Refrigerant Oil Charging Pump

Where the refrigerant is essential for the cooling properties of a refrigeration system, the refrigeration oil is crucial for the correct functioning of the compressor. It mainly plays four roles: lubrication, sealing, cooling and energy regulation.

1,Lubrication
Lubricants for refrigeration compressors reduce friction and prevent wear, so as to extend the service life of the compressor.

2,Sealing
The refrigeration oil plays a sealing role in the compressor, which makes the piston and cylinder face in the compressor and the rotating bearings achieve the sealing effect, so as to prevent the refrigerant leakage.

3,Cooling
The refrigeration oil can take away the heat generated in the working process and keep the moving parts of the compressor at a lower temperature, so as to improve the efficiency and reliability of the compressor.

4,Energy regulation
For the compressor with energy regulating mechanism, the oil pressure of refrigeration oil can be used as the power of energy regulating mechanism.
So the correct use and timely replacement of refrigerate oil will have a great impact on the service life and refrigeration effect of the compressor.
The WPCOOL "Robust series" oil charging pump is developed for widely types of refrigeration compressor, represented by the electric oil charging pump series, which solves the charging problem of large flow under large back pressure, saves labor and improves efficiency. At the same time, Considering the high viscosity of refrigeration oil in winter, We firstly developed an unlimited electric charging series for all kinds refrigeration oil in Worldwide.

How To Choose A Oil Charging Pump

Following points should be considered when you choose a refrigeration oil charging pump

1, System's back pressure
When the system is under back pressure, the greater of back pressure that the oil pump can overcome, the more time and effort will be saved when charging. Therefore, the maximum back pressure that can be overcome must be considered when selecting an oil charging pump.

2, Flow Rate
The flow rate of a oil charging pump is usually expressed in liters/hour, so the time to charge is directly related to the flow rate. Therefore, it is necessary to select a suitable pump according to the amount of oil marked on the compressor and how many units need to charge.

3, Viscosity
Viscosity is a main performance index of refrigeration oil. Different refrigerants have different requirements for viscosity. At the same time, the viscosity of the refrigerating oil changes greatly with the temperature. The lower the temperature, the greater the viscosity. Therefore, the characteristics of the added refrigeration oil and the ambient temperature must be fully considered when selecting the oil charging pump.

Oil Charging Pump Selection Guide

Model	Max overcome pressure	Flow Rate	Viscosity
R1	10bar(145psi)	50ml/stoke	68
R2	15bar(218psi)	75ml/stoke	68
R4	16bar(232psi)	150L/h	100
R6	25bar(362psi)	350L/h	100

Unit Label

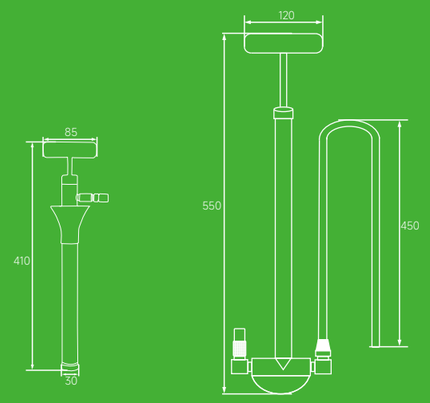
Model	XXXXXXXXX		
Cooling capacity	454kW	Voltage	3PHASE,380V,50Hz
Power Input	84.9kW	Running current	154A
Power factor	87%	Comp output	2X45kW
Refrigerant	R134a /140kg	Design press(Hi/Lo)	H1.59,L0.87Mpa
Ref oil	FVC68D/22L	Air tight test press(Hi/Lo)	H1.59,L0.87Mpa
MFG No.	XXXX	Unit weight	3650kg
Production license No.	XXXXXXXXX		

Remarks: If it is a new unit or an overhauled unit, the oil filling amount is indicated on the unit nameplate. If it is just change oil, follow the principle of charging as much as it is released.

Refrigeration Oil's Selection (For reference only)

Viscosity	Domestic air conditioning unit (Compressor)		Commercial central air conditioning, industrial refrigeration equipment(Compressor)			
	Piston	Rotary	Centrifugal	Piston	Screw	Scroll
32	√	√	√	√		
46	√	√	√	√		
68		√	√	√	√	√
100			√		√	√

R1/R2
Manual Refrigeration Oil Charging Pump



R1 R2
Manual Refrigeration Oil Charging Pump

Pressurized Charging,
Reliable And Durable

- Applied stainless steel materials, reliable and durable
- Anti-backflow structure, ensure system safety during charging
- Special design, ensure to connect the different size of oil bottles
- Pumps oil into the system without shutting down for charging

Product Description

R1 Refrigeration Oil hand charging Pump provides for the addition or removal of refrigeration oil when servicing air conditioning and refrigeration systems. The pump can be used while the unit is operating. It is not necessary to shut down the system for charging. Can be used on one gallon, two and a half gallon and five gallon containers. Moves 1.7 fl. oz. (50ml) per stroke against 145 psi(10bar) pressure.

The R2 oil charging pump is designed and manufactured to allow technicians to pump oil into the system while the unit is operating. There is no need to shut down the system for charging. Features a universal stopper that automatically adjusts to all standard openings in 1, 2-1/2 and 5 gallon oil containers. Suction transfer hose and fittings included. It allows you to pump oil into the compressor on the down stroke while the system is under pressure, making pumping easier with a positive stroke.

Flow rate
50/75ml per stoke

Maximum overcoming back pressure
10/15bar

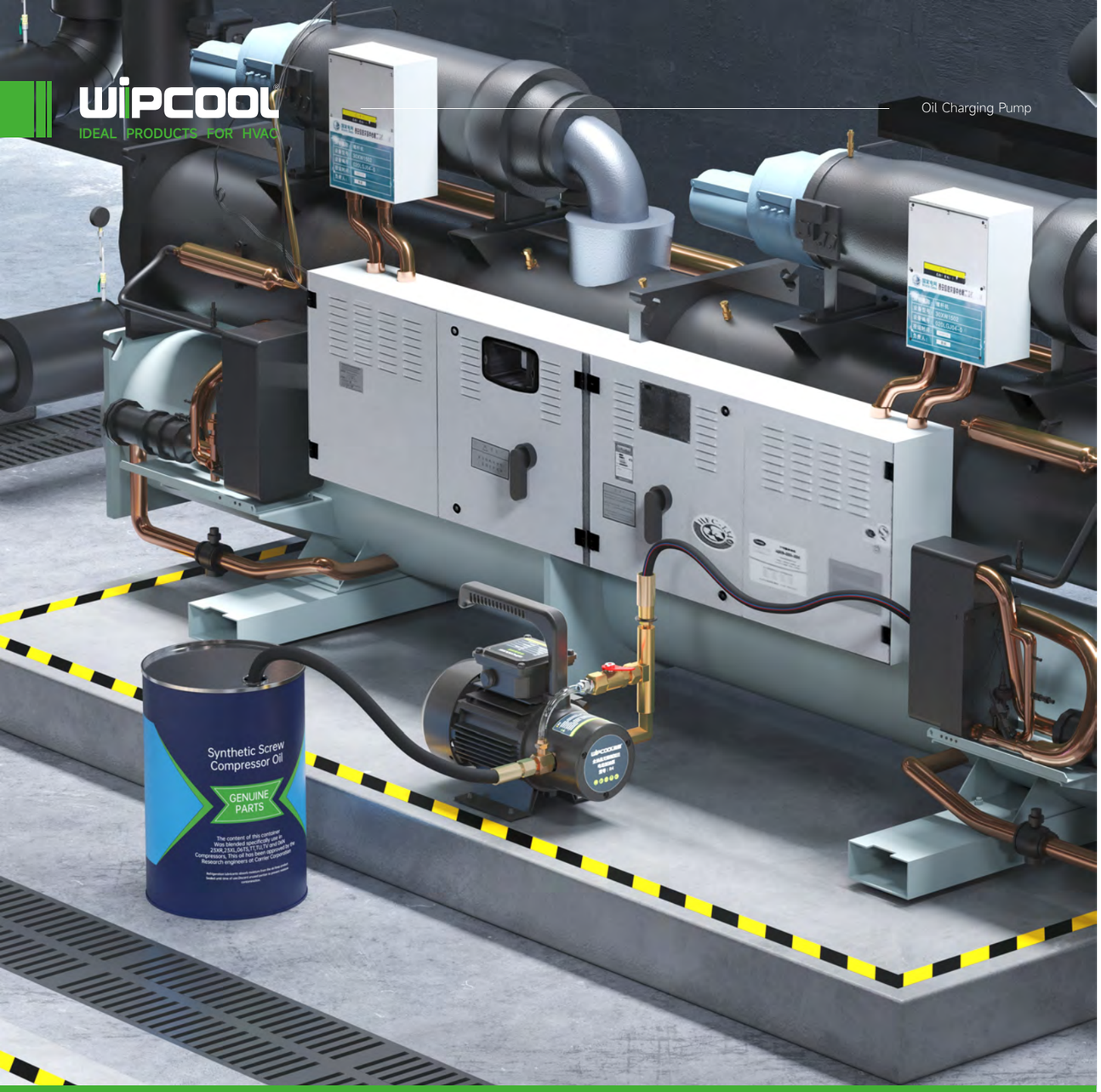
Technical Data

Model	R1	R2
Max. Pump To Against Pressure	10bar (145psi)	15bar (218psi)
Max. Pump Rate Per Stroke	50ml	75ml
Applicable Oil Bottle Size	All sizes	
Hose Connect	1/4" SAE	1/4" & 3/8" SAE
Outlet hose	1.5m Charging Hose	1.5m HP Charging Hose
Packing	Blister	Carton

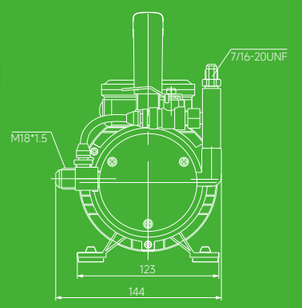
Accessories

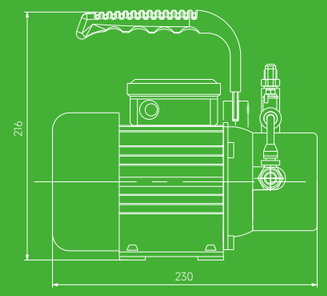
1.5m transparent charging hose(R1)

1.5m high-pressure charging hose(R2)



R4
Electric Refrigeration Oil Charging Pump





R4
Electric Refrigeration Oil Charging Pump

Portable & Powerful

Strong power, easy charging under large system's back pressure.

Built-in boost valve which can make the instant pressurization.

High precision gear pump with self-priming,ensure easy charging.

Built-in thermal protection device, effectively prevent overloading.

Product Features

R4 is a portable refrigeration oil transfer pump which is ideal for charging compressor oil into large HVAC systems. With a 1/3 HP electric motor directly coupled to a fixed-displacement gear pump, oil can be pumped into your system even while in operation.

Built-in thermal-overload protector for effectively preventing overloaded and a ball-type check valve is installed inside of the pump to prevent oil or refrigerant from flowing back in case of a power failure or breakdown. Keep the system in safety situation.

Max flow
150L/h

Max overcoming back pressure
16Bar

Technical Data

Model	R4
Voltage	230V~/50-60Hz or 100-120V~/50-60Hz
Motor Power	1/3HP
Pump to Against Pressure(Max.)	16bar (232psi)
Flow Rate(Max.)	150L/h
Hose Connect	1/4" & 3/8" SAE

Accessories

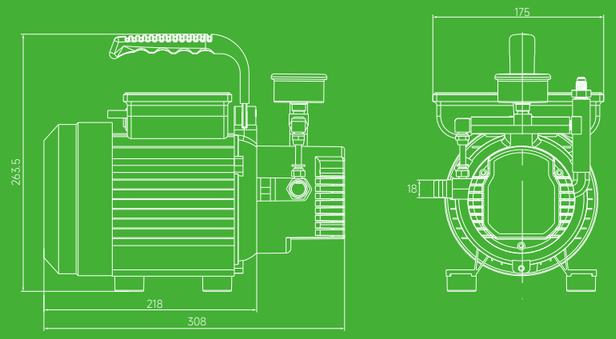

0.8M suction hose(R4)


Adapter 1/4" & 3/8"SAE


1.5M charging hose


Toolbox

R6
Electric Refrigeration Oil Charging Pump



R6
Electric Refrigeration Oil Charging Pump

Strong Power, Easy Charging

Strong power, easy charging under large system's back pressure.

Overhead pressure gauge, easy to read the exact operation pressure.

High precision and high displacement gear pump, ensure easy charging.

Built-in thermal protection device, effectively prevent overloading.

Product Features

R6 is a heavy-duty refrigeration oil transfer pump which is ideal for charging compressor oil into large HVAC systems. With a 3/4 HP electric motor directly coupled to a high displacement gear pump, the different viscosity oil(even the high viscosity in low temperature) can be pumped into your system even while in operation.

Built-in thermal-overload protector for effectively preventing overloaded and a ball-type check valve is installed inside of the pump to prevent oil or refrigerant from flowing back in case of a power failure or breakdown. Keep the system in safety situation. In addition, a overhead pressure gauge installed to make the easy reading the exact operation pressure. So R6 is a ultimate solution for refrigeration oil charging.

Max flow
350L/h

Max overcoming back pressure
25Bar

Technical Data

Model	R6
Voltage	230V~/50-60Hz or 100-120V~/50-60Hz
Motor Power	3/4HP
Pump to Against Pressure(Max.)	25bar (362psi)
Flow Rate(Max.)	350L/h
Hose Connect	1/4" & 3/8" SAE

Accessories


0.8M suction hose


Adapter 1/4" & 3/8"SAE


1.5m charging hose


Toolbox