Selection Method

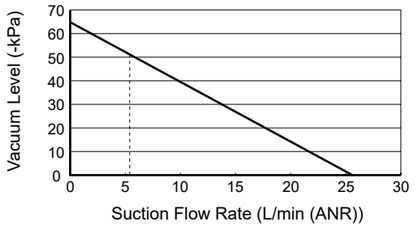
Determine the maximum number of drop prevention valves that can be mounted on one vacuum generator based on the valve element minimum operating suction flow rate in the table below and the example graph.

Item	VSECV-M3	VSECV-M4	VSECV-M5	VSECV-M6	VSECV-M10	VSECV-6A
Valve Element Minimum Operating Suction Flow Rate L/min (ANR)	2.0	5.0	5.0	13.0	13.0	13.0
Vacuum Reduction Amount during Non-Suction kPa	2.0	2.0	2.0	2.0	2.0	2.0

Example 1.
VSJ-L07...(Catalog Data)

Ultimate Vacuum Level (-kPa)	Suction Flow Rate (L/min (ANR))
66.5	26

Referring to the completed diagram on the right based on catalog data, the-type and maximum usable quantity of drop prevention valves can be determined from the valve element minimum operating suction flow rate table above.



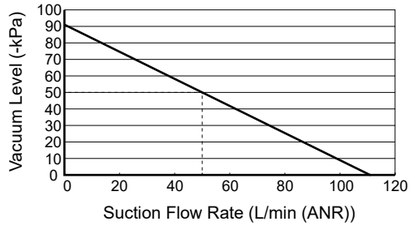
■When using at vacuum degree of -50 kPa

Since the intake flow rate is about 6 L/min (ANR), operable position locking valve model No.: VSECV-M3, VSECV-M4, and VSECV-M5 are required.
No. of valves used and non-suctioned locations for VSECV-M3: 3 units,
No. of valves used and non-suctioned locations for VSECV-M4, VSECV-M5: It is required to allow up to 1 unit.

Example 2. VSQ-H2O
(Catalog Data)

Ultimate Vacuum Level (-kPa)	Suction Flow Rate (L/min (ANR))
93	110

Referring to the completed diagram on the right based on catalog data, the-type and maximum usable quantity of drop prevention valves can be determined from the valve element minimum operating suction flow rate table above.



■When using at vacuum degree of -50 kPa

Since the intake flow rate is about 52 L/min (ANR), operable position locking valve model No.: VSECV-M3, VSECV-M4, VSECV-M5 VSECV-M6, VSECV-M10, and VSECV-6A are required.
No. of valves used and non-suctioned locations for VSECV-M3: No. of valves used and non-suctioned locations for 21 units (*1), VSECV-M4, and VSECV-M5: No. of valves used and non-suctioned locations for 10 units, VSECV-M6, VSECV-M10, and VSECV-6A: Up to 4 units must be allowed.

*1: VSECV-M3 is calculated by suction flow rate alone, theoretical: 2 kPa Up to 25 units can be supported. However, considering that all 25 units are not suctioned, the degree of vacuum is: -93 +(2 x 25) = -43 kPa. Therefore, when using -50 kPa: -93 +(2xx) ≤ -50 x≤21.5 ∴ Max. non-suctioned area: That's 21 units.

Pneumatic Components

To Use This Product Safely

Be sure to read this before use.
For general pneumatic components precautions, Intro 15 for details.

Individual Precautions: Drop Prevention Valve VSECV Series

Selection / Design Notes

Warning

■Since it is not a Check Valves, vacuum is not held unless there is a hold function on the vacuum source side. Do not use for the purpose of vacuum holding.

■The design allows multiple suction pads to be mounted on a single ejector, but before using the product, confirm the performance with an actual device.

■When using a sponge pad, if the valving element is operated under conditions where leakage exceeding the valving element operating intake flow rate occurs, the workpiece may fall.

Caution

■Precautions for body mounting and removal
①Use appropriate tools for mounting and removing the product.
②During mounting, tighten by referring to the recommended tightening torque for each thread size (table below).

Recommended Tightening Torque

Thread Size	Tightening Torque
M3x0.5	0.5 N·m
M4x0.7	1.0 to 1.2 N·m
M5x0.8	1.0 to 1.5 N·m
M6x1	1.5 to 2.0 N·m
M10x1	5.0 to 7.0 N·m
R1/8, Rc1/8	4.5 to 6.5 N·m

■Precautions for body screw tightening position
①When mounting the male thread side of the drop prevention valve to equipment or a holder, use the hexagonal width across flats on the male thread side for tightening and confirm there is no looseness. Also, tighten by referring to the recommended tightening torque in the table above.
②When mounting equipment or a pad to the female thread side of the drop prevention valve, use the hexagonal width across flats on the female thread side for tightening and confirm there is no looseness. Also, tighten by referring to the recommended tightening torque in the table above.
③Regarding body part screw tightening during element replacement, also tighten by referring to the recommended tightening torque in the table above.

■Since the pressure drop of this product is very small even when the workpiece is not being suctioned, when checking suction in a pressure sensor, etc., be sure to thoroughly confirm with actual devices before use. Also, clogging of the filter element further minimizes the pressure drop during workpiece non-suction, so exercise sufficient caution when configuring pressure sensors, etc.