



GAS EQUIPMENT



Gas Purification Panel & Control System for GC

Electronic (Digital) / Manual Manifold System / LPG Manifold

Mechanical-Auto Gas Change Over / Electronic (Digital)

Gas Purification & Control System for AAS

Gas Purification & Control System for ICP

Gas Distribution Panel for GC, AAS & ICP

Gas Monitoring & Auto Changeover System

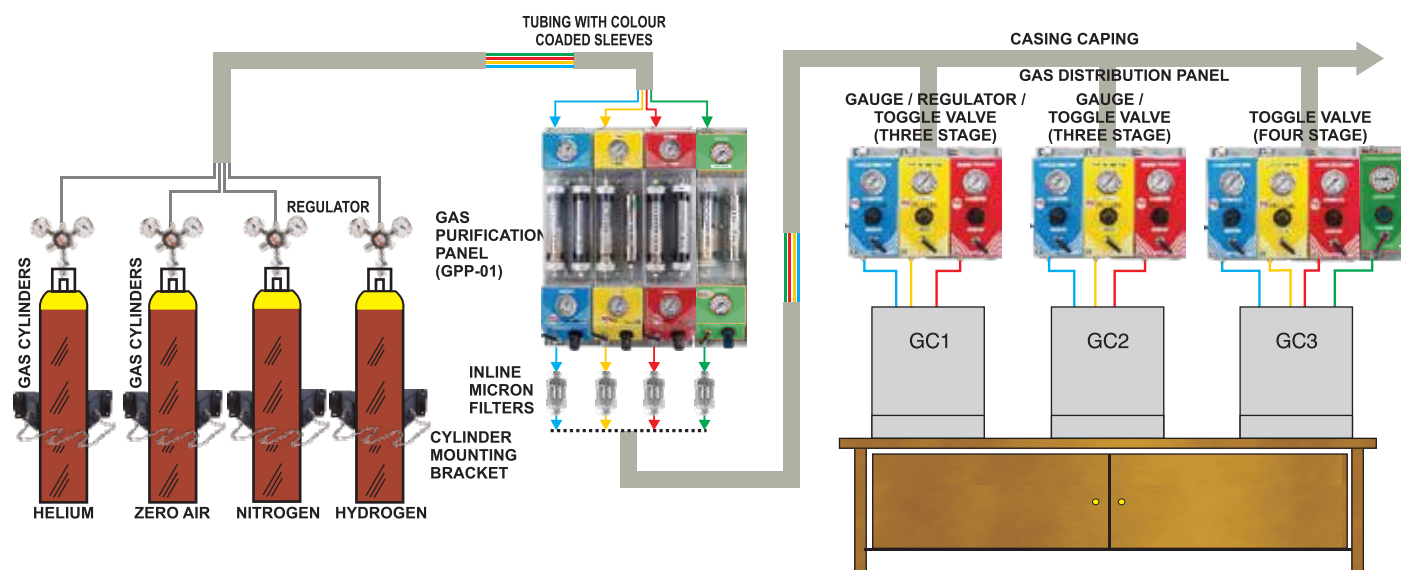
Gas Cylinder Regulators

Gas Detection System

Air Compressor & Air Dryer



Installation Diagram for GC



Installation Diagram for GC



Model : GPP-01
Gas Panel for GC

Salient Features & Benefits :

- Deliver ultra high pure (UHP) grade gases
- Compact design, Wall mounted, Powder coated
- Filters are easily detachable
- Suitable for 10 kg/cm² inlet pressure & 7 kg/cm² outlet pressure
- Panel for LC-MC-MS & other applications are also available
- Reduce baseline noise, drift problems, etc.
- Increase column life, GC detectors & reduces flame problems
- Improve reproducibility
- Save costly gases through toggle valves & gas distribution panel
- CE certified
- With safety acrylic covers
- Inlet & outlet connection : 1/4" or 1/8"

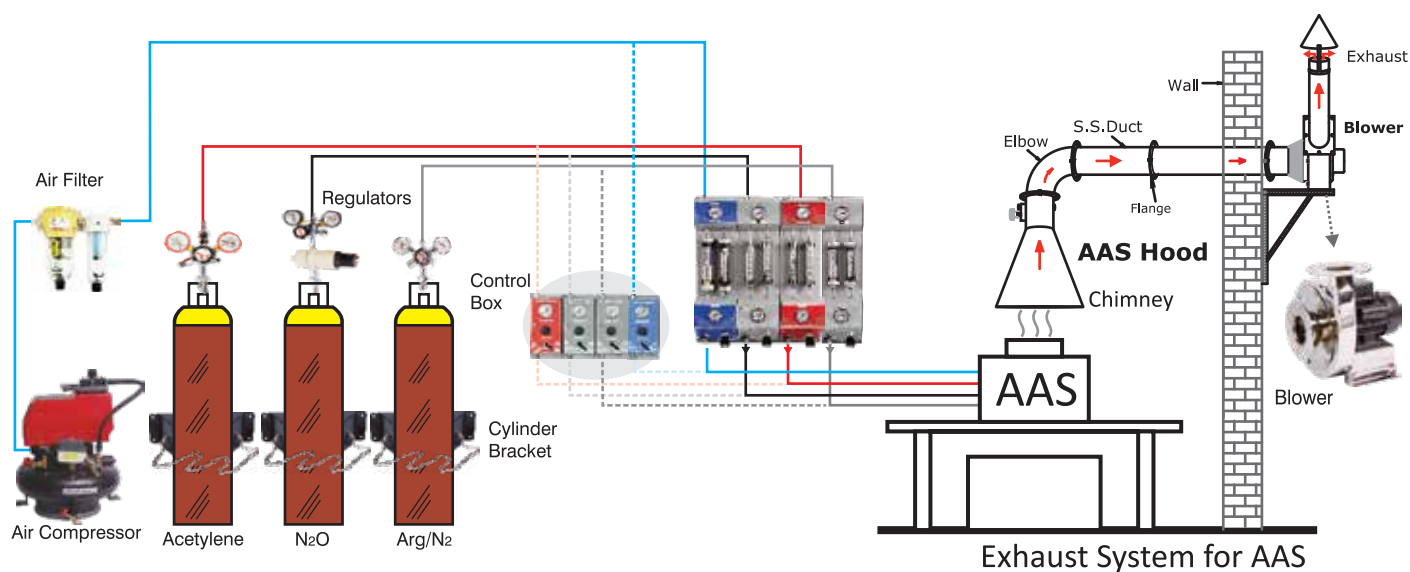
Technical specifications of Gas Purification Panel for GC:

APPLICATION	FILTER TYPE	MAX. INLET IMPURITY LEVEL	MAX. OUTLET IMPURITY LEVEL	LENGTH END TO END	CAPACITY
Moisture Removal	Silicagel / Molecular Sieve	200 ppm	< 3 ppm	10"	210 CC
Hydro Carbon Removal	Activated Carbon / Charcoal	10 ppm	< 2 ppm	10"	210 CC
Oxygen Removal	De-Oxo Chemical Catalyst	10 ppm	< 2 ppm	8"	125 CC
Particle Removal	Micron Filter	25 μ	< 5 μ	2"	-

- Pressure regulators : Maximum inlet pressure 10 kg / cm²
Optional pressure range 0-7 kg / cm² with Neopren Rubber Diaphragm / SS Diaphragm
- Size of panel : 420W X 600H X 87 D in mm (Model GPP-01)
- Net weight : 14 kg. (Model GPP-01)
- Toggle valve : On / Off Type
- Pressure gauge : 0-10 kg / cm² panel mounting
- Panel body : Powder coated wall mounted design with optional safety frame & fully S.S. body
- Tubing : S.S. / Nylon with colour coated sleeves
- Optional : Bigger size of oxytrap for LC-MC-MS & indicating oxytrap for GC MS



Installation Diagram for AAS



Gas Purification Panel

Salient features with benefits:

- Gas purification panel is used to remove the vapors impurities like Moisture, CO, CO₂, Hydrocarbon from N₂O, Argon & Acetylene
- Gas purification for AAS & ICP-MS is optional is one can also use gas distribution panel instead of gas purification panel
- CE certified
- With safety acrylic covers
- Inlet & outlet connection: 1/4 " or 1/2"



Gas Control Box



Air Compressors & Filters



Oil Free
PCI-KI-20T



Air Filter
Automatic Drain



Air Filter
Manual Drain

Air Compressor Air/Moisture Filter (Manual / Auto)

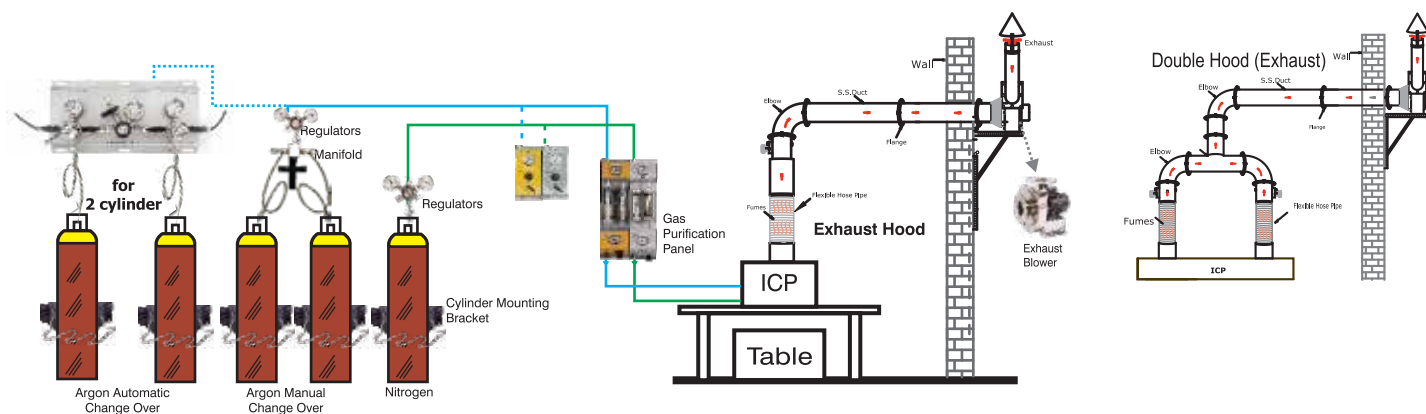
- AAS requires compressed air supply of high flow rate which can be supplied by air compressor which consist of 20 liter storage tank, pressure switch, safety valve, gauge & outlet valve etc.
- Oil free as well as noiseless compressor are also available
- Moisture free air is must for AAS. Filter of 5u & 0.1u which is to be attached after air compressor for the removal of moisture, oil, dust and mist particles.
- There are two types of air filters are available, manual, drain & automatic drain.

Applications

- Moisture removal
- Filter type molecular sieves & alumina filter
- Max. inlet importing level : 20 ppm
- Outlet: <3 ppm



Installation Diagram for ICP

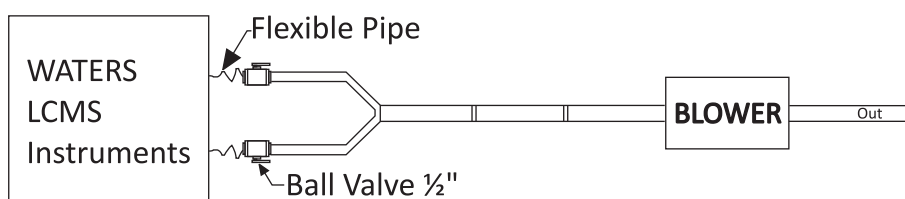


Gas Purification / Control System

- Gas purification panel is used to remove the vapours impurities like Moisture, CO, CO₂, Hydrocarbon from N₂ & Argon.
- Gas purification for AAS & ICP-MS is optional is one can also use gas distribution panel instead of gas purification panel
- CE certified
- With safety acrylic covers
- Inlet & outlet connection: 1/4" or 1/2"



Exhaust System for LCMS



- Blower 0.5 HP (pressurised), 3800 RPM
- SS Body, SS Duct
- Y shape suction connection
- SS Ball valve
- T Clamp
- MS bracket for blower

Gas Distribution Panel for GC, AAS & ICP

Gas Distribution Panel

- Gas distribution panel is used when there is no more than one gas chromatograph.
- It helps to controlled the flow & pressure of different gases for different GC's.
- Available in three different types. One is with pressure gauge, pressure regulator, ON/OFF valve. Second with pressure gauge and ON/OFF valve. Third is with only ON/OFF valve.

Gas Selector Box

- Used for selection between two gases of different types.
- Available in two different types one with selector valve, pressure gauge & toggle valve, another with only two toggle valve.

Gas Changeover Box (Cylinder vs Generator)

- Used for selection between cylinder & gas generator.
- To use gas from cylinder when gas generator is break down for service or maintenance.



Inline Micron Filter

Inline micron filters are used to remove dust particles from respective gases. Micron filter (SS body) consist of SS disc (Mesh) of 5u – 10 u.

Gas purification panel removes impurities which are in vapors (gases) form. Cylinders being M.S. body has the tendency to illute dust particles, these particles may come in the line and may go to gas chromatograph. To avoid this particles micron filters are very essential.



Tubing / Casing Capping / Clamp

- Tubing are available in different sizes like ½", ¼", 1/8", 1/16"
- Tubing available in different MOC like copper, S.S., Teflon, Nylon.
- Casing capping are used to cover the above tubing & to maintain the aesthetic look
- Three types casing capping available, M.S. Powder Coated, Aluminum powder coated & PVC casing capping.



Manual Manifold System / LPG Manifold

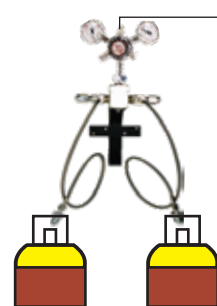
High pressure gas manifold system

- Available in brass chrome plated & SS316 body for inert & corrosive gases.
- Can be connected with one or more than one cylinder.

High Pressure Gas Manual Manifold Systems



LPG Manifold



Manual

Cylinder Trolley

- Cylinder trolley in MS powder coated 4 wheel for smooth & safe operation.
- Cylinder trolley available for single & two cylinder.
- Cylinder mounting brackets are used to mount the cylinder on wall to avoid down fall of cylinder.
- Step climbing trolley also available

Cylinder Mounting Bracket



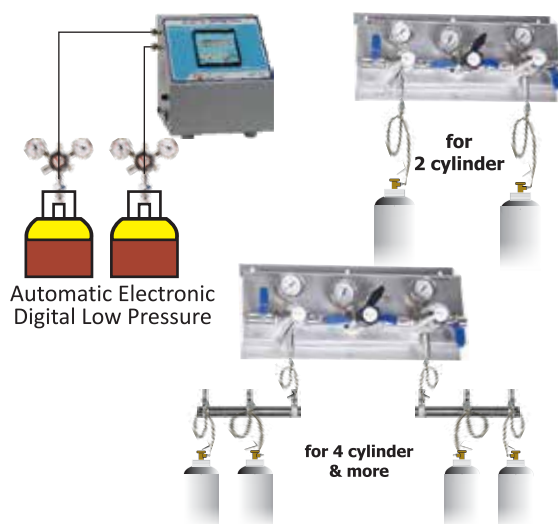
Mechanical – Auto Gas Change Over / Electronic (Digital)

High pressure Mechanical – Automatic Gas Manifold is used for two cylinder system where automatically switching over is required from one cylinder to other, when the pressure in the one cylinder is below the set pressure.

Setting of pressure of two cylinder can be set as per user requirement. It can be used for multiple cylinders banks.

Specifications

Inlet pressure gauge	: 2 Nos. of 0 - 210 kg / cm ² gauge.
Outlet pressure gauge	: 1 No. of 0 - 14 kg / cm ² gauge / as per requirement.
Flow	: 250 LPM @ 6 bar
Gas services	: Air, N ₂ , H ₂ , He, Ace, Arg, N ₂ o, P10 and other gas & also for flammable / non flammable & corrosive gases.
Outlet connection	: ¼" OD ferrule fitting with ball valve.
Inlet connection	: ¼" BSP male to suit pigtail coming from cylinder.
Mounting dimension size	: 500 mm (L) X 300 mm (H) X 45 mm (D)

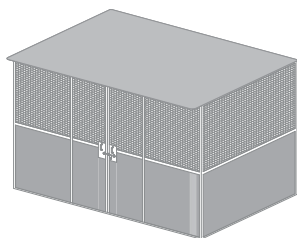




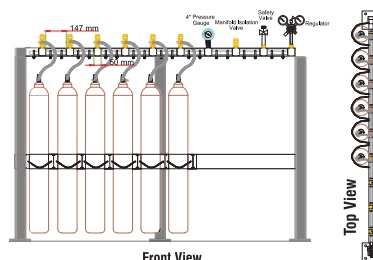
Cylinder Cage / Pressure Reducing System / Unistud Support



Unistud Support



Cylinder Storage Cabinet



Pressure Reducing System

Gas Sampling Bomb, Air Header & Rotameter

- Gas sampling bottle is used for storing / transporting gas sample at high & low pressure.
- Available in 250 ml, 500 ml, 1000 ml & above
- Air header is used for the distribution of compress air or any gas with one inlet various outlet with needle / ball valve.
- Rotameter is used to measure flow rate if available in acrylic body.



Gas Sampling Bomb / Bottle

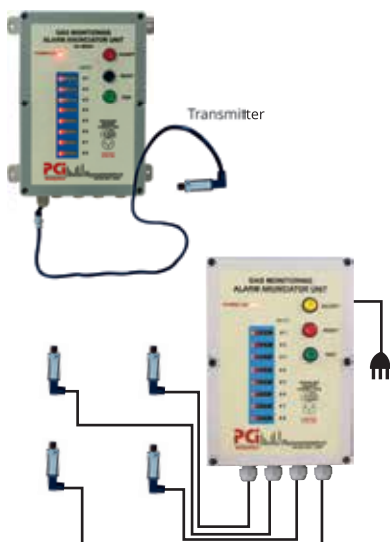


Air Header



Rotameter

Gas Monitoring System



Running out of gas without prior warning?

Solution : Install a gas monitoring system with contact gauge.

We offer a range of single or multiple gauge alarm system that provide both an optical and audible signal when cylinder pressure drop to a predetermine, minimum value.

The alarm systems are based around a pressure gauge incorporating an in-built switch that makes contact and sets off an alarm when the minimum pressure value is reached.

- Contact gauge requirement : 1/4" NPT connection thread bottom end / optical / audible
- Power supply : Single phase, 230V, 50Hz
- Power consumption in Watt : less than 50W

Specifications

- Fully electronic
- Model : PCI-GM4 - for four gases
PCI-GM8 - for eight gases
- Dual colour leds to show the status of cylinder (depend on set point kept in contact gauge)
- Pressure set point (user adjustable)
- Green light indicates alarm with sound
- Red light indicates fault (i.e. not replace with filled cylinder) not removed but attended
- External hooter or light can be connected
- Acrylic body enclosure
- Single or multiple gauge connection provision
- Power supply 230V, 50 Hz
- Current flow through contact gauge sensor is in milliamp so no chance of sparking
- Very low power consumption less than 50W

Gas Cylinder Regulators

PCI manufactures various kinds of regulators. PCI regulators have been designed to meet the demand of High Purity Corrosion Resistance Product Specially for low level PPM moisture.

- Two types of cylinder regulators available Brass Chrome Plated body with SS diaphragm & SS body with SS diaphragm.
- Regulator consist of inlet & outlet pressure gauges. Inlet pressure gauge shows the total pressure of cylinder and outlet pressure gauge shows regulated pressure.
- High pressure piston type regulator & regulators for corrosive gases like Ammonia, Chlorine, etc. are also available.
- Inlet pressure range : 0-280 kg/cm²
- Outlet pressure range : 0-14 kg/cm² in diaphragm type
- Outlet pressure range : 0-40, 0-70, 0-100 kg/cm² in piston type

Regulator Specifications

- Type : Single stage / Double stage
- Material of construction : SS 316 / Brass Chromplated / Monel Body
- Diaphragm : SS 316 with Teflon seat
- Pressure gauges : SS 316 / Brass
- Inlet pressure : 0-210 kg/cm², 0-280 kg/cm²
- Outlet pressure : 600 LPM (max)
- Gas services : Air, N₂, H₂, HE, Acetylene, Argon, N₂O, Methane, Amonia, HCL, Chlorine, SO₂, Isobutene & other gases
- Outlet connection : 1/4, 1/8 P-Lok / Hose
- Inlet connection : As per requirement of gases





Portable Single-Gas Detectors



Features

- LCD indication
- Self-test function
- Adjustable alarm
- Adjustable calibration points
- Two instant alarm points
- Audio, visual LED & vibrator
- Password protection
- Strong, durable rubber casing for anti-slip handling
- STEL & TWA alarms for CO or H₂S units
- Available for CO, H₂S, O₂ or combustible gas
- Rechargeable device
- Replaceable sensors

Application

- Personal safety
- Oil & Gas, Steel industry
- Coal mine, Ambient monitoring
- Mainly in confined place where as the Combustible, Toxic gas leakage happened easily
- Search for gas leakage at various application such as pipe lines, manifold junctions & valves etc.
- Chemical & Petrochemical plants
- Offshore drilling & Processing platform
- Furnace / Refineries
- Chemical storage area
- Sewage plants
- Power & industrial plants
- Gas metering station

O ₂	Oxygen	0-30% VOL.
H ₂ S	Hydrogen sulfide	100 PPM
CO	Carbon monoxide	1000/2000 PPM
H ₂	Hydrogen	0-100% LEL
NH ₃	Ammonia	100 PPM
NO ₂	Nitrogen dioxide	30 PPM
NO	Nitric oxide	1000 PPM
HCN	Hydrogen cyanide	100 PPM
HCL	Hydrogen chloride	30 PPM
CL ₂	Chlorine	20 PPM
SO ₂	Sulphur dioxide	100 PPM
C ₂ H ₄ O	Ethylene oxide	100 PPM
O ₃	Ozone	1 PPM
CO ₂	Carbon dioxide	100% VOL.
C ₂ H ₂	Acetylene	0-100% LEL
Ch ₄	Methane	0-100% LEL

Online - Oxygen Analyser

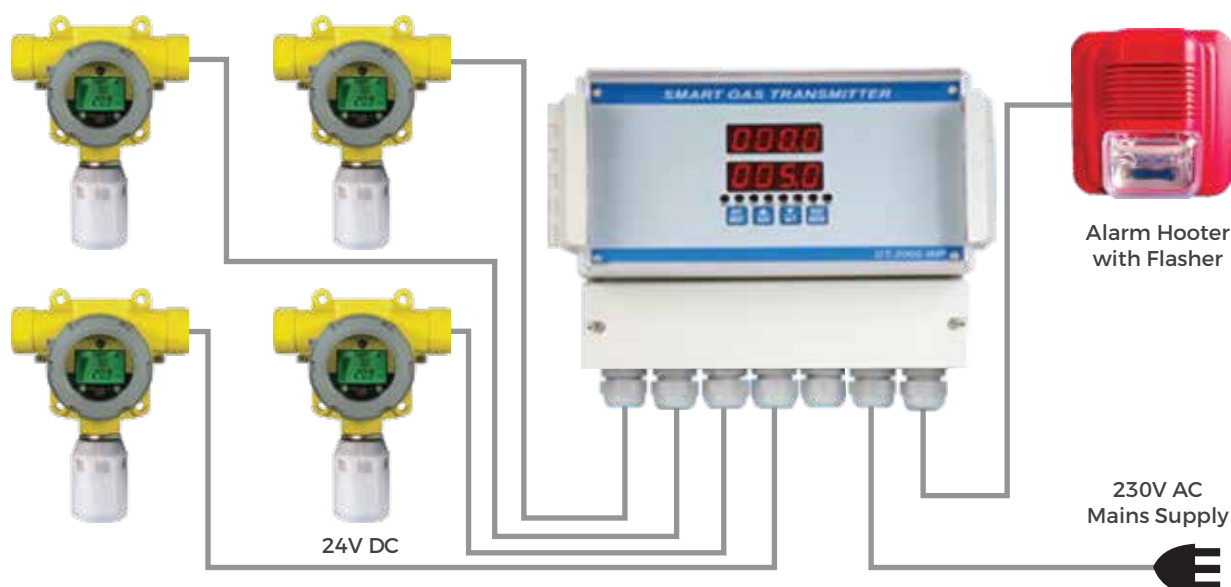
Features

- Sensor : Electrochemical type
- Range : 0 to 1000 ppm
- 0 to 30%
- 0 to 100%
- Size : 96 X 192 mm
- Low / High set point
- Max. operating temp.: Atmosphere $\pm 10^{\circ}\text{C}$
- Maximum operating pressure : 0.5 kg/cm²
- Digital display with 1 ppm or 0.01% or 0.001% resolution
- Long life maintenance free sensor
- Easy to callibrate by key panel



Gas Detection System

Gas Transmitter / Detector



Features

- Gas cylinder bank
- Gas pipeline project
- Chemical processing plant
- Refineries
- Operational RS-485 with modbus RTU protocol
- Chemical & Petrochemical plants
- Oil & gas industries
- Fertilizers plants
- Gas metering station
- Chemical storage area

Applications

- Dual display of gas concentration & set point / unit of the gas
- Plug in smart field proven sensor
- Programmable linear 4-20mA / 20-4mA O/P with respect of gas concentration
- Easy one man calibration at site
- Operational RS-485 with modbus RTU protocol
- Suitable in hazardous area ATEX, CCOE, CMRI & IP-65 approved



Air Compressors

Anest Iwata Motherson Ltd.
Air compressor is used for analytical instruments like AAs, NMR, TOC etc. Air compressors are oil free, oil based. Air compressors are reciprocating, screw & scroll type. Air compressors for AAs is used to produce flame by reacting with acetylene.



Anest Iwata
(Imported)



Oil Free PCI-KI-20T



Oil Free (Indian) HS-WP-2T

Features

- Electric screw compressors
- Starting from 5.5kw / 7.5hp to 15kw / 20hp
- FAD 22 cfm to 71 cfm
- Available in three pressure variant 7,10 & 13 bar (g)
- Also available in inverter drive (IVR)



Chicago Pneumatic

Model	Motor Rating HP	Piston Displacement		Operating Pressure		Tank Capacity
		LPM	CFM			
Anest Iwata						
TFS 10B-9	1	151	5.34	125	8.5	40
TFS 20B-9	2	267	9.44	125	8.5	80
TFS 30B-9	3	408	14.41	125	8.5	80
TFS 50B-9	5	649	22.93	125	8.5	160
TFS 75B-9	7.5	692	24.43	125	8.5	250
TFS 100B-9	10	1038	36.66	125	8.5	250
Indian						
HS-WP-2T	1	120	4.24	100	7	20
PCI-KI-20T	0.6	110	3.9	90	6.2	20
Chicago Pneumatic						
CPM 5	5	460	16.6	62	10	200
CPM 7	7.5	590	21.2	65	10	200
CPA 10/7	10	1170	42	68	7	500
CPA 10/10	10	980	35	68	10	500
CPA 15/7	15	1625	58	68	7	500
CPA 15/10	15	1400	50	68	10	500
CPA 20/7	20	1980	71	68	7	500
CPA 20/10	20	1765	63	68	10	500

Air Dryer

PSA / Desiccant Air Dryer

Standard compressed air enters to PSA unit where all the impurities like: Moisture, CO, CO2 etc are removed to produced clean dry air upto -60° dew point.

Refrigerated Air Dryer

Standard compressed air enters to the air to air heat exchange, where it is pre cooled by out going cold dry air. Highly effective pre cooler reduces the temperature considerably, and enable to use smaller & economical refrigeration system. Then the pre cooled, relatively low temperature compressed air enters to air to refrigerant heat exchanger, where it is cooled down to +3°C (Pressure Dew Point). At this temperature, moisture in vapour form condensed to liquid form, and separated from the compressed air by moisture separator and discharged to drain port through automatic drain valve. The cold dry compresses air passes back to air to air heat exchanger, and gain temperature by exchanging heat with incoming warm air. The dry air coming out from the dryer is ready to use for instrumentation and process air applications.



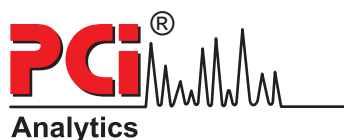
PSA/Desiccant Type



Refrigerated Type

Technical specifications of Gas Purification Panel for GC:

Model	Capacity CFM	Working Pressure kg/cm ²	Connections BSP	Refrigerant	Power Supply v/ph	Condensor Type	Nominal Power Consumption kw	Overall Dimensions in mm			Approx Weight (kg)
								L	B	H	
PPS-15	15	16	1/2"	R134a	220/1	Air	0.19	350	350	550	25
PPS-24	24	16	1/2"	R134a	220/1	Air	0.19	400	500	550	32
PPS-45	45	16	1/2"	R134a	220/1	Air	0.37	400	500	550	35
PPS-60	60	16	3/4"	R134a	220/1	Air	0.37	550	550	730	60
PPS-80	80	16	3/4"	R134a	220/1	Air	0.60	550	550	730	65
PPS-100	100	16	1 1/2"	R134a	220/1	Air	0.60	550	750	900	78
PPS-150	150	16	1 1/2"	R134a	220/1	Air	1.11	700	750	900	90
PPS-200	200	16	1 1/2"	R134a	220/1	Air	1.11	700	750	900	92



A-71, Road No.22, Wagle Industrial Estate, Opp. Lodha Grandezza, Near Spraytech Circle,
(Tata Motors Bus Stop), Thane (W), Maharashtra, India. 400604.
Tel.: +91 22 6831 9393 | Mob.: +91 93237 00351 | Email : info@pcianalytics.in | Web : www.pcianalytics.in

Regd. Office : 3/14, Bhandup Industrial Estate, Pannalal Compound, L.B.S Marg, Bhandup (W), Mumbai - 400078.

Ahmedabad • Chandigarh • Chennai • Delhi • Hyderabad • Kolkata • Pune • Vadodara • Bangladesh • UAE

