

SSH20 DRY VACUUM PUMP

Core Competencies and Competitive Analysis

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01 ABOUT PRODUCT

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CBVAC SSH20 Dry Vacuum Pump: Mainly used in laboratory, measurement, scientific research instruments, etc.
Its excellent performance and reliability are ideal choices for vacuum applications.



Compact Design

Optimize space occupancy, suitable for various installation scenarios, and easy to integrate into various devices.



Clean and Oil-free

Oil free operation technology avoids contamination of the vacuum environment while significantly reducing maintenance costs.



Reliable Performance

Stable vacuum output capability, strictly meeting the high standard requirements of scientific research experiments and industrial production.



02 STRENGTHS ANALYSIS

International brand technology routes are diversified, while Chinese brand technology is single, mainly focusing on vortex pumps.

CBVAC SSH20 Dry Vacuum Pump uses twin-screw structure technology to compensate for the shortcomings of Chinese brands.

	Twin Screw Technology (Core Advantage)	Scroll Technology
 Structural Principle	✓ Non contact meshing, rotor friction free; ✓ Long term stable operation with no vulnerable seals.	Micro friction between the dynamic and static disks leads to increased clearance due to wear and tear; Dependent on polymer sealing strips, prone to aging.
 Media Adaptation	✓ Axial straight through gas path, resistant to dust/condensable steam/corrosion; ✓ Customizable anti-corrosion coating.	The gas path is tortuous, the seal is fragile, and it is not resistant to dust/liquid/corrosion, requiring a complex pre-treatment system.
 Energy Efficiency	✓ Linear power consumption under high voltage difference, inefficiency cliff; ✓ Under the same working conditions, it saves 15-20% electricity compared to vortex.	Under high pressure difference, efficiency drops sharply, heating becomes severe, and energy consumption skyrockets with the increase of vacuum degree.
 Reliable Maintenance	✓ No friction component loss, longer MTBF; ✓ The maintenance cycle is 1-3 years, supporting rapid on-site repairs.	The dynamic and static disks and seals are vulnerable and their performance deteriorates quickly; Maintenance requires professional disassembly, which is costly.

03 COMPETITIVE COMPARISON

Core advantages: Small size, Lightweight,
Stable performance, Low maintenance costs.

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BRANDS	CBVAC	EDWARDS	ULVAC	SKY	VALUE	BSC
Type	SSH20	EWS-nXDS15i	DIS-252	WXG 16A-03	VE-VSP 20	IDSP16
Extraction unit	Twin screw ★	Single vortex	Single vortex	Twin Vortex	Twin screw	Single vortex
Pumping speed	21.6m³/h ★	15.1m³/h	15m³/h	14.4m³/h	18.1m³/h	16m³/h
Ultimate vacuum	< 1Pa	0.7Pa	1.6Pa	3Pa	0.6Pa	0.8
Import flange	KF25	NW25	KF25	KF25	KF25	KF25
Exhaust flange	KF16 (Horizontal/Vertical)★	NW25	KF16	KF 25	KF 25	KF 25
Installation method	Horizontal	Horizontal	Horizontal	Horizontal	Horizontal	Horizontal
Controller	Integrated	Integrated	Integrated	Integrated	Integrated	Integrated
Power supply voltage	1φ 220V	1φ 100/127/220/240V(50/60Hz)	1φ 100-230V(50/60Hz) 3φ 200V (50Hz)、380-415(50Hz) 、200-230 (60Hz)、460(60Hz)	1φ 220V	1φ 100-127V 220-240V	1φ 100/115/220/230V (50/60Hz)
Rotary speed	6800rpm ★	1800rpm	1450rpm	1420rpm	4800rpm	1800rpm
Rated power	750W	650W	400W	550W	1800W	400W
Power consumption (Maximum pressure)	550W	300	/	/	/	/
Water vapor treatment capacity	/	240g/h	/	25g/day	/	268g/h
Noise	< 60dB(A)	52dB(A)	58dB(A)	65dB(A)	62dB(A)	54dB(A)
Cooling method	Air cooling	Air cooling	Air cooling	Air cooling	Air cooling	Air cooling
Lubrication method	Oil lubrication ★	Gease lubrication	Gease lubrication	Gease lubrication	Oil lubrication	Gease lubrication
Leak rate	1.0X10E-8Pa.m³/s	1.0X10E-7Pa.m³/s	1.0X10E-7Pa.m³/s	1.0X10E-8Pa.m³/s	5.0X10E-7Pa.m³/s	1.0X10E-7Pa.m³/s
Temperature	-10-40℃ ★	5-40℃	5-40℃	5-40℃	5-40℃	5-40℃
Weight	15kg ★	25.8kg	25kg	35kg	48kg	29kg
Size	381*273*227mm ★	430X280X300mm	397x264x338mm	460 x270x364mm	600X300X320mm	430X274X313mm
Photo						

04 PARAMETERS

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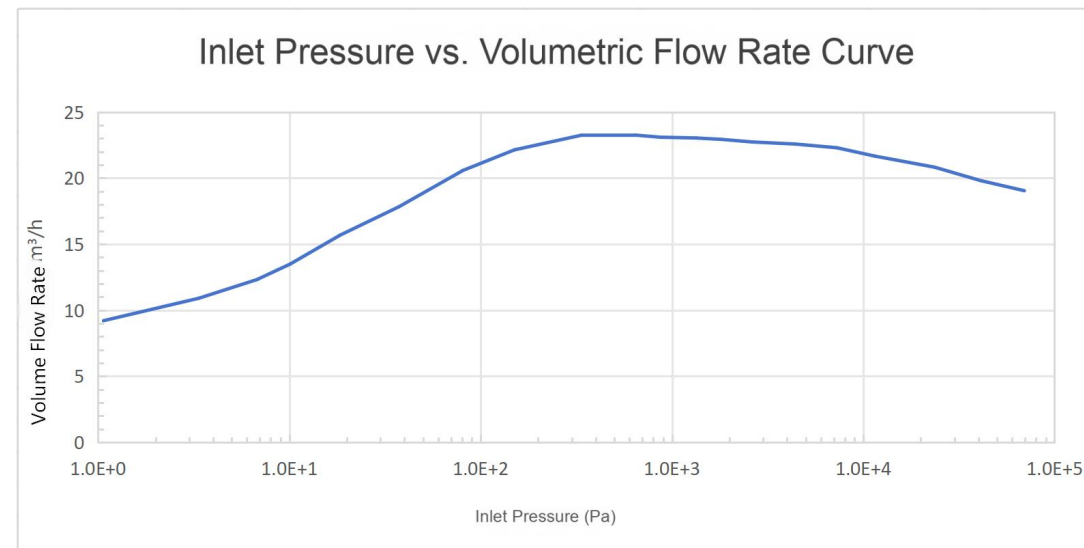


- Innovative gradient twin-screw structure design
- Significantly improve vacuum performance and operational stability.

Peak pumping
speed **6.3 L/s**

Ultimate vacuum
< 1 Pa

Performance curve of inlet pressure vs. volumetric flow rate



- ✓ The curve shows the pumping capacity of the vacuum pump at different inlet pressures.
- ✓ Within a wide pressure range (10Pa -10000Pa), the volumetric flow rate remains at a high level, reflecting the product's adaptability to a wide range of operating conditions and efficient pumping performance.



Lightweight Design $\leq 15\text{kg}$

The whole machine is lightweight
Easy to move and install



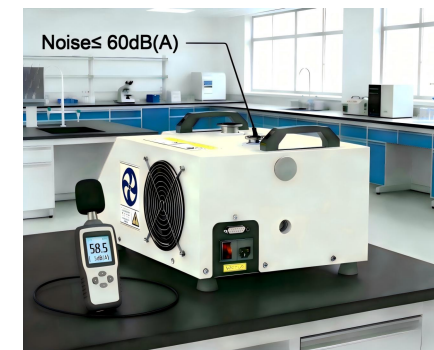
Low Vibration Operation $\leq 1\text{mm/s}$

Smooth operation without shaking
Ensure high stability of the equipment



Compact Appearance

Optimized size design
Significantly save installation space



Low-noise Operation $\leq 60\text{dB(A)}$

Extremely low operating noise
Provide a comfortable working
environment

CBVAC SSH20 Dry Vacuum Pump, with its **core advantages of lightweight, low vibration, compactness, and low noise**, Redefining the efficiency and comfort standards of industrial vacuum equipment, it is the ideal choice for many customers.

05 APPLICATION

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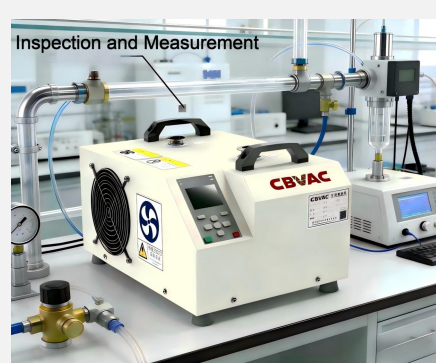
Laboratory

Suitable for various laboratory environments, providing stable and reliable vacuum sources to meet basic experimental needs.



Scientific research instruments

Provide high vacuum support for precision scientific research instruments to ensure the accuracy and reproducibility of experimental data.



Inspection & Measurement

Applied in precision inspection and measurement equipment, eliminating air interference to ensure measurement accuracy and stability.



Vacuum drying process

Efficiently remove sample moisture, prevent oxidation and deterioration, and protect the physical and chemical properties of thermosensitive materials.



Pre stage pump of molecular pump

It can be used as a front-end pump for molecular pump units to jointly build a clean and high vacuum system environment.

Wide applicability: The product covers the full range of vacuum requirements from basic experiments to high-end industrial manufacturing, and is a powerful assistant for scientific research and production.