

DIESEL GENERATOR

OPERATION INSTRUCTION AND PARTS LIST MANUAL

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This manual contains: IMPORTANT WARNINGS and INSTRUCTIONS

READ AND RETAIN FOR REFERENCE



WARNING:

To reduce the risk of injury, the user must read and understand the operators manual before using this product.



PREFACE

Thank you for purchasing products from our company. We appreciate your business. The following manual is only a guide to assist you and is not a complete or comprehensivemanual of all aspects of maintaining and repairing your generator. The equipment you have purchased is a complex piece of machinery. We recommend that you consult with a dealerif you have doubts or concerns as to your experience or ability to properly maintain or repair your equipment. You will save time and the inconvenience of having to go back to the store if you choose to write or call us concerning missing parts, service questions, operating advice, and/or assembly questions. Our air-cooled diesel generators have some of the following features:

- Lightweight construction
- Air cooled
- Four-stroke diesel internal combustion engine
- Direct fuel injection system
- Recoil starter or an optional electric starter
- Large fuel tank
- Automatic voltage stabilizer
- NFB circuit protector
- AC and DC outputs
- Low oil pressure alarm

The air-cooled diesel generators are widely used when electrical power is scarce. Our welders provide a portable mobile solution in supplying power for field operations during project construction. Some other known applications include pipeline construction and metal welding when electrical power is not available.

This manual will explain how to operate and service your generator set.

If you have any questions or suggestions about this manual, please contact your local dealer or us directly. *Consumers should notice that this manual might differ slightly from the actual product as more improvements are made to our products, Some of the picturesin this manual may differ slightly from the actual product as well. We reserves the right to make changes at any time without notice and without incurring any obligation.*

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All parts of the unit name



CHAPTER 1.TECHNICAL SPECIFICATIONS AND DATA

1-1Technical specifications and data

Item	Model	KDF6	5700QQ	KDF8	500QQ	KDF67	00QQ-3	KDF85	00QQ-3
	Rated frequency (Hz)	50	60	50	60	50	60	50	60
	Rated power (kVA)	4.2	4.5	5.5	6.0	5.25	5.63	6.88	7.5
	Maximum power (kVA)	4.5	5.0	6.0	6.5	5.63	6.25	7.5	8.1
	Rated voltage (V)	230	120/240	230	120/240	230/400	127/220 240/415	230/400	127/220 240/415
	Rated current (A)	18.3	37.5/18.8	23.9	50/25	7.6	14.8 7.8	9.9	19.7 10.4
	Rated speed (r/min)	3000	3600	3000	3600	3000	3600	3000	3600
	Phase number		Sing	gle-phas	e		Three-	phase	
or	Power factor		1	.0			().8	
nerat	Ways of Excitation			Self-e	excited co	nstant vo	ltage(AV	/R)	
Ger	Manner of working	12-hours continuous operation							
	Connection ways	Taper shaft rigid connection							
	Total mass (Kg)	200		21	0	20		200 210	
	Overall dimension (mm)	994×642×750							
	Model	KD186FA KD192F							
	Types	Single cylinder, air cooled, four-stroke, direct injection, Vertical						Vertical	
	Displacement (mL)	418				499			
υ	Bore ×stroke (mm)	86×72 92×75							
ngin	Fuel Type		Diesel	fuel:0#(Summer)	;-10#(Wi	nter);-35	#(Cold)	
Ш	Fuel consumption g/kW.h			≤275 (2	3000rpm) /≤280	(3600rp)	m)	
	Compression ratio					20:1			
	Lube			CD or	SAE10V	V-30 or 1	5W-40		
Start-up mode / Batter capacity12V electric starting /32Ah12V			12V electric starting /36Ah		′36Ah				
	Fuel tank capacity (L)				14	.5			

1-2 Basic parameters

1-2.1 Under the given conditions, the generator will output the specified power in the table listed below.

Table 1. The generator should output its ratedpower under these conditions.

Height above sea level(in)	Ambient temperature(F)	Relative humidity(%)
0	+68(+20°C)	60

Table 2. The generator should output reliable work and its stipulated power

Altitude height(in)	Ambient temperature(F)	Relative humidity(%)
39370.08(1000m)	41-104(5-40°C)	90

1-3 General dimensions and overview of the generators

1-3.1 General dimensions of the QQ series generators



CHAPTER 2 OPERATING THE DIESEL GENERATOR

2-1 General main points of safety during operation of the generator set.

In order to operate the generator set safely, please follow all the instructions provided in this manual carefully. Doing so otherwise may lead to accidents and or equipment damage.

2-1.1 Fire prevention

The proper fuel for the diesel generator set is light diesel fuel. Do not use gasoline. kerosene and or other fuels other than light diesel fuel. Keep all flammable fuels away from the generator as the generator may spark and ignite these gases. In order to prevent fires from occurring and to provide enough ventilation for people and the machine, keep the diesel generator at least 1.5meters away from buildings or other equipment. Always operate your diesel generator on a level site. If the generator is operated on an incline, the lubricating system within the engine will not perform well and may lead to failure of the engine.

2-1.2 Prevention from inhaling exhaust gases

Never inhale exhaust gases emitted by the engine. The exhaust gases contain toxic carbon monoxide.Do not operate your generator in places with poor ventilation.

2-1.3 Prevention from accidental burns

system for the building is required to draw the Never touch the muffler and its cover when the diesel engine is running. Do not touch the muffler and cover after the diesel engine has been used, as the muffler remains hot for a good period of time.

2-1.4 Electric shock and short circuits

Never touch the generator if the generator is wet. And do not touch the generator if your hand is wet. Do not operate generator if the weather conditions call for any type of precipitation such as rain, snow or fogetc. To prevent electrical shocks, the generator should be grounded. Use a lead to connect the grounding end of the generator to the grounding surface of choice. Please refer to Fig.2-1 before beginning to use the electric generator.



2-1.5 Other safety points

Before operating this generator, all operators should have a good knowledge of how to break the circuit if any accidents occur. Also, all operators should be familiar with all the switches and functions of the generator before using this machine. While operating the generator, wear safe shoes and suitable clothes during operation. Always keep children and animals away from the generator.

2-1.6 Battery

The electrolytic liquid of the battery also known as battery acid contains sulfuric acid. Inorder to protect your eyes, skin and clothing, wear protective gear when working with the battery. If you come in contact with the electrolytic liquid, wash it immediately with cleanwater. Also, if the electrolytic liquid comes in contact with your eyes, see a doctor immediately.

2-2 Preparation before operation

2-2.1 Fuel choices and fuel treatment



in the lower portion of the drum)

6

2-2.2 Filling engine oil

Pouring inlet of lubricating oil

Put the generator set at level state, Fill the lubricating oil to it till the inlet. At the same time. Check the oil level with dipstick. It is neecessary only toinsert the dipstick lightly. Caution: don't ratate the dipstick.





Classification of maintenance for diesel engine The lubricating oil should be CD grade or above

Type	KDF6700QQ KDF6700QQ-3 KDF8500QQ KDF8500QQ-3
Volume(L)	1.65
England gallon	(0.36)

Engine oil is the most important factor in determining the life of your generator engine. If you use poor engine oil or if you don't change the oil regularly, the piston and cylinder will wear easily or seize up. Also, the life of the other parts in your engine such as bearings, and other rotating parts will shorten considerably.



Although there is an alarm system to check for low oil pressure, it is always a good idea to check the amount of oil inside the engine. If the oil level is low, fill it before starting the engine. A good time to drain the oil from the engine is when the diesel engine is still hot. If the engine is fully cooled, it is more difficult to drain all the oil out or some impurities will remain in the engine.



bolt to drain lubricating oil



bolt to drain lubricating oil

Warning: Don't fill engine oil when diesel is operating

2-2.3 Check the air filter

(1)Loosen the butterfly nut, take the cover of the air filter off and take the air filter element out.



Do not use detergent to wash the air filter element. When the performance of the engine decreases or when the color of the exhaust gases is bad, exchange the filter element. Never start the engine without the air filter as foreign obj ects may enter the intake and damage the engine.



Filter core

(2)After replacing the air filter element, replace the cover and tighten the butterfly nut firmly.

2-2.4 Checking the generator



AC output socket

(Note: Only certain welder generator sets have an electric fan incorporated on them.)

Before starting the generator, make sure the air switch is in the "off" position. Starting the generator with the switch in the "on" switch is very dangerous.

The generator should be grounded in order to prevent electric shock.

Use dry compressed air(with pressure about 1.96×105 Pa)to blow the dust out in the electric control cabinet and at the surface of the generatonCheck to see how clean the surface of the sliding ring is. Check the pressure of the carbon brush. Also, check whether the position of the carbon brush at the slide rig is correct and the fixture is reliable with a good contact.

According to the electric wiring diagram, check to see whether the connecting wire is correct and the connected place is firm.

Use a 500 M Ω meter to measure the insulation resistance of the electrical part. The resistance should be no less than 2M Ω . When measuring devices, make sure the capacitor is turned off. Otherwise, it will burn the capacitor. (For the low noise set, the inspection may not be performed). 2-2.5 The fuel and oil in a new engine is drained before sold. Before you start the engine, please fill the fuel tank and engine oil first. Then. check to see if there are air bubbles in the engine. If there are, follow these procedures. Loosen the connecting nut between the oil injection pump and oil pipe. Bleed the air from the system until there are no more bubbles. Then replace the connecting nut and tighten it.

2-3 Checking the operation of the diesel engine

2-3.1 Low-pressure alarm system.

The diesel engines have a low-pressure sensor system where if the oil pressure drops to low. the sensor will shut the engine off. Thepurpose of having this system is to ensure that the engine does not seize up. If there is not enough oil in the engine, the temperature of the oil will be raised too high. On the contrary, if there is too much oil in the engine, the engine oil can slow the engine down considerably.

2-3.2 Engine break in

(1)Avoid overloading the engine when brand new.

(2)Change the engine oil according to specifications. An oil change for a brand new engine is about 20 hours or every month, an older engine, the oil change is about 100 hours or three months.

2-4 Starting the generator set

2-4.1 Electric starting

The procedures for preparing to start eh engine are the same as the manual starting engine.

- 1. Insert key into ignition and put it in the "off "position.
- 2. Put the speed handle in the "Run" position.
- 3. TuITI the start switch clockwi~to the "START" position; to set the silent type, first turn it clockwise to the "RUN" (ON) position for 1-2 seconds. The electromagnetic iron will be triggered, now turn it clockwise to the "START" position.
- 4. After the diesel engine is started, remove your hand from the switch handle; the switch will automatically reset itself to the "ON" position.
- 5. If the engine is not starting after 10 seconds of cranking, wait about 15 seconds before trying it again. If you crank to long, the voltage of the battery will drop. This can lead to improper ignition. When the diesel engine is operating, let the ignition retain on the "ON"position.



2-4.2 Battery

Important Notice: SOME OF OUR UNITS DO NOT COME WITH A BATTERY FOR SHIPPING SAFETY PURPOSES. In order to get your generator started for the first time; the battery must be purchased at a local hardware or automotive supply store. Please verify the dimensions of the generator battery tray with the size of battery to be purchased. Also, all diesel generators need to have a battery with a minimum of $36 \sim 38$ amp hours. If you purchase a dry battery and fill it with acid, please verify the acid level of the battery once a month.

2-5 Proper operation of the generator set

- 2-5.1 Operating the diesel engine
 - 1.Pre-heat the diesel engine for 3 minutes under no load conditions.
 - 2.First check the height of the lubricating oil level, if it is low, refill it. Our diesel engines are equipped with an alarm system that will notify you if the oil pressure is too low. The alarm system will shut down the engine if the oil pressure is too low.
 - 3.Do not adjust the speed limit regulation bolt or the fuel adj ustment bolt. These bolts have been set by the factory already, changing them will affect the porpertie s of the engine performance.



Fuel adjustment bolt

Speed limit bolt



Fuel adjustment bolt

Fuel adjustment bolt

- 2-5.2 Checks during engine operation
 - 1. Check to see if there are abnormal noises.
 - 2. Check to see if the performance is good or bad.
 - 3. Check the color of the exhaust gases (whether it iS too black or too white). If any of these conditions exist, stop the engine and find the cause of the problem. If no problems are found, please contact your local dealer or our nearest company branch.

2-6 Loading

- 2.6.1 Load conditions
 - Exert loads in accordance with the specified parameters.
- 2.6.2 Output of electricity

1.Raise the revolutions per minute(turn the speed handle to the max setting) of the generator to get the maximum power out of the generator. If not, the automatic voltage regulator device will excite and doing this for long periods of time will cause the capacitor to burn. For the rated speed of the generator, please refer to Chapter 1, item 1-1 technical specification and data.

- 2. Observe the pointer of the voltmeter, it should point to 230V/400V±5%(50Hz). (For 60Hz set, it will be 240V±5%). Mean while put the switch in the GEN(genemtor)position. The AC voltage from the socket of the power supply canbe output.
- 3. When connecting devices to the generator, make sure to connect these devices in order. Connect the large loads onto the generator first. If everything is functional, smaller loads can then be added. If the generator shuts off, it may be because the load being drawn by all the various devices are too high. In this event, decrease the number of small devices until everything is functional. The total drawn power should not exceed the maximum output power of the generator. Please see Table 1-1 for technical specifications of what the generator can output. In order to reset the generator after overdrawn power, let it sit for several minutes. If the indication of the voltmeter is too high or too low, adjust the speed accordingly. If there are problems, stop the generator immediately and fix the issue.
- 4. During operation, the generator should be in a place that has very good ventilation. Never cover the engine to solve a ventilation problem, as this will damage your equipment.

Note: Do not start more than two devices simultaneously. Each device should be started one by one to prevent overloading the generator.

The generator should be running at 3000/3600 revolutions per minute in order to achieve the(50/60Hz)fequenty. The speed of the engine can be adjusted from the speed governor.

2-6.3 Charging the battery

- 1. For the electric starter on the generator, the 12V battery is automatically charged through the regulator on the side of the engine when it is running.
- 2. If the generator is not used for long periods of time, the battery should be disconnected to avoid energy loss from the battery.
- 3. Do not connect the negative and positive terminals of the battery together at any time. Doing so will damage the battery.
- 4. Do not reverse the polarities when attaching the battery cables to the battery. Doing so will damage both the battery and the electric starter.
- 5. When charging the battery,the battery produces flammable gases. Do not smoke, let flames, and sparks far away the battery while it is charging as this may cause a fire. To avoid sparking while connecting the cables to the bakery,first, connect the cables to the battery then to the motor, To disconnect battery cables, first disconnect the motor end of the cable.

2-7 Stopping the generator

- 1. Take the electrical load off the generator.
- 2. Putthe speedhandle inthe "RUN" position and let the engine run for 3 minutes after unloading. Do not stop the diesel engine immediately let it warm down. Stopping the diesel engine suddenly may raise the temperature of the engine abnormally and lock the nozzle and damage the diesel engine.

Note:

- 1.If the speed handle is in the "Stop" position and the engine is switch running, turn the fuel switch to the "Off" position or loosen the high pressure oil pipe nut. The engine could be stopped more than one-way other than the speed handle way.
- 2.If you cannot stop the engine with a load on it. then remove the load first than stop the engine.
- 3. Press down on the brake handle.
- 4. If equipped with an electric starter, turn the key to the" Off "position.
- 5. Put the fuel handle to the "Stop" position.
- 6. Finally, pull slowly on the recoil handle until you feel resistance(this is when the piston is on the compression stroke, where the intake and exhaust valves are closed). What this does is prevent the engine from rusting when not in use.

CHAPTER 3 MAINTENANCE

3-1 Maintenance schedules

Kepping your generator well maintained will prolong the life of your generator. Everything needs to be checked including the diesel engine, welder, generator, control cabinet, and frame. For overhauling procedures, please refer to the instruction manual of the relative subassembly. If you need these manuals, plsaes call our company and we will send you one.

Before starting the maintenance, make sure the diesel engine is off. Pleaes refer to the Table 3-1 for the proper maintenance schedule.

Interval of	Every time	1st month or after 20 hours	3rd month or 100 hours	6th month or 500 hours	Every year or 1000 hours
Check and fill enough fuel	0				
Check and fill enough engine oil	0				
Check whether it leaks oil	0				
Check and screw each fastened part	0			Screw the boll of cylinder head firmly	head firmly
Exchange engine oil		(1st time)	(2 nd time late)		
Clean filter of engine oil				O (Exchange)	
Exchange air filter element	If operated at dusty register should be shorten	on the period of r	naintenance	O (Exchange)	
Clean filter of fuel				0	(Exchangel)
Check high pressure oil pump				•	
Check nozzle				•	
Check fuel pipe				(If necessary, exchange it)	
Adjust the gaps of air intake and air exhausted gate		(1st time)		•	
Grind air intake and air exhausted gate					•
Exchange piston ring					•
Check electrolytic solution of accumulator			(each month)		
Check electric brush and slide ring				•	
Check insulation resistance		Th	e time of stop is over	10 days. 0	

Table 3-1. Maintenance schedulefor diesel generator set

Note:"•" mark indicates that it needs special wrench, please contact with dealer.

3-1.1 Changing the engine oil(every 100 hours)

Take the oil cover out. Remove the oil drain plug when the diesel engine is still hot. Be careful of hot oil and hot engine as you may get burned. The bolt is located at the bottom of the cylinder. After draining the oil, put the bolt back and tighten it. Then fill with the proper engine oil to the proper level.



Oil drain bolt

- 3-1.2 Air filter maintenance schedule
- 1. Clean air-filter every 6 months or 500 hours of operation.
- 2. If necessary. exchange it.
- 3. Do not use detergent to clean air filter element.



Note:

Never start the engine without the air filter. This can cause serious damage to the engine if foreign objects enter the intake system. Always change the air filter on time.

- 3-1.3 Fuel filter maintenance
- 1. The fuel filter should be cleaned often to keep the engine running at maximum performance.
- 2. The recommended time period for cleaning the fuel filter is 6 months or 500 hours of operation.
 - a.To do this, first drain the fule from the fuel tank.
 - b. Loosen the small screws on the fuel switch and remove the fuel filter form the port. Use diesel fuel to clean the fuel filter. Also, remove the fuel injector and clean the carbon deposit around it. The recommended time period for this is 3 months or 100 hours.

3-1.4 Cylinder head bolt tensions

The cylinder head bolts should be tightened to specifications please refer to the diesel engine manual for specifications and the special tools reuired to do this.

3-1.5 Battery check

Make sure the battery acid is full. The en. gine uses a 12V battery. Due to numerous starting cycles, the battery acid may be used up. Also, before filling, verify that the battery is not damaged in any way. Add distilled water to the battery when filling. Perform checks on the battery once a month.

3-2 Storing for long periods of time

If your generator needs to be stored for long periods of time, the following preparations should be made.

- 1. Start the diesel engine for 3 minutes then stop it.
- 2. When the engine is still hot, change the engine oil with new engine oil of the proper grade.
- 3. Pull the rubber plug out of the cylinder head cover and put 2CC of lubricating oil in it, then cover the plughole up again.
- 4. For manual starting generator welders, press the decompression handle down and pull the recoil handle 2 or 3 times. This pushes the intake out. (Do not start the engine)
- 5. For electric started generator, press the decompression handle down and crank the engine for 2-3 seconds. To do this, put the starter switch in the "Start" position. (Do not start the diesel engine)
- 6. Finally, pull the recoil starter until you feel resistance; this is when the piston is on the compression stroke where the intake and exhaust valves are closed. Having the intake and exhaust valves closed will prevent rust, as moisture cannot get inside the combustion chamber.
- 7. Clean the engine and store it in a dry place.

CHAPTER 4 TROUBLE SHOOTING

4-1 Troubleshooting procedures

	Causes of malfunction	Remedy
	Not enough fuel	Add enough fuel
ted	The switch of fuel is not at "OPEN" position High-pressure pump and nozzle do not inject	Turn the switch of fuel to "OPEN" position
star	fuel or the injected amount is less	Disassemble the nozzle and adjust it at test table
be	Speed control lever is not at "RUN" position	Tum speed control lever to"RUN" position
annot	Check level of lubrication oil	The standard oil amount of lubricating oil should be be- tween high graduation"H"and low graduation"L"
esel c	It is not quick and powerful to pull reactive starter	Start diesel engine in accordance with the requirements of "start operation procedures"
Di	Nozzle exists dirt	Clean the nozzle
	The Battery is lower power	Charge the battery or exchange it
city	Master switch is not be switched on	Turn capacity switch handle to"ON" position
at electri	Carbon brush of generator was worn, The contact is not good	Exchange the carbon brush
cener	The contact of socket is not good	Adjust the contact feet of socket
cannot g	The electric switching	Make it reach to the rated revolution in accordance with the requirements
rator	AVR automatic governor is damaged	Exchange it
Gene	The fuse is not work	Exchange it

If you are still having trouble, please contact with your nearest dealer or with our company directly if necessary.

4-2 Questions and doubts

If you do not understand anything or have any questions, please feel free to contact your local dealer or with our company directly. Below is a list of some information you should have ready before contacting your local dealer or us.

- 1. Model of diesel engine generator and engine model number.
- 2. State of residency
- 3. Number of hours of operating equipment along with the problem that occurred.
- 4. A detailed condition and time when the problem occurred, in other words, climate and atmosphere

Chapter 5 Part Listings Super silent generator explosion diagram

1. Engine components



No.	Part Number	Part Description	Qty
1	KD186FA KD192F	Air Cooled Diesel Engine	1
2	GB/T93-1987	Washer10	4
3	GB/T97.1-2002	Washer10	4
4	GB/T6170-2000	Nut M10	4
5	GB/T5783-2000	Bolt M8x16	2
6	KDF8500QQ-01100	Cushion collar	1
7	KDF8500QQ-01200	Buffering Support	1
8	KDF8500QQ-01300	Oil drain bolt gasket	2
9	KDF8500QQ-01400	Oil drain connecting pipe	1
10		Oil drain pipe	1
11	QC/T619-1999	Hoop Q67632	1

2. Generator components

NO.	Part Number	Descrption	Qty
1	KT7kW	Generator	1
2		Front cover	4
3	GB/T5783-2000	Bolt M8x30	4
4	GB/T5786-2000	Bolt M5x12	3
5		Rotor fan	1
6		Rotor	1
7	6204DU	Bearing	1
8	6204DU	Clamp spring	1
9		Washer	1
10		Bolt	1
11	GB/810-88	Nut M5	2
12		Generator stator	1
13		Bolt M5	1
14	GB/T5783-2000	Bolt M6x20	1
15		Rear end cover sponge	1
16		Rear cover	1
17		Carbon shoe	1
18	GB/T5786-2000	Bolt M5x16	1
19		AVR	1
20	GB/T5786-2000	Bolt M5x16	1
21	GB/T6170-2000	Nut M10	2
22	GB/T93-1987	Washer10	2
23	GB/T97.1-2002	Washer10	2

3、 Chassis components

NO.	Part Number	Part Description	Qty
1	KDF8500QQ-02100	Chassis	1
2	KDF8500QQ-02200	Shock pad	4
3	KDF8500QQ-02300	Bracket	1
4	GB/T5783-2000	Bolt M10x40	6
5	GB/T95-2002	Washer 12	8
6		Castor	4
7	GB/T91-2000	Cotter pin 2.8x40	4
8	GB/T97.1-2002	Washer 10	24
9	GB/T93-1987	Washer 10	24
10	GB/T6170-2000	Nut M10	14

4. Cover components

NO.	Part Number	Descrption	Qty
1	KDF8500QQ-03100	Cover	1
2	KDF8500QQ-03200	Front door	1
3	KDF8500QQ-03300	Seal	2
4	KDF8500QQ-03400	Right side plate	1
5	KDF8500QQ-03500	Air inlet seal plate	1
6	KDF8500QQ-03600	Air inlet cover plate	1
7	KDF8500QQ-03700	Tank	1
8		Diesel filter	1
9		Fuel tank cap	1
10	GB/T818-2000	Screw M5x12	2
11		Fuel indicator	1
12	KDF8500QQ-03800	Rear cover plate	1
13	KDF8500QQ-03900	Air filter cover	1
14	KDF8500QQ-03910	Left plate	1
15	GB/T5786-2000	Bolt M6x16	48
16		Window	1
17	KDF8500QQ-03920	Fuel tank mouth shock absorbing pac	1

5、Partition unit

NO.	Part Number	Descrption	Qty
1	KDF8500QQ-04100	Baffle plate	1
2	KDF8500QQ-04200	Air exhaust plate sheath	1
3	GB/T5786-2000	Bolt M8x16	2
4	KDF8500QQ-04300	Cover plate weldment	1
5	GB/T5786-2000	Bolt M6x16	4

6、Muffler parts 1

NO.	Part Number	Descrption	Qty
1	KDF8500QQ-05100	Muffler weldment 1	1
2	KDF8500QQ-05200	Muffler seal gasket	2
3	GB/T6170-2000	Nut M8	4
4	GB/T5786-2000	Bolt M6x16	2
5	GB/T93-1987	Washer 8	4
6	GB/T97.1-2002	Washer 8	4

7、Muffler parts 2

NO.	Part Number	Descrption	Qty
1	KDF8500QQ-05200	Muffler weldment 2	1
2	GB/T5789-1986	Bolt M8x12	2
3	GB/T5789-1986	Bolt M8x16	2
4	GB/T5783-2000	Bolt M8x30	2

8. Control panel component

NO.	Part Number	Descrption	Qty
1	KDF8500QQ-06100	Control panel rear casing	1
2	KDF8500QQ-06200	Panel sheet metal parts	1
3	JK427	Starting switch	1
4		Starting switch pad	1
5		Starting switch nut	1
6		Circuit breaker	1
7		ATS socket	1
8	GB/T818-2000	Screw M3x8	2
9		Earth stud	1
10	GB/810-88	Nut M6	1
11		Earth nut M6	2
12		Fuse	1
13	GB/T818-2000	Screw M3x30	4
14	YGB-008 30A/250V	Receptacle	2
15	GB/T5786-2000	Bolt M6x16	6
16	KP501	Controller	1

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