



INTELLIGENT MINI VACUUM PUMP INSTRUCTION



ST-M2BM
ST-M2S



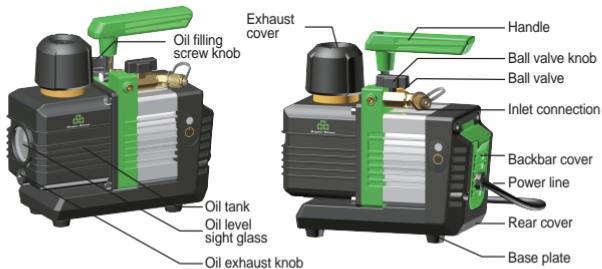
PREMIUM REFRIGERATION TOOL SERIES

Thanks for purchasing  products. For safe and correct using, please read this user instruction carefully before using the product.

STRUCTURAL DRAWINGS, TECHNICAL PARAMETER, APPLICATION RANGE, FEATURE

STRUCTURAL DRAWINGS

To help you recognize the components of the  vacuum pump, we provide visual structural drawings.



TECHNICAL PARAMETER

Item No.	Power	Flow rate	Ultimate pressure	Oil charging quantity	Weight	Air inlet connection screw
ST-M2BM	220V/60HZ	5.4m ³ /h	2Pa	200ml	3.55kg	1/4"NPT
ST-M2S			20Pa	200ml	3.06kg	

APPLICATION RANGE

 Single, dual stages intelligent vacuum pumps are basic equipment that used for evacuate sealed containers, refrigerant equipment maintenance (refrigerants including CFC, HCFC, HFC, such as R12/1234YF etc), printing machinery, vacuum package, gas analysis, thermoforming industries and also use as backing pump of all kinds of high vacuum equipments.

FEATURE

1. Integral cylinder block structure, high precision and limit vacuum pump.
2. Forced oil pump lubrication, ensure high reliability.
3. Large oil window design , prevent oil shortage.
4. Sparkless design, more secure.
5. Use brushless DC motor, lighter, smaller, more convenient.

PREPARATION BEFORE USING PUMP, SAFETY WARNING

PREPARATION BEFORE USING PUMP

- (1) Check the oil level scale before using.
- (2) Filling of the pump oil:
 1. Turn on oil filling screw knob, filling oil to middle of oil window.

Note: The filling oil rate should be too fast to prevent overflowing.

2. Connect power supply, turn on the start switch, the pump starts to run, check the oil level in the oil window after 1 minute operation, shut off to filling in if the oil level is too low, turn back the oil filling screw knob.

Note: When the pump is running, the oil quantity should keep in the illustrated position, it will reduce the pump performance if the oil lever is too low and will case the oil mist pour out if the oil level is too high.



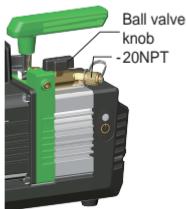
SECURITY WARNING

- * To avoid personal injury, please read carefully and follow the instruction manual.
- * Wear goggles when working with refrigerant.
- * Do not contact refrigerant gas directly, avoid the refrigerant gas cause personal injur.
- * Because the pump will heat when working, please do not touch the tank or motor housing when operating.

VACUUM PUMP OPERATING GUIDE, SAFETY WARNINGS, MAINTENANCE

OPERATING GUIDE

1. When using vacuum pump, First, take off the inlet cap (7/16"-20NPT interface side, as shown in the figure), connect to the pumped container (note to check whether the pipe connection thread is consistent with the inlet thread), all pipes should be short, open the ball valve knob, (the opening direction is shown in the figure, and turn right 90° to close).
2. Then check the air inlet connection and all the pipelines are sealed reliably, no leakage phenomenon.
3. After the use of the pump, close the valve between the pump and the pumped container.
4. Remove the connecting pipe.
5. Cover the inlet cap and outlet cap (except the model without outlet cap) to prevent dirt or floating particles from entering the pump chamber;
Tips: pay attention to the oil level, when the oil level in the oil window is lower than the middle line of the oil level line, please fill vacuum pump oil in time.
6. This vacuum pump have built-in one-way cut-off parts. After the pump stops running, it can prevent oil backflow.
7. When pump is stop running, due to the influence of air diffusion movement, the vacuum degree in the pumped container will decrease. It is recommended that the user close the ball valve knob after the pump stops running in time.



SAFETY WARNING

1. It's not allowed to run pump and exceed 3 minutes when inlet port connect to atmosphere.
2. The ambient temperature of the product is 5-40°.
3. Before the vacuum pump is connected to the A/C or refrigeration system, please extract the refrigerant from the system in a reliable way. Please note that taking out the refrigerant under high pressure will damage the pump. Special equipment is recommended.

MAINTENANCE

1. Selection of pump oil:

The type and condition of the pump oil is an important factor to determine whether the pump can reach the ultimate vacuum. In order to maintain the best performance of the pump, we recommend you to use the special vacuum pump oil provided by our company. This oil is specially modulated to maintain the maximum viscosity at normal operating temperature, which is conducive to the cold start of the pump.

Tip: when the pump oil is emulsified and contaminated, please change the vacuum pump oil in time.

2. Change pump oil:

To ensure that the pump is in a hot state, the pump needs to run for about 1 minute before replace oil.

Run the Pump and open the air inlet at the same time, so that the oil in the pump chamber is forced to flow out, shut off the pump and then open the drain plug, waste oil into a suitable container, and reasonable treatment. When the oil stops flowing, tilt the pump body to completely discharge the residual waste oil.

Tighten the drain plug.

Open the filling plug and fill new pump oil (same operation as item 2 of preparation before using pump).

TROUBLESHOOTING AND WARRANTY COVERAGE

TROUBLESHOOTING

Problem	Reason	Solution
Low degree of vacuum	1. Spare inlet cap side leakage	Tighten spare inlet cap
	2. Seal ring in spare inlet cap damaged	Replace new seal ring
	3. Oil insufficient	Add oil center line of oil scale
	4. Pump oil emulsified, not clean	Replace with new oil
	5. Oil inlet blocked or oil feeding inadequate	Clean oil inlet and filtering screen
	6. Pump pipeline leak	Check pipeline for leakage and repair
	7. Improper pump chosen	Check the container which be evacuated choose connect pump
	8. After long time of using parts worn	Repair or replace a new pump

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Oil spray	1.Oil seal damaged	Repair with new oil seal
	2.Oil tank joint loosen or damaged	Tighten screws or replace O-type ring
Oil leakage	1.Too much oil charged	Discharge oil to base line
	2.Inlet pressure too high for long time	Choose proper model pump
Difficult starting	1.Too low oil temperature	Lead air inlet to atmosphere startmotor interuptedly heat pump oil
	2.Motor or power supply trouble	Check and repair
	3.The foreign matter fell into the pump	Check and clear
	4.Low supply voltage	Check the supply voltage

Remark:

1. This product is a sparkless design, the motor has overload, overcurrent protection, etc., when the protection occurs, please troubleshoot in time;
2. If the above solutions do not solve the problem, please contact the nearest dealer, or send your pump to the professional repair center, we will do our best to serve you.

WARRANTY SCOPE

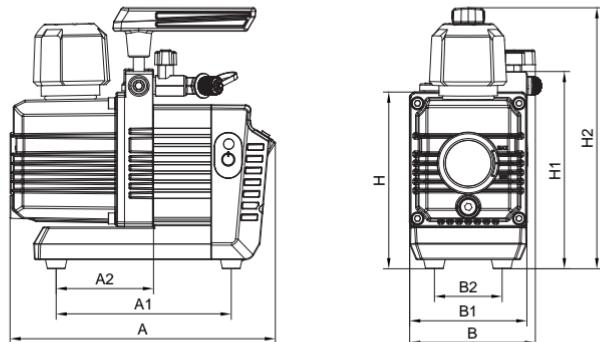
Due to the product quality issue, warranty within 1 year from date of the factory, the scope of warranty is as follows:

1. The qualified testing organization confirmed that there are manufacturing defects of the product.
2. Repaired or disassembled product with permission.
3. Use in the right way -- follow the instructions to operate. All warranty services shall be during the warranty period.

STATEMENT:

The manufacturer does not bear any additional costs except Product malfunction, including: waste of working hours and refrigerant gas, unapproved transportation or labor after refrigerant is contaminated.

ELEVANT SHAPE SIZE



Item No.	A	A1	A2	B	B1	B2	H	H1	H2
ST-M2BM	203.5	134.5	74.8	96.5	90	52	135.5	151.5	200.5
ST-M2S	203.5	134.5	74.8	96.5	90	52	135.5	151.5	200.5