

# 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 provides a continuous supply of inert gas, ensuring that the vent line remains filled with inert gas
- ⦿ Ultrasonic and DI water cleaned to ensure high purity

### Technical Data

<b>N<sub>2</sub> Inlet Pressure</b>		70 ~ 110 psig (4.8 ~ 7.6 bar)
<b>Vacuum Maximum</b>		26 in. Hg (100 Torr)
<b>Working Temperature</b>		14 ~ 160 °F (-10 ~ 71 °C)
<b>Vacuum Port Maximum Pressure</b>		3500 psig (241 bar)
<b>Proof Pressure (Vacuum)</b>		5250 psig (362 bar)
<b>Burst Pressure (Vacuum)</b>		10500 psig (724 bar)
<b>Leak Rate</b>		Bubble Tight
<b>Cracking Pressure<sup>①</sup>(Check Valve)</b>		3 psig (0.2 bar) Differential
<b>Cracking Pressure (Air-Actuated Valve)</b>		60 ~ 110 psig (4 ~ 7.6 bar)
<b>Constant Bleed<sup>②</sup></b>	<b>CB025</b>	1 ~ 2.5 slpm @ 80 psig (5.5 bar) N <sub>2</sub>
	<b>CB050</b>	2 ~ 5 slpm @ 80 psig (5.5 bar) N <sub>2</sub>
	<b>CB080</b>	5 ~ 8 slpm @ 80 psig (5.5 bar) N <sub>2</sub>
	<b>CB150</b>	10 ~ 15 slpm @ 80 psig (5.5 bar) N <sub>2</sub>

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

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



Fittings

Valves

Regulators

Filters

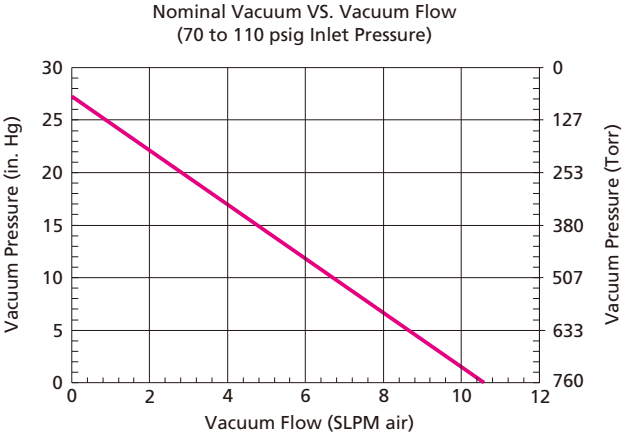
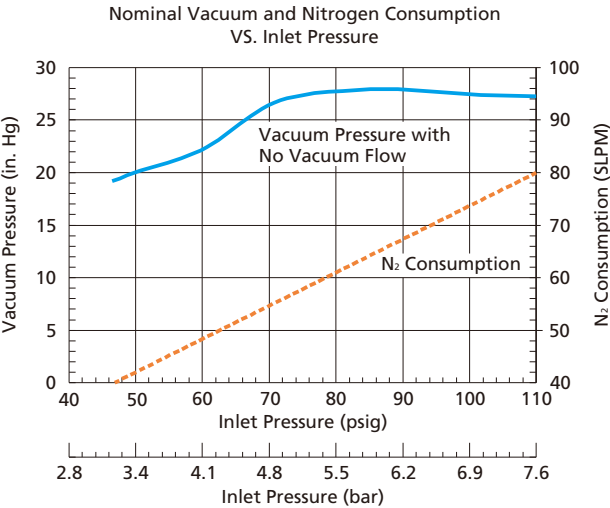
Tubing

Integrated Systems

Other Products

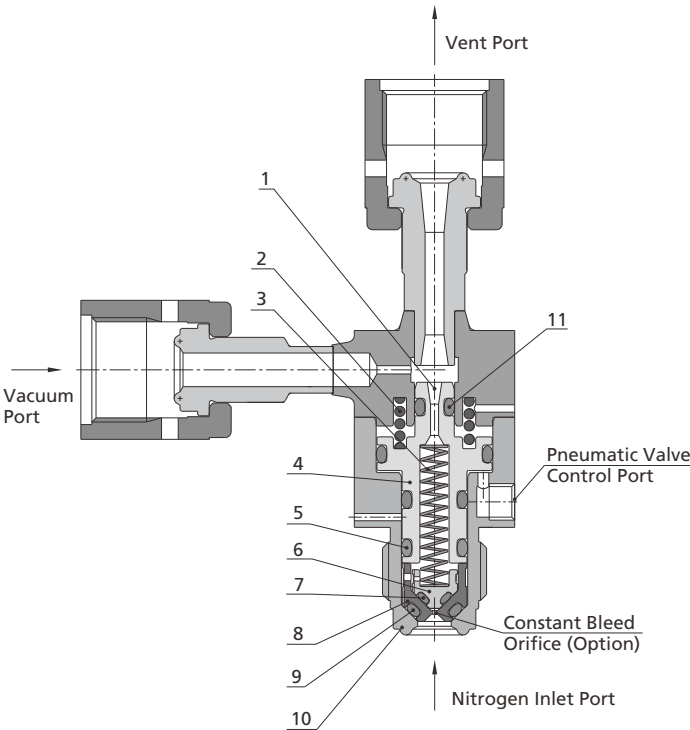
Technical Information

Exhaust and Flow Specification



- 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. N<sub>2</sub> inlet pressure greater than 110 psig (7.6 bar) may cause valve not to close when actuation control pressure vented.

Major Materials of construction



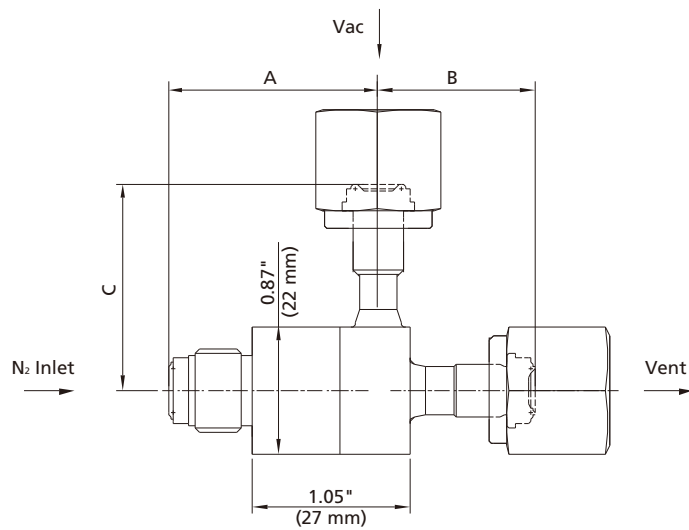
Item	Component	Material
1	<i>Vacuum Venturi</i>	316L SS
2	Valve Actuator Spring	316 SS
3	<i>Check Valve Spring</i>	316 SS
4	Valve Actuator Piston	316L SS
5	O-ring	FKM or Neoprene
6	<i>Constant Bleed Check Valve Poppet</i>	316L SS
7	O-ring	FKM or Neoprene
8	<i>Primary Check Valve Poppet</i>	316L SS
9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

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

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Dimensions and Ordering Information

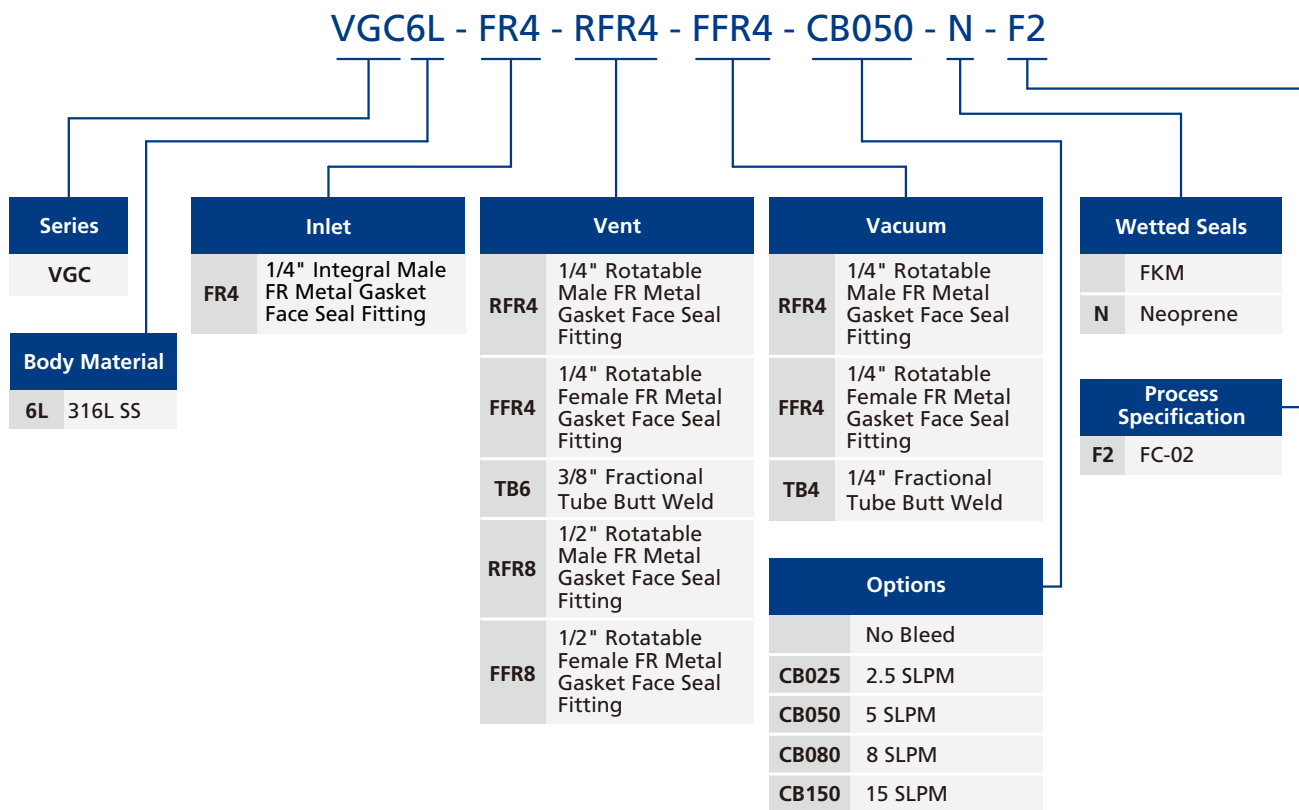
Dimensions in in. (mm) are for reference only and subject to change.



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-RFR8-RFR4-		RFR8	RFR4		1.64 (41.7)	1.39 (35.3)
VGC6L-FR4-RFR8-FFR4-			FFR4			1.39 (35.3)
VGC6L-FR4-RFR8-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.

## Ordering Number Description



### Note:

"Ordering Number Description" is a reference to understand the combination rules of FITOK product part number. Not all combinations are available, Should you have any questions, please contact FITOK Group or our authorized distributors.

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