

#N°1 français  
du service  
pour les  
laboratoires



LABO AND CO

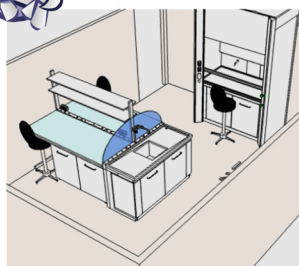
SOLUTIONS TECHNIQUES & SERVICES  
pour laboratoires  
& industries

- PLUS DE 35 COLLABORATEURS
- 20 ANS D'EXPÉRIENCE
- UNE COUVERTURE NATIONALE

## De l'équipement ET du service !



### AMÉNAGEMENT



Chaque laboratoire, entreprise ou industrie a ses enjeux, ses objectifs et ses contraintes. Les aménagements sont donc tous différents pour répondre à des problématiques toujours uniques.

**Notre équipe est là pour comprendre votre besoin et vous accompagner au plus près.**

Labo and Co est à vos côtés pour l'établissement de votre cahier des charges, pour le suivi des travaux et leur réception et pour fournir le meilleur matériel et le plus haut niveau de service.



### DISTRIBUTION

Labo and Co propose **des milliers de références d'équipement**, des plus simples aux plus complexes. Une équipe d'ingénieurs d'affaires et de techniciens, répartis dans toute la France, disposent d'une connaissance approfondie des équipements et mettent leur expérience à votre service.

**Avant de conclure toute vente, nous nous assurons d'avoir compris tous vos enjeux.**

Nos partenariats et nos collaborations depuis des années avec **les plus grandes marques** vous garantissent une qualité sans faille.



### SERVICES

- QUALIFICATION & INSTALLATION
- MÉTROLOGIE & ÉTALONNAGE
- RÉCONDITIONNEMENT
- RÉPARATION & ENTRETIEN
- LOCATION
- ESSAIS EXTERNALISÉS

Chez Labo and Co, nous savons à quel point le dysfonctionnement d'un équipement peut avoir des répercussions catastrophiques sur des recherches ou sur une production. **Notre approche repose sur un éventail très large de services et de compétences nous permettant de répondre à l'ensemble des problématiques que vous pouvez rencontrer.** Que votre besoin soit ponctuel ou récurrent, notre gamme de prestations saura y répondre.

CONTACTEZ-NOUS

+33 1 45 98 74 80

@ contact@laboandco.com

www.laboandco.com

**NEW**  
PRODUCTS & FEATURES

**WELCH**

# **CRV**pro

*Your Robust Vacuum Pump*



**CRVpro 4,6,8**

**CRVpro 2**

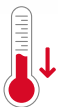
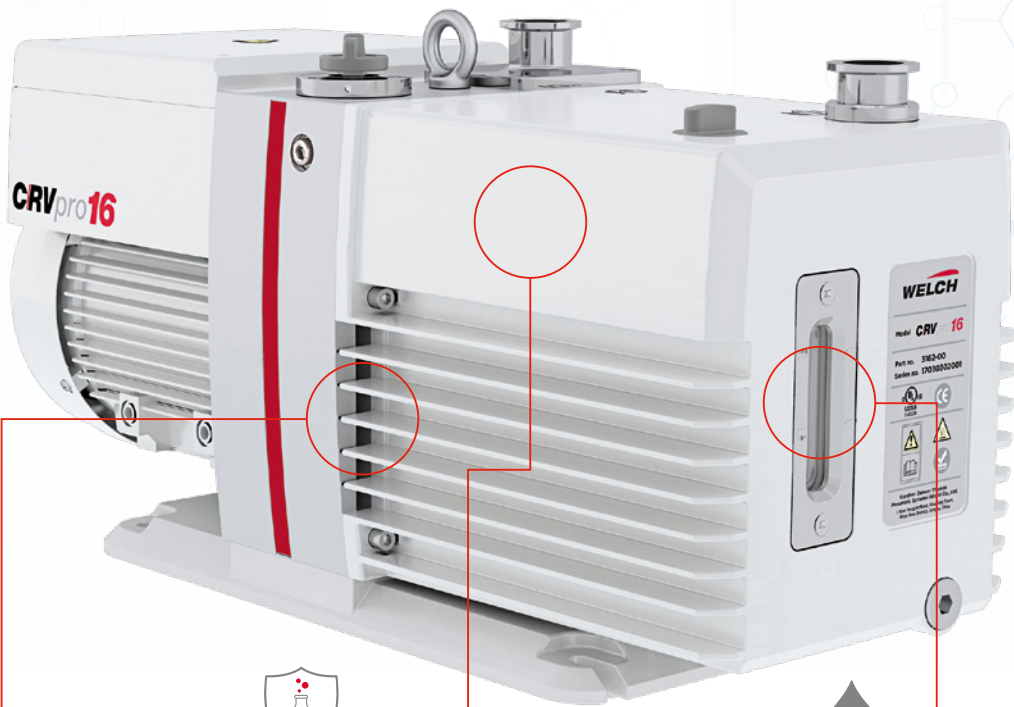
**CRVpro 16,24,30**

**CRVpro 2**

# 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.

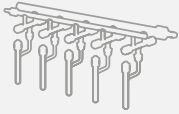

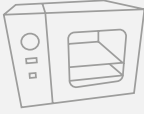


### 7 DUAL VOLTAGE MOTOR

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.

### 8 LABYRINTH EXHAUST BAFFLING SYSTEM

To reduce oil mist emission and dampen noise level (excluding CRVpro2).

# APPLICATIONS

SCHLENK LINE	FREEZE DRYER	VACUUM OVEN	GLOVE BOX	VACUUM CONCENTRATOR
				
CRVpro 2/4/6	CRVpro 2/4/6/8	CRVpro 8	CRVpro 8/16/24/30	CRVpro 6

# TECHNICAL DATA



PARAMETER	UNIT	CRVpro 2	CRVpro 4	CRVpro 6	CRVpro 8	CRVpro 16	CRVpro 24	CRVpro 30
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## Free air displacement

- @ 50 Hz	m <sup>3</sup> /h (l/min)	2.5 (42)	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)

## Pumping speed

- @ 50 Hz	m <sup>3</sup> /h (l/min)	2.3 (38)	3.8 (63)	5.1 (85)	7.3 (122)	16.8 (280)	24 (400)	29 (483)
- @ 60 Hz	CFM (l/min)	1.6 (47)	2.7 (77)	3.7 (105)	5.1 (143)	11.9 (336)	17 (480)	20.5 (580)

## Ultimate pressure

- Without gas ballast partial	mbar (Torr)	3x10 <sup>-4</sup> (2x10 <sup>-4</sup> )	5x10 <sup>-4</sup> (4x10 <sup>-4</sup> )			3x10 <sup>-4</sup> (2x10 <sup>-4</sup> )		
- Without gas ballast total	mbar (Torr)	3x10 <sup>-3</sup> (2x10 <sup>-3</sup> )	2x10 <sup>-3</sup> (1.5x10 <sup>-3</sup> )			3x10 <sup>-3</sup> (2x10 <sup>-3</sup> )		
- With gas ballast total	mbar (Torr)	9x10 <sup>-2</sup> (7x10 <sup>-2</sup> )	7x10 <sup>-2</sup> (5x10 <sup>-2</sup> )			6x10 <sup>-3</sup> (5x10 <sup>-3</sup> )		
Connection flanges	DN	16 KF				25 KF		
Ambient temperature	°C	10-40						
Noise level (50 Hz)	dB (A)	≤50				≤55		
Oil capacity	ml	450	1150		1000	2400	2200	2100
Motor speed	rpm 50/60 Hz	1440/1720	1450/1740			1450/1750		
Motor power	kW 50/60 Hz	0.29/0.3	0.37/0.4			0.7/0.85		
Weight	kg	15	21	22	22.5	37	38.5	39.5
Dimensions L x W x H	mm	384/138/211*	463/157/230*			569/206/289		

\* Without handle.

# ORDERING INFORMATION

## DESCRIPTION

220-240 V / 50 Hz; 230 V / 60 Hz, 115 V / 60 Hz, 1 phase motor with line cord EU-plug (CEE 7/4), line cord UK-plug (BS1363), line cord US-plug (NEMA 6-15)\*\*

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)

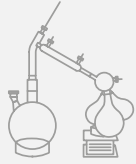
220-240 V / 50 Hz; 230 V / 60 Hz, 1 phase motor with line cord EU-plug (CEE 7/4), line cord UK-plug (BS1363) with PFPE oil filling  
115 V / 60 Hz, 1 phase motor with line cord US-plug (NEMA 5-15)

190/380 V / 50 Hz; 280-230/460 V / 60 Hz, 3 phase motor, requires hard wiring with appropriate cable and suitable motor protection

Service kit for overhaul servicing - contains wearing parts; vanes and springs, plus O-rings, gaskets and shaft seals

Every pump is supplied complete with Directorr™ Premium vacuum pump oil, centering rings, clamping rings and motor overload protection. Ready for use after oil filling.

**SHORT PATH**



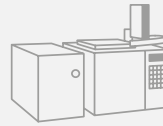
CRVpro 8/30

**HVAC**



CRVpro 8

**MASS SPECTROMETER**



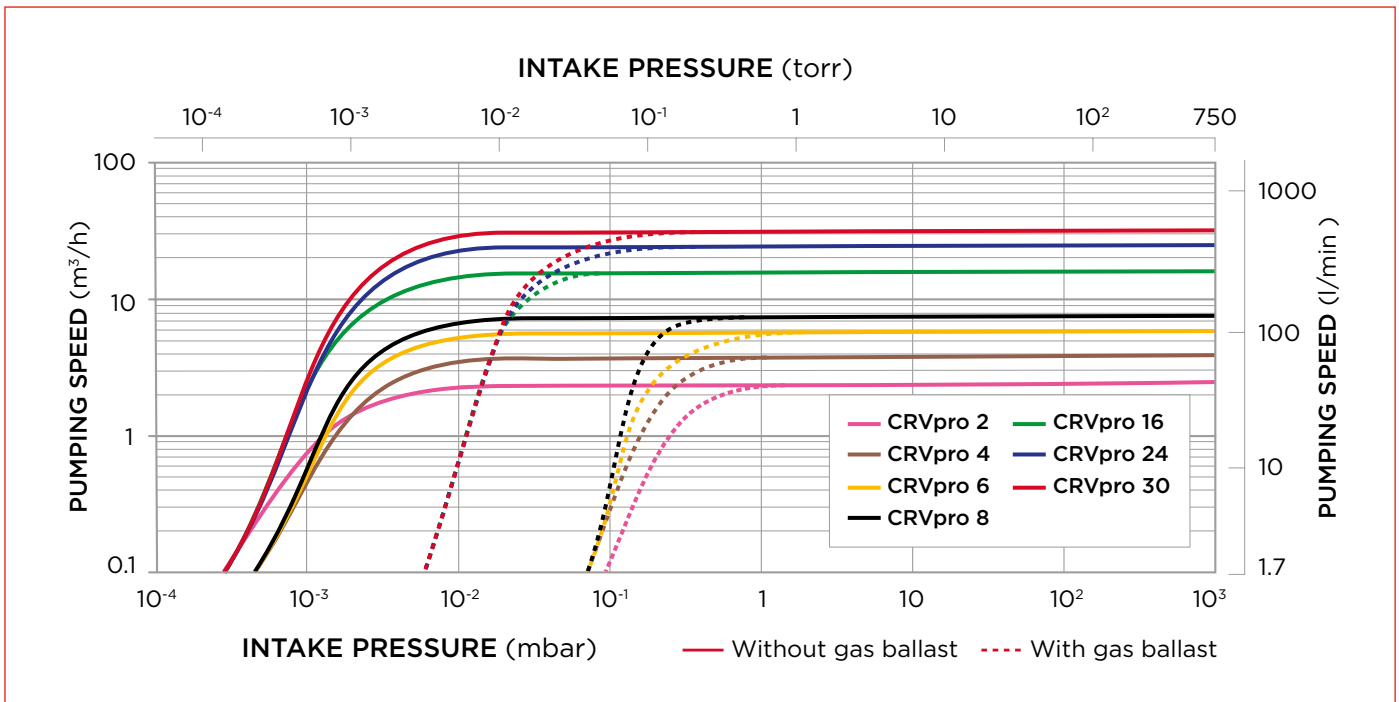
CRVpro 16/24/30

**INDUSTRIAL APPLICATIONS**



CRVpro 4/6/8/16/24/30

**PERFORMANCE**



NEW

## NEW CRVpro GAS BALLAST SYSTEM

It's important to use the gas ballast function when pumping condensable vapours to ensure that they don't condense inside of the pump and cause oil degradation.

As well as having a standard gas ballast valve for operation with atmospheric air, all CRVpro now come with the option to use dry inert gas for more efficient gas ballast performance. Use adapter kit to facilitate inert gas connection.

DESCRIPTION	ORDER NO.
Inert gas ballast adapter kit	S3256-99

**Port enables use of dry inert gas for gas ballast**

CRVpro 2	CRVpro 4	CRVpro 6	CRVpro 8	CRVpro 16	CRVpro 24	CRVpro 30
3022-00	3042-00	3062-00	3082-00	-	-	-
-	-	-	-	3162-00	3242-00	3302-00
-	-	3062-03	-	3162-03	-	3302-03
-	-	-	-	3161-00	3241-00	3301-00
-	-	-	3087T-01	3167T-01	-	3307T-01
S3344-99	S3077-99	S3078-99	S3079-99	S3193-99	S3194-99	S3195-99

\*\* CRVpro 2,4,6,8 are switch selectable between 220-240 V / 50 Hz; 230 V / 60 Hz and 115 V / 60 Hz operation. CRVpro 16, 24, 30 models are not switch selectable.

# COMPLETE PUMP PACKAGES



PACKAGE	DESCRIPTION	CRVpro 2	CRVpro 4	CRVpro 6	CRVpro 8
<b>CRVpro starter package</b>	CRVpro with oil mist separator AKD 16, 2-way ball valve, hose connector DN 16KF-10/8 mm, vacuum hose (1,5 m), oil change set	330070	330071	330072	330073
<b>CRVpro premium package</b>	CRVpro with digital vacuum gauge PIZA 111 cr-gold, oil mist separator AKD 16, 2-way ball valve, T-piece, hose connector DN16KF-10/8 mm, vacuum hose (2,5 m), oil change set	330077	330078	330079	-
<b>CRVpro Schlenk line package</b>	CRVpro with oil mist separator AKD 16, oil change set, 2-way ball valve, KFG16 glass cold trap, adapters and connecting parts	-	330080	-	-



700621

## NEW WELCH FOM PROFESSIONAL OIL MIST FILTER WITH OIL DRAINBACK

**NEW**

- Coalesced oil drains back into pump oil case to reduce oil consumption and enables a clean work space
- Exhaust can be directed into existing fume hood
- Reduces pump noise
- Filters to 0.3 micron particle size

# PREMIUM VACUUM PUMP OIL



800995-01

800995-05

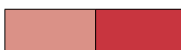
A triple-distilled hydrocarbon oil using severely hydrotreated base stock is designed to resist breakdown at higher RPMs and operating temperatures of direct-drive vacuum pumps. Premium oil enables direct-drive vacuum pumps to maintain the highest vacuum performance over time.

- Low vapor pressure
- Designed for high RPM direct drive vacuum pumps
- No additives or inhibitors to react with user chemistry
- Recommended for Welch direct-drive vacuum pumps

PUMP OIL CONDITION COLOUR



Good Oil



Bad Oil (Possible Pump Damage)

### ORDERING INFORMATION

Size	1 litre	5 litres	20 litres
Order No.	800995-01	800995-05	800995-20

For other vacuum pump oils, e.g PFPE oil, please see our website [www.welchvacuum.com](http://www.welchvacuum.com)

# ACCESSORIES

## INLET AND EXHAUST



DESCRIPTION	ORDER NO.	
<b>INLET</b>	<b>CRVpro 2, 4, 6, 8</b>	<b>CRVpro 16, 24, 30</b>
<b>ADT</b> fine vacuum adsorption trap. With a very high affinity to Hydrocarbons to eliminate oil back-streaming	(ADT16) 705183	(ADT25) 705184
<b>PT</b> separator to prevent the suction of condensates. Large collection capacity with sight glass for level monitoring	(PT16) 700144	(PT25) 700145
<b>ASF</b> particle filter - for non-chemical applications only	(ASF10) 700435-01	(ASF20) 700435
<b>EXHAUST</b>	<b>CRVpro 2, 4, 6, 8</b>	<b>CRVpro 16, 24, 30</b>
<b>FOM</b> professional oil mist filter with oil drainback, for excellent elimination of oil mist	(FOM16) 700621	(FOM25) 700622
<b>AKD</b> oil mist separator with horizontal arrangement and glass jar for easy capture of oil mist	(AKD16) 320015	-
<b>OME</b> economical oil mist filter with clear housing for easy oil level monitoring	(OME10/16) 700010	-

## APPLICATION KITS



DESCRIPTION	ORDER NO.	
<b>Freeze Dryer Adapter kit</b> , with oil mist separator AKD, 2-way ball valve, 1.5m PVC vacuum hose, hose nozzle connectors, adapters, clamps and centring rings	<b>CRVpro 2, 4, 6, 8</b>	<b>CRVpro 16, 24, 30</b>
(DN16) 330031	-	-
<b>Vacuum Concentrator Adapter kit</b> , with 1.5m PVC vacuum hose, hose nozzle connectors, adapters, clamps and centring rings	(DN16) 330044	-
<b>Vacuum Measurement kit</b> , with digital vacuum gauge PIZA 111 cr-gold, stand for gauge, T-piece, clamps and centring rings	(DN16) 330051	(DN25) 330052
<b>Vacuum Control kit</b> , with digital vacuum gauge MRV 100 & PIZA 111 cr-gold sensor, T-piece, solenoid control valve, clamps and centring rings	(DN16) 330053	(DN25) 330054
<b>Vacuum Pump Protection kit</b> , KFG16 glass cold trap with dewar vessel for liquid nitrogen, 500mm flexible Stainless Steel hose, clamps and centring rings. Pre-pump protection for comprehensive trapping of vapours and aggressive media. For use with Dry Ice, additional screen accessory 828944 is required	(DN16) 330055	-

## HOSE AND CONNECTIONS



DESCRIPTION	ORDER NO.	
<b>KF Clamping ring, Aluminium</b>	<b>CRVpro 2, 4, 6, 8</b>	<b>CRVpro 16, 24, 30</b>
(DN16) 701011	(DN25) 701013	
<b>KF External centring ring, Aluminium with FKM O-ring</b>	(DN16) 701151	(DN25) 701153
<b>KF Stainless steel flexible hose, 1500mm</b>	(DN16) 710755	(DN25) 710756
<b>KF Reducing adapter DN25/16, for inlet/exhaust</b>	701401	-
<b>Ground Cone adapter flange for Schlenk line NS14/23 - DN16KF</b>	710213	-

Visit [www.welchvacuum.com](http://www.welchvacuum.com) for our complete range of vacuum hardware