

# Welch® CRVpro8 Chem

**With integral  
oil filtration system**



The Welch CRVpro8 Chem is effective for freeze drying or concentration of samples using a lyophilizer, including harsh chemicals such as TFA, Acetonitrile, HBr and others. These chemicals quickly attack the vacuum pump oil of unprotected vacuum pumps. CRVpro8 Chem is engineered to better combat the impact of such chemistries.

The oil filtration system uses an alumina element that neutralizes acids and removes solid reaction products from the oil. The system also has a large oil capacity of 1.3 liters that dilutes contaminants that mix with the pump oil during freeze drying runs.

The inside surface of the oil case has a PTFE coating and the outer surface of the pumping module has a black oxide coating.

The oil supplied for the pump is Welch Gold Oil (cat. no. 8995G-11) - a double distilled synthetic hydrocarbon oil designed for excellent chemical resistance. The synthetic base stock has no aromatic compounds or sulfur to accelerate varnishing, sludging and carbon build-up when pumps are used to pump corrosives.

The combination of oil filtration, internal surface protection, and synthetic hydrocarbon oil act to slow metal corrosion to extend pump's service interval compared to unprotected vacuum pumps.

- ✓ HOLDS UP TO HARSH CHEMICALS USED IN PROTEOMICS AND COMBINATORIAL CHEMISTRY
- ✓ SYSTEM INCLUDES CONTINUOUS ACID NEUTRALIZATION AND OIL FILTRATION
- ✓ INTERNAL SURFACE PROTECTION
- ✓ SYNTHETIC HYDROCARBON OIL

**You deserve the best  
vacuum pump and you  
get it with Welch**

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# SPECIFICATIONS OF WELCH® CRVpro8 CHEM

MODEL	CRVpro8 CHEM
<b>Free Air Displacement</b>	
CFM@60Hz, (lpm)	5.6 (158)
m <sup>3</sup> /hr@50Hz (lpm)	8 (133)
<b>Vacuum Pressure</b>	
Total Ult. Vacuum Pressure, Torr (mbar)	0.002 (0.003)
Total Ult. Vacuum Pressure with gas ballast, Torr (mbar)	0.1 (0.13)
Sound level, dBA(50Hz)	50
Pump Speed, 60/50Hz	1740/1450
Motor Power, kw 60/50Hz	0.4/0.37
Pump Oil Capacity, liters <sup>1</sup>	1.0
Oil filter Assembly, liters <sup>1,4</sup>	1.0
Total Oil Capacity (Pump + Filter), liters <sup>1</sup>	2.0
Intake/Exhaust Flange	NW16
Exhaust filter included <sup>2</sup>	yes
Tubing Needed, I.D., in. (mm)	5/8-3/4 (16-19 mm)
Ambient temperature, oC	10-40
Weight, lbs. (kg)	61.6 (28)
Overall Dimensions <sup>3</sup> L x W x H, in. (mm)	18.2 x 11.1 x 9.2 (462 x 282 x 234)

## ORDERING INFORMATION

MODEL	CRVpro8 CHEM
Wired 115V, 60Hz, 1Ph	3081-80
Wired 230V, 50/60Hz, 1Ph	3082-80

**Notes:**

- 1). Includes 2 liters of Welch Gold Vacuum Pump Oil, cat. no. 8995G-11 and oil filter change wrench.
- 2). Includes Exhaust filter (1417E) with built-in coalesced oil drainback feature and inlet hose barb.
- 3). Dimensions listed are when handle and exhaust filter are removed.
- 4). Replacement alumina element for oil sump, cat. no. 1420E-03.

## APPLICATION NOTE

### FREEZE DRYERS

Vacuum pump oil can be quickly compromised by the vapors from a freeze dryer. Once oil is chemically damaged, lubrication properties diminish and vacuum pump quickly requires repair.

Organic solvents, acids, and other sublimated vapors may pass through the freeze dryer collector too rapidly to be effectively condensed. In general, better protection of your vacuum pump can be accomplished by:

- 1). Using a freeze dryer with an ultra-low refrigeration collector. Often these cool to -84°C or colder.
- 2). Ensuring that your freeze dryer is operating vacuum tight. Too high a flow - augmented by system leakage - prevents collector from operating efficiently.