

## PRESSURE CONTROL

# Vacuum breaker VV 34, 36

Vacuum breaker with setting scale

### Technical Data

Connection DN	20 - 250
Connection G	1/2A - 2 1/2A
Nominal Pressure PN	6 - 40 bar
Setting range	0.05 - 0.95
K <sub>vs</sub> -value	1.2 - 388 m³/h
Temperature	250 °C
Medium	liquids and gases

### 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.

The standard version of the vacuum breakers is no equipment part with safety function in accordance with the Pressure Equipment Directive. Otherwise this fact would be taken into account in the Declaration of Conformity. 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 5.1.

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 vacuum breaker has a tension spring and a spring cap complete with scale for setting the breaking pressure

These valves are no shut-off elements ensuring a tight closing of the valve. In accordance with DIN EN 60534-4 and/or ANSI FCI 70-2 they may feature a leakage rate in compliance with leakage class IV (metallic seal 0,01% of the K<sub>vs</sub> value), optionally leakage class V (soft seal with Δp > 1 bar).

### Standard

- » VV 34 spring cap with setting scale
- » All stainless steel construction

### Options

- » Soft seal
- » VV 34 made of stainless steel / steel
- » Leakage line connection for discharging the leakage in atmosphere
- » Special materials such as duplex, superduplex, HASTELLOY® or titanium, others on request
- » Special connections:  
ANSI or JIS flanges, other connections on request
- » Special versions on request

### Product



### Technical specification

K <sub>vs</sub> values [m³/h]								
nominal diameter	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	m³/h	1.2	1.5	3.2	6	9	16	25
K <sub>vs</sub> values [m³/h]								
nominal diameter	DN	80	100	125	150	200	250	
K <sub>vs</sub> value	m³/h	41	70	107	169	266	388	

### Adjustable differential pressure Δp [bar]\*

VV 34		VV 36
≤ DN 100 G...A 1 1/2 - 2 1/2	≥ DN 125	
0.05 - 0.95	0.05 - 0.50 0.05 - 0.95	0.05 - 0.1

\*Vacuum breakers should be selected according to the pressure difference between the atmospheric pressure and the pressure inside the vessel or pipeline, not according to the vacuum or absolute pressure in the vessel or pipeline. All specifications given in data sheets or tables or on the scales of valves etc. relate to this differential pressure.

## Materials

### Materials\* VV 34

body	stainless steel 1.4404
flange	stainless steel 1.4404 optional steel
spring cap	stainless steel 1.4404
cone	stainless steel 1.4404
valve seal	stainless steel 1.4404

### Materials\* VV 36

body	stainless steel 1.4404
cone	stainless steel 1.4404
valve seal	stainless steel 1.4404

\*all materials of equal or greater value

## Dimensions and weights

### Dimensions [mm] VV 34 flange connection

set pressure bar	size	nominal diameter DN					
		20	25	32	40	50	65
0.05 - 0.95	A	255	280	350	350	380	535

### Dimensions [mm] VV 34 flange connection

set pressure bar	size	nominal diameter DN					
		80	100	125	150	200	250
0.05 - 0.50	A	-	-	700	860	1155	1390
0.05 - 0.95		600	650	850	1050	1420	1720

### Dimensions [mm] VV 34 socket connection

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

### Dimensions [mm] VV 34 socket connection

size	nominal diameter G...A						
	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2
A	110	120	130	140	146	146	180

### Weights [kg] VV 34 flange connection

set pressure bar	size	nominal diameter DN					
		20	25	32	40	50	65
0.05 - 0.95	A	2.2	2.7	3.8	4.8	5.6	9

### Weights [kg] VV 34 flange connection

set pressure bar	size	nominal diameter DN					
		80	100	125	150	200	250
0.05 - 0.50	A	-	-	21	27.5	47	64
0.05 - 0.95		9.5	11.5	22	29.5	50	68

### Weights [kg] VV 34 socket connection

nominal diameter G...A						
3/4	1	1 1/4	1 1/2	2	2 1/2	
1.2	1.4	1.9	2.6	3.2	5.9	

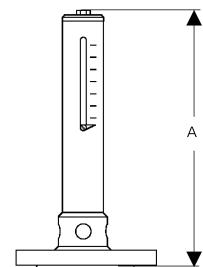
### Weights [kg] VV 36 socket connection

nominal diameter G...A						
1/2	3/4	1	1 1/4	1 1/2	2	2 1/2
0.3	0.6	0.8	1	1.2	1.7	2

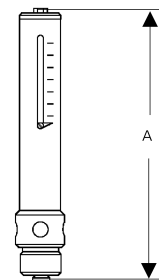
### Customs tariff number

84811019

### VV 34 DN 20 - 250



### VV 34 G...A 3/4 - 2 1/2



### VV 36 G...A 1/2 - 2 1/2

