



Operation Manual

Strongbond Vacuum Cleaner

Model: VFG-86E

Flooring Wholesale Limited

T/A Look Floors

9 Industry Road,

Penrose, Auckland 1061,




New Zealand
















Safety Precautions

WARNING! Read all instructions. As with all machinery there are certain hazards involved with operation and use of the machine. The following basic safety precautions should be followed at all times to reduce the risk of fire, electric shock and serious personal injury to you or others. Keep these important operating instructions with this product.

Must read this operating manual carefully before usage.

Warning symbol

	Operators must do not carry out the designated operating steps
	Operator must read the designated operating steps before usage.
	Safety precautions

-  People who do wiring and inspecting must have the professional experience and expertise.
-  The power lines must not be placed at the place where workers can easily step on; once some damages found on the power lines, they must be replaced with new ones. .
-  Must use the power cord originally installed in the machine; please contact the manufacturer in case of extending the power line.
-  Do not do wiring in a humid environment or with wet hands.
-  Be sure the power plug has ground wire and the power socket has circuit breaker
-  Please plug out if don't use the machine for a long time. Otherwise, it will reduce the insulating property and lead to electric shock, electric leakage or fire accident.
-  Do not climb, stand or place stuffs on the machine during its running
-  Do not try to repair or refit the machine personally if something wrong goes with it; please contact the manufacturer for discussing and choosing the best maintenance solution
-  Suggest using the original filter cartridge or bag if needed.
-  This operating manual should be placed with an unbroken condition near to the machine for the convenience of reading by the operator.
-  Please cut off the powder before the overhauling.
-  The casters must be in the state of being stopped before the machine runs.
-  This vacuum must not be plugged in the socket that other electric equipment are using, just in case of fire accident or electric shock due to the overloaded current.
-  The machine cannot suck up the kind of oily or flammable and combustibile smoke dust.
-  Never leave tool running unattended. Turn power "off" . Do not leave tool until it comes to a complete stop.

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1 Product Information

VFG-86E Vacuum cleaner is designed for the floor grinding and polishing industry for superfine dust collection. The characteristics of the machine include strong suction, two-stage filter units, stable and reliable, space saving, flexible mobility and easy operation. It is a three-phase machine that is compatible with diamond surface grinders and other floor grinding & polishing machines. It provides 24 hours continuous superfine dust suction and collection.

2 Working principle

2.1 Filtering process

The filter unit consists of one unit of a star shaped pre-filter and two units of HEPA filter cartridges. Under the action of the turbine blower, the dusty air will enter the pre-filter first. Directly the bigger particles will drop down to the bottom, whereas the superfine dust will go through the pre-filter and into the HEPA filter cartridge units. The clean air will come out from the air outlet and leaving the superfine dust behind which attaches to the HEPA filter cartridges.

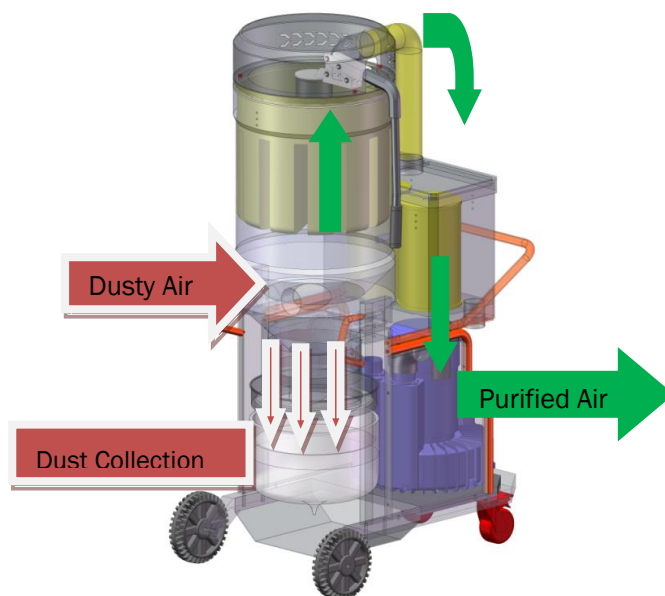


Fig. 2.1 Filtering process

2.2 Cleaning process of Filter

The pre-filters can be cleaned from outside the barrel by the jet pulse negative pressure. Before the cleaning process, block the air inlet first, then pull the vibration lever over and over again. The HEPA filter cartridges should be cleaned regularly depending on usage. To clean the HEPA filter, take it out of the machine and tap the dust out. It is important to clean the filters to ensure the effective cleaning of the machine and to prolong the life of the machine

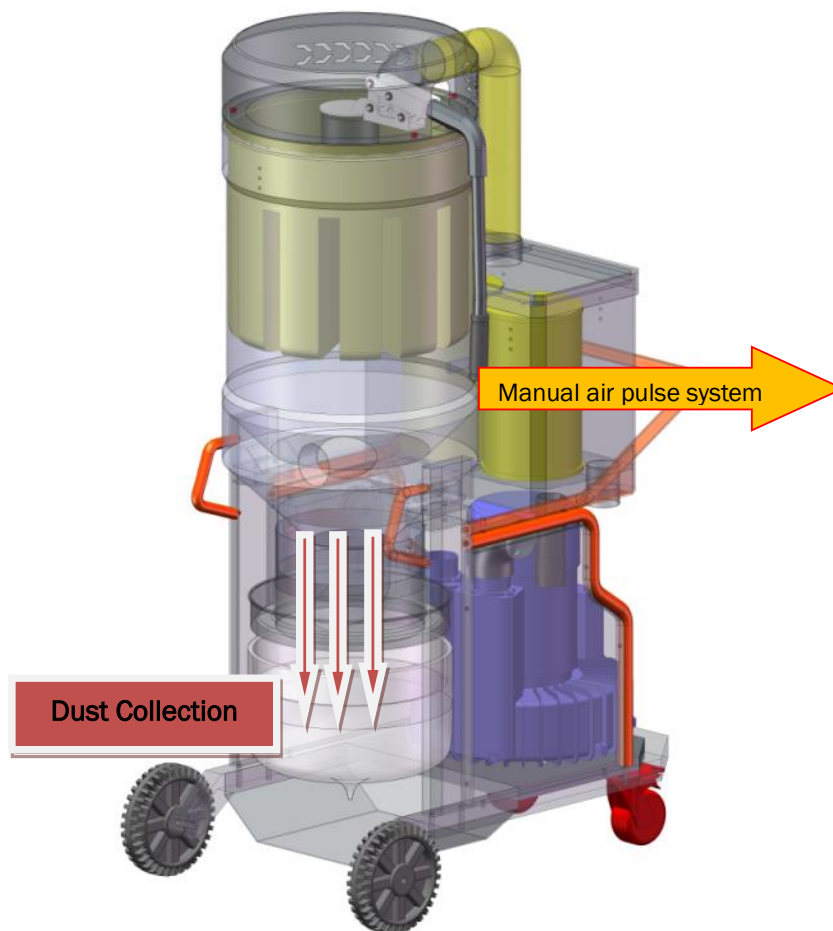


Fig. 2.2 Dust cleaning process

3 Product structure and characteristics

Main parts

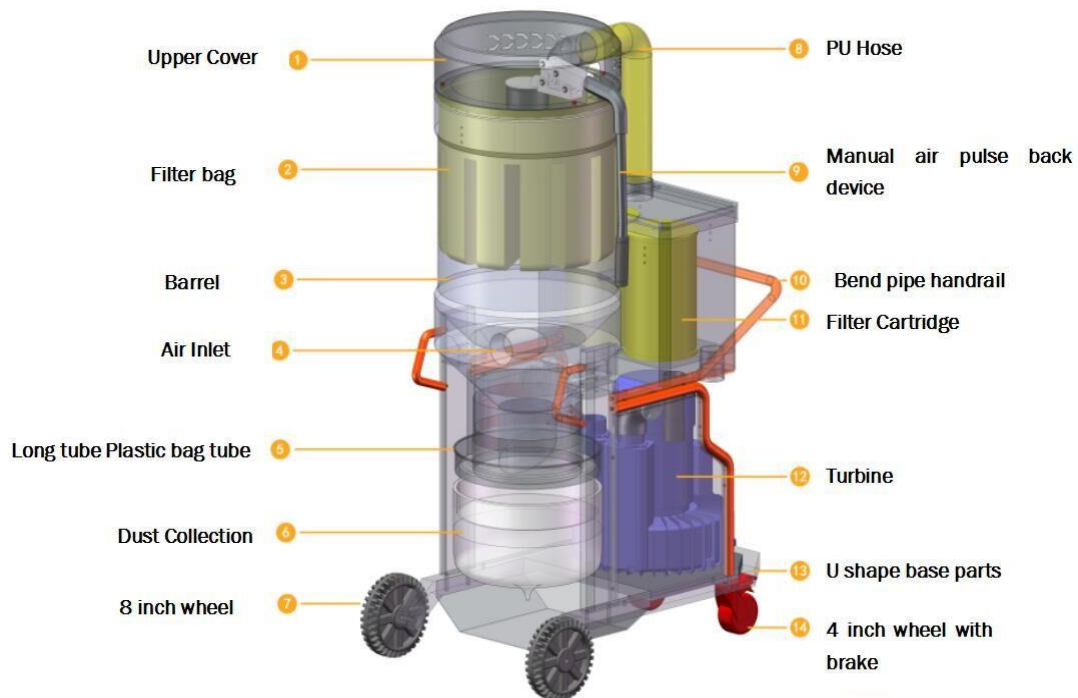


Fig. 3.1 Main Parts

3.1 Exterior Structure

VFG-86E industrial vacuum cleaner has a simplified design that gives excellent heat dissipation to the turbine. The prominent advantage of this model is the use of a designed continuous packing bag to collect the dust, which largely decrease the volume and weight, so that it could be easy for using. The main body adopts the SPCC metal plate with thickness of 2 mm. This ensures good endurance and heat resistance for the whole machine and thereby guarantees the structural strength. In addition, the metal plates are cut by laser cutting machine that greatly improve its size accuracy. For the machine surface preparation, we adopted the process of spraying and high temperature baking that provides a shining surface and a beautiful appearance with durability.

3.2 Manual Filter Cleaning Structure

VFG-86E is installed with a mechanical airflow reversing structure that conforms to the ergonomic design. Such unique manual filter cleaning system can effectively clean the dust accumulated on the surface of the filter cartridge over time. The user could easily clean up the filter cartridge according to the job requirements. It is a very cost-effective and handy design.



Fig. 3.2 Filter cleaning structure

3.3 Filtration System

VFG-86E vacuum has two-stage filtering units. The first stage will be the Anti-static Filter cartridge which can filter the dust particle size of $3.0\mu\text{m}$ with filter efficiency up to 99%. The secondary stage is the cartridge filters with polyester fiber material which is imported from Toray Industries in Japan. This cartridge filter coated with PTFE film can ensure the filter efficiency up to 99% for dust particle size of $0.3\mu\text{m}$. This kind of cartridge filter can effectively clean the PM2.5.



Fig. 3.4 – Filter Bag



Fig. 3.4 – Cartridge Filter

3.4 Dust Collection Bag

VFG-86E uses the continuous packing bag that could be hooked and buckled up on a tube base that can be easily fixed on the dust outlet. The continuous packing bag is a foldable long tube plastic bag that can be pulled out continuously.



Fig. 3.5 dust collection bag

3.5 Pressure Relief Valve

This pressure relief valve in the vacuum is specially designed to prevent the turbine from being burnt out when the vacuum overheats. If the pressure inside the vacuum reaches to that set in the valve, it will automatically open the valve to release the pressure to protect the turbine. At the same time, it cools off the turbine.



Fig. 3.6 Pressure Control Valve

3.6 Control Board

VFG-86E uses IP65 electric control board. The control board is waterproofed, dustproofed, anti-impact, insulated with plastic screws to prevent rust formation. The pressure gauge reads real-time pressure.



Fig. 3.7 Control Board

3.7 Turbine

The turbine in the VFG-86E vacuum has the international advanced technology of precision casting aluminum alloy. It completely conforms to the standard of IP54 and F insulation level. In addition, it has high voltage with double frequency and provides 24 hours continuous work and strong suction.



Fig. 3.8 Turbine

4 Operations

4.1 Manual Air-pulse back Operation

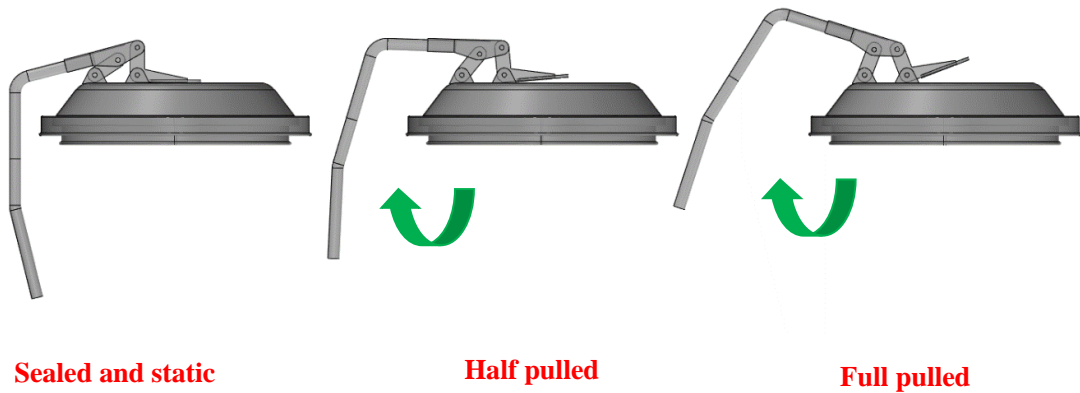


Fig. 4.1 Air pulse back Demonstration

Close the inlet using the block plate on air inlet, let the machine build up vacuum for a few seconds and then pull the rod repeatedly. The filter will be pulsed sequentially by a sudden burst of air from the flow-back air inlet. This mechanical filter cleaning process ejects all the dust from the surface of the filter, allowing for a very effective dust cleaning result.

4.2 Operation of the Control Board



Fig. 4.2 Control board

Just simply connect the three-phase four-wire system of the machine, then it can be used.

Connecting the power supply (four-pin plug)

Open the end cover of the four-pin socket on the machine and directly plug in with the four-pin plug, and then connect the other end of wire to the power supply.

Engine Start (start button)

When the power is on, press the switch with the “on” status to start the engine. To turn off the engine, press the switch with the “off” status, and the engine will stop.

4.3 Operation of Dust Cleaning

Two areas need to be cleaned: the first area to clean up is the filter bag and collection bag; the second area to clean up is the cartridge filters.

4.3.1 Operation of the Collection Bag

The foldable long plastic bag tube can be continuously pulled out. When it collects a certain amount of dust, it can be sealed by the nylon cable tie and then cut off with a scissor. See the photos below:



Step 1



Step 2



Step 3

Fig 4.3 Operations

4.3.2 Operation of cleaning cartridge filters

Take the cartridge filters out from the container and use air gun or brush to clean them.

Please refer to the steps in the below diagrams:



Fig. 4.4 cartridge filter cleaning

Step 1: Loosen the coupling as shown in Fig 4.4



Fig. 4.5 cartridge filter cleaning

Step2: Pull out the coupling and move it away, and then loosen all snap joints as shown in Fig. 4.5



Fig. 4.6 cartridge filter cleaning

Step 3: Move the box cover away from the box and take out all the cartridge filters from the box. Use the air gun to clean them up as shown on Fig. 4.6

5 VFG-86E Circuit Diagram

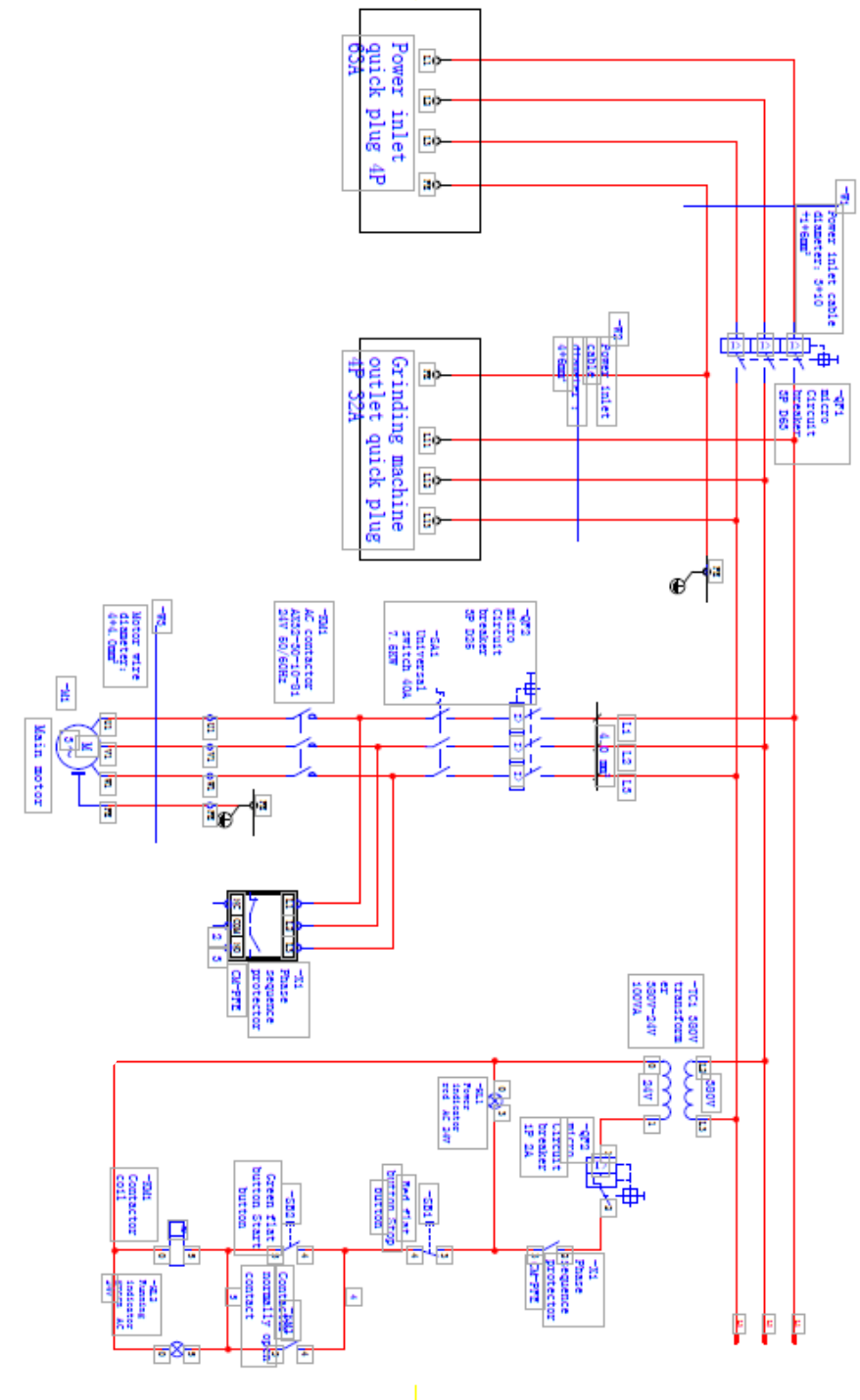


Fig. 5.1 Circuit Diagram

6 Routine maintenance and inspection

6.1 Daily maintenance

(1) During the operation of the equipment, it is best to designate a person to clean and maintain all parts. The user must be trained in handling the machine and hazardous dust. The person must be able to keep record of the machine.

(1) The designated person must be familiar on how to operate, service and check all electronic parts. User must know its performance, structure and read the operation manual. The user should be able to deal with any problem in a timely manner and make sure the system can run normally.

(3) Test the technical parameters, such as air flow, temperature, pressure etc... on a regular basis. Any abnormal problems must be dealt with timely.

(4) Inspect the air system. The dust discharge system should be working properly and if any issues arise, repair immediately.

(5) When finish using the machine, user should leave the vacuum cleaner with induced draft fan for a while to get rid of the wet air and dust inside the machine. Then the filter cartridges must be cleaned (can do manual cleaning) to avoid filter blockages affected by the wet air.

6.2 Troubleshooting and elimination method

Feature	Reason	Elimination method
Vacuum cleaner doesn't work	Phase sequence inversed	Exchange power cord L1 and L2
	Factory voltage fluctuation is too big, cause undervoltage or overvoltage	Factory provides solution themselves
	High electricity current cause thermal overload protector to disconnect.	Inspect if the motor is still working, if yes, the thermal overload device may disconnect.

Abnormal running resistance	Flue gas moisture condensation dust block the filter cartridge/bag	Blocking air leakage, increase the temperature of the flue gas.
	Process system doesn't work	Recover to work
Lack of suction power	Suction hose blocked or damaged	Clean or replace
	Filter cartridge blocked	Clean or replace the filter
Emission concentration is too large	Filter cartridge/bag is with wrong installation	Install and adjust the position of the filter units.
	Filter cartridge/bag damaged	Replace
	The first time using after replacement of the filter	Use the filter continuously for about 15minutes.

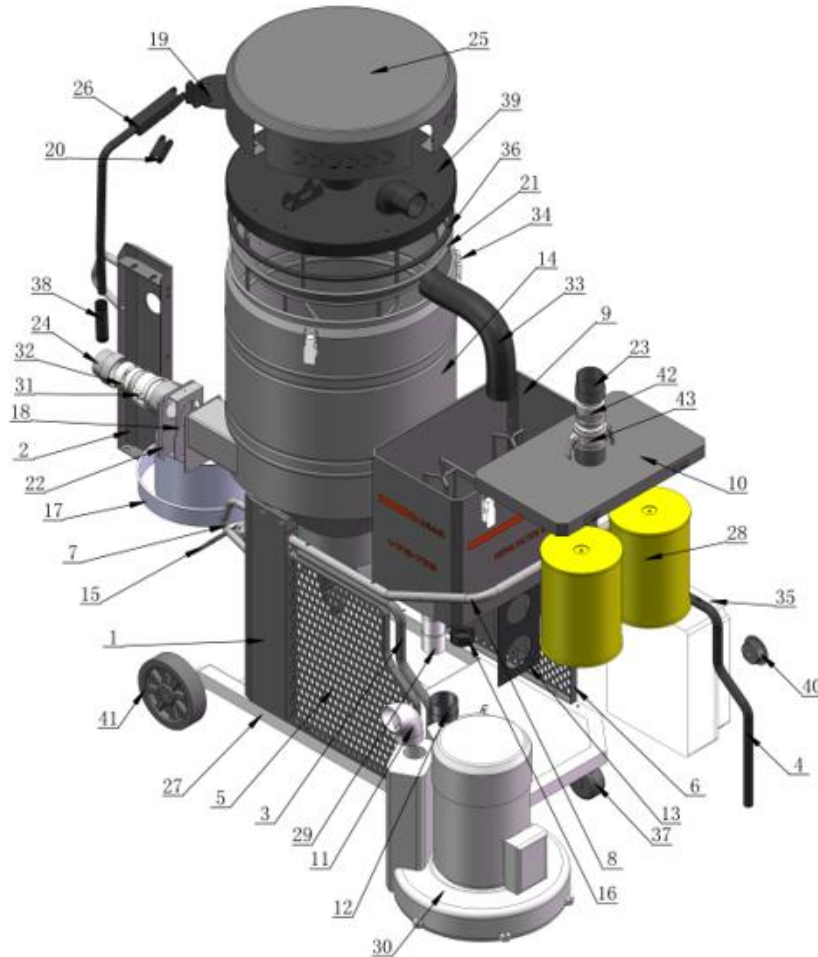
7 Technical Parameter

Model No.	VFG-86E
Voltage/frequency	Three Phase 380V/50-60Hz
Power	7.5kw
Air Flow	700m ³ /h
Vacuum	2700mm H ₂ O

Nos. of Filter Bag (units)	1
Nos. Of cartridge filter (units)	2
Diameter of Inlet	75mm (standard)
Noisy level	90±2dB
Filter rate	99%
Material of filter bag	“star” shape needle felt
Material of filter cartridge	“Toray” PTFE coated material (standard)
Filter fineness	0.3-1µm
Main filter method	Filter bag: negative pressure external filter Filter cartridge: negative pressure external filter
Dimension	1050x700x1600mm
Weight	170kg

8 Main Parts List

If you require any spare part in the machine, please contact Look Floors with the part number and name to supply for you.



1.	Left column	B.B.006.004.00-01	2.	Right column	B.B.006.004.01-01
3.	Left bent pipe	B.B.020.031.00-04	4.	Right bent pipe	B.B.020.031.01-04
5.	Left screen	B.B.029.004.00-01	6.	Electric box	B.B.018.021.00-01
7.	Front handrail	B.B.021.016.00-04	8.	Handrail	B.B.021.005.01-04
9.	Filter box	B.B.025.002.00-01	10.	Filter box cover	B.B.025.004.00-01
11.	Exhaust connector	B.B.011.039.00-01	12.	Motor connector	B.B.011.021.00-01

13.	Quick plug panel	B.B.038.010.00-01	14.	Stainless steel barrel	B.B.015.016.00-04
15.	Block plate for barrel mouth	B.B.014.001.00-04	16.	Air exhaust cap	B.B.025.012.00-01
17.	Bagging foundation	B.B.035.001.00-01	18.	VFG block plate for air inlet	B.B.036.008.00-04
19.	connecting rod A	B.B.032.004.00-01	20.	connecting rod B	B.B.032.007.00-01
21.	filter frame	B.B.039.003.00-01	22.	VFG air inlet	B.B.036.004.00-04
23.	Hose connector	B.B.011.022.00-01	24.	Hose connector (G3)	B.B.011.023.00-04
25.	Top cover	B.B.017.025.01-01	26.	Dust vibration handle	B.B.032.003.00-01
27.	Foundation base	B.B.003.022.00-01	28.	Φ215*310 HEPA Toray cartridge filter without screw	2.002.01.012
29.	Relief valve. 2BX4 142	5.009.04.014	30.	220V/60Hz/6.3KW 3phase turbine	3.002.01.072
31.	Quick connector (B type)	5.006.07.013	32.	Quick connector (F type)	5.006.07.014
33.	Φ75 clear PU anti-static hose	4.001.04.037	34.	Buckle (stainless steel spring)	5.008.05.014
35.	VFG-86E plastic electric box	3.020.02.028	36.	VFG-86 silicone sealing ring	4.002.03.009
37.	4 inch universal wheel	5.004.02.006	38.	VFG series plastic handle gloves.	4.004.04.001
39.	Barrel cover	B.B.017.031.00-01	40.	Pressure gauge	3.017.01.010
41.	8 inches castor	5.004.06.001	42.	Quick connector (B type)	5.006.07.009
43.	Quick connector (F type)	5.006.07.010	44.		

9 Warranty

9.1 Scope and duration of warranty

From the date of purchase of this equipment, the warranty period is one year except for hose and filters where no warranty is provided for them.

9.2 Conditions of warranty

- (1) This warranty does not include the replacement for the complete machine.
- (2) The warranty will be terminated automatically if the machine was not used as specified or if the machine has been modified or the parts has been replaced without written permission
- (3) With strict compliance to this manual, not permitting improper operation or instances outside of our control, warranty parts are damaged within the warranty period, the manufacturer will provide free repair and replacement.
- (4) If the customer needs to repair by himself, it must be done under the manufacturer's permission and in accordance with the guidance plan, otherwise the manufacturer will not be legally liable.
- (5) If the equipment fails due to improper assembly or disassembly, we shall charge for maintenance.
- (6) Please keep this warranty card. Please attach it immediately after the warranty, otherwise it will not be handled.
- (7) If the machine or any vulnerable parts are judged to have been intentionally damaged during the warranty period, it is not within the scope of the warranty.
- (8) If the motor or control box is burned or damaged by an abnormal voltage during operation, it is not covered by the warranty.
- (9) When the machine cannot run normally due to the wrong wiring method, if it is necessary for the manufacturer to send people to overhaul, if the non-machine fault is checked by the maintenance people, the customer must pay the travel expenses and working fee within the warranty period.

Equipment warranty card for VFG-86E

After-sales service Site:			
Customer Name			
Contact person		Telephone	
Machine Type		Motor Model	
Invoice Number		Purchasing Date	
Fault Description			
Solution			
Remarks			
Customer's		Date	
Signature			
Repairman's		Date	
Signature			
Note:			
<p>1. The warranty period of VFG-86E is one year except for hose and filters where the warranty does not apply.</p> <p>2. Please do not refit or disassemble our equipment. If the equipment is refitted or disassembled, our company will not guarantee it.</p> <p>3. If there is any problem with the machine, you can consult Flooring Wholesale Ltd first.</p>			