LINSTRUMENT

HVP-260-EX

Explosion-Proof Vacuum Pump 170 L/min

User guide

I. SECURITY RECOMMANDATIONS

READ THIS INSTRUCTION MANUAL CAREFULLY BEFORE USING THE HVP-260-EX VACUUM PUMP TO ENSURE OPERATOR AND EQUIPMENT SAFETY.

1 – Only qualified personnel trained in installations containing A2L and A3

2 – HVP-260-EX vacuum pump is ATEX certified according to class II 3G Ex dc IIB T4 Gc and is suitable for use in ATEX zone 2-22. Before any use, verify that the equipment complies with the constraints and requirements specified for the work area and installation. In case of doubt, do not use the equipment and contact the company's Hygiene - Safety - Environment department responsible for the installation for more information.

3 – Thoroughly inspect the work area and ensure that no ignition sources are present, such as open flames, electrical equipment that may generate sparks (including lighting systems), etc.

4 – Use the HVP-260-EX only in an open and properly ventilated area.

5 – Do not wear synthetic clothing that may generate electrostatic charges when using, maintaining, or cleaning the vacuum pump. Never use a dry cloth to clean the pump; only use a damp and well-wrung cloth.

6 – Before plugging the HVP-260-EX into a power source, ensure that the pump switch is in the off position (push button pressed in) and that the power supply is properly protected and grounded. Make sure the power socket is located 5 meters away from the work area.

7 – When using the pump on a system charged with an A3 refrigerant (including R290, R600a), connect the 5m crystal hose to the pump's exhaust outlet and ensure that vapors are discharged outside the work area. When using the pump on a system charged with an A1 or A2L refrigerant, the black exhaust cap can be used instead of the 5m crystal hose.

8 –Use a gas detector calibrated for R290 or R600a to monitor the air in the temporary flammable zone. We recommend the ATEX YT-1200H-S-R290 device from LINSTRUMENT®

9 – It is strictly forbidden to open the motor terminal box while the pump is running.

10 – HVP-260-EX is equipped with a high-performance explosion-proof motor that operates at a higher temperature than standard motors. Avoid touching the pump casing while it is running. In particular, when ambient temperatures are high, the pump's surface temperature may exceed 60°C and cause burns.

11 – Do not use the HVP-260-EX if the oil reservoir is underfilled or overfilled. The oil level, as seen through the sight glass, must be between the MIN and MAX marks.

12 – Do not use HVP-260-EX to pump any type of liquid.

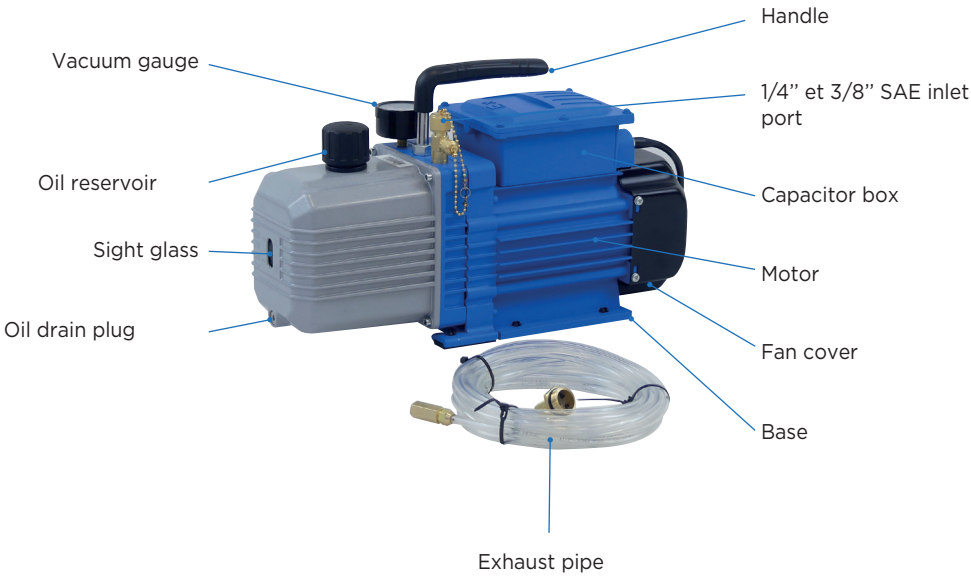
13 – Do not use HVP-260-EX on pressurized systems or ammonia (NH3) systems, as this may damage the equipment.

14 – Storage and Handling: HVP-260-EX must not be exposed to rain or snow while in operation, storage, or transport. The storage area must be properly ventilated, clean, dry, and free from corrosive gases that can damage metals and harm the equipment. Storage conditions: -10°C to +40°C.

15 – HVP-260-EX must be regularly inspected and checked before each use. Any visible defect or damage must be reported, and the equipment must be serviced before further use.

16 – When using HVP-260-EX, wear appropriate gloves and safety goggles. Contact with pressurized refrigerants can cause serious injuries.

II. GENERAL OVERVIEW



III. OPERATION INSTRUCTION

1 – Before operating

HVP-260-EX is designed for operating voltages ±10% of the normal rating.

a) Ensure that the power supply voltage and frequency match the pump specifications as indicated on the nameplate. Make sure the switch is in the OFF position (push button pressed) before powering on.

   HVP-260-EX is designed to operate optimally in an ambient temperature range of 5°C to 40°C.

b) Connect the pump's power cable at a distance of 5m from the work area.

c) Check that the oil level is between the MIN and MAX markers. If needed, top up with ISO-46 -1L oil (ref. 3001300) through the exhaust cap located on top of the pump housing.

d) If the system uses a flammable A3 refrigerant (including R290, R600a)

it is essential to connect the 5m crystal hose to the vacuum pump exhaust and position the hose end outside the work area. If the system uses an A1 (R134a) or A2L (R32) refrigerant, the crystal hose can be replaced with the standard black exhaust cap.

e) Power on the vacuum pump (ON) by pulling the push-button switch. Depending on the ambient temperature, the pump may take 2 to 30 seconds to reach a stable operating speed. The oil level should remain between the MIN and MAX markers after one minute of operation. If the level is too low, stop the pump and add more oil.

2- Stopping the pump after vacuum process

Follow the steps below to extend the pump's lifespan:

a) Close the manifold valve(s) between the pump and the system.

b) Close the valve on the yellow hose between the manifold and the vacuum pump.

c) Turn off the pump by fully pressing the push-button switch.

d) Disconnect the yellow hose from the pump's intake fitting (1/4" or 3/8" SAE).

e) Reinstall the brass cap on the intake fitting to prevent oil contamination from dust or external particles that could damage the pump.

IV. MAINTENANCE

1 – Vacuum pump oil

The quality of the oil used in high-performance, dual-stage vacuum pumps is essential for achieving a deep vacuum level. LINSTRUMENT exclusively recommends using ERRECOM ISO-46 oil (ref. 3001300) with the HVP-260-EX vacuum pump.

2 – Oil drain and replacement procedure

a) Ensure the pump temperature is above 15°C.

b) Unscrew the drain plug located at the bottom of the pump housing. Drain the used oil into a designated container and dispose of it at a recycling center following local waste management regulations.

c) Once drained, tilt the pump forward to remove any remaining oil from the reservoir.

d) Tighten the drain plug. Unscrew the oil filler cap or remove the crystal hose on top of the housing and fill the pump reservoir with new oil until the level is between the MIN and MAX markers on the sight glass.

e) Before restarting the pump, ensure the black cap or crystal hose is securely reinstalled. Then, turn on the pump and let it run for at least one minute while checking that the oil level remains within the markers. Add more oil if necessary.

f) If the oil is heavily contaminated with sludge, the oil housing must be completely disassembled and thoroughly cleaned before adding fresh oil.

NOTE :

The HVP-260-EX is equipped with thermal protection that will cut off power in case of overheating. If this occurs, immediately turn off the pump and allow the equipment to cool before restarting.

V. TROUBLESHOOTING

PROBLEM	CAUSE	ACTION
Insufficient vacuum	1-Vacuum oil is not enough	Add the oil to proper level, which should be between MIN and MAX lines,when thepump is running.
	2-Contaminated or emulsified oil	Drain the pump and refill with new oil.
	3- Leak at a fitting, hose, vacuum gauge, or system	Check for leaks at all connections and hoses between the pump and the system.
	4-Undersized pump for the application	Verify that the pump's capacity is suitable for the application.
	5-Worn internal components after years of service, causing imperfect sealing	Replace the pump body entirely or use a new pump.
Oil leak	1-Worn oil seal at the motor shaft	Replace the seal.
	2-Wear/damage at the interface between the oil reservoir and the motor block	Tighten screws and/or replace the O-ring.
	3-Leak at the drain plug	Tighten and replace the O-ring.
Pump Won't Start	1-Oil temperature too low	Expose the suction port to air and run the pump dry to warm up the oil.
	2-Motor or power supply issue	Inspect and repair.
	3-Debris or impurities in the oil	Check and perform a deep oil drain.
Sudden Pump Shutdown	1-Overcurrent protection activated	Turn off the machine, inspect, and restart.
	2-Thermal protection activated	Turn off the machine and inspect. Restart only after the motor has cooled below the maximum allowed temperature.
	3-Power supply issue	Check and repair the power source.
	4-Electric motor failure	Return the machine to the manufacturer for inspection and diagnostics.

VI. SPECIFICATIONS

PARAMETER	HVP-260-EX
Flow rate	170 L/M (6 CFM) at 60hz
Ultimate vacuum	Partial pressure : 2 x 10-1 Pa
	Total pressure : 15 micron
Power	¾ hp
Inlet ports	1/4'' and 3/8'' SAE
Oil reservoir capacity	600 ml
Dimensions (mm)	442 x 150 x 280
Weight (kg)	17,9

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