

Vacuum Flow

ZH□-□□-X185, X341

By supplying compressed air,

The ZH-X185 vacuum flow is to be discontinued as of the end of September 2023. Consider selecting a ZHV series vacuum flow as a substitute. [Click here for details.](#)

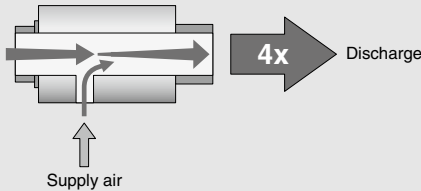
RoHS

Large blow and vacuum flow rate available



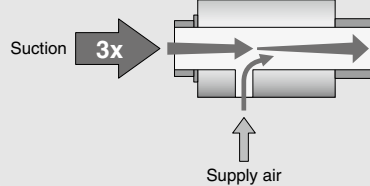
● A blow flow rate 4 times the supply air

A discharge flow rate 4 times the supply air can be generated.
Contributes to reduction in flow consumption if discharge requires flow rate.

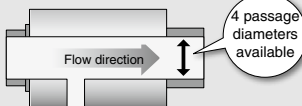


● A vacuum flow rate 3 times the supply air

A suction flow rate 3 times the supply air can be generated.
Contributes to reduction in flow consumption if suction requires flow rate.



● Large passage diameter available for suction of machining chips, particles, etc.



New Body material is selectable.

(Aluminum alloy, Stainless steel)

● Dust bag available

● Mounting bracket available

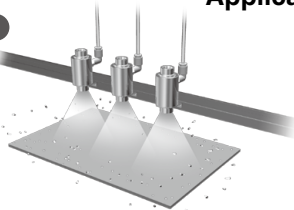
● Maintenance free

No regular motor maintenance is necessary compared with an electric blower.

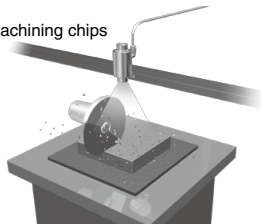
Application Examples

Blow

Blowing away water droplets

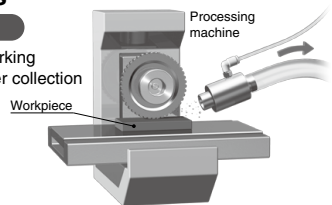


Blowing away machining chips



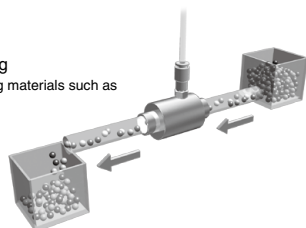
Vacuum

Resin part marking system powder collection



Transferring

* Transferring materials such as pellets



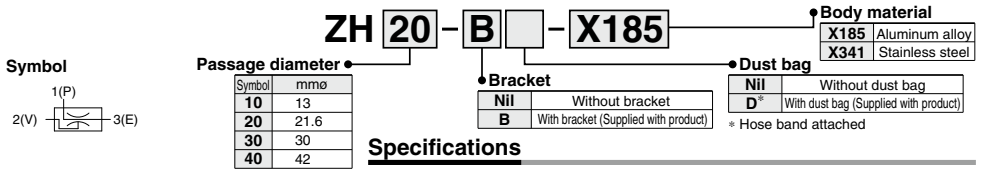
* SMC does not guarantee the entire system. Please think the system shown above as an example. A workpiece that is harder than the body material may damage to the inside of the body, causing the performance to lower. The compatibility should be judged by the customer before adopting the product.

Vacuum Flow ZH□-□□-X185, X341

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How to Order



Warning

- Because suctioned matter is ejected together with exhaust, do not direct an exhaust port at a person or equipment.
- Do not use in an atmosphere having corrosive gases, chemicals, sea water, water steam, or where there is direct contact with any of these.

Refer to back page 50 for Safety Instructions and pages 49 to 51 for Vacuum Equipment Precautions.

Specifications

Model	ZH10	ZH20	ZH30	ZH40
Seal material	NBR			
Bracket material	Steel			
Hose band material	Stainless steel			
Dust bag material	Polyester			
Dust bag filtration [μm]	10			
Passage diameter [mm]	φ13	φ21.6	φ30	φ42
C [dm ³ /(s·bar)] [Effective area (mm ²) ^{Note 1}]	0.49 (2.46)	1.04 (5.19)	1.97 (9.86)	3.69 (18.47)
Fluid	Air			
Supply pressure range [MPa]	0 to 0.7			
Ambient and fluid temperatures [°C]	-5 to 80 (with no freezing or condensation)			
Bracket assembly	ZH-BK1-10-A	ZH-BK1-20-A	ZH-BK1-30-A	ZH-BK1-40-A
Dust bag assembly	ZH-DB1-10-A	ZH-DB1-20-A	ZH-DB1-30-A	ZH-DB1-40-A

Note 1) The C value as well as the effective area is a theoretical value.

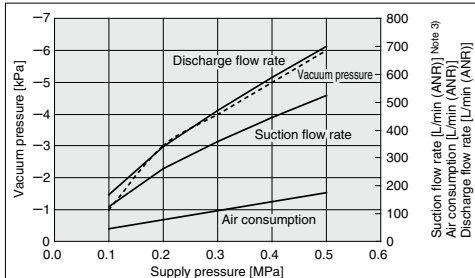
Weight

Model/Body material	Weight [g] ^{Note 2)}			
ZH□□□X185 [Aluminum alloy]	92 (101)	417 (436)	929 (990)	1847 (1966)
ZH□□□X341 [Stainless steel]	271 (280)	1230 (1250)	2740 (2800)	5440 (5560)

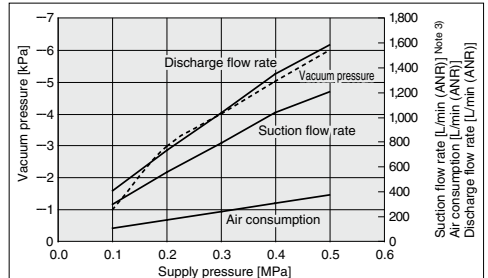
Note 2) () : Weight including the bracket

Exhaust Characteristics

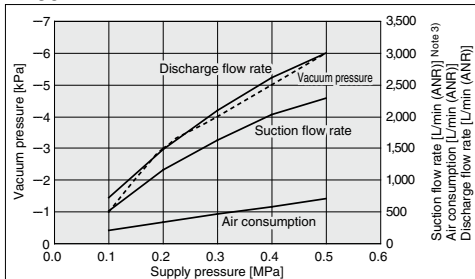
ZH10



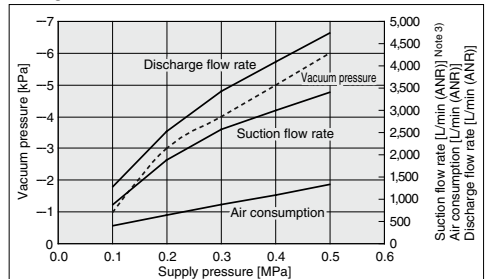
ZH20



ZH30



ZH40



Note 3) Suction flow rate is a theoretical value.

Note 4) The above characteristics are when the discharge outlet is under atmospheric pressure.

Note 5) Back pressure increase should be avoided if you mount a filter or some devices to catch the suctioned particles on the suction outlet side of this product.

Recommended Sonic Conductance and Solenoid Valves (Reference)

Model	ZH10-□□	ZH20-□□	ZH30-□□	ZH40-□□
C [dm ³ /(s·bar)] ^{Note 6)}	1.48 or more	3.12 or more	5.92 or more	11.08 or more
Solenoid valve (Reference)	VQZ200	VP300	VP500	VP700
	Sonic conductance C [dm ³ /(s·bar)]: 1.7	Sonic conductance C [dm ³ /(s·bar)]: 4.2	Sonic conductance C [dm ³ /(s·bar)]: 8.9	Sonic conductance C [dm ³ /(s·bar)]: 15.3

Note 6) This is the total recommended value for all devices on the upstream side including the piping to the valve and vacuum flow.

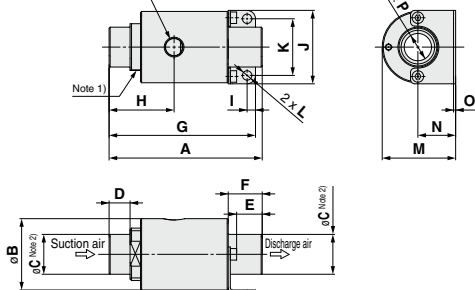
ZH□-□□-X185, X341



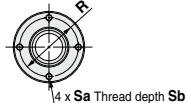
Dimensions

ZH₂₀¹⁰-□□

Air pressure supply (P) port
Thread size: Q



Without bracket



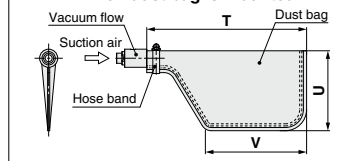
● Bracket assembly (ZH-BK1-□-A)

Description
Bracket
Hexagon socket head cap screw

● Dust bag assembly (ZH-DB1-□-A)

Description
Dust bag
Hose band

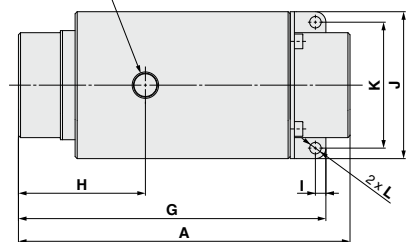
When dust bag is mounted



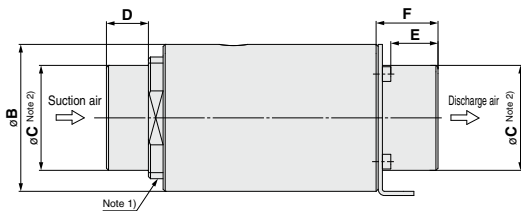
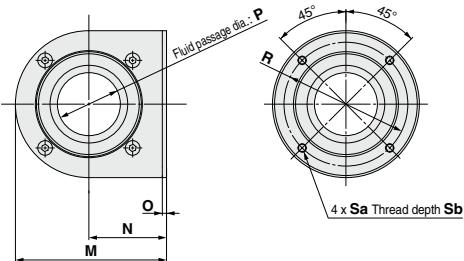
Model	A	øB	øC	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	Sa	Sb	T	U	V
ZH10-□□	73	34	19	10	12.2	16.2	69.8	31		35	27	4.5	35	18	1	13	Rc1/8	28	M3 x 0.5	5	300	150	190
ZH20-□□	119.5	55	32	15	18.5	23.5	111	48	4	56	48		56.5	29		21.6	Rc1/4	44	M4 x 0.7	8	400	200	250

ZH₄₀³⁰-□□

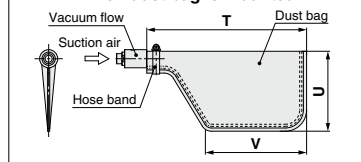
Air pressure supply (P) port
Thread size: Q



Without bracket



When dust bag is mounted



Model	A	øB	øC	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	Sa	Sb	T	U	V
ZH30-□□	158	70	50	20	22.5	28.5	146.5	60.5	5	70	60	5.5	72	37	2	30	Rc1/4	59	M4 x 0.7	10	500	250	310
ZH40-□□	203	90	64	25	27.2	33.5	196.8	74.5	6	90	78	6.5	92	47	2.3	42	Rc3/8	76	M4 x 0.7	10	500	250	310

Note 1) This thread portion is intended for use in manufacturing processes. Applying rotational torque to the thread or using it for mounting may result in a change in the characteristics of the product at the time of shipment. Therefore, do not apply rotational torque to the thread or use it for mounting.
Note 2) It is recommended that you use hoses that have an I.D. of øC and are made of a soft material as the hoses to be connected to the suction port and the discharge port. The use of commercially available hose bands to secure the hoses will ensure more reliable hose connections. Please note that the characteristics of the suction flow and discharge flow may change according to hose length.