OPERATION MANUAL

VBAT-M36A

AIR TANK

VBAT20A1-T-X104　VBAT38A1-T-X104

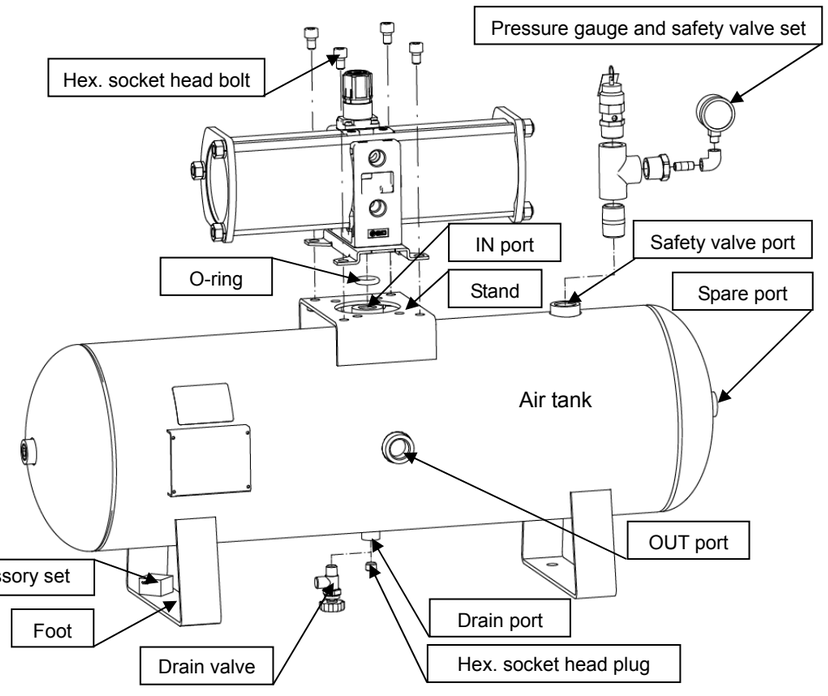
Chinese Pressure Vessel Code Compliant Product

INDEX

- Description and specifications of the components
- Cautions for operation
- Connecting Air tank and Booster regulator
- Regular check

Thank you for choosing this SMC product. This operation manual provides essential information to ensure its optimum performance and lifespan. Please read it before using the product. Keep this manual accessible and refer to it if problems occur. Please refer to the latest catalogue, drawings and maintenance procedures for product configuration and specifications.

- Description and specifications of the components



Related products

VBAT-V1
Drain valve

Order it separately

Table 1 Specifications

Model		VBAT20A1-T-X104	VBAT38A1-T-X104
Max. operating pressure		1.0 MPa	
Material		Q235B	
Tank capacity		22 L	38 L
Temp. range		0 to 75°C	
Tank mass		15 kg	26 kg
Port size	IN	1/2	
	OUT	1/2	3/4
	Drain	1/4	
Painting		- Outer surface: Baking finish　- Painting: Silver gray - Inner surface: Phosphate coating film treatment	
Applicable booster regulator		VBA2 / VBA4	
Applicable standards		TSG R0003-2007 Supervision Regulation on Safety Technology for Simple Pressure Vessels	

Table 2 Accessories

	Part name / Part No.	Components		
VBAT20A1 / 38A1-T-X104	Accessory set VBAT20A-Y-3	Anchor bolt, nut	For VBA2 / 4 mounting	4 pcs.
		Hex. socket head bolt	For VBA2 / 4 mounting	4 pcs.
		O-ring	For VBA2 / 4 mounting	1 pc.
		Hex. socket head plug	For Drain port	1 pc.
	Pressure gauge and safety valve set VBAT-T	Safety valve		1 pc.
		Pressure gauge		1 pc.
		Piping components for tank connection		1 pc.
	Operation Manual/VBAT-M36	Operation Manual (Japanese)		1 copy
	Operation Manual/VBAT-M36C	Operation Manual (Chinese)		1 copy
	Product certificate	Certificate		1 pc.

- Operating precautions

- To ensure safety and optimum operation, confirm the product's specifications before use. Operating product out of the scope of its specifications may cause failure or accident.

⚠ WARNING

Design precautions

(1) Applicable standard

- This air tank conforms to laws and regulations in China.
  When this tank is used in countries outside of China, confirm that it is compliant with the laws and regulations of those countries.

As the air tank is compliant with "Regulations on Safety Supervision of Special Equipment", the following procedures are required when using the product. (Refer to "Regulations on Safety Supervision of Special Equipment Chapter 3" for details.)

(1) To confirm that the pressure is set at the set value, submit the safety valve for air tank to the nearest Safety Inspection Bureau, and store the safety valve together with the Check ticket.
(2) Before installing the air tank, inform the nearest Special Equipment Safety Supervision Department in writing.
(3) When installing the air tank, it should pass the inspection performed by the Inspection and Measurement Agency authorized by the Special Equipment Safety Supervision Department based on the safety technical standard. [Documents supplied with the air tank, the Check ticket of the safety valve and the certificate supplied with the pressure gauge are necessary.]
(4) Register the product and related documents with the Special Equipment Safety Supervision Department before using the device or within 30 days after starting to use the device.

(2) Operating pressure

- Use this air tank at maximum operating pressure of 1.0 MPa or less.

(3) Connection

- Install a filter or mist separator on the OUT side of the air tank.
  Although phosphate coating film treatment is applied to the inner surface of the VBAT∗A1-∗-X104, rust may be generated if the product is used for a long time.

⚠ CAUTION

- Consider the operating conditions, and use this air tank within the specification range.
- Do not supply or discharge air suddenly. This will cause the temperature to decrease due to air expansion, and the temperature may exceed the operating temperature limit of the air tank. If flow speed becomes faster, a loud noise may be generated by the friction inside the tube.
- When a booster regulator is used, select the appropriate product model according to the selection procedure of the energy saving program or How to Order in the catalog.

⚠ CAUTION

Installation precautions

(1) Accessories

- Accessories are supplied attached to the foot of the tank. Once removed, take care not to lose any of the parts.

(2) Installation

- Operate the air tank fixed.
- To mount the air tank on a floor surface, use the four holes of ϕ13 to secure the tank with bolts (order separately) or anchor bolts (supplied with the product).
- Mount the air tank horizontally. If the tank is mounted vertically, the load will be concentrated on one foot, leading to breakage.
- If the air tank is used where there is vibration, it may lead to breakage of the foot and the body. Do not use it where there is vibration.
- A lot of energy builds up if high pressure is applied to the air tank. If the air tank breaks and air is discharged, a large blast of air will be generated and is very dangerous. Install the air tank where operations or equipment will not be affected.
- When connecting a booster regulator with an air tank, refer to the procedure "Assembling the air tank and the booster regulator".

(3) Piping

- Connect piping so that the piping load and vibration are not applied to the tank socket.

(4) Safety valve

- Pressure setting cannot be changed as it is fixed.

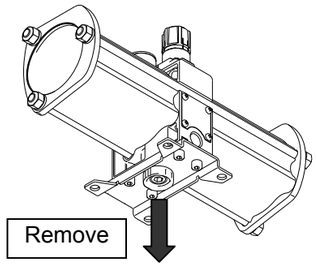
(5) Drain valve

- The drain valve needs to be prepared by the user. SMC related product VBAT-V1 is available.

- Connecting Air Tank and Booster Regulator

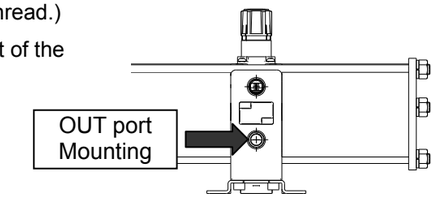
(1) Accessory check: Check the items and the quantity of parts in the package shown in Table 2.
(Accessories are attached to the foot of the air tank.)

(2) Prepare tools: Prepare a hexagon wrench key. The hexagon wrench key for VBA2 is with nominal size 8, for VBA4 with nominal size 8 and 10, and for the drain port with nominal size 6.
: Tighten the optional safety valve and drain valve and drain valve with a monkey spanner.

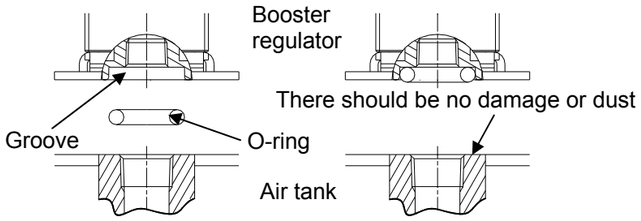


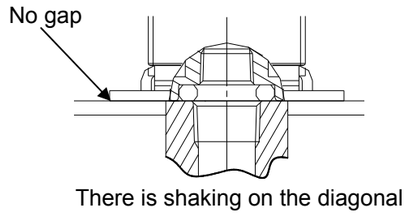
(3) Change of the booster regulator OUT port plug
: Remove the hexagon socket head plug at the joint of the tank at the back of the booster regulator. (Remove any sealing agent left on the thread.)
: Mount the hexagon socket head plug to the OUT port at the front of the booster regulator by applying the seal tape.

VBA2: Tightening torque: 22 to 24 Nm (R3/8)
VBA4: Tightening torque: 28 to 30 Nm (R1/2)

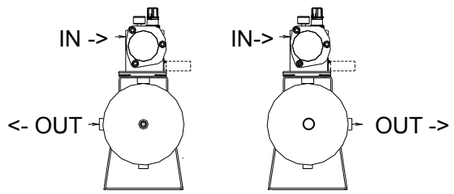


(4) O-ring
: Mount O-rings in the grooves of the joint of the tank at the back side of the booster regulator.



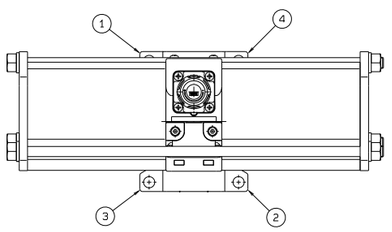


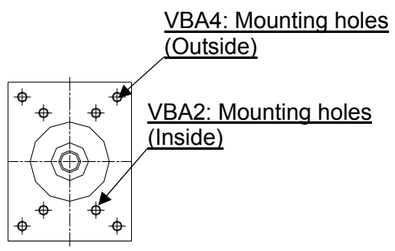
(5) Mounting direction: When mounting the booster regulator to the air tank, the direction of IN of the booster regulator and OUT of the air tank can be changed to suit the application.



(6) Installation: Tighten diagonally with the hexagon socket head bolts included in the package.

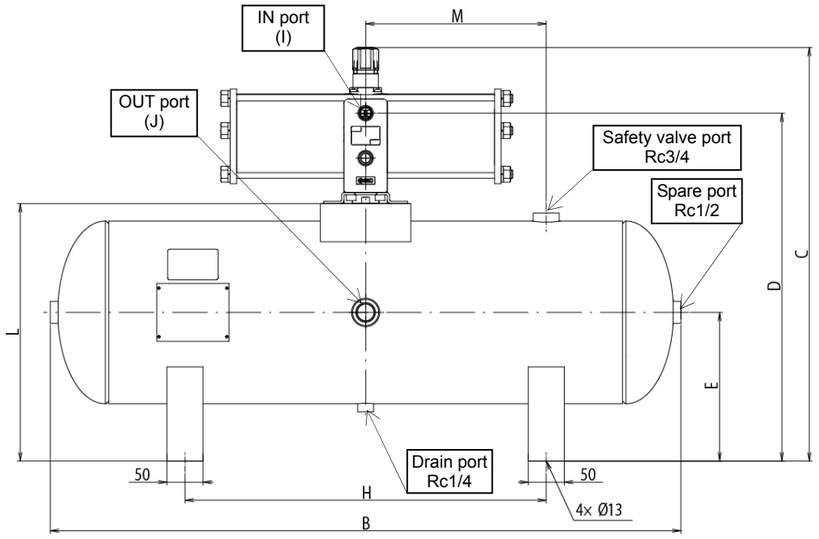
VBA2, 4: Tightening torque: 24 Nm (M10)

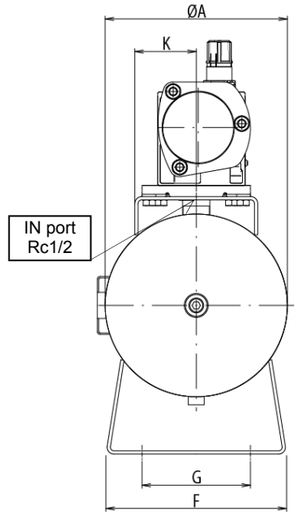




Mounting base

Assembly dimensions





Air tank	Booster regulator	ϕA	B	C	D	E	F	G	H	I	J	K	L	M
VBAT20A1	VBA20A VBA22A	216	700	481 444	394	180	200	100	400	Rc3/8	Rc1/2	59	305	236
	VBA40A VBA42A			520 477	429.8					Rc1/2		85		
VBAT38A1	VBA20A VBA22A	252	873	531 494	444	205	250	150	500	Rc3/8	Rc3/4	59	355	250
	VBA40A VBA42A			570 527	479.8					Rc1/2		85		

- Maintenance

WARNING

(1) Regular check
- The user of the air tank shall keep a record of maintenance by making a special equipment safety technical document.
- The use of pressure vessel could lead to an unexpected accident due to external damage or internal corrosion caused by drainage. Therefore, make sure to check periodically for external damage, or the extent of internal corrosion through the port hole. An ultrasonic thickness indicator may also be used to check for any reduction in material thickness.

(2) Drain discharge
- If the product is used with a large amount of drainage, the drainage could flow out, leading to equipment malfunction or corrosion inside the tank. Do the drain pulling out regularly.

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