

# Vacuum Flow

## ZH□-□□-X185 Series

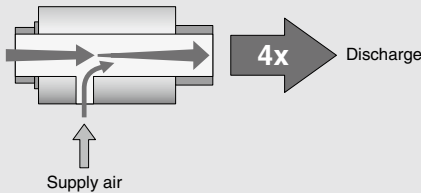
By supplying compressed air,

# Large blow and vacuum flow rate available



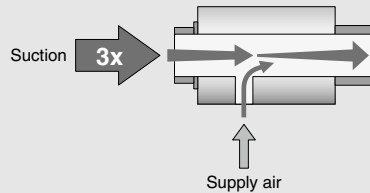
### ● A blow flow rate 4 times the supply air

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

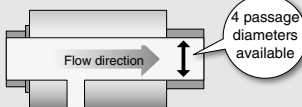


### ● A vacuum flow rate 3 times the supply air

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.



### ● Dust bag available

### ● Mounting bracket available

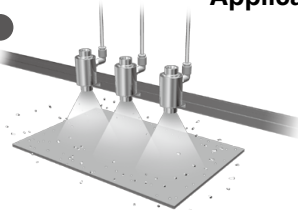
### ● Maintenance free

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

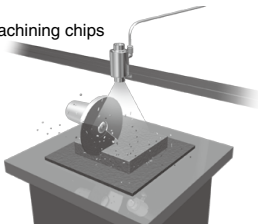
## Application Examples

### Blow

Blowing away water droplets

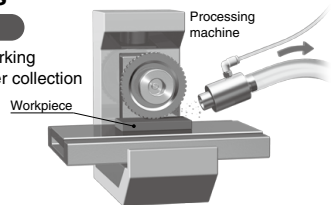


Blowing away machining chips



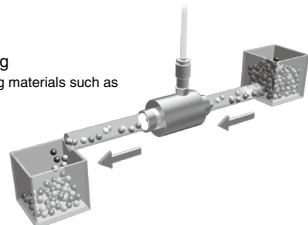
### Vacuum

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 (aluminum alloy) 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.



## How to Order

### ZH 20 - B □ - X185

Passage diameter

Symbol	mmφ
10	13
20	21.6
30	30
40	42

Bracket

Nil	Without bracket
B	With bracket

Dust bag

Nil	Without dust bag
D*	With dust bag (Supplied with product)

\* Hose band attached

## Specifications

Model	ZH10-X185	ZH20-X185	ZH30-X185	ZH40-X185
Body material	Aluminum alloy			
Seal material	NBR			
Bracket material	Steel			
Hose band material	Stainless steel			
Dust bag material	Polyester			
Dust bag filtration	10			
Passage diameter	φ13	φ21.6	φ30	φ42
C [dm <sup>3</sup> /s-bar] (Effective area [mm <sup>2</sup> ]) <sup>Note 1)</sup>	0.49 (2.46)	1.04 (5.19)	1.97 (9.86)	3.69 (18.47)
Fluid	Air			
Supply pressure range	0 to 0.7 MPa			
Ambient and fluid temperature (°C)	-5 to 80 (with no freezing or condensation)			
Weight (g) <sup>Note 2)</sup>	92 (101)	417 (436)	929 (990)	1847 (1966)
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. Note 2) ( ) : Weight including the bracket

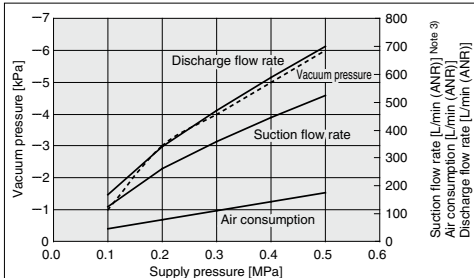
## Warning

- 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.

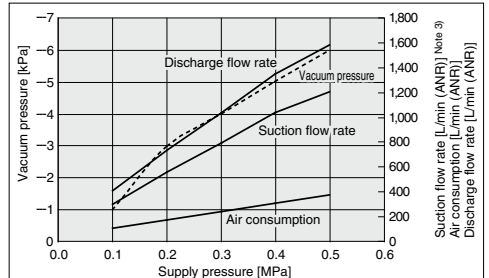
Refer to back page 50 for Safety Instructions and pages 49 to 51 for Vacuum Equipment Precautions.

## Exhaust Characteristics

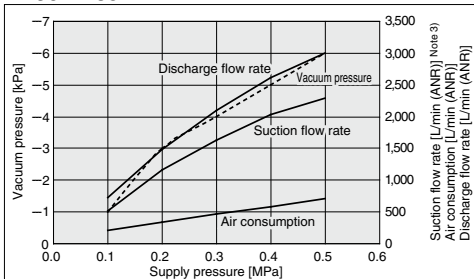
### ZH10-X185



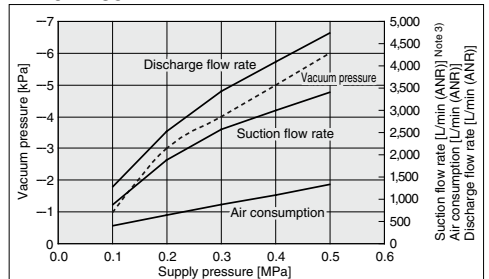
### ZH20-X185



### ZH30-X185



### ZH40-X185



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-□-X185	ZH20-□-X185	ZH30-□-X185	ZH40-□-X185
C [dm <sup>3</sup> /s-bar] <sup>Note 6)</sup>	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 <sup>3</sup> /s-bar]: 1.7	Sonic conductance C [dm <sup>3</sup> /s-bar]: 4.2	Sonic conductance C [dm <sup>3</sup> /s-bar]: 8.9	Sonic conductance C [dm <sup>3</sup> /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.

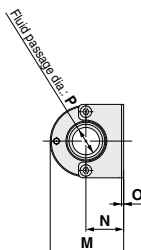
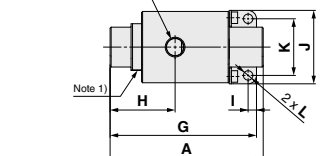
# ZH□-□□-X185 Series



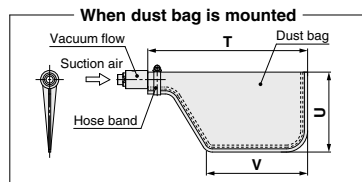
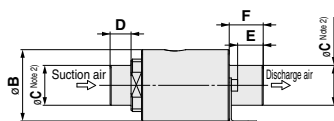
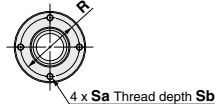
## Dimensions

### ZH<sub>20</sub><sup>10</sup>-□□-X185

Air pressure supply (P) port  
Thread size: Q



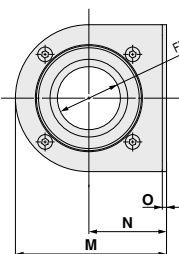
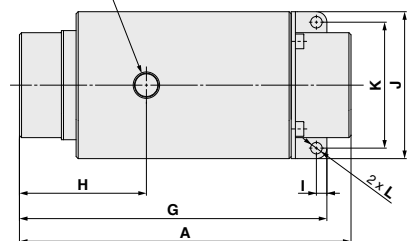
Without bracket



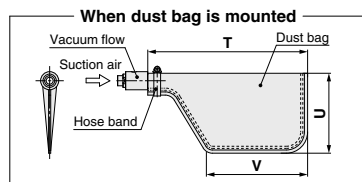
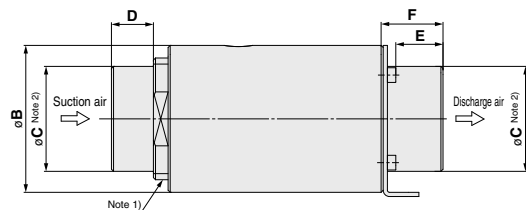
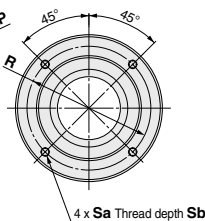
Model	A	øB	øC	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	Sa	Sb	T	U	V
ZH10-□-X185	73	34	19	10	12.2	16.2	69.8	31	4	35	27	4.5	35	18	1	13	Rc1/8	28	M3 x 0.5	5	300	150	190
ZH20-□-X185	119.5	55	32	15	18.5	23.5	111	48	4	56	48	4.5	56.5	29	1	21.6	Rc1/4	44	M4 x 0.7	8	400	200	250

### ZH<sub>40</sub><sup>30</sup>-□□-X185

Air pressure supply (P) port  
Thread size: Q



Without bracket



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-□-X185	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-□-X185	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.