VEOX® TANK BOTTOM

NEW GENERATION OF MIXPROOF TANK BOTTOM VALVE

DEFINOX
BOOST YOUR PERFORMANCE

VEOX® TANK BOTTOM

NEW GENERATION OF MIXPROOF VALVE

The VEOX FC tank bottom valve isolates the tank from the rest of the process circuit.
The visualization of the leak is ensured by a fixed leak output.

The tank bottom version of the VEOX FC double independent valve incorporates the sliding radial seal, with stainless-steel insert on the lower plug It benefits from the same characteristics and performance as the standard VEOX valve.

The valve with double independent plugs incorporates a physical break between two circuits. This technology makes it possible to visualize a possible leak and allows the crossing of two fluids of different nature in complete safety. The independent pulse of the plugs ensures complete cleaning of the valve (seals and seal surfaces, plug seats, leakage chamber) without opening the valve.

PRODUCT BENEFITS VEOX VALVE

Modular, it is suitable for all types of process, thanks to these two interchangeable seals.

Efficient, the VEOX valve applies to extreme operating conditions, up to 13 bar in PEEK version (on request). It is able to withstand strong in-line constraints.

Economical, by reducing maintenance costs (reduced number of seals, ease and speed of intervention, strength and performance of the seal allowing to space out interventions).

Reliable, production stoppages are limited and controlled.

Hygienic, it guarantees the integrity and quality of process products. The one-piece design of the parts in contact with the product eliminates any risk of retention.

They comply with EHEDG and 3A design rules.

Fast installation on the tank without orientation constraint, thanks to the 360° flange.

Design reducing the number of seals for controlled costs of spare parts

New sliding radial seal on the lower plug, with stainless-steel insert

- Improved pressure and temperature performance.
- Better seal stability, limiting its expansion (even in extreme conditions)
- Longer seal life, reducing intervention frequencies

Pulsing of the lower plug < 2s

Depending on the process, a single pulse may be enough

Minimized CIP loss during plug pulses

New actuators (main and breakaway) guaranteeing power and instantaneous movement of the plugs

Simple and fast maintenance

- Reduced maintenance costs
- Limited interruption of process lines

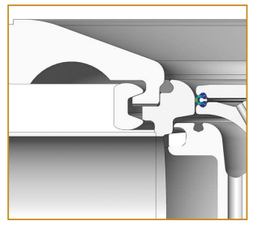
INNOVATION VEOX VALVE

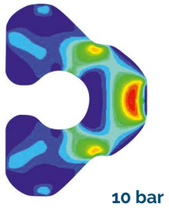
NEW SLIDING RADIAL SEAL

With stainless-steel insert on the lower plug.
Patented technology.

REPRESENTATION OF STRESS DIFFUSION ON THE SEAL

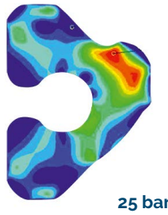
The mechanical and thermal resistances have been tested for all seals, on a test bench with 30,000 continuous operations, alternating cold water, hot water and steam (which is equivalent to usage over 8 years for a valve operated 10 times per day *).





10 bar

at 10 bar and
a temperature of 5° C



25 bar

at 25 bar and
a temperature of 5° C

2 SEALS TO COVER ALL PROCESS FLUIDS

Stainless-steel plug with hygienic PFA floating seal for standard applications
The floating assembly ensures excellent cleanability by circulating the cleaning liquid on all sides of the seal.
The plastomer structure of the PFA seal guarantees the absence of porosity or crevice, eliminating the risk of contamination and bacteriological development, without risk of altering the taste or appearance of the process fluid in contact with the PFA.
It has excellent resistance to particularly aggressive chemicals and high temperatures.

Stainless-steel plug with elastomer seal (EPDM or FKM) for process fluids with particles.

MATERIALS AND SURFACE STATES

MATERIALS	Body	Stainless-steel 1.4404 / AISI 316L
	Plug	Stainless-steel 1.4404 / AISI 316L
	Plug seals	PFA - elastomer (EPDM or FKM)
	O-ring	EPDM or FKM
	Actuator	Stainless-steel 1.4301 / AISI 304
	Flange	Stainless-steel 1.4404 / AISI 316L
Surface state	Exterior	1.2 µm (150 grit)
	Interior	0.8 µm (180 grit)

* Non-contractual data, depending on the use of the valve, process fluid, service conditions and CIP.

THE VALVE DESIGN

360° welding flange, machined in the body. Without orientation constraint.

New sliding radial seal, with stainless-steel insert on the lower plug. Patented technology.

Floating PFA seal
Perfectly cleanable ensuring a perfect seal at high temperature and having excellent resistance to aggressive chemicals.

Elastomer seal variant for loaded products

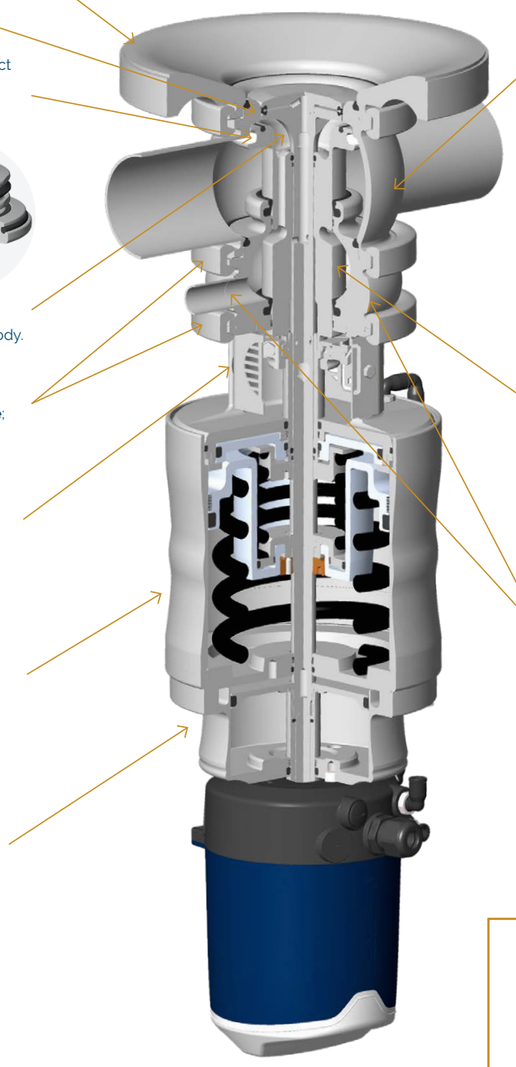
One-piece plug machined in the interchangeable PFA or elastomer body.

Easy disassembly and maintenance; clamp connection of the body, the leakage chamber and the actuator.

Lantern protection device; secure intervention.

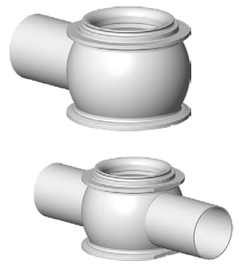
NC main actuator (normally closed), compact, ensuring instantaneous movements (opening of the valve and pulse of the upper plug).

Breakaway actuator
for the pulse of the lower plug. Powerful actuator, ensuring instantaneous movements.



The shape of the body and the plug ensures a seal as close as possible to the wall of the tank.
PTFE O-rings, excellent resistance to chemicals.

L or T body, machined in the body, guaranteeing a very high resistance to mechanical and thermal deformations.



One-piece counter balancer, machined in the body, resisting to water hammer. Cleaning of the external face of the counter balancer during each pulse of the lower plug, without risk of contamination. Guarantees perfect cleaning on sticky applications and prevents long-term gumming phenomena.

Intermediate leakage chamber body, Fixed leakage connection tube, without movement.

Leak indicator without actuator

New Sorio® control top

Available in digital, AS-i, IO-Link versions.

Remote viewing of valve status; 360° led broadcasting

The IO-Link protocol is used to initiate predictive maintenance.

IP 69K

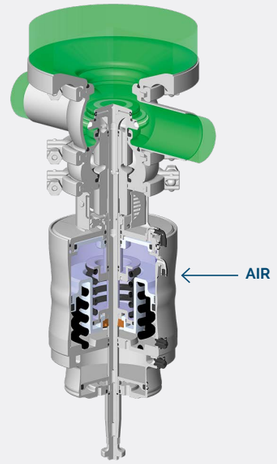
Simple remote configuration on PC or from the control top.

Plastic or stainless-steel cover.

Range from DN 38 to DN 125

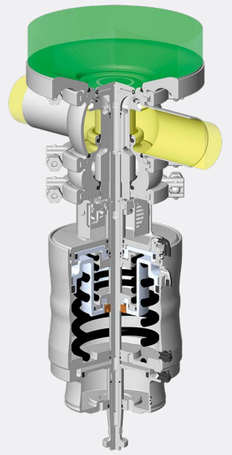
OPERATING PRINCIPLE VEOX VALVE

OPENED VALVE



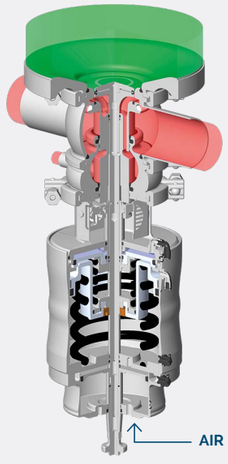
Passage of the process fluid between the tank and the valve channel.

CLOSED VALVE



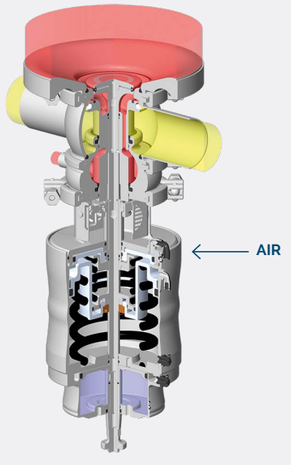
Process fluid in the tank and passage of another fluid in the valve path, with leakage chamber between the tank and the plug, avoiding any mixing of products

LOWER PLUG BREAKAWAY



Washing of the valve track as well as of the leakage chamber with pulsing of the lower plug

UPPER PLUG BREAKAWAY

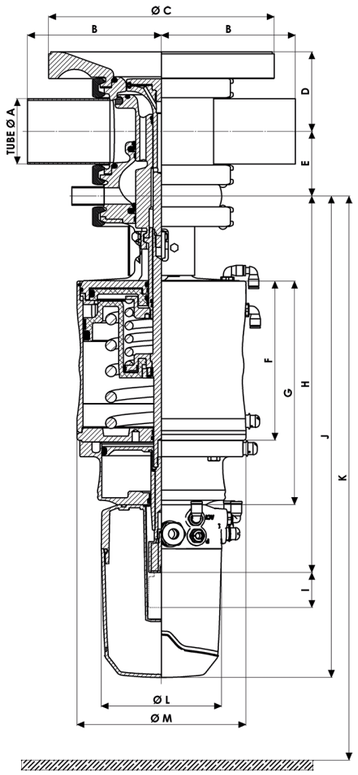


Washing of the tank as well as the leakage chamber with pulsing of the upper plug

TECHNICAL DATA

DIMENSIONS

DN			TUBE Ø A	B	C	D	E	F	G	H	Stroke I	J	K	Ø L	Ø M
SMS	DIN	US													
38			38 x 1.2	89	189	77	52	128	183	309	28	428	600	116	129
		1"1/2	38.1 x 1.65	130	189	77	52	128	183	309	28	428	600	116	129
	40		41 x 1.5	105	189	77	52	128	183	309	28	428	600	116	129
51			51 x 1.25	105	189	71	59	128	183	309	28	428	600	116	129
		2"	50.8 x 1.65	105	189	71	59	128	183	309	28	428	600	116	129
	50		53 x 1.5	105	189	71	59	128	183	309	28	428	600	116	129
63			63.5 x 1.6	130	219	78	63	155	217	349	35	468	650	116	164
		2"1/2	63.5 x 1.65	130	219	78	63	155	217	349	35	468	650	116	164
	65		70 x 2	130	219	80	66	155	217	349	35	468	650	116	164
76			76.1 x 1.6	130	219	85	69	155	217	349	35	468	650	116	164
		3"	76.1 x 1.6	130	219	85	69	155	217	349	35	468	650	116	164
	80		85 x 2	130	219	89	74	155	217	349	35	468	650	116	164
		4"	101.6 x 2.1	155	239	98	83	189	269	402	52	534	720	116	186
104	100		104 x 2	155	239	98	83	189	269	402	52	534	720	116	186
	125		129 x 2	200	338	118	102	195	275	432	54	564	750	116	219
	150		154 x 2	200	338	134	116	195	275	432	54	564	750	116	219



VALVE WEIGHT

DN			TUBE Ø A	WEIGHT (Kg)		
SMS	DIN	US		Complete valve + control top	Complete valve	Bodiless valve
38			38 x 1.2	16.9	16	10.7
		1"1/2	38.1 x 1.65	17.1	16.2	10.7
	40		41 x 1.5	16.9	16	10.7
51			51 x 1.25	17	16.1	10.7
		2"	50.8 x 1.65	17.1	16.2	10.7
	50		53 x 1.5	17	16.1	10.7
63			63.5 x 1.6	25.8	24.9	17.7
		2"1/2	63.5 x 1.65	25.8	24.9	17.7
	65		70 x 2	26.3	25.4	17.7
76			76.1 x 1.6	26.4	25.5	17.8
		3"	76.1 x 1.6	26.4	25.5	17.8
	80		85 x 2	26.8	25.9	18
		4"	101.6 x 2.1	34.6	33.7	23.8
104	100		104 x 2	34.6	33.7	23.8
	125		129 x 2	67.7	66.8	44.4
	150		154 x 2	73.6	72.7	45.3

TERMS OF SERVICE

AIR SUPPLY OF THE ACTUATOR *

minimum 5 bar
maximum 7 bar
** Pressure with direct air supply*

PRESSURE (in bar)

	IN THE LINE	IN THE TANK
Maximum working pressure	10	11

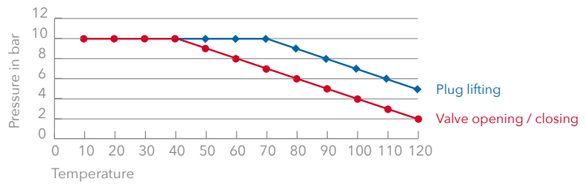
TEMPERATURE (in °C)*

	PFA /EPDM	PFA/FKM	ELASTO - EPDM	ELASTO - FKM
Minimum static temperature	-5	5	-5	5
Maximum static temperature	120	120	120	120
Minimum dynamic temperature	-5	5	-5	5
Maximum dynamic temperature	95	95	120	120
Steam flash (20 min. at 150 °C)	Yes	Yes	Yes	Yes

** For pressure at 5 bar*

TEMPERATURE DIFFERENTIAL BETWEEN THE TANK AND THE LINE OF THE VALVE: 120 °C MAXIMUM

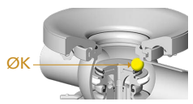
TEMPERATURE / PRESSURE RATIO FOR THE PFA SEAL



LEVELS OF RESISTANCE OF SEALS

	EPDM	FKM	PFA
Oil	★	★★	★★
Greasy substances	★	★★	★★
CIP	★★	★★	★★
Aggressive chemicals	★	★★	★★
Concentrated essential oils and perfumes	★	★★	★★
Abrasion resistance	★	★	★
Low temperature	★★	★	★

★★ Highly suitable ★ Suitable ★ Not recommended

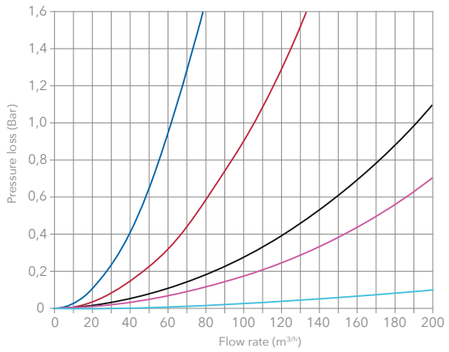


SMS			38			51			63			76			104		
US				1"1/2			2"			2"1/2			3"			4"	
DIN 11850 REIHE 2					40			50			65			85	100		125
Technical characteristics	Ø particle K	mm	17	17	17	19	19	19	20	20	20	20	20	20	35	35	35
	Body thickness	mm	6	6	6	6	6	6	7	7	7	7	7	7	7	7	7
	PFA upper plug breakaway stroke	mm	1.3	1.3	1.3	1.3	1.3	1.3	2.2	2.2	2.2	2.2	2.2	2.2	1.7	1.7	1.7
	Elastomer upper plug breakaway stroke	mm	1.3	1.3	1.3	1.3	1.3	1.3	2.2	2.2	2.2	2.2	2.2	2.2	1.7	1.7	1.7
	Lower plug breakaway stroke	mm	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
Air consumption (volume at atmospheric pressure)	Main actuator	n liter	0.5	0.5	0.5	0.5	0.5	0.5	1.1	1.1	1.1	1.1	1.1	1.1	1.8	1.8	1.8
	Upper plug breakaway actuator	n liter	0.05	0.05	0.05	0.05	0.05	0.05	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
	Lower plug breakaway actuator	n liter	0.2	0.2	0.2	0.2	0.2	0.2	0.5	0.5	0.5	0.5	0.5	0.5	0.7	0.7	0.7
Operating time with Sorio control top Air actuator: 6 bar Operating pressure 4 bar Speed of 2.5 m/s	Valve opening from the tank to the line	sec	2	2	2	2	2	2	4	4	4	4	4	4	6	6	6
	Valve closing from the tank to the line	sec	4	4	4	4	4	4	6	6	6	6	6	6	8	8	8
	Valve opening from the line to the tank	sec	2	2	2	2	2	2	4	4	4	4	4	4	6	6	6
	Valve closing from the line to the tank	sec	3	3	3	3	3	3	5	5	5	5	5	5	7	7	7
	Upper plug pulse	sec	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	Lower plug pulse	sec	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1

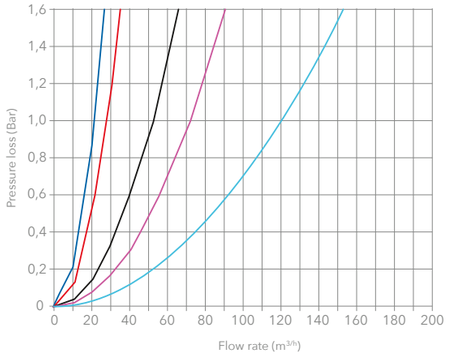
The service conditions are given for information only. Combinations of extreme service conditions are sometimes inappropriate. It is therefore strongly recommended to seek advice from our services.

VALVE PRESSURE LOSSES VEOX VALVE

PRESSURE LOSS IN-LINE



PRESSURE LOSS LINE TOWARDS TANK



- DN 38 SMS – 1.5'' – 40 DIN
- DN 51 SMS – 2'' – 50 DIN
- DN 63,5 – 2.5''
- DN 76 – 3''
- DN 104 – 4'' – DN 100

	SMS	38			51			63			76			104	
	US		1"1/2			2"			2"1/2			3"			4''
	DIN 11850 REIHE 2			40			50			65			85	100	
Pressure loss KV	IN-LINE	62	62	62	105	105	105	191	191	215	239	239	442	645	645
	LINE FROM VALVE TO TANK	21	21	21	28	28	28	52	52	62	72	72	96	121	121
Pressure loss CV	IN-LINE	72	72	72	122	122	122	222	222	250	277	277	512	748	748
	LINE FROM VALVE TO TANK	24	24	24	32	32	32	60	60	72	84	84	111	140	140

id DEFINOX

TEST, DOWNLOAD, **SCAN ...**

The augmented reality developed by DEFINOX for more services.

- Immediate identification of the valve and spare parts.
- Saves time on valve fleet management
- Reduced risk of errors.
- Immediate access to documentation.
- Individualized monitoring of the valve with the maintenance operations record.

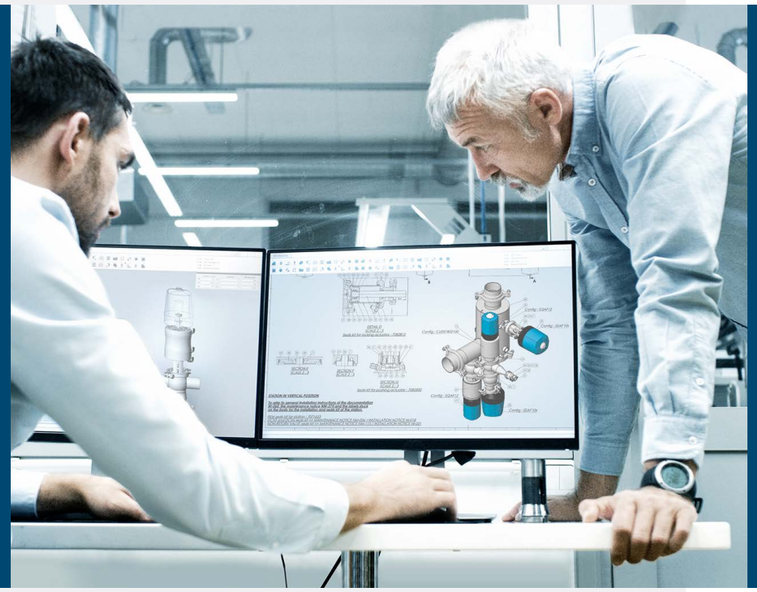
new

Download on App Store

AVAILABLE ON Google Play

SPECIALIST
FOR OVER 50 YEARS

Specialist in the transfer of liquids for more than 50 years, DEFINOX designs and manufactures process valves and customized equipment in stainless-steel for the food, cosmetic and fine chemicals industries.



70
COUNTRIES

60,000
EQUIPMENT AND VALVES SOLD PER YEAR

150
EMPLOYEES


MACHINING IN THE BODIES


WELDING OPERATION


HEAT TREATMENT


ASSEMBLY OF PROCESS VALVES

FIELDS OF **APPLICATION**

DEFINOX valves can be used on liquids or semi-liquids, more or less viscous, without risk of denaturing the manufactured product.

- **Food:** dairy products, jam, chocolate…
- **Cosmetics / Perfume**
- **Hygiene products**: toothpaste, shampoo, shower gel…
- **Household products:** laundry, detergent…
- **Animal food**
- **Paint**
- **Lithium battery**

DEFINOX, FLEXIBILITY AND PERFORMANCE

The machining, turning and welding techniques selected by DEFINOX for the production of valves, pigging solutions and personalized equipment give strategic components in contact with the fluid a high level of finish and quality and in accordance with process requirements.

Machining in the bulk of the bodies is the guarantee of manufacturing parts without retention zones.. This process provides great resistance to mechanical and thermal deformation.
The spherical shape of the bodies promotes optimum fluid flow and a reduction in pressure losses.

Milling and turning operations offer great flexibility to adapt the outlet pipes. Many configurations are thus made possible.

The internal polishing (Ra = 0.8 µm or 180 grit) contributes to a good in-line cleanability. This is the assurance of a finish that complies with health requirements (Ra = 0.4 µm for demanding applications).
A passivation operation reinforces the corrosion resistance.

The quality of the welds (made by TIG certified welders) meets health standards and requirements. The welds guarantee good geometry and resistance of the mechanically welded assemblies.

DEFINOX is committed to a Lean Manufacturing approach and continuous improvement. Our industrial and organizational choices optimize our production flows and provide the flexibility necessary to produce specific valves or specific equipment according to customer needs.

ENGINEERING DEPARTMENT

Our engineering department provides knowledge in IO-Link technology associated with process valves and liquid transfer.

It advises and supports your approach to implement predictive valve maintenance.

PACKSERVICES CUSTOMER SERVICE

PackServices customer service offers various services

- **Training ***
- **Preventive maintenance program**
- **Spare parts management**
- **Advice/expertise**

Our teams of specialized multilingual technicians work in France and abroad for maintenance operations. They are also involved in product retrofit operations (change in generation of valves or housings).

*certified training organization.

A renowned French brand, DEFINOX specializes in the design and production of units that meet specific customer specifications.

(valve manifolds, pigging solutions, injection systems ...).

The valves and equipment meet the standards of the regulations in force applicable to hygienic processes and the most severe constraints in terms of cleanability.

definox.com

AND FOLLOW US ON:

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BOOST YOUR PERFORMANCE

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