



VACUUM BREAKER

MODEL VB3/VB3-H

COMPACT LARGE CAPACITY VACUUM BREAKER WITH RAPID INITIAL AIR VENT

Features

Float-type mechanical valve to protect against piping and equipment damage by preventing a vacuum from forming.

1. Compact with large air-intake capacity.
2. Simple design with free float and disc type check valve to minimize malfunctions and extend service life.
3. Combination of precision-ground float, rubber-inlaid center-guided check valve disc with coil spring support ensure a tight seal.
4. Large orifice can vent large volumes of initial air for quick system start-up.*
5. VB3 uses corrosion-resistant Super Duplex Stainless Steel for high durability and cost-performance suitable for use with seawater.

* Vents initial air only, install an automatic air vent if air flows into the system during operation



Specifications

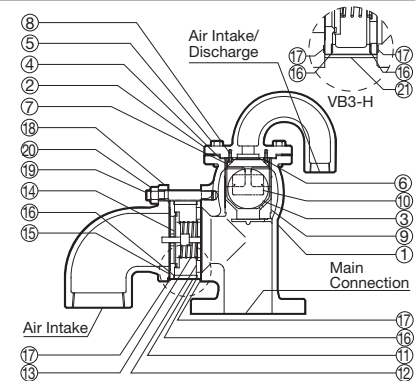
Model	VB3	VB3-H
Body Material	Super Duplex Cast Stainl. Stl.	Cast Steel
Connection	Main Connection	Flanged
	Air Intake Port	Screwed
	Air Intake/Discharge Port	Screwed
Size	Main Connection	80 mm
	Air Intake Port	80 mm (NPT 3)
	Air Intake/Discharge Port	25 mm (NPT 1)
Max. Operating Pressure (MPaG) PMO		1.0
Min. Required Differential Press. for Tight Sealing at Check Valve Seat (MPa)		0.001
Max. Operating Temperature (°C) TMO		90
Applicable Fluids*	Water, Seawater	Water

* Do not use for toxic, flammable, or otherwise hazardous fluids 1 MPa = 10.197 kg/cm²

PRESSURE SHELL DESIGN CONDITIONS (NOT OPERATING CONDITIONS): Maximum Allowable Pressure (MPaG) PMA: 1.0 (VB3), 5.0 (VB3-H)
Maximum Allowable Temperature (°C) TMA: 100 (VB3), 350 (VB3-H)



To avoid abnormal operation, accidents or serious injury, DO NOT use this product outside of the specification range. Local regulations may restrict the use of this product to below the conditions quoted.



No.	Description	Material	JIS	ASTM/AISI*
①	Body	Super Duplex Cast Stainl. Stl.	—	A955 Gr.6A CD3MWCuN
②	Cover	Super Duplex Cast Stainl. Stl.	—	A955 Gr.6A CD3MWCuN
③	Float	High Alloy Steel	Ni-Mo-Fe Alloy	—
④	Cover Gasket	Nitrile Rubber	NBR	D2000BF
⑤	Cover Bolt	Stainless Steel	—	A193 Gr.B8M Cl.1
⑥	Valve Seat	Nitrile Rubber	NBR	D2000BF
⑦	Valve Seat Retainer	Duplex Stainless Steel	SAF2507	A182 F53
⑧	Set Screw	Titanium	TW270	B863 Gr.1
⑨	Float Guide	Duplex Stainless Steel	SAF2507	A182 F53
⑩	Nameplate	Stainless Steel	SUS304	AISI304
⑪	Check Valve Body	Super Duplex Cast Stainl. Stl.	—	A955 Gr.6A CD3MWCuN
⑫	Spring Holder	Duplex Stainless Steel	SAF2507	A182 F53
⑬	Coil Spring	High Alloy Steel	Ni-Cr-Fe Alloy	—
⑭	Check Valve Disc	Nitrile Rubber/ Duplex Stainless Steel	NBR/ SAF2507	D2000BF/ A182 F53
⑮	Check Valve Seat	Duplex Stainless Steel	SAF2507	A182 F53
⑯	Check Valve Inner Gasket	Fluorine Resin	PTFE	PTFE
⑰	Check Valve Outer Gasket	Nitrile Rubber	NBR	D2000BF
⑱	Intake Pipe	Super Duplex Cast Stainl. Stl.	—	A955 Gr.6A CD3MWCuN
⑲	Intake Pipe Bolt	Stainless Steel	—	A193 Gr.B8M Cl.1
⑳	Intake Pipe Nut	Stainless Steel	—	A194 Gr.8M

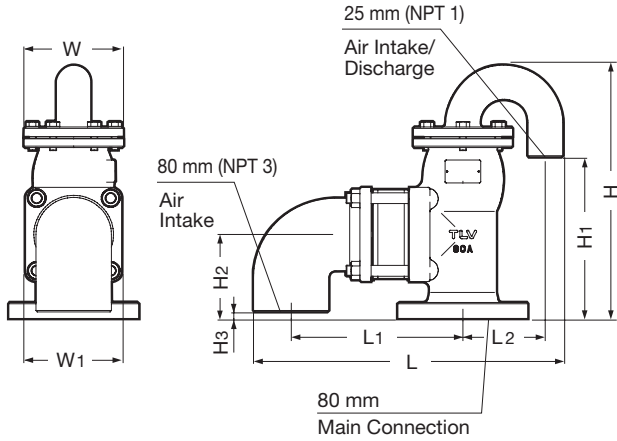
* Equivalent

No.	Description	Material	JIS	ASTM/AISI*
①	Body	Cast Steel	—	A216 Gr.WCB
②	Cover	Cast Steel	—	A216 Gr.WCB
③	Float	Stainless Steel	SUS316L	AISI316L
④	Cover Gasket	Graphite/Stainless Steel	-/SUS316L	-/AISI316L
⑤	Cover Bolt	Alloy Steel	—	A193 Gr.B7
⑥	Valve Seat	Nitrile Rubber	NBR	D2000BF
⑦	Valve Seat Retainer	Stainless Steel	SUS304	AISI304
⑧	Set Screw	Stainless Steel	SUS304	AISI304
⑨	Float Guide	Stainless Steel	SUS304	AISI304
⑩	Nameplate	Stainless Steel	SUS304	AISI304
⑪	Check Valve Body	Stainless Steel	SUS304	AISI304
⑫	Spring Holder	Stainless Steel	SUS304	AISI304
⑬	Coil Spring	Stainless Steel	SUS304	AISI304
⑭	Check Valve Disc	Nitrile Rubber/Stainl. Stl.	NBR/SUS304	D2000BF/AISI304
⑮	Check Valve Seat	Stainless Steel	SUS304	A182 F53
⑯	Check Valve Inner Gasket	Graphite/Stainless Steel	-/SUS316L	-/AISI316L
⑰	Check Valve Outer Gasket	Graphite/Stainless Steel	-/SUS316L	-/AISI316L
⑱	Intake Pipe	Cast Steel	—	A216 Gr.WCB
⑲	Intake Pipe Bolt	Alloy Steel	—	A193 Gr.B7
⑳	Intake Pipe Nut	Carbon Steel	—	A194 Gr.2H
㉑	Ring	Carbon Steel	SPCC	A109

* Equivalent

Dimensions

● **VB3 / VB3-H Flanged**



VB3 Flanged (mm)

Size	L		L ₁	L ₂	H	H ₁	H ₂	H ₃	φW	W ₁	Weight (kg)
	ASME Class										
	150RF										
80	450	250	120	380	240	125	10	145	140	30	

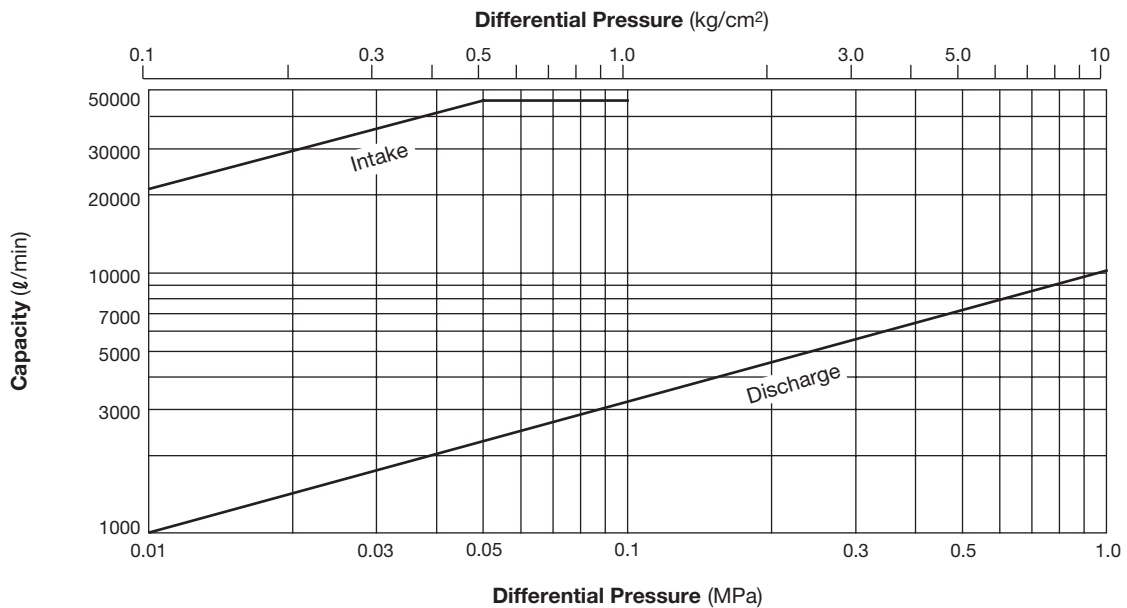
VB3-H Flanged (mm)

Size	L			L ₁	L ₂	H	H ₁	H ₂	H ₃	φW	W ₁	Weight* (kg)
	ASME Class											
	150RF	300RF	600RF									
80	455	455	455	255	120	410**	275**	131**	16**	150	160	35

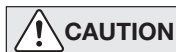
* Weight is for Class 150 RF

** For Class 150RF, add 5 mm for 300RF and 14 mm for 600RF

Intake / Discharge Capacity



1. Differential pressure is the difference between the main connection pressure and air intake/discharge port pressure.
2. Capacities are equivalent capacities of air at 20 °C under atmospheric pressure.



While acting as an initial air vent, once the valve closes after discharging initial air, it will not open again, even if air accumulates inside the product, until internal pressure drops to near atmospheric pressure.

Manufacturer
TLV CO., LTD.
 Kakogawa, Japan
is approved by LRQA Ltd. to ISO 9001/14001

