

# Pressure Control Valves

## Vacuum Breakers and Vacuum Control Valves VV 34, 35, 36



### Vacuum Breaker with Setting Scale

#### Technical Data

Connection DN	20 - 250
Connection G	1/2A - 2 1/2A
Nominal Pressure PN	6 - 40
Setting Range	0.05 - 0.95 bar
K <sub>vs</sub> -Value	1.2 - 388 m <sup>3</sup> /h
Temperature	300 °C

#### Description

Vacuum breakers – also called vacuum venting valves or vacuum limiters - are valves which allow air to be aspirated once a set vacuum or pressure difference to atmosphere is reached. These valves are installed on pipelines, vessels, machines and equipment and are used, for instance, for venting tanks, limiting the vacuum in vacuum systems and protecting steam installations.

Under normal operating conditions the valve is kept closed by a pre-loaded spring and the internal vacuum acting on the valve cone. If the vacuum drops below the value set by means of the spring, the valve is opened by the atmospheric pressure and air enters the system. With increasing air flow the cone stroke and spring force increase. The pressure difference increases accordingly.

The VV 34 and VV 35 vacuum breakers have a tension spring and a spring cap complete with scale for setting the breaking pressure.

For control duties vacuum breakers may be used only to a limited degree. For such duties we recommend using the diaphragm-controlled vacuum control valve VV 33.

#### Standard

- » VV 34 and 35 with spring cap and setting scale
- » all stainless steel construction (CrNiMo steel)

#### Options

- » VV 34 made of CrNiMo steel / steel
- » special connections: ANSI or JIS flanges, NPT, other connections on request
- » special versions on request

Operating instructions, know how and safety instructions must be observed. All the pressure has always been indicated as overpressure. We reserve the right to alter technical specifications without notice.



#### K<sub>vs</sub>-Values [m<sup>3</sup>/h]

nom. diam. DN		20	25	32	40	50	65
G..A	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2
K <sub>vs</sub> -value m <sup>3</sup> /h	1.2	1.5	3.2	6	9	16	25

#### K<sub>vs</sub>-Values [m<sup>3</sup>/h]

nom. diam. DN	80	100	125	150	200	250
K <sub>vs</sub> -value m <sup>3</sup> /h	41	70	107	169	266	388

#### Adjustable Differential Pressure Δp [bar]

VV 34		VV 35	VV 36
≤ DN 100	≥ DN 125		
0.05-0.95	0.05-0.5	0.05-0.95	0.05-0.1

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### Vacuum Breaker with Setting Scale

Materials	
Type	VV 34
Body	CrNiMo-steel optional CrNiMo-steel / Steel
Flange	CrNiMo-steel optional Steel
Spring Cap	CrNiMo-steel
Cone	CrNiMo-steel
Valve Seal	CrNiMo-steel

Materials	
Type	VV 35
Body	CrNiMo-steel
Spring Cap	CrNiMo-steel
Cone	CrNiMo-steel
Valve Seal	CrNiMo-steel

Materials	
Type	VV 36
Body	CrNiMo-steel
Cone	CrNiMo-steel
Valve Seal	CrNiMo-steel

Dimensions [mm] VV 34												
size	nominal diameter DN											
	20	25	32	40	50	65	80	100	125	150	200	250
A	250	280	350	350	380	530	600	650	700	860	1155	1390

Weights [kg] VV 34												
nominal diameter DN												
20	25	32	40	50	65	80	100	125	150	200	250	
2	2.2	4.2	4.2	5.2	9.7	10.5	11.5	20	25	34	44	

Dimensions [mm] VV 35							
size	nominal diameter G...A						
	3/4	1	1 1/4	1 1/2	2	2 1/2	
A	250	280	350	350	380	530	

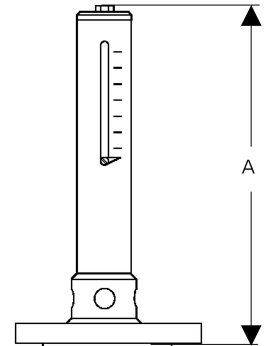
Weights [kg] VV 35						
nominal diameter G...A						
3/4	1	1 1/4	1 1/2	2	2 1/2	
1	1	1.8	2.3	2.5	6	

Dimensions [mm] VV 36							
size	nominal diameter G...A						
	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2
A	120	120	130	140	150	150	180

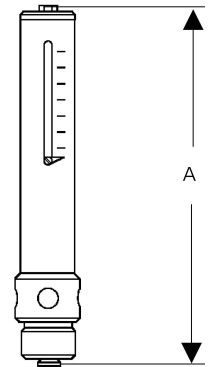
Weights [kg] VV 36						
nominal diameter G...A						
1/2	3/4	1	1 1/4	1 1/2	2	2 1/2
0.5	0.6	0.8	1	1.2	1.5	2

### Dimensional Drawing

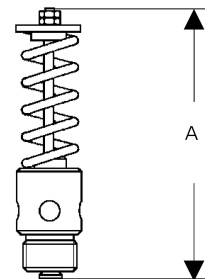
VV 34



VV 35



VV 36



Special designs on request.

The pressure has always been indicated as overpressure.

Mankenberg reserves the right to alter or improve the designs or specifications of the products described herein without notice.