DME Stellar® 5000
Hot Runner Systems
Rectangular MNAs
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Stellar® Rectangular MNA Pre-Assembly Design & Machining Guidelines

IMPORTANT SAFETY INFORMATION

A hot runner system includes electrical elements and may contain molten plastic at elevated temperature and pressure. To avoid injury, exercise caution by reading these instructions before servicing or operating the system.

These instructions must be passed on to the end user where they should be read before using this product. Failure to do so may result in serious injury or death.

**DANGER**

Failure to comply may result in serious injury or death:

**ELECTRICAL HAZARDS**

Improper voltages or grounding can result in electrical shock. Use only with proper voltage and a proper earth ground. To avoid electrical shock, do not operate product when wet. Do not operate this equipment with covers or panels removed. To avoid electrical shock, turn off main power disconnect and lockout/tag out before servicing this device. Do not connect temperature sensors to electrical power. It will damage the product and it can cause fire, severe injuries or even death.

If green ground wire present, wire must be connected to ground. Do not rebend rigid leads. Rebending leads might result in damage to circuit. Product might absorb moisture when cool. Use low Voltage or power to drive out residual moisture before applying full power. Failure to do so may cause damage to this product.

**WARNING**

Failure to comply may result in serious injury or death:

**STORED ENERGY AND HIGH TEMPERATURE HAZARDS**

This product maintains molten plastic at high pressure. Use caution when operating and servicing the system. Physical contact with molten plastic may result in severe burns. Proper protective equipment, including eye protection, must be worn. This product has heated surfaces. Use caution when operating and servicing the system to avoid severe burns. Proper protective equipment should be worn.
General Assembly – Section View

Fig. 1-1

Questions? Call DME at 1-800-626-6653 (U.S.) or 1-800-387-6600 (Canada)
Gating Style Selection

Standard Point Gate Tip Sub-Assembly, SXG5110
• For use with unfilled resins up to 290°C (550°F)
• Fits Gate Details shown in Fig. 1-2

High Performance Point Gate Tip Sub-Assembly, SXG5020
• For use with unfilled and filled resins up to 330°C (625°F)
• Fits Gate Details shown in Fig. 1-2

High Performance Thru Hole Tip Sub-Assembly, SXG5201
• For use with unfilled and filled resins up to 330°C (625°F)
• Fits Gate Details shown in Fig. 1-2

Sprue Gate Tip, SXT1040
• For use with unfilled and filled resins up to 330°C (625°F)
• Fits Gate Details shown in Fig. 1-3

Gating Style Selection – Item Numbers

<table>
<thead>
<tr>
<th>TIP Sub-Assembly Item Number</th>
<th>Description</th>
<th>TIP Item Number</th>
<th>TIP CTE (10^-6/degC)</th>
<th>Retainer Item Number</th>
<th>Gating Style</th>
<th>Applicable Stellar System</th>
</tr>
</thead>
<tbody>
<tr>
<td>SXG5110</td>
<td>Standard Point Gate Tip Sub-Assembly</td>
<td>SXT4010</td>
<td>17.5</td>
<td>SXF5100</td>
<td>Point Gate</td>
<td>Standard</td>
</tr>
<tr>
<td>SXG5020</td>
<td>High Performance Point Gate Tip Sub-Assembly</td>
<td>SXT5010</td>
<td>5.5</td>
<td>SXF5000</td>
<td>Point Gate</td>
<td>High Performance</td>
</tr>
<tr>
<td>SXG5201</td>
<td>High Performance Thru Hole Tip Sub-Assembly</td>
<td>SXT5200</td>
<td>5.5</td>
<td>SXF5000</td>
<td>Thru Hole Gate</td>
<td>High Performance</td>
</tr>
<tr>
<td>SXT1040</td>
<td>Sprue Gate</td>
<td>SXT1040</td>
<td>12.8</td>
<td>N/A</td>
<td>Sprue Gate</td>
<td>Standard</td>
</tr>
</tbody>
</table>

Design Procedure
1. Select the proper gating style.
2. Select the appropriate rectangular manifold configuration. See pages 8 and 9.
3. Calculate the nozzle plate thickness. See pages 10-11 (metric) or pages 74-75 (inch).
4. Follow the machining guidelines for the nozzle plate and the manifold retainer plate for the manifold size required. See pages 12-73 (metric) or pages 76-137 (inch).
5. Add the wire channel paths, assembly bolts, alignment dowels, water lines, guide/leader pins, etc., as needed. For wire channel design, see page 73 (metric) or page 137 (inch).
Gate Details for use with Hardened Steel (50 HRC minimum)

Fig. 1-2  Gate Details for Standard Point Gate and High Performance Point Gate and Thru Hole Tips (SXG5110, SXG5020, SXG5201); For gating onto a flat surface or into a recess (“dimple”).

Questions? Call DME at 1-800-626-6653 (U.S.) or 1-800-387-6600 (Canada)
NOTES for Figures 1-2 and 1-3:
1. If gate detail does not properly fit the application, contact DME for assistance about gate detail options.
2. Position gate detail within ±0.013mm/.0005in 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.
**Manifold Options – Rectangular MNAs**

**NOTE:** Position gate detail within ±0.013mm/.0005in from nominal.

### Rectangular MNA Item Numbers

<table>
<thead>
<tr>
<th>Manifold and Components Sub-Assembly Item No.</th>
<th>Description</th>
<th>Dimensions (Length x Width)</th>
</tr>
</thead>
<tbody>
<tr>
<td>SRC3002</td>
<td>2-Drop 30</td>
<td>73.02 x 65.00 2.875 x 2.559</td>
</tr>
<tr>
<td>SRC4002</td>
<td>2-Drop 40</td>
<td>83.00 x 65.00 3.268 x 2.559</td>
</tr>
<tr>
<td>SRC5002</td>
<td>2-Drop 50</td>
<td>92.00 x 65.00 3.622 x 2.559</td>
</tr>
<tr>
<td>SRC7002</td>
<td>2-Drop 70</td>
<td>101.60 x 65.00 4.00 x 2.559</td>
</tr>
<tr>
<td>SRC9002</td>
<td>2-Drop 90</td>
<td>122.00 x 65.00 4.803 x 2.559</td>
</tr>
<tr>
<td>SRC0004</td>
<td>4-Drop 17x21</td>
<td>79.02 x 65.00 3.111 x 2.559</td>
</tr>
<tr>
<td>SRC3304</td>
<td>4-Drop 30x30</td>
<td>73.02 x 65.00 2.875 x 2.559</td>
</tr>
<tr>
<td>SRC3004</td>
<td>4-Drop Inline</td>
<td>141.00 x 65.00 5.551 x 2.559</td>
</tr>
<tr>
<td>SRC3306</td>
<td>6-Drop 30</td>
<td>101.00 x 78.00 3.976 x 3.071</td>
</tr>
<tr>
<td>SRC3308</td>
<td>8-Drop 30</td>
<td>135.00 x 79.00 5.315 x 3.110</td>
</tr>
<tr>
<td>SRC3312</td>
<td>12-Drop 30</td>
<td>135.00 x 105.00 5.315 x 4.134</td>
</tr>
<tr>
<td>SRC3316</td>
<td>16-Drop 30</td>
<td>135.00 x 135.00 5.315 x 5.315</td>
</tr>
</tbody>
</table>

**Questions? Call DME at 1-800-626-6653 (U.S.) or 1-800-387-6600 (Canada)**
Heated and Unheated MEN Options

Heated MEN Design
Preferred for most applications.

Unheated MEN Design
For use with commodity resins only; i.e., PE, PP, PS.

NOTE: See Fig. 1-1 for nozzle plate section view.
Nozzle Selection

Metric Dimensions

SECTION 1

Stellar® Rectangular MNA Pre-Assembly Design & Machining Guidelines

Tip Information for Gating Styles

<table>
<thead>
<tr>
<th>TIP Sub-Assembly Item No.</th>
<th>Gating Style</th>
<th>TIP CTE (10⁻⁶/degC)</th>
<th>&quot;T&quot; = &quot;A&quot; - &quot;B&quot;</th>
<th>Applicable Stellar System</th>
</tr>
</thead>
<tbody>
<tr>
<td>SXG5110</td>
<td>Standard Point Gate Tip Sub-Assembly</td>
<td>17.5</td>
<td>34.40</td>
<td>Standard</td>
</tr>
<tr>
<td>SXG5020</td>
<td>High Performance Point Gate Tip Sub-Assembly</td>
<td>5.5</td>
<td>34.40</td>
<td>High Performance</td>
</tr>
<tr>
<td>SXG5201</td>
<td>High Performance Thru Hole Tip Sub-Assembly</td>
<td>5.5</td>
<td>34.40</td>
<td>High Performance</td>
</tr>
<tr>
<td>SXT1040</td>
<td>Sprue Gate</td>
<td>12.8</td>
<td>34.40</td>
<td>Standard</td>
</tr>
</tbody>
</table>

Manifold Thickness

<table>
<thead>
<tr>
<th>Configuration</th>
<th>Manifold Thickness</th>
</tr>
</thead>
<tbody>
<tr>
<td>All 2-Drops, 4-Drop 17x21, 4-Drop 30x30</td>
<td>40.00</td>
</tr>
<tr>
<td>6-Drop</td>
<td>45.00</td>
</tr>
<tr>
<td>4-drop Inline, 8-, 12-, and 16-Drop</td>
<td>50.00</td>
</tr>
</tbody>
</table>

"A" and "B" Chart for Gating Styles

<table>
<thead>
<tr>
<th>Nozzle Sub-Assembly Item No.</th>
<th>Point Gate &quot;A&quot;</th>
<th>Sprue Gate &quot;A&quot;</th>
<th>&quot;B&quot;</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>SXY0065</td>
<td>65.10</td>
<td>N/A</td>
<td>30.70</td>
<td>Standard coil heater; High performance heater</td>
</tr>
<tr>
<td>SXY0965</td>
<td>N/A</td>
<td>65.10</td>
<td>30.70</td>
<td>Standard coil heater; High performance heater</td>
</tr>
<tr>
<td>SXY0085</td>
<td>85.10</td>
<td>N/A</td>
<td>50.70</td>
<td>Standard coil heater; High performance heater</td>
</tr>
<tr>
<td>SXY0985</td>
<td>N/A</td>
<td>85.10</td>
<td>50.70</td>
<td>Standard coil heater with snap ring</td>
</tr>
<tr>
<td>SXY0105</td>
<td>105.10</td>
<td>N/A</td>
<td>70.70</td>
<td>Standard coil heater; High performance heater</td>
</tr>
<tr>
<td>SXY0905</td>
<td>N/A</td>
<td>105.10</td>
<td>70.70</td>
<td>Standard coil heater with snap ring</td>
</tr>
<tr>
<td>SXY0125</td>
<td>125.10</td>
<td>N/A</td>
<td>90.70</td>
<td>Standard coil heater; High performance heater</td>
</tr>
<tr>
<td>SXY0925</td>
<td>N/A</td>
<td>125.10</td>
<td>90.70</td>
<td>Standard coil heater with snap ring</td>
</tr>
<tr>
<td>SXY0145</td>
<td>145.10</td>
<td>N/A</td>
<td>110.70</td>
<td>Standard coil heater; High performance heater</td>
</tr>
<tr>
<td>SXY0945</td>
<td>N/A</td>
<td>145.10</td>
<td>110.70</td>
<td>Standard coil heater with snap ring</td>
</tr>
</tbody>
</table>

NOTE: All units are in mm.
Metric Calculations

Equations
1. “Z” = “C” + Expansion
   NOTE: The minimum “Z” dimension is 13.00 for the point gate and sprue gate.
   The maximum “Z” dimension is 115.00 for the point gate and sprue gate.
3. Expansion = Delta T (°C) x [0.0000115 x (Manifold Thickness + “B”) + CTE tip x “T”] – 0.09 + 0.0002875 x [Tmold(°C) – 20]
   NOTE: Valid for point gate tips. For sprue gate tips use the point gate nozzle plate thickness.
4. Upper Support Ring Gap = (Delta T (°C) x 0.0000115 x Manifold Thickness) – 0.03
   Where: CTE tip is the coefficient of thermal expansion of the tip
   Delta T(°C) = Tmelt – Tmold (expressed in °C)
   Delta T(°C) = Delta T (°F) / 1.8
   “Z,” “C,” “B,” “T,” Upper Support Ring Gap, Expansion and Nozzle Plate Thickness are all expressed in mm.

Procedure and Notes
1. Calculate expansion
2. Calculate “C”
3. Calculate plate thickness
4. Calculate upper support ring gap
   The calculations may need to be repeated in order to maintain the nozzle plate thickness requirement.
   NOTE: Start with the smallest “A” dimension and increase “A” dimension as needed. This approach will generate a design with the minimum stack height.

Design Suggestions
The most difficult area of design will be the layout of the wire channels in the nozzle plate. Please evaluate the wire channel depth and path carefully. Three possible scenarios (1 = simplest; 2 = more difficult; 3 = most difficult):
1. If the nozzle plate thickness is >54.65 with a 40.00 thick manifold [59.65 with a 45.00 and 64.65 with a 50.00 thick manifold], the wire channel will be 19.0 deep throughout its path.
2. If the nozzle plate thickness is 49.00 to 54.65 with a 40.00 thick manifold [54.00 to 59.65 with a 45.00 and 59.00 to 64.65 with a 50.00 thick manifold], the wire channel will be 19.0 deep throughout its path, but the wire channel cannot cross under the support pad taps because the screws will protrude into the wire channel.
3. If the nozzle plate thickness is 43.65 to <49.00 with a 40.00 thick manifold [48.65 to <54.00 with a 45.00 thick and 53.65 to <59.00 with a 50 thick manifold], the wire channel will be 12.7 deep underneath the manifold clearance pocket. The wire channel can be 19.0 deep only outside of the pocket. Also, the wire channel cannot cross under the support pad taps because the screws will protrude into the wire channel.
In order to avoid scenarios 2 and 3, choose the next longer “A” dimension, which will increase the stack height by approximately 20.00mm.
2-Drop (30 Pitch) – Nozzle Plate Machining Detail

**NOTES:**
1. Wire channel, drop configuration, water lines, leader pins, and assembly screws shown as example only. 200mm x 302mm mold shown.
2. If plate thickness is between 43.65 and 46.81, water line between heater channels must be made smaller to ensure 5.00 minimum condition.
3. For inch dimensions, see pages 74-137.

Questions? Call DME at 1-800-626-6653 (U.S.) or 1-800-387-6600 (Canada)
2-Drop (30 Pitch) – Nozzle Plate Machining Detail (continued)

NOTES:
1. Wire channel depth to be 19.0 deep except when plate thickness does not provide 6.35mm steel support underneath pocket. In that case, wire channel depth to be 12.7 deep, under the pocket and then chamfered (45°) to 19.0 deep outside the pocket. CAUTION: Avoid wire channel interference with M6 support pad taps.
2. If plate thickness is between 43.65 and 46.81, water line between heater channels must be made smaller to ensure 5.00 minimum condition.
3. If the manifold is to be positioned 90% to that shown, please refer to MRC3002 manifold heater channel machining drawing on page 61 for the channel location. The four M6 taps and dowel must be rotated 90° also.
4. For inch dimensions, see pages 74-137.
2-Drop (30 Pitch) – Manifold Retainer Plate Machining Detail

NOTES:
1. Water lines, assembly counterbores and insulator sheet taps shown as example only. 200mm x 302mm mold shown.
2. For inch dimensions, see pages 74-137.
2-Drop (30 Pitch) – Manifold Retainer Plate Machining Detail (continued)
2-Drop (40 Pitch) – Nozzle Plate Machining Detail

NOTES:
1. Wire channel, drop configuration, water lines, leader pins, and assembly screws shown as example only. 200mm x 302mm mold shown.
2. If plate thickness is between 43.65 and 46.81, water line between heater channels must be made smaller to ensure 5.00 minimum condition.
3. For inch dimensions, see pages 74-137.

Questions? Call DME at 1-800-626-6653 (U.S.) or 1-800-387-6600 (Canada)
2-Drop (40 Pitch) – Nozzle Plate Machining Detail (continued)

NOTES:
1. Wire channel depth to be 19.0 deep except when plate thickness does not provide 6.35mm steel support underneath pocket. In that case, wire channel depth to be 12.7 deep, under the pocket and then chamfered (45°) to 19.0 deep outside the pocket. CAUTION: Avoid wire channel interference with M6 support pad taps.
2. If plate thickness is between 43.65 and 46.81, water line between heater channels must be made smaller to ensure 5.00 minimum condition.
3. If the manifold is to be positioned 90% to that shown, please refer to MRC4002 manifold heater channel machining drawing on page 62 for the channel location. The four M6 taps and dowel must be rotated 90° also.
4. For inch dimensions, see pages 74-137.
2-Drop (40 Pitch) – Manifold Retainer Plate Machining Detail

**NOTES:**
1. Water lines, assembly counterbores and insulator sheet taps shown as example only. 200mm x 302mm mold shown.
2. For inch dimensions, see pages 74-137.

Questions? Call DME at 1-800-626-6653 (U.S.) or 1-800-387-6600 (Canada)
2-Drop (40 Pitch) – Manifold Retainer Plate Machining Detail (continued)

Metric Dimensions

Stellar® Rectangular MNA Pre-Assembly Design & Machining Guidelines

SECTION 1

2-Drop (40 Pitch) – Manifold Retainer Plate Machining Detail (continued)
2-Drop (50 Pitch) – Nozzle Plate Machining Detail

NOTES:
1. Wire channel, drop configuration, water lines, leader pins, and assembly screws shown as example only. 200mm x 302mm mold shown.
2. If plate thickness is between 43.65 and 46.81, water line between heater channels must be made smaller to ensure 5.00 minimum condition.
3. For inch dimensions, see pages 74-137.
**2-Drop (50 Pitch) – Nozzle Plate Machining Detail (continued)**

**NOTES:**
1. Wire channel depth to be 19.0 deep except when plate thickness does not provide 6.35mm steel support underneath pocket. In that case, wire channel depth to be 12.7 deep, under the pocket and then chamfered (45°) to 19.0 deep outside the pocket. CAUTION: Avoid wire channel interference with M6 support pad taps.
2. If plate thickness is between 43.65 and 46.81, water line between heater channels must be made smaller to ensure 5.00 minimum condition.
3. If the manifold is to be positioned 90% to that shown, please refer to MRC5002 manifold heater channel machining drawing on page 63 for the channel location. The four M6 taps and dowel must be rotated 90° also.
4. For inch dimensions, see pages 74-137.
2-Drop (50 Pitch) – Manifold Retainer Plate Machining Detail

NOTES:
1. Water lines, assembly counterbores and insulator sheet taps shown as example only. 200mm x 302mm mold shown.
2. For inch dimensions, see pages 74-137.

Questions? Call DME at 1-800-626-6653 (U.S.) or 1-800-387-6600 (Canada)
2-Drop (50 Pitch) – Manifold Retainer Plate Machining Detail (continued)

Metric Dimensions

Stellar® Rectangular MNA Pre-Assembly Design & Machining Guidelines

M12 x 1.75 COUNTERBORE FOR PLATE ASSEMBLY SCREWS
M6 x 1 (OPTIONAL) ONLY NEEDED IF AN INSULATOR SHEET REQ’D

Ø139.67 ±0.05 ±0.00
Ø85.0

M8 x 1.25, 18.0 DP MIN (2 PLACES) FOR LOCATING RING
FOR LOCATING RING

M6 x 1 THRU (4 PLACES) FOR SUPPORT PAD
MANIFOLD EXTENSION NOZZLE CLEARANCE BORE

Ø65.00 THRU
5.00 MIN TO ANY OBSTRUCTION

Ø18.000 ±0.000 ±0.013 (2 PLACES) TUBULAR DOWELS

WIRE CHANNEL

R1.0

R3.2

R0.50

1.0 x 45° (4 PLACES)
1.0 x 45° (2 PLACES)
1.0 x 45° (4 PLACES)

6.4

60.33 ±0.03

36.35 ±0.03

1.0 x 45°

19.0

19.0

6.4

10.0 x 45°

10.0 x 45°
2-Drop (70 Pitch) – Nozzle Plate Machining Detail

**NOTES:**
1. Wire channel, drop configuration, water lines, leader pins, and assembly screws shown as example only. 200mm x 302mm mold shown.
2. If plate thickness is between 43.65 and 46.81, water line between heater channels must be made smaller to ensure 5.00 minimum condition.
3. For inch dimensions, see pages 74-137.

**Questions? Call DME at 1-800-626-6653 (U.S.) or 1-800-387-6600 (Canada)**
2-Drop (70 Pitch) – Nozzle Plate Machining Detail (continued)

**NOTES:**

1. Wire channel depth to be 19.0 deep except when plate thickness does not provide 6.35mm steel support underneath pocket. In that case, wire channel depth to be 12.7 deep, under the pocket and then chamfered (45°) to 19.0 deep outside the pocket. CAUTION: Avoid wire channel interference with M6 support pad taps.

2. If plate thickness is between 43.65 and 46.81, water line between heater channels must be made smaller to ensure 5.00 minimum condition.

3. If the manifold is to be positioned 90% to that shown, please refer to MRC7002 manifold heater channel machining drawing on page 64 for the channel location. The four M6 taps and dowel must be rotated 90° also.

4. For inch dimensions, see pages 74-137.
2-Drop (70 Pitch) – Manifold Retainer Plate Machining Detail

NOTES:
1. Water lines, assembly counterbores and insulator sheet taps shown as example only. 200mm x 302mm mold shown.
2. For inch dimensions, see pages 74-137.

Questions? Call DME at 1-800-626-6653 (U.S.) or 1-800-387-6600 (Canada)
2-Drop (70 Pitch) – Manifold Retainer Plate Machining Detail (continued)

- **Metric Dimensions**

**SECTION 1**

**Stellar® Rectangular MNA Pre-Assembly Design & Machining Guidelines**

**FOR PLATE ASSEMBLY SCREWS**

- M12 x 1.75 COUNTERBORE FOR PLATE ASSEMBLY SCREWS
- M6 x 1 (OPTIONAL) ONLY NEEDED IF AN INSULATOR SHEET REQ'D

**CLEARANCE BORE**

- Ø65.00 THRU -0.00 +0.05 5.58

**FOR LOCATING RING**

- Ø139.67 +0.05 -0.00
- 1.0 x 45° (4 PLACES)

**MANIFOLD EXTENSION NOZZLE**

- M8 x 1.25, 18.0 DP. MIN (2 PLACES) FOR LOCATING RING

**FOR SUPPORT PAD**

- M6 x 1 THRU (4 PLACES) FOR SUPPORT PAD

**TUBULAR DOWELS**

- Ø85.0
- Ø65.00 THRU

**5.00 MIN TO ANY OBSTRUCTION**

- Ø18.000 +0.05 -0.00 (2 PLACES) TUBULAR DOWELS

- 1.0 x 45° (2 PLACES)
- 36.35 ±0.03
- 10.0 x 45°
- 19.0
- 10.0 x 45°

**M6 x 1 WIRE COVER SCREW**

- 5.0 x 0.8
- 1.0 x 45° (2 PLACES)
- 6.4

www.dme.net
2-Drop (90 Pitch) – Nozzle Plate Machining Detail

NOTES:
1. Wire channel, drop configuration, water lines, leader pins, and assembly screws shown as example only. 200mm x 302mm mold shown.
2. If plate thickness is between 43.65 and 46.81, water line between heater channels must be made smaller to ensure 5.00 minimum condition.
3. For inch dimensions, see pages 74-137.

Questions? Call DME at 1-800-626-6653 (U.S.) or 1-800-387-6600 (Canada)
2-Drop (90 Pitch) – Nozzle Plate Machining Detail (continued)

NOTES:
1. Wire channel depth to be 19.0 deep except when plate thickness does not provide 6.35mm steel support underneath pocket. In that case, wire channel depth to be 12.7 deep, under the pocket and then chamfered (45°) to 19.0 deep outside the pocket.
   CAUTION: Avoid wire channel interference with M6 support pad taps.
2. If plate thickness is between 43.65 and 46.81, water line between heater channels must be made smaller to ensure 5.00 minimum condition.
3. If the manifold is to be positioned 90% to that shown, please refer to MRC9002 manifold heater channel machining drawing on page 65 for the channel location. The four M6 taps and dowel must be rotated 90° also.
4. For inch dimensions, see pages 74-137.
2-Drop (90 Pitch) – Manifold Retainer Plate Machining Detail

ASSEMBLY TAP & TUBULAR DOWEL (LOCATIONS TO BE DETERMINED BY CUSTOMER)

LIFT HOLES (CUSTOMER TO SELECT APPROPRIATE SIZE & DEPTH)

EVERY 127 TO 155mm (APPROX)

Ø117.48 ±0.05

EVERY 127 TO 155mm (APPROX)

Ø11.11 1/4-NPT MIN

Questions? Call DME at 1-800-626-6653 (U.S.) or 1-800-387-6600 (Canada)

30
2-Drop (90 Pitch) – Manifold Retainer Plate Machining Detail (continued)
4 Drop (17x21 Pitch) — Nozzle Plate Machining Detail

NOTES:
1. Wire channel, drop configuration, water lines, leader pins, and assembly screws shown as example only. 200mm x 302mm mold shown.
2. If plate thickness is between 43.65 and 46.81, water line between heater channels must be made smaller to ensure 5.00 minimum condition.
3. For inch dimensions, see pages 74-137.

Questions? Call DME at 1-800-626-6653 (U.S.) or 1-800-387-6600 (Canada)
4 Drop (17x21 Pitch) — Nozzle Plate Machining Detail (continued)

NOTES:
1. Wire channel depth to be 19.0 deep except when plate thickness does not provide 6.35mm steel support underneath pocket. In that case, wire channel depth to be 12.7 deep, under the pocket and then chamfered (45°) to 19.0 deep outside the pocket. CAUTION: Avoid wire channel interference with M6 support pad taps.
2. If plate thickness is between 43.65 and 46.81, water line between heater channels must be made smaller to ensure 5.00 minimum condition.
3. If the manifold is to be positioned 90% to that shown, please refer to MRC0004 manifold heater channel machining drawing on page 66 for the channel location. The four M6 taps and dowel must be rotated 90° also.
4. For inch dimensions, see pages 74-137.
4 Drop (17x21 Pitch) — Manifold Retainer Plate Machining Detail

**NOTES:**

1. Water lines, assembly counterbores and insulator sheet taps shown as example only. 200mm x 302mm mold shown.
2. For inch dimensions, see pages 74-137.
4 Drop (17x21 Pitch) — Manifold Retainer Plate Machining Detail (continued)
4 Drop (30x30 Pitch) — Nozzle Plate Machining Detail

**NOTES:**
1. Wire channel, drop configuration, water lines, leader pins, and assembly screws shown as example only. 200mm x 302mm mold shown.
2. If plate thickness is between 43.65 and 46.81, water line between heater channels must be made smaller to ensure 5.00 minimum condition.
3. For inch dimensions, see pages 74-137.
NOTES:
1. Wire channel depth to be 19.0 deep except when plate thickness does not provide 6.35mm steel support underneath pocket. In that case, wire channel depth to be 12.7 deep, under the pocket and then chamfered (45°) to 19.0 deep outside the pocket. CAUTION: Avoid wire channel interference with M6 support pad taps.
2. If plate thickness is between 43.65 and 46.81, water line between heater channels must be made smaller to ensure 5.00 minimum condition.
3. If the manifold is to be positioned 90% to that shown, please refer to MRC3304 manifold heater channel machining drawing on page 67 for the channel location. The four M6 taps and dowel must be rotated 90° also.
4. For inch dimensions, see pages 74-137.
4 Drop (30x30 Pitch) — Manifold Retainer Plate Machining Detail

NOTES:
1. Water lines, assembly counterbores and insulator sheet taps shown as example only. 200mm x 302mm mold shown.
2. For inch dimensions, see pages 74-137.

Questions? Call DME at 1-800-626-6653 (U.S.) or 1-800-387-6600 (Canada)
4 Drop (30x30 Pitch) — Manifold Retainer Plate Machining Detail (continued)
4 Drop (30 Pitch In-Line) — Nozzle Plate Machining Detail

NOTES:
1. Wire channel, drop configuration, water lines, leader pins, and assembly screws shown as example only. 251mm x 302mm mold shown.
2. For inch dimensions, see pages 74-137.

Questions? Call DME at 1-800-626-6653 (U.S.) or 1-800-387-6600 (Canada)
4 Drop (30 Pitch In-Line) — Nozzle Plate Machining Detail (continued)

NOTES:
1. Wire channel depth to be 19.0 deep except when plate thickness does not provide 6.35mm steel support underneath pocket. In that case, wire channel depth to be 12.7 deep, under the pocket and then chamfered (45°) to 19.0 deep outside the pocket.
   CAUTION: Avoid wire channel interference with M6 support pad taps.
2. If the manifold is to be positioned 90° to that shown, please refer to MRC3004 manifold heater channel machining drawing on page 68 for the channel location.
   The four M6 taps and dowel must be rotated 90° also.
3. For inch dimensions, see pages 74-137.
**4 Drop (30 Pitch In-Line) — Manifold Retainer Plate Machining Detail**

**NOTES:**
1. Water lines, assembly counterbores and insulator sheet taps shown as example only. 251mm x 302mm mold shown.
2. For inch dimensions, see pages 74-137.

*Questions? Call DME at 1-800-626-6653 (U.S.) or 1-800-387-6600 (Canada)*
4 Drop (30 Pitch In-Line) — Manifold Retainer Plate Machining Detail (continued)
6 Drop (30 Pitch) — Nozzle Plate Machining Detail

NOTES:
1. Wire channel, drop configuration, water lines, leader pins, and assembly screws shown as example only. 251mm x 302mm mold shown.
2. For inch dimensions, see pages 74-137.

Questions? Call DME at 1-800-626-6653 (U.S.) or 1-800-387-6600 (Canada)
### 6 Drop (30 Pitch) — Nozzle Plate Machining Detail (continued)

**NOTES:**
1. Wire channel depth to be 19.0 deep except when plate thickness does not provide 6.35mm steel support underneath pocket. In that case, wire channel depth to be 12.7 deep, under the pocket and then chamfered (45°) to 19.0 deep outside the pocket.
   CAUTION: Avoid wire channel interference with M6 support pad taps.
2. If the manifold is to be positioned 90° to that shown, please refer to MRC3306 manifold heater channel machining drawing on page 69 for the channel location. The four M6 taps and dowel must be rotated 90° also.
3. For inch dimensions, see pages 74-137.
6 Drop (30 Pitch) — Manifold Retainer Plate Machining Detail

**NOTES:**
1. Water lines, assembly counterbores and insulator sheet taps shown as example only. 251mm x 302mm mold shown.
2. For inch dimensions, see pages 74-137.

Questions? Call DME at 1-800-626-6653 (U.S.) or 1-800-387-6600 (Canada)
6 Drop (30 Pitch) — Manifold Retainer Plate Machining Detail (continued)
8 Drop (30 Pitch) — Nozzle Plate Machining Detail

NOTES:
1. Wire channel, drop configuration, water lines, leader pins, and assembly screws shown as example only. 251mm x 302mm mold shown.
2. For inch dimensions, see pages 74-137.

Questions? Call DME at 1-800-626-6653 (U.S.) or 1-800-387-6600 (Canada)
8 Drop (30 Pitch) — Nozzle Plate Machining Detail (continued)

**NOTES:**

1. Wire channel depth to be 19.0 deep except when plate thickness does not provide 6.35mm steel support underneath pocket. In that case, wire channel depth to be 12.7 deep, under the pocket and then chamfered (45°) to 19.0 deep outside the pocket. CAUTION: Avoid wire channel interference with M6 support pad taps.

2. If the manifold is to be positioned 90° to that shown, please refer to MRC3308 manifold heater channel machining drawing on page 70 for the channel location. The four M6 taps and dowel must be rotated 90° also.

3. For inch dimensions, see pages 74-137.
8 Drop (30 Pitch) — Manifold Retainer Plate Machining Detail

**NOTES:**
1. Water lines, assembly counterbores and insulator sheet taps shown as example only. 251mm x 302mm mold shown.
2. For inch dimensions, see pages 74-137.

Questions? Call DME at 1-800-626-6653 (U.S.) or 1-800-387-6600 (Canada)
8 Drop (30 Pitch) — Manifold Retainer Plate Machining Detail (continued)

- **Metric Dimensions**

**SECTION 1**

Stellar® Rectangular MNA Pre-Assembly Design & Machining Guidelines

- **M6 x 1 (OPTIONAL) **
  - ONLY NEEDED IF AN INSULATOR SHEET REQ’D

- **M12 x 1.75 COUNTERBORED FOR PLATE ASSEMBLY SCREWS**

- **Ø139.68 +0.05 -0.00 FOR LOCATING RING**

- **Ø85.0**

- **M8 x 1.25, 18.0 DP MIN (2 PLACES) FOR LOCATING RING**

- **R0.50**

- **Ø65.00 THRU -0.00 +0.05 5.58 R0.50**

- **Ø18.000 ±0.000 (2 PLACES) TUBULAR DOWELS**

- **M6 x 1 THRU (4 PLACES) FOR SUPPORT PAD**

- **MANIFOLD EXTENSION NOZZLE CLEARANCE BORE**

- **R3.2**

- **R1.0**

- **1.0 x 45° (2 PLACES)**

- **5.00 MIN TO ANY OBSTRUCTION**

- **68.33 ±0.00 1.0 x 45° (2 PLACES)**

- **13.0 1.0 x 45° (4 PLACES)**

- **86.35 ±0.00**

- **1.0 x 45° (4 PLACES)**

- **6.4 1.0 x 45°**

- **10.0 1.0 x 45°**

- **19.0 1.0 x 45°**

- **M6 x 1 WIRE COVER SCREW**

- **M6 x 1 THRU (4 PLACES) FOR SUPPORT PAD**

- **M8 x 1.25, 18.0 DP MIN (2 PLACES) FOR LOCATING RING**

www.dme.net
12 Drop (30 Pitch) — Nozzle Plate Machining Detail

NOTES:
1. Wire channel, drop configuration, water lines, leader pins, and assembly screws shown as example only. 251mm x 302mm mold shown.
2. For inch dimensions, see pages 74-137.

Questions? Call DME at 1-800-626-6653 (U.S.) or 1-800-387-6600 (Canada)
12 Drop (30 Pitch) — Nozzle Plate Machining Detail (continued)

NOTES:
1. Wire channel depth to be 19.0 deep except when plate thickness does not provide
   6.35mm steel support underneath pocket. In that case, wire channel depth to be
   12.7 deep, under the pocket and then chamfered (45°) to 19.0 deep outside the pocket.
   CAUTION: Avoid wire channel interference with M6 support pad taps.
2. If the manifold is to be positioned 90° to that shown, please refer to MRC3312
   manifold heater channel machining drawing on page 71 for the channel location.
   The four M6 taps and dowel must be rotated 90° also.
3. For inch dimensions, see pages 74-137.
12 Drop (30 Pitch) — Manifold Retainer Plate Machining Detail

NOTES:
1. Water lines, assembly counterbores and insulator sheet taps shown as example only. 251mm x 302mm mold shown.
2. For inch dimensions, see pages 74-137.

Questions? Call DME at 1-800-626-6653 (U.S.) or 1-800-387-6600 (Canada)
12 Drop (30 Pitch) — Manifold Retainer Plate Machining Detail (continued)

- **M6 x 1 (OPTIONAL)**
  - Only needed if an insulator sheet req'd

- **M12 x 1.75**
  - Counterbored for plate assembly screws

- **Ø139.67**
  - For locating ring

- **Ø85.0**
  - For locating ring

- **M8 x 1.25 THRU (2 PLACES) FOR PLATE ASSEMBLY SCREWS**

- **M6 x 1 WIRE COVER SCREW**

- **M6 x 1 THRU (4 PLACES) FOR SUPPORT PAD**

- **M6 x 1 (4 PLACES) FOR SUPPORT PAD**

- **Ø65.00 THRU**
  - For support pad

- **MANIFOLD EXTENSION NOZZLE CLEARANCE BORE**

- **1.0 x 45°**
  - 60.33 ±0.03

- **6.4**

- **Ø18.000**
  - 19.0 WIRE CHANNEL

- **7.00 (2 PLACES)**
  - Tubular dowels

- **5.00 MIN TO ANY OBSTRUCTION**
16 Drop (30 Pitch) — Nozzle Plate Machining Detail

**NOTES:**
1. Wire channel, drop configuration, water lines, leader pins, and assembly screws shown as example only. 251mm x 302mm mold shown.
2. For inch dimensions, see pages 74-137.

Questions? Call DME at 1-800-626-6653 (U.S.) or 1-800-387-6600 (Canada)
16 Drop (30 Pitch) — Nozzle Plate Machining Detail (continued)

NOTES:
1. Wire channel depth to be 19.0 deep except when plate thickness does not provide
   6.35mm steel support underneath pocket. In that case, wire channel depth to be
   12.7 deep, under the pocket and then chamfered (45°) to 19.0 deep outside the pocket.
   CAUTION: Avoid wire channel interference with M6 support pad taps.
2. If the manifold is to be positioned 90° to that shown, please refer to MRC3316
   manifold heater channel machining drawing on page 72 for the channel location.
   The four M6 taps and dowel must be rotated 90° also.
3. For inch dimensions, see pages 74-137.
### 16 Drop (30 Pitch) — Manifold Retainer Plate Machining Detail

**Notes:**

1. Water lines, assembly counterbores and insulator sheet taps shown as example only. 251mm x 302mm mold shown.
2. For inch dimensions, see pages 74-137.

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**Questions? Call DME at 1-800-626-6653 (U.S.) or 1-800-387-6600 (Canada)**
SECTION 1

16 Drop (30 Pitch) — Manifold Retainer Plate Machining Detail (continued)
Rectangular Multi-Nozzle Assemblies – Manifold Heater Layout

Manifold Thickness – 40mm
MRC3002 MRC9002
MRC4002 MRC0004
MRC5002 MRC3302
MRC7002

Manifold Thickness – 45mm
MRC3006

Manifold Thickness – 50mm
MRC3004
MRC3308
MRC3312
MRC3316

MEN Heater Wire Channels

Alternate wire channel for MEN Heaters

Alternate wire channel for Manifold Heaters

Horizontal Dowel Pin Locations between Manifold and MEN

Vertical Dowel Pin Locations between Manifold and MEN

NOTE: MEN and manifold heater leads can be bent into wire channels.
Metric Dimensions

Stellar® Rectangular MNA Pre-Assembly Design & Machining Guidelines

SECTION 1

MRC3002

MANIFOLD HEATER ON MEN SIDE OF MANIFOLD

MANIFOLD HEATER ON NOZZLE SIDE OF MANIFOLD

Manifold Heaters Straight Before Bending into Wire Slot

Manifold Heaters Bent into Wire Slot

www.dme.net
**Manifold Heaters Straight Before Bending into Wire Slot**

**Manifold Heaters Bent into Wire Slot**
MRC5002

Manifold Heaters Straight
Before Bending into Wire Slot

Manifold Heaters Bent into Wire Slot

Metric Dimensions

Stellar® Rectangular MNA Pre-Assembly Design & Machining Guidelines

SECTION 1

www.dme.net
Metric Dimensions

SECTION 1

Stellar® Rectangular MNA Pre-Assembly Design & Machining Guidelines

MRC7002

Manifold Heaters Straight
Before Bending into Wire Slot

Manifold Heaters Bent into Wire Slot

Questions? Call DME at 1-800-626-6653 (U.S.) or 1-800-387-6600 (Canada)
MRC9002

Manifold Heaters Straight Before Bending into Wire Slot

Manifold Heaters Bent into Wire Slot
MANIFOLD HEATER ON MEN SIDE OF MANIFOLD

MANIFOLD HEATER ON NOZZLE SIDE OF MANIFOLD

Manifold Heaters Straight
Before Bending into Wire Slot

Manifold Heaters Bent into Wire Slot

Questions? Call DME at 1-800-626-6653 (U.S.) or 1-800-387-6600 (Canada)
MRC3304

**Manifold Heaters Straight**
Before Bending into Wire Slot

**Manifold Heaters Bent into Wire Slot**
MRC3004

Manifold Heaters Straight
Before Bending into Wire Slot

Manifold Heaters Bent into Wire Slot

Questions? Call DME at 1-800-626-6653 (U.S.) or 1-800-387-6600 (Canada)
SECTION 1

Stellar® Rectangular MNA Pre-Assembly Design & Machining Guidelines

Questions? Call DME at 1-800-626-6653 (U.S.) or 1-800-387-6600 (Canada)

Metric Dimensions

MANIFOLD HEATER ON MEN SIDE OF MANIFOLD

MANIFOLD HEATER ON NOZZLE SIDE OF MANIFOLD

Manifold Heaters Straight
Before Bending into Wire Slot

Manifold Heaters Bent into Wire Slot

Questions? Call DME at 1-800-626-6653 (U.S.) or 1-800-387-6600 (Canada)
MANIFOLD HEATER ON NOZZLE SIDE OF MANIFOLD

MANIFOLD HEATER ON MEN SIDE OF MANIFOLD

Manifold Heaters Straight
Before Bending into Wire Slot

Manifold Heaters Bent into Wire Slot
MRC3316

Manifold Heaters Straight
Before Bending into Wire Slot

Manifold Heaters Bent into Wire Slot

Questions? Call DME at 1-800-626-6653 (U.S.) or 1-800-387-6600 (Canada)
Wire Cover Pocket Machining Details

NOTES:
1. Use M6 x 12mm long BHCS and torque to 16 N.m (11.7 ft-lbs) for each wire cover.
2. To facilitate assembly use 75% of the maximum number of wires. Nozzle heater = 2 wires; Manifold heaters = 4 wires (total); MEN heaters = 4 wires (total); Nozzle thermocouple = 1 wire; Manifold thermocouple = 1 wire; MEN thermocouple = 1 wire.
3. Radius all wire channels to suit.
4. For inch dimensions, see pages 74-137.
### Inch Dimensions

### Nozzle Selection

#### Tip Information for Gating Styles

<table>
<thead>
<tr>
<th>Tip Sub-Assembly Item No.</th>
<th>Gating Style</th>
<th>Tip CTE (10^-6/°F)</th>
<th>&quot;T&quot; = &quot;A&quot; - &quot;B&quot; (inch)</th>
<th>Applicable Stellar System</th>
</tr>
</thead>
<tbody>
<tr>
<td>SXG5110</td>
<td>Standard Point Gate Tip Sub-Assembly</td>
<td>9.72</td>
<td>1.3543</td>
<td>Standard</td>
</tr>
<tr>
<td>SXG5020</td>
<td>High Performance Point Gate Tip Sub-Assembly</td>
<td>3.06</td>
<td>1.3543</td>
<td>High Performance</td>
</tr>
<tr>
<td>SXG5201</td>
<td>High Performance Thru Hole Tip Sub-Assembly</td>
<td>3.06</td>
<td>1.3543</td>
<td>High Performance</td>
</tr>
<tr>
<td>SXT1040</td>
<td>Sprue Gate</td>
<td>7.11</td>
<td>1.3543</td>
<td>Standard</td>
</tr>
</tbody>
</table>

#### "A" and "B" Chart for Gating Styles

<table>
<thead>
<tr>
<th>Nozzle Sub-Assembly Item No.</th>
<th>Point Gate &quot;A&quot;</th>
<th>Sprue Gate &quot;A&quot;</th>
<th>&quot;B&quot;</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>SXY0065</td>
<td>2.563</td>
<td>N/A</td>
<td>1.209</td>
<td>Standard coil heater; High performance heater</td>
</tr>
<tr>
<td>SXY0085</td>
<td>3.350</td>
<td>N/A</td>
<td>1.996</td>
<td>Standard coil heater; High performance heater</td>
</tr>
<tr>
<td>SXY0105</td>
<td>4.138</td>
<td>N/A</td>
<td>2.783</td>
<td>Standard coil heater; High performance heater</td>
</tr>
<tr>
<td>SXY0125</td>
<td>4.925</td>
<td>N/A</td>
<td>3.570</td>
<td>Standard coil heater; High performance heater</td>
</tr>
<tr>
<td>SXY0145</td>
<td>5.712</td>
<td>N/A</td>
<td>4.358</td>
<td>Standard coil heater; High performance heater</td>
</tr>
<tr>
<td>SXY8065</td>
<td>N/A</td>
<td>2.563</td>
<td>1.209</td>
<td>Standard coil heater with snap ring</td>
</tr>
<tr>
<td>SXY8085</td>
<td>N/A</td>
<td>3.350</td>
<td>1.996</td>
<td>Standard coil heater with snap ring</td>
</tr>
<tr>
<td>SXY8105</td>
<td>N/A</td>
<td>4.138</td>
<td>2.783</td>
<td>Standard coil heater with snap ring</td>
</tr>
<tr>
<td>SXY8125</td>
<td>N/A</td>
<td>4.925</td>
<td>3.570</td>
<td>Standard coil heater with snap ring</td>
</tr>
<tr>
<td>SXY8145</td>
<td>N/A</td>
<td>5.712</td>
<td>4.358</td>
<td>Standard coil heater with snap ring</td>
</tr>
</tbody>
</table>

**NOTE:** All units are in inches.

Questions? Call DME at 1-800-626-6653 (U.S.) or 1-800-387-6600 (Canada)
Inch Calculations

Equations
1. “Z” = “C” + Expansion
   NOTE: The minimum “Z” dimension is 0.512 for the point gate and sprue gate. The maximum “Z” dimension is 4.528 for the point gate and sprue gate.
3. Expansion = Delta T (°F) x [0.00000639 x (Manifold Thickness + “B”) + CTE tip x “T"] – 0.0035 + 0.00000639 x [Tmold(°F) – 68]
   NOTE: Valid for point gate tips. For sprue gate tips use the point gate nozzle plate thickness.
4. Upper Support Ring Gap = (Delta T (°F) x 0.00000639 x Manifold Thickness) – 0.0011811
   Where: CTE tip is the coefficient of thermal expansion of the tip
   Delta T(°F) = Tmelt – Tmold (expressed in °F)
   Delta T(°F) = Delta T (°C) / 1.8
   “Z,” “C,” “B,” “T,” Upper Support Ring Gap, Expansion and Nozzle Plate Thickness are all expressed in inches.

Procedure and Notes
1. Calculate expansion
2. Calculate “C”
3. Calculate plate thickness
4. Calculate upper support ring gap
   The calculations may need to be repeated in order to maintain the nozzle plate thickness requirement.
   NOTE: Start with the smallest “A” dimension and increase “A” dimension as needed. This approach will generate a design with the minimum stack height.

Design Suggestions
The most difficult area of design will be the layout of the wire channels in the nozzle plate. Please evaluate the wire channel depth and path carefully. Three possible scenarios (1 = simplest; 2 = more difficult; 3 = most difficult):
1. If the nozzle plate thickness is >2.152 with a 1.575 thick manifold [2.348 with a 1.772 and 2.545 with a 1.969 thick manifold], the wire channel will be 0.75 deep throughout its path.
2. If the nozzle plate thickness is 1.929 to 2.152 with a 1.575 thick manifold [2.126 to 2.348 with a 1.772 and 2.323 to 2.545 with a 1.969 thick manifold], the wire channel will be 0.75 deep throughout its path, but the wire channel cannot cross under the support pad taps because the screws will protrude into the wire channel.
3. If the nozzle plate thickness is 1.719 to <1.929 with a 1.575 thick manifold [1.915 to <2.126 with a 1.772 thick and 2.112 to <2.323 with a 1.969 thick manifold], the wire channel will be .50 deep underneath the manifold clearance pocket. The wire channel can be 0.75 deep only outside of the pocket. Also, the wire channel cannot cross under the support pad taps because the screws will protrude into the wire channel.

In order to avoid scenarios 2 and 3, choose the next longer “A” dimension, which will increase the stack height by approximately 0.787 in.
Inch Dimensions

Stellar® Rectangular MNA Pre-Assembly Design & Machining Guidelines

SECTION 1

2-Drop (30 Pitch) – Nozzle Plate Machining Detail

NOTES:
1. Wire channel, drop configuration, water lines, leader pins, and assembly screws shown as example only. 7-7/8" x 11-7/8" mold shown.
2. If plate thickness is between 1.719 and 1.843, water line between heater channels must be made smaller to ensure 0.197 minimum condition.
3. For metric dimensions, see pages 10-73.

Questions? Call DME at 1-800-626-6653 (U.S.) or 1-800-387-6600 (Canada)
2-Drop (30 Pitch) – Nozzle Plate Machining Detail (continued)

NOTES:
1. Wire channel depth to be 0.75 deep except when plate thickness does not provide
   0.250in steel support underneath pocket. In that case, wire channel depth to be
   0.50 deep, under the pocket and then chamfered (45°) to 0.75 deep outside the pocket.
   CAUTION: Avoid wire channel interference with M6 support pad taps.
2. If plate thickness is between 1.719 and 1.843, water line between heater channels
   must be made smaller to ensure 0.197 minimum condition.
3. If the manifold is to be positioned 90% to that shown, please refer to MRC3002
   manifold heater channel machining drawing on page 125 for the channel location.
   The four M6 taps and dowel must be rotated 90° also.
4. For metric dimensions, see pages 10-73.
2-Drop (30 Pitch) – Manifold Retainer Plate Machining Detail

NOTES:
1. Water lines, assembly counterbores and insulator sheet taps shown as example only. 7-7/8" x 11-7/8" mold shown.
2. For metric dimensions, see pages 10-73.

Questions? Call DME at 1-800-626-6653 (U.S.) or 1-800-387-6600 (Canada)
2-Drop (30 Pitch) – Manifold Retainer Plate Machining Detail (continued)
2-Drop (40 Pitch) – Nozzle Plate Machining Detail

NOTES:
1. Wire channel, drop configuration, water lines, leader pins, and assembly screws shown as example only. 7-7/8" x 11-7/8" mold shown.
2. If plate thickness is between 1.719 and 1.843, water line between heater channels must be made smaller to ensure 0.197 minimum condition.
3. For metric dimensions, see pages 10-73.

Questions? Call DME at 1-800-626-6653 (U.S.) or 1-800-387-6600 (Canada)
2-Drop (40 Pitch) – Nozzle Plate Machining Detail (continued)

NOTES:
1. Wire channel depth to be 0.75 deep except when plate thickness does not provide
0.250in steel support underneath pocket. In that case, wire channel depth to be
0.50 deep, under the pocket and then chamfered (45°) to 0.75 deep outside the pocket.
CAUTION: Avoid wire channel interference with M6 support pad taps.
2. If plate thickness is between 1.719 and 1.843, water line between heater channels
must be made smaller to ensure 0.197 minimum condition.
3. If the manifold is to be positioned 90% to that shown, please refer to MRC4002
manifold heater channel machining drawing on page 126 for the channel location.
The four M6 taps and dowel must be rotated 90° also.
4. For metric dimensions, see pages 10-73.
2-Drop (40 Pitch) – Manifold Retainer Plate Machining Detail

NOTES:
1. Water lines, assembly counterbores and insulator sheet taps shown as example only. 7-7/8" x 11-7/8" mold shown.
2. For metric dimensions, see pages 10-73.
2-Drop (40 Pitch) – Manifold Retainer Plate Machining Detail (continued)
2-Drop (50 Pitch) – Nozzle Plate Machining Detail

NOTES:
1. Wire channel, drop configuration, water lines, leader pins, and assembly screws shown as example only. 7-7/8" x 11-7/8" mold shown.
2. If plate thickness is between 1.719 and 1.843, water line between heater channels must be made smaller to ensure 0.197 minimum condition.
3. For metric dimensions, see pages 10-73.

Questions? Call DME at 1-800-626-6653 (U.S.) or 1-800-387-6600 (Canada)
2-Drop (50 Pitch) – Nozzle Plate Machining Detail (continued)

NOTES:
1. Wire channel depth to be 0.75 deep except when plate thickness does not provide 0.250 in steel support underneath pocket. In that case, wire channel depth to be 0.50 deep, under the pocket and then chamfered (45°) to 0.75 deep outside the pocket. Caution: Avoid wire channel interference with M6 support pad taps.
2. If plate thickness is between 1.719 and 1.843, water line between heater channels must be made smaller to ensure 0.197 minimum condition.
3. If the manifold is to be positioned 90° to that shown, please refer to MRC5002 manifold heater channel machining drawing on page 127 for the channel location. The four M6 taps and dowel must be rotated 90° also.
4. For metric dimensions, see pages 10-73.
2-Drop (50 Pitch) – Manifold Retainer Plate Machining Detail

**NOTES:**
1. Water lines, assembly counterbores and insulator sheet taps shown as example only. 7-7/8" x 11-7/8" mold shown.
2. For metric dimensions, see pages 10-73.

**Questions? Call DME at 1-800-626-6653 (U.S.) or 1-800-387-6600 (Canada)**
2-Drop (50 Pitch) – Manifold Retainer Plate Machining Detail (continued)
2-Drop (70 Pitch) – Nozzle Plate Machining Detail

NOTES:
1. Wire channel, drop configuration, water lines, leader pins, and assembly screws shown as example only. 7-7/8” x 11-7/8” mold shown.
2. If plate thickness is between 1.719 and 1.843, water line between heater channels must be made smaller to ensure 0.197 minimum condition.
3. For metric dimensions, see pages 10-73.

Questions? Call DME at 1-800-626-6653 (U.S.) or 1-800-387-6600 (Canada)
2-Drop (70 Pitch) – Nozzle Plate Machining Detail (continued)

NOTES:
1. Wire channel depth to be 0.75 deep except when plate thickness does not provide
   0.250in steel support underneath pocket. In that case, wire channel depth to be
   0.50 deep, under the pocket and then chamfered (45°) to 0.75 deep outside the pocket.
   CAUTION: Avoid wire channel interference with M6 support pad taps.
2. If plate thickness is between 1.719 and 1.843, water line between heater channels
   must be made smaller to ensure 0.197 minimum condition.
3. If the manifold is to be positioned 90% to that shown, please refer to MRC7002
   manifold heater channel machining drawing on page 128 for the channel location.
   The four M6 taps and dowel must be rotated 90° also.
4. For metric dimensions, see pages 10–73.
2-Drop (70 Pitch) – Manifold Retainer Plate Machining Detail

**NOTES:**
1. Water lines, assembly counterbores and insulator sheet taps shown as example only. 7-7/8" x 11-7/8" mold shown.
2. For metric dimensions, see pages 10-73.

Questions? Call DME at 1-800-626-6653 (U.S.) or 1-800-387-6600 (Canada)
2-Drop (70 Pitch) – Manifold Retainer Plate Machining Detail (continued)
2-Drop (90 Pitch) – Nozzle Plate Machining Detail

NOTES:
1. Wire channel, drop configuration, water lines, leader pins, and assembly screws shown as example only. 7-7/8" x 11-7/8" mold shown.
2. If plate thickness is between 1.719 and 1.843, water line between heater channels must be made smaller to ensure 0.197 minimum condition.
3. For metric dimensions, see pages 10-73.

Questions? Call DME at 1-800-626-6653 (U.S.) or 1-800-387-6600 (Canada)
2-Drop (90 Pitch) – Nozzle Plate Machining Detail (continued)

NOTES:
1. Wire channel depth to be 0.75 deep except when plate thickness does not provide 0.250in steel support underneath pocket. In that case, wire channel depth to be 0.50 deep, under the pocket and then chamfered (45°) to 0.75 deep outside the pocket. CAUTION: Avoid wire channel interference with M6 support pad taps.
2. If plate thickness is between 1.719 and 1.843, water line between heater channels must be made smaller to ensure 0.197 minimum condition.
3. If the manifold is to be positioned 90% to that shown, please refer to MRC9002 manifold heater channel machining drawing on page 129 for the channel location. The four M6 taps and dowel must be rotated 90° also.
4. For metric dimensions, see pages 10-73.
2-Drop (90 Pitch) – Manifold Retainer Plate Machining Detail

NOTES:
1. Water lines, assembly counterbores and insulator sheet taps shown as example only. 7-7/8" x 11-7/8" mold shown.
2. For metric dimensions, see pages 10-73.

Questions? Call DME at 1-800-626-6653 (U.S.) or 1-800-387-6600 (Canada)
2-Drop (90 Pitch) – Manifold Retainer Plate Machining Detail (continued)

- **CLEARANCE BORE**
  - Size: Ø0.276
  - Finish: ±0.0002

- **MANIFOLD EXTENSION NOZZLE**
  - Size: Ø0.7087
  - Finish: ±0.0005

- **SHEET REQ'D**
  - Dimensions: 2.375 ±0.001

- **M12 x 1.75 COUNTERBORE**
  - For Plate Assembly Screws

- **M6 x 1 (OPTIONAL)**
  - Only needed if an insulator is required

- **AN INSULATOR ONLY NEEDED IF SHEET REQ'D**

- **M6 x 1 THRU**
  - For Support Pad

- **M8 x 1.25, 0.71 DP, MIN (2 PLACES) FOR LOCATING RING**

- **TUBULAR DOWELS**
  - Size: Ø0.197
  - Min to any obstruction: ±0.197 (2 PLACES)
SECTION 1

4 Drop (17x21 Pitch) — Nozzle Plate Machining Detail

NOTES:
1. Wire channel, drop configuration, water lines, leader pins, and assembly screws shown as example only. 7-7/8" x 11-7/8" mold shown.
2. If plate thickness is between 1.719 and 1.843, water line between heater channels must be made smaller to ensure 0.197 minimum condition.
3. For metric dimensions, see pages 10-73.

Questions? Call DME at 1-800-626-6653 (U.S.) or 1-800-387-6600 (Canada)
NOTES:
1. Wire channel depth to be 0.75 deep except when plate thickness does not provide 0.250in steel support underneath pocket. In that case, wire channel depth to be 0.50 deep, under the pocket and then chamfered (45°) to 0.75 deep outside the pocket. CAUTION: Avoid wire channel interference with M6 support pad taps.
2. If plate thickness is between 1.719 and 1.843, water line between heater channels must be made smaller to ensure 0.197 minimum condition.
3. If the manifold is to be positioned 90% to that shown, please refer to MRC0004 manifold heater channel machining drawing on page 130 for the channel location. The four M6 taps and dowel must be rotated 90° also.
4. For metric dimensions, see pages 10-73.
4 Drop (17x21 Pitch) — Manifold Retainer Plate Machining Detail

**NOTES:**
1. Water lines, assembly counterbores and insulator sheet taps shown as example only. 7-7/8" x 11-7/8" mold shown.
2. For metric dimensions, see pages 10-73.

*Questions? Call DME at 1-800-626-6653 (U.S.) or 1-800-387-6600 (Canada)*
4 Drop (17x21 Pitch) — Manifold Retainer Plate Machining Detail (continued)
4 Drop (30x30 Pitch) — Nozzle Plate Machining Detail

NOTES:
1. Wire channel, drop configuration, water lines, leader pins, and assembly screws shown as example only. 7-7/8" x 11-7/8" mold shown.
2. If plate thickness is between 1.719 and 1.843, water line between heater channels must be made smaller to ensure 0.197 minimum condition.
3. For metric dimensions, see pages 10-73.
4 Drop (30x30 Pitch) — Nozzle Plate Machining Detail (continued)

**NOTES:**
1. Wire channel depth to be 0.75 deep except when plate thickness does not provide 0.250in steel support underneath pocket. In that case, wire channel depth to be 0.50 deep, under the pocket and then chamfered (45°) to 0.75 deep outside the pocket. CAUTION: Avoid wire channel interference with M6 support pad taps.
2. If plate thickness is between 1.719 and 1.843, water line between heater channels must be made smaller to ensure 0.197 minimum condition.
3. If the manifold is to be positioned 90% to that shown, please refer to MRC3304 manifold heater channel machining drawing on page 131 for the channel location. The four M6 taps and dowel must be rotated 90° also.
4. For metric dimensions, see pages 10-73.
**4 Drop (30x30 Pitch) — Manifold Retainer Plate Machining Detail**

**NOTES:**
1. Water lines, assembly counterbores and insulator sheet taps shown as example only. 7-7/8” x 11-7/8” mold shown.
2. For metric dimensions, see pages 10-73.

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Questions? Call DME at 1-800-626-6653 (U.S.) or 1-800-387-6600 (Canada)
4 Drop (30x30 Pitch) — Manifold Retainer Plate Machining Detail (continued)
4 Drop (30 Pitch In-Line) — Nozzle Plate Machining Detail

NOTES:
1. Wire channel, drop configuration, water lines, leader pins, and assembly screws shown as example only. 9-7/8" x 11-7/8" mold shown.
2. For metric dimensions, see pages 10-73.

Questions? Call DME at 1-800-626-6653 (U.S.) or 1-800-387-6600 (Canada)
4 Drop (30 Pitch In-Line) — Nozzle Plate Machining Detail (continued)

NOTES:
1. Wire channel depth to be 0.75 deep except when plate thickness does not provide 0.250in steel support underneath pocket. In that case, wire channel depth to be 0.50 deep, under the pocket and then chamfered (45°) to 0.75 deep outside the pocket. CAUTION: Avoid wire channel interference with M6 support pad taps.
2. If the manifold is to be positioned 90° to that shown, please refer to MRC3004 manifold heater channel machining drawing on page 132 for the channel location. The four M6 taps and dowel must be rotated 90° also.
3. For metric dimensions, see pages 10-73.
4 Drop (30 Pitch In-Line) — Manifold Retainer Plate Machining Detail

**NOTES:**
1. Water lines, assembly counterbores and insulator sheet taps shown as example only. 9-7/8” x 11-7/8” mold shown.
2. For metric dimensions, see pages 10-73.

Questions? Call DME at 1-800-626-6653 (U.S.) or 1-800-387-6600 (Canada)
4 Drop (30 Pitch In-Line) — Manifold Retainer Plate Machining Detail (continued)
6 Drop (30 Pitch) — Nozzle Plate Machining Detail

NOTES:
1. Wire channel, drop configuration, water lines, leader pins, and assembly screws shown as example only. 9-7/8" x 11-7/8" mold shown.
2. For metric dimensions, see pages 10-73.

Questions? Call DME at 1-800-626-6653 (U.S.) or 1-800-387-6600 (Canada)
Inch Dimensions

Stellar® Rectangular MNA Pre-Assembly Design & Machining Guidelines

6 Drop (30 Pitch) — Nozzle Plate Machining Detail (continued)

NOTES:
1. Wire channel depth to be 0.75 deep except when plate thickness does not provide 0.250in steel support underneath pocket. In that case, wire channel depth to be 0.50 deep, under the pocket and then chamfered (45°) to 0.75 deep outside the pocket. CAUTION: Avoid wire channel interference with M6 support pad taps.  
2. If the manifold is to be positioned 90° to that shown, please refer to MRC3306 manifold heater channel machining drawing on page 133 for the channel location. The four M6 taps and dowel must be rotated 90° also.  
3. For metric dimensions, see pages 10-73.
6 Drop (30 Pitch) — Manifold Retainer Plate Machining Detail

NOTES:
1. Water lines, assembly counterbores and insulator sheet taps shown as example only. 9-7/8" x 11-7/8" mold shown.
2. For metric dimensions, see pages 10-73.

Questions? Call DME at 1-800-626-6653 (U.S.) or 1-800-387-6600 (Canada)
6 Drop (30 Pitch) — Manifold Retainer Plate Machining Detail (continued)

- **M12 x 1.75 COUNTERBORED FOR PLATE ASSEMBLY SCREWS**
- **M6 x 1 (OPTIONAL) ONLY NEEDED IF AN INSULATOR SHEET REQ’D**
- **0.276 (2 PLACES) TUBULAR DOWELS**
- **0.197 MIN TO ANY OBSTRUCTION**
- **Ø0.7087 ±0.0005 (2 PLACES) TUBULAR DOWELS**
- **Ø2.56 THRU M8 x 1.25, 0.71 DP. MIN (2 PLACES) FOR LOCATING RING**
- **R0.13 MANIFOLD EXTENSION NOZZLE CLEARANCE BORE**
- **R0.04 x 45° (4 PLACES)**
- **0.04 x 45° (4 PLACES)**
- **0.04 x 45° (2 PLACES)**
- **0.04 x 45° (2 PLACES)**
- **2.375 ±0.001 Ø5.499 ±0.002 Ø3.35 ±0.001**
- **0.512 Ø3.5 ±0.001**
- **R0.020 M6 x 1 WIRE COVER SCREW**
- **R0.04 x 45° (2 PLACES)**
- **0.04 x 45° (2 PLACES)**
- **0.75 WIRE CHANNEL**
- **M6 x 1 THRU (4 PLACES) FOR SUPPORT PAD**
- **0.39 x 45°**
- **0.04 x 45° (2 PLACES)**
- **0.75 WIRE CHANNEL**
- **0.04 x 45° (2 PLACES)**
- **0.04 x 45° (2 PLACES)**
- **0.04 x 45° (2 PLACES)**
8 Drop (30 Pitch) — Nozzle Plate Machining Detail

NOTES:
1. Wire channel, drop configuration, water lines, leader pins, and assembly screws shown as example only. 9-7/8" x 11-7/8" mold shown.
2. For metric dimensions, see pages 10-73.
SECTION 1

8 Drop (30 Pitch) — Nozzle Plate Machining Detail (continued)

<table>
<thead>
<tr>
<th>THICKNESS</th>
<th>MINIMUM PLATE</th>
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<tr>
<td></td>
<td>R0.13</td>
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<tr>
<td></td>
<td>0.25</td>
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<tr>
<td></td>
<td>0.75</td>
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<tr>
<td>Ø0.268</td>
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DESIGNER TO SELECT CHAMTERS. MAKE AS LARGE AS POSSIBLE

<table>
<thead>
<tr>
<th>CHANNEL WIRE</th>
<th>0.51 (4 PLACES)</th>
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</thead>
<tbody>
<tr>
<td>Ø0.7087 -0.0005</td>
<td>45˚ (-0.0005)</td>
</tr>
</tbody>
</table>

TUBULAR DOWELS

ASSEMBLY SCREWS

1/2 – 13 FOR PLATE ASSEMBLY SCREWS

0.04 x 45˚ (2 PLACES)

0.7087 +0.0005 TUBULAR DOWELS

LP (4 PLACES)

0.04 x 45˚ (2 PLACES)

0.276

R0.13

0.020 x 45˚ (8 PLACES)

0.703 THRU (8 PLACES) DROP CLEARANCE HOLE

0.020 x 45˚ (8 PLACES)

0.002 x 45˚ (8 PLACES)

0.384 (8 PLACES)

0.25

0.50 WIRE CHANNEL

MINIMUM PLATE THICKNESS

0.75

0.51 WIRE CHANNEL

2.112 ±0.001

0.197 MIN TO ANY OBSTRUCTION

DESIGNER TO SELECT CHAMTERS. MAKE AS LARGE AS POSSIBLE

NOTES:

1. Wire channel depth to be 0.75 deep except when plate thickness does not provide 0.250in steel support underneath pocket. In that case, wire channel depth to be 0.50 deep, under the pocket and then chamfered (45°) to 0.75 deep outside the pocket.

CAUTION: Avoid wire channel interference with M6 support pad taps.

2. If the manifold is to be positioned 90° to that shown, please refer to MRC3308 manifold heater channel machining drawing on page 134 for the channel location. The four M6 taps and dowel must be rotated 90° also.

3. For metric dimensions, see pages 10-73.
8 Drop (30 Pitch) — Manifold Retainer Plate Machining Detail

**NOTES:**
1. Water lines, assembly counterbores and insulator sheet taps shown as example only. 9-7/8" x 11-7/8" mold shown.
2. For metric dimensions, see pages 10-73.
8 Drop (30 Pitch) — Manifold Retainer Plate Machining Detail (continued)

Inch Dimensions

Stellar® Rectangular MNA Pre-Assembly Design & Machining Guidelines

www.dme.net
12 Drop (30 Pitch) — Nozzle Plate Machining Detail

NOTES:
1. Wire channel, drop configuration, water lines, leader pins, and assembly screws shown as example only. 9-7/8" x 11-7/8" mold shown.
2. For metric dimensions, see pages 10-73.

Questions? Call DME at 1-800-626-6653 (U.S.) or 1-800-387-6600 (Canada)
12 Drop (30 Pitch) — Nozzle Plate Machining Detail (continued)

NOTES:
1. Wire channel depth to be 0.75 deep except when plate thickness does not provide 0.250\text{in} steel support underneath pocket. In that case, wire channel depth to be 0.50 deep, under the pocket and then chamfered (45°) to 0.75 deep outside the pocket. CAUTION: Avoid wire channel interference with M6 support pad taps.
2. If the manifold is to be positioned 90° to that shown, please refer to MRC3312 manifold heater channel machining drawing on page 135 for the channel location. The four M6 taps and dowel must be rotated 90° also.
3. For metric dimensions, see pages 10-73.
12 Drop (30 Pitch) — Manifold Retainer Plate Machining Detail

NOTES:
1. Water lines, assembly counterbores and insulator sheet taps shown as example only. 9-7/8" x 11-7/8" mold shown.
2. For metric dimensions, see pages 10-73.

Questions? Call DME at 1-800-626-6653 (U.S.) or 1-800-387-6600 (Canada)
12 Drop (30 Pitch) — Manifold Retainer Plate Machining Detail (continued)
16 Drop (30 Pitch) — Nozzle Plate Machining Detail

NOTES:
1. Wire channel, drop configuration, water lines, leader pins, and assembly screws shown as example only. 9-7/8" x 11-7/8" mold shown.
2. For metric dimensions, see pages 10-73.

Questions? Call DME at 1-800-626-6653 (U.S.) or 1-800-387-6600 (Canada)
16 Drop (30 Pitch) — Nozzle Plate Machining Detail (continued)

NOTES:
1. Wire channel depth to be 0.75 deep except when plate thickness does not provide
   0.250in steel support underneath pocket. In that case, wire channel depth to be
   0.50 deep, under the pocket and then chamfered (45°) to 0.75 deep outside the pocket.
   CAUTION: Avoid wire channel interference with M6 support pad taps.
2. If the manifold is to be positioned 90° to that shown, please refer to MRC3316
   manifold heater channel machining drawing on page 136 for the channel location.
   The four M6 taps and dowel must be rotated 90° also.
3. For metric dimensions, see pages 10-73.
16 Drop (30 Pitch) — Manifold Retainer Plate Machining Detail

NOTES:
1. Water lines, assembly counterbores and insulator sheet taps shown as example only. 9-7/8” x 11-7/8” mold shown.
2. For metric dimensions, see pages 10-73.
16 Drop (30 Pitch) — Manifold Retainer Plate Machining Detail (continued)

M6 x 1 (OPTIONAL) ONLY NEEDED IF AN INSULATOR SHEET REQ'D

M12 x 1.75 COUNTERBORED FOR PLATE ASSEMBLY SCREWS

Ø3.35 FOR LOCATING RING

Ø5.499 +.002 -.001

M6 x 1.25 THRU (2 PLACES) FOR LOCATING RING

Ø2.56 THRU MANIFOLD EXTENSION NOZZLE CLEARANCE BORE

0.197 MIN TO ANY OBSTRUCTION

Ø0.7087 ±.0005 (2 PLACES) TUBULAR DOWELS

M6 x 1 WIRE COVER SCREW

0.512 (4 PLACES)

0.04 x 45° (2 PLACES)

M6 x 1 THRU (4 PLACES) FOR SUPPORT PAD

M6 x 1 (4 PLACES) FOR SUPPORT PAD
Rectangular Multi-Nozzle Assemblies – Manifold Heater Layout

- **Manifold Thickness – 1.576in**
  - MRC3002
  - MRC4002
  - MRC5002
  - MRC7002

- **Manifold Thickness – 1.773in**
  - MRC3306

- **Manifold Thickness – 1.970in**
  - MRC3004
  - MRC3308
  - MRC3312
  - MRC3316

**MEN Heater Wire Channels**

- **horizontal Dowel Pin Locations between Manifold and MEN**
- **Alternate wire channel for MEN Heaters**
- **Alternate wire channel for Manifold Heaters**
- **Vertical Dowel Pin Locations between Manifold and MEN**

**NOTE:** MEN and manifold heater leads can be bent into wire channels.

Questions? Call DME at 1-800-626-6653 (U.S.) or 1-800-387-6600 (Canada)
Inch Dimensions

Stellar® Rectangular MNA Pre-Assembly Design & Machining Guidelines

MRC3002

**Manifold Heaters Straight Before Bending into Wire Slot**

**Manifold Heaters Bent into Wire Slot**
MRC4002

Manifold Heaters Straight
Before Bending into Wire Slot

Manifold Heaters Bent into Wire Slot

Questions? Call DME at 1-800-626-6653 (U.S.) or 1-800-387-6600 (Canada)
**MRC5002**

Manifold Heaters Straight
Before Bending into Wire Slot

Manifold Heaters Bent into Wire Slot

**Inch Dimensions**

Stellar® Rectangular MNA Pre-Assembly Design & Machining Guidelines
MRC7002

**Inch Dimensions**

**Manifold Heaters Straight**
Before Bending into Wire Slot

**Manifold Heaters Bent into Wire Slot**

Questions? Call DME at 1-800-626-6653 (U.S.) or 1-800-387-6600 (Canada)
Inch Dimensions

SECTION 1

Stellar® Rectangular MNA Pre-Assembly Design & Machining Guidelines

MRC9002

MANIFOLD HEATER ON MEN SIDE OF MANIFOLD

MANIFOLD HEATER ON NOZZLE SIDE OF MANIFOLD

Manifold Heaters Straight
Before Bending into Wire Slot

Manifold Heaters Bent into Wire Slot
MRC0004

Inch Dimensions

Stellar® Rectangular MNA Pre-Assembly Design & Machining Guidelines

SECTION 1

Questions? Call DME at 1-800-626-6653 (U.S.) or 1-800-387-6600 (Canada)

130
MRC3304

Manifold Heaters Straight Before Bending into Wire Slot

Manifold Heaters Bent into Wire Slot
Inch Dimensions

Stellar® Rectangular MNA Pre-Assembly Design & Machining Guidelines

MRC3004

Manifold Heaters Straight
Before Bending into Wire Slot

Questions? Call DME at 1-800-626-6653 (U.S.) or 1-800-387-6600 (Canada)
Manifold Heaters Straight
Before Bending into Wire Slot

Manifold Heaters Bent into Wire Slot

Inch Dimensions

Stellar® Rectangular MNA Pre-Assembly Design & Machining Guidelines

MRC3306

MANIFOLD HEATER ON NOZZLE SIDE OF MANIFOLD

MANIFOLD HEATER ON MEN SIDE OF MANIFOLD

DOWEL SLOT
MRC3308

Inch Dimensions

Stellar® Rectangular MNA Pre-Assembly Design & Machining Guidelines

SECTION 1

Questions? Call DME at 1-800-626-6653 (U.S.) or 1-800-387-6600 (Canada)

134
**MRC3312**

**Inch Dimensions**

**SECTION 1**

Stellar® Rectangular MNA Pre-Assembly Design & Machining Guidelines

**Manifold Heaters Straight**
Before Bending into Wire Slot

**Manifold Heaters Bent into Wire Slot**

www.dme.net

135
Inch Dimensions

Stellar® Rectangular MNA Pre-Assembly Design & Machining Guidelines

MRC3316

MANIFOLD HEATER ON MEN SIDE OF MANIFOLD

MANIFOLD HEATER ON NOZZLE SIDE OF MANIFOLD

Manifold Heaters Straight
Before Bending into Wire Slot

Manifold Heaters Bent into Wire Slot

Questions? Call DME at 1-800-626-6653 (U.S.) or 1-800-387-6600 (Canada)
SECTION 1

Wire Pocket Machining Details

WC0001

NOTES:
1. Use M6 x 1/4" long BHCS and torque to 16 N.m (11.7 ft-lbs) for each wire cover.
2. To facilitate assembly use 75% of the maximum number of wires. Nozzle heater = 2 wires; Manifold heaters = 4 wires (total); MEN heaters = 4 wires (total); Nozzle thermocouple = 1 wire; Manifold thermocouple = 1 wire; MEN thermocouple = 1 wire.
3. Radius all wire channels to suit.
4. For metric dimensions, see pages 10-73.
Assembly Section View

Fig. 2-1
Inspection of the Stellar Manifold and Components

Prior to system assembly, DME strongly suggests that you complete the following inspection and establish the procedures that will facilitate proper system assembly.

1. Ensure that all components provided are the correct part numbers and quantities.
2. Check all the supplied heaters for proper resistance in ohms (Ω) and for insufficient resistance to ground conditions by doing the following:
   - Measure each heater’s resistance and determine if they are equivalent. Record on Master Inspection Sheet.
     (Insufficient resistance to ground is defined as a reading to ground of 20,000 Ω or less.)

Assembly Instructions

(Refer to numbered items in Fig. 2-7 and Table 2-2.)

Nozzle Plate
1. Place tubular dowel (item 6) into center bore in the nozzle plate and the anti-rotation dowel (item 8) into the hole in the nozzle plate.
2. Place (2) tubular dowels (item 18) into bore in the nozzle plate.
3. Grind the (4) lower support pads (item 9) and center support pad (item 7) to 10.000 ± 0.013mm (grind together to ensure even height).
4. Place center support pad (item 7) concentric with the tubular dowel (item 6).
5. Attach the (4) lower support pads (item 9) into the nozzle plate pocket using the support pad screws (item 10).

Manifold
6. Place the (2) MEN locating dowels (item 13) into the manifold.
7. Attach the manifold thermocouple (item 4) on nozzle side using the manifold thermocouple screw (item 5).
8. Insert the manifold assembly (item 1) into the pocket in the nozzle plate and bend the manifold heater and thermocouple wires into channel.
9. Measure “F” (35.00mm nominal—see Fig. 2-1) pocket depth in the manifold retainer plate. Measure “G” (25.00mm nominal) height from the top of the nozzle plate to the top of the manifold. Grind the upper support ring (item 11) to a height that ensures there is a gap present. The size of the gap is determined by the equation on page 11 (metric), page 75 (inch) or on the calculation table.
Assembly Instructions (continued)

(Refer to numbered items in Fig. 2-7 and Table 2-2.)

Manifold Retainer Plate
10. Attach the upper support ring (item 11) to the manifold retainer plate using the support ring screws (item 12).
11. Lower the manifold retainer plate on top of the nozzle plate as shown ensuring the proper orientation of tubular dowels (item 18) and wire channels (the wire channels in both plates should exit at the “top of mold” side).
12. Attach the manifold retainer plate to the nozzle plate with M12 screws (item 17). Torque the screws equally to 135 N.m [100 ft. lbs.].

Manifold Extension Nozzle (MEN)
13. If the MEN is the heated style, attach the MEN thermocouple into slot on manifold side using the MEN thermocouple screw.
14. Attach the MEN to the manifold with (4) M8 screws. Ensure proper orientation with the (2) dowels (item 13).
   Torque the screws equally to 40 N.m [30 ft. lbs.].
15. If applicable, tag the wires of the MEN thermocouple and heaters then route into the wire channel, bending as necessary.
16. Install wire covers (item 19) as needed to retain the wires in the channel of the manifold retainer plate using the wire cover screws (item 20).

Locating Ring
17. Attach the locating ring (item 15) to the manifold retainer plate with (2) M8 flat head cap screws (item 16).

Nozzles
18. Verify gate detail dimensions as shown in Figs. 1-2 through 1-3.
19. Attach nozzles to the manifold following the steps outlined in Fig. 2-2.
20. Place the nozzle heaters, nozzle thermocouples, and snap rings on the nozzle bodies (see Fig. 2-3 through 2-6).
   Tag and place wires into the wire channels.
21. Tag and place the wires of the manifold thermocouple and manifold heaters into the proper wire channels on the nozzle plate.
22. Install wire covers (item 19) to retain wires in the channels in the nozzle plate using the wire cover screws (item 20).
23. Optional: Attach an insulator sheet to the manifold retainer plate. Insulator sheet and mounting screws are not shown and tapped holes are not provided.
24. Connect all wires to electrical connectors in the terminal mounting box. See wiring schematics, Table 2-1.

Questions? Call DME at 1-800-626-6653 (U.S.) or 1-800-387-6600 (Canada)
**Nozzle Assembly**

**Fig. 2-2**

Steps 1 through 6 (Nozzle to Manifold)

1. Safety glasses should be worn when assembling components.
2. Threads and counterbore of manifold must be clean of any plastic.
3. Place nozzle body into manifold.
4. Apply high temperature anti-seize compound to nut threads to prevent galling or seizing. Use Fel-Pro C5-A or equivalent anti-seize compound.
5. Hold nozzle body down by threading nut into manifold.
6. Torque nut to 81 N.m [60 ft-lbs] using nut socket tool (SXW0002).

**Point Gate Tip or Thru Hole Tip Sub-Assemblies**

**Fig. 2-2a**

Steps 7 through 11 (Tip Sub-assembly and Retainer to Nozzle)

7. Safety glasses should be worn when assembling components.
8. Threads and counterbore of nozzle must be clean of any plastic.
9. Slide tip into nozzle body.
10. Thread retainer into nozzle body.
11. Place socket tool carefully over retainer so as to not damage tip. Torque retainer to 11.3 N.m [100 in-lbs] using a 10mm deep well 6-point socket tool and torque wrench.

**Sprue Gate Tip**

**Fig. 2-2b**

Steps 12 through 15 (Sprue Gate Tip to Nozzle)

12. Safety glasses should be worn when assembling components.
13. Threads and counterbore of nozzle must be clean of any plastic.
14. Thread sprue gate tip into nozzle body.
15. Place socket tool carefully over tip so as to not damage front surface and edge of tip. Torque tip to 14 N.m [125 in-lbs]. For sprue gate tip, use socket tool (SXW0003).

**NOTE:** For Thru Hole Tip follow same instructions as for Point Gate Tip.
Nozzles with Standard Coil Heater and Point Gate Tip
Tip, Retainer, Heater and Thermocouple Removal Instructions

1. Stellar nozzle sub-assembly with tip sub-assembly (see Fig. 2-3a). Threaded style nozzle with SXF5100 Retainer and SXT4010 tip shown. Same instructions apply to SXT5010 or SXT5200 tips using SXF5000 Retainer.

2. Safety glasses and gloves should be worn when working on the mold.

3. Turn nozzle heater on, and set at 10-38°C (50-100°F) below set point of processing temperature to allow for easier tip removal.

4. Carefully clean plastic material from around tip and retainer.

5. Remove retainer with 10mm deep well 6-point socket turning counterclockwise (see Fig. 2-3b). Socket will fit over the front seal-off area when placed on retainer hex. DO NOT DAMAGE SEAL-OFF AREA.

6. Carefully remove tip from retainer (see Fig. 2-3c). Inspect seal-off area for out of roundness and/or score marks on seal area, and replace retainer if either condition occurs. Inspect tip for any wear and replace if wear has occurred.

7. Clean plastic material from thread and counterbore areas in nozzle body to ensure proper assembly (see Fig. 2-3d).

8. Turn off nozzle heater and disconnect heater and thermocouple leads from connectors on mold. Allow nozzle time to cool down.

9. Remove heater, thermocouple and spacer from nozzle body (see Fig. 2-3e).

10. Measure thermocouple leads "X" (see Fig. 2-3f).

11. Remove thermocouple from heater end cap groove (see Fig. 2-3g).

12. Carefully place new thermocouple into heater end cap groove with lead coming out the slot. Use an 8mm (5/16") point diameter drift punch by hand to spread the thermocouple into the heater end cap groove. This will allow the heater with thermocouple to slide onto nozzle body (see Fig. 2-3h).

13. Bend thermocouple lead 90° along the length of the heater (see Fig. 2-3i). Bend heater and thermocouple leads to the correct "X" length at 90° angle to the heater. Do not rebend rigid leads. Rebending leads can result in damage to circuit.

14. Slide spacer and heater with thermocouple over nozzle body (see Fig. 2-3e).

15. DO NOT LUBRICATE OR USE ANTI-SEIZE ON RETAINER THREADS.

16. Assemble tip into retainer.

17. Thread retainer clockwise into the nozzle body and torque to 11.3 N.m (8.3ft-lbs/100 in-lbs) using a 10mm deep well 6-point socket tool and torque wrench (see Fig. 2-3b).

18. Wire heater and thermocouple leads to connectors on mold. Do not connect thermocouple leads to electric power.

19. Product may absorb moisture when cool. Use low voltage or power to drain out residual moisture before applying full power. Failure to do so may cause damage to this product.

NOTE: Drift Punch not supplied by DME.
Nozzles with Standard Coil Heater and Sprue Gate Tip
Tip, Retainer, Heater and Thermocouple Removal Instructions

1. Stellar nozzle sub-assembly with tip sub-assembly (see Fig. 2-4a). Threaded style nozzle with sprue gate tip shown.
2. Safety glasses and gloves should be worn when working on the mold.
3. Turn nozzle heater on, and set at 10-38°C (50-100°F) below set point of processing temperature to allow for easier tip removal.
4. Carefully clean plastic material from around tip and retainer.
5. Remove sprue gate tip with a 8mm deep well socket turning counterclockwise. Do not damage 7mm diameter seal-off area or front molding surface (see Fig. 2-4b).
6. Clean plastic material from nozzle and tip threads. Also, clean plastic material from tip counterbore in nozzle body to ensure proper assembly.
7. Turn off nozzle heater and allow to cool down (see Fig. 2-4c).
8. Remove snap ring, heater, thermocouple and spacer from nozzle body (see Fig. 2-4d).
9. Measure thermocouple leads “X” (see Fig. 2-4e).
10. Remove thermocouple from heater end cap groove (see Fig. 2-4f).
11. Carefully place new thermocouple into heater end cap groove with lead coming out the slot. Use an 8mm (5/16") point diameter drift punch by hand to spread the thermocouple into the heater end cap groove. This will allow the heater with thermocouple to slide onto nozzle body (see Fig. 2-4g).
12. Bend thermocouple lead 90° along the length of the heater (see Fig. 2-4h). Bend heater and thermocouple leads to the correct “X” length at 90° angle to the heater. Do not rebend rigid leads. Rebending leads can result in damage to circuit.
13. Slide spacer and heater with thermocouple over nozzle body (see Fig. 2-4d). Add snap ring.
14. DO NOT LUBRICATE OR USE ANTI-SEIZE ON THREADS.
15. Thread tip clockwise into the nozzle body and torque to 14 N.m [10.42 ft-lbs/125 in-lbs] using an 8mm deep well socket tool (see Fig. 2-4b).
16. Wire heater and thermocouple leads to connectors on mold. Do not connect thermocouple leads to electric power.
17. Product may absorb moisture when cool. Use low voltage or power to drain out residual moisture before applying full power. Failure to do so may cause damage to this product.

NOTE: Drift Punch not supplied by DME.
Stellar® Rectangular MNA Assembly Information

Nozzles with High Performance Heater and Point Gate Tip
Tip, Retainer and Heater Removal Instructions

Fig. 2-5

1. Stellar nozzle sub-assembly with tip sub-assembly (see Fig. 2-5a). Threaded style nozzle with SXF5000 Retainer and SXT5010 Tip shown. Same instructions apply to SXT5200 Tip.

2. Safety glasses and gloves should be worn when working on the mold.

3. Turn nozzle heater on, and set at 10-38°C (50-100°F) below set point of processing temperature to allow for easier tip removal.

4. Carefully clean plastic material from around tip and retainer.

5. Remove retainer with 10mm deep well 6-point socket turning counterclockwise (see Fig. 2-5b). Socket will fit over the front seal-off area when placed on retainer hex. DO NOT DAMAGE SEAL-OFF AREA.

6. Carefully remove tip from retainer (see Fig. 2-5c). Inspect seal-off area for out of roundness and/or score marks on seal area, and replace retainer if either condition occurs. Inspect tip for any wear and replace if wear has occurred.

7. Clean plastic material from thread and counterbore areas in nozzle body to ensure proper assembly (see Fig. 2-5d).

8. Turn off nozzle heater and disconnect heater and thermocouple leads from connectors on mold. Allow nozzle time to cool down.

9. Remove heater and spacer from nozzle body (see Fig. 2-5e).

10. If the heater is hard to remove use the removal holes placed 180° apart on the heater body (see Fig. 2-5d). Do not use the leads to pull the nozzle off.

11. Bend heater and thermocouple leads only if needed to better fit in the wire channel. For most cases, the heater leads will exit into the wire channel. CAUTION: REPEATED BENDING OF THE HEATER AND THERMOCOUPLE LEADS CAN FRACTURE LEAD WIRES.

12. Slide spacer and heater with thermocouple over nozzle body (see Fig. 2-5e).

13. DO NOT LUBRICATE OR USE ANTI-SEIZE ON RETAINER THREADS.


15. Thread retainer clockwise into the nozzle body and torque to 11.3 N.m (8.3 ft-lbs/100 in-lbs) using a 10mm deep well 6-point socket tool and torque wrench (see Fig. 2-5b).

16. Wire heater and thermocouple leads to connectors on mold. Do not connect thermocouple leads to electric power.

17. Product may absorb moisture when cool. Use low voltage or power to drain out residual moisture before applying full power. Failure to do so may cause damage to this product.

Questions? Call DME at 1-800-626-6653 (U.S.) or 1-800-387-6600 (Canada)
**Nozzle Body (Threaded Style) Removal Instructions**

1. Stellar nozzle sub-assembly with tip sub-assembly (see Fig. 2-6a). Threaded style nozzle with SXF5000 Retainer and SXT5010 Tip shown. Instructions also apply to SXT5200 Tip.
2. Safety glasses and gloves should be worn when working on the mold.
3. Turn nozzle heater on, and set at 10-38\(^\circ\)C (50-100\(^\circ\)F) below set point of processing temperature to allow for easier tip removal.
4. Carefully clean plastic material from around tip and retainer.
5. Remove retainer with 10mm deep well 6-point socket turning counterclockwise (see Fig. 2-6b). Socket will fit over the front seal-off area when placed on retainer hex. DO NOT DAMAGE SEAL-OFF AREA.
6. Carefully remove tip from retainer (see Fig. 2-6c). Inspect seal-off area for out of roundness and/or score marks on seal area, and replace retainer if either condition occurs. Inspect tip for any wear and replace if wear has occurred.
7. Clean plastic material from thread and counterbore areas in nozzle body to ensure proper assembly (see Fig. 2-6d).
8. Turn off nozzle heater and disconnect heater and thermocouple leads from connectors on mold. Allow nozzle time to cool down.
9. Remove heater, thermocouple and spacer from nozzle body (see Fig. 2-6e).
10. Remove nut counterclockwise with socket tool DME item no. SXW0002 (see Fig. 2-6f).
11. Remove nozzle body from manifold.
12. Clean plastic material from thread and counterbore areas in manifold to ensure proper assembly.
13. Place nozzle body into manifold.
14. Thread nut clockwise into the manifold and torque to 81 N.m (60 ft-lbs) using nut socket tool and torque (see Fig. 2-6f).
15. Slide spacer and heater with thermocouple over nozzle body (see Fig. 2-6e).
16. DO NOT LUBRICATE OR USE ANTI-SEIZE ON RETAINER THREADS.
17. Assemble tip into retainer.
18. Thread retainer clockwise into the nozzle body and torque to 11.3 N.m (8.3 ft-lbs/100 in-lbs) using a 10mm deep well 6-point socket tool and torque wrench (see Fig. 2-6b).
19. Wire heater and thermocouple leads to connectors on mold. Do not connect thermocouple leads to electric power.
20. Product may absorb moisture when cool. Use low voltage or power to drain out residual moisture before applying full power. Failure to do so may cause damage to this product.
Wiring into the terminal box to be as shown in the table below.

Table 2-1

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1. Designed to operate on a 230-volt supply.
3. MEN heaters wired in parallel.
   * Heated-style MEN only.
4. Thermocouple leads are black and white. White is negative (-); black is positive (+).

### J TYPE THERMOCOUPLE STANDARDS

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Parts List

Fig. 2-7

*For details, see Figs. 3-2 thru 3-6.
**For details, see Figs. 3-7 thru 3-10.
## Stellar® Rectangular MNA Assembly Information

### Parts List

**Table 2-2**

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<td>Set screws</td>
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Questions? Call DME at 1-800-626-6653 (U.S.) or 1-800-387-6600 (Canada)
### Parts List (continued)

#### Table 2-2

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<th>Item No.</th>
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* Common for all Stellar nozzle sub-assemblies in each individual column.

**NOTE:** Items SXY8065, SXY8085, SXY8105, SXY8125 and SXY8145 for Sprue Gate only.
### Parts List (continued)

#### Table 2-2

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<tr>
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<td>SXG5201</td>
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<td>Sprue gate tip</td>
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<td>5</td>
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<td>M68 LHCS</td>
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<td>6</td>
<td>Tubular dowel</td>
<td>1</td>
<td>PH 10-26</td>
</tr>
<tr>
<td>7</td>
<td>Modified center support (2-drop 30-pitch, 4-drop in-line, 6- and 12-drop manifolds)</td>
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<td>Lower support pad screws</td>
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<td>WC0001, WC0002 &amp; WC0003</td>
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<td>22</td>
<td>Sprue Gate Tip socket tool</td>
<td>1</td>
<td>SXW0003</td>
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</table>

* Common for all Stellar nozzle sub-assemblies in each individual column.

Questions? Call DME at 1-800-626-6653 (U.S.) or 1-800-387-6600 (Canada)
### Procedure

**REQUIRED ORDERING INFORMATION:**

1. **Number of Nozzles Required:**
   
   Determine the number of nozzles required.

2. **Gate Pitch Required:**
   
   Choose the gate pitch required. Record the manifold and components sub-assembly item number from Table 3-1, “Sub-Assembly Parts List”; e.g., for a 2-drop 30-pitch, the item number is SRC3002.

3. **Manifold and Components Sub-Assembly:**
   
   Select an appropriate gating method. For quick reference see pages 5, 10 (metric), 74 (inch) or 155, “Nozzle Selection” and “Nozzle Body Information.”

4. **Nozzle Tip or Nozzle Tip Sub-Assembly:**
   
   Determine the nozzle body sub-assembly item number required from the calculation sheets. For quick reference see pages 10 (metric), 74 (inch) and 155. Determine nozzle heater type: Coil Heater or High Performance Embedded Heater.

5. **Nozzle Body Sub-Assembly:**

6. **Heated or Unheated MEN:**
   
   Specify heated or unheated MEN style (Figs. 3-7 and 3-8).

7. **Machine Nozzle Spherical Radius:**
   
   Specify 1/2in, 3/4in, or 15.5mm

**First-Time Customers Will Need:**

8. **Sprue Gate Tip Socket Tool** (see Fig. 3-5):

9. **Nut Socket Tool** (see Fig. 3-6):

**Additional Items:**

10. **Locating Ring:**
    
    (if required, specify GXL2001 for heated MEN or SXL1100 for Unheated MEN)

11. **Power and Thermocouple Connectors:**
    
    (5-, 8-, and 12-zone options for up to 8-drops) (2) 8-zone for 12-drops
    
    (1) 8-zone and (1) 12-zone for 16-drops

12. **Combination Terminal Mounting Box with Terminal Strip:**
    
    (5-, 8-, and 12-zone options for up to 8-drops) (2) 8-zone for 12-drops
    
    (1) 8-zone and (1) 12-zone for 16-drops

### Worksheet Example:

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<td>1/2 in</td>
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<td>8.</td>
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<td>8-Zone</td>
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<tr>
<td>12.</td>
<td>8-Zone</td>
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Manifold and Components Sub-Assembly Section View

Fig. 3-1

*NOTE: Manifold heater and thermocouple bending performed at assembly.

Questions? Call DME at 1-800-626-6653 (U.S.) or 1-800-387-6600 (Canada)
## Sub-Assembly Parts List and Item Numbers

### Table 3-1

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<thead>
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<th>MANIFOLD AND COMPONENTS SUB-ASSEMBLY ITEM NO.</th>
<th>2-DROP (30-Pitch)</th>
<th>2-DROP (40-Pitch)</th>
<th>2-DROP (50-Pitch)</th>
<th>2-DROP (70-Pitch)</th>
<th>2-DROP (90-Pitch)</th>
<th>4-DROP (17x21-Pitch)</th>
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### MANIFOLD SUB-ASSEMBLY ITEM NO.

| ARC3002                                       | ITEM NO. QTY      | ARC4002           | ITEM NO. QTY      | ARC5002           | ITEM NO. QTY      | ARC7002           | ITEM NO. QTY      | ARC9002           | ITEM NO. QTY      | ARC0004           | ITEM NO. QTY      |
| Manifold                                      | MRC3002 1        | MRC4002 1        | MRC5002 1        | MRC7002 1        | MRC9002 1        | MRC0004 1          |
| Manifold Heater Top                           | MRHO005 1        | MRHO005 1        | MRHO006 1        | MRHO013 1        | MRHO006 1        | MRHO005 1          |
| Manifold Heater Bottom                         | MRHO005 1        | MRHO005 1        | MRHO006 1        | MRHO005 1        | MRHO005 1        | MRHO013 1          |

**NOTE:** All manifold sub-assemblies include end plugs and set screws installed.
### Table 3-1 (continued)

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<th>MANIFOLD AND COMPONENTS SUB-ASSEMBLY</th>
<th>4-DROP (30x30-Pitch)</th>
<th>4-DROP In-line (30-Pitch)</th>
<th>6-DROP (30-Pitch)</th>
<th>8-DROP (30-Pitch)</th>
<th>12-DROP (30-Pitch)</th>
<th>16-DROP (30-Pitch)</th>
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<tr>
<td>ITEM NO.</td>
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<td>Center Tubular Dowel</td>
<td>PH 10-26</td>
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<td>PH 10-26</td>
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<tr>
<td>Upper Support Ring*</td>
<td>SX3040</td>
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<td>Upper Support Screws</td>
<td>M612LHCS</td>
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<td>Lower Support Pads</td>
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<td>Lower Support Pad Screws (SHCS)</td>
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<td>MEN Locating Dowels</td>
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</tr>
</tbody>
</table>

**NOTE:** All manifold sub-assemblies include end plugs and set screws installed.

*Upper support pads are required for 12- and 16-drop systems only.*

---

**MANIFOLD SUB-ASSEMBLY**

<table>
<thead>
<tr>
<th>ITEM NO.</th>
<th>QTY</th>
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<tbody>
<tr>
<td>SRC3304</td>
<td>1</td>
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<tr>
<td>SRC3004</td>
<td>1</td>
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<td>SRC3306</td>
<td>1</td>
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<td>SRC3308</td>
<td>1</td>
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<tr>
<td>SRC3312</td>
<td>1</td>
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<tr>
<td>SRC3316</td>
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**Manifold**

<table>
<thead>
<tr>
<th>ITEM NO.</th>
<th>QTY</th>
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<td>MRC3304</td>
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<tr>
<td>MRC3004</td>
<td>1</td>
</tr>
<tr>
<td>MRC3306</td>
<td>1</td>
</tr>
<tr>
<td>MRC3308</td>
<td>1</td>
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<tr>
<td>MRC3312</td>
<td>1</td>
</tr>
<tr>
<td>MRC3316</td>
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</table>

**Manifold Heater (bottom)**

<table>
<thead>
<tr>
<th>ITEM NO.</th>
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<tbody>
<tr>
<td>MRH0013</td>
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<td>MRH0007</td>
<td>1</td>
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<tr>
<td>MRH0014</td>
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<tr>
<td>MRH0008</td>
<td>1</td>
</tr>
<tr>
<td>MRH0009</td>
<td>1</td>
</tr>
<tr>
<td>MRH0011</td>
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</table>

**Manifold Heater (bottom)**

<table>
<thead>
<tr>
<th>ITEM NO.</th>
<th>QTY</th>
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</thead>
<tbody>
<tr>
<td>MRH0005</td>
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<td>MRH0007</td>
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<td>MRH0013</td>
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<td>MRH0009</td>
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<tr>
<td>MRH0011</td>
<td>1</td>
</tr>
</tbody>
</table>

---

**NOTE:** All manifold sub-assemblies include end plugs and set screws installed.

---

**Manifold Sub-Assembly consists of these items:**

- Item NO. QTY Item NO. QTY Item NO. QTY Item NO. QTY Item NO. QTY Item NO. QTY
- ARC3304 1 ARC3004 1 ARC3306 1 ARC3308 1 ARC3312 1 ARC3316 1
- MRC3304 1 MRC3004 1 MRC3306 1 MRC3308 1 MRC3312 1 MRC3316 1
- MRH0013 1 MRH0007 1 MRH0014 1 MRH0008 1 MRH0009 1 MRH0011 1
- MRH0005 1 MRH0007 1 MRH0013 1 MRH0009 1 MRH0011 1

*Upper support pads are required for 12- and 16-drop systems only.*

---

**NOTE:** All manifold sub-assemblies include end plugs and set screws installed.
Nozzle Body Information

Item Numbers for Threaded Style Standard Heater Nozzle Assemblies

<table>
<thead>
<tr>
<th>SUB-ASSEMBLY COMPONENT</th>
<th>CALLOUT NO.</th>
<th>ITEM NO.</th>
<th>ITEM NO.</th>
<th>ITEM NO.</th>
<th>ITEM NO.</th>
<th>ITEM NO.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nozzle Body - SXB4xxx</td>
<td>1</td>
<td>SXB4068</td>
<td>SXB4088</td>
<td>SXB4108</td>
<td>SXB4128</td>
<td>SXB4148</td>
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<tr>
<td>Nut</td>
<td>2</td>
<td>SXE2013</td>
<td>SXE2013</td>
<td>SXE2013</td>
<td>SXE2013</td>
<td>SXE2013</td>
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<tr>
<td>Heater Stop</td>
<td>3</td>
<td>SXD6501</td>
<td>SXD6501</td>
<td>SXD6501</td>
<td>SXD6501</td>
<td>SXD6501</td>
</tr>
<tr>
<td>Nozzle Heater</td>
<td>4</td>
<td>SHH1039</td>
<td>SHH1059</td>
<td>SHH1079</td>
<td>SHH1099</td>
<td>SHH1119</td>
</tr>
<tr>
<td>Nozzle Thermocouple</td>
<td>5</td>
<td>SXC1001</td>
<td>SXC1001</td>
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</tr>
</tbody>
</table>

Item Numbers for Threaded Style High Performance Heater Nozzle Assemblies

<table>
<thead>
<tr>
<th>SUB-ASSEMBLY COMPONENT</th>
<th>CALLOUT NO.</th>
<th>ITEM NO.</th>
<th>ITEM NO.</th>
<th>ITEM NO.</th>
<th>ITEM NO.</th>
<th>ITEM NO.</th>
<th>ITEM NO.</th>
<th>ITEM NO.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nozzle Body - SXB4xxx</td>
<td>1</td>
<td>SXB4068</td>
<td>SXB4088</td>
<td>SXB4108</td>
<td>SXB4128</td>
<td>SXB4148</td>
<td>SXB4148</td>
<td>SXB4148</td>
</tr>
<tr>
<td>Heater Stop</td>
<td>3</td>
<td>SXD6501</td>
<td>SXD6501</td>
<td>SXD6501</td>
<td>SXD6501</td>
<td>SXD6501</td>
<td>SXD6501</td>
<td>SXD6501</td>
</tr>
<tr>
<td>Nozzle Heater</td>
<td>4</td>
<td>SXE1039</td>
<td>SXE1059</td>
<td>SXE1079</td>
<td>SXE1099</td>
<td>SXE1119</td>
<td>SXE1119</td>
<td>SXE1119</td>
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NOTES: For high performance heater, thermocouple is embedded in the heater body. Tip information and Gating Styles are provided on page 5, Section 1.

Assembly Tools

Fig. 3-5 Sprue Gate Tip Socket Tool
(SXW0003)

Fig. 3-6 Nut Socket Tool
(SXW0002)
Heated MEN Sub-Assembly

Fig. 3-7

NOTES:
1. Customer to specify machine nozzle spherical radius. Proper MEN sub-assembly will be selected by DME to correspond with manifold sub-assembly.
2. Locating ring is optional and must be ordered separately. Locating ring item no. GXL2001 includes two M820 FHCS.

<table>
<thead>
<tr>
<th>COMBINATION 1/2 AND 3/4 INCH SPHERICAL RADIUS</th>
<th>15.5mm SPHERICAL RADIUS</th>
</tr>
</thead>
<tbody>
<tr>
<td>HEATED MEN SUB-ASSEMBLY ITEM NO.</td>
<td>SXX1010</td>
</tr>
<tr>
<td>MEN Body</td>
<td>SXM1010</td>
</tr>
<tr>
<td>MEN Screws (SHCS)</td>
<td>M860</td>
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<tr>
<td>MEN Heaters</td>
<td>MRH0012</td>
</tr>
<tr>
<td>MEN Thermocouple</td>
<td>SXC2001</td>
</tr>
<tr>
<td>MEN Thermocouple Screw (LHCS)</td>
<td>M68LH</td>
</tr>
</tbody>
</table>

Questions? Call DME at 1-800-626-6653 (U.S.) or 1-800-387-6600 (Canada)
**Unheated MEN Sub-Assembly**

Fig. 3-8

**NOTES:**

1. Customer to specify machine nozzle spherical radius. Proper MEN sub-assembly will be selected by DME to correspond with manifold sub-assembly.

2. Locating ring is optional and must be ordered separately. Locating ring item no. SXL1100 includes two M820 FHCS.

---

<table>
<thead>
<tr>
<th>Unheated MEN Sub-Assembly item no.</th>
<th>SXX1210</th>
<th>SXX2210</th>
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<tbody>
<tr>
<td>MEN Body</td>
<td>SXM1210</td>
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</tr>
<tr>
<td>MEN Screws (SHCS)</td>
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<td>MEN Screws (SHCS)</td>
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**COMBINATION 1/2 AND 3/4 INCH SPHERICAL RADIUS**

**15.5mm SPHERICAL RADIUS**
Locating Rings

LOCATING RING | ITEM NO.
---------------|---------
For Heated MEN | GXL2001
For Unheated MEN | SXL1100

Fig. 3-9
Locating Ring for Heated MEN

Fig. 3-10
Locating Ring for Unheated MEN

Questions? Call DME at 1-800-626-6653 (U.S.) or 1-800-387-6600 (Canada)
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:

- Choice of balanced multi-nozzle assemblies (MNAs) for stand-alone use or under a manifold for higher cavitation molds
- Threaded nozzle connection for standard manifolds and compression nozzle connection for custom manifolds
- Three different “A” dimensions from 65-105mm are available for threaded style nozzles
- Six different “A” dimensions from 55-105mm are available for compression nozzle connection
- Three interchangeable tip styles – Point Gate, Thru Hole Gate and Sprue Gate
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