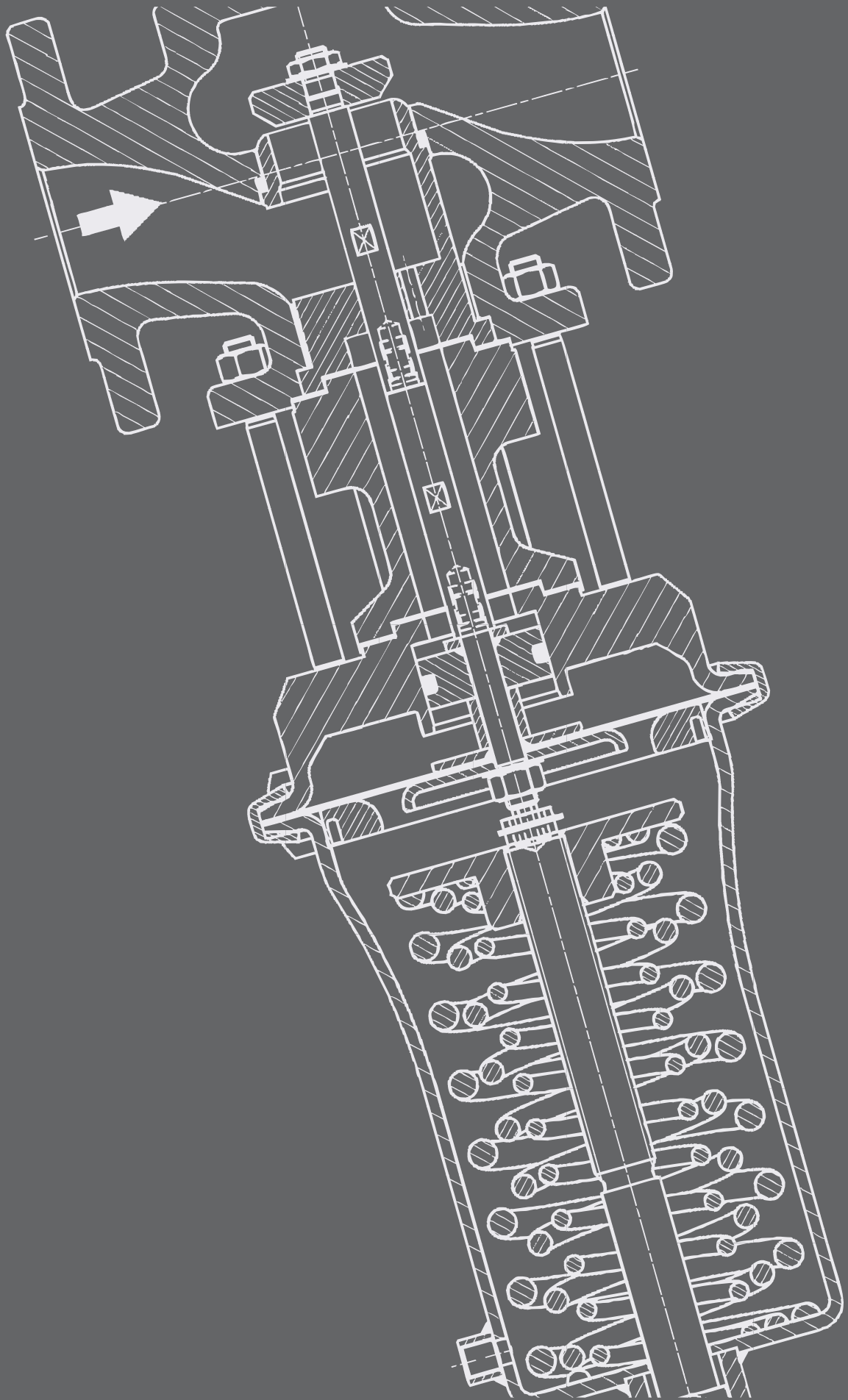


BVALVE®

Pressure Reducing Valves

Pressure Reducing Valve PRV50065

BVALVE further expands its position as one of the leading suppliers of self-acting control valves by launching a new pressure reducing valve PRV50065, setting a new standard for dimensions and equipment:

» Compact construction:
Minimum space needed and therefore enhances ease of installation (on average 20% less than competition models)

» Closed spring cap made of stainless steel (1.4404/SS316L)
Provides longer life span for the spring while avoiding its corrosion

» Does not require compensating cask: Thus direct connection to pipe

» Medium-wetted internal parts made of stainless steel (1.4404 / SS316L)

» High regulating accuracy due to the balance plug

» High quality body made of cast steel (GS-C 25):
Instead of lower quality materials used by competitors such as cast iron or ductile iron

» Leakage line connection with adjusting screw seal

» Easy setting of nominal values

Typical Applications

» Steam, water, condensate cycle system

» Industrial air

» Technical gases

» Conventional heat exchangers

» Conventional fuel supply and residues disposal

CE 0052 TÜV NORD

Pressure Reducing Valve PRV50065

PRV50065 is a self-acting pressure reducing valve which offers an accurate regulating control while displaying an easy installation and maintenance. These are used to maintain a certain pressure downstream without requiring the use of any pneumatic or electrical control elements.

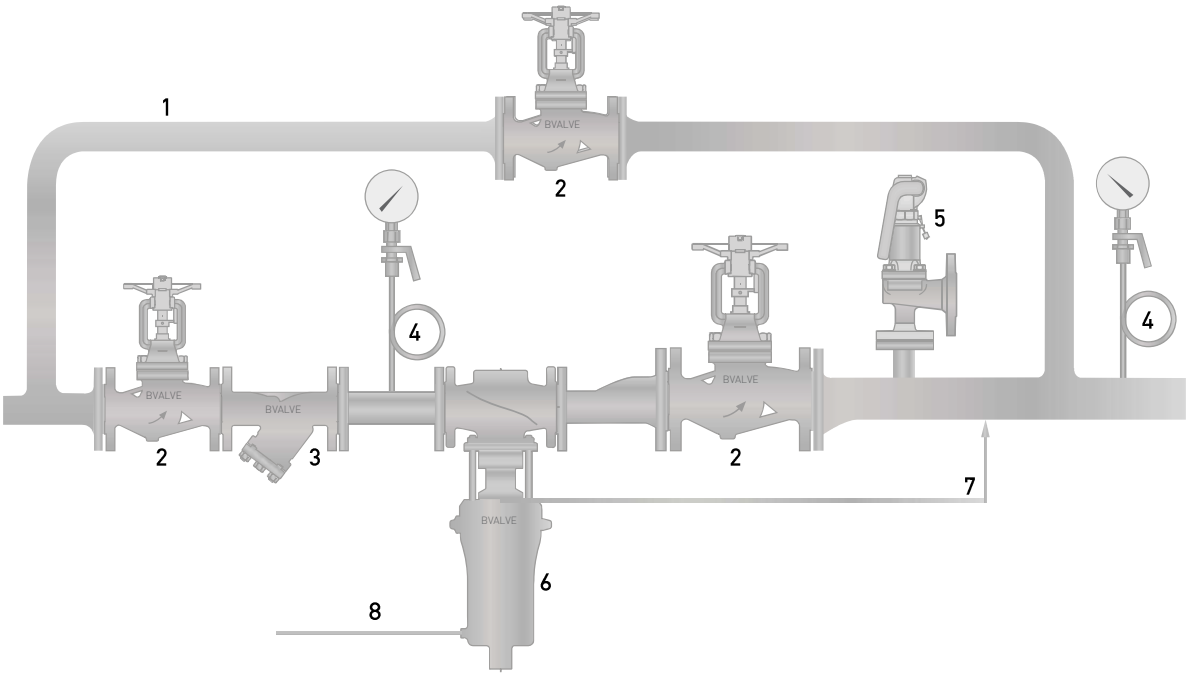
PRV50065 is a diaphragm operated, spring loaded and proportionally balanced valve for high flow rate applications. Moreover, valve body is made out of casted steel, internal parts are manufactured in stainless steel and valve cone is fitted with a metallic seal.

Outlet pressure to be controlled (set pressure) is balanced through its control unit due to the force applied by the valve's spring. Therefore, as outlet pressure overpasses set pressure, valve's cone approaches the seat and hence medium's volume is reduced. In the same way, once outlet pressure drops, outlet gap increases. Furthermore, rotating the adjusting screw clockwise increases outlet pressure.

PRV50065 requires a sense line to be installed on-site.

However, these are not shut-off elements to ensure a perfect tightness closure. In accordance with DIN EN 60534-4 and / or ANSI FCI 70-2 they are allowed to feature a class IV leakage rate (metal sealing cone – 0,01% KVS value).

When installing, it is advised to do so in a horizontal strain, with spring cap pointing downwards and making sure flow direction meets arrow conveniently described in body. Still, valve may be installed both upwards and downwards when working with gases.



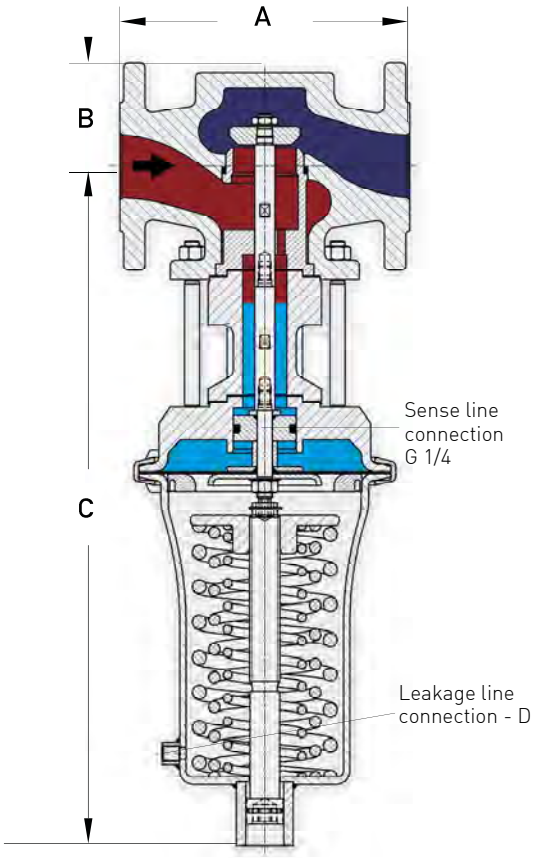
1 Bypass line for Maintenance
2 BVALVE bellows sealed valve
3 BVALVE strainer
4 Pressure Gauge
5 Safety Valves
6 BVALVE Pressure Reducer
7 Sense Line
8 Leakage Line

Installation in a horizontal line without strain with the spring cap pointing vertically downwards in such a way that the arrow on the body points in the direction of flow. For gases, the installation can take place with the spring cap pointing either downwards or upwards. For use with liquids the valve must be installed with the spring cap pointing downwards.

PRV50065

Steam services

GS-C 25 1.0619 (A216-WCB)
Temperature min. -10°C
Temperature max. +250°C



Technical Data

Connection DN	15 - 100
Nominal Pressure	PN40
Connections	Flanges acc. EN1092-1 PN16/40
Max. inlet Pressure	30 bar
Outlet Pressure	0.8 - 10 bar
K_{vs}-Value	4.5 - 115 m³/h
Max. Temperature	250 °C
Medium	Steam

Materials

Body	GS-C 25 1.0619 (A216-WCB)
Diaphragm Housing	stainless steel 1.4404 (SS316L)
Medium wetted Internal Parts	stainless steel 1.4404 / 1.4462 (SS316L / Duplex)
Valve Seal	stainless steel 1.4404
Diaphragm	EPDM
O-ring	EPDM

Dimensions [mm]

Size	Nominal diameter DN							
	15	20	25	40	50	65	80	100
A	130	150	160	200	230	290	310	350
B	60	60	60	75	75	112	112	112
C	380	380	380	540	540	610	610	610
D	G 1/8	G 1/8	G 1/8	G 1/4	G 1/4	G 1/4	G 1/4	G 1/4

Weights [kg]

Nominal diameter DN							
15	20	25	40	50	65	80	100
11	12	13	37,5	40	72	75	82

WORKING CONDITIONS

T	-10 °C	130 °C	150 °C	200 °C	250 °C
bar	40	38	36	33	30

Setting Ranges [bar], Nominal Pressure PN

bar	0.8 - 2.5	2 - 5	4 - 10
PN	40/6	40/10	40/16

K_{VS} Values [m /h]

Seat	15	20	25	40	50	65	80	100
I	4,5	8	8	32	40	90	100	115
II*				20	20	50	50	50
III*				12	12	32	32	32

*optional

Reduction Ratio (max. p1/p2)

Setting Ranges	DN		
	DN 15 - 25	DN 40 - 50	DN 65 - 100
4 - 10 bar	10 : 1	8 : 1	5 : 1
2 - 5 bar	20 : 1	15 : 1	10 : 1
0.8 - 2.5 bar	30 : 1	20 : 1	12 : 1

e.g.: DN 50, set point 3 bar, inlet pressure 16 bar
Min. outlet pressure: 16/15 = 1,067 bar < 3 bar, thus set pressure selected is within operating range.

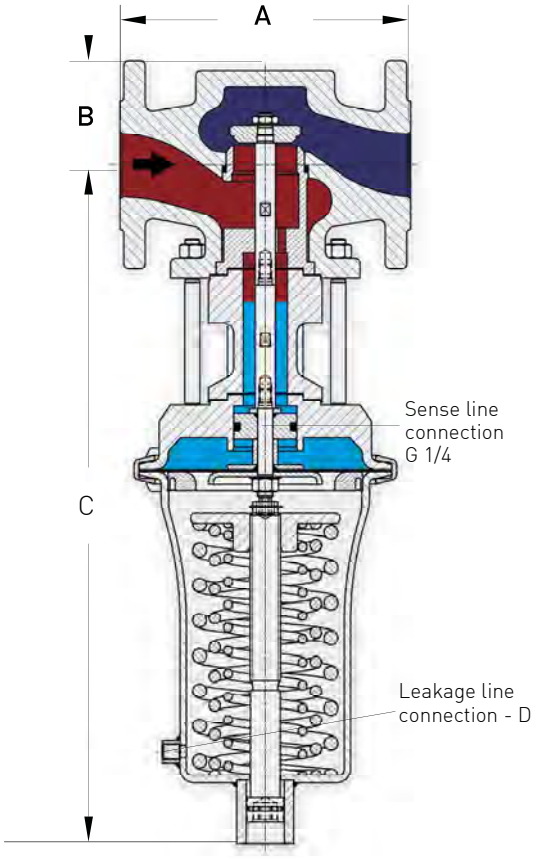
Standard

» Body made of GS-C 25 1.0619 (A216-WCB)
» Medium wetted internal parts made of stainless steel 316L / Duplex
» Closed spring cap with leakage line connection and sealed adjusting screw
» Balanced cone for controlling the outlet pressure independently from the inlet pressure
» Sense line connection
» EPDM elastomeres
» Tightness Class IV < 0,01% Kvs value

CE 0052 TÜV NORD

PRV50065S
Liquid & Gas

GS-C 25 1.0619 (A216-WCB)
Temperature min. -10°C
Temperature max. +130°C



Standard

» Body made of GS-C 25 1.0619 (A216-WCB)*
» Medium wetted internal parts made of stainless steel 316L / Duplex
» Closed spring cap with leakage line connection and sealed adjusting screw
» Balanced cone for controlling the outlet pressure independently from the initial pressure
» Sense line connection
» EPDM elastomeres
» Tightness bubble type zero leackage

Options

» Various diaphragm and seal materials suitable for your medium

CE 0052 TÜV NORD

Technical Data

Connection DN	15 - 100
Nominal Pressure PN	40
Connections	Flanges acc. EN1092-1 PN16/40
Max. Inlet Pressure	40 bar
Outlet Pressure	0.8 - 10 bar
K_{vs}-Value	4.5 - 115 m³/h
Max. Temperature	130°C
Medium	Liquids, gases

Materials

Body	GS-C 25 1.0619 (A216-WCB)*
Diaphragm Housing	stainless steel 1.4404 (SS316L)
Medium wetted Internal Parts	stainless steel 1.4404 / 1.4462 (SS316L / Duplex)
Valve Seal	EPDM**
Diaphragm	EPDM**
O-ring	EPDM**

* body optionally made of stainless steel 1.4408 (CF8M)
** optional elastomeres made of FKM, NBR, PTFE or other materials

Dimensions [mm]

Size	Nominal diameter DN							
	15	20	25	40	50	65	80	100
A	130	150	160	200	230	290	310	350
B	60	60	60	75	75	112	112	112
C	380	380	380	540	540	610	610	610
D	G 1/8	G 1/8	G 1/8	G 1/4	G 1/4	G 1/4	G 1/4	G 1/4

Weights [kg]

Nominal diameter DN							
15	20	25	40	50	65	80	100
11	12	13	37,5	40	72	75	82

WORKING CONDITIONS

T	-10 °C	130 °C
bar	40	38

Setting Ranges [bar], Nominal Pressure PN

bar	0.8 - 2.5	2 - 5	4 - 10
PN	40/6	40/10	40/16

K_{vs} Values [m /h]

Seat	15	20	25	40	50	65	80	100
I	4,5	8	8	32	40	90	100	115
II*				20	20	50	50	50
III*				12	12	32	32	32

*optional

Reduction Ratio (max. p1/p2)

Setting Ranges	DN		
	DN 15 - 25	DN 40 - 50	DN 65 - 100
4 - 10 bar	10 : 1	8 : 1	5 : 1
2 - 5 bar	20 : 1	15 : 1	10 : 1
0.8 - 2.5 bar	30 : 1	20 : 1	12 : 1

e.g.: DN80, set point 6 bar, inlet pressure 20 bar
Min. outlet pressure: 20/5 = 4 bar < 6 bar, thus set pressure selected is within operating range.