

HOW TO CHOOSE A PROPER VACUUM PUMP

The A/C refrigeration vacuum pump is one of the most important tools an engineer will use during their role, as it is a key player when carrying out maintenance on air conditioning units. so the following points should be considered when you select a vacuum pump.

1, System's Refrigerant

Different refrigerant needs the relevant vacuum pump. you can find the refrigerant on the equipment's specification label

Outdoor Model	KFR-35W-F117(Outdoor Unit)
Refrigerant	R22/880g
Weight	32KGS
Outdoor Unit Resistance Class	IPX4
Power Source	5.6A
Rated Current	1190W
Rated Input	220V~/50Hz
Excessive Operating Pressure(discharge)	2.6MPa
Excessive Operating Pressure(suction)	2.6MPa

For these air conditioning units which used with R410A refrigerant, if the vacuum pump oil be sucked to system, the refrigerant will be led to contamination and destruction, then caused the deteriorations, so it will be a huge impact on the cooling efficiencies and service life of the equipment.

2, Determining The Flowrate Required(CFM,L/min)

When ascertaining what vacuum pump needs to be used, it's important to determine the CFM rating required for a job. This is more commonly known in some countries as the LPM, Liters per minute. A pump with higher CFM rating will help you get to full vacuum quicker. But Higher CFM does NOT mean better vacuum, only faster evacuation.

3, Working Place

Considering that some outdoor unit installed on rooftop without power socket. It is hard to get the AC power source. As the energy density of lithium batteries has come a long way in the past few decades with the progress of technology, and working time is also getting longer and longer. So a portable, cordless vacuum pump is necessary.

4, Ultimate Vacuum Level

The density of the gas in the vacuum state is usually represented by 'vacuum degree'. The smaller figures means higher vacuum degree. It usually appears as Microns(Pa).

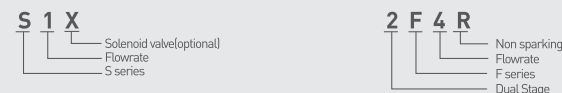
As the name implies, a dual-stage rotary vane vacuum pump contains two stages of pumping in a single assembly. One is a low vacuum stage while the other is a mated high vacuum stage. So a dual-stage rotary vacuum pump is able to produce the better vacuums than single-stage. The central air conditioning unit, cooling store need better vacuum degree, so Dual-stage vacuum pump is the best choice.

WIPCOOL VACUUM PUMP'S SELECTION

WIPCOOL vacuum pumps are divided into S series and F series

S series equipped with transparent oil tank, lightweight & portable, highly cost-effective.

F series equipped with built-in solenoid valve and overhead vacuum meter as standard, there even has lithium battery, dual power, R32 vacuum pump for your choice, which provides the ultimate user experience.



Model	Flowrate(CFM)	Vacuum degree(Microns)	Refrigerant	Powe source
S1-S2	2-4	150	A1	AC
F1	1.5	150	A1	AC
F2R-F5R	5-11	150	A1,A2,A2L	AC
2F0,2F1	1.5-2.5	15	A1	AC
2F0R-2F5R	1.5-11	15	A1,A2,A2L	AC
F1BK	1.5	150	A1	Dual power[AC/Li-ion]
F2BRK	5	150	A1,A2,A2L	Dual power[AC/Li-ion]
2F1BRK,2F2BRK	2.5-5	15	A1,A2,A2L	Dual power[AC/Li-ion]

Side note:

Safety grade of refrigerant

The safety of refrigerants mainly refers to the toxicity, flammability and explosiveness.

It usually represented by A, B, C plus 1, 2, 3, A1 represents the safest, and C3 represents most dangerous

	Low toxicity	Moderate toxicity	High toxicity
High flammable	A3	B3	C3
Mildly flammable	A2	B2	C2
Non flammable	A1	B1	C1

The normal refrigerants' grade as below for reference:

A1: R11, R12, R22, R23, R124, R125, R134a, R410a, R500, R502, R718

A2: R142b, R152a, R406a, R411a, R411b, R412a, R413a, R415b, R418a, R419a, R512a

A2L: R143a, R32, R1234yf, R1234ze(E)

Vacuum pump

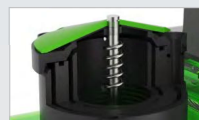
Clear-The "HEART" Is Beating

- Patent structure
Reduces oil leakage risk
- Clear oil tank
Clearly view condition of oil and system
- One-way valve
Preventing vacuum oilbackflow to system
- Solenoid valve[S1X/1.5X/2X,Optional]
100% Preventing vacuum oil backflow to system

S1 S1.5 S2



Vacuum Pump



Anti-oil injection design



Force-feed lubricating mechanism



Anti-dumping oil leakage design



Clear oil tank

TECHNICAL DATA :

Model	S1	S1.5	S2
Voltage	230V~/50-60Hz or 115V~/60Hz		
Ultimate Vacuum	150 microns		
Input Power	1/4HP	1/4HP	1/3HP
Flow Rate (Max.)	2CFM 57L/min	3CFM 85 L/min	4CFM 113 L/min
Oil Capacity	230ml	210ml	200ml
Weight	3.3kg	3.4kg	3.6kg
Dimension	266x121x194		
Inlet Port	1/4"SAE		

New Refrigerant Vacuum Pump Vacuuming Quickly

F1 F1.5
2F0 2F1

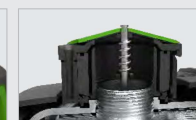
- Patented anti-dumping design to avoid oil leakage
- Overhead vacuum gauge, compact and easy to operate
- Built-in solenoid valve to prevent backflow
- Integral cylinder structure to improve reliability
- No oil injection and less oil mist, prolonging oil service life
- New motor technology, lightweight and easy to carry



Vacuum Pump



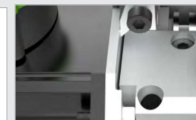
Overhead vacuum gauge



Anti-oil injection design



Anti-dumping oil leakage design



Built-in solenoid valve

TECHNICAL DATA :

Model	F1	F1.5	2F0	2F1
Voltage	230V~/50-60Hz or 115V~/60Hz			
Ultimate Vacuum	150 microns		15 microns	
Input Power	1/4HP	1/4HP	1/4HP	1/4HP
Flow Rate (Max.)	1.5CFM 42 L/min	3CFM 85 L/min	1.5CFM 42 L/min	2.5CFM 71 L/min
Oil Capacity	370ml	330ml	280ml	280ml
Weight	4.2kg	4.5kg	4.7kg	4.7kg
Dimension	309x113x198		309x113x198	
Inlet Port	1/4"SAE		1/4"SAE	

R32 Vacuum Pump Vacuuming Quickly

- Patented anti-dumping technology reduces oil leakage risk
- Top-set vacuum meter, compact design and easy to operate
- Built-in solenoid valve to prevent backflow
- Non-sparking design, suitable for use with R32 and other new refrigerants
- No oil injection and less oil mist, prolonging oil life
- Brush-less motor technology, More than **25% Lighter** than similar products



Single Stage R32 Vacuum Pump

TECHNICAL DATA :

Model	F2R	F3R	F4R	F5R
Voltage	230V~/50-60Hz or 115V~/60Hz			
Ultimate Vacuum	150 microns			
Input Power	1/3HP	1/2HP	3/4HP	1HP
Flow Rate (Max.)	5CFM 142 L/min	7CFM 198 L/min	9CFM 225 L/min	11CFM 312 L/min
Oil Capacity	580ml	560ml	690ml	670ml
Weight	5.5kg	5.7kg	8.5kg	8.7kg
Dimension	339x130x225	339x130x225	410x150x250	410x150x250
Inlet Port	1/4" & 3/8" SAE	1/4" & 3/8" SAE	1/4" & 3/8" SAE	1/4" & 3/8" SAE

Dual Stage R32 Vacuum Pump

TECHNICAL DATA :

Model	2F0R	2F1R	2F1.5R	2F2R	2F3R	2F4R	2F5R
Voltage	230V~/50-60Hz or 115V~/60Hz						
Ultimate Vacuum	15 microns						
Input Power	1/4HP	1/4HP	1/3HP	1/2HP	3/4HP	1HP	1HP
Flow Rate (Max.)	1.5CFM 42 L/min	2.5CFM 71 L/min	3CFM 85 L/min	5CFM 142L/min	7CFM 198 L/min	9CFM 255L/min	11CFM 312L/min
Oil Capacity	280ml	280ml	480ml	450ml	520ml	500ml	480ml
Weight	4.2kg	4.2kg	6.2kg	6.5kg	9.8kg	10kg	10.2kg
Dimension	309x113x198	309x113x198	339x130x225	339x130x225	410x150x250	410x150x250	410x150x250
Inlet Port	1/4" SAE	1/4" SAE	1/4" & 3/8" SAE	1/4" & 3/8" SAE	1/4" & 3/8" SAE	1/4" & 3/8" SAE	1/4" & 3/8" SAE

Cordless Vacuum Pump Li-ion Battery Power Portable Evacuation

- High performance lithium battery power, convenient to use
- Patented anti-dumping design to avoid oil leakage
- Overhead vacuum gauge, easy to read
- Built-in solenoid valve to prevent oil backflow
- Integral cylinder structure to improve reliability
- No oil injection and less oil mist, prolong oil service life

F1B 2F0B 2F1B F2BR 2F2BR



Recommend accessories



TECHNICAL DATA :

Model	F1B	2F0B	2F0BR	2F1B	2F1BR	F2BR	2F2BR
Li-ion Battery	DC18V 5.0AH					DC18V 9.6AH	
Standard Battery Holder	AEG/ RIDGID						
Ultimate Vacuum	150 micron	15 microns				150 microns	15 microns
Input Power	1/4HP	1/4HP	1/4HP	1/4HP	1/4HP	1/3HP	1/2HP
Flow Rate (Max.)	1.5CFM 42 L/min	1.5CFM 42 L/min	1.5CFM 42 L/min	2.5CFM 71 L/min	2.5CFM 71 L/min	5CFM 142L/min	
Oil Capacity	400ml	300ml	300ml	300ml	300ml	580ml	580ml
Weight	5.0kg	5.5kg	5.0kg	5.5kg	5.0kg	6.5kg	7.5kg
Dimension	358x113x198	358x113x198	358x113x198	358x113x198	358x113x198	420x130x225	420x130x225

Lithium/AC Dual Power Vacuum Pump


Dual Power Freely Switch

- Never suffer from low battery anxiety
- Freely switch between AC power and battery power
- Avoiding any downtime on the jobsite




**F1BK F2BRK
2F1BRK 2F2BRK**



 Lithium battery is full
Enjoy the convenient of cordless



 Lithium battery is low
Start corded use for unlimited runtime

TECHNICAL DATA :

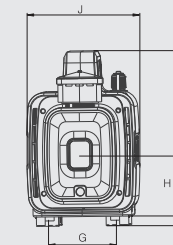
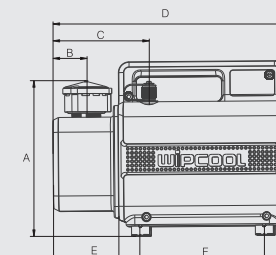
	Model	F1BK	2F1BRK	F2BRK	2F2BRK
Lithium/AC Dual Power Vacuum Pump	battery	18V- 5.0AH LI-ION		18V- 9.6AH LI-ION	
	Flowrate	1.5CFM 42 L/min	2.5CFM 71 L/min	5CFM 142 L/min	
	Ultimate vacuum	150microns	15microns	150microns	15microns
Include:	Vacuum pump, Battery Charger, Battery converter 5.0Ah Li-ion battery(F1BK,2F1BRK),9.6Ah(F2BRK,2F2BRK)				

AC POWER SUPPLY PLUGS

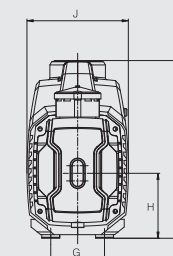
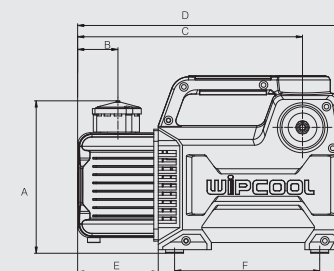


Model	Description
W01	Israel plug
W02	China plug
W03	Australia plug
W04	South africa plug
W05	Europe plug
W06	America plug
W07	Britain plug
W08	Japan plug
W09	Italy plug
W10	Argentina plug
W11	Brazil plug
W12	South Korea Plug

S series



F series



TECHNICAL DATA :

Model	A	B	C	D	E	F	G	H	I	J
F1 F1.5 2F0 2F1	175	45	250	310	90	162	60	73	200	115
F2 F3 2F1.5 2F2	195	45	280	340	110	165	70	87	225	130
F4 F5 2F3 2F4	235	50	320	390	110	204	90	100	262	150