Specification
The NFPA 99 compliant fully automatic manifold shall be a Tri-Tech Medical Genesys™ NPC series. No manual resetting of valves or levers shall be required. The unit shall switch from “Bank in Use” to “Reserve” bank without fluctuation in line delivery pressure. Simultaneously, the “Reserve in Use” alarm shall be triggered by the manifolds circuit board. The manifold shall continue to provide gas, in the event of a power failure, until both banks are depleted. After the switchover, the “Reserve” bank shall then become the “Bank in Use”. The manifold shall be capable of being upgraded after installation; to be used with low or medium pressure portable bulk vessels, to upgrade to high flow line regulator(s), from single to dual line regulators and for use at higher or lower delivery pressures.

The control panel shall incorporate a set of LED’s for each bank, green for “Bank in Use”, amber for “Ready” and red for “Empty”. Analog gauges are also provided so that line and both bank pressures may be observed.

All manifold regulators, piping and control switching equipment shall be cleaned for use with oxygen service and installed in a steel cabinet to provide protection and minimize tampering.

Features - Benefits
- **Five year parts and one year labor limited warranty***
- Fully automatic – no resetting of valves or levers
- Input power 120 to 240VAC, 50 to 60 Hz – single point connection.
- Easy to service piping design
- Patented single solenoid pressure differential changeover
- 400 psi differential rated solenoid
- May be converted from high pressure cylinder use to use with low or medium pressure liquid portable bulk vessels
- Includes 3/4” source or main line ball valve with copper tube extension, Ref. Tri-Tech part no. 48-0023
- **OSHPD** Seismic tested and Certified
- Dual line pressure regulators
- Optional single point relief valve vertical kit part no. 88-1075
- Double “Z” brackets for one-man installation.
- Cabinet weight 70 lbs
- Maximum Inlet Pressure 3000 PSI

* See Terms and Conditions, Document No. 99-0477, on our Website at: [www.tri-techmedical.com](http://www.tri-techmedical.com), For complete details.
Maximum rated flow capacity of line regulators only, not the manifold cabinet, flowing to atmosphere. (Without restricting line pressure drop)

<table>
<thead>
<tr>
<th>Gas Service</th>
<th>Standard Line Regulators</th>
<th>High Capacity Line Regulators</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oxygen or Medical Air Delivery</td>
<td>1L 2,500 SCFH (1,180 l/min)</td>
<td>1H, 2H, 3H 4,500 SCFH (2,120 l/min)</td>
</tr>
<tr>
<td>Pressure and Flow Option</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nitrogen Delivery Pressure and Flow Option</td>
<td>N/A</td>
<td>3H 6,000 SCFH (2,830 l/min)</td>
</tr>
</tbody>
</table>

Maximum recommended flow due to the chill down nature of the gas.

<table>
<thead>
<tr>
<th>Gas Service</th>
<th>Without Heaters</th>
<th>With Heaters</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nitrous Oxide or Carbon Dioxide Delivery Pressure and Flow Option</td>
<td>40 SCFH (19 l/min)</td>
<td>500 SCFH (236 l/min)</td>
</tr>
</tbody>
</table>

Note:
1W – Models incorporate 1L Line Regulators
1X – Models incorporate 1H Line Regulators

Manifold Cabinet Flow Capacity

<table>
<thead>
<tr>
<th>Static Delivery Pressure Setting PSI</th>
<th>Pressure Drop</th>
<th>Pressure Flowing psi</th>
<th>Average Flow Rate in SCFH (l/min)</th>
</tr>
</thead>
<tbody>
<tr>
<td>53</td>
<td>3</td>
<td>50</td>
<td>195 (92 l/min) 640 (302 l/min)</td>
</tr>
<tr>
<td></td>
<td>5</td>
<td>48</td>
<td>430 (203 l/min) 1,260 (595 l/min)</td>
</tr>
<tr>
<td></td>
<td>7</td>
<td>46</td>
<td>635 (300 l/min) 1,650 (779 l/min)</td>
</tr>
<tr>
<td></td>
<td>10</td>
<td>43</td>
<td>875 (413 l/min) 2,430 (1,147 l/min)</td>
</tr>
<tr>
<td>85</td>
<td>3</td>
<td>82</td>
<td>1,010 (477 l/min)</td>
</tr>
<tr>
<td></td>
<td>5</td>
<td>80</td>
<td>1,610 (760 l/min)</td>
</tr>
<tr>
<td></td>
<td>7</td>
<td>78</td>
<td>2,670 (1,261 l/min)</td>
</tr>
<tr>
<td></td>
<td>10</td>
<td>75</td>
<td>3,120 (1,473 l/min)</td>
</tr>
<tr>
<td>175</td>
<td>10</td>
<td>165</td>
<td>1,230 (581 l/min)</td>
</tr>
<tr>
<td></td>
<td>20</td>
<td>155</td>
<td>2,535 (1,197 l/min)</td>
</tr>
<tr>
<td></td>
<td>30</td>
<td>145</td>
<td>4,140 (1,955 l/min)</td>
</tr>
<tr>
<td></td>
<td>35</td>
<td>140</td>
<td>4,500 (2,125 l/min)</td>
</tr>
</tbody>
</table>

Flow rates shown were obtained using Nitrogen, flowing through the right primary regulator, which is considered the most restrictive flow path. (Worst case condition). Testing was performed with an average inlet pressure to the manifold cabinet at 1,425 PSI.
**Tri-Tech Medical Inc.**

**Genesys**™ NPC Series Fully Automatic Analog Manifolds for Healthcare High Pressure Cylinder Applications

---

**Dimensional Drawing**

![Dimensional Drawing Image]

<table>
<thead>
<tr>
<th>Design Lengths</th>
<th>Total # of Cylinders</th>
<th>4</th>
<th>6</th>
<th>8</th>
<th>10</th>
<th>12</th>
<th>16</th>
<th>20</th>
</tr>
</thead>
<tbody>
<tr>
<td>STAGGERED DESIGN (5&quot; CENTERS)</td>
<td>OVERALL MANIFOLD LENGTH</td>
<td>4'-6&quot;</td>
<td>5'-4&quot;</td>
<td>6'-2&quot;</td>
<td>7'-0&quot;</td>
<td>7'-10&quot;</td>
<td>9'-6&quot;</td>
<td>11'-2&quot;</td>
</tr>
<tr>
<td>VERTICAL CROSSOVER (5&quot; CENTERS)</td>
<td>OVERALL MANIFOLD LENGTH</td>
<td>3'-7&quot;</td>
<td>N/A</td>
<td>4'-6&quot;</td>
<td>5'-4&quot;</td>
<td>8'-3&quot;</td>
<td>10'-3&quot;</td>
<td></td>
</tr>
</tbody>
</table>

*See Separate Manifold Header Literature for Header Part Numbers

**How to Order:** Easy to use modular ordering system. Fill in the 7 blanks to specify the manifold that meets your needs.

**N P C U T L G D F**

- **F** = Flow & Heater Options *(See Chart on Page 2 for flow capacities)*
  - L – Standard Flow w/o Heaters
  - H – High Flow w/o Heaters
  - W – Standard Flow with Heaters*
  - X – High Flow with Heaters*
  (Incorporates 1L Line Regulator) *(Can incorporate 1H, 2H, or 3H Line Regulators)* *(Input voltage limited to 120 VAC for these Models)*
  (Tri-Tech transformer kit Part No. 35-3004 [Sold Separately] reduces 240 VAC single phase to 120 VAC)

- **D** = Delivery Pressure
  - 1 – 50 psi
  - 2 – 80 psi
  - 3 – 170 psi

- **TG** = Gas Set
  - AI – Air/ Medical Air
  - NT – Nitrogen
  - AR – Argon
  - NO – Nitrous Oxide
  - CD – Carbon Dioxide
  - HO – Hyperbaric Oxygen
  - OC – Carbogen (CO2 7% max)
  - OX – Oxygen
  - TG – Tri-Gas

- **L** = Final Line Regulation
  - 1 – Single Line Regulator
  - 2 – Dual Line Regulator *(Note: NFPA 99 compliant manifolds require dual line regulators)*

- **T** = Type of Cabinet
  - 1 – Standard

- **U** = Country
  - N – Tri-Tech Labeled NFPA Color Code English
  - U – Tri-Tech Labeled NFPA Color Code English
  - 1 – Tri-Tech Labeled ISO Color Code English/French
  - N – Tri-Tech Labeled NFPA Color Code English/Spanish

Example:

NPCU12OX1L = Cylinder x Cylinder Genesys™ Analog Manifold, Standard Cabinet, CGA 540 Oxygen service, Dual Line Regulators, 50 psi delivery, standard flow.