

Vacuum Pump



P-DNR202101-28 Specifications are subject to change without prior notice. Never use compressed air as breathing air without prior purification in accordance with local legislation and standards.



Denair Energy Saving Technology (Shanghai) Plc.

No. 6767, Tingfeng Rd., Jinshan District,
Shanghai 201502, China
Tel.: +86 21 3783 1829
Fax: +86 21 6040 5929

info@denair.net
www.denair.net

Copyright © 2021 Denair Group. All rights reserved.

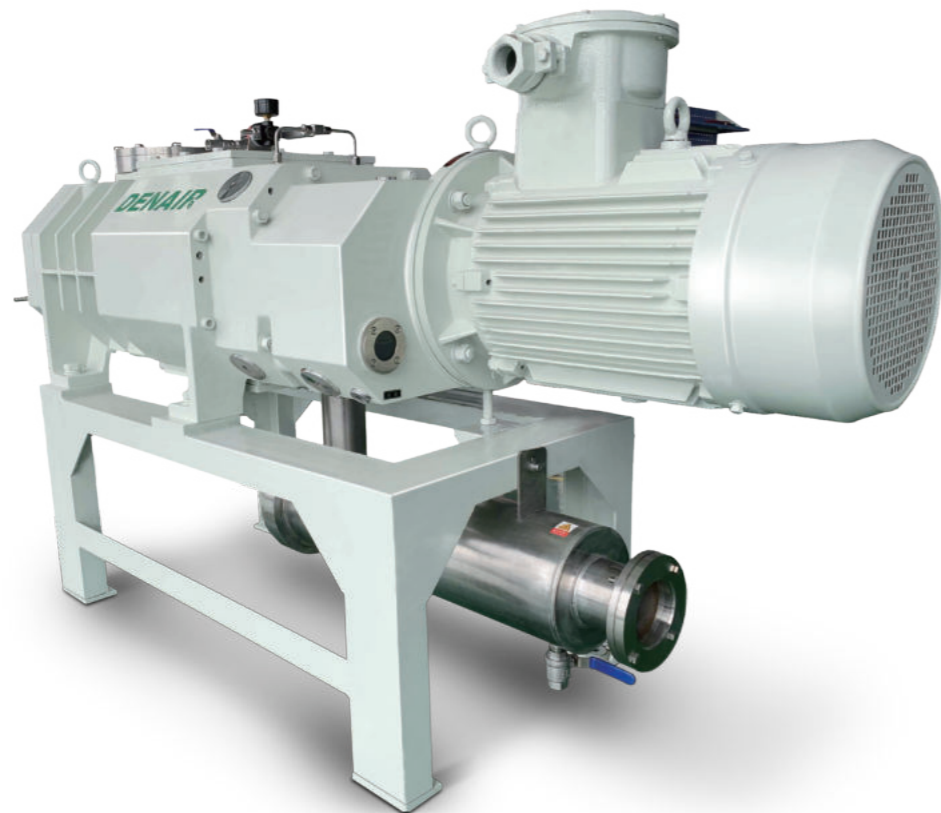
CONTENTS

01 DRY SCREW VACUUM PUMP - DS, DSV SERIES	P02
02 ROOTS VACUUM PUMP - DR, DRP SERIES	P07
03 SCREW ROOTS UNIT SERIES	P08
04 OIL FREE SCROLL VACUUM PUMP-DSC SERIES	P09
05 OIL-SEALED VACUUM PUMP- DPV SERIES	P11
06 SINGLE ROTARY VANE VACUUM PUMP-DPX SERIES	P12
07 DOUBLE STAGE ROTARY VANE VACUUM PUMP - DPZ SERIES	P14
08 DOUBLE STAGE ROTARY VANE VACUUM PUMP - DPZM SERIES	P16
09 DRY SCREW VACUUM UNIT FOR SINGLE CRYSTAL FURNACE	P17



Vacuum Pump Device Solution

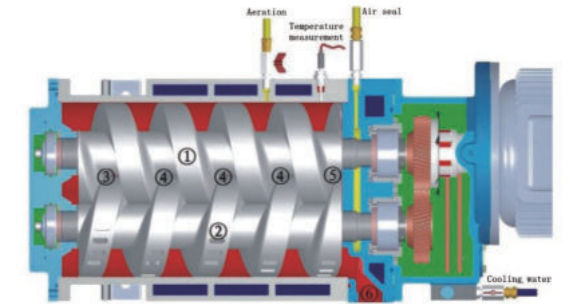
- ▶ Energy saving
- ▶ Low noise
- ▶ Little vibration
- ▶ Reliable operation
- ▶ Low loss



DRY SCREW VACUUM PUMP - DS, DSV SERIES

Working Principle

The screw vacuum pump uses a pair of screws to rotate synchronously and reversely at high speed in the pump casing to generate suction and exhaust. The two screws are corrected by fine dynamic balance, and there is a certain gap between the screws, so when the pump is working, there is no friction between each other, and own the advantages of stable operation, low noise, oil-free working chamber.



- ① Main rotors ② Driven rotors ③ Suction chamber
- ④ Transport chamber ⑤ Discharge chamber

Performance Advantages

- Energy-saving: Power consumption is reduced by more than 20% compared with similar products;
- Stable: Dry structure pump chamber, mechanical variable volume compression, to achieve stable process vacuum;
- Environmental: Zero sewage discharge and environmental protection cost, and save sewage treatment costs;
- Synergy: Zero pollution of the solvent, easy to recover the solvent and increase the benefit;
- Easy-maintenance: General maintenance, little maintenance cost is required;
- Cooling: Water consumption is reduced by more than 90% compared with similar products and loose requirement for the cooling temperature;
- Anti-corrosion: Coatings such as anti-phosphorus and Han's alloys or overall materials such as titanium alloys can be customized.

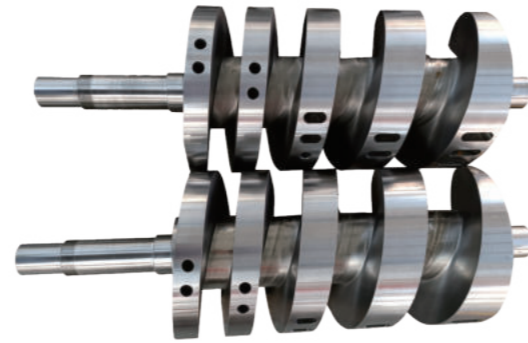
Equal Pitch Screw

- National patent (ZL 201921451548.2);
- High rough pumping efficiency, and it can operate stably in rough vacuum conditions, which greatly expanding the working pressure range;
- No internal compression and high pump temperature, which is suitable for gas that is easy to condense and crystallize at pumping speed;
- The rotor gap is large, and solid dust and condensate are not easily deposited between the rotors and chamber.

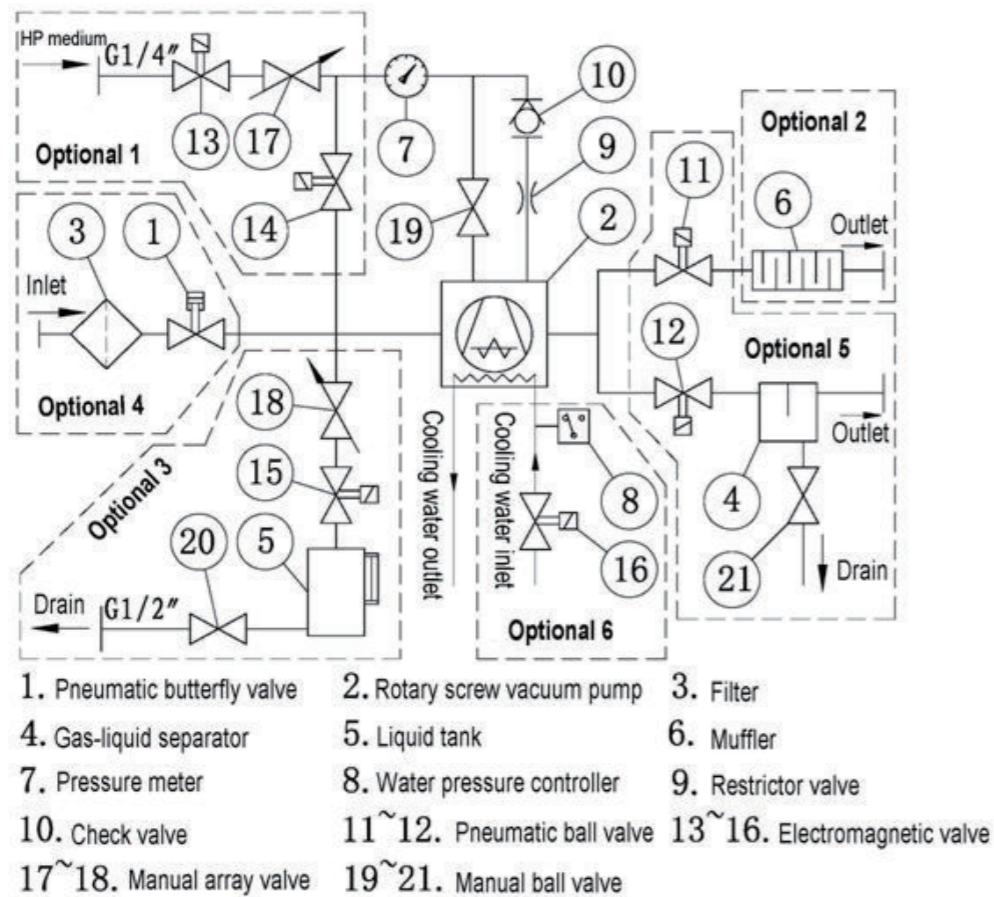


Variable Pitch Screw

- National patent (ZL 201921451576.4);
- Small gas reflux, low power consumption and more energy-saving;
- Low discharge and working temperature, which is suitable for removing flammable, explosive and coking gases;
- Low gas recoiled by the exhaust gas, which radically reduces the operating temperature and noise of the pump.



Optional Accessories



- Optional 1: Nitrogen blowing system
- Optional 2: Discharge muffler system
- Optional 3: Auto clean solvent system
- Optional 4: Inlet filtration system
- Optional 5: Discharge reservoir system
- Optional 6: Water inlet control system

Performance Characteristics

Clean vacuum

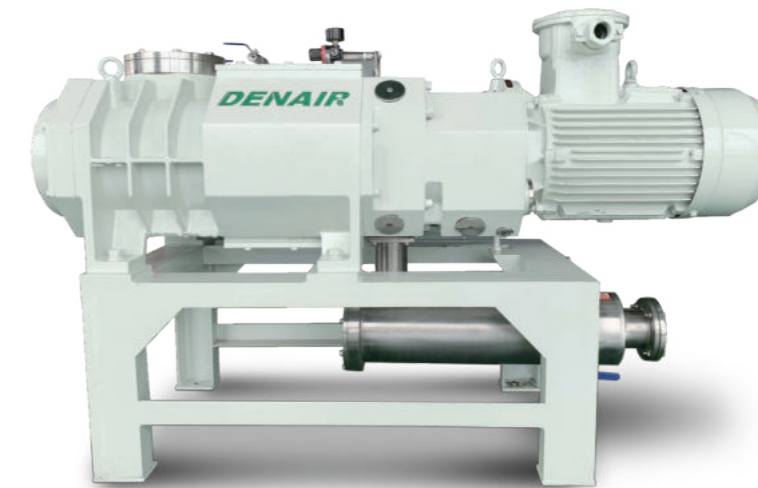
Oil-free and zero pollution inside working chamber; High recovery rate of the process gas; Easy treatment of the tail gas, which can reduce the safety risk and operation cost;

Cooling efficiency

Stable operation can be achieved by using jacket cooling and using a small amount of cooling circulating water;

Using condition

It is suitable to extract condensable, corrosive, flammable and explosive, easy to crystallize, easy to solidify and other gases, and is also suitable for various harsh working conditions;



Stable and reliable

The unique multi-stage helical rotor eliminates the middle baffle structure, and there is no intermediate stage suction and exhaust process. The working process is simple, continuous and high efficiency;

Easy to maintain

The rotor has no contact, no wear, simple structure, few parts, easy maintenance, and long life of the whole machine.

Adaptable

The intake pressure can work from 1Pa to atmospheric pressure. It can be combined with Roots pump, molecular pump, etc., and can be used as a backing pump with high pumping efficiency.

Application Industry

- Chemical
- Pharmaceutical
- Lithium Battery
- Metallurgical System
- Coating
- New Energy
- Photovoltaic
- Automobile
- Fragrance
- Aerospace
- Research Institute
- Semiconductor



**Photovoltaic power generation
- clean energy**



**Automotive industry
- precision manufacturing**



**Metallurgical Industry
- material processing**



**Lithium battery
- new energy**

Technical Parameter - Variable Pitch Screw Series

Type	Unit	DSV250		DSV400		DSV580		DSV800		DSV1080		DSV1200	
		50Hz	60Hz	50Hz	60Hz	50Hz	60Hz	50Hz	60Hz	50Hz	60Hz	50Hz	60Hz
Pumping Speed	m³/hr	250	300	400	480	580	700	800	960	1080	1290	1200	1440
Ultimate vacuum	Pa	2	1	2	1	2	1	2	1	50	30	2	1
Power	kW	7.5	7.5	7.5	11	15	15	18.5	22	18.5	22	30	37
Speed	rpm	2900	3550	2900	3550	2900	3550	2900	3550	2900	3350	2900	3550
Inlet Diameter	mm	65		80		100		150		150		150	
Vent Diameter	mm	50		50		80		80		80		100	
Cooling Water	L/min	2.5		2.5		2.6		2.8		2.8		3.5	
Weight	kg	335		345		610		675		675		1000	
Gear cavity oil	L	0.85		0.85		1.4		2		2		2	
Dimensions(L*W*H)	mm	1207*400*780		1243*400*780		1542*490*1147		1538*530*1095		1538*530*1095		1760*520*1200	

Technical Parameter - Equal Pitch Screw Series

Type	Unit	DS180		DS250		DS400		DS540		DS720	
		50Hz	60Hz	50Hz	60Hz	50Hz	60Hz	50Hz	60Hz	50Hz	60Hz
Pumping Speed	m³/hr	180	216	250	300	400	480	540	650	720	850
Ultimate vacuum	Pa	2	1	2	1	2	1	2	1	2	1
Power	kW	7.5	7.5	7.5	7.5	11	15	18.5	18.5	22	22
Speed	rpm	2900	3550	2900	3550	2900	3550	2900	3550	2900	3350
Inlet Diameter	mm	65		80		100		150		150	
Vent Diameter	mm	50		50		80		80		100	
Cooling Water	L/min	2.5		2.6		2.8		3.0		4	
Weight	kg	335		345		610		675		965	
Gear cavity oil	L	0.85		0.85		1.4		2		2	
Dimensions(L*W*H)	mm	1207*400*780		1243*400*780		1542*490*1147		1538*530*1095		1760*520*1200	

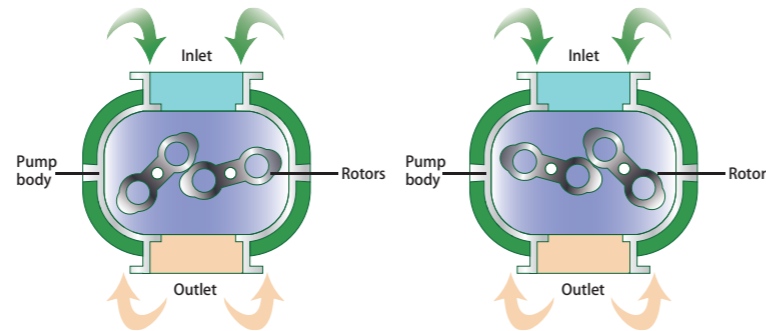
Remark :

- 1.The above oil quantity is for reference only, the equipment is equipped with #100 vacuum oil and grease when it leaves the factory;
- 2.The above cooling water volume requires water pressure of 0.15MPa-0.25MPa, and the inlet water pressure is higher than the return water pressure by more than 0.1MPa;
- 3.DS means the equal pitch rotary screw vacuum pump while DSV means the variable pitch one;
- 4.The inlet and exhaust diameters shown above are the diameters of a single pump. For the inlet and exhaust diameters of non-single pump equipment, see the outline drawing.

ROOTS VACUUM PUMP - DR, DRP SERIES

Working Principle

The pump chamber is equipped with a pair of 8-shaped rotors that rotate synchronously and reversely at high speed. The two rotors generate suction and exhaust in the pump chamber while working process. The Roots pump cannot be discharged alone, and it must be used with the backing pumps (such as screw pump, rotary vane pump, water ring pump, etc.) in series.



Performance Advantages

- Stable: Small vibration and low noise during operation;
- Energy-saving: Low power consumption and good energy saving effect;
- Startup: Can start in a short time to reach the ultimate pressure;
- Oil-free: Avoid oil vapour contamination of the vacuum system;
- Anti-overload: Overflow valve can automatically prevent overload.



Application Industry

Widely used in chemical, pharmaceutical, vacuum coating, food, smelting, motor manufacturing, electronics, solar energy and other industries. When its back-end pump uses a screw vacuum pump and is used with a condenser, it can extract gas containing a large amount of water vapor, so it is very suitable for steam evaporation, freeze drying and other production processes.

Technical Parameter

Type	Ultimate Pressure		Pumping rate	Import Diameter	Outlet Diameter	Pressure difference		Pressure difference		Power (kW)	Weight (kg)
	Pa	Torr				Pa	Torr	Pa	Torr		
DRP250	5×10^{-2}	3.7×10^{-4}	250	80	80	-	-	8000	60	1.1	110
DRP540	5×10^{-2}	3.7×10^{-4}	540	100	100	-	-	4000	30	2.2	190
DRP1080	5×10^{-2}	3.7×10^{-4}	1080	150	150	-	-	4000	30	4.0	265
DRP2200	5×10^{-2}	3.7×10^{-4}	2200	200	200	-	-	2700	20	7.5	570
DRP4300	5×10^{-2}	3.7×10^{-4}	4300	250	250	-	-	2700	20	11	770
DRP9000	5×10^{-2}	3.7×10^{-4}	9000	320	320	-	-	2700	20	22	1350
DR540	5×10^{-2}	3.7×10^{-4}	540	100	100	6700	50	-	-	2.2	180
DR1080	5×10^{-2}	3.7×10^{-4}	1080	150	150	5300	40	-	-	4.0	250
DR2200	5×10^{-2}	3.7×10^{-4}	2200	200	200	4300	40	-	-	7.5	550
DR4300	5×10^{-2}	3.7×10^{-4}	4300	250	250	4000	30	-	-	11	730

SCREW ROOTS UNIT SERIES

Product Formation

The Roots screw vacuum pump unit is an oil-free vacuum unit composed of a Roots vacuum pump as the main pump, an intermediate pump, and a screw vacuum pump as the backing pump. Roots vacuum pump and screw vacuum pump belong to gap-sealed oil-free vacuum pump, and the working principle and structure are similar.

Performance Advantages

- Energy saving: Double the pumping speed of the screw vacuum pump, improve the ultimate vacuum degree, reduce the power of the unit, and have a better energy saving effect;
- Efficiency: High vacuum, the pumping efficiency can reach 90%;
- Protection: Supporting control system, automatic start and stop, with automatic protection functions such as overload, overcurrent, water cut, etc.;
- Volume: Vertical stacking or stepped structure, the unit occupies a small area;
- Configuration: The ratio (pumping speed ratio) between the two adjacent pumps of the vacuum unit can be selected from 1:2-1:8;
- Applicability: The overflow surface can be treated with anti-corrosion and can be used for pumping corrosive gases.



Technical Parameter

Type	Type	Type	Pumping rate (m ³ /h)	Ultimate Pressure (Pa)
JDR(P)DS540-3	DR(P)540	DS180	540	0.5
JDR(P)DS540-2	DR(P)540	DS250	540	
JDR(P)DS1080-4	DR(P)1080	DS250	1080	
JDR(P)DS1080-3	DR(P)1080	DS400	1080	
JDR(P)DS1080-2	DR(P)1080	DS540	1080	
JDR(P)DS2200-4	DR(P)2200	DS540	2200	
JDR(P)DSV540-2	DR(P)540	DSV250	540	
JDR(P)DSV1080-4	DR(P)1080	DSV250	1080	
JDR(P)DSV1080-3	DR(P)1080	DSV400	1080	
JDR(P)DSV2200-3	DR(P)2200	DSV800	2200	
JDR(P)DSV2200-2	DR(P)2200	DSV1080	2200	5
JDR(P)DSV4300-4	DR(P)4300	DSV1080	4300	
JDR(P)DS1080-21	DR(P)1080	DR(P)540	DS400	0.1
JDR(P)DS2200-43	DR(P)2200	DR(P)540	DS180	
JDR(P)DS2200-42	DR(P)2200	DR(P)540	DS250	
JDR(P)DS2200-22	DR(P)2200	DR(P)1080	DS540	
JDR(P)DS2200-21	DR(P)2200	DR(P)1080	DS720	
JDR(P)DS4300-43	DR(P)4300	DR(P)1080	DS400	
JDR(P)DS4300-42	DR(P)4300	DR(P)1080	DS540	
JDR(P)DS9000-44	DR(P)9000	DR(P)2200	DS540	
JDR(P)DSV9000-43	DR(P)9000	DR(P)2200	DSV800	
			9000	

OIL FREE SCROLL VACUUM PUMP-DSC SERIES

Working Principle

The oil-free scroll vacuum pump consists of a pump head, a motor, a frame, etc. The pump head includes movable and fixed scrolls, crankshafts, seals, fans and pump casings. The scroll is composed of a circular plane and one or several involute spiral walls protruding from it. The scroll is composed of a fixed scroll and a movable scroll. The scroll constitutes the basic pumping mechanism of the oil-free scroll vacuum pump. During the working process, the moving and fixed scrolls have no contact, and rely on relative motion to form a crescent-shaped compression chamber whose volume is continuously reduced, then through the cycle of suction, compression and exhaust, the gas is sucked from the suction port and discharged from the exhaust port to realize the vacuuming of the pumped chamber.



Performance Features

- Pumping speed: 4m³/h - 60m³/h;
- High-vacuum: Ultimate pressure can reach to 1 Pa;
- Oil-free: No oil return, no fuel injection;
- Start-stop: Capable of frequent startup and shutdown between atmospheric pressure and vacuum;
- Mute: Low noise and vibration;
- Compact: Small size and light weight.

Application Industry

- Materials
- Food and Drug Industry
- Energy Industry
- Inspection and Analysis
- Photovoltaics
- Healthcare
- Aerospace
- Semiconductors



Technical Parameters

Model		DSC4	DSC8	DSC16	DSC30	DSC60	
Pumping Speed	50HZ	L/s	1.0	2.0	4.3	8.7	16.6
		L/min	60.0	120.0	258.0	522.0	966.0
		m ³ /h	3.6	7.2	15.5	31.3	59.8
		cfm	2.2	4.3	9.3	18.7	35.8
	60HZ	L/s	1.2	2.4	5.1	10.4	19.9
		L/min	72.0	144.0	306.0	624.0	1194.0
m ³ /h		4.3	8.6	18.3	37.4	71.6	
	cfm	2.5	5.1	10.9	22.3	42.8	
Ultimate vacuum	Pa	≤8.0	≤6.0	≤2.6	≤1.0	≤1.0	
	Torr	≤6.0×10 ⁻²	≤4.0×10 ⁻²	≤1.9×10 ⁻²	≤7.5×10 ⁻³	≤7.5×10 ⁻³	
	Psi	≤1.2×10 ⁻³	≤9.0×10 ⁻⁴	≤3.8×10 ⁻⁴	≤1.4×10 ⁻⁴	≤1.4×10 ⁻⁴	
Noise	dB (A)	≤52	≤57	≤60	≤61	≤63	
Leakage Rate	Pa · m ³ /s	1.0×10 ⁻⁸					
Maximum Inlet / Outlet Pressure	MPa	0.1/0.13					
Working Environment Temperature	°C	5 ~ 40					
Cooling Mode	/	Air Cooled					
Inlet / Outlet Flange	/	KF25/KF16	KF25/KF16	KF25/KF16	KF40/KF16	KF40/KF16*2	
Single Phase Motor	Power	kW	0.55	0.55	0.55	0.75	--
	Voltage	V	200~230V, 50Hz ; or 110~115V, 60Hz				
	Speed	rpm	1425 (50Hz) ; 1725 (60Hz)				
Three Phase Moto	Power	kW	0.55	0.55	0.55	0.75	1.50
	Voltage	v	--	200~230V and 380~415V, 50Hz ; or 110~115V and 460V, 60Hz			
	Speed	rpm	--	1425 (50Hz) ; 1725 (60Hz)			
Dimensions	Single-phase	mm	455×265×295	460×265×295	485×310×340	515×325×355	--
	Three-phase	mm	455×265×295	460×265×295	485×310×340	515×325×355	565×445×405
Net Weight	Single-phase	kg	21	22	29	36	--
	Three-phase	kg	20	21	28	31	54
Other	/	Pneumatic ballast valve					

Remark :

DSC series oil-free scroll vacuum pump is used for vacuuming dry and clean gas. It cannot be used for flammable, explosive, corrosive gas or substances containing chemical crystals, solvents and powders. The inlet temperature is 50° C.

OIL-SEALED VACUUM PUMP- DPV SERIES

DPV series vacuum pump has obvious technical advantages in main engine, motor efficiency and control.

Advanced Design

- Profile: Using advanced Y-type line, a wider flow range can be obtained;
- Energy saving: The operation mode design can avoid the efficiency drop caused by the power factor of the motor when operating at a higher vacuum level;
- Transmission: Coaxial connection reduces energy loss and failure points caused by transmission components;
- High vacuum: The maximum vacuum degree exceeding 29.9inHg (limit pressure 0.5Torr);
- Efficient separation: Adopt two-stage separation technology to reduce the loss of lubricating fluid and protect the environment;
- Frequency conversion speed regulation: Powerful frequency conversion control technology, through flow regulation, maintains the constant vacuum degree of the system and reduces the waste of energy consumption;
- Permanent magnet synchronous motor: The rotor does not need excitation current, which improves the motor efficiency, and the energy saving effect is more obvious at low load.

Powerful Control System

DENAIR screw vacuum pumps can maintain the set point pressure during operation and adjust its speed to meet this vacuum requirement. In this case, compared with the traditional technology, the use of DENAIR vacuum oil seal screw technology can achieve energy saving of up to 30% or more.



Technical Parameter

Type	Nominal Flow (m ³ /min)	Ultimate Pressure (Pa)	Motor Power (kW)	Import Diameter	Outlet Diameter	Dimensions (mm)	Weight (kg)
DPV600	10	30	7.5	DN80	DN65	1500*880*1410	805
DPV700	12	30	11	DN80	DN65	1850*920*1420	1040
DPV900	15	30	15	DN80	DN65	1850*920*1420	1040
DPV1100	18	60~80	18.5	DN150	DN100	2000*1000*1600	1280
DPV1300	22	60~80	22	DN150	DN100	2000*1000*1600	1280
DPV1600	27	60~80	30	DN150	DN100	2300*1120*1765	1910
DPV1800	30	60~80	37	DN150	DN100	2300*1120*1765	1910
DPV2600	44	60~80	45	DN200	DN150	2860*1650*2050	3500
DPV3200	53	60~80	55	DN200	DN150	2860*1650*2050	3500
DPV4500	75	60~80	75	DN250	DN200	3300*2250*2200	5200
DPV5400	90	60~80	90	DN250	DN200	3300*2250*2200	5200

Remark:

There is a certain relationship between the pumping speed of the permanent magnet variable frequency vacuum pump and the degree of vacuum. For details, please consult the DENAIR sales department.

SINGLE ROTARY VANE VACUUM PUMP-DPX SERIES

Compact, robust, reliable and economical. Widely used in basic vacuum equipment.

Working Principle

DPX rotary vane pump is mainly composed of the pump body, rotor, rotary vane, end cover, exhaust valve, etc. There is a cylindrical chamber in the pump body, the air inlet pipe and the exhaust valve are installed on the chamber, there is an eccentrically installed cylindrical rotor in the chamber, the top of the rotor is kept in contact with the cavity wall, there is a groove on the rotor, The rotary vane is placed, and there is a spring between the rotary vanes. When the rotor rotates, the top of the rotary vane always slides along the inner wall of the chamber with the help of the spring, and the oil film in between ensures the air tightness between the suction chamber and the exhaust chamber.

Performance Advantages

- Compact and lightweight structure, which is very suitable for equipment matching;
- A full range of air-cooled, no cooling water (standard);
- Low noise, low vibration, stable operation, reliable and durable;
- Environmental protection and energy saving, the exhaust is clean and no oil fume;
- Simple operation and maintenance, low operating cost;
- High-quality materials and advanced manufacturing process production, continuous and uninterrupted operation;
- The small and medium-sized pumps are driven by direct connection, and the inlet and exhaust ports use international threads;
- The large flow model adopts belt drive, and the inlet and exhaust ports adopt international flanges;
- Medium and large size models can be equipped with an enlarged radiator or a water cooling device.



Technical Parameters

Model		DPX16	DPX21	DPX40	DPX63	DPX100	DPX160	DPX200	DPX250	DPX300	DPX630	DPX750	
Pumping Speed	50Hz	m³/h	16	20	40	63	100	160	200	250	300	640	750
		L/s	4.4	5.5	11	17	27	44	55	69	83	177	213
	60Hz	m³/h	9	24	48	78	120	192	240	300	360	750	--
		L/s	5.2	6.6	13	21	33	53	66	83	100	213	--
Ultimate Pressure	mbar	1.0	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	--	--	
Ultimate full pressure (Gas ballast valve closed)	mbar	--	--	--	--	--	--	--	--	--	0.1	0.1	
Ultimate full pressure (Single ballast valve closed)	mbar	--	--	--	--	--	--	--	--	--	0.3	0.3	
Ultimate full pressure (Double ballast valve closed)	mbar	--	--	--	--	--	--	--	--	--	1.5	1.5	
Motor power	50Hz	kW	0.55	0.75	1.1	1.5	2.2	4.0	4.0/5.5	5.5	7.5	15.0	18.5
	60Hz	kW	0.55	0.75	1.5	1.8	3.0	5.5	5.5	7.5	7.5	18.0	--
Motor speed	50Hz	rpm	2800	2800	1450	1450	1450	1450	1450	1450	1450	1450	1450
	60Hz	rpm	3300	3300	1700	1700	1700	1700	1700	1700	1450	1700	--
Noise	50Hz	dB(A)	64	65	64	65	66	72	73	72	73	75	76
	60Hz	dB(A)	64	66	65	66	67	73	74	73	74	76	--
Inlet Diameter	DN	G1/2"	G1/2"	G1-1/4"	G1-1/4"	G1-1/4"	G2"	G2"	G2"	G2"	DN100	DN100	
Outlet Diameter	DN	--	--	G1-1/4"	G1-1/4"	G1-1/4"	G2"	G2"	G2"	G2"	DN80	DN80	
Maximum water vapor extraction	50Hz	kg/h	--	0.5	0.7	1.0	1.5	2.5	4.0	3.5	4.5	17.0	24.0
	60Hz	kg/h	--	0.5	0.8	2.0	2.0	4.0	4.5	3.5	4.5	24.0	--
Oil injection quantity	L	0.4	0.75	1.5	2.0	2.0	8.0	8.0	10.0	10.0	22.0	22.0	
Cooling Mode	/	Air cooled	Air cooled	Air cooled	Air cooled	Air cooled	Air cooled	Air cooled	Air cooled / Water cooled	Air cooled / Water cooled	Air cooled / Water cooled	/ Water cooled	
Weight	50Hz	kg	16	21	44	54	69	142	142/145	192	198	670	850
	60Hz	kg	16	21	46	59	75	155	160	192	198	680	--
Dimensions	L	mm	308	421	647	640	710	760	795	976	1006	1500	1600
	W	mm	213	236	307	405	405	500	500	605	605	900	900
	H	mm	207	218	270	290	290	411	411	411	411	754	754

Accessories

Vacuum filter, exhaust pressure gauge, motor overload protection switch, vacuum regulating valve, threaded exhaust port.

Standard Motor System

3~ 220V-240V/380V-415V 50Hz/60Hz

1~ 220V-240V 50Hz

Protection level : IP55

Cooler Version As Atandard

Air cooled

DOUBLE STAGE ROTARY VANE VACUUM PUMP - DPZ SERIES

Working Principle

The two-stage rotary vane pump consists of two compression chambers. The two chambers are connected in series before and after, and rotate in the same direction at the same speed, which is equivalent to two single-stage pumps in series and eventually improves the compression ratio and reaches a higher vacuum than the single-stage rotary vane vacuum pump.

Interior Details

Two Adjustable Gas Towns
The two-stage gas ballast design facilitates the demand for steam discharge in different processes.

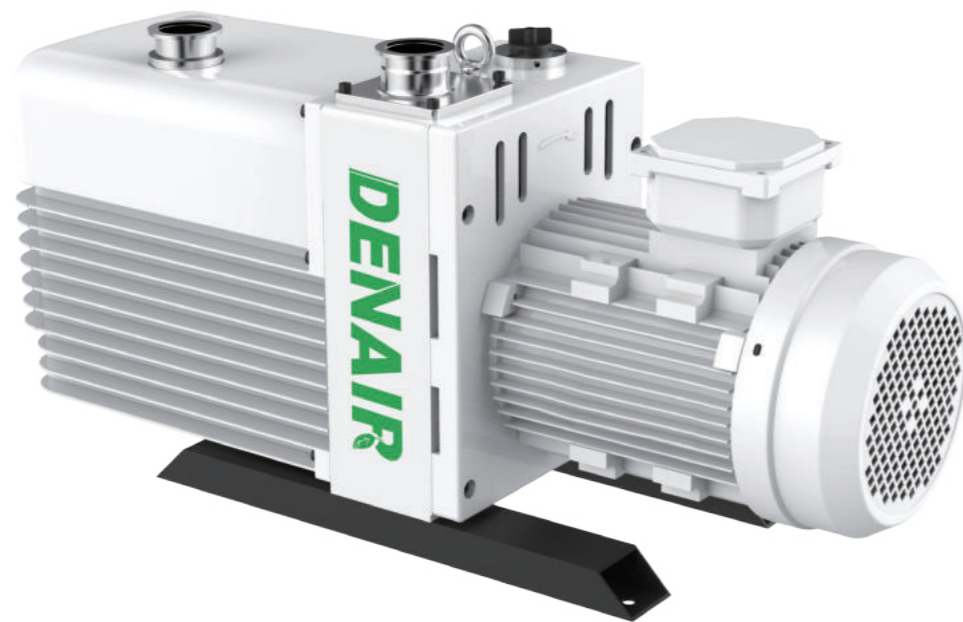
Forced Lubrication
Built-in gear pump forced constant pressure oil supply, stable operation under low vacuum.

Double Anti-backOil Structure
Double anti-return valve design, better protect the vacuum system from oil pollution after shutdown

Integral Pump Body
Small number of parts, easy to maintain.

Technical Parameters

Model		DPZ4	DPZ8	DPZ16	DPZ24	DPZ30	DPZ48	DPZ65	DPZ90	DPZ300	
Pumping Speed	50Hz	m³/h	4.0	8.0	16	24	30	48	65	85	280
		L/s	1.1	2.2	4.4	6.6	8.3	13.3	18	23.6	77.7
	60Hz	m³/h	4.8	9.6	19.2	28.8	36	57.6	78	102	330
		L/s	1.3	2.6	5.2	7.9	9.9	16	21.6	28.3	91.6
Limit total pressure - shut off gas		Pa	5×10 ⁻¹	5×10 ⁻¹	4×10 ⁻¹	4×10 ⁻¹	4×10 ⁻¹	4×10 ⁻¹	4×10 ⁻¹	4×10 ⁻¹	5
Limit total pressure - opening gas ballast		Pa	3	3	8×10 ⁻¹	8×10 ⁻¹	8×10 ⁻¹	1.5	1.5	1.5	10
Power Supply		--	1PH/3PH	1PH/3PH	1PH/3PH	1PH/3PH	1PH/3PH	3PH	3PH	3PH	3PH
Motor power		kW	0.4/0.37	0.4/0.37	0.75/0.55	1.1/0.75	1.1	1.5	2.2	3.0	7.5
Inlet / Outlet Diameter		DN	KF16/25	KF16/25	KF25	KF25/40	KF25/40	KF40	KF40	KF40	IS063orG2"
Oil Consumption		L	0.6~1.0	0.6~1.0	0.9~1.5	1.3~2.0	1.3~2.0	3.3~4.5	3.3~4.5	3.3~4.5	7.0~9.0
Motor Speed	50Hz	rpm	1400	1400	1440	1440	1440	1440	1440	1440	1440
	60Hz	rpm	1720	1720	1720	1720	1720	1720	1720	1720	1720
Working Environment Temperature		°C	5~40	5~40	5~40	5~40	5~40	5~40	5~40	5~40	5~40
Noise		dB	≤56	≤56	≤58	≤58	≤58	≤62	≤62	≤65	≤73
Weight		kg	19	21	30	35	43	62	65	65	225



DOUBLE STAGE ROTARY VANE VACUUM PUMP - DPZM SERIES

Special Design

According to the special application of the industry, we carry out special analysis research. Most of the gases pumped in the applications in these industries contain a large amount of corrosive gases and water vapor. For this reason, we use stainless steel springs, fluororubber sealing rings and other corrosion-resistant materials to upgrade our pump bodies to ensure that our products are in this. The operation of the field is more stable and reliable.

Performance Features

- Anti-corrosion design: Stainless steel spring is used, and the rotor is designed with anti-corrosion coating, which has high wear resistance;
- Forced lubrication: Built-in gear pump forced constant pressure oil supply, stable operation under low vacuum;
- Double anti-return oil design: Double anti-oil return valve protects the vacuum system from oil pollution after shutdown;
- Two-stage gas ballast design: Convenient for different process requirements for steam discharge
- Easy maintenance: The number of parts is small, which is easy to maintain.



Technical Parameters

Model		DPZ8M	DPZ16M	DPZ30M	DPZ48M	DPZ65M	
Pumping Speed	50Hz	m³/h	8.0	16	30	48	65
		L/s	2.2	4.4	8.3	13.3	18
	60Hz	m³/h	9.6	19.2	36	57.6	78
		L/s	2.6	5.2	9.9	16	21.6
Limit total pressure - shut off gas		Pa	5×10 ⁻¹	4×10 ⁻¹	4×10 ⁻¹	4×10 ⁻¹	4×10 ⁻¹
Limit total pressure - opening gas ballast		Pa	3	8×10 ⁻¹	8×10 ⁻¹	1.5	1.5
Power Supply		--	1PH/3PH	1PH/3PH	1PH/3PH	3PH	3PH
Motor power		kW	0.4/0.37	0.75/0.55	1.1	1.5	2.2
Inlet / Outlet Diameter		DN	KF25	KF25	KF25/40	KF40	KF40
Oil Consumption		L	0.6~1.0	0.9~1.5	1.3~2.0	3.3~4.5	3.3~4.5
Motor Speed	50Hz	rpm	1440	1440	1440	1440	1440
	60Hz	rpm	1720	1720	1720	1720	1720
Working Environment Temperature		°C	5~40	5~40	5~40	5~40	5~40
Noise		dB	≤56	≤58	≤58	≤62	≤62
Weight		kg	21	30	43	62	65

DRY SCREW VACUUM UNIT FOR SINGLE CRYSTAL FURNACE



Performance Advantages

- No oil and gas pollution process equipment, clean parts surface can be obtained;
- The pumped gas will not be polluted, and the exhaust gas can be avoided and recycled;
- There is no emission of high-grade gases such as oil and gas, soot, etc., which is conducive to environmental protection;
- Avoid running failures due to emulsification and deterioration of lubricating oil in the pump cavity, and improve the stability of the system;
- It can be used alone, the intake pressure can work normally from 1Pa to atmospheric pressure, and the pumping efficiency is high, which can greatly simplify the vacuum pumping system;
- The unit can be used as a backing pump, combined with Roots pump, molecular pump, etc. to form a multi-stage oil-free vacuum unit to obtain higher pumping speed and higher vacuum degree;
- There is no contact and wear between the rotors, the loss of parts is small, and the service life is long;
- Gap seal is adopted in the pump cavity, which is not sensitive to a small amount of dust;
- Intelligent control mode, real-time monitoring of equipment operating status, and alarms for abnormal situations;
- Modular design, small size, easy to move;
- Variable frequency operation, good energy saving effect;
- Adopt integrated water-cooled motor design, low operating noise and vibration.

Technical Parameter

Type	Unit	JDRDS600-3W	JDRDS900-4W	JDRDS1430-5W	
Pumping rate	L/S	175/210	250/300	398/478	
	m ³ /h	630/756	900/1080	1430/1720	
Ultimate vacuum	Pa	≤0.2/≤0.1	≤0.2/≤0.1	≤0.2/≤0.1	
	Torr	≤1.5×10 ⁻² ≤7.5×10 ⁻³	≤1.5×10 ⁻² ≤7.5×10 ⁻³	≤1.5×10 ⁻² ≤7.5×10 ⁻³	
Water Cooled Sealed Motor	Frequency	Hz	50/60	50/60	
	Voltage	V	380	380	
	Power	kW	3+4.5	3+4.5	4.5+4.5
Speed	Roots vacuum pump	rpm	2900/3480	2900/3480	2900/3480
	Screw vacuum pump	rpm	2900	2900	2900
Nitrogen	Pressure	MPa	0.05~0.1	0.05~0.1	0.05~0.1
	Flow	L/min	6~20	6~20	6~20
Cooling Water	Pressure	MPa	0.2~0.4	0.2~0.4	0.2~0.4
	Pressure Drop	MPa	0.1	0.1	0.1
	Temperature	°C	10~30	10~30	10~30
	Flow	L/min	3~5	3~5	3~5
Import Diameter	mm	DN100	DN160	DN160	
Outlet Diameter	mm	DN40	DN40	DN40	
Weight	kg	600	700	750	
Noise	dB(A)	≤72	≤72	≤75	
Dimensions	mm	1000*660*1050	1000*660*1050	1100*660*1200	

Unit Content

- | | | |
|------------------------------------|--|---------------------------------|
| ① One roots vacuum pump | ① One set power supply, air supply, water connection | ① One temperature sensor |
| ① One rotary screw vacuum pump | ① One unit base (with movable wheels) | ① One nitrogen pressure meter |
| ① One electric cabinet | ① One water tank | ① One pressure adjustment valve |
| ① One filter (Optional) | ① One muffler | |
| ② Two water-cooled enclosed motors | ④ Four cushions | |