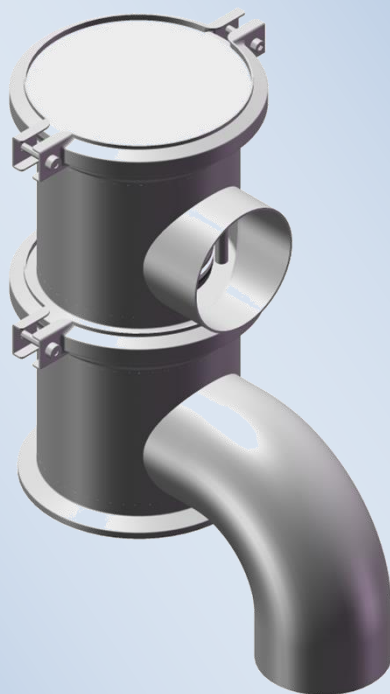


Pressure and/or vacuum valve

BG DN150



Instructions

Reference: BG_4_NOT_EN

Version B



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Home page: <http://www.servinox.com>

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1 INTRODUCTION

1.1. The manufacturer

SERVINOX is a specialist, making process equipment for the brewing, food, cosmetic and chemical industries.

Skill and knowledge about process equipment:

In areas such as the protection of tanks, sampling, injection of gas in liquids, scouring or cleaning pipes with patented products.

SERVINOX is certified **ISO 9001 & ISO 14001** and makes products complying with the following applicable standards and directives:

- Pressure Equipment Directive (**PED**) **2014/68/EU**.
- European Directive concerning Devices for Use in Explosive Atmospheres (**ATEX**) **2014/34/EC**
- Hygienic standard for manufacturers US 3A.

We are an active member of the association **EHEDG France** (hygienic standard for European manufacturers).

1.2. Instructions

To ensure the integrity of the device and the safety of people, you should be aware of the information contained in these instructions before installing and using the device.

Depending on the installation and the fluid, the specific directives and regulations apply, and should be complied with.

In addition to these instructions, the general instructions for safety at work and protection should be applied. The regulations concerning the protection of the environment must also be followed.

1.3. About the equipment

With the BG valve device, you can choose your needs for tank safety under pressure and vacuum

Safety accessory to fit on a tank whose **service pressure is under or equal to 0.5 bars (not concerned by the directive 2014/68/EU)**.

This notice gives the instructions for using this low-pressure safety valve.

1.4. Signs

If you have difficulties which these operating instructions cannot resolve, you should ask for further information from the manufacturer or from the equipment distributor.



It is essential to mention the SERVINOX order and/or the serial/production order number, beginning with SVX, for all special requests (spare parts, etc).

2 SAFETY INSTRUCTIONS



This technical manual contains basic instructions that should be followed. It is therefore essential to read it before installation and commissioning.

2.1. Indications and symbols

The following pictograms are designed to draw your attention to important points relating to the safety of people and the integrity of the device:

SYMBOL	DEFINITION
	Direct danger for people
	Possible damage to the product or its environment
	Useful information and application guidelines
	Minimum number required for certain operations. (The number of characters in the pictogram indicates the minimum number of persons).
	Minimum technical skill level. (The number in red indicates the minimum level required).

Some jobs require special technical skills and qualifications, such as for maintenance repairs or work on electrical equipment.

Three levels specify the required technical skill (knowledge of the equipment concerned, experience, training, etc):

	WORKER'S PROFILE	QUALIFICATIONS
Level 1	End user with no technical knowledge	Default level if the skill pictogram is not present. Permits only ordinary use and routine maintenance .
Level 2	Experienced professional	Trained and experienced - knowing the equipment and the technologies used.
Level 3	The manufacturer's personnel / expert of the product	Work reserved for the manufacturer of the documented device.

2.2. Safety of workers

Installation, test, adjustment, maintenance and replacement should be performed:

- By qualified persons.
- Following the recommendations and guidelines given in these instructions.
- Complying with the arrangements safety at work at work, procedures and resources of the fitter, and the legal notifications for the prevention of accidents, especially those concerning electrical installations.

Not following these safety instructions can result in the loss of all right to claim damages.

2.3. Intended use

Correct utilisation

In the certification documents, check that the device chosen is right for its intended use.

How it works

BOG valves are elements of safety for protecting a tank against risks of collapse and/or overpressure. The equipment is available in several models according to your need:

TYPE	VACUUM	PRESSURE	VACUUM COLLECTOR	PRESSURE COLLECTOR
A	X	X	X	
B	X	X	X	X
C		X		
D		X		X
E	X		X	

Incorrect utilisation












The device must not be used for any other purpose other than its intended use. The manufacturer cannot be held responsible in case of incorrect use.



The equipment must not be used beyond the following operating limits:

PARAMETER	LIMITS
Pressure - MAXIMUM	< 0.5 bar
Vacuum - MINIMUM	-2 mbar
Temperature - MINIMUM/MAXIMUM	1° / 120°C

2.4. Breakdown of the risks

DANGER / RISK			 
	Hot fluid	Very hot surface	Aggressive fluid
HARM	Burns	Burns	Burns
PREVENTION	  		  
	Garments, goggles, suitable gloves	Suitable gloves	Gloves, goggles, suitable mask

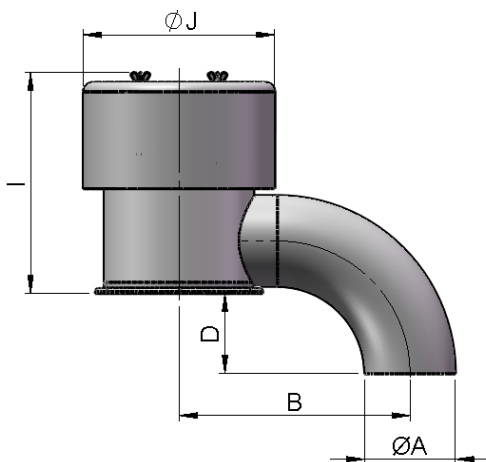
3 TECHNICAL SPECIFICATIONS

3.1. Standard version

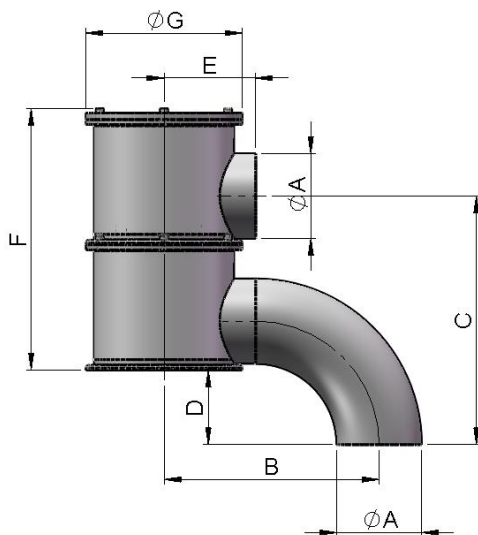
Specifications

SPECIFICATIONS	SERVINOX PROPOSAL
Connections	End-piece to be welded, male, female, clamp, flange
Vacuum calibration BOG: A, B, E Weight operated Spring operated	2 to 50 mbar 60 to 490 mbar
BOG calibrated pressure: A, B, C, D Weight operated Spring operated	2 to 50 mbar 60 to 490 mbar
Service temperature	+1°C to +120°C
Materials: <ul style="list-style-type: none">• Part in contact with the product• Other parts• Seals• Valve clappers	Stainless-steel 1.4404 (316L), PTFE Stainless-steel 1.4307 (304L). NBR, EPDM, FKM, MVQ, FFKM (Possible: USP class VI, GB4806) Stainless 316L, PTFE, PTFE +15% Graphite

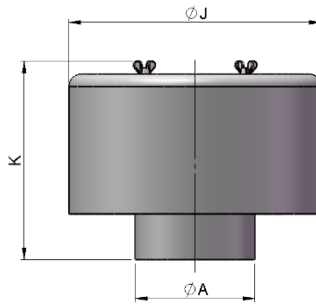
BG type A



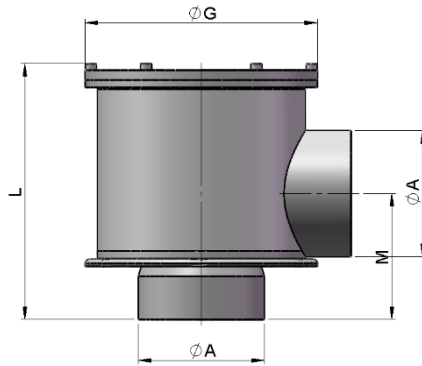
BG type B (by weight)



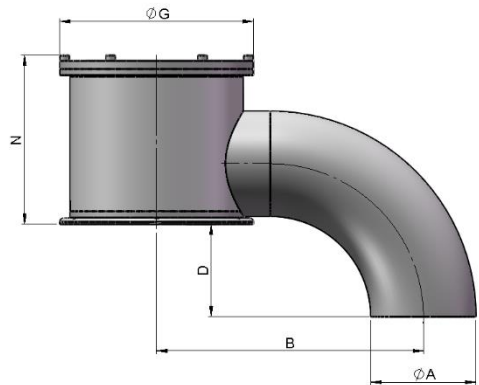
BG type C



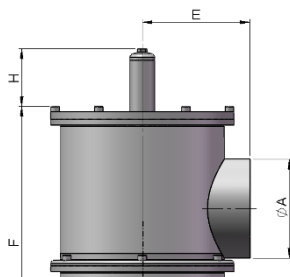
BG type D



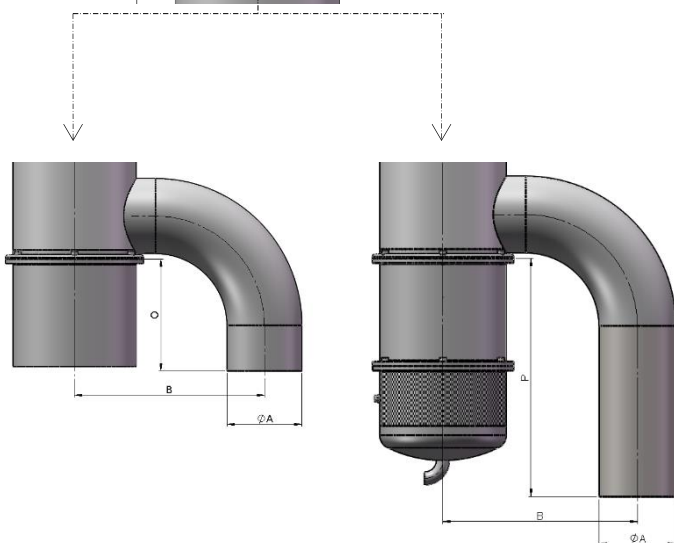
BG type E



Spring pressure calibration
(BG type B and D)



Vacuum calibration by spring
and/or drip collector (BG
type A, B and E)



A	B	C	D	E	F	G
154	392	103	136	167	476	284

H	I	J	K	L	M	N
90	374	325	256	313	154	248

O	P
230	481

3.2. Options

- Cleaning tube.
- Stainless steel clapper (standard setting of 8mbar).
- Detection of position on vacuum clapper.
- Forced opening on the pressure side with or without detection.
- Forced opening on the vacuum side with or without detection.
- Drip / insect collector.
- Tap on tank connection tubes.

3.3. ATEX option






ATEX version 2014/34/EC , areas 1 & 21, gas and dust.

This device is intended for use in surface installations (group II).

The protection level of category 2 is suitable for normal use and frequently occurring disturbances for which malfunctions are normally taken into account. This equipment is for use in areas in which explosive atmospheres caused by mixtures of air and gas (G), vapours, mist or mixtures of air with dust (D), are likely to occur.

The maximum surface temperature is the temperature of the fluid.

This valve of type BOG is suitable for ATEX areas 1 and 21; it has a Servinox sticker similar to the model below:

 FRANCE Phone: +33 (0)1.30.16.15.00 www.servinox.com   0081 ATEX 2014/34/UE : II 2GD c T120°C (T4)	Reference: XXXXXXXXXXXX
	Serial N°: SVXXXXXXXX Assembly N°: X Year: 2018
	Maxi allowable pressure (ps): X bar TS: +XX°C to +XX°C Type ND: XX Gasket material : XXXX

4 COMMISSIONING

4.1. Transport/ Reception/ Handling



Upon receipt, check:

- that *the package is in good condition*.
 - that the device *is delivered as ordered*.
 - that the device *has not been damaged*.



If the device is damaged, it must not be fitted on the installation. Contact the manufacturer or your distributor.

4.2. Storage



If the device is not fitted immediately after delivery, it should be stored *carefully*.

It should be stored in its original packaging, in a covered area, with protection against dirt, rain, snow, insects and away from shock.

The safe storage temperature is between 5°C and 40°C, with relative humidity of the air < 50%.

If the device is stored at negative temperatures, the resistance of the materials to cold should be taken into account (e.g.: the seals).

If storage is for longer than one year, the seals need to be replaced before commissioning.

4.3. Installation

General



Before any utilisation of the equipment, the user must visually verify good condition: absence of corrosion, bits of packaging.



If the fluid is harmful, inflammable, toxic, etc, fit the installation with discharge pipes going into a safe place.

Also, you are advised to check the compatibility of these products with the seals and materials before using them.

The workers



*The work described below should be carried out by **qualified and experienced persons**.*



The personnel must be fitted with gloves, helmet, and safety shoes.

Transport wedge



It is essential to remove the transport wedge if a pressure or vacuum calibrated weight is used.

Do not open the valve if a calibrated spring is used.

Connections

The free extremity of the elbow is the part of the valve to connect on the tank. If a valve is to be welded, you should remove the valve body only (Ref. 1).



The device should be welded to the tank by qualified persons following the regulations in force in the country of installation. The weld must not contain impurities and should be carried out hygienically.

After all welding and/or polishing work, the device should be cleaned of all residues, dust, etc.

- For the connection to the tank: the valve should be installed in **vertical position with a slope of about 1%** towards the tank for discharging the solutions found in the valve.
- *The connection tubes must have interior and exterior diameters identical to the valve.*

Cleaning tube

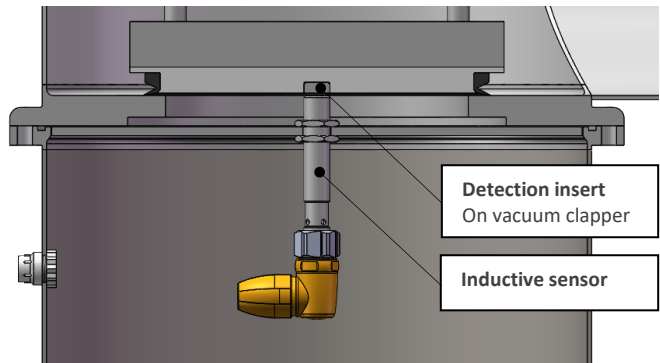
The cleaning tube connection is a mini clamp DN10 (\varnothing exterior clamp 34mm).
Washing flow rate between 0.25 and 0.5 m³/h at a pressure of 0.5 to 1.5 bar.

Connection of vacuum opening detector

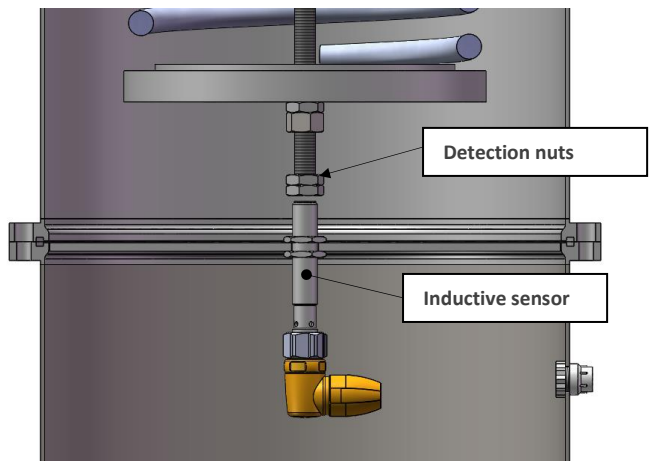


The vacuum sensor must only be adjusted with pressurised equipment.

If the valve is fitted with a vacuum part weight operated, the vacuum clapper has a stainless insert for the detection.



If the valve is fitted with a vacuum part spring operated, rod (Ref. 11.2) is composed by 2 nuts (Ref. 11.5) in its bout which allows an inductive sensor (Go section 6.3 Maintenance operations).



5 USE

5.1. Functional checks



After installation, before using the valve or maintenance work:

- Clean the seal gasket and the seating of the seals.

- You should check that the vacuum and/or weight-operated pressure clapper don't block and come down by gravity to closed position.

Overflow of tank into the valve



In case of overflow of the tank into the valve:

HALT PRODUCTION, it is essential to clean the interior of the valve and the seal gaskets. Flooding of the valve no longer protects the installation from the risk of vacuum and overpressure

RISK OF DESTRUCTION OF THE TANK!!

5.2. Adjustment

Adjustments are reserved for the manufacturer of the documented device.

Contact SERVINOX or your distributor.

6 SERVICING AND MAINTENANCE

6.1. General



The equipment requires maintenance to make sure it functions correctly.

An inspection must be carried out at regular intervals. There should be an initial inspection interval of six months.

Certain properties of fluids (corrosive, aggressive, abrasive, residues, viscosity, etc) and certain environmental conditions (climate, pollution, etc) may require a reduction of these inspection intervals.



If there is an insect filter, during inspection intervals, make sure that it is not blocked. The valve may not work properly.

SERVINOX supplies the spare parts for proper maintenance and the warranty on the equipment. Specify the production number and the product reference for all orders.

We keep a store of sachets of wear parts (seals, etc) and we recommend that you keep a few sachets in stock for quick jobs.

You can contact SERVINOX for all advice about maintenance of the device.

6.2. Inspections and servicing

The minimum points to inspect are:

- The condition of the seals
- The absence of impurities in the valve and between the seating surfaces
- The tightness of the assemblies

Required periodic maintenance:

Every 6 months:

- Internal cleaning of equipment

Every year:

- Change the seals (with installation empty):
 - Weight-operated vacuum: o-ring seal and valve clapper seal.
 - Spring-operated vacuum: o-ring seal and valve clapper seal.
 - Cleaning nozzle: clamp seal and flat seal.



You are advised to check the compatibility of your products with the seals and materials before using them

We advise you to enter all the maintenance and test operations carried out on the installation in a form of this type:

Date	Company	Name of the worker	Signature
PREVENTIVE MAINTENANCE			
Operations		Other, Comments	
CHECKS ON CORRECT FUNCTIONING AND GOOD CONDITION			
Operations		Other, Comments	

The workers



The work described below should be carried out by *qualified and experienced persons*.

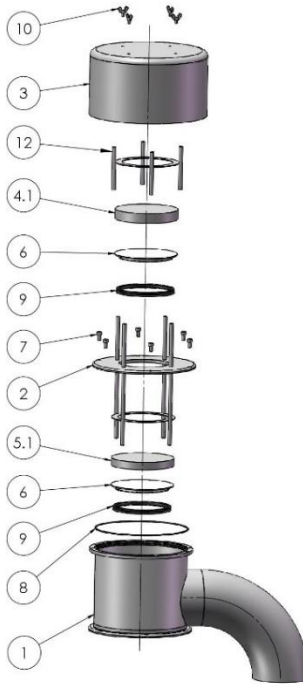


The personnel must be fitted with gloves, helmet, and safety shoes.

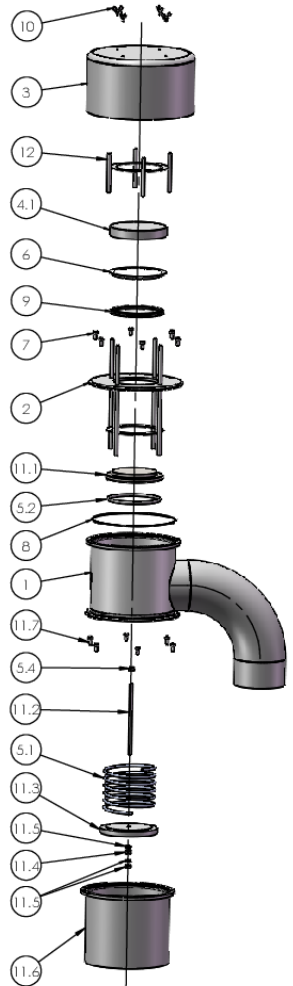
6.3. Maintenance operations

STANDARD BGA :
Exploded view
pressure not collected / vacuum type

Calibration by weight



Calibration by weight / spring



Pressure calibration NOT COLLECTED and Vacuum by Weight

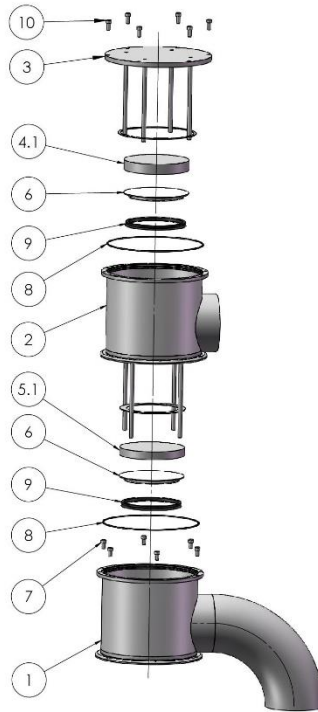
STANDARD	
REF	DESIGNATION
1	Pressure body
2	Uncollected pressure outlet flange
3	Cap
4.1	Calibrated pressure weight
5.1	Calibrated vacuum weight
6	PTFE clapper
7	Screw
8	O-ring seal
9	V-ring seal
10	Wing screw
12	Uncollected pressure stop (calibration \leq 25mbar)

Pressure calibration NOT COLLECTED by WEIGHT and Vacuum by SPRING

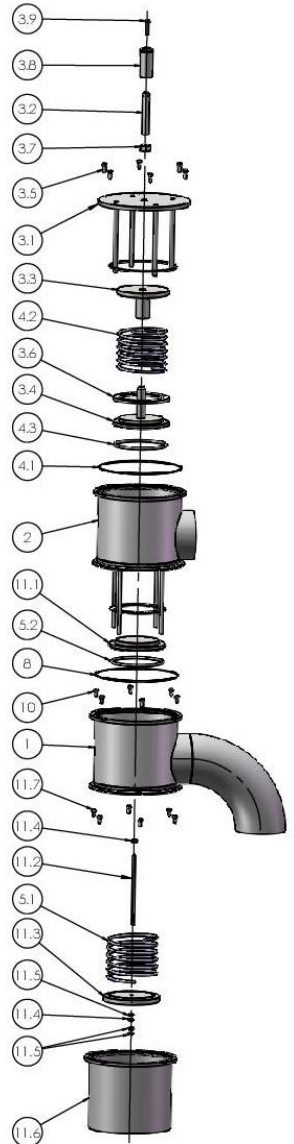
STANDARD	
REP	DESIGNATION
1	Pressure body
2	Uncollected pressure outlet flange
3	Cap
4.1	Calibrated pressure weight
5.1	Vacuum spring
5.2	O-ring seal
6	PTFE clapper
7	Screw
8	O-ring seal
9	V-ring seal
10	Wing screw
11.1	Vacuum clapper
11.2	Rod
11.3	Spring guide
11.4	Nut
11.5	Nut
11.6	Vacuum cap
11.7	Screw
12	Uncollected pressure stop (calibration \leq 25mbar)

STANDARD BGB :
Exploded view type
pressure collected / vacuum type

Calibration by weight



Calibration by spring



Pressure calibration COLLECTED and Vacuum by Weight

STANDARD	
REF	DESIGNATION
1	Pressure body
2	Recovery chamber
3	Blank plate
4.1	Calibrated pressure weight
5.1	Calibrated vacuum weight
6	PTFE clapper
7	Screw
8	O-ring seal
9	V-ring seal
10	Screw

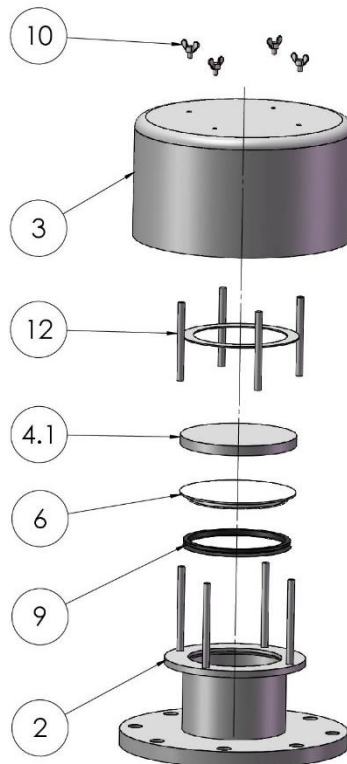
Pressure calibration COLLECTED and Vacuum by Spring

STANDARD	
REF	DESIGNATION
1	Pressure body
2	Recovery chamber
3.1	Blank plate
3.2	Set screw
3.3	Spring guide
3.4	Pressure clapper
3.5	Screw
3.6	Guid ring
3.7	Nut
3.8	Cap
3.9	Screw
4.1	O-ring seal
4.2	Pressure Spring
4.3	Pressure o-ring seal
5.1	Vacuum spring
5.2	Vacuum o-ring seal
7	Screw
8	O-ring seal
10	Screw

11.1	Vacuum clapper
11.2	Rod
11.3	Spring guide
11.4	Nut
11.5	Nut
11.6	Vacuum cap
11.7	Screw

STANDARD BGC :
 Exploded view
 pressure not collected type

Calibration by weight

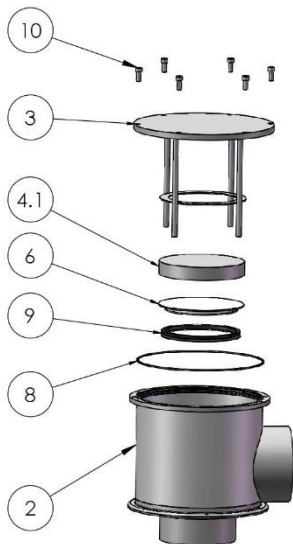


Pressure calibration NOT COLLECTED by WEIGHT

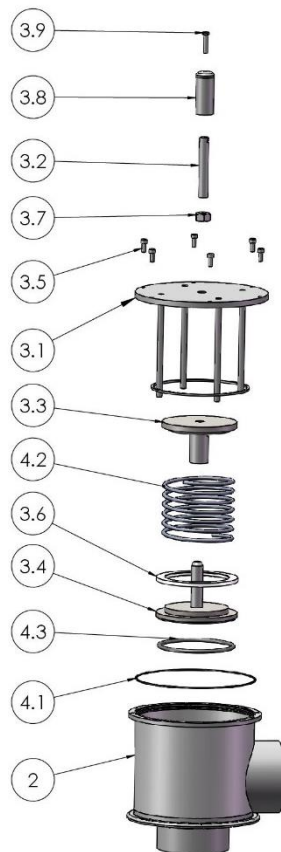
STANDARD	
REF	DESIGNATION
2	Uncollected pressure outlet flange
3	Cap
4.1	Pressure weight
6	Pressure clapper
8	O-ring seal
9	V-ring seal
10	Wing screw
12	Uncollected pressure stop (calibration \leq 25mbar)

STANDARD BGD :
Exploded view
pressure collected type

Calibration by weight



Calibration by spring



Pressure calibration COLLECTED by WEIGHT

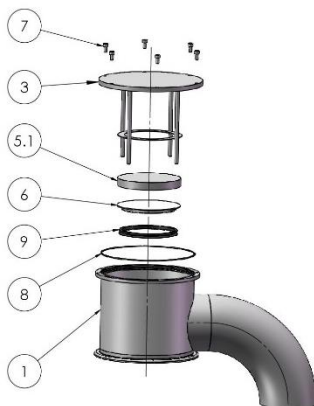
STANDARD	
REF	DESIGNATION
2	Recovery chamber
3	Blank plate
4.1	Calibrated pressure weight
6	PTFE clapper
8	O-ring seal
9	V-ring seal
10	Screw

Pressure calibration COLLECTED by SPRING

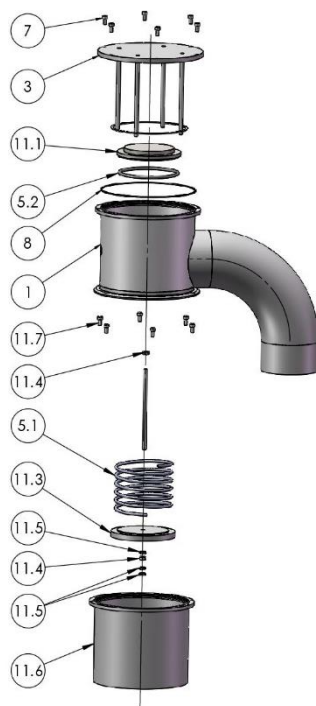
STANDARD	
REF	DESIGNATION
2	Recovery chamber
3.1	Blank plate
3.2	Set screw
3.3	Spring guide
3.4	Pressure clapper
3.5	Screw
3.6	Guid ring
3.7	Nut
3.8	Cap
3.9	Screw
4.1	O-ring seal
4.2	Spring
4.3	Pressure o-ring seal

STANDARD BGE :
Exploded view vacuum type

Calibration by weight



Calibration by spring



Vacuum calibration by WEIGHT

STANDARD	
REF	DESIGNATION
1	Pressure body
3	Blank plate
5.1	Calibrated vacuum weight
6	PTFE clapper
7	Screw
8	O-ring seal
9	V-ring seal

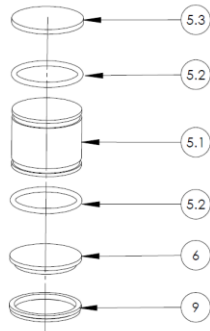
Vacuum calibration by SPRING

STANDARD	
REF	DESIGNATION
1	Pressure body
3	Blank plate
5.1	Vacuum spring
5.2	Vacuum o-ring seal
7	Screw
8	O-ring seal
11.1	Vacuum clapper
11.2	Rod
11.3	Spring guide
11.4	Nut
11.5	Nut
11.6	Vacuum cap
11.7	Screw

**Pressure calibration
by or without WEIGHT
(ATEX option)**



**Vacuum calibration
by or without WEIGHT
(ATEX option)**



Pressure calibration by WEIGHT

ATEX	
REF	DESIGNATION
4.1	Calibrated pressure weight
4.2	O-ring seal
4.3	Chock PTFE+15% graphite
6	PTFE+15% graphite clapper
9	V-ring seal

Vacuum calibration by WEIGHT

ATEX	
REF	DESIGNATION
5.1	Calibrated vaccum weight
5.2	O-ring seal
5.3	Chock PTFE+15% graphite
6	PTFE+15% graphite clapper
9	V-ring seal

Dismantling the valve
WEIGHT-OPERATED PRESSURE

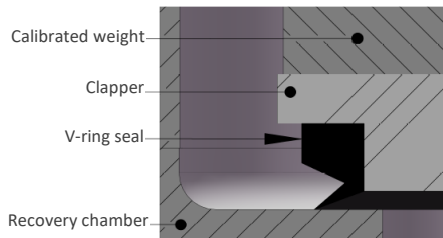
Weight-operated pressure BGA:

- 1) Unlock the wing screws (Ref. 10) holding the cap.
- 2) Remove the cap (Ref. 3).
- 3) Withdraw the uncollected pressure stop (Ref. 12) if one it is on place.
- 4) Remove the calibrated pressure weight (Ref. 4.1).
- 5) Carefully remove the pressure clapper (Ref. 6) with its seal (Ref. 9).
- 6) Remove the screws (Ref. 7).
- 7) Remove the uncollected pressure outlet flange (Ref. 2).
- 8) Remove the o-ring seal (Ref. 8).

Clean the valve and its seals; check the condition of the seals (Ref. 8 and Ref. 9) and replace the seals if necessary.



BE CAREFUL when fitting the V-Ring seal, see illustration below



Proceed in the reverse order for refitting the valve

Check before refitting the cap (Ref. 3): that the weight-operated pressure clapper don't block and come down by gravity to closed position.

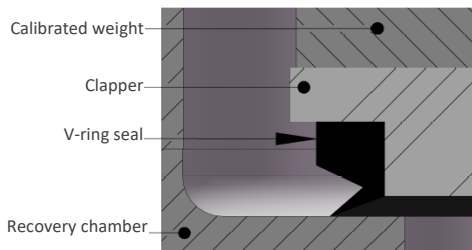
Weight-operated pressure BGC:

- 1) Unlock the wing screws (Ref. 10) holding the cap.
- 2) Remove the cap (Ref. 3).
- 3) Withdraw the uncollected pressure stop (Ref. 12) if one it is on place.
- 4) Remove the calibrated pressure weight (Ref. 4.1).
- 5) Carefully remove the pressure clapper (Ref. 6) with its seal (Ref. 9).

Clean the valve and its seal; check the condition of the seal (Ref. 9) and replace the seal if necessary.



BE CAREFUL when fitting the V-Ring seal, see illustration below.



Proceed in the reverse order for refitting the valve.

Check before refitting the cap (Ref. 3): that the weight-operated pressure clapper don't block and come down by gravity to closed position.

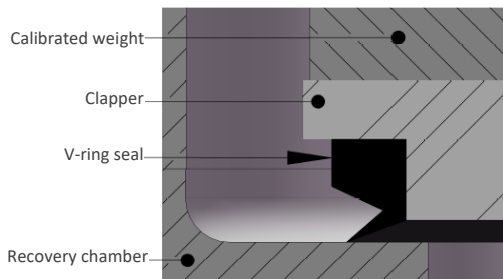
Weight-operated pressure BGB and BGD:

- 1) Remove the top screws (Ref. 10) holding the blank plate (Ref. 3).
- 2) Remove the blank plate (Ref. 3).
- 3) Remove the o-ring seal (Ref. 8).
- 4) Remove the calibrated weight (Ref. 4.1).
- 5) Carefully remove the pressure clapper (Ref. 6) with its seal (Ref. 9).

Clean the valve and its seals; check the condition of the seals (Ref. 8 and Ref. 9) and replace the seals if necessary.



BE CAREFUL when fitting the V-Ring seal, see illustration below.



Proceed in the reverse order for refitting the valve.

Check before refitting the cap (Ref. 3): that the weight-operated pressure clapper don't block and come down by gravity to closed position.

Spring-operated pressure BGB and BGD:

1) Remove the top screws (Ref. 3.5) holding the blank plate (Ref. 3.1).



BE CAREFUL ABOUT THE COMPRESSED SPRING.

2) Remove the blank plate (Ref. 3.1) then the assembly: spring guide (Ref. 3.3) and spring (Ref. 4.2).



Calibrated pressure; DO NOT REMOVE from the blank plate (Ref.3.1) the assembly: screw (Ref. 3.9), cap (Ref. 3.8), set screw (Ref. 3.2) and the screw (Ref. 3.7) for not losing the valve calibration.

3) Remove the seal (Ref. 4.1).

4) Carefully remove the pressure clapper (Ref. 3.4) with its seal (Ref. 4.3) and the guid ring (Ref. 3.6).

Clean the valve and its seals; check the condition of the seals (Ref. 4.1 and Ref. 4.3) and replace the seals if necessary.

Proceed in the reverse order for refitting the valve.



BE CAREFUL when refitting the assembly; you should compress the spring when fitting the blank plate (Ref. 3.1) then tighten the screws (Ref. 3.5).

Check that the clapper (Ref. 3.4) is in the centre of the valve seating and that the valve seal (Ref. 4.3) is not visible.

Dismantling the valve
WEIGHT-OPERATED VACUUM

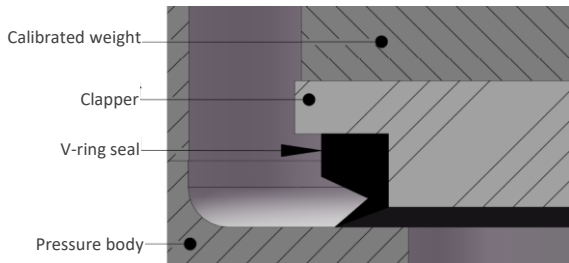
Weight-operated vacuum BGA and BGB:

- 1) Proceed to dismantling the pressure part first.
- 2) Remove the options so present.
- 3) Remove the intermediate screws (Ref. 10).
- 4) BGA: Remove the uncollected pressure outlet flange (Ref. 2).
BGB: Remove the recovery chamber (Ref. 2).
- 5) Remove the seal (Ref. 8).
- 6) Carefully remove the weight (Ref. 5.1).
- 7) Withdraw the vacuum clapper (Ref. 6) with its seal (Ref. 9).

Clean the valve and its seals; check the condition of the seals (Ref. 8 and Ref. 9) and replace the seals if necessary.



BE CAREFUL when fitting the V-Ring seal, see illustration below



Proceed in the reverse order for refitting the valve.

Check that the weight-operated vacuum clapper don't block and come down by gravity to closed position.

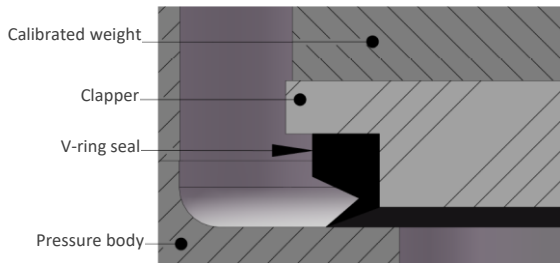
Weight-operated vacuum BGE:

- 1) Remove the options so present.
- 2) Unscrew the screws (Ref. 7) around the blank plate (Ref. 3).
- 3) Remove the blank plate (Ref. 3).
- 4) Remove the seal (Ref. 8).
- 5) Remove the calibrated pressure weight (Ref. 5.1).
- 6) Carefully remove the vacuum clapper (Ref. 6) with its seal (Ref. 9).

Clean the valve and its seals; check the condition of the seals (Ref. 8 and Ref. 9) and replace the seals if necessary.



BE CAREFUL when fitting the V-Ring seal, see illustration below.



Proceed in the reverse order for refitting the valve.

Check that the weight-operated vacuum clapper don't block and come down by gravity to closed position.

Dismantling the valve

Spring-operated vacuum BGA and BGB:

- 1) Proceed to dismantling the pressure part first.
- 2) Remove the options so present: drip collector and detector first.
- 3) Unscrew the intermediate screws (Ref. 7).
- 4) BGA: Remove the uncollected pressure outlet flange (Ref. 2).
BGB: Remove the recovery chamber (Ref. 2).
- 5) Unscrew the bottom fixing screws (Ref. 11.7) and remove the vacuum cap (Ref. 11.6).



Measure and note the compression size of the spring between the two support surfaces of the spring.

- 6) Unscrew the nuts (Ref. 11.4 and 11.5) and remove the spring guide (Ref. 11.3).



BE CAREFUL ABOUT THE COMPRESSED SPRING

- 7) Remove the spring (Ref. 5.1).
- 8) Remove the assembly: vacuum clapper (Ref. 11.1), rod (Ref. 11.2), nut (Ref. 11.4) and seal (Ref. 5.2).

Clean the valve and its seals; check the condition of the seal (Ref. 5.2) and replace the seal if necessary.

Proceed in the reverse order for refitting the valve.



Make sure you keep to the compression size previously noted when removing it.

Check that the vacuum clapper (Ref.11.1) is in the centre of the valve seating and that the valve seal (Ref. 5.2) is not visible.

Spring-operated vacuum BGE:

- 1) Remove the options so present: drip collector and detector first.
- 2) Unscrew the screws (Ref. 7) around the blank plate (Ref. 3).
- 3) Remove the blank plate (Ref. 3).
- 4) Remove the clamp seal (Ref. 8).
- 5) Unscrew the bottom screws (Ref. 11.7) and remove the vacuum cap (Ref. 11.6).



Measure and note the compression size of the spring between the two support surfaces of the spring.

- 6) Unscrew the nuts (Ref. 11.4 and 11.5) and remove the spring guide (Ref. 11.3).



SPRING IS UNDER PRESSURE .

- 7) Remove the spring (Ref. 5.1).
- 8) Remove the assembly: vacuum clapper (Ref. 11.1), rod (Ref. 11.2), nut (Ref. 11.4) and seal (Ref. 5.2).

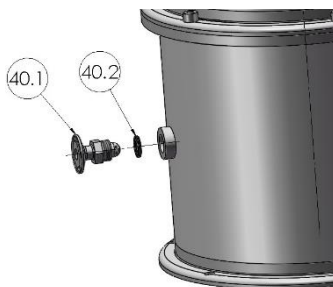
Clean the valve and its seals; check the condition of the seal (Ref. 5.2) and replace the seals if necessary.

Proceed in the reverse order for refitting the valve.



Make sure you keep to the compression size previously noted when removing it.

Check that the vacuum clapper (Ref. 11.1) is in the centre of the valve seating and that the valve seal (Ref. 5.2) is not visible.



REF	DESIGNATION
40.1	Nozzle
40.2	Seal

Dismantling the cleaning nozzle

- 1) Remove the supply cleaning connection by the mini clamp collar.
- 2) Unscrew the nozzle (Ref. 40.1).
- 3) Withdraw the seal (Ref.40.2).

Clean the nozzle and the seal; check the condition of the seal or replace the seal if necessary.

Proceed in the reverse order for refitting the nozzle.

**Option INSECT-PROOF DRIP
COLLECTOR with /without
DETECTION**



REF	DESIGNATION
20.1	Collector
20.2	Screws
20.3	Cable gland
20.4	Cable gland screw
20.5	Sensor
20.6	Connector

**Dismantling the insect-proof drip
collector**

1) Remove the screws (Ref. 20.2) and remove the collector (Ref. 20.1).

For a vacuum detector with insect-proof drip collector, it is possible of add the sensor (Ref. 20.5) with its connector (Ref. 20.6).

The sensor cable is held by the cable gland (Ref. 20.3 and 20.4).

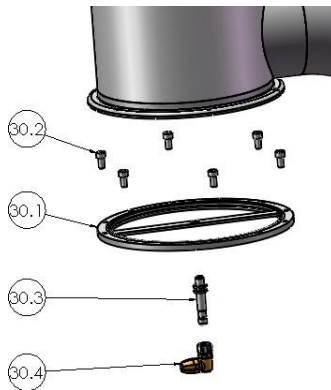
Proceed in the reverse order for refitting the collector, then check for correct adjustment of the sensor.



When refitting, the vacuum sensor must only be adjusted with pressurised equipment.

**DETECTION Option
VACUUM Side**

Vacuum calibration by weight



Vacuum calibration by spring



Vacuum calibration by WEIGHT

REF	DESIGNATION
30.1	Sensor support
30.2	Screw
30.3	Sensor
30.4	Connector

Vacuum calibration by SPRING

REF	DESIGNATION
31	Sensor
32	Connector

Dismantling the detection only

- 1) Remove the screws (Ref. 30.2) and remove the sensor support (Ref. 30.1).
- 2) Measure and note the size of adjustment of the sensor (Ref. 30.3).
- 3) Unscrew the nuts holding the inductive detector (Ref. 30.3) to withdraw the detector.

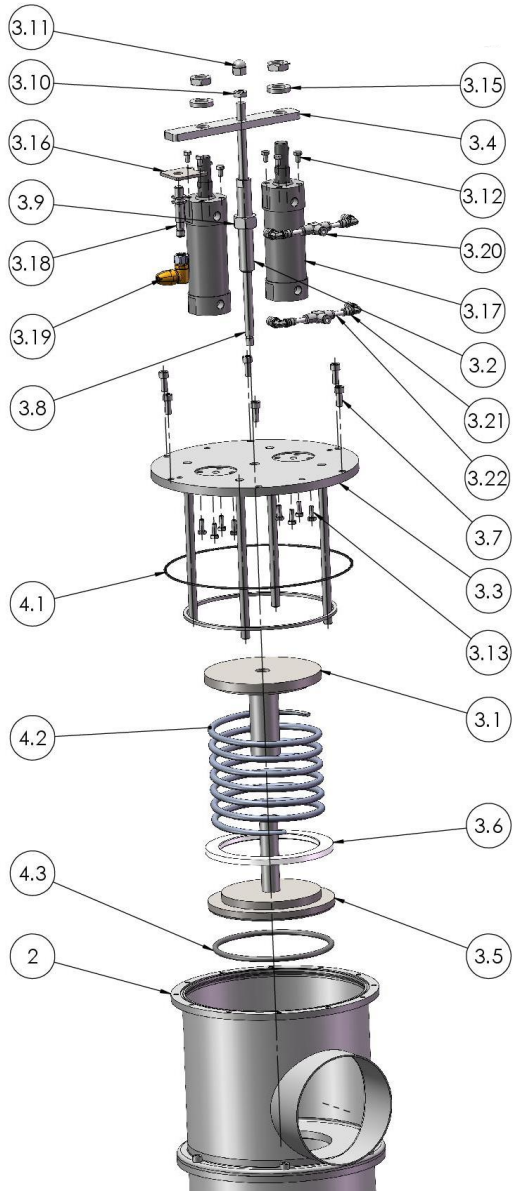
In the case of detection without an anti-insect drip collector but with spring calibration, it is possible to add the sensor (Ref. 31) with its connector (Ref. 32).

Proceed in the reverse order for refitting, then check for correct adjustment of the detector.



When refitting, the vacuum detector must only be adjusted with pressurised equipment.

Exploded view
FORCED OPENING ON THE
PRESSURE SIDE OPTION



Parts list
**FORCED OPENING ON THE
 PRESSURE SIDE OPTION**

REF	DESIGNATION
2	Recovery body
3.1	Spring guid
3.2	Set screw
3.3	Blank plate
3.4	Lifting bar
3.5	Clapper
3.6	Guid ring
3.7	Screw
3.8	Lifting rod
3.9	Set nut
3.10	Lift rod nut
3.11	Acorn nut
3.12	Upper cylinder screw
3.13	Lower cylinder screw
3.14	Screw for lifting bar
3.15	Washer
3.16	Sensor support
3.17	Cylinder
3.18	Sensor
3.19	Connector
3.20	T-shaped tube fittings
3.21	Right pneumatic air fitting
3.22	Pneumatic tube

Spring-operated pressure BGB and BGD:

- 1) Disconnect the air inlets at the T-shaped tube fittings (Ref. 3.20).
- 2) Disconnect the female connector (Ref. 3.19) and the sensor (Ref. 3.18) if these are present.
- 3) Remove the acorn nut (Ref. 3.11) and the nut (Ref 3.10).
- 4) Remove the screws (Ref. 3.7) of the blank plate (Ref. 3.3).



BE CAREFUL ABOUT THE COMPRESSED SPRING.

- 5) Remove the blank plate (Ref. 3.3) with all its components still mounted on it, then the assembly: spring guide (Ref. 3.1) and the spring (Ref. 4.2).



Pressure calibration DO NOT DISASSEMBLE on the blank plate (Ref. 3.3) the set: adjusting screw (Ref. 3.2) and nut (Ref. 3.9) for not losing the valve calibration.

- 6) Remove the seal (Ref. 4.1).
- 7) Carefully remove the clapper (Ref. 3.5) with its seal (Ref. 4.3) and with the guide ring (Ref. 3.6).

Clean the clapper clapper and its gaskets, check the condition of the gaskets (Ref. 4.1 and Ref. 4.3) and replace the gaskets if necessary.

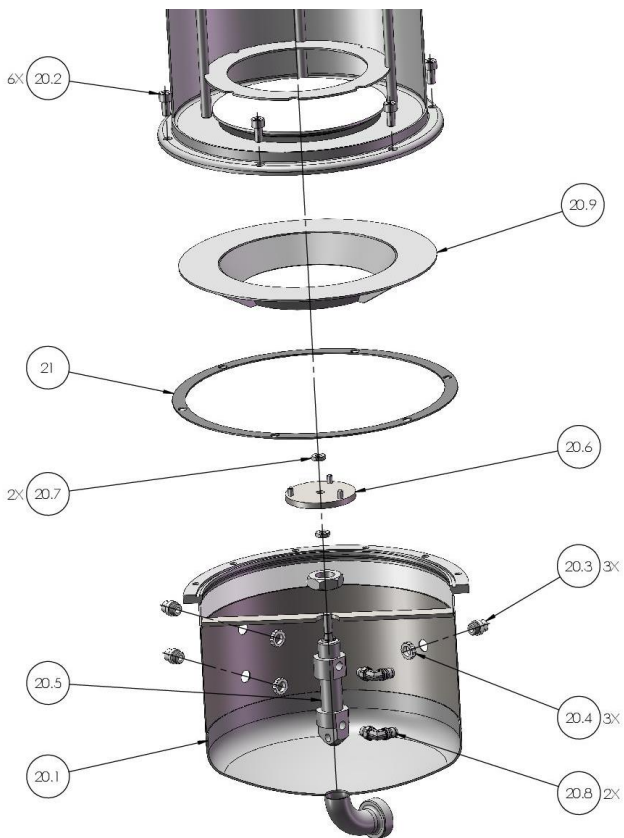
Proceed in the reverse order for refitting the valve.



CAUTION when reassembling the assembly, compress the spring when installing the blank plate (Ref. 3.3) then tighten the screws (Ref. 3.7).

Check that the clapper (Ref. 3.5) is centered in the center of the valve seat and that the valve seal (Ref. 4.3) is not visible.

Exploded view
FORCED OPENING ON THE
VACUUM SIDE OPTION



Parts list
FORCED OPENING ON THE
VACUUM SIDE OPTION

REP	DESIGNATION
20.1	Drip collector
20.2	Screws
20.3	Cable gland
20.4	Packing nut
20.5	Cylinder
20.6	Tripod pusher
20.7	Pusher mounting nut
20.8	Right pneumatic air fitting (upper position: retracted piston rod / lower position: extracted piston rod)
20.9	Anti-drip cone
21	Flange gasket

Dismantling valve with
Forced opening on the
vacuum side option

Vacuum by clapper BGB et BGC :

- 1) Unscrew the fixing screws (Ref. 20.2) of drip collector (Ref. 20.1).
- 2) Remove the drip collector (Ref. 20.1), the anti-drip cone (Ref. 20.9) and the flange gasket (Ref. 21).
- 3) Disconnect the air inlet tubes on the pneumatic air fitting (Ref. 20.8) from the pneumatic cylinder (Ref. 20.5).
- 4) Unscrew the nuts (Ref. 20.7) to remove the tripod pusher (Ref. 20.6).
- 5) Unscrew the pneumatic cylinder fixing nut (Ref. 20.5) to be able to remove the latter.

Clean the valve and its seals, check the condition of the seals (Ref. 4.1 and Ref. 4.3) and replace them if necessary.

Proceed in the reverse order for refitting the valve.

7 DIAGNOSTIC AID

The table below is a diagnostic aid and is intended to help you remedy simple functional problems.

PROBLEM	POSSIBLE CAUSE	REMEDY
The vacuum valve does not start	<ul style="list-style-type: none"> - Seals frozen - Grille of the insect-proof drip vacuum collector blocked - Blocking of the valve by a product from the tank during an overflow 	<ul style="list-style-type: none"> > Draughtproofing or insulation of the equipment > Clean the grille of the insect-proof drip collector > Clean the interior of the equipment and its seals
The spring pressure valve does not start	<ul style="list-style-type: none"> - Adjust the modified spring calibration - Seals frozen - Seal worn 	<ul style="list-style-type: none"> > Contact SERVINOX to adjust the calibration > Draughtproofing or insulation of the equipment > Replace seal
Premature start of the spring pressure valve	<ul style="list-style-type: none"> - Adjust the modified spring calibration - Seal worn 	<ul style="list-style-type: none"> > Contact SERVINOX to adjust the calibration > Replace seal
Detection of vacuum opening not functional	<ul style="list-style-type: none"> - Electrical fault - Poor adjustment of the detector 	<ul style="list-style-type: none"> > Cable bare, sealing fault > Proceed to new adjustment and check the tightness of the assemblies
Leak from the cleaning tube	Seal worn	> Replace seal
Efficiency of cleaning mediocre	Nozzle blocked	> Clean the interior and exterior of the cleaning nozzle.

8 WARRANTY

Unless otherwise stated in the proposal, the device is guaranteed **12 months as from the date of delivery**.

After an examination in our factory, the parts considered as defective will be replaced at our expense.

All replacement of the device's components (wear parts, seal, etc) must be replaced by SERVINOX original parts

The warranty does not cover damage due to:

- Poor fitting, inappropriate or abusive utilisation
- An accident or incorrect installation
- Modification of the equipment
- Leaks following the passage of impurities will not be taken into account
- Required maintenance not performed

The warranty on our products covers the free repair of parts returned when proved that they have become unusable prematurely, following a manufacturing or material fault.

We are not bound to any compensation or any other obligation of this kind.

This equipment has been inspected before leaving the factory.

This equipment has been certified as having been inspected and authorised for sale

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