

# 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

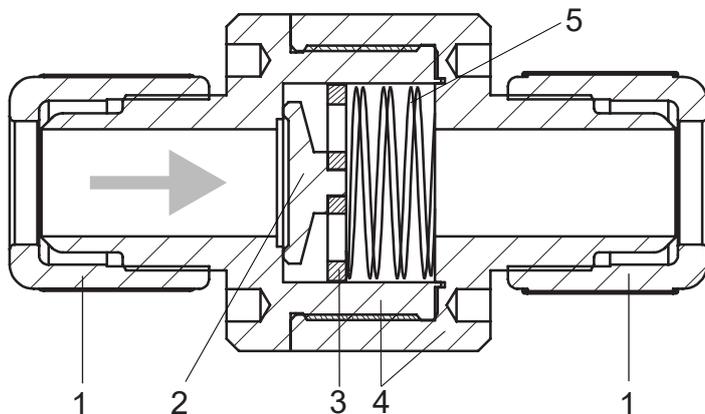
- **Media temperature:** 0 to 130 °C
- **Ambient temperature:** 0 to 100 °C
- **Operating pressure:** 0 to 6 bar
- **Nominal sizes:** DN 4 to 20
- **Connection types:** Flare | Nexus Connect®
- **Body materials:** PTFE
- **Seal materials:** PTFE
- **Conformities:** EAC

Technical data depends on the respective configuration



## Product description

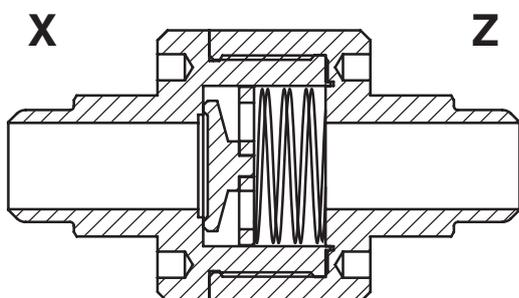
### Flare connection



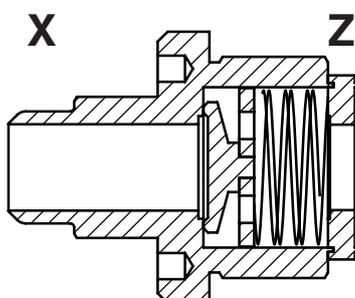
Item	Name	Materials
1	Flare union nut	PFA, CPFA or PVDF
2	Sealing plate	PTFE
3	Perforated disc	PTFE
4	Basic body	PTFE
5	Return spring	PTFE

### Designs

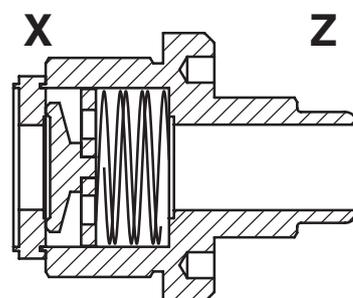
#### For PC50 block solutions



Check valve,  
connection Flare + Flare  
type code CVFF

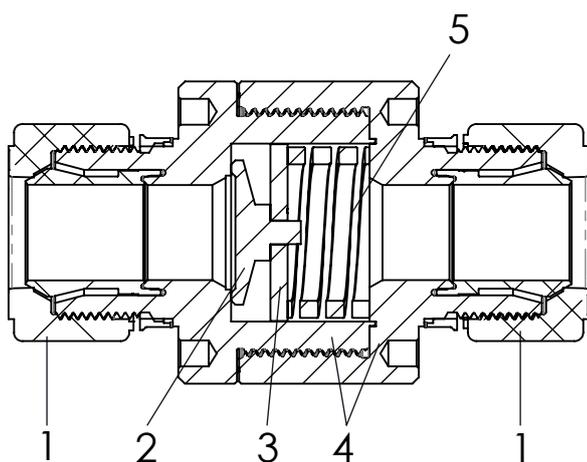


Check valve,  
connection Flare + UN thread  
flow direction X to Z  
type code CVFU



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

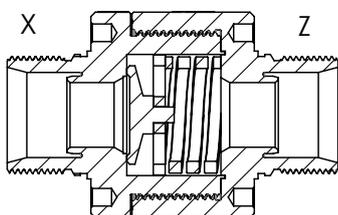
## Nexus Connect® connection



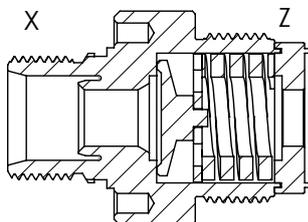
Item	Name	Materials
1	Nexus union nut	PFA
2	Sealing plate	PTFE
3	Perforated disc	PTFE
4	Basic body	PTFE
5	Return spring	PTFE

### Designs

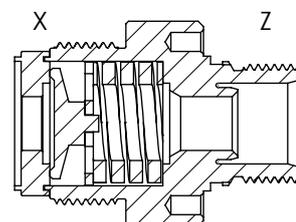
#### For PC50 block solutions



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 <sup>1)</sup>		
			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

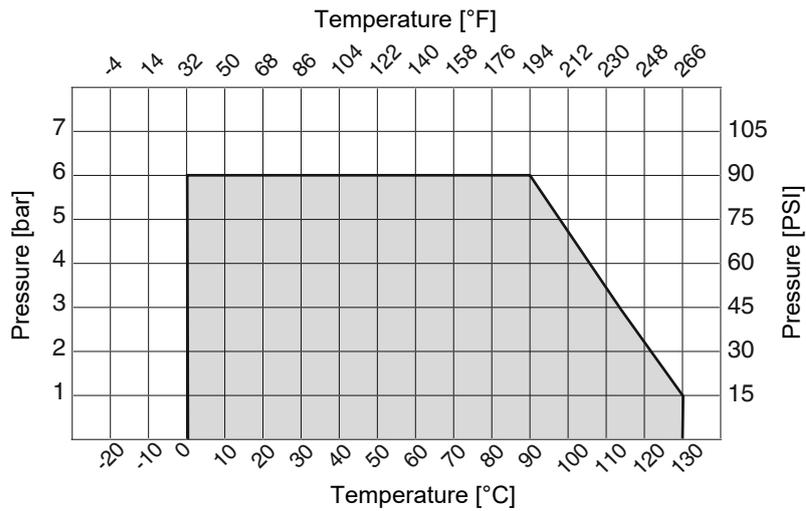
### Pressure

**Operating pressure:** 0 – 6 bar

**Open pressure:** 0.017 to 0.052 bar

**Back pressure/sealing pressure:** 0.35 bar

**Pressure/temperature diagram:**



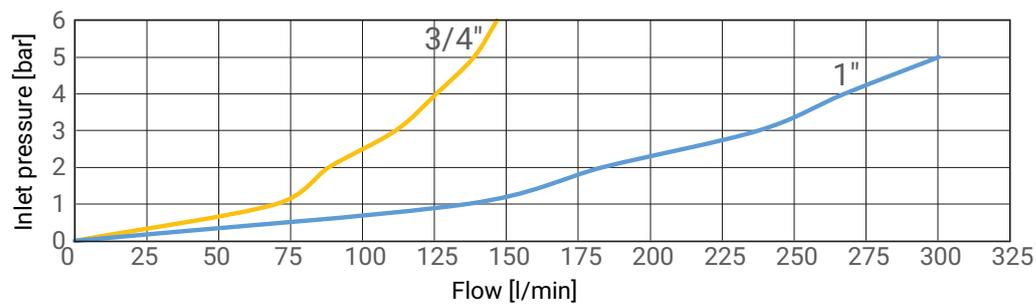
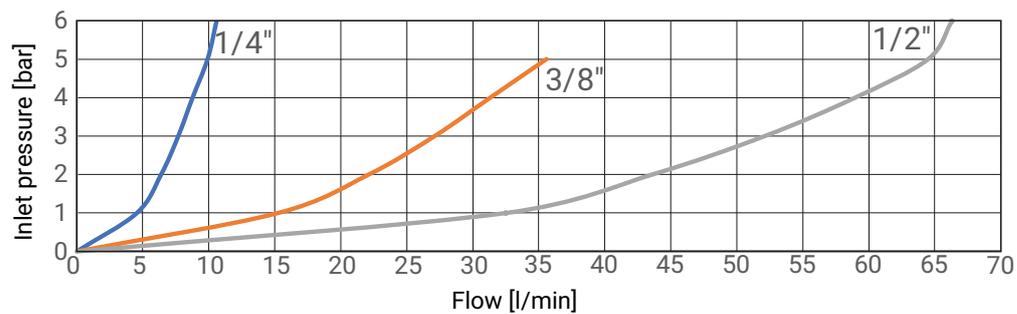
**Note:** The temperature / pressure diagram is only an aid. The data refers to water as a working medium. A change of operating conditions or other media may result in deviations. In case of doubt it is advisable to test the behaviour of the material under the definitive operating conditions by means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

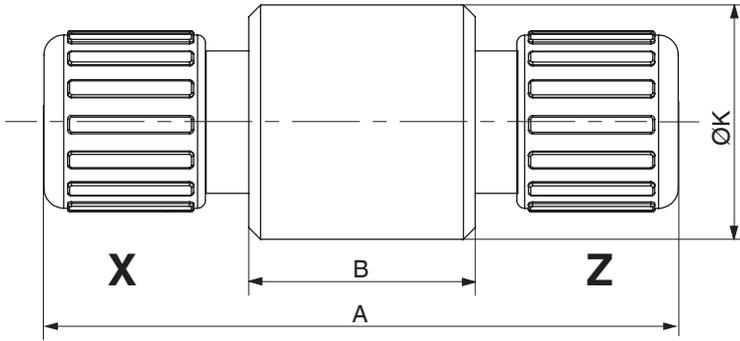
**Weight:**

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

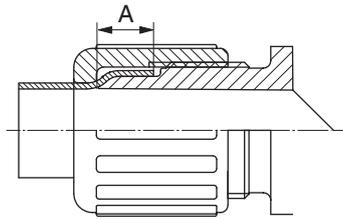
### GEMÜ CV



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

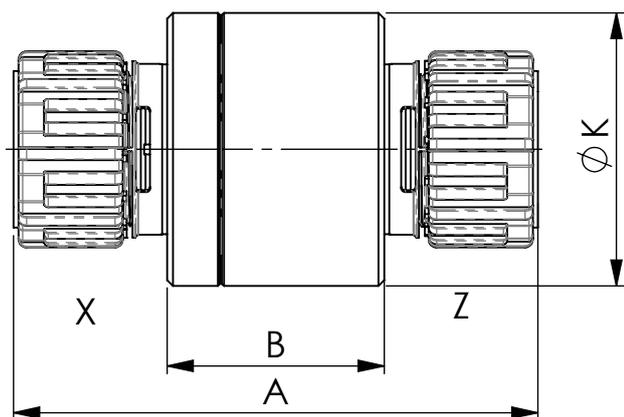
Dimensions in mm/inch

### 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
<b>1/4"</b>	79.31	38.30	31.5
<b>3/8"</b>	87.72	38.30	31.5
<b>1/2"</b>	91.90	36.50	38.0
<b>3/4"</b>	104.29	36.70	48.0
<b>1"</b>	133.36	55.22	70.0

Dimensions in mm



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