

→ 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	
Requirements	
DIN DVGW guidelines	
DIN EN 1567	
DIN 1988	
DIN EN ISO 3822	
PED 97/23/EC	
Classification society	
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	ASTM / AISI
Inlet body	Gunmetal	CC499K	UNS C83600
Outlet body	Gunmetal	CC499K	UNS C83600
Internal parts	Gunmetal	CC499K	UNS C83600
	Brass	CW614N	UNS C37700
	Stainless Steel	1.4571	AISI 316 Ti
Spring	Spring steel with anti-rust protection	1.1200	
Strainer	Stainless Steel	1.4301	AISI 304

■ VALVE VERSION

m	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

GF	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

0	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

BSP-Tm / BSP-Tm	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

EPDM	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

FKM	Fluorocarbon	Elastomere moulded diaphragm and seals	-10°C to +95°C
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■ OPTIONS

Against surcharge

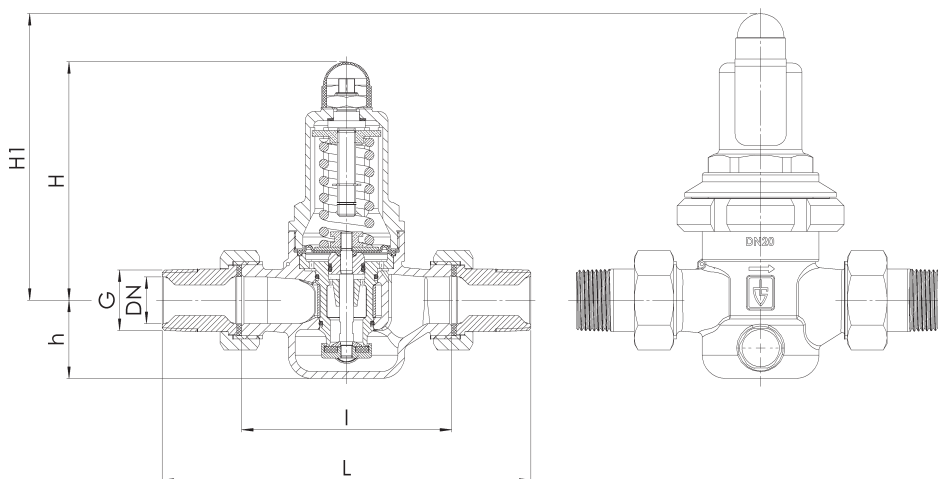
Pressure gauges 36, 39 or 40	Chapter Accessories
Valve insert SP/HP completely made of stainless steel	Order code: 481 Insert-DN...seal
Valve insert LP completely made of stainless steel	Order code: 481 LP Insert-DN...seal

■ 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)	102 (128 ¹)	102 (128 ¹)	130 (150 ¹)	130 (150 ¹)	165 (185 ¹)	165 (185 ¹)
	h	33	33	45	45	70	70
Weight	kg	1,2 (1,5 ¹)	1,3 (1,6 ¹)	2,4 (2,9 ¹)	2,6 (3,1 ¹)	5,5 (6,2 ¹)	6,0 (6,7 ¹)
Kv value	m ³ /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 ³ /h	7	9	16	18	30	35

¹for 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	Manometer 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 _____

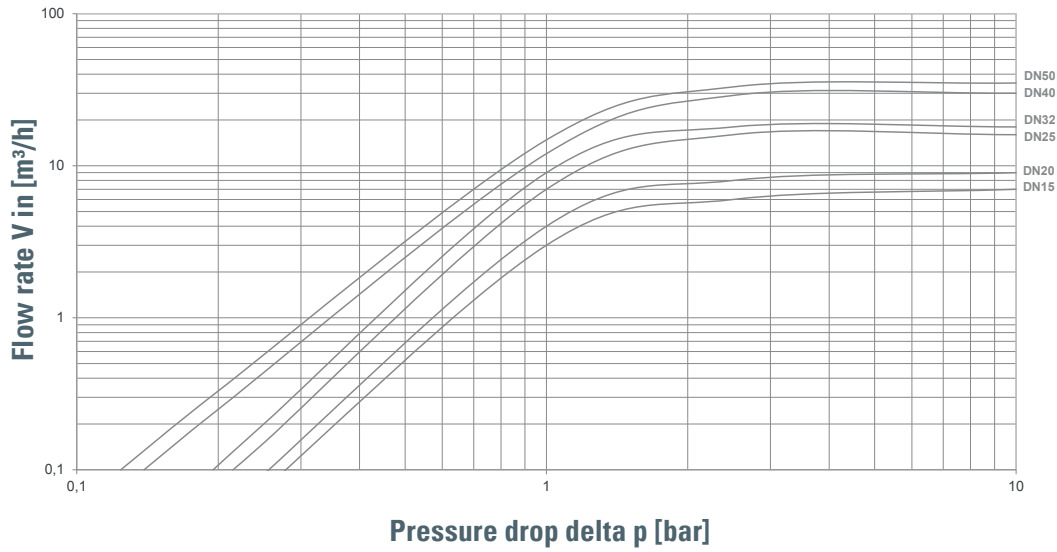
Telephone _____

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.

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

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

