

# VACUUM REGULATORS / PUMPS



**CG-4600**

## CG-4600 CHEMGLASS DIGITAL VACUUM REGULATOR

Our digital vacuum regulator is designed to control vacuum to within  $\pm 2$  mm Hg. The controller works by opening and closing a valve between the vacuum source and the reaction.

Controller features digital pressure entry and display, no mercury, is 100% solid state, and has all stainless steel wetted parts to resist organic solvents, acids, bases, and water.

The optional stainless steel needle valve is required for more accurate control of smaller scale distillations (<250mL). This valve will regulate the rate of evacuation and permit much finer vacuum control.

### Digital Vacuum Regulator:

Part Number	Description
CG-4600-01	Digital Vacuum Regulator, 120 VAC

### Optional Accessories:

Part Number	Description
CG-4600-02	Stainless Steel Needle Valve



**AF-0349**

## AF-0349 VACUUM PUMP, WELCH, DIRECT DRIVE

Welch 2 stage direct drive pumps with free air displacement from 73 to 320 L/min and reach a ultimate vacuum of  $1 \times 10^{-4}$  Torr. Pumps are equipped with a anti-suckback mechanism that keeps the pump isolated when turned off. A gas ballast prohibits vapors from condensing in the pump chamber and each pump is equipped with a thermal overload protection. Pumps operate on 115V, 60Hz and can be ordered for 230V operation.

### Lightweight, Compact, High Performance Pumps Suited For:

- General Vacuum Work
- Laboratory Applications
- OEM Instrumentation
- Replacement Pumps For Instruments And Equipment

### Specifications:

Free Air Displacement (L/min):	73	173	320
Ultimate Vacuum (microns):	0.1	0.1	0.4
Motor RPM:	1,725	1,725	1,725
Motor Horsepower:	1/2	1/2	3/4
Oil Capacity (L):	0.95	0.76	1.1
ID Of Tubing Required (in):	7/16 or 13/16	7/16 or 13/16	9/16 or 13/16
Weight (lbs):	40	48	69
Dimensions L x W x H (in):	18.5 x 6.5 x 9.6	18.5 x 6.5 x 9.6	21.2 x 7.1 x 10.7
Part Number	AF-0349-01	AF-0349-02	AF-0349-03

## AF-0350 VACUUM PUMP, WELCH, BELT DRIVEN

Welch general purpose 2 stage belt driven pumps designed to operate at lower RPM allowing them to run cooler and reach an ultimate vacuum of 1 x 10<sup>-4</sup> Torr. Lower speed operation also reduces the wear on the pump components ensuring a longer life. All pumps are equipped with a gas ballast. Pumps operate on 115V, 60Hz and can be ordered for 230V operation.

### Long Service Life Due To Low Pump RPM Suited For:

- Freeze Drying
- Concentrating
- Schlenk Line
- Degassing
- Vacuum Distillations
- Vacuum Drying

### Specifications:

Free Air Displacement (L/min):	90	160	300
Ultimate Vacuum (microns)	0.1	0.1	0.1
Gas Ballast:	Yes	Yes	Yes
Motor RPM:	525	525	525
Motor Horsepower:	1/2	1/2	1
Oil Capacity (L):	2.1	2.1	2.4
ID Of Tubing Required (in):	7/16	13/16	13/16
Weight (lbs):	112	112	156
<u>Dimensions L x W x H (In):</u>	<u>20 x 12 x 15</u>	<u>20 x 12 x 15</u>	<u>20 x 14.1 x 15.4</u>
<b>Part Number</b>	<b>AF-0350-01</b>	<b>AF-0350-02</b>	<b>AF-0350-03</b>



**AF-0350**

## AF-0360 VACUUM PUMP OIL, WELCH

Oil is specially formulated for use in either belt driven or direct drive vacuum pumps (AF-0349 or AF-0350). Oil is available in three types, Duo-Seal®, Premium and Gold. The Duo-Seal oil is for use with belt driven (low RPM) AF-0350 pumps. The Premium oil is a triple distilled hydrocarbon oil resistant to breakdown at the high RPM of direct drive pumps. The Gold oil is a double distilled synthetic hydrocarbon oil that has no aromatic compounds or sulfur. Gold oil will offer longer life and superior protection for the internal components in corrosive pumping applications.

<u>Part Number</u>	<u>Description</u>	<u>Container Size</u>
AF-0360-10	Duo-Seal® Oil	1 Quart
AF-0360-11	Duo-Seal® Oil	1 Gallon
AF-0360-12	Duo-Seal® Oil	5 Gallon
AF-0360-13	Premium Oil	1 Liter
AF-0360-14	Premium Oil	1 Gallon
AF-0360-15	Premium Oil	5 Gallon
AF-0360-16	Gold Oil	1 Liter
AF-0360-17	Gold Oil	1 Gallon
AF-0360-18	Gold Oil	5 Gallon



**AF-0360**

# VACUUM PUMPS



## CG-4803 VACUUM PUMP BRANDTECH, HYBRID

The BrandTech Hybrid pump combines a two stage rotary vane direct drive pump backed with a diaphragm pump. This design reduces the outlet pressure, reducing internal condensation in the oil section, and continuously cleans the oil. This also enhances pump lifetime.

### Features:

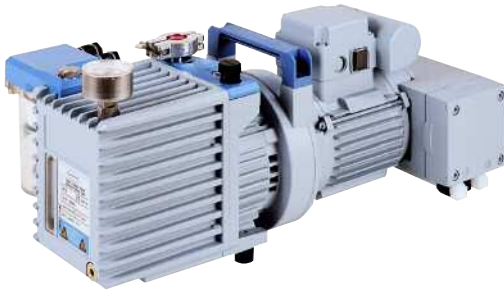
- Greatly Reduced Amount Of Oil Changes And Waste Oil
- Performance Of A Two Stage Oil Sealed Pump
- Anticorrosion Design / Gas Ballast

### Specifications:

Pumping Speed (L/min):	113
Oil Capacity (L):	0.53
Ultimate Vacuum:	$3 \times 10^{-3}$
Inlet Connection:	KF 1.5
Hose Barb Outlet Connection (in):	3/8
Dimensions L x W x H (in):	20 x 12 x 9
Weight (lbs):	53

### Ordering Information:

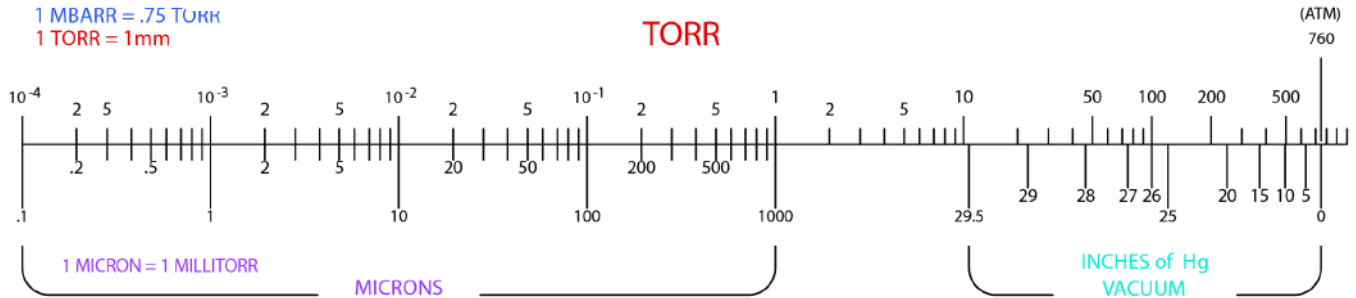
Part  
Number  
**CG-4803-01**



**CG-4803**

## CHEMGLASS

### Vacuum Conversion Chart



## CG-4806 VACUUM PUMP, PTFE DIAPHRAGM, BRANDTECH

BrandTech PTFE vacuum pumps are an excellent, quiet source of vacuum in the laboratory. They eliminate the concern about chemical attack in many applications, to the pump or contamination of your pumped medium. Solid, reinforced PTFE heads do not blister or peel, and advanced fluoropolymer valves along with our unique PTFE-layered planar coated, diaphragm provides the longest possible lifetime when pumping corrosive gases. They are perfect for use in rotary evaporation, vacuum distillation, vacuum filtration, gel drying or the transfer of corrosive gases. Using no house air or water for its operation, it conserves valuable resources and helps protect the environment by eliminating the disposal of solvent contaminated waste-water or oil. All pumps are 115V, 60Hz and have hose connections of 10mm.

### Applications Include:

- Rotary Evaporation
- Solvent Recovery Systems
- Vacuum Distillation
- High Vacuum Roughing Pump
- Stack Sampling
- Vacuum Drying
- Desiccators
- Transfer of Corrosive Gases
- Vacuum Filtration
- Degassing of Liquids

### PTFE Diaphragm Vacuum Pumps Feature:

- **Oil Free Operation.** Pumps eliminate the need for oil and the disposal problems associated with contaminated oil.
- **Consistent Performance.** Unlike water aspirators which depend on water temperature and pressure, these pumps always deliver consistent, dependable performance without using precious water resources or polluting waste drains.
- **Contamination-Free Transfer.** Due to the fact that these pumps do not use oil, your pumped medium never comes in contact with oil or grease and always stays analytically pure.

### Specifications:

Maximum Flow (L/min):	33	67	33
Maximum Vacuum (Torr):	<60	<60	6.8
Head Configuration:	Single	Dual Parallel	Dual Series
Weight (lbs):	16	23	23
Dimensions L x W x H (in):	10 x 6.5 x 7.5	10.5 x 9.5 x 7	10.5 x 9.5 x 7
Part Number	CG-4806-01	CG-4806-02	CG-4806-03

Maximum Flow (L/min):	23
Maximum Vacuum (Torr):	1.5
Head Configuration:	4 Head, 3-Stage
Weight (lbs):	15
Dimensions L x W x H (in):	12.4 x 5.6 x 8.8
Part Number	CG-4806-04



CG-4806

# VACUUM PUMPS



**CG-4802**

## **CG-4802 VACUUM PUMP, BRANDTECH, VARIO™**

VARIO™ vacuum systems offers users unsurpassed control of critical vacuum applications. A PTFE head, low maintenance pump is intergrated with a variable speed motor and a digital controller. The system can automatically finds and follows boiling curves, continuously optimizing the vacuum level without program presets.

### **Features:**

- **Faster.** Because The Vacuum Level Is Continuously Optimized, Evaporation Times Are Up To 30% Faster.
- **Easier.** Just Press "Start" And The Pump Begins Pumping Down, And Finds The First Boiling Point. It Maintains And Continually Optimizes Vacuum Levels To Vapor Flow - Even For Azeotropic Mixtures.
- **Automatic.** The VARIO™ Controller Automatically Adjusts Vacuum Levels, Reducing The Need For Any Manual Adjustments Or Complex Programming. The Pump Will Even Shut Itself Off When Evaporation Is Complete.
- **No Bumping.** The VARIO™ Controller Automaiacaly Reduces The Pumping Speed As Each Boiling Point Is Approached To Avoid "Overpumping"
- **Less Maintenance.** Because The Pump Only Operates Enough To Maintain The Optimum Vacuum, The Pump Life Is Greatly Extended, As Are Service Intervals. Noise Is Also Greatly Reduced.
- **GMP Validation.** A Integrated Bidirectional RS232 Port Allows For Control And Monitoring Of Every Parameter For Process Validation Or Execution Of Complex Pumping Programs For Reaction Vessels. (Software Required, Please Contact Our Technical Service Department For Details)

All pumps listed are 120V, 60Hz and are supplied with a one year factory warranty. Other voltages are available upon request. Vacuum connections are 3/8" (10mm). Systems all include a solvent recovery system consisting of inlet and outlet receivers and an outlet condenser.

### **Specifications:**

Free Air Displacement (L/min):	27	42	42
Ultimate Vacuum (Torr):	1.5	6.8	0.45
Weight (lbs):	22	41	53
<u>Dimensions L x W x H (in):</u>	<u>12 x 12 x 19</u>	<u>15 x 10 x 21</u>	<u>15 x 10 x 21</u>
<b>Part Number</b>	<b>CG-4802-01</b>	<b>CG-4802-02</b>	<b>CG-4802-03</b>

Free Air Displacement (L/min):	63
Ultimate Vacuum (Torr):	1.5
Weight (lbs):	53
<u>Dimensions L x W x H (in):</u>	<u>15 x 10 x 21</u>
<b>Part Number</b>	<b>CG-4802-04</b>