

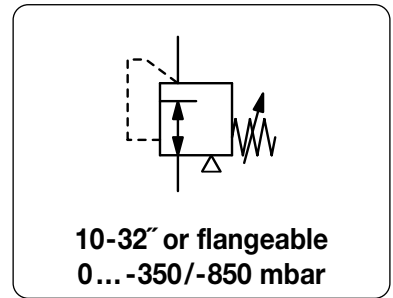
# VACUUM PRESSURE REGULATOR

DESCRIPTION		PRESSURE RANGE	CONNECTION thread	SERIES	PAGE
max. 22 l/min	miniature	-850 ... 0 mbar	1/8"NPT	V800	7.02
max. 22 l/min	miniature	-850 ... 0 mbar	10-32" and flange	V900	7.02
max. 70 l/min	precise	-1 ... +0,4 / 10 bar	G1/4	R250	7.03
max. 330 l/min	precise	-990 ... 0 mbar	G1/4 - G1/2	V170	7.04
max. 800 l/min	precise	-1 ... +0.7 / 10 bar	G1/2 and G3/4	R251	7.05
vacuum adjustment valve		-1 ... -0.3	G1/8 - G1	V04	7.06
vacuum adjustment valve	precise	-1 ... 0 bar	G1/4 - G1	V05	7.06



7

<b>Description</b>	Miniature precision vacuum regulator with diaphragm and high outlet pressure constancy, small dimensions, low weight. 20-turn hysteresis-free adjustment range allows sensitive pressure setting.		
<b>Media</b>	compressed air or non-corrosive gases		
<b>Supply pressure</b>	max. -1000 mbar		
<b>Accuracy</b>	at supply pressure variation of 170 mbar:	< 4 mbar pressure deviation	
	at supply pressure removal/reapplication:	< 7 mbar pressure deviation	
	setting accuracy:	< 2.5 mbar	
<b>Air consumption</b>	0.3 l/min at -1000 mbar supply pressure		
<b>Adjustment</b>	by plastic knob, adjusting screw or preset		
<b>Gauge port</b>	not available		
<b>Mounting position</b>	any		
<b>Temperature range</b>	4 °C to 66 °C / 39 °F to 151 °F		
<b>Material</b>	Body:	polysulfone	Elastomer: NBR/Buna-N
	Inner valve:	stainless steel and acetal	



Dimensions			Pressure adjustment by	Flow rate l/min	Vacuum range mbar	Order number
A	B	C				

Vacuum regulator 10-32"				supply pressure max. -1000 mbar, with constant bleed	V900-W
29	78	8	adjusting knob	22	V900-10WK V900-30WK
29	60	8	adjusting screw	22	V900-10WOS V900-30WOS
29	43	8	preset	22	V901-..

Vacuum regulator with flange				supply pressure max. -1000 mbar, with constant bleed	V900-M
29	78	8	adjusting knob	22	V900-10MWK V900-30MWK
29	60	8	adjusting screw	22	V900-10MWOS V900-30MWOS
29	43	8	preset	22	V901-.. M



V800-..WK

V900-..WK



V900-..WOS

### Special options, add the appropriate letter or number

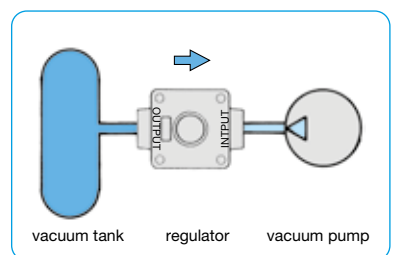
1/8" NPT connection thread, width 40 mm **V8...-... . . . .**

### Accessories, enclosed B\*

mounting bracket made of steel **BW15-01**

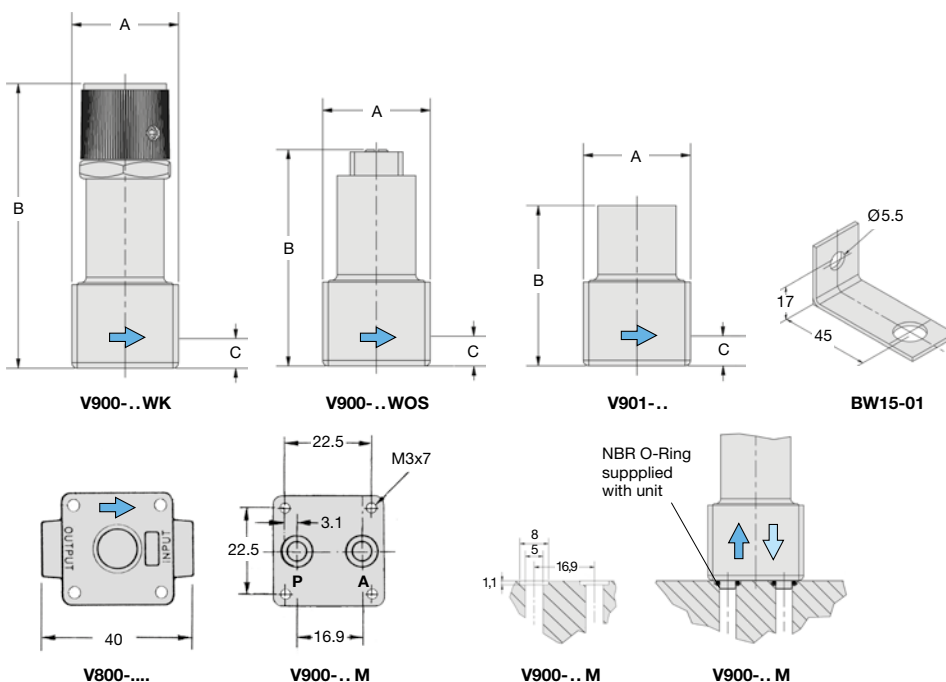


V901-..



\* Product group

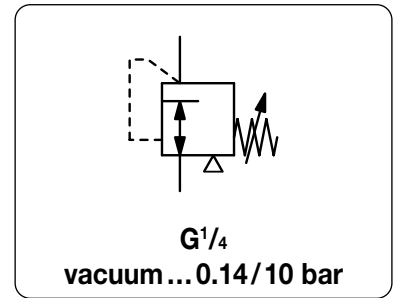
**Order example:**  
**V900-10WK**



# PRECISION VACUUM PRESSURE REGULATOR 70 L/MIN

R250

<b>Description</b>	Diaphragm vacuum regulator ensuring high precision in both vacuum and positive pressure range.		
<b>Media</b>	compressed air or non-corrosive gases		
<b>Supply pressure</b>	max. 17 bar		
<b>Accuracy</b>	response sensitivity: < 2 mbar		
<b>Adjustment</b>	by handwheel with locknut		
<b>Air consumption</b>	max. 2.8 l/min in positive pressure range		
<b>Flow rate</b>	70 l/min*1 in vacuum range,	900 l/min*2 in positive pressure range	
<b>Gauge port</b>	G $\frac{1}{4}$ on both sides of the body, screw plugs supplied		
<b>Mounting position</b>	any		
<b>Temperature range</b>	-40 °C to 90 °C / -40 °F to 194 °F		
<b>Material</b>	Body: aluminium die-cast Elastomer: NBR/Buna-N	Inner valve: stainless steel and brass	



Dimensions				K <sub>v</sub> value	Flow rate	Connection thread	Vacuum range	Order number
A	B	C	D	m <sup>3</sup> /h	m <sup>3</sup> /h*1 l/min*1	G	bar	
mm	mm	mm	mm					D*

Vacuum pressure regulator								supply pressure max. 17 bar, with constant bleed	R250
68	184	20	65	0.78	4	70	G $\frac{1}{4}$	-1 ... +0.14	R250-020
								-1 ... +0.7	R250-02A
								-1 ... +2.0	R250-02B
								-1 ... +7.0	R250-02C
								-1 ... +10	R250-02D



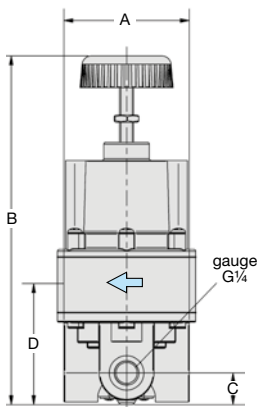
R250

## Special options, add the appropriate letter

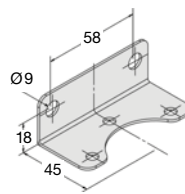
<b>NPT</b>	connection thread	R250-0..N
<b>tamper-proof cap</b>	made of aluminium, adjustment by screwdriver, total height 189 mm	R250-0..T

## Accessories, enclosed

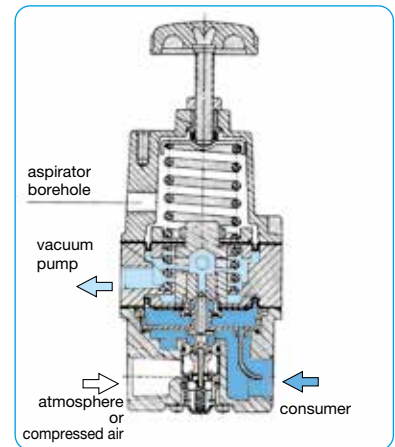
<b>pressure gauge</b>	Ø 63 mm, -1 ... 0 bar, G $\frac{1}{4}$	MA6302-00
<b>mounting bracket</b>	made of steel	BW00-33



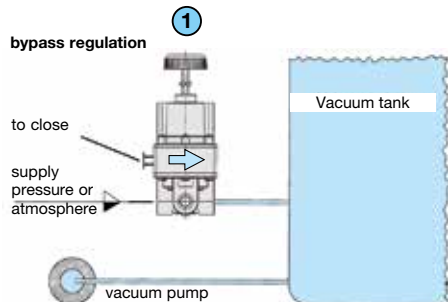
R250



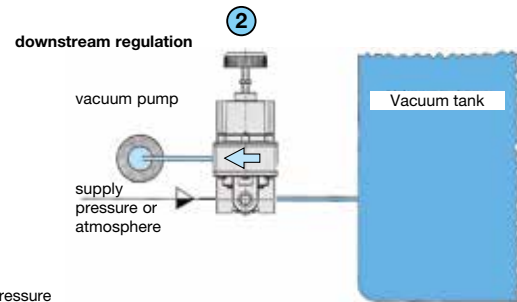
BW00-33



cross-section  
connection for downstream regulation



**1** **Bypass regulation**  
Upstream installation is preferred when rapid exhaust of a tank or system is required. That way the vacuum pump acts directly upon the tank and is not being throttled by the vacuum regulator.



**2** **Downstream installation** is preferred when rapid exhaust of a tank or system or over-pressure filling is required. The inlet pressure connection can optionally be left open to atmosphere.

**Note**  
A strainer is provided on the pressure side or atmospheric, an additional filter is recommended.

\*1 for compressed air at -0.98 bar supply pressure and 0 bar outlet pressure  
\*2 for compressed air at 7 bar supply pressure and 1.4 bar outlet pressure

\* Product group

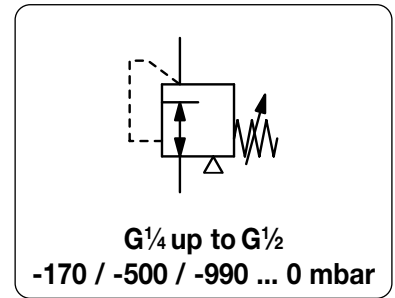
Gauges: see chapter for measuring devices

PDF CAD  
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Order example:  
R250-020

<b>Description</b>	High precision diaphragm vacuum regulator with high flow capacity. A balanced vacuum valve minimizes the effects of variation.
<b>Media</b>	compressed air or non-corrosive gases
<b>Accuracy</b>	response sensitivity: < 2 mbar
<b>Adjustment</b>	by handwheel with locknut
<b>Gauge port</b>	G $\frac{1}{4}$ on both sides of the body, screw plugs supplied
<b>Mounting position</b>	any
<b>Temperature range</b>	0 °C to 90 °C / 32 °F to 194 °F for appropriately conditioned compressed air down to -40 °C / -40°F
<b>Material</b>	Body: aluminium die-cast Elastomer: NBR/Buna-N, optionally FKM Inner valve: stainless steel, brass, aluminium and steel



Dimensions			K <sub>v</sub> -value (m <sup>3</sup> /h)	Flow rate		Connection thread G	Pressure range mbar	Order number
A	B	C		m <sup>3</sup> /h*	l/min*			

Precision vacuum regulator								supply pressure max. -1000 mbar, without constant bleed	V170
67	152	25	1.1	20	330	G $\frac{1}{4}$	-170 ... 0	V170-02A	
							-500 ... 0	V170-02B	
							-990 ... 0	V170-02C	
67	152	25	1.1	20	330	G $\frac{3}{8}$	-170 ... 0	V170-03A	
							-500 ... 0	V170-03B	
							-990 ... 0	V170-03C	
67	152	25	1.1	20	330	G $\frac{1}{2}$	-170 ... 0	V170-04A	
							-500 ... 0	V170-04B	
							-990 ... 0	V170-04C	



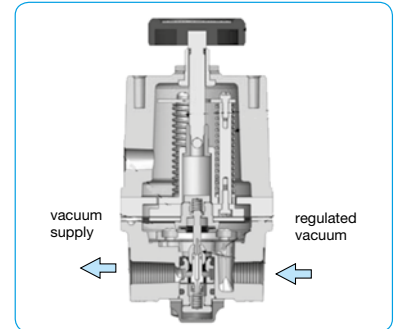
V170

## Special options, add the appropriate letter

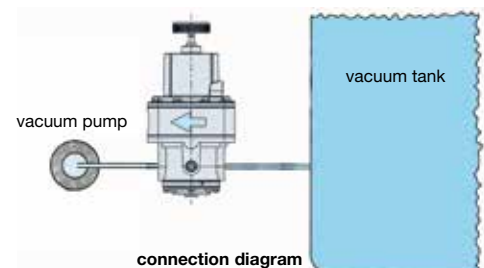
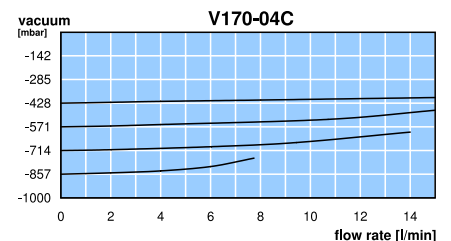
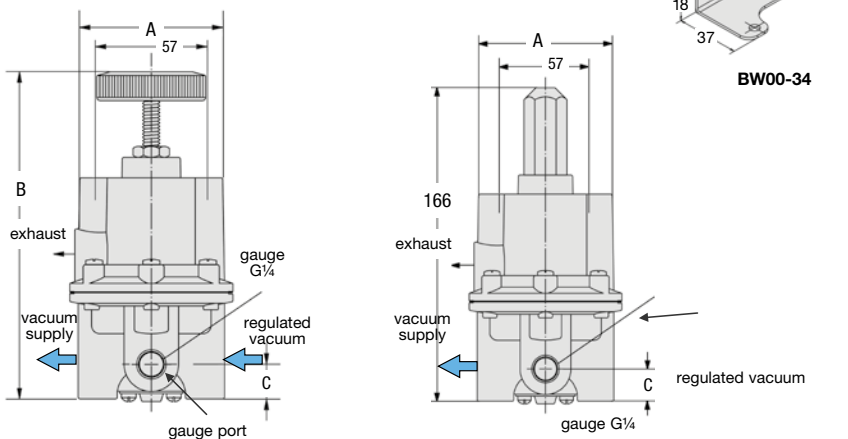
<b>NPT</b>	connection thread	V170-0 . . N
<b>Verstellsicherung</b>	made of aluminium, adjustment by screwdriver, total height 160 mm	V170-0 . . T
<b>FKM-Elastomere</b>		V170-0 . . V

## Accessories, enclosed

<b>pressure gauge</b>	Ø 63 mm, -1 bar...0 bar, G $\frac{1}{4}$	MA6302-00
<b>mounting bracket</b>	made of steel	BW00-34



cross-section



\* Product group

\*1 for compressed air at -0.98 bar supply pressure and 0 bar outlet pressure

Gauges: see chapter for measuring devices

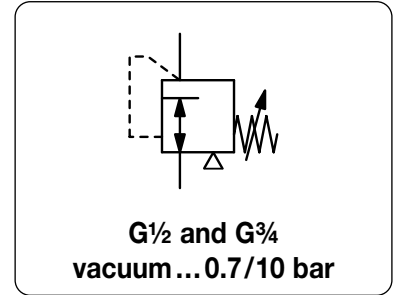
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# PRECISION VACUUM PRESSURE REGULATOR 800 L/MIN

R251

<b>Description</b>	Diaphragm vacuum regulator ensuring high precision in both vacuum and positive pressure range.		
<b>Media</b>	compressed air or non-corrosive gases		
<b>Supply pressure</b>	max. 17 bar		
<b>Accuracy</b>	response sensitivity: < 2.5 mbar		
<b>Adjustment</b>	by handwheel with locknut		
<b>Air consumption</b>	without constant bleed		
<b>Flow rate</b>	800 l/min*1 in vacuum range,	4200 l/min*2 in positive pressure range	
<b>Gauge port</b>	G $\frac{1}{4}$ on both sides of the body, screw plugs supplied		
<b>Mounting position</b>	any		
<b>Temperature range</b>	-40 °C to 90 °C / -40 °F to 194 °F		
<b>Material</b>	Body: aluminium die-cast	Inner valve: stainless steel and brass	
	Elastomer: NBR/Buna-N		



Dimensions				K <sub>v</sub>	Flow rate	Connection	Vacuum	Order
A	B	C	D	value	rate	thread	range	number
mm	mm	mm	mm	m <sup>3</sup> /h	m <sup>3</sup> /h*1 l/min*1	G	bar	

Vacuum pressure regulator								supply pressure max. 17 bar, without constant bleed	R251
87	238	40	98	2.5	48	800	G $\frac{1}{2}$	-1 ... +0.7	R251-04A
								-1 ... +2.0	R251-04B
								-1 ... +10	R251-04D
87	238	40	98	2.5	48	800	G $\frac{3}{4}$	-1 ... +0.7	R251-06A
								-1 ... +2.0	R251-06B
								-1 ... +10	R251-06D



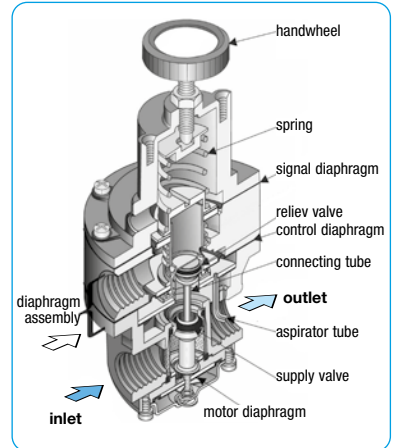
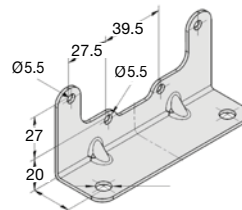
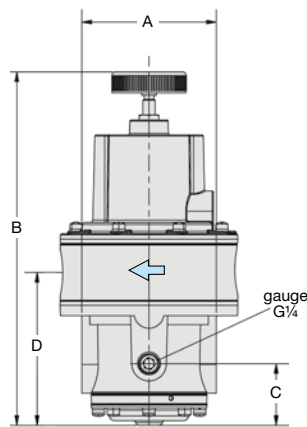
R251

## Special options, add the appropriate letter

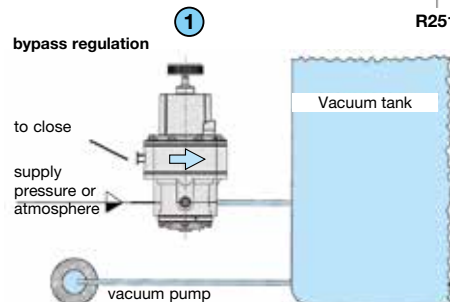
<b>NPT</b>	connection thread	R251-0 . . N
<b>tamper-proof cap</b>	made of aluminium, adjustment by screwdriver, total height 240 mm	R251-0 . . T
<b>FKM elastomer</b>		R251-0 . . V

## Accessories, enclosed

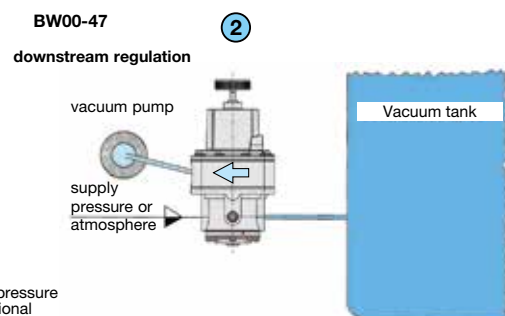
<b>pressure gauge</b>	Ø 63 mm, -1 ... 0 bar, G $\frac{1}{4}$	MA6302-00
<b>mounting bracket</b>	made of steel	BW00-47



cross section  
connection for downstream regulation



**1 Bypass regulation**  
Upstream installation is preferred when rapid exhaust of a tank or system is required. That way the vacuum pump acts directly upon the tank and is not being throttled by the vacuum regulator.



**2 Downstream installation** is preferred when rapid exhaust of a tank or system or over-pressure filling is required. The inlet pressure connection can optionally be left open to atmosphere.

**Note**  
A strainer is provided on the pressure side or atmospheric, an additional filter is recommended.

\*1 for compressed air at -0.98 bar supply pressure and 0 bar outlet pressure  
\*2 for compressed air at 7 bar supply pressure and 1.4 bar outlet pressure

Gauges: see chapter for measuring devices

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\* Product group

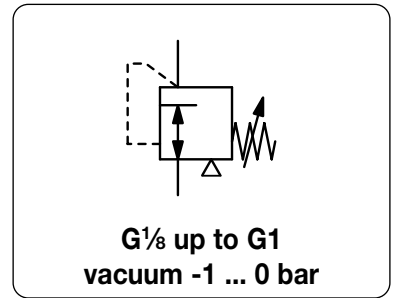


Order example:  
R251-04A

# VACUUM ADJUSTMENT VALVES

V04 / V05

<b>Description</b>	When these valves reach a certain precalibrated vacuum degree, they introduce atmospheric air into the circuit to prevent the increase of the actual value and keep it constant.	
<b>Application</b>	They are used as safety valves on non-commissioned tanks or containers at high vacuum level and on vacuum cup lifting systems.	
<b>Media</b>	compressed air or non-corrosive gases	
<b>Adjustment</b>	V04: by rotating the spindle with lock nut in both directions V05: by knurled head screw or adjusting knob on spindle with fine thread	
<b>Mounting position</b>	any	
<b>Temperature range</b>	-20 °C to 80 °C / -4 °F to 176 °F	
<b>Material</b>	Body: nickel-plated brass Elastomer: NBR/Buna-N	Inner valve: spring steel and brass



Dimensions			Flow rate		Connection thread	Vacuum-range	Order number
A	B	SW	m <sup>3</sup> /h	l/min	G	bar	

Vacuum adjustment valve							Vacuum regulator with external leakage	V04
45	7	12	4	60	G <sup>1</sup> / <sub>8</sub>	-1 ... -0.3		V04-01
57	15	24	20	330	G <sup>1</sup> / <sub>2</sub>	-1 ... -0.3		V04-04
60	12	30	40	660	G <sup>3</sup> / <sub>4</sub>	-1 ... -0.3		V04-06
65	12	35	70	1100	G1	-1 ... -0.3		V04-08



V04-01 V04-04

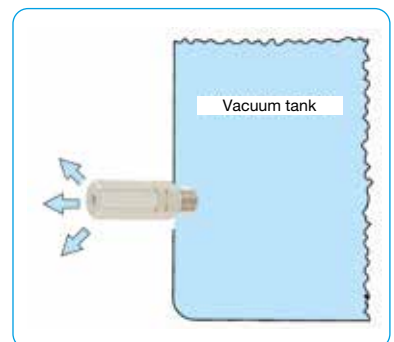
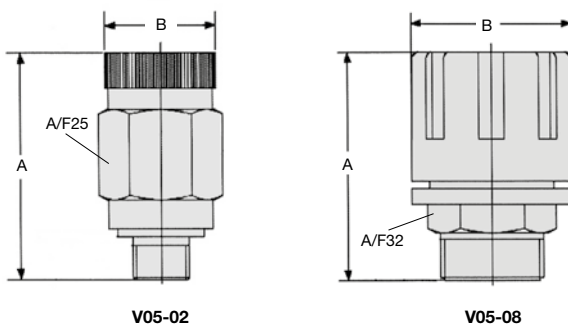
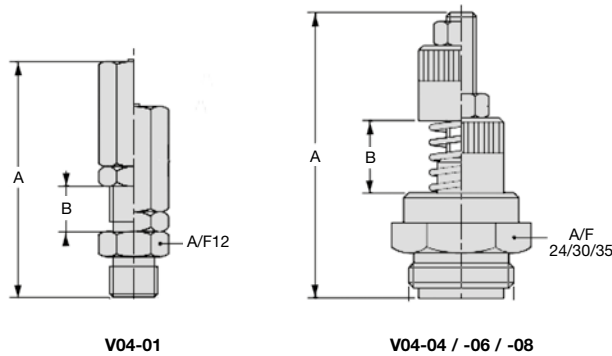
Vacuum adjustment valve, precise							Vacuum regulator with external leakage	V05
63	26	25	4	260	G <sup>1</sup> / <sub>4</sub>	-1 ... 0		V05-02
82	52	32	20	700	G1	-1 ... 0		V05-08



V04-06 V04-08



V05-02 V05-08



\* Product group

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Order example:  
V04-01