Tri-Tech Medical Inc.

Genesys™ Fully Automatic Manifolds for Healthcare High Pressure Cylinder Applications

Submittal Data Sheet

Project Information

Project _____ Approval _____

Specification

The NFPA 99 compliant digital, fully automatic manifold shall be a Tri-Tech Medical *Genesys*™ 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 microprocessor. 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 microprocessor shall also trigger the "High Line Pressure" and "Low Line Pressure" alarms without the need for additional pressure switches or transducers. The manifold shall be capable of being upgraded after installation, to be used with low or medium pressure portable bulk vessels or for use at higher or lower delivery pressures.

The microprocessor based control panel shall incorporate LED's and an illuminated text display and shall provide electronic monitoring of circuits with up to 20 error, alarm or information messages displayed for ease of maintenance. The illuminated text display shall be readable even in poor lighting conditions. Analog gauges are also provided so that line and both bank pressures may be observed in the event of a power failure. The control panel shall also incorporate a set of LED's for each bank, green for "Bank in Use", amber for "Ready" and red for "Empty".

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

Model CCU12NO1W shown above

Features

- Line pressure sensor may be mounted inside the cabinet or remotely located to eliminate the need for a high/low pressure switch for master alarm operation.
- Electronic monitoring of circuits with up to 20 error, alarm or information messages.
- May be converted from high pressure cylinder use to use with low or medium pressure liquid portable bulk vessels.
- NFPA99 compliant models include 48-0023 ball valve.
- Optional single point relief valve vertical kit part no. 88-1075.
- Unit of measure switching (psi, kPa, BAR).
- Dual line pressure regulators
- Double "Z" brackets for one man installation.
- Cabinet weight 70 lbs.
- Input power 120 VAC, 50 to 60 Hz.

Maximum rated flow capacity of line regulators only, not the manifold cabinet, flowing to atmosphere. (Without restricting line pressure drop)

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

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

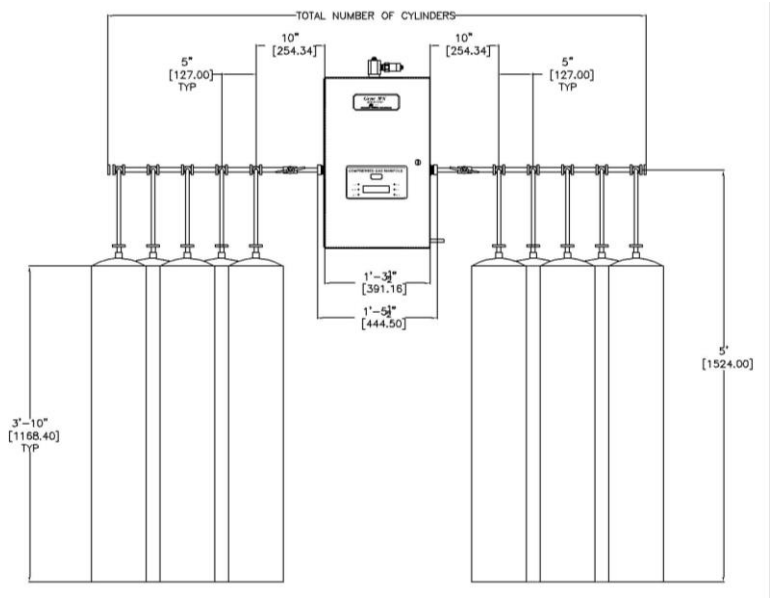
Gas Service		***Without Heaters***	***With Heaters***
Nitrous Oxide or Carbon Dioxide	*Delivery Pressure and Flow Option*	1L	1W
		40 SCFH (19 l/min)	500 SCFH (236 l/min)

Manifold Cabinet Flow Capacity

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

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.

Dimensional Drawing



Design Lengths Total Number of Cylinders	**4**	**6**	**8**	**10**	**12**	**16**	**20**
STAGGERED DESIGN (5" CENTERS) OVERALL MANIFOLD LENGTH	4' - 6" (1.32m)	5' - 4" (1.57m)	6' - 2" (1.83m)	7' - 0" (2.08m)	7' - 10" (2.34m)	9' - 6" (2.85m)	11' - 2" (3.35m)
VERTICAL CROSSOVER (5" CENTERS) OVERALL MANIFOLD LENGTH	3' - 7" (1.10m)	N/A	5' - 3" (1.60m)	N/A	6' - 11" (2.11m)	Contact Tri-Tech Medical	Contact Tri-Tech Medical

****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.

C C | U | T | L | G | G | D | F |

F = Flow and Heater Options
L – *Standard Flow* **H** – *High Flow* **W** – *With Heaters*
(See Chart on Page 2 for flow capacities)

D = Delivery Pressure
1 – *50 PSI* **2** – *80 PSI* **3** – *170 PSI* **4** – *100 PSI*

G = Gas Set
AI – *Air/Medical Air* **AR** - *Argon* **CD** – *Carbon Dioxide* **HE** – *Helium*
HO – *Hyperbaric Oxygen* **IA** – *Instrument Air* **NT** – *Nitrogen* **NO** – *Nitrous Oxide*
NX – *N2O-Oxygen Mixtures* **OC** – *Carbogen (CO2 7% max)* **OX** – *Oxygen* **TG** – *Tri-Gas*

L = Final Line Regulation
1 – *Single Line Regulator* **2** – *Dual Line Regulator*

T Type of Cabinet
1 – *Standard* **2** - *Weatherproof*

U = Country
C – *Canada* **U** – *U. S. A.*

Example: CCU12OX1L = Cylinder x Cylinder *Genesys ™* Manifold, Standard Cabinet, Dual Line Regulators, CGA 540 Oxygen service, 50 psi delivery, Standard flow. High/Low line pressure sensor with DISS union demand check is included with all units.