



上海真空泵厂有限公司
Shanghai Vacuum Pump Works Co., Ltd.

2BV Series Liquid-Ring Vacuum Pump Operating Manual



2BV2



2BV5



2BV6

I . Overview

1. 2BV2 and 2BV5 series liquid-ring vacuum pump is single stage and direct connection,it is suitable to extract dry and wet gas;
2. 2BV6 series liquid-ring vacuum pump is connected to motor which is direct connection and explosion-proof with bracket,it is suitable to extract flammable or explosive gas and working condition.
3. The extracted gas is not allowed to be mixed with solid particles.
4. When the pump is running,working liquid should be replenished hour after hour. When the extracted gas or steam is so hot that be up to 80℃,we advice double amount working liquid without solid particles.

II . Installations instructions

1. Fixation

Flatly install the pump on same water level and fix it with anchor bolts. Chassis is not necessary.

2. Pipeline connection

All connection exits carry with protection covers. Don't remove the covers before the pipeline connection done. Stress is not allowed in the process of connection and the pipeline should be with support.

3. The max exhaust pressure of 2BV2 series is 1200 mbar; 2BV5 and 2BV6 is 1300 mbar.

4. In the first 100 hours, we advise that a filter should be attached with the suction pipe to avoid residue caused from installation part entrance.

5. Working liquid supply: cooling circulation connection

This connection requires offering enough amount of working liquid to ensure the minimum suction pressure; With the working liquid to be fully drained, new liquid would be supplemented into the pump at the same time.

To be filled with working liquid in advance, the supplemental liquid can be fed automatically when the pump working. It requires enough working liquid should be supplemented into the pump.

III. Starting instructions

1. Preparation

Before starting the pump, supply working liquid in advance via gas inlet or outlet and ensure the working liquid to be flowed into the pump;

Check connection of the gas exhaust pipeline and the working liquid feed pipeline;

Check direction of rotation of the pump when to be instant-on;

Direction of gas inlet, outlet and the pump shaft rotation has been made marked with arrows on the pump.

2. Starting

Start the pump and check the flow of working liquid. The liquid supply pressure should be 1 bar higher than the suction pressure to ensure enough working liquid.

3. Exhausting

When gas empty, open the plug screw below the pump cover to cause the liquid flow out, rotate the pump via rotating the fan until no liquid flowing out.

It would be almost gas empty if make the pump 45° inclined,it can make the pump avoid being damaged when stopping working it long time or in cold condition.

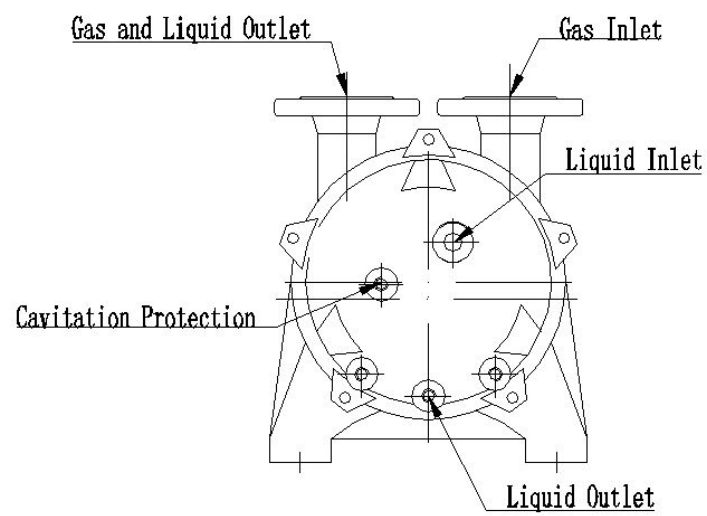
When the pump had not been used more than 4 weeks,user should exhaust the gas empty, put 0.5L preservative oil into the pump via gas inlet or outlet and then start the pump in short time.

IV. Repairing instructions

1. User should backwash the dust particles via the washing open below the pump cover to avoid the impeller or the pump cavity being damaged.

2. When the pump had been worked more than 20,000 hours,User should clean the waste oil,dirt around the pump shaft and in the attached space,and then supplement new oil.Amount of the new oil should be fill with 50% free space of the pump shaft and 65% space of the shaft cover.The drain period should be shorted when the working condition was bad.

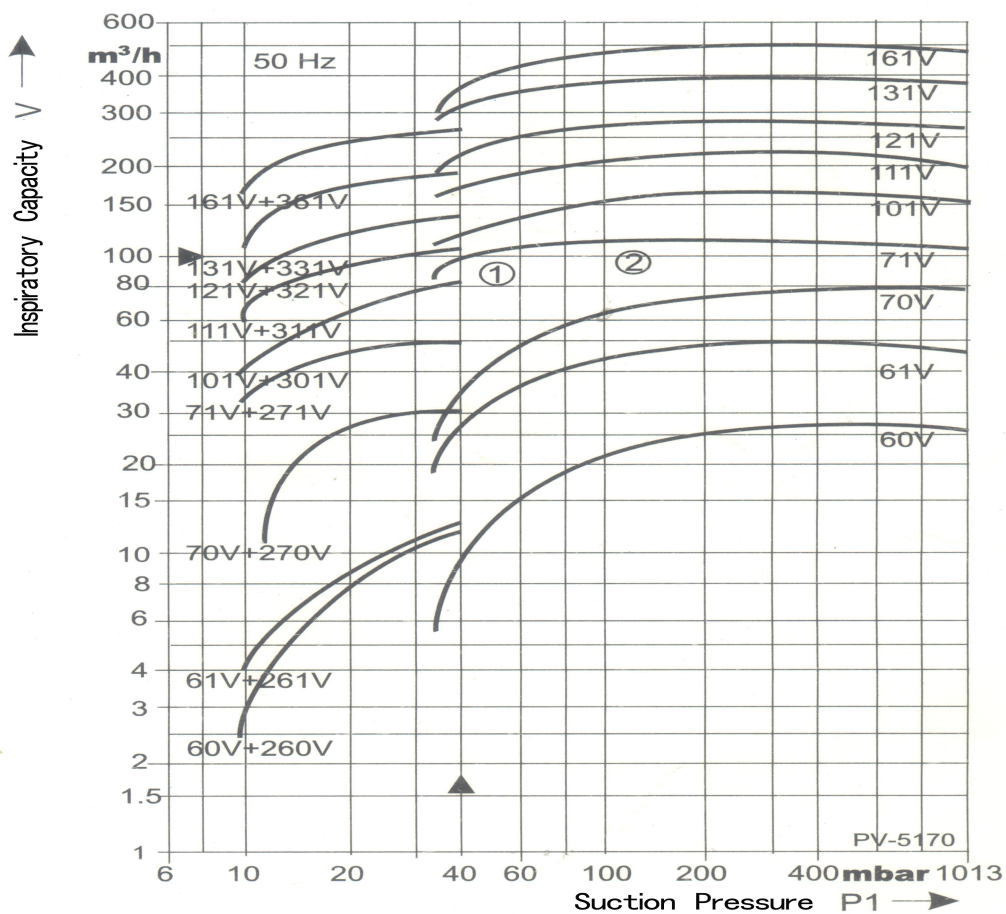
V. Outside view



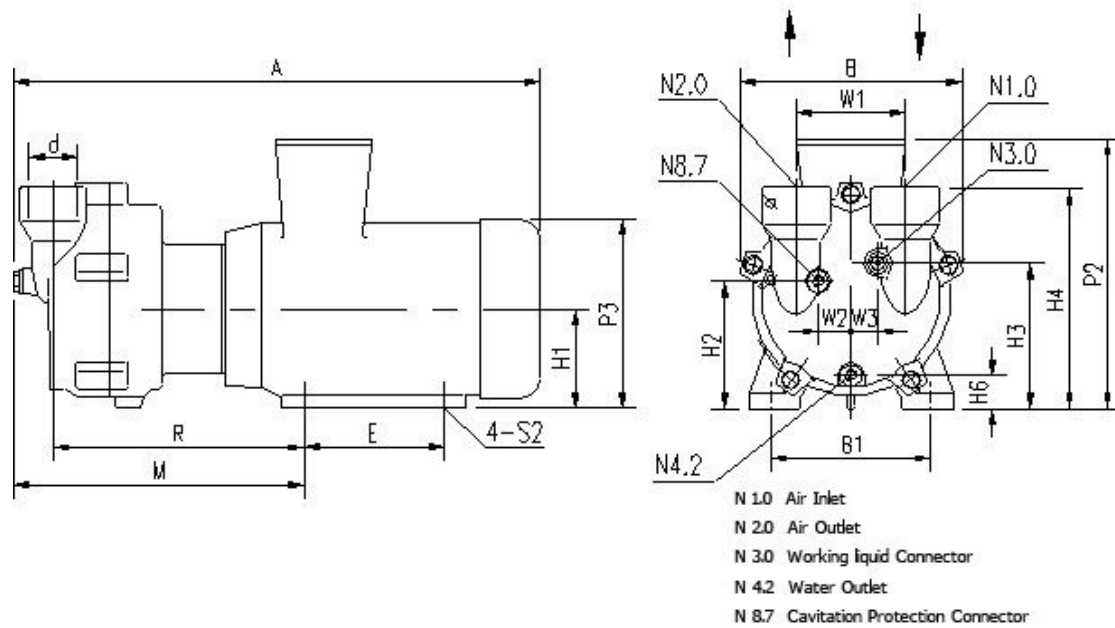
Outside View

VI. The technical parameters and specifications

Technical Parameters						
Curve No.	Model	Max. IC (m ³ /min)	Ultimate Vacuum (Mpa)	Power (kw)	Pumping Rate (r.p.m)	Flow Rate (L/min)
60V	2BV-2060	0.45	0.097	0.81	2880	2
61V	2BV-2061	0.86	0.097	1.45	2880	2
70V	2BV-2070	1.33	0.097	2.35	2850	2.5
71V	2BV-2071	1.83	0.097	3.85	2860	4.2
110V	2BV-5110	2.75	0.097	4	1450	6.7
111V	2BV-5111	3.83	0.097	5.5	1450	8.3
121V	2BV-5121	4.66	0.097	7.5	1450	10
131V	2BV-5131	6.66	0.097	11	1430	15
161V	2BV-5161	8.33	0.097	15	970	20
110V	2BV-6110	2.75	0.097	4	1450	6.7
111V	2BV-6111	3.83	0.097	5.5	1450	8.3
121V	2BV-6121	4.66	0.097	7.5	1450	10
131V	2BV-6131	6.66	0.097	11	1430	15
161V	2BV-6161	8.33	0.097	15	970	20

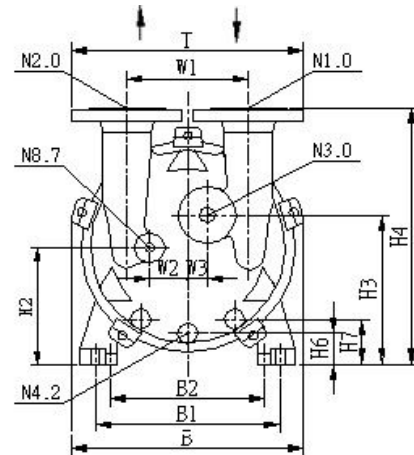
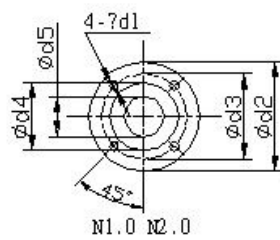
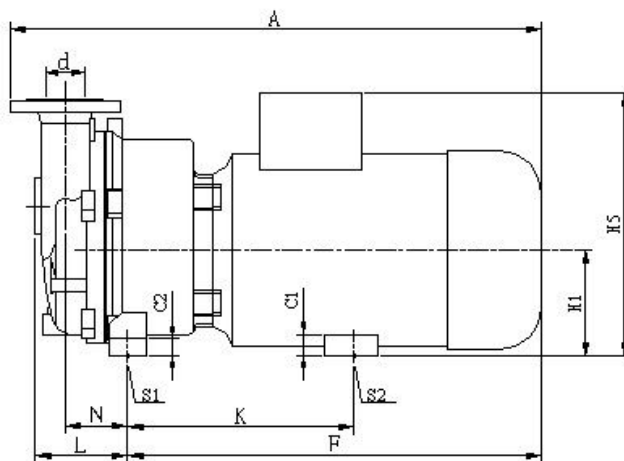


Size Data Of 2BV2 Series



	A	B	B1	E	H1	H2	H3	H4	H6	M	P2
2BV2060	455	186	140	100	90	118	126	195	37.5	244	250
2BV2061	476	186	140	100	90	118	126	195	37.5	263	250
2BV2070	545	223	160	140	100	128	146	222	33	280	270
2BV2071	566	223	190	140	112	140	158	234	45	309	300
	P3	R	S2	W1	W2	W3	d	N3.0	N4.2	N8.7	
2BV2060	180	217	φ10	110	25.5	21	G1"	G3/8"	G1/4"	G3/8"	
2BV2061	180	236	φ10	110	25.5	21	G1"	G3/8"	G1/4"	G3/8"	
2BV2070	203	252	φ12	110	33	27	G1 1/2"	G3/8"	G1/4"	G3/8"	
2BV2071	225	278	φ12	110	33	27	G1 1/2"	G3/8"	G1/4"	G3/8"	

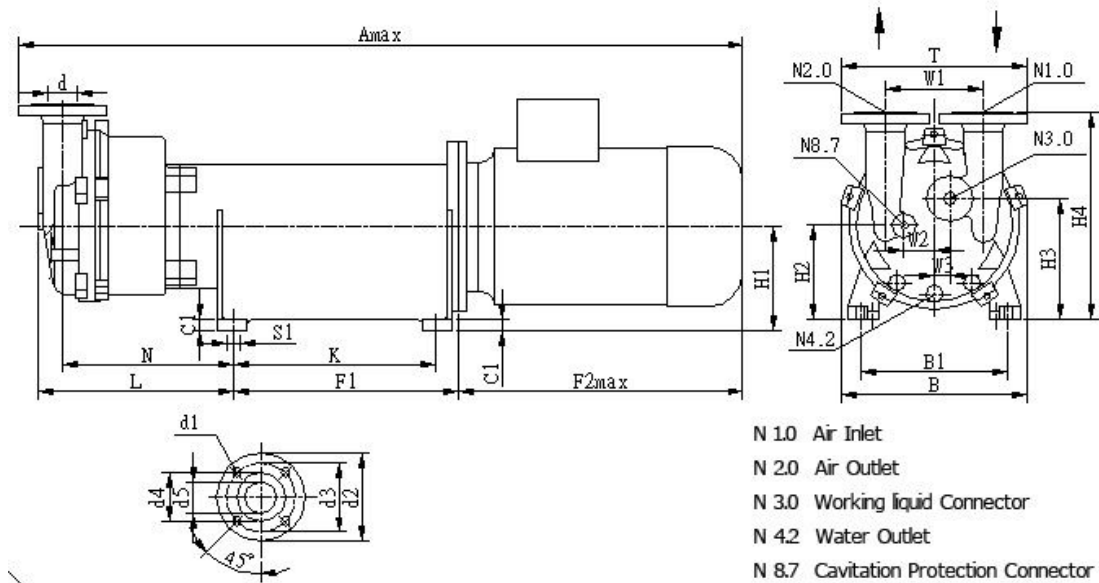
Size Data Of 2BV5 Series



- N 1.0 Air Inlet
- N 2.0 Air Outlet
- N 3.0 Working liquid Connector
- N 4.2 Water Outlet
- N 8.7 Cavitation Protection Connector

	A	B	B1	B2	C1	C2	H1	H2	H3	H4	H5
2BV5110	637	325	255	190	41	26	140	156	202	361	328
2BV5111	679	325	265	216	36	26	150	166	212	371	363
2BV5121	771	347	265	216	36	26	150	167	217	385	363
2BV5131	852	377	300	254	35	30	175	194	249	427	435
2BV5161	1044	479	370	279	30	30	210	225	303	521	485
	H6	H7	K	L	F	N	S1	S2	T	d1	d2
2BV5110	38	57	342	130	464	92	φ12	φ12	340	19	160
2BV5111	48	68	348	130	500	92	φ12	φ12	340	19	160
2BV5121	39	60	430	147	584	97	φ12	φ12	381.5	19	182
2BV5131	53	76	477.5	147	658.5	103	φ15	φ15	381.5	19	182
2BV5161	51	80	555	201	808	138	φ15	φ15	450	22	200
	d3	d4	d5	W1	W2	W3	d	N3.0	N4.2	N8.7	
2BV5110	123	97	52	180	52	27	DN50	G3/4"	G3/8"	G3/8"	
2BV5111	123	97	52	180	52	27	DN50	G3/4"	G3/8"	G3/8"	
2BV5121	142	113	66.5	200	57	29	DN65	G3/4"	G3/8"	G3/8"	
2BV5131	142	113	66.5	200	57	29	DN65	G3/4"	G3/8"	G3/8"	
2BV5161	156	130	80	250	81	41	DN80	G3/4"	G3/8"	G3/8"	

Size Data For 2BV6 Series



	A_{max}	B	B1	C1	F1	$F2_{max}$	H1	H2	H3	H4	K	L	N	W1
2BV6110	1190	325	255	26	291	450	160	173	223	381	250	319	281	180
2BV6111	1237	325	279	26	360	470	180	196	242	401	320	365	327	180
2BV6121	1368	347	279	26	360	575	180	197	247	415	320	384	342	200
2BV6131	1495	377	320	26	461	585	215	234	287	467	414	405	357	200
2BV6161	1625	479	370	26	461	640	215	230	310	526	414	480	416	250
	W2	W3	S1	T	d1	d2	d3	d4	d5	d	N3.0	N4.2	N8.7	
2BV6110	52	27	φ13	340	19	160	123	97	52	DN50	G3/4"	G3/8"	G3/8"	
2BV6111	52	27	φ13	340	19	160	123	97	52	DN50	G3/4"	G3/8"	G3/8"	
2BV6121	57	29	φ13	381.5	19	182	142	113	66.5	DN65	G3/4"	G3/8"	G3/8"	
2BV6131	57	29	φ15	381.5	19	182	142	113	66.5	DN65	G3/4"	G3/8"	G3/8"	
2BV6161	81	41	φ15	450	22	200	156	130	80	DN80	G3/4"	G3/8"	G3/8"	