



Model
2070/2071 Chemstar Dry



Model
CRVpro 4/6/8



Model
DuoSeal 1400/1402/1405

Specifications & Ordering - p. 48, 52, 54

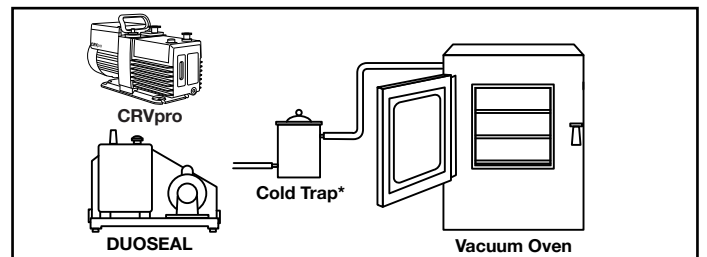
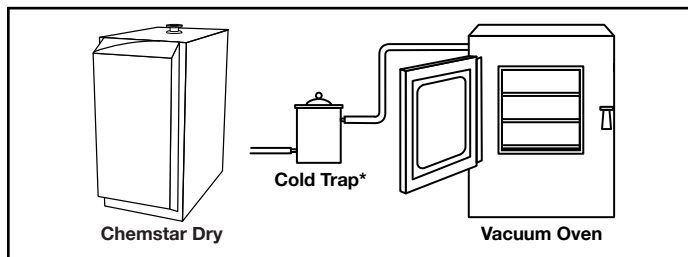
- High vacuum
- High flow
- Oil-free option available

Some applications for vacuum ovens require sample drying, bake-out, curing, etc. require ultimate vacuum pressure below 0.1 torr (0.13 mbar). In these situations, the key factor in vacuum pump selection is the ultimate vacuum level achievable by the pumps. Welch offers solutions for this high vacuum level in oil-free and oil-sealed pumping technologies. Budget requirements play a key role in deciding what type of pumping technology to select.

Models 2070, 2071 Oil-free ChemStar® Dry vacuum system integrates a proprietary vacuum blower backed with a patented PTFE diaphragm pump. Software optimizes proprietary vacuum blower/PTFE diaphragm operation to allow plug and play operation. Vacuum to 0.050 torr (0.07 mbar) depending on model. In-line cold trap is recommended when pumping chemical vapors (see pages 69).

Model CRVpro 4, 6, 8. CRVpro direct-drive rotary vane pumps are built for reliability to provide stable operation and long product lifespan with proper maintenance. The pumps are cool running due to enhanced air flow leading to pump running 10°C cooler than standard direct drive vane pumps. The lower temperature leads to reduced chemical activity within the pump and slows down rates of oil consumption. CRVpro vacuum pumps are available in several sizes to match with your vacuum oven volume. These rugged vacuum pumps can achieve an ultimate vacuum pressure 5×10^{-4} mbar (4×10^{-4} torr). In-line cold trap is recommended when pumping chemical vapors (see pages 69).

Models 1400, 1405, 1402 DuoSeal® belt-drive vacuum pumps are well-known for their durability and ruggedness. The large oil capacity of the DuoSeal pump effectively dilutes contaminants for longer maintenance intervals and pump life. Chemical reactions affecting the pump oil are lessened by low pump operating temperature, a result of slow pump rotation, reduced friction, and large oil capacity. In-line cold trap is recommended when pumping chemical vapors (see pages 69).



Model Selector | Vacuum Ovens

Oven Volume ft ³	Oil-Free Vacuum 1.5 to 3.5 torr		Oil-Seal Deep Vacuum 2×10^{-3} torr	
	Aqueous Vapours	Chemical Vapours	Single stage direct drive	Two stage direct drive
0.6 - 1.5	2561B-50	DryFast 2042	CRVpro 4	1400
2.5 - 4.5	2561B-50	DryFast 2047	CRVpro 6	1402
4.5 - 9.0	2581B-50	DryFast 2054	CRVpro 8	1402

Standard Duty Dry Vacuum Pumps | WOB-L Piston



Model 2511

Models 2522 / 2534

Model 2546

Models 2567 / 2561



Specifications

Vacuum/Pressure Pumps

Model	2511	2522	2534	2546	2561
Free Air Displacement cfm (l/min.)@60Hz	0.39 (11)	0.76 (22)	1.2 (34)	1.6 (45)	2.3 (65)
m ³ /hr (l/min.)@50Hz	0.55 (9.2)	1.1 (18)	1.7 (28)	2.3 (38)	3.4 (57)
Ult. Vac. Pressure, torr(mbar)	219 (292)	100 (133)	70 (93)	60 (80)	5 (6.7)
Max Pressure PSIG (pascal)	33 (3.3 x 105)	100 (106)	50 (5 x 105)	100 (106)	---
Maximum Vacuum, in. Hg	21.3	26	27.2	27.6	29.8
Motor Horsepower (watts)	1/30 (25)	1/8 (93)	1/8 (93)	1/4 (190)	1/3 (250)
Tubing Needed, I.D. in. (mm)	3/16 (5)	3/16 (5)	3/16 (5)	3/16 (5)	1/4 (7)
Intake/Exhaust Thread NPT	3/16 in. Hose	1/4	1/4	1/4	1/4
Weight lbs.(kg)	5 (2.3)	11.7 (5.3)	11.7 (5.3)	13.8 (6.3)	16.5 (7.5)
Overall Dimensions L x W x H in. (cm)	7.6x4.5x7.5 (19x11x19)	8.1x8.8x10 (21x22x25)	8.1x8.8x10 (21x22x25)	10x7.5x9 (25x19x8)	17.3x6.5x10.5 (44x17x27)
Ship Weight, lbs. (kg)	6 (2.7)	17 (7.7)	17 (7.7)	17 (7.7)	24 (10.9)
Shipping Carton Dimensions L x W x H in. (cm)	11x7x8.3 (28x18x21)	15.3x12.3x12.7 (39x31x32)	15.3x12.3x12.7 (39x31x32)	15.3x12.3x12.7 (39x31x32)	21x12x15 (53x30x38)

Ordering Information

Wired for 115V, 60Hz, 1 Ph with N. American 115V Plug	2511B-01 ³	2522B-01 ⁴	2534B-01 ⁴	2546B-01 ⁴	2561B-50
Wired for 230V, 60Hz, 1 Ph with N. American 230V Plug	---	---	2534C-01 ^{4,7}	2546C-01 ^{4,7}	---
Wired for 230V, 50Hz, 1 Ph2. with Cont. Euro.(Schuko) Plug	2511C-02 ³	2522C-02 ^{4,6}	2534C-02 ^{4,6,7}	2546C-02 ^{4,6,7}	2561C-50 ^{6,7,8}
Wired for 100V, 50/60Hz, 1 Ph with a plug	2511C-05 ^{3,5}	2522C-05 ^{4,5}	---	---	---

Applications

	page
1. Vacuum Filtration	18
2. Vacuum Oven	22
3. Desiccator	20
4. Aspiration / Automation	12
5. Cell Culture	12
6. Glove Box	26

Vacuum/Pressure Standard Duty Dry Vacuum Pumps

- Ultimate to <5 torr (6.7 mbar)
- Lightweight, compact pump
- Inlet liquid trap with vacuum regulator

Oil-free operation for reduced maintenance. These WOB-L piston pumps have a high water vapor tolerance. Pumps come with inlet liquid trap, mounted vacuum gauge and vacuum regulator (except 2511 and 2562).

Note: Standard Duty Dry Pumps are not recommended for pumping organic, acidic or basic vapors.



Model 2585B-50

Standard Duty Dry Vacuum Pumps | WOB-L Piston



**Model
2562B-01**



**Models
2585 / 2581**



**Model
2511B-75**



**Model
2515B-75**

Standard Duty Vacuum Pumps				Aspiration/Filtration Systems	
2562	2567	2581	2585	2511	2515
2.3 (65)	3.5 (100)	3.5 (100)	7.1 (201)	0.39 (11)	1.2 (34)
3.4 (57)	4.9 (83)	4.9 (83)	10 (168)	0.55 (9.2)	1.7 (28)
7.5 (10)	60 (80)	5 (6.7)	60 (80)	219 (292)	70 (93)
---	---	---	---	33 (3.3 x 105)	---
29.6	27.6	29.8	27.6	21.3	27.2
1/3 (250)	1/3 (250)	1/3 (250)	1/3 (250)	1/30 (25)	1/8 (93)
3/8 (10)	1/4 (7)	1/4 (7)	1/4 (7)	3/16 (5)	3/16 (5)
1/4	1/4	3/8	3/8	3/16 in. Hose	1/4
16.5 (7.5)	16.5 (7.5)	24.5 (11.1)	24.5 (11.1)	5.7 (2.6)	13.2 (6.0)
17.0x7.5x12 (43x19x31)	15.0x10x10 (38x25x25)	17x7.5x12 (43x42x19)	17x7.5x12 (43x42x19)	11.0x8.3x10.0 (28x21x25)	14.8x8.3x10.0 (37.5x21x25.5)
24 (10.9)	24 (10.9)	32 (14.5)	32 (14.5)	11.0 (5)	14.8 (6.7)
21.5x12.5x16 (55x32x31)	21x12x15 (53x30x38)	21x12x15 (53x30x38)	21x12x15 (53x30x38)	15.3x12.3x12.7 (39x31x32)	21x12x15 (53x30x38)
2562B-01	2567B-50	2581B-50	2585B-50	2511B-75	2515B-75
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---	2567C-50 ^{6, 7, 8}	2581C-50 ^{6, 7, 8}	2585C-50 ^{6, 7, 8}	2511C-75 ^{6, 7, 8}	2515C-75 ^{6, 7}
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Notes:

- All models are recommended for pumping vapors of aqueous solutions including buffers, but not for acidic, basic or organic vapors or gases.
- Units supplied with CE marking.
- Model 2511 can deliver 33 PSIG (3.3 x 10⁵ pascal).
- Models 2522, 2534 and 2546 come with vacuum (and pressure) regulator, vacuum (and pressure) gauge, silencer and water trap. Models 2522 and 2546 can deliver 100 PSIG (10⁶ pascal). Model 2534 can deliver 50 PSIG (5 x 10⁵ pascal).
- Comes with PSE mark.
- Included is UK and Schuko cord sets.
- Motor can operate at 230V, 50/60Hz, 1Ph.
- For 230V in US, order cord 61-8707.

Aspiration / Filtration Systems

Systems collect waste into 1.2 Liter autoclavable reservoir. Both models enable vacuum measurement and regulation. Reservoirs are protected from overflow by float valve; inlet line hydrophobic filter further protects pump. Includes 6 ft. tubing and 2 filters. See p. 10 for more information. For accessories, like pipettor system and foot switches, see page 78.



**Model
2511B-75**



**Model
2515B-75**

For a Complete System

Component	page
• Traps	69
• Inlet / Exhaust Accessories	69, 71
• Hose	67
• Gauges	76
• Service Kits	80 - 81
• Replacement Jars	79

Inlet/Exhaust Catchpot Replacement Jars



1415B



1415C

- Glass and plastic replacement jars.

Pump Model	KIT No.	Description
2025, 2026, 2027, 2028	1415B	Replacement Jars; Glass,
2561B-50, 2567B-50, 2581B-50, 2585B-50 2561C-50, 2567C-50, 2581C-50, 2585C-50	1415D	Replacement jar polypropylene
2522, 2546, 2534	1415C	Replacement jar polypropylene

Replacement Receivers for Aspiration Stations



1475K-20



828840

- Replacement receiver kits

Pump Model	KIT No.	Description
2511B-75, 2511C-75, 2515B-75, 2515C-75	1475K-20	Includes a 1.2 liter autoclavable receiver, 6ft. of tubing and two hydrophobic filters.
Biovac 106	828840	Replacement 5L glass receiver
Biovac 106	112523-7	Replacement 4L plastic receiver

Chemstar Dry



- One and two head diaphragm service kits
- Replacement diaphragm pump replacement kit
- Blower replacement kit

Pump Model	KIT No.	Description
2070, 2071, 2080	2047K-01	One Head Service Kit
	2047K-02	Two Head Service Kit
2070	2070K-50	Replacement diaphragm pump for CAT. No. 2070C-02
	2070K-60	Replacement diaphragm pump for CAT. No. 2070B-01, 2071B-01
2070, 2071, 2080	2700D-01	Replacement vacuum blower

Model 8917A-80 with Acid Neutralization & Oil Filtration



- Repair kits for pump
- Replacement Element for Oil Sump

Pump Model	KIT No.	Description
8917	8917K-04	Minor repair kit for 8917
	1420E-03	Replacement element oil sump

Diaphragm Pump Model 2019



- Diaphragm service and pump head rebuild kits

Pump Model	KIT No.	Description
2019	2019K-01	One-Head diaphragm service kit
	2019K-03	Pump head and rebuild kit
	2500K-04	Service kit for feet