

UV Disinfection System GENO®-UV 60 S – 200 S

Intended use

GENO®-UV disinfection systems are used for the continuous disinfection of drinking water.

GENO®-UV systems work with a room irradiation of 400 J/m² as per DVGW work sheet W 294. Viruses and bacteria are thus reduced by 99.99 %.

GENO®-UV systems UV 60 S – 120 S are designed to be used in cold drinking water.

Subject to the water quality, the GENO®-UV system UV 200 S can be applied in cold and warm water.

Application limits

The efficiency of the UV disinfection is subject to the water's light transmission of UV irradiation. This light transmission is measured at a wavelength of 254 nm and is indicated as spectral adsorption coefficient SAC₂₅₄.

GENO®-UV systems can be used up to a SAC₂₅₄ of 2.7 m⁻¹ (GENO®-UV 200 up to SAC₂₅₄ of 5.1 m⁻¹).

Function

GENO®-UV systems work with a UV irradiation of a wavelength of 254 nm. This irradiation is absorbed by the nucleic acids in the genetic material of micro-organisms. Thus, the genetic material (DNA resp. RNA) is damaged, preventing the micro-organisms from reproducing

The water to be disinfected flows axially into the GENO®-UV disinfection

system and is spread around the UV lamp.

A UV-selective sensor continually monitors the UV irradiation generated by the lamp. If the UV irradiation falls below the pre-set alarm limit value, a warning results and the optional safety device is closed.

The reason for a decrease in the irradiation intensity can either be the age of the UV lamp or the increasing pollution of the GENO®-UV system due to substances contained in the water (e. g. iron, manganese, copper, zinc, etc.).

Closing the optional safety device prevents the introduction of micro-biologically loaded water into the pipe downstream.

In case of a power failure, the safety device will be closed. As soon as power is restored, the GENO®-UV system automatically returns to the state prior to the power failure.

Design

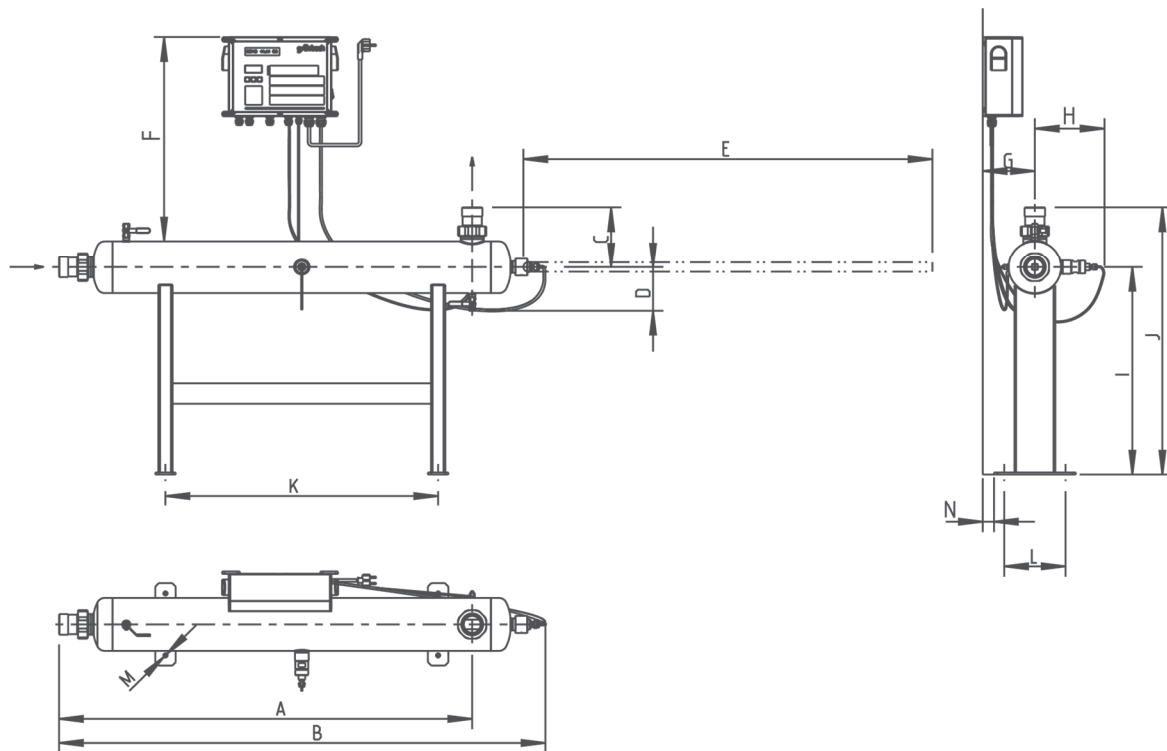
- Compact design, made of UV-resistant material
- Flow stabiliser in order not to exceed the max. volume flow
- Sensor shell to measure the UV-irradiation
- Multi-BS control unit to monitor the irradiation intensity
- UV lamp ballast integrated in control unit

- Flushing cocks to connect a flushing set for regular cleaning of the GENO®-UV system.
- Provision to connect a safety device and temperature-controlled flushing

Scope of supply

- 1 UV disinfection system GENO®-UV incl. connection equipment and control unit
- Operation manual

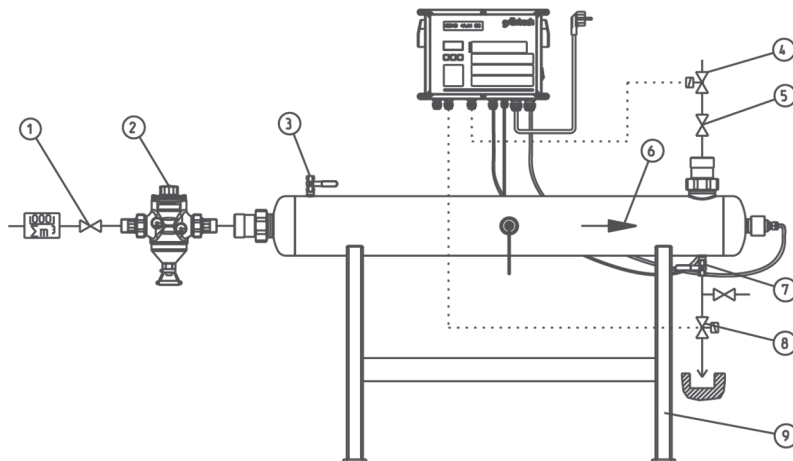
Technical specifications I



Dimensions and weights of GENO®-UV system		60 S	120 S	200 S	
A	Installation length with screw connection	[mm]	575	970	1215
B	Total length with screw connection	[mm]	795	1185	1430
C	Installation height above centre of connection with screw connection	[mm]	165	195	185
D	Height below centre of connection	[mm]	130	130	130
E	Clearance required on right of system for lamp replacement	[mm]	560	950	1200
F	Min. clearance required above the system	[mm]	350	350	350
G	Min. distance to wall from centre of connection	[mm]	125	125	125
H	Min. clearance required from centre of connection for replacement of UV sensor	[mm]	300	300	300
	Empty weight	[kg]	13	19	20
	Volume	[l]	10	16	21
Dimensions of floor rack (accessories) for GENO®-UV system		60 S	120 S	200 S	
I	Installation height centre of system with floor rack	[mm]	-	610	610
J	Installation height with screw connection, with floor rack	[mm]	-	790	790
K	Distance between holes to fasten floor rack, width	[mm]	-	550	800
L	Distance between holes to fasten floor rack, depth	[mm]	-	180	180
M	Diameter of bore to fasten floor rack	[mm]	-	12	12
N	Min. distance of floor rack to wall	[mm]	-	30	30

Technical specifications II

Connection data of GENO®-UV system			60 S	120 S	200 S	
Nominal connection diameter			DN 25 (R 1")	DN 40 (R 1½")	DN 50 (R 2")	
Min. drain connection			DN 50			
Installation position			horizontal, outlet at the top, self-deaerating			
Power supply	[V]/[Hz]		230/50-60			
Connected load	[VA]		75	145	215	
Max. power input	[A]		0.33	0.63	0.94	
Protection/protection class			IP 54/I			
Performance data of GENO®-UV system			60 S	120 S	200 S	
Nominal pressure			PN 10			
Operating range	[bar]		2 – 10			
Inlet water temperature	[°C]		5 – 30		30 – 70	
SSC ₂₅₄ max.	m ⁻¹ /		2.7		5.1	2.7
Nominal flow (Q _{max/2})	[m ³ /h]		1.7	4.0	6.0	4.0
Maximum flow (Q _{max})	[m ³ /h]		3.3	8.0	12.0	8.0
K _v value	[m ³ /h]		2.4	6.2	9.5	6.2
Minimum irradiation intensity at max. flow	[W/m ²]		11.5	14.0	16.0	11.6
Pressure loss at nominal flow (Q _{max/2})	[bar]		0.4			
Pressure loss determined by flow stabilisers used						
Assembly groups of GENO®-UV system			60 S	120 S	200 S	
Pressure pipe	Material		W 1.4404			
Protective quartz pipe	Length	[mm]	560	950	1200	
	∅	[mm]	28	28	28	
UV lamp	Wattage	[W]	65	120	200	
	Max. service life	[h]	16,000			
UV sensor/sensor shell			acc. to W 294-3			
Flow stabiliser	Material		POM/EPDM			
2 Ball valves	Nominal diameter		DN 8 (R ¼")			
	Material		W 1.4301			
Control unit GENO®-Multi BS for GENO®-UV system			60 S	120 S	200 S	
Housing	h x w x d	[mm]	255 x 340 x 115			
Housing	Material		ABS			
Displays			operating time, irradiation intensity, switch-on counter, operating state			
Outputs			ext. operating and fault signal, analogue signal output of the irradiation intensity signal (4 – 20 mA ± 0 – 50 W/m ²) switched power output (24 V~, max. 14 VA) for the connection of a safety device (solenoid valve), switched power output (24 V~ max. 14 VA) for the connection of a temperature-controlled flushing device (solenoid valve).			
General GENO®-UV system			60 S	120 S	200 S	
Ambient temperature	[°C]		5 – 40			
Max. relative humidity of air	[%]		70			
DVGW registration number			DW-9181BR0040	DW-9181BR5794	DW-9181BR5795	
Order no.			523 110	523 120	523 130	



- 1) Inlet shut-off valve (provided by others on site)
- 2) Drinking water filter or backwash filter (accessories)
- 3) Outlet flushing connection
- 4) Optional safety device (solenoid valve)
- 5) Outlet shut-off valve (provided by others on site)
- 6) Flow direction
- 7) Inlet flushing connection
- 8) Solenoid valve for temperature-controlled flushing (accessories)
- 9) Floor rack (accessories)

Installation requirements

Prior to the installation, a water analysis is essential.

Please observe local installation directives, general guidelines - in particular DVGW work sheet 294 - and technical specifications.

The installation site must be frost-proof. The system, must be protected from chemicals, dyes, solvents and vapours.

Always install a drinking water filter and, if required, a pressure reducer (e.g. BOXER® KD) upstream of the system.

For the electrical connection, a shock-proof socket is required within a range of approx. 1.2 m of the system.

The installation room must have a floor drain. If no floor drain is available, an appropriate safety device (e.g. GENO-STOP®) has to be installed.

0.5 m upstream and downstream of the GENO®-UV-system, the water pipe must be made of UV-resistant material (stainless steel, galvanised stainless steel or cooper).

When installing the system, please consider the height of the union nut (up to 42 mm).

Accessories

Wall bracket Order no. 523 800

To mount the GENO®-UV- system on the wall.

Floor rack Order no. 523 815 (for UV 120 S) Order no. 523 815 (for UV 200 S)

To set up the GENO®-UV system.

Safety device Order no. 523 870 (for UV 60 S) Order no. 523 875 (for UV 120 S) Order no. 523 880 (for UV 200 S)

To interrupt the water flow in case of insufficient disinfection.

UV flushing set Order no. 520 020

To clean the GENO®-UV system.

Temperature-controlled flushing for GENO®-UV 60 – 200 S Order no. 523 825

To prevent the water from heating up.

USB data logger Order no. 523 830

To record the irradiation intensity.

Consumables

Cleaning agent GENO®-clean CP (10 x 1 litre) Order no. 170 022

Contact

Grünbeck Wasseraufbereitung GmbH
 Josef-Grünbeck-Str. 1
 89420 Hoehstaedt/Germany

☎ +49 9074 41-0
 ☎ +49 9074 41-100

info@gruenbeck.com
 www.gruenbeck.com