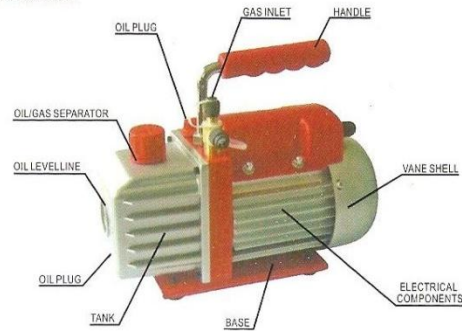


VACUUM PUMP

3. Product Illustration



4. Main technique parameters

• SINGLE STAGE VACUUM PUMP

Model		TW-0.5A	TW-1A	TW-1.5A	TW-2A	TW-3A	TW-4A	TW-5A	TW-6A
Flow Rate (CFM)	220V	1	2	3	4	5.5	8	9	11.5
	110V	1.2	2.4	3.6	4.5	6.6	9	11	13.5
Ultimate (Pa)		10	10	10	10	10	10	5	5
Vacuum (Microns)		75	75	75	75	75	75	35	35
Power (HP)		1/6	1/6	1/4	1/3	1/2	1/2	3/4	3/4
Rotating Speed (r/min)	220V	1440	1440	1440	1440	1440	1440	1440	1440
	110V	1720	1720	1720	1720	1720	1720	1720	1720
Oil Capacity (ml)		160	250	200	250	320	700	700	700
Dimensions (mm)		240*115*230	249*121*230	249*121*230	315*125*240	340*135*260	390*145*280	425*155*280	425*155*280
Weight (kg)		6	7.2	7.4	8.8	9.8	15.5	16	17.4

• DOUBLE STAGE VACUUM PUMP

Model		2TW-0.5C	2TW-1C	2TW-1.5C	2TW-2C	2TW-3C	2TW-4C
Flow Rate (CFM)	220V	1	2	3	4	6	8
	110V	1.2	2.5	3.5	5	7	9.8
Ultimate (Pa)		5×10^{-1}	5×10^{-1}	5×10^{-1}	5×10^{-1}	5×10^{-1}	5×10^{-1}
Vacuum (Microns)		25	25	25	25	25	25
Power (HP)		1/4	1/3	1/3	1/2	3/4	3/4
Rotating Speed (r/min)	220V	1440	1440	1440	1440	1440	1440
	110V	1720	1720	1720	1720	1720	1720
Oil Capacity (ml)		200	250	300	280	600	650
Dimensions (mm)		315*125*240	315*125*240	340*135*260	340*135*260	390*145*280	425*155*280
Weight (kg)		7	9	10	10	16	17

VACUUM PUMP

• HIGH SPEED VACUUM PUMP

Model		TW-1M	TW-1.5M	2TW-0.5M	2TW-1M	2TW-1E	2TW-2E	2TW-3E	2TW-4E
Flow Rate (CFM)	220V	2	3	1	2	2.5	4.5	7	11
	110V	2.5	3.6	1.2	2.5	3	5.5	8.5	13.2
Ultimate (Pa)		5	5	3×10^{-1}	3×10^{-1}	5×10^{-1}	5×10^{-1}	5×10^{-1}	5×10^{-1}
Vacuum (Microns)		35	35	20	20	25	25	25	25
Power (HP)		1/6	1/4	1/6	1/4	1/4	1/3	1/2	3/4
Rotating Speed (r/min)	220V	2800	2800	2800	2800	2800	2800	2800	2800
	110V	3360	3360	3360	3360	3360	3360	3360	3360
Oil Capacity (ml)		150	150	150	150	200	250	280	600
Dimensions (mm)		246*105*200	246*105*200	246*105*200	246*105*200	249*121*230	315*125*240	340*135*260	390*145*280
Weight (kg)		4	4.3	5	5.3	7	9	9	10

5. User's manual

- Examine the oil-level before using to make sure the oil-level is not lower than the oil-level line in the sight glass. Do not run pump with low oil levels. Add oil to bring it up to the oil level line.
- Connect the container to be pumped to the gas inlet. The hose should be short, sealed and free of dust, dirty and heavy condensation. Check for leaks before operating pump.
- Take down the exhaust cap (TW-1A and TW-1.5A without exhaust cap), plug in the power supply and turn the switch on.
- Unplug the vacuum pump, remove the connecting hoses and cover the exhaust cap (TW-1A and TW-1.5A without exhaust cap), and cover the oil plug after using.

6. Cautions

- Don't pump flammable, explosive or poisonous gases.
- Don't pump gas that can corrode metals and exert chemical charges.
- Don't pump gas containing any dust or moisture.
- The temperature of the pumped gas shouldn't be over 176°F (80°C), and the environment temperature should be around 23°F (-5°C) to 140°F (60°C).
- Don't use vacuum pump as a compression pump or conveyer pump.
- Pump can not be operated without oil.
- The operating voltage is between 192 to 248V, 50HZ. You must use a grounded outlet.
- When unplugging the pump, pull the plug. Don't unplug unit by pulling on the wire.
- Keep electrical cord free from all shop equipment, and do not let pump hang by power cord.
- Don't use damaged plug or outlet.
- Don't plug or pull out the plug with wet hands.
- Don't plug unit in, unplug unit or use switch if there are any flammable or explosive gases present.
- Always unplug unit before disassembling.

VACUUM PUMP

7. Installation

- When in use, the pump should be horizontal and should be positioned where it is dry, ventilated and free of dust and other contaminants.
- In order to ensure proper air flow, you must maintain a clearance around the pump of at least 10cm (4inches).
- To permanently mount the vacuum pump, remove the rubber pads from the bottom of the base, and use the existing threaded holes to mount unit. Mount with ST4.2 screws.
- When permanently mounting this pump, be sure to maintain proper clearances around the unit, especially at the air intake at the end of the vane shell.
- If a special electromagnetic valve is needed, it can be installed on the gas inlet.

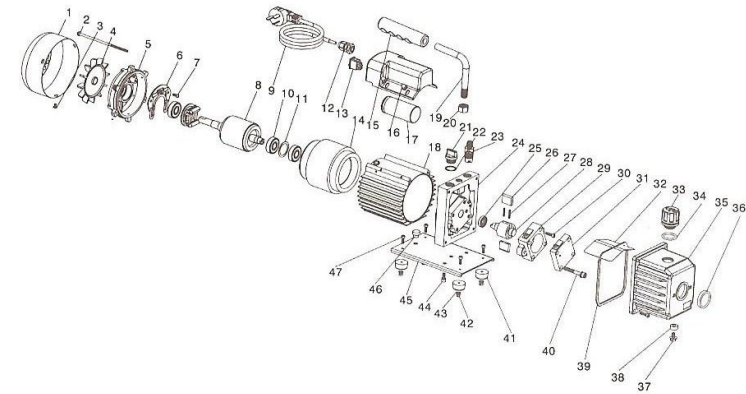
8. Troubleshooting

Problem	Possible Cause	Correction
Low Degree Of Vacuum	<ol style="list-style-type: none"> 1. Lack of oil 2. Oil is not clean 3. The oil inlet is blocked 4. The hoses or gas inlet are clogged 5. The pump is not suitable for your application 	<ol style="list-style-type: none"> 1. Add oil to above the oil level line 2. Change the oil 3. Clean the oil inlet or clean the filter 4. Check the connecting pipes 5. Get suitable pump for your application
Oil Leaks	<ol style="list-style-type: none"> 1. The oil seal is damaged 2. The housing gasket is loose or worn out 	<ol style="list-style-type: none"> 1. Change oil seal 2. Change the housing gasket
Oil Spray	<ol style="list-style-type: none"> 1. Too much oil 2. The pressure at the gas inlet is too high or it has pumped too much 	<ol style="list-style-type: none"> 1. Oil to the oil-level line 2. Change to a bigger pump
Starting Difficulty	<ol style="list-style-type: none"> 1. The oil temperature is too low 2. Electrical malfunction 3. Foreign matter is in the pump 	<ol style="list-style-type: none"> 1. Start the pump several times to try to heat the oil 2. Check and have it fixed 3. Check and remove it

9. Maintenance

- Keep the pump clean and prevent foreign matter from entering.
- Keep the oil filled to the oil-level. Don't let pump run without oil.
- Keep the oil clean. If the oil becomes dirty, muddy, or water or other volatile substances gets in, it will affect the performance of the pump and the oil should be replaced. Before replacing the oil, start the pump and have it for about 30 minutes to make the oil thin. Stop the pump and drain the oil from the oil drain plug. Then open the gas inlet and running 1-2 minutes, during this time, add a small quantity of clean oil for the gas inlet, that's in order to replace the residual oil from the inside pump. After making sure the pump is clean, put the drain plug back in and then fill the clean pump oil from the gas inlet to the oil-level.
- To store the pump when not in use for long periods of time, cover the oil cap and exhaust cap (TW-1A and TW-1.5A without exhaust cap) and store it in a dry place.
- Repair of pump should only be done by a qualified service technician.

VACUUM PUMP



ITEM#	ORDERING PART#	PART DESCRIPTION	ITEM#	ORDERING PART#	PART DESCRIPTION
1	PRT3441-01	FAN COVER	25	PRT3441-25	OIL SEAL
2	PRT3441-02	LONG SCREW	26	PRT3441-26	ROTARY-VANE
3	PRT3441-03	SCREW	27	PRT3441-27	SPRING
4	PRT3441-04	FAI	28	PRT3441-28	PUMP ROTOR
5	PRT3441-05	MOTOR COVER	29	PRT3441-29	PUMP BODY
6	PRT3441-06	CENTRIFUGAL SWITCH(2PCS)	30	PRT3441-30	SCREW
7	PRT3441-07	SCREW	31	PRT3441-31	BACK-PUMP COVER
8	PRT3441-08	ROTOR	32	PRT3441-32	CAP BOARD
9	PRT3441-09	POWER CABLE	33	PRT3441-33	OIL GAS SEPARATOR
10	PRT3441-10	BEARING	34	PRT3441-34	O-RING
11	PRT3441-11	WAVEFORM GASKET	35	PRT3441-35	OIL TANK
12	PRT3441-12	INSULATING BUSHING	36	PRT3441-36	OIL LEVEL
13	PRT3441-13	SWITCH	37	PRT3441-37	OIL SEAL CAP
14	PRT3441-14	STATOR	38	PRT3441-38	SEAL GASKET
15	PRT3441-15	HANDLE COVER	39	PRT3441-39	O-RING
16	PRT3441-16	SCREW	40	PRT3441-40	BOLT
17	PRT3441-17	CAPACITOR	41	PRT3441-41	RUBBER FEET
18	PRT3441-18	MOTOR COVER	42	PRT3441-42	NUT
19	PRT3441-19	HANDLE	43	PRT3441-43	FLAT GASKET
20	PRT3441-20	NUT	44	PRT3441-44	SCREW
21	PRT3441-21	OIL FILLING PORT	45	PRT3441-45	BASEBOARD
22	PRT3441-22	O-RING	46	PRT3441-46	BEARING PAD
23	PRT3441-23	INLET FITTING	47	PRT3441-47	SCREW
24	PRT3441-24	BRACKET			