

## Meet All Your Needs



### Refrigeration industry:

Automatic pumping line of refrigerator, air-condition water dispenser; refrigerant charging machine; helium leak detector; helium recovery system etc.



### Medical industry:

Plasma sterilizers, vacuum freeze drying, vacuum mixing etc. Considering there is a large amount of  $H_2O_2$  gas and water vapor which will be exhausted into vacuum pump, value designed weak corrosion-resistant vacuum pump VRD-M series.



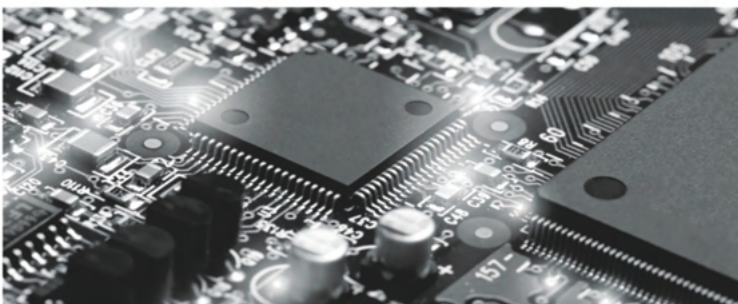
### Analytical instruments:

Spectrometer, scanning electron microscope, leak detector, physics & chemistry analytical instrument etc.



### Power industry:

$SF_6$  gas recovery, detecting instrument, oil filter etc.



### Electronics, semi-conductor industry:

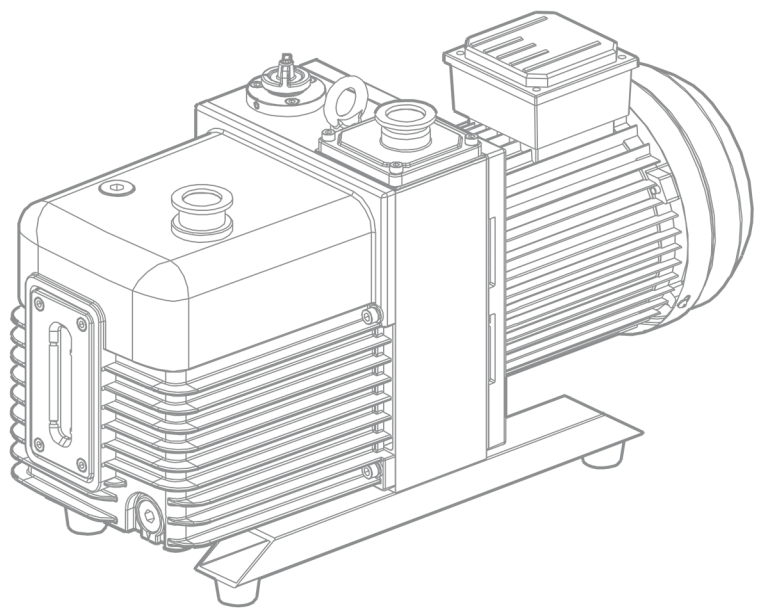
Vacuum oven, glove box, sapphire furnace, polycrystalline furnace, single crystal furnace, vacuum annealing, hardening furnace, vacuum sintering furnace, heat treatment furnace, evaporation coating, ion plating, sputtering equipment, LC injection, plasma cleaning, roughing pump for roots pump, molecular pump, diffusion pump.

# VACUUM PUMP

## VRD

### Dual-stage Rotary Vane Vacuum Pump

Constantly pursuing on highest technology norms, FLO-MAX's VRD series vacuum pump reached new highest level: integrated pump body structure and innovative oil circulation system lead to super stability, auto anti-sucking back valve and two shifts gas ballast makes best reliability. Perfect combination of technology and aesthetics helps to become classic.





# VRD-4/8/16/24/30 48/65/90

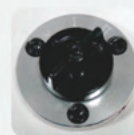
Pumping speed: 4-90m<sup>3</sup>/h

## Dual-stage rotary vane vacuum pump



## Product Feature

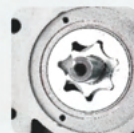
- Excellent performance**  
 Integral pump structure, require higher accuracy;  
 Proven vanes technology,  
 makes the performance more stable;  
 Ensure the pump system with higher reliability.
- Excellent heat dissipation**  
 Air-cooled structure, without external water  
 cooling system, reduce the installation and  
 maintenance costs.
- Forced lubrication**  
 Built-in gear pump and constant pressure oil  
 supply mechanism forced oil supply,  
 ensure the stable and reliable operation under  
 high suction pressure.
- Two-shift adjustable gas ballast valve**  
 Meet customer's vacuum requirement and  
 steam handling capacity.
- FKM seals**  
 Improve corrosion resistance and solve the  
 problem of oil leakage.
- Double anti-suck back structure**  
 Automatically prevent oil suck back, and more  
 reliably protects your vacuum system from oil  
 contamination after vacuum pump shutdown.
- High quality oil mist filter (for option)**  
 Effectively filter oil mist, protect the environment  
 clean.



Gas ballast



Auto anti-suckback valve



Gear pump



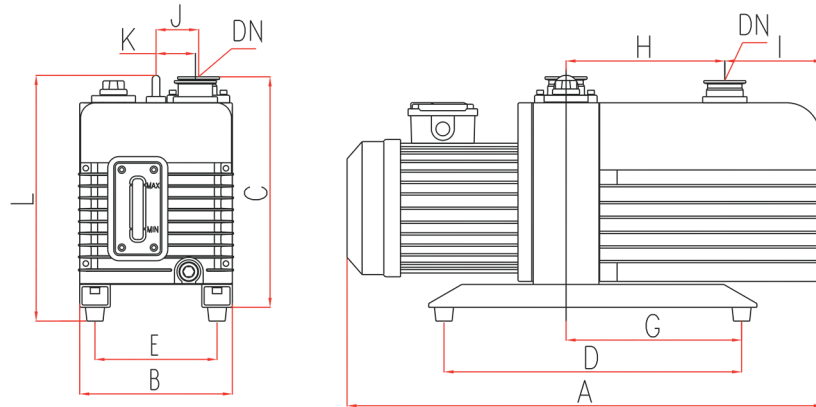
Integrated pump body structure

## Specifications

Model			VRD-4	VRD-8	VRD-16	VRD-24
Displacement speed	50Hz	m <sup>3</sup> /h (L/s)	4(1.1)	8(2.2)	16(4.4)	24(6.6)
	60Hz		4.8(1.3)	9.6(2.6)	19.2(5.2)	28.8(7.9)
Ultimate partial pressure gas ballast close		Pa	5×10 <sup>-2</sup>	5×10 <sup>-2</sup>	4×10 <sup>-2</sup>	4×10 <sup>-2</sup>
Ultimate total pressure gas ballast close		Pa	5×10 <sup>-1</sup>	5×10 <sup>-1</sup>	4×10 <sup>-1</sup>	4×10 <sup>-1</sup>
Ultimate total pressure gas ballast open		Pa	10	10	8×10 <sup>-1</sup>	8×10 <sup>-1</sup>
Power supply			Single/Three-Ph	Single/Three-Ph	Single/Three-Ph	Single/Three-Ph
Power rating(50/60Hz)		kW	0.4/0.37	0.4/0.37	0.75/0.55	1.1/0.75
Level of protection			IP44	IP44	IP44	IP44
Intake and exhaust			KF16/25	KF16/25	KF25	KF25/40
Oil capacity		L	0.6~1.0	0.6~1.0	0.9~1.5	1.3~2.0
Motor speed (50/60Hz)		rpm	1440/1720	1440/1720	1440/1720	1440/1720
Ambient temperature		°C	10-40	10-40	10-40	10-40
Noise level (50Hz)		dB	≤52	≤52	≤58	≤58
Weight		kg	19	21	30	35
Dimension (L*W*H)		mm	445x144x217	445x144x217	535x188x275.2	567x188x275.5

Model			VRD-30	VRD-48	VRD-65	VRD-90
Displacement speed	50Hz	m <sup>3</sup> /h (L/s)	30(8.3)	48(13.3)	65(18)	85(23.6)
	60Hz		36(9.9)	57.6(16)	78(21.6)	102(28.3)
Ultimate partial pressure gas ballast close		Pa	4×10 <sup>-2</sup>	4×10 <sup>-2</sup>	4×10 <sup>-2</sup>	4×10 <sup>-2</sup>
Ultimate total pressure gas ballast close		Pa	4×10 <sup>-1</sup>	4×10 <sup>-1</sup>	4×10 <sup>-1</sup>	4×10 <sup>-1</sup>
Ultimate total pressure gas ballast open		Pa	8×10 <sup>-1</sup>	1.5	1.5	1.5
Power supply			Single/Three-Ph	Three-Ph	Three-Ph	Three-Ph
Power rating		kW	1.1	1.5	2.2	3
Level of protection			IP44	IP44	IP44	IP44
Intake and exhaust			KF25/40	KF40	KF40	KF40
Oil capacity		L	1.3~2.0	3.3~4.5	3.3~4.5	3.3~4.5
Motor speed (50/60Hz)		rpm	1440/1720	1440/1720	1440/1720	1440/1720
Ambient temperature		°C	10-40	10-40	10-40	10-40
Noise level (50Hz)		dB	≤58	≤62	≤62	≤65
Weight		kg	43	62	65	65
Dimension (L*W*H)		mm	567x188x272	730x234x358	730x234x358	730x234x358

## Dimension



VRD Dimensions (unit:mm)

Model	A	B	C	D	E	G	H	I	J	K	L	DN
VRD-4	445	144	217	210	110	105	143.5	45	45.5	34	/	KF16/25
VRD-8	445	144	217	210	110	105	143.5	45	45.5	34	/	KF16/25
VRD-16	535	188	275.5	320	148	160	165	69	59	38	295	KF25
VRD-24	567	188	275.5	320	148	160	185	82	59	47	295	KF25/40
VRD-30	567	188	275.5	320	148	160	185	82	59	47	295	KF25/40
VRD-48	730	234	358	396	190	200	223	157	69	55	390	KF40
VRD-65	730	234	358	396	190	200	223	157	69	55	390	KF40
VRD-90	730	234	358	396	190	200	223	157	69	55	390	KF40





# VACUUM PUMP

## VRD-C

### Dual-stage Anti-corrosion Rotary Vane Vacuum Pump

According to the special application of corrosion resistant conditions, we carried out a special analysis and research. The gases pumped in these industries mostly contain a lot of corrosive gases and water vapor, so we use stainless steel spring, fluoroelastomer sealing ring, corrosion resistant pump body to upgrade our pump, so as to ensure the stable and reliable operation of our products in this field of application.

