

Series PSG/F, TSG/F 2- and 3-way sight glasses



Keep for future use!

This operating manual must be strictly observed before transport, installation, operation and maintenance

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List of Contents

List of Contents.....	2	6.1 Flange caps and gaskets.....	8
Relevant documents.....	2	6.2 Direction of flow and installation position.....	9
1 Technical data.....	3	6.3 Grounding.....	9
1.1 Type plate, conformity and body markings.....	3	6.4 Test pressure.....	9
1.2 Tightening torques.....	4	7 Operation.....	9
1.3 Pressure-temperature diagram.....	5	7.1 Initial commissioning.....	9
2 Notes on safety.....	5	7.2 Improper operation and their consequences.....	9
2.1 Intended use.....	6	7.3 Shutdown.....	9
2.2 For the customer / operator.....	6	8 Malfunctions.....	9
2.3 Improper operation.....	6	9 Maintenance.....	10
3 Safety notes for applications in potentially explosive areas based on the Directive 2014/34/ EC (ATEX)	6	10 Drawings.....	10
3.1 Intended use.....	6	10.1 Legend.....	10
4 Safety note for valves, certified to Clean Air Act (TA-Luft).....	7	10.2 Options PSG/F and TSG/F.....	10
5 Transport, storage and disposal	8	10.3 Sectional drawing PSG/F.....	11
5.1 Storage.....	8	10.4 Sectional drawing TSG/F.....	11
5.2 Return consignments.....	8	10.5 Dimensional drawing PSG/F.....	12
5.3 Disposal.....	8	10.6 Dimensional drawing TSG/F.....	13

6 Installation.....8

Relevant documents

- ◆ EG-Declaration of conformity
- ◆ Declaration of conformity FDA & 97/48/EG
- ◆ Manufacturer Declaration ATEX Directive 2014/34/EU
- ◆ Manufacturer Declaration TA-Luft
- ◆ Form for Safety Information Concerning the Contamination QM 0912-16-2001_en

1 Technical data

Manufacturer:

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 Internet: <http://www.richter-ct.com>

Designation :

2 way sight glass, series PSG/F,
 design according DIN 3237
 3 way sight glass, series TSG/F
 Certified to Clean Air Act (TA Luft)
 Strength and tightness (P10, P11) of the pressure-
 bearing body tested to DIN EN 12266-1.

Face to face:

DIN EN 558-1 basic series 1, ISO 5752 series 1

Flange connecting dimensions: DIN EN 1092-2, type
 B (ISO 7005-2 Type B) PN 16 or flanges drilled to
 ASME B16.5 Class 150

Materials :

Body material: Ductile cast iron EN-JS 1049 /
 ASTM A395
 DN 200 in 1.0037

Lining material : DN 25 -150 PFA .../F
 DN 200 PTFE .../F

On request: antistatic .../F-L

Temperature range : - 60 °C to + 200 °C

DN 200 - 10 °C to + 80 °C

See pressure-temperature diagram in **Section 1.3.**

Operating pressure:

DN 25 - 100 from vacuum to max. 16 bar

DN 150, 200 from vacuum to max. 10 bar

See pressure-temperature diagram in **Section 1.3.**

Size in mm:

PSG/F: DN 25, 40, 50, 65, 80, 100, 150, 200
 DN 250 and 300 on request

TSG/F: DN 25, 50, 80

Weight:

Nom. size	25	40	50	65	80	100	150	200
PSG/F								
approx. kg	6	9	14	16	22	36	73	102
TSG/F								
approx. kg	7	--	16	--	39	--	--	--

Installation position :

A direction arrow on the shell indicates the direction of
 flow. See **Section 6.2.**

Options :

- ♦ Flexicord-strip as additional flow indicator
- ♦ Double glass panes
 See **Section 10.4**
- ♦ seal in the bypass connection
 See **Section 1.2.**

Dimensions and individual parts:

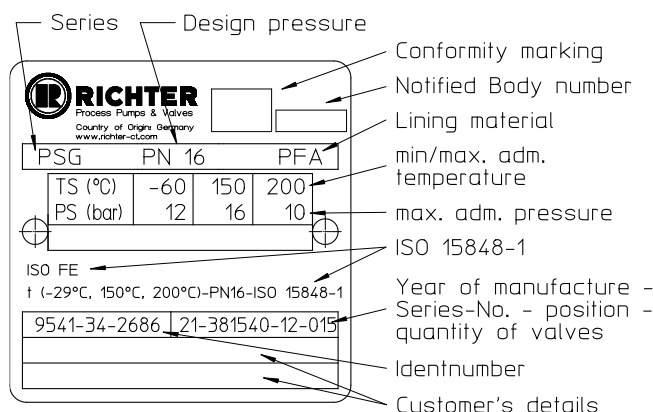
See sectional drawing **Section 10.**

1.1 Type plate, conformity and body markings

The stainless steel name plate is undetachably riveted
 to the body.

If the operator attaches his identification, it must be
 ensured that the valve matches the application in
 question.

Example of name plate with conformity marking:



No conformity marking is permissible for size 25; the
 name plate therefore has no conformity marking.

Body identification :

The following are visible on the body according to DIN
 EN 19, AD 2000 A4 and ASME 16.34:

- ♦ Nominal size
- ♦ Rated pressure
- ♦ Body material
- ♦ Manufacturer's identification
- ♦ Melt number/Foundry identification
- ♦ Foundry date
- ♦ Arrow for direction of flow

1.2 Tightening torques

All screws greased, tighten in diametrically opposite sequence!

The tightening torques for pipe screws and body screws mentioned must not be exceeded. For an exception, see **Section 8**, Flange connection valve/pipe is leaking.

The following tightening torques are recommended.

Pipe screws, flanges to ISO/DIN

Flange Nominal size [mm]	screws [ISO/DIN]	Tighten- ing torque [Nm]
25	4 x M12	10
40	4 x M16	20
50	4 x M16	26
65	4 x M16	40
80	8 x M16	25
100	8 x M16	35
150	8 x M20	45
200	12 x M20	100

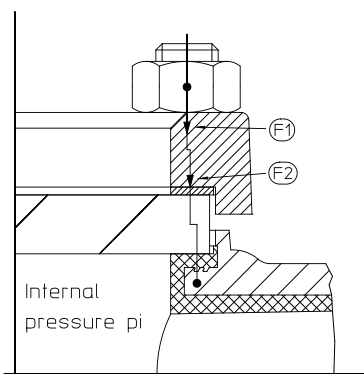
Pipe screws, flanges to ASME Class 150 or flanges ISO/DIN drilled to ASME Class 150

Flange Nominal size		screws	Tightening torque	
[mm]	[inch]	[ASME]	[Nm]	[in-lbs]
25	1"	4 x 1/2"	8	70
40	1 1/2"	4 x 1/2"	15	135
50	2"	4 x 5/8"	25	220
65	2 1/2"	4 x 5/8"	30	265
80	3"	4 x 5/8"	45	400
100	4"	8 x 5/8"	35	310
150	6"	8 x 3/4"	80	710
200	8"	8 x 3/4"	115	1020

Cover screws Seal in the direct power connection

See **Fig. 1**.

Nominal size		screws	Tightening torque	
[mm]	[inch]	[ISO/DIN]	[Nm]	[in-lbs]
25	1"	8 x M12	30	265
40	1 1/2"	8 x M16	50	443
50	2"	8 x M16	50	443
65	2 1/2"	8 x M16	50	443
80	3"	16 x M16	50	443
100	4"	16 x M16	50	443
150	6"	16 x M16	50	443
200	8"	16 x M16	50	443



F1 total screw force
F2=actual sealing force + $\pi \times A$
F1=F2

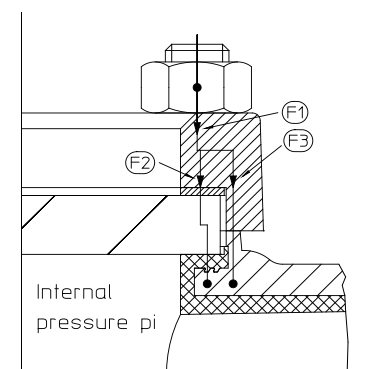
Fig. 1

Option :

Cover screws Seal in the bypass connection

See **Fig. 2**.

Nominal size		screws	Tightening torque	
[mm]	[inch]	[ISO/DIN]	[Nm]	[in-lbs]
25	1"	8 x M12	50	443
40	1 1/2"	8 x M16	80	708
50	2"	8 x M16	80	708
65	2 1/2"	8 x M16	80	708
80	3"	16 x M16	80	708
100	4"	16 x M16	80	708
150	6"	16 x M16	80	708
200	8"	16 x M16	80	708



F1 total screw force
F2=actual sealing force + $\pi \times A$
F3=F1 - F2

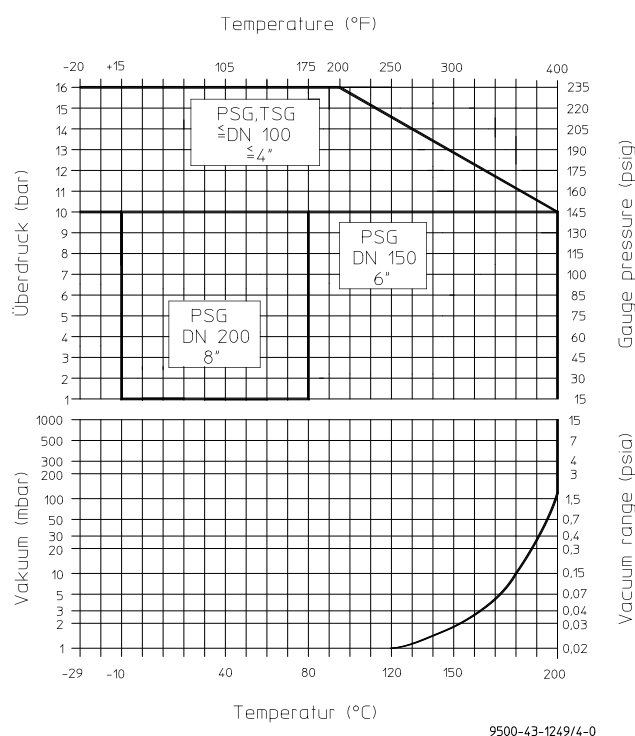
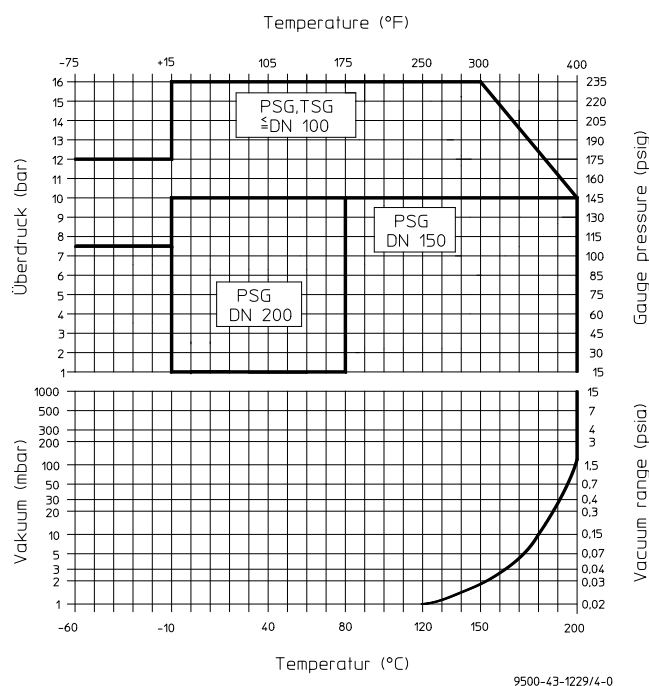
9500-43-1326_en/4-0

Fig. 2

1.3 Pressure-temperature diagram

2014/68/EU (PED), AD2000, DIN EN 16668

ASME B 16.42



DIN EN ISO 15848-1 certificate valid from -29°C to 200°C

When used in the area of application of ASME, the low temperature of ASTM A395 is limited to -20°F (-29°C).



When used in the minus temperature range, the regulations applicable in the country in question must be observed.

2 Notes on safety

This operating manual contains fundamental information which is to be observed during installation, operation and maintenance.

It must be read before installation and commissioning!

Installation and operation are to be performed by qualified staff.

For valves which are used in potentially explosive areas, see **Section 3**.

The area of responsibility, authority and supervision of the staff must be regulated by the customer.



General hazard symbol!

People may be put at risk.



Safety symbol! The ball valve and its function may be put at risk if this safety symbol is not observed.

It is imperative to observe warnings and signs attached directly to the ball valve and they are to be kept fully legible.

Non-observance of the notes on safety may result in the loss of any and all claims for damages.

For example, non-observance may involve the following hazards:

- ◆ Failure of important functions of the valve/plant.
- ◆ Risk to people from electric, mechanical and chemical effects.
- ◆ Risk to the environment through leaks of hazardous substances.

2.1 Intended use

Richter sight glasses of the series PSG/F and TSG/F are pressure-maintaining components in accordance with the Pressure Equipment Directive (PED) for the passage of fluids.

They permit a view into the housing interior from two opposite sides.

The valves are suitable for vapours, gases and liquids of group 1 according to the PED and have a corrosion-resistant plastic lining.

The sight glass is used for monitoring of flow, filling level, condition, color and gas contents of media in pipes and vessels and near pumps.

The operator must carefully examine in the event of operating data other than those provided whether the designs of the valve, accessories and materials are suitable for the new application (consult the manufacturer).

2.2 For the customer / operator

If a valve is used, the operator must ensure that

- ♦ hot or cold valve parts are protected by the customer against being touched
- ♦ the valve has been properly installed in the pipe system
- ♦ the usual flow rates are not exceeded in continuous operation.

This is not the manufacturer's responsibility.

Loads caused by earthquakes were not allowed for in the design.

Fire protection to DIN EN ISO 10497 is not possible (plastic lining and plastic components).

2.3 Improper operation

The operational safety of the valve supplied is only guaranteed if it is used properly in accordance with **Section 2.1** of this operating manual.



The operation limits specified on the name plate and in the pressure-temperature diagram must under no circumstances be exceeded.

3 Safety notes for applications in potentially explosive areas based on the Directive 2014/34/ EC (ATEX)

The valves are intended for use in a potentially explosive area and are therefore subject to the conformity assessment procedure of the directive 2014/34/EC (ATEX).

As part of this conformity assessment, an ignition hazard analysis to EN 13463-1 to satisfy the fundamental safety and health requirements was conducted with the following result:

- ♦ **The valves do not have any ignition source of their own.**
- ♦ **The valves are not covered by the scope of application of the ATEX directive and therefore do not need to be identified accordingly.**
- ♦ **The valves may be used in a potentially explosive area.**

It is imperative to observe the individual points of intended use for application in a potentially explosive area.

3.1 Intended use

Improper operation, even for brief periods, may result in serious damage to the valve.

In connection with explosion protection, potential sources of ignition (overheating, electrostatic and induced charges, mechanical and electric sparks) may result from these improper operation; their occurrence can only be prevented by adhering to the intended use.

Furthermore, reference is made in this connection to the Directive 95/C332/06 (ATEX 118a) which contains the minimum regulations for improving the occupational health and safety of the workers who may be at risk from an explosive atmosphere.

A difference is made between two cases for the use of chargeable liquids (conductivity < 10⁻⁸ S/m):

1. Chargeable liquid and non-conductive lining

Charges can occur on the lining surface. As a result, this can produce discharges inside and outside the valve.

a) Discharges inside the valve

However, these discharges inside the valve cannot cause ignitions if the valve is completely filled with medium.

If the valve is not completely filled with medium, e.g. during evacuation and filling, the formation of an explosive atmosphere must be prevented, e.g. by superimposing a layer of nitrogen. It is recommended to wait 1 hour before removing the valve from the plant in order to permit the elimination of static peak charges.

This means that, to safely prevent ignitions, the valve must be completely filled with medium at all times or else a potentially explosive atmosphere must be excluded by superimposing a layer of inert gas.

b) Discharges outside the valve

At the points where the non-conductive lining e.g. protrudes on the sealing surfaces to the outside or gets contact with the atmosphere on the outside, it may lead to discharges from the lining to nearby valves or attachments.

To safely avoid explosion hazards and accidents, therefore, the atmosphere surrounding the valve must not be explosive.

2. Chargeable liquid and conductive lining

No hazardous charges can occur as charges are discharged direct via the lining and shell (surface resistance $< 10^9$ Ohm, leakage resistance $< 10^6$ Ohm)

If non-conductive versions of individual components are installed in the valve, it may restrict the permitted ATEX zone and explosion subgroup when operating the valve despite the conductive lining of the armor plating (see "Technical rules for hazardous substances: Avoidance of ignition hazards due to electrostatic charges" (TRGS 727)).

In these cases, consult the manufacturer.

Static discharges of non-conductive linings are only produced through the interaction with a non-conductive medium and are therefore the responsibility of the plant operator.

Static discharges are not sources of ignition which stem from the valves themselves!

- ◆ The temperature of the medium must not exceed the temperature of the corresponding temperature class or the maximum admissible medium temperature as per the operating manual.
- ◆ If the valve is heated (e.g. heating jacket), it must be ensured that the temperature classes prescribed in the Annex are observed.
- ◆ To achieve safe and reliable operation, it must be ensured in inspections at regular intervals that the valve is properly serviced and kept in technically perfect order.
- ◆ Increased wear to the valve can be expected with the conveyance of liquids containing abrasive constituents. The inspection intervals are to be reduced compared with the usual times.
- ◆ Actuators and electric peripherals, such as temperature, pressure and flow sensors etc., must comply with the valid safety requirements and explosion protection provisions.
- ◆ The valve must be grounded.
This can be achieved in the simplest way via the pipe screws using tooth lock washers. Otherwise grounding must be ensured by different measures e.g. a cable link.
- ◆ Plastic-lined valves must not be operated with carbon disulphide.

4 Safety note for valves, certified to Clean Air Act (TA-Luft)

Certificate / Manufacturer Declaration Validity is dependent on the operating instructions being read and observed.

- ◆ Carry out regular maintenance intervals and check the tightness of the screw connections and tighten as necessary.

5 Transport, storage and disposal



It is imperative, for all transport work, to observe generally accepted engineering practice and the accident prevention regulations.



The valve is supplied with flange caps. Do not remove them until just before installation. They protect the plastic surfaces against dirt and mechanical damage.

Handle the goods being transported with care. During transport the valve must be protected against impacts and collisions.

Directly after receipt of the goods, the consignment must be checked for completeness and any in-transit damage.

Do not damage paint protection.

5.1 Storage

If the valve is not installed immediately after delivery, it must be put into proper storage.

It should be stored in a dry, vibration-free and well-ventilated room at as constant a temperature as possible.

Elastomers are to be protected against UV light.

In general, a storage period of 10 years should not be exceeded.

5.2 Return consignments



Valves which have conveyed aggressive or toxic media must be well rinsed and cleaned before being returned to the manufacturer's works.

It is **imperative** to enclose a **safety information sheet / general safety certificate** on the field of application with the return consignment.

Pre-printed forms are enclosed with the installation and operating manual.

Safety precautions and decontamination methods are to be mentioned.

5.3 Disposal

Parts of the valve may be contaminated with medium which is detrimental to health and the environment and therefore cleaning is not sufficient.



Risk of personal injury or damage to the environment due to the medium!

- ♦ Wear protective clothing when work is performed on the valve.
- ♦ Prior to the disposal of the valve:
 - Collect any medium, etc. which has escaped and dispose of it in accordance with the local regulations.
 - Neutralise any medium residues in the valve.
- ♦ Separate valve materials (plastics, metals, etc.) and dispose of them in accordance with the local regulations.

6 Installation

- ♦ Examine sight glass for in-transit damage, damaged sight glasses do not install.
- ♦ Before installation the valve and the connecting pipe must be carefully cleaned to remove any dirt, especially hard foreign matter.
- ♦ During installation, pay attention to the correct tightening torque, aligned pipes and tension-free assembly.

6.1 Flange caps and gaskets

Leave protective caps on the flanges until just prior to installation.

If plastic sealing surfaces, e.g. on mating flanges made of metal or enamel, can be damaged, use PTFE-lined seals with a metal inlay. These gaskets are available as special accessories in the Richter range.

6.2 Direction of flow and installation position

The direction of flow must be observed when installing the valve. It is indicated by a direction arrow on the valve body.

6.3 Grounding

The valve must be grounded. This can be achieved in the simplest way via the pipe screws using tooth lock washers. One pipe screw per flange is underlaid with toothed disks.

At the customer's request a setscrew M6 with a hex. nut and washer will be provided at each flange as an additional grounding connection.

Otherwise grounding must be ensured by different measures e.g. a cable link.

6.4 Test pressure

The test pressure PT of a valve must not exceed the value of $1.5 \times PS(PN)$ as per the identification of the valve.

7 Operation

7.1 Initial commissioning

Normally, the valves have been tested for leaks with air or water. Prior to initial operation check cover screws. For tightening torques, see [Section 1.2](#).



Unless otherwise agreed there could be residual amounts of water in the flow section of the valve. This could result in a possible reaction with the medium.

To prevent leaks, all connection screws should be retightened after the initial loading of the valve with operating pressure and operating temperature.

For tightening torques, see [Section 1.2](#).

7.3 Shutdown

The local regulations are to be observed when dismantling the valve.

Prior to undoing the flange connection ensure, that the plant is depressurised and emptied.



Prior to starting any repair work, the valve is to be thoroughly cleaned. Medium residue may be in the valve even if it has been properly drained and flushed.

After dismantling, immediately protect the valve flanges against mechanical damage by using flange caps. See also [Section 6.1](#).

7.2 Improper operation and their consequences

- ♦ Non-observance of the pressure-temperature diagram can lead to damage.

8 Malfunctions

- ♦ Flange connection ball valve/pipe is leaking
Retighten the flange screws to a tightening torque according to [Section 1.2](#). If this does not remedy the leak, the recommended torques may be exceeded by 10%.

If this also fails to stop the leak, dismantle and inspect the valve.

9 Maintenance

- ♦ All repair work is to be performed by qualified personnel using the appropriate tools.
- ♦ For the arrangement, designation and item numbers of all parts of the valve, see **Section 10**.
- ♦ Spare parts are to be ordered with all the details in acc. with the valve identification.
- ♦ Only original spare parts may be installed.



Make sure that the sight glass is empty when work is performed on it.
See also **Section 7.3**.

- ♦ To prevent leaks, a regular check of the connection screws should be made in line with the operating requirements.

For tightening torques, see **Section 1.2**.

- ♦ Cleaning of the glass from the outside as required.
 - ♦ Use mild detergents.
 - ♦ Cleaning of the glass from the inside as required.
- Section 7.3** is to be observed.

10 Drawings

10.1 Legend

100	Body
106	Cover
114	pane
408	Flat gasket
902/1	stud screw
920/1	hex. nut
936/1	toothed lock washer

Option Flexicord-strip

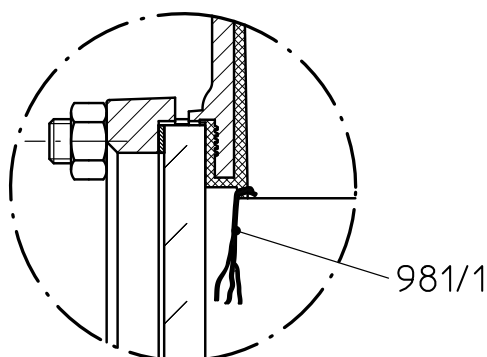
981/1	Flexicord-strip
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Option double glass pane

417	U-seal
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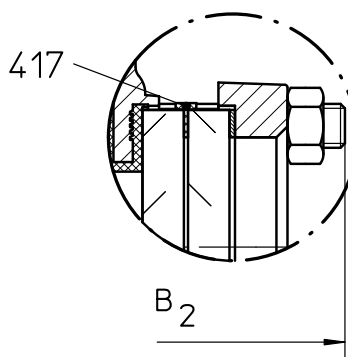
10.2 Options PSG/F and TSG/F

Option Flexicord-strip



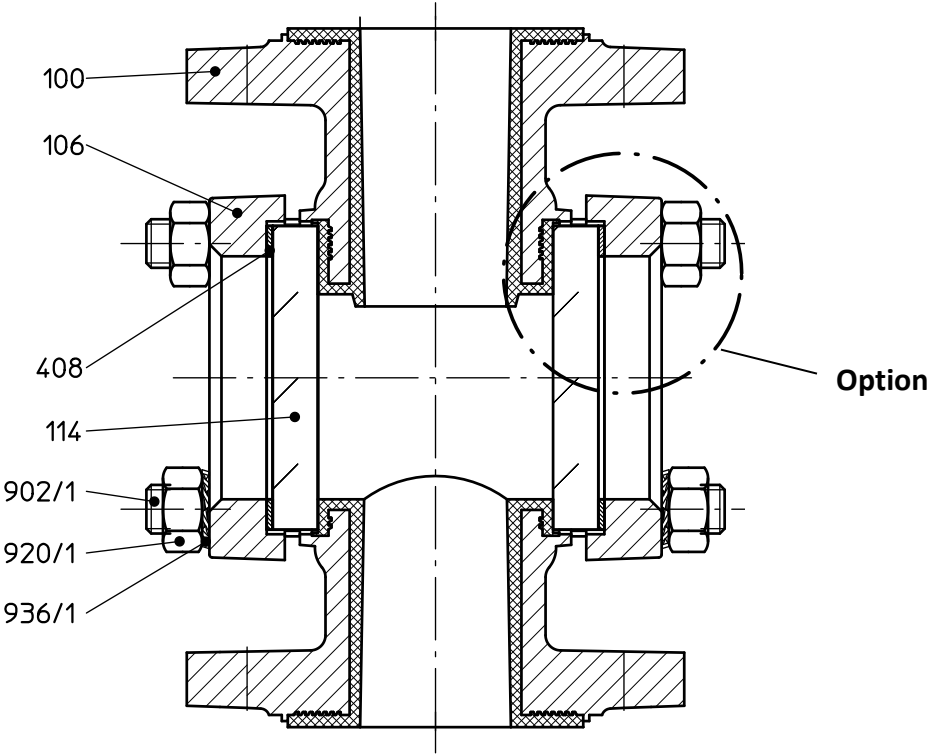
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Option double glass pane

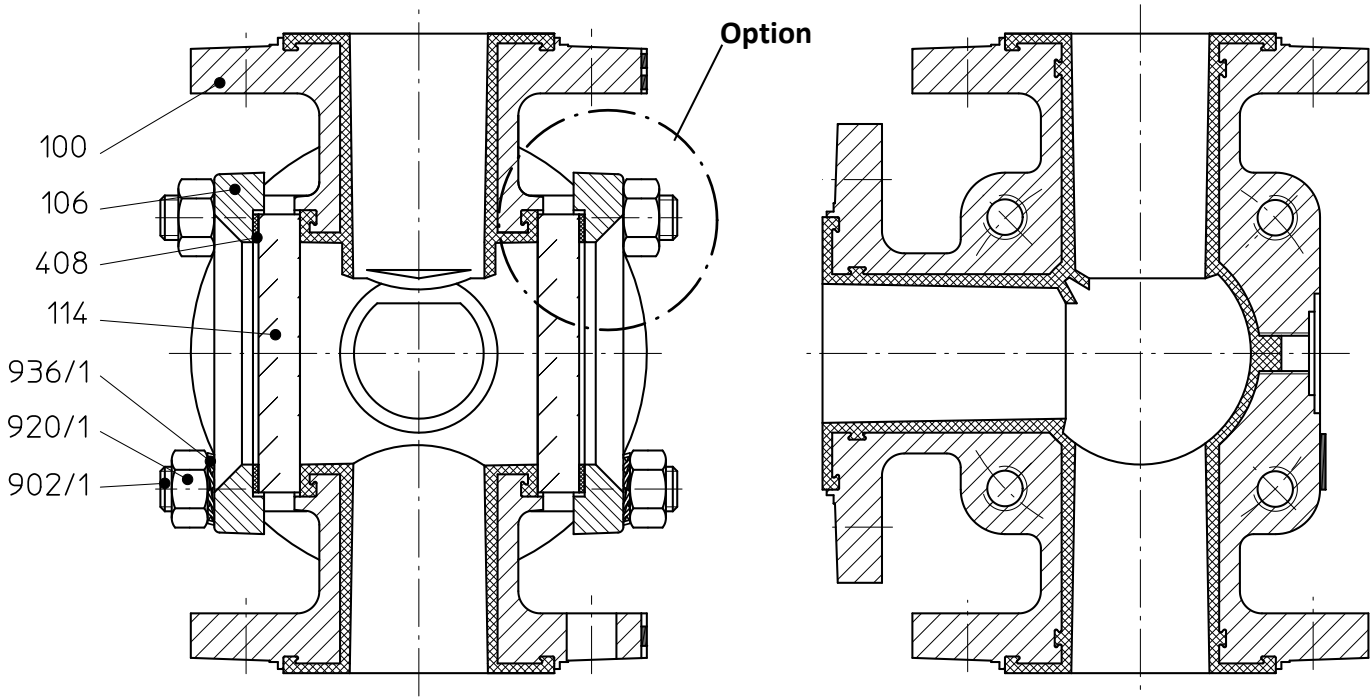


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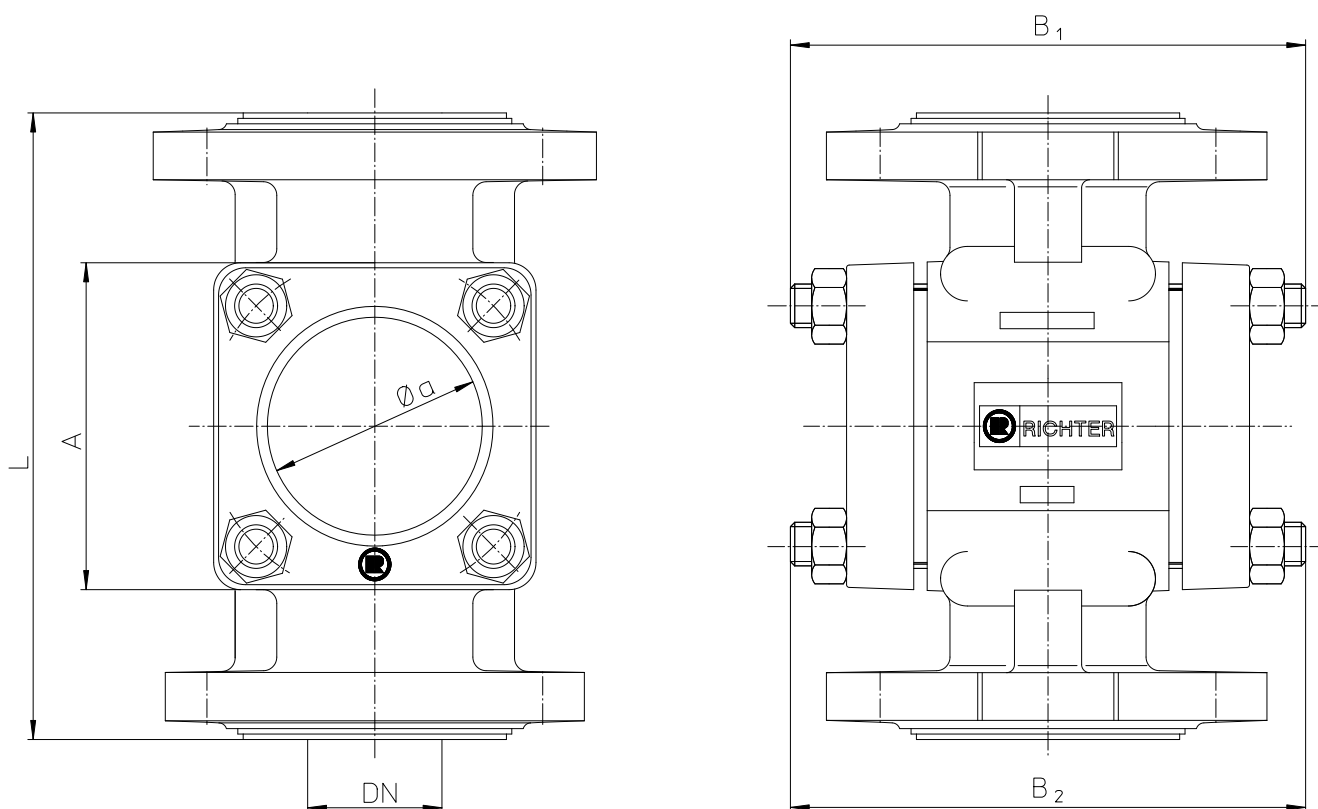
10.3 Sectional drawing PSG/F



10.4 Sectional drawing TSG/F



10.5 Dimensional drawing PSG/F

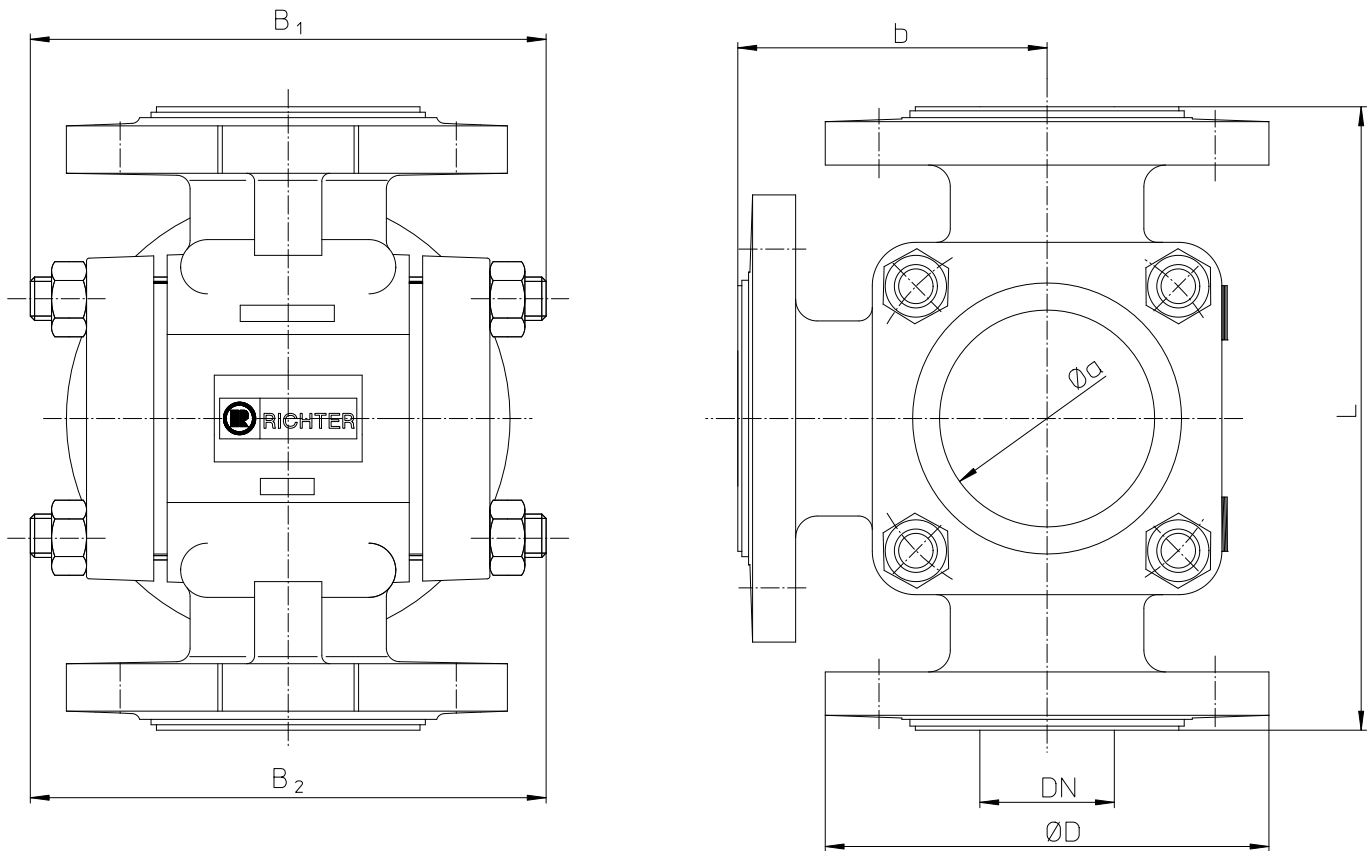


DN	25	40	50	65	80	100	150
	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]
L	160	200	230	290	310	350	480
A	85	110	120	$\varnothing 175$	$\varnothing 190$	$\varnothing 210$	$\varnothing 250$
$\varnothing a$	48	65	80	80	100	125	137
B_1	approx.135	approx.155	approx.185	approx.194	approx.246	approx.294	approx.374
B_2^*	approx.158	approx.182	approx.218	-	approx.289	approx.347	-

* Option: Double glass panes

Flange connecting dimensions:

DIN EN 1092-2, type B (ISO 7005-2, type B) PN 16 or flanges drilled to ASME 16.5 Class 150

10.6 Dimensional drawing TSG/F

DN	25 [mm]	50 [mm]	80 [mm]
$\varnothing D$	115	165	200
L	160	230	310
$\varnothing a$	48	80	100
b	80	115	155
B_1	approx.135	approx.185	approx.246
B_2^*	approx.158	approx.218	approx.289

* Option: Double glass panes

Flange connecting dimensions:

DIN EN 1092-2, type B (ISO 7005-2, type B) PN 16 or flanges drilled to ASME 16.5 Class 150

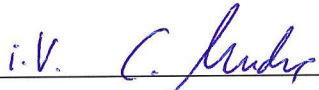
CE Konformitätserklärung nach EN ISO/IEC 17050
Declaration of Conformity according to EN ISO/IEC 17050

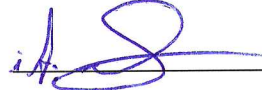
Produkt <i>Product</i>	Kunststoffausgekleidete Schaugläser und Schmutzfänger <i>Plastic lined sight glasses and strainers</i>
Bauart <i>Design</i>	Schauglas, Schmutzfänger <i>Sight glass, strainer</i>
Baureihe <i>Series</i>	PSG, TSG, SGS
Nennweite <i>Size</i>	DN 15 bis DN 200, ½" bis 8" <i>DN 15 to DN 200, ½" to 8"</i>
Seriennummer <i>Series number</i>	ab/from 01.09.2024
EU-Richtlinie <i>EU-Directive</i>	2014/68/EU Druckgeräterichtlinie <i>2014/68/EU Pressure Equipment Directive</i>
Angewandte Technische Spezifikation <i>Applied Technical Specification</i>	DIN EN 16668, AD2000 DIN EN ISO 12100
Überwachungsverfahren <i>Surveillance Procedure</i>	2014/68/EU Zertifizierungsstelle für Druckgeräte der TÜV Nord Systems GmbH & Co. KG Große Bahnstraße 31 D-22525 Hamburg Notified Body 0045
Konformitätsbewertungs- verfahren 2014/68/EU <i>Conformity assessment procedure 2014/68/EU</i>	Modul H 0045/202/1411/Z/00470/22/D/001(00)
Kennzeichnung <i>Marking</i>	2014/68/EU ¹⁾ ≥ DN 32, ≥ 1" 2014/68/EU ¹⁾ ≥ DN 32, ≥ 1" CE 0045

Das Unternehmen Richter Chemie-Technik GmbH bescheinigt hiermit, dass die o.a. Baureihen die grundsätzlichen Anforderungen der aufgeführten Richtlinien und Normen erfüllen.
Richter Chemie-Technik GmbH confirms that the basic requirements of the above-specified directives and standards have been fulfilled.

¹⁾ Für nicht aufgeführte Nennweiten ist eine Kennzeichnung nicht zulässig.
For sizes not listed a marking is not permitted.

Kempen, 01.09.2024


Christian Muders
Director Global Engineering


Manuel Müller
Quality Manager



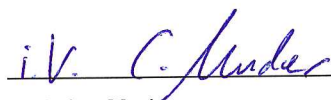
Konformitätserklärung In Übereinstimmung mit den Leitlinien der britischen Regierung
Declaration of Conformity in accordance with UK government guidance

Produkt <i>Product</i>	Kunststoffausgekleidete Schaugläser und Schmutzfänger <i>Plastic lined sight glasses and strainers</i>
Bauart <i>Design</i>	Schauglas, Schmutzfänger <i>Sight glass, strainer</i>
Baureihe <i>Series</i>	PSG, TSG, GS, GSO, SGS
Nennweite <i>Size</i>	DN 15 bis DN 200, ½" bis 8" <i>DN 15 to DN 200, ½" to 8"</i>
Seriennummer <i>Series number</i>	ab/from 01.09.2024
UK Gesetzliche Vorschriften <i>UK Statutory instruments</i>	2016 No. 1105 Druckgeräteverordnung 2016 2016 No. 1105 <i>The Pressure Equipment Regulations 2016</i>
Angewandte Technische Spezifikation <i>Applied Technical Specification</i>	DIN EN 16668, EN 13445 DIN EN ISO 12100
Überwachungsverfahren <i>Surveillance Procedure</i>	2016 No. 1105 Conformity Assessment Durchgeführt gemäß dem bestehenden PED-Modul H-Zertifikat im Rahmen der Erleichterungen der britischen Regierung vom Juni 2022 Applied according to existing PED Module H certificate under the UK government June 2022 easements.
Konformitätsbewertungs- verfahren 2014/68/EU <i>Conformity assessment procedure 2014/68/EU</i>	Modul H Zertifikats Nr. 0045/202/1411/Z/00771/19/D/001(00), TÜV Nord CE 0045 <i>Module H</i> Certificate no. 0045/202/1411/Z/00771/19/D/001(00), TÜV Nord CE 0045
Kennzeichnung <i>Marking</i>	2016 No. 1105  2016 No. 1105

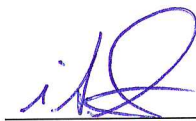
Das Unternehmen Richter Chemie-Technik GmbH bescheinigt hiermit, dass die o.a. Baureihen die grundsätzlichen Anforderungen der aufgeführten Richtlinien und Normen erfüllen. Diese Erklärung wird unter der alleinigen Verantwortung des Herstellers abgegeben.

Richter Chemie-Technik GmbH confirms that the basic requirements of the above specified directives and standards have been fulfilled. This declaration is issued under the sole responsibility of the manufacturer.

Kempen, 01.09.2024



Christian Muders
Director Global Engineering



Manuel Müller
Quality Manager

Konformitätserklärung
Declaration of Conformity

FDA & 2014/68/EU

Produkt <i>Product</i>	PFA ausgekleidete Schaugläser <i>PFA lined sight glasses</i>
Bauarten <i>Design</i>	Schauglas <i>Sight glass</i>
Baureihen <i>Series</i>	PSG, TSG, SGS
Richtlinie <i>Directive</i>	FDA Regulation 21 CFR §177.15 50 2014/68/EU, EU Nr. 10/2011, EU Nr. 1935/2004, 84/500/EWG, 2005/31/EG
Mediumberührte Werkstoffe <i>Materials of media-wetted parts</i>	PFA Borosilicate-Glass

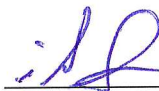
Das Unternehmen Richter Chemie-Technik GmbH bescheinigt hiermit, dass in medium berührten Teilen der o.a. Baureihen Materialien verwendet wurden, welche die Vorschriften der FDA Regulation 21 CFR §177.15 50, die Verordnungen 97/48/EG, EU Nr. 10/2011, EU Nr. 1935/2004, 84/500/EWG und 2005/31/EG erfüllen bzw. dafür die allgemeinen Unbedenklichkeitsbescheinigungen des Herstellers/Lieferanten oder Prüflabors vorliegen. Entsprechende Einzelnachweise sind vorhanden.

The company, Richter Chemie-Technik GmbH, herewith certifies that in medium-wetted parts of the above-mentioned series materials were used which satisfy the provisions of the FDA Regulation 21 CFR §177.15 50 and Directives 97/48/EG, EU no. 10/2011, EU Nr. 1935/2004, 84/500/EWG and 2005/31/EG or for which general compliance certificates of the manufacturer/supplier/test laboratory are available. Relevant *individual proof can be provided*.

Kempen, 01.09.2024



Christian Muders
Director Global Engineering



Manuel Müller
Quality Manager

Herstellererklärung ATEX
Richtlinie 2014/34/EU
Manufacturer's Declaration ATEX
Directive 2014/34/EU

Alle Richter Armaturen inkl. Absperr-, Regel- und Sicherheitsventile
All Richter Valves incl. Shut-off, Control and Safety Valves

Die oben bezeichneten Armaturen wurden einer Risikoanalyse nach der Richtlinie 2014/34/EU mit folgendem Ergebnis unterzogen:

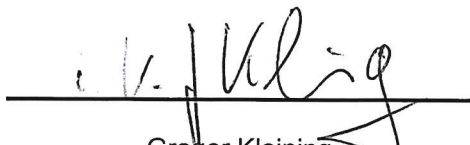
The valves specified above underwent a risk analysis according to Directive 2014/34/EU with the following result:

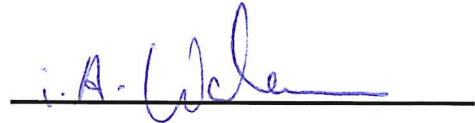
- **Richter Armaturen besitzen keine eigenen potentiellen Zündquellen. Die Armaturen können sowohl manuell als auch mechanisch/elektrisch angetrieben werden.**
Die Armaturen fallen nicht in den Anwendungsbereich der ATEX-Richtlinie 2014/34/EU und dürfen deshalb auch nicht danach gekennzeichnet werden.
Richter valves do not have their own potential sources of ignition. The valves can be actuated manually as well as mechanically/electrically.
ATEX Directive 2014/34/EU is not applicable to these valves. Therefore, it is not allowed to mark the valves according to that Directive.
- **Die Armaturen dürfen in explosionsgefährdeten Bereichen eingesetzt werden.**
The valves can be used in potentially explosive atmospheres.
- **Dennoch müssen für den Armatureneinsatz in explosionsgefährdeten Bereichen Sicherheitshinweise bzgl. des Explosionsschutzes beachtet werden. Richter hat hierzu die Betriebsanleitungen um den Zusatz „Sicherheitshinweise für den Einsatz in explosionsgefährdeten Bereichen in Anlehnung an die Richtlinie 2014/34/EU“ erweitert.**
However, when using the valves in potentially explosive atmospheres, specific safety notes on explosion protection must be observed. Here, Richter has extended their operating manuals to include the supplement „Safety notes for applications in potentially explosive atmospheres based on Directive 2014/34/EU“.

Ergänzender Hinweis: *Supplementary note:*

- **Elektrische/mechanische Antriebe müssen einer eigenen Konformitätsbewertung nach ATEX unterzogen werden.**
Electric/mechanical actuators must undergo a separate conformity assessment.

Kempen, 01.09.2021


Gregor Kleining
Director Global Engineering


Ivo Watermann
ATEX Beauftragter

Herstellererklärung / Manufacturer's Declaration

TA-Luft / German Clean Air Act

Richter Schaugläser / Richter Sight Glass

Hiermit erklären wir, dass die Schaugläser der Baureihen
Hereby we declare, that the Sight Glasses of the series

PSG, TSG, SGS

die Anforderung der Leckagerate $L_B (\leq 10^{-4} \text{ mg/s}\cdot\text{m})$ gemäß Ziffer 5.2.6.4 der Technischen Anleitung zur Reinhaltung der Luft (TA-Luft) von 2021 erfüllen.

Grundlage sind die Prüfungen sowie deren Bewertung und Qualifikation nach DIN EN ISO 15848-1 vom TÜV Süd Industrie Service GmbH.

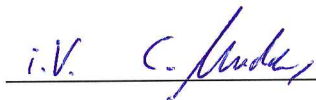
Voraussetzung für die Gültigkeit der Herstellererklärung ist das Beachten und Einhalten der Betriebsanleitung.

meet the requirement of the leakage rate $L_B (\leq 10^{-4} \text{ mg/s}\cdot\text{m})$ according to clause 5.2.6.4 of German Clean Air Act (TA-Luft) of 2021.

This is based on the tests as well as their evaluation and qualification according to DIN EN ISO 15848-1 by TÜV Süd Industrie Service GmbH.

A prerequisite for the validity of the manufacturer's declaration is that the operating instruction manuals are observed and complied with.

Kempen, 01.09.2024



Christian Muders
Director Global Engineering



Manuel Müller
Quality Manager

08.01.2015

Declaration of no objection

Dear Sirs,

The compliance with laws for the industrial safety obligates all commercial enterprises to protect their employees and/or humans and environment against harmful effects while handling dangerous materials.

The laws are such as: the Health and Safety at Work Act (ArbStättV), the Ordinance on Harzadous Substances (GefStoffV, BIOSTOFFV), the procedures for the prevention of accidents as well as regulations to environmental protection, e.g. the Waste Management Law (AbfG) and the Water Resources Act (WHG)

An inspection/repair of Richter products and parts will only take place, if the attached explanation is filled out correctly and completely by authorized and qualified technical personnel and is available.

In principle, radioactively loaded devices sent in, are not accepted.

Despite careful draining and cleaning of the devices, safety precautions should be necessary however, the essential information must be given.

The enclosed declaration of no objection is part of the inspection/repair order. Even if this certificate is available, we reserve the right to reject the acceptance of this order for other reasons.

Best regards

RICHTER CHEMIE-TECHNIK GMBH

Safety Information / Declaration of No Objection Concerning the Contamination of Richter-Pumps, -Valves and Components

1 SCOPE AND PURPOSE

Each entrepreneur (operator) carries the responsibility for the health and safety of his employees. This extends also to the personnel, who implements repairs with the operator or with the contractor.

Enclosed declaration is for the information of the contractor concerning the possible contamination of the pumps, valves and component sent in for repair. On the basis of this information for the contractor is it possible to meet the necessary preventive action during the execution of the repair.

Note: The same regulations apply to repairs **on-site**.

2 PREPARATION OF DISPATCH

Before the dispatch of the aggregates the operator must fill in the following declaration completely and attach it to the shipping documents. The shipping instructions indicated in the respective manual are to be considered, for example:

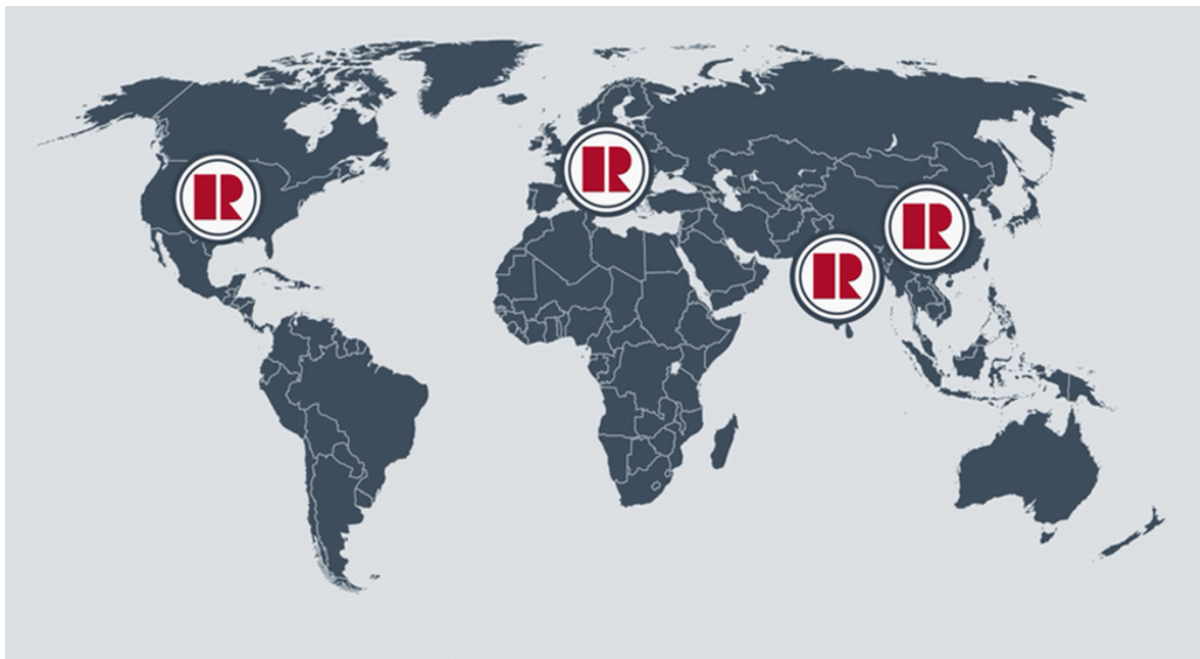
- Discharge of operational liquids
- remove filter inserts
- lock all openings hermetically
- proper packing
- Dispatch in suitable transport container
- Declaration of the contamination fixed **outside!!** on the packing

RICHTER
Process Pumps & Valves

Every aggregate has to have it's own declaration.

Contractor/dep./institute : _____ Street : _____ Postcode, city : _____ Contact person : _____ Phone : _____ Fax : _____ End user : _____		Reason for transmitting * Please mark the applicable Repair: ☐ subject to fee ☐ Warranty Austausch: ☐ subject to fee ☐ Warranty ☐ Exchange/ Replacement already initiated/received Return: ☐ Leasing ☐ Loan ☐ for credit note																
A. Details of Richter-product: Classification: _____ Article number: _____ Serial number: _____		Failure description: _____ _____ _____																
B. Condition of the Richter-product: Was it in operation ? ☐ no ¹⁾ ☐ yes ☐ no → Drained (product/operating supply item) ? ↓ ☐ ☐ All openings hermetically locked! ☐ ☐ Cleaned ? ☐ ☐ If yes, with which cleaning agent: and with which cleaning method:		Contamination : toxic ☐ no ¹⁾ ☐ yes caustic ☐ ☐ inflammable ☐ ☐ explosive ²⁾ ☐ ☐ mikrobiological ²⁾ ☐ ☐ radioactive ³⁾ ☐ ☐ other pollutant ☐ ☐																
¹⁾ if "no", then forward to D. ²⁾ Aggregates, which are contaminated with microbiological or explosive substances, are only accepted with documented evidence of an approved cleaning. ³⁾ Aggregates, which are contaminated with radioactive substances, are not accepted in principle.		C. Details of the discharged materials (must be filled out imperatively) 1. With which materials did the aggregate come into contact ? Trade name and/or chemical designation of operational funds and discharged materials, material properties, e.g. as per safety data sheet (e.g. toxic, inflammable, caustic) <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 5%;">X</td> <td style="width: 40%;">Trade name:</td> <td style="width: 55%;">Chemical designation:</td> </tr> <tr><td>a)</td><td></td><td></td></tr> <tr><td>b)</td><td></td><td></td></tr> <tr><td>c)</td><td></td><td></td></tr> <tr><td>d)</td><td></td><td></td></tr> </table>		X	Trade name:	Chemical designation:	a)			b)			c)			d)		
X	Trade name:	Chemical designation:																
a)																		
b)																		
c)																		
d)																		
2. Are the materials specified above harmful to health ? 3. Dangerous decomposition products during thermal load ? If yes, which ones?		<table style="margin-left: auto; margin-right: auto;"> <tr> <td style="text-align: center;">no</td> <td style="text-align: center;">yes</td> </tr> <tr> <td style="text-align: center;">☐</td> <td style="text-align: center;">☐</td> </tr> <tr> <td style="text-align: center;">☐</td> <td style="text-align: center;">☐</td> </tr> </table>		no	yes	☐	☐	☐	☐									
no	yes																	
☐	☐																	
☐	☐																	

Company stamp



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Subject to change without notice.
These installation and operating instructions must be kept!

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