



# Data Sheet (EN)

Translation of the german original

**WELCH**  
by Gardner Denver

Photo	Designation	Order no.
	<p><b>Rotary Vane Pump two stage</b></p> <p><i>Model: CRVpro 2</i></p>	<p><b>3022-00</b></p>

Technical Data		
Parameter	Data	Unit
<b>Pumping speed 50/60 Hz</b> DIN 28426 part 1 (pneurop)	2.3 / 1.6	m <sup>3</sup> / · h <sup>-1</sup>
<b>Ultimate pressure</b> DIN 28426 (pneurop) with rated speed 1450/min (50 Hz)		
- without gas ballast partial	3 x 10 <sup>-4</sup>	mbar
- without gas ballast total	3 x 10 <sup>-3</sup>	
- with gas ballast total	9 x 10 <sup>-2</sup>	
<b>Max. inlet pressure</b>	1	bar
<b>Max. outlet pressure</b>	1.35	
<b>Intake port - IN -</b>	Small flange DN 16 KF	-
<b>Exhaust port - EX -</b>	Small flange DN 16 KF	-
<b>Ambient temperature</b>	+ 10 to + 40	°C
<b>Noise level</b> DIN EN ISO 2151	≤ 50	dB (A)
<b>Oil filling</b>	450	ml
<b>Voltage</b>	220-240 or 115 / 230 (switchable)	V
<b>Frequency</b>	50/60	Hz
<b>Motor power</b>	0.29 / 0.4/0.3	kW
<b>Motor speed 50/60Hz</b>	1440 / 1720	rpm
<b>Type of protection</b> DIN EN 60529	IP 54	-
<b>Dimensions (W/D/H)</b>	380 / 138 / 235	mm
<b>Shipping Carton Dimensions (W/D/H)</b>	500 / 320 / 330	
<b>Weight</b>	15	kg
<b>Shipping Weight</b>	18	

 by Gardner Denver	<b>Gardner Denver Thomas GmbH</b> Am Vogelherd 20 98693 Ilmenau Germany	T +49 3677 604 0 F +49 3677 604 131 <a href="mailto:welch.emea@gardnerdenver.com">welch.emea@gardnerdenver.com</a> <a href="http://www.welchvacuum.com">www.welchvacuum.com</a> Customer Support +49 3677 604 0
<p>We are constantly working on the further development of all our product types. Reprinting or reproduction of this manual, including extracts, is not allowed without the prior written permission of Co. Gardner Denver Thomas GmbH. All rights under the copyright laws are expressly reserved by Co. Gardner Denver Thomas GmbH. We reserve the right to make changes and amendments.</p>		
<p>The information presented in this material is based on technical data and test results of nominal units. It is believed to be accurate and reliable and is offered as and aid to help in the selection of products. It is the responsibility of the user to determine the suitability of the product for the intended use and the user assumes all risk and liability whatsoever in connection therewith. Gardner Denver Thomas GmbH does not warrant, guarantee or assume any obligation or liability in connection with this information.</p>		

# Data Sheet (EN)

Translation of the german original



Intake pressure-/Pumping speed - Diagram	Application
<p>The graph plots Pumping speed (m³/h) on the y-axis (log scale from 0.1 to 100) against Intake pressure (torr) on the top x-axis (log scale from 10<sup>-3</sup> to 750) and Intake pressure (mbar) on the bottom x-axis (log scale from 10<sup>-2</sup> to 10<sup>3</sup>). Two curves are shown: a solid red line for 'without gas ballast' and a dashed red line for 'with gas ballast'. Both curves show a sharp increase in pumping speed as pressure decreases, reaching a plateau of approximately 40 m³/h. The 'without gas ballast' curve reaches its plateau at a higher pressure (around 10<sup>-1</sup> torr) compared to the 'with gas ballast' curve (around 10<sup>-2</sup> torr).</p>	<ul style="list-style-type: none"> <li>➤ For evacuation of recipients or vacuum systems down to the fine vacuum range</li> <li>➤ For pumping biological and toxic gases and vapors</li> <li>➤ In chemical laboratories and in industry</li> <li>➤ For Freeze dryers, Schlenk lines, Industrial applications</li> <li>➤ As single or backing pump for turbomolecular and diffusion pumps</li> </ul>

Description / Scope of delivery
<p><b>Description</b></p> <p>The two-stage rotary vane pump CRVpro 2 provides highest reliability for stable operation, long product lifespan and extends service interval.</p> <ul style="list-style-type: none"> <li>➤ Customers benefit from a reduced risk of chemical attacks and oil breakdown by diluting aggressive chemicals with a larger oil chamber.</li> <li>➤ It's cool running characteristic also slows down any corrosion process.</li> <li>➤ 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 fore line traps, extend service interval.</li> <li>➤ Furthermore, the CRVpro also enables extended oil change intervals for less maintenance costs.</li> <li>➤ Less oil consumption is a result of the cool running operation and the extended usability of oil based on a high dilution effect because of a larger oil chamber.</li> <li>➤ Moreover, the low weight, flexible handle and compact design of the pump makes the rotary vane pump a portable and flexible partner in laboratories and industrial applications.</li> </ul> <p><b>Scope of delivery</b></p> <p>Pump is supplied complete with Welch Directorr premium vacuum pump oil, centering rings, clamps and motor overload protection. Ready for use after oil filling.</p>

Accessories		
Photo	Model / Description	Order no.
	<p><b>Separator AKS 16</b> (intake side) separates substances in liquid and solid state on the pump and the connected recipient.</p>	<p><b>320016</b></p>
	<p><b>Separator AKD 16</b> (exhaust side) separates oil vapor from the exhaust air from the pump.</p>	<p><b>320015</b></p>
	<p><b>Cold Trap, DN10</b>, (intake side) provides pre-pump protection by condensing vapors and reduce the chemical loading.</p>	<p><b>1420H-14</b></p>
	<p><b>Oil mist filter</b> (exhaust side) <b>OME 10/16</b> for minimized of the output of oil mist.</p>	<p><b>700010</b></p>