

Pressure relief valve, Plastic

Construction

The pressure relief valves GEMÜ N085 and N185 protect the plant and the piping system against gauge pressure and reduces pressure peaks. The third pipe spigot enables the valve to be installed in the main pipe. If the pressure increases, the spring is raised and the valve opens. The pressure is reduced to the preset value and can escape via the third pipe spigot into an adjacent pipe. If the pressure falls, the spring force presses the diaphragm in the direction of the seal seat and it is closed. The spring force can be adjusted as required using a set screw.

Technical specifications*

- Nominal sizes: DN 10 to DN 100
- Connections: Spigots, flanges, union ends with insert
- Body materials: PVC-U, PP-B, PVDF
- Seal materials: EPDM, PTFE
- Media temperature: -20 °C to +100 °C
- Setting range: 0.5 to 10 bar

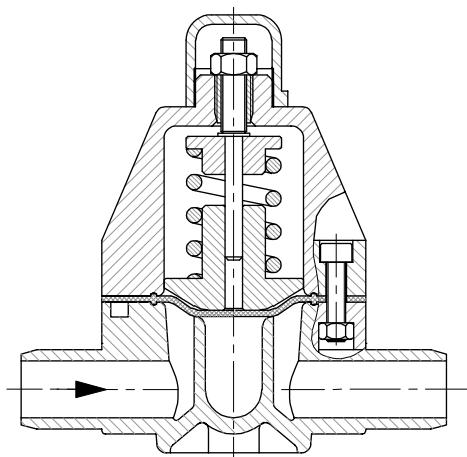
Advantages

- Valve adjustments can also be made under working pressure.
- The optimization of piston, springs and control face ensures good control characteristics.
- The actuator is hermetically separated from the medium.

*Dependent on version and/or operating parameters



Sectional view



Technical data

Working medium

Corrosive, inert, liquid media which have no negative impact on the physical and chemical properties of the body and seal material. Approved for fluids of Group 1 in accordance with directive 97/23/EC Article 9 whose steam pressure at the permissible maximum temperature is a maximum of 0.5 bar above the normal atmospheric pressure (1013 mbar).

Working medium temperature

Valve body PVC-U	10 to 60 °C
Valve body PP-B	5 to 80 °C
Valve body PVDF	-20 to 100 °C

The permissible operating pressure depends on the working medium temperature.

Ambient conditions

Ambient temperature	max. 60 °C
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Technical data

Type	Nominal size	PN	Setting range [bar]
GEMÜ N185	DN 10 - 50	10	0.5 - 10
GEMÜ N085	DN 65 - 80	6	1 - 6
	DN 100	4	1 - 4

Pressure / temperature correlation for N185 (DN 10 - DN 50)

Temperature in °C (plastic body)		-20	-10	±0	5	10	20	25	30	40	50	60	70	80	90	100
Valve body material		Permissible operating pressure in bar														
PVC-U	Code 1	-	-	-	-	10.0	10.0	10.0	8.0	6.0	3.5	1.5	-	-	-	-
PP-B	Code 5	-	-	-	10.0	10.0	10.0	10.0	8.5	7.0	5.5	4.0	2.7	1.5	-	-
PVDF	Code 20	10.0	10.0	10.0	10.0	10.0	10.0	10.0	9.0	8.0	7.0	6.3	5.4	4.7	3.6	2.5

Data for extended temperature ranges on request. Please note that the ambient temperature and medium temperature generate a combined temperature at the valve body which must not exceed the above values.

Pressure / temperature correlation for N085 (DN 65 - DN 80)

Temperature in °C (plastic body)		-20	-10	±0	5	10	20	25	30	40	50	60	70	80	90	100
Valve body material		Permissible operating pressure in bar														
PVC-U	Code 1	-	-	-	-	6.0	6.0	6.0	4.8	3.6	2.10	0.90	-	-	-	-
PP-B	Code 5	-	-	-	6.0	6.0	6.0	6.0	5.1	4.2	3.30	2.40	1.62	0.90	-	-
PVDF	Code 20	6.0	6.0	6.0	6.0	6.0	6.0	6.0	5.4	4.8	4.26	3.78	3.24	2.82	2.16	1.50

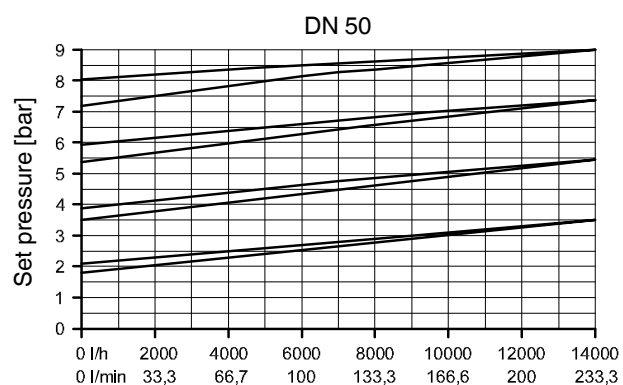
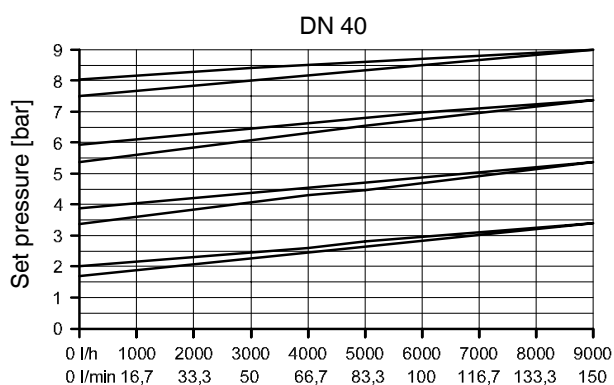
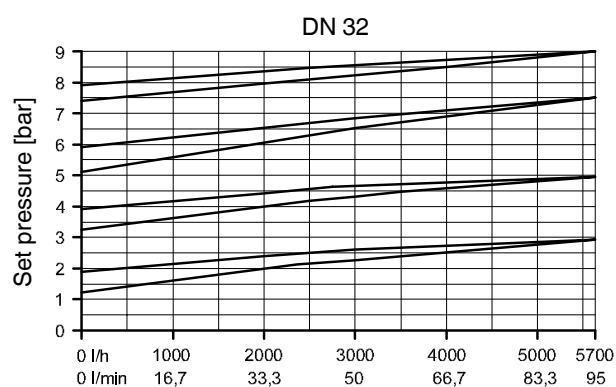
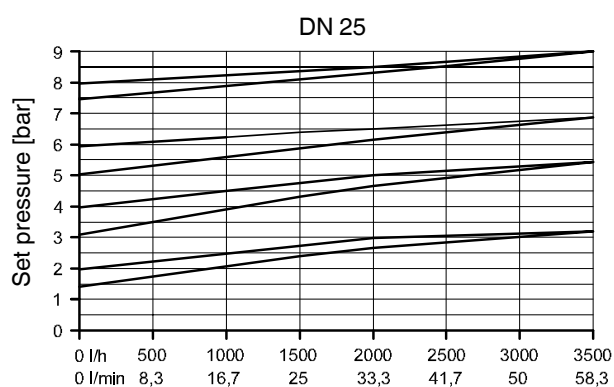
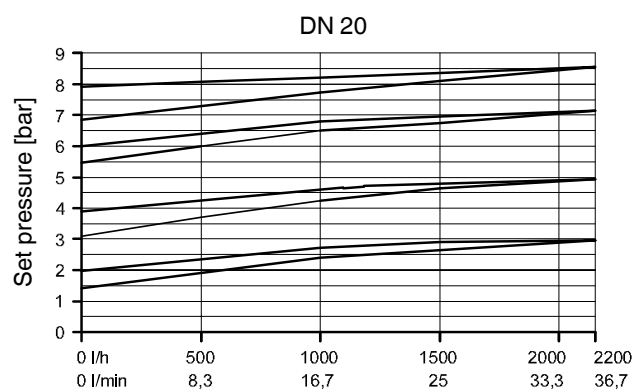
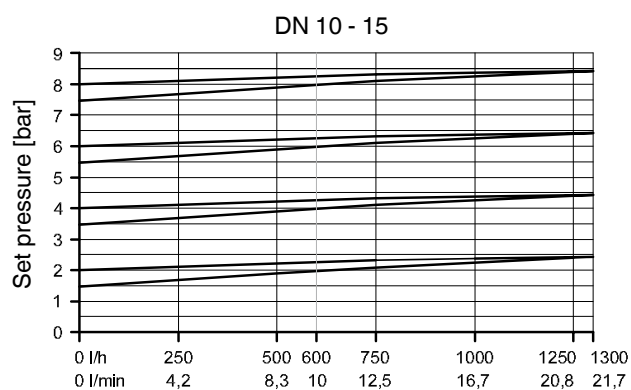
Data for extended temperature ranges on request. Please note that the ambient temperature and medium temperature generate a combined temperature at the valve body which must not exceed the above values.

Pressure / temperature correlation for N085 (DN 100)

Temperature in °C (plastic body)		-20	-10	±0	5	10	20	25	30	40	50	60	70	80	90	100
Valve body material		Permissible operating pressure in bar														
PVC-U	Code 1	-	-	-	-	4.0	4.0	4.0	3.2	2.4	1.40	0.60	-	-	-	-
PP-B	Code 5	-	-	-	4.0	4.0	4.0	4.0	3.4	2.8	2.20	1.60	1.08	0.60	-	-
PVDF	Code 20	4.0	4.0	4.0	4.0	4.0	4.0	4.0	3.6	3.2	2.84	2.52	2.16	1.88	1.44	1.0

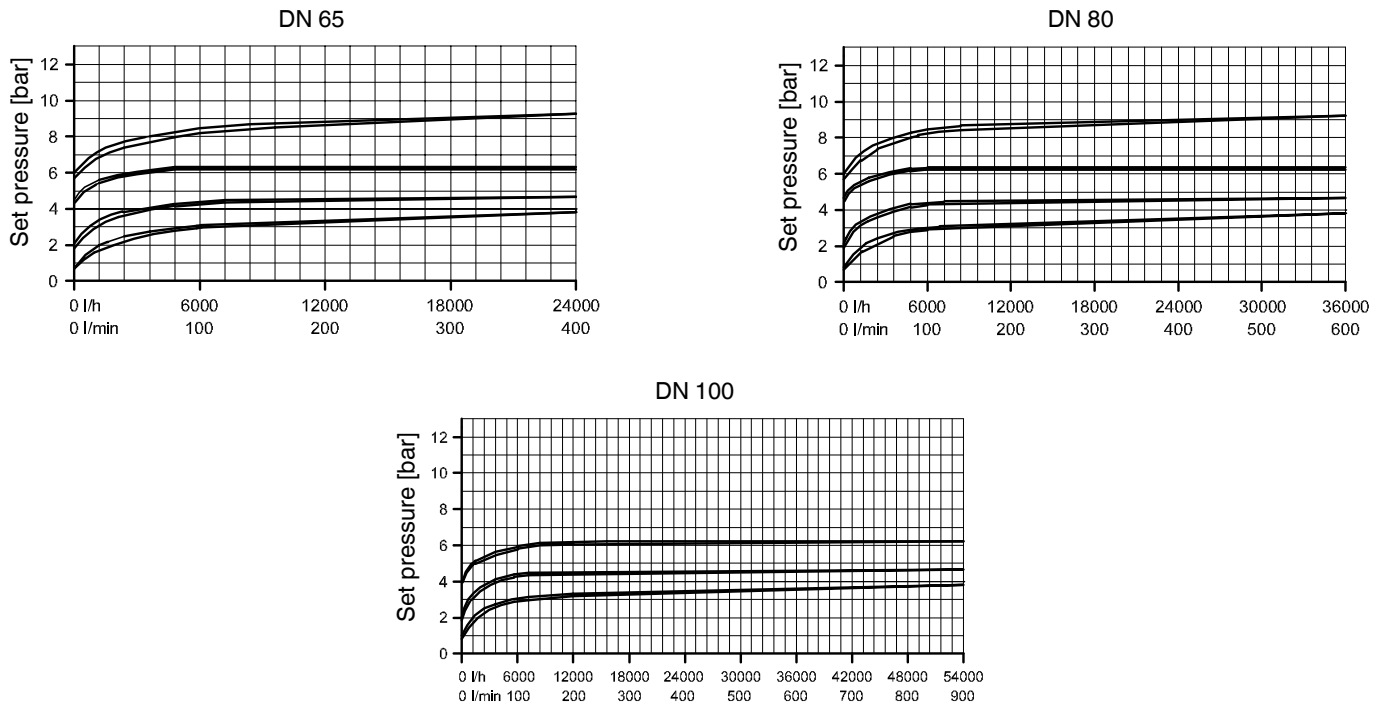
Data for extended temperature ranges on request. Please note that the ambient temperature and medium temperature generate a combined temperature at the valve body which must not exceed the above values.

Diagrams - N185



The characteristics in the diagrams show the pressure drop of the set pressure from 0 to max. permissible flow.
The upper line shows the progression of the opening pressure, the lower line shows the progression of the closing pressure.
All characteristics relate to water at 20 °C.

Diagrams - N085



The characteristics in the diagrams show the pressure drop of the set pressure from 0 to max. permissible flow. The upper line shows the progression of the opening pressure, the lower line shows the progression of the closing pressure. All characteristics relate to water at 20 °C.

Order data

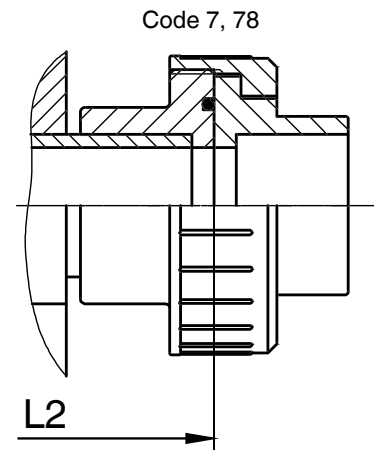
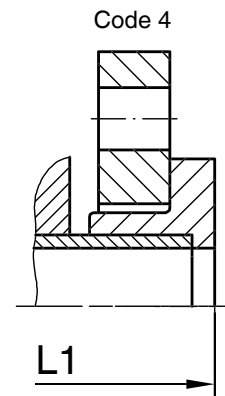
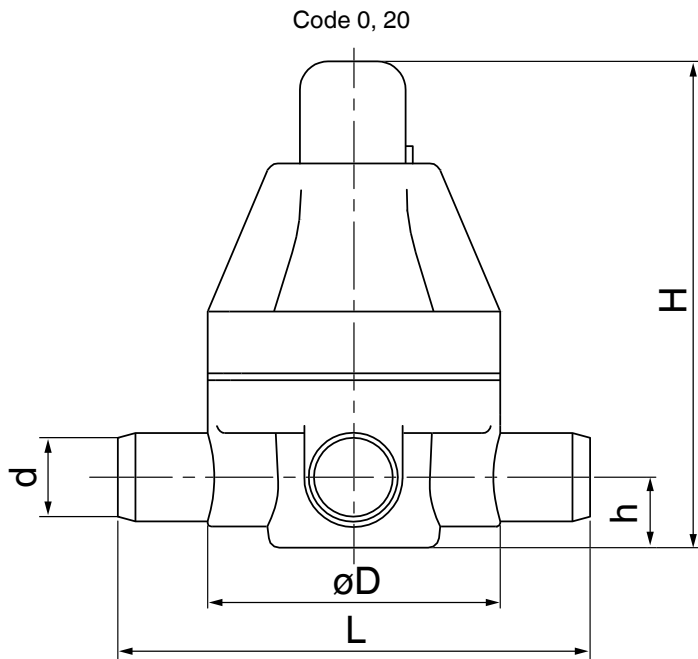
Valve type	Code	Valve body material	Code
Pressure relief valve DN 65 - DN 100	N085	PVC-U, grey	1
Pressure relief valve DN 10 - DN 50	N185	PVDF	20
		PP-B	B5
Body configuration	Code	Diaphragm material	Code
Multi-port version	M	EPDM	14
Connection	Code	PTFE/EPDM, PTFE laminated	52
Spigots DIN	0		
Flanges EN 1092 / PN10 / form B, length EN 558, series 1, ISO 5752, basic series 1	4		
Union ends with DIN insert (socket)	7		
Spigots for IR butt welding	20		
Union ends with DIN insert (for IR butt welding)	78		
For overview of available valve bodies see page 6			

Order example	N185	25	M	0	1	14
Type	N185					
Nominal size		25				
Body configuration (code)			M			
Connection (code)				0		
Valve body material (code)					1	
Diaphragm material (code)						14

Dimensions [mm]

GEMÜ N085, N185

Type	DN	d	L		L1	L2	ø D	h	H
			Code 0	Code 20	Code 4	Code 7, 78			
GEMÜ N185	10	16	134	-	140	154	83	20	137
	15	20	134	158	140	154	83	20	137
	20	25	134	158	140	154	83	20	137
	25	32	174	198	180	185	112	27	199
	32	40	174	202	230	248	165	27	199
	40	50	224	256	230	248	165	43	290
	50	63	244	256	250	252	165	43	290
GEMÜ N085	65	75	284	284	290	280	180	-	275
	80	90	300	300	310	-	200	-	410
	100	110	380	380	390	-	250	-	485



Overview of valve bodies for GEMÜ N185					
Connection code	0	4	7	20	78
Material code	1, 20, B5	1, 20, B5	1, 20, B5	20, B5	20, B5
DN					
10	X	X	X	-	-
15	X	X	X	X	X
20	X	X	X	X	X
25	X	X	X	X	X
32	X	X	X	X	X
40	X	X	X	X	X
50	X	X	X	X	X

Overview of valve bodies for GEMÜ N085						
Connection code	0		4		20	
Material code	1, B5	20	1, B5	20	B5	20
DN						
65	X	X	X	X	X	X
80	X	-	X	-	X	-
100	X	-	X	-	X	-