

HelixDrive QUICK START GUIDE

Oil-Free Dry Screw Vacuum Pump
Models HD8 / HD20 / HD40 / HD60 / HD100

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START-UP STEPS

1. Place the pump on a flat, level surface in a clean, dry, well-ventilated area. Leave 4–6 in. of clearance around the pump for cooling airflow.
2. Remove the oil fill cap on top. Slowly pour in the NAVAC PFPE vacuum oil until into the gearbox. View the gearbox sight glass to ensure that the gearbox is at least half way full before starting.
3. Connect the inlet to your vacuum system. Make sure the line is clean, leak-tight, and the system is not pressurized. Leave the exhaust open or routed to your exhaust line.
4. If using condensable or hazardous vapors: Connect a dry nitrogen or dry compressed air source to the purge inlet. Adjust the pressure-reducing valve to keep purge pressure between 0.05 and 0.1 MPa (gauge in green range).
5. For the HD8-HD60, plug in the pump to the appropriate outlet for power. For the HD100, a qualified electrician must connect the three-phase motor per the wiring diagram.
6. Turn on the purge gas first. Confirm flow is within the green range on the pressure gauge.
7. If using an HD100, ensure that the water cooling is connected properly and that the water is on prior to starting the pump.
8. For local control: plug the supplied DB15 connector into COM1 and confirm MI1-DCM is short-circuited (factory default). For external control, connect the control signal — see communication manual.
9. Verify the exhaust port is unobstructed. Turn on the power switch. In local mode the pump will start immediately; in communication mode wait for the run command from the host.
10. Let the pump warm up for ~15 minutes.

AT A GLANCE

SPEC	HelixDrive
Power	110V 60Hz 1-ph 220V 50/60 Hz 1-ph 460V 60 Hz 3-ph
Inlet / Exhaust	HD8: KF25/KF16 HD20: KF25/KF25 HD40: KF25/KF25 HD60: KF40/KF25 HD100: KF40/KF40
Lubricant	PFPE gear oil
Oil Volume	HD8-HD60: 80 mL HD100: 630 mL (gearbox), 250 mL (pump head)
Ult. Vacuum	7.5×10 ⁻⁴ Torr
Purge Gas	N ₂ or dry air, 0.05–0.1 MPa
Water-Cooling (Hd100)	0.4 MPa water pressure.
Cooling	HD8-HD60: Air HD100: Water
Communication	MODBUS

BEFORE YOU START — SAFETY

- The pump and gearbox surface stay HOT during operation and for up to 1 hour after shutdown. Do not touch.
- NEVER block or restrict the exhaust port. Maximum exhaust pressure is 1.15 bar absolute.
- Run only with a working purge gas supply. Operating without purge can damage the screws.
- Use only specified PFPE vacuum pump oil. Never use mineral oil.

Need help?

NAVAC Technical Support: +1 877.MY.NAVAC Ext. 2 • techsupport@navacglobal.com • Full manual at navacvacuum.com
This Quick Start Guide is a summary. Always read the full User Manual before installation, operation, or service.