

STEAM HEATED VAPOURIZER - SC 70

For Chlorine, Sulphur Dioxide and Ammonia

STEAM HEATED VAPOURIZER

The design and manufacture of Steam Heated Vaporizer meets Chlorine Institute recommendations for liquid vapourization by low pressure steam. The liquid is inside the tube and the heating media is steam vapour which is outside the tube. The vapourizer design pressure of 300 lbs meets Chlorine Institute Recommendations with corrosion allowance of 3 mm on chlorine side and 1.5 mm on steam side.

Series SC 70 Vapourizer is of heavy duty construction. The internal and external surface of the vapourizing chamber can be easily inspected during servicing which is a unique feature of the design. Ease of cleaning is an added advantage to remove the sediments. SC 70 can be easily cleaned by removing the top bolt. Suction trap has a sacrificial chamber provided at the gas outlet which protects the main body from corrosion attack.

The Steam chamber has nozzle connections for steam inlet, condensate outlet, pressure gauge, pressure switch and pressure relief valve. Insulation on shell must be done by the client at site.

To place the system in operation

1	Open steam valve (3)
2	Allow vapourizer to warm, admit liquid slowly by opening the valve (18) to vapourizer. Liquid flows due to the gas pressure prevailing in the container.
3	Observe vapour pressure gauge (10) to come in line with liquid pressure gauge (1)
4	Open valve (11)
5	The pressure regulating valve (13) is factory set to reduce the gas pressure.
6	Operate the flow control valve (14) to control the gas flow
7	Interlock Low steam pressure switch (16) is set at 0.2 Kg/sq.cm. in steam chamber. The pressure switch is interlocked to the automatic shut of valve on gasline (17) to prevent liquid flooding in the absence /failure of heating media steam.
8	Observation Observe the temperature on gauge(7). (7). It must read above 4 deg.C than the ambient. This superheat prevents reliquefaction of gas in down stream of vapourizer gasline. It also indicates the healthy condition of vapourizer. If the superheat reduces less than 2 deg.C it indicates the fouling has occurred in the liquid chamber of vapourizer demanding cleaning of the internal surface.

To shut down the system

1	For Regular shut down operation close the liquid valve to the vapourizer and completely allow the gas to be consumed. Make sure the pressure gauge (10) falls to '0' indicating the gas empty in vapourizer.
2	Alternate shut down During emergency or intermittent operation sudden gas stoppage may be required. During this period close the gasline valve (11) but keep all the liquid line valves open. The pressure balances so that the vapourizer gas phase remains equal to the container gas pressure.

CAUTION

- Do not trap liquid in vapourizer by closing liquid and gas valves
- Do not control the flow or pressure of steam. Allow constant pressure.

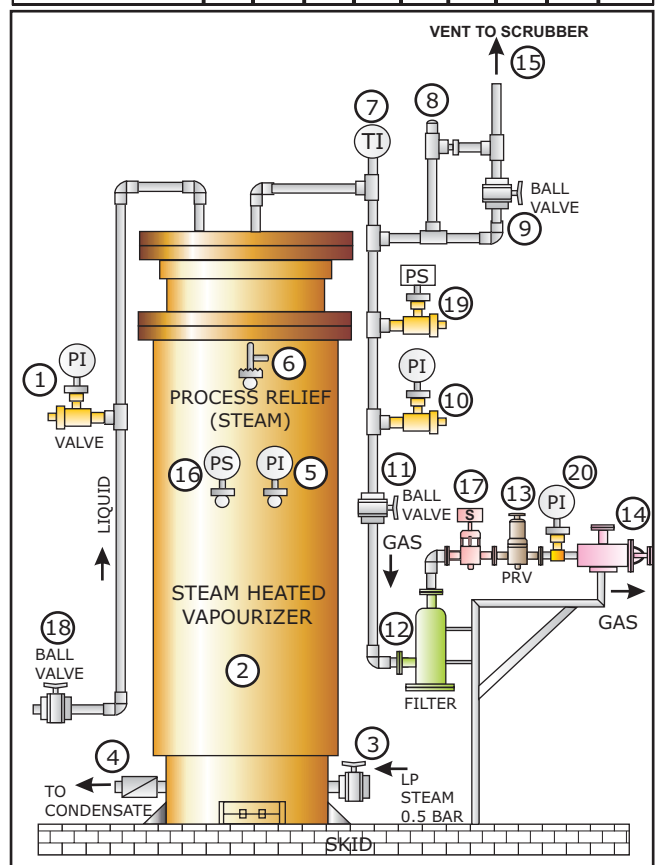
OPERATING PRINCIPLE

In operation, liquid is introduced through liquid inlet which is connected to the bottom of the vapourizer tube by a dip pipe. Here the liquid rises to contact sufficient surface to meet the vapour demand rate. After equilibrium is reached vapourizer operates at essentially on container pressure.

As gas demand reduces, the pressure at the vapourizer raises thus reducing the inflow of liquid feed. On sudden shut down of gas valve, liquid would be forced out of vapourizing chamber back to the container.

With evaporation, the vapour raises through the vapour baffle to the super heating chamber, enters the suction trap and leaves through the gas outlet. Suction trap collects moisture and prevents such moisture from corroding vapourizer chamber. Since suction trap is not a pressure part it can be severely corroded without impairing operation or safety.

GAS (Kg/hr)	Ordering No.								
	SC 701	SC 702	SC 703	SC 704	SC 705	SC 706	SC 707	SC 708	SC 709
CHLORINE	80	150	200	300	500	750	1000	1500	2000
AMMONIA	17	33	44	66	110	165	220	330	440
SULPHUR DIOXIDE	52	97	130	195	325	487	650	973	1298
LPG	50	90	120	180	300	450	600	900	1200
STEAM REQUIREMENT (At full capacity)	10	18	24	36	60	90	120	180	240



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