CABLE; 10' OR 20' O.A.L. |
| D | PIC05 | 5-ZONE MOLD POWER INPUT CONNECTOR |
| E | TC05C10 / 20G | 5-ZONE THERMOCOUPLE CABLE; 10' OR 20' O.A.L. |
| F | MTC05 | 5-ZONE MOLD THERMOCOUPLE CONNECTOR |



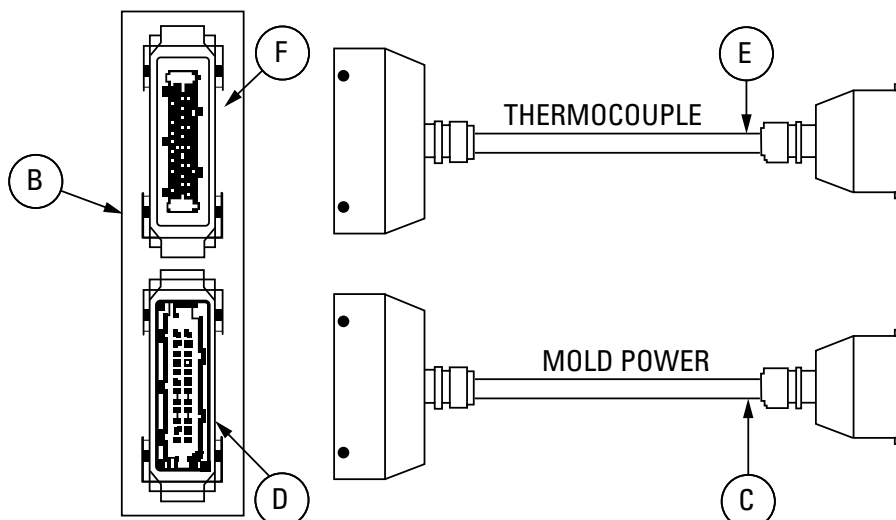
8-ZONES OF CONTROL

| | | |
|---|----------------|--|
| B | PTC08TB | 8-ZONE TERMINAL MOUNTING BOX |
| C | MPC08C10 / 20G | 8-ZONE MOLD POWER CABLE; 10' OR 20' O.A.L. |
| D | PIC08 | 8-ZONE MOLD POWER INPUT CONNECTOR |
| E | TC08C10 / 20G | 8-ZONE THERMOCOUPLE CABLE; 10' OR 20' O.A.L. |
| F | MTC08 | 8-ZONE MOLD THERMOCOUPLE CONNECTOR |



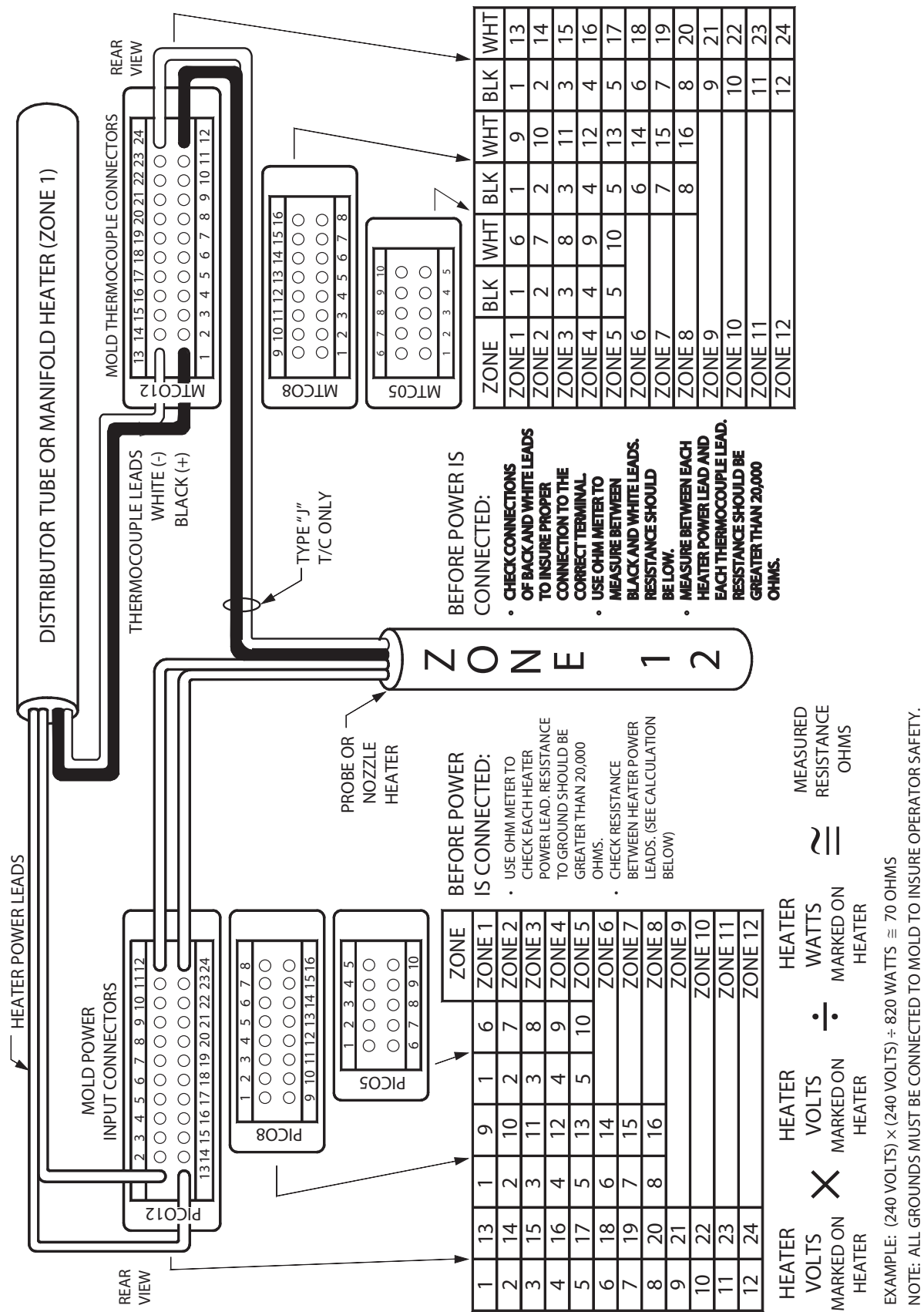
12-ZONES OF CONTROL

| | | |
|---|----------------|---|
| B | PTC12TB | 12-ZONE TERMINAL MOUNTING BOX |
| C | MPC12C10 / 20G | 12-ZONE MOLD POWER CABLE; 10' OR 20' O.A.L. |
| D | PIC12 | 12-ZONE MOLD POWER INPUT CONNECTOR |
| E | TC12C10 / 20G | 12-ZONE THERMOCOUPLE CABLE; 10' OR 20' O.A.L. |
| F | MTC12 | 12-ZONE MOLD THERMOCOUPLE CONNECTOR |



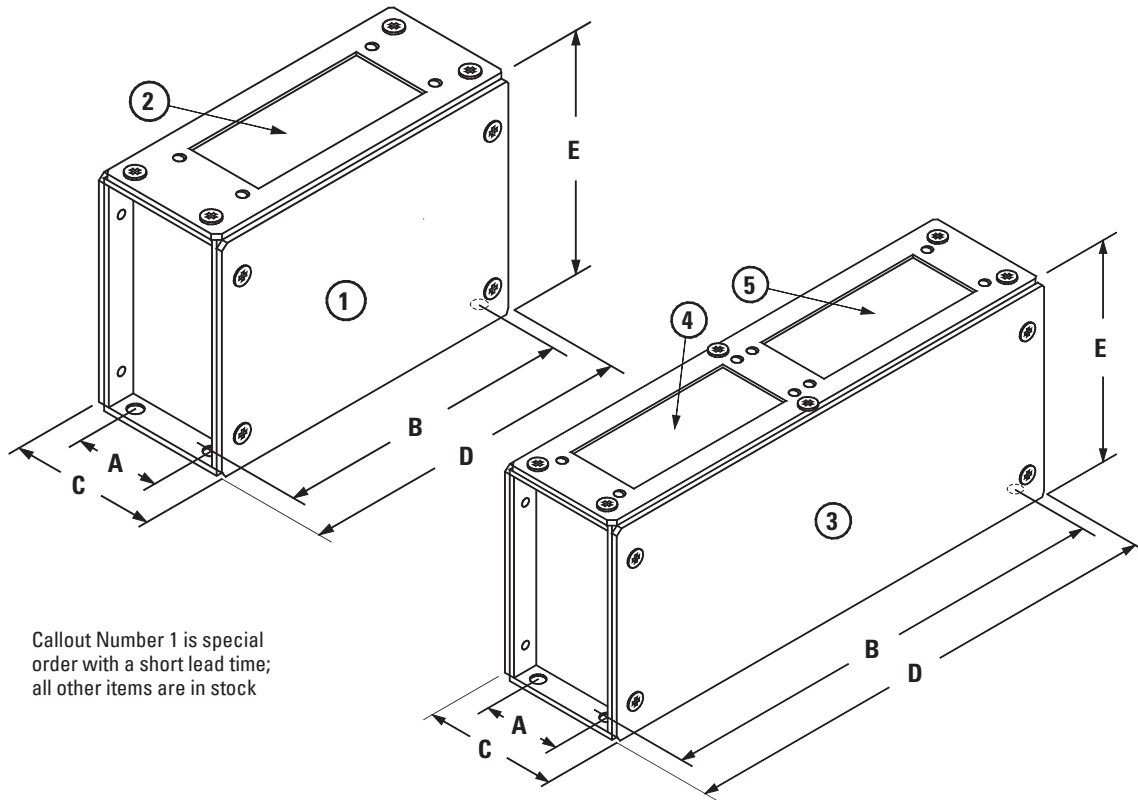
Alternate Cable Configuration

TYPICAL MOLD CONNECTOR WIRING DIAGRAM (REVISION "A")



Terminal Box Detail & Mold Connectors

EUROPEAN CONFIGURATION



Callout Number 1 is special order with a short lead time; all other items are in stock

| CALLOUT NUMBER | ITEM NUMBER TERMINAL BOX | CALLOUT NUMBER | ITEM NUMBER MOLD CONNECTOR | DIMENSIONS | | | | | | | | | |
|----------------|-----------------------------|----------------|-------------------------------|------------|------|--------|-------|-------|------|--------|-------|-------|-------|
| | | | | A | | B | | C | | D | | E | |
| 1 | PT05TB | 2 | PIC05 | 1.50" | 38mm | 4.25" | 108mm | 2.44" | 62mm | 4.88" | 124mm | 4.10" | 104mm |
| 1 | PT05TB | 2 | MTC05 | 1.50" | 38mm | 4.25" | 108mm | 2.44" | 62mm | 4.88" | 124mm | 4.10" | 104mm |
| 1 | PT08TB | 2 | PIC08 | 1.50" | 38mm | 4.99" | 127mm | 2.44" | 62mm | 5.61" | 142mm | 4.10" | 104mm |
| 1 | PT08TB | 2 | MTC08 | 1.50" | 38mm | 4.99" | 127mm | 2.44" | 62mm | 5.61" | 142mm | 4.10" | 104mm |
| 1 | PT012TB | 2 | PIC012 | 1.50" | 38mm | 6.05" | 154mm | 2.44" | 62mm | 6.68" | 170mm | 4.10" | 104mm |
| 1 | PT012TB | 2 | MTC012 | 1.50" | 38mm | 6.05" | 154mm | 2.44" | 62mm | 6.68" | 170mm | 4.10" | 104mm |
| 3 | PTC05TB | 4 | PIC05 | 1.50" | 38mm | 8.84" | 225mm | 2.44" | 62mm | 9.47" | 241mm | 4.10" | 104mm |
| | | 5 | MTC05 | 1.50" | 38mm | 8.84" | 225mm | 2.44" | 62mm | 9.47" | 241mm | 4.10" | 104mm |
| 3 | PTC08TB | 4 | PIC08 | 1.50" | 38mm | 9.91" | 252mm | 2.44" | 62mm | 10.53" | 267mm | 4.10" | 104mm |
| | | 5 | MTC08 | 1.50" | 38mm | 9.91" | 252mm | 2.44" | 62mm | 10.53" | 267mm | 4.10" | 104mm |
| 3 | PTC012TB | 4 | PIC012 | 1.50" | 38mm | 12.17" | 309mm | 2.44" | 62mm | 12.79" | 325mm | 4.10" | 104mm |
| | | 5 | MTC012 | 1.50" | 38mm | 12.17" | 309mm | 2.44" | 62mm | 12.79" | 325mm | 4.10" | 104mm |

NOTE: ALLOW AN ADDITIONAL 0.25" (10mm) IN HEIGHT AND WIDTH FOR SCREW HEAD CLEARANCE

Me Temperature Controllers

Smart Series® | Me Temperature Controllers

SMART SERIES® Me
Hot Runner Temperature Control Made Simple and Economical

The Me controller platform combines essential features with advanced APS Technology for precision hot runner temperature control. Powerful performance from a compact unit that helps improve part quality and minimize scrap. Optimize the performance of any hot runner system and unlock your operations full potential .

KEY FEATURES

INTUITIVE TOUCH SCREEN COLOR DISPLAY

- Simple, user friendly interface.
- Allows for immediate familiarization.
- Monitor up to 12 zones at once.

INTEGRATED 15-AMP CONTROL CARDS

- Power to control a wide range of hot runner zones from nozzle tips to larger manifolds.
- On-board heater fuses.
- Quick and easy service access from the cabinet top and bottom.

COMPACT, STACKABLE CABINET DESIGN

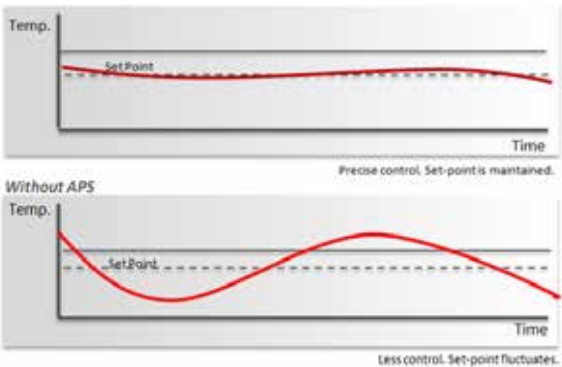
- Preserves valuable space.
- Can be placed almost anywhere.
- Available in 6 or 12 zone configurations.
- Lightweight.

2 YEAR COMPREHENSIVE WARRANTY

- Worry free global support coverage.
- Protects against manufacturers defects (fuses excluded).



| ITEM NUMBER | DESCRIPTION |
|-------------|---------------------|
| Me6-15SS | 6 Zones of Control |
| Me12-15SS | 12 Zones of Control |



SIMPLE TOUCH SCREEN CONTROLS

| | | | | |
|---------|----------|----------|----------|---------------|
| Probe 1 | Probe 2 | Probe 3 | Probe 4 | Run |
| 250 | 250 | 249 | 249 | Standby |
| 250 °C | 250 °C | 250 °C | 250 °C | Shutdown |
| 1.0 A | 1.1 A | 1.2 A | 1.3 A | Boost |
| Probe 5 | Probe 6 | Probe 7 | Probe 8 | Stop |
| 249 | 249 | 250 | 250 | |
| 250 °C | 250 °C | 250 °C | 250 °C | |
| 1.4 A | 1.5 A | 1.6 A | 1.7 A | |
| Probe 9 | Probe 10 | Probe 11 | Probe 12 | Tool |
| 250 | 250 | 250 | 250 | |
| 250 °C | 250 °C | 250 °C | 250 °C | |
| 1.8 A | 1.9 A | 2.0 A | 2.1 A | |
| Mode | RUN | | | Status NORMAL |

Me Temperature Controllers

SMART SERIES® Me

CAPABILITIES

| Control Features | Operational Features | Protection Features | Alarms |
|-------------------------------|-----------------------------------|-----------------------------------|--------------------------------|
| APS (Adaptive Process System) | Auto/Manual Control | On-Board Load Fuses | Audible Alarm |
| Phase Angle, Burst Firing | Zone "on," "off" and "locked off" | Soft Start | Zone Alarm Configure |
| Infield Calibration Mode | Menu "Auto Save" | Continuous Ground Fault Detection | (+) High Temperature |
| Thermocouple Slave (Manual) | Tool Store (4) | Current Measurement | (-) Low Temperature |
| Auto Standby/Alarm Output | USB Port | Overload Protection | T/C Open (remembered % output) |
| Wet Heater Bakeout | | Automatic Tool Diagnostics | T/C Reversed |
| T/C Filtering | | Plastic Leak Detection (Manual) | Open Fuse |
| Delta/Wye Convertible Option | | LED Fault Indicator (Scan) | Open Heater |
| Interface Autopilot Control | | | Shorted Heater/Wet |
| Set Point Limit | | | Ground Fault Detection |
| Set Power Limit | | | Plastic Leak Detection |
| Auto Load % Output | | | |
| Uniform Start-Up | | | |

SPECIFICATIONS

| | | | |
|-----------------------------|---|----------------------------------|--|
| User Interface | Full Color LCD Touch Screen | Frequency | 50 - 60 Hz Automatic Switching |
| Display Size | 5" | Ambient Temperature Range | 5 - 450°C (41 - 113°F) |
| Cabinet Dimensions | 36cm x 39cm x 20cm (14" x 15" x 8") | Humidity Range | Up to 95% non-condensing |
| # of Zones (Max) | 6 or 12 | Ground Fault Detection | 40mA per Zone |
| Control Algorithm | APS (Adaptive Process System) | Alarm Output | Closing Contact Relay 5A, 230V (Max) |
| Power Control | Phase Angle & Burst Firing Modes (Time Proportional, Zero-Crossing) | T/C Connector | HD25 Male - DME Standard |
| Temp. Resolution | 1 (0°C or 0°F) | Power Connector | HD25 Female - DME Standard |
| Power Response Time | 8.3 ms at 60 Hz | Main Circuit Breaker | 32Amp 3 pole |
| Temperature Scale | 0°C or 0°F (Software Selectable) | Overload Protection | Semi-conductor fuses on both heater legs |
| Thermocouple | J or K-Type (Software Selectable) | Heater Fuses | 15A @ 220V Super Fast Blow Type (FF) |
| Operating Range | 0 - 472°C (32 - 882°F) | Control Modes | Closed Loop (Auto), Open Loop (Manual), Standby, Boost, Slave |
| Output Voltage (Max) | 264 VAC | Ports | USB |
| Supply Voltage | 200/240V 3P Delta or 380/415V 3P Star with Neutral (480V, 3P with optional transformer) | LED Indicators | Scan |
| | | Languages | English, French, German, Spanish, Polish, Russian, Chinese, Japanese, Czech, Italian, Hungarian, Turkish, Portuguese, Korean |



M2+ Temperature Controllers

SMART SERIES® M2+

Advanced Hot Runner Temperature Control & Process Monitoring

A fully featured controller platform with advanced capabilities for superior molding performance. Well suited for tight process control on all hot runner systems, it is your best choice as a direct replacement for many existing outdated controller platforms.

Unlock your operations full potential.

KEY FEATURES

LARGE INTUITIVE TOUCH SCREEN CONTROLS

- Modernized interface
- Quick and easy to use
- Rapid response rates
- Familiar gestures like pinch-to-zoom
- Available in 8", 12" and 17" formats
- Locate monitor/user interface away from control cabinet with optional cable set

ADVANCED FUNCTIONALITY

- APS (Adaptive Process System) Technology, the industry's most advanced heat control algorithm
- Auto leak detection
- Auto tool diagnostics
- TC auto slave
- Hot runner power consumption (kW per hour) monitoring
- Graphical presentation of hot runner system for easy zone identification
- Purge Wizard
- And much more

IO ALARM INTERLOCK

- Interface with any injection machine
- Triggers an alarm when issues are identified
- Pauses the molding process until corrected
- Helps maintain process consistency

WIRELESS NETWORK CONTROL (WLAN)

- Multi cell operation
- Multiple IP operation
- Download/Upload tool set-up
- Valuable for clean room applications



M2+ Temperature Controllers

DME's Smart Series M2+ is available in zones numbering from 48 to 120, with touch screen ranging from 8 to 17" to suit your specific needs.

| ITEM NUMBER | ZONES | MAIN AMPERAGE | INCLUDES | CABINET SIZE |
|---------------|-------|---------------|---------------------------------|--------------|
| M2XS-24-TS8P | 24 | 40 | 8in DISPLAY w/ HD25 CONNECTORS | EXTRA SMALL |
| M2XS-24-TS12P | 24 | 40 | 12in DISPLAY w/ HD25 CONNECTORS | EXTRA SMALL |
| M2S-36-TS8P | 36 | 63 | 8in DISPLAY w/ HD25 CONNECTORS | SMALL |
| M2S-36-TS12P | 36 | 63 | 12in DISPLAY w/ HD25 CONNECTORS | SMALL |
| M2S-36-TS17P | 36 | 63 | 17In DISPLAY w/ HD25 CONNECTORS | SMALL |
| M2S-48-TS8P | 48 | 63 | 8in DISPLAY w/ HD25 CONNECTORS | SMALL |
| M2S-48-TS12P | 48 | 63 | 12in DISPLAY w/ HD25 CONNECTORS | SMALL |
| M2S-48-TS17P | 48 | 63 | 17In DISPLAY w/ HD25 CONNECTORS | SMALL |
| M2M-60-TS8P | 60 | 80 | 8in DISPLAY w/ HD25 CONNECTORS | MEDIUM |
| M2M-60-TS12P | 60 | 80 | 12in DISPLAY w/ HD25 CONNECTORS | MEDIUM |
| M2M-60-TS17P | 60 | 80 | 17In DISPLAY w/ HD25 CONNECTORS | MEDIUM |
| M2M-72-TS12P | 72 | 80 | 12in DISPLAY w/ HD25 CONNECTORS | MEDIUM |
| M2M-72-TS17P | 72 | 80 | 17In DISPLAY w/ HD25 CONNECTORS | MEDIUM |
| M2M-84-TS12P | 84 | 100 | 12in DISPLAY w/ HD25 CONNECTORS | MEDIUM |
| M2M-84-TS17P | 84 | 100 | 17In DISPLAY w/ HD25 CONNECTORS | MEDIUM |
| M2M-96-TS12P | 96 | 125 | 12in DISPLAY w/ HD25 CONNECTORS | MEDIUM |
| M2M-96-TS17P | 96 | 125 | 17In DISPLAY w/ HD25 CONNECTORS | MEDIUM |
| M2L-108-TS12P | 108 | 150 | 12in DISPLAY w/ HD25 CONNECTORS | LARGE |
| M2L-108-TS17P | 108 | 150 | 17In DISPLAY w/ HD25 CONNECTORS | LARGE |
| M2L-120-TS12P | 120 | 150 | 12in DISPLAY w/ HD25 CONNECTORS | LARGE |
| M2L-120-TS17P | 120 | 150 | 17In DISPLAY w/ HD25 CONNECTORS | LARGE |

| ITEM NUMBER | DESCRIPTION |
|-----------------|-------------------------------------|
| M2DISPMNT | REMOTE DISPLAY MOUNT |
| M2DISPDATACABLE | DISPLAY DATA CABLE - 30' (9m) LONG |
| M2DISPPOWCABLE | DISPLAY POWER CABLE - 30' (9m) LONG |



M2+ Temperature Controllers

SMART SERIES® M2+

Precise Temperature Control and World Class Features

SPECIFICATIONS

| User Interface | Full Color LCD Touch Screen |
|---------------------------|---|
| Display Sizes | 8" (203mm), 12" (305mm), or 17" (432mm) |
| Control Algorithm | APS (Adaptive Process System) |
| Power Control | Phase Angle and Burst Firing Modes (Time Proportional, Zero-Crossing) |
| Control Accuracy | +/- 0.5°C (1°F) |
| Display Resolution | 0.1 (°C or °F) |
| Power Response Time | 8.3 ms at 60 Hz |
| Temperature Scale | °C or °F (Software Selectable) |
| Thermocouple | J or K-Type (Software Selectable) |
| Operating Range | 0 - 472°C (32 - 882°F) |
| Output Voltage (Max) | 264 VAC |
| Supply Voltage | 200/240V 3P Delta or 380/415V 3P Star with Neutral (480V, 3P with optional transformer) |
| Frequency | 50 - 60 Hz Automatic Switching |
| Ambient Temperature Range | 5 - 45°C (41 - 113°F) |
| Humidity Range | Up to 95% non-condensing |
| Ground Fault Detection | 40mA per Zone |
| Alarm Output | Closing Contact Relay 5A, 230V (Max) |
| T/C Connector | DME Standard HD25 Male |
| Power Connector | DME Standard HD25 Female |
| Input Protection | 63mA Nano Fuses on Both T/C Legs |
| Overload Protection | Semi-conductor fuses on both heater legs |
| Heater Fuses | 15A @ 220V Fast Blow Type |
| Control Modes | Closed Loop (Auto), Open Loop (Manual), Standby, Boost, Slave |
| Ports | USB and Ethernet |
| LED Indicators | Scan, Fuse, Thermocouple, Failure, Ground Fault, Power% |
| Communications | SPI, Real VNC, Modbus, OPC-UA |
| Languages | English, French, German, Portuguese, Spanish, Polish, Russian, Chinese, Japanese, Czech, Italian, Turkish |

| Cabinet Size | # of Cards (Max) | # of Zones (Max) | Dimensions WxDxH cm (in.) |
|--------------|------------------|------------------|---------------------------|
| XS | 6 | 24 | 31x45x81 (12x18x32) |
| S | 12 | 48 | 36x45x96 (14x18x38) |
| M | 24 | 96 | 45x60x116 (18x24x46) |
| L | 36 | 144 | 45x60x141 (18x24x56) |
| XL | 63 | 252 | |

Based on 4z-15A cards. Increase max zones with 6z-5A cards

U.S. 800-626-6653 ▪ Canada 800-387-6600 ▪ dme.net ▪ store.dme.net

Mt2 Temperature Controllers

SMART SERIES® Mt2

Precision Temperature Control for 2-zone Hot Sprue Applications

The Mt platform combines essential features with advanced APS Technology for precision temperature control and essential protection features. Powerful performance from a compact unit that helps improve part quality and minimize scrap.

Optimize the performance of any hot runner system and unlock your operations full potential with Smart Series.

KEY FEATURES

INTUITIVE TOUCH SCREEN COLOR DISPLAY

- Simple, user friendly interface
- Allows for immediate familiarization
- Monitor 2 zones at once
- Continuous display of % power and current

2 ZONE CONTROL CARD

On-board heater and thermocouple fuses

- Eliminates excess wiring and improves accessibility
- Servicing is quick and easy, minimizing downtime

COMPACT CABINET DESIGN

- Preserves valuable space
- Can be placed almost anywhere

DURABLE INDUSTRIAL DESIGN

- Metal enclosure and heavy duty connectors
- High reliability

2 YEAR COMPREHENSIVE WARRANTY

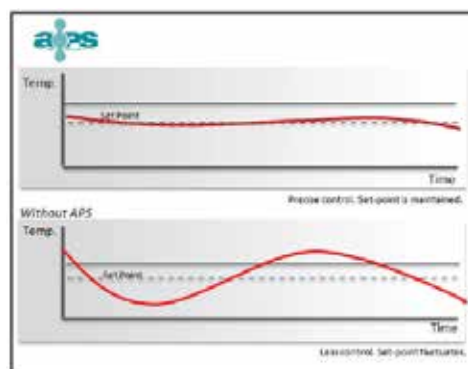
- Worry free global support coverage
- Protects against manufacturers defects (fuses excluded)



View

- Temperature
- Set Point
- Current (A)
- Power %

SIMPLE TOUCH SCREEN CONTROLS



Mt2 Temperature Controllers

SMART SERIES® Mt2

SPECIFICATIONS

| | |
|---|---|
| User Interface | Full Color LCD Touch Screen |
| Display Size | 2" (51mm) - 176 x 200 pixels |
| Control Algorithm | 36cm x 39cm x 20cm (14" x 15" x 8") |
| Power Control | Phase Angle & Burst Firing Modes (Time Proportional, Zero-Crossing) |
| Control Accuracy | +/- 0.5°C (1°F) |
| Display Resolution | 1 (°C or °F) |
| Power Response Time | 8.3 ms at 60 Hz |
| Temp. Resolution | 1 (0°C or 0°F) |
| Temperature Scale | 0°C or 0°F (Software Selectable) |
| Thermocouple | J or K-Type (Software Selectable) |
| Operating Range | 0 - 472°C (32 - 882°F) |
| Output Voltage (Max) | 264 VAC |
| Supply Voltage | 240V Single Phase - 10' Power Cord Included |
| Frequency | 50 - 60 Hz Automatic Switching |
| Ambient Temperature Range | 5 - 450°C (41 - 113°F) |
| Humidity Range | Up to 95% non-condensing |
| Ground Fault Detection | 40mA per Zone |
| Mold Power and Thermocouple Connection | 10' Integrated Power and T/C Cable Mt2-15SS: HB10 Double Latch Mt2-10SS: (2) CKPTF1 Split Cable |
| Input Protection | 63mA Nano Fuses on Both T/C legs |
| Overload Protection | Semi-conductor fuses on both heater legs |
| Heater Fuses | 15A or 10A @ 220V Fast Blow Type |
| Control Modes | Closed Loop (Auto), Open Loop (Manual) |
| Languages | English, French, German, Chinese |



Item No.: Mt2-15SS
15A B10 Mold End Connector



Item No.: MTPTC215 Mold Connector
Uses MTC5TBG Mold Terminal Box



Item No.: MPTC210CP
Adapter Cable
B10 to (2) CKPTF1 Mold End Connectors
Requires controller fuse change to 10A
(10 amp fuses supplied with cable)



Equatemp® MD-series
Dual-Zone Hot Sprue
Bushing

CAPABILITIES

Control Features

| |
|-------------------------------|
| APS (Adaptive Process System) |
| Phase Angle, Burst Firing |
| Infield Calibration Mode |
| Thermocouple Slave (Manual) |
| T/C Auto/Man Kick-Off |
| Wet Heater Break-out |
| T/C Filtering |

Operational Features

| |
|------------------------|
| Auto/Manual Control |
| Zone "on," "off" |
| Menu "Auto Save" |
| Boost/Standby (Manual) |

Protection Features

| |
|-----------------------------------|
| On-Board Load Fuses |
| On-Board T/C Fuses |
| Soft Start |
| Continuous Ground Fault Detection |
| Current Measurement |
| Overload Protection |
| Short Circuit Protection |

Alarms

| |
|--------------------------------|
| Zone Alarm Configure |
| (+) High Temperature |
| (-) Low Temperature |
| T/C Open (remembered % output) |
| T/C Reversed |
| Open Fuse |
| Open Heater |
| Shorted Heater/Wet |
| Ground Fault Detection |



Valve Gate Controls



ENERGY EFFICIENT, RELIABLE
AND COMPACT HYDRAULIC AND
PNEUMATIC CONTROLS

DME Valve Gate Controllers

DME Smart Series® SVG Sequential Valve Gate Controllers

Enhanced control of valve gate sequence and timing for pneumatic or hydraulic systems. Improve mold balance and part quality. Essential control when molding complex or large parts.

KEY FEATURES

ENHANCED FILL CONTROL

- Programmable sequence and timing
- Manage up to 24 valves
- Up to 4 steps per cycle

LARGE INTUITIVE TOUCH SCREEN

- Quick and easy process monitoring and adjustments
- Real time graphs
- Configurable *Easy View* status page

IMM COMMUNICATIONS

- Controller links triggers to the IMM
- Ensures process precision and repeatability

UNIVERSAL COMPATIBILITY

- Easily connect to DME or any other manufacturers' Valve Gated Hot Runner Systems

OPTIONAL HYDRAULIC FLOW CONTROL VALVES

- Control and adjust valve pin opening speeds
- Minimize/eliminate visual defects common to large part production
- Upgrade your hydraulic system anytime



SVG-12



SVG-C12

SVG Standalone Controllers

| Item Number | Description |
|-------------|-----------------|
| SVG-C12† | 12 gate control |
| SVG-12 | 12 gate control |
| SVG-24 * | 24 gate control |

* not stocked

Includes: 4.8m (15') Cable Set and Quick Start Guide

† 12 gate total load output must not exceed 1 amp per circuit / 288 watts maximum

Quick and easy process set-up



Optional Accessories

| ITEM NUMBER | DESCRIPTION |
|------------------------------|--|
| ITSPTROLLEY | STAND |
| SVGTRIGCABLE | REPLACEMENT TRIGGER CABLE 15' / 4.5M LONG |

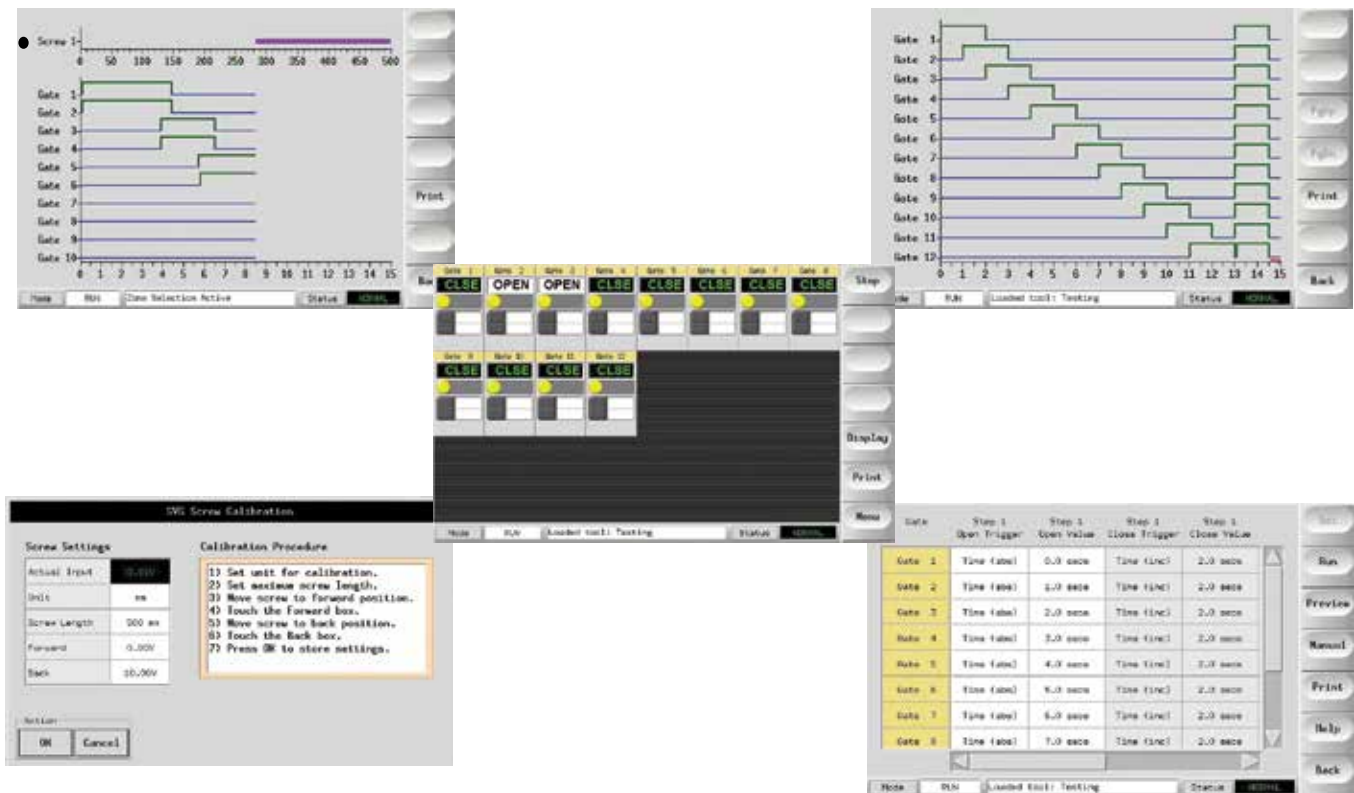


Stand

DME Valve Gate Controllers

KEY TECHNICAL FEATURES AT A GLANCE

- Digital outputs – fused at 2 amps
- Digital inputs - pin position back/forward
- Integrated 24 VDC power supply to drive valve gate solenoids
- 7" color touch screen on standalone controller
- Controls single or dual coil solenoid valves
- Real time valve status graph
- Configurable Easy View status page



PROGRAMMABLE TRIGGERS & ALARMS

- Digital input – sequence start trigger
- Digital input triggers – programmable sequence triggers
- (2) Analog inputs 0-10 volts
- Analog input 4-20ma
- Remote enable signal – from IMM
- Fault relay output (dry contact) – to IMM
- Dry contact or 24VDC input triggering
- Controller includes 15ft (4.8m) solenoid power cable

DME Valve Gate Control Systems - Pneumatic

Complete pneumatic control systems include the SVG-12 controller, a pneumatic valve bank and the connecting control cable

BENEFITS

- Sequential valve gate control technology integrated in a precise controller with a full compliment of features.
- SVGP systems are air cooled & energy efficient
- Designed to easily connect to any valve gate system
- Precise filling control with performance graphs displaying time and position, with up to 4 steps per cycle
- (2) digital and analog triggers for 2-shot applications

CONFIGURATION

- Program valve actuation by time or injection screw position
- Pin position feedback for gate open /close confirmation (optional)
- Automatic and manual mode for individual gate control
- Absolute and incremental timer selections
- Single or dual acting solenoid valves for gate activation, valve banks relocatable
- Calibrate analog signals for position, pressure and volumetric settings
- Reconfigure pin position feedback inputs for 12 additional sequences
- 120/220V single-phase - 15' power input cord
- Includes 15ft (4.8m) solenoid power cable



SVG-12

| ITEM NUMBER | DESCRIPTION | INCLUDES |
|------------------------|-------------------|---|
| SVGP2 | 2 ZONE PNEUMATIC | SVG12 HMI, 1-2 SOLENOID VALVE BANK (1/8-27 NPTF PORTS) |
| SVGP4 | 4 ZONE PNEUMATIC | SVG12 HMI, 1-4 SOLENOID VALVE BANK (1/8-27 NPTF PORTS) |
| SVGP6 | 6 ZONE PNEUMATIC | SVG12 HMI, 1-6 SOLENOID VALVE BANK (1/8-27 NPTF PORTS) |
| SVGP8 | 8 ZONE PNEUMATIC | SVG12 HMI, 1-8 SOLENOID VALVE BANK (1/8-27 NPTF PORTS) |
| SVGP12 | 12 ZONE PNEUMATIC | SVG12 HMI, 1-12 SOLENOID VALVE BANK (1/8-27 NPTF PORTS) |



If you do not see the number of controlled zones required in the table above please contact us.

Pneumatic Power Pack Only

Can be used with SVG-12 and SVG-C12 Controllers, purchased separately.

Options

- SVG Controller (SVG-12, -24 or SVG-C12)
- Pneumatic valve banks
- Temperature control intergation

Notes

- Hoses & fittings sold separately
- 2-year warranty



| Model # | Tank Size (gal/L) | Pressure Ratio | Supply Pressure PSI (Min/ Max) | Max Rated Pressure (PSI) | System Rating (PSI) | Max Temp (°F) | Connectors | Solenoids (Zones) |
|----------------|-------------------|----------------|--------------------------------|--------------------------|---------------------|---------------|------------|-------------------|
| PNEUPWRPACK600 | 10 / 38 | 2:1 | 15 / 150 | 300 | 200 | 180 | 1/2" FNPT | 2-24 |

DME Valve Gate Control Systems - Hydraulic

The DME hydraulic valve gate control systems are complete, fully assembled systems that include:

- SVG-12 Valve Gate Controller
- Complete 1200 or 1600 PSI Hydraulic Power Unit:
 - Oil Tank / Accumulator
 - Electric motor and pump
 - Integrated electronic controls
 - Hydraulic solenoid valve bank
 - All plumbing complete
- Connecting control cable (SVG-12 to valve bank) 15" (4.8m)

CONFIGURATION

- Program valve actuation by time or injection screw position
- Pin position feedback for gate open /close confirmation (optional)
- Automatic and manual mode for individual gate control
- Absolute and incremental timer selections
- Single or dual acting solenoid valves for gate activation, valve banks relocatable
- Calibrate analog signals for position, pressure and volumetric settings
- Configure up to 4 cards to control as many as 48 single acting valve gates
- Reconfigure pin position feedback inputs for 12 additional sequences
- 500 or 1000 Watt 24VDC power supply
- Available as standalone controller or semi-integrated into the ITSP or M2+ temperature controller



Hydraulic Valve Gate Controllers - SVGH

| ITEM NUMBER | DESCRIPTION | POWER PACK PSI | CONSISTS OF |
|-------------|-------------------|---------------------------------|--|
| SVGH122 | 2 ZONE HYDRAULIC | 3L-1200 PSI 240VAC - 3 Phase | SVG12 HMI, POWER PACK, 1-2 SOLENOID VALVE BANK, STAND |
| SVGH124 | 4 ZONE HYDRAULIC | | SVG12 HMI, POWER PACK, 1-4 SOLENOID VALVE BANK, STAND |
| SVGH126 | 6 ZONE HYDRAULIC | | SVG12 HMI, POWER PACK, 1-6 SOLENOID VALVE BANK, STAND |
| SVGH128 | 8 ZONE HYDRAULIC | | SVG12 HMI, POWER PACK, 1-8 SOLENOID VALVE BANK, STAND |
| SVGH1212 | 12 ZONE HYDRAULIC | | SVG12 HMI, POWER PACK, 2-6 SOLENOID VALVE BANKS, STAND |
| SVGH162 | 2 ZONE HYDRAULIC | 6L-1600 PSI 240VAC - 3 Phase | SVG12 HMI, POWER PACK, 1-2 SOLENOID VALVE BANK, STAND |
| SVGH164 | 4 ZONE HYDRAULIC | | SVG12 HMI, POWER PACK, 1-4 SOLENOID VALVE BANK, STAND |
| SVGH166 | 6 ZONE HYDRAULIC | | SVG12 HMI, POWER PACK, 1-6 SOLENOID VALVE BANK, STAND |
| SVGH168 | 8 ZONE HYDRAULIC | | SVG12 HMI, POWER PACK, 1-8 SOLENOID VALVE BANK, STAND |
| SVGH1612 | 12 ZONE HYDRAULIC | | SVG12 HMI, POWER PACK, 2-6 SOLENOID VALVE BANKS, STAND |
| SVGH1616 | 16 ZONE HYDRAULIC | | SVG24 HMI, POWER PACK, 2-8 SOLENOID VALVE BANKS, STAND |
| SVGH1624 | 24 ZONE HYDRAULIC | | SVG24 HMI, POWER PACK, 3-8 SOLENOID VALVE BANKS, STAND |

If you do not see the number of controlled zones required in the table above please contact us.

Hydraulic Power Packs Only

| Model # | Tank Size (gal/L) | PSI (Bar) | Throughput | Motor Type | Power Supply | Oil Type | Connectors | Solenoids (Zones) |
|--------------|-------------------|------------|------------|------------|---|----------|--------------|-------------------|
| HYDPWRUNIT3L | 0.8 / 3 | 1300 (90) | 1.8 GPM | AC | 230 VAC, 3 phase, 60 Hz Optional 480V, 3P | AW32 | 3/4-16 SAE-8 | 2-24 |
| HYDPWRUNIT6L | 1.6 / 6 | 1600 (110) | | | | | | |

Cables & Air Valve Assemblies

Valve Gate Control Cables

ITEM NUMBER
VCTBA06



12 zone valve gate control cable 15' (4.8m) to connect SVG-12 to VCAP pneumatic valve bank.

ITEM NUMBER
MCABLE.12.PWR/DL



12 zone valve gate control cable 15' (4.8m) to connect SVG-12 or SVG-C12 to pneumatic or hydraulic valve bank.

VCAP multi-station air valve assemblies

The VCAP series offers 4-station (0400), 6-station (0600), 8-station (0800), 10-station (1000), and 12-station (1200) valve assemblies. The single-solenoid valves are spring returned and designed to run from 24 VDC +/- 10%. The air supply (maximum rated pressure 145 PSI) can be lubricated or non-lubricated – dry air is preferred but the valve is designed to tolerate some moisture.

Quick connects are provided on all air outputs to accept standard 1/4" tubing. The de-energized outputs, used for closing valve gates, feature check valves to ensure that unused valves do not leak air.

| ITEM NUMBER | DESCRIPTION |
|-------------|-------------------------------|
| VCAP0400 | 4-STATION AIR VALVE ASSEMBLY |
| VCAP0600 | 6-STATION AIR VALVE ASSEMBLY |
| VCAP0800 | 8-STATION AIR VALVE ASSEMBLY |
| VCAP1000 | 10-STATION AIR VALVE ASSEMBLY |
| VCAP1200 | 12-STATION AIR VALVE ASSEMBLY |



Note: Each valve assembly includes a DB25 male to DB25 female valve control cable.

The VCAP valve banks do not connect to the SVG-C12 controller because of its integrated B24 control cable. When using the VCAP valve banks with the SVG-12 controller, the connecting cable VCTBA06 must be purchased separately.

DME Single Zone Timer

DME Single Zone Timer: [TCM03024D](#)

Versatile for virtually any type of operation that requires a timer, including single-zone valve gate systems, core pulls, and air sweeps.

- Unit plugs directly into DME Smart Series Mainframes
- Test button (green light indicates power out)
- Yellow light indicates trigger signal being applied or timer in operation
- Trigger signal has two available sources – dry set of contacts or 24 VDC input
- Trigger input signal can be ganged to operate more than one timer when multiple units are used (24 VDC input only)
- Input signal and output power can be used from timer front panel connectors or DME mainframe cables
- Thermocouple cable serves as trigger signal; power cable serves as 24 VDC power supply to any 24 VDC solenoid valve

This product is no longer available



Shown next to a SSM1512 Temperature Controller in a Standard 2-Zone Smart Series Mainframe.

DME Single Zone Timers (TCM03024D) are highly accurate, solid state timers that feature resolution to 1/100 of second, far exceeding the industry standard of 1/10 of a second.

Technical Support

Customer Power Requirement Worksheet – Option A Delta 3-Phase Power 240 VAC

It is the customer's responsibility to make sure his Hot Runner Mold Application will not exceed the power limitations of the DME Hot Runner Control System Main Circuit Breaker. Even though each slot may be rated at 15 amps, all slots CANNOT necessarily deliver full power from all zones simultaneously.

| PHASE A POWER | | PHASE B POWER | | PHASE C POWER | |
|---------------------|---------|---------------------|---------|---------------------|---------|
| ZONE # | WATTAGE | ZONE # | WATTAGE | ZONE # | WATTAGE |
| 1 | | 2 | | 3 | |
| 4 | | 5 | | 6 | |
| 7 | | 8 | | 9 | |
| 10 | | 11 | | 12 | |
| 13 | | 14 | | 15 | |
| 16 | | 17 | | 18 | |
| 19 | | 20 | | 21 | |
| 22 | | 23 | | 24 | |
| 25 | | 26 | | 27 | |
| 28 | | 29 | | 30 | |
| 31 | | 32 | | 33 | |
| 34 | | 35 | | 36 | |
| 37 | | 38 | | 39 | |
| 40 | | 41 | | 42 | |
| 43 | | 44 | | 45 | |
| 46 | | 47 | | 48 | |
| 49 | | 50 | | 51 | |
| 52 | | 53 | | 54 | |
| 55 | | 56 | | 57 | |
| 58 | | 59 | | 60 | |
| TOTAL PHASE A WATTS | | TOTAL PHASE B WATTS | | TOTAL PHASE C WATTS | |

| | | | | | |
|---|--|---|--|---|--|
| Record Product Breaker Size Phase Wattage Not To Exceed | | Record Product Breaker Size Phase Wattage Not To Exceed | | Record Product Breaker Size Phase Wattage Not To Exceed | |
|---|--|---|--|---|--|

Breaker Wattage Size Table – For Delta 240 VAC 3-Phase Power

| BREAKER RATING AMPS | MAXIMUM PHASE WATTS EACH PHASE A,B,C CANNOT EXCEED THIS VALUE | MAXIMUM PHASE AMPS EACH PHASE A,B,C CANNOT EXCEED THIS VALUE |
|---------------------|---|--|
| 10 AMP | 1,386 WATTS | 5.77 AMPS |
| 20 AMP | 2,771 WATTS | 11.55 AMPS |
| 30 AMP | 4,157 WATTS | 17.32 AMPS |
| 40 AMP | 5,542 WATTS | 23.09 AMPS |
| 50 AMP | 6,928 WATTS | 28.87 AMPS |
| 63 AMP | 8,729 WATTS | 36.27 AMPS |
| 70 AMP | 9,699 WATTS | 40.41 AMPS |
| 100 AMP | 13,856 WATTS | 57.74 AMPS |

For 3 Phase Delta Power: TOTAL WATTS = SquareRoot (3) x VoltsAC x AMPS
 MAXIMUM PHASE WATTS = TOTAL WATTS / 3

Temperature Control Warranty, Repairs & Returns

DME Temperature Controllers are warranted pursuant to DME Company's standard terms and conditions (see page 5) for the time periods set forth below. The warranty (i) *covers items sold and shipped [supplied in accordance with orders placed by the customer with DME on or after JULY 1, 2003], (ii) applies only to the original DME customer and, (iii) is not transferable to subsequent owners of the product except as specifically set forth herein (see Transferability below for conditions).*

WARRANTY PERIODS APPLICABLE TO SPECIFIED DME PRODUCTS; COVERAGE STARTS UPON DATE OF SHIPMENT:

| Item | Coverage |
|--|---|
| DME Mold Controls and Valve Gate Controls (excluding Fuses & Triacs, Power Packs & Trolley as appropriate) | One (1) year - Pumping systems, Valves & Solenoids Two (2) years - Smart Series™ Mainframes & Modules TSP, TSP Plus & SVG Electronic Controllers |

Replacement or repair will be made at the election of DME; implemented at a DME facility and/or by shipment of replacement parts to the customer for installation and/or return of defective parts to DME for repair.

Transferability:

This warranty may be transferred by the original DME Customer to a subsequent owner of the product if all of the following conditions exist: (i) the original DME Customer purchased the product for purposes of re-sale or other immediate transfer and DME was made aware of these purposes at the time of purchase in writing, (ii) within thirty (30) days from the date of invoice, DME is notified in writing of the transfer and provided with the name of the new owner (hereafter "Transferee"), the contact person of the Transferee and the Transferee's address.

