

reflex

Thinking solutions.

New: 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

→ Save up to 10.6% energy and
optimise heat transfer



Find out more: www.reflex-winkelmann.com/en

Reflex Winkelmann GmbH • Gersteinstraße 19 • 59227 Ahlen • +49 2382 7069-0 • info@reflex.de

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.

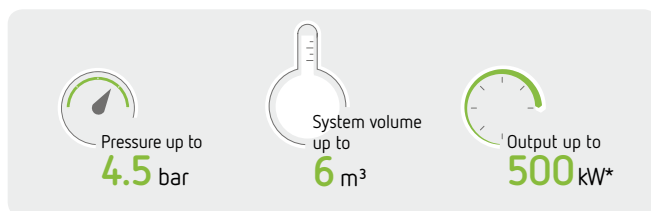
Scope of application



- Medium-sized systems such as apartment buildings, small school buildings, small commercial and office buildings
- System volume of up to 6 m³ (water) or of up to 4 m³ (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

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
- + Perfect heat transfer medium for more efficiency and up to 10.6% energy savings
- + 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



* depending on system configuration



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

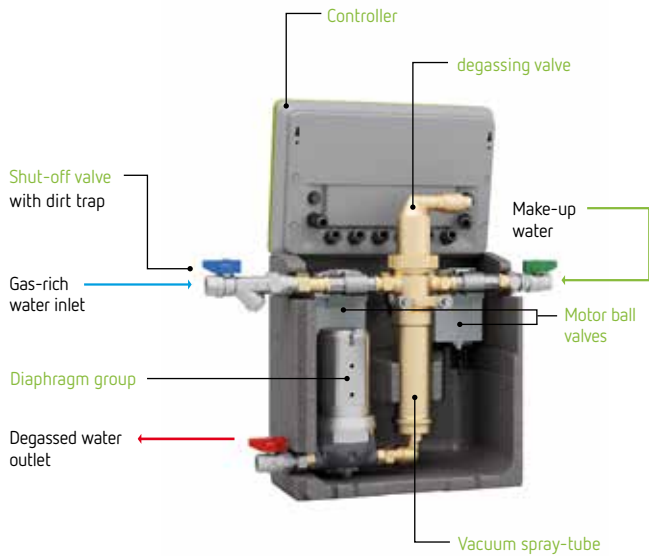
Even smarter: with Reflex Control Smart, the Servitec S can now be operated via smartphone. This is a further digital service for the installer to carry out simple commissioning. End users can also adjust individual degassing times such as weekdays and operating times. Malfunction messages are displayed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



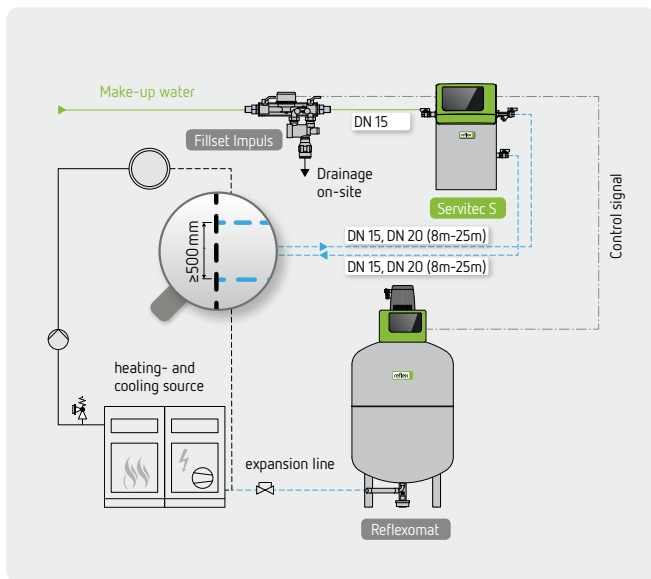
How it works

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.

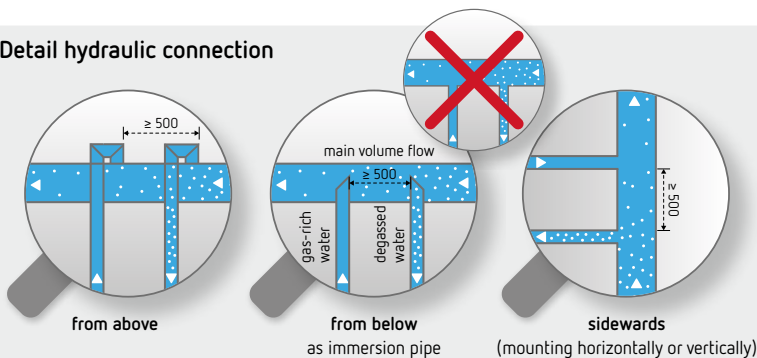
The medium, which is now undersaturated, is able to absorb new gases from the system once again, thereby steadily reducing the gas concentration in the entire water system.

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 $V_D = 1.0 \text{ l}$ 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

- Permissible system pressure: 0.5 – 4.5 bar
- Max. system volume: water: 6 m³ water-glycol (25-50% glycol ratio): 4 m³
- Permissible operating temperature: 70 °C
- Permissible ambient temperature: 0 – 35 °C
- Power supply: 230 V / 50 Hz
- Connections make-up, pressure and flow-off side: G ½ inch
- Separation of dissolved gases: up to 90%
- Separation of free gases: up to 100%
- Partial volume flow network: up to: 0.05 m³/h
- Minimum inlet pressure water make-up: 0.1 bar
- Elec. power consumption: < 0.2 kW (when continuous degassing)
- Sound level approx. < 55 dB(A)
- Floating contact for common fault output

	Type	Art. No.	D x W x H [mm]	System volume VA [m ³] water / water-glycol	operating pressure [bar]	make-up capacity [m ³ /h]	weight [kg]
70 °C	Servitec S	8832000	211 x 340 x 572	up to 6* / up to 4*	0.5 – 4.5	up to 0.08	12.4

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

+ Accessories

RS-485 Interface

- RS-485 interface and Modbus RTU factory-installed
- Expendable with I/O modules
- Further protocols are available in combination with external modules for communication:
 - Profibus-DP
 - Further protocols on demand

I/O Module

- Two additional analogue outputs for controlling pressure and level
- Six free-programmable digital inputs
- Six free-programmable floating outputs



Busmodules

- For data exchange between controller (RS485) and building management system

Control Remote

- Remote maintenance by Reflex Service
 - Reflex Remote Portal with intuitive user interface
- Simple management of multiple installations



Type	Art. No.
RS-485 Interface	
Communication Protocol	please specify protocol when ordering
I/O Module Servitec	8860400
Control Remote	
Additional board	8910800
User fee	8910810
Remote maintenance contract	8910805
Commissioning	
Commissioning Servitec	7945600