



说明书材质要求: 105g铜版纸	说明书成品尺寸: 148x210mm
第一: 专色+CMYK油墨要求: 1. TOTAL专色油墨, 见实物色样调整 2. C色油墨: 泗联天蓝墨 3. M色油墨: 泗联洋红墨 4. Y色油墨: 泗联中黄墨 5. K色油墨: 泗联黑墨	第二: 特别注意: 1. 印刷时看样颜色请参考我可提供的实物样品颜色, 不得偏色。 2. 322C的专色不得参考C=100, M=28.42, Y=48.29, K=21.6对应的四色色谱颜色来看样印刷 <div><div>Pantone322C</div><div>C=0, M=95, Y=100, K=0</div><div>C=83, M=52, Y=0, K=0</div><div>Black (五色印刷)</div></div>
折叠方式: 骑马钉	备注:

特别注意：此页内容不印刷

更改记录	1. 参考TWGT1601				
	T0422_V01	2022.4.9	ZRR		
	版本号	日期	设计师		

TOTAL

One-Stop Tools Station

TOTAL

**INVERTER MAG/MIG/MMA/TIG LIFT
WELDING MACHINE**

UTMGT1601



SCAN FOR VIDEO



TOTAL TOOLS WORLD



160A

Instruction manual for UTMGT1601

Kindly please keep this manual for safety warnings and precautions, assembly, operation, inspection, maintenance and cleaning procedures. Keep this manual in a safe and dry place for future reference.



WARNING!

Read this manual before using this machine. Failure to do so may result in serious injury.

KEEP THIS MANNUAL.

	This is the safety alert symbol. It is used to alert you to potential personal injury hazards. Obey all safety instructions that follow this symbol to avoid any possible risks of injury or death.
DANGER	Indicates a hazardous situation which, if not avoided, could result in death or serious injury.
WARNING	Indicates a hazardous situation which, if not avoided, could result in death or serious injury.
CAUTION	Indicates a hazardous situation which, if not avoided, could result in minor or moderate injury.
NOTICE	Addresses practices not related to personal injury.

WARNING

Reading all safety instructions and warnings. Failure to do so may result in serious injury. Keep this manual in a safe and dry place for future reference.

Safety

PROTECT YOURSELF AND OTHERS.

Please read and understand this information.

1. Before using, read and understand this manual.	5. Stay alert, watch what you're doing and use common sense when use a welder. Don't use a welder when you're tired or under the influence of drugs, alcohol or medicine. A moment of inattention may result in serious personal injury.
2. Keep it out of reach of Children. Keep children away from this machine while operating.	6. Avoid unintentional starting. Ensure you're prepared to begin work before turning on the welder.
3. Place the welder on a stable location before using it. If it falls while plugged in, severe injury, electric shock, or fire may result.	7. Never leave this welder unattended while energized. Turn power off if you have to leave.
4. Don't overreach. Keep proper footing and balance all the time.	8. The warnings, precautions, and instructions discussed in this instruction manual cannot cover all possible conditions and situations that may occur. It must be understood by the operator that common sense and caution are factors which cannot be built into this item, but must be supplied by the operator.

Fume and gas Safety

INHALATION HAZARD:

Welding and Plasma cutting produce toxic fume.

1. Exposure to welding or cutting exhaust fumes can increase the risk of developing certain cancers, such as cancer of larynx and lung cancer and some other potential issues.	4. Use enough ventilation, exhaust at arc, or both, to keep fumes and gases from breathing zone and general area. If engineering controls are not feasible, use an approved respirator.
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2. Do not use near degreasing or painting operations.	5. Work in a confirmed area only if it is well-ventilated, or while wearing an air-supplied respirator.
3. Keep head out of fumes. Do not breathe exhaust fumes.	6. Have a recognized specialist in industrial Hygiene or Environmental services check the operation and air quality and make recommendations for the specific welding situation.

Arc Ray Safety

Arc rays can injure eyes and burn skin.

1. Wear approved welding eye protection featuring at least a number 10 shade lens rating.	4. Wear an approved head covering to protect the head and neck. Use apron, cape, sleeves, shoulder covers, and bibs designed and approved for welding and cutting procedures.
2. Wear leather leggings, fire resistant shoes or boots during use. Do not wear pants with cuffs, shirts with open pockets, or any clothing that can catch and hold molten	5. Wear an approved welding jacket or long sleeves to protect forearms from radiation burns.
5. Keep clothing free of grease, oil, solvents, or any flammable substances. Wear dry, insulating gloves and protective clothing.	6. When welding/cutting overhead or in confined spaces, wear flame resistant ear plugs or ear muffs to keep sparks out of ears.

Electrical Safety

Electric shock can kill.

1. Turn off, disconnect power, and discharge electrode to ground before setting down torch/electrode holder and before service.	6. Do not expose welders to rain or wet conditions. Water entering a welder will increase the risk of electric shock.
2. Do not touch energized electrical parts. Wear dry, insulating gloves. Do not touch electrode holder, electrode, welding torch, or welding wire with bare hand. Do not wear wet or damaged gloves.	7. Do not abuse the cord. Never use the cord for carrying, pulling or unplugging the welder. Keep cord away from heat, oil, sharp edges or moving parts. Damaged or entangled cords increase the risk of electric shock.
3. Connect to grounded, GFCI-protected Power supply only.	8. Do not use outdoors.
4. Do not use near water or damp objects.	9. Insulate yourself from the workpiece and ground. Use nonflammable, dry insulating material if possible, or use dry rubber mats, dry wood or plywood, or other dry insulating material large enough to cover your full area of contact with the work or ground.
5. People with pacemakers should consult their physician before use. Electromagnetic fields in close proximity to heart pacemaker could cause pacemaker interference or pacemaker failure.	10. THIS WELDING MACHINE MUST BE CONNECTED TO POWER SOURCE IN ACCORDANCE WITH APPLICABLE ELECTRICAL CODES.

Specifications

	MIG	MMA	TIG
<i>Power input</i>	110-120V/220-240V~	110-120V/220-240V~	110-120V/220-240V~
<i>Phase</i>	1~Ph	1~Ph	1~Ph
<i>Frequency</i>	50/60Hz	50/60Hz	50/60Hz
<i>Duty Cycle</i>	30%	30%	30%
<i>OCV</i>	77V	77V	77V
<i>Input capacity</i>	4.0kVA/6.0kVA	3.9kVA/6.0kVA	2.5kVA/4.2kVA
<i>Max Input current</i>	36.0A/27.0A	35.4A/27.2A	22.8A/19.3A
<i>Max Output current</i>	130A/160A	130A/160A	130A/160A
<i>Efficiency (%)</i>	85%	85%	85%
<i>Power factor</i>	72%	72%	72%
<i>Weldable materials</i>	Mild steel, stainless steel	Mild steel, stainless steel	Mild steel, stainless steel, chrome moly
<i>Size(L*W*H)</i>	463x288x356mm		

Controls

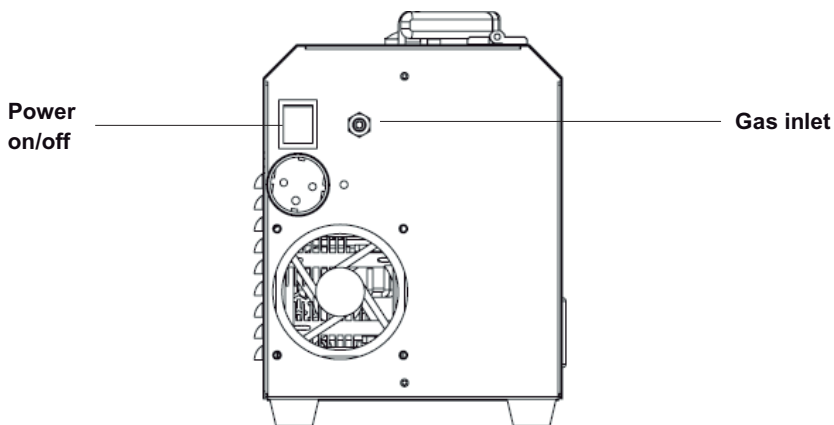
Front panel Controls



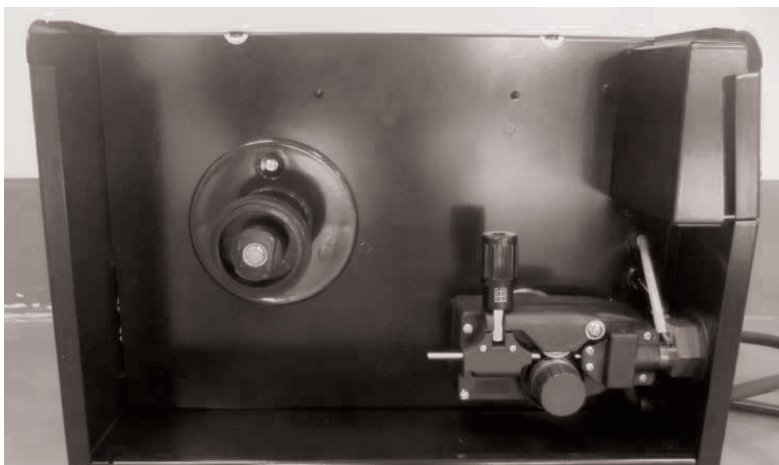
①	Power light
②	Protection light
③	Mode selection

④	Cold wire feeder
⑤	Digital display for Voltage and Arc force
⑥	Output voltage/Arc force adjustment
⑦	Output current/WFS adjustment
⑧	Digital display for Output current and Wire feeder speed
⑨	Polarity Jumper
⑩	MIG TORCH connector
⑪	Polarity conversion line
⑫	Positive (+) socket


Back panel Controls




Interior Controls



MIG/Flux-cored wire welding

 Read the entire important safety information section at the very beginning of this manual including all text under subheadings therein before set up or use of this item.

 **WARNIN TO PREVENT SERIOUS INJURY FROM ACCIDENTAL OPERATION:
TURN THE POWER SWITCH OFF AND UNPLUG THE WELDER BEFORE SET UP.**

Note: Remove the protective foam and cardboard from the welder before set up.

Wire spool installation/Wire setup

1. Turn the Power switch OFF and unplug the welder before proceeding.
2. Pull up the door latch, then open the door.
3. Remove the wingnut and spacer and all remaining wire from the liners.
4. Place the new wire spool over the spool spindle and against the spool brake pad. **To prevent wire feed problems, set the spool so that it will unwind clockwise.**
5. Replace the spacer over the spool spindle and secure spool in place with the wingnut.

Notice: If wire spool can spin freely, wingnut is too loose. This will cause the

welding wire to unravel and unspool which can cause tangling and feeding problems.

Feed roller instructions:

Check that the feed roller is correct for the type of wire being used(solid core or flux-cored) and that it is turned to properly match the wire size marked on the wire spool.

Notice: To prevent damage, don't overtighten the Knob.

Notice:

a. Direct MIG torch(appropriate gas shielded) positive socket and plug ground clamp cable into negative(-)socket.

b. For flux-cored(gasless) welding, direct current electrode negative wire setup. And then Plug wire feed power cable into negative(-) socket. Twist cables clockwise all the way to lock in place.

IMPORTANT!

Securely hold onto the end of the welding wire and keep tension on it during the following steps.

If this is not done, the welding wire will unravel and unspool which can cause tangling and feeding problems.



DANGER

**PARTS MAY BE AT WELDING VOLTAGE
TO PREVENT ELECTRIC SHOCK AND DEATH**


- 1. Keep hands away from wire feed mechanism.**
- 2. Close door before plugging in, unless using cold wire feed to feed wire through to gun.**
- 3. Do not touch trigger while feeding wire through to gun.**

6. Plug 220Vac Power cord into power input socket. Don't touch the gun's trigger, ensure the power cord into a properly grounded and then turn the power switch ON. The circuit must be equipped with delayed action-type circuit breaker or fuses.
7. Turn off the power switch and unplug the power cord from its electrical outlet.

MIG/MAG		
Wire diameter(mm)	CO2	Mixed gas(25% CO2+75%Ar2
0.6	40-90A	25-90A

0.8	50-120A	30-120A
1.0	70-180A	50-300A
1.2	80-350A	60-440A
1.6	140-500A	120-550A

Basic wire welding

 **READ THE ENTIRE IMPORTANT SAFETY INFORMATION** section at the beginning of this manual including all text under subheadings therein before welding.

WARNING

TO PREVENT SERIOUS INJURY:

Protective gear must be worn when using the Welder; minimum shade number 10 full face shield (or welding mask), ear protection, welding gloves, sleeves and apron, NIOSH-approved respirator, and fire resistant work clothes without pockets should be worn when welding.

Light from the arc can cause permanent damage to the eyes and skin.

Do not breathe arc fumes.

Flux-cored wire welding is used to weld mild steel and stainless steel without shielding gas.

MIG welding uses solid wire and shielding gas, and is used to weld mild steel and stainless steel.

MIG welding can also be used to weld thinner work piece than flux-cored welding can.

Good welding takes a degree of skill and experience.

Practice a few sample welds on scrap before welding your first project. Additional practice periods are recommended whenever you weld

- a different thickness of material
- a different type of material
- a different type of connection
- using a different process

Make practice welds on pieces of scrap to practice technique before welding anything of value.



TIG/MMA welding

1. Plug the Ground clamp cable to negative (-) socket. Twist clockwise all the way to lock in place.
2. Plug TIG torch/Electrode holder to the positive (+) socket. Twist clockwise all the way to lock in place.
3. Plug power cord to voltage 110/220Vac.

MMA					
Electrode(mm)	1.6	2.0	2.5	3.2	4.0
Welding current(A)	25-40A	40-60A	50-80A	100-130A	160-180A
Lift TIG					
Electrode(mm)	1.0	1.6	2.0	2.4	3.2
Welding current(A)	10-75A	40-130A	75-180A	130-230A	160-310A

Basic TIG/MMA welding



READ THE ENTIRE IMPORTANT SAFETY INFORMATION section at the beginning of this manual including all text under subheadings therein before set up or use of this product.



WARNING

TO PREVENT SERIOUS INJURY:

Protective gear must be worn when using the Welder; minimum shade number 10 full face shield (or welding mask), ear protection, welding gloves, sleeves and apron, NIOSH-approved resistant work clothes without pockets should be worn when welding.

Light from the arc can cause permanent damage to the eyes and skin.

Do not breathe arc fumes.

DC TIG Welding is used to weld mild steel and stainless steel using a TIG Rod and shielding gas.

Stick Welding is used to weld mild steel and stainless steel using a Stick Electrode without shielding gas

Good welding takes a degree of skill and experience.

Practice a few sample welds on scrap before welding your first project.

Additional practice periods are recommended whenever you weld:

- a different thickness of material

- a different type of material
- a different type of connection
- using a different process

Make practice welds on pieces of scrap to practice technique before welding anything of value.

Maintenance



WARNING

TO PREVENT SERIOUS INJURY, FIRE AND BURNS:

Unplug the Welder, rest the tool on a heat-proof, electrically non-conductive surface, and allow all parts of the Welder to cool thoroughly before service.



1. BEFORE EACH USE, inspect the general condition of the Welder. Check for:

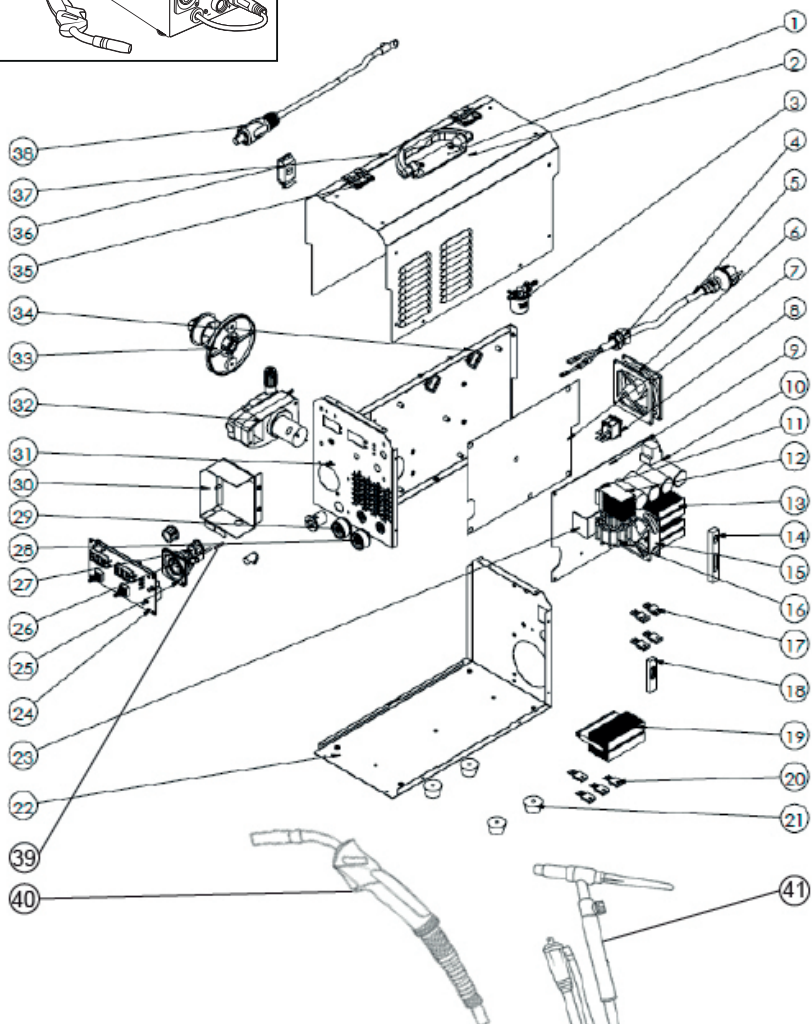
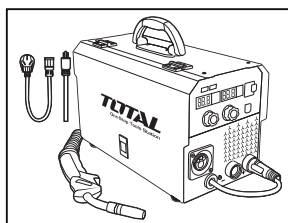
- loose hardware
- misalignment or binding of moving parts
- damaged cord/electrical wiring
- frayed or damaged cables
- cracked or broken parts
- any other condition that may affect its safe operation.

2. PERIODICALLY, have a qualified technician remove the Rear Panel and use compressed air to blow out all dust from the interior.

3. AFTER EVERY USE, store in a clean and dry location.

4. For optimal MIG/Flux-Cored wire weld quality, clean and inspect the MIG Gun Contact Tip and Nozzle before each use.

UTMGT1601 Exploded view



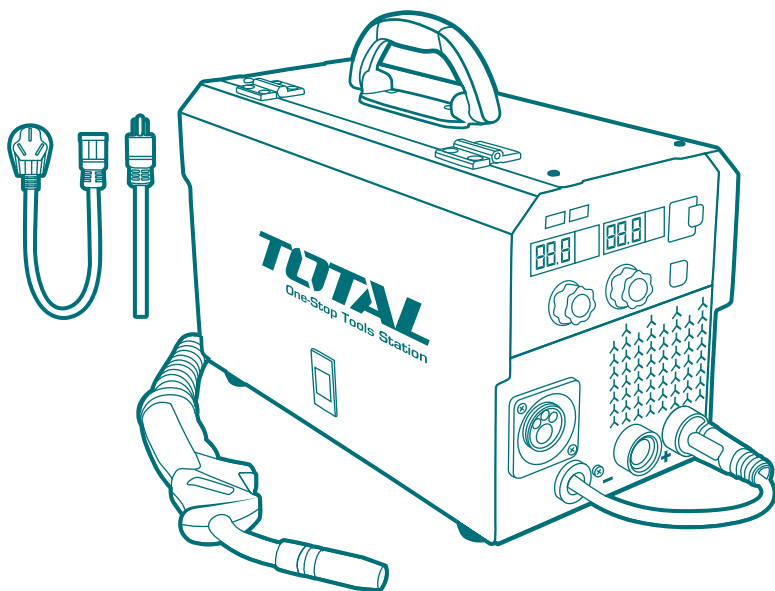
UTMGT1601 Spare part list

NO.	Part Description	Qty	NO.	Part Description	Qty
1	Handle	1	22	Bottom cover	1
2	Top cover	1	23	Control PCB	1
3	Solenoid valve	1	24	Panel PCB	1
4	PG clip	1	25	Insulation base	1
5	Power cable	1	26	Joint	1
6	DC fan	1	27	Knob	2
7	Insulation paper	1	28	Quick connector(red)	1
8	Switch	1	29	Quick connector(black)	1
9	Main PCB	1	30	Protection cover	1
10	Capacitance	4	31	Front panel	1
11	Bridge rectifiers	1	32	Wire feeder	1
12	Rectifiers heatsink	1	33	Wire feeding shaft	1
13	IGBT heatsink	2	34	Bracket	1
14	IGBT support	1	35	Hinge	2
15	DC fan	1	36	Lock	1
16	Transformer	1	37	Door plank	1
17	IGBT	4	38	Conversion line	1
18	Rectifier heatsink support	1	39	Gas pipe	1
19	Rectifiers heatsink	1	40	MIG torch	1
20	Fast recovery diode	4	41	TIG torch(Optional)	1
21	Foot pad	4			

TOTAL

One-Stop Tools Station

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**INVERTER MAG/MIG/MMA/
TIG LIFT WELDING MACHINE**

www.totalbusiness.com

TOTAL TOOLS CO., PTE. LTD.

No. 45 Songbei Road, Suzhou Industrial Park, China.

MADE IN CHINA

T0422.V01

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