INSTALLATION AND OPERATING MANUAL

Series CV/F, CVV/F (DIN/ISO)
BC/F, BCV/F (ASME)

Ball Check Valve

Keep for future use!

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

9550-001-en Revision 20 Edition 04/2025

RICHTER
Process Pumps & Valves

List of Contents

Relevant documents

- EG-Declaration of conformity
- 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:

Richter Chemie-Technik GmbH
Otto-Schott-Str. 2
D-47906 Kempen
Telephone : +49 (0) 2152 146-0
Fax: +49 (0) 2152 146-190
E-Mail : richter-info@richter-ct.com
Internet: http://www.richter-ct.com

Designation :

Ball Check valves
Series **CV/F** → solid ball, acc. DIN/ISO
Series **CVV/F** → hollow ball, acc. DIN/ISO

Series **BC/F** → solid ball, acc. ASME
Series **BCV/F** hollow ball, acc. ASME

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 CV/F, CVV/F

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

Face to face BC/F, BCV/F Peabody-Dore

Flange connecting dimensions:
CV/F, CVV/F
DIN EN 1092-2, type B (ISO 7005-2, type B) PN 16 or flanges drilled to ASME 16.5 Class 150

BC/F, BCV/F
ISO 7005-2, type B PN 16
ISO 7005-2, type B PN 20

Materials :

Body material: Ductile cast iron EN-JS 1049 / ASTM A395

Lining material: PFA .../F
On request: antistatic …/F-L

Temperature range :

see pressure-temperature diagram in Section 1.5.

Operating pressure : from vacuum to max. 16 bar
see pressure-temperature diagram in Section 1.5.

Size in mm:

CV/F, CVV/F
DN 15, 20, 25, 40, 50, 65, 80, 100
DN 150 - 6“ series of BC/F, BCV/F
BC/F, BCV/F
½", ¾“ - DN 15, 20 series of CV/F, CVV/F
1", 1½", 2", 3", 4", 6”

Weight:

CV/F, CVV/F

DN	15	20	25	40	50	65	80	100
ca. kg	3.2	3.8	5.2	9.1	12.6	15	25	40

BC/F, BCV/F

DN	1“	1½“	2“	3"	4"	6"
ca. lbs	8.2	13.9	18.5	47.6	76.0	102.6
ca. kg	3.7	6.3	8.4	22	35	47

Installation position: horizontal, inclined, vertical
See Section 6.2.

Dimensions and individual parts :

See sectional drawing in Section 10.

Wear parts: Ball

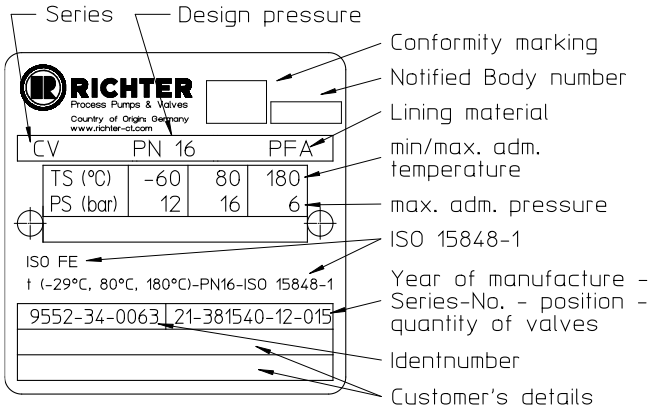
1.1 Type plate, conformity and body markings

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

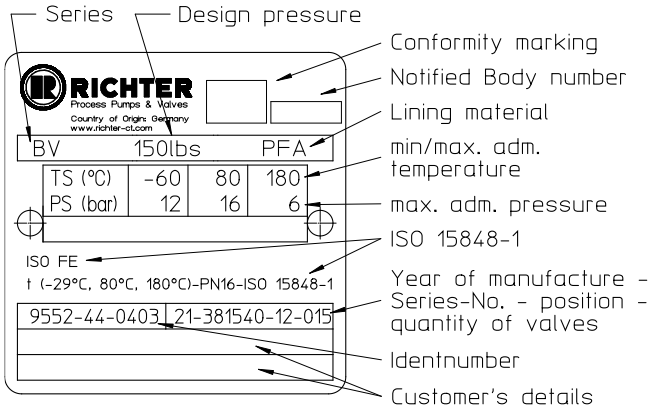
If the operator attaches his identification, it must be ensured that the valve matches the application in question.

Example:

Type plate with conformity marking CV/F



Type plate with conformity marking BC/F



No conformity marking is permissible for the sizes 15, 20 25, ½“ and ¾“; the name plate therefore has no conformity marking.

Body identification :

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

- 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]	Tightening torque [Nm]
15	4 x M12	6
20	4 x M12	8
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 M 20	65

Pipe screws, flanges to ISO/DIN drilled to ASME Class 150 or flanges ASME B 16.5 Class 150, raised face

Flange Nominal size		screws	Tightening torque	
[mm]	[inch]	[ASME]	[in-lbs]	[Nm]
15	½	4 x ½“	45	5
20	¾	4 x ½“	55	6
25	1	4 x ½“	70	8
40	1½	4 x ½“	135	15
50	2	4 x ⅝“	220	25
65	2½	4 x ⅝“	265	30
80	3	4 x ⅝“	400	45
100	4	8 x ⅝“	310	35
150	6	8 x ¾“	710	80

Body screws

CV/F, CVV/F

Nominal size		screws	Tightening torque	
[mm]	[inch]	[ISO/DIN]	[in-lbs]	[Nm]
15	½“	4 x M12	220	25
20	¾“	4 x M12	220	25
25	1“	4 x M12	220	25
40	1½“	4 x M16	442	50
50	2“	4 x M16	442	50
65	2,5“	4 x M12	220	25
80	3“	8 x M16	442	50
100	4“	8 x M16	442	50

BC/F, BCV/F

Nominal size		screws	Tightening torque	
[mm]	[inch]	[ISO/DIN]	[mm]	[inch]
15	½“	4 x M12	220	25
20	¾“	4 x M12	220	25
25	1“	4 x M8	135	15
40	1½“	4 x M12	220	25
50	2“	4 x M12	220	25
80	3“	6 x M16	442	50
100	4“	8 x M16	442	50
150	6“	8 x M16	442	50

1.3 Flow rates

CV/F, CVV/F

Nominal size		Cv	Kv_{100}
[mm]		[US gpm]	[m^3/h]
15	½“	10	8,5
20	¾“	19	16
25	1“	31	27
40	1½“	113	97
50	2“	142	122
65	2½“	66	57
80	3“	348	300
100	4“	476	410
150	6“	418	360

BC/F, BCV/F

Nominal size		Cv	Kv_{100}
[mm]		[US gpm]	[m^3/h]
15	½“	8	7
20	¾“	13	11
25	1“	26	22
40	1½“	73	63
50	2“	107	92
65	1½“	--	--
80	3“	232	200
100	4“	418	360
150	6“	418	360

1.4 Minimum differential pressures

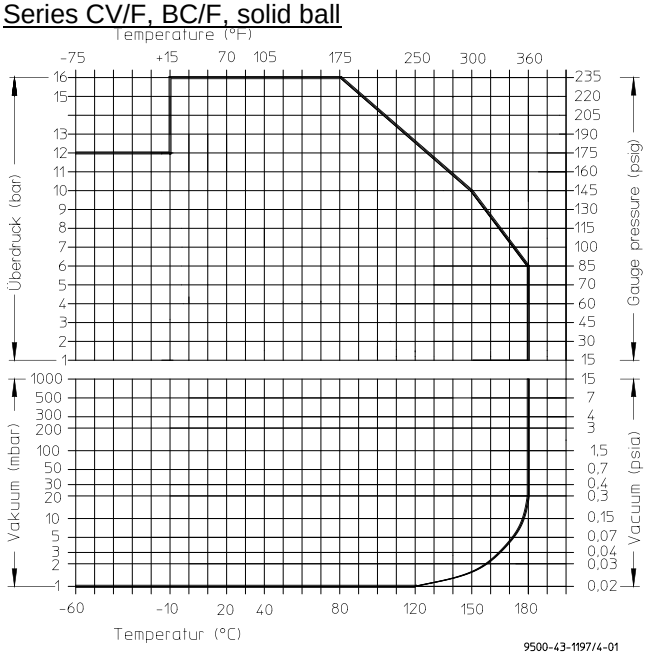
	Installation position horizontal	vertical
CV/F	1 bar	20 mbar
CVV/F	0,5 bar	10 mbar
BC/F	15 psi	0,30 psi
BCV/F	7 psi	0.12 psi

If the CVV/F/BCV/F is installed as ventilation valve, it will close from a density of 1 kg/dm³ upwards.

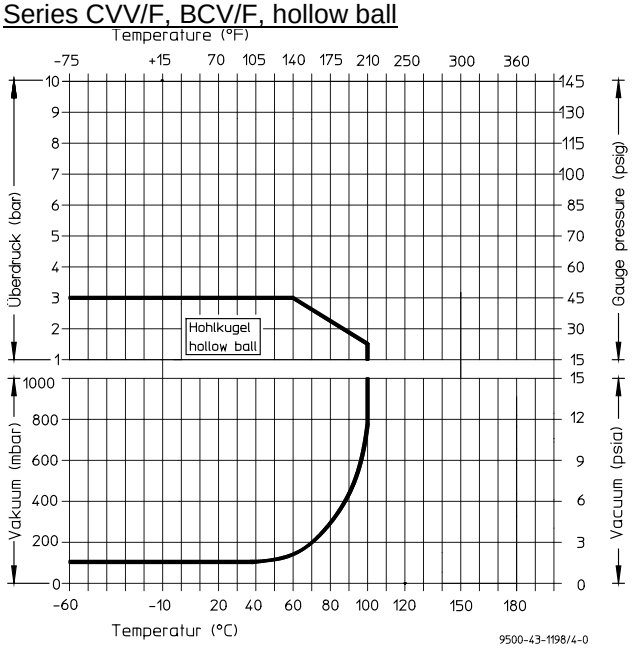
1.5 Pressure-temperature diagram

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

Series CV/F, BC/F, solid ball

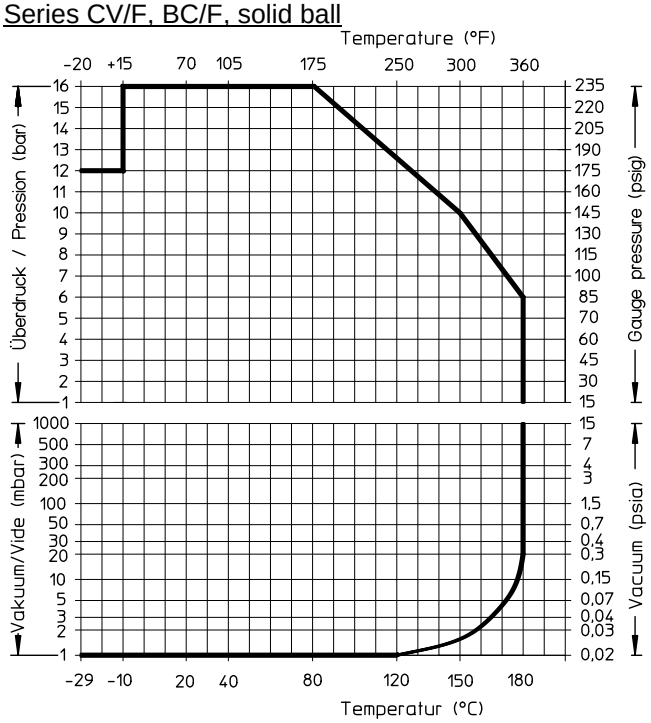


Series CVV/F, BCV/F, hollow ball

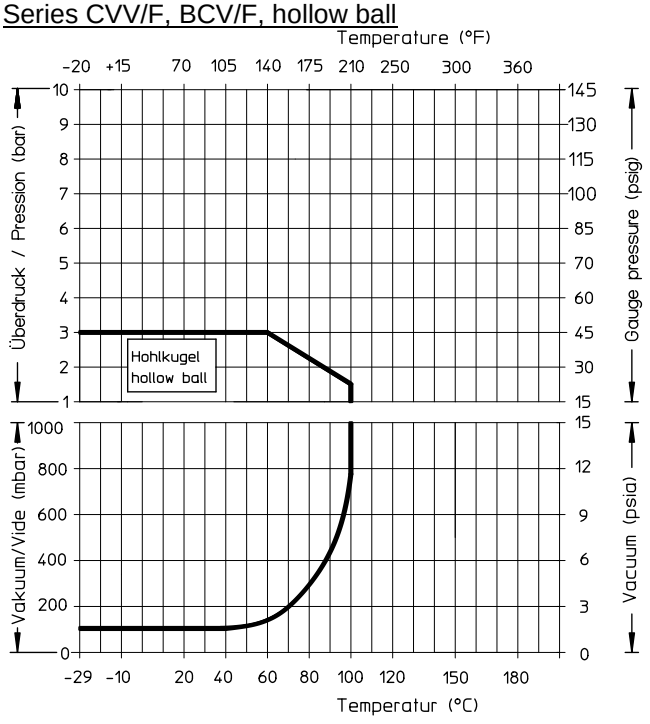


ASME B 16.42

Series CV/F, BC/F, solid ball



Series CVV/F, BCV/F, hollow ball



DIN EN ISO 15848-1 certificate valid for CV/F, BC/F, solid ball from -29°C to 180°C and for CVV/F, BCV/F, hollow ball from -29°C to 100°C.

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

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

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 as:

- 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 check valves of the series CV/F, CVV/F, BC/F and BCV/F are pressure relief components in accordance with the Pressure Equipment Directive (PED) for the passage of fluids in the direction of the flow arrow on the body and for the shut-off of fluids in the opposite direction.

However, shut-off of the passage of fluids in the opposite direction may be cancelled out, depending on the installation position, ball design, differential pressure and medium.

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

Solids can lead to increased wear, damage to sealing surfaces or to a reduction in the service life of the valve.

In case of the valve is intended for operating data other than those intended, the customer must carefully examine whether the design of the valve, accessories and materials are suitable for the new application. (Please consult the manufacturer).

2.2 For the customer / operator

When using the valve, it must be ensured 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.
- 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

For all transport work, 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 protect the valve against impacts and collisions.

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

Do not damage paint protection.

5.1 Storage

If the valve is not installed immediately after delivery, store them properly.

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

Protect elastomers 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 measures 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 valve for in-transit damage, damaged valves 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 installation positions of the check valves in the pipe are horizontal, inclined or vertical.

The direction of flow is marked on the valve, the shut-off operation is already initiated by the weight of the shut-off element when delivery decreases.
The ball check valves are highly streamlined. The design with a solid ball (CV/F, BC/F) seals against a falling or back-flowing fluid level.
The CVV/F, BCV/F design with a hollow ball can also be used for low opening differential pressures. When the installation position is reversed, the CVV/F, BCV/F also functions as a vacuum check valve.

In the vertical installation position the ball then floats on the rising fluid level and seals upwards into the seat.

Horizontally installed, a minimum differential pressure of 1 bar (with a hollow ball 0.5 bar) is required to push the ball into the seat.

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 x PS(PN) as per the identification of the valve.
Not permitted with series CVV/F, BCV/F, remove the hollow ball for the pressure test.

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 external leaks, it is possible to retighten all connecting screws after the valve has been subjected to the initial operating pressure and temperature.
For tightening torques, see **Section 1.2**.

7.2 Improper operation and their consequences

- Prevent crystallisation, e.g. by heating. In extreme cases this may cause blocking.
- Increased wear occurs in operation with solids contents.
- Operation during cavitation leads to increased wear.
- Non-observance of the pressure-temperature diagram can lead to damage.

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 the start of maintenance work, clean the valve thoroughly. 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**.

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.

- Flange connection main body/body end piece is leaking
  Retighten body screws. See paragraph "Flange connection ball valve/pipe is leaking".

- Valve does not close
  Are there solids between the sealing surface and the ball?

  Is the sealing surface damaged?

  Is the ball damaged?

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.
- 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**.

9.1 Dismantling

9.1.1 Replacing worn part

- Screw main body **101** and body end piece **102** apart.
- Replace ball **200**.
- Assembly is performed in reverse sequence.

9.2 Assembly

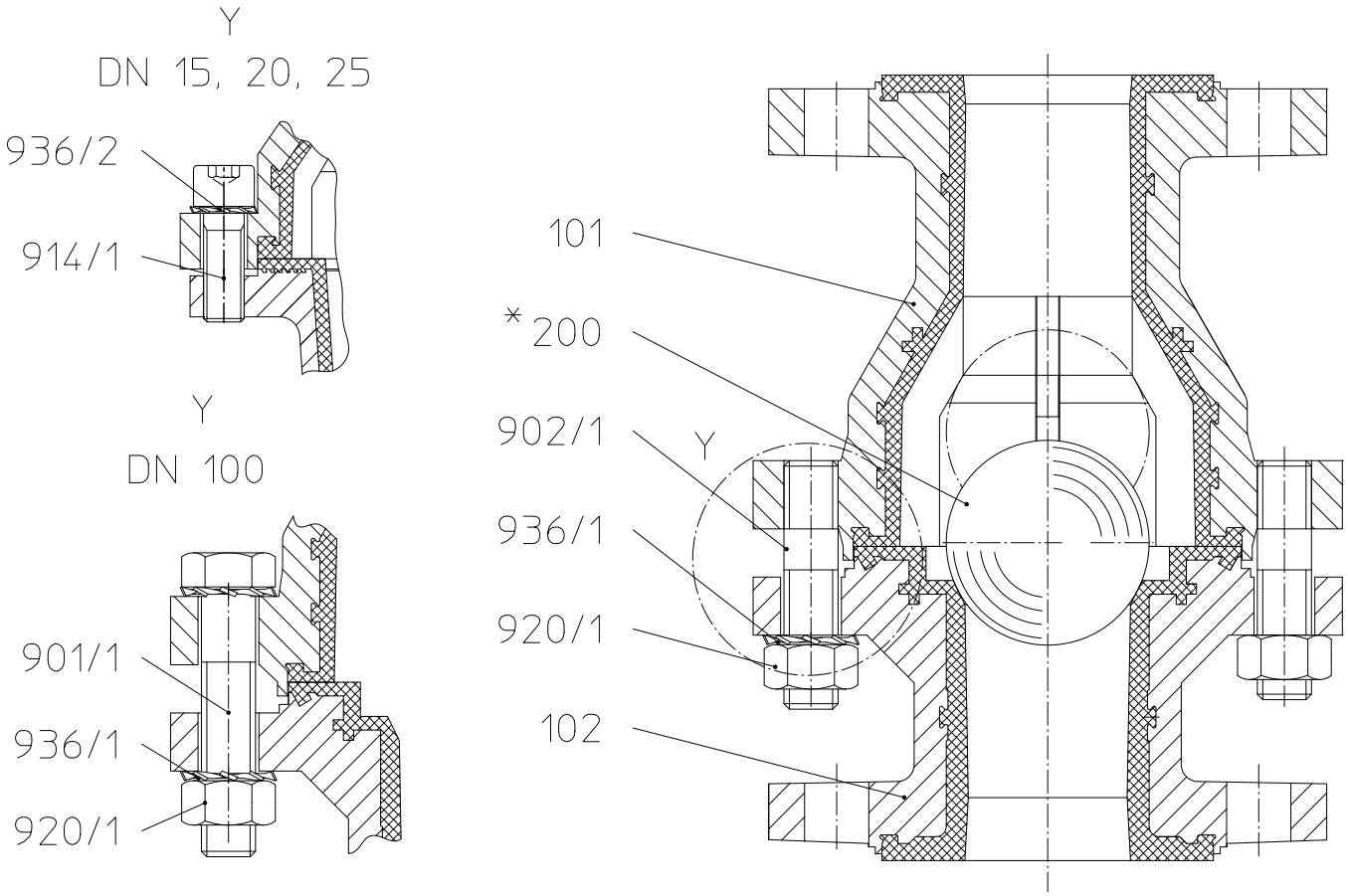
- Prior to assembly all parts are to be cleaned and the plastic-lined parts checked for damage.
- Screw main body **101** and body end piece **102** together. Tighten the screw fitting to a tightening torque in accordance with **Section 1.2** in diametrically opposite sequence.

10 Drawings

10.1 Legend CV/F, CVV/F

101	main body	**902/1**	stud screw
102	body end piece	**914/1**	hex. socket screw
200	ball	**920/1**	hex. nut
901/1	hex. screw	**936/x**	tooth lock washer

10.2 Sectional drawing CV/F, CVV/F

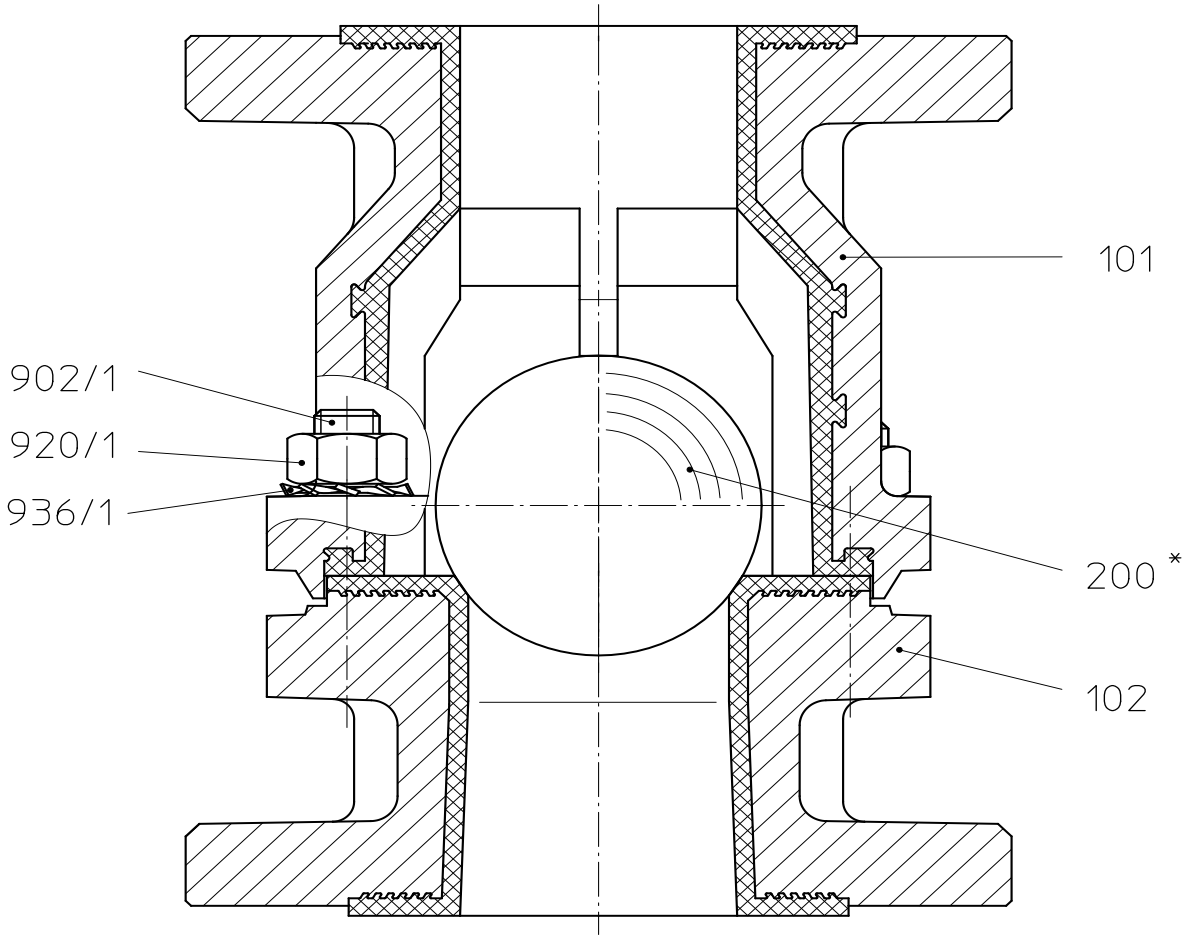


*** CV/F solid ball**
CVV/F hollow ball

10.3 Legend BC/F, BCV/F

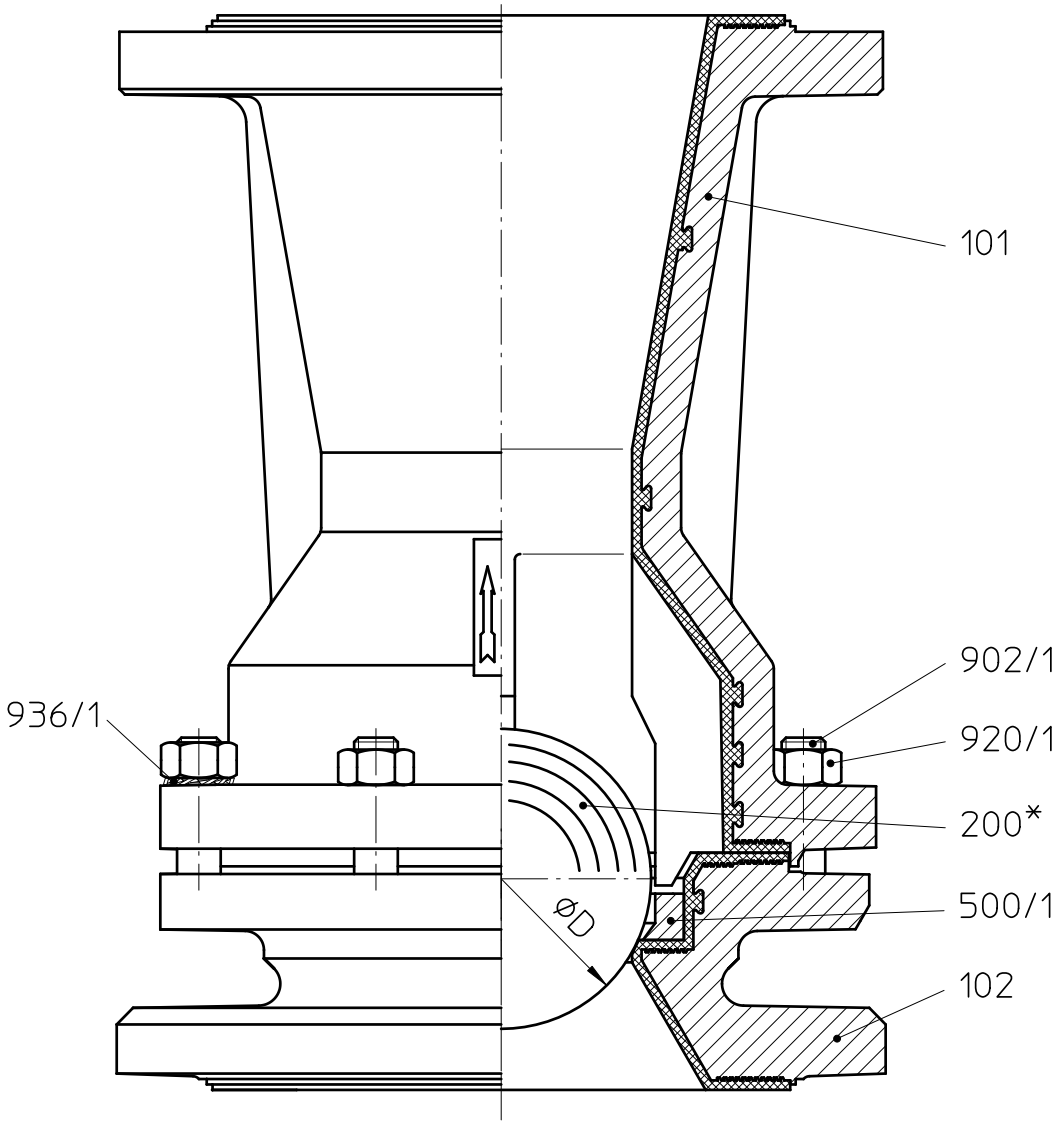
101	main body
102	body end piece
200	ball
500/1	ring (6“)
901/1	Hex. screw
902/1	stud screw
914/1	hex. socket screw
920/1	hex. nut
936/x	tooth lock washer

10.4 Sectional drawing BC/F, BCV/F Baugröße 1“ - 4“



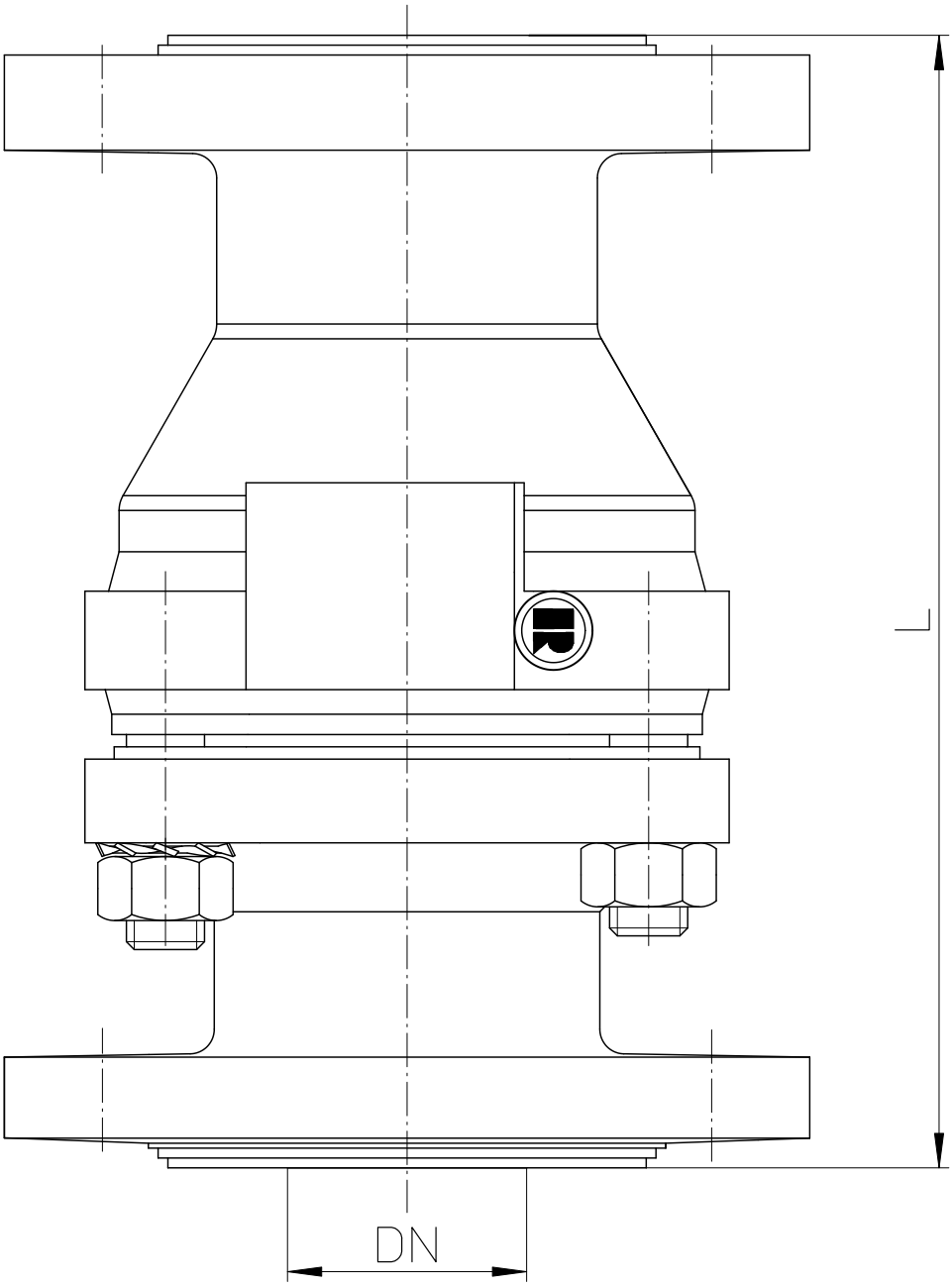
***** **BC/F** **solid ball**
BCV/F **hollow ball**

10.5 Sectional drawing BC/F, BCV/F Size 6“



*** BC/F solid ball**
BCV/F hollow ball

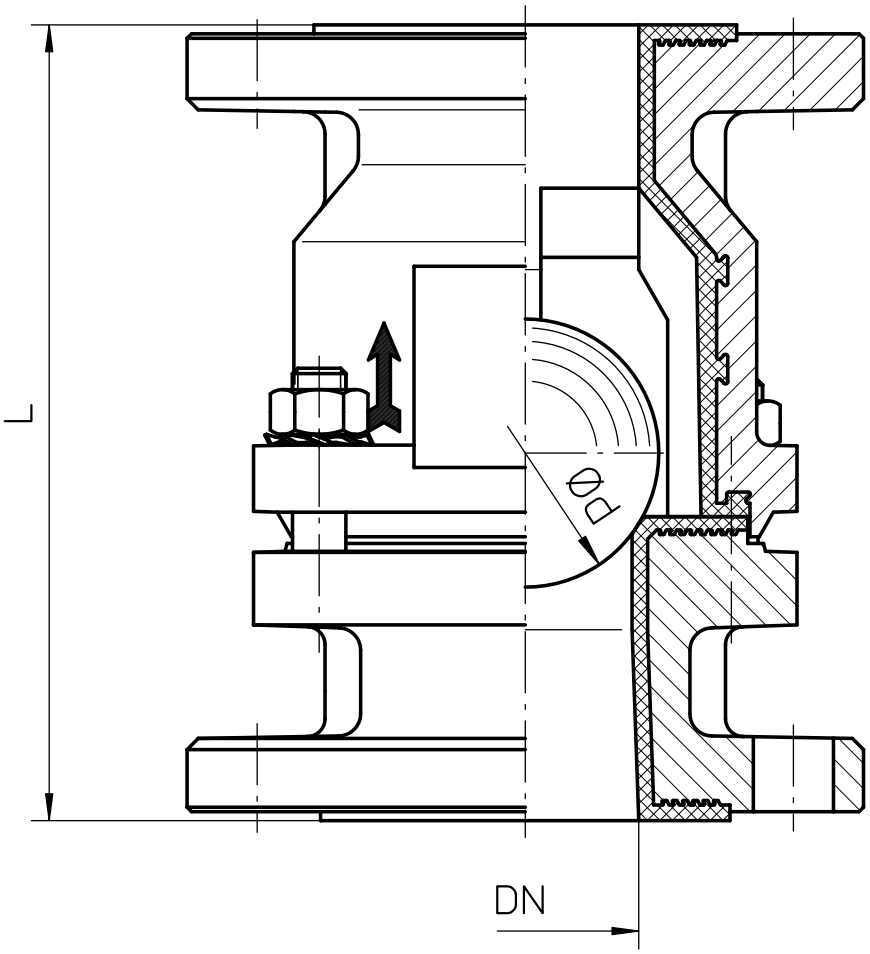
10.6 Dimensional drawing CV/F, CVV/F



DN	[mm] [inch]	15 ½“	20 ¾“	25 1“	40 1½“	50 2“	65 2½“	80 3“	100 4“
L	[mm] [inch]	130 (5.12)	150 (5.9)	160 (3.15)	200 (6.3)	230 (9.1)	290 (11.42)	310 (12.2)	350 (13.78)
ball Ø d	[mm] [inch]	30 (1.18)	30 (1.18)	30 (1.18)	50 (1.97)	60 (2.36)	60 (2.36)	90 (3.54)	110 (4.33)

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

10.7 Dimensional drawing BC/F, BCV/F



DN	inch [mm]	½“ 15	¾“ 20	1“ 25	1½“ 40	2“ 50	3“ 80	4“ 100	6“ 150
L	inch [mm]	5.12 (130)	5.9 (150)	6.0 (152)	7.0 (178)	7.0 (178)	8.0 (203)	10.5 (267)	15.5 (394)
ball Ø d	inch [mm]	1.18 (30)	1.18 (30)	1.18 (30)	1.97 (50)	2.36 (60)	3.54 (90)	4.33 (110)	4.33 (110)

Richter Chemie-Technik GmbH
Otto-Schott-Straße 2
D-47906 Kempen
www.richter-ct.com

RICHTER
Process Pumps & Valves
A Unit of IDEX Corporation

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

Produkt *Product*	Kunststoffausgekleidete Rückschlagventile *Plastic lined check valves*
Bauart *Design*	Kugelrückschlagventil, Kegelrückschlagventil, Rückschlagventil mit integriertem Schauglas *Ball check valve, plug check valve, check valve with integrated sight glass*
Baureihe *Series*	BC, BCV, CV, CVV, GR, RV, SR, SR-B, SRV, SRV-B, SRZ-V
Nennweite *Size*	DN 15 bis DN 200, ½" bis 6" *DN 15 to DN 200, ½" to 6"*
Seriennummer *Series number*	ab/*from* 01.09.2024
EU-Richtlinie *EU-Directive*	2014/68/EU Druckgeräterichtlinie 2014/68/EU *Pressure Equipment Directive*
Angewandte Technische Spezifikation *Applied Technical Specification*	DIN EN 16668, AD2000 DIN EN ISO 12100
Überwachungsverfahren *Surveillance Procedure*	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 *Conformity assessment procedure 2014/68/EU*	Modul H Zertifikats Nr. 0045/202/1411/Z/00470/22/D/001(00)
Kennzeichnung *Marking*	2014/68/EU [1] ≥ DN 32, ≥ 1" CE 0045 2014/68/EU [1] ≥ *DN 32, ≥ 1"*

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

i.V. C. Muders

Christian Muders
Director Global Engineering

Manuel Müller
Quality Manager

Richter Chemie-Technik GmbH
Otto-Schott-Straße 2
D-47906 Kempen
www.richter-ct.com

RICHTER
Process Pumps & Valves
A Unit of IDEX Corporation

UK CA

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

Produkt *Product*	Kunststoffausgekleidete Rückschlagventile *Plastic lined check valves*
Bauart *Design*	Kugelrückschlagventil, Kegelrückschlagventil, Rückschlagventil mit integriertem Schauglas *Ball check valve, plug check valve, check valve with integrated sight glass*
Baureihe *Series*	BC, BCV, CV, CVV, GR, RV, SR, SR-B, SRV, SRV-B, SRZ-V
Nennweite *Size*	DN 15 bis DN 200, ½" bis 8" *DN 15 to DN 200, ½" to 8"*
Seriennummer *Series number*	ab/*from* 01.09.2024
UK Gesetzliche Vorschriften *UK Statutory instruments*	2016 No. 1105 Druckgeräteverordnung 2016 *2016 No. 1105 The Pressure Equipment Regulations 2016*
Angewandte techn. Spezifikation *Applied Technical Specification*	DIN EN 16668, EN 13445, DIN EN ISO 12100
Überwachungsverfahren *Surveillance Procedure*	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 *Conformity assessment procedure 2014/68/EU*	Modul H Zertifikats Nr. 0045/202/1411/Z/00771/19/D/001(00), TÜV Nord CE 0045 *Module H* Certificate no. 0045/202/1411/Z/00771/19/D/001(00), TÜV Nord CE 0045
Kennzeichnung *Marking*	2016 No. 1105 *2016 No. 1105*

UK CA

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

i.V. C. Muders

Christian Muders
Director Global Engineering

Manuel Müller
Quality Manager

Richter Chemie-Technik GmbH
Otto-Schott-Straße 2
D-47906 Kempen
www.richter-ct.com

RICHTER
Process Pumps & Valves
A Unit of IDEX Corporation

Konformitätserklärung FDA & 2014/68/EU
Declaration of Conformity

Produkt *Product*	PFA ausgekleidete Armaturen *PFA lined valves*
Bauarten *Design*	Rückschlagventile *Check Valves*
Baureihen *Series*	BC, BCV, CV, CVV, GR, RV, SR, SR-B, SRV, SRV-B, SRZ-V
Richtlinie Directive	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 Materials of media-wetted parts	PFA PTFE Mod. PTFE 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 2014/68/EU, 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 2014/68/EU, 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

i.V. C. Muders

Christian Muders
Director Global Engineering

i.A. S

Manuel Müller
Quality Manager

Richter Chemie-Technik GmbH
Qualitätsmanagement
Otto-Schott-Str. 2
D-47906 Kempen
Germany
Tel.: +49 / (0) 21 52 / 146-0
Fax: +49 / (0) 21 52 / 146-190
richter-info@idexcorp.com

RICHTER
Process Pumps & Valves

IDEX
FLUID & METERING

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.**
  Electrical/mechanical actuators must undergo a separate conformity assessment.

Kempen, 01.09.2021

i. V. Kleining

Gregor Kleining
Director Global Engineering

i. A. Watermann

Ivo Watermann
ATEX Beauftragter

RICHTER
Process Pumps & Valves
A Unit of IDEX Corporation

Herstellererklärung / *Manufacturer´s Declaration*

TA-Luft / *German Clean Air Act*

Richter Rückschlagventil / *Richter Check Valve*

Hiermit erklären wir, dass die Rückschlagventile der Baureihen
Hereby we declare, that the Check Valves of the series

CV, BC, SR, GR, RV

die Anforderung der Leckagerate L_B (≤ 10^{-4} mg/s·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 (≤ 10^{-4} mg/s·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

i.V. C. Mudders

Christian Mudèrs
Director Global Engineering

Manuel Müller
Quality Manager

RICHTER
Process Pumps & Valves

IDEX

Richter Chemie-Technik GmbH · Postfach 10 06 09 · D-47883 Kempen

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

Richter Chemie-Technik GmbH
Otto-Schott-Straße 2
D-47906 Kempen
USt. Id. Nr. DE 811 127 054

Telefon + 49 (0) 21 52 / 146- 0
Telefax + 49 (0) 21 52 / 146- 190
richter-info@idexcorp.com
www.richter-ct.com

J.P. Morgan AG, Frankfurt/Main · Kto. Nr. 6 161 507 538 (BLZ 501 108 00)
BIC/SWIFT: CHASDEFX · IBAN Code: DE61 5011 0800 6161 5075 38
Sitz der Gesellschaft: Kempen · Amtsgericht Krefeld HRB 9635
Geschäftsführer: Barbara Wladarz, Bret A. Prybylski

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

Declaration about the Contamination of Richter Pumps, -Valves and Components

RICHTER Process Pumps & Valves

The repair and/or maintenance of pumps, valves and components can only be implemented if a completely filled out declaration is available. If this is not the case, delay of the work will occur. If this declaration is not attached to the devices, which have to be repaired, the transmission can be rejected.

Every aggregate has to have it's own declaration.

This declaration may be filled out and signed only by authorized technical personnel of the operator.

Contractor/dep./institute :	Reason for transmitting ❄ Please mark the applicable
	Repair: o subject to fee o Warranty
Street :	**Austausch:** o subject to fee o Warranty
Postcode, city :	o Exchange/ Replacement already initiated/received
Contact person :	**Return**: o Leasing o Loan o for credit note
Phone : Fax :	
End user :	

A. Details of Richter-product:

Classification:
Article number:
Serial number:

Failure description:

B. Condition of the Richter-product:

	no[1]	yes	no
Was it in operation ?	o	o	
Drained (product/operating supply item) ?		o	o
All openings hermetically locked!		o	
Cleaned ?		o	o
If yes, with which cleaning agent:			
and with which cleaning method:			

Contamination :	no[1]	yes
toxic	o	o
caustic	o	o
inflammable	o	o
explosive[2]	o	o
mikrobiological[2]	o	o
radioactive[3]		
other pollutant	o	o

[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)

X	Trade name:	Chemical designation:
a)		
b)		
c)		
d)		

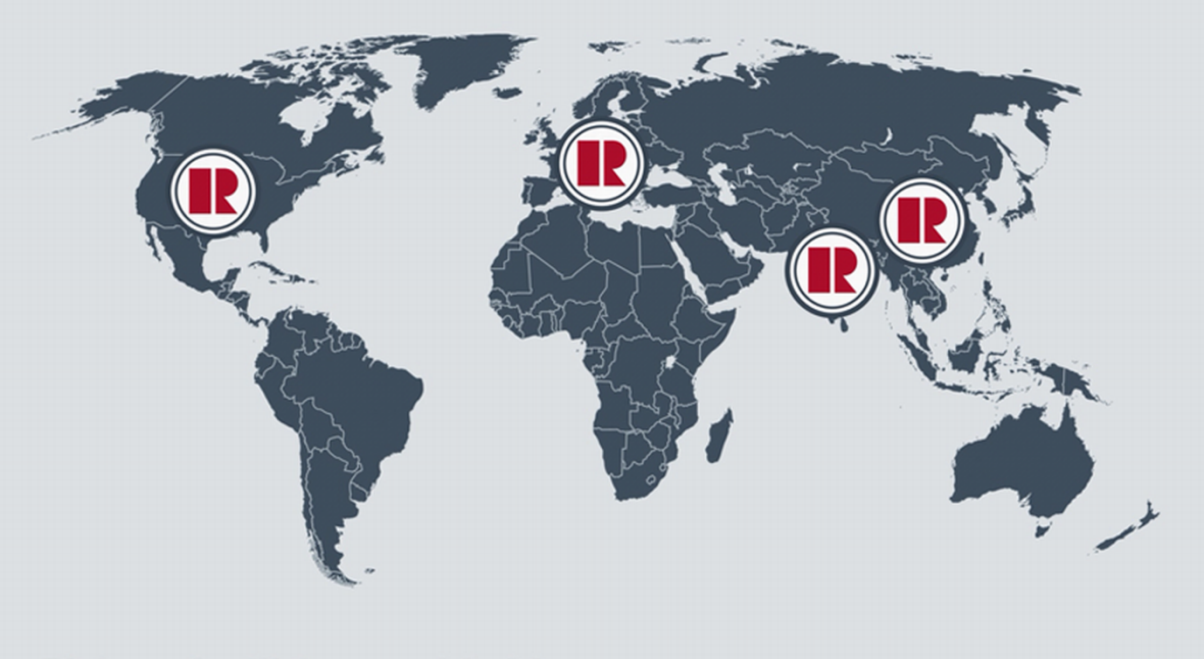
	no	yes
2. **Are the materials specified above harmful to health ?**	o	o
3. **Dangerous decomposition products during thermal load ?**	o	o
If yes, which ones?		

D. Mandatory declaration: We assure that the data in this explanation are truthful and complete and as a signatory I am able to form an opinion about this. We are aware that we are responsible towards the contractor for damages, which results from incomplete and incorrect data. We commit ourselves to exempt the contractor from claims for damages of thirds resulting from incomplete or incorrect data. We are aware that we are directly responsible towards thirds, irrespective of this declaration, which belongs in particularly to the employees of the contractor consigned with the handling repair of the product.

Name of the authorized person (in block letters): _____

Date _____ Signature _____

Company stamp



Richter Chemie-Technik GmbH
Otto-Schott-Str. 2
D-47906 Kempen / Germany
Tel: +49 (0) 2152 146-0
Email: Richter-Info@idexcorp.com
Internet: www.richter-ct.com

Richter Pumps and Valves
6041 Industrial Drive
Geismar, 70734, USA
Tel.: +1 225-673-9990
Email: RichterIncSales@idexcorp.com
Internet: www.richter-ct.com

Richter (EP), Nanjing, Shanghai Office
Room 3502 - 3504, Zhaofeng Plaza
No. 1027, Changning Road, Shanghai 200050 / China
Tel: +86 / 21 / 6150 - 9812
Email: RichterShanghai-Info@idexcorp.com
Internet: www.richter-ct.com

Richter Pumps & Valves Pvt. Ltd.
Survey No. 256, near Bombardier Circle, GIDC
Manjusar, Savli, Dist. Vadodara 391770, Gujarat / India
Tel: +91 2667-662-001
Email: info.fmt@idex
Internet: www.richter-ct.com

Edition 05/2025
Revision 8.0
9550B001-en

RICHTER
KEEP ON FLOWING