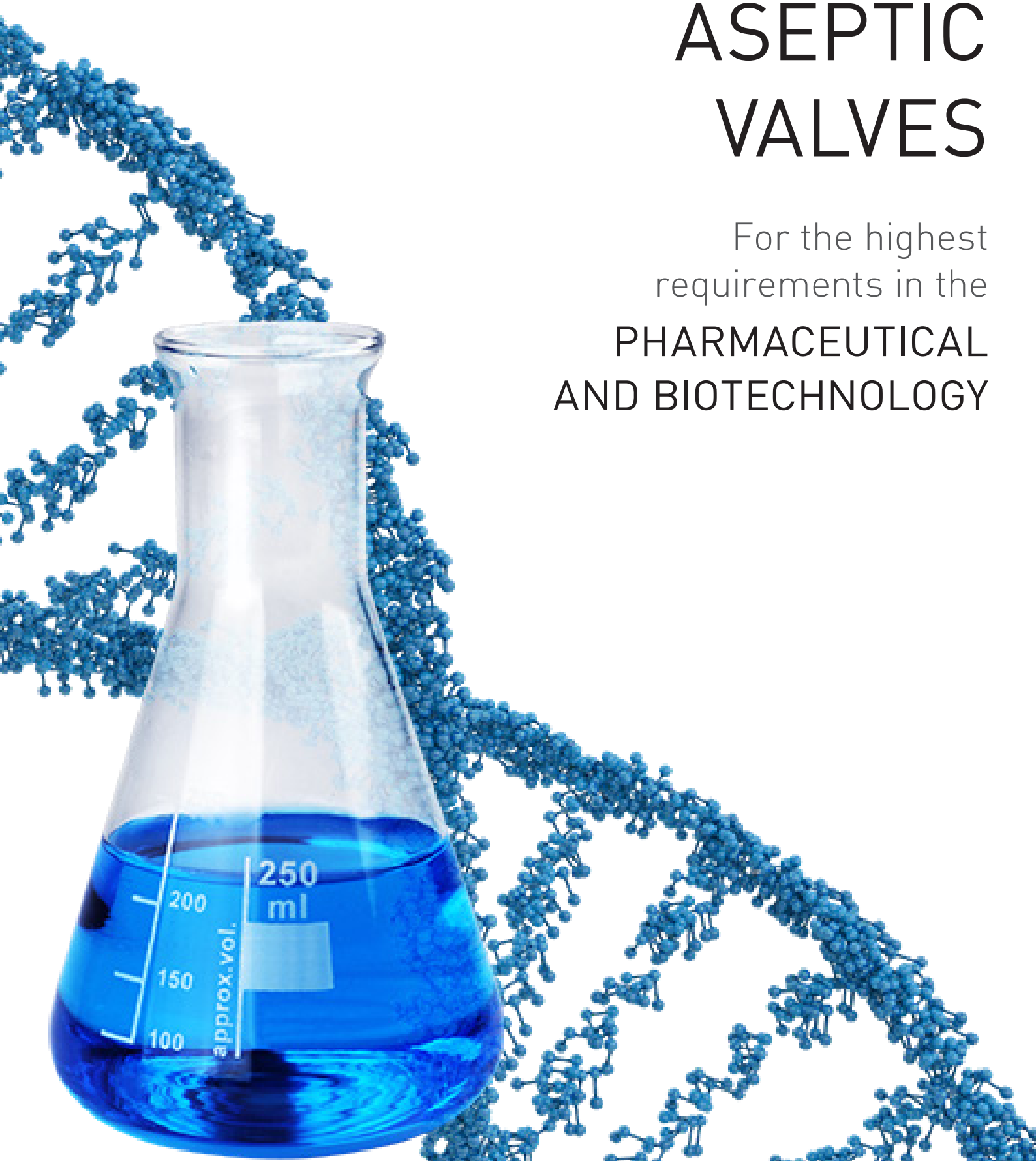
RIEGER
NEUMO Ehrenberg Group

ASEPTIC VALVES

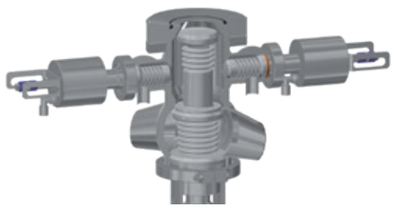
For the highest requirements in the

PHARMACEUTICAL AND BIOTECHNOLOGY

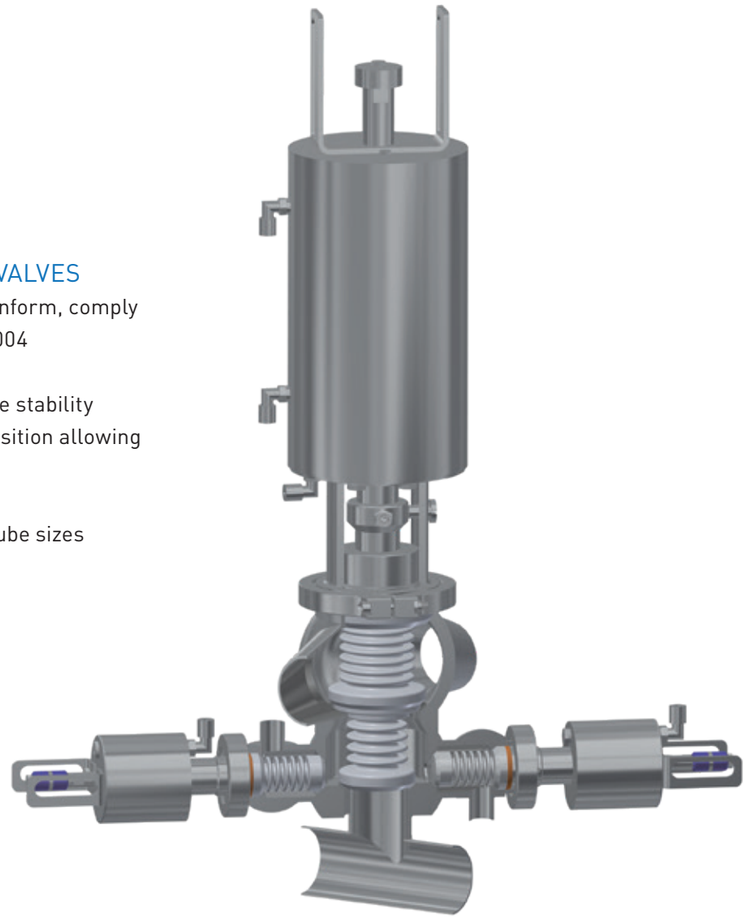


ADVANTAGES OF RIEGER ASEPTIC VALVES

/ PTFE-bellows FDA and USP Class VI conform, comply with 3-A standards and (EG) No. 1935/2004
/ dead space free design
/ high durability due to improved pressure stability
/ folds remain separated in open valve position allowing optimum cleanability
/ low adhesion on PTFE bellows
/ valves available with DIN, ISO and OD tube sizes



for Tanks



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DESIGN FEATURES

/ Valve body made from solid bar
/ No dead spaces
/ Resistant to aggressive fluids
/ Hermetically sealed against the environment
/ Long service life of PTFE bellows
/ Drainable
/ Bellow leakage indicator

STANDARD ACTUATOR VERSIONS

/ Self-closing lever with automatic actuator
/ Lever in open position with automatic actuator
/ Automatic actuator only
/ Manual activation with handwheel
/ Others on request

MAINTENANCE BENEFITS

/ Maximize life cycles
/ Ease of cleaning – CIP/SIP
/ Folds of the PTFE bellows remain open for easy cleaning
/ Modular system makes changing actuator more convenient
/ Change seals without special tools
/ Minimal downtimes
/ Low spare parts cost
/ PTFE-bellows FDA and USP Class VI conform, comply with 3-A standards and (EG) No. 1935/2004

OPTIONS INCLUDE

/ Wide variety of installation positions available
/ High quality product surface finishes available, including electropolishing
/ Electronic feedback

Product Overview

Aseptic Valves for the Pharmaceutical and Biotechnology

PROCESS VALVES

Rieger Aseptic Valves fulfill the high requirements of pharma and bioprocessing plants.
Valve bodies are either machined from solid bar.
Welded constructions with T-pieces are also available.

TANK OUTLET VALVES

Rieger Aseptic Tank Outlet Valves are especially designed for applications in pharma and bioprocessing applications. The very compact design allows an easy integration in aseptic production lines or underneath tanks and fermenters. The PTFE bellows guarantee hermetic sealing against the environment.

ACTUATORS

/ pneumatic actuators are available in normally closed, normally open version or air/air
/ manual actuators with hand wheel

PTFE BELLOW

/ complies with FDA
/ USP Class VI

APPLICATIONS AND AREAS OF USE

/ WFI and PW
/ Injection Solutions
/ Fermentations
/ Vaccines
/ Filling Machines

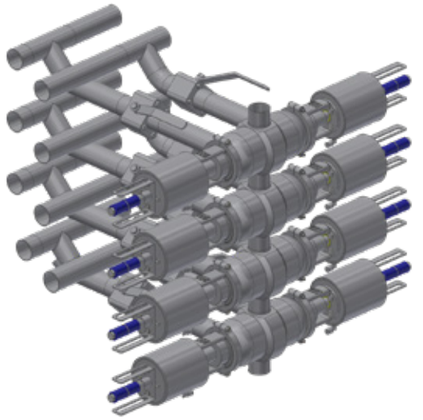
Aseptic Valve Range for Pharma and Bio Processing

Shut Off Valves

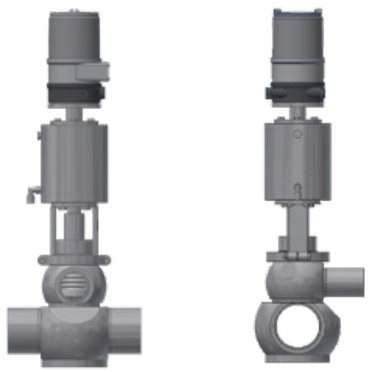
Tank Outlet Valves

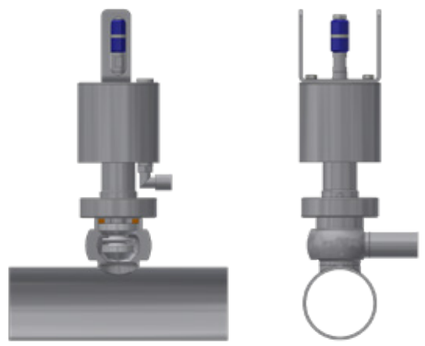
Flow Through Valves

Divert and Distributor Blocks



Straight Way Valves / Take Out Valves





Rieger Aseptic Tank Outlet Valves are especially designed for applications in pharma and bioprocessing applications, but can also be used in other aseptic applications as well.

The well-proven PTFE-bellow technology along with the very compact design allow best clanability and full drainability of the valve. The valves convince through an easy integration in aseptic production lines or underneath tanks and fermenters.

The PTFE bellows guarantee hermetic sealing against the environment.

CONSTRUCTION OF THE VALVE

/ compact valve body
/ optional with attached flush/steam valve
/ with 25° angle on flange for better drainability or with 7° angle on flange for applications with mixers

EFFICIENCY

/ long life-time of PTFE bellow
/ low pressure drop
/ no dome and no sump in valve due to ball-shaped valve body
/ valve completely drainable

ABSOLUTE PRODUCT SAFETY

/ bodies made of solid bar provide higher product safety
/ technically vacuum safe
/ folds of PTFE-bellows stay open for best cleanability
/ flexible use for nearly every medium
/ one-piece sealing in contact with product
/ hermetic separation between process and environment

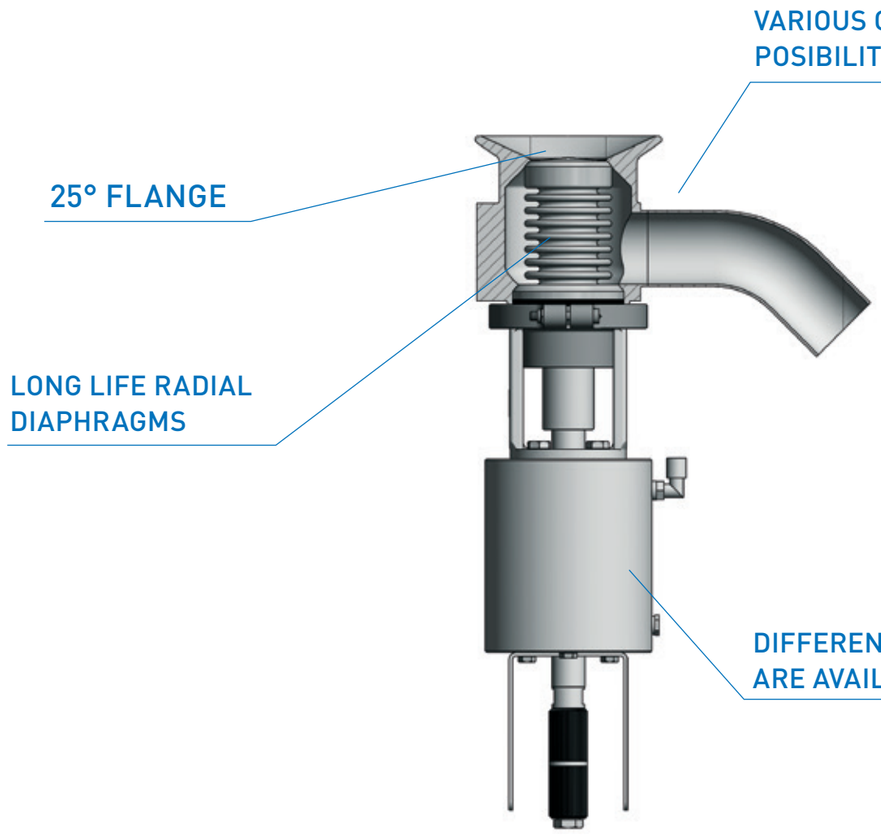
SERVICEABILITY

/ exchange of gaskets without special tools
/ actuators completely maintainable
/ rebuild of actuators from spring to close (NC) to spring to open (NO) and vice versa possible
/ low requirement of air supply
/ insert of valve can be completely disassembled to the bottom

MATERIAL	/ in contact with product	1.4404/AISI 316L
	/ optional	1.4435/AISI 316L
	/ not in contact with product	1.4301/AISI 304
	/ all Valves are available in special alloys, such as Hastelloy® C-22, 1.4539/904L, 1.4529, AL-6XN® and others.	
GASKETS	/ PTFE bellows	PTFE TFM 1705
	/ metal bellows	1.4571/1.4404
TEMPERATURES	/ maximum continuous operation	130 °C* (EPDM) 121 °C* (PTFE)
	/ steam sterilization	150 °C* (EPDM) 135 °C* short-time approx. 20 min (PTFE)
PRESSURE	/ closing pressure	6 bar standard, higher pressures available upon request
	/ air pressure	min. 6 bar / max. 10 bar
SURFACES	/ in contact with product	Ra≤ 0,8 µm (32 µin) mechanically polished
	/ not in contact with product	Ra≤ 1,6 µm (63 µin) mechanically polished
	/ higher quality surface finishes and e-polishing available upon request	
CONNECTIONS STANDARD-PIPE CLASSES	/ DIN 11850-R2 (DIN 11866-A)	
	/ O.D.-Tube (DIN 11866-C)	
	/ DIN EN ISO 1127 (DIN 11866-B)	

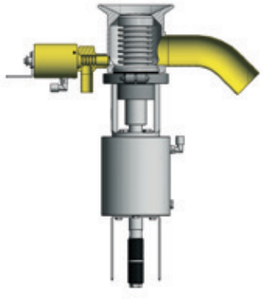
* dependent upon operating conditions

BASIC CONFIGURATION

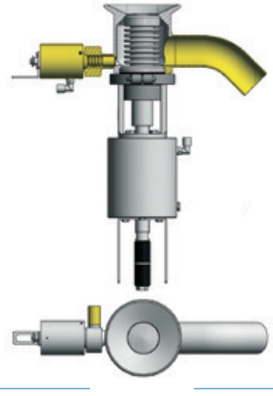


ADAPTIONS

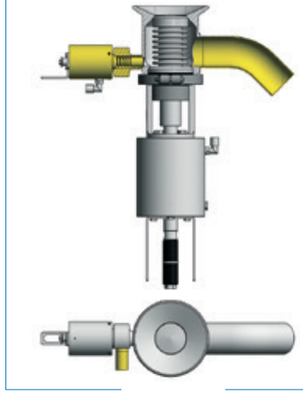
Tank Outlet Valves with flush/steam valve downwards



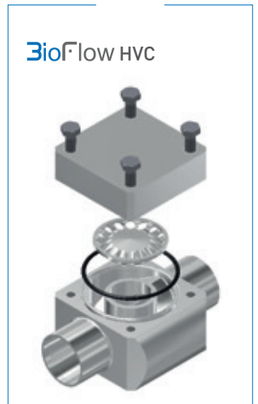
Tank Outlet Valves with flush/steam valve to the back



Tank Outlet Valves with flush/steam valve to the front



BioFlow



Technical Data

INSTALLATION	Vertical	Horizontal	Vertical
HOUSING MATERIAL*	/ 1.4435 / 316L acc. ASME-BPE		
SURFACE FINISH (PRODUCT CONTACTED AREA)*	/ Ra < 0,8 µm precision turned and electropolished		/ Ra < 0,8 µm precision turned
FLOWstop (SHUT-OFF ELEMENT)	/ Stainless steel 1.4435 / 316L with vulcanised O-ring EPDM / FDA + USP Class VI / PTFE / FDA + USP Class VI		
BODY SEAL*	/ NEUMO BioConnect® O-ring / NEUMO ConnectS® (free of any elastomer)		/ Clamp gasket / EPDM / FDA + USP Class VI
MAX. OPERATING PRESSURE	/ PN16 (at 20°C)		/ PN10 (at 20°C)
OPERATING TEMPERATURE	/ -10°C to +150°C		
DELTA-FERRITE CONTENT* (RAW MATERIAL)	/ <1%		
OPENING PRESSURE	/ 0.02 bar		
CONNECTIONS*	/ Orbital weld ends according to DIN11866 / Line A (DIN), line B (ISO), line C (ASME-BPE)		

*alternative materials (e.g. 2.4602, 2.4605, 1.4539, AL-6XN®, etc.), alternative materials for the body seal (e.g. FKM, FKM/FEP-encapsulated, PTFE, CleanLip®, etc.), differing connections, different surface finishes and delta-ferrite values are available on request.

cGMP Check Valves for pharmaceutical and sterile applications

Protect your valuable pumps and instruments from damage by using self-acting cGMP Check Valves and simplify your GMP systems for enhanced manufacturing processes

NEUMO BioFlow Check Valves and their unique shut-off element FLOWstop provide optimal results when being used:
/ to prevent the reflow of condensate
/ in ultra-pure steam, ultra-pure water and WFI systems
/ to protect sensitive sterile pumps and instruments from surges in pressure
/ in sampling systems for supplying WFI and ultra-pure water
/ in compressed air flushing and pressure flushing in sterile areas

Check Valves fulfil the following fundamental technical requirements:
/ pressure- and/or flow-dependent on/off function
/ self-acting, without external actuator
/ flow is only possible in one direction
/ flow is blocked in the opposite direction
/ quick reaction times
/ ability to prevent reflow
/ protects pumps and instruments from water hammer

In accordance with cGMP (Current Good Manufacturing Practice) regulations, the following requirements come along when the valves are being used in the pharmaceutical industry and sterile area:
/ avoidance of contamination and cross contamination
/ no fouling
/ optimal cleanability
/ low differential pressure

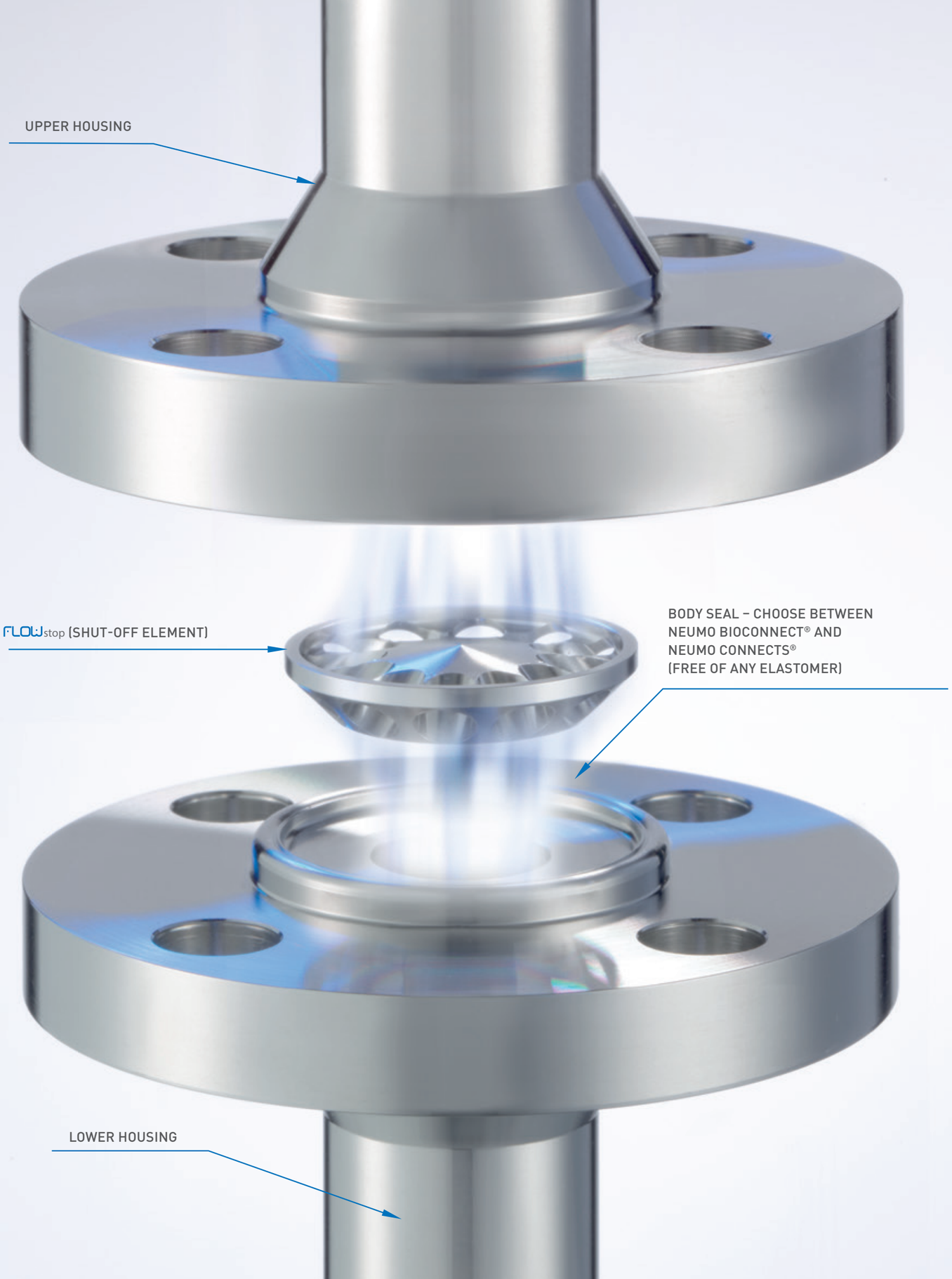
The NEUMO FLOWstop is available in two different materials:
- stainless steel 1.4435 / 316L
- PTFE

Benefits of NEUMO BioFlow Check Valves with FLOWstop:

Design benefits (BioFlow VC / HVC)
/ cGMP-compliant design and finish
/ excellent anti fouling characteristics
/ virtually no dead space
/ pharmaceutical grade surface finishes
/ uniform flow profile
/ optimal cleanability

Technical benefits
/ no springs or membranes
/ sophisticated state of the art design
/ ingeniously simple structure with only one moving part
/ the FLOWstop is guided axially due to the shape of the housing

Economic benefits
/ maintenance costs and downtime of
/ pharmaceutical facilities are reduced
/ no need for orifice plates and expensive sensors to monitor flow rates
/ minimisation of process interruptions


UPPER HOUSING
FLOWstop (SHUT-OFF ELEMENT)
BODY SEAL – CHOOSE BETWEEN
NEUMO BIOCONNECT® AND
NEUMO CONNECTS®
(FREE OF ANY ELASTOMER)
LOWER HOUSING

Scan QR Code and watch the video of the sampling procedure.

The **BioCheck system „sampling into bottle“** can be used in the same applications like the other types. This means, it is the ideal sampling system for liquid products in the pharmaceutical, biochemical, cosmetic, food and beverage industries. Samples can be taken from pipelines without contamination and examined in the laboratory with the help of this system.

ABSOLUTE PRODUCT SAFETY

/ hermetically sealed against environment
/ easy and thorough cleaning

DESIGN

/ valve body made from solid bar
/ dead space free
/ completely drainable
/ ports suitable for orbital welding

SERVICEABLE MAINTENANCE

/ change of seals without special tools
/ less standing times

EFFICIENCY

/ long life of the PTFE-bellows
/ low spare part costs

MATERIAL	/ in contact with product	1.4404/AISI 316L
	/ optional	1.4435/AISI 316L
	/ not in contact with product	1.4301/AISI 304
	/ all Valves are available in special alloys, such as Hastelloy® C-22, 1.4539/904L, 1.4529, AL-6XN® and others.	
GASKETS	/ PTFE bellows	/ PTFE
TEMPERATURES	/ maximum continuous operation	121°C*
	/ steam sterilization	135°C* short-time (approx. 20 min)
PRESSURE	/ closing pressure	6 bar Standard, 10 bar, higher pressures available upon request
	/ air pressure	min. 6 bar / max. 10 bar
SURFACES	/ in contact with product	Ra≤ 0,8 µm (32 µin) mechanically polished
	/ not in contact with product	Ra≤ 1,6 µm (63 µin) mechanically polished
	/ higher quality surface finishes and e-polishing available upon request	

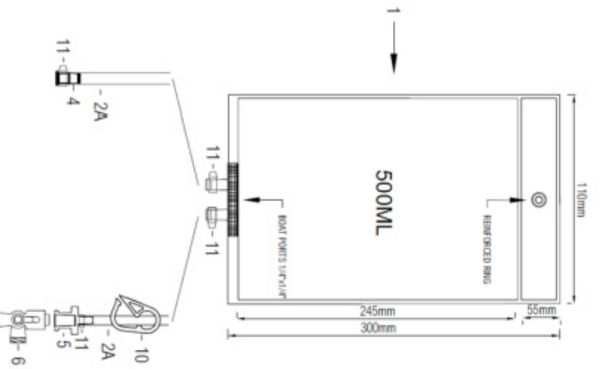
* abhängig von Betriebsparametern

SINGLE USE SAMPLING BAGS

With the help of the Rieger Single Use Sampling Bags in combination with our BioCheck sampling valves, sterile and representative samples can be easily taken from your process.

The Rieger Single Use Sampling Bags serve as **an alternative to our autoclavable bottle sampling systems** and can be attached to the valve by a quick coupling.
By using a two-way valve, the tube for liquid sampling can be sterilised by steam after it has attached to the valve and preventing possible contamination of the sample.

BAGS GAMMA STERILISED
VOLUME: 100ML, 250ML, 500ML, 1L, 2L
CERTIFICATIONS:
/ CFR - FDA
/ USP CLASS VI



YOU DON'T HAVE TO CHANGE YOUR PROCESS. WE ADAPT OUR VALVES TO YOUR PROCESS!

With our longstanding experiences and our specialized production we can offer the suitable valve for almost every application.

Make an appointment today for a free consultation for your specific application.

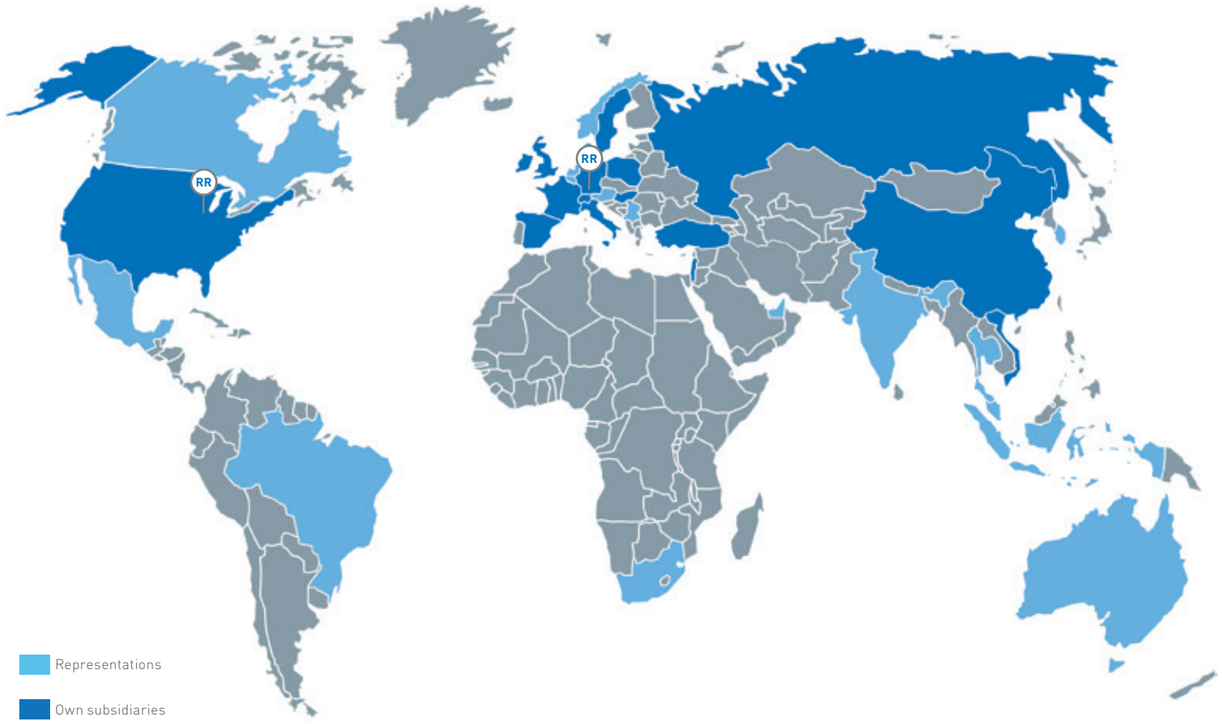
Markus Neubauer
Senior Sales Engineer

Mobile: +49 170 4537092
markus.neubauer@rr-rieger.de

FURTHER BROCHURES

Further Rieger valve types upon request and in our catalogue.Contact your dedicated sales manager in our sales team in your area.

RIEGER worldwide
NEUMO Ehrenberg Group



The **Neumo Ehrenberg Group** is a family run holding, which is operating worldwide with more than 2.100 employees.

Since 1958 **Gebr. Rieger** has been a member of the Neumo Ehrenberg Group. In our department process technology Rieger is successfully working in the **fields of valves, customized solutions**, such as **valve blocks** and **tubular structures** as well as **system engineering**, which includes **valve clusters, units, CIP-systems** and all kinds of **plug and play solutions**.

By its global approach Rieger gained international attention in the markets of **food, beverage** and **pharmaceutical industries**.

Besides the **Sampling Valves** the valve range also includes **Mix Proof Valves, Filling Valves** and **Pigging Systems**.

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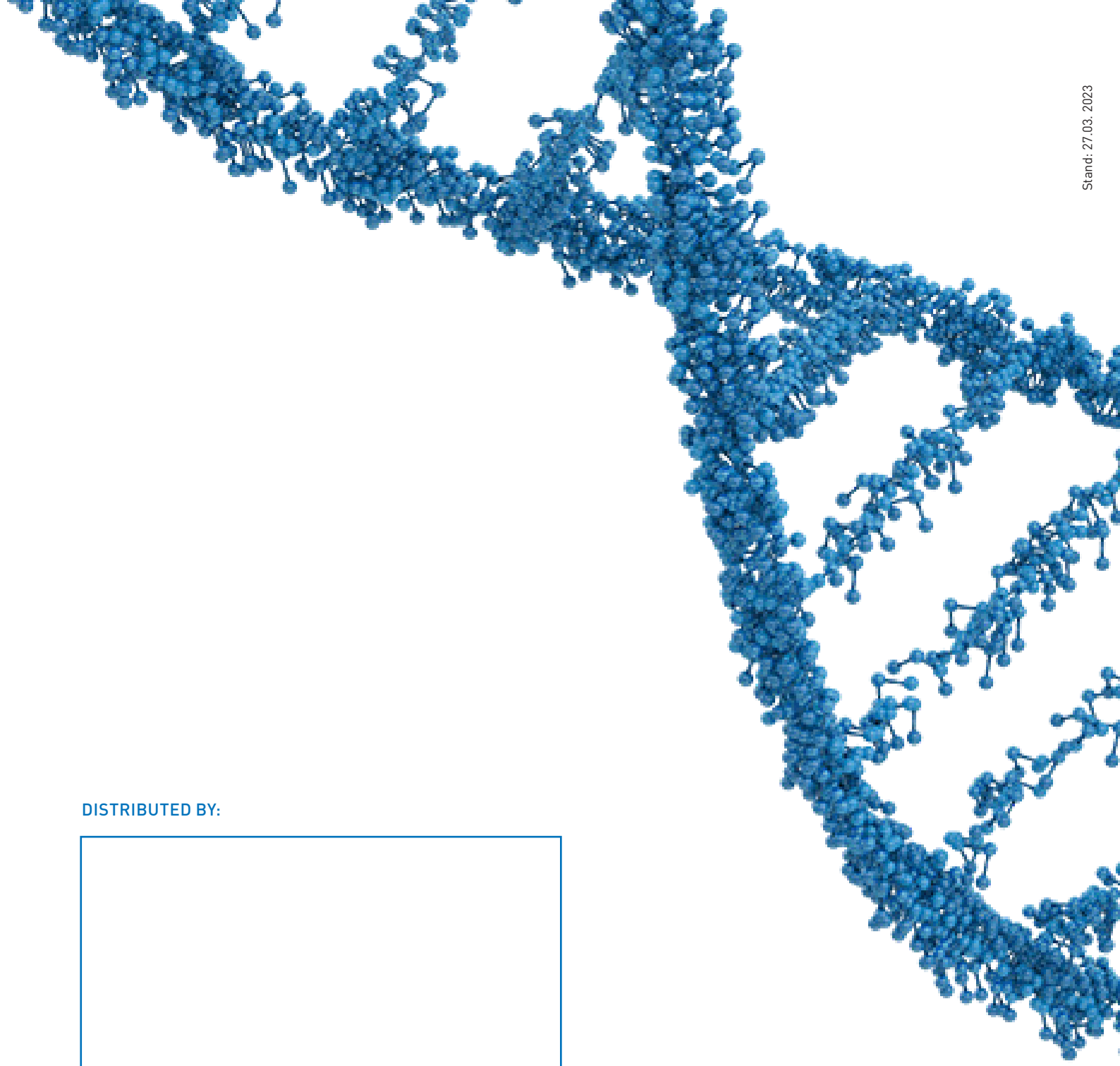

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YOU DIDN'T FIND THE RIGHT VALVE?

Further Rieger valve types upon request and in our catalogue. Contact your dedicated sales manager in our sales team in your area.

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