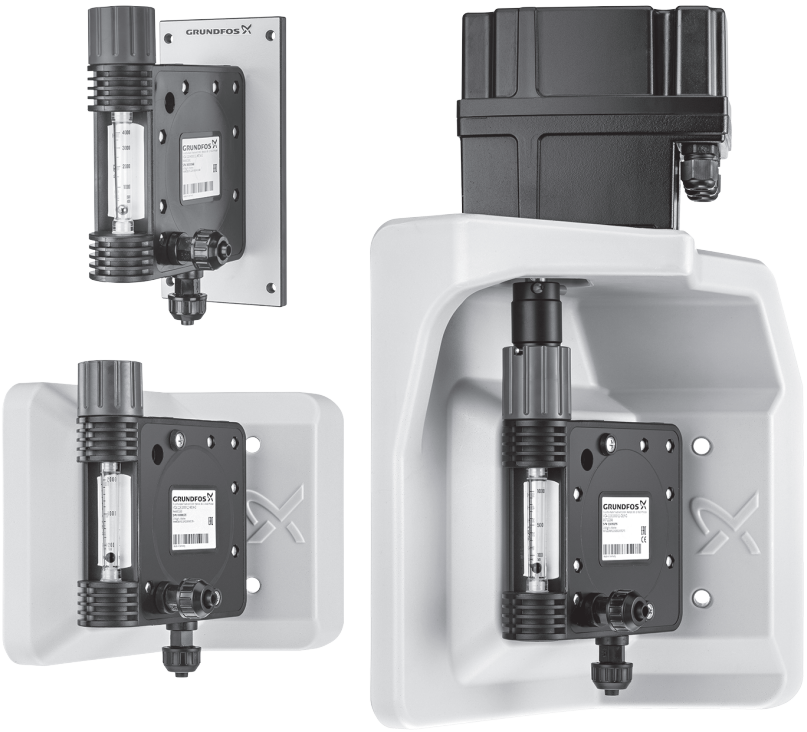
Vaccuperm VGA-113

Gas dosing regulator

Installation and operating instructions



Vaccuperm VGA-113
Installation and operating instructions
Other languages
http://net.grundfos.com/qr/i/QR98028175

Handling chlorine
Installation and operating instructions
(all available languages)
http://net.grundfos.com/qr/i/96681297

Vaccuperm VGA-113

Original installation and operating instructions

Table of contents

1. General information

Read this document before you install the product. Installation and operation must comply with local regulations and accepted codes of good practice.

1.1 Hazard statements

The symbols and hazard statements below may appear in Grundfos installation and operating instructions, safety instructions and service instructions.

DANGER

Indicates a hazardous situation which, if not avoided, will result in death or serious personal injury.

WARNING

Indicates a hazardous situation which, if not avoided, could result in death or serious personal injury.

CAUTION

Indicates a hazardous situation which, if not avoided, could result in minor or moderate personal injury.

The hazard statements are structured in the following way:

SIGNAL WORD

Description of the hazard

Consequence of ignoring the warning

- Action to avoid the hazard.

1.2 Notes

The symbols and notes below may appear in Grundfos installation and operating instructions, safety instructions and service instructions.

Observe these instructions for explosion-proof products.

A blue or grey circle with a white graphical symbol indicates that an action must be taken.

A red or grey circle with a diagonal bar, possibly with a black graphical symbol, indicates that an action must not be taken or must be stopped.

If these instructions are not observed, it may result in malfunction or damage to the equipment.

Tips and advice that make the work easier.

1.3 Target group

These installation and operating instructions are intended for authorised and trained operating and service experts.

1.3.1 Qualification and training

The persons responsible for the installation, startup, operation and maintenance must be appropriately qualified for these tasks. Areas of responsibility, levels of authority and the supervision of the persons must be precisely defined by the operating company. If necessary, the persons must be trained appropriately.

1.3.1.1 Obligations of the operating company

- Meet the installation requirements specified by the manufacturer.
- Observe the local safety regulations.
- Instruct the operating persons.
- Provide the stipulated safety equipment and personal protective equipment.
- Arrange regular maintenance.

1.3.1.2 Obligations of the user

- Read this manual thoroughly before operating the product.
- Observe the recognised health and safety regulations as well as the accident prevention regulations.
- Wear appropriate protective equipment in accordance with national health and safety regulations when working at the system and handling chemicals.

1.4 Safety of the system in the event of product failure

If the product fails, the safety of the overall system must be ensured. Use appropriate monitoring and control functions.

WARNING
Toxic material
Death or serious personal injury

- Make sure that leaking chemicals do not cause personal injury or damage to property.
- Make sure that leak monitoring solutions and drip trays are installed.

1.5 Working with chemicals

WARNING
Toxic material
Death or serious personal injury

- Wear personal protective equipment when handling chemicals.
- Observe the chemical manufacturer's safety data sheets (SDS) and safety instructions of the used chemicals.
- Observe the local regulations.

Make sure that parts in contact with the chemicals are resistant to the chemicals under the specific operating conditions.

When working with chlorine, see also the guidelines "Handling chlorine" on Grundfos Product Center: *http://net.grundfos.com/qr/i/96681297*.

2. Product introduction

2.1 Intended use

The VGA-113 dosing regulator is exclusively designed for dosing chlorine gas into a vacuum line.

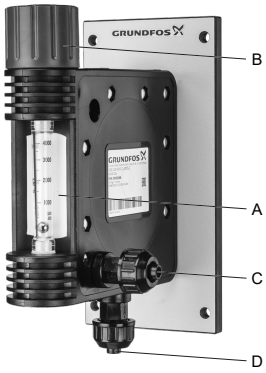
2.1.1 Improper use

Operational safety is only guaranteed, if the product is used correctly. All operating methods conflicting with correct usage are not permitted, and lead to the expiry of all liability claims.

WARNING
Toxic material
Death or serious personal injury

- Unauthorised structural modifications to the product may result in serious damage to the equipment and personal injury.
- Do not open, modify, bridge, remove, bypass or disable components, especially safety equipment.

2.2 Product overview



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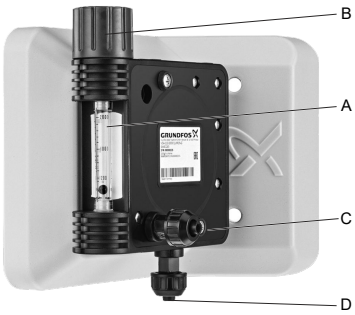
VGA 113-110 dosing regulator without differential-pressure regulator



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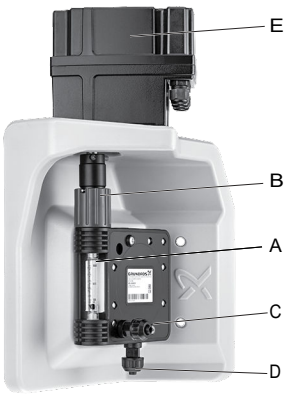
VGA-113-311 dosing regulator with differential-pressure regulator and manual capacity adjustment



TM082357

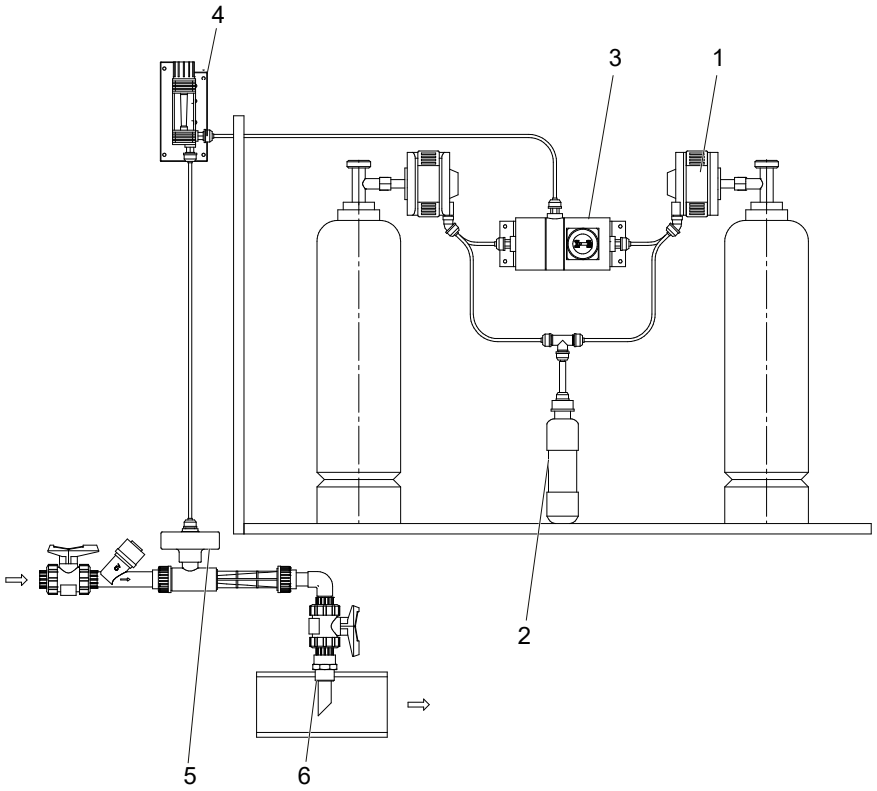
VGA-113-391 dosing regulator with servomotor

Pos.	Description
A	Flowmeter
B	Adjusting knob
C	Inlet, vacuum connection
D	Outlet, vacuum connection to injector
E	Servomotor

2.3 Installation examples

Low-budget manual chlorine extraction from one or more cylinders

Vaccuperm manual chlorine gas dosing systems with VGA-111 vacuum regulators and a VGA-113-110 dosing regulator.



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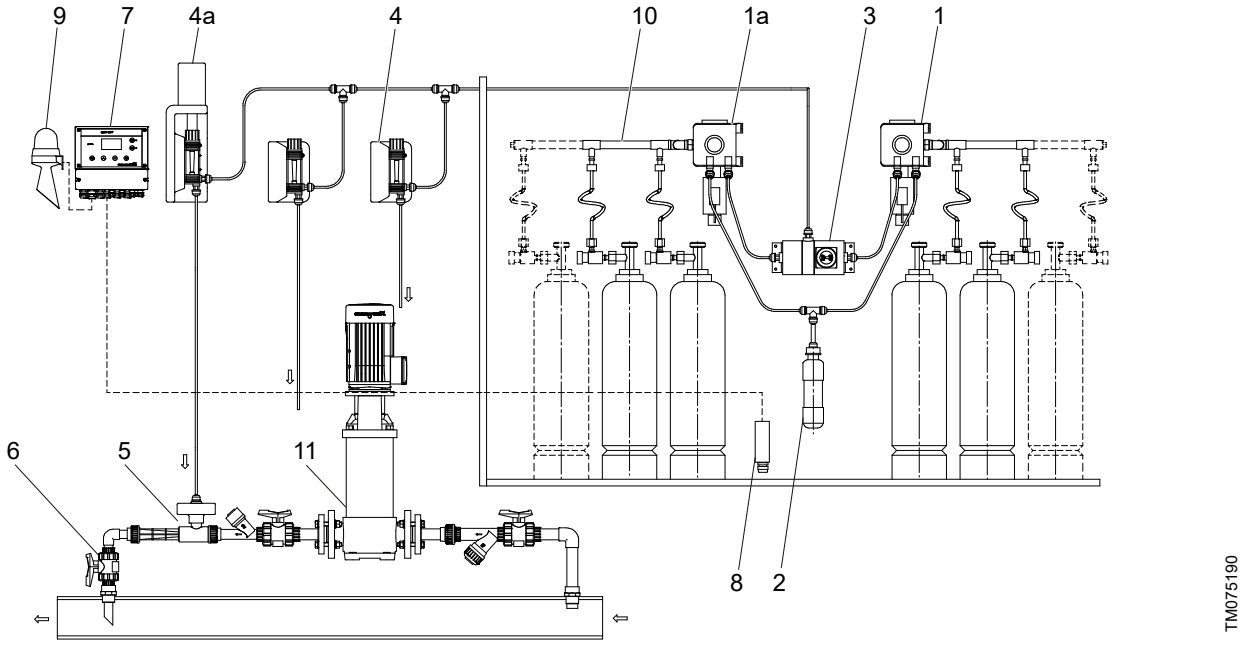
Pos.	Component
1	VGA-111 vacuum regulator
2	Chlorine gas adsorption filter
3	189 change-over device
4	VGA-113-110 dosing regulator
5	VGB injector
6	Injection unit

Manual or automatic chlorine extraction from two banks of cylinders

Vaccuperm manual or automatic chlorine gas dosing systems with VGA-111 vacuum regulators and a VGA-113-311 manual dosing regulator or a VGA-113-391 automatic dosing regulator.



Pos.	Component
1	VGA-111 vacuum regulator with heated liquid trap (pressure inlet right)
1a	VGA-111 vacuum regulator with heated liquid trap (pressure inlet left)
2	Chlorine gas adsorption filter
3	189 change-over device
4	VGA-113-311 manual dosing regulator
4a	VGA-113-391 automatic dosing regulator
5	VGA injector
6	Injection unit
7	Conex DIA-G gas warning system
8	Gas sensor
9	Horn and flashlight
10	Header line for chlorine cylinders
11	CR booster pump

2.4 Operating principle of a VGA-113 dosing regulator

The chlorine gas volume flow is adjusted by the dosing regulator. This can be done manually or automatically with a servomotor. VGA 113-311 and VGA 113-391 dosing regulators have a differential-pressure regulator that reduces and regulates the injector vacuum to a constant level to secure a constant and linear gas flow. The VGA 113-110 dosing regulator operates without a differential-pressure regulator. It achieves a constant and linear chlorine gas flow under sonic flow conditions. Dosing regulators without a differential-pressure regulator operate with VGB injectors. VGB injectors have a higher performance but require larger motive water flow and higher motive water pressure. Dosing regulators without a differential-pressure regulator do not comply with DIN 19606.

Related information

2.3 Installation examples

3. Identification

3.1 Nameplate

TM1040190

Pos.	Description
1	Type designation
2	Product number
3	Serial number
4	Medium, Capacity
5	Voltage, Frequency
6	Factory code and production code (year and week)
7	Country of origin
8	Marks of approval

3.2 Type key

Type	
VGA-113 -25/11-M0,Y-G,C3	
VGA-113	Dosing regulator

Capacity	
VGA-113-**25**/11-M0,Y-G,C3	
25	1-25 g/h
40	2-40 g/h
100	5-100 g/h
250	10-250 g/h
500	25-500 g/h
1000	50-1000 g/h
2000	100-2000 g/h
3000	150-3000 g/h
4000	400-4000 g/h

Vacuum connection, inlet/outlet	
VGA-113-25/**11**-M0,Y-G,C3	
11	PE hose 8/11 mm

Adjustment	
VGA-113-25/11-**M0**,Y-G,C3	
M0	Manual
D3	Automatic, 110-240 V, 50/60 Hz, 4-20 mA
D4	Automatic, 24 VDC, 4-20 mA
D8	Automatic, 230 V, 50/60 Hz, potentiometer 1 k Ohm
D9	Automatic, 115 V, 50/60 Hz, potentiometer 1 k Ohm

Differential-pressure regulator	
VGA-113-25/11-M0,**Y**-G,C3	
N	Without
Y	With

Logo	
VGA-113-25/11-M0,Y-**G**,C3	
G	Grundfos

Product certificate	
VGA-113-25/11-M0,Y-G,**C3**	
C3	Certificate 3.1 (EN 10204)

4. Delivery and handling

4.1 Handling

Observe when transporting and storing the VGA-113 dosing regulator:

- Always store the product in a cool, dry place.
- No foreign matter should get into lines and valves.
- Transport the product carefully.
- Do not lift the product by flexible lines or cables.

4.2 Unpacking

Observe when unpacking the VGA-113 dosing regulator:

- Observe all handling instructions.
- Open the packaging carefully.
- Check the dosing regulator for transport damage.
- Install as soon as possible after unpacking.

5. Installation

WARNING
Toxic material
Death or serious personal injury

- Installation must be carried out by authorised and trained experts.
- Wear personal protective equipment when handling chemicals.
- Observe the local regulations.

5.1 Mechanical installation

5.1.1 Installation location

- Choose a mounting place that is free from vibrations.
- Observe the permissible ambient temperature.
- The dosing regulator can be installed outside the chlorine room.

5.1.2 Selection of vacuum lines

The vacuum needed for the transport of chlorine gas is built up by the injector and maintained by vacuum lines. Rigid PVC pipes or flexible PE hoses are used as vacuum lines.
The following tables show the recommended diameter of the required vacuum lines, depending on line length and dosing quantity.

Vacuum lines between vacuum regulator and dosing regulator

Max. length of the vacuum line [m]	Dosing quantity [g/h]						
	40	100	250	500	1000	2000	4000
0	DN 8	DN 8	DN 8	DN 8	DN 8	DN 8	DN 10
10	DN 8	DN 8	DN 8	DN 8	DN 8	DN 8	DN 10
20	DN 8	DN 8	DN 8	DN 8	DN 8	DN 10	DN 15
30	DN 8	DN 8	DN 8	DN 8	DN 8	DN 10	DN 15
40	DN 8	DN 8	DN 8	DN 8	DN 8	DN 15	DN 15
50	DN 8	DN 8	DN 8	DN 8	DN 10	DN 15	DN 15
75	DN 8	DN 8	DN 8	DN 8	DN 10	DN 15	DN 15
100	DN 8	DN 8	DN 8	DN 8	DN 10	DN 15	DN 20

Vacuum lines between dosing regulator and injector

Max. length of the vacuum line [m]	Dosing quantity [g/h]						
	40	100	250	500	1000	2000	4000
0	DN 8	DN 8	DN 8	DN 8	DN 8	DN 8	DN 8
10	DN 8	DN 8	DN 8	DN 8	DN 8	DN 8	DN 8
20	DN 8	DN 8	DN 8	DN 8	DN 8	DN 8	DN 10
30	DN 8	DN 8	DN 8	DN 8	DN 8	DN 8	DN 10
40	DN 8	DN 8	DN 8	DN 8	DN 8	DN 8	DN 10
50	DN 8	DN 8	DN 8	DN 8	DN 8	DN 8	DN 15
75	DN 8	DN 8	DN 8	DN 8	DN 8	DN 8	DN 15
100	DN 8	DN 8	DN 8	DN 8	DN 8	DN 8	DN 15

5.1.3 Connecting the VGA-113 dosing regulator to the vacuum lines

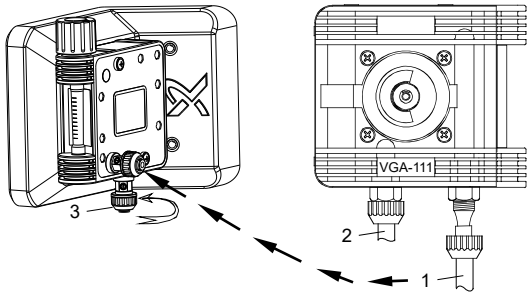
WARNING
Toxic material
Death or serious personal injury
- Before starting to connect, make sure that the valves of all chlorine containers are closed.

Only tighten the union nuts of the vacuum connections by hand, do not use any tools.

Make sure that the vacuum connections are clean and dry.

The dosing regulator can be installed outside the chlorine room.

1. Connect the dosing regulator to the line from the vacuum regulator (1).
2. Connect the line (3) from the dosing regulator to the injector.



Vacuum connections

Pos.	Description
1	Vacuum line from the vacuum regulator
2	Overpressure line
3	Vacuum line to the injector

Related information

2.2 Product overview

5.2 Electrical installation

WARNING
Electric shock
Death or serious personal injury
- Before making any electrical connections, switch off the power supply and make sure that it cannot be accidentally switched on.
- All electrical connections must be carried out by a qualified electrician in accordance with local regulations.
- All electrical connections must be carried out in accordance with the wiring diagram.

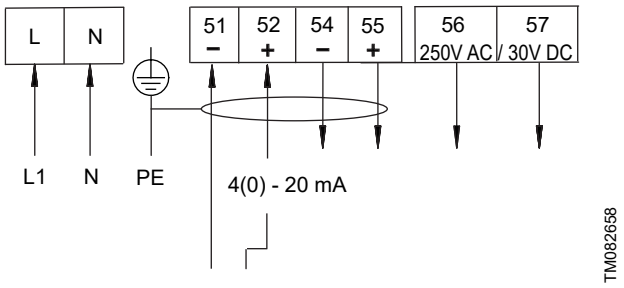
Before connecting the mains cable, make sure that the voltage and frequency specified on the nameplate correspond to the local power supply.

An incorrect supply voltage may destroy the device.

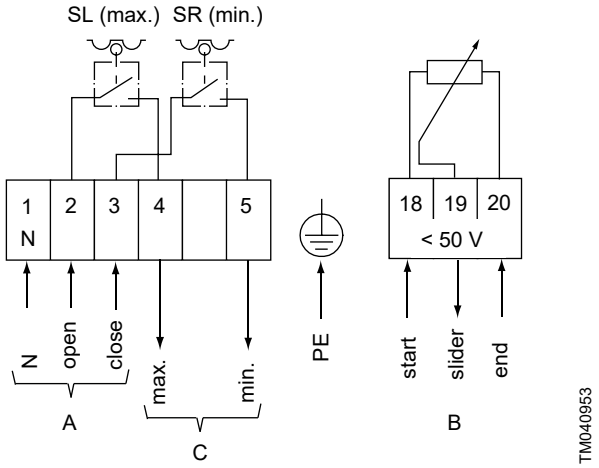
Route the input, output and power supply cables in separate ducts.

Read the separate supplier manual of the respective servomotor. Find the QR code on the nameplate of the servomotor.

5.2.1 Servomotor wiring diagrams



Servomotor with mA input and output



Servomotor with reversing potentiometer

Pos.	Description	
1 N	Neutral	
2	Phase	Supply voltage input (direction open/max.)
3	Phase	Supply voltage input (direction close/min).
4		Feedback max. end position
5		Feedback min. end position
⏚		PE (earth)
18	Start	
19	Slider	
20	End	
A	Motor control	
B	Reversing potentiometer	
C	Limit switch	

6. Startup

WARNING
Toxic material
Death or serious personal injury
- Startup must be carried out by authorised and trained experts.
- Observe the material safety data sheets (SDS) of the handled chemicals.
- Wear personal protective equipment when handling chemicals.

For startup, all components of the entire system must be ready for operation.
Observe the manuals of the system and all other components.

6.1 Checks before startup

Before startup:
- Check the electrical connections.
- Check the mechanical installation.
- Check the tightness of the entire system.

6.1.1 Checking the chlorine solution lines and the injector

Observe the installation and operating instructions of the injector.

6.1.2 Checking the tightness of the pressure side

Observe the installation and operating instructions of the vacuum regulator.

6.1.3 Checking the tightness of the vacuum side

Make sure that the pressure side of the chlorine gas dosing system is tight.
Make sure that the injector is ready for operation.

1. Close the connecting valves of all drums or cylinders.
2. Start the injector.
3. Slowly open the adjusting valve at the dosing regulator.
   The vacuum lines are evacuated.

After about 10 minutes, depending on the length of the vacuum lines, the dosing regulator indicates no flow.
If the dosing regulator indicates a flow, the complete system must be checked for leaks.
Checking the system for leaks

1. Disconnect the vacuum lines between the vacuum regulators and the dosing regulator one after the other.
2. Close each disconnected line tightly.

If the dosing regulator stops indicating a flow, the last disconnected component is leaky.
Repair or exchange the leaky component and check the tightness again.

7. Operation

WARNING
Toxic material
Death or serious personal injury
- Wear personal protective equipment when handling chemicals.

The dosing flow is adjusted with the adjusting knob at the rate valve of the dosing regulator.
In versions with optional servomotor, the dosing flow can also be adjusted via an external controller.

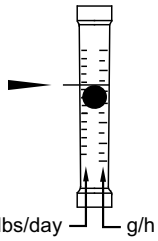
7.1 Starting the chlorine gas dosing system

1. Close the rate valve at the dosing regulator using the adjusting knob.
2. Open the shut-off valve at the injection unit.
3. Open the motive water valves.
4. Switch on the booster pump.
5. Open the chlorine container valve.
6. Slowly open the rate valve of the dosing regulator using the adjusting knob, until the ball in the measuring glass of the flowmeter indicates the desired flow.

If the dosing flow is adjusted via an external controller, an adjustment can also be made at the servomotor by switching the mode from Auto to Manu at the servomotor
See the manual of the external controller.

7.2 Reading the dosing flow

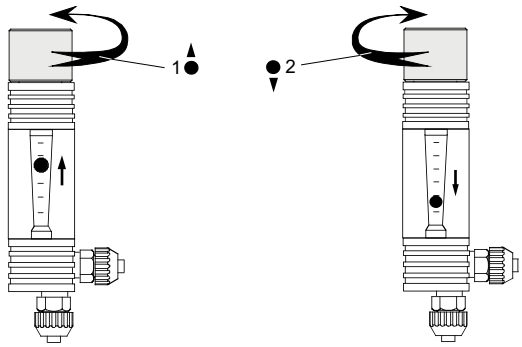
The dosing flow can be read at the top of the ball in the measuring glass of the flowmeter.



Reading the dosing flow

The scale of the measuring glass is adjusted to a gas temperature of 20 °C.
If the temperature differs extremely, the dosing flow may differ from the shown value.

7.3 Setting the dosing flow manually with the VGA-113-110 or VGA-113-311 dosing regulator



Setting the dosing flow

1. To increase the dosing flow, turn the adjusting knob very slowly counter-clockwise.

Do not turn the adjusting knob any further, if the maximum dosing flow is reached. There is no locking.

2. To reduce the dosing flow, turn the adjusting knob very slowly clockwise.

7.4 Setting the dosing flow automatically with the VGA-113-311 dosing regulator

The VGA-113-311 dosing regulator is checked and preadjusted in the factory with the servomotor. It can be readjusted on site.

- Servomotor type Tensor Basic (4-20 mA version): adjust the end positions and the respective mA setpoints.
- Servomotor type Nano (potentiometer version): adjust the limit switches.

Read the enclosed supplier manual of the servomotor used.

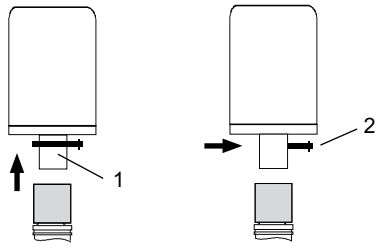
7.5 Emergency operation

Make sure that the limit switch stops the servomotor before the mechanical stop at the adjusting spindle is reached.

The servomotor torque can damage the coupling and mechanical parts.

7.5.1 Disconnecting the servomotor for emergency operation

If the servomotor is damaged, or for maintenance tasks, the servomotor can be disconnected from the rate valve of the dosing regulator. The automatic dosing regulator can then be operated manually.



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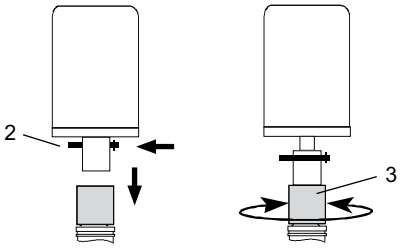
Disconnecting the servomotor from the rate valve

1. Switch off the power supply of the servomotor.
2. Slide the coupling (1) upwards.
3. Push the retention pin (2) through the coupling, until the coupling cannot move down any longer.
   The servomotor is disconnected from the rate valve. Now the dosing flow can be adjusted manually.

7.5.2 Reconnecting the servomotor



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Reconnecting the servomotor to the rate valve

1. Push back the retention pin (2).
2. The coupling slides down.
3. Turn the adjusting knob (3), until the coupling snaps in.
   The servomotor is connected again.

7.6 Stopping the chlorine gas dosing system

Do not stop the chlorine gas dosing system by closing the rate valve.

The rate valve is an adjusting valve, not a shut-off valve.

7.6.1 Stopping the chlorine gas dosing system in case of emergency

WARNING
Toxic material
Death or serious personal injury

- If gas escapes, immediately leave the room.
- Put on personal protective equipment.
- Start countermeasures according to local safety regulations.

1. Immediately close the chlorine container valves.
2. Let the system run until all parts are evacuated.
3. Stop the chlorine gas dosing system.

7.6.2 Stopping the chlorine gas dosing system for a short time

1. Close the rate valve at the dosing regulator using the adjusting knob.
2. Stop the booster pump.
3. Close the motive-water valves.
4. Close the shut-off valve at the injection unit.

7.6.3 Shutting down the chlorine gas dosing system for a long time

1. Close all chlorine container valves.
2. Let the system run, until the flowmeter of the dosing regulator shows no flow.
3. Close the rate valve at the dosing regulator using the adjusting knob.
4. Switch off the booster pump.
5. Close the motive-water valves.
6. Close the shut-off valve at the injection unit.

8. Fault finding

8.1 Maximum dosing flow is not reached

Cause	Remedy
Insufficient injector vacuum. The injector used is not suitable. Motive water pressure is too low. Backpressure is too high. The dirt trap before the injector is soiled.	• The injector vacuum for versions **with** differential-pressure regulator must be at least 2 mH2O. • The injector vacuum for versions **without** differential-pressure regulator must be at least 5 mH2O. • Make sure that a suitable injector type is used. • Check if the injector functions properly. Observe the manual of the injector. • Make sure that the motive water pressure is sufficient. • Make sure that the backpressure is suitable. See specification. • Check the dirt trap before the injector. Clean it, if necessary.
Leakage in the vacuum line between dosing regulator and injector.	• Eliminate the leakage.
The vacuum line between dosing regulator and injector is too long or the diameter is too small.	• For details on vacuum lines, see section Selection of vacuum lines.
Soiled vacuum line.	• Replace the vacuum line.
Servomotor does not reach maximum dosing capacity.	• Readjust the servomotor and/or the external controller. Observe the manual of the servomotor.
Soiled filter at the pressure connection of the vacuum regulator.	• Clean or replace the filter.
Closed chlorine container valve.	• Open the chlorine container valve.
Empty chlorine container.	• Replace the empty chlorine container by a full one.

8.2 Ball in the measuring glass of the flowmeter is caught

Cause	Remedy
Soiled measuring glass or ball.	• Clean the measuring glass and the ball.

8.3 Water is in the measuring glass of the flowmeter

Cause	Remedy
The diaphragm non-return valve of the injector is defective.	1. Repair the injector. Observe the manual of the injector. 2. Disassemble the dosing regulator, clean it and dry it well. 3. Dry the vacuum line to the injector, or replace it.

8.4 Servomotor does not run

Cause	Remedy
Servomotor is switched to manual operation.	• Switch servomotor to automatic operation. See the supplier manual of the servomotor.

8.5 Servomotor rotates in the wrong direction

Cause	Remedy
Servomotor is adjusted incorrectly. Controller is adjusted incorrectly.	• Adjust the servomotor. See the supplier manual of the servomotor.

8.6 In versions with differential-pressure regulator the dosing capacity varies despite constant operating conditions

Cause	Remedy
The spring in the differential-pressure regulator is soiled.	• Clean the spring in the differential-pressure regulator.
The spring in the differential-pressure regulator is damaged.	• Replace the spring in the differential-pressure regulator.
The diaphragm in the differential-pressure regulator is soiled.	• Clean the differential-pressure regulator.
The diaphragm in the differential-pressure regulator is damaged.	• Replace the diaphragm in the differential-pressure regulator.

8.7 In versions without differential-pressure regulator the dosing capacity varies despite constant operating conditions

Cause	Remedy
At maximum capacity, the injector vacuum is below 5 mH2O. The injector used is not suitable. Motive water pressure is too low. Backpressure is too high. The dirt trap before the injector is soiled.	• Make sure that the injector vacuum is at least 5 mH2O. • Make sure that a suitable injector type is used. • Check if the injector functions properly. Observe the manual of the injector. • Make sure that the motive water pressure is sufficient. • Make sure that the backpressure is suitable. See specification. • Check the dirt trap before the injector. Clean it, if necessary.

9. Maintenance

WARNING
Toxic material
Death or serious personal injury

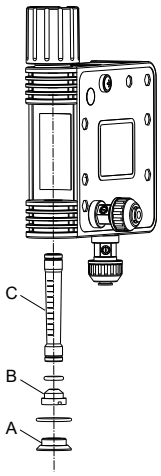
- Cleaning and maintenance must be carried out by authorised and trained experts.
- Observe the material safety data sheets (SDS) of the handled chemicals.
- Wear personal protective equipment when handling chemicals.
- Shut down the whole system before any work at the system components and lines.
- The system must be pressureless.
- Separate the whole system from the power supply before any work at the system components.
- Safety installations, which have been disabled during maintenance, must be enabled again immediately after maintenance.
- Tightly close inlet flanges and outlet flanges to prevent humidity from getting in.
- Check the tightness of the whole system before recommissioning.

Observe the manuals of the system and all other components.

9.1 Maintenance schedule

- Check the tightness of the whole system monthly.
- Check the electrical grounding of the whole system according to local requirements.
- Check the VGA-113 dosing regulator at least every 12 months, before start-up and in case of malfunction.

9.2 Cleaning the measuring glass of the flowmeter



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Dismantling the measuring glass of the flowmeter

Required tools and accessories:

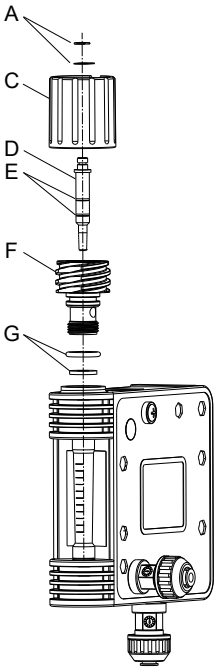
- Hot water
- Soft brush

1. Unscrew the lower support (A+B).
2. Pull out the measuring glass (C).
3. Take off the plugs of the measuring glass and take out the ball.
4. Clean all parts with hot water, use a brush if necessary.
5. Replace damaged parts.
6. Dry all parts well.

Moist parts can cause corrosion.

Mount all parts in reverse sequence.

9.3 Cleaning the rate vale



TM082785

Required tools and accessories:

- Hot water
- Soft brush
- Cylindrical pin, approx. 6 mm
- PTFE grease from the service kit

Do not use Vaseline for lubrication of the O-ring.

For versions with servomotor, observe the manual of the servomotor.

1. Version with servomotor: Unscrew the servomotor.
2. Unscrew the adjusting knob (C).
3. Unscrew the holding spindle (F).
4. Remove O-Ring and flat sealing (G) of the holding spindle.

Do not damage the sealing edge of the valve seat.

5. Push out the seat with the cylindrical pin.
6. Take off the cap (only manual version) and remove the locking ring (A) of the adjusting knob.
7. Remove the O-rings (E) of the adjusting spindle (D).
8. Clean all parts with hot water, use a brush if necessary.
9. Replace damaged parts.
10. Dry all parts well.

Moist parts can cause corrosion.

11. Replace the O-rings of the spindle by new ones, slightly apply PTFE grease to them.

Do not apply any grease to the groove of the spindle.

12. Replace the O-ring of the rate valve cartridge.

Mount all parts in reverse sequence.

10. Decommissioning

Seal the inlet and outlet connections of the dismantled system components to avoid ingress of moisture.

For details on decommissioning, see the separate installation and operating instructions of the Vaccuperm gas dosing system.

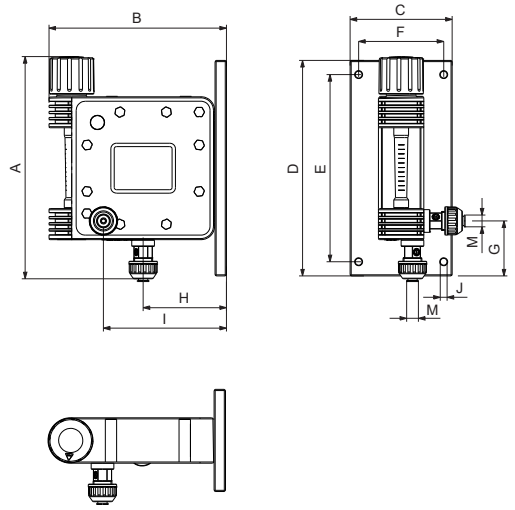
11. Technical data

DANGER
Toxic material
Death or serious personal injury
- Observe the values stated in the technical data section.

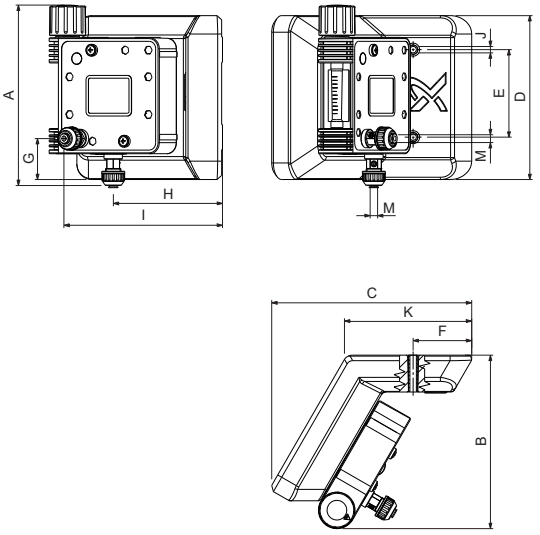
11.1 General technical data

Permissible medium	Chlorine gas
Capacity	Up to 4000 g/h
Adjustment ratio	1:20
Accuracy	± 4 %
Measuring device	According to the floater principle, measuring tube 70 mm
Material	• Enclosure: PVC • Springs: alloy C-4, silver-coated • Diaphragm: FEP • Rate valve: PVC • O-rings: FKM
Connections	Vacuum connection: PE hose 8/11 mm
Weight	Without servomotor: 0.9 kg With servomotor: 3.1 kg
Servomotor data	• Supply voltage: 110-240 V, 50/60 Hz or 24 VDC • Input/output signal: 4-20 mA • Enclosure: IP65 • Actuating time (1-100 %): 90 s • Power consumption: 15 VA • Fault relay: potential-free, NC
Permissible vacuum regulator	VGA-111

11.2 Dimensions



VGA-113-110, manual version



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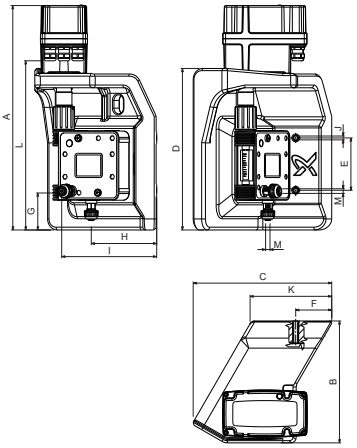
VGA-113-311, manual version

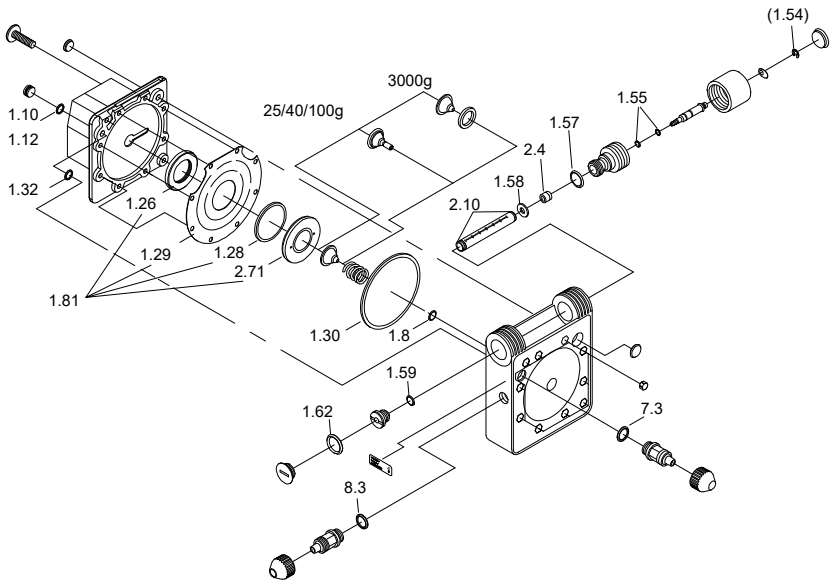


TM074738

VGA-113-391, automatic version with servomotor

Type	A	B	C	D	E	F	G	H	I	J	K	L	M
VGA-113-110	196	156	90	190	165	75	48.5	73	108	6	-	-	8x11
VGA-113-311	196	188	217	178	95	64	44	119	172	7	138	-	8x11
VGA-113-391	407	221	251	293	95	65	70.5	119	172	7	148	307	8x11

12. Service kits for VGA-113



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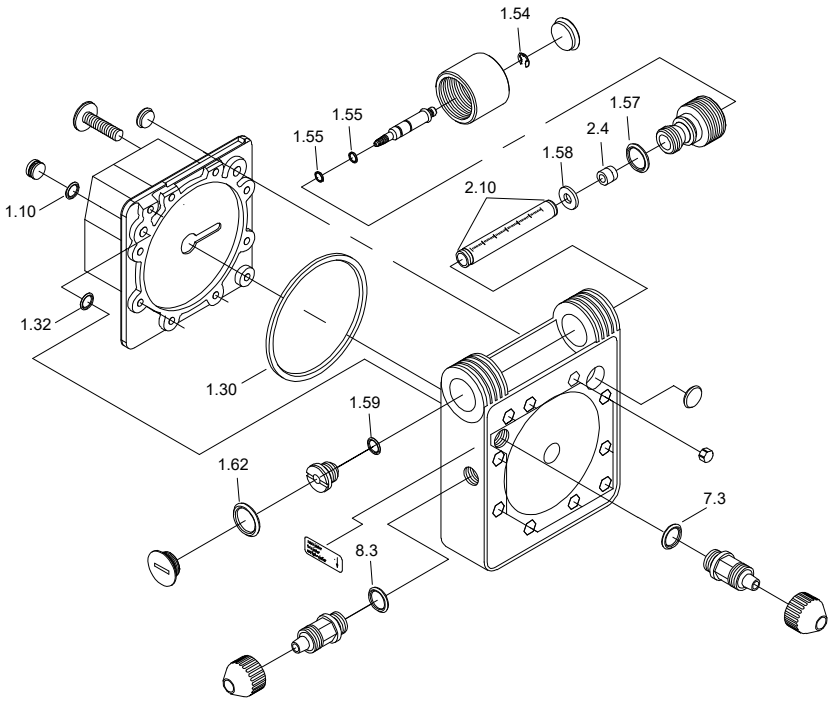
Drawing 1



TM082878

Drawing 2

Description	Content	Drawing	Product number
Service kit for VGA-113 with differential-pressure regulator	Gasket, vale seat, PTFE grease	1	91835974
Service kit for VGA-113 without differential-pressure regulator	Gasket, vale seat, PTFE grease	2	91835973

13. Disposing of the product

This product or parts of it must be disposed of in an environmentally sound way.

1. Use the public or private waste collection service.
2. If this is not possible, contact the nearest Grundfos company or service workshop.

The crossed-out wheelie bin symbol on a product means that it must be disposed of separately from household waste. When a product marked with this symbol reaches its end of life, take it to a collection point designated by the local waste disposal authorities. The separate collection and recycling of such products will help protect the environment and human health.

See also end-of-life information at *www.grundfos.com/product-recycling*.

14. Document quality feedback

To provide feedback about this document, scan the QR-code using your phone's camera or a QR code app.

Click here to submit your feedback

Declaration of conformity

GB: EU declaration of conformity

We, Grundfos, declare under our sole responsibility that the products VGA-111, VGA-113, VGA-117, VGA-146, VGB-103, VGS-141, VGS-143, VGS-145, VGS-147, VGS-148, to which the declaration below relates, are in conformity with the Council Directives listed below on the approximation of the laws of the EU member states.

DE: EU-Konformitätserklärung

Wir, Grundfos, erklären in alleiniger Verantwortung, dass die Produkte VGA-111, VGA-113, VGA-117, VGA-146, VGB-103, VGS-141, VGS-143, VGS-145, VGS-147, VGS-148, auf die sich diese Erklärung bezieht, mit den folgenden Richtlinien des Rates zur Angleichung der Rechtsvorschriften der EU-Mitgliedsstaaten übereinstimmen.

ES: Declaración de conformidad de la UE

Grundfos declara, bajo su exclusiva responsabilidad, que los productos VGA-111, VGA-113, VGA-117, VGA-146, VGB-103, VGS-141, VGS-143, VGS-145, VGS-147, VGS-148 a los que hace referencia la siguiente declaración cumplen lo establecido por las siguientes Directivas del Consejo sobre la aproximación de las legislaciones de los Estados miembros de la UE.

FR: Déclaration de conformité UE

Nous, Grundfos, déclarons sous notre seule responsabilité, que les produits VGA-111, VGA-113, VGA-117, VGA-146, VGB-103, VGS-141, VGS-143, VGS-145, VGS-147, VGS-148, auxquels se réfère cette déclaration, sont conformes aux Directives du Conseil concernant le rapprochement des législations des États membres UE relatives aux normes énoncées ci-dessous.

CN: 欧盟符合性声明

我们，格兰富，在我们的全权责任下声明，产品 VGA-111, VGA-113, VGA-117, VGA-146, VGB-103, VGS-141, VGS-143, VGS-145, VGS-147, VGS-148 系列，其制造和性能完全符合以下所列欧盟委员会指令。

- Machinery Directive (2006/42/EC).
  Standard used: EN ISO 12100:2010.
- Low Voltage Directive (2014/35/EU).
  Standards used:
  EN 60204-1:2018
  EN 61010-1:2010*
- EMC Directive (2014/30/EU)*.
  Standards used:
  EN 55014-1:2017
  EN 55014-2:2015
  EN 61000-6-1:2019
  EN 61000-6-3:2007 + A1:2011
- Other regulations applied:
  DIN 19606:2010-09.
- RoHS Directives (2011/65/EU and 2015/863/EU).
  Standard used: EN IEC 63000:2018

* Only valid for products with electrical components

This EU declaration of conformity is only valid when published as part of the Grundfos installation and operating instructions (publication numbers 95714202, 95714224, 98028175, 95714246, 95714278, 95713929, 95714262, 95714296).

Bjerringbro, 01.March 2022

Jimm Feldborg
Head of PD IND
Grundfos Holding A/S
Poul Due Jensens Vej 7
8850 Bjerringbro, Denmark
Person authorised to compile technical file and empowered to sign the EU declaration of conformity.

UK declaration of conformity

We, Grundfos, declare under our sole responsibility that the products to which the declaration below relates, are in conformity with UK regulations, standards and specifications to which conformity is declared, as listed below:

Valid for Grundfos products:

- VGA-111, -113, -117, -146
- VGB-103
- VGS-141, -143, -145, -147, -148

- Supply of Machinery (Safety) Regulations 2008
  Standard used: EN ISO 12100:2010.
- Electrical Equipment (Safety) Regulations 2016.
  Standards used:
  EN 60204-1:2018
  EN 61010-1:2010*.
- Electromagnetic Compatibility Regulations 2016*.
  Standards used:
  EN 55014-1:2017
  EN 55014-2:2015
  EN 61000-6-1:2019
  EN 61000-6-3:2007 + A1:2011
- Other regulations applied:
  DIN 19606:2010-09.
- The Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment Regulations 2019
  Standard used: EN IEC 63000:2018

* Only valid for products with electrical components.

This UK declaration of conformity is only valid when accompanying Grundfos instructions.

UK Importer: Grundfos Pumps ltd. Grovebury Road, Leighton Buzzard, LU7 4TL.

Bjerringbro, 01.March 2022

Jimm Feldborg
Head of PD IND
Grundfos Holding A/S
Poul Due Jensens Vej 7
8850 Bjerringbro, Denmark
Manufacturer and person empowered to sign the UK declaration of conformity.
10000107500

Operating manual EAC

RUS

Vaccuperm VGA-113, VGA-117, VGS-141, VGS-143, VGS-145

Руководство по эксплуатации
Руководство по эксплуатации на данное изделие является составным и включает в себя несколько частей:
Часть 1: настоящее «Руководство по эксплуатации».
Часть 2: электронная часть «Паспорт. Руководство по монтажу и эксплуатации» размещенная на сайте компании Грундфос. Перейдите по ссылке, указанной в конце документа.
Часть 3: информация о сроке изготовления, размещенная на фирменной табличке изделия.
Сведения о подтверждении соответствия:
Система дозирования газа Vaccuperm VGS-141, VGS-143, VGS-145; Дозаторы Vaccuperm VGA-113, VGA-117 прошли подтверждение соответствия требованиям Технических регламентов Таможенного союза: ТР ТС 004/2011 «О безопасности низковольтного оборудования»; ТР ТС 010/2011 «О безопасности машин и оборудования»; ТР ТС 020/2011 «Электромагнитная совместимость технических средств».

KAZ

Vaccuperm VGA-113, VGA-117, VGS-141, VGS-143, VGS-145

Пайдалану бойынша нұсқаулық
Атаулы өнімге арналған пайдалану бойынша нұсқаулық құрамалы болып келеді және келесі бөлімдерден тұрады:
1 бөлім: атаулы «Пайдалану бойынша нұсқаулық»
2 бөлім: Грундфос компаниясының сайтында орналасқан электронды бөлім «Төлқұжат, Құрастыру және пайдалану бойынша нұсқаулық». Құжат соңында көрсетілген сілтеме арқылы өтіңіз.
3 бөлім: өнімнің фирмалық тақташасында орналасқан шығарылған уақыты жөніндегі мәлімет
Сәйкестік мәлімдемесі туралы ақпарат:
Газды мөлшерлеу жүйесі Vaccuperm VGS-141, VGS-143, VGS-145; Вакуумдық қондырғылар VGA-113, VGA-117 дозировка жүйесі Кеден одағының Техникалық регламенттерінің талаптарына сәйкестігін растаудан өтті: ТР ТС 004/2011 «Төмен вольты жабдықтардың қауіпсіздігі туралы»; ТР ТС 010/2011 «Машиналар мен жабдықтардың қауіпсіздігі туралы»; ТР ТС 020/2011 «Техникалық жабдықтардың электромагниттік үйлесімділігі».

KG

Vaccuperm VGA-113, VGA-117, VGS-141, VGS-143, VGS-145

Пайдалануу боюнча колдонмо
Аталган жабдууну пайдалануу боюнча колдонмо курамдык жана өзүнө бир нече бөлүкчөнү камтыйт:
1-Бөлүк: «Пайдалануу боюнча колдонмо»
2-Бөлүк: «Паспорт. Пайдалануу жана монтаж боюнча колдонмо» электрондук бөлүгү Грундфос компаниянын сайтында жайгашкан. Документтин аягында көрсөтүлгөн шилтемеге кайрылыңыз.
3-Бөлүк: жабдуунун фирмалык тактасында жайгашкан даярдоо мөөнөтү тууралуу маалымат.
Шайкештикти баалоо боюнча маалымат алуу үчүн:
Газ эсептөө системасы Vaccuperm VGS-141, VGS-143, VGS-145; Дозатор Vaccuperm VGA-113, VGA-117 Бажы биримдигинин техникалык регламенттердин талаптарынын сакталышына тастыктоосунан өткөн: TR КС 004/2011 "начардыгы жабдуулардын коопсуздугу жөнүндө"; TR КС 010/2011 "машиналардын жана жабдуулардын коопсуздугу жөнүндө"; TR КС 020/2011 "техникалык каражаттардын электромагниттик келүүчүлүк".

ARM

Vaccuperm VGA-113, VGA-117, VGS-141, VGS-143, VGS-145

Շահագործման ձեռնարկ

Տվյալ սարքավորման շահագործման ձեռնարկը բաղկացած է մի քանի մասերից.

Մաս 1. սույն «Շահագործման ձեռնարկ»:

Մաս 2. էլեկտրոնային մաս. այն է՝ «Անձնագիր: Մոնտաժման և շահագործման ձեռնարկ» տեղադրված «Գրունդֆոս». Անցեք փաստաթղթի վերջում նշված հղումով.

Մաս 3. տեղեկություն արտադրման ամսաթվի վերաբերյալ՝ նշված սարքավորման պիտակի վրա:

Համապատասխանության մասին հայտարարության տեղեկություններ՝

Գազի չափման համակարգ Vaccuperm VGS-141, VGS-143, VGS-145; Պատվաստիչներ Վակուչուպ VGA-113, VGA-117 ը հաստատել է Մաքսային միության տեխնիկական կանոնակարգերի պահանջներին համապատասխանության հաստատումը. TP TC 004/2011 «Ցածր լարման սարքավորումների անվտանգության մասին»; TP TC 010/2011 «Մեքենաների եւ սարքավորումների անվտանգության մասին»; TP TC 020/2011 «Տեխնիկական սարքավորումների էլեկտրամագնիսական համատեղելիություն»:

VGA-113:

http://net.grundfos.com/qr/i/99626539

VGA-117:

http://net.grundfos.com/qr/i/99626541

VGS -141, VGS -143, VGS -145:

http://net.grundfos.com/qr/i/99626542

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