



# Platinum® Series Vacuum Pumps

## OPERATING INSTRUCTIONS & PARTS MANUAL

2-Stage, Direct Drive

### Specifications

**DV-42N, DV-85N,  
DV-142N, DV-200N & DV-285N** 

**MOTOR**

1/2 HP, 60HZ, 115 Volt; Capacitor start;  
Automatic thermal overload protected.

**INTAKE**

**DV-42N** 1/4 Male Flare

**DV-85N** 1/4 x 3/8 Male Flare

**DV-142N,  
DV-200N & DV-285** 3/8 x 1/4 x 3/8 Male Flare

**FREE AIR DISPLACEMENT**

	CFM	Liters Per Minute
<b>DV-42N</b>	1.5	42
<b>DV-85N</b>	3	85
<b>DV-142N</b>	5	142
<b>DV-200N</b>	7	200
<b>DV-285N</b>	10	285

**-250 Series**  

**MOTOR**

1/2 HP, 50 HZ, 230 Volt; Capacitor start;  
Automatic thermal overload protected.

**INTAKE PORT**

See Above

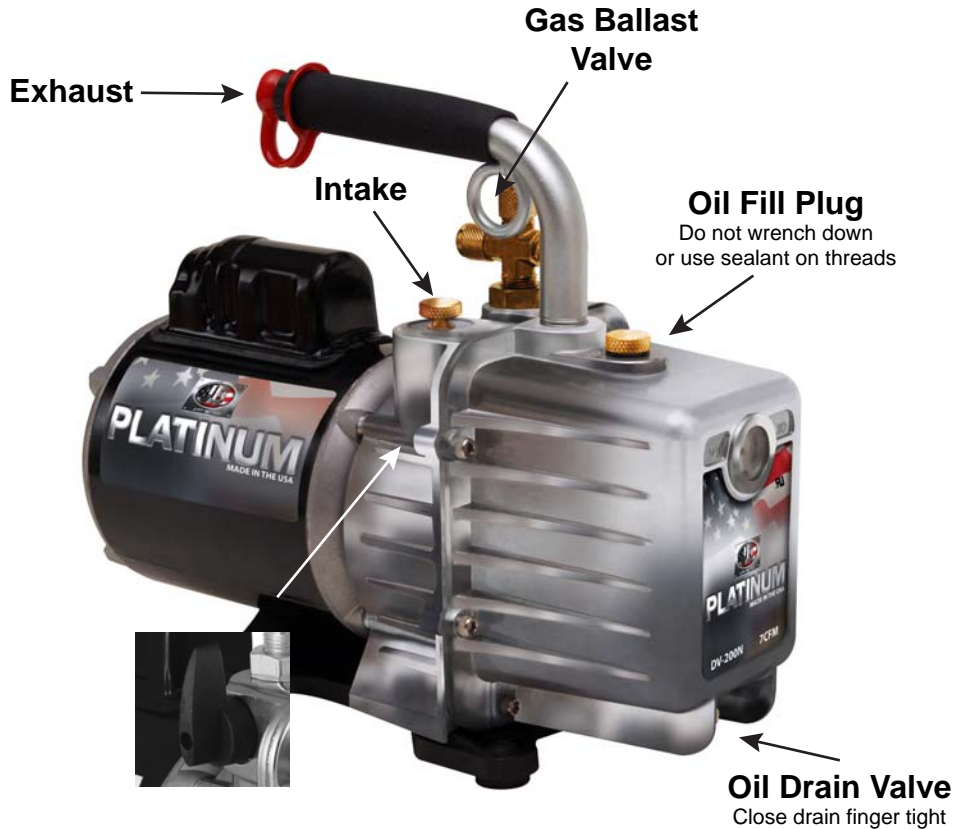
**FREE AIR DISPLACEMENT**

	CFM	50 HZ Liters Per Minute	
<b>DV-42N-250</b>	1.25	35	
<b>DV-85N-250</b>	2.5	71	Dual voltage motors available upon request
<b>DV-142N-250</b>	4.2	119	
<b>DV-200N-250</b>	5.8	167	
<b>DV-285N-250</b>	8.3	237	

In order to make the best use of your investment, familiarize yourself with the new features and operating instructions before starting pump. With just routine care your **Platinum** will give you years of reliable service by following proper maintenance guidelines. **Platinum pumps are designed for deep vacuum work in refrigeration systems only.**

**IMPORTANT:** Use oil specifically refined for deep vacuum pumps. Using oil not refined for deep vacuum pumps and/or operating with contaminated oil will void warranty.

**PLEASE READ THE "KEEPING THE LIFE IN YOUR PUMP" BOOKLET**



**NOTE: Platinum® pumps are not to be used on Ammonia or Lithium Bromide (salt water) systems. Pump maintenance is the responsibility of the owner.**

**PLEASE READ THE "KEEPING THE LIFE IN YOUR PUMP" BOOKLET**

Each Platinum pump has been factory tested to guarantee 15 micron or better and listed CFM performance. The serial number has been recorded. Complete and mail the Warranty Registration Card within 10 days of purchase to validate your warranty. Or you can register your product on-line at [www.jbind.com](http://www.jbind.com). You will be notified of any technical updates.

25,400 Microns = 1"

**IMPORTANT**  
This unit has been drained for shipment.  
**DO NOT ATTEMPT TO OPERATE WITHOUT ADDING OIL.**

## OIL CAPACITY

<b>DV-42N</b> 30 oz. (865 cc)	<b>DV-200N</b> 23 oz. (660 cc)
<b>DV-85N</b> 27 oz. (785 cc)	<b>DV-285N</b> 24 oz. (705 cc)
<b>DV-142N</b> 23 oz. (660 cc)	

Slowly add oil until oil level rises to the top of OIL LEVEL line. Replace oil fill plug.

If oil is too low, you will hear air out of the exhaust. If the oil level is too high, excess oil will be blown out the exhaust. Pump oil should be changed after each

use. If system is heavily contaminated, oil may have to be changed several times during evacuation.

After initial fill up of oil, it is best to check oil level with pump running.

## OPERATION

### **IMPORTANT** **DO NOT START PUMP BEFORE ADDING OIL**

The following procedures will prevent oil from being drawn into cartridge and creating hard start-up.

#### START-UP

Open one intake port and isolation valve, close gas ballast valve and start pump. Make vacuum connections.

Crack gas ballast valve for the first part of the evacuation procedure. After pump quiets down from initial volume of air, close valve and continue evacuating. Failure to close valve will result in poor pump performance.

#### SHUT-DOWN

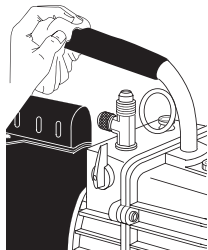
Close isolation valve and open gas ballast valve all the way. Continue running pump for 2-3 seconds. With gas ballast valve still opened, stop pump and then close valve.

Remove hose connections and cap intakes.

## CHANGING OIL

**To reach deep vacuum, Platinum pumps need clean, moisture-free oil throughout evacuation.**

Care should be taken to avoid contact on skin and clothing when changing oil. Used oil should be disposed of in a leakproof corrosive-resistant container.



1. After every evacuation while pump is warm and oil is thin, place pump on level surface and open oil drain. Oil can be forced from the pump by opening one intake and partially blocking the exhaust with a cloth while the pump is running. Do not operate the pump for more than 20 seconds using this method.
2. Close drain. Remove oil fill cap and fill to top of OIL LEVEL line with *Black Gold* Pump Oil. Replace oil fill cap.

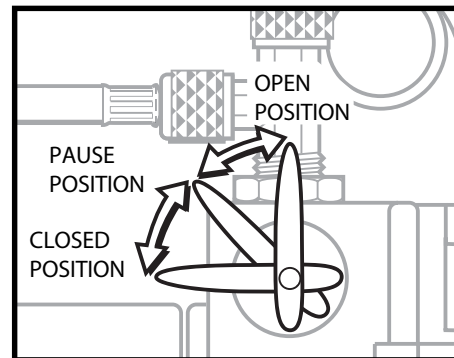
#### FLUSHING

If the oil is badly contaminated, flushing may be necessary. Slowly pour 1/3-1/2 cup *Black Gold* oil into the intake connection while pump is running. Repeat as required until contamination is removed from oil reservoir, pump rotors, vanes and housing.

Dispose of all oil used in flushing of pump.

**After Evacuation, Oil Contains Rust Forming Water and Corrosive Acids. Drain Immediately While Pump Is Warm.**

## ISOLATION (BLANK-OFF) VALVE



Quarter-turn on/off. No additional valve needed to isolate system.

When checking pressure rise, slowly turn handle counter-clockwise. Pause at 45°. Valve completely closed at 90°.

## PUMP MOTOR

Pump and oil must be above 30°F. Line voltage must be equal to motor nameplate  $\pm 10\%$ . Normal operating temperature is approximately 160°F, which is hot to the touch. Line voltage and ambient conditions will affect this somewhat. Motor has automatic resetting thermal overload protection. **Platinum** is designed for continuous duty and will run for extended periods without overheating.

## DIGITAL VACUUM GAUGES



**DV-22N**

**Reads Vacuum In 7 International Units: Microns, PSIA, InHg, MBars, Pascals, Torr, MTorr**

**Digital Display With Solid State Circuitry +32° F to +120° F (0° C to 48.9° C)**

**Ambient Temperature NIST Traceable**

**Solid State Design - No Adjustment Necessary For Temperature**

**Automatic Power Off Battery Saver**

**Saves Last Vacuum**

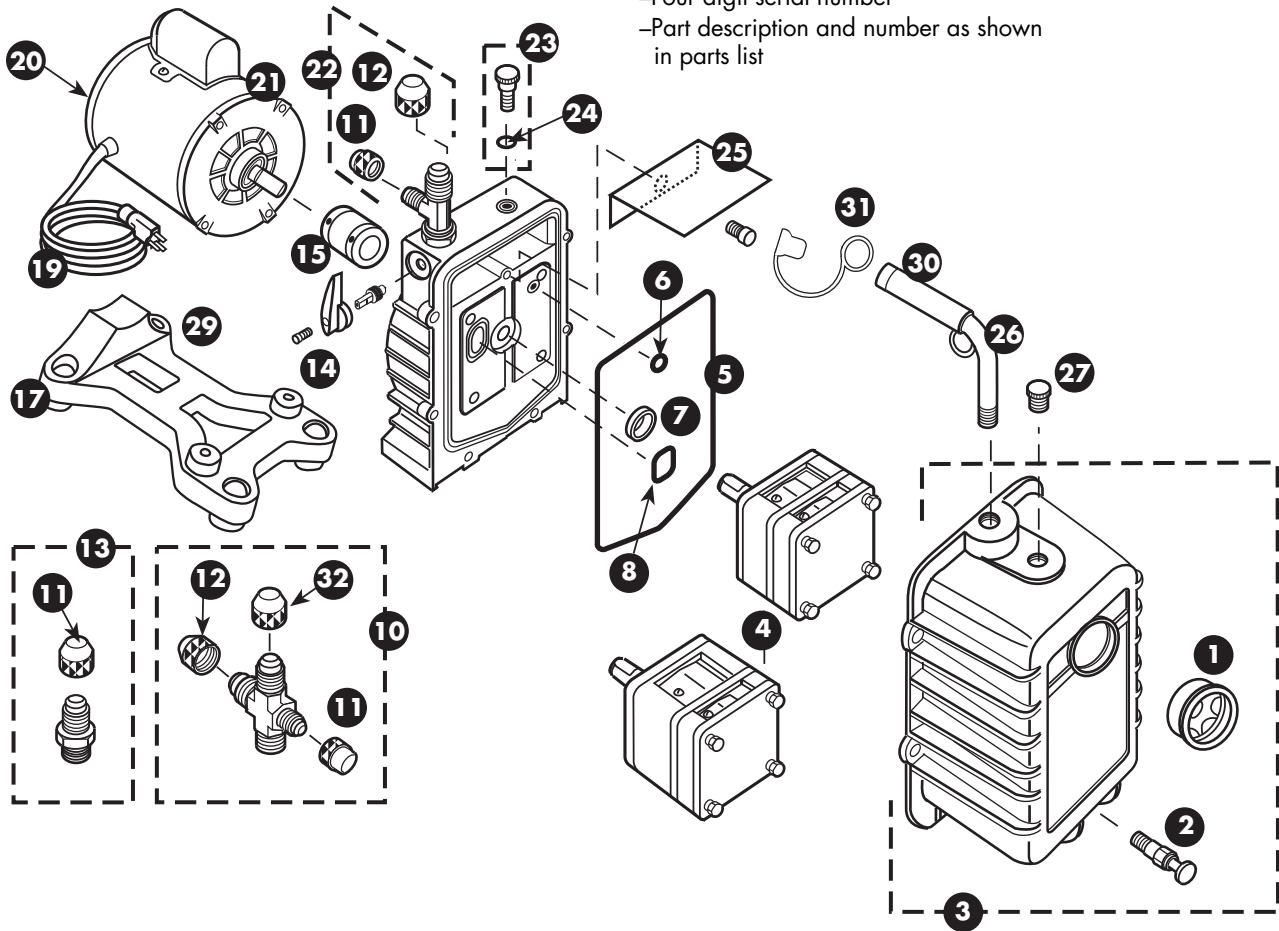
**Readout After Shutdown**

**Low Battery Indicator**

# REPAIR PARTS

Please provide following information:

- Model number
- Four digit serial number
- Part description and number as shown in parts list



Ref. No.	Part No.	Description
1	PR-1 ♦	Sight Glass
2	PR-2 ♦	Drain Valve
3	PR-300	DV-42N through DV-200N Cover Assy. w/Sight Glass and Drain Valve & Handle and red plug
	PR-301	DV-285N Cover Assy. w/Sight Glass and Drain Valve & Handle and red plug
4	PR-305	DV-42N Cartridge w/O-Rings and Cover Seal
	PR-302	DV-85N Cartridge w/O-Rings and Cover Seal
	PR-303	DV-142N Cartridge w/O-Rings and Cover Seal
	PR-304	DV-200N Cartridge w/O-Rings and Cover Seal
	PR-314	DV-285N Cartridge w/O-Rings and Cover Seal
5	PR-311	Cover Seal
6	PR-211	Trap O-Ring, Gas Ballast
7	PR-3	Shaft Seal
8	PR-315	Trap O-Ring, Intake
10	PR-76 ♦	Intake Cross with Caps
11	NFT5-4	1/4" O-Ring Cap
12	NFT5-6	3/8" O-Ring Cap
13	PR-32 ♦	1/4" Intake with Cap
14	PR-209	Plastic Isolation Valve Handle & Screw includes stem w/O-rings & Retainer

Ref. No.	Part No.	Description
15	PR-208 ♦	Flexible Coupler (3 Parts)
	PR-308	Flexible Section Only
17	PR-62	Rubber Foot For Base
19	PR-31	6' Line Cord, 115V Emerson Motor
	PR-58	6' Line Cord 115V Marathon Motor
20	PR-54	Rocker Switch, 115V Emerson Motor (Wire Leads)
	PR-35	Rocker Switch, 115V Marathon Motor (Prongs)
21	PR-206	1/2 HP, 115V, 60HZ Motor w/Line Cord and Switch
	PR-207	1/2 HP, 115V/230V, 50/60HZ Motor w/Line Cord and Switch
22	PR-5 ♦	Intake Tee with Caps
23	PR-7	Gas Ballast Valve w/O-Ring
24	P9000	O-Ring, Gas Ballast Valve
25	PR-40	Splash Guard and Screw
26	PR-75 ♦	1/2" Cushioned Handle w/Lift Loop & DV-EP 8 101
27	PR-22	Oil Fill Plug w/O-Ring
29	PR-62	Base With Feet
30	PR-501	Cushion Grip With Cap
31	DVEP 8 101	Red Plug For Handle
32	NFT5-8	1/2 Cap w/O-ring

\* Not Shown  
PR-18 Cartridge Valve Repair Kit (Not Shown)

♦ Coat With Thread Sealant When Replacing

## TROUBLESHOOTING CHART

Symptom	Possible Cause(s)	Corrective Action
Pump won't start.	<ol style="list-style-type: none"> <li>1. Power cord not plugged in securely.</li> <li>2. Motor switch not on.</li> <li>3. Pump temp. below 30°F.</li> <li>4. Inconsistent line voltage.</li> </ol>	<ol style="list-style-type: none"> <li>1. Plug power cord in securely.</li> <li>2. Turn motor switch to ON position.</li> <li>3. Warm up pump to 30°F &amp; turn motor switch on.</li> <li>4. Line voltage must be within 10% of 115 volt.</li> </ol>
Pump won't pull deep vacuum.	<ol style="list-style-type: none"> <li>1. Contaminated oil.</li> <li>2. Oil level too low.</li> <li>3. Air leak in system being evacuated.</li> <li>4. Pump inlet fittings missing or not tightened.</li> <li>5. Coupler slipping</li> </ol>	<ol style="list-style-type: none"> <li>1. Change oil.</li> <li>2. Add oil.</li> <li>3. Locate &amp; repair leaks.</li> <li>4. Clean or replace O-ring.</li> <li>5. Tighten coupler setscrews to flats of cartridge and motor.</li> </ol>
Oil drips from point where shaft enters the pump housing.	Damaged oil seal.	Replace.
Pump shuts down and will not start.	Thermal overload may be open.	Disconnect pump from system. Wait about 15 minutes for motor to cool and turn it on again. If it cycles off again, return pump to factory for repair.
Pump cycles on and off from a completely cold start and then runs smoothly.	Oil backed up into cartridge and was being cleared out. Pump has not been shutdown properly.	<ol style="list-style-type: none"> <li>1. Remove 1/4" cap.</li> <li>2. Turn pump on.</li> </ol>

### PUMP MOTOR

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### WARRANTY

*Platinum*<sup>™</sup> pumps are warranted against defects in materials and workmanship for 2 years. All JB products are guaranteed when used in accordance with our directions and recommendations, and we limit this warranty to the repair, replacement, or credit at invoice price (our option) of products which in our opinion are defective due to defects in workmanship and/or materials. In no case will we allow charges for labor, expense or consequential damage. Repairs performed on items out of warranty will be invoiced on a nominal basis. Contact your wholesaler for details.

Should you need further assistance, write our Home Office or contact your nearest J/B Service Center.

#### MAIN WAREHOUSE

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Visit our web site at: www.jbind.com

**Toll Free Technical Service  
Number 1-800-323-0811**

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