

ITE Vacuum pumps

Instruction manual



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Safety guidelines

- * After factory run-in and testing the pump is drained of oil to prevent spillages during shipment - Do not operate the pump until filled with oil.
- * Do not use the pump to evacuate combustible, explosive or poisonous gases.
- * Do not use the pump to evacuate gases that contain particles, dust or steam.
- * The temperature of the evacuated gas should not exceed 80°C.
- * Do not use the pump to transfer liquid or to compress gases.
- * Do not block the air outlet when the pump is operating.
- * Do not operate the pump in the rain or any other wet environment.

Oil filling

Ensure that the correct amount of oil is used to fill the pump (see specifications). Only ITE vacuum pump oil should be used as any other oil type may affect performance and could damage your pump.

1. Remove the exhaust shroud from top front of pump and the cap from the intake fitting.
2. Pour 50 ml of oil into exhaust hole and then start the pump for a few seconds with the intake sealed.
3. Stop the pump and continue filling until the oil level comes 3/4 of the way up the oil level window located on the front of the pump. DO NOT OVERFILL.
4. Please note that the oil level should be checked only when the pump is running. When the pump is stopped the oil level of a correctly filled pump will fall below the 1/2 way level in the sight glass.

Oil change

Contaminants pulled from a system can affect vacuum pump performance and seriously damage internal pump parts so therefore frequent oil changes are recommended. The pump should be hot when draining oil and if the pump is not to be used for a long period of time always drain and refill the pump with fresh oil before using.

1. Remove the drain plug at the bottom of the front end of the pump in order to drain the used oil into a suitable receptacle with pump running.
2. Refit the drain plug and refill the pump following the OIL FILLING procedure above.

Gas ballast

The gas ballast valve is used to help prevent condensation of contaminant vapors within the pump. Opening the valve stem (knurled rod located on top of pump) allows relatively dry air from the atmosphere to enter the pump.

This air combines with the wet vapor passing through the pump and helps prevent the moisture from condensing and mixing with the vacuum pump oil. To use the gas ballast valve slightly open the valve during the first few minutes of system pull-down and then close fully to allow the pump to achieve ultimate vacuum.

General operation

The vacuum pump is supplied with the following standard accessories.

1. An electrically operated solenoid valve which can easily be connected onto the inlet of the vacuum pump. This solenoid valve will ensure that the vacuum is maintained in the event of power to the pump being interrupted.
2. A vacuum gauge that allows you to check the depth of vacuum in the system after evacuation and also monitor for system leaks.
3. An oil mist filter. This filter will avoid that excessive oil vapour will be exhausted from the pump when evacuating large amounts of air.
4. A non return valve on the inlet to prevent oil migrating from the pump into the evacuated system when the pump is turned off.
5. A dual voltage switch allows an easy change from 220V to 110V operation.
6. A 180 cm (72") charging hose to connect the pump to a manifold gauge set or to the system to be evacuated.
7. The electric motor has thermal and electric overload protection to prevent the windings from damage if the electric motor becomes too hot or if the current gets too high, due to seizer or other mechanical damage.
8. The pump is dual cycle and will operate on both 50 Hz and 60 Hz.

The minimum cold start temperature of the pump is 0°C and below this temperature an external heater should be used to a guarantee trouble free start up.

An optional manifold bracket can be supplied which is fitted to the pump handle and this enables quick and easy attachment of a 1, 2, 4 or 5 valve manifold to the pump.

The pump can be supplied with different types of electrical connections/plugs. Please specify model requested.

The pump can be used on all CFC, HCFC and HFC refrigeration systems and for continuous use on CFC and HCFC systems ITE-205-P mineral vacuum pump oil is recommended.
For use on HFC systems, we recommend the use of ITE-500-P ester oil.

Parts



Specifications

Model	MK-40-DS		MK-60-DS	
Voltage	220 V/50Hz	110 V/60Hz	220 V/50 Hz	110 V/60 Hz
Free air displacement	40 L/min	48 L/min	66 L/min	78 L/min
	1.44 CFM	1.70 CFM	2.30 CFM	2.75 CFM
Ultimate vacuum	15 micron	15 micron	15 micron	15 micron
	0.020 mBar	0.020 mBar	0.020 mBar	0.020 mBar
Motor	0.19 kW	0.19 kW	0.25 kW	0.25 kW
	1/4 HP	1/4 HP	1/3 HP	1/3 HP
Motor Speed	1440 RPM	1720 RPM	1440 RPM	1720 RPM
Oil capacity	350 ml	350 ml	380 ml	380 ml
Dimensions	330 x 135 x 255 mm		350 x 143 x 265 mm	
Net weight	9,80 kg		11,50 kg	

Model	MK-120-DS		MK-180-DS	
Voltage	220 V/50Hz	110 V/60Hz	220 V/50 Hz	110 V/60 Hz
Free air displacement	132 L/min	156 L/min	176 L/min	212 L/min
	4.66 CFM	5.50 CFM	6.23 CFM	7.50 CFM
Ultimate vacuum	15 micron	15 micron	12 micron	12 micron
	0.020 mBar	0.020 mBar	0.016 mBar	0.016 mBar
Motor	0.25 kW	0.37 kW	0.37 kW	0.50 kW
	1/3 HP	1/2 HP	1/2 HP	2/3 HP
Motor Speed	2880 RPM	3440 RPM	2880 RPM	3440 RPM
Oil capacity	450 ml	450 ml	500 ml	500 ml
Dimensions	330 x 135 x 265 mm		350 x 143 x 285 mm	
Net weight	12 kg		14 kg	

Model	MK-240-DS		MK-280-DS	
Voltage	220 V/50Hz	110 V/60Hz	220 V/50 Hz	110 V/60 Hz
Free air displacement	225 L/min	270 L/min	273 L/min	326 L/min
	7.94 CFM	9.53 CFM	9.64 CFM	11.50 CFM
Ultimate vacuum	12 micron	12 micron	12 micron	12 micron
	0.016 mBar	0.016 mBar	0.016 mBar	0.016 mBar
Motor	0.50 kW	0.50 kW	0.50 kW	0.56 kW
	2/3 HP	2/3 HP	2/3 HP	3/4 HP
Motor Speed	2880 RPM	3440 RPM	2880 RPM	3440 RPM
Oil capacity	500 ml	500 ml	500 ml	500 ml
Dimensions	380 x 160 x 285 mm		380 x 160 x 285 mm	
Net weight	15,50 kg		16,50 kg	

* Voltage is 220 V (+/- 10 %)
 110 V (+/- 10 %)

* Ammonia (NH₃) pumps also available with special seals and steel inlet.

Warranty

This ITE vacuum pump, manufactured in China to an exclusive ITE product design, is guaranteed for 1 year against defects in materials or workmanship when used in accordance with our instructions. This warranty is limited to the repair or replacement, at our option, of products which in our opinion are defective. In no circumstances will we allow charges for labour, downtime or any consequential damage.

Fill out the RMA warranty form on our website at www.ite-tools.com and send the unit to our repair facility.

IMPORTANT NOTICE : ALWAYS DRAIN THE OIL FROM THE PUMP FIRST BEFORE SENDING BACK.

For more information please call +32 3 766 02 02.