S10K™ SYSTEM

WALLACE & TIERNAN® GAS FEED TECHNOLOGY

The S10k™ chlorinator is a vacuum operated, sonically regulated unit. Direct cylinder mounting puts the vacuum-regulating valve right at the source, reducing gas pressure to a vacuum immediately. Its ability to handle all water treatment gases as well as its flexible mounting configurations for cylinders, manifolds or ton containers provides versatility for all installations. Two basic arrangements are available in capacities of 4 and 10 kilograms per hour/200 and 500 pounds per day (PPD) of chlorine gas. With fewer internal parts, you can be confident that the S10k chlorinator will provide reliable, dependable service.

Typical applications

- Treatment of potable water, industrial process and waste water
- Desinfection of swimming pool water

Features

- Integral switch-over unit for several gas cylinders (option)
- Volt-free contact for container empty signal (option)
- Available for feeding chlorine gas, carbon dioxide, sulphur dioxide and ammonia (for other gases consult)

Vacuum regulating valve

The vacuum regulating valve reduces the supply pressure to the necessary operating vacuum. It includes a selector knob and icons to indicate the operating status. An off-position isolates the diaphragm and internal components from atmospheric air when the containers are changed. In addition, the vacuum regulator incorporates an internal pressure relief valve.

The automatic switch-over system is designed to change over to a new supply as the on-line supply is depleted. The regulator valve includes a mechanical detent to keep the stand-by gas supply ready for on-line service. When the switch-over has been accomplished, gas continues to be withdrawn from the former source until it is empty. The vacuum regulating valve incorporates an easy to read indication for “stand-by”, “operating”, “empty” and “off”.

Benefits:

- Proven design, excellent reliability and long service life
- Proven V-notch flow control technology providing reliable vacuum operation and precise feeding
- Easy to read icons provide positive indication of container status
- Positive shutoff allows containers to be changed without admitting air, dirt or moisture into control unit
- Easy alignment of the control unit on the container by means of a captive yoke assembly
- Complete gas consumption by means of a non-isolating switchover system
- Flowmeters with high resolution in 14 measuring ranges up to 10 kg/h
- Serviceability – components easily accessible

DOSING RANGES

Chlorine / Sulphur dioxide				Carbon dioxide				Ammonia			
g/h	lb/24 h	kg/h	lb/24 h	g/h	lb/24 h	kg/h	lb/24 h	g/h	lb/24 h	kg/h	lb/24 h
2 – 25[1]	0.1 - 1	0.1 – 2	5 - 100	1 – 20[1]	- 1	0.12 – 2.4	5 - 100	0.6 - 12[1]	- 5	0.075 - 1.5	3.8 - 80
3 – 60;	0.2 - 3	0.15 – 3	8 - 160	2.4 – 48	0.1 - 2	0.16 – 3.2	8 - 160	1.5 - 30	0.1 - 1.5	0.1 - 2	5 - 100
10 – 200	0.5 - 10	0.2 – 4	10 - 210	8– 160	0.5 - 8	0.2 – 4[2]	10 - 210	5 - 100	0.3 - 5	0.125 - 2.5[2]	5 - 130
20 – 400	1 - 20	0.25 – 5[2]	13 - 265	16 – 320	0.8 - 17	0.24 – 4.8[2]	12 - 254	10 - 200	0.5 - 10	0.15 -3[2]	7 - 160
30 – 600	2 - 30	0.3 – 6[2]	16- 310	24 – 480	1.2 - 25	0.32 – 6.4[2]	17 - 338	15 - 300	1.5 - 15	0.2 -2[2]	10 - 100
50 – 1000	3 - 50	0.4 – 8[2]	20 - 420	40 – 800	2 - 42	0.4 – 8[2]	20 - 420	25 - 500	1.5 - 25	0.25 -5[2]	13 - 260
75 – 1500	4 - 80	0.5 – 10[2]	26 - 530	60 – 1200	3 - 63			37 - 740	2 - 38		
				80 – 1600	4 - 85			50 - 1000[2]	3 - 50		

[1]AVAILABLE WITH 3 " FLOWMETER ONLY; [2]AVAILABLE WITH 5 " FLOWMETER ONLY

Gas control unit

The gas control unit consisting of a 3 " or a 5 " flowmeter with V-notch control orifice, can be installed up to 3000 meters from the vacuum regulating valve (gas supply). For the connection of the gas control unit to several points of application acording devices and connectors are available. The flowmeter is freely accessible and can be easily removed for maintenance.

Injector

Fixed-throat injectors develop the necessary vacuum for the operation of the S10k™ gas feed system by means of the operating water. An integral bracket is provided for horizontal as well as vertical mounting. The injectors include two independent check valves to prevent water from back-flooding into the vacuum regulator when the system is shut-off.

INJECTORS:

Connection	4 kg/h	10 kg/h
Gas dosing unit	PVC pipe	
	DN 20, DN 25	DN 25, DN 32
Solution outlet	same as inlet	PVC pipe
		DN 20, DN 25, DN 32

Vacuum regulating valve:

Tubing to gas dosing unit[3]:
PE-hose 1/4 ", 3/8 ", 1/2 "; PVC-pipe DN 15, DN 20, DN 25

[3]The nominal diameters of the connecting lines are a function of the gas feed rate and the length of the line.

Cylinder or tank connection:

Direct connection to cylinder or header valve or to flexible lines, manifolds

Indication of operating status:

Three/four[4] icons provide visual indication of operating status of the gas supply.

[4] Only with the use of a vacuum regulator with automatic switch-over.

Complete shut-off:

The OFF position of the selector knob allows for the shut-off of the vacuum regulator. The containers can be changed without admitting air, dirt or moisture into the control unit and without the need for shutting-off the injector.

Automatic switch-over (option):

The integral switch-over eliminates the need for external switching devices. The cylinder can be fully emptied, with the possibility to maintain a positive pressure in the empty cylinder (option).

Operating range: manual 1 : 20 for any feed range

Gas cylinder empty signal (option):

Volt-free contact (max. 3 VA, 24 V DC)

Injector/operating water:

The injectors are available in two sizes: 3/4 " up to 4 kg/h and 1 " up to 10 kg/h. Depending on the operating conditions (gas feed range, operating water pressure) the injector throats are specified according to the application.

Inlet pressure:

max. 16 bar up to 38 °C/max. 10 bar up to. 55 °C

Back pressure:

max. 11 bar (depending on line specifications and operating water temperature)