

Fully autonomous operation

No external control is required for the operation of our safety valves.

HSV & BOG: Protect the tanks against **thermal shocks**

The HSV and BOG safety valves guarantee tank integrity in the event of sudden temperature variations that, in particular, can be caused by NEP cycles (hot wash followed by cold rinse).

SERVINOX possesses tools to dimension a valve with respect to tank characteristics and service conditions.

BOG, HSV, BOT & SHP. Collect pressure blow-off

BOG, HSV, BOT and SHP valves are also available with an integrated collector, for recycling blow-offs (the blow-off storage and recycling equipment is not supplied).

HSV & BOG: An option for operation at negative ambient temperatures

Servinox also offers an option for temperature maintenance and freeze protection by a temperature and resistance (HSV) probe or heater cable and thermostat (BOG), to ensure operation at outdoor temperatures below 0 °C.

BOGV: A valve specifically designed for the production of wine and Champagne

The optimally designed BOGV valve guarantees maintaining the gas stratification of the tank while offering one of the best price/quality ratios on the market and unequalled ease of maintenance.

HSV: 3-A certified hygienic valve

The HSV valve is available in its standard version with 3-A certification, thereby offering American industry players compliance with prevailing American food standards.

It should be noted that for all its equipment SERVINOX complies with the recommendations of the guidelines and international standards relative to hygienic design and construction, in particular those of the EHEDG and 3-A, which have the same goal: to promote the hygienic design of the equipment.

COMPARATIVE TABLE OF SAFETY VALVES

designed and manufactured by SERVINOX











	Installation					
	Tank PED Tank ¹ Process Line					
BOGV	✓	*	×			
BOG	✓	*	*			
HSV	✓	✓	*			
ВОТ	✓	✓	*			
SHP	✓	✓	✓			

^{*} Tanks subject to the Pressure Equipment Directive (PED) 2014/68/UE where the service pressure is more than 0.5 bar

		Functionality						
	Pressure	Vacuum	Thermal shocks	Blow-off collection	Freeze protection	Autonomus operation		
BOGV	✓	✓	×	×	×	✓		
BOG	✓	✓	✓	✓	✓	✓		
HSV	✓	✓	✓	✓	✓	✓		
вот	✓	×	×	✓	×	✓		
SHP	✓	×	×	✓	×	✓		

	Complilance					
	Standard version	On request	Seals	Seals on request		
BOGV	-	-	FDA, CE ²	-		
BOG	-	ATEX, DESP 2014/68/UE	FDA, CE ²	USP Class VI		
HSV	3-A 58-01	DESP 2014/68/UE	FDA, CE ²	-		
вот	DESP 2014/68/UE	-	FDA, CE ²	-		
SHP	ATEX 2014/34/UE DESP 2014/68/UE	-	FDA, CE ²	USP Class VI		

² CE: 1935/2004/CE (contact alimentaire)



Pressure & vacuum safety valve for storage tank in a protected atmosphere

BOGV®





OVERVIEW:

The BOGV valve is intended to protect inerted storage tanks, more especially in the wine producing domain, against vacuums (vacuum breaker) and excess pressures.

KEY BENEFITS:

- ▲ Combined pressure and vacuum valve.
- ✓ Specially designed for storage tanks in protected atmospheres
- ✓ Fully autonomous (no external control required for its operation)
- ✓ Simplified and cost-effective maintenance
- ▲ Low pressure sealing (regulation of the gas stratification and control of the nitrogen consumption)
- ✓ The best quality/price ratio on the market

- Storage of food and non-food products and more especially wines and champagnes
- ✓ Tanks where the inerting value is between 15 and 35 mbars and where the service temperature does not exceed 40 °C
- Exclusively designed to transport gases (in case of overflow, the valve elements must be dismounted and cleaned manually)

Sizes: DN 50

Tank connection: Straight vertical Clamp SMS 76 **Pressure setting by weight in stainless steel:** 40 mbar

Vacuum-relief setting by VMQ membrane (Silicone): -1 mbar

Maximum pressure in the tank: 80 mbar

Tank fill rate: Up to 100 m³/h (pressure in the tank below 80 mbar)

Tank draw-off rate: Up to 100 m³/h (vacuum in the tank between 0 and -5 mbar)

Service temperature: +5°C to 40°C

Washing temperature: +85°C maximum (in natural cooling conditions and with no ther-

mal shocks)

Materials:

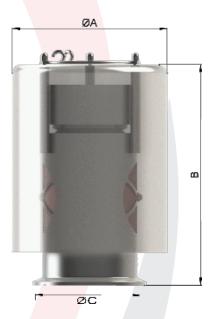
• Parts in contact with the product: 1.4404 (316L) stainless steel

• Other parts: 1.4307 (304L) stainless steel

Sealing: EPDM (Ethylene Propylene Diene Monomer) and VMQ (Silicone) gaskets

DIMENSIONS IN MM:

SIZES	DN 50
ØA	124
В	176
ØС	91



GUARANTEE:

12 months from the date of shipment (except in the case of special conditions)

COMPLIANCE:

• Elastomer gaskets compliant with FDA CFR 21.177.2600 and 1935/2004/EC ruling

SERVINOX follows the recommendations of international guidelines and standards relative to hygienic design and construction, in particular those of the EHEDG and 3-A.



Pressure, vacuum-relief & gas collection safety valve

for inerted tanks

BOG®







Sealing:

OVERVIEW:

BOG safety valves are intended to protect low pressure tanks not covered by PED against vacuums (vacuum breaker) and/or excess pressure. Depending on the version, the valve blow-off can be collected.

SERVINOX possesses design tools to dimension a valve with respect to tank characteristics (diameter, height), resistance (pressure, vacuum) and washing conditions (temperature, flow-rate).

KEY BENEFITS:

- ✓ Fully autonomous (no external control required for its operation)
- Different models available according to requirements: Pressure/vacuum (with or without blow-off collection), Pressure only (with or without blow-off collection), Vacuum only
- ✓ Safety valves compatible with hot/cold washing (after validation by the validation tool)
- ✓ Simplified and cost-effective maintenance
- Low pressure sealing
- ▲ Hygienic design
- Freeze protection option on request

- Manufacture and storage of food and non-food products in a controlled atmosphere (dairy products, beverages, waters, creams and other cosmetic products, fine chemicals, etc.)
- ✓ Tanks not covered by PED, where the service pressure is less than 0.5 bar and the service temperature is less than 120 °C
- Exclusively designed to transport gases

Sizes: DN 40, DN 65, DN 100, DN 150 compliant with most connection standards (DIN, SMS,

OD, ISO)

Tank connection: Smooth weld end, male, female, clamp, flange

Washing nozzle connection (option): Mini-clamp

Weight pressure calibration: 2 to 50 mbar

Pressure calibration with spring: 50 to 490 mbar Weight vacuum calibration: -2 to -50 mbar Vacuum calibration with spring: from -50 mbar

Temperature: +1 °C to 120 °C **Inside surface state:** Ra 0.8 μm

Materials:

• Parts in contact with the product: 1.4404 (316L) stainless steel

Non-return valves: PTFE (polytetrafluoroethylene, eq. Teflon®) or 1.4404
 (316L) stainless steel as per calibration

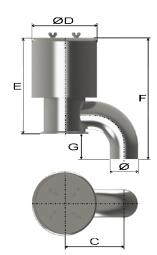
• Other parts: 1.4307 (304L) stainless steel

• Sealing: EPDM (Ethylene Propylene Diene Monomer) seals

DIMENSIONS IN MM (approximate values only):

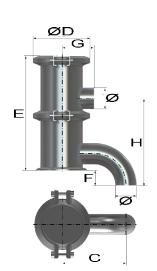
Pressure & vacuum valve:

BOG A	DN	DN 40		DN 65		DN 150
Size	SMS	DIN	SMS	DIN	SMS	DIN
С	110	110	152	177	197	392
D	120	120	162	162	325	325
Е	204	204	240	240	311	357
F	225	237	303	312	385	493
G	21	33	62	72	74	136
Ø	38*1.25	41*1.5	63.5*1.6	70*2	104*2	154*2

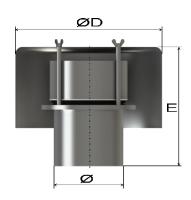


Pressure & vacuum valve, collected pressure:

BOG B	DN	40	DN	DN 65		DN 150
Size	SMS	DIN	SMS	DIN	SMS	DIN
С	110	110	152	177	197	392
D	102	102	132	132	196	284
E	204	204	235	235	360	476
F	21	33	62	72	74	136
G	58	69	82	102	112	167
Н	151	162	219	229	313	453
Ø	38*1.25	41*1.5	63.5*1.6	70*2	104*2	154*2

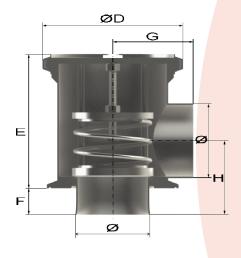






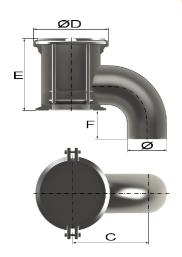
Pressure valve:

BOG C	DN	40	DN 65		DN 100	DN 150
Size	SMS	DIN	SMS	DIN	SMS	DIN
D	120	120	162	162	325	325
E	125	131	180	180	325	264
Ø	38*1.25	41*1.5	63.5*1.6	70*2	104*2	154*2



Collected pressure valve :

BOG D	DN 40		DN	DN 65		DN 150
Size	SMS	DIN	SMS	DIN	SMS	DIN
D	102	102	132	132	196	284
Е	108	108	123	123	188	248
F	23	23	25	25	25	12
G	58	69	82	102	112	167
Н	54	57	68	71	91	101
Ø	38*1.25	41*1.5	63.5*1.6	70*2	104*2	154*2



Vacuum valve :

BOG E	DN 40		DN 65		DN 100	DN 150
Size	SMS	DIN	SMS	DIN	SMS	DIN
С	110	110	152	177	197	392
D	102	102	132	132	196	284
Е	108	108	123	123	188	248
F	21	33	62	72	74	136
Ø	38*1.25	41*1.5	63.5*1.6	70*2	104*2	154*2

OPTIONS:

- Compliant «ATEX 2014/34/UE, zones 1 & 2, gas & dust» (models with blow-off collection)
- Compliant PED (vacuum valve)
- Drip collector and anti-insect filter on the vacuum part
- Washing nozzle (the drip collector and anti-insect filter are highly recommended)
- Sterile air intake on elbow-joint enabling all inerting and protection functions to be included on a single tank spigot
- Inductive opening detection in vacuum
- Protection against freezing by a temperature probe, heater cable and thermostat, to ensure valve operation at outdoor temperatures lower than 0 °C
- Specific surface state on request (inside and/or outside)
- Other gaskets (specific service conditions): FKM (Fluorocarbon rubber, eq. Viton®), VMQ (Silicone), NBR (Nitrile rubber), FFKM (Perfluoroelastomer, eq. Kalrez®)
- Gaskets USP Class VI compliant
- PTFE valves + 15 % graphite (ATEX version)

GUARANTEE:

12 months from the date of shipment (except in the case of special conditions)

COMPLIANCE:

- Elastomer gaskets compliant with FDA CFR 21.177.2600 and 1935/2004/EC ruling
- Optional: «ATEX 2014/34/EC, zones 1 & 2, gas & dust» version on the models with blow-off collection,
- Optional: European PED 2014/68/EC version on the vacuum model
- Optional: Elastomer gaskets USP Class VI compliant

SERVINOX follows the recommendations of international guidelines and standards relative to hygienic design and construction, in particular those of the EHEDG and 3-A.



Pressure, vacuum-relief & thermal shock safety valve 3-A

for process or storage tank

HSV-A®











OVERVIEW:

The valves in the HSV range are hygienic equipment intended to protect tanks against vacuums (vacuum breaker) and/or excess pressure. They are fitted with a technical tube (washing function, sterile air intake). The pressurised function blow-off is collected. The passage sections, different for pressure and vacuum, are specifically designed to protect the tanks against sudden temperature variations resulting from hot washing (and SIP) followed by a cold rinse.

SERVINOX possesses design tools to dimension a valve with respect to tank characteristics (diameter, height), resistance (pressure and vacuum) and washing conditions (temperature, flow-rate).

KEY BENEFITS:

- ✓ Valve certified 3-A 58-01
- ✓ Specially designed for protection against thermal shocks (hot/cold washes)
- ✓ Fully autonomous (no external control required for its operation)
- ▲ Hygienic design
- ✓ Simplified and cost-effective maintenance (with no lifting or special tools)
- ✓ Numerous options available according to requirements

- ✓ Tanks not subject to PED compliance where the service pressure is less than 0.5 bar
- ✓ Tanks subject to PED compliance where the service pressure is more than 0.5 bar (special version available on option)
- ✓ Tanks where the service temperature does not exceed 120 °C
- Exclusively designed to transport gases

NA

TECHNICAL SPECIFICATIONS:

Drip collector and anti-insect filter in vacuum

Sizes: DN 100/65, DN 150/100, DN 250/150, DN 320/150 and DN 450/150 Connection on the tank by 90° elbow-joint: To weld, male, female, clamp, flange Pressure setting: 50 to 500 mbar (non PED) or in PED version according to size

Vacuum-relief setting: - 5 mbar Service temperature: +10 °C to 140 °C

Internal washing tube orientation: 180° (opposite the elbow-joint)

Blow-off collection (pressurised): To weld

Materials:

• Parts in contact with the product: 1.4307 (304L) stainless steel

• Non-return pressure valve: 1.4404 (316L) stainless steel

• Non-return vacuum valve: 1.4404 (316L) stainless steel

• Sealing: EPDM (Ethylene Propylene Diene Monomer) gaskets

Inside surface state: Ra 0.8 µm

DIMENSIONS IN MM:

Sizes	Α	В	С	D	Е
DN 100/65	104*2	70*2	440	136	351
DN 150/100	154*2	104*2	625	184	392
DN 250/150	254*2	154*2	801	320	655
DN 320/150	324*2	154*2	912	398	807
DN 450/150	457*3	154*2	1116	547	1124

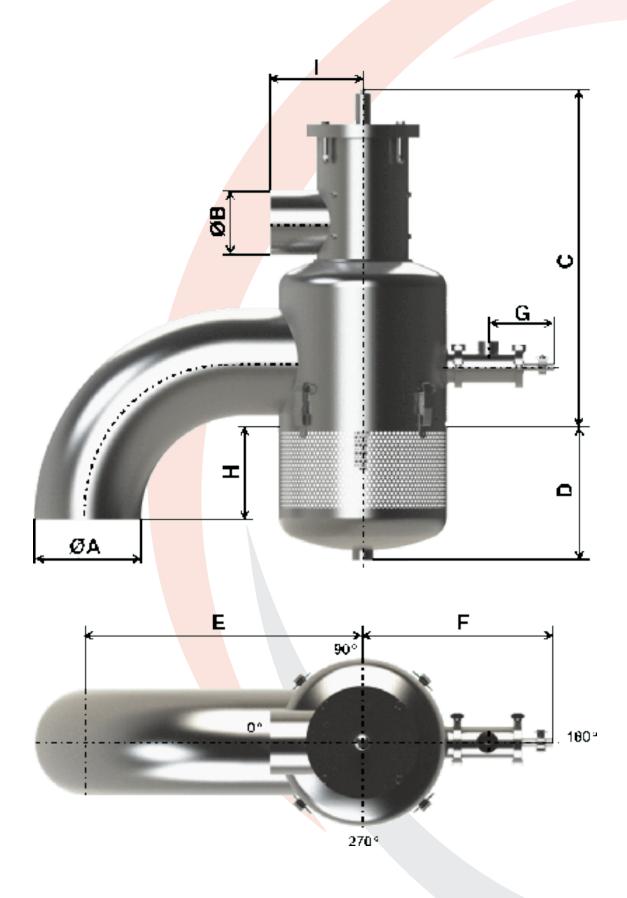
Sizes	F	G	Н	I
DN 100/65	363	146	131	120
DN 150/100	364	146	129	150
DN 250/150	437	146	224	220
DN 320/150	507	156	271	220
DN 450/150	630	156	423	220

PED max pressure calibration
5
4
3
1,5

FREEZE PROTECTION OPTION:

Sizes	Pressure function	Vacuum-relief function	Anti-snow system option (vacuum)
DN 100/65	-	-	-
DN 150/100	2 x 500W - 230V	500W - 230V	-
DN 250/150	2 x 600W - 230V	500W - 230V	450W - 230V
DN 320/150	2 x 600W - 230V	1000W - 230V	450W - 230V
DN 450/150	2 x 600W - 230V	1500W - 230V	_





OPTIONS:

- Non 3-A HSV model (service temperatures from +10°C to +100°C)
- PED compliance for pressure settings above 500 mbar
- Probe support (pressure, temperature) on technical tube
- Inductive opening detection in vacuum
- Freeze protection and anti-snow system
- Loosening cylinder for forced pressurised and/or vacuum opening
- Hygienic clamp or flange connections
- Other gaskets (specific service conditions): FKM (Fluorocarbon rubber, eq. Viton®)
- Customised equipment: please contact us

GUARANTEE:

12 months from the date of shipment (except in the case of special conditions)

COMPLIANCE:

- Compliant with 3-A 58-01
- Elastomer gaskets compliant with FDA CFR 21.177.2600 and 1935/2004/EC ruling
- Optional: European PED 2014/68/EC compliance for pressure settings above 500 mbar

SERVINOX follows the recommendations of international guidelines and standards relative to hygienic design and construction, in particular those of the EHEDG.





OVERVIEW:

The valves in the BOT range are PED certified security equipment intended to protect tanks containing group 2 gases against excess pressures (service pressure above 0.5 bar). The valve blow-off can be collected.

The valve comprises a cylindrical body and a lever mounted stainless steel counterweight, used for pressure calibration. In the event of excess pressure, the ball allows the fluid to escape to a secondary network.

As a rule, the valve is set to a pressure equal to the service pressure. Sealing is through a stainless steel ball up to 165 °C or an Arnite® ball up to 80 °C on contact with an elastomer lip seal.

SERVINOX possesses design tools to dimension a valve with respect to tank characteristics (diameter, height), resistance (pressure and vacuum) and washing conditions (temperature, flow-rate).

KEY BENEFITS:

- ✓ Fully autonomous (no external control required for its operation)
- ✓ Calibration by counterweight, ensuring excellent long-lasting reliability
- ✓ Cost-effective maintenance, with no impact on the calibration

- Manufacture and storage of food and non-food products in a controlled atmosphere (dairy products, beverages, waters, creams and other cosmetic products, fine chemicals, etc.)
- ✓ Tanks subject to PED compliance where the service pressure is more than 0.5 bar
- ▲ Exclusively designed to transport gases

Sizes: DN25, DN32, DN38, DN40, DN50, DN51

Tank connection: Male, female, clamp, flange from DN25 to DN50 in SMS and DIN

standards

Service temperature: from 0 °C to 165 °C

Pressure range: 0.5 to 6 bar

KD: 0.10

Maximum back-pressure: 0.5 bar **State of the inside surface:** Ra to 0.8 μm

Materials:

C

453

Parts in contact with the product: 1.4404 (316L) stainless steel
Other parts: Stainless steel 1.4301 (304L) and nickel-plated brass

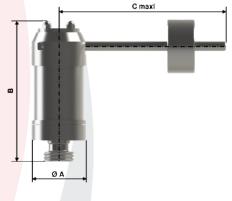
Sealing: VMQ (Silicone) or FKM seals (Fluorocarbon rubber, eq. Viton®)

DIMENSIONS IN MM (pproximate values only):

Models 51 (max 80°) and 61 (max 165°): Straight lower connection and blow-off not collected

DIN Sizes	DN 25	DN 32	DN 40	DN 50
Α	69	69	88	88
В	183	183	203	203
С	453	453	462	462
SMS Sizes	DN 25	DN 38	DN 51	
Α	65	88	88	
В	183	203	203	

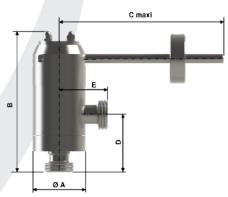
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Models 52 (max 80°) and 62 (max 165°): Straight lower connection and blow-off collected

465

DIN Sizes	DN 25	DN 32	DN 40	DN 50
Α	60	60	99	99
В	183	183	203	203
С	453	453	465	465
D	77	77	85	85
				1
SMS Sizes	DN 25	DN 38	DN 51	
	DN 25 63	DN 38	DN 51	
Sizes				
Sizes A	63	77	77	

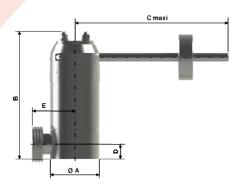




Models 53 (max 80°) and 63 (max 165°): Side connection and blow-off not collected

DIN Sizes	DN 25	DN 32	DN 40	DN 50	
Α	A 60		71	71	
В	175	175	202	202	
С	453	453	465	465	
D	21	21	25	25	
SMS Sizes	DN 25	DN 38	DN 51		
Α	63	77	77		
В	175	202	202		
С	453	465	465		

21



Models 54 (max 80°) and 64 (max 165°): Side connection and blow-off collected

25

DIN Sizes	DN 25	DN 32	DN 40	DN 50
Α	60	60	99	99
В	175	175	202	202
С	453	453	465	465
D	48	48	59	59
E	21	21	25	25
F	60	60	99	99

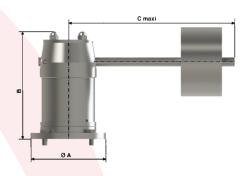
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SMS Sizes	DN 25	DN 38	DN 51
Α	63	77	77
В	175	202	202
С	453	465	465
D	48	59	59
E	21	25	25
F	63	77	77

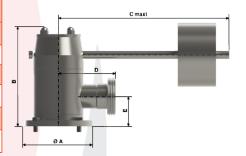
Models 55 (max 80°) and 65 (max 165°): Straight flange connection and blow-off not collected (assembly on buffer)

DIN Sizes	DN 25	DN 40
Α	100	120
В	155	170
С	453	465
SMS Sizes	DN 25	DN 38
	DN 25	DN 38
Sizes		



Models 56 (max 80°) and 66 (max 165°): Straight flange connection and blow-off collection (assembly on buffer)

Sizes	D	IN	SMS		
Sizes	DN 25	DN 40	DN 25	DN 38	
Α	100	120	100	120	
В	155	170	155	170	
С	453	465	453	465	
D	50	52	50	52	
Е	60	99	63	77	



OPTIONS:

- Specific surface state on request (inside and/or outside)
- Arnite® ball (service temperatures below 80 °C)
- Loosening cylinder to allow the passage of CIP liquid inside the valve (not in operation)
- Forced opening detection by loosening cylinder
- Blow-off collection
- Other gaskets (specific service conditions): EPDM (Ethylene-Propylene-Diene Monomer) (service temperatures below 120°C)

GUARANTEE:

12 months from the date of shipment (except in the case of special conditions)

COMPLIANCE:

- European PED 2014/68/EC compliant
- Elastomer gaskets compliant with FDA CFR 21.177.2600 and 1935/2004/EC ruling





OVERVIEW:

The valves in the SHP range are PED certified security equipment intended to protect production lines and tanks containing group 2 gaseous fluids against excess pressures (service pressure above 0.5 bar). The pressurised blow-off is collected. SERVINOX possesses tools to dimension a valve with respect to tank or transfer line characteristics (diameter, height) and service conditions.

KEY BENEFITS:

- ✓ High performance safety valve: KD gas and vapour 0.74
- ✓ Flush hygienic design on tank dome with RA less than 0.6 µm
- ✓ Fully autonomous (no external control required for its operation)
- Compliant with «ATEX 2014/68/CE zones 1 & 2, gas and dust»

- ✓ Tank and process equipment demanding the highest standards in hygiene (agrifood, pharmaceuticals, cosmetics)
- ✓ Tanks subject to PED compliance where the service pressure is more than 0.5 bar
- ✓ Designed to transport groups 1 & 2 gases and water vapours (in line with component compatibility with the products)

Sizes: DN 08, DN 13, DN 20, DN 25, DN 32, DN 40

Connection: Clamp

Pressure setting: 0.5 to 8 bars

Service temperature: 1 °C (freeze protection) to 200 °C, according to sealing

Permitted fluids: Groups 1 & 2 vapours and gases

Materials in contact with the product:

• Body, seat and non-return valve: 1.4404 (316L) or 1.4409 stainless steel

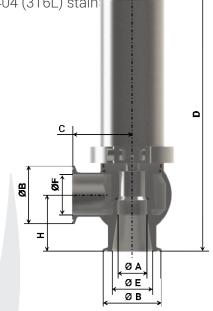
• Sealing: EPDM (Ethylene-Propylene-Diene Monomer) and NBR (Nitrile rubber)

gaskets (max 120 °C)

Materials not in contact with the product: 1.4306 or 1.4307 (304L) or 1.4404 (316L) stain

DIMENSIONS IN MM (standard version):

Slzes	ØA	ØB	С	D	ØE*	ØF*	Н
DN 08	8	25	43	132	9,4 (OD 15)	14 (ISO 10)	35
DN 13	13	50,5	60	174	18,1 (ISO 15)	18,1 (ISO 15)	40
DN 20	20	50,5	62	250,5	29,7 (ISO 25)	29,7 (ISO 25)	47
DN 25	25	50,5	57	290	34,8 (OD 38)	34,8 (OD 38)	49
DN 32	32	64	65	308	44,3 (ISO 40)	44,3 (ISO 40)	62
DN 40	40	77,5	83	406	56,3 (ISO 50)	56,3 (ISO 50)	81



OPTIONS:

- Manual forced opening; automatic (from DN20)
- Pressurised inductive opening detection
- Other gaskets (specific service conditions): FKM (Fluorocarbon rubber, eq. Viton®), FFKM (Perfluoroelastomer, eq. Kalrez®), VMQ (Silicone), HNBR (Hydrogenated Nitrile rubber), NBR (Nitrile rubber),
- Gaskets **USP Class VI** compliant
- * ØE and ØF: other connection dimensions possible (please contact us)

GUARANTEE:

12 months from the date of shipment (except in the case of special conditions)

COMPLIANCE:

- Compliant with European PED 2014/68/EC and «ATEX 2014/34/EC zones 1 & 2, gas and dust»
- Elastomer and plastomer gaskets compliant with FDA CFR 21.177.2600 and 1935/2004/EC ruling
- Optional: USP Class VI compliant gaskets

SERVINOX follows the recommendations of international guidelines and standards relative to hygienic design and construction, in particular those of the EHEDG and 3-A.

DNAM CASTE

