

ROTARY VANE VACUUM PUMP

OPERATION MANUAL

TYPE: CP08-573



Warning

1. This device is designed for only use in the field of coarse or fine vacuum. It can be used to suck off air or dry gases, which are not poisonous, aggressive or explosive.
2. **Recommended to equip oil non-return valve to avoid oil suck back to machine.**
3. It's not allowed to install and operate this device before reading the instruction manual.
4. For safety reason, please do not modify or repair the rotating part of this device.
5. The manufacturer has the right to modify the product without notice.
6. This unit is only a component, it must be installed in a machine or part of a machine which meets the terms of the machine Directive **89/392/EEC**. Commission will not occur until the end product or machinery conforms with the **EN60204-1**.

1. Safety requirement : 
Caution

- 1) All the works of transportation, installation, maintenance and troubleshooting must be executed by a responsible, qualified personnel.
- 2) This device must be set up according to this instruction manual.
- 3) The grounding wire must be connected well accordingly.
- 4) The lead wires as a conductor to the power supply should be properly sized and have strain relief to the wires at the connection terminals. If this is failed, electric shock and fire will be possible.
- 5) While rotating, human body must keep away from the rotating portion such as the cooling fan and do not reach into the device through the intake.
- 6) If the device couldn't accelerate up to its rated speed from the power switch turned on, please turn off the power immediately and check it carefully.
- 7) The power supply must be turned off before moving, maintaining or repairing this device.
- 8) Liquid and solid particles must not enter the pump. If suck moist air must equipped gas ballast valve.
- 9) The end cover is used to prevent contact and direct the cooling air flow, can not be removed; otherwise the motor will get overheating.

2. Installation:

2.1 Operation condition:

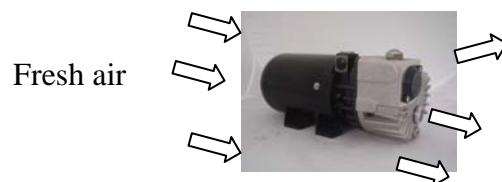
2.1.1 Do not use with poisonous corrosive or explosive gases or substances.

2.1.2 Operation condition :

Ambient temperature : 12 ~ 40°C

Ambient pressure : Atmosphere

2.1.3 To avoid overheating must keep fresh air in /out smoothly.



2.1.4 Keep continuous operation with suction port fully open the lubricant can be exhausted out by exhaust plate.

2.2 Set up


2.2.1 Pump must install at horizon direction on a smooth surface please fix the pump by fix screw.

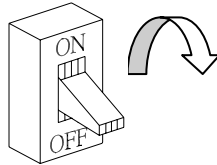
2.2.2 The diameter of pipe must be equal or bigger than that of inlet flange.

2.2.3 Air and gases should be filtered before entering into the intake by an inline filter to avoid solid particles entering the pump.


2.2.4 Before starting up the pump, please pour lubricant oil into the pump through the oil fill plug to avoid damaging the pump.


2.3 Electric connection:

Warning :  Before connection please turn off the power supply.



2.3.1 The supplied power voltage and frequency must be as the rating stated on the nameplate.

2.3.2 **Caution**  The protective earth conductor must be connected to the ground

terminal 

2.3.3 The drive motor must be protected against overload by a fuse or circuit breaker matching the rating current on the nameplate.


3. Operation:

3.1 First flick ON/OFF the switch to check the direction of rotation of the pump. The direction should be counter clockwise from the view of end cover side.


3.2 During operation, the surface temperature can reach over 70°C please does not touch it °



4. Maintenance:

Attention  : Unless the supplied power turn off, it is not allow to execute any maintenance / repairing work.

4.1 Maintenance items :

Items	Check cycle and actions
1. Oil level	The oil level should be checked at least once a day. Check by eye · If the oil level is below the Max mark on oil sight Glass, more oil should be added to MAX mark again (if no mark then Max is at 3/4 of oil sight glass).  3/4
2. Oil changing	<ol style="list-style-type: none"> 1. Oil must be changed after the first 100 hours of operation. 2. Upon operating conditions, the oil should be changed after 500-1500 hours or half year at least. 3. If there is considerable pollution it could be necessary to change the oil more frequently ° (CP08 series is 0.25 liter) . 4. When change oil , must change the oil filter.
3. Filter	<ol style="list-style-type: none"> 1. Each month. 2. If the oil mist escapes from the exhaust cover during the operation of the pump or when the measured pressure reaches 600mbar, the filter must be changed.
4. Motor fan cover	Each month must clean to avoid overheating.
5. Return valve	Clean every 3 months.

4.2 il according to DIN 51506, lubricating oil group VC must be used ° We recommend Mobil oils of TERESSTIC series.

Moil TERESSTIC	Working temperature
T 32	1 2 °C ~ 40°C

4.3 If need special oil for vacuum pumps please request to supplier.

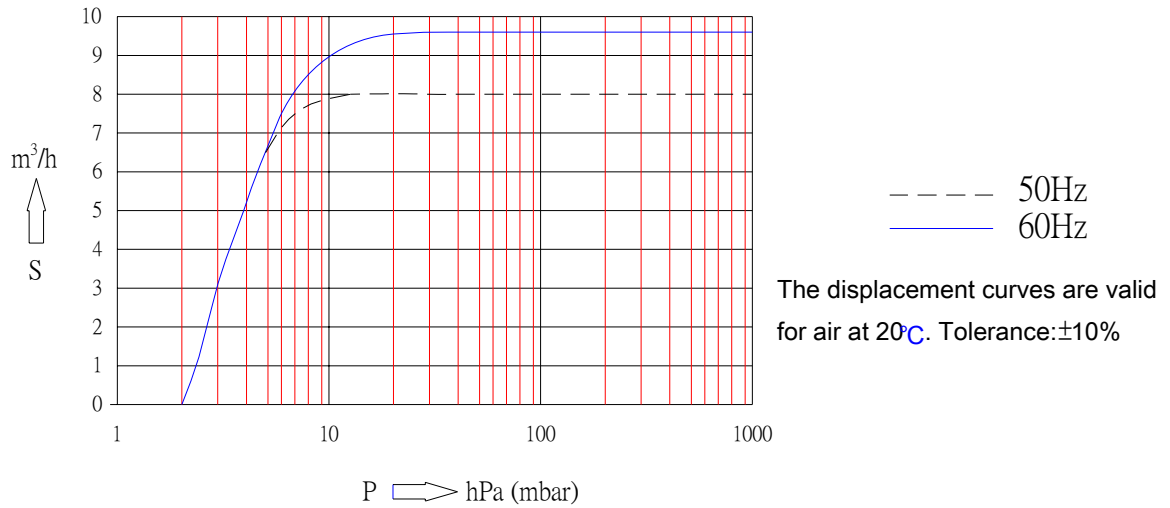
Caution:  Used oil must be treated conform with local regulation.

5. Trouble-shooting:

Fault	Cause	Remedy
Motor does not run and without humming noise	<ol style="list-style-type: none"> 1. No power. 2. Two power cords opened. 3. Power switch or starter defected. 4. Motor winding opened. 5. Protector or protector circuit opened. 	<ol style="list-style-type: none"> 1. Supply power. 2. Checks the power cord. 3. Change the power switch or starter. 4. Change the motor winding. 5. Change the protector or fix the protecting circuit.
Motor does not run with humming noise	<ol style="list-style-type: none"> 1. One power cord opened. 2. Power switch or starter defected. 3. Motor winding open. 4. Bearing defected. 5. Capacitor (single phase) defected. 6. Working temperature below 12°C. 7. Wrong lubricant. 	<ol style="list-style-type: none"> 1. Check the power cord. 2. Change the power switch or starter. 3. Change the motor winding. 4. Change bearing. 5. Change capacitor. 6. Raised up the working temperature to 12°C or change lubricant. 7. Change lubricant.
Weak vacuum	<ol style="list-style-type: none"> 1. Pump too small. 2. Wrong power frequency. 3. Wrong direction of rotation. 4. Vacuum leakage. 5. Lubricant defected. 6. Exhaust filter blocked. 7. Air filter blocked. 8. Vane defected. 9. Vacuum meter defected. 	<ol style="list-style-type: none"> 1. Change a larger pump. 2. Adjust power frequency. 3. Change direction. 4. Check system and process leakage test. 5. Change lubricant. 6. Change or clean filter. 7. Change air filter. 8. Change vane. 9. Change vacuum meter.
Weak pumping speed	<ol style="list-style-type: none"> 1. Demister blocked. 2. Air filter blocked. 	<ol style="list-style-type: none"> 1. Clean demister. 2. Change air filter.
Overheating	<ol style="list-style-type: none"> 1. Working temperature exceed 40°C. 2. Cooling air deficient. 3. Dirt of the housing of motor or cylinder. 4. Less oil. 5. Sucking air temperature too high. 	<ol style="list-style-type: none"> 1. Reduce working temperature. 2. Change installation place or improve air flow. 3. Clean out dirt. 4. Add oil. 5. Reduce temperature of sucking air.
White mist from exhaust cover	<ol style="list-style-type: none"> 1. Exhaust filter blocked or damaged. 2. Too much oil. 	<ol style="list-style-type: none"> 1. Change exhaust filter. 2. Leak oil.
Emulsify oil	<ol style="list-style-type: none"> 1. Moisture. 	<ol style="list-style-type: none"> 1. Change oil or open gas ballast valve.

6. Technical data:

Suction capacity



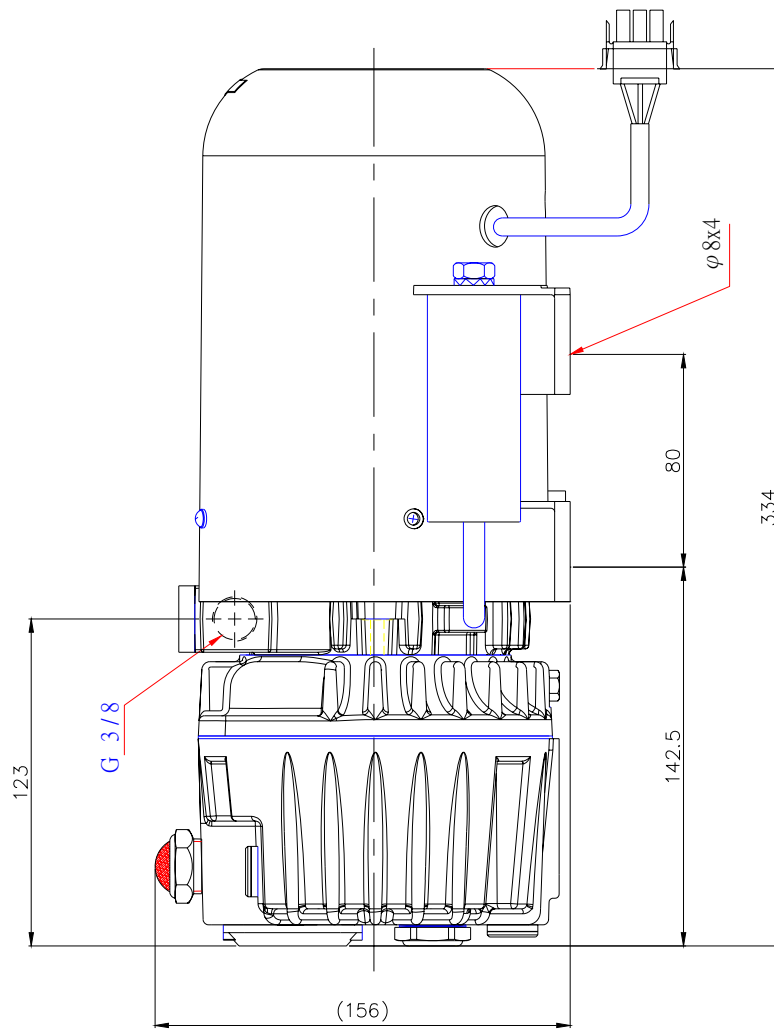
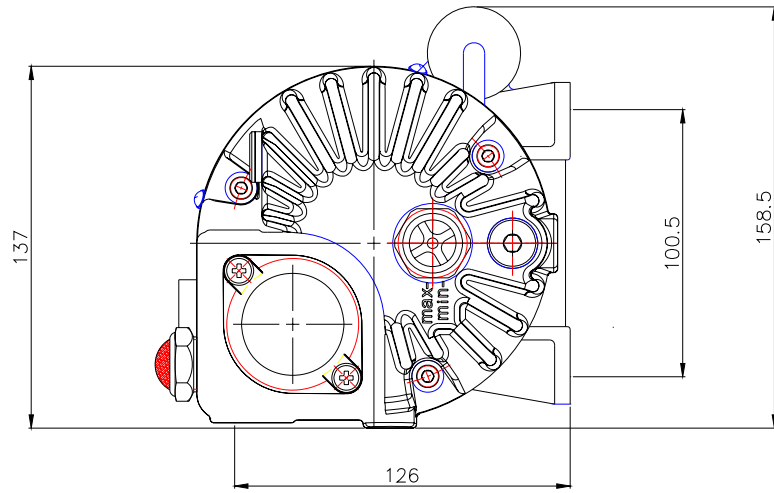
Technical data

			CP08-573
Nominal displacement	50 Hz	m ³ /h	8
	60 Hz	m ³ /h	9.6
Ultimate pressure		hPa (mbar)	2
Nominal motor rating	50 Hz	kW	0.35
	60 Hz	kW	0.45
Nominal motor speed	50 Hz	min ⁻¹	2800
	60 Hz	min ⁻¹	3300
Noise level (Note 1)	50 Hz	dB (A)	59
	60 Hz	dB (A)	63.5
Oil filling		l	0.25
Weight approx		Kg	9.5

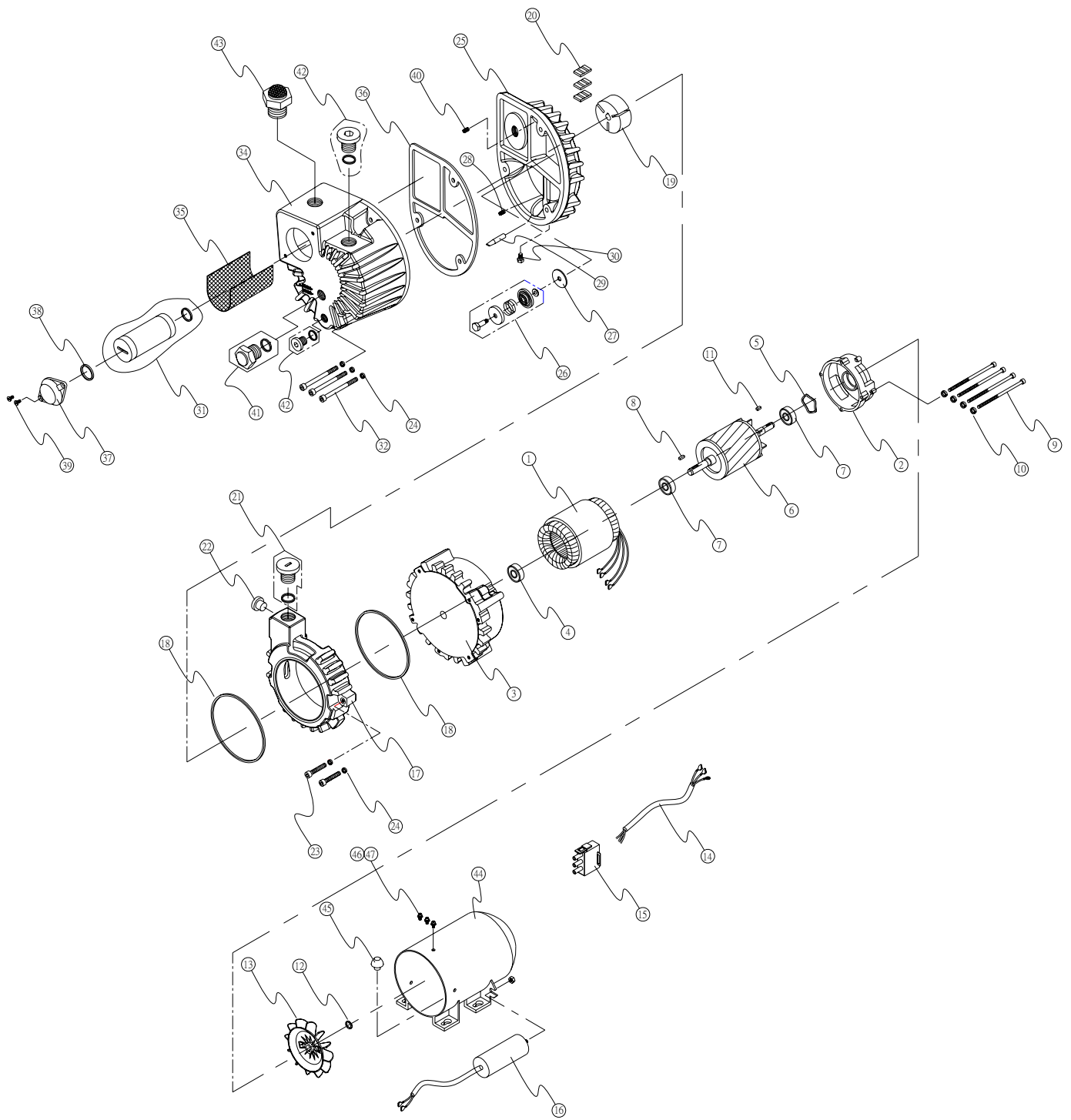
Note 1.

- measurement:
1. background noise level 39 dB
 2. average of 4 point (1M distance, 4 test point)
 3. block the in-let

7. Contour dimensions:



8. Parts List:



8.1 Parts Schedule:

No.	Parts No.	Parts Name	Specifications	Unit	Quantity
1	2CP0857321	Motor coil	CP08-573,220-240V,50/60Hz	PCS	1
2	2CP12PUM18001	B- end plate	FOR CP-08	PCS	1
3	2CP11PUM110A1	A-end plate	FOR CP-08	PCS	1
4	316SL1060	Oil Seal	TC 12-22-6;VITON	PCS	1
5	33BWA1090	Spring washer	(31*23)h3.3 BWW-6201	PCS	2
6	2CPST1070	Rotor	φ 54.4x212.5	PCS	1
7	313BR2310	Bearing	TPI 6201 ZZC2/5K*	PCS	2
8	338KY2190	Key	4b*4h*14L,	PCS	1
9	331HC1410	Hollow core screw	M5xP0.8x110L,	PCS	4
10	334WS1030	Lock washer	M5	PCS	4
11	338KY2200	Key	4b*4h*10L	PCS	1
12	334WE1010	Toothlike washer	CSTW-10	PCS	1
13	315PUM190	Fan	FOR CP-08	PCS	1
14	2CPPWM010	Connection cable	FOR CP-08,1 φ 220-240V	PCS	1
15	32QRCH460	Connect-3P	TKP H9848R-03	PCS	1
16	2CPAPU01003	Capacitor	16 μ F/450V;FOR CP-08	PCS	1
17	2CPCYA2A3	Cylinder	FOR CP-08	PCS	1
18	316OR1070	O-Ring	S-80(φ 79.5x2);Viton	PCS	2
19	313PLE060	Cylinder rotor	φ 63x φ 12x27	PCS	1
20	31ZPU3050	Vanes	27x18x4	PCS	3
21	33ZPU2100	Valve-end	φ 14x4.5;G-1/2x36	Set	1
22	315PUM200	Plug	PF 3/8(SPG-PF17-B)	PCS	1
23	331HC1270	Hollow core screw	M5x0.8x20L	PCS	2
24	334WS1030	Lock washer	M5	PCS	2
25	2CPOSA3A2	Oil separator cover	FOR CP08	PCS	1
26	31ZPU2090	Exhaust valve	FOR CP-08	Set	1
27	316RB1360	Rubber cushion	φ 28x φ 8.2x2 \pm 0.3 FOR PF-7	PCS	1
28	331SC1110	Copper screw	M4*0.7*4L,CP08 用	PCS	1
29	31ZPU2080	Filter cap	φ 6x40,FOR CP-08	PCS	1
30	331SH1160	Hex Head screw	M6*P1.0*10L (RoHS)	PCS	1
31	31ZPU2060	Exhaust filter	D40x70;G 3/8"	PCS	1
32	331HC1400	Hollow core screw	M5xP0.8x80L	PCS	3
33	334WS1030	Lock washer	M5	PCS	3
34	2CPOSA301	Oil separator	FOR CP-08	PCS	1
35	31ZPU2070	Concaved Filter	110x53; 2 layers	PCS	1
36	333PK1110	Seal for exhaust filter	FOR CP-08 MP-15	PCS	1
37	315PUM180	Exhaust cover	CP-08	PCS	1
38	316OR1080	O-Ring	I.D. φ 42.52x2.62(AS-131)	PCS	1
39	331SN1050	Screw	9.3*M5X12L	PCS	2

No.	Parts No.	Parts Name	Specifications	Unit	Quantity
40	2CPOS102	Oil return valve	FOR CP-08	PCS	1
41	312PUM190	Oil sight glass	R 1/2"	PCS	1
42	33ZPU1120	Socket pipe plug	PFO-04-H,PF1/4-19,Viton	PCS	2
43	33ZPU1130	Air damper	SBN-1/2	PCS	1
44	315PUM170	Cover	FOR CP-08	PCS	1
45	316RB1400	Plug	FOR CP-08	PCS	1
46	331SP1170	Screw	M4x15L	PCS	4
47	331WP1360	Washer	φ 4x φ 12x1	PCS	4