Related vacuum products

■ Vacuum component

CONTENTS

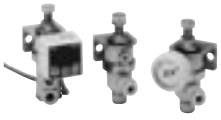
Series variation

Related vacuum products

(Position locking valve)

Series	Model no.	Port size		Remarks	Page
		Vacuum generator side	Workpiece side		
VSECV Series ・Separate circuit workpiece maintains vacuum even if workpiece deviates. ・This is applicable for vacuum pads. 	VSECV-M3	M3			422
	VSECV-M4	M4			
	VSECV-M5	M5			
	VSECV-M6	M6			
	VSECV-6A	R (c) 1/8			

(Compact vacuum regulator)

Series	Model no.	Port size		Remarks	Page
		ø6	ø8		
VSRVV Series ・Terminal pressure can be controlled in addition to main pressure. ・Select either a vacuum pressure switch with a digital indicator or a vacuum pressure gauge. 	VSRVV-*A*	○	○	Elbow (Output: male thread)	426
	VSRVV-*B*	○	○	Elbow (Supply: male thread)	
	VSRVV-*U*	○	○	Union type	

(Vacuum break unit)

Series	Model no.	Port size		Remarks	Page
		Vacuum generator side	Workpiece side		
VSLF Series ・Control vacuum break air while maintaining vacuum characteristics of vacuum ejector. ・Reduction of vacuum break time realized by vacuum break circuit relief function. 	VSLF-44	ø4	ø4		436
	VSLF-66	ø6	ø6		
	VSLF-46A	ø4	R1/8		
	VSLF-66A	ø6	R1/8		

(Vacuum filter)

●: Standard, ○: Option

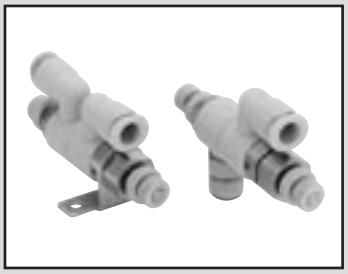
Series	Model no.	Port size						Remarks	Page
		M5	ø4	ø6	ø8	ø10	ø12		
VSFB Series Large volume union type ・Dust and water drops are eliminated with the cyclone effect and element. ・The entire dust case is removed with a single touch, preventing dust from scattering. 	VSFB-66			●				Filtration area: 20cm^2	440
	VSFB-88				●			Filtration area: 20cm^2	
	VSFB-1010					●		Filtration area: 20cm^2	
	VSFB-1212						●	Filtration area: 20cm^2	
VSFU Series Compact union type ・Tools are not required to replace or clean the element. ・In-line types are easily installed in piping. 	VSFU-1S	○	○	○				Filtration area: 2.8cm^2	
	VSFU-1L	○	○	○				Filtration area: 4.7cm^2	
	VSFU-2	○	○	○				Filtration area: 7.5cm^2	
	VSFU-3			○	○	○		Filtration area: 12.5cm^2	
VSFJ Series Compact socket type ・This is appropriate for discrete ejector, not integrating vacuum filter. 	VSFJ-44		●					Filtration area: 0.8cm^2	
	VSFJ-66			●				Filtration area: 1.1cm^2	

(Vacuum switch)

Series	Model no.	Port size					Remarks	Page
		M5	ø4	ø6	ø8	direct		
VSUS Series ・2 point output and analog output are available. ・Push-in joint, M5 female thread, or direct installation piping connection is available. 	VSUS-NW	○	○	○	○	○	NPN: 2 point output	448
	VSUS-NA	○	○	○	○	○	NPN: Analog output	
	VSUS-PW	○	○	○	○	○	PNP: 2 point output	
	VSUS-PA	○	○	○	○	○	PNP: Analog output	

(Air tweezers)

Series	Model no.	Pad diameter				Rubber Material	Holder shape	Page
		ø2	ø4	ø6	ø8			
VST Series ・Vacuum pad and ejector are integrated into a pen shape component. ・Appropriate for assembly, etc., of small part ・A package type is also available. 	VAT-A*N	○	○	○	○	Nitrile rubber	Type without valve	454
	VAT-A*S	○	○	○	○	Silicon rubber	Type without valve	
	VAT-B*N	○	○	○	○	Nitrile rubber	Valve integrated type	
	VAT-B*S	○	○	○	○	Silicon rubber	Valve integrated type	



Vacuum break control valve with break air flow rate and relief pressure adjustment needle
Vacuum break unit

VSLF Series

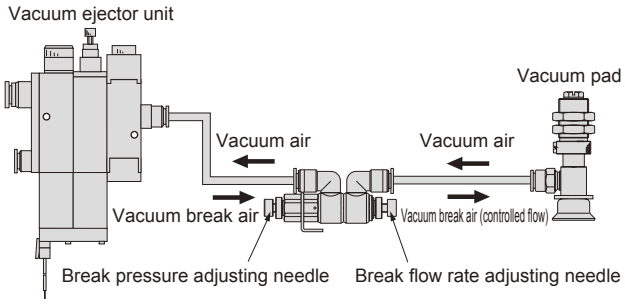
● Port size: ø4, ø6

RoHS

Features

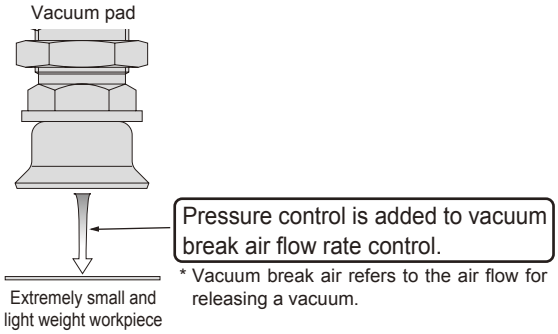
■ This vacuum break unit for the vacuum ejector has a vacuum break mechanism.

■ The vacuum break air is controlled while maintaining the vacuum of the vacuum ejector.



■ Pressure control is added to the conventional vacuum break air flow control to prevent the work piece from blown away.

■ A relief function (function to release excessive pressure) has been incorporated in the vacuum break circuit to shorten vacuum break time.



* Vacuum break air refers to the air flow for releasing a vacuum.

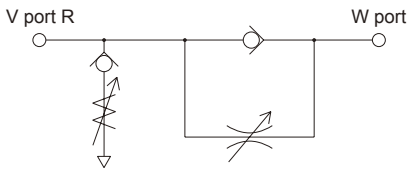
■ Break time can be shortened by installing the product on the end of vacuum break circuit.

■ The rotating resin body and joint enable the tube to be led out in any direction.

Specifications

Descriptions	VSLF
Working fluid	Air
Working pressure range MPa	0 to 0.7
Relief valve working pressure setting range MPa	-0.015 to 0.015
Use vacuum kPa	0 to -101
Ambient temperature range °C	0 to 60 (no freezing)

Circuit diagram



How to order

● Vacuum break unit

VSLF - 6 6A

Ⓐ Vacuum side port size

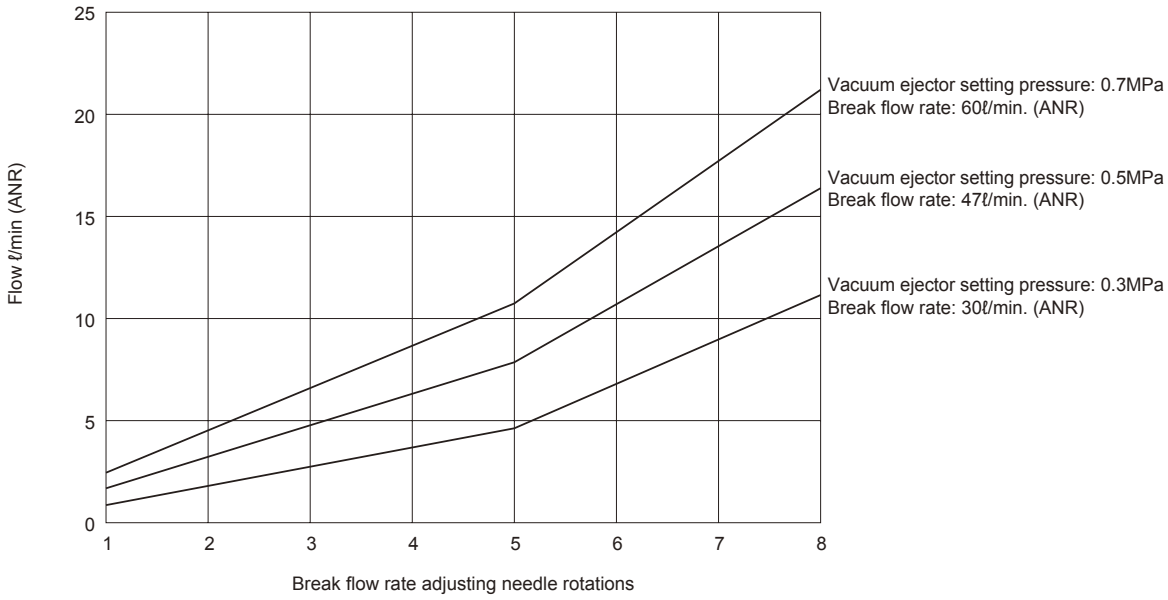
Ⓑ Pad side port size is not available.

Symbol	Descriptions
Ⓐ Vacuum side port size	
4	ø4 push-in joint
6	ø6 push-in joint

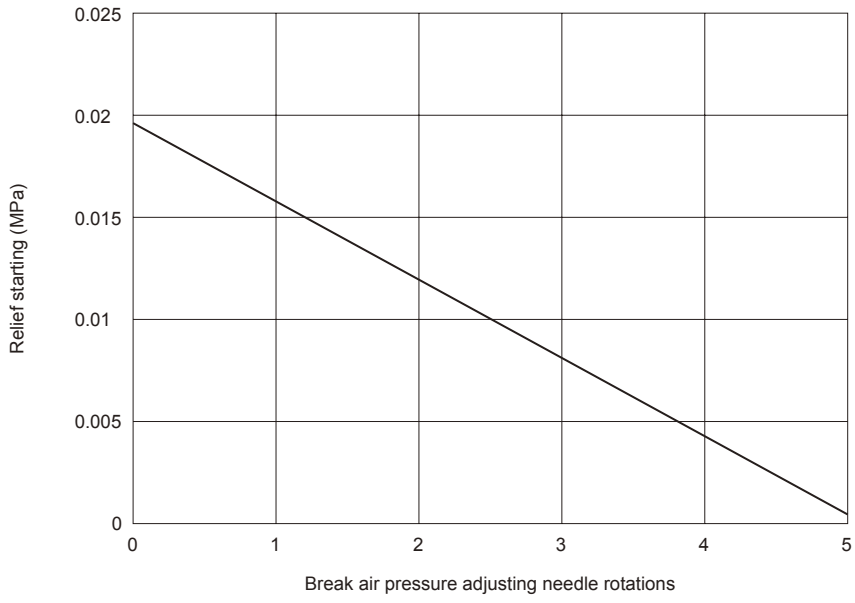
Ⓑ Pad side port size			
		Vacuum generator side port size	
		4	6
4	ø4 push-in joint	●	
6	ø6 push-in joint		●
6A	R1/8	●	●

not available.

Vacuum break air discharge flow rate characteristics

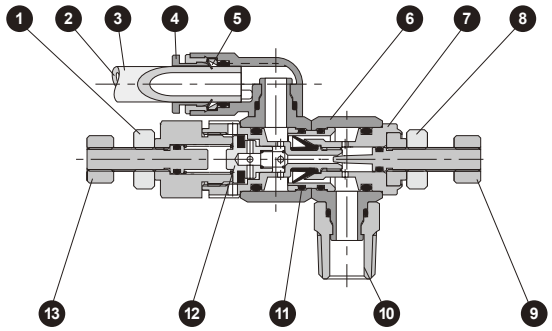


Vacuum break air pressure characteristics



Internal structure and parts list

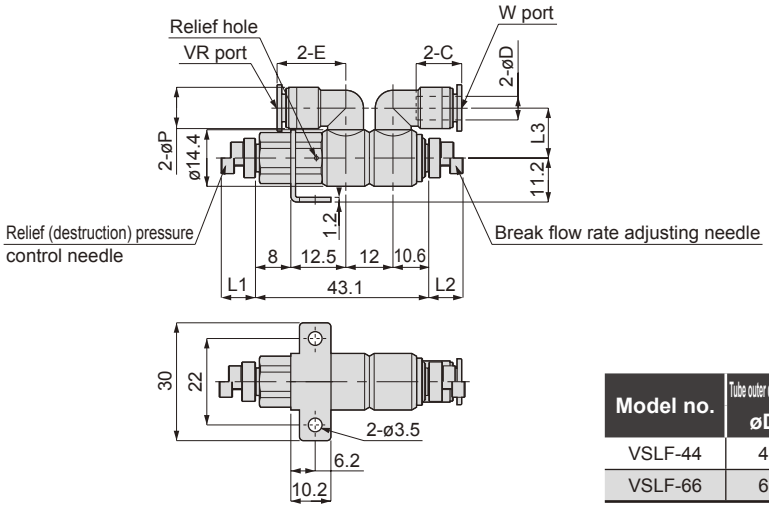
● VR port: Push-in joint, W port: Taper screw type



No.	Parts name	Material	Remarks	No.	Parts name	Material	Remarks
1	Lock nut	Aluminum		8	Lock nut	Aluminum	
2	Vacuum port (VR)			9	Vacuum break flow rate adjusting needle	Brass , nickeling	
3	Tube			10	Pad side port (W)		
4	Release ring	Polyacetal		11	Check packing seal	Nitrile rubber	
5	Lock jaw	Stainless steel		12	Valving element	Aluminum	
6	Resin	PBT		13	Vacuum break relief pressure adjusting needle	Brass, nickeling	
7	Metal	Brass, nickeling					

Dimensions

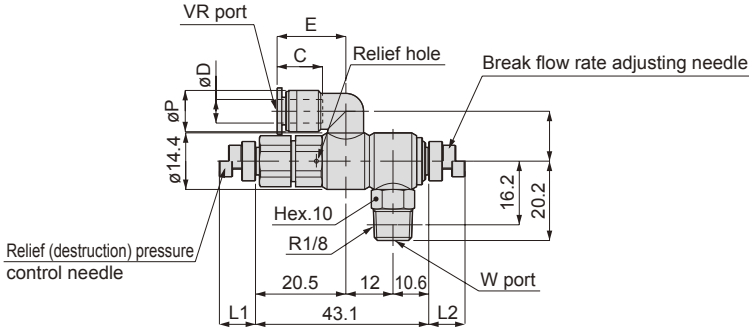
● Vacuum side (VR) port: Push-in joint, Pad side (W) ports: Push-in joint type



Unit: mm

Model no.	Tube outer diameter øD	C	E	L1		L2		L3	øP	Weight (g)
				max.	min.	max.	min.			
VSLF-44	4	11.3	16.4	11.8	8	13.4	9.6	12.2	8	36
VSLF-66	6	11.8	17.7	11.8	8	13.4	9.6	12.7	10.5	37

● Vacuum side (VR) port: Push-in joint, Pad side (W) ports: Taper screw type



Unit: mm

Model no.	Tube outer diameter øD	C	E	L1		L2		L3	øP	Weight (g)
				max.	min.	max.	min.			
VSLF-46A	4	11.3	16.4	11.8	8	13.4	9.6	12.2	8	36
VSLF-66A	6	11.8	17.7	11.8	8	13.4	9.6	12.7	10.5	37

Safety precautions

⚠ WARNING

- There is a set air control flow direction for the vacuum break unit. Read this manual thoroughly and check the direction before using. An incorrect control direction could cause personal injury or device damage.
- Do not use fluids other than air. Contact CKD when using for fluids other than air.
- Do not pull, twist, bend, etc., the product, and do not drop or apply excessive impact to it. The valve could break.
- Securely tighten the lock nut by hand instead of using a tool. The lock nut or main unit could be damaged if the lock nut is tightened with a tool. If the lock nut is not accurately tightened, it could loosen and cause initial settings to deviate.
- Do not use this product in applications where the inner pressure between the vacuum ejector and vacuum break unit is 0.2 MPa or more. The vacuum ejector could break.

⚠ CAUTION

- Read and understand this manual before adjusting the vacuum break air flow rate or vacuum break air relief pressure.
- Caution is required when piping resistance is large or when the required flow rate is high. An insufficient break flow rate could result in problems. Confirm specifications before using.
- Install a vacuum filter on the pad port (Use only filters that withstand positive pressure for vacuum break). If a filter is not installed, avoid sucking in dust, salt, or iron chips, etc., and regularly wash the inside of the valve.

How to use

Vacuum break unit adjustment method

1. Install the VR port (vacuum port) onto the vacuum ejector, and the W port (pad port) onto the pad. Fully open the relief pressure adjustment needle ① as shown in the drawing, and fully open the break air flow rate adjustment needle ②.
2. Generate a vacuum with the vacuum ejector, and gradually close the needle ① shown in the drawing and start the vacuum. Check that vacuum startup time is not delayed. Repeatedly generate a vacuum. If there is no problem, proceed to settings in step 3.
3. Generate a vacuum break air with the vacuum ejector, and gradually open the needle ② shown in the drawing. Set the break air suitable for the workpiece.