

## Pure Steam Generators for the Pharmaceutical Industry



- VAPOTRON VT Pure Steam Generators for 50 up to 5000 kg/h, higher production requirements are available on request
- Space-saving and compact design
- All product wetted components in acid-resistant stainless steel AISI 316L
- In-house engineered, designed and manufactured by BWT AQUA AG
- Simple and intuitive operation are realized via 15" touch panel from Siemens
- Our easy system integration, in line with the well-known BWT Turnkey-concept
- cGMP compliant, optional compliance with the GAMP and 21 CFR Part 11 requirements
- Uniform, complete documentation for all pure steam systems (FAT, SAT, IQ and OQ)

The pure steam generator VAPOTRON VT by BWT AQUA AG is suitable for all applications in the field of cGMP. The system can additionally be equipped with a membrane or thermal degassing system in order to comply with pure steam requirements according to DIN EN 285 for the sterilisation in autoclaves.

The VAPOTRON by BWT AQUA AG consists of a steam generation column, a control cabinet, the required valves, pipes and wires. The double-tube-sheet (DTS) heat exchanger mounted in the column has seamless pipes. FDA recommends its use in cases where an impure medium has a higher pressure than the pure medium. Therefore these double-tube-sheet (DTS) heat exchangers are used in the column as well as in any optional preheater.

The heat exchanger tubes are rolled into the inner tube plate and welded onto the second plate. This low maintenance design results in a highly reliable operation and ensures a long product life.

The pure steam generator is mounted on a skid with stainless steel profiles with adjustable feet. The column is a pressure vessel and is therefore made according to EU pressure vessel guidelines. All material used, are provided with the respective certificates. Pressure test and acceptance will be carried out and confirmed according to EU pressure vessel guidelines by a notified body.

All feed water and pure steam wetted system components are made of high-class stainless steel AISI 316L (1.4404/1.4435). All valves necessary for standard operation conditions of the pure steam generator are pneumatically connected via magnet valves (with emergency stop button initiation) automatically.

The control of the system is carried out by a central control cabinet that is made according to EN 60204-1.

The pure steam generators are delivered completely wired as a package unit generator system with an attached control cabinet.

### BWT AQUA AG

Hauptstrasse 192, CH-4147 Aesch/BL, Schweiz  
Tel.: +41/(0)61/755 88-99  
info@bwt-aqua.ch • [www.bwt-aqua.ch](http://www.bwt-aqua.ch)

FOR YOU AND PLANET BLUE.



BEST WATER TECHNOLOGY

## Pure Steam Generators for the Pharmaceutical Industry

Type		VT 1000	VT 1500	VT 2000
<b>Technical data:</b>				
<b>Capacity by heating steam pressure:</b>				
		<b>Pure steam quantity at 3 barg <sup>*1)</sup></b>		
8 bar(g)	kg/h	1000	1500	2200
7 bar(g)	kg/h	820	1230	1800
6 bar(g)	kg/h	620	930	1360
5 bar(g)	kg/h	400	610	890
4 bar(g)	kg/h	180	280	410
<b>Hydraulic connections:</b>				
Feed water	inch	¾"	1"	1"
Pure steam	inch	3"	4"	4"
Heating steam	DN	65	80	100
Condensate	DN	40	40	40
Cooling water <sup>*2)</sup>	inch	¾"	¾"	¾"
Waste water	DN	15	15	15
Compressed water	DN	1/4"		
<b>Power consumption:</b>				
Electrical power approx. <sup>*3)</sup>	kW	1.5	2.0	2.0
Voltage	V AC	400		
Frequency	Hz	50		
<b>General:</b>				
Max. ambient temperature	°C	35		
System of protection		IP54		

\*1) Pure steam pressure < 3bar(g) or > 3bar(g) on request.

\*2) Cooling water inlet 6°C to < 40°C.

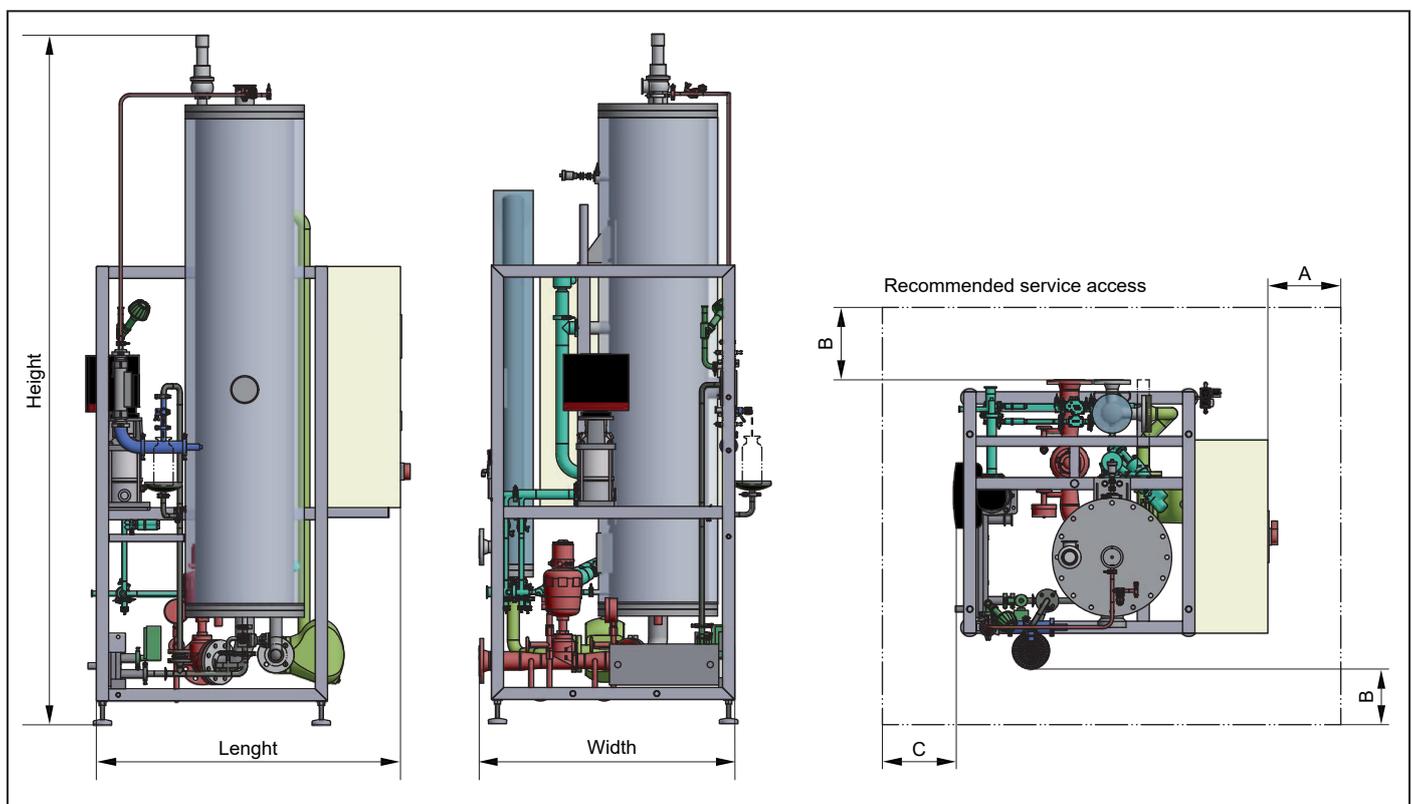
\*3) The electrical power depends on the pump capacity and on the feed water pressure.

## Pure Steam Generators for the Pharmaceutical Industry

Dimensions <sup>*4)</sup>		VT 1000	VT 1500	VT 2000
Length	mm	1250	1400	1500
Width	mm	1050	1250	1350
Height	mm	3000	3950	4000
Dead weight	kg	910	1300	1500
Max. weight (fully filled with water)	kg	1390	2000	2500

\*4) Length, depth and height dimensions are based on basic unit configuration.

Dimensions and weights may vary depending on options selected.



Additional required free spaces for maintenance and installation:			
Length for side A	mm		1000
Depth in front and behind B	mm		1000
Length for side C	mm		1000
Height distance (equipment/room ceiling)	mm		300

Changes reserved!

**BWT AQUA AG**

Hauptstrasse 192, CH-4147 Aesch/BL, Schweiz

Tel.: +41/(0)61/755 88-99

info@bwt-aqua.ch • [www.bwt-aqua.ch](http://www.bwt-aqua.ch)

FOR YOU AND PLANET BLUE.

