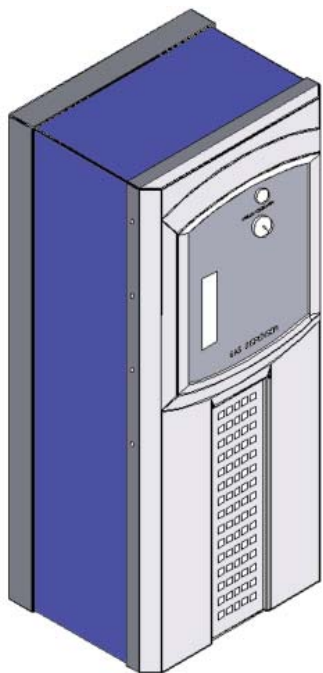


Chemical Feed Equipment Floor-Mounted Gas Dispenser **Series GD7400C**



- Easy, fast & accurate digital with 11 points calibration
- Laser sensor offering actual feed values
- Modern, improved, durable external design
- Convenient, quick, overall internet design
- Fully automatic control by the AUTOVALVE responding to external signals in variety
- Safe & reliable all-vacuum operation
- Capacity range up to 10,000 PPD(200kg/hr)
- Linear feed rate by AUTOVALVE of Sonic Flow Design
- New gas filter system in vacuum line

AQUS Series GD7400C Floor Mounted chlorinators are vacuum operating solution feed devices available with either manual or automatic control. Each chlorinator is composed of three parts; a vacuum regulator, a control module and an ejector. The blue and silver cabinet which encloses the control module is constructed of fiberglass reinforced polyester and has a smooth, easily maintained finish.

Chlorinator feed rates are dependent on the maximum withdrawal rates from the gas source. Maximum chlorinator capacities range from 50 to 10,000 lb/day (0.1 to 200kg/hr).

When automatic control is required Automatic Flow Control Valve mounted within the control module responds to control signals from a water flow transmitter or a chlorine residual analyzer controller.

Several control modules may be used together to construct a system for multipoint application of chlorine. The gas flow from the vacuum regulator may be divided to feed more than one application point with the flow to that point being either manually or automatically controlled. The sum of the flows to each application point cannot exceed the capacity of the vacuum regulator.

Automatic changeover systems use two vacuum regulators without the necessity of a separate changeover valve.

The Automatic Flow Control Valve controller is a state-of-the-art, micro-processor based device for automatically controlling the feed rate of the application gas based on process control parameter.

The controller is a very user-friendly interface and easy to operation for automatic and manual control. Display is a 2-line 16 character, back lighted LCD. It allows easily understood visual indication of specific application parameter.

Units similar to those for feeding chlorine (but with different materials of construction) are available for feeding sulfur dioxide, ammonia and carbon dioxide gases. The maximum capacity of the feeders is 1900 lb/day (38kg/hr) for sulfur dioxide, 975 lb/day (20kg/hr) for ammonia, and 6200 lb/day (30kg/hr) for carbon dioxide.

Design Features

- **Modern Design :** The chlorinators feature compact modular design with cabinets identical in color to other AQUS chlorinators and analyzers. Integrated circuits and a single corrosion resistant electrical enclosure increase reliability of the automatically controlled models.

- **Control Signals :** Automatic Flow Control Valve insures positive response to electric signals representing either water flow, chlorine residual measurement or both flow pacing and residual control signals can be accepted simultaneously by the Automatic Flow Control Valve.

- **Safety :** Vacuum operation provides protection for plant operating personnel and equipment. Built-in design features prevent damage to the chlorinator under abnormal operation conditions.

- **Versatility:** The availability of separate chlorinator components allows for the selection and mounting in locations most suitable for the operation of the chlorination system.

- **Laser System (Option) :** Laser sensor measuring actual float level& output 4-20mA

Engineering Specifications

Capacity and expenditure

The capacity of gas dispenser depends on the maximum capacity of the feed gas and capacity of vacuum regulator.

Gas injection								
PPD	10	25	50	100	200	500	1,000	1,500
kg/hr	0.2	0.5	1.0	2.0	5.0	10	20	30
PPD		2000	3000	4000	6000	8000	10000	
kg/hr		40	60	80	120	140	200	

Power supply condition

Flow rate control equipment: 115/230 VAC (± 15%), 50/60 Hz

Control Module

Ejector vacuum level is indicated by a gauge reading in English and metric units mounted on the front of the control module.

For multipoint application of chlorine solution, each point requires a separate control module containing a flowmeter, a differential pressure regulator. Each application point also requires and ejector. Any combination of capacities may be used as long as the total does not exceed the capacity of the vacuum regulator.

Available optionally are alarm switches to proved indication of loss of vacuum in the event of ejector failure, or excess vacuum as would occur when the gas supply is interrupted or depleted. These switches are rated at 10 A 120 V.

Flowmeter

Standard metering tubes are available with the following maximum capacities: 10, 25, 50, 100, 200, 500, 1000 and 2000 lb/day of chlorine gas. The equivalent metric capacities are

0.2, 0.5, 1.0, 2.0, 5.0, 10, 20, 40 kg/hr. Metering tubes have dual scales in English and metric units. Should it be desired to recude the quantity, or eliminated control valves are available. Flowmeter range ability is 20:1 for any one metering tube.

Materials of Construction : PVC, Tantalum, Viton™ E.I. Du Ponts Co., Hastelloy® C-276 Haynes international, Inc., Teflon™ E.I. Du Pont Co., KYNAR® Pennwalt Corp., silver, leaded navel brass, and extra heavy duty borosilicate glass are used in the construction of the chlorinator and ejector. The control valve tapered tube is glass, the plug material is tantalum and the valve operator is in a non metallic housing.

Accessories and Options

Standard

Insect screen for vent line
Bottle for ammonia solution
Spare gas jets
Tube of thread lubricant
Universal wrench

Optional

Additional Control Modules and Ejectors for Multipoint Application
Automatic Changeover System
Booster Pumps
Chlorine Gas Detector
Chlorine Evaporators
Chlorine Pressure Reducing Valves
Diffusers
Flexible Connectors and Manifolds
Gas Flow Transmission
Integral Residual Controller for Automatic Chlorinators
Pressure Gauge Mounted on Vacuum Regulator
Switch for Electric-Manual Operation on Automatic Models
Vacuum Switches (High and/or Low)
Valve Alarm Contacts

Installation

When the ejector is operating, gas enters the vacuum regulator, being reduced from supply pressure to a constantly regulated vacuum by the throttling action of the gas inlet valve. The gas then passes through the regulator, the flowmeter and the manual or automatic flow control valve into the ejector. Within the ejector, the gas is completely mixed with water or process liquid to form a chemical solution which delivered through solution hose or piping to the point of application.

Location

Select a location for installation of the floor cabinet for protecting from unauthorized personnel. The location should be selected to permit easy access to both the front and rear of the cabinet for operation and maintenance procedures. The cabinet is not appropriate for outdoor installation. So locate the dispenser cabinet in indoor isolated from unauthorized personnel. The location should be well ventilated, provided with a source of heat, to maintain a comfortable surrounding temperature and be sufficient size to allow easy access for inspection and maintenance of the dispenser and attendant gas supply system if local regulations do not specify that the gas supply system should be placed in a separate place.

Connection

Schedule 80 PVC union connections are provided with all AQUUS Inc. floor-mounted gas dispensers for the vacuum inlet from the vacuum regulator and vacuum outlet to the ejector. The size of the union is dependant on the capacity of the floor cabinet. Threaded connections should be prepared with PTFE (Teflon) tape in advance of assembly.

Ensure that all container valves are closed before connecting!

Only use the intended gas lines!

Operation

Water flowing through the ejector creates a partial vacuum which acts on a diaphragm assembly to open the inlet valve admitting gas from the source into the vacuum regulator. A spring-opposed diaphragm regulates the vacuum to a closely controlled valve. At this point the gas flow may or may not be divided to feed chlorine gas to one or more locations.

For each application point, the gas passes through a flowmeter to either a manual or an automatically controlled rate valve. The differential across this rate valve is closely controlled by a differential regulating valve.

The controlled flow then goes to the ejector where it is thoroughly mixed and dissolved in the water and carried to the application point as a solution.

When the flow is divided, multiple control modules and ejectors are used. Each operates independently of the others. Adjustment of one of the gas flow rates has no effect on the other rates.

The system is completely under a partial vacuum from the ejector to the gas inlet valve during operation. If the water supply to the ejector is stopped, or the operation vacuum is lost for any other reason, the spring-loaded gas inlet valve immediately closes to isolate the chlorinator from the gas supply. Any gas under pressure which might enter the regulator is vented from the system through the built-in pressure relief valve. If the source of chlorine gas is exhausted, or the gas port plugged, an excess vacuum valve in the control module protects the system from damage.

The ejector is supplied with a check valve and an drain connection to prevent water from reaching the control module.

Ordering information

Please specify the following :

Flowmeter Capacity (for each meter)

Water Supply and Back Pressure (for each ejector)

Automatic Changeover (if required)

Number of Control Modules with Automatic Control

Electrical Characteristics

Shipping Weight and Cubage

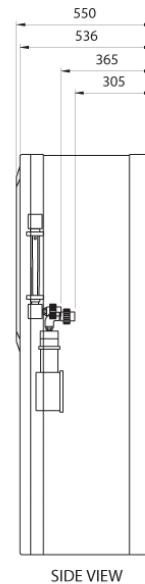
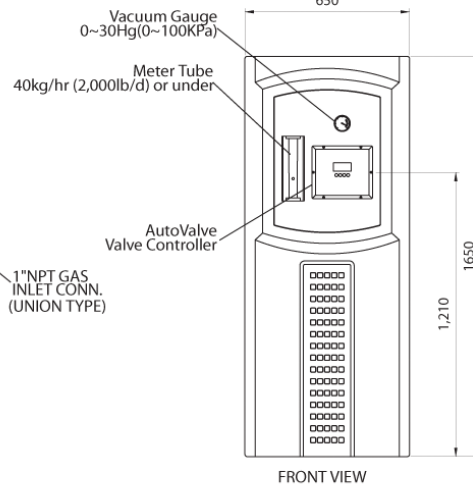
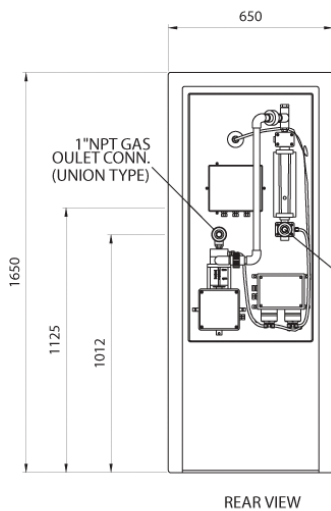
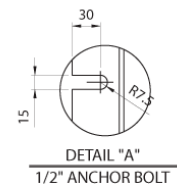
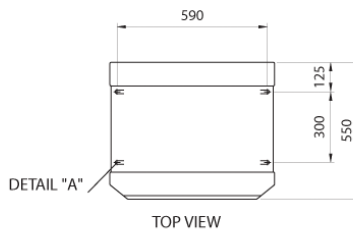
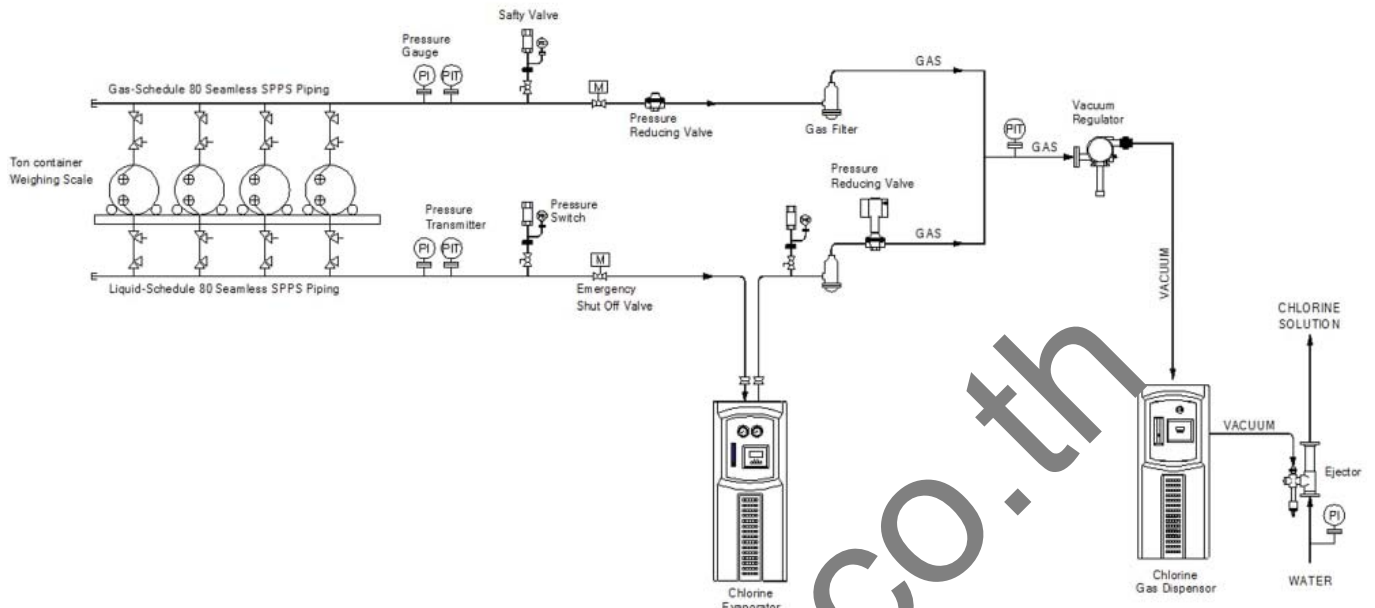
Up to 40kg/hr :

-180 lb(82kg), 24 /ft³(0.7m³)

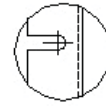
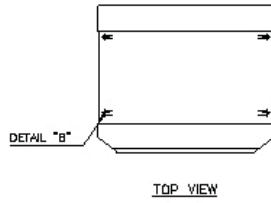
Up to 200kg/hr :

-225 lb(102kg), 24 /ft³(0.7m³)

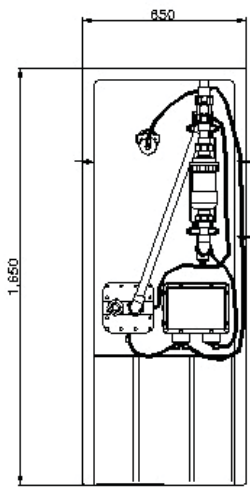
Dimensions



Automatic Type Gas Dispenser



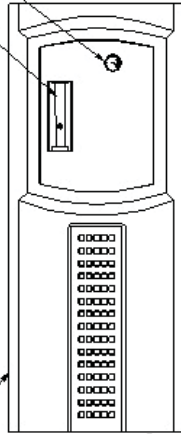
DETAIL "B"
1/2" ANCHOR BOLT



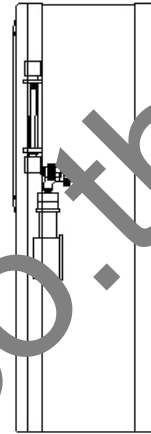
Vacuum Gauge
0~30Hg(0~100KPa)

Meter Tube
MAT'L : GLASS

MODULE
MAT'L : FRP



FRONT VIEW



SIDE VIEW

Manual Type Gas Dispenser

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