

→ Series 681



■ SUITABLE FOR

Liquids	neutral	
Air, gases and vapours	neutral	
Warm water		

■ EXAMPLES OF USE

For the protection of:  
 - domestic water supply systems  
 - commercial and industrial plants  
 against too high supply pressure.  
 Pressure reducers are used, if within a piping system despite of varying pressures on the inlet side a certain pressure must not be exceeded on the outlet side.

- potable water supply according to DIN 1988
- process water supply in industrial-and building technology
- snow-making equipment
- fire-fighting equipment and sprinkler systems
- shipbuilding industry and offshore plants

■ APPROVALS

DIN-DVGW type examination	
Type approval ACS	
Type approval WRAS	
GOST-R	
<b>Requirements</b>	
DIN DVGW guidelines	
DIN EN 1567	
DIN 1988	
DIN EN ISO 3822	
PED 97/23/EC	
<b>Classification society</b>	
Germanischer Lloyd	GL
Lloyd's Register EMEA	LR EMEA
American Bureau of Shipping	ABS
Bureau Veritas	BV



■ MATERIAL



■ SPECIFICATION



1/2" – 2"



– 10°C to + 95°C



**Inlet pressure:**  
up to 30 bar  
**Outlet pressure:**  
0,5 to 15 bar  
depending on version

■ MATERIALS

Component	Material	DIN EN	ASME
Inlet body	Gunmetal	CC499K	CC499K
Outlet body	Gunmetal	CC499K	CC499K
Internal parts	Gunmetal	CC499K	CC499K
	Brass	CW614N	CW614N
	Stainless Steel	1.4404	316 L
Spring	Spring steel with anti-rust protection	1.1200	ASTM A228
Strainer	Stainless Steel	1.4301	304

## ■ VALVE VERSION

<b>m</b>	with diaphragm	High-quality, heat-resistant moulded elastomere, fabric-reinforced diaphragm. Adjustment by means of non-rising spindle. Insert with balanced single seat valve DN 15 and DN 20 made of brass with stainless steel seat, DN25 up to DN 50 made of gunmetal.
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**Complete valve insert SP/HP (order code: 681 Insert-DN...-seal) available as replacement part** can be exchanged without removing the valve.

**Complete valve insert LP (order code: 681 LP Insert-DN...-seal) available as replacement part** can be exchanged without removing the valve.

Built-in dirt trap made of stainless steel.

Mesh size:	DN 15 to DN 32	0,60 mm
	DN 40 and DN 50	0,75 mm

## ■ MEDIUM

<b>GF</b>	gaseous and liquid	for water, neutral and non-sticking liquids, compressed air and neutral gases; optionally with FPM elastomere seals for non-neutral media i.e. oils, fuels, oil-laden compressed air, etc.
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## ■ TYPE OF LIFTING MECHANISM

<b>0</b>	without lifting device
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## ■ OUTLET PRESSURE RANGES

SP	Standard version	Inlet pressure: up to 25 bar	Outlet pressure: from 1 to 8 bar (DVGW 6 bar)
HP	High-pressure version	Inlet pressure: up to 30 bar	Outlet pressure: from 5 to 15 bar
LP	Low-pressure version	Inlet pressure: up to 25 bar	Outlet pressure: from 0,5 to 2 bar

**Fixed setting at a required outlet pressure against surcharge.**

## ■ AVAILABLE NOMINAL DIAMETERS AND CONNECTION SIZES

Nominal diameter DN	15	20	25	32	40	50
Inlet threaded connection	1/2" (15)	3/4" (20)	1" (25)	1 1/4" (32)	1 1/2" (40)	2" (50)
Outlet threaded connection	1/2" (15)	3/4" (20)	1" (25)	1 1/4" (32)	1 1/2" (40)	2" (50)

## ■ TYPE OF CONNECTION INLET / OUTLET THREADED CONNECTIONS

<b>BSP-Tm / BSP-Tm</b>	Standard threaded connections	Male thread BSP-T / Male thread BSP-T	DIN EN 10226, ISO 7-1 / DIN EN 10226, ISO 7-1
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## ■ SEALS

<b>EPDM</b>	Ethylene propylene diene	Elastomere moulded diaphragm and seals approvals according to drinking water directive	-10°C to +95°C
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**Against surcharge**

<b>FKM</b>	Fluorocarbon	Elastomere moulded diaphragm and seals	-10°C to +95°C
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## ■ OPTIONS

**Against surcharge**

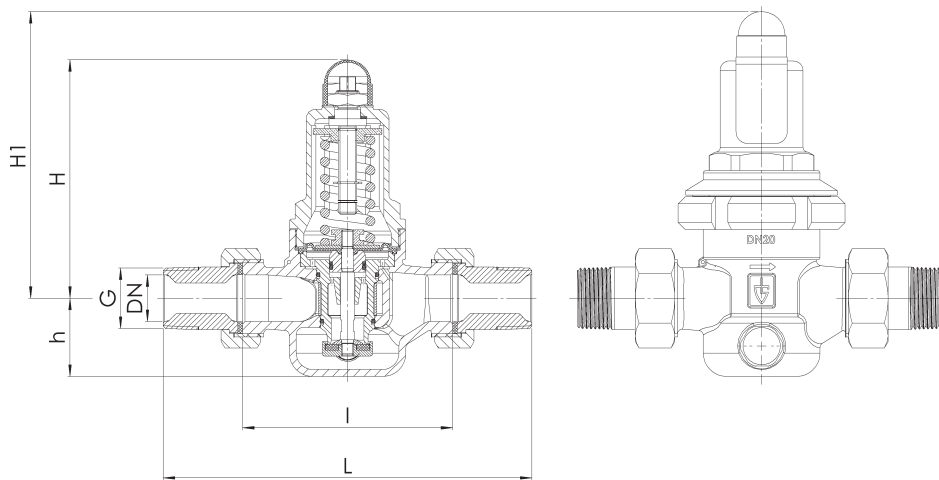
Pressure gauges 36, 39 or 40	Chapter Accessories
Valve insert SP/HP completely made of stainless steel	Order code: 481 Insert-DN...seal
Valve insert LP completely made of stainless steel	Order code: 481 LP Insert-DN...seal

■ NOMINAL DIAMETERS, CONNECTIONS, INSTALLATION DIMENSIONS

Series 681: Connection, installation dimensions, ranges of adjustment							
Connection	DN	15	20	25	32	40	50
Inlet DIN EN 10226	G	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"
Outlet DIN EN 10226	G	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"
Inlet pressure SP, LP up to	bar	25	25	25	25	25	25
Inlet pressure HP to	bar	30	30	30	30	30	30
Outlet pressure	bar	0,5 - 2	0,5 - 2	0,5 - 2	0,5 - 2	0,5 - 2	0,5 - 2
		1 - 8	1 - 8	1 - 8	1 - 8	1 - 8	1 - 8
		5 - 15	5 - 15	5 - 15	5 - 15	5 - 15	5 - 15
Installation dimensions in mm	L	142	158	180	193	226	252
	I	80	90	100	105	130	140
H (H1)	H (H1)	102 (128 <sup>1</sup> )	102 (128 <sup>1</sup> )	130 (150 <sup>1</sup> )	130 (150 <sup>1</sup> )	165 (185 <sup>1</sup> )	165 (185 <sup>1</sup> )
	h	33	33	45	45	70	70
Weight	kg	1,2 (1,5 <sup>1</sup> )	1,3 (1,6 <sup>1</sup> )	2,4 (2,9 <sup>1</sup> )	2,6 (3,1 <sup>1</sup> )	5,5 (6,2 <sup>1</sup> )	6,0 (6,7 <sup>1</sup> )
Kv value	m <sup>3</sup> /h	2,5 - 3,3	3,6 - 4,5	6,2 - 7,8	8,7 - 9,6	12 - 14	14,5 - 19
Max. capacity (water)	m <sup>3</sup> /h	7	9	16	18	30	35

<sup>1</sup>for type 681mGFO-LP

■ MAIN DIMENSIONS, INSTALLATION DIMENSIONS



■ INDIVIDUAL SELECTION / VALVE CONFIGURATION

Series	Valve version	Medium	Lifting device	Outlet pressure	Nominal diameter DN	Connection type		Connection size		Seal	Options	Optional: fixed setting	Quantity
						Inlet	Outlet	Inlet	Outlet				
681	m	GF	0	SP	20	BSP-T m	BSP-T m	20	20	EPDM	Pressure Gauge 36		8
681	m	GF	0	LP	50	BSP-T m	BSP-T m	50	50	FKM		1,0	3
681	m	GF	0			BSP-T m	BSP-T m						
681	m	GF	0			BSP-T m	BSP-T m						

In this table you can configure a valve according to your individual requirements (similar to the *example* shown, which should be deleted before you enter your own data). Please complete the table by hand using the abbreviations in this datasheet and then fax it to: +49(0)7141.4889488  
Please do not forget to add your personal data so that our sales team can contact you.

Name

First Name

Company

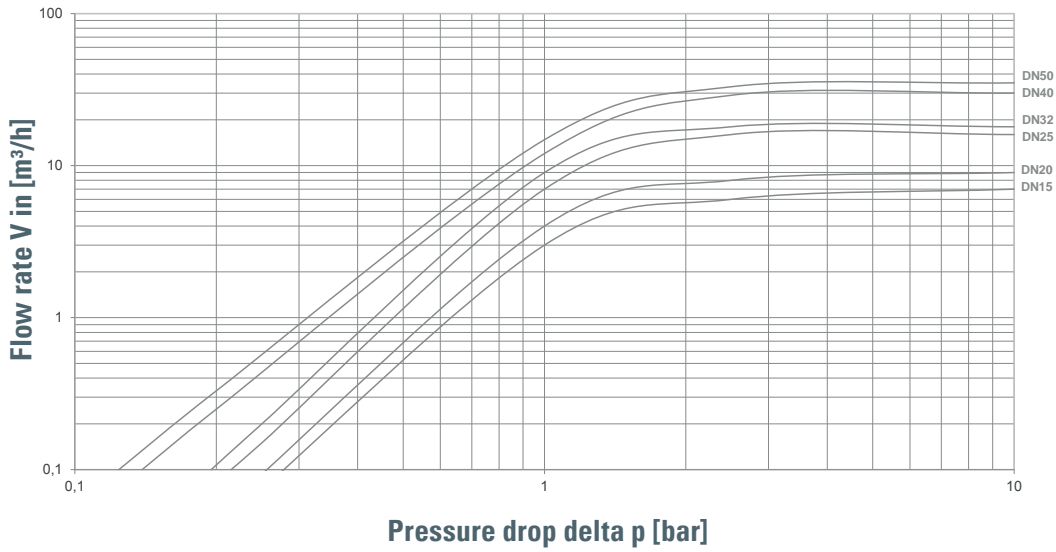
Telephone

E-Mail

Series 681:

Dimensioning by pressure loss on the outlet pressure side

**Flow chart water**



Dimensioning by flow velocity

**For liquids:**

With help of the chart you can determine the nominal diameter (DN) for a given flow volume V (m³/h). According to DVGW-guidelines (DIN 1988) a flow velocity of 2 m/s in domestic water supply systems should not be exceeded.

**For compressed air and other gaseous media:**

The usual flow velocity for compressed air is 10 - 20 m/s. For gaseous media the flow volume V should always be shown in actual cubic meters/hour. If the flow volume is given in standard cubic meters, these should be converted into actual cubic meters before using the diagram.

$$V \text{ (m}^3\text{/h)} = \frac{V_{\text{Norm}} \text{ (Nm}^3\text{/h)}}{p_{\text{absolut}} \text{ (bar)}} = \frac{V_{\text{Norm}}}{p_{\text{u}}+1}$$

Actual cubic meters are based on the prevailing pressure of the medium on the outlet side of the pressure reducer.

