

# → Series 684

**684**

Pressure reducing valves  
made of gunmetal with  
female threaded connections



## ■ MATERIAL



## ■ SPECIFICATION



1/4" – 2"



– 40°C to + 120°C  
depending on  
version



**Inlet pressure:**  
up to 60 bar  
**Outlet pressure:**  
0,5 to 50 bar  
depending on version

## ■ SUITABLE FOR

Liquids	neutral and non-neutral	
Air, gases and vapours	neutral and non-neutral	

## ■ EXAMPLES OF USE

For the protection of:

- commercial and industrial plants  
against too high supply pressure.

Use of pressure reducing valves, when in a piping system inspite of  
varying pressures on the inlet side a specific pressure on the outlet  
side must be kept.

- Compressed air supply plants
- Pneumatic control units
- Pressure booster plants air-side
- Shipbuilding industry and offshore plants
- Industrial gas plant construction
- PET blow moulding machines
- Blasting plants

## ■ APPROVALS

European Pressure Equipment Directive

TR ZU 032/2013 - TR ZU 010/2011

Requirements

PED 2014/68/EU

Classification society

DNVGL	DNVGL
Lloyd's Register EMEA	LR EMEA
Bureau Veritas	BV
Russian Maritime Register of Shipping	RS

## ■ MATERIALS

Component	Material	DIN EN	ASME
Inlet body	Gunmetal	CC499K	CC499K
Outlet body	Gunmetal	CC499K	CC499K
Internal parts	Brass	CW617N	CW617N
Spring	Spring steel with anti-rust protection	1.1200	ASTM A228

<b>m</b>	with diaphragm	High-quality heat-resistant elastomere, fabric reinforced diaphragm. Adjustment by means of non-rising spindle. Balanced single seat valve, pressure gauge connection G1/4" on both sides of body. Please take note of the outlet pressure range.
<b>k</b>	with piston	Brass piston with seal and support ring. Adjustment by means of non-rising spindle. Balanced single seat valve, pressure gauge connection G1/4" on both sides of body. Please take note of the outlet pressure ranges.

## ■ MEDIUM

<b>GS</b>	gaseous with secondary venting	Compressed air and gases. Non-neutral, poisonous gases only in combination with ducted exhaust.
<b>GFO</b>	gaseous and liquid without secondary venting	for water and non-sticking liquids, compressed air and gases

## ■ OUTLET PRESSURE RANGES

<b>SM</b>	Standard version with diaphragm	Inlet pressure: up to 60 bar	Outlet pressure: 0,5 to 15 bar
<b>SK</b>	Standard version with piston	Inlet pressure: up to 60 bar	Outlet pressure: 5 to 30 bar
<b>HK</b>	High-pressure version with piston	Inlet pressure: up to 60 bar	Outlet pressure: 10 to 50 bar

## ■ AVAILABLE NOMINAL DIAMETERS AND CONNECTION SIZES

Nominal diameter DN	8	10	15	20	25	40	50
Inlet female connection	1/4" (8)	3/8" (10)	1/2" (15)	3/4" (20)	1" (25)	1 1/2" (40)	2" (50)
Outlet female connection	1/4" (8)	3/8" (10)	1/2" (15)	3/4" (20)	1" (25)	1 1/2" (40)	2" (50)

## ■ TYPE OF CONNECTION INLET / OUTLET THREADED CONNECTIONS

<b>f / f</b>	Standard	Female thread BSP-P / Female thread BSP-P	DIN EN ISO 228-1 / DIN EN ISO 228-1
--------------	----------	---	-------------------------------------

## ■ SEALS

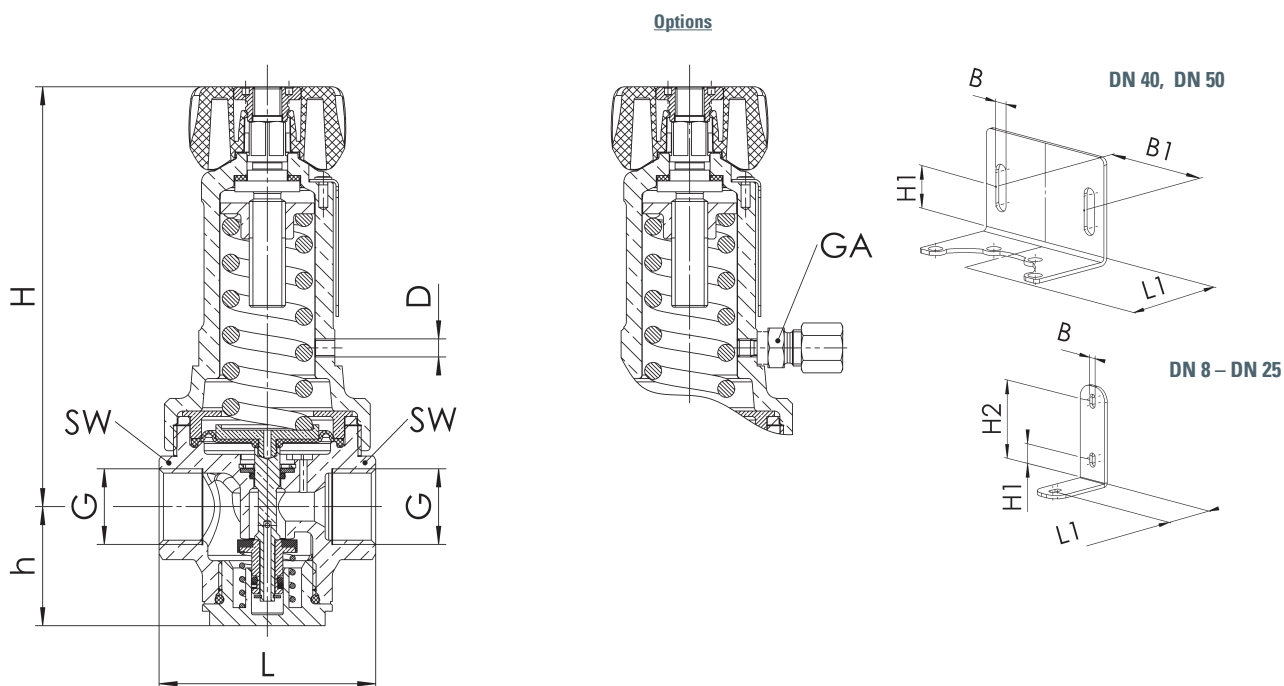
<b>FKM</b>	Fluorocarbon	Elastomere moulded diaphragm and seals	-10°C to +120°C
<b>EPDM</b>	Ethylene propylene diene	Elastomere moulded diaphragm and seals	-40°C to +120°C

## ■ NOMINAL DIAMETERS, CONNECTIONS, INSTALLATION DIMENSIONS

Series 684: Connection, installation dimensions, ranges of adjustment								
Nominal diameter	DN	8	10	15	20	25	40	50
Connection DIN EN ISO 228	G	1/4" (8)	3/8" (10)	1/2" (15)	3/4" (20)	1" (25)	1 1/2" (40)	2" (50)
Inlet pressure up to	bar	60	60	60	60	60	60	60
Outlet pressure:	SM	0,5-15	0,5-15	0,5-15	0,5-15	0,5-15	0,5-15	0,5-15
	SK	5-30	5-30	5-30	5-30	5-30	5-30	5-30
	HK	10-50	10-50	10-50	10-50	10-50	10-50	10-50
Installation dimensions in mm	L	68	68	60	78	102	136	136
	H	120	120	120	180	215	260	270
	h	33	33	33	40	56	63	70
	SW	26	26	26	32	44	58	70
Ducted exhaust connection	D	M5	M5	M5	M5	1/8"	1/8"	1/8"
Dimensions of optional wall mount	L1	38	38	38	51	61	85	85
	H1 / H2	18 / 62	18 / 62	18 / 62	18 / 58	22 / 80	15	15
	B / B1	5,5	5,5	5,5	6,5	8,5	10,5 / 90	10,5 / 90
Weight	kg	1,2	1,2	1,2	2,8	5,3	9,4	10,2
Coefficient of flow $K_{vs}$	m³/h	1,6	1,6	1,6	3,4	5,5	12,7	12,7

The  $K_{vs}$  value was determined according to DIN EN 60534-2-3. Instructions on how to determine size and capacity are to be found under section 2.

## ■ MAIN DIMENSIONS, INSTALLATION DIMENSIONS



Series	Valve version	Medium	Outlet pressure	Nominal diameter DN	Connection type		Connection size		Seal	Options	Optional: fixed setting	Quantity
					Inlet	Outlet	Inlet	Outlet				
684	<i>m</i>	<i>GS</i>	<i>SM</i>	<i>20</i>	<b>f</b>	<b>f</b>	<i>20</i>	<i>20</i>		<i>FKM</i>	<i>S17</i>	<i>5</i>
684	<i>k</i>	<i>GFO</i>	<i>SK</i>	<i>40</i>	<b>f</b>	<b>f</b>	<i>40</i>	<i>40</i>		<i>EPDM</i>		<i>1</i>
684					<b>f</b>	<b>f</b>						
684					<b>f</b>	<b>f</b>						

## ■ PROPERTIES

<b>S17</b>	Supply with manometers suitable for the valve finish	<input type="checkbox"/>	<input type="checkbox"/>
<b>S27</b>	Without hand wheel, plastic cap. To be set by means of hexagon wrench	<input type="checkbox"/>	<input type="checkbox"/>
<b>S68</b>	Wall mount	<input type="checkbox"/>	<input type="checkbox"/>
<b>S69</b>	Inside coating for improving the dry run properties with strong solvents such as e.g. CO <sub>2</sub>	<input type="checkbox"/>	<input type="checkbox"/>

## ■ OPTIONS

<b>GOX</b>	Especially for gaseous O <sub>2</sub> applications by employment of specific materials including oil- and grease free production process	<input type="checkbox"/>	<b>P10</b>	Ducted secondary venting of non-neutral gases in case of medium G	<input type="checkbox"/>
<b>P01</b>	Oil- and grease-free production	<input type="checkbox"/>	<b>FE</b>	Setting and sealing	<input type="checkbox"/>
<b>P02</b>	Chemically nickel-plated finish	<input type="checkbox"/>	<b>S71</b>	Preliminary setup for protection against manipulation of the preset pressure (seal)	<input type="checkbox"/>
<b>P03</b>	Galvanically nickel-plated finish	<input type="checkbox"/>			<input type="checkbox"/>

## ■ CERTIFICATES / APPROVALS

<b>C01</b>	Factory certificate acc. DIN EN 10204 2.2 (WKZ 2.2)	<input type="checkbox"/>	<b>C05</b>	Sealing material Manufacturer certification (FDA, USP 3, 3-A,...), Please indicate description of certificate: .....	<input type="checkbox"/>
<b>C02</b>	Test certificate acc. DIN EN 10204 3.1 (WPZ 3.1)	<input type="checkbox"/>	<b>C06</b>	ATEX evaluation acc. to 2014/34/EU	<input type="checkbox"/>
<b>C03</b>	Material test certificate acc. DIN EN 10204 3.1 (MPZ 3.1) (pressure retaining part)	<input type="checkbox"/>	<b>C10</b>	Certificate of oil- and grease free production	<input type="checkbox"/>
<b>C04</b>	TÜV/DEKRA individual inspection acc. EN 10204 3.2 (TÜV/DEKRA-APZ)	<input type="checkbox"/>			<input type="checkbox"/>

## ■ ADMISSIONS / ACCREDITATIONS

<b>AA1</b>	EC Type examination acc. to Directive 2014/68/EU	<input checked="" type="checkbox"/>	<b>AK1</b>	DNV-GL (DNVGL) type approval	<input type="checkbox"/>
<b>AA4</b>	EAC - certificate/declaration with passport for the valve and laser marking of the valve	<input type="checkbox"/>	<b>AK2</b>	Lloyd's Register (LR) type approval	<input type="checkbox"/>
		<input type="checkbox"/>	<b>AK3</b>	American Bureau of Shipping (ABS) type approval	<input type="checkbox"/>
		<input type="checkbox"/>	<b>AK5</b>	Russian Maritime Register of Shipping (RMRS) type approval	<input type="checkbox"/>
		<input type="checkbox"/>	<b>AK6</b>	Registro Italiano Navale (RINA) type approval	<input type="checkbox"/>
		<input type="checkbox"/>	<b>AL</b>	Individual inspection by notified body inspector – (body to be indicated): .....	<input type="checkbox"/>

## ■ ENQUIRY

Copy and send to: [order@goetze-armaturen.de](mailto:order@goetze-armaturen.de).

Order form easily to be found online under the section for each series.