

NEW
PRODUCTS & FEATURES

WELCH
by Gardner Denver

CRVpro

Your Robust Vacuum Pump



CRVpro **2,4,6,8,16,24,30**



Explosion Proof Motor cUL Listed

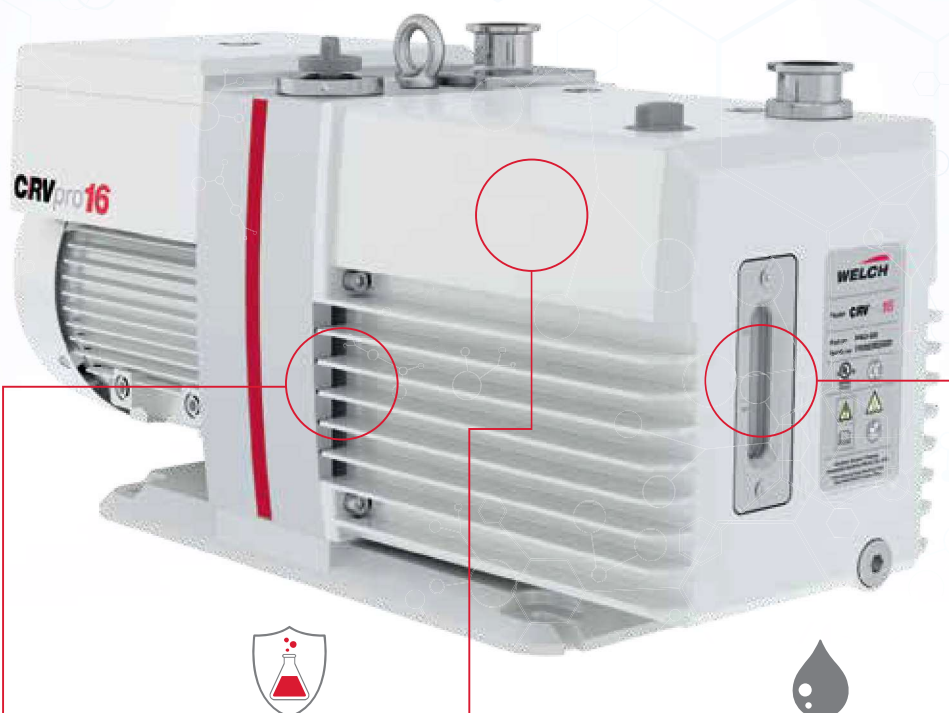
CRVpro 2

Exhaust Filter
with Drainback Feature

CRVpro

Your Robust Vacuum Pump

Discover the evolution of two-stage rotary vane vacuum pumps. Built to last. Born to perform. And designed to simplify your work. Meet the robust vacuum pump series – CRVpro.



COOL RUNNING

Enhanced air flow allows the pump to run 10°C cooler than standard rotary vane pumps. The lower temperature leads to reduced chemical activity within the pump and slows down rates of oil consumption.

INTERNAL SURFACE PROTECTION

Inside surface of the oil case has a PTFE coating and the outer surface of the pumping module has a black oxide coating. Both coatings act to slow metal corrosion and, when coupled with foreline traps, extend service interval.

LARGE OIL CAPACITY

Chemical vapors that sublime from the foreline cold trap into the pump oil are more diluted due to the larger oil capacity. This minimizes the rates of oil breakdown and reduce chemical attacks within the pump.

HIGHEST RELIABILITY

LONG PRODUCT LIFESPAN

LESS MAINTENANCE

EXTENDS SERVICE INTERVAL

YOUR BENEFITS

Highest reliability for stable operation and long product lifespan

- ✓ Reduced risk of chemical attacks and oil breakdown by diluting chemical vapors with a larger oil chamber
- ✓ Slowing down corrosion by cool running operation
- ✓ Provides a measure of protection from sublimed chemical vapors with coating on pump module and oil case

Extended oil change intervals for less maintenance costs

- ✓ Less oil consumption by cool running operation
- ✓ Extended usability of oil due to high dilution effect by a larger oil chamber



1 LOW NOISE LEVEL

Exceptionally quiet for undisturbed work.

2 FORCED OIL LUBRICATION

Ensures moving parts are bathed in fresh oil. Equilibrates temperature, minimizes oil breakdown, and prolongs mechanical life.

3 ANTI-SUCK BACK VALVE

Prevents oil from being sucked into application in the event of a power failure.

4 GAS BALLAST WITH INERT GAS OPTION

Minimizes entrained chemicals in pump oil. Protects pump from condensable liquids from application such as water, acetyl nitrile, etc.

5 cUL AND CE CERTIFICATION

Compliance with local regulations and safety directives for safety operation.







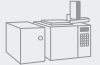

6 SIZED TO FIT YOUR APPLICATION

Modern and compact design to fit different applications and performance requirements.

DUAL VOLTAGE MOTOR

- 7 Dual voltage motors meet IP54 standard. Motors of CRVpro 2,4,6,8 are switchable from 115V to 240V for global use excluding 100V and 200V pump versions. Each pump includes power cord suitable for country use.

APPLICATIONS

SCHLENK LINE	FREEZE DRYER	SHORT PATH	HVAC	VACUUM OVEN	GLOVE BOX	MASS SPECTROMETER	INDUSTRIAL APPLICATIONS
							
CRVpro 4/6	CRVpro 4/6/8	CRVpro 8/30	CRVpro 8	CRVpro 8	CRVpro 8/16/24/30	CRVpro 16/24/30	CRVpro 4/6/8/16/24/30

TECHNICAL DATA

PARAMETER	UNIT	CRVpro 2	CRVpro 4	CRVpro 6	CRVpro 8	CRVpro 16	CRVpro 24	CRVpro 30
Free air displacement								
- @ 50 Hz	m³/h (l/min)	2.5 (41.7)	4 (67)	6 (100)	8 (133)	18.3 (305)	26.2 (436)	33.1 (551)
- @ 60 Hz	CFM (l/min)	1.8 (50)	2.8 (78)	4.2 (118)	5.6 (158)	12.8 (363)	18.3 (519)	22.1 (627)
Ultimate pressure								
- Without gas ballast partial	mbar (Torr)	3x10 ⁻⁴ (2x10 ⁻⁴)	5x10 ⁻⁴ (4x10 ⁻⁴)			3x10 ⁻⁴ (2x10 ⁻⁴)		
- Without gas ballast total	mbar (Torr)	3x10 ⁻³ (2x10 ⁻³)	2x10 ⁻³ (1.5x10 ⁻³)			3x10 ⁻³ (2x10 ⁻³)		
- With gas ballast total	mbar (Torr)	9x10 ⁻² (7x10 ⁻²)	7x10 ⁻² (5x10 ⁻²)			6x10 ⁻³ (5x10 ⁻³)		
Connection flanges	NW	16	16			25		
Hose connection, inlet¹	ID Tubing	7/16" (11 mm)	5/8" – 3/4" (16–19 mm)			3/4" (19 mm)		
Ambient temperature	°C	10–40						
Noise level (50 Hz)	dB (A)	≤50	50			55		
Oil capacity	ml	450	1150		1000	2400	2200	2100
Motor speed	rpm 50/60 Hz	1450/1740				1450/1750		
Motor power	kW 50/60 Hz	0.27/0.3	0.37/0.4			0.7/0.85		
Weight	kg (lbs.)	15 (33)	21 (46.3)	22 (48.5)	22.5 (49.6)	37 (81.6)	38.5 (84.9)	39.5 (87)
Dimensions L x W x H	mm (inch)	380x138x235 (15.1/5.4/9.2)	463/157/230 (18.2/6.1/9.1)²			569/206/289 (22.4/8.1/11.4)		

Note 1: Requires a hose barb adapter, included in pump versions with suffice -01. Note 2: Dimensions listed are when handle is removed. Handles are included in all CRVpro pumps.

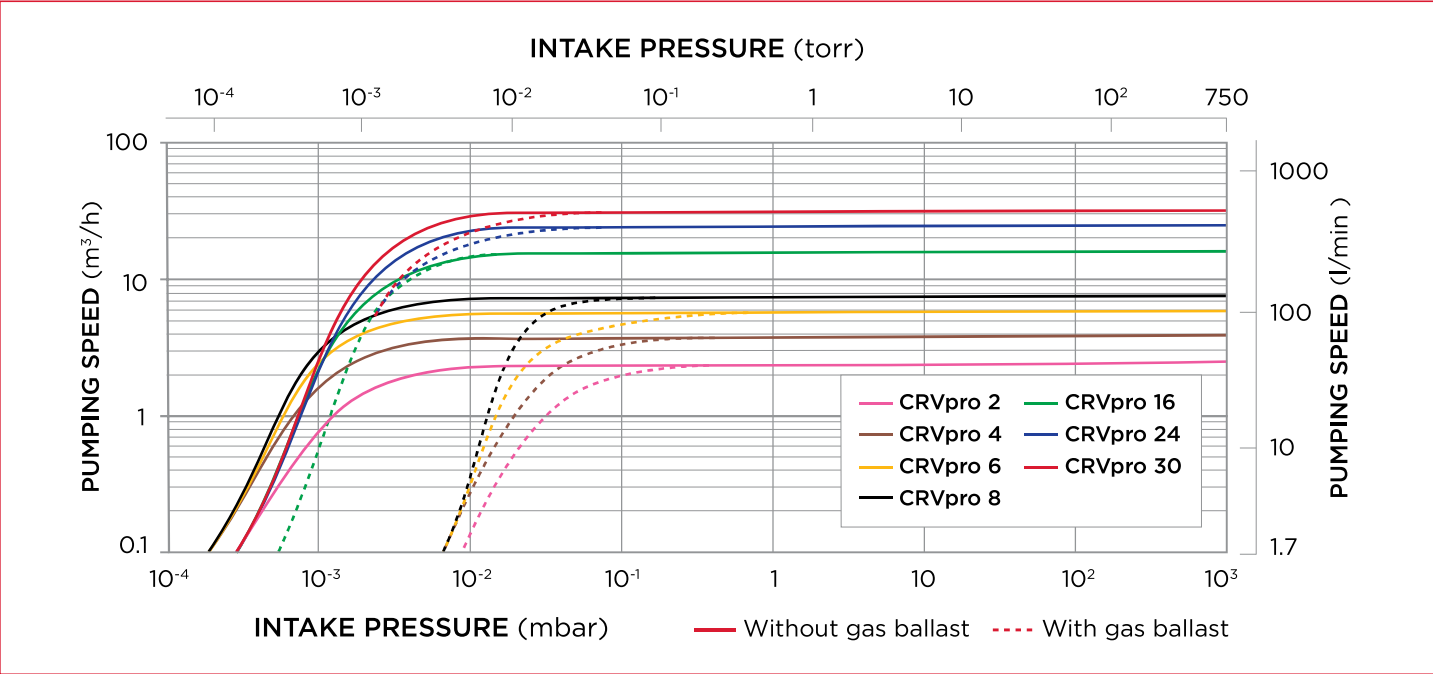
ORDERING INFORMATION

Every pump is supplied with Welch vacuum pump oil, two centering rings, and two clamps. Ready for use after oil filling.


DESCRIPTION
115V / 60Hz; 1 phase motor with line cord US-plug (115V NEMA 5-15), hose barb adapter (NW16 5/8"), flange adapter NW16 to NW25.
115V / 60Hz; 1 phase motor with line cord US-plug (115V NEMA 5-15); 3/4" Flare fitting for refrigeration connection.
115V / 60Hz; 1 phase motor with line cord US-plug (115V NEMA 5-15); hose barb adapter (NW 25 3/4").
220-240V / 50Hz; 230V / 60Hz; 1 phase motor with line cord EU-plug (CEE 7/4), line cord US-plug (230V NEMA 6-15), hose barb adapter (NW25 3/4").
220-240 V / 50 Hz; 230 V / 60 Hz, 1 phase motor with line cord EU-plug (CEE 7/4), line cord UK-plug (BS1363), line cord US-plug (Nema-5).
220-240V/50 Hz, 230V/60Hz with CN Plug (AS/NZS 3112).
230/460V, 3-Ph
208-230/460V 60 Hz or 190/380V, 3-Ph
NEW Pump with Explosion Proof Motor. 110-120V/208-240V, 60 Hz, 1 phase, cUL listed.
NEW Pump with Explosion Proof Motor. 110-220V, 50 Hz, 1 phase.
Seal kit. Includes all seals which should be changed when performing maintenance.
Service kit. Includes seals and high wear parts such as vanes that may need to be changed when performing maintenance.
Side fitting to connect insert dry gas via 3.5mm ID flexible tubing

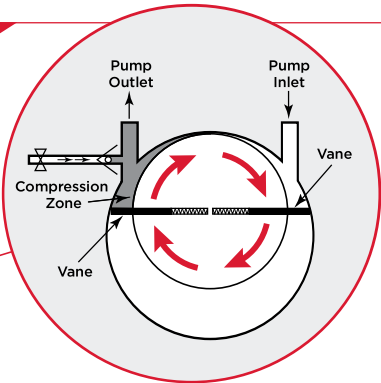
Note 1: CRVpro 2,4,5,6,8 are switch selectable between 115V 60 Hz and 230 50/60 Hz operation; CRVpro 16, 24, and 30 models are not switch selectable; they are dedicated to either 115V 60 Hz or 230V 50/60 Hz. Motors include overload protection.

PERFORMANCE



NEW





Port enables use of dry inert gas for gas ballast

**NEW CRVpro
GAS BALLAST SYSTEM**

System allows inert dry gas or outside air to be injected with a M5(f) inlet port. Gas ballast reduces condensable vapors in the oil case by introducing a small amount of air into the compression area in the second stage of the pump. This reduces condensed vapor from mixing with pump oil (which extends service intervals by maintaining oil integrity) while slightly degrading ultimate vacuum. Some applications benefit from inert dry gas instead of air.

	CRVpro 2 ¹	CRVpro 4 ¹	CRVpro 6 ¹	CRVpro 8 ¹	CRVpro 16 ¹	CRVpro 24 ¹	CRVpro 30 ¹
	3021-01	3041-01	3061-01	3081-01	-	-	-
	-	-	3161-02	3081-02	-	-	-
	3021-00	-	-	-	3161-01	3241-01	3301-01
	3022-01	3042-01	3062-01	3082-01	3162-01	3242-01	3302-01
	3022-00	3042-00	3062-00	3082-00	3162-00	3242-00	3302-00
	3023-00	3043-00	3063-00	3083-00	3163-00	3243-00	3303-00
	-	3047-01 ²	-	3087-01 ²	3167-01 ²	-	-
	-	-	-	-	-	-	3307-01 ²
	-	3046E-01 ^{2,3}	-	3086E-01 ^{2,3}	3166E-01 ^{2,3}	-	-
	-	3049E-01 ^{2,3}	-	3089E-01 ^{2,3}	-	-	-
	S3346-99	S3077-99	S3078-99	S3079-99	S3193-99	S3194-99	S3195-99
	S3344-99	S3080-99			S3192-99		
	S3256-99						

Note 2: Always use a certified electrician for proper installation of pumps with three phase or explosion proof pumps motors. Conduit wiring required. No cord, plug, or switch included. Three Phase, CE, cUL on motors only. Note 3: Explosion proof motor rating is Class 1, Groups C&D; Class 2, Groups F&G.