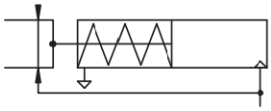
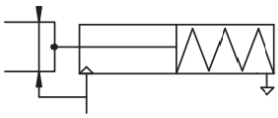
PVSHZ Series Air Gripper

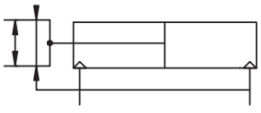
PVSHZSA: Single acting (N.O.)



PVSHZSA: Single acting (N.O.)



PVSHZ: Standard double acting



P	V	S	H	Z		-	10	-	S
		Series no.			**Type No.**		**Bore**		**Magnet No.**
		PVSHZ			Blank: Basic type		10		S: With magnet
					SA: Single acting (N.O.)		16		
					SB: Single acting (N.C.)		20		
							25		

Product features

1. Integrated design of linear guide rail, high rigidity, high precision.
2. Positioning pin at the bottom of the linear guide rail, effeciently preventing deviation of guide rail from the body.
3. Deeper attached fixing benchmark centering hole, improving fixing accuracy and improving consistency after repeated dismounting and fixing.
4. According to the actual requirements of the customer, the initial position of the claw. Can be cumstomized to meet the different needs under different working conditions.

Clamping force and stroke

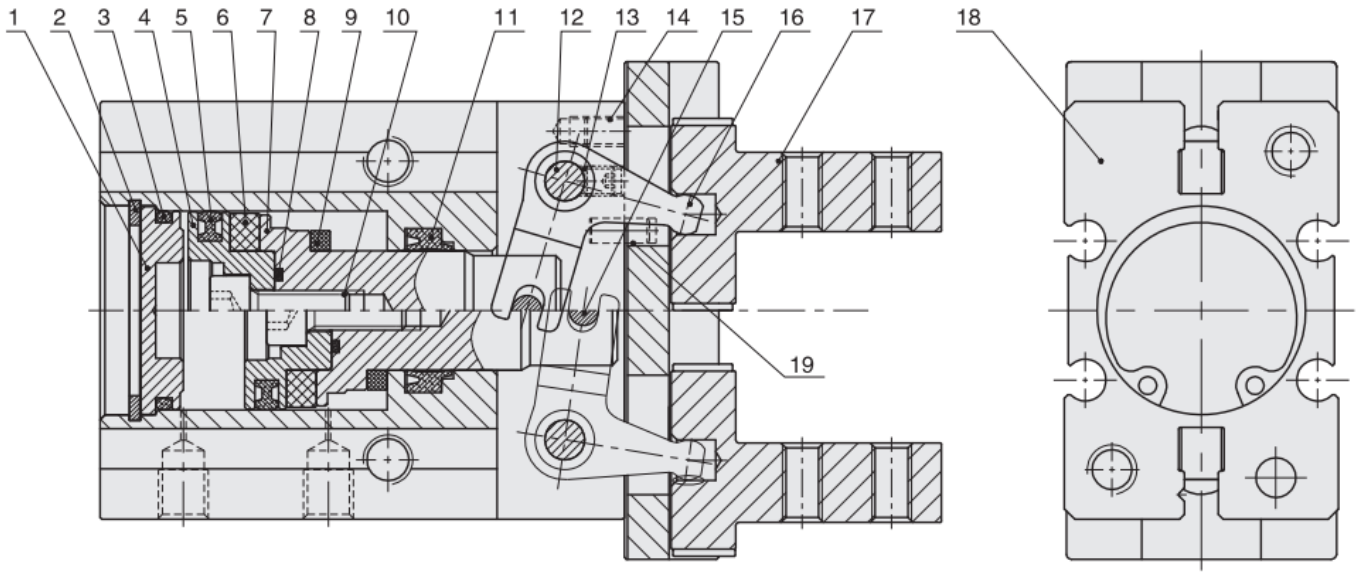
Acting type		Type	Clamping force effective value of single air finger (N)		Stroke (two sides) (L) (mm)
			Closure clamping torque	Open clamping torque	
Single acting (N.O.)	(N.O.)	PVSHZ-SA10	7	-	4
		PVSHZ-SA16	27	-	6
		PVSHZ-SA20	35	-	10
		PVSHZ-SA25	55	-	14
	(N.C.)	PVSHZ-SB10	-	13	4
		PVSHZ-SB16	-	38	6
		PVSHZ-SB20	-	59	10
		PVSHZ-SB25	-	87	14
Double acting		PVSHZ10	11	17	4
		PVSHZ16	34	45	6
		PVSHZ20	45	68	10
		PVSHZ25	69	102	14

Note: The value of the clamping force in above table is when the working pressure is 5 bar and the L value of the clamping point is 20 mm.

Specifications

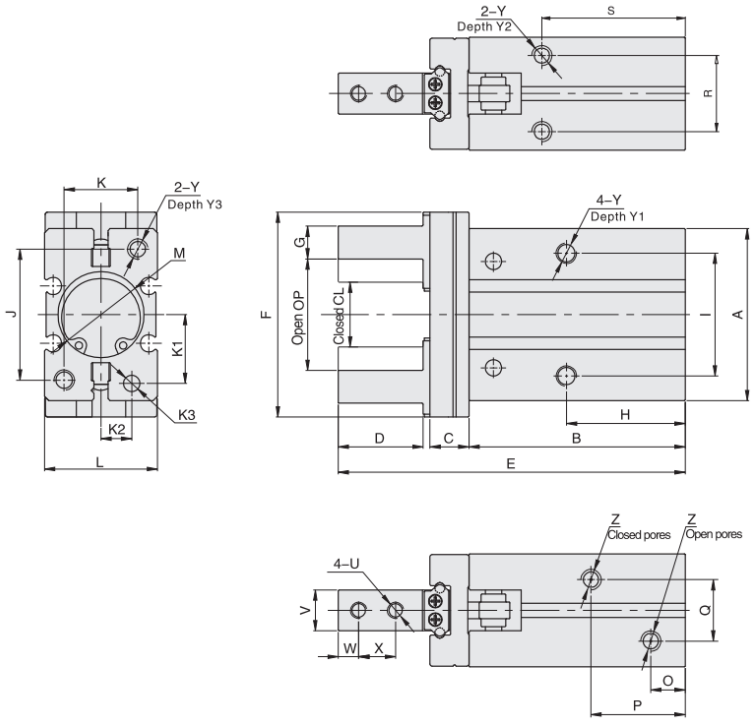
Bore size (mm)			10	16	20	25
Acting type			Single acting/double acting			
Working medium			Clean air (After 40 μm filteration)			
Applicable pressure range	Single acting	ø10	3~7 bar			
		ø16~ø25	2.5~7 bar			
	Double acting	ø10	1.5~7 bar			
		ø16~ø25	1~7 bar			
Working temperature (°C)			-20 ~ 80 (No freezing)			
Lubrication			Not required			
Max. frequency			180 (C.P.M)			
Port size			M3x0.5	M5x0.8		
Weight (g)			52	120	236	430

Internal Structure



No.	Part name	Material
1	Rear cover	Aluminum alloy
2	C type retainer ring	Spring steel
3	O-ring	NBR
4	Piston	Aluminum alloy/stainless steel (ø10)
5	Piston seal	NBR
6	Magnet	Plastic
7	Piston rod	Aluminum alloy/stainless steel (ø10, ø16)
8	O-ring	NBR
9	Anti-bump cushion	PTEE
10	Hexagon socket cap screw	Carbon steel
11	Piston rod seal	TPU/NBR (ø25)
12	Pin	Stainless steel
13	Hexagon set screw	Carbon steel
14	Hexagon socket cap screw	Carbon steel
15	Pin	Stainless steel
16	Bent lever	Alloy steel
17	Clamping jaw assembly	Assembly
18	Barrel	Aluminum alloy
19	Pin	Stainless steel

Main dimensions



(mm)

Bore/Sign	A	B	C	D	E	F	G	H	I	J	K
PVSHZ10	23	37.6	6	12.3	57	29	4 -0.05	23	16	18	12
PVSHZ16	30.6	42.5	7.5	15.5	67.3	38	5 -0.05	24.5	24	22	15
PVSHZ20	42	52.8	9.5	20.7	84.7	50	8 -0.05	29	30	32	18
PVSHZ25	52	63.6	11	25.5	102.7	63	10 -0.05	30	36	40	22

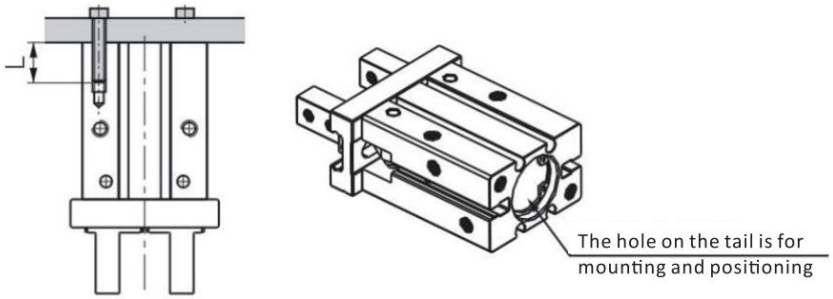
Bore/Sign	L	M	O	P	Q	K1	K2	K3	R	S	U
PVSHZ10	16.4	11 +0.05 ↧ 2	7	18.8	10	7.6	5.2	2 +0.05 ↧ 3	11.4	27	M2.5x0.45
PVSHZ16	23.6	17 +0.05 ↧ 2	7.1	18.5	13	11	6.5	3 +0.05 ↧ 3	16	30	M3x0.5
PVSHZ20	27.6	21 +0.05 ↧ 3	8.4	23	15	16.8	7.5	4 +0.05 ↧ 4	18.6	35	M4x0.7
PVSHZ25	33.6	26 +0.05 ↧ 3.5	9.5	23.5	19.5	21.8	10	4 +0.05 ↧ 4	22	36.5	M5x0.8

Bore/Sign	W	V	X	Y	Y1	Y2	Y3	Z	OP	CL
PVSHZ10	3	5 -0.05	5.7	M3x0.5	6	6	6	M3x0.5	14.8 +2	11.4 -0.7
PVSHZ16	4	8 -0.05	7	M4x0.7	9.5	5.5	8	M5x0.8	20.8 +2	14.8 -0.7
PVSHZ20	5	10 -0.05	9	M5x0.8	11.5	8	10	M5x0.8	26 +2	16.2 -0.7
PVSHZ25	6	12 -0.05	12	M6x1.0	14.5	10	12	M5x0.8	33.5 +2	19.2 -0.7

Installation and use

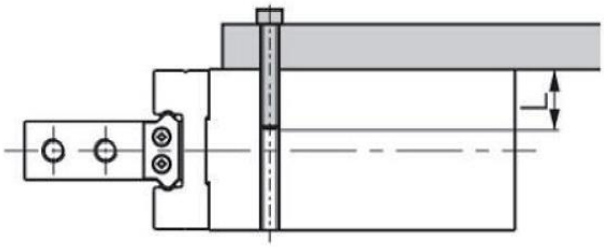
1. Installing a fall prevention device is recommended when applying a lowering clamping force. In the case of a sudden pressure duet o emergency stop, these prevention device can help to avoid personal or equipment injuries.
2. Don't use air gripper upon strong external force and impact force. Air grippers are not intended for use under exxternal or impact forces.
3. When installing or repairing your air gripper take precautions to safely use your component.
4. Please contact with us when using the single acting type gripper for specific spring action force information.
5. Don't reverse the clamping gripper when installing clamping parts.
6. The locking torque of the fastening screw must be within the prescribed torque range shown in the chart below. If the locking torque is not set properly the unit will not perform correctly.

Tail mounting type



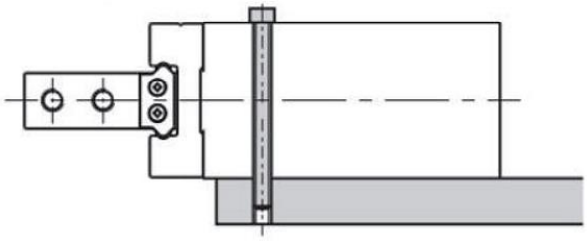
Bore/Sign	Bolt size	Max. locking Torque (Nm)	Max. screwed Depth (mm)	Tail positioning Bore dia (mm)	Tail positioning Depth (mm)
10	M3x0.5	0.88	6	Ø11 +0.05	2
16	M4x0.7	2.1	8	Ø17 +0.05	2
20	M5x0.8	4.3	10	Ø21 +0.05	3
25	M6x1.0	7.3	12	Ø26 +0.05	3.5

Front tapped hole mounting



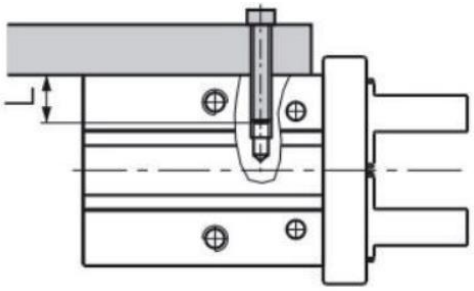
Bore/Sign	Bolt size	Max. locking Torque (Nm)	Max. screwed Depth (mm)
10	M3x0.5	0.69	5
16	M4x0.7	2.1	8
20	M5x0.8	4.3	10
25	M6x1.0	7.3	12

Through hole mounting



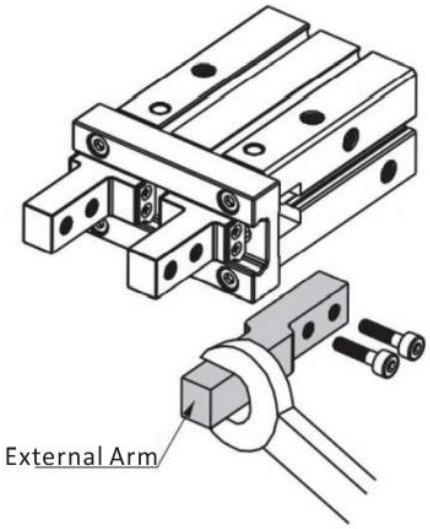
Bore/Sign	Bolt size	Max. locking Torque (Nm)	Max. screwed Depth (mm)
10	M2.5x0.45	0.49	5
16	M3x0.5	0.88	8
20	M4x0.7	2.1	10
25	M5x0.8	4.3	12

Side tapped hole mounting



Bore/Sign	Bolt size	Max. locking Torque (Nm)	Max. screwed Depth (mm)
10	M3x0.5	0.9	6
16	M4x0.7	1.6	4.5
20	M5x0.8	3.3	8
25	M6x1.0	5.9	10

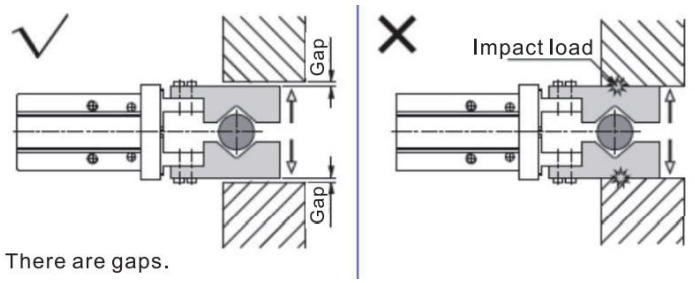
7. Clamping jaw installation: Never clamp the body directly and then lock the screws. The gripping jaw should be held by the spanner and the screw should be locked using a hex wrench.



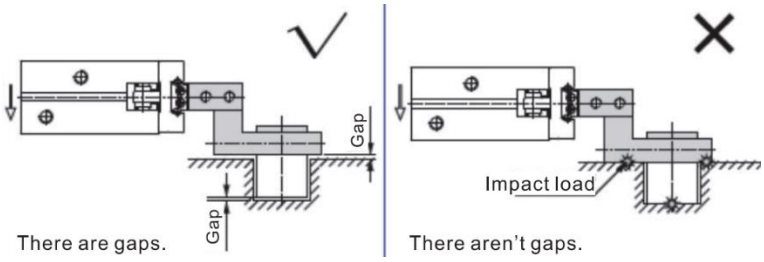
Bore/Sign	Bolt size	Max. locking Torque (Nm)
10	M2.5x0.45	0.31
16	M3x0.5	0.59
20	M4x0.7	1.4
25	M5x0.8	2.8

8. Avoid applying external forces tot he gripping jaw.

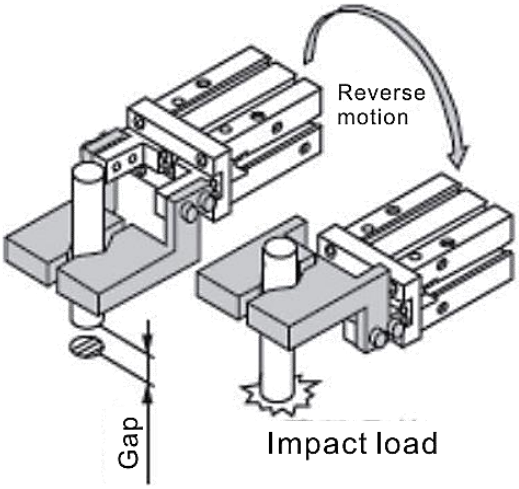
8.1 The air gripper end of stroke in open status.



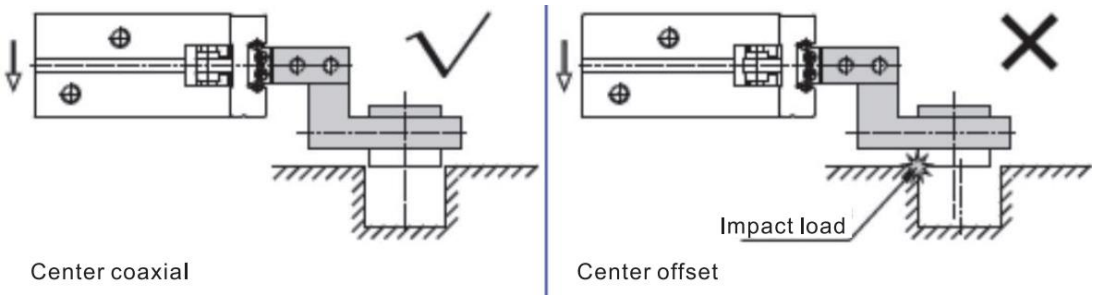
8.2 The air gripper end of stroke in moving status.



8.3 When reversing your loaded air gripper make sure the object being gripped is centred.



9. When gripping an object the item should always be centered. When testing, you must reduce the pressure for low speed running, to guarantee the safety and no impact.



10. Please us the flow control valve to adjust the opening and closing speed of your gripper
11. Always ensure the gripper path is clear of obstruction.
12. Before removing your air gripper, please make sure all power is disconnected and you've discharged residual compressed air.
    When gripping an object the item should always be centered. When testing, you must reduce the pressure for low speed running, to guarantee the safety and no impact.