

**reflex**

Thinking solutions.

## Servitec S

Vacuum spray-tube degassing  
for medium-sized systems

With easy  
app  
control!

→ Reliable and permanent degassing  
with automatic water make-up

→ Long-term system safety thanks  
to excellent water quality



Find out more: [www.reflex-winkelmann.com/en](http://www.reflex-winkelmann.com/en)

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## Background information

The influence of water quality has a huge impact on the operating behaviour of water heating and cooling systems. Gas cavities in heating and cooling systems impair the functionality and can lead to total failure of plant components and systems. They reduce the efficiency of energy transfer and result in corrosion risks. Corrosion enhances the formation of soiling and sludge in heating and

cooling circuits, which can lead to further impairment of the entire system. Degassing systems like the Servitec vacuum spray-tube degassing remove gases from the system centrally. This results in optimised system hydraulics with a gas-free medium for efficient heat transfer as well as a longer service life of the heating or cooling system.

## Scope of application



- Medium-sized systems such as apartment buildings, small school buildings, small commercial and office buildings
- System volume of up to 6 m<sup>3</sup> (water) or of up to 4 m<sup>3</sup> (water-glycol mixtures)
- Decentralized degassing system for problematic strands
- Commissioning of panel heating and cooling systems as an innovative replacement for costly high-pressure rinsing to remove air and gas pockets



Pressure up to  
**4.5 bar**



System volume  
up to  
**6 m<sup>3</sup>**



Output  
up to  
**500 kW\***

\* depending on system configuration

## Benefits at a glance

- + High-performance, central degassing of the content and make-up water
- + Long-term system safety and long service life of the entire heating or cooling system
- + No costly, decentralised post-ventilation as well as savings on decentral mechanical air separators
- + Controlled water make-up function with almost gas-free make-up water
- + Easy to install and to commission thanks to plug-and-play function and app control

The combination with a dirt and sludge separator results in a very efficient synergy for the optimum operation of the system.



## Reflex Control Smart

Servitec S with easy app control

Even smarter: with Reflex Control Smart, the Servitec S can now be operated via smartphone. This is a further digital service for the installer to carry out simple commissioning. End users can also adjust individual degassing times such as weekdays and operating times. Malfunction messages are displayed in the app – for example, if a water loss or shortage is detected.

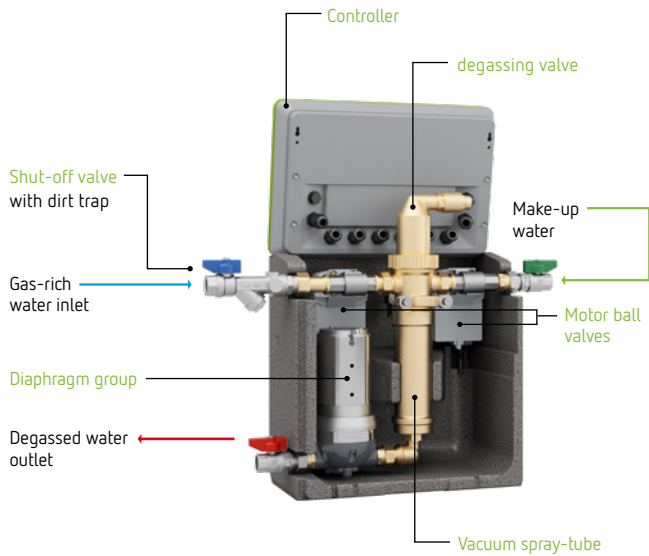
- Quick and easy commissioning
- Parameterization of degassing mode (continuous or interval degassing, idle mode, number of cycles) inc. weekdays and time
- Maintaining and troubleshooting assistant
- Display of system pressure
- Software updates for system control
- Display of fault messages



Now available  
for Android and iOS



## Design



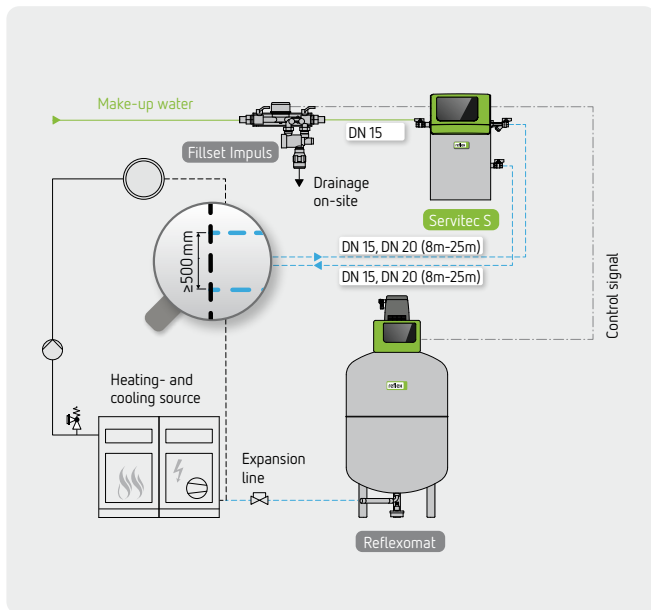
## How it works

The degassing of the plant water takes place by means of a spray pipe.

1. The pump cuts in, the water level drops and a vacuum is generated in the vacuum spray-tube. The circuit water (optionally make-up water) is atomised in the generated vacuum releasing the dissolved gases due to the vacuum and the large contact surface.
2. The pump shuts down. Water is sprayed until the vacuum spray-tube is completely filled again. If there is an active make-up request, a switch-over enables high-gas make-up water in the vacuum spray pipe to be degassed too.
3. If the pump is switched off, water is sprayed as long as the spray-tube is filled again. The expelled gas is pushed out via a deaerator.
4. All released gases are discharged safely by the automatic vent.

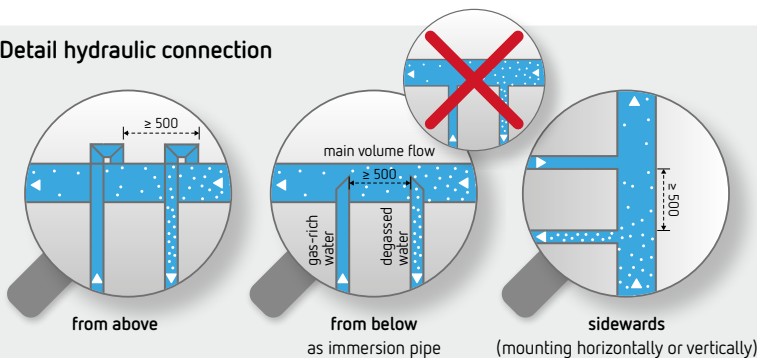
The medium, which is now undersaturated, is able to absorb new gases from the system once again, thereby steadily reducing the gas concentration in the entire water system.

## Installation



- Connection to the existing pipe network by using flexible connections. The Servitec is integrated on the system side, in the return flow and before any possible return flow additions.
- The installation in the main volume flow ensures an optimum degassing function.
- A system separator such as Reflex Fillset must be used for direct connection of Servitec water make-up to drinking water systems.
- During the period of vacuum drawing there is no water in the degassing tank, so a water seal of  $VD = 1.0 \text{ l}$  must be taken into account when calculating the expansion volume.
- From a pipe length of 8 m it is recommended to select the next larger nominal diameter DN 20. Max. pipe length 25 m.
- If the make-up line exceeds 4 m, a Reflex WG water shock arrestor must be installed between the Servitec and make-up valves (compensation of the temperature-dependent medium expansion).

### Detail hydraulic connection



- Integrate connection lines from above, sideways and from below as immersion pipe. Never insert bluntly from below (dirt can easily access the system).
- Maintain a minimum distance of 500 mm between the connection points, observe flow direction and flush pipelines.

# Technical data



Servitec S

## Technical features

- max. operating temperature 70 °C
- max. make-up output 0.080 m<sup>3</sup>/h
- power supply 230 V/50 Hz
- connections for the make-up, pressure, outflow side G 1/2"
- dissolved gas separation efficiency of up to 90 %
- separation level, free gases to 100 %
- max. partial volume flow network 0.050 m<sup>3</sup>/h
- minimum inlet pressure makeup 0.10 bar
- sound pressure level 55 dB(A)
- Control Smart controller** via Bluetooth with lots of digital functions:
  - integrated p<sub>0</sub> wizard for fault-free commissioning
  - RS-485 interface and factory-fitted Modbus RTU
  - operating assistant for fault diagnosis, commissioning, service and maintenance

	Type	Art. No.	System volume V <sub>A</sub> up to* [m <sup>3</sup> ]	System volume V <sub>A</sub> GL up to* [m <sup>3</sup> ]	Operating pressure [bar]	Electric power [kW]	Height h [mm]	Width w [mm]	Depth D [mm]	Weight [kg]
Control Smart controller, Suitable for water and water-glycol mixtures										
70 °C GL, W	S	8832000	6	4	0.5 – 4.5	0.20	572	340	211	13.80

\* Max. system volumes for system degassing / max. make-up quantities must be taken into account for the specific system.

## + Accessories

### Commissioning

- 7945725:** Reflex commissioning Cat. 3 for Reflexomat Silent Compact / Servitec S with one compressor / one pump
- 7945726:** Reflex commissioning add. Cat. 3 for each additional system at the same location – one compressor / pump



Type	Art. No.
Commissioning Cat. 3	7945725
Commissioning add. Cat. 3	7945726