

GEMÜ R91

Metal dual plate check valve



Features

- Suitable for low and high temperatures
- Standardized length to DIN EN 558-1, series 16
- Available as option free of oil and grease
- Bubble tight sealing in accordance with EN 12266-1/P12, leakage rate A and G

Description

The GEMÜ R91 is a metal dual plate check valve with flange connection and standardized length to DIN EN 558-1. The valve body, plates and seals are available in various materials. In the version with metallic seal, the GEMÜ R91 valve can be used at high temperatures up to 300 °C.

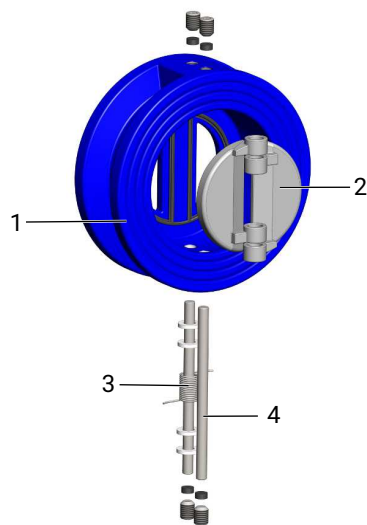
Technical specifications

- **Media temperature :** -200 to 300 °C
- **Operating pressure :** 0 to 16 bar
- **Nominal sizes:** DN 50 to 600
- **Connection types:** Flange
- **Connection standards:** ANSI | ASME | EN
- **Body materials:** 1.0619, galvanized cast steel material | 1.4408, investment casting material | EN-GJS-400-15
- **Seal materials:** EPDM | FKM | NBR
- **Spring materials:** 1.4571, spring steel
- **Conformities:** EAC | WRAS
- **Plate material:** 1.4408, investment casting material | 1.4469, duplex cast steel material | EN-GJS-400-15, SG iron material

Technical data depends on the respective configuration



Product description



Item	Name	Materials
1	Body	1.0619, galvanized cast steel material, 1.4408, investment casting material, EN-GJS-400-15, SG iron material
2	Dual plates	1.4408, investment casting material, 1.4469, duplex cast steel material, EN-GJS-400-15, SG iron material
3	Spring	1.4571, spring steel
4	Shaft	1.4401
	Seal materials	EPDM, FKM, NBR

Order data

The order data provide an overview of standard configurations.

Please check the availability before ordering. Other configurations available on request.

Order codes

1 Type	Code
Dual plate check valve, metal	R91

2 DN	Code
DN 50	50
DN 65	65
DN 80	80
DN 100	100
DN 125	125
DN 150	150
DN 200	200
DN 250	250
DN 300	300
DN 350	350
DN 400	400
DN 450	450
DN 500	500
DN 600	600

3 Operating pressure	Code
10 bar	2
16 bar	3

4 Connection type	Code
PN 10 / flange EN 1092, face-to-face dimension FTF EN 558-1 series 49 (R90), series 16 (R91)	2
PN 16 / flange EN 1092, face-to-face dimension FTF EN 558-1 series 49 (R90), series 16 (R91)	3

4 Connection type	Code
PN 25 / flange EN 1092, face-to-face dimension FTF EN 558-1 series 49 (R90), series 16 (R91)	5
PN 40 / flange EN 1092, face-to-face dimension FTF EN 558-1 series 49 (R90), series 16 (R91)	6
ANSI B16.5, Class 150, face-to-face dimension FTF EN 558-1 series 49 (R90), series 16 (R91)	D

5 Body material	Code
EN-GJS-400-15 (GGG-40), epoxy coated, RAL 5010 (blue) (R91)	2
1.4408 / ASTM A351 / CF8M	4

6 Shut-off element material	Code
EN-GJS-400-15 (GGG-40), epoxy coated, RAL 5010 (blue) (R91)	2
1.4408 / ASTM A351 / CF8M	4
CC333G / 2.0975 / C954	G

7 Guide element material	Code
1.4401	6

8 Shut-off seal material	Code
NBR	N
FKM	V
EPDM (WRAS certification)	W

9 Spring material	Code
1.4571	6

Order example

Ordering option	Code	Description
1 Type	R91	Dual plate check valve, metal
2 DN	50	DN 50
3 Operating pressure	3	16 bar
4 Connection type	3	PN 16 / flange EN 1092, face-to-face dimension FTF EN 558-1 series 49 (R90), series 16 (R91)
5 Body material		
6 Shut-off element material	2	EN-GJS-400-15 (GGG-40), epoxy coated, RAL 5010 (blue) (R91)
7 Guide element material	6	1.4401
8 Shut-off seal material	W	EPDM (WRAS certification)
9 Spring material	6	1.4571
10		

Technical data

Medium

Working medium: Corrosive, inert, gaseous and liquid media which have no negative impact on the physical and chemical properties of the body, plate and seal material.

The valves are not suitable for fluids containing solids.

Temperature

Media temperature:

Seal material:

Steel (code 0)*: -200 – 200 °C

NBR (code N): -30 – 90 °C

FKM (code V): -15 – 200 °C

EPDM (code W)**: -15 – 120 °C

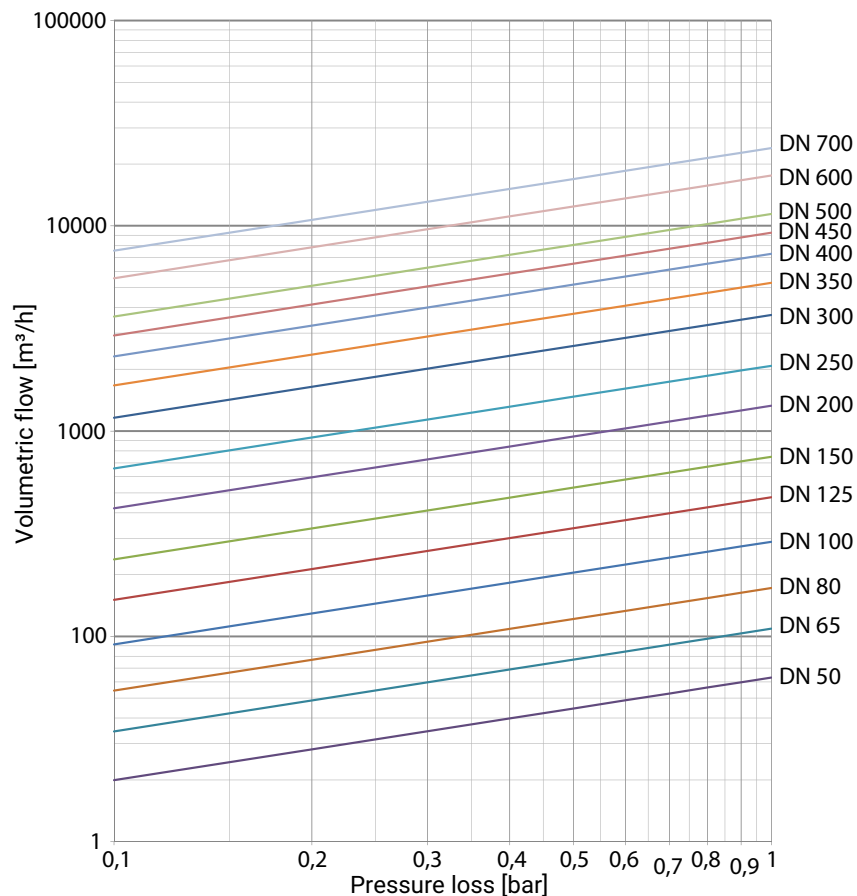
** with WRAS drinking water approval up to 85 °C

Ambient temperature: -20 – 95 °C

Pressure

Operating pressure: max. 16 bar

Pressure loss:



Pressure for disc opening:

DN	Piping		
			
50	~ 15	~ 20	~ 10
65	~ 15	~ 20	~ 10
80	~ 15	~ 20	~ 10
100	~ 15	~ 20	~ 10
125	~ 15	~ 20	~ 10
150	~ 15	~ 20	~ 10
200	~ 15	~ 20	~ 10
250	~ 15	~ 20	-
300	~ 15	~ 20	-
350	~ 15	~ 20	-
400	~ 15	~ 30	-
450	~ 15	~ 30	-
500	~ 15	~ 30	-
600	~ 15	~ 30	-

Pressures in mbar

Leakage rate:

A acc. to EN 12266-1 (with plastic seal)

G acc. to EN 12266-1 (metallic sealing)

Kv values:

DN	Kv values
50	63.0
65	109.0
80	172.0
100	289.0
125	476.0
150	750.0
200	1330.0
250	2080.0
300	3676.0
350	5274.0
400	7306.0
450	9246.0
500	11410.0
600	17570.0

Kv values in m³/h

Vacuum:

These values apply to room temperature and air. The values may deviate for other media and other temperatures.

Product conformities

Pressure Equipment Directive: 2014/68/EU

Drinking water:

WRAS*

* only with seal material EPDM up to 85 °C

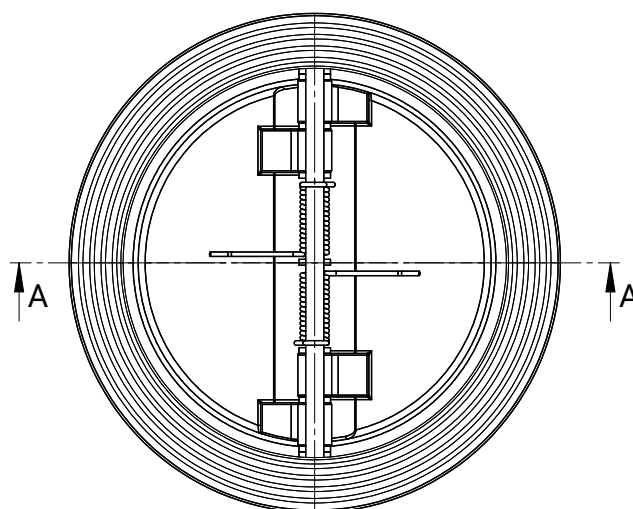
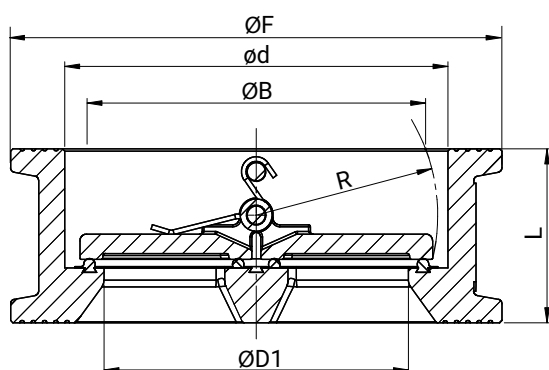
Mechanical data

Weight:

DN	Weight
50	1.5
65	2.3
80	3.6
100	4.4
125	6.0
150	8.6
200	15.2
250	24.0
300	35.2
350	58.0
400	74.6
450	98.0
500	125.0
600	170.0

Weights in kg

Dimensions



DN	ØB	ød	ØD1	± ØD1	R ± 2	Connection					Length	
						PN 10 (code 2)	PN 16 (code 3)	PN 25 (code 5)	PN 40 (code 6)	ANSI 150 (code D)	EN 558-1	API 594
						ØF					L	
50	43.5	70.5	43.0	1.4	30.5	107.0	107.0	107.0	-	101.0	43.0	60.0
65	51.2	80.0	60.0	1.4	36.2	127.0	127.0	127.0	-	121.0	46.0	67.0
80	51.5	98.0	70.0	1.6	43.2	142.0	142.0	142.0	-	134.0	64.0	73.0
100	84.9	117.0	85.0	1.6	51.4	162.0	162.0	168.0	-	171.0	64.0	73.0
125	114.7	145.0	115.0	1.8	64.7	192.0	192.0	192.0	-	193.0	70.0	-
150	139.9	172.0	134.0	1.8	77.6	218.0	218.0	218.0	-	219.0	76.0	98.0
200	185.6	221.0	176.0	2.0	99.7	273.0	273.0	276.0	276.0	276.0	89.0	127.0
250	228.1	275.5	218.0	2.0	124.5	328.0	328.0	336.0	336.0	336.0	114.0	146.0
300	286.9	325.5	255.0	2.2	149.8	378.0	383.0	400.0	-	406.0	114.0	181.0
350	322.5	360.0	293.0	2.2	167.5	438.0	444.0	448.0	448.0	448.0	127.0	184.0
400	369.1	410.0	350.0	2.2	192.0	489.0	495.0	511.0	511.0	511.0	140.0	191.0
450	413.3	467.0	383.0	2.2	215.0	539.0	555.0	555.0	-	546.0	152.0	203.0
500	464.7	515.0	432.0	2.5	240.0	594.0	617.0	617.0	-	603.0	152.0	219.0
600	568.0	624.0	538.0	2.5	292.5	695.0	734.0	730.0	-	714.0	178.0	222.0

Dimensions in mm

Certificates

Certificate	Standard	Item number
2.1 Certificate of compliance with the order	EN 10204	88535071
3.1 Material	EN 10204	88490978
3.1 Pressure test	DIN EN 12266-1 P10, P11, P12	88306836



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