SchuF Fetterolf Spray Rinse & Injection Valves

SPRÜH- UND EINSPEISEVENTILE

100 Years SchuF 2011

1911 FETTEROLF Innovation

Company Profile

"Every SchuF valve is an innovation in itself"

Wolfgang Frank
Chairman, SchuF Fetterolf Group

For over 100 years SchuF valves have stood for innovation and quality at the highest level.

Together with our customers, we invent, design and manufacture valves customised to exact tolerances, processes or special operating conditions. SchuF Fetterolf valves can be found in standard and in many severe service applications in the Chemical, Polymer, Pharma, Oil, Gas, Offshore and Refining industries.


BUREAU VERITAS
Certification

Certificat

Schuf Armaturen- und Apparatebau GmbH
An der Goldenrestbe 8 - 10
65817 Eppstein, Germany

Standard
DIN EN ISO 9001:2008

Scope of supply

Design and manufacturing of bottom outlet valves, other speciality valves and pneumatic actuators for the chemical and allied industries.


ZULASSUNGSBESCHEINIGUNG EINES QUALITÄTSSICHERUNGSSYSTEMS
CERTIFICATE OF QUALITY SYSTEM APPROVAL
N° CE-PED-H-SAA 001-09-DEU


ФЕДЕРАЛЬНАЯ СЛУЖБА
ПО ЭКОЛОГИЧЕСКОМУ, ТЕХНОЛОГИЧЕСКОМУ И АТОМНОМУ НАДЗОРУ

РАЗРЕШЕНИЕ

№ РРС 00-36267

... Innovation

The invention of the Lift Plug valve in 1911 and piston & disc bottom outlet valves in the nineteen twenties by the founder of SchuF – Josef Frank – were the first of a long line of valve inventions and innovative designs. Continuing research and development in materials (used in valve bodies and trim), design as well as complex processes enable SchuF today to offer valve solutions for applications with high pressure, high temperature and difficult media; or a combination of all three.

The integration of Fetterolf Corporation in 2004 further broadened the Group's product portfolio, innovation and geographical reach. Today the SchuF Fetterolf product line includes control, isolation, sampling, switching and safety related valves.

... Quality

The exceptional quality and longevity of SchuF Fetterolf valves is a result of the precise attention to process detail, creative design, and the use of the appropriate high quality materials. In addition to its own high internal company standards, SchuF is ISO 9001, GOST and PED certified and can manufacture according to ASME, DIN, NACE, API, Fire Safe, GMP, JIS or any other internationally recognised standard.

... Worldwide presence

SchuF Fetterolf is represented in over 65 countries worldwide and has design and production facilities in Germany, Ireland, India, Brazil, the United States and the United Kingdom.

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Spray Rinse & Injection Valves

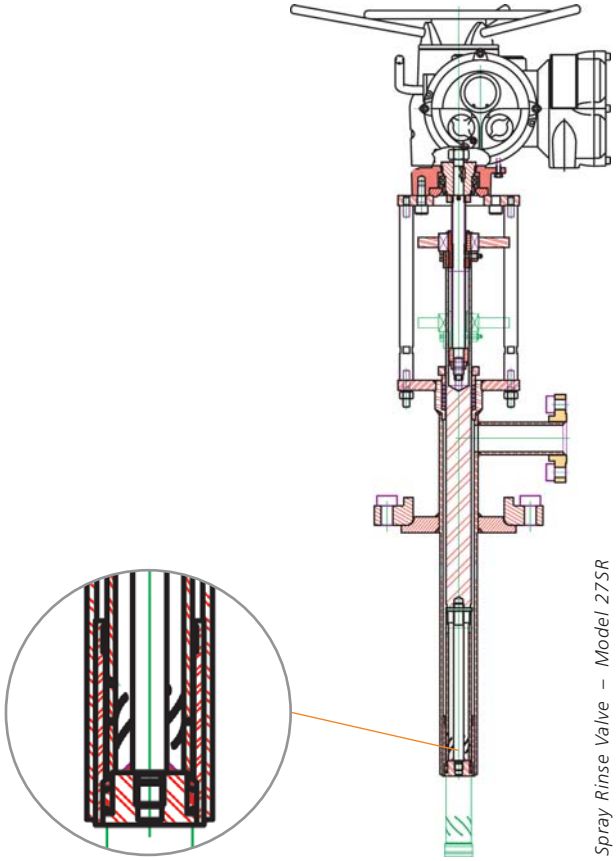
Spray Rinse Valve – Model 27SR

The Fetterolf Spray rinse valve was developed to wash residue from large tank or reactor walls without having to open or enter a vessel. This feature has two key benefits: safety of personnel for applications with toxic fluids and to reduce cleaning time in batch processes.

Application

Spray rinse valves can be used to clean vessels after each batch operation. Water, steam, solvents and anti-sticking agents can be injected and are sprayed in a distinct and efficient pattern into the vessel. This leads to longer uninterrupted reactor production cycles and the most cost efficient use of cleaning agents. They are also used in vessel rinsing applications with toxic media in order to ensure personnel safety.

Spray rinse valves are frequently found in the Plastics & Polymer (especially PVC), Fine Chemicals and Pharmaceutical industries.



Spray Rinse Valve – Model 27SR

Mode of Operation

In operation, the spray tube assembly is moved out of the valve body to initiate the spray and retracts back into the valve body after the washing cycle. In the closed position the valve disc is flush with the end of the valve body and the spray head is tightly sealed off from the process – and remains clog free.

The device efficiently performs the dual functions of:

1. Shut-off and control of the spray water
2. Direction of the spray in a varying pattern to attain complete wash-down of the residue

The valve can also be used to distribute anti sticking agent.

Key Features:

- Standard sizes 3/4" up to 2" (DN 50) and ASME 900#
- Customised spray pattern, pressure & volume
- Zero leakage to atmosphere and process – dual Ram seal design
- Exchangeable seat and spray head
- No clogging guaranteed, due to pre-designed "leakage" path
- Rotating or linear spray head
- Electric or pneumatic actuation
- Optional position switches

Rinsing Valve Product Range

Fetterolf provides both a rotary and a linear spray rinse design, with many features customisable to the application requirement.

Benefits

- Increased batch process productivity
- Reduced maintenance
- Protection against toxic emissions
- Optimised water & solvent consumption

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Steam Injection Valves – Model 27SE

Steam injection valves are primarily used in the Chemical, Pharmaceutical and Petrochemical industries. They are used to inject steam or any gas into a reactor or vessel.

Application

There are two common applications:

1. Direct and quick pre-heating of media and/or vessels
2. Steam stripping and sanitisation to remove monomers or impurities in polymerisation processes

The choice of a piston or disc injection valve design is process and media driven:

- A solid piston design is suitable for full bore, high flow rate applications with vibrations.
- Disc style injection valves are more suitable where space is limited, the required flow rate is low or where low or zero emissions to atmosphere are important.

27SE Piston injection valve with hollow piston and up to 2000 holes for high flow rates

Key Features:

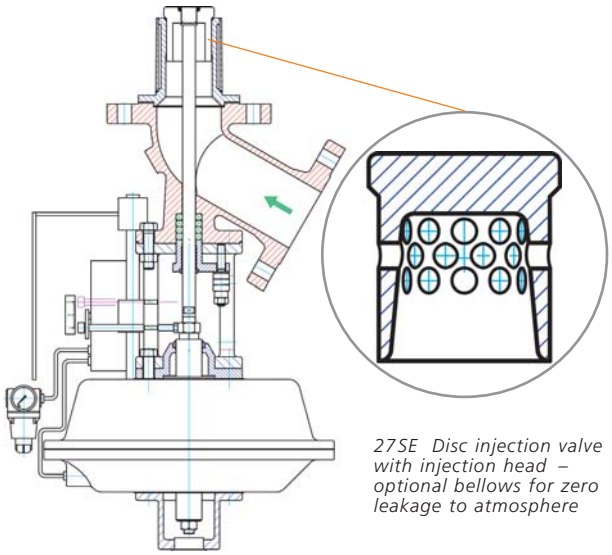
- Piston or disc valve design
- Metal to metal sealing
- Replaceable seat and injection head
- Customised arrangement of holes for any required gas or vapor injection
- Non clogging

Operation

The valve is typically installed at the bottom of a vessel. Steam is injected into the inlet, flows through the hollow injection stem and exits through up to 2000 dispersion holes.

Constant steam pressure ensures that there is no back-flow and keeps the dispersion holes free of sediment build up.

The valve operates according to a linear step control curve characteristic. This allows a pre-determined number of hole rings to be exposed as required by the process.



27SE Disc injection valve with injection head – optional bellows for zero leakage to atmosphere

Benefits

- Time saving vessel pre-heating
- Evenly distributed steam pattern
- Step-linear flow rate control
- Optimised steam usage
- Avoids steam hammer effects

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Product Portfolio Overview

SchuF Fetterolf has delivered over one million valves during its 100 year history to a wide variety of industries in over 50 countries worldwide.

Headquartered near Frankfurt in Germany, the company has additional design and manufacturing centres in Brazil, India, Ireland, UK and the USA.

The SchuF group has sales and agent offices covering almost every country in the world.

We manufacture valve products that control, isolate, divert, and sample liquids, gases, powders, and slurries. Our product range of engineered, customised valves includes:

Drain & Sampling Valves	Isolation Valves	Control Valves	Switching Valves	Spray Rinse & Injection Valves	Safety Related Valves
Piston Bottom Outlet Valves	Lift Plug Valves	Angle Control Valves	Y, R & T type Diverter Valves	Spray Rinse Valve	Line Blind Systems
Disc Lowering / Rising Bottom Outlet Valves	TruEPlug Valve	Multistage Control Valves	Multiway Diverter Valves	Steam Injection Valve	Changeover Valves
Custom Bottom Outlet Valves	Y- / P-Globe & Straightway Valves	Cage Control Valves	SwitchPlug Valve		Emergency Tank Shut-off Valves (TESO)
Screw-in, Line & Wafer Sampling Valves	High Pressure Angle Valve	In-line Control Valves	ManiFlow Selector Valve		Customised Valves
	Special Gate Valves	Automatic Recirculation Valves	Custom Diverter Valves		

Key Client List:

- AkzoNobel
- AstraZeneca
- BASF
- Bayer
- BP
- Chevron
- Clariant
- DOW Chemical
- Du Pont
- Eastman
- Evonik
- Exxon Chemical
- FCFC
- Far Eastern
- Foster Wheeler
- GE
- Glaxo Smith Kline
- INEOS
- Invista
- Jiangsu Hengli
- Lanxess
- LG Chemical
- Linde
- Lukoil
- Lurgi
- Merck
- Novartis
- Oerlikon
- Oxy Vinyls
- Pemex
- Petrobras
- Pfizer
- Reliance
- Roche
- SABIC
- Saipem
- Salavat
- Samsung
- Sandoz
- Sanofi Aventis
- Shell
- Shin Etsu
- Sinopec
- Sulzer
- Temex
- Tuntex
- Uhde
- Vinnolit

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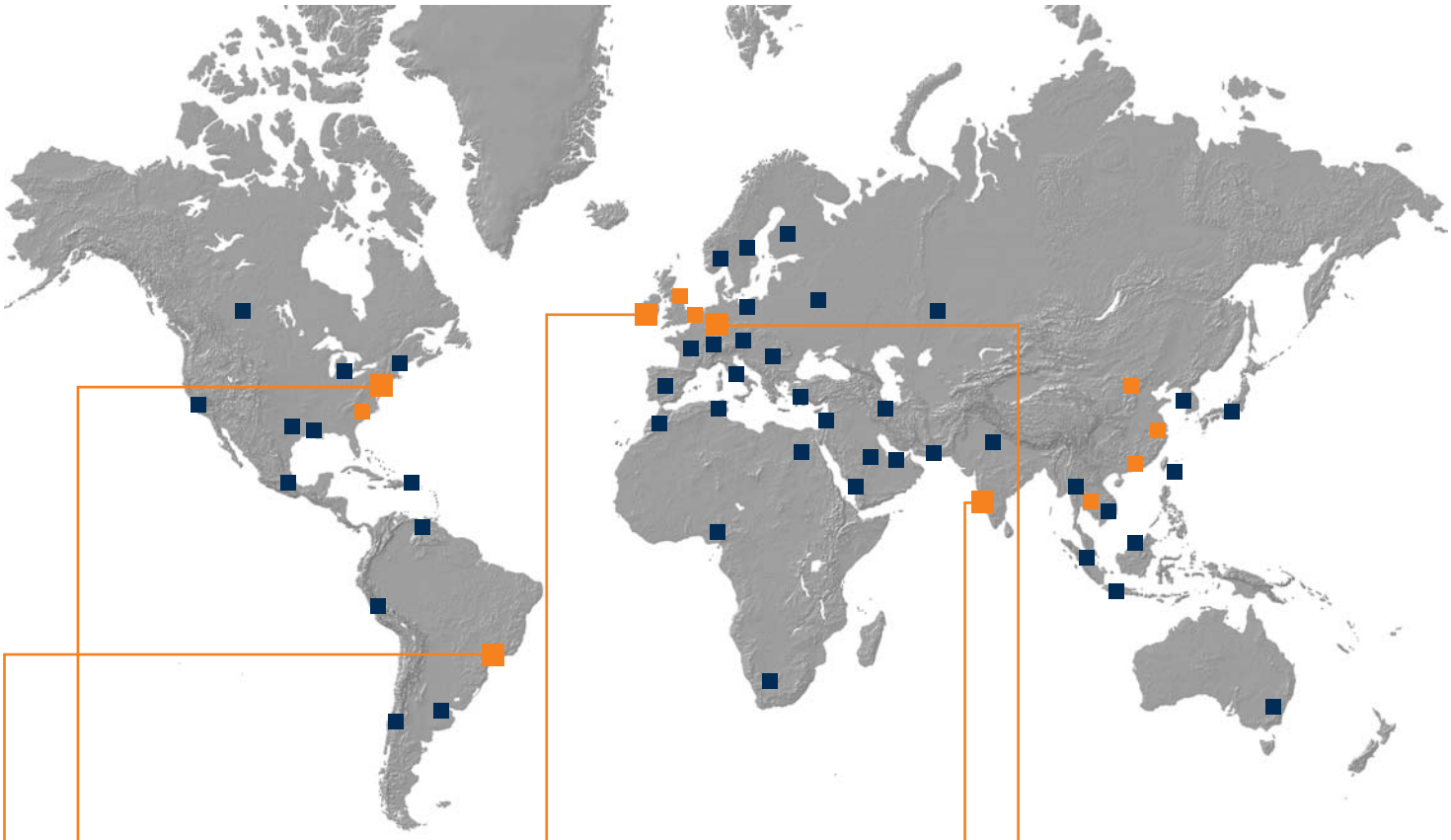
SchuF FETTEROLF *Worldwide*



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