→ Series 684

684

Pressure reducing valves made of gunmetal with female threaded connections

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

CE EAC

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

APPROVALS

European Pressure Equipment Directive

TR ZU 032/2013 - TR ZU 010/2011

Requirements

PED 2014/68/EU

Classification society

DNV	DNV
Lloyd’s Register EMEA	LR EMEA
Bureau Veritas	BV
Russian Maritime Register of Shipping	RS
Registro Italiano Navale	RINA

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

Series 684 ■ VALVE VERSION

m	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.
k	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

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

■ OUTLET PRESSURE RANGES

SM	Standard version with diaphragm	Inlet pressure: up to 60 bar	Outlet pressure: 0,5 to 15 bar
SK	Standard version with piston	Inlet pressure: up to 60 bar	Outlet pressure: 5 to 30 bar
HK	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

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

■ SEALS

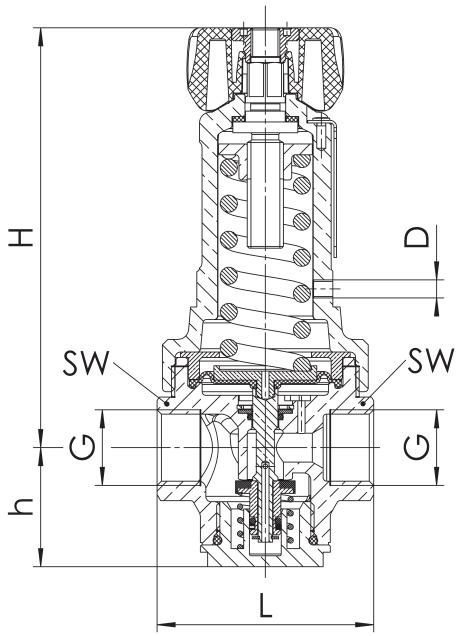
FKM	Fluorocarbon	Elastomere moulded diaphragm and seals	–10°C to +120°C
EPDM	Ethylene propylene diene	Elastomere moulded diaphragm and seals	–40°C to +120°C

NOMINAL DIAMETERS, CONNECTIONS, INSTALLATION DIMENSIONS

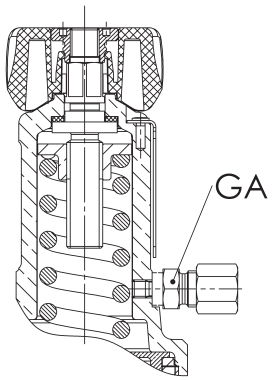
Series 684: Connection, installation dimensions, ranges of adjustment								
Nominal diameter	**DN**	**8**	**10**	**15**	**20**	**25**	**40**	**50**
Connection DIN EN ISO 228	**G**	1/4“ (8)	3/8“ (10)	1/2“ (15)	3/4“ (20)	1“ (25)	1 1/2“ (40)	2“ (50)
Inlet pressure up to	**bar**	60	60	60	60	60	60	60
Outlet pressure: SM	**bar**	0,5-15	0,5-15	0,5-15	0,5-15	0,5-15	0,5-15	0,5-15
SK	**bar**	5-30	5-30	5-30	5-30	5-30	5-30	5-30
HK	**bar**	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**	1/8“	1/8“	1/8“	1/8“	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

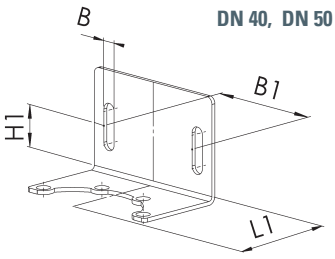
The K_{VS} value was determined according to DIN EN 60534-2-3. Instructions on how to determine size and capacity are to be found under section 2.

MAIN DIMENSIONS, INSTALLATION DIMENSIONS

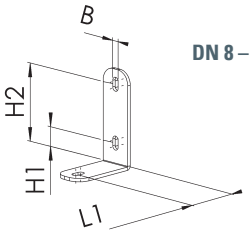


Options





DN 40, DN 50



DN 8 – DN 25

Series 684 ■ INDIVIDUAL SELECTION / VALVE CONFIGURATION

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

■ PROPERTIES

S17	Supply with manometers suitable for the valve finish	☐			☐
S27	Without hand wheel, plastic cap. To be set by means of hexagon wrench	☐			☐
S68	Wall mount	☐			☐
S69	Inside coating for improving the dry run properties with strong solvents such as e.g. CO2	☐			☐

*Only valid for nominal width DN 8, DN 10, DN 15 and DN 25.

■ OPTIONS

GOX	Especially for gaseous O2 applications by employment of specific materials including oil- and grease free production process | Inlet pressure max. 30 bar, temperature max. 60°C	☐	**P10**	Ducted secondary venting of non-neutral gases in case of medium G	☐
P01	Oil- and grease-free production	☐	**FE**	Setting and sealing	☐
P02	Chemically nickel-plated finish	☐	**S71**	Preliminary setup for protection against manipulation of the preset pressure (seal)	☐
P03	Galvanically nickel-plated finish	☐			☐

■ CERTIFICATES / APPROVALS

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

■ ADMISSIONS / ACCREDITATIONS

AA1	EC Type examination acc. to Directive 2014/68/EU	☒	**AK1**	Det Norske Veritas (DNV) type approval	☐
AA4	EAC - certificate/declaration with passport for the valve and laser marking of the valve	☐	**AK2**	Lloyd's Register (LR) type approval	☐
		☐	**AK3**	American Bureau of Shipping (ABS) type approval	☐
		☐	**AK5**	Russian Maritime Register of Shipping (RMRS) type approval	☐
		☐	**AK6**	Registro Italiano Navale (RINA) type approval	☐
		☐	**AL**	Individual inspection by notified body inspector – (body to be indicated):.....	☐