

GEMÜ CV

Check valve



Features

- Low contamination due to metal-free design
- Seal system without O-rings
- Low opening pressure
- Low space requirement due to compact design
- Integration in space-saving multi-port valve block solutions
- All functional parts made of PTFE

Description

The metal-free check valve GEMÜ CV comprises a PTFE basic body. All functional parts are also made of PTFE. PFA, PVDF and CPFA materials are available for the union nuts in the flare connections. The union nuts of the Nexus Connect® connections are made of PFA. Sealing is without O-rings.

Technical specifications

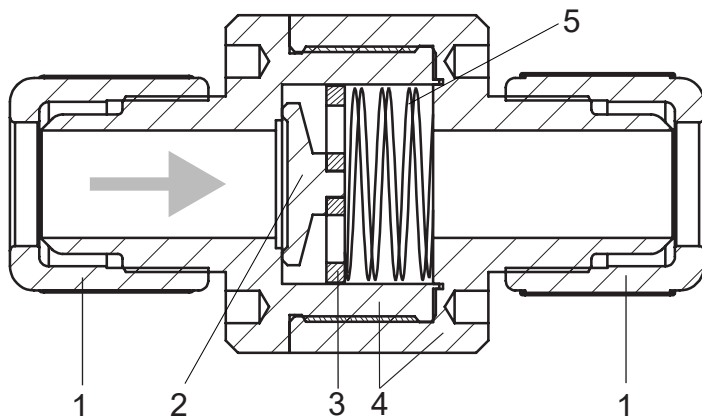
- **Media temperature:** 0 to 130 °C
- **Ambient temperature:** 0 to 100 °C
- **Operating pressure:** 0 to 6 bar
- **Nominal sizes:** DN 4 to 20
- **Connection types:** Flare | Nexus Connect®
- **Body materials:** PTFE
- **Seal materials:** PTFE
- **Conformities:** EAC

Technical data depends on the respective configuration



Product description

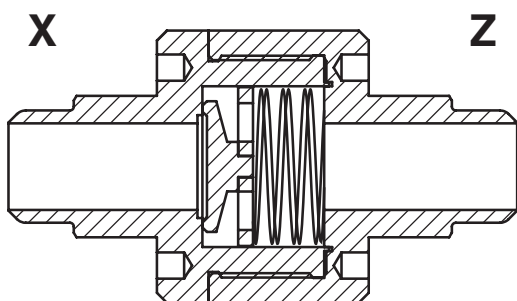
Flare connection



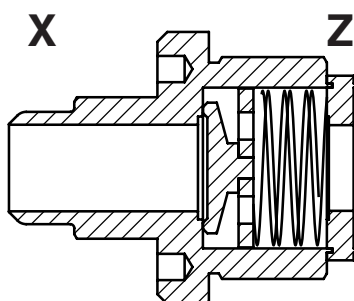
Item	Name	Materials
1	Flare union nut	PFA, CPFA or PVDF
2	Sealing plate	PTFE
3	Perforated disc	PTFE
4	Basic body	PTFE
5	Return spring	PTFE

Designs

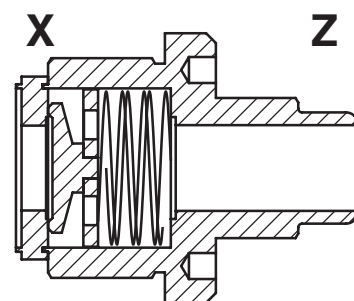
For PC50 block solutions



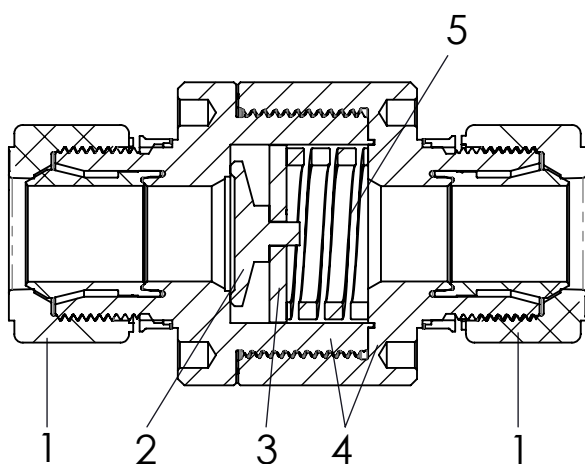
Check valve,
connection Flare + Flare
type code CVFF



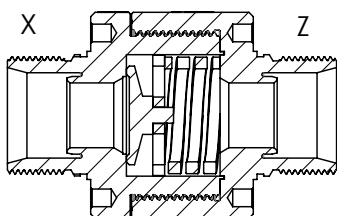
Check valve,
connection Flare + UN thread
flow direction X to Z
type code CVFU



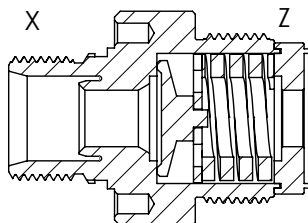
Check valve,
connection UN thread + Flare
flow direction X to Z
type code CVUF

Nexus Connect® connection

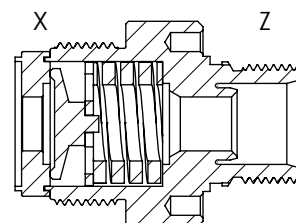
Item	Name	Materials
1	Nexus union nut	PFA
2	Sealing plate	PTFE
3	Perforated disc	PTFE
4	Basic body	PTFE
5	Return spring	PTFE

Designs**For PC50 block solutions**

Check valve,
NX + NX connection
Type code CVNN






Check valve,
NX + UN thread connection flow
direction X to Z
Type code CVNU



Check valve,
UN thread + NX flow direction
connection X to Z
Type code CVUN

Availability

Size	DN	Code	Type code ¹⁾		
			CVFF / CVNN	CVFU / CVNU	CVUF / CVUN
					
F1	4	4	1/4" - 1/4"	On request	On request
	6	6	3/8" - 3/8"	On request	On request
2	DN 10	DN 8	1/2" - 1/2"	On request	On request
3	DN 15	DN 12	3/4" - 3/4"	On request	On request
4	DN 20	16	1" - 1"	On request	On request

BV = GEMÜ block valve with UN thread and groove-spring seal system. Please note our specification sheet.

1) Type

Code CVFF: Check valve, Flare + flare connection

Code CVFU: Check valve, Flare + UN thread connection Flow direction Z to X

Code CVUF: Check valve, UN thread + flare connection Flow direction X to Z

Code CVUN: Check valve, UN thread + NexusConnect connection Flow direction X to Z

Code CVNU: Check valve, NexusConnect +UN thread connection Flow direction Z to X

Code CVNN: Check valve, NexusConnect + NexusConnect connection

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
Check valve	CVFF
Check valve	CVNN

2 Connection size 1	Code
1/4", international code: 4	4
3/8", international code: 6	6
1/2", international code: 8	8
3/4", international code: 12	12
1", international code: 16	16

3 Connection type, spigot 1	Code
Flare connection with CPFA union nut	73
Flare connection with PVDF union nut	75
Flare connection with PFA union nut	77
Nexus with PFA union nut	NX

4 Valve body material	Code
Modified PTFE, polytetrafluoroethylene	26

5 Sealing plate material	Code
Modified PTFE, polytetrafluoroethylene	5

6 Connection size 2	Code
1/4", international code: 4	4
3/8", international code: 6	6
1/2", international code: 8	8
3/4", international code: 12	12
1", international code: 16	16

7 Connection type, spigot 2	Code
Flare connection with CPFA union nut	73
Flare connection with PVDF union nut	75
Flare connection with PFA union nut	77
Nexus with PFA union nut	NX

8 High Purity version	Code
High Purity	HP

Order example

Ordering option	Code	Description
1 Type	CVFF	Check valve
2 Connection size 1	16	1", international code: 16
3 Connection type, spigot 1	75	Flare connection with PVDF union nut
4 Valve body material	26	Modified PTFE, polytetrafluoroethylene
5 Sealing plate material	5	Modified PTFE, polytetrafluoroethylene
6 Connection size 2	16	1", international code: 16
7 Connection type, spigot 2	75	Flare connection with PVDF union nut
8 High Purity version	HP	High Purity

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 and seal material.

Temperature

Media temperature: 0 – 130 °C
Observe pressure/temperature diagram

Ambient temperature: 0 – 100 °C

Storage temperature: 0 – 40 °C

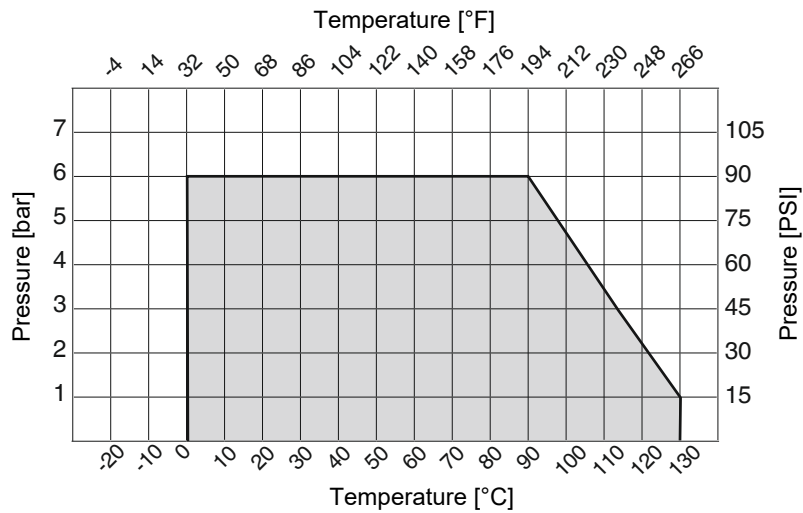
Pressure

Operating pressure: 0 – 6 bar

Open pressure: 0.017 to 0.052 bar

Back pressure/sealing pressure: 0.35 bar

Pressure/temperature diagram:



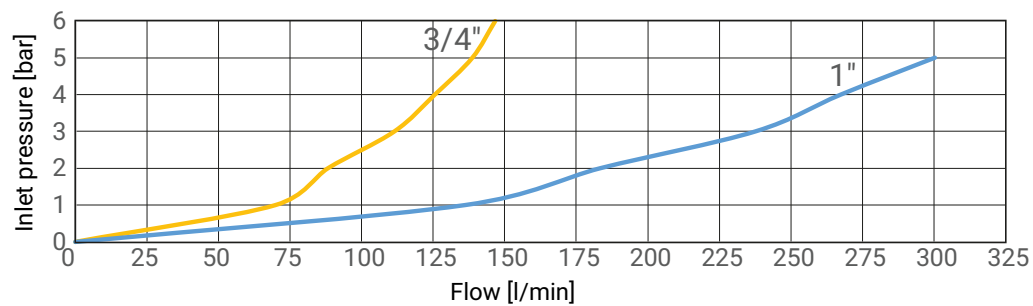
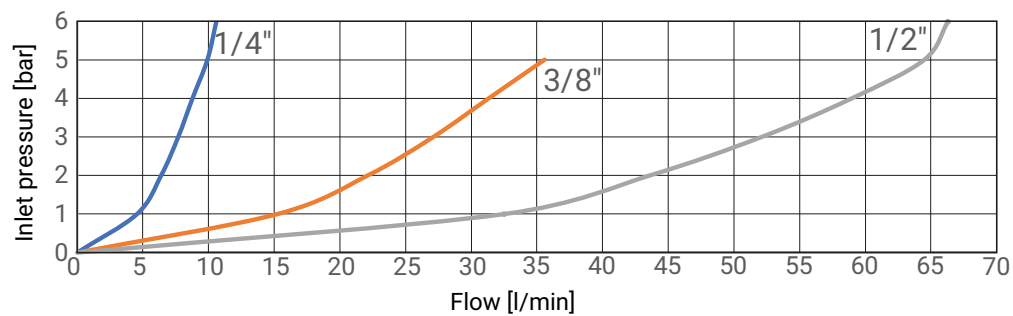
Note: The temperature / pressure diagram is only an aid. The data refers to water as a working medium. A change of operating conditions or other media may result in deviations. In case of doubt it is advisable to test the behaviour of the material under the definitive operating conditions by means of a test installation.

Kv values:

DN	Size	Code	Size	Kv value	Cv value
4	1/4"	4	1	4.56	0.32
4	3/8"	6	1	16.80	1.17
10	1/2"	8	2	33.47	2.33
15	3/4"	12	3	72.50	5.04
20	1"	16	4	144.67	10.42

Kv values in l/min, Cv values in gpm

Kv values:



Mechanical data

Flow direction:

Connection X to connection Z (see arrow on product label)

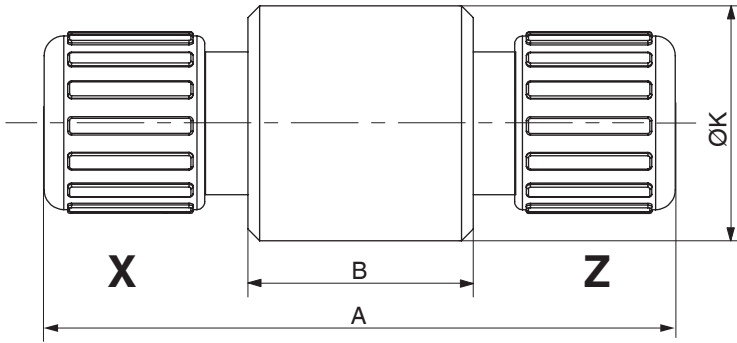
Weight:

DN	Size	Code	Size	Weight
4	1/4"	4	1	83
4	3/8"	6	1	94
10	1/2"	8	2	126
15	3/4"	12	3	201
20	1"	16	4	560

Weight in g

Dimensions

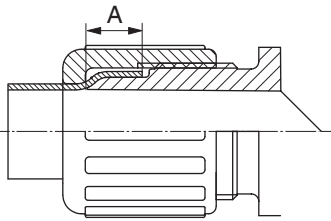
GEMÜ CV



Size	Connection	Z	A	B	ØK
1	1/4", 3/8" Flare	1/4", 3/8" Flare	97.0 / 3.82	38.5 / 1.52	31.2 / 1.23
2	1/2" Flare	1/2" Flare	104.9 / 4.13	36.7 / 1.44	37.6 / 1.48
3	3/4" Flare	3/4" Flare	105.4 / 4.15	36.9 / 1.45	47.2 / 1.86
4	1" Flare	1" Flare	146.3 / 5.76	55.0 / 2.17	69.9 / 2.75

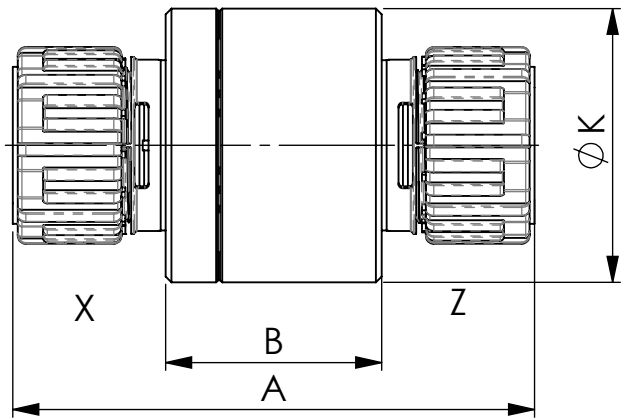
Dimensions in mm/inch

Overlap dimensions of flare connection



Size	Tube size	Thread designation	Standard	A
1	1/4"	1/2"-20-UNF	ANSI B 1.1	7.0
1	3/8"	5/8"-20-UN	ANSI B 1.1	10.0
2	1/2"	3/4"-20-UNEF	ANSI B 1.1	12.0
3	3/4"	1"-20-UNEF	ANSI B 1.1	14.0
4	1"	1 7/16"-12-UN	ANSI B 1.1	14.0

Dimensions in mm/inch

Nexus Connect® connection (code NX)

Size	A	B	ØK
1/4"	79.31	38.30	31.5
3/8"	87.72	38.30	31.5
1/2"	91.90	36.50	38.0
3/4"	104.29	36.70	48.0
1"	133.36	55.22	70.0

Dimensions in mm



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