

Zebra

Two-Stage Rotary Vane Vacuum Pumps RH 0003–0021 B



- › **Cost-effective**
- › **Reliable:**
robust construction,
proven technology,
reliable operation
- › **High performance:**
stable pumping speed
even in low pressure range
- › **Silent:**
noise level ≤ 60 dB(A)
at 50 Hz
- › **Easy servicing**

Zebra two-stage rotary vane vacuum pumps have been designed to suit the requirements of a wide range of applications, from research labs to production lines.

Robustness and reliability of operation are the outstanding qualities of Zebra rotary vane vacuum pumps. This is one of the reasons why proven Busch rotary vane technology has long been established as the industry standard. Over 2.5 million Busch rotary vane vacuum pumps are in use worldwide in industry every day. With the Zebra series, Busch also offers two-stage rotary vane vacuum pumps for applications in the medium vacuum range.

Rotary vane technology has been continuously developed and optimized by Busch for more than 50 years, with a constant focus on both economy and reliability of operation. High efficiency is the positive result of this development.

The consistently high vacuum level in continuous operation is ensured by forced oil lubrication, perfectly coordinated materials as well as state-of-the-art and precise manufacturing. Its quiet operation makes the Zebra vacuum pump series perfectly suited for use in research labs, where a low-noise working environment is essential. The advanced design ensures that only minimal maintenance is required.

Applications

- Laboratory
- Distillation/Extraction
- Filtration/Solvent recovery
- Analytical instruments – GCMS
- Backing pump for turbomolecular and diffusion vacuum pumps
- Electron microscopes
- Leak detectors
- Vacuum drying, freeze-drying (lyophilization)
- Refrigeration and air conditioning
- Load locks and transfer chambers
- Coating equipment

Zebra – reliable medium vacuum for demanding applications in industry and research.



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Technical specifications

Rotary vane technology enables a technically simple vacuum pump design. Due to two-stage compression, an ultimate total pressure of $6.7 \cdot 10^{-3}$ hPa (mbar) is achieved. While the oil mist separator ensures clean and oil-free exhaust air, the inlet filter protects the vacuum pump against dust and other solid particles. Furthermore, the gas-ballast valve, which is integrated as standard, allows condensable vapours to be pumped. A non-return valve at the exhaust prevents oil from flowing back into the compression chamber when the vacuum pump is switched off. In addition to the four pump sizes from 3 to 21 m³/h outlined here, the Zebra series also includes models with higher pumping speeds from 30 to 90 m³/h.

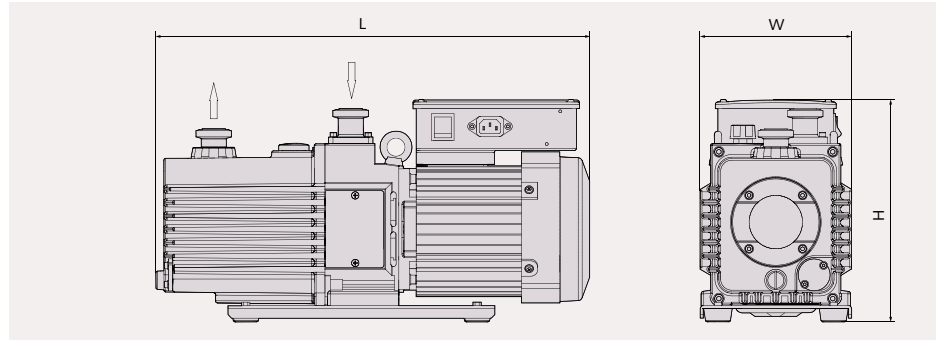
Standard features

- Integrated gas-ballast valve
- ISO-K flanges
- Multi-voltage motors
- Multi-frequency motors (50 Hz / 60 Hz)
- cTUVus certification

Accessories / Technical options

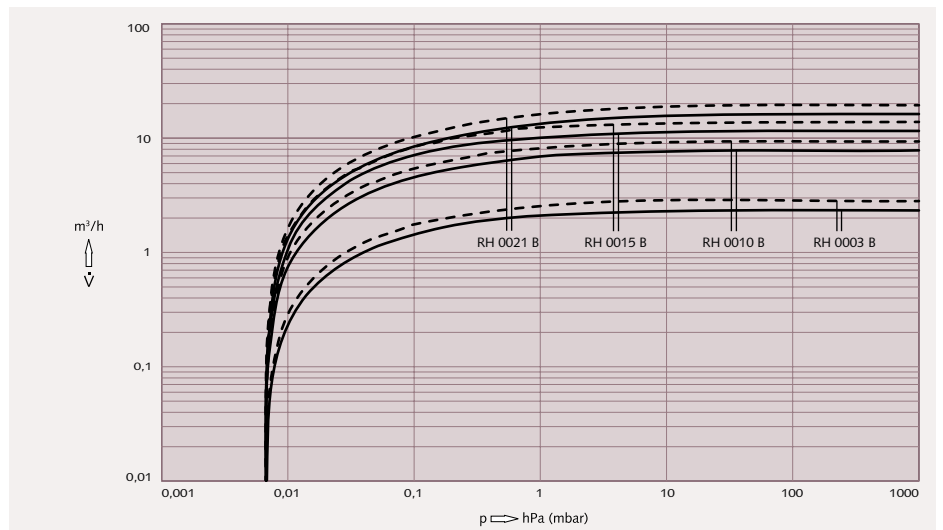
- Single or three-phase motor (RH 0003 B only with single-phase motor)
- Oil mist separator
- Inlet filter

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Pumping speed

Air at 20 °C. Tolerance: ± 10% — 50 Hz - - - - 60 Hz



Technical Data			RH 0003 B	RH 0010 B	RH 0015 B	RH 0021 B
Nominal pumping speed	50 Hz / 60 Hz	m ³ /h	2.9 / 3.5	9.7 / 11.6	14.4 / 17.3	20.2 / 24.2
Pumping speed	50 Hz / 60 Hz	m ³ /h	2.4 / 2.9	8.1 / 9.7	12.0 / 14.4	16.9 / 20.2
Ultimate total pressure	Gas-ballast valve closed Gas-ballast valve open	hPa (mbar)	$6.7 \cdot 10^{-3}$ $6.7 \cdot 10^{-2}$	$6.7 \cdot 10^{-3}$ $6.7 \cdot 10^{-2}$	$6.7 \cdot 10^{-3}$ $6.7 \cdot 10^{-2}$	$6.7 \cdot 10^{-3}$ $6.7 \cdot 10^{-2}$
Motor type			Single-phase	Three-phase / Single-phase	Three-phase / Single-phase	Three-phase / Single-phase
Nominal motor rating	Three-phase Single-phase	kW	0.2	0.4 0.4	0.55 0.55	0.7 0.75-0.9
Oil			VSD 026	VMA 055	VMA 055	VMA 055
Noise level (ISO 2151) with oil mist separator	50 Hz 60 Hz	dB(A)	≤ 52 ≤ 53	≤ 49 / ≤ 52 ≤ 52 / ≤ 54	≤ 52 / ≤ 54 ≤ 55 / ≤ 56	≤ 59 / ≤ 59 ≤ 63 / ≤ 61
Weight approx.	Three-phase Single-phase	kg	16	26 29	29 31	34.5 42
Dimensions (L x W x H)	Three-phase Single-phase	mm	427 x 150 x 227.5	485.5 x 170 x 240 487.5 x 170 x 249.5	513.5 x 170 x 240 515.5 x 170 x 249.5	536 x 181 x 269 585 x 182 x 271
Gas inlet Gas outlet (adapter*)			ISO-KF 25 G 3/4" (ISO-KF 25)	ISO-KF 25 G 1" (ISO-KF 25)	ISO-KF 25 G 1" (ISO-KF 25)	ISO-KF 25 G 1" (ISO-KF 25)

* The adapter is part of the standard package.

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Technical data is subject to change. Created in Germany MG PL RH00030021B Len 06/2016 6.0