

UV disinfection system violIQ:UV20/66/85

Intended use

The UV disinfection systems violiQ:UV are designed for the disinfection of cold drinking water.

The UV disinfection systems violiQ:UV are to be installed downstream of the water treatment systems.

The room irradiation required to kill bacteria and viruses is at least 400 J/m^2 . At this room irradiation, a reduction rate of 99.99 % is achieved.

Application limits

The UV disinfection systems violiQ:UV are suitable up to a spectral attenuation coefficient SSK_{254} of 3.2 m^{-1} and certified according to DIN 19294-1

The flow and the irradiance indicated in the technical specifications thus guarantee a disinfection effectiveness of at least 400 J/m^2 .

The UV disinfection systems violiQ:UV are adapted to the water demand and water quality to be expected during installation. The maximum flow must not be exceeded under any circumstances.

A reliable disinfection of the water can only be achieved if the water is mostly free of turbidities and only slightly loaded with regard to microbiological growth.

Water containing turbidities and faecal indicator germs requires treatment for particle separation.

Function

UV disinfection systems work with UV irradiation with a wavelength of 254 nm. This irradiation is absorbed by the nucleic acids in the genetic material of micro-organisms. This damages the genetic material (DNA or RNA) and prevents the micro-organisms from reproducing.

The water to be disinfected flows axially into the UV disinfection system and is distributed around the UV lamp.

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

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

Closing the safety device prevents the introduction of microbiologically 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 UV system automatically returns to the state prior to the power failure.

Design

- Compact design, made of UV-resistant materials
- Flow stabiliser in order not to exceed the max. volume flow
- Sensor shell to measure the UV irradiation
- violiQ:UV control unit to monitor the irradiance
- UV lamp ballast integrated in control unit
- Flushing valves to connect a flushing kit for regular cleaning of the UV system
- Safety device as solenoid valve
- Connection option for optional temperature-controlled flushing

Scope of supply

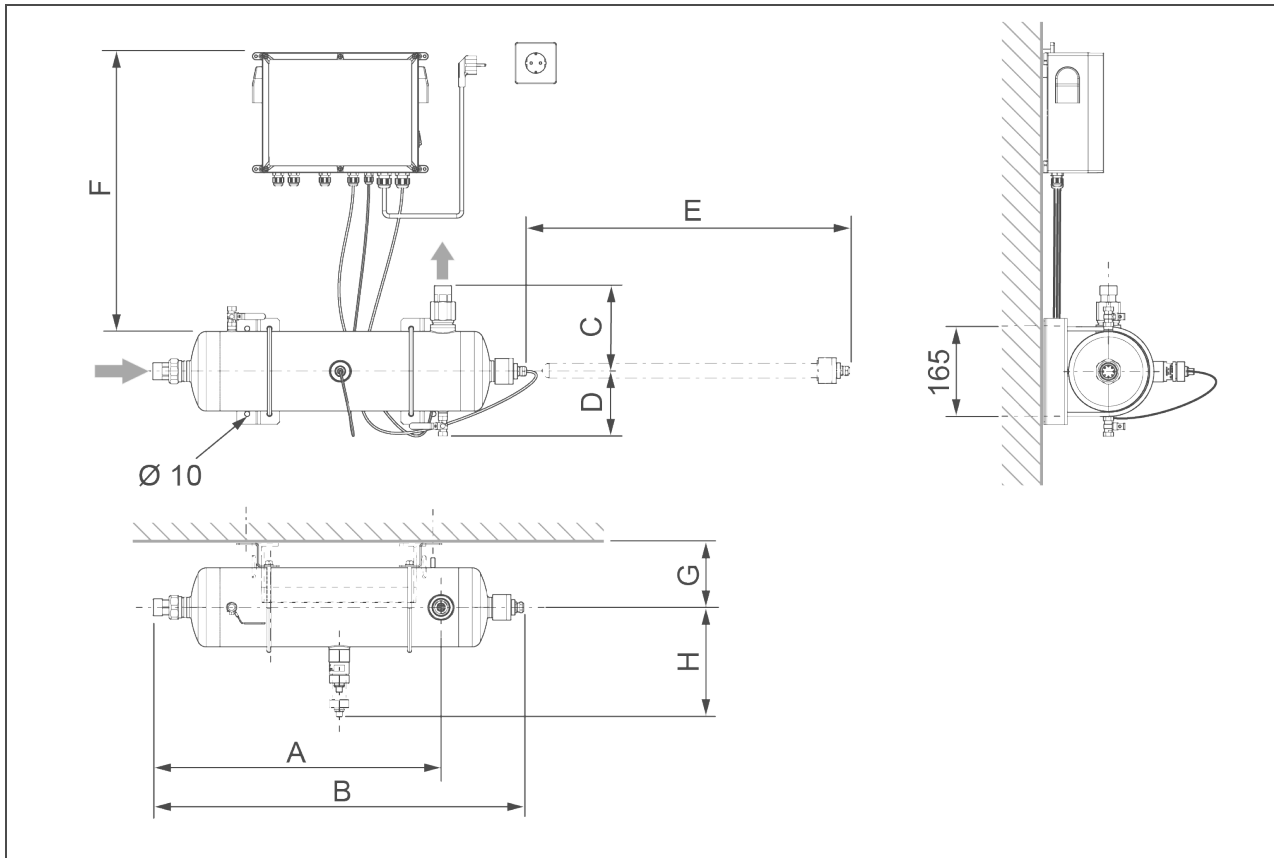
- UV disinfection system violiQ:UV incl. connection equipment and control unit
- Operation manual

Required as an option:

- Bracket for wall mounting
- or floor rack

Technical specifications I

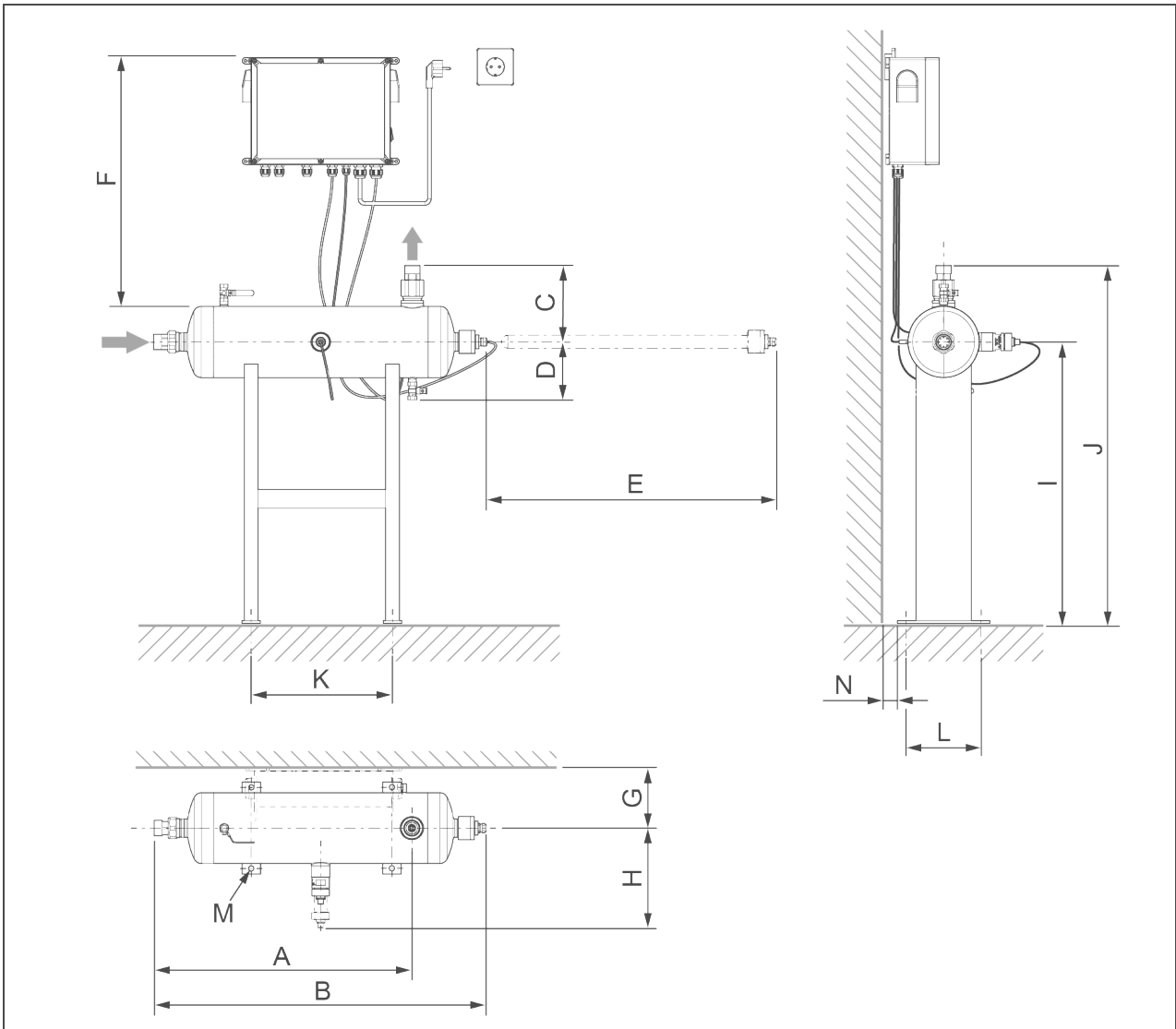
Installation with wall mounting



Dimensions and weights			violIQ:UV20	violIQ:UV66	violIQ:UV85
A	Installation length with screw connection	mm	560	960	1212
B	Total length with screw connection	mm	795	1185	1430
C	Overall height above centre of connection with screw connection	mm	165	181	181
D	Overall height below centre of connection	mm		130	
E	Clearance required on the right of system for lamp replacement	mm	560	950	1200
F	Clearance required above the system	mm		≥ 350	
G	Distance to wall from centre of connection	mm		≥ 125	
H	Clearance required from centre of connection for replacement of UV sensor	mm		≥ 300	
	Empty weight	kg	13	19	20
	Volume	l	10	16	21

Technical specifications II

Installation with floor rack



Dimensions of floor rack (accessories)			violIQ:UV20	violIQ:UV66	violIQ:UV85
I	Overall height centre of system with floor rack	mm		610	
J	Overall height with screw connection, with floor rack	mm		791	
K	Distance between holes to fasten floor rack, width	mm	306	550	800
L	Distance between holes to fasten floor rack, depth	mm		180	
M	Diameter of bores on the floor rack	mm		Ø 12	
N	Distance of floor rack to wall	mm		≥ 30	

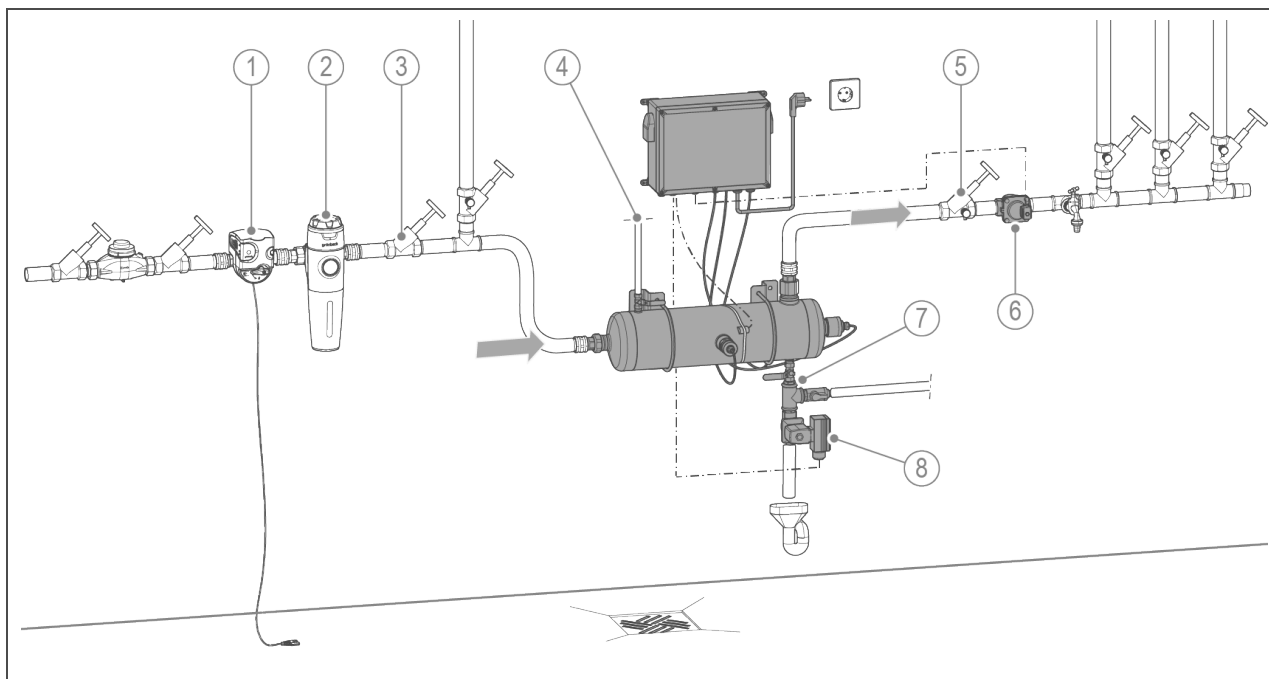
• **Product Data Sheet**

UV disinfection system violiQ:UV20/66/85

Technical specifications III

Connection data			violiQ:UV20	violiQ:UV66	violiQ:UV85
Nominal connection diameter			DN 25 (1")	DN 40 (1½")	DN 50 (2")
Drain connection			DN 50		
Installation position			horizontal, outlet at the top, self-deaerating		
Rated voltage range	V~		230 (-15/+10 %)		
Rated frequency	Hz		50/60		
Power input	W		75	145	215
Protection class			⊕		
Performance data			violiQ:UV20	violiQ:UV66	violiQ:UV85
Nominal pressure			PN 10		
Operating range (operating pressure)	bar		2 – 10		
Spectral attenuation coefficient SSK ₂₅₄	m ⁻¹		≤ 3.2		
Nominal flow	m ³ /h		≤ 2.0	≤ 6.6	≤ 8.5
Minimum irradiance at max. flow	[W/m ²]		≥ 34.4	≥ 39.9	≥ 31.6
Pressure loss at nominal flow *	bar		0.4		
* The pressure loss is determined by the flow stabiliser used					
Assemblies			violiQ:UV20	violiQ:UV66	violiQ:UV85
Pressure pipe (irradiation chamber)	Material		W 1.4404		
Protective quartz pipe	Length	mm	560	950	1200
	Ø	mm	28	28	28
UV lamp	Wattage	W	65	125	205
	Max. service life	h	16,000		
UV sensor/sensor shell			according to DIN 19294-3		
Flow stabiliser	Material		POM/EPDM		
2 Ball valves	Nominal diameter		DN 8 (R ¼")		
	Material		W 1.4301		
Control unit			violiQ:UV		
Housing	h x w x d	mm	255 x 340 x 115		
	Material		ABS		
Display			operating time, irradiance, switch-on counter, operating state		
Outputs			external operating and fault signal, analogue signal output of the irradiance signal (4 – 20 mA ± 0 – 200 W/m ²), switched power output (24 V~, max. 14 VA) for connection of a safety device (solenoid valve), switched power output (24 V~ max. 14 VA) for connection of a temperature-controlled flushing device (solenoid valve)		
General data			violiQ:UV20	violiQ:UV66	violiQ:UV85
Water temperature	°C		5 – 70		
Ambient temperature	°C		5 – 40		
Humidity (non-condensing)	%		≤ 70		
DVGW registration number			NW-9182DM0523	NW-9182DM0526	NW-9182DM0527
ÜA registration number <i>The Office of the Vienna Provincial Government – City of Vienna</i>			R-15.2.3-21-17496		
Order no.			523000010000	523000030000	523000040000

Installation example



Item	Designation	Item	Designation
1	Safety device protectliQ	2	Drinking water filter, e.g. pureliQ
3	Inlet shut-off valve (by client on site)	4	Outlet flushing connection
5	Outlet shut-off valve (by client on site)	6	Safety device (solenoid valve)
7	Inlet flushing connection	8	Solenoid valve for temperature-controlled flushing (optional accessory)

Installation requirements

Prior to installation, a water analysis is indispensable.

Obey the local installation directives, general guidelines and technical specifications.

The installation site must be frost-proof and ensure the system's protection from chemicals, dyes, solvents, and their vapours.

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

For electrical connection, a Schuko socket is required within a distance of approx. 1.2 m. The socket outlet requires permanent power supply and must not be coupled with light switches, emergency heating switches or the like.

In case the optional temperature-controlled flushing is used, a drain connection \geq DN 50 must be available.

The installation room must have a floor drain. If no floor drain is available, an appropriate safety device - such as a protectliQ - or a safety device with water stop of the same quality must be installed to prevent water damage.

0.5 m upstream and downstream of the UV system, the water pipes must be made of UV-resistant material (stainless steel, galvanised steel or copper). Plastic pipes are not suitable.

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

The safety device must be installed in the pipe network downstream of the UV system.

• Product Data Sheet

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Accessories

Wall bracket for UV systems

Order no. 523 800

To mount the UV system on the wall.

Floor rack

Order no. 523 815 (violiQ:UV20)

Order no. 523 805 (violiQ:UV66)

Order no. 523 810 (violiQ:UV85)

To place the UV system on the floor

Flushing kit for cleaning

UV systems with GENO-clean CP

Order no. 520 020

To clean the UV system

Temperature-controlled flushing for violiQ:UV

Order no. 523 825

To prevent the water in the UV system from heating up

USB data logger for

violiQ:UV

Order no. 523830010000

To record the irradiance

Stainless steel connection kit 1" for UV systems

Order no. 520 070 (violiQ:UV20)

To protect the continuing pipe (in case of plastic pipes) from damage due to highly energetic UV-C light

Stainless steel connection kit 2" for UV systems

Order no. 520 075

(violiQ:UV66/UV85)

To protect the continuing pipe (in case of plastic pipes) from damage due to highly energetic UV-C light.


Consumables

Cleaning agent GENO-clean CP (10 x 1 litre)

Order no. 170 022

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