

Vacuum Generators

VGC Series

Introduction

VGC series vacuum generators are designed to create a vacuum and establish suction to purge piping systems, which are widely used in the semiconductor industry. The VGC series integrate vacuum venturi, air actuated valve and check valve to provide a compact design.



Features

- ⦿ Air actuated valve controls the nitrogen supply to the vacuum venturi
- ⦿ Check valve prevents backflow into the nitrogen supply
- ⦿ Constant bleed option to maintain inert vent line
- ⦿ Ultrasonic and DI water cleaned to ensure high purity

Technical Data

N₂ Inlet Pressure	70 ~ 110 psig (4.8 ~ 7.6 bar)
Maximum Vacuum Pressure	-26 in. Hg (-88 kPa)
Working Temperature	14 ~ 160 °F (-10 ~ 71 °C)
Vacuum Port Maximum Pressure	3500 psig (241 bar)
Proof Pressure (Vacuum)	5250 psig (345 bar)
Burst Pressure (Vacuum)	10500 psig (690 bar)
Leak Rate	Bubble Tight
Cracking Pressure (Check Valve)	3 psid (0.2 bar) ^①
Cracking Pressure (Pneumatic Valve)	60 ~ 110 psig (4 ~ 7.6 bar)
Constant Bleed ^②	CB025 1 ~ 2.5 slpm @ 80 psig (5.5 bar) N ₂
	CB050 2 ~ 5 slpm @ 80 psig (5.5 bar) N ₂
	CB080 5 ~ 8 slpm @ 80 psig (5.5 bar) N ₂
	CB150 10 ~ 15 slpm @ 80 psig (5.5 bar) N ₂

Notes:

① Cracking pressure is a nominal value which may vary in specific applications.

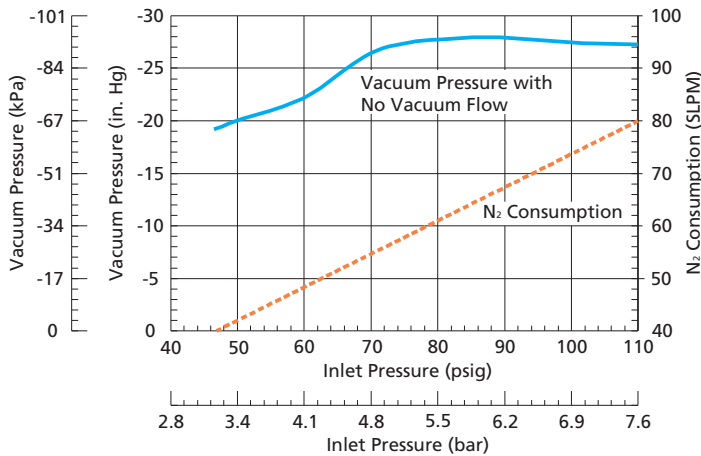
② Constant bleed option includes additional check valve for bleed orifice.

Other Parameters

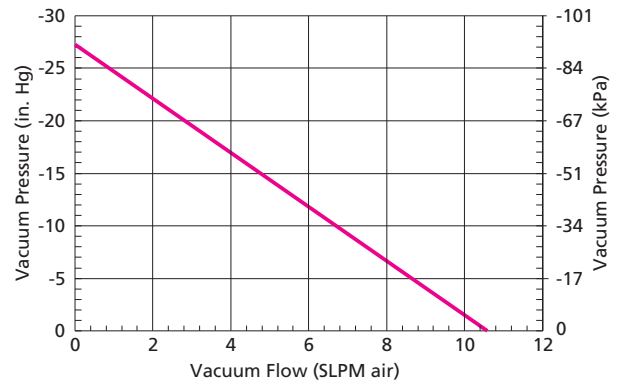
Pneumatic Valve	Normally Closed (NC)
Pneumatic Valve Control Port	M5 Thread
Inlet Port Fitting	1/4 inch Face Seal Male
Vent Port Fitting	1/4 inch, 1/2 inch Face Seal or 3/8 inch Fractional Tube Butt Weld
Vacuum Port Fitting	1/4 inch Face Seal or Fractional Tube Butt Weld

Exhaust and Flow Specification

Nominal Vacuum and Nitrogen Consumption VS. Inlet Pressure



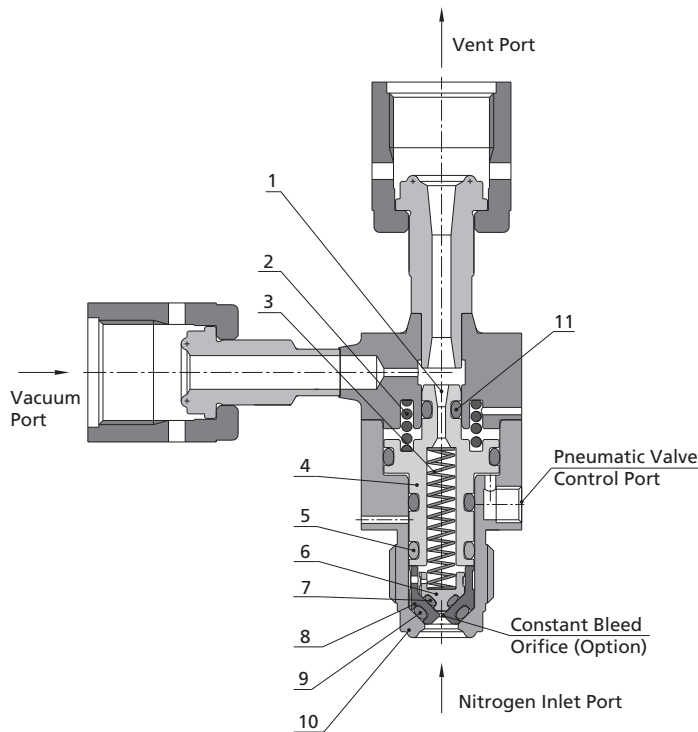
Nominal Vacuum VS. Vacuum Flow (70 to 110 psig Inlet Pressure)



Notes:

1. Achieved vacuum level with the characteristics described above produces abnormal noise (soft clicking sound) at supply pressure (around 4.8 bar) just before reaching the peak value. When this abnormal noise occurs, the characteristics become unstable and operation becomes louder. Increase the supply pressure within the specification range, as it may affect the sensor, etc., and cause trouble.
2. N₂ inlet pressure greater than 110 psig (7.6 bar) may cause valve not to close when actuation control pressure vented.

Construction

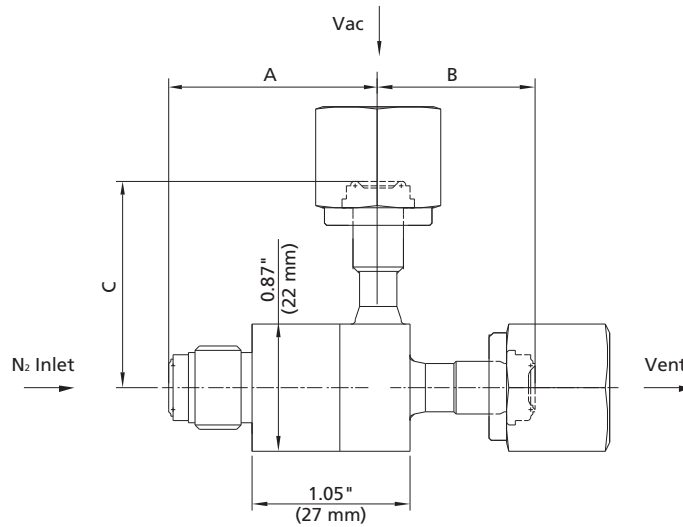


Item	Component	Material
1	<i>Vacuum Venturi</i>	316L
2	Valve Actuator Spring	304
3	<i>Check Valve Spring</i>	304
4	Valve Actuator Piston	316L
5	O-ring	FKM or Neoprene
6	Constant Bleed Check Valve Poppet	316L
7	O-ring	FKM or Neoprene
8	Primary Check Valve Poppet	316L
9	O-ring	FKM or Neoprene
10	Body	316L
11	O-ring	FKM or Neoprene

Note: Components in contact with the media are listed in italics.

Dimensions and Ordering Information

Dimensions in in. (mm) are for reference only and subject to change.



Ordering Number	Inlet Connection	Vent Connection	Vacuum Connection	A in. (mm)	B in. (mm)	C in. (mm)
VGC6L-FR4-RFR4-RFR4-	FR4	RFR4	RFR4	1.43 (36.4)	1.07 (27.2)	1.39 (35.3)
VGC6L-FR4-RFR4-FFR4-			FFR4			1.39 (35.3)
VGC6L-FR4-RFR4-TB4-			TB4			0.75 (19.1)
VGC6L-FR4-FFR4-RFR4-		FFR4	RFR4		1.07 (27.2)	1.39 (35.3)
VGC6L-FR4-FFR4-FFR4-			FFR4			1.39 (35.3)
VGC6L-FR4-FFR4-TB4-			TB4			0.75 (19.1)
VGC6L-FR4-TB6-RFR4-		TB6	RFR4		0.96 (24.4)	1.39 (35.3)
VGC6L-FR4-TB6-FFR4-			FFR4			1.39 (35.3)
VGC6L-FR4-TB6-TB4-			TB4			0.75 (19.1)
VGC6L-FR4-FR8-RFR4-		FR8	RFR4		1.64 (41.7)	1.39 (35.3)
VGC6L-FR4-FR8-FFR4-			FFR4			1.39 (35.3)
VGC6L-FR4-FR8-TB4-			TB4			0.75 (19.1)
VGC6L-FR4-FFR8-RFR4-		FFR8	RFR4		1.64 (41.7)	1.39 (35.3)
VGC6L-FR4-FFR8-FFR4-			FFR4			1.39 (35.3)
VGC6L-FR4-FFR8-TB4-			TB4			0.75 (19.1)

Notes:

FITOK has product options and combinations which are not documented in data sheets. If you have a model number that is not defined by the ordering information, please consult the factory or your local representative.

