

Pressure reducer, Plastic

Construction

The GEMÜ N082 and N182 pressure reducers ensure that a constant outlet pressure is maintained in process plant utilizing the pressure differential. If the pressure rises on the outlet side, the spring force is lower and the valve closes as the spring is raised. The pressure is reduced until the spring force and the outlet pressure are the same. If the pressure falls, the valve opens as the spring force presses against the diaphragm surface via the control aperture. The outlet pressure can be read off a diaphragm-protected pressure gauge and the spring force adjusted using a set screw as required.

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, FPM, PTFE
- Media temperature: -20 °C to +100 °C
- Setting range: 0.5 to 9 bar

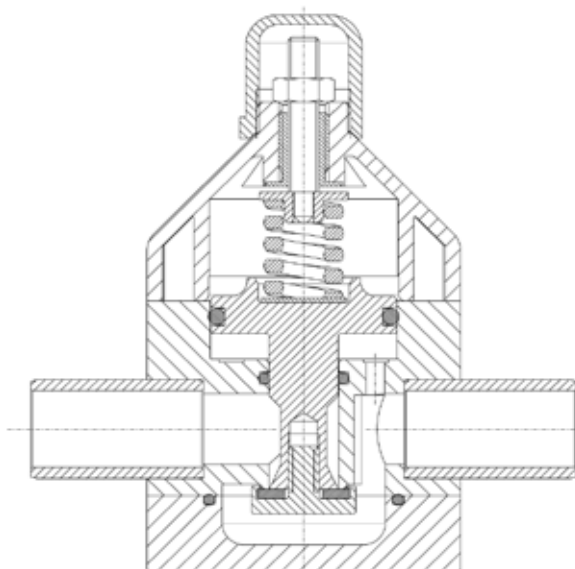
Advantages

- The working pressure can be very easily adjusted using a set screw and secured with the integrated lock nut. If required, the setting that has been made can be lead sealed.
- The flow-efficient design of the valve body ensures good flow rate values.
- Control errors are kept to a minimum due to the large control face and the spiral spring.
- The actuator is hermetically separated from the medium.

*Dependent on version and/or operating parameters



Sectional view



N082, N182

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 2014/68/EC Article 13 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	0 to 60 °C
Valve body PP-B	0 to 80 °C
Valve body PVDF	-20 to 100 °C

The permissible operating pressure depends on the working medium temperature.

Ambient conditions

Ambient temperature	0 to 60 °C
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Technical data

Type	Nominal size	PN	Setting range [bar]
GEMÜ N182	DN 10 - 50	10	0.5 - 9
GEMÜ N082	DN 65 - 80	6	0.5 - 5
	DN 100	4	1.0 - 3

Pressure / temperature correlation for N182 (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 B5	-	-	10.0	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 N082 (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 B5	-	-	6.0	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

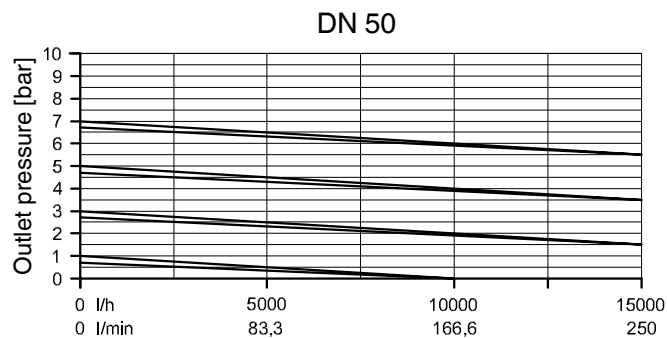
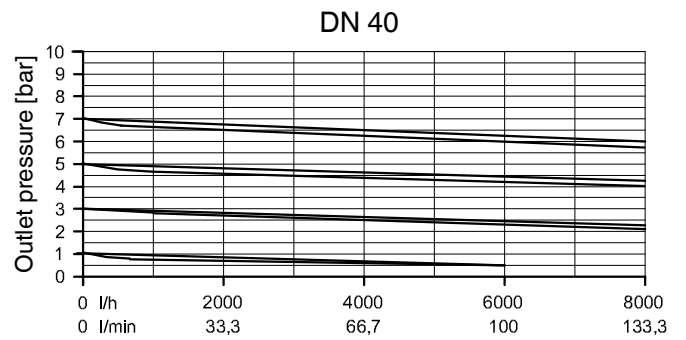
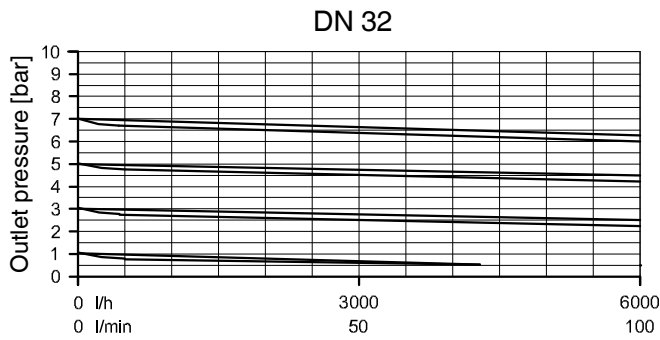
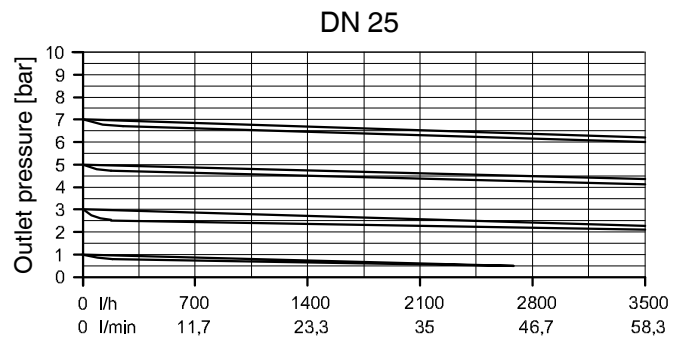
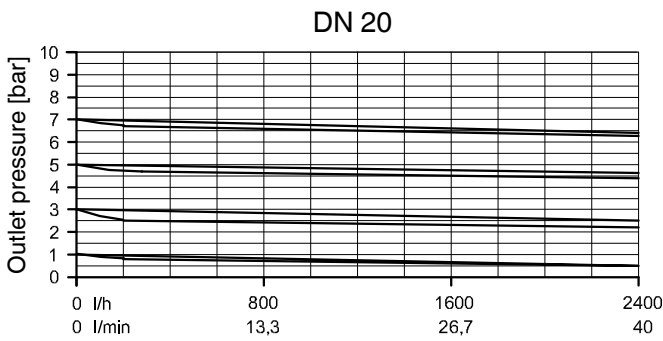
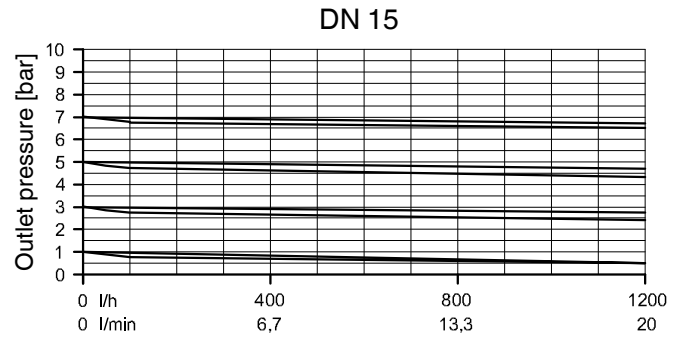
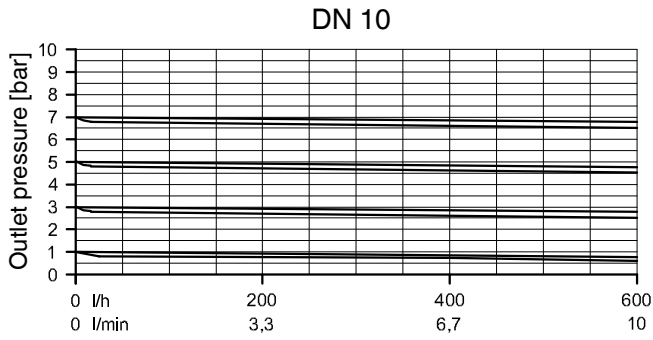
Data for extended temperature ranges on request. Please note that the ambient temperature and medium temperature generate a combined temperature at the valve body which must not exceed the above values.

Pressure / temperature correlation for N082 (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 B5	-	-	4.0	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

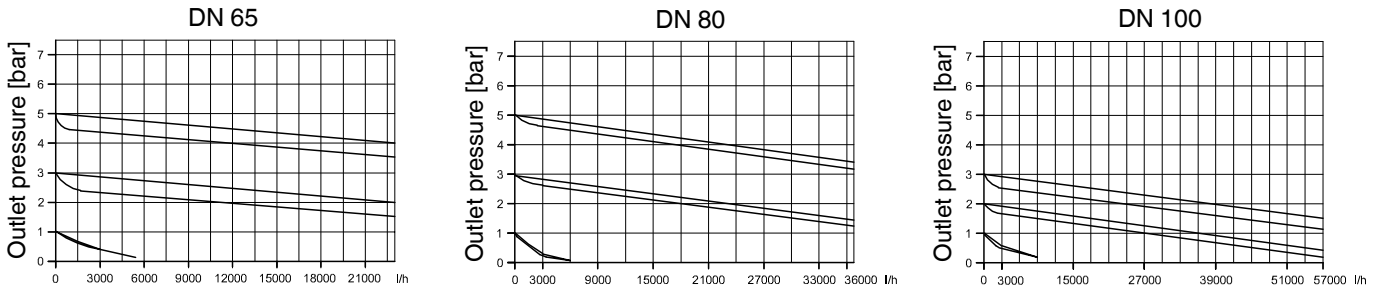
Data for extended temperature ranges on request. Please note that the ambient temperature and medium temperature generate a combined temperature at the valve body which must not exceed the above values.

Diagrams - N182



The characteristics in the diagrams show the pressure drop of the set outlet 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 - N082



The characteristics in the diagrams show the pressure drop of the set outlet 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
Pressure reducer DN 65 - DN 100	N082
Pressure reducer DN 10 - DN 50	N182

Valve body material	Code
PVC-U, grey	1
PVDF	20
PP-B	B5

Body configuration	Code
2/2-way body	D

Diaphragm material	Code
FPM	4
EPDM	14
PTFE/EPDM, PTFE laminated	52
For overview of available combinations see page 8	

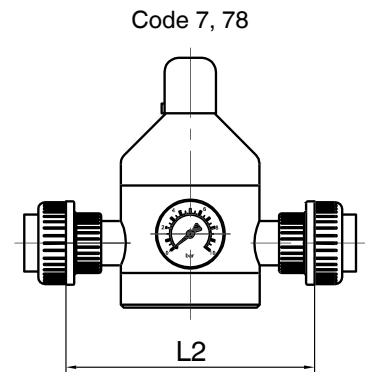
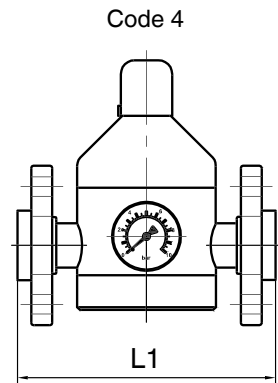
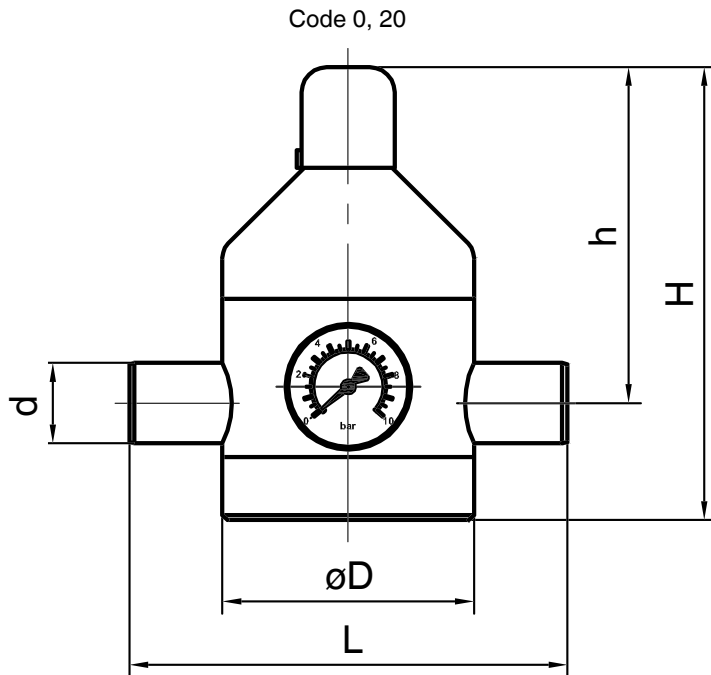
Connection	Code
Spigots DIN	0
Flanges EN 1092 / PN10 / form B, length EN 558, series 1, ISO 5752, basic series 1	4
Union ends with DIN insert (socket)	7
Spigots for IR butt welding	20
Union ends with DIN insert (for IR butt welding)	78
Overview of available valve bodies see page 8	

Order example	N182	25	D	0	1	14
Type	N182					
Nominal size		25				
Body configuration (code)			D			
Connection (code)				0		
Valve body material (code)					1	
Diaphragm material (code)						14

Dimensions [mm]

GEMÜ N082, N182

DN	d	ø D	H	h	L		L1		L2	
					Connection code 0	Connection code 20	Connection code 4		Connection code 7, 78	
					Material code 1, 20, B5	Material code 20, B5	Material code 1	Material code 20, B5	Material code 1	Material code 20, B5
10	16	70	147	112	134	-	140	-	154	156
15	20	70	147	112	134	150	140	144	154	156
20	25	100	180	130	174	190	180	184	184	198
25	32	100	180	130	174	190	180	184	184	198
32	40	130	230	175	224	240	230	234	248	252
40	50	130	230	175	224	240	230	234	252	256
50	63	150	273	203	244	260	250	254	280	288
65	75	200	350	250	300	300	306	310	-	336
80	90	250	425	305	360	360	370	374	-	396
100	110	300	495	345	420	420	430	434	-	464



Overview of valve bodies for GEMÜ N182						
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	X
20	X	X	X	X	X	X
25	X	X	X	X	X	X
32	X	X	X	X	X	X
40	X	X	X	X	X	X
50	X	X	X	X	X	X

Overview of valve bodies for GEMÜ N082						
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	-

Overview of Diaphragm materials			
Diaphragm material	FPM Code 4	EPDM Code 14	PTFE/EPDM, PTFE laminated Code 52
GEMÜ N082	-	X	X
GEMÜ N182	X	X	-

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Should there be any doubts or misunderstandings, the German version of this data sheet is the authoritative document!

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