上海艾发科技

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AIFA

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Company Introduction

Shanghai Aifa Technology Co., Ltd. was established in 2009. It is a high-tech enterprise integrating the research and development, production, sales, and after-sales service of dry vacuum pumps and vacuum solvent recovery systems. The company is headquartered in Pudong New Area, Shanghai, a national-level economic center.

The company has established deep cooperation with major domestic professional institutions and well-known enterprises in the chemical and pharmaceutical industries. Its products are jointly developed and designed with experts in the fields of chemical engineering, pharmaceuticals, and environmental protection. In terms of process technology, manufacturing, operational performance, and after-sales service, the company maintains a leading position domestically.

Shanghai Aifa Technology keeps pace with international advanced technologies and focuses on providing customers with integrated solutions. The dry vacuum systems produced by the company have been put into use in more than 300 large domestic enterprises. The industries involved include general chemicals, pharmaceuticals, fine chemicals, chemical intermediates, liquid crystal, electronics, lithium battery new energy, food packaging, and more.

The company's products are mainly used for vacuum distillation, solvent recovery and reuse, gas-liquid recovery in drying processes, purification processes in distillation columns, energy-saving retrofits of steam ejector pumps, and central vacuum systems for lithium battery production. The systems feature zero wastewater discharge, no pollution, energy conservation and emission reduction, and high return on investment, maximizing value for customers by reducing energy consumption and operational costs.

The company is equipped with high-precision machining centers imported from the United States, as well as a variety of testing and inspection equipment to ensure the stability and reliability of its products, which are suitable for complex and demanding operating conditions. The company holds multiple patents related to vacuum pumps, vacuum systems, and chemical and pharmaceutical processes, and it pioneered the core technology of near-zero VOC tail gas emissions in vacuum systems within the industry. The company has established service bases in Shanghai, Xi'an, Taizhou, Shandong, Shenyang, and Chengdu.

Company Philosophy: Energy conservation and emission reduction, circular utilization, systematic and professional solutions that create maximum value for society.

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Our Clients


多氟多 DFD
巨化集团公司 JUHUA GROUP CORPORATION
天士力 TASLY
中国中化集团公司 SINOCHEM GROUP
中国航天 CASC
FOSUN PHARMA 复星医药
KUKDO CHEMICAL
正大天晴 CHIATAI TIANQING
永荣控股 EVERSUN HOLDINGS
XI'AN MANARECO 西安瑞联
JBC
东北制药 NORTHEAST PHARM
聯邦制藥 UNITED LABORATORIES
Flag Flagchem
野田农化
HPGC 哈药集团
CSIC 中船重工
DINGLONG
LIAN SHENG
晨化
科伦药业 KELUN PHARMACEUTICAL
红宝丽
Peric
SANNING
CNSG 中盐集团

DCP Claw-Type Vacuum Pump

Product Overview

The DCP series claw-type vacuum pumps adopt advanced foreign technology and are optimized specifically for domestic pharmaceutical and chemical process requirements. Their structural and performance characteristics are on par with those of Edwards (UK). With over 3,000 units installed nationwide, Aifa Technology's dry vacuum pumps have generated significant benefits for customers across many application fields and industries.

This technical expertise, when combined with chemical dry pump technology, meets the stringent requirements of the chemical, petrochemical, and pharmaceutical industries.

We offer six models with pumping speeds ranging from 80 to 1000 m^3/h and ultimate vacuum levels below 3 Pa. Our chemical dry pumps meet the highest safety and performance standards.

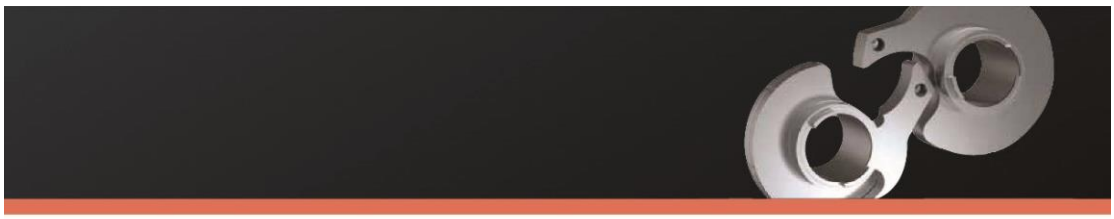
The DCP claw pump is based on Aifa Technology's award-winning oil-free, non-contact reverse claw-type design. It provides stable and reliable vacuum conditions with high efficiency and low operating costs. These dry pumps completely eliminate process contamination and wastewater issues commonly caused by traditional wet vacuum pump technologies.

Proven and tested in industrial applications
Specially designed for chemical applications

Rigorously designed and tested to ensure safety and reliability
Stable operation, even during process anomalies

Low operating cost
Easy maintenance, low energy consumption, no need for injected cooling gas

Application Fields
Pharmaceuticals, Chemicals, Electronics & Photovoltaics, Metallurgy,
Aerospace, Nuclear Industry, etc.

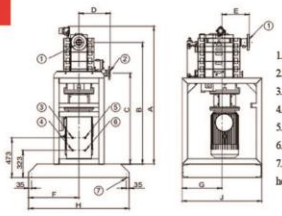


Technical Specifications

Model	Unit	DCP100		DCP280		DCP400		DCP540		DCP800		DCP1000	
		50HZ	60HZ	50HZ	60HZ	50HZ	60HZ	50HZ	60HZ	50HZ	60HZ	50HZ	60HZ
Max Pumping Speed	M³/h	100	120	280	336	400	480	540	648	800	960	1000	1200
Ultimate Vacuum	Pa	50	30	50	30	50	30	50	30	50	30	50	30
Standard Motor (380-400V, 3ph, 50Hz)	KW	3.4	4	7.5.11	7.5.11	11.15	11.15	15.18.5	15.18.5	18.5.22	18.5.22	22.3o	22.3o
Max Rotational Speed	rpm	2900	3500	2900	3500	2900	3500	2900	3500	2900	3500	2900	3500
Cooling Water Flow (adjustable)	L/min	1-8	1-8	1-8	1-10	1-10	1-10	1-10	1-10	1-10	1-10	1-10	1-10
Shaft Seal Purge Flow (max) at 0.3-0.5 barg (7-7 psig)	L/min	20											
Shaft Seal Purge Pressure (min-max)	KPa	199-999											
Noise Level	dB(A)	73	73	77	77	78	78	79	79	80	80	80	80
Single Pump Head Weight	KG	350		550		650		700		950		1000	
Inlet Connection	DN	DN40	DN40	DN80	DN80	DN80	DN80	DN80	DN80	DN100	DN100	DN100	DN100
Outlet Connection	DN	DN32	DN32	DN50	DN50	DN50	DN50	DN50	DN50	DN50	DN50	DN50	DN50
Pumping Mechanism		3-stage reverse claw						4-stage reverse claw					

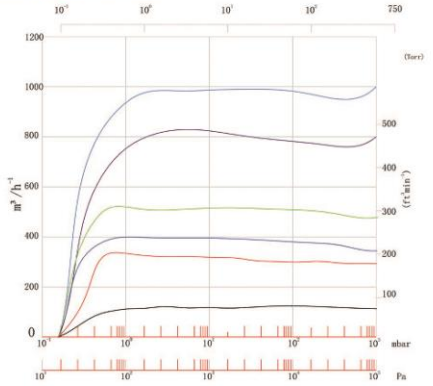
Dimensions - mm

Legend	DCP100	DCP280	DCP400	DCP540	DCP800	DCP1000
A	1423(56.0)	1458(57.4)	1681(66.2)	173D(68.1)	1960(77.2)	2172(85.5)
B	1254(49.4)	1289(50.7)	1514(59.6)	1562(61.5)	1792(68.1)	2004(78.9)
C	974(38.3)	974(38.3)	1148(45.2)	1148(45.2)	1148(45.2)	1148(45.2)
D	353(13.9)	353(13.9)	377(14.8)	377(14.8)	377(14.8)	377(14.8)
E	443(17.4)	448(17.6)	359(14.1)	359(14.1)	359(14.1)	359(14.1)
F	350(13.8)	350(13.8)	500(19.7)	500(19.7)	500(19.7)	500(19.7)
G	350(13.8)	350(13.8)	475(18.7)	475(18.7)	475(18.7)	475(18.7)
H	700(27.6)	700(27.6)	10DD(39.4)	100D(39.4)	1000(39.4)	1000(39.4)
J	85033.5)	850(33.5)	950(37.47)	950(37.4)	950(37.4)	950(37.4)



1. Pump Inlet
2. Pump Outlet
3. Cooling Water Outlet Connection
4. Cooling Water Inlet Connection
5. Nitrogen Sapply Inlet Connection
6. Steam Cleaning Inlet Connection
7. Mounting Holes: 18 mm (4 closed holes)

Pumping Speed Curve



DCP100 (50Hz)
DCP280 (50Hz)
DCP400 (50Hz)
DCP540 (50Hz)
DCP800 (50Hz)
DCP1000 (50Hz)

Product Overview

The dry screw vacuum pump is a type of vacuum equipment that uses a pair of screw rotors rotating in opposite directions at high speed in synchronization within the pump casing to create suction and exhaust. Utilizing a maintenance-free design, this pump solves the problems of cumbersome maintenance and high upkeep costs commonly associated with vacuum pumps. No lubricating oil or sealing liquid is required in the pump chamber, enabling the recovery of various condensable gases. This addresses contamination issues caused by steam jet pumps, slide valve pumps, rotary vane pumps, and liquid ring pumps to both the system medium and the environment. Moreover, the recovered substances can generate additional economic benefits.

The pump features a wide pumping speed range and can discharge directly to the atmosphere. A single pump achieves the effect of multi-stage series operation. The single-stage design can achieve a vacuum level of 5 Pa.

Nitrogen purge is optional, and cleaning and maintenance operations are simple and convenient.

The screw rotor is made of integrated ductile cast iron, providing high strength and stable performance.

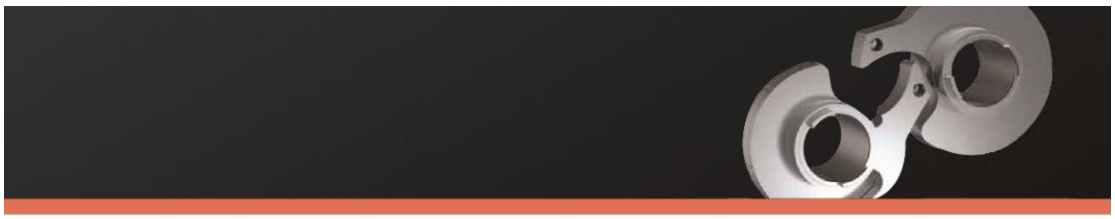
The rotors do not contact each other and operate without friction, eliminating the need for lubricating grease. This results in no oil backflow, no waste gas or liquid emissions, and a clean, environmentally friendly, and energy-efficient system.

Internal pump components can be surface-treated for corrosion resistance as needed, making them suitable for the specific requirements of the chemical and pharmaceutical industries.

The screws are finely balanced for stable operation, low noise, minimal vibration, and long service life.

Application Fields

Semiconductor, food, pharmaceutical packaging, oil & gas recovery, thin-film manufacturing, microelectronics, solar energy, etc.

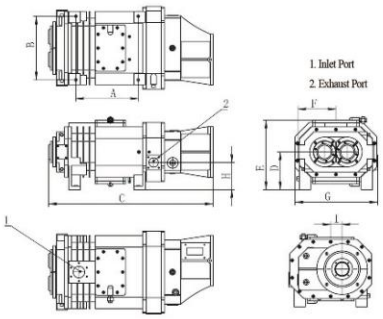


Technical Specifications

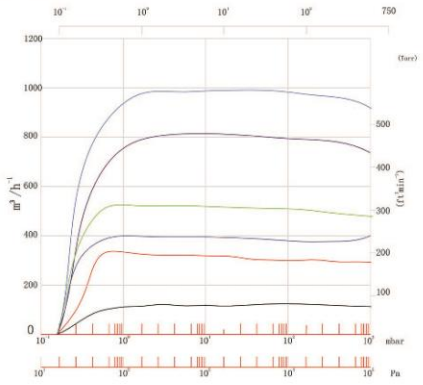
Model	Unit	VDP80		VDP280		VDP400		VDP540		VDP800		VDP1000	
		50HZ	60HZ	50HZ	60HZ	50HZ	60HZ	50HZ	60HZ	50HZ	60HZ	50HZ	60HZ
Max Pumping Speed	M^3/h	80	96	280	336	400	480	540	648	800	960	1000	1200
	LS	22	26	70	80	110	130	150	180	220	260	280	330
Ultimate Vacuum	Pa	5	3	5	3	5	3	5	3	5	3	5	3
Standard Motor (380-400V, 3ph, 50Hz)	KW	3	4	7.5	11	11	15	15	18.5	18.5	22	22	30
Max Rotational Speed	rpm	2900	3500	2900	3500	2900	3500	2900	3500	2900	3500	2900	3500
Cooling Water Flow (adjustable)	L/min	5-10	5-10	5-10	5-10	10-15	10-15	15-20	15-20	20-25	20-25	25-30	25-30
Inlet Connection	DN	DN40	DN40	DN80	DN80	DN80	DN80	DN80	DN80	DN100	DN100	DN100	DN100
Outlet Connection	DN	DN32	DN32	DN50	DN50	DN50	DN50	DN50	DN50	DN50	DN50	DN50	DN50
Seal Type	Mechanical seal + combination seal + nitrogen seal												

Dimensions - mm

Model	A(mm)	B(mm)	C(mm)	D(mm)	E(mm)	F(mm)	G(mm)	H(mm)	I(mm)
VDP80	262	210	723	144	260	170	316	74	42.5
VDP280	367	290	947	180	342	222	432	109	58
VDP400	416	310	1045	202	367	260	483	106	63.5
VDP540	450	330	1150	210	367	260	500	106	63.5
VDP800	493	348	1170	212	391	295	544	116	73
VDP1000	694	440	1592	290	538	400	717	180	110



Pumping Speed Curve



VDP80 (50Hz)
VDP280 (50Hz)
VDP400 (50Hz)
VDP540 (50Hz)
VDP800 (50Hz)
VDP1000 (50Hz)

DCPS Single-Stage Claw Vacuum Pump

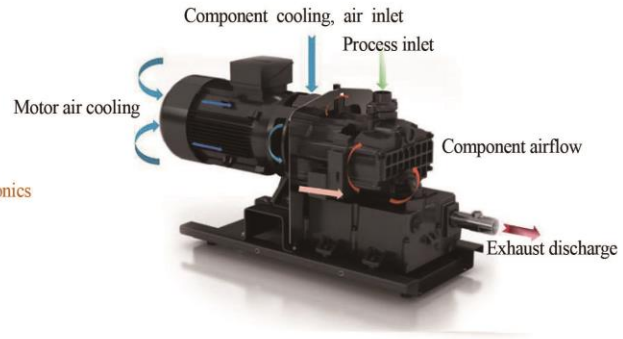
Product Overview

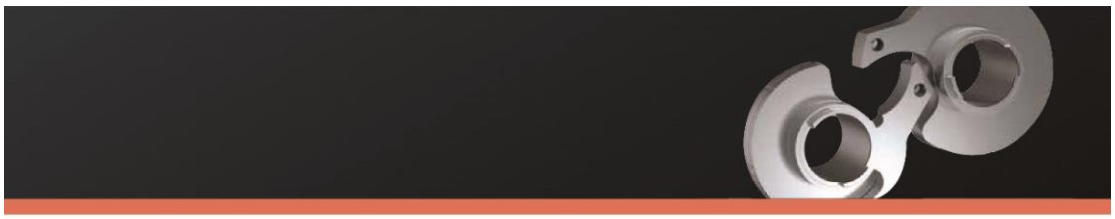
The single-stage claw vacuum pump is a dry vacuum pump developed specifically for rough vacuum applications and demanding operating conditions. It features a pumping speed range of 80–800 m³/h and an ultimate vacuum of 5000 Pa, offering significant advantages over water ring pumps and vertical oil-free reciprocating pumps.

- Quick and easy access to the main pumping chamber
- 100% disassemblable, chamber can be cleaned
- Simple maintenance
- Oil change interval: 20,000 hours
- Modular design
- Overhaul interval: 48,000 hours

Application Fields

Pharmaceuticals, Chemicals, Electronics & Photovoltaics, Metallurgy, Aerospace, Nuclear Industry, etc.



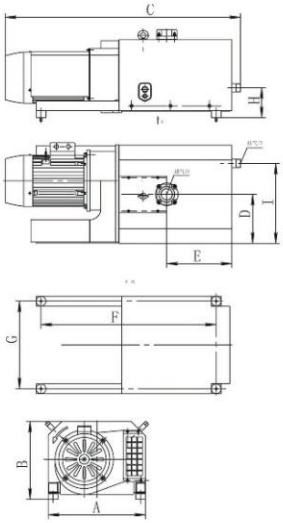


Technical Specifications

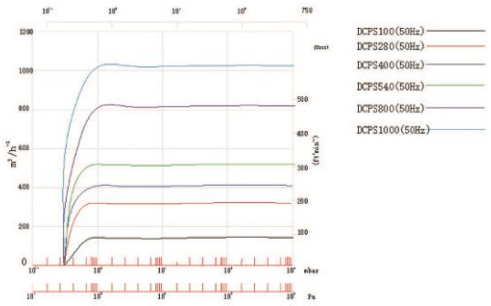
Model	Unit	DCPS80		DCPS280		DCPS400		DCPS540		DCPS800		DCPS1000	
		50HZ	60HZ	50HZ	60HZ	50HZ	60HZ	50HZ	60HZ	50HZ	60HZ	50HZ	60HZ
Max Pumping Speed	M³/h	100	120	280	336	400	480	540	648	800	960	1000	1200
Ultimate Vacuum	Pa	5000	4000	5000	4000	5000	4000	5000	4000	5000	4000	5000	4000
Standard Motor (380-400V, 3ph, 50Hz)	KW	3	4	5.5	7.5	11	15	15	18.5	18.5	22	22	30
Speed	rpm	0/3600											
Cooling Water Flow (adjustable)	L/min	1O	1O	1O	1O	1O	1O	1O	1O	1O	1O	1O	1O
Noise Level	dB(A)	75	76	76	77	77	78	78	79	79	80	80	82
Inlet Connection	DN	DN32		50		DN80		DN80		DN100		DN100	
Outlet Connection	DN	DN32		50		DN80		DN80		DN100		DN100	
Pumping Mechanism	Single-stage reverse claw												

Dimensions - mm

Model	A(mm)	B(mm)	C(mm)	D(mm)	E(mm)	F(mm)	G(mm)	H(mm)	I(mm)
VDP80	412	408	1061	114	282	920	365	148	331
VDP280									
VDP400	504	408	1208	252	411	900	450	148	380
VDP540								148	380
VDP800	708	408	1450	354		1150	608	148	550
VDP1000						1150	608	148	550



Pumping Speed Curve



DRP Hydraulic Coupling Roots Vacuum Pump

Product Overview

The DRP series hydraulic coupling Roots pump is based on the conventional Roots principle. As a mechanical booster pump, it is widely favored in applications requiring high pumping speeds within the pressure range of 1 Pa to 1000 Pa. It generally requires a backing pump to operate in tandem. The Roots pump enhances system pumping speed and vacuum level, and since it is not exposed to the same concentration of corrosive process gases as the backing pump, it offers very high reliability.

When paired with an oil-free dry pump, the DRP Roots pump can form an oil-free dry vacuum system, with the Roots pump boosting overall pumping capacity and vacuum level. Aifa Roots pumps adopt internationally advanced hydraulic transmission technology, allowing automatic speed adjustment. The pump can start directly at atmospheric pressure or start and stop simultaneously with the backing pump, greatly simplifying system configuration and operation while significantly enhancing system reliability.

The hydraulic drive structure enables Aifa Roots pumps to start directly under atmospheric pressure or high pressure differential conditions.

The Roots pump can start and stop simultaneously with the backing pump.

Automatic speed regulation prevents overload and overheating. Early start under high pressure differential reduces pump-down time and improves system pumping efficiency.

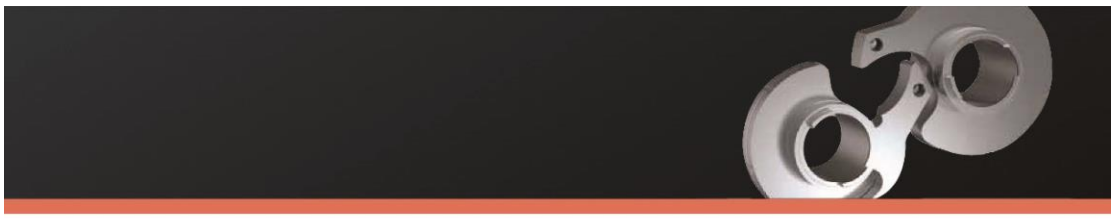
In case of foreign matter ingress or sudden pressure change, the pump automatically slows down to protect itself, resulting in extremely low failure rates.

Simple configuration, with no need for bypass piping, valves, or frequency converters, saves costs and simplifies operation.

Smooth and quiet operation, minimal vibration, and easy maintenance.

Application Fields

Pharmaceuticals, Chemicals, Electronics & Photovoltaics, Metallurgy, Aerospace, Nuclear Industry, etc.

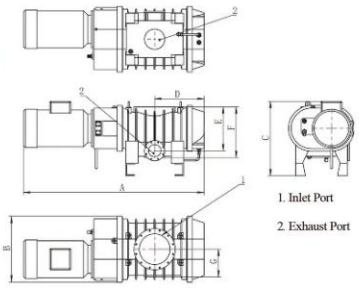


Technical Specifications

Model	Unit	DRP250	DRP500	DRP1200	DRP2600	DRP4200
Pumping Speed	m^3/h	250	500	1200	2600	4200
Standard Motor (380-400V, 3ph, 50Hz)	KW	2.2	3	4	7.5、11	11
Max Speed	rpm			0-3600		
Pressure Differential	Pa	0-18000	0-11000	0-8000	0-7500	0-6000
Operating Temperature	°C			5-40		
Inlet Connection	DN	80	100	125	150	250
Outlet Connection	DN	50	80	100	100	150
Weight (incl. standard motor)	KG	150	160	280	380	450

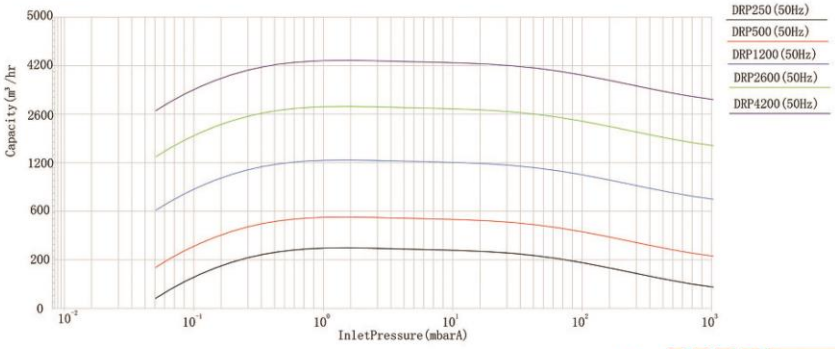
Dimensions - mm

Model	A(mm)	B(mm)	C(mm)	D(mm)	E(mm)	F(mm)	G(mm)
DRP250	800	210	300	250	190	200	100
DRP500	850	290	300	250	200	230	150
DRP1200	1050	350	500	300	280	400	150
DRP2600	1200	450	550	350	350	410	200
DRP4200	1450	520	605	402	450	410	230



1. Inlet Port
2. Exhaust Port

Pumping Speed Curve



Claw-Type Vacuum Solvent Recovery System

Product Overview

The Aifa Technology Claw-Type Vacuum Solvent Recovery System is the industry's first to achieve near-zero VOC exhaust emissions. This technology not only minimizes solvent emissions into the environment but also allows for the recycling and reuse of solvents, significantly reducing production costs.

This system integrates gas trapping and condensation recovery at the vacuum unit's process gas inlet, along with a condenser and recovery tank at the vacuum pump exhaust, and other auxiliary components, forming a compact and efficient integrated system. It occupies minimal floor space and has high energy efficiency, making it an ideal solution for chemical and pharmaceutical production.

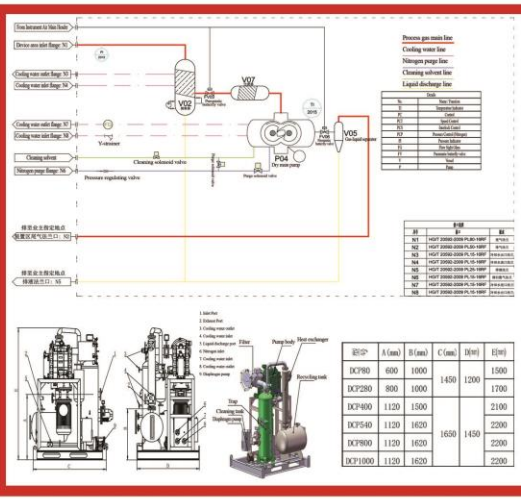
Low operating cost

Solvent recycling and reuse

Online liquid discharge at both vacuum pump inlet and exhaust without shutdown

Automatic cleaning and purge functions

Temperature alarm and constant system pressure control



	A (mm)	B (mm)	C (mm)	D(H)	E(H)
DCP80	600	1000	1450	1200	1500
DCP280	800	1000			1700
DCP400	1120	1500	1650	1450	2100
DCP540	1120	1620			2200
DCP800	1120	1620			2200
DCP1000	1120	1620			2200

Application Fields

Conventional distillation, short-path distillation, molecular distillation, reaction processes, drying, evaporation, crystallization, concentration, gas recovery and recirculation, total evaporation, dehydration, filtration, etc.

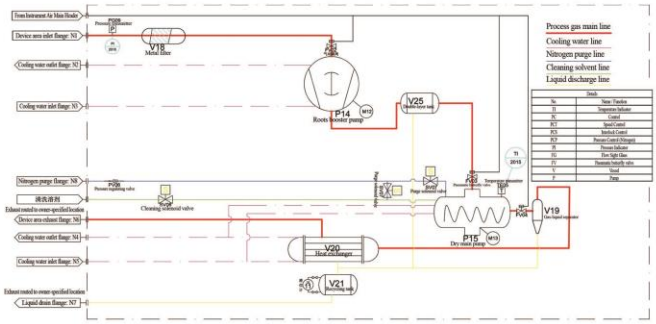
Claw-Type Vacuum Solvent Recovery System

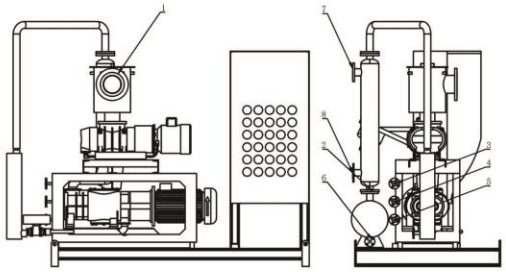
Product Overview

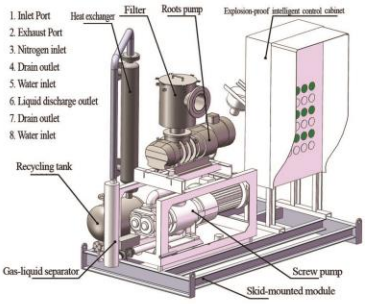
Based on the VDP screw vacuum unit, this system incorporates 1–3 DRP Roots vacuum pumps to compensate for the VDP screw vacuum pump's limitations in pumping speed or ultimate vacuum, while highlighting the advantages of DRP Roots pumps: early startup under high differential pressure, lower overall equipment temperature, and greater stability.

It is mainly used in the pharmaceutical and chemical industries as a replacement for traditional high-energy-consumption and high-pollution pumps such as liquid ring pumps, water jet pumps, oil rotary vane pumps, slide valve pumps, and reciprocating pumps. The dry Roots-screw vacuum system is not only pollution-free but also enables customers to recover valuable raw materials, thereby reducing operational costs.

Rugged, durable, and highly environmentally friendly
Low operating cost
Engineered system solutions tailored to customer processes







Application Fields

Semiconductor, food, pharmaceutical packaging, oil & gas recovery, thin-film manufacturing, microelectronics, solar energy, etc.

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艾发科技

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