



# High Quality Refrigeration Tools and Equipments



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## High Quality Refrigeration Tools and Equipments

### PROFESSIONAL MANUFACTURER

**VALUE** which is the global high quality refrigeration tools and equipments leader, was founded in 1996. The company covers an area of 26500m<sup>2</sup>, with building area of 45000m<sup>2</sup>. The annual production is 300,000 for rotary-vane vacuum pumps and 30,000 for recovery units. Right now, **VALUE** has become the largest refrigeration vacuum pump, recovery unit manufacturer in the world. The company has a large number of vacuum technology experts, such as motor technical experts, quality management experts, manufacturing experts. The company has already used the customer demand analysis, value engineering analysis, failure mode analysis, lean production management, error proofing design, industrial design and the other the world's most advanced management tools and methods, to ensure that in the shortest possible time to provide customers with high-quality products and the best service.



## Excellent Quality Limitless Value

### QUALITY ASSURANCE

**VALUE** has the world's most advanced Japan OKUMA-BYJC vertical machining center, the German WENZEL three coordinate measuring equipment, also we have a constant temperature and clean assembly environment. The company has been through the German ISO9001:2008 quality management system certification, the products have American UL, European CE, Canada CSA safety certification, for global customers providing the highest cost-effective products.



### INNOVATION

**VALUE** continuous investment in research and development, to customer needs as a starting point to create and meet user's demand, the company has 50 patented technologies, continuing to lead the development of the industry.

### GLOBAL SERVICE

**VALUE** has built the world more than 70 countries and regions of the sales network, products in Japan, the United States, Europe and other regions have a larger market, at the same time provide 10 of the world top 500 enterprises products and services; at the same time, provide suitable power products for all global customers; we also establish the network and the platform for over the world customers, provide products and services.



## FOCUS ON 2013

### BRUSHLESS MOTOR VACUUM PUMP

Vi2120



### INTEGRATED TOOLS KIT

VTB-5A



### DIGITAL MANIFOLD GAUGE

VDG-1



## CONTENTS

### REFRIGERATION TOOLS AND EQUIPMENTS



VACUUM PUMP  
P01~09



RECOVERY UNIT  
P10~14



MANIFOLD GAUGE  
P15~19



DIGITAL GAUGE  
P20~22



FLARING TOOLS  
P23~28



TUBE CUTTER  
P29



INTEGRATED  
TOOLS KIT  
P31~32



HVAC  
INSTRUMENT  
P33



REFRIGERANT  
CHARGING SCALE  
P34~35

### OIL-SEALED ROTARY VANE VACUUM PUMP



VRD SERIES  
P36



POWER SERIES  
P37



VRD N SERIES  
P38



VRD B SERIES  
P39



VRD F SERIES  
P40



• Chinese patent CE



## Brushless motor

### Vi 2120

Suit for R410A, R407C, R134a, R12, R22 refrigerant

#### Specification

Model:	Vi2120
Flow Rate:	12 CFM
Partial Pressure:	$2 \times 10^{-3}$ Pa
Total Pressure:	15 micron
Power:	3/4 HP
Inlet Port:	1/4" & 3/8" Flare
Oil Capacity:	500 ml
Dimensions:	336×135×270 mm
Weight:	11.5 Kg

High efficiency, low noise,  
long service life.



CE

## Totally Upgrade

### VH115N

#### Specification

Model:	VH115N
Flow Rate:	1.5 CFM
Partial Pressure:	2 Pa
Total Pressure:	150 micron
Power:	1/5 HP
Inlet Port:	1/4" Flare
Oil Capacity:	150 ml
Dimensions:	255×105×202 mm
Weight:	4 Kg

## New refrigerant vacuum pump

### V-i115S-M V-i215S-M

Suit for R410A, R407C, R134a, R12, R22 refrigerant

#### Specification

Model:	V-i115S-M	V-i215S-M
Flow Rate:	1.5 CFM	1.5 CFM
Partial Pressure:	2 Pa	$2 \times 10^{-3}$ Pa
Total Pressure:	150 micron	15 micron
Power:	1/5 HP	1/5 HP
Inlet Port:	1/4" Flare	1/4" Flare
Oil Capacity:	150 ml	110 ml
Dimensions:	240×88×183 mm	240×88×183 mm
Weight:	3.5 Kg	4 Kg



CE



Smaller, lighter,  
and more convenient

**Only 4 kg**



Both AC&DC  
can be operated



• Chinese patent CE



### V-i210H

#### Specification

Model:	V-i210H
Flow Rate:	1.0 CFM
Partial Pressure:	$2 \times 10^{-3}$ Pa
Total Pressure:	15 micron
Power:	1/5 HP
Inlet Port:	1/4" Flare
Oil Capacity:	150 ml
Dimensions:	240×88×183 mm
Weight:	4 Kg

## NEW REFRIGERANT

**2~8 CFM**  
15micron



## iPump SERIES

Suit for R410A,R407C, R134a,R12, R22 refrigerant



High accuracy vacuum gauge shows system pressure



Automatic anti-backflow valve design



Integrated body structure



Big sight glass for monitoring oil level

### Single Stage

Model		V-i120SV	V-i140SV	V-i160SV	V-i180SV
Flow Rate	50 Hz	1.8 CFM	3.5 CFM	5.0 CFM	7.0 CFM
		51 l/min	100 l/min	142 l/min	198 l/min
	60 Hz	2.0 CFM	4.0 CFM	6.0 CFM	8.0 CFM
		57 l/min	113 l/min	170 l/min	226 l/min
Ultimate Vacuum	Partial Pressure	2 Pa	2 Pa	2 Pa	2 Pa
	Total Pressure	150 micron	150 micron	150 micron	150 micron
Power		1/4 HP	1/3 HP	1/2 HP	3/4 HP
Inlet Port		1/4" Flare	1/4" Flare	1/4" Flare	1/4" Flare
Oil Capacity		250 ml	250 ml	415 ml	660 ml
Dimensions		290×124×255 mm	318×124×265 mm	338×138×275 mm	395×145×318 mm
Weight		6.7 Kg	8.6 Kg	10.3 Kg	15.4 Kg

### Dual Stage

Model		V-i220SV	V-i240SV	V-i260SV	V-i280SV
Flow Rate	50 Hz	1.8 CFM	3.5 CFM	5.0 CFM	7.0 CFM
		51 l/min	100 l/min	142 l/min	198 l/min
	60 Hz	2.0 CFM	4.0 CFM	6.0 CFM	8.0 CFM
		57 l/min	113 l/min	170 l/min	226 l/min
Ultimate Vacuum	Partial Pressure	2×10 <sup>1</sup> Pa	2×10 <sup>1</sup> Pa	2×10 <sup>1</sup> Pa	2×10 <sup>1</sup> Pa
	Total Pressure	15 micron	15 micron	15 micron	15 micron
Power		1/3 HP	1/2 HP	3/4 HP	1 HP
Inlet Port		1/4" Flare	1/4" Flare	1/4" Flare	1/4" Flare
Oil Capacity		200 ml	325 ml	580 ml	500 ml
Dimensions		318×124×265 mm	338×138×275 mm	395×145×318 mm	395×145×318 mm
Weight		9.0 Kg	11.0 Kg	16.6 Kg	17.0 Kg

## TOTALLY UPGRADE

**2~10 CFM**  
15micron



## More Reliable, Higher Ultimate Vacuum

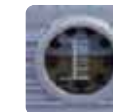
### VE N SERIES



Forced oil cycling system



Integrated body structure



Big sight glass

### Single Stage

Model		VE115N	VE125N	VE135N	VE160N	VE180N
Flow Rate	50 Hz	1.8 CFM	2.5 CFM	3.5 CFM	6.0 CFM	8.0 CFM
		51 l/min	70 l/min	100 l/min	170 l/min	226 l/min
	60 Hz	2.0 CFM	3.0 CFM	4.0 CFM	7.0 CFM	9.0 CFM
		57 l/min	84 l/min	113 l/min	198 l/min	254 l/min
Ultimate Vacuum	Partial Pressure	2 Pa	2 Pa	2 Pa	2 Pa	2 Pa
	Total Pressure	150 micron	150 micron	150 micron	150 micron	150 micron
Power		1/4 HP	1/4 HP	1/3 HP	1/2 HP	3/4 HP
Inlet Port		1/4" Flare	1/4" Flare	1/4" & 3/8" Flare	1/4" & 3/8" Flare	1/4" & 3/8" Flare
Oil Capacity		250 ml	250 ml	250 ml	415 ml	660 ml
Dimensions		290×124×224 mm	290×124×224 mm	318×124×234 mm	338×138×244 mm	395×145×257 mm
Weight		6.6 Kg	7.1 Kg	8.0 Kg	9.9 Kg	14.6 Kg

### Dual Stage

Model		VE215N	VE225N	VE245N	VE260N	VE280N	VE2100N
Flow Rate	50 Hz	1.5 CFM	2.5 CFM	4.5 CFM	6.0 CFM	8.0 CFM	10.0 CFM
		42 l/min	70 l/min	128 l/min	170 l/min	226 l/min	283 l/min
	60 Hz	1.8 CFM	3.0 CFM	5.0 CFM	7.0 CFM	9.0 CFM	12.0 CFM
		50 l/min	84 l/min	142 l/min	198 l/min	254 l/min	340 l/min
Ultimate Vacuum	Partial Pressure	2×10 <sup>1</sup> Pa	2×10 <sup>1</sup> Pa	2×10 <sup>1</sup> Pa	2×10 <sup>1</sup> Pa	2×10 <sup>1</sup> Pa	2×10 <sup>1</sup> Pa
	Total Pressure	15 micron	15 micron	15 micron	15 micron	15 micron	15 micron
Power		1/4 HP	1/3 HP	1/2 HP	3/4 HP	1 HP	1 HP
Inlet Port		1/4" Flare	1/4" Flare	1/4" & 3/8" Flare	1/4" & 3/8" Flare	1/4" & 3/8" Flare	1/4" & 3/8" Flare
Oil Capacity		200 ml	200 ml	325 ml	580 ml	500 ml	590 ml
Dimensions		308×124×224 mm	318×124×234 mm	338×138×244 mm	395×145×257 mm	395×145×257 mm	395×145×257 mm
Weight		7.5 Kg	8.5 Kg	10.4 Kg	15.8 Kg	16.2 Kg	16.7 Kg

## DUAL VOLTAGE

2~10 CFM

15micron



110~220V/50~60Hz

### VE N SERIES

#### Power plug

-make this connection with different power plugs easily.

#### Power supply conversion switch

-make sure this switch is set on the right place before your operation: 110V or 220V

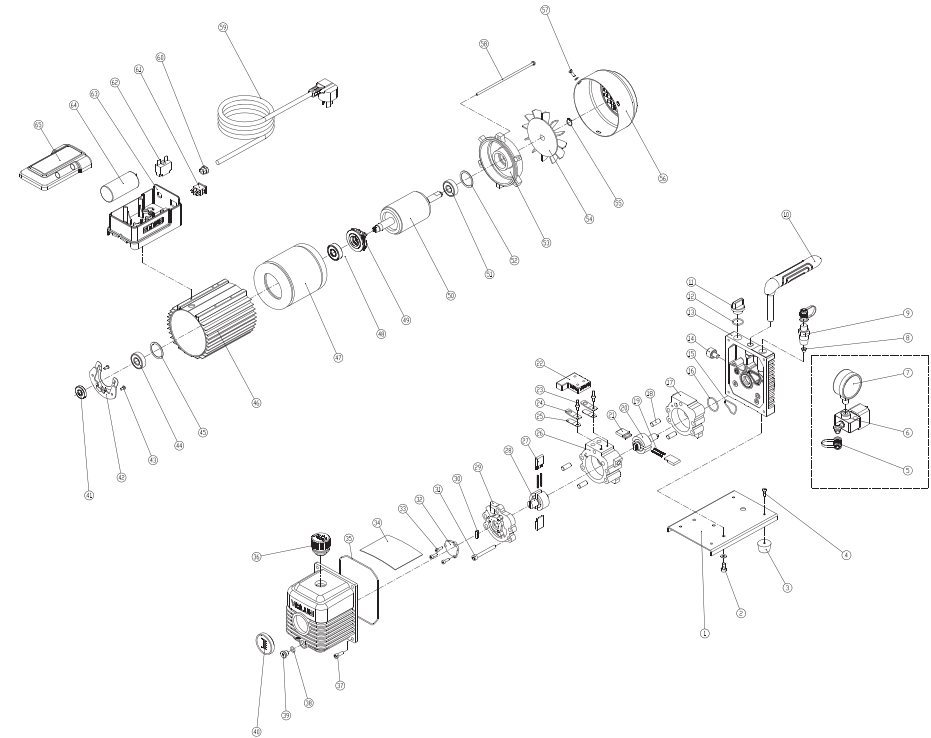


### Dual Stage

Model		VE215ND	VE225ND	VE245ND
Flow Rate	50 Hz	1.5 CFM 42 l/min	2.5 CFM 70 l/min	4.5 CFM 128 l/min
	60 Hz	1.8 CFM 50 l/min	3.0 CFM 84 l/min	5.0 CFM 142 l/min
Ultimate Vacuum	Partial Pressure	2×10 <sup>-1</sup> Pa	2×10 <sup>-1</sup> Pa	2×10 <sup>-1</sup> Pa
	Total Pressure	15 micron	15 micron	15 micron
Power		1/4 HP	1/3 HP	1/2 HP
Inlet Port		1/4"Flare	1/4"Flare	1/4" & 3/8" Flare
Oil Capacity		200 ml	200 ml	325 ml
Dimensions		318×124×234 mm	318×124×234 mm	338×138×244 mm
Weight		8.5 Kg	8.5 Kg	10.4 Kg

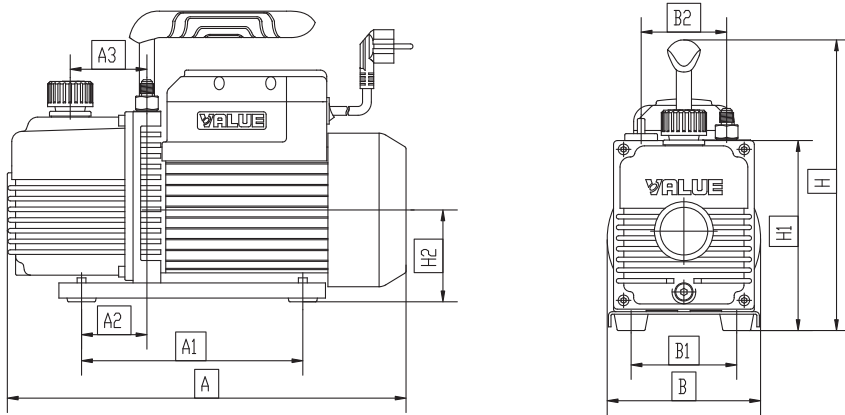
Model		VE260ND	VE280ND	VE2100ND
Flow Rate	50 Hz	6.0 CFM 170 l/min	8.0 CFM 226 l/min	10.0 CFM 283 l/min
	60 Hz	7.0 CFM 198 l/min	9.0 CFM 254 l/min	12.0 CFM 340 l/min
Ultimate Vacuum	Partial Pressure	2×10 <sup>-1</sup> Pa	2×10 <sup>-1</sup> Pa	2×10 <sup>-1</sup> Pa
	Total Pressure	15 micron	15 micron	15 micron
Power		3/4 HP	1 HP	1 HP
Inlet Port		1/4" & 3/8" Flare	1/4" & 3/8" Flare	1/4" & 3/8" Flare
Oil Capacity		580 ml	500 ml	590 ml
Dimensions		395×145×257 mm	395×145×257 mm	395×145×257 mm
Weight		15.8 Kg	16.2 Kg	16.7 Kg

## Exploded View For VE N Series



1 Base	17 Fore stator	33 Screw	49 Centrifugal switch
2 Screw	18 Round pin	34 Anti-oil plate	50 Motor rotor
3 Rubber feet	19 Spring	35 O ring	51 Bearing
4 Screw	20 Fore rotor	36 Exhausting and oil inlet fitting	52 Gasket
5 Inlet fitting cap	21 Fore rotary vane	37 Screw	53 Motor cover
6 Solenoid valve	22 Anti-oil cover	38 O ring	54 Fan
7 Vacuum gauge	23 Screw	39 Oil drain plug	55 Elastic collar
8 Filter	24 Control plate	40 Sight glass	56 Fan cover
9 Inlet fitting	25 Displacing valve	41 Seal	57 Cross screw
10 Handle	26 Back stator	42 Centrifugal switch base	58 Cross screw
11 Oil fill cap	27 Back rotary vane	43 Cross screw	59 Power supply cord
12 O ring	28 Back rotor	44 Bearing	60 Insulating bushing
13 Trestle	29 Pump back cover	45 Gasket	61 Power switch
14 Gas ballast	30 Oil pump rotary vane	46 Motor hull	62 Thermal protector
15 O ring	31 Screw	47 Motor stator	63 Junction box
16 O ring	32 Oil pump back cover	48 Bearing	64 Capacitor
			65 Junction box cover

**Dimensional Drawing**



Model	A	A1	A2	A3	B	B1	B2	H	H1	H2
VE115N	290	118	30	50	124	76	-	224	141	71
VE125N	290	118	30	50	124	76	-	224	141	71
VE135N	318	144	40	61	124	84	68	234	154	76
VE160N	338	144	40	61	138	84	74	244	166	78
VE180N	395	174	66	85	145	99	74	257	179	86
VE215N	308	118	30	50	124	76	-	224	141	71
VE225N	318	144	40	61	124	84	68	234	154	76
VE245N	338	144	40	61	138	84	74	244	166	78
VE260N	395	174	66	85	145	99	74	257	179	86
VE280N	395	174	66	85	145	99	74	257	179	86
VE2100N	395	174	66	85	145	99	74	257	179	86



330ml(11.5 Oz) 500ml(18 Oz)

**Vacuum Pump Oil**

A wide choice of oil is available to obtain the best performance from pumps under different application conditions.

**VALUE** vacuum pumps can be operated with the oil listed below; using different oils can affect all specified ultimate vacuum and cold starting.

**VPO-46**

Kinematic viscosity (40°C): 41.4-50.6mm <sup>2</sup> /s	Kinematic viscosity (40°C): 61.2-74.8mm <sup>2</sup> /s
Viscosity index: 110	Viscosity index: 130
Flash point: 240°C	Flash point: 250°C
Pour point: -10°C	Pour point: -35°C
Type: Mineral oil	Type: Synthetic di-ester oil

**VPO-68**

**AC Power Supply Plugs**

Item	Description
C01	Israel plug
C02	China plug
C03	Australia plug
C04	South Africa plug
C05	Europe plug
C06	America plug
C07	Britain plug
C08	Japan plug
C09	Italy plug
C10	Argentina plug
C11	Brazil plug



**Intake Ports Adapters**



Item	Description
T2	1/4"SAE
T3	1/4"SAE 3/8"SAE
T4	1/4"SAE 1/2"Acme
T5	1/4"Tube
T6	1/4"Tube(Locked with M12×1 nut)
TG3	1/4"SAE Vacuum Gauge



## How to select a correct vacuum pump

### Refrigerants category

Vacuum pumps with solenoid valve should be used for pumping new refrigerants. Otherwise, there might be a risk that the pump oil returning to compressor, polluted and destroyed the refrigerants.

	New Refrigerant & Old Refrigerant Vacuum Pump		Old Refrigerant Vacuum Pump
R410A	R407C	R22	R22
	R404A	R12	R12
	R507A	R502	R502
	R134A	R500	R500

### Flow rate










The flow rate of vacuum pump is usually represented by L/S, which means the working time has a direct relationship with the flow rate. It's required to select VALUE high reliable vacuum pumps which matches the equipment.

Flow Rate	1~2L/S	3~4L/S	POWER
Applicable Equipment	Household refrigerator	Central air-conditioning	Central air-conditioning
	Household air-conditioning	Large household air-conditioning	Large household air-conditioning
	Car air-conditioning	Bus air-conditioning Large refrigerated warehouse	

### Ultimate vacuum

Ultimate vacuum means the capacity of removing moisture. Pressure unit with Pa usually. The smaller figure, the higher ultimate vacuum achieves. New refrigerants central air-conditioning, Freezing and refrigeration equipment with low evaporator temperature need to use VALUE double stage vacuum pump.

	Single Stage	Dual Stage
Ultimate Vacuum	2Pa	$2 \times 10^{-1}$ Pa
Applicable Equipment	Household air-conditioning	Central air-conditioning
	Car air-conditioning	Large refrigerated warehouse
	Refrigerator	

Adapt for old refrigerant			Adapt for all refrigerant (including R22,R410A,etc...)	
Household air-conditioning Household refrigerator Car air-conditioning	Large household air-conditioning Bus air-conditioning	Central air-conditioning Large refrigerated warehouse	Household air-conditioning	Central air-conditioning Large household air-conditioning
 VE115N(1L/S)	 VE160N(3L/S)	 VE245N(2L/S)	 V-i140SV(2L/S)	 V-i240SV(2L/S)
 VE135N(2L/S)	 VE180N(4L/S)	 VE280N(4L/S)		 V-i280SV(4L/S)
150 micron	150 micron	15 micron	150 micron	15 micron



High pressure alarm light



Start button/indicator light



Recovery/purging controls



Oil-filled input/Output gauge



Oil-separator



Float cable



Work status indication lamps



One-key operation more convenient



Start switch



Oil-less input/Output gauge



Optional 80% over filled protection



Intake and exhaust ports

## Mini Recovery Unit

### VRR12L

- One key operation, easy to use
- Equipped with high pressure protection
- Oil-less compressor
- Self-purge function
- 13.0Kg, easy to carry

One Key Operation



• Chinese patent



### VRR12L-OS

- Oil separator device
- Purification and recycling of the refrigerants

One Key Operation



## Specifications

Model	VRR12L			VRR12L-OS			
Refrigerants	Category III: R-12, R-134a, R-401C, R-500						
	Category IV: R-22, R-401A, R-401B, R-402B, R-407C, R-407D, R-408A, R-409A, R-411A, R-411B, R-412A, R-502, R-509						
	Category V: R-402A, R-404A, R-407A, R-407B, R-410A, R507						
Power Supply	220-240V~/50-60Hz	115V~/60Hz	220-240V~/50-60Hz	115V~/60Hz			
Motor	3/4 HP	3/4 HP	3/4 HP	3/4 HP			
Motor Speed	1450rpm/1750rpm	1750rpm	1450rpm/1750rpm	1750rpm			
Maximal Current Draw	4 A	8 A	4 A	8 A			
Compressor	Oil-less, Air-cooled, Piston style						
Automatic safety Shut-Off	38.5bar/3850kPa(558psi)						
Recovery Rate (Kg/min)	Category III	Category IV	Category V	Category III	Category IV	Category V	
	Vapor	0.20	0.25	0.25	0.20	0.25	0.25
	Liquid	1.60	1.80	2.20	1.60	1.80	2.20
	Push/pull	4.60	5.60	6.30	4.60	5.60	6.30
Operating Temperature	0 °C~40 °C						
Dimensions	400×250×355 mm						
Weight	13.0 kg			14.2 kg			

## Mini Recovery Unit

### VRR24L

- One key operation, easy to use
- Equipped with high, low pressure protection
- 80% over filling protection
- Twin-piston, oil-less compressor, faster recovery
- Self-purge function

Lighter · Faster



• Chinese patent



### VRR24L-OS

- Oil separator device
- Purification and recycling of the refrigerants

Lighter · Faster



## Specifications

Model	VRR24L			VRR24L-OS			
Refrigerants	Category III: R-12, R-134a, R-401C, R-500						
	Category IV: R-22, R-401A, R-401B, R-402B, R-407C, R-407D, R-408A, R-409A, R-411A, R-411B, R-412A, R-502, R-509						
	Category V: R-402A, R-404A, R-407A, R-407B, R-410A, R507						
Power Supply	220-240V~/50-60Hz	115V~/60Hz	220-240V~/50-60Hz	115V~/60Hz			
Motor	1 HP	1 HP	1 HP	1 HP			
Motor Speed	1450rpm/1750rpm	1750rpm	1450rpm/1750rpm	1750rpm			
Maximal Current Draw	5 A	10 A	5 A	10 A			
Compressor	Oil-less, Air-cooled, Piston style						
Automatic safety Shut-Off	38.5bar/3850kPa(558psi)						
Recovery Rate (Kg/min)	Category III	Category IV	Category V	Category III	Category IV	Category V	
	Vapor	0.40	0.50	0.50	0.40	0.50	0.50
	Liquid	3.00	3.50	3.50	3.00	3.50	3.50
	Push/pull	7.50	8.50	9.50	7.50	8.50	9.50
Operating Temperature	0 °C~40 °C						
Dimensions	450×250×355 mm						
Weight	13.5 kg			14.7 kg			



## Recovery Unit

### VRR12A

- Economical recovery with 3/4 HP, oil-less compressor
- Suitable for all commonly used refrigerants including R410A

### Energy efficient

### Environmental-friendly



• Chinese patent



Filter drier



10cm(4") connection hose

### VRR12C

- **80% overfilling protection**  
The unit will automatically stop when the weight of recovered refrigerant reaches 80% capacity of the tank.
- **Low pressure protection**  
The unit will automatically stop once the recover is complete, which reduces the need to monitor the whole process.
- **Oil separator device**  
Purification and recycling of the refrigerants.



• Chinese patent

### Filtration Purification

## Specifications

Model	VRR12A			VRR12C			
Refrigerants	Category III: R-12, R-134a, R-401C, R-500						
	Category IV: R-22, R-401A, R-401B, R-402B, R-407C, R-407D, R-408A, R-409A, R-411A, R-411B, R-412A, R-502, R-509						
	Category V: R-402A, R-404A, R-407A, R-407B, R-410A, R507						
Power Supply	220-240V~/50-60Hz	115V~/60Hz	220-240V~/50-60Hz	115V~/60Hz			
Motor	3/4 HP	3/4 HP	3/4 HP	3/4 HP			
Motor Speed	1450rpm/1750rpm	1750rpm	1450rpm/1750rpm	1750rpm			
Maximal Current Draw	4 A	8 A	4 A	8 A			
Compressor	Oil-less, Air-cooled, Piston style						
Automatic safety Shut-Off	38.5bar/3850kPa(558psi)						
Recovery Rate (Kg/min)	Category III	Category IV	Category V	Category III	Category IV	Category V	
	Vapor	0.20	0.25	0.25	0.15	0.20	0.20
	Liquid	1.60	1.80	2.20	1.40	1.50	1.90
	Push/pull	4.60	5.60	6.30	4.10	5.00	5.70
Operating Temperature	0 °C~40 °C						
Dimensions	500×230×340 mm						
Weight	16 kg			18 kg			

## Recovery Unit

### VRR24A/24C



• Chinese patent

- Twin-piston compressor, suitable for A/C system with large volume of refrigerants.
- Equipped with high and low pressure protection with selective function of 80% O.F.P. and oil separator device.

### Faster Recovery

## Specifications

Model	VRR24A			VRR24C			
Refrigerants	Category III: R-12, R-134a, R-401C, R-500						
	Category IV: R-22, R-401A, R-401B, R-402B, R-407C, R-407D, R-408A, R-409A, R-411A, R-411B, R-412A, R-502, R-509						
	Category V: R-402A, R-404A, R-407A, R-407B, R-410A, R507						
Power Supply	220-240V~/50-60Hz	115V~/60Hz	220-240V~/50-60Hz	115V~/60Hz			
Motor	1 HP	1 HP	1 HP	1 HP			
Motor Speed	1450rpm/1750rpm	1750rpm	1450rpm/1750rpm	1750rpm			
Maximal Current Draw	5 A	10 A	5 A	10 A			
Compressor	Oil-less, Air-cooled, Piston style						
Automatic safety Shut-Off	38.5bar/3850kPa						
Recovery Rate (Kg/min)	Category III	Category IV	Category V	Category III	Category IV	Category V	
	Vapor	0.40	0.50	0.50	0.35	0.45	0.45
	Liquid	3.00	3.50	3.50	2.50	3.00	3.00
	Push/pull	7.50	8.50	9.50	6.70	7.50	8.50
Operating Temperature	0 °C~40 °C						
Dimensions	515×245×360 mm			545×245×360 mm			
Weight	17 kg			19 kg			

## Accurate Manifold Gauge

### ANTI-COLLISION SERIES

Suit for R410A, R134a, R12, R22, R407C, R404A



Special material sheath with anti-collision performance



Metal-embedded designed valve to increase strength



High precision pressure gauge with class 1.6 accuracy



Φ12mm high-strength rubber tube to ensure high reliability

## VMG-2-R410A SERIES

### Gauge Diameter: Φ80mm

#### VMG-2-R410A



VMG-2-R410A



VMG-2-R410A-02



VMG-2-R410A-03



VMG-2-R410A-04

Model	VMG-2-R410A	VMG-2-R410A-02	VMG-2-R410A-03	VMG-2-R410A-04
Refrigerants scale	R410A	R410A/R407C/R22/R134a		
Gauge Diameter	Φ80 mm			
Pressure Scale	0~800 psi; -30~500 psi			
Hose	Red&Blue: 1/4"-5/16", 2×1pc Yellow: 1/4"-1/4", 1pc	Red&Blue: 1/4"-5/16", 4×1pc Yellow: 1/4"-1/4", 1pc With 2pcs adapter	Red&Blue: 1/4"-5/16", 2×1pc Yellow: 1/4"-1/4", 1pc	/
Length	90 cm 120 cm 150 cm			
Package	Blow case		Blister packing	Blister packing

### Gauge Diameter: Φ68mm

#### VMG-2-R410A-B



VMG-2-R410A-B



VMG-2-R410A-B-02



VMG-2-R410A-B-03

Model	VMG-2-R410A-B	VMG-2-R410A-B-02	VMG-2-R410A-B-03
Refrigerants scale	R410A/R407C/R22/R134a		
Gauge Diameter	Φ68 mm		
Pressure Scale	0~800 psi; -30~500 psi		
Hose	Red&Blue: 1/4"-5/16", 2×1pc Yellow: 1/4"-1/4", 1pc	/	
Length	90 cm 120 cm 150 cm		
Package	Blow case	Blister packing	Blister packing

# MANIFOLD GAUGE VMG-2-R22

## VMG-2-R22 SERIES

Gauge Diameter:  $\Phi 80\text{mm}$

### VMG-2-R22



VMG-2-R22



VMG-2-R22-02



VMG-2-R22-03

Model	VMG-2-R22	VMG-2-R22-02	VMG-2-R22-03
Refrigerants scale	R404A/R407C/R134a/R22		
Gauge Diameter	$\Phi 80\text{ mm}$		
Pressure Scale	0~140psi; 0~400psi		
Hose	Red&Blue&Yellow: 1/4"-1/4", 3×1pc		/
Length	90 cm	120 cm	
Package	Blow case	Blister packing	Blister packing

Gauge Diameter:  $\Phi 68\text{mm}$

### VMG-2-R22-B



VMG-2-R22-B



VMG-2-R22-B-02



VMG-2-R22-B-03

Model	VMG-2-R22-B	VMG-2-R22-B-02	VMG-2-R22-B-03
Refrigerants scale	R404A/R407C/R134a/R22		
Gauge Diameter	$\Phi 68\text{ mm}$		
Pressure Scale	0~140 psi; 0~400 psi		
Hose	Red&Blue&Yellow: 1/4"-1/4", 3×1pc		/
Length	90 cm	120 cm	
Package	Blow case	Blister packing	Blister packing

# MANIFOLD GAUGE VMG-2-R134a

## VMG-2-R134a SERIES

Gauge Diameter:  $\Phi 80\text{mm}$

### VMG-2-R134a



VMG-2-R134a



VMG-2-R134a-02

Model	VMG-2-R134a	VMG-2-R134a-02	
Refrigerants scale	R134a		
Gauge Diameter	$\Phi 80\text{ mm}$		
Pressure Scale	0~400 psi; 0~140 psi		
Hose	Red&Yellow&Blue: 1/4"-1/4", 3×1pc	Red&Blue: 1/2"Acme,M14×1.5, 2×1pc Yellow: 1/2"Acme, 1/2"Acme, 1pc	
Length	90 cm	120 cm	150 cm
Package	Blow case		
Quick Couplers	VHF-A 1set	VHF-B 1set	

Gauge Diameter:  $\Phi 68\text{mm}$

### VMG-2-R134a-B



VMG-2-R134a-B



VMG-2-R134a-B-02

Model	VMG-2-R134a-B	VMG-2-R134a-B-02	
Refrigerants scale	R134a		
Gauge Diameter	$\Phi 68\text{ mm}$		
Pressure Scale	0~400 psi; 0~140 psi		
Hose	Red&Yellow&Blue: 1/4"-1/4", 3×1pc	Red&Blue: 1/2"Acme,M14×1.5, 2×1pc Yellow: 1/2"Acme, 1/2"Acme, 1pc	
Length	90 cm	120 cm	150 cm
Package	Blow case		
Quick Couplers	VHF-A 1set	VHF-B 1set	

## Accurate Single Gauge

### ANTI-COLLISION SERIES

Suit for R410A, R134a, R12, R22, R407C, R404A

- Pressure gauge with high precision movement, precision grade 1.6
- High strength rubber cover, fully anti-collision
- The gauge handle with metal insert design increase the strength

### Accurate Anti-collision



VMG-1-U-H VMG-1-U-L



VMG-1-S-H VMG-1-S-L

### Specifications

Model		VMG-1-U-H	VMG-1-U-L	VMG-1-S-H	VMG-1-S-L
Gauge Diameter		Φ68mm		Φ68mm	
Refrigerants scale (Optional)	Type I	R410A			
	Type II	R410A/R407C/R22/R134a			
	Type III	R404A/R407C/R134a/R22			
	Type IV	R134a			
	Type V	R410A/R407C/R404A/R134a			
Pressure Scale		-30inHg~800psi	-30inHg~500psi	-30inHg~800psi	-30inHg~500psi
Sight glass		Without		With	
Package		Blister packing		Blister packing	

## Accurate Digital Manifold Gauge

### VDG-1

- Suitable for detecting 44 refrigerants
- Including clamp probe for temperature measurement



### Accurate Anti-collision

### Specifications

Built-in 44 refrigerants:	R11 R123 R404A R414B R600A R428A
	R12 R124 R406A R744 R426A R417A
	R13 R134a R407A R422A R1234fy R437A
	R22 R290 R407C R422D R424A
	R23 R401A R408A R427A R434A R728
	R32 R401B R409A R502 R422B
	R113 R402A R410A R507A R416A
	R114 R402B R413A R508B R420A
pressure Display:	psi bar Kpa Mpa
Temperature Display:	°C °F
Resolution: Pressure	resolution: 1psi: 0.1 bar;
	10 kPa; 0.01 Mpa
Temperature	resolution: 1°C; 1°F
Pressure accuracy:	±0.75%(±1 digit of reading)
Temperature accuracy:	±2k
Environment humidity:	10~90% RH
Maximum over pressure:	75 bar; 7500 kPa; 7.5 MPa; 1087 psi
Power:	4x1.5v (Mignon/LR6 dry battery or rechargeable battery)
Size:	210x130x75mm
Weight:	1.2Kg



**NEW**

## High Strength Refrigerant Tube

### VRP SERIES

Suit for R410A, R134a, R12, R22 refrigerant



Model	Connector Size		
	R410A	R134a R22 R12	R134a
Pressure Scale	~800 psi		
VRP-U-R	1/4"-5/16"	1/4"-1/4"	1/2"Acme M14×1.5
VRP-U-Y	1/4"-1/4"	1/4"-1/4"	1/2"Acme 1/2"Acme
VRP-U-B	1/4"-5/16"	1/4"-1/4"	1/2"Acme M14×1.5
Lenth	90 cm	120 cm	150 cm

Model	Connector Size		
	R410A	R134a R22 R12	R134a
Pressure Scale	~800 psi		
VRP-C-R	1/4"-5/16"	1/4"-1/4"	1/2"Acme M14×1.5
VRP-C-Y	1/4"-1/4"	1/4"-1/4"	1/2"Acme 1/2"Acme
VRP-C-B	1/4"-5/16"	1/4"-1/4"	1/2"Acme M14×1.5
Lenth	90 cm	120 cm	150 cm
Check valve	1set(Optional: CV01-CV06)		

### High strength

- General: Suit for R410A, R134a, R12, R22 refrigerant
- Safe: Rubber tube wall is thickened and the diameter up to 12mm, to ensure the safety and reliability during the use
- Anti-leakage: High oil resistances, anti-leakage, reach to RMA-A level

## Quick Couplers

### VHF SERIES

Suit for refrigerants like R134a, R1234yf and so on.  
Automotive air conditioning maintenance tool



VHF-A



VHF-B



VHF-C

Model	VHF-A	VHF-B	VHF-C
Description	1/4" SAE	M14×1.5	3/8" SAE

### Safety Reliable

- Connecting pipeline of car air-conditioning and refrigerant system very fast
- Controlling the pipeline's open and close

## Check valve



CV01



CV02



CV03



CV04



CV05



CV06

Item	Description	Item	Description
CV01	Male: 1/4"SAE Female: 5/16" SAE	CV04	Male: 5/16"SAE Female: 5/16" SAE
CV02	Male: 1/4"SAE Female: 5/16" SAE 45°	CV05	Male: 1/4"SAE Female: 1/4" SAE 45°
CV03	Male: 1/4"SAE Female: 5/16" SAE 60°	CV06	Male: 1/4"SAE Female: 1/4" SAE 60°

## Adapter



V01



V02



V03



V04



V05



V06



V07



V08

Item	Description	Item	Description
V01	Female: 5/16" SAE Male: 5/16"SAE 90°	V05	Female: 5/16" SAE Male: 5/16"SAE
V02	Female: 5/16" SAE Male: 1/4"SAE 90°	V06	Female: 1/4" SAE Male: 1/4"SAE
V03	Female: 1/4" SAE Male: 5/16"SAE 90°	V07	Female: 5/16" SAE Male: 1/4"SAE
V04	Female: 1/4" SAE Male: 1/4"SAE 90°	V08	Female: 1/4" SAE Male: 5/16"SAE

## Flaring Tool

### VFT-808

- 45° eccentric flaring tool in metric and inch sizes
- Heavy duty wide-range bar type flaring tool
- Hardened bars provide positive clamping action with minimum distortion
- Easy use and exact flaring result



• Chinese patent



Annular rivet connection



Steel ball positioning, convenient flaring

## Accurate tube flaring

### Operation



VFT-808-I-N



VFT-808-I



VFT-808-I-02

Model	Tube O.D.	Applicable pipe	Packaging
VFT-808-I-N	1/4", 5/16", 3/8", 1/2", 5/8", 3/4"	Copper pipe	Blister packing
VFT-808-I			Blow case
VFT-808-I-02			Carton



VFT-808-MI



VFT-808-IS



VFT-808-MIS



VFT-808-IE

Model	Tube O.D.	Tube Tool	Applicable pipe	Packaging
VFT-808-MI	6, 8, 10, 12, 16, 19mm 1/4", 5/16", 3/8", 1/2", 5/8", 3/4"	/	Copper pipe	Blow case
VFT-808-IS	1/4", 5/16", 3/8", 1/2", 5/8", 3/4"	VTC-28B		Blow case
VFT-808-MIS	6, 8, 10, 12, 16, 19mm 1/4", 5/16", 3/8", 1/2", 5/8", 3/4"	VTC-28B		Blow case
VFT-808-IE	1/4", 5/16", 3/8", 1/2", 5/8", 3/4"	VST-22		Blow case





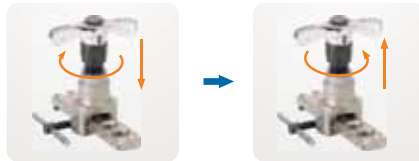
• Chinese patent

## Ratchet Flaring Tool

**VFT-809**

### Accurate tube flaring

- Easy operation, save time and energy
- Special design for R410A systems
- The special cone eccentric revolution will allow the internal opening gradually and form 45° accurately and regularly, prevent the tube slippage downward. Therefore, the flaring face will be smooth, uniform without scratching.
- Eccentric cone will rebound by itself after the work is finished. To make the idle top head in revolution again for 1-2 more rounds, with the friction the flaring face will be more smooth and prettier.



### Ratchet Eccentric Cone



VFT-809-I



VFT-809-IS

Model	Tube O.D.	Tube Cutter	Packaging
VFT-809-I	1/4", 5/16", 3/8", 1/2", 5/8", 3/4"	/	Blow case
VFT-809-IS	1/4", 5/16", 3/8", 1/2", 5/8", 3/4"	VTC-28B	



• Chinese patent

## R410A Flaring Tool

**VFT-808C**

Tube O.D.: 1/4", 3/8", 1/2" 5/16", 5/8", 3/4"

- Axial spacing to ensure the accurate size
- Innovative patent clamping structure for convenient operation
- Innovative design, operating more humane



Axial spacing  
Accurate tube flaring



Convenient loading and unloading  
Quick clamping

### Axial spacing Accurate tube flaring



VFT-808C

Model	Tube O.D.	Tube Cutter	Packaging
VFT-808C	1/4", 5/16", 3/8", 1/2", 5/8", 3/4"	/	Blow case

Electrical Flaring Tool

VET-19C-F



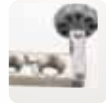
• Chinese patent



Axial spacing to ensure the accurate size



Steel ball positioning, more convenient for operation



Innovative patent clamping structure for convenient flaring



Using AC power supply, fast flaring in 10 seconds

Accurate measurement

Specification

Power supply :	230V~/50-60Hz 115V~/60Hz 100V~/50-60Hz
Applicable Pipe :	Copper pipe
Tube O.D. :	1/4", 5/16", 3/8", 1/2", 5/8", 3/4"
Flaring shape :	Flared
Weight :	5.6 kg



Electrical Flaring Tool

VET-19-F

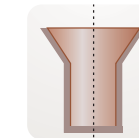


• Chinese patent

- 5-second fast and accurate flaring
- Unlimited by environment condition
- Flaring bar self centering design, easy use



Environmental Li-ion Battery  
Li-ion 2.6Ah



Precision symmetry

Accurate measurement

Specification

Power supply :	DC motor
Applicable Pipe :	Copper pipe
Tube O.D. :	1/4", 5/16", 3/8", 1/2", 5/8", 3/4"
Flaring shape :	Flared
Weight :	6.2 kg



## TUBE CUTTER VTC-SERIES



VTC-28B/32/42

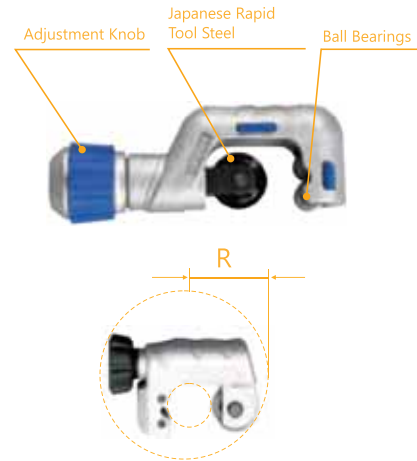


VTC-19/28

### Sharp Tube Cutter

#### VTC-19/28/28B/32/42

- Grinding blade, uses high-quality alloy tool steel, grinding process
- Unique ball bearing design, easy cutting



• Chinese patent



Model	Description
VTC-19	For 1/8"~3/4" (3~19mm)
VTC-28	For 1/8"~1-1/8" (4~28mm)
VTC-28B	For 1/8"~1-1/8" (4~28mm)
VTC-32	For 1/8"~1-1/4" (4~32mm)
VTC-42	For 1/4"~1-5/8" (6~42mm)

## TUBE TOOLS VST-22/VTT-5

### Tube Expanders

#### VST-22

- Innovative invention patent, using the most simple structure for brass pipe expanding

#### Easy to carry



Tube O.D.: 3/8", 1/2", 5/8", 3/4", 7/8"



#### Patent for invention



### Deburring tool

#### VTT-5

The deburring tool is perfect for removing the burrs left behind by the drill resulting in a clean, smooth finish as well as a polished appearance.

- Well polished appearance. Compared with other deburring tools, value deburring tool adopts sharp cutting edge, so it is more smooth in appearance.

- Easy to use and saving cost. VALUE deburring tool is convenient to carry with small size, and easy to change the blade with the button, it is saving cost with hand operation.



# INTEGRATED TOOLS KIT VTB-5A/VHB-I

## Integrated tools kit



### VTB-5A

Complete with	Description	Quantity
Vacuum pump	1.5CFM	1pc
Flaring tool	VFT-808-I	1set
Tube cutter	VTC-28B	1pc
Scraper	VTT-5	1pc
Manifold gauge	VMG-2-R410A	1set
Tube expanders	VST-22	1pc
Package	Aluminum alloy box	1pc

**NEW**

### VHB-I

Complete with	Description	Quantity
Flaring tool	VFT-808MI	1set
Tube cutter	VTC-28B	1pc
Tube expander	VST-22	1pc
Manifold gauge	VMG-2-R410A	1set
Digital multimeter	VDM151	1pc
Adapter	Optional: V01-V08	1set
Coach wrench	1/2"	1pc
Package	Hand bag	1pc

**NEW**



# INTEGRATED TOOLS KIT VTB-5B

## Integrated tools kit



### VTB-5B-I

Complete with	Description	Quantity
Flaring tool	VFT-808-I	1set
Tube cutter	VTC-28B	1pc
	VTC-19	1pc
Manifold gauge	VMG-2-R410A	1set
Scraper	VTT-5	1pc
Package	Blow case	1pc



### VTB-5B-II

Complete with	Description	Quantity
Flaring tool	VFT-808-I	1set
Tube cutter	VTC-28B	1pc
	VTC-19	1pc
Manifold gauge	VMG-2-R410A	1set
Adapter	Optional: V01-V08	1set
Scraper	VTT-5	1pc
Package	Blow case	1pc

### VTB-5B-III

Complete with	Description	Quantity
Flaring tool	VFT-808-I	1set
Tube cutter	VTC-28B	1pc
	VTC-19	1pc
Manifold gauge	VMG-2-R410A	1set
Adapter	Optional: V01-V08	1set
Check valve	Optional: CV01-CV06	1set
Scraper	VTT-5	1pc
Package	Blow case	1pc



### Modern Digital Multimeters

#### VDM-151

- 30 different measuring ranges can be selected
- Overload protection for the full range
- The function to keep number of all shifts
- The max range of electric capacity is 200  $\mu$ F
- Working temperature: 0°C~40°C
- Storage temperature: -10°C~50°C
- Weight: 300 g



### Digital clamp multimeters

#### VCM-202

- Suitable for measuring AC/DC voltage, AC current, resistance, diode, °C/°F temperature and so on
- Automatic shut down for saving energy and low battery alarm
- 250V overload protection
- Max measurement voltage: 600V
- Max measurement AC current: 400A
- Temperature measurement range: -40°C~1000°C
- Weight: 360 g



### Infrared thermometer

#### VIT-300

- Emissivity: 0.95
- Temperature range: -18°C-280°C
- Max measuring accuracy:  $\pm 2^\circ\text{C}$  or  $\pm 2\%$
- Ambient operation temperature:  $23^\circ\text{C} \pm 2^\circ\text{C}$
- Resolution: 0.1
- Response time: 500 ms
- Weight: 185 g



### Refrigerate charging scale








VES-50A/VES-100A



VES-50B/VES-100B

### Quantitative filling precision control

#### Easy operation schematic

- 1 Open the electrical scale 
- 2 Place the refrigerant tank and clear the electrical scale 
- 3 Enter the filling and recovery function, enter the net weight values of the refrigerant, and press OK 
- 4 When close to fixing weight of filling/recovery, electronic scale will alarm or automatic shut down the valve, and prompts the filling/recovery has been completed 
- 5 After filling/recovery, stop the scale manually, and press OK 

## Accurate Measurement

### VES-50A/VES-100A



Anti-collision



The recovery/  
recycling weight can be set,  
convenient for operation

Model	VES-50A	VES-100A
Weighting range	50 kg	100 kg
Resolution	2 g	5 g
Accuracy	±0.05%	
Display	LCD	
Power	DC 9V, at least 80h working time	
Working environment	-10°C~40°C, ≤75% Humidity	
Platform size	237×237 mm	
Weight	4 kg	
Anti-collision	Yes	

## Accurate Measurement

### VES-50B/VES-100B



High precision valve,  
accuracy control,  
filling weight ±5g



Anti-collision



The recovery/  
recycling weight can be set,  
convenient for operation

## Quantitative filling precision control

Model	VES-50B	VES-100B
Weighting range	50 kg	100 kg
Resolution	2 g	5 g
Accuracy	±0.05%	
Display	LCD	
Power	DC9V& AC(110V~240V)	
Working environment	-10°C~40°C, ≤75% Humidity	
Platform size	237×237 mm	
Weight	4 kg	
Anti-collision	Yes	
Automatic shut-off	Yes	

## High Reliability Vacuum pump

### VRD SERIES

Suit for production line



Adjustable gas  
ballast valve



Oil anti-sucking



Forced oil  
circulation



The integrated  
cylinder structure

## Excellent Performance

### Specification

Model		VRD-16	VRD-24	VRD-30
Displacement speed m <sup>3</sup> /h(L/s)	50 Hz	16(4.4)	24(6.6)	30(8.3)
	60 Hz	19.2(5.2)	28.8(7.9)	36(9.9)
Ultimate partial pressure gas ballast close		4×10 <sup>-2</sup> Pa	4×10 <sup>-2</sup> Pa	4×10 <sup>-2</sup> Pa
Ultimate total pressure gas ballast close		4×10 <sup>-1</sup> Pa	4×10 <sup>-1</sup> Pa	4×10 <sup>-1</sup> Pa
Ultimate total pressure gas ballast open		8×10 <sup>-1</sup> Pa	8×10 <sup>-1</sup> Pa	8×10 <sup>-1</sup> Pa
Power supply		single/3-ph	single/3-ph	single/3-ph
Power rating		0.75kW/0.55kW	1.1kW/0.75kW	1.1kW
Inlet and exhaust DN		KF25	KF25/40	KF25/40
Oil Capacity		0.9~1.5 L	1.3~2.0 L	1.3~2.0 L
Motor speed(rpm)	50 Hz	1440	1440	1440
	60 Hz	1720	1720	1720
Ambient temperature		5~40 °C	5~40 °C	5~40 °C
Noise level(dB)		≤58	≤58	≤58
Weight		38 Kg	40 Kg	43 Kg

## High pumping speed vacuum pump

### POWER SERIES

Suit for large engineering equipment, refrigeration equipment and the other vacuum work



Higher power design, more faster



Six air inlets design More equipment can work in one time



Forced oil lubrication system to ensure reliable work



Internal forced oil cycling system, more reliable

Powerful Fast

### Specification

Model		VP2120	VP2200
Displacement speed (CFM)	50 Hz	12	20
	60 Hz	14	24
Ultimate partial pressure gas ballast close		$4 \times 10^{-2}$ Pa	$4 \times 10^{-2}$ Pa
Ultimate total pressure gas ballast close		$4 \times 10^{-1}$ Pa	$4 \times 10^{-1}$ Pa
Ultimate total pressure gas ballast open		$8 \times 10^{-1}$ Pa	$8 \times 10^{-1}$ Pa
Power supply		single/3-ph	single/3-ph
Power rating		0.75kW/0.55kW	1.1kW/0.75kW
Inlet and exhaust DN		KF25	KF25/40
Oil Capacity		0.9~1.5 L	1.3~2.0 L
Motor speed(rpm)	50 Hz	1440	1440
	60 Hz	1720	1720
Ambient temperature		5~40°C	5~40°C
Noise level(dB)		≤58	≤58
Weight		40 Kg	42 Kg

## Ammonia Vacuum pump

### VRD N SERIES

Suit for ammonia refrigeration system



Anti-corrosion

### Specification

Model		VRD-8N	VRD-16N	VRD-30N	VRD-65N
Displacement speed m <sup>3</sup> /h(L/s)	50 Hz	8(2.2)	16(4.4)	30(8.3)	65(18)
	60 Hz	9.6(2.6)	19.2(5.2)	36(9.9)	78(21.6)
Ultimate partial pressure gas ballast close		$5 \times 10^{-2}$ Pa	$4 \times 10^{-2}$ Pa	$4 \times 10^{-2}$ Pa	$4 \times 10^{-2}$ Pa
Ultimate total pressure gas ballast close		$5 \times 10^{-1}$ Pa	$4 \times 10^{-1}$ Pa	$4 \times 10^{-1}$ Pa	$4 \times 10^{-1}$ Pa
Ultimate total pressure gas ballast open		3 Pa	$8 \times 10^{-1}$ Pa	$8 \times 10^{-1}$ Pa	$8 \times 10^{-1}$ Pa
Power supply		single/3-ph	single/3-ph	single/3-ph	3-ph
Power rating		0.4kW/0.37kW	0.75kW/0.55kW	1.1kW	2.2kW
Inlet and exhaust DN		KF16/25	KF25	KF25/40	KF40
Oil Capacity		0.6~1.0 L	0.9~1.5 L	1.3~2.0 L	3.3~4.5 L
Motor speed(rpm)	50 Hz	1440	1440	1440	1440
	60 Hz	1720	1720	1720	1720
Ambient temperature		5~40°C	5~40°C	5~40°C	5~40°C
Noise level(dB)		≤56	≤58	≤58	≤62
Weight		22 Kg	38 Kg	43 Kg	75 Kg

## LiBr A/C system vacuum pump

### VRD B SERIES

Suit for LiBr absorption chiller of central air-conditioning system



Corrosion Resistance

#### Specification

Model		VRD-8B	VRD-16B	VRD-30B	VRD-65B
Displacement speed m <sup>3</sup> /h(L/s)	50 Hz	8(2.2)	16(4.4)	30(8.3)	65(18)
	60 Hz	9.6(2.6)	19.2(5.2)	36(9.9)	78(21.6)
Ultimate partial pressure gas ballast close		5×10 <sup>-2</sup> Pa	4×10 <sup>-2</sup> Pa	4×10 <sup>-2</sup> Pa	4×10 <sup>-2</sup> Pa
Ultimate total pressure gas ballast close		5×10 <sup>-3</sup> Pa	4×10 <sup>-3</sup> Pa	4×10 <sup>-3</sup> Pa	4×10 <sup>-3</sup> Pa
Ultimate total pressure gas ballast open		3 Pa	8×10 <sup>-1</sup> Pa	8×10 <sup>-1</sup> Pa	8×10 <sup>-1</sup> Pa
Power supply		single/3-ph	single/3-ph	single/3-ph	3-ph
Power rating		0.4kW/0.37kW	0.75kW/0.55kW	1.1kW	2.2kW
Inlet and exhaust DN		KF16/25	KF25	KF25/40	KF40
Oil Capacity		0.6~1.0 L	0.9~1.5 L	1.3~2.0 L	3.3~4.5 L
Motor speed(rpm)	50 Hz	1440	1440	1440	1440
	60 Hz	1720	1720	1720	1720
Ambient temperature		5~40°C	5~40°C	5~40°C	5~40°C
Noise level(dB)		≤56	≤58	≤58	≤62
Weight		23 Kg	39 Kg	44 Kg	76 Kg

## Freeze-dry machine assorted vacuum pump

### VRD F SERIES

Suit for freeze drying equipment



High Temperature  
Stable vacuum

#### Specification

Model		VRD-4F	VRD-8F	VRD-16F	VRD-24F
Displacement speed m <sup>3</sup> /h(L/s)	50 Hz	4(1.1)	8(2.2)	16(4.4)	24(6.6)
	60 Hz	4.8(1.3)	9.6(2.6)	19.2(5.2)	28.8(7.9)
Ultimate partial pressure gas ballast close		5×10 <sup>-2</sup> Pa	4×10 <sup>-2</sup> Pa	4×10 <sup>-2</sup> Pa	4×10 <sup>-2</sup> Pa
Ultimate total pressure gas ballast close		5×10 <sup>-3</sup> Pa	4×10 <sup>-3</sup> Pa	4×10 <sup>-3</sup> Pa	4×10 <sup>-3</sup> Pa
Ultimate total pressure gas ballast open		3 Pa	3 Pa	8×10 <sup>-1</sup> Pa	8×10 <sup>-1</sup> Pa
Power supply		single/3-ph	single/3-ph	single/3-ph	single/3-ph
Power rating		0.4kW/0.37kW	0.4kW/0.37kW	0.75kW/0.55kW	1.1kW/0.75kW
Inlet and exhaust DN		KF16/25	KF16/25	KF25	KF25/40
Oil Capacity		0.6~1.0 L	0.6~1.0 L	0.9~1.5 L	1.3~2.0 L
Motor speed(rpm)	50 Hz	1440	1440	1440	1440
	60 Hz	1720	1720	1720	1720
Ambient temperature		5~40°C	5~40°C	5~40°C	5~40°C
Noise level(dB)		≤56	≤56	≤58	≤58
Weight		20 Kg	23 Kg	31 Kg	42 Kg



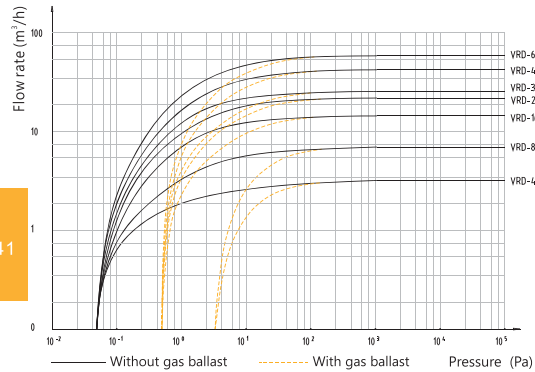
# ICONOGRAPH

## VRD F SERIES

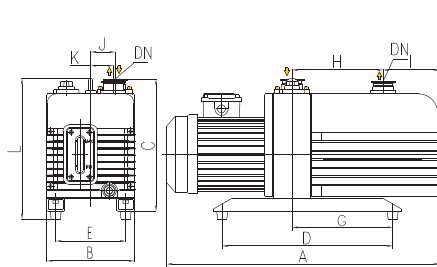
### Specification

Model		VRD-30F	VRD-48F	VRD-65F
Displacement speed m <sup>3</sup> /h(L/s)	50 Hz	30(8.3)	48(13.3)	65(18)
	60 Hz	36(9.9)	57.6(16)	78(21.6)
Ultimate partial pressure gas ballast close		4×10 <sup>-2</sup> Pa	4×10 <sup>-2</sup> Pa	4×10 <sup>-2</sup> Pa
Ultimate total pressure gas ballast close		4×10 <sup>-1</sup> Pa	4×10 <sup>-1</sup> Pa	4×10 <sup>-1</sup> Pa
Ultimate total pressure gas ballast open		8×10 <sup>-1</sup> Pa	8×10 <sup>-1</sup> Pa	8×10 <sup>-1</sup> Pa
Power supply		single/3-ph	3-ph	3-ph
Power rating		1.1kW	1.5kW	2.2kW
Inlet and exhaust DN		KF25/40	KF40	KF40
Oil Capacity		1.3~2.0 L	3.3~4.5 L	3.3~4.5 L
Motor speed(rpm)	50 Hz	1440	1440	1440
	60 Hz	1720	1720	1720
Ambient temperature		5~40°C	5~40°C	5~40°C
Noise level(dB)		≤ 58	≤ 62	≤ 62
Weight		44 Kg	73 Kg	76 Kg

### Flow Rate Characteristic



### Dimension



The dimension for VRD series pump (unit:mm)

Model	A	B	C	D	E	G	H	I	J	K	L	DN
VRD-4	460	144	207	240	120	126	154	45	45	34	230	KF16/25
VRD-8	460	144	207	240	120	126	154	45	45	34	230	KF16/25
VRD-16	520	188	272	320	148	160	165	69	59	38	295	KF25
VRD-24	560	188	272	320	148	160	185	82	59	47	295	KF25/40
VRD-30	560	188	272	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

