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Operators Manual

Please note: This manual is designed for the GPFW130A and GPFW220A welder generators. The images used in the guide are for reference only and may differ slightly to the product itself.

Instruction Manual

Gasoline Welding Generator

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IMPORTANT:

Thank you for purchasing a Gentech Power & Shineray Gasoline Welder Generator (hereinafter referred to as the "welder generator").

This manual will assist you in operating and maintaining your welder generator. This manual is the latest version.

With the continuous improvement and upgrading of this product, the manufacturer reserves the right to modify this manual without notice. The manufacturer shall assume no liability for incorrect information contained in this manual.

This manual is an integral part of the welder generator. When the welder generator is transferred to others, this manual should be handed over to the new owner.

Some important information in this manual will be indicated in the following way. The users should pay special attention to these instructions.

The range of Gentech Power & Shineray Products is safe and reliable, but incorrect use of these products may cause personal injury and or damage to your machine. Please read this manual thoroughly before operation as this product is required to operate strictly in accordance with this manual.

IMPORTANT NOTICES:

PLEASE PAY SPECIAL ATTENTION TO STATEMENTS PRECEDED BY THE FOLLOWING WORDS:



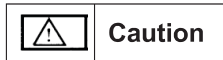
- **DANGER**

This indicates a hazardous situation, which, if not avoided, will result in death or serious injury.



- **WARNING:**

This indicates a hazardous situation, which, if not avoided, could result in death or serious injury.



- **CAUTION:**

This indicates a hazardous situation, which, if not avoided, could result in injury.

For any queries on the above please contact GenTech Industries

Engine Oil:

Gentech Power now supply the correct amount of oil to all welding generators.






SAE 15W-40 Engine Oil

GPFW130A Oil Capacity: 600ml

GPFW220A Oil Capacity: 1000ml

1. GENERAL SAFETY INFORMATION:

	Danger		Warning		Caution
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- 1.1.A “LAYMAN” and or “CHILDREN” may not recognize the possible dangers of operating a Welder Generator. We recommend that only competent persons should operate the Welder Generator.
- 1.2.Fuel is combustible and easily ignited. Do not refuel during operation.
- 1.3.Do not refuel whilst smoking or near naked flames. Do not over fill or spill fuel. If this happens clean the fuel on and around the Welder Generator properly before operating.
- 1.4.Only use the specified fuel and oil when operating the Welder Generator.
- 1.5.Some parts of the internal-combustion engine are hot and might cause burns. Pay attention to the warning signs on the generating set.
- 1.6.Engine exhaust gases are toxic. Do not operate the Welder Generator set in an unventilated room. When installed in a ventilated room, additional requirements for fire and explosion protection shall be observed.
- 1.7.Regularly check that the bolts and nuts are properly tightened as they may become loose due to the vibration of the Welder Generator whilst in operation.
- 1.8.Before using the Welder Generator ensure that you have checked the periodic maintenance schedule in the operator manual.
- 1.9.Always use a face shield/welding mask when welding with the Welder Generator. Your face and eye protection is of the utmost importance.
- 1.10.Looking at a welding arc may cause damage and or severe pain to your eyes and even possible temporary blindness. DO NOT BE NEGLIGENT.
- 1.11.Always wear the correct specified gloves when operating the Welder Generator.
- 1.12.Always wear the correct specified safety shoes/boots when operating the Welder Generator
- 1.13.Always wear an apron when operating the Welder Generator.

2. ELECTRICAL SAFETY INFORMATION:

2.1. Electrical equipment including cables, cords and plug connections must not be defective.

Please check before using.

2.2. Do not plug a Welder Generator directly into a wall socket – outlet.

2.3. The Welder Generator shall not be connected to other power sources such as the power company supply mains. In special cases where stand-by connection to existing electrical systems or integration therewith is intended, note that it is a legal requirement that such connection or integration may only be performed by a competent person.

2.4. Protection against electrical shock depends on circuit-breakers that are specially matched to the Welder Generator. If a circuit breaker requires replacement, it shall be replaced by a circuit breaker that has identical ratings and performance characteristics.

2.5. Due to high mechanical stresses only tough rubber-sheathed flexible cable should be used

2.6. If the Welder Generator is of Class II construction then earthing of the Welder Generator is not required.

2.7. EXTENSION CORDS:

When an extension cord set is connected to the generating set the following should be considered:

2.7.1.A 1mm² flexible cable can draw a maximum of 10A provided that the cable is not longer than 25m.

2.7.2.A 1.5mm² flexible cable can draw a maximum of 10a provided that the cable is not longer than 35m

2.7.3.A 1.5mm² flexible cable can draw a maximum of 16a provided that the cable is not longer than 20m

2.7.4.A 2.5mm² flexible cable can draw a maximum of 10a provided the cable is not longer than 65m

2.7.5.A 2.5mm² flexible cable can draw a maximum of 16a provided that the cable is not longer than 45m

2.7.6.A 4mm² flexible cable can draw a maximum of 10a provided that the cable is not longer than 100m

2.7.7.A 4mm² flexible cable can draw a maximum of 16a provided that the cable is not longer than 65m

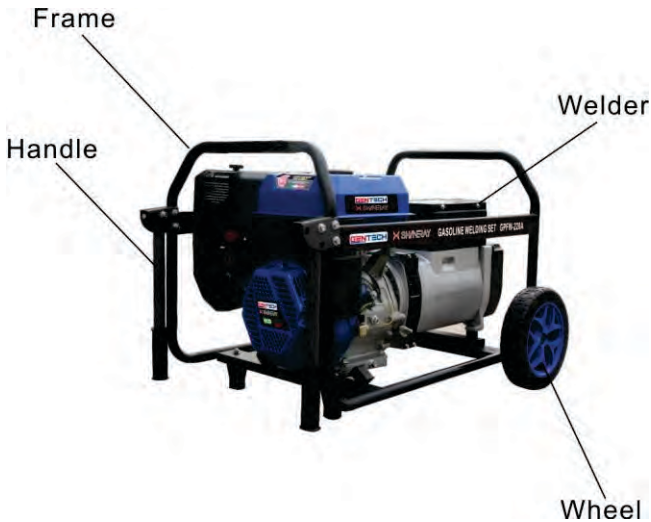
3. VOLTAGE DROP IN ELECTRIC EXTENSION CORDS:

When a long electric extension cord is used to connect an appliance or tool to the generator, a certain amount of voltage drop or loss occurs in the extension cord which reduces the effective voltage available for the appliance or tool.

The chart below has been prepared to illustrate the approximate voltage loss when an extension cord of 300 feet (approx. 100 meters) is used to connect an appliance or tool to the generator.

Nominal cross section	A.W.G.	Allowable current	No. of strands / strands dia.	Resistance	Current Amp.							Voltage drop	
					1A	3A	5A	8A	10A	12A	15A		
mm ²	No.	A	No./m m	/100m									
0.75	18	7	30/0.18	2.477	2.5V	8V	12.5V						
1.27	16	12	50/0.16	1.486	1.5V	5V	7.5V	12V	15V	18V			
2.0	14	17	37/0.26	0.952	1V	3V	5V	8V	10V	12V	15V		
3.5	12 to 10	23	45/0.32	0.517		1.5V	2.5V	4V	5V	6.5V	7.5V		
5.5	10 to 8	35	70/0.32	0.332		1V	2V	2.5v	3.5V	4V	5V		

4. CONTROL IDENTIFICATION:



SAFETY STICKERS AND EXPLANATIONS:

GTC-141#(69*37)PVC

SR225
 HECA-37#(100*22)PVC
 粘胶尺寸为503

HEGA-16#(42*55)PVC

HEGA-18B(18*30)PVC
 粘胶尺寸为503

HEGA-16B(105*34)PVC

BEFORE OPERATION, PLEASE READ THE OWNER'S MANUAL CAREFULLY.
CHECK THAT THERE IS NO OIL FUEL SPILLING OR FUEL LEAKAGE. PLUG IN FUEL BEFORE STOPPING THE ENGINE TO PREVENT A FIRE.

HEGA-20B(105*34)PVC

ENGINE START PROCEDURE
 1 2 3 4 5 6

HEGA-21B(150*35)PVC

DANGER FURNACE PRODUCE CARBON MONOXIDE WHICH IS AN UNVISIBLE DEADLY POISON. DO NOT OPERATE IN AN ENCLOSED AREA.
WARNING HOT SURFACE DO NOT TOUCH.

HEGA-22B(150*35)PVC

BE UNLOADED FUEL ONLY
DO NOT USE ANY OTHER FUEL

GTC-153#(50*25)PVC
KEEP OUT OF REACH OF CHILDREN

GTC-154#(50*13)PVC

GTC-155#(145*35)PVC

GTC-186#(600*40)粘砂

GTC-#(95*52)PVC

SR420
 HEGA-14# 100*22PVC
 粘胶尺寸为503

HEGA-17#(42*55)PVC

HEGA-18B(18*30)PVC
 粘胶尺寸为503

HEGA-27#(122*46)PVC

BEFORE OPERATION, PLEASE READ THE OWNER'S MANUAL CAREFULLY.
CHECK THAT THERE IS NO OIL FUEL SPILLING OR FUEL LEAKAGE. PLUG IN FUEL BEFORE STOPPING THE ENGINE TO PREVENT A FIRE.

HEGA-28#(122*46)PVC

ENGINE START PROCEDURE
 1 2 3 4 5 6

HEGA-29B(180*40)PVC

DANGER FURNACE PRODUCE CARBON MONOXIDE WHICH IS AN UNVISIBLE DEADLY POISON. DO NOT OPERATE IN AN ENCLOSED AREA.
WARNING HOT SURFACE DO NOT TOUCH.

HEGA-30#(180*40)PVC

BE UNLOADED FUEL ONLY
DO NOT USE ANY OTHER FUEL

GTC-#(50*25)PVC
KEEP OUT OF REACH OF CHILDREN

GTC-#(50*13)PVC

GTC-#(145*35)PVC

HEGA-23#(52*52)PVC

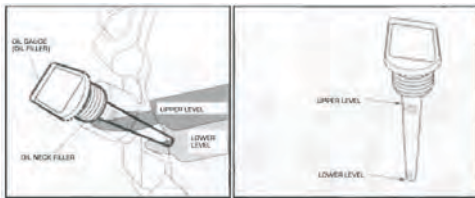
HEGA-31#(89.5*100)PVC

GTC-#(600*40)粘砂

5. PRE OPERATING INSPECTION:



- 5.1.Engine Oil – This is a major factor affecting the performance and life span of the Welder Generator. Do not use non-detergent and 2 stroke oil as this will damage the Welder Generator.
- 5.2.Before using the Welder Generator check the oil level, ensure that the unit is on a flat and level surface when doing this and that the unit is “OFF”
- 5.3.The recommended oil to use is 4 - stroke engine oil **SAE 15W-40**

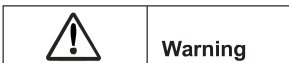


5.3.1 OIL CAPACITY FOR THE VARIOUS WELDER GENERATOR MODELS:

5.3.1A GPFW130A - 600ml

5.3.1B GPFW220A - 1000ml

- 5.4.Running the Welder Generator with insufficient engine oil will cause damage to the Welder Generator.
- 5.5.Please note that the Welder Generator is fitted with a “low oil alert sensor”.
- 5.6.Only use clean un- leaded fuel when operating/running the Welder Generator Dirty/contaminated fuel will cause damage to the Welder Generator and will affect the performance.



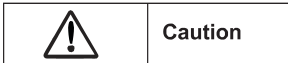
- 5.7. Gasoline is extremely flammable, exercise extreme caution when putting fuel into the fuel tank.
DO NOT BE NEGLIGENT.
- 5.8.Always refuel in a well ventilated area.
- 5.9.Do not attempt to refuel the Welder Generator whilst the engine is running.
- 5.10.Be careful not to over fill the tank when refueling. If this happens, clean the fuel spillage properly.
- 5.11.Do not smoke whilst refueling.
- 5.12.Keep out of reach of children

6. STARTING THE ENGINE:

- 6.1. Turn the circuit breaker to the "OFF" position.
- 6.2. Set the auto-throttle switch to the "OFF" position
- 6.3. Open the fuel cock
- 6.4. Push the choke lever to the "CLOSED" position



Do not use the choke if the engine is warm

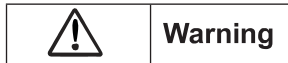


If using the recoil starter (pull starter) to start the engine be careful as injury may occur due to the sudden change of the rotation direction of the engine.

- 6.5. Open the choke lever

7. USING THE GENERATOR:

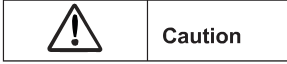
- 7.1. Connect the load to the Welder AC Output Receptacle.
- 7.2. Set the welder/AC 50HZ selector to the AC 50Hz position.
- 7.3. Turn the circuit breaker to the "ON" position.
- 7.4. Turn the engine switch to the "ON" position.



Do not overload your generator, only load up to the rated power under the rated ambient conditions. Note that operating your generator in extreme humidity and temperatures or in an environment that is not well ventilated will affect the performance and a reduction in power will be noticed.

8. USING THE WELDER:

- 8.1. Connect the welding cables to the respective welder terminals.
- 8.2. Set the welder/AC 50HZ selector to the "WELDER" position.
- 8.3. Set the current adjusting dial to the required current level.



NEVER CONNECT ANY TYPE OF ELECTRICAL APPLIANCE TO THE AC RECEPTACLES WHILS THE SELECTOR IS SET TO THE "WELDER" POSITION.

9. ACTUAL WELDING:

9.1. Selecting the correct welding current:

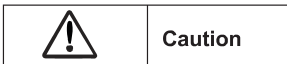
- 9.1.2 First measure the thickness of the steel plate that requires welding. Then select the correct electrode diameter and current making reference to the table below:

TABLE 1:

PLATE THICKNESS (mm)	ELECTRODE DIAMETER (mm)	CURRENT SETTING(A)
1.6 – 3.0	1.6	50 - 80
3.0 – 4.0	3.2	70 - 120
4.0 – 6.0	4.0	110 - 170
>7.0	5.0	140 - 210

9.2. Selecting the welding cable:

Table 2 shows the current carrying capacity of various lengths and gauges of standard copper welding



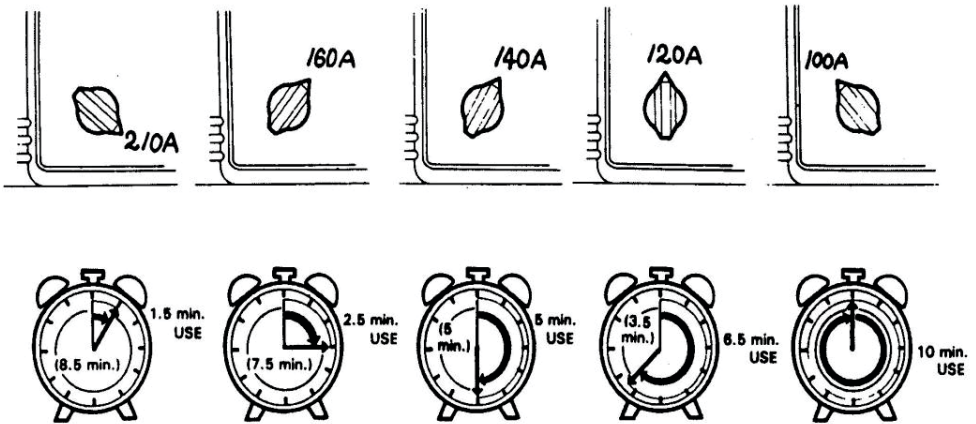
- Always allow a considerable safety margin when selecting welding cable.
- The life span of the welder will be shortened if the specification cable fails to meet the requirements.

TABLE 2:

CABLE GAUGE	CABLE SQ (MM2)	LENGTH (METERS)	
		15 - 30	30 - 40
		CURRENT CAPACITY (AMPERES)	
1	35	200	150
2	25	150	100

7.3 Welding duty cycle

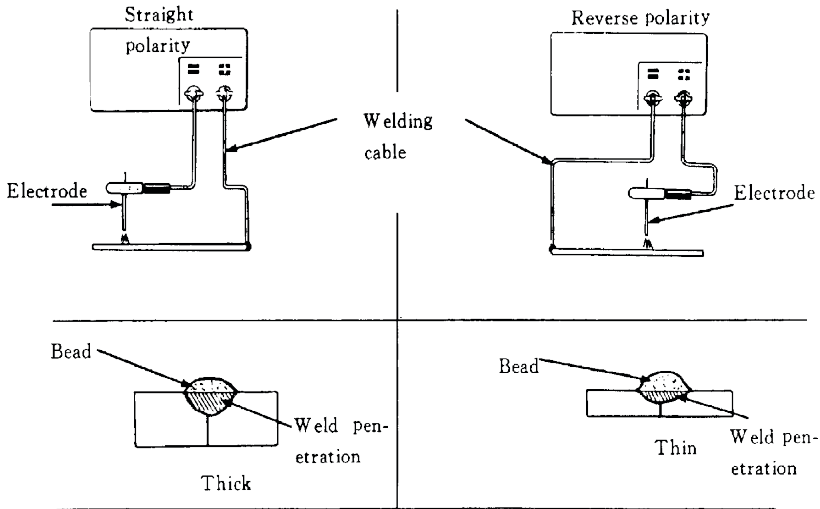
(Fig. 36)



The duty cycle is the percentage of time that the welder can be operated in a given 10 minute period.
(Rest time)

7.4 Polarity selection

(Fig. 37)



10. STOPPING THE ENGINE:

10.1 Stopping the engine whilst in the “generator” function:

- 10.1.1.1. Disconnect the load from the AC receptacle
- 10.1.1.2. Turn the engine switch to the “**OFF**” position
- 10.1.1.3. Turn the fuel cock off

10.2 Stopping the engine whilst in the “welder” function:

- 10.2.1.1. Stop welding
- 10.2.1.2. Turn the engine switch to the “**OFF**” position
- 10.2.1.3. Turn to fuel cock off

11. TROUBLESHOOTING:

11.1 If the engine will not start:

- 11.1.1.1. Open the fuel cap to check if the engine has sufficient fuel.
- 11.1.1.2. Open the oil cap dispenser and check if the machine has sufficient oil.
- 11.1.1.3. Remove the spark plug and turn the engine switch to the “ON” position to start the engine.
- 11.1.1.4. Check to see if there is spark coming from the spark plug.
- 11.1.1.5. Replace the spark plug if necessary.

If the engine will still not start then contact Gentech Industries for technical assistance. The details are on the back page of this operator's manual.

11.2. No Electricity/Voltage at the AC Receptacles:

11.2.1.1. Check if the over current protector is in the "**ON**" position. Turn to the "ON" position if necessary.

11.2.1.2. If there is still no electricity/voltage after this has been done it is possible that there is something wrong or damage has been caused to the AVR (Automatic Voltage Regulator) and or Rotor/Stator.

Do not attempt to do anything further, contact Gentech Industries immediately for assistance.

10 MAINTENANCE

10.1 User should service the unit according to the Maintenance Schedule as follows.

ITEM	PERIOD		Each use	Or first month	Or every 3 months	Or every 6 months	Or every one Year	Ref. page	
Check of engine oil			Check						
Replacement of engine oil				Replace		Replace			
Check of air cleaner			Check						
Washing air cleaner					Clean				
Oil filter cap						Check			
Battery electrolyte level			Check						
Spark plug						Check			
Valve clearance							Check & readjust	-	
Washing cylinder cover							Clean	-	
Washing fuel tank			Replace every 3 - year						-

12. **ENGINE OIL:**

- 12.1.1.1. Remove the oil filter cap and check the oil.
- 12.1.1.2. Remove the drain plug and allow the oil to drain out. Ensure that the oil is drained into a disposable container.
- 12.1.2. Remove the drain plug and allow the oil to drain out. Ensure that the oil is drained into a disposable container.
- 12.1.3. Remove the drain plug and allow the oil to drain out. Ensure that the oil is drained into a disposable container.
- 12.1.4. After all the oil is drained replace the drain plug and tighten sufficiently.
- 12.1.5. Replace the engine oil with the recommended type. Ensure that sufficient oil is added.
Ensure that this is done whilst the welder generator is on a flat secure surface.

12.2. **SPARK PLUG:**

- 12.2.1. Ensure that the engine is switched off.
- 12.2.2. Remove the spark plug using a proper spark plug spanner.
- 12.2.3. Check the spark plug for carbon build up.
- 12.2.4. Clean the spark plug properly.
- 12.2.5. Check the spark plug gap is between 0.7mm and 0.8mm
- 12.2.6. If the spark plug is damaged and or very old and dirty we recommend that you replace it.
Please ensure that when replacing, it is replaced with the same size.

12.3. **AIR FILTER:**

- 12.3.1. Remove the air filter from the air filter casing/cover.
- 12.3.2. Take the filament out of the housing.
- 12.3.3. If the core is dirty then wash it in kerosene, squeeze it before soaking it in engine oil.
Before replacing squeeze out the excess oil.
- 12.3.4. If the filament is damaged or torn please replace it.
- 12.3.5. Do not run your engine with a dirty or damaged air filter filament as this will affect the performance of this machine.

12.4. **FUEL SEDIMENT CUP:**

12.4.1. Turn the fuel cock to the **"OFF"** position

12.4.2. Remove the sediment cup, O ring and filter and clean them in a **"NON FLAMABLE"** solvent.

12.4.3. Replace the parts back in their original position.

12.4.4. Loosen the screw and remove the spark arrester.

12.4.5. Remove carbon deposits/carbon build up from the spark arrester by using brush.

12.4.6. Install the spark arrester correctly.

12.4.7. The spark arrester must be serviced every 100 hours in order to maintain its efficiency.

13. TRANSPORTING AND STORAGE:

13.1. Before transporting the Welder Generator please ensure that the fuel cock is in the **“OFF”** position.



Contact with a hot engine or exhaust system can cause severe burns and or fires, always allow for the engine to cool down prior to transporting and or storing.

Always ensure that the Welder Generator is transported and or stored in a flat horizontal position. Tilting of the unit may cause fuel spillage which may result in a fire.

13.2. Before storing the welder generator for an extended period of time please ensure that the area of storage is free from excessive dust and humidity. Please follow the table below:

STORAGE TIME	RECOMMENDED MAINTENANCE
0 – 1 MONTH	<ul style="list-style-type: none">• NO PREPARATION REQUIRED
1 – 2 MONTHS	<ul style="list-style-type: none">• DRAIN OUT ORIGINAL FUEL IN THE FUEL TANK AND REPLACE WITH CLEAN FUEL
2 – 12 MONTHS	<ul style="list-style-type: none">• DRAIN OUT ORIGINAL FUEL IN THE FUEL TANK AND REPLACE WITH CLEAN FUEL• EMPTY ALL FUEL FROM THE CARBURETOR• EMPTY FUEL FROM THE FUEL SEDIMENT CUP
>12 MONTHS	<ul style="list-style-type: none">• DRAIN OUT ORIGINAL FUEL IN THE FUEL TANK AND REPLACE WITH CLEAN FUEL

- EMPTY ALL FUEL FROM THE CARBURETOR
- EMPTY FUEL FROM THE FUEL SEDIMENT CUP
- REMOVE THE SPARK PLUG AND POUR A TEASPOON OF 4 STROKE ENGINE OIL INTO THE CYLINDER. TURN THE ENGINE SLOWLY BY PULLING ON THE RECOIL STARTER. REINSTALL THE SPARK PLUG
- DRAIN THE OLD OIL AND REPLACE WITH CLEAN OIL
- AFTER REMOVAL FROM STORAGE, DRAIN THE STORED FUEL INTO A SUITABLE CONTAINER AND REPLACE WITH FRESH FUEL BEFORE STARTING

- DRAIN THE CARBURETOR BY LOOSENING THE DRAIN SCREW. DRAIN THE FUEL INTO A SUITABLE CONTAINER. REINSTALL THE DRAIN PLUG.
- HAVING SWITCHED THE FUEL COCK OFF, REMOVE THE SEDIMENT CUP, EMPTY THE FUEL, THEN REINSTALL THE CUP AND SECURE IT PROPERLY.

14. TECHNICAL SPECIFICATION AND DATA:

MODEL _____		<u>GPFW-220A</u>	<u>GPFW-130A</u>
ENGINE	MODEL	SR190FE	SR170FE
	DISPLACEMENT CC	420	223
	IGNITION SYSTEM	NON CONTACT TRANSISTOR	NON CONTACT TRANSISTOR
	STARTING SYSTEM	RECOIL START	RECOIL START
GENERATOR	RATED OUTPUT (KVA)	6.0	2.5
	MAX OUTPUT (KVA)	6.5	2.8
	RATED VOLTAGE (V)	230	230
	RATED POWER FACTOR (COS)	1	1
	PHASE	SINGLE	SINGLE

WELDER	RATED VOLTAGE (V)	28-30	22-25
	CURRENT ADJ. RANGE (A)	50-200	50-130
	ELECTRODE DIAMETER MM	2.0 – 4.0	1.6-3.2
WHOLE MACHINE	FUEL TANK CAPACITY (L)	6.9	3.6
	LXWXH (MM)	810x560x550	715x460x550
	NW/GW (KG)	85	53



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**FOR ALL TECHNICAL ASSISTANCE PLEASE
CONTACT GENTECH INDUSTRIES ON**

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Telephone: +27 11 466 6790

Website: www.gentechindustries.co.za

Please note: This manual is designed for the GPFW130A and GPFW220A welder generator.

**FOR ALL WARRANTY INFORMATION PLEASE READ
THROUGH YOUR LIMITED WARRANTY POLICY
BOOKLET**