

SERIES S1 - REGULATOR STATION FOR SINGLE OR MULTIPLE CYLINDERS

Cylinder change-out can quite often be a real adventure when an unsupported regulator is involved. The GTS regulator station helps turn this adventure into a hassle-free event. The GTS regulator station is designed to mount above your cylinder and to fully support the regulator horizontally for convenient gauge viewing. Once the pigtail is disconnected, the empty cylinder is easily removed without the hassle of finding a place to support the regulator while the empty and full cylinders are exchanged.



The GTS regulator station is a brushed stainless steel support bracket with integral, application-specific CGA fitting. The gas cylinder is connected to the regulator by a braided stainless steel pigtail. Each regulator station includes a check valve at the cylinder connection to minimize backflow. The Model S1 series regulator station is available in either brass or stainless steel construction and fits all GTS and most other regulators.

FEATURES

Regulator support with flexible metal pigtail connection to cylinder
Provides a safe and convenient method to mount a regulator

BENEFITS

The regulator mounts horizontally thus providing convenient orientation for viewing pressure gauges
Cylinder change-out is much easier and safer when the regulator is supported while moving cylinders
A check valve is standard on each Regulator Station pigtail to prevent backflow of gases during cylinder change-out
A flexible, braided Stainless Steel pigtail maintains system integrity and is standard with both brass and Stainless Steel supports

SPECIFICATIONS

Inlet pressure rating	3,000 PSIG
Operation temperature	(-40 F to +160 F)
CGA fitting connection	User specified
Pigtail length	24" - One cylinder regulator station 36" - Two cylinder regulator station

MATERIALS

Pigtail Innercore	Braided Stainless Steel
Pigtail End Fittings	316L Stainless Steel
Pigtail Check Valve	Brass or Stainless steel/viton
Pigtail braid	Stainless steel
CGA fitting connection	Brass or Stainless Steel
Pigtail isolation valve	Brass or Stainless steel/Kel-F (standard on the two cylinder regulator station)

OPTIONS

Purge assemblies	269
Multiple cylinder hook-ups	209
Diaphragm packless pigtail isolation valve (standard on a two cylinder bracket)	247

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MODEL NUMBER (SPECIFY CGA)	DESCRIPTION
S1005-(CGA)	One cylinder regulator station - Brass
S1007-(CGA)	Two cylinder regulator station - Brass
S1009-(CGA)	One cylinder regulator station - Stainless Steel
S1011-(CGA)	Two cylinder regulator station - Stainless Steel

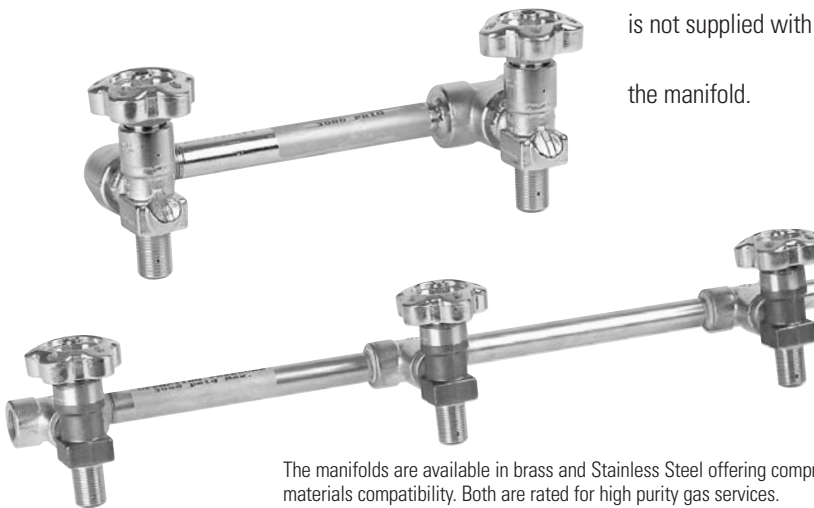
Note: Regulator not included

SERIES 6500 - STANDARD MANIFOLDS

GTS' manifold systems are designed to allow the connection of several cylinders to one common outlet to provide greater on line capacity. They are rated for 3000 PSI working pressure.

GTS offers two basic types of manifolds: single row and double row. Single row manifolds are the more popular of the two and provide cylinder stations in a straight line. Single row manifolds are provided with mounting hardware suitable for wall mount configurations. Double row manifolds have cylinder connections on either side of a common line which runs down the middle of the two banks. Double row manifolds are only available with the same number of cylinders on either side of the central line. Double row manifolds require a pedestal or "A" frame mounting structure which

is not supplied with the manifold.



The manifolds are available in brass and Stainless Steel offering comprehensive materials compatibility. Both are rated for high purity gas services.

BRASS FEATURES

- Oxygen cleaned
- Silver soldered construction
- Acid dipped
- 100% leak tested
- All Stainless Steel flexible pigtails

STAINLESS STEEL FEATURES

- Oxygen cleaned
- All welded construction
- Electro-polished finish
- 100% Leak tested
- All Stainless Steel 3' flexible pigtails

OPTIONS

- Armor pigtails
- Indicating pressure switches
- Messer GT&S Pressure regulators
- Switchover manifold systems

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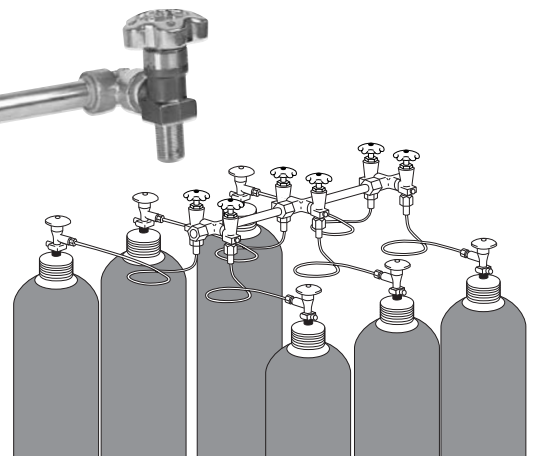
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PART NUMBER KEY

S6500-ABCD (specify gas)

- A: Manifold type
 - 1 = Single row
 - 2 = Double row
- B: Manifold material
 - 5 = Brass
 - 6 = Stainless steel
- C: Pigtail configuration
 - 7 = No pigtails
 - 8 = 316L Stainless Steel flexible pigtails
 - 9 = 316L Stainless Steel flexible pigtails with check valves
- D: Cylinder stations/row*
 - 2 = Two cylinders
 - 4 = Four cylinders
 - 6 = Six cylinders
 - 8 = Eight cylinders
- CGA = Gas service connection

*Note: Cylinder stations refers to the total number of cylinders on single row manifolds and the number of cylinders per side on double row manifolds. Ex. 8 = 16 cylinders total for double row manifolds.



SERIES 6505 - SEMI AUTOMATIC MANIFOLD

This is the most basic of all GTS manifold switchover systems. It uses two separate regulators to allow the user to set the differential pressure between two cylinder banks. The bank with the highest-pressure setting will deplete to the point at which the alternate bank is set. The alternate bank will then flow until it is empty. In order to enable the system to switchover in the reverse direction, the user must reverse the pressure settings of the regulators. The Series S6505-1 and S6505-2 consist of (1) one central block manifold with valves, and (2) two single stage regulators (Series S315-4 for brass or two Series S300-4 for stainless steel), check valves to prevent reverse flow and two 3' stainless steel flexible pigtails. It is also available in plate mounting.

SPECIFICATIONS

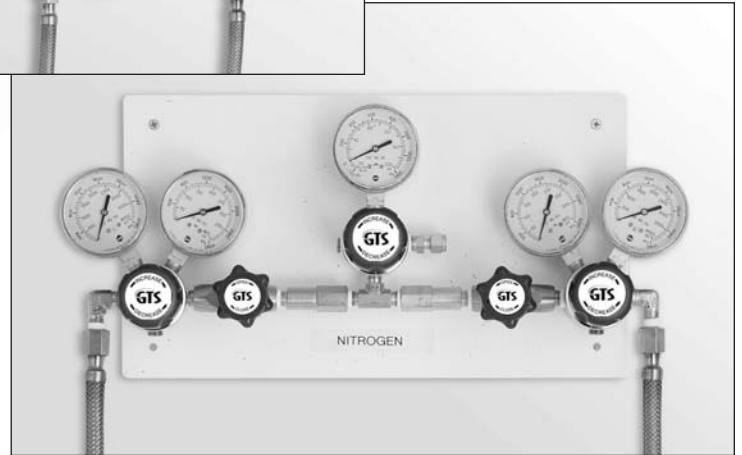
Inlet pressure	3000 PSIG
Outlet pressure	0 - 500 PSIG
Outlet port	1/2" NPTF
Operating temperature	-40°F to +160°F

OPTIONS

Gas cabinet	221
Flash arrestor	271
Line regulators	175
Relief valves	274
Header manifolds	209

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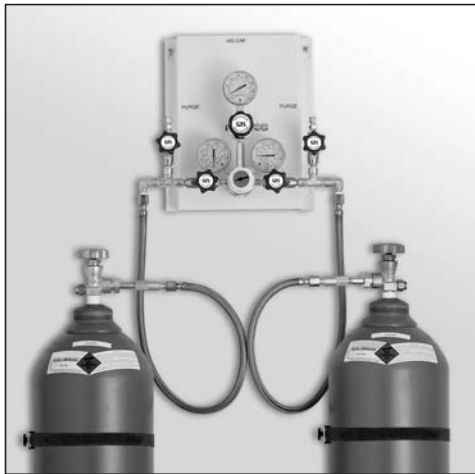
**PRODUCT**

CODE	DESCRIPTION	MATERIAL
S6505-1	Brass bar style	Brass
S6505-2	Stainless steel bar style	Stainless steel
S6505-1-PL*	Plate mounted	Brass
S6505-2-PL*	Plate mounted	Stainless steel

* Plate mounted has 1/4" tube outlet and comes standard with line regulator. Please specify delivery pressure.

SERIES 8000 - HIGH PURITY SWITCHOVER PANEL

The Series S8000 switchover panel is designed to provide uninterrupted gas flow from two or more cylinders. These units are available in either brass or stainless steel construction. The Series 8000 comes mounted on an aluminum panel for ease of installation; 3/4 turn isolation and purge valves are standard on all panels. These valves facilitate purging during cylinder changeout to maintain system integrity.



OPERATION

Once cylinders are installed, the switchover panel will first accept flow from the primary bank, which is preset to 200 PSI. When the primary bank reaches the pressure setting of the reserve bank (above 190 PSI) the unit automatically starts accepting flow from the alternate. To replace an empty cylinder, the operator first closes the isolation valve to limit the systems to exposure to atmospheric contamination, then switches the control knob to the opposite position to switch priority. This allows the unit to switch back in the reverse direction.

FEATURES

- 3' Stainless steel pigtail
- Check valves
- Line regulator
- One knob operation
- Purge/vent valves
- Panel mounted
- Automatic switchover

BENEFITS

- Ease of connecting cylinders
- Prevents discharge of gas
- Constant delivery pressure to point of use
- Switch cylinder priority
- Maintain system integrity
- Ease of installation
- Continuous gas supply

SPECIFICATIONS

Maximum inlet pressure	3000 PSIG
Outlet pressure	0-125 PSIG
Flow rate (nitrogen)	600 scFH (283 lpm)
*Inlet/outlet connections	1/4 NPTF, 1/4 compression
Temperature	-40°F to +165°F
Helium leak rate	1 x 10 ⁻⁸ scc/sec

*User must specify gas service

MATERIALS

- Model S8000-B-brass**
 Body: Brass barstock
 Line Regulator: Series S250B-2
 Diaphragms: 316L Stainless steel
 Seals/Seats: PTFE Teflon®
 Pigtails: 3' - 316L Stainless steel
 Isolation/vent valves: Brass 3/4 turn
 Diaphragm seal
 Check valves: Brass with Viton® seals

- Model S8000-S-Stainless Steel**
 Body: 316L Stainless steel
 Line regulator: Series S250S-2
 Diaphragms: 316L Stainless steel
 Seals/Seats: PTFE Teflon®
 Pigtails: 3' - 316L Stainless steel
 Isolation/vent valves: Stainless steel 3/4 turn
 316L diaphragm seal
 Check Valves: Stainless Steel/Viton® seals

OPTIONS

- Header manifolds
- Armor pigtails
- Pressure switches
- Flash arrestors
- Gas cabinet

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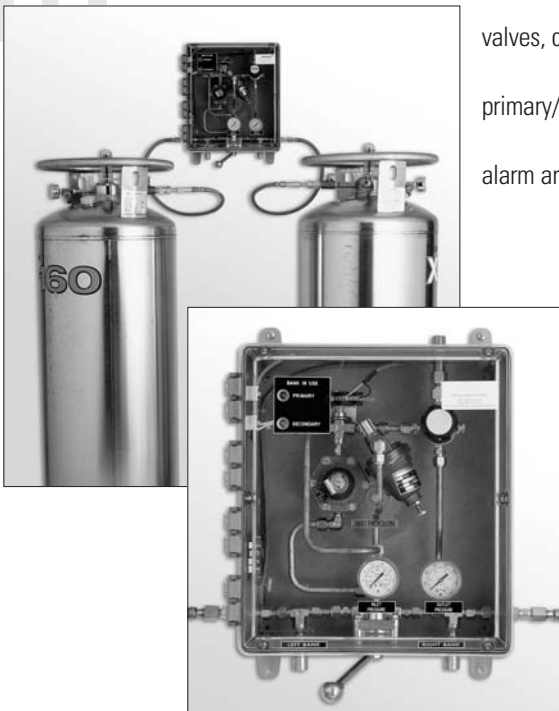
PRODUCT CODE	DESCRIPTION
S8000-B1	Two cylinder brass
S8000-B1-4	Four cylinder brass
S8000-S1	Two cylinder Stainless Steel
S8000-S1-4	Four cylinder Stainless Steel

Note: Please specify type of gas being used and delivery pressure required.

LIQUID CYLINDER SUPPLY SYSTEM (LIQ)

The central control of a GTS liquid cylinder supply system provides automatic switch-over from the primary supply to the secondary when gas in the primary liquid cylinders drop to a preset level or pressure. The LIQ also contains an economizer feature that prevents the loss of gas produced by evaporation of the liquid in the secondary supply by routing the gas into the houseline through the pressure regulator system. This is important to prevent venting of gas from the secondary supply to the atmosphere as the liquid cylinder “warms up” from the idle position. A clearly marked switch-over valve with indicator lights is provided to designate which side is currently feeding. All required pressure relief

valves, check valves and primary/secondary changeover alarm are provided.

**LIQ FEATURES**

The economizer feature prevents the loss of the gas produced by evaporation of the liquid gas in the secondary supply by routing the gas into the houseline through the pressure regulator system.

AUTOMATIC LIQUID CYLINDER GAS MANIFOLD

The Series LIQ Liquid Gas Cylinder Manifold provides continuous gas delivery from two banks of cryogenic liquid gas cylinders without interruption.

CHANGEOVER FEATURE

When one bank of cylinders is depleted, the manifold automatically switches to the second bank. Green or red signal lights indicate when the manifold is drawing from the primary or reserve side, respectively. After the depleted cylinders are replaced, a selector valve at the bottom of the manifold is reset in accordance with the operating instructions.

GAS SAVER FEATURE

An integral “Gas Saver” circuit in the LIQ manifold prevents the accumulated gas pressure in the reserve liquid cylinders from being discharged to atmosphere and wasted. During operation, the Gas Saver directs reserve cylinder pressure buildup to the primary bank where it is used. During shutdown periods (i.e. holidays, weekends, etc.) both banks will be vented to atmosphere. Adequate ventilation must be provided to remove or disperse these gas discharges safely.

SPECIFICATIONS

Maximum inlet pressure	300 PSIG
Outlet pressure	0-125 PSIG
Flow rate (nitrogen)	600 scFH (283 lpm)

MATERIALS

Brass, Bronze components and copper tubing in flow runs. Fiberglass enclosure.

OPTIONS

LIQ is available in stainless steel and UHP semiconductor grade electropolished stainless steel.

PRODUCT CODE	GAS SERVICE
S-LIQ-BA	Argon, Nitrogen
S-LIQ-BA-0 ₂	Oxygen Service
S-LIQ-BA-CO ₂	Carbon Dioxide

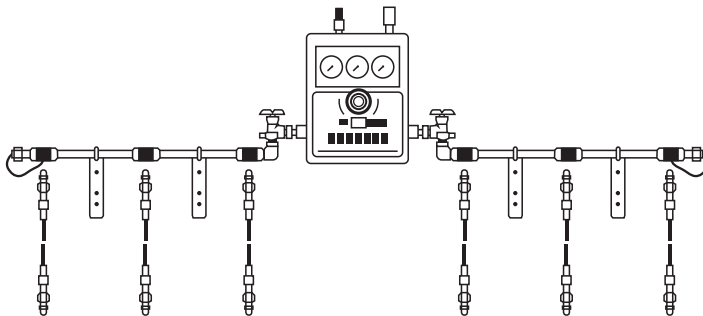
* LIQ is used only for gas delivery from liquid cans. The series LIQ is not designed for liquid delivery. Please notify GTS if you require a liquid delivery system.

Note: Please specify maximum cylinder pressure being used.

SERIES 7200 - HIGH PURITY BRASS AUTOMATIC CHANGEOVER MANIFOLD

The 7200 series high purity brass automatic changeover manifold is designed for gas delivery applications requiring an uninterrupted gas flow and greater on line capacity. The 7200 series will automatically switch over from an exhausted service bank to a full reserve bank of high pressure cylinders (3,000 PSIG maximum), simultaneously triggering a visual alarm (built into the cabinet). Dry and 24 VAC contacts in the power supply box (furnished), allows interface with any computerized remote alarm system or with one of our 24 VAC remote alarms (optional).

Note: Fuel gas units do not include visual alarm, power supply or any electrical components. Fuel gas alarm kits (optional) are available to provide alarm feature if required.

**FEATURES**

Additional check valve at cylinders end of pigtail to minimize contamination during cylinder change outs
Design allows field installation of additional stations without brazing
Flexing stainless lined pigtails with check valves at cylinder end allow easy cylinder hook up and maintain gas purity

BENEFITS

Eliminates costly downtime by providing a constant, uninterrupted gas flow
Enhances safety by consolidating cylinders into a centralized location
Ensures system purity with compatible component selection
Check valve outlets on the header provide added safety

SPECIFICATIONS

Maximum inlet pressure	3000 PSIG
Delivery pressure range	30-100 PSIG 50-200 PSIG HP Model 0-15 PSIG Acetylene
Carbon Dioxide and Nitrous Oxide models available both with and without heater	
Cylinder station spacing	10" center to center all gases except Acetylene 13" center to center Acetylene
Inlet (pigtail) connections	CGA as specified
Header inlets	CGA check valve outlets (for added safety) corresponding to gas use
Outlet connection	1/4 OD tube compression
Flow	24 l/min or 50SCFH N2 service 10 l/min or 20 SCFH Acetylene service 35 SCFH CO2 & N2 service without heater
Current draw	0.75 amps

Note: Please specify type of gas being used.

SERIES 7200 HIGH PURITY BRASS AUTOMATIC CHANGEOVER MANIFOLD (cont.)**MATERIALS OF CONSTRUCTION**

Brass Fitting and Pipe Materials

UNS C36000

UNS C37700

Pigtail Materials

CGA Connection: Brass

Inner Core Material: 316L Stainless (annular corrugated)

Check Valve Seat: Viton® (EPDM for CO₂ and N₂O)

Master Valve Materials

Diaphragm: 303 Stainless Steel

Seat: Nylon

Body: Brass

Internal Check Valves

Body: Brass

Seat: Viton® (EPDM for CO₂ and N₂O)

Spring: 302 Stainless Steel

Pipe Thread Seal

Teflon® Tape

Inlet Filter

10 Micron Sintered Porous Bronze

Intermediate Relief Valve

Body: UNS C36000

Seat: Viton® (EPDM for CO₂ and N₂O)

Body: Brass

Diaphragm: 316L Stainless Steel

Seat: Teflon®

Filter: 10 Micron Sintered Bronze

Seals: PTFE Teflon®

Tubing

316 Stainless and Copper (all models except following)

Brass and 316 Stainless Steel

Primary Regulator and Changeover Regulator

Body, Nozzle, and Retainer: Brass

Seat: Kel-F®

O-Rings: Viton® (EPDM for CO₂ and N₂O)

Diaphragm: 316 Stainless Steel

Pressure Switch

Body: 316 Stainless Steel

Diaphragm: 316 Stainless Steel

Inlet Pressure Gauges

Body: Brass

Bourdon Tube: Phosphor Bronze

Solder: Silver

Intermediate and Line Pressure Gauge

Body: Brass

Bourdon Tube: Phosphor Bronze

Solder: Soft Solder

PRODUCT CODE	NUMBER OF STATIONS	DELIVERY RANGE PSIG	GAS SERVICE
S7200-2	2	0-125	Ar, He, N ₂ , O ₂ , Air
S7200-4	4	0-125	
S7200-6	6	0-125	
S7200-8	8	0-125	
S7201-2	2	0-125	High Pressure
S7201-4	4	0-125	Flammable Gases
S7201-6	6	0-125	– CGA-350
S7201-8	8	0-125	(Explosion Proof)
S7202-2	2	0-125	Low Pressure
S7202-4	4	0-125	Flammable Gases
S7202-6	6	0-125	– CGA-510
S7202-8	8	0-125	(Explosion Proof)*
S7203-2	2	0-125	N ₂ O, CO ₂ Includes
S7203-4	4	0-125	500 CFH Heater
S7203-6	6	0-125	
S7203-8	8	0-125	

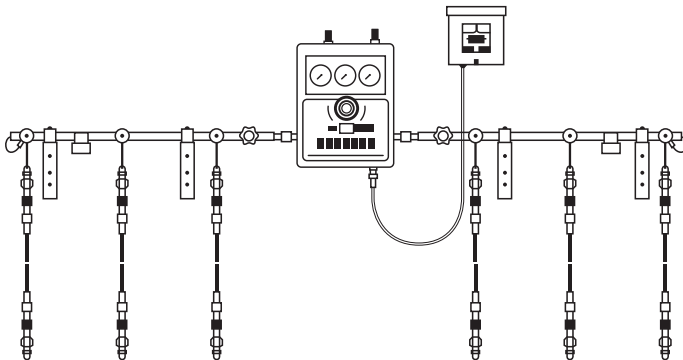
* Acetylene requires a special manifold. Please inquire for prices and specifications.

PRODUCT CODE	DESCRIPTION
S7204-1	Visual Remote Alarm
S7204-2	Audio-visual Remote Alarm (one gas)
S7204-3	Audio-visual Remote Alarm (two gas)
S7204-4	Explosion Proof Pressure Switch

SERIES 7200-SS - HIGH PURITY STAINLESS STEEL AUTOMATIC CHANGEOVER MANIFOLDS

The 7200 series high purity stainless steel automatic changeover manifold is designed for gas delivery applications requiring an uninterrupted gas flow and greater on line capacity. The 7200 series will automatically switch over from an exhausted service bank to a full reserve bank of high-pressure cylinders (3000 PSIG maximum), simultaneously triggering a visual alarm (built into the cabinet). Every unit is Helium leak tested 2×10^{-6} SCC/SEC and shipped with certification. Dry and 24 VAC contacts in the power supply box (furnished), allow interface with any computerized remote alarm system or with one of our 24 VAC remote alarms (optional).

Note: Fuel gas units do not include visual alarm, power supply or any electrical components. Fuel gas alarm kits (optional) are available to provide alarm feature if required.

**FEATURES**

Check valves at header end of pigtails provide added safety
 Additional check valve at cylinder end of pigtail to minimize contamination during cylinder change-outs
 Flexible stainless lined pigtails allow easy cylinder hook-up and maintain gas purity
 CSA certified power supply

BENEFITS

Eliminates costly downtime by providing a constant uninterrupted gas flow
 Enhances safety by consolidating cylinders into a centralized location
 Ensures system purity with compatible component selection
 Design allows field installation of additional stations without welding

SPECIFICATIONS

Maximum inlet pressure	3000 PSIG
Delivery pressure range	30-100 PSIG, 50-200 PSIG
Inlet (pigtail) connections	CGA as specified
Orbital welded header construction	
Cylinder station spacing	10" or 5" on center options
Outlet connection	1/4 OD tube compression
Flow	24 l/min or 50 SCFH N ₂ service 35 SCFH max for CO ₂ or N ₂ O
Current draw	0.75 amps

Note: Please specify type of gas being used.

SERIES 7200-SS - HIGH PURITY STAINLESS STEEL AUTOMATIC CHANGEOVER MANIFOLDS (cont.)**MATERIALS OF CONSTRUCTION**

Fitting and tubing materials

1/2" OD 316 tube and tee construction, orbital welded

Pigtail materials

CGA Connections: 316 Stainless Steel

Tubing Material: 316L Stainless (annular corrugated)

Check Valve Seat: Viton® (EPDM for CO₂ and N₂O)

Master valve materials

Diaphragm: 316L SS

Seat: Kel-F®

Body: 316L Stainless Steel

Internal check valves

Body: 316L Stainless Steel

Seat: Viton® (EPDM for CO₂ and N₂O)

Spring: O2 Stainless Steel

Pip thread seal

Teflon® Tape

Inlet filter

10 Micron sintered porous 316L Stainless Steel

Intermediate relief valve

Body: 316 Stainless Steel

Seat: Viton® (EPDM for CO₂ and N₂O)

Line regulator

Body: 316L Stainless Steel

Diaphragm: 316L Stainless Steel

Seat: Teflon®

Filter: 10 Micron sintered 316L Stainless Steel

Seals: PTFE Teflon®

Primary regulator and changeover regulator

Body, nozzle, and retainer: 316 Stainless Steel

Seat: Kel-F®

O-Rings: Viton® (EPDM for CO₂ and N₂O)

Diaphragm: 316 Stainless Steel

Pressure switch

Body: 316 Stainless Steel

Diaphragm: 316 Stainless Steel

Inlet pressure gauges

Body: 316 Stainless Steel

Bourdon tube: Phosphor 316 Stainless Steel

Intermediate and line pressure gauge

Body: 316L Stainless Steel

Bourdon tube: 316 Stainless Steel, welded construction

PRODUCT CODE	NUMBER OF STATIONS	DELIVERY RANGE PSIG	GAS SERVICE
S7200-2-SS	2	0-125	Ar, He, N ₂ , O ₂ , Air
S7200-4-SS	4	0-125	
S7200-6-SS	6	0-125	
S7200-8-SS	8	0-125	
S7201-2-SS	2	0-125	High Pressure
S7201-4-SS	4	0-125	Flammable Gases
S7201-6-SS	6	0-125	– CGA-350
S7201-8-SS	8	0-125	(Explosion Proof)
S7202-2-SS	2	0-125	Low Pressure
S7202-4-SS	4	0-125	Flammable Gases
S7202-6-SS	6	0-125	– CGA-510
S7202-8-SS	8	0-125	(Explosion Proof)*
S7203-2-SS	2	0-125	N ₂ O, CO ₂ Includes
S7203-4-SS	4	0-125	500 CFH Heater
S7203-6-SS	6	0-125	
S7203-8-SS	8	0-125	

*Explosion proof pressure switch must be used in conjunction with remote alarms on all flammable gas services.

PRODUCT CODE	DESCRIPTION
S7204-1	Visual Remote Alarm
S7204-2	Audio-visual Remote Alarm (one gas)
S7204-3	Audio-visual Remote Alarm (two gas)
S7204-4	Explosion Proof Pressure Switch

Note: Acetylene requires a special manifold. Please inquire for prices and specifications.

GAS CONTROL SYSTEMS

GTS provides expertise in the specialized requirements for handling hazardous gases. All gas panels are constructed of 316L stainless steel tubing and components that have been electro-polished, cleaned and passivated. All UHP gas panels

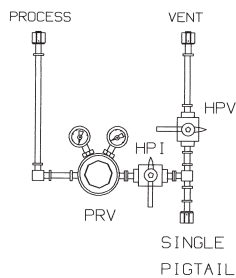
are fabricated in a class 100 certified cleanroom utilizing orbital butt weld technology to insure the highest level of integrity and quality control. Each panel is individually helium leak tested under vacuum to a minimum of 2x10-9 cc/sec. The result is an extremely efficient and safe gas handling system that will enhance both safety and efficiency. GTS offers standard panel designs that will fit most any application, but will custom build gas systems to customer provided specifications. **Please contact the Specialty**

Gas Customer Service Department at 800-942-1148.

PANEL DESIGNATION KEY

PRV	Pressure Reducing Valve
HPV	High Pressure Vent Valve
VPV	Vacuum Purge Valve
LPR	Low Pressure Relief Valve
HPI	High Pressure Isolation Valve
PGI	Purge Gas Inlet Valve
LPV	Low Pressure Vent Valve
PIV	Process Isolation Valve

TWO VALVE GAS PANEL



The two valve panel design is for use with purge gases and/or non-corrosive process gases. It incorporates the self purge concept which allows the user to eliminate atmospheric contamination from the pigtail assembly after a cylinder has been replaced.

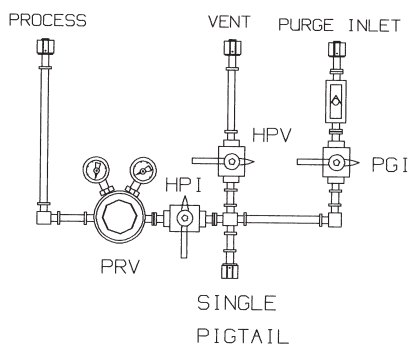
PRODUCT CODE

S5052-M
S5052-A

DESCRIPTION

Two valve panel, manual 1/4 turn valves
Two valve panel, pneumatic valves

THREE VALVE GAS PANEL



The three valve panel design is for use with purge gases and/or mildly corrosive process gases. It meets higher purity requirements due to the built in purge gas feature. This type of system uses the separate purge gas to flush the system of atmosphere as well as residual process gas.

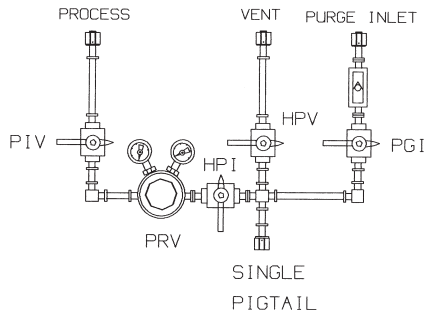
PRODUCT CODE

S5053-M
S5053-A

DESCRIPTION

Three valve panel, manual 1/4 turn valves
Three valve panel, pneumatic valves

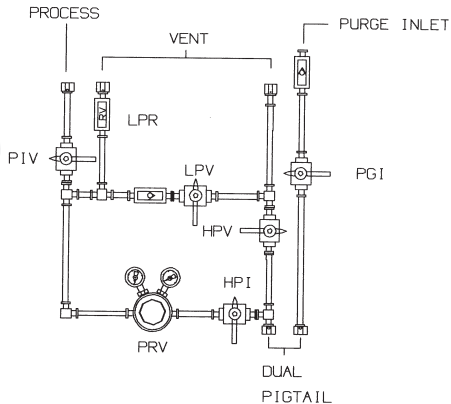
FOUR VALVE GAS PANEL



The four valve panel design incorporates all of the features of the three valve panel with the addition of a process isolation valve. The PIV is useful when a user wants to pull a vacuum on the process line but does not want to impact the panel. It also provides an easy way to temporarily shutoff the gas flow without having to shut down the entire system.

PRODUCT CODE	DESCRIPTION
S5054-M	Four valve panel, manual 1/4 turn valves
S5054-A	Four valve panel, pneumatic valves

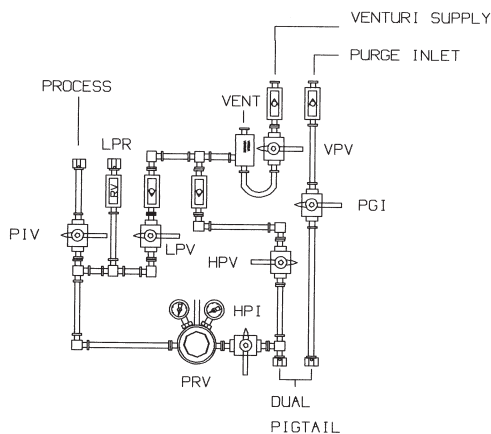
FIVE VALVE GAS PANEL



The five valve panel design for use with hazardous process gases. It incorporates a dual pigtail design which provides the ability to purge process gas from the entire gas panel with an inert gas. It is generally used on toxic pyrophoric and corrosive gases and gas mixtures. This panel should be employed when the user has his own vacuum source to provide vacuum purging.

PRODUCT CODE	DESCRIPTION
S5055-M	Five valve panel, manual 1/4 turn valves
S5055-A	Five valve panel, pneumatic valves

SEVEN VALVE GAS PANEL



The seven valve panel design is for use with the same gas services as the five valve panel. The difference is that the seven valve panel has a built in vacuum generator to provide vacuum assisted purging.

PRODUCT CODE	DESCRIPTION
S5057-M	Five valve panel, manual 1/4 turn valves
S5057-A	Five valve panel, pneumatic valves

SERIES 5015 EMERGENCY SHUT DOWN CONTROLLER

The ES Series of gas controllers have been designed to promote safety within the processing environments where hazardous gases are used. The ES consists of an electronic control station and solenoid valve package which is designed to accept sensor inputs from various in line sensors. The controller monitors the output of these sensors and is programmed to either automatically shut down the flow of gas upon detecting a fault condition or sound an alarm (audible and visual) to indicate an impending problem. The control station also contains an emergency abort button for quick shut off of all gases controlled by it. The ES can also be configured as a multi-station annunciator control station (ACS). The ACS will interface to as many as ten ES systems and display normal or alarm conditions for each of the monitored ES stations. The ACS also has the ability to shut



down all gas services with the touch of one button.

FEATURES

- Excess process gas pressure
- Excess process gas flow
- Low process gas pressure
- Low purge gas pressure
- Insufficient vacuum for purging
- Insufficient exhaust flow
- Toxic and/or flammable gas detection
- Fire/high temperature detection

GTS can provide any of the above sensors in an ESS system package preprogrammed to meet custom requirements. Request GTS' ACS/ESS manual for more details.

SPECIFICATIONS

Dimensions	8.1" W x 4.5" H x 6.0" D
Voltage	110/220 VAC Selectable
Power Draw	7 Watts maximum
Microprocessor	8 Bit, CMOS
Operating Pressure	70-100 psi
Pneumatic Outputs	Selectable (1 or 2)
Digital Inputs	11
Digital Outputs	3
Power Supply Output	24 VDC

OPTIONS

PRODUCT CODE	DESCRIPTION
S5016-1	Low exhaust sensor
S5016-2	Thermal fire sensor
S5016-3	Optical fire sensor
S5016-4	Excess flow sensor
S5016-5	High process pressure sensor
S5016-6	Low process pressure sensor
S5016-7	Low vacuum sensor
S5016-8	Low purge gas pressure sensor
S5016-9	Gas detection sensor
S5016-10	Seismic sensor

PRODUCT CODE	DESCRIPTION
S5015-1	One channel ESS controller
S5015-2	Two channel ESS controller
S5015-ACS	ESS as Annunciator Control Station

SERIES 5025 HPM-1 AUTOMATIC PURGE CONTROLLER

The HPM-1 is a microprocessor based purge and shutoff controller designed to monitor and control gas delivery systems. It is particularly useful when used in conjunction with gas cabinet systems where toxic, pyrophoric and corrosive gases are in use.

FEATURES

Provides fully automated control of gas systems limiting human exposure and error.
 Incorporates all of the features of an emergency shutoff system by monitoring system sensors and taking appropriate action.
 Provides a variety of pre-programmed automatically sequenced purge recipes.
 Permits manual control of all gas valves individually.
 Self contained electronics are packaged in a single enclosure with a hinged front panel to provide access to the circuit boards and sensor terminals.
 Self diagnostics ensure safe dependable operation.
 Remote communications port permits computer interface.

SPECIFICATIONS

Dimensions	12.2" W x 12.8" H x 3.5" D
Voltage	110/220 VAC Selectable
Power Draw	25 Watts Maximum
Microprocessor	8 Bit, CMOS
Operating Pressure	70 - 100 psi
Pneumatic Outputs	12
Digital Inputs	12
Remote Electrical Outputs	4
Remote Electrical Inputs	3
Power Supply Output	24 VDC

The HPM-1 is designed to be installed on the top of a gas cabinet which contains hazardous gases. It eliminates exposure of personnel to hazardous gases by automatically and completely purging the gas panel to safe levels. It should be used wherever there are toxic, pyrophoric or corrosive gases used.

OPTIONS

PRODUCT CODE	DESCRIPTION
S5016-1	Low exhaust sensor
S5016-2	Thermal fire sensor
S5016-3	Optical fire sensor
S5016-4	Excess flow sensor
S5016-5	High process pressure sensor
S5016-6	Low process pressure sensor
S5016-7	Low vacuum sensor
S5016-8	Low purge gas pressure sensor
S5016-9	Gas detection sensor
S5016-10	Seismic sensor

See GTS' UHP gas panel designs on the accompanying pages or call your nearest GTS location to request a personal consultation.



PRODUCT CODE	DESCRIPTION
S5025-1	HPM-1 Automatic purge controller

SERIES 5000 - HPM GAS CABINETS

GTS gas cabinets are designed and built to uncompromising standards. No effort has been spared to create a gas cabinet you can rely on with complete confidence and use with maximum satisfaction. Safety and functional efficiency are paramount in their design and construction.

GTS gas cabinets are designed to safely, conveniently, and effectively isolate cylinders of compressed or liquefied gases from the surrounding plant or laboratory environment.

They protect the operators from the hazards of toxic, corrosive, flammable, or pyrophoric gases while protecting

cylinders and their delivery systems from accidental damage.

The cabinet design maximizes airflow, without traps or pockets that could concentrate hazardous gases to dangerous levels.

Be sure to ask about our custom cabinet building capabilities, too.



DESIGN FEATURES

Inlet louvers at base of door sized to produce most effective air flow. All interior structural elements carefully designed to provide unimpeded purging air flow. Exhaust stacks (6" standard, except 8" for three-cylinder cabinets) top-mounted for maximal purging sweep. Cabinet set on raised U channel to prevent bottom corrosion. Unique plenum design sweeps air over floor to prevent accumulation of heavier than air gases.

CONSTRUCTION FEATURES

All-welded 11-gauge cold rolled steel. All interior surfaces finished with two-part epoxy paint for corrosion-resistance. Door edges rolled for added strength. Ramp and floor are of steel diamond plate. Built-in back panel for mounting gas delivery systems. Single door with locking latch can be hinged for left or right opening. Single piece hinged upwards window permits easy access and automatic closure.

SAFETY FEATURES

UL approved adjustable hydraulic door-closer with fusible-link hold open device (self-closing in case of fire). UL-approved wax-coated lead 165° sprinkler head, protected in wire cage. Bulkhead fittings for tubing exits are either face-seal or feed-through for orbital welding. Cylinder brackets are standard. Filter-holder and filter behind inlet louvers, to clean incoming air, are standard. Door window is of 3/4" wireglass with 1-hour fire rating. Shelves adjustable to non-standard sized cylinders available as an option.

OPTIONS

Gas panels

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For complete details on GTS Gas Cabinets and Supply Systems, contact your nearest GTS location.

PRODUCT CODE	DESCRIPTION
S5000-LB	Lecture bottle cabinet 18" x18" x 40"
S5000-1	Single cylinder cabinet 18" x18" x 75"
S5000-2	Two cylinder cabinet 24" x18" x 75"
S5000-3	Three cylinder cabinet 36" x18" x 75"
S5000-AS	Adjustable shelf for small cylinders

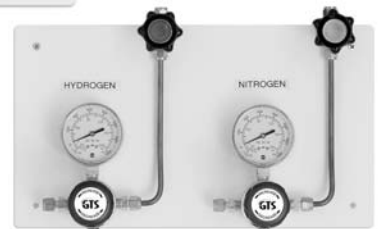
EQUIPMENT

DISTRIBUTION PANELS

These panels have been designed to provide a means to regulate gases at the point of use. Each panel comes with a primary or secondary isolation valve installed on the inlet or outlet, to isolate the gas stream at the point of use, and is designed to be surface mounted to a wall. All panels are fabricated using mild steel and are powder-coated white. They utilize the Series S250B brass high purity line regulators for the "B" series, and Series S250S stainless steel high purity line regulator for the "S" series. All valves are diaphragm packless 3/4 turn high purity valves. Each station is labeled with intended gas service. Please specify.



1 Station Panel



2 Station Panel



3 Station Panel



4 Station Panel

SERIES	A=# OF STATIONS	B=MATERIALS	C=OUTLET PRESSURE	D=VALVES	INLET FITTING	OUTLET FITTING
S	1 = 1 4 = 4	B = Brass	1 = 0-25 PSIG	1 = Inlet	1 = 1/4" Compression	1 = 1/8" Compression
	2 = 2 5 = 5		2 = 0-100 PSIG	2 = Outlet		2 = 1/4" NPTF
	3 = 3 6 = 6	S = Stainless Steel	3 = 0-250 PSIG	3 = Inlet & Outlet	2 = 3/8" Compression	3 = 1/4" Compression
			4 = 0-500 PSIG			4 = 3/8" Compression

Sample:

S	-	4	-	B	-	2	-	1	-	1	-	3
Series		4 Station		Brass		0-100 PSIG Outlet		Inlet Valve		1/4" Compression Inlet		1/4" Compression Outlet

* GTS can custom design panels to fit your application. Please inquire.