Air Tank
VBAT Series

RoHS

* Except the Chinese pressure vessel regulations compliant product (-X104)

Made to Order — **Made to Order**
(For details, refer to page 1024-1.)

How to Order

- **Compact connections are possible with booster regulators.**
- **It can be used alone as a tank.**
- **Also partially compatible with overseas standards**



VBAT05A1



VBAT10S1



VBAT20S1



VBAT38A1

Standard Product (For Japanese Market)

Note) The thread type for each port is Rc.

VBAT 10 A 1 – S □

Tank internal capacity

Symbol	Internal capacity
05	5 L
10	10 L
20	20 L
38	38 L

Material

Symbol	Material
A	Carbon steel (SS400)
S	Stainless steel 304

Option

Symbol	Option
Nil	None
V	Drain valve

Option

Symbol	Option	Applicable model
Nil	None Note)	All models
R	Safety valve (Set pressure: 1 MPa)	VBAT05A1, VBAT10A1 VBAT20A1, VBAT38A1
S	Safety valve (Set pressure: 2 MPa)	VBAT05A1 VBAT10A1

Note) A safety valve port is provided only when option R or S is selected.

CE Certified Product

VBAT 10 A F – SV – Q

Tank internal capacity

Symbol	Internal capacity
05	5 L
10	10 L
20	20 L
38	38 L

Material

Symbol	Material
A	Carbon steel (SS400)

Thread type

Symbol	Thread type
Nil	Rc
F	G

Accessories

Symbol	Accessories	Applicable model
RV	Safety valve (Set pressure: 1 MPa) Drain valve	VBAT20A VBAT38A
SV	Safety valve (Set pressure: 2 MPa) Drain valve	VBAT05A VBAT10A

CE certified product (Self-declaration document attached)

⚠Caution

When used as a single unit (not connected with a booster regulator) and pressurized at over 1 MPa at normal temperatures, the air tank falls under the scope of the “High Pressure Gas Safety Act” in Japan.

Chinese Pressure Vessel Regulations Compliant Product

VBAT 05 A1 – U – X104

Tank capacity

Symbol	Internal capacity
05	5 L
10	10 L
20	22 L
38	38 L

Material

Symbol	Material
A1	Carbon steel
S1	Stainless steel

Safety valve/Pressure gauge set Note)

Symbol	Applicable model
U	VBAT05A1, VBAT10A1 VBAT05S1, VBAT10S1
T	VBAT20A1, VBAT38A1 VBAT20S1, VBAT38S1

Chinese pressure vessel regulations compliant product

Note) When a drain valve is required, please order it separately.
Drain valve part no.: VBAT-V1
Note) The safety valve/pressure gauge set is not RoHS compliant.

ASME Certified Product/CRN Approved Product (For the U.S. and Canada)

VBAT 05 A N 1 – E – X105

Tank capacity

Symbol	Internal capacity
05	5 L
10	10 L
20	22 L
38	38 L

Material

Symbol	Material
A	Carbon steel (SA-414)
S	Stainless steel (SA-240 316)

Thread type

Symbol	Thread type
Nil	Rc
N	NPT

ASME certified product/CRN approved product (For the U.S. and Canada)

Note) This product can only be purchased from the SMC Corporation of America.
For details on how to order and lead times, please contact SMC separately.

Accessory

Symbol	Accessory
E	Safety valve/Set pressure: 2.0 MPa (Included)
EV	Safety valve/Set pressure: 2.0 MPa (Included) + Drain valve (Included)

∗ A safety valve is required according to ASME Standards.

If a drain valve is to be added later on, please order it separately using the part number below.

Part no.	Thread type
VBAT-V1	Rc
VBAT-V1N	NPT

List of Air Tank for Overseas

Country/Region	Law	Exportable models	Details	Option (Order it separately.)
South Korea	1. Occupational Safety and Health Act KCs Certification 2. High-Pressure Gas Safety Control Act	VBAT05A1-X101 Note 2) VBAT10A1-X101 VBAT20A1-X101 VBAT38A1-X101 VBAT05S1-X101 VBAT10S1-X101 VBAT20S1-X101 VBAT38S1-X101	1. KCs Certification compliant product (Certificate included) A safety valve must be mounted. 2. High-pressure Gas Act not applicable (Not applicable when maximum operating pressure: 0.97 MPa)	VBAT-K Note 1) (Safety valve) VBAT-V1 (Drain valve)
Thailand, Taiwan	No applicable standard	Standard product		

Note 1) VBAT-K is not RoHS compliant.
Note 2) KCs certification is not applicable for this product. (Exception: When the inner diameter is less than 150 mm) KCs certification is not required for the VBAT05A1-X101, so there is no certification mark on the product.
In addition, as KCs certification is not applicable for this product, the installation of a safety valve is optional. If installation is desired, the VBAT-R may also be used.

Standard Product (For Japanese Market)

Specifications

Model		VBAT05□1	VBAT10□1	VBAT20□1	VBAT38□1
Fluid		Compressed air			
Tank capacity (L)		5	10	20	38
Max. operating pressure (MPa)	VBAT□A1	2.0		1.0	
	VBAT□S1	2.0			
IN port size		3/8		1/2	
OUT port size		3/8	1/2	1/2	3/4
Proof pressure (MPa)	VBAT□A1	3.3		1.6	
	VBAT□S1	3.3		3.3	
Ambient and fluid temperature (°C)		0 to 75			
Installation		Horizontal (Floor mounting)			
Weight (kg)	VBAT□A1	6.6	10	14	21
	VBAT□S1	3.2	4.9	12	19
Material	VBAT□A1	Carbon steel (SS400)			
	VBAT□S1	Stainless steel 304			
Paint	VBAT□A1	Outside: Silver paint, Inside: Rustproof paint			
	VBAT□S1	None			

Note 1) The accessories and options are included in the same container.
Note 2) Since neither copper nor fluorine parts are used for the tank, the standard model can be used as a copper-free product when drain valve is not necessary.
Note 3) Scratches, scrapes, blotches, and uneven color may be present on the surface, but they do not affect the function or performance of the product.

Options/Accessories/Part No.

<For VBAT□A1 (Carbon Steel)>

Model	VBAT05A1-□	VBAT10A1-□	VBAT20A1-□	VBAT38A1-□
Accessory kit	VBAT5A-Y-3	VBAT10A-Y-3	VBAT20A-Y-3	
Safety valve (When selecting an option) Note 1) 2)	VBAT-R (Set pressure: 1 MPa), VBAT-S (Set pressure: 2 MPa)		VBAT-R (Set pressure: 1 MPa)	
Drain valve (When selecting an option)	VBAT-V1			

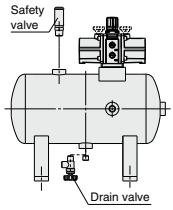
Note 1) The set pressure of the safety valve cannot be changed.
Note 2) The safety valve is a safety measure that protects the tank from excess pressure. The valve opens automatically when the specified pressure is reached, releasing excess pressure inside the tank. The valve closes again when the pressure drops below a designated value. Select a pressure valve appropriate for the maximum operating pressure specification of the tank.

<For VBAT□S1 (Stainless Steel)>

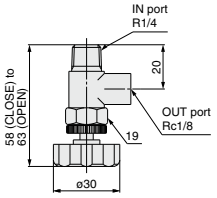
Model	VBAT05S1-□	VBAT10S1-□	VBAT20S1-□	VBAT38S1-□
Accessory kit	VBAT5S-Y-4	VBAT10S-Y-4	VBAT20S-Y-4	
Drain valve (When selecting an option)	VBAT-V1			

The Accessory Kit is a Set of Nos. ① to ④.

No.	Description \ Model	VBAT5A-Y-3 / VBAT5S-Y-4	VBAT10A-Y-3 / VBAT10S-Y-4	VBAT20A-Y-3 / VBAT20S-Y-4
		Quantity		
①	O-ring	1	1 (VBA1□A) 1 (VBA2□A)	1
②	Hexagon socket head taper screwed plug (for drain port)	1	1	1
③	Hexagon socket head cap screw	4	4 (VBA1□A) 4 (VBA2□A)	4
④	Anchor bolt/nut	—	—	4

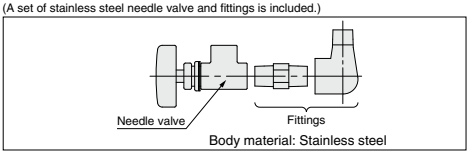


Drain valve: VBAT-V1



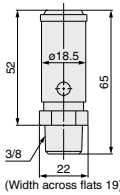
Body material: Brass

Mounting diagram for drain valve VBAT-V2
(A set of stainless steel needle valve and fittings is included.)



Body material: Stainless steel

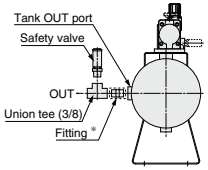
Safety valve: VBAT-R, VBAT-S



(Width across flats 19)

Body material: Brass

Safety valve mounting diagram when there is no safety valve port



* When the tank OUT port is 3/8, use 3/8 fittings. When the size of the tank OUT port is other than 3/8, change the size with a 3/8 union tee fitting.

Made to Order

Made to Order For detailed dimensions, specifications and lead times, please contact SMC.

1 Copper-free/Fluorine-free

VBAT-V2 (A set of stainless steel needle valve and fittings) is included with the standard product.

20 — VBAT 10 A 1 — V

- **20**: Made to Order Copper-free/Fluorine-free
- **10**: Tank internal capacity
- **A**: Material
- **V**: Drain valve/VBAT-V2

Symbol	Internal capacity
05	5 L
10	10 L
20	20 L
38	38 L

Symbol	Material
A	Carbon steel
S	Stainless steel

Note 1) The thread type for each port is Rc
Note 2) Stainless steel fittings and a needle valve are included in the same container as accessories. (For lead times and detailed dimensions, please contact SMC.) It can be ordered separately.
Note 3) Since neither copper nor fluorine parts are used for the tank, the standard model can be used as a copper-free product when drain valve is not necessary.
Note 4) The material of the safety valve is brass only.

2 Plugless Spare Port Specification

A standard tank (Carbon steel, Without safety valve, For Japanese market) without a plug mounted on the spare port

VBAT 10 A1 — V — X8

- **10**: Tank internal capacity
- **V**: Option
- **X8**: Plugless spare port specification

Symbol	Internal capacity
05	5 L
10	10 L
20	20 L
38	38 L

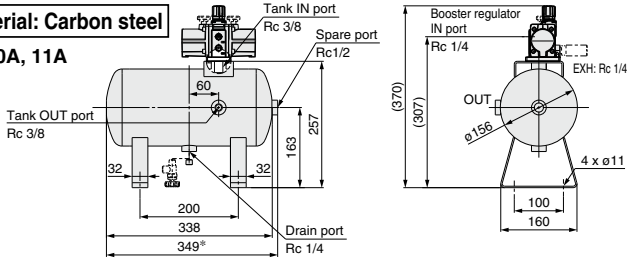
Nil	None
V	Drain valve

Note) If a safety valve needs to be mounted on the product, refer to the safety valve mounting diagram for when there is no safety valve port on page 1024.

Dimensions: Standard Product (For Japanese Market)

VBAT05A1 Material: Carbon steel

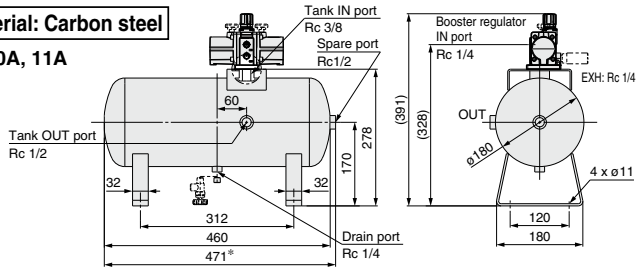
Connected to VBA10A, 11A



* The length may be longer than the specification if the plugs mounted on the tank are not fit to the end.
** The plug in the spare port has been firmly secured with adhesive. When removing the plug to use the port, be careful so as not to damage the plug.
*** Supply is also possible for tanks without a plug mounted on the spare port (-X8 type). Refer to page 1024-1 for details.

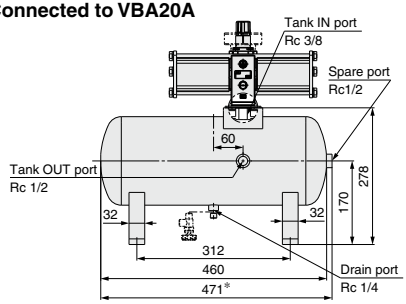
VBAT10A1 Material: Carbon steel

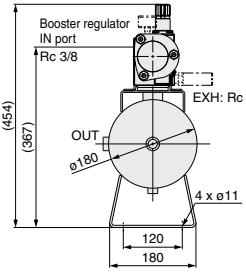
Connected to VBA10A, 11A



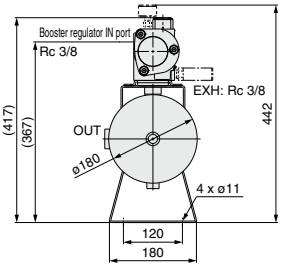
* The length may be longer than the specification if the plugs mounted on the tank are not fit to the end.
** The plug in the spare port has been firmly secured with adhesive. When removing the plug to use the port, be careful so as not to damage the plug.
*** Supply is also possible for tanks without a plug mounted on the spare port (-X8 type). Refer to page 1024-1 for details.

Connected to VBA20A





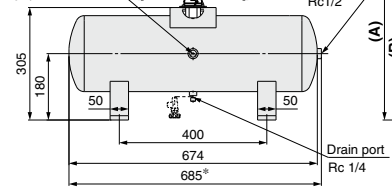
Connected to VBA22A

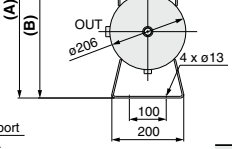


* The length may be longer than the specification if the plugs mounted on the tank are not fit to the end.
** The plug in the spare port has been firmly secured with adhesive. When removing the plug to use the port, be careful so as not to damage the plug.
*** Supply is also possible for tanks without a plug mounted on the spare port (-X8 type). Refer to page 1024-1 for details.

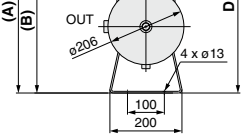
VBAT20A1 Material: Carbon steel

Connected to VBA20A, 40A





Connected to VBA22A, 42A



* The length may be longer than the specification if the plugs mounted on the tank are not fit to the end.
** The plug in the spare port has been firmly secured with adhesive. When removing the plug to use the port, be careful so as not to damage the plug.
*** Supply is also possible for tanks without a plug mounted on the spare port (-X8 type). Refer to page 1024-1 for details.

(mm)

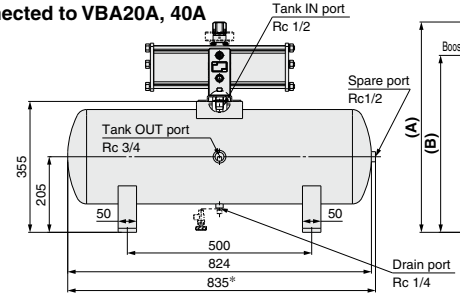
Booster regulator model	A	B	C	D Note)
VBA20A	481	394	Rc 3/8	—
VBA40A	520	429.8	Rc 1/2	—
VBA22A	444	394	Rc 3/8	469
VBA42A	477	429.8	Rc 1/2	493

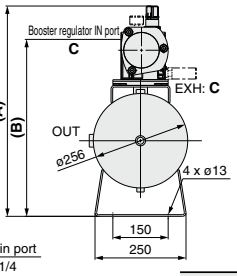
Note) When option G (pressure gauge) is selected

Dimensions: Standard Product (For Japanese Market)

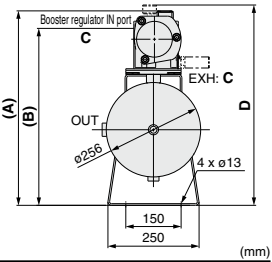
VBAT38A1 Material: Carbon steel

Connected to VBA20A, 40A





Connected to VBA22A, 42A



(mm)

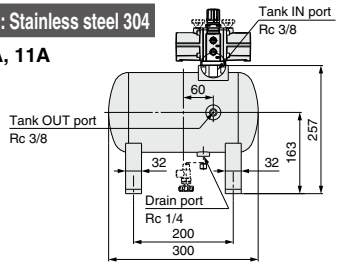
Booster regulator model	A	B	C	D Note)
VBA20A	531	444	Rc 3/8	—
VBA40A	570	479.8	Rc 1/2	—
VBA22A	494	444	Rc 3/8	519
VBA42A	527	479.8	Rc 1/2	543

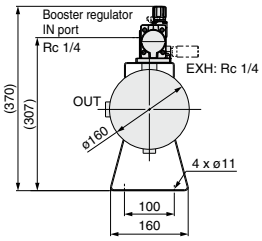
Note) When option G (pressure gauge) is selected

∗ The length may be longer than the specification if the plugs mounted on the tank are not fit to the end.
∗∗ The plug in the spare port has been firmly secured with adhesive. When removing the plug to use the port, be careful so as not to damage the plug.
∗∗∗ Supply is also possible for tanks without a plug mounted on the spare port (-X8 type). Refer to page 1024-1 for details.

VBAT05S1 Material: Stainless steel 304

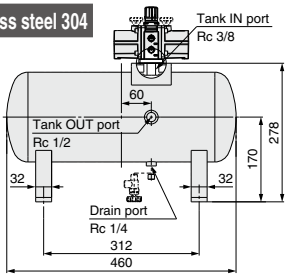
Connected to VBA10A, 11A

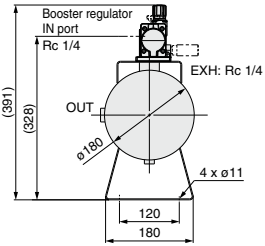




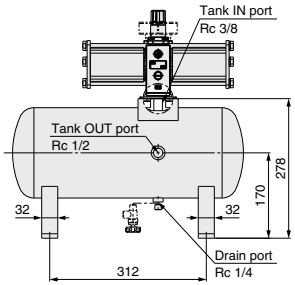
VBAT10S1 Material: Stainless steel 304

Connected to VBA10A, 11A

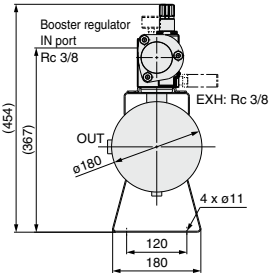


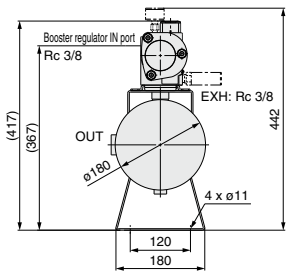


Connected to VBA20A



Connected to VBA22A

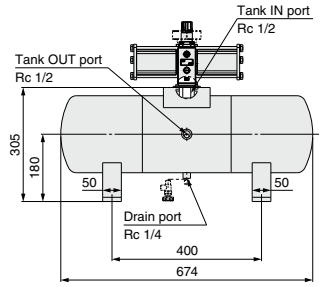


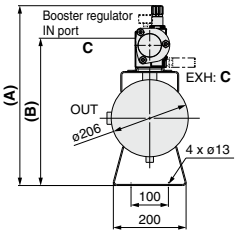


Dimensions: Standard Product (For Japanese Market)

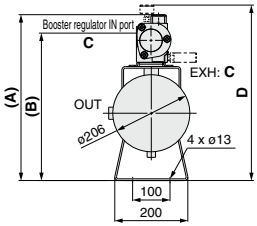
VBAT20S1 Material: Stainless steel 304

Connected to VBA20A, 40A, 43A





Connected to VBA22A, 42A



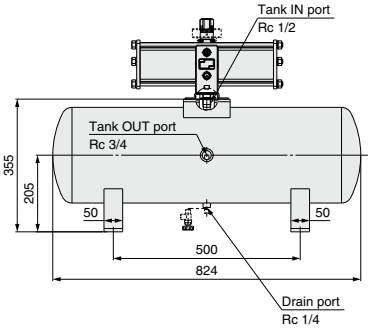
(mm)

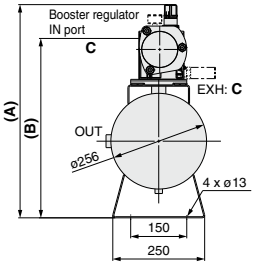
Booster regulator model	A	B	C	D Note)
VBA20A	481	394	Rc 3/8	—
VBA40A	520	429.8	Rc 1/2	—
VBA22A	444	394	Rc 3/8	469
VBA42A	477	429.8	Rc 1/2	493
VBA43A	526	429.8	Rc 1/2	—

Note) When option G (pressure gauge) is selected

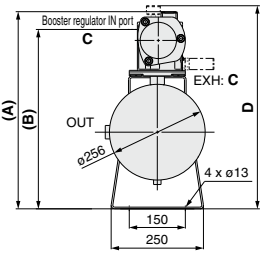
VBAT38S1 Material: Stainless steel 304

Connected to VBA20A, 40A, 43A





Connected to VBA22A, 42A



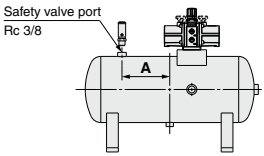
(mm)

Booster regulator model	A	B	C	D Note)
VBA20A	531	444	Rc 3/8	—
VBA40A	570	479.8	Rc 1/2	—
VBA22A	494	444	Rc 3/8	519
VBA42A	527	479.8	Rc 1/2	543
VBA43A	576	479.8	Rc 1/2	—

Note) When option G (pressure gauge) is selected

VBAT$^{05}_{10}$A1-$^{R}_{S}$

With safety valve

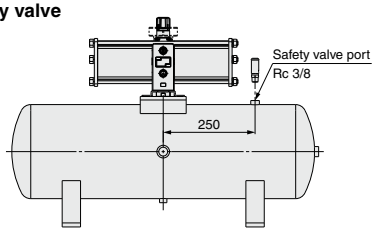


(mm)

Tank model	A
VBAT05	60
VBAT10	130

VBAT$^{20}_{38}$A1-$^{R}_{S}$

With safety valve



CE Marking-Conformity Products

Specifications

Model	VBAT05A□-SV-Q	VBAT10A□-SV-Q	VBAT20A□-RV-Q	VBAT38A□-RV-Q
Fluid	Compressed air			
Tank capacity (L)	5	10	20	38
Max. operating pressure (MPa)	2.0		1.0	
IN port size	3/8	1/2	3/4	
OUT port size	3/8	1/2	1/2	3/4
Proof pressure (MPa)	3.3		1.6	
Ambient and fluid temperature (°C)	0 to 75			
Installation	Horizontal (Floor mounting)			
Weight (kg)	6.6	10	14	21
Material	Carbon steel (SS400)			
Paint	Outside: Silver paint, Inside: Rustproof paint			

Note 1) Accessories are included in the same container.
Note 2) Scratches, scrapes, blotches, and uneven color may be present on the surface, but they do not affect the function or performance of the product.

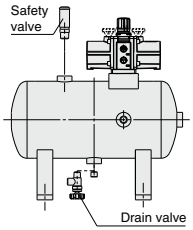
Accessories/Part No.

<CE Marking-Conformity Products>

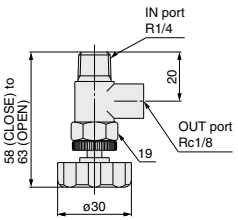
Model	VBAT05A□-SV-Q	VBAT10A□-SV-Q	VBAT20A□-RV-Q	VBAT38A□-RV-Q
Accessory kit	VBAT5A-Y-2	VBAT10A-Y-2	VBAT20A-Y-2	
Safety valve	VBAT-S (Set pressure: 2 MPa)		VBAT-R (Set pressure: 1 MPa)	
Drain valve	VBAT-V1			

The Accessory Kit is a Set of Nos. ① to ⑤.

No.	Description \ Model	VBAT5A-Y-2	VBAT10A-Y-2	VBAT20A-Y-2
		Quantity		
①	Bushing assembly (with O-ring)	1	1	1
②	Hexagon socket head taper screwed plug (for drain port)	1	1	1
③	Hexagon socket head cap screw	4	4 (VBA1□A) 4 (VBA2□A)	4
④	Anchor bolt/nut	—	—	4
⑤	Hexagon socket head taper screwed plug (for safety valve port)	1	1	1

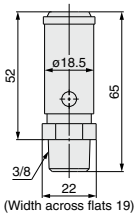


Drain valve: VBAT-V1



Body material: Brass

Safety valve: VBAT-R, VBAT-S

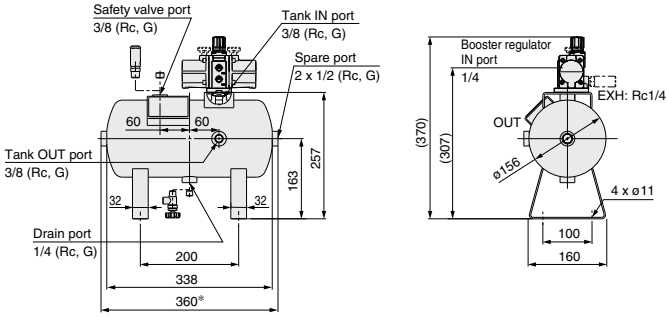


Body material: Brass

Dimensions: CE Marking-Conformity Products

VBAT05A-Q Material: Carbon steel

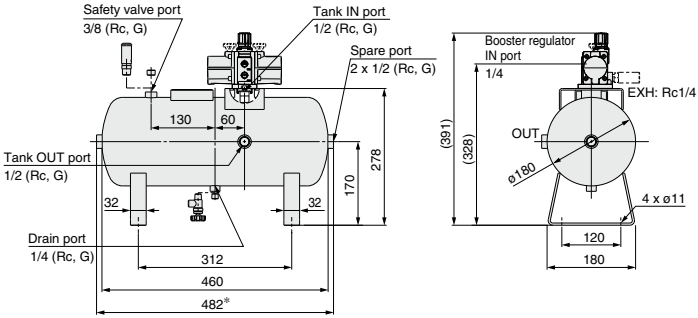
Connected to VBA10A, 11A



* The length may be longer than the specification if the plugs mounted on the tank are not fit to the end.
** The plug in the spare port has been firmly secured with adhesive. When removing the plug to use the port, be careful so as not to damage the plug.

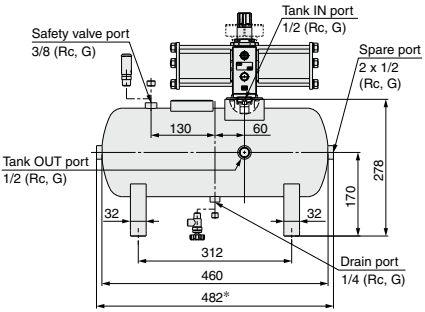
VBAT10A-Q Material: Carbon steel

Connected to VBA10A, 11A

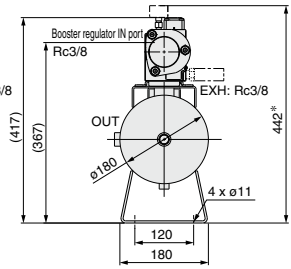


* The length may be longer than the specification if the plugs mounted on the tank are not fit to the end.
** The plug in the spare port has been firmly secured with adhesive. When removing the plug to use the port, be careful so as not to damage the plug.

Connected to VBA20A



Connected to VBA22A



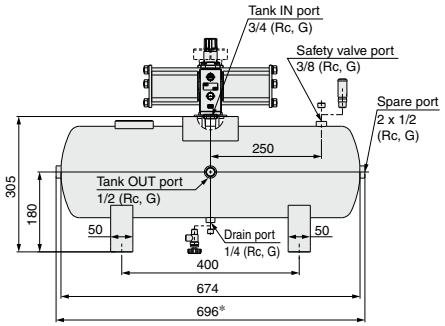
* When option G (pressure gauge) is selected

* The length may be longer than the specification if the plugs mounted on the tank are not fit to the end.
** The plug in the spare port has been firmly secured with adhesive. When removing the plug to use the port, be careful so as not to damage the plug.

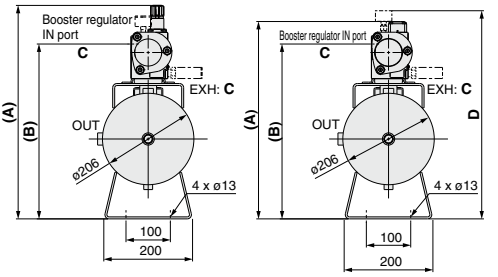
Dimensions: CE Marking-Conformity Products

VBAT20A-Q Material: Carbon steel

Connected to VBA20A, 40A



Connected to VBA22A, 42A



(mm)

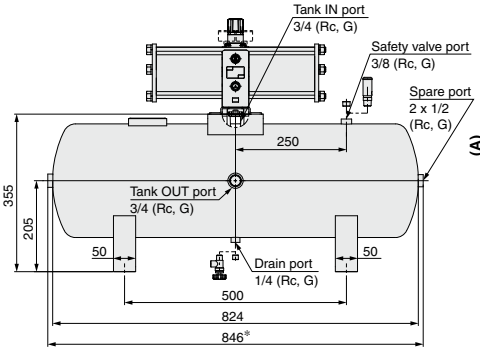
Booster regulator model	A	B	C	D Note)
VBA20A	481	394	Rc3/8	—
VBA40A	520	429.8	Rc1/2	—
VBA22A	444	394	Rc3/8	469
VBA42A	477	429.8	Rc1/2	493

Note) When option G (pressure gauge) is selected

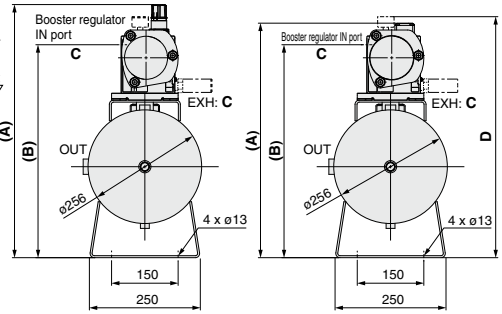
∗ The length may be longer than the specification if the plugs mounted on the tank are not fit to the end.
∗∗ The plug in the spare port has been firmly secured with adhesive. When removing the plug to use the port, be careful so as not to damage the plug.

VBAT38A-Q Material: Carbon steel

Connected to VBA20A, 40A



Connected to VBA22A, 42A



(mm)

Booster regulator model	A	B	C	D Note)
VBA20A	531	444	Rc3/8	—
VBA40A	570	479.8	Rc1/2	—
VBA22A	494	444	Rc3/8	519
VBA42A	527	479.8	Rc1/2	543

Note) When option G (pressure gauge) is selected

∗ The length may be longer than the specification if the plugs mounted on the tank are not fit to the end.
∗∗ The plug in the spare port has been firmly secured with adhesive. When removing the plug to use the port, be careful so as not to damage the plug.