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R-TECH TIG203DC TFT DIGITAL DC TIG WELDER

OPERATION INSTRUCTIONS



Thank you for selecting the R-Tech TIG203DC Digital Inverter DC Tig Welder.

The TIG203DC Digital has many benefits over traditional TIG welders, including EASY SETUP in TIG & STICK mode, 20 memory stores, pulse welding, spot & tack welding, slope up/down, remote foot option and an industrial 60% duty cycle.

We want you to take pride in operating our TIG203DC Digital as much pride as we have taken in making this product for you. Please read all information in this manual before operation

PLEASE EXAMINE CARTON AND EQUIPMENT FOR DAMAGE IMMEDIATELY

When this equipment is shipped, title passes to the purchaser upon receipt from the courier. Consequently all claims for material damaged in shipment must be made by purchaser against the transportation company used.

Please record your equipment identification below for future reference. This information can be found on data plate at rear of machine.

Product: TIG203DC DIGITAL DC TIG Welder

Serial No. _____

Date of Purchase _____

Where Purchased _____

Whenever you request replacement parts or information on this equipment please always supply information you have recorded above

Pay particular attention to the safety instructions we have provided you for your protection The level of seriousness to be applied to each section is explained below

WARNING



This statement appears where the information must be followed exactly to avoid serious personal injury.

CAUTION

This statement appears where the information must be following to avoid a minor personal injury or damage to this equipment.

Introduction

The R-Tech TIG203DC digital TIG welder is a member of our field acclaimed family of welding machines.

Premium features include

Large 4.3" HD TFT Screen

60% Industrial duty cycle

Inverter power source - more efficient

EASY SETUP DC TIG

Professional weld settings built in

Settings from 1.0 to 6mm for all weld joint types. Lap, Butt, Tee, Corner, Edge

Simple to use easy navigation - no complicated menus - all settings on single screen.

MANUAL MODE DC TIG

Full control of every weld parameter you could ever need

Pre-flow gas, start amps, slope up time, main amps, slope down time, end amps and post flow gas

2 Start modes - HF Fast start & LIFT

2T, 4T, foot pedal & torch switch control modes

4TS trigger mode, Ideal for pipe welding, switch from start to main amps as required

DC Pulse up to 500Hz

20 professional memory stores

Spot welding - Spot weld feature with stitch function

Fast Tack welding - Tack weld feature with stitch function

Welding Capability – Duty Cycle

The R-Tech TIG203DC Digital is rated at 160 Amps at 60% duty cycle in TIG mode on a ten minute basis. If the duty cycle is exceeded a thermal protector will shut machine off until the machine cools.

Safety Precautions

Read entire section before starting installation.

Warning!



Electric Shock can kill – Only qualified personnel should perform this installation. Turn off input power at the fuse box before working on this equipment. Do not touch electrically live parts. Always connect the machine to an earthed mains supply as per national recommended standards.

Select suitable location

Place the welder where clean cooling air can freely circulate in and out of the front & rear louver vents.

Dirt, dust or any foreign material that can be drawn through vents into welder must be kept to a minimum. Failure to observe these precautions can result in excessive operating temperatures which can lead to plant failure.

Grinding

Do not direct grinding particles towards the welder. An abundance of conductive material can cause plant failure.

Transport & unloading

Never underestimate the weight of equipment, never move or leave suspended in the air above people. Use recommended lifting/handling equipment at all times.

Electrical installation

WARNING ELECTRIC SHOCK CAN KILL



Electric Shock can kill – Only qualified personnel should perform this installation. Turn off input power at the fuse box before working on this equipment. Do not touch electrically live parts. Always connect the machine to an earthed mains supply as per national recommended standards.

Machine grounding and High Frequency Interference Protection

This welder must be grounded to earth. See national electrical codes for proper grounding methods.

The high frequency generator being similar to a radio transmitter may cause interference to radio, TV and other electronic equipment. These problems may be the result of radiated interference.

Proper grounding methods can reduce or eliminate this. Radiated interference can develop in the following ways

1. Direct interference from welder power source
2. Direct interference from the welding leads
3. Direct interference radiated from feedback into power lines
4. Interference from re-radiation by un-grounded metallic objects.

Keeping these contributing factors in mind, installing equipment as per following instructions should minimize problems.

1. Keep the welder input power lines as short as possible and enclose as much of them as possible in metal conduit or equivalent shielding. There should be a good electrical contact between this conduit and ground (Earth).
2. Keep the work and electrode leads as short as possible. Tape the leads together where practical.
3. Be sure the torch and earth leads rubber coverings are free from cuts and cracks that allow welding power leakage
4. Keep earth lead connection to work in good condition – Clean area on workbench where earth clamp is situated on a regular basis.

Electrical installation cont.

Input Connections

Make sure the voltage, phase and frequency of input power is as specified on machine rating plate located at rear of machine.

Have a qualified electrician provide suitable input power as per national electrical codes. Make sure machine is earthed / grounded.

Make sure fuse or circuit breaker is correct rating for machine. Using fuses or circuit breakers smaller than recommended will result in 'nuisance' shut off from welder inrush currents even if welding at low amperages.

Failure to follow these instructions can cause immediate failure within the welder and void machines warranty.

Turn the input power OFF at the mains switch & fuse box before working on this equipment. Have a qualified electrician install & service this equipment.

Allow machine to sit for 5 minutes minimum to allow the power capacitors to discharge before working inside this equipment. Do not touch electrically live parts

The TIG203DC DIGITAL Inverter Tig Welder requires a 240V 50/60Hz supply. It requires a 16A supply for Tig operation and 23A for MMA welding. It comes with a 2.5 metre mains cable attached.

Connect wires according to national coding.

Brown wire – Live

Blue wire – Neutral

Green/Yellow Wire – Earth (Ground)

Connecting to an Engine Driven Generator

If connecting this machine to an engine driven generator please ensure the following

Minimum Generator KVA Output – 7.0 KVA continuous Generator to be fitted with AVR (automatic voltage regulation) DO NOT USE ON A GENERATOR WITHOUT AVR

Connecting to a generator without the above minimum requirements will in- validate your warranty.

Technical specifications

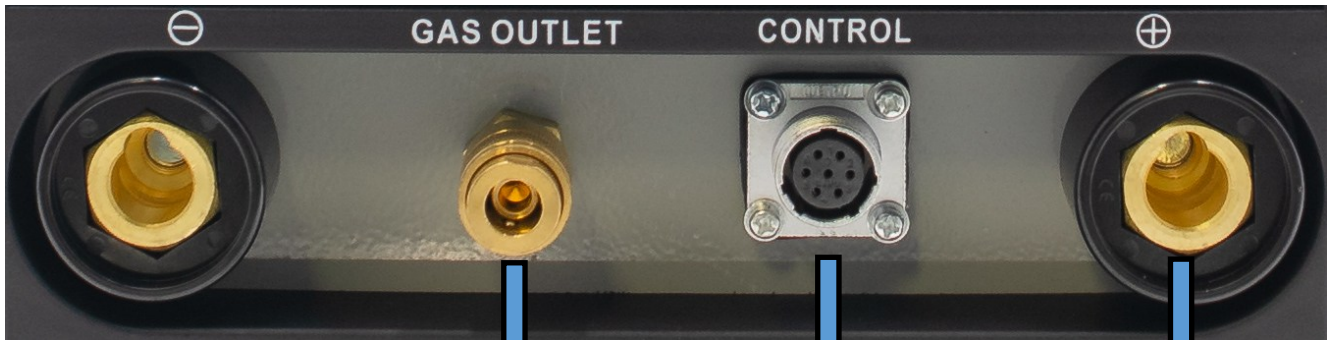
Input	240V AC 50/60Hz	Input amperage 22A
	110V AC 50/60Hz	Input amperage 32A
Gross weight	9.8KG	
Dimensions	425 x 195 x310	
Insulation	IP21S	
TIG	Current range DC (240V Input)	3A - 200A @60% Duty Cycle
	Current range DC (110V Input)	3A - 125A @60% Duty Cycle
	No load voltage	70V
	Duty cycle	60%
	Arc starting modes	HF, Lift
	Trigger modes Manual mode	2T,4T,4TS, REMOTE PEDAL,2T+F, 4T+F
	Trigger modes EASY SETUP	2T,4T, REMOTE PEDAL, 2T+F, 4T+F
TIG Manual	Pre-flow gas	0 - 25 seconds
	Up-slope time	0 - 10 seconds
	Start amps	3A
	Down-slope time	0 - 10 seconds
	End amps	3A
	Post-flow gas time	0 - 25 seconds
	DC Pulse amps	5 - 95%
	DC Pulse width (time)	5 - 95%
	DC Pulse Hz	0.1 - 500 Hz
	Spot weld time	0.1 - 10 seconds
	Spot weld stitch time	0 - 5 seconds
	Tack weld time	10ms - 250ms
	Tack weld stitch time	10ms - 250ms
	Memory settings	YES - 20

Technical specifications cont..

TIG EASY SETUP DC - Programs for	Metal type	Mild & Stainless steel
	Metal thickness programs	1, 2, 3, 4, 5, 6mm
	Joint type programs	Tee, Lap, Butt, Corner, Edge
	Pulse level programs	.05Hz, 1Hz, 2Hz, 50Hz & 200Hz
	Pulse amps Stainless	65 %
	Pulse Width Stainless	50 %
	Pulse amps mild steel	75 %
	Pulse width mild steel	50 %
	Trigger types	2T,4T,REMOTE PEDAL, 2T+F, 4T+F
MMA EASY DC - Programs for	Rod type mild steel	6011, 6013, 7014, 7018
	Rod type stainless steel	308, 309, 316
	Rod diameter	2.5, 3.2, 4.0mm
	Weld position	Flat, Overhead, Vertical, Horizontal
	V.R.D Voltage	Off / On
MMA Manual	Current range DC (240V Input)	3A - 160A
	Current range DC (110V Input)	3A - 100A
	Duty cycle MMA	60%
	Anti stick	YES - ON/OFF
	Hot start time	0 - 2 seconds
	Hot start %	0 - 100 %
	Arc Force	0 - 100%
	Cellulosic Rods	NO
	V.R.D Voltage reduction	YES
	Remote amp function	YES

Connections

Front panel connections



TIG mode - negative connector for TIG torch

MMA mode - connect earth to negative

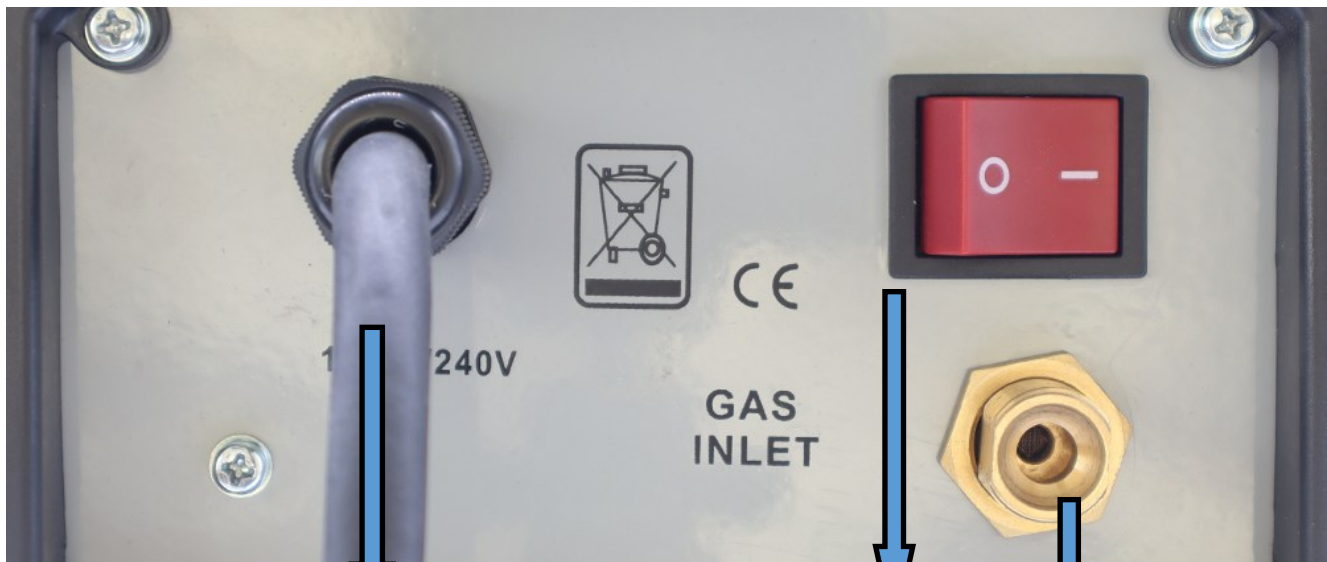
Quick release gas torch connector

7 pin socket for torch switch or remote foot pedal

TIG mode - connect earth lead

MMA mode - connect MMA lead

Rear panel connections



Mains input cable

On/Off switch

3/8 male Gas Connector

Controls and settings

The TIG203DC features 6 main operating modes

DC TIG in EASY mode

DC TIG in Manual mode

MMA (STICK) in EASY mode

MMA (STICK) in Manual mode

DC EASY MODE

R-Tech Easy mode takes the guesswork out of TIG welding. You normally had to enter all weld settings before beginning to weld on manual welders and know what amperage for thickness / joint type, we have done this for you.

You simply select the following from easy to understand screen.

Tungsten size

Material thickness

Material Type (Mild or Stainless)

Type of joint (Butt, Lap, Corner, Edge, Tee)

Pulse Off/On

Trigger / Pedal mode

The machine will set main amperage power , post flow gas time required and also advise on recommended gas flow in LPM and ceramic cup size for torch in the display.

TO ENTER EASY MODE - FROM HOME SCREEN SELECT
TIG-EASY or STICK-EASY and press right button to select

Front panel

Digital Colour Screen

Easy to navigate menu system - on previous digital machines, the settings for ALL modes were on one screen, now you only see settings on screen for the mode you are using.

EASY SET mode - pre-programmed weld settings for DC TIG & MMA



1 - Control knob

Turn knob to adjust selected parameter

Press/release to open / enter parameter

Press, hold and turn to increase/decrease setting in larger increments.

2 - Home / Save button

Press to return to home menu

Hold for 3 seconds and release to SAVE current manual job

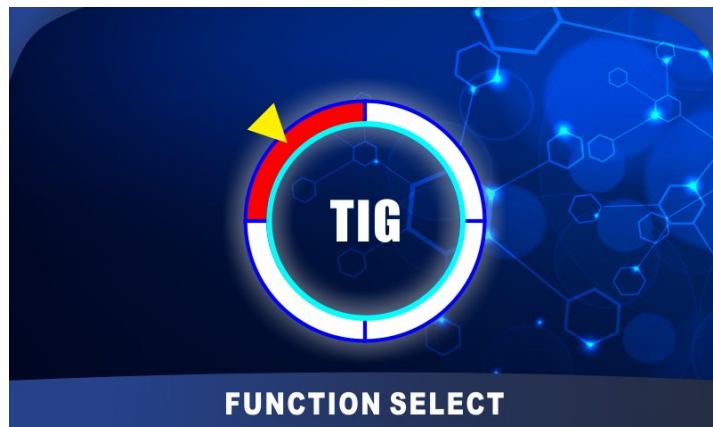
3 - LOAD / Select button

Hold for 3 seconds to OPEN saved memory selector

Press to select desired machine mode from home screen

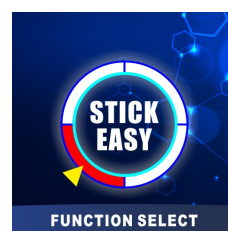
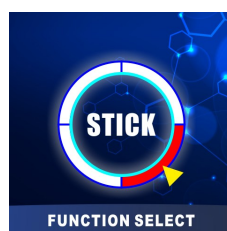
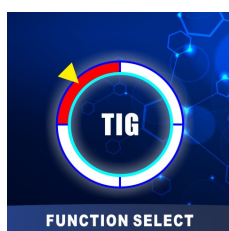
Operation

When you first turn on machine you will see the following main function select screen.



Turn the middle selector knob to scroll through settings available below, then press the right LOAD button to select.

Available settings as below



TIG DC - TIG welding with pure argon gas

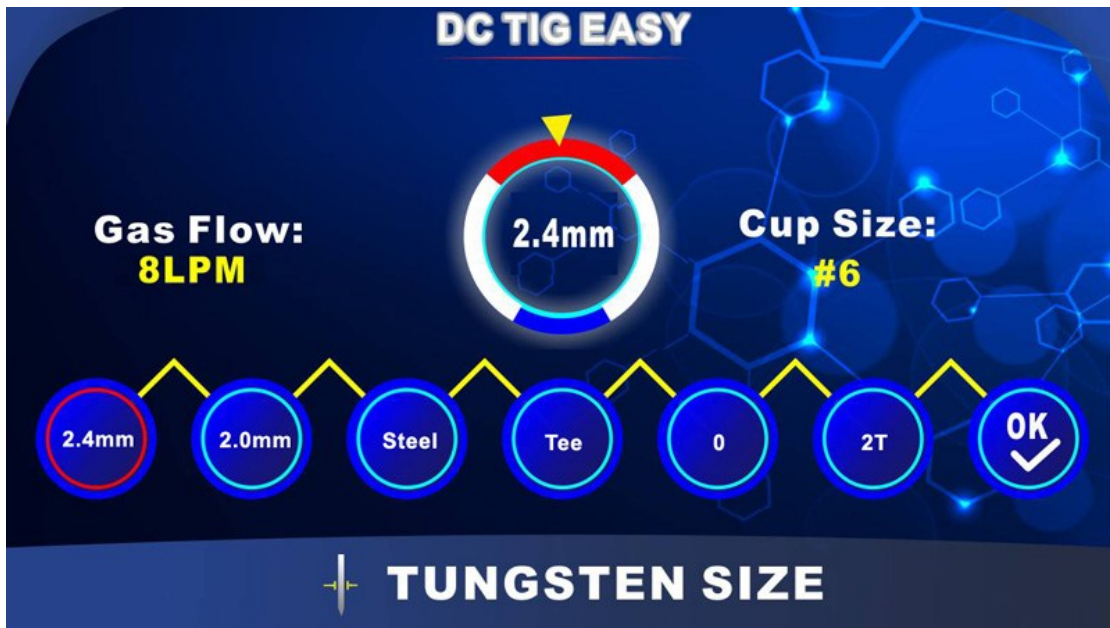
STICK DC - MMA Stick welding

DC TIG EASY MODE

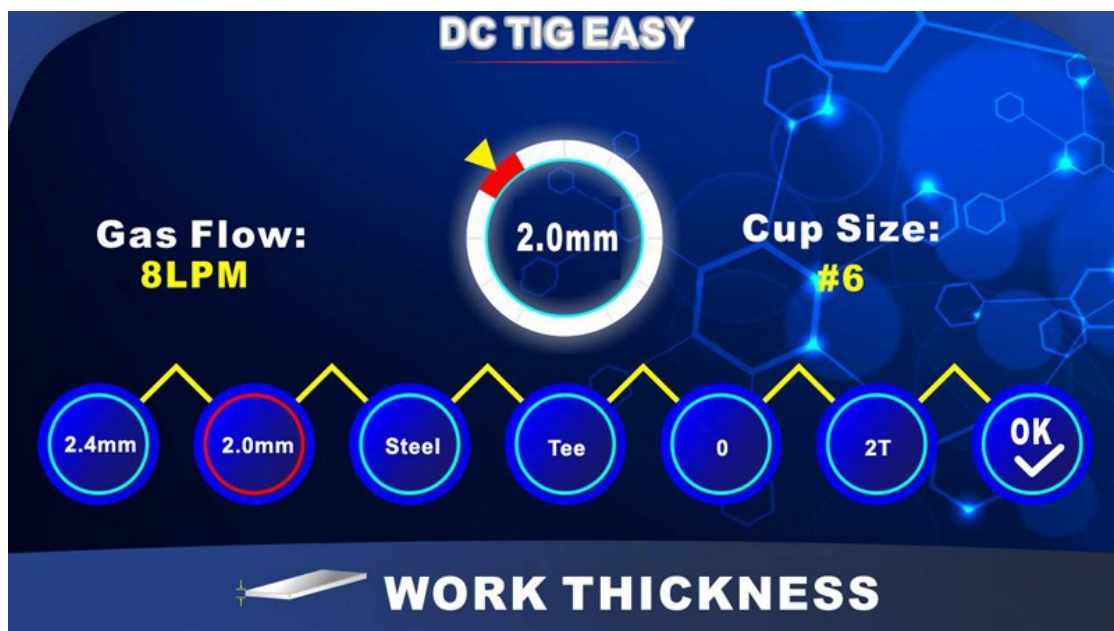
From home screen turn knob to TIG-EASY then press right button to enter and screen below will be shown

Turn knob to select setting which will be highlighted in red circle and description shown in bottom of screen. Press in knob to select, then turn control knob to value required, then press in to save.

In image below you can see TUNGSTEN SIZE is shown at bottom of screen and circle is highlighted in RED and showing 2.4mm size selected.



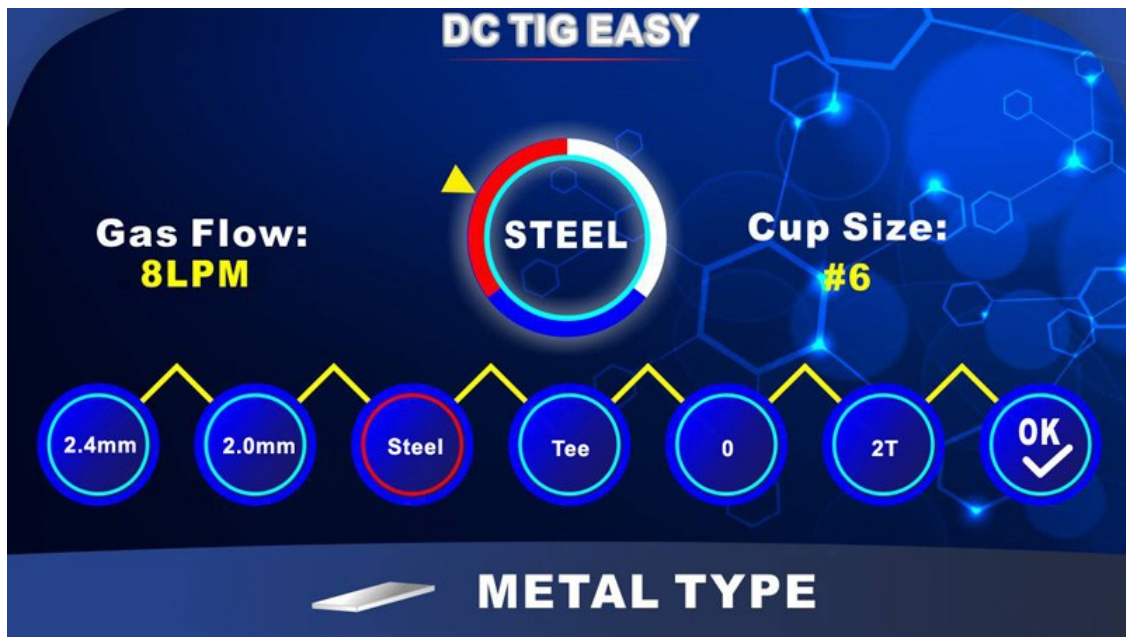
Once correct tungsten size has been selected, turn knob to move to next setting.
MATERIAL THICKNESS



Then use control knob to select work thickness required.
1.0mm, 1.2mm, 1.5mm, 2.0mm, 3.0mm, 4.0mm

Once correct material work thickness has been selected, turn knob to move to next setting.

METAL TYPE (BASE METAL)



Then use control knob to select filler rod used.

STEEL = Mild Steel, SS = Stainless Steel

Once correct metal type has been selected, turn knob to move to next setting.

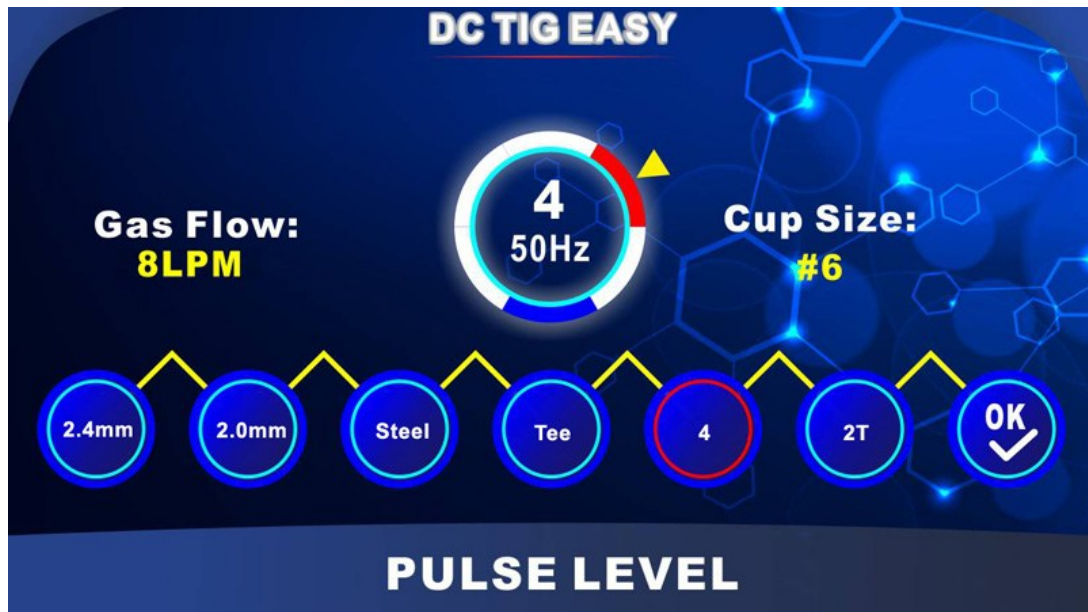
JOINT TYPE - Select from 5 joint types as below.



Once correct joint type has been selected, turn knob to move to next setting.

PULSE

This is where you select pulse off, or settings as below by turning control knob



Pulse welding was designed mainly for stainless steel and other exotic materials to control heat input to the metal and decrease heat deformation.

Base amps is set to 75% in DC EASY mode for mild steel.

Base amps is set to 65% in DC EASY mode for stainless steel.

I.E if main amps is 80A, then base amps will be 60A.

At 0.5Hz the machine will switch between main amps selected and base amps every half a second.

At 50Hz the machine will switch between main and base amps 50 times a second.

Pulse can also be useful if you unable to use foot pedal and want to have more control over heat input into weld if not welding at bench.

Pulse speed is a personal preference - as the pulse Hz increases you will notice the weld noise is more higher pitched, this is normal.

Once the desired pulse level has been selected, turn knob to move to next setting.

REMOTE

This is where you select how machine is triggered to start and remote control of amperage if required.



2T - Press trigger to start weld, release to finish weld.



4T - Press and hold trigger to start weld at start amps, release trigger to go to main amps. To finish weld - Press and hold trigger to go to end amps, release and weld will stop.



PEDAL - Press foot pedal to start weld, fully depress pedal to get 100% of amps shown in recommended settings.
I.E If recommended setting was 120A, on a full depress of pedal you will get 120A, if pedal only pressed halfway you will get 60A



2T+F - Torch trigger operation for on/off with amperage control by slider / rotary knob on torch handle.

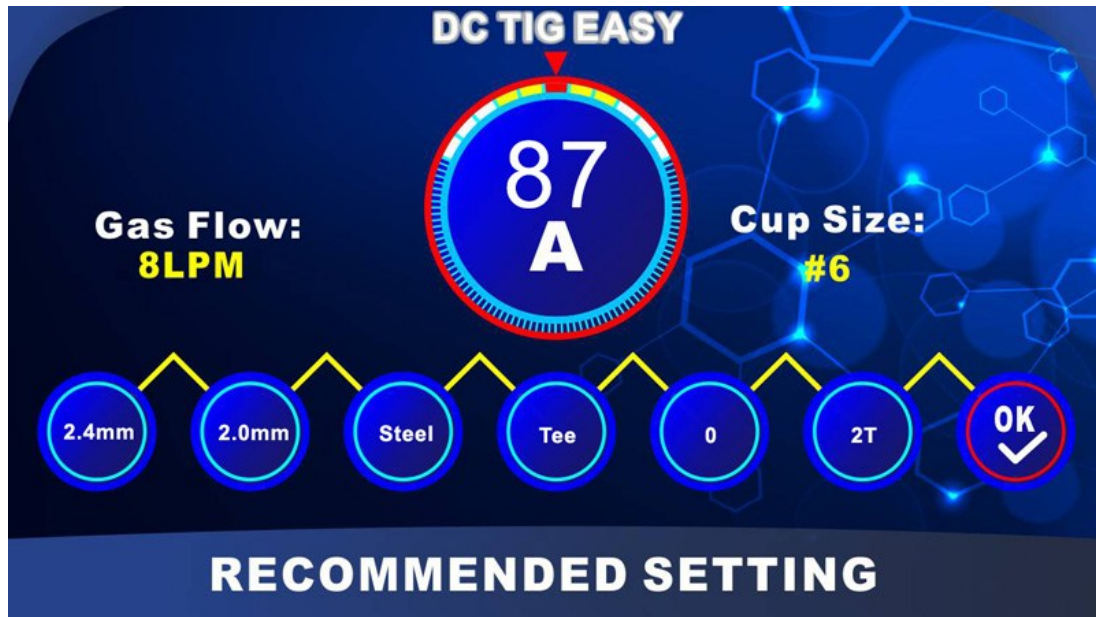


4T+F - Torch trigger latch operation same as 4T but with amperage control by slider / rotary knob on torch handle.



Once required remote setting is selected, turn knob to move to OK

OK will now turn RED, RECOMMENDED SETTINGS will now be loaded for you.



Welding amps - shown in middle of display

Post flow gas time - not shown

The display will also show recommended

Gas flow in LPM (set this on regulator or gas flow meter)

Torch cup ceramic size (If not to hand, you can use a larger size)

For Stainless steel it will show GL before cup size, this means use a Gas Lense system on torch.

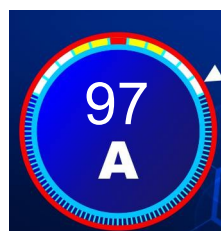
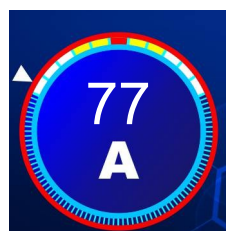
You are now ready to weld! Press trigger or foot pedal to weld.

If you want to change any settings, just simply turn knob to highlight setting in red, press knob, then adjust setting and press to update

AMPERAGE TRIM

You have 10A trim +/- of recommended amperage, simply turn knob to decrease / increase amperage.

This is to allow fine tuning to personal preferences like travel speed, weld bead appearance.



DC MANUAL MODE

R-Tech DC TIG manual mode gives you full control over every weld parameter available.

DC Modes available

DC Standard (No pulse)

DC Pulse

DC Tack weld

DC Spot weld



DC MANUAL - HOME SCREEN

The above image shows the home page for DC manual mode.

From this menu turn knob to highlight in red setting to be changed, press knob in, turn to adjust to desired setting, then press again to update.

HF Options

HF start - normal auto arc starting.

LIFT - Lift start for welding without HF when working on vehicles to protect electronics.

SPOT Options

Off - normal DC welding

SPOT - Spot welding with optional stitch time function

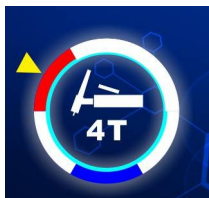
TACK - Fast TACK welding with optional stitch time function

DC MANUAL - HOME SCREEN cont..

REMOTE Options



2T - Press trigger to start weld, release to finish weld.



4T - Press and hold trigger to start weld at start amps, release trigger to go to main amps. To finish weld - Press and hold trigger to go to end amps, release and weld will stop. If you wish to abort weld during main amps, quickly tap trigger and main arc will stop and post flow gas will run.



PEDAL - Press foot pedal to start weld, fully depress pedal to get 100% of amps shown in recommended settings.
I.E If main amperage setting was 120A, on a full depress of pedal you will get 120A, if pedal only pressed halfway you will get 60A



2T+F - Torch trigger operation for on/off with amperage control by slider / rotary knob on torch handle.



4T+F - Torch trigger latch operation same as 4T but with amperage control by slider / rotary knob on torch handle.



4TS - Torch trigger latch operation same as 4T with the function to switch between start and main amperage by quickly tapping trigger during main amps - Ideal for pipe welding where you want to switch to start amps to get continuous weld bead whilst repositioning or getting new filler rod.

PULSE Options

Off - No pulse settings in main weld settings screen

On - Pulse settings shown in main weld settings screen, These being:-

Pulse time % - Sets pulse time (width) as a percentage of total pulse

Pulse frequency - from 0.1Hz to 500Hz

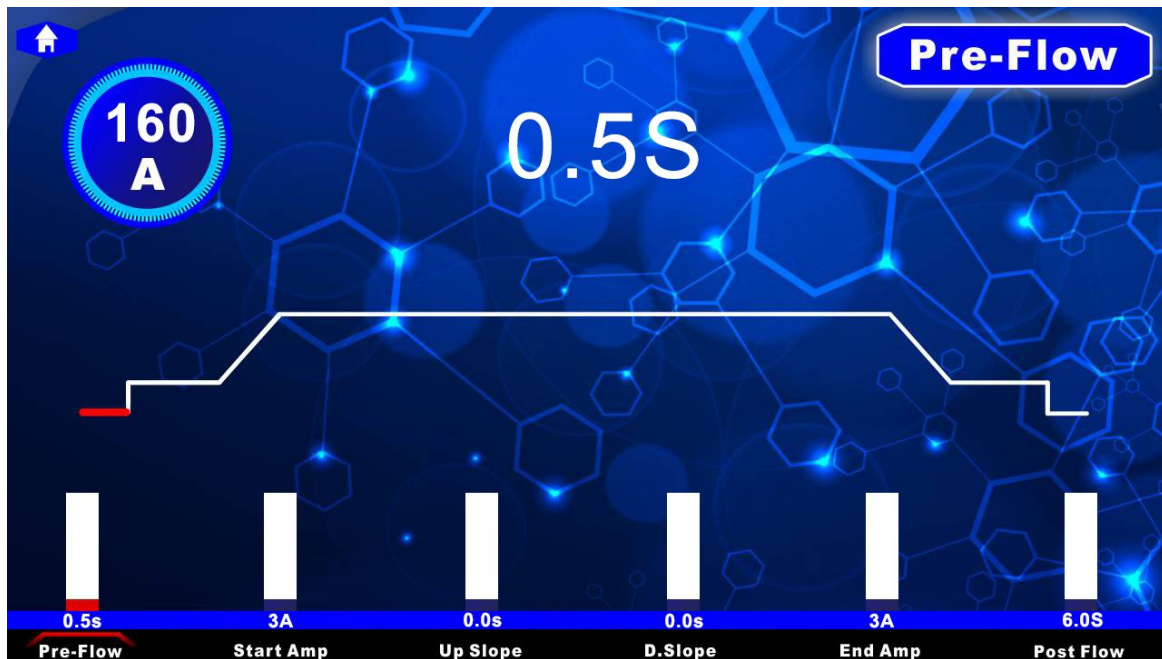
Pulse Amps % - Sets base amps as a percentage of main amps.

Main welding settings screen.

After setting manual TIG screen settings as required, now press the right LOAD button and the 2nd level screen will show as below.

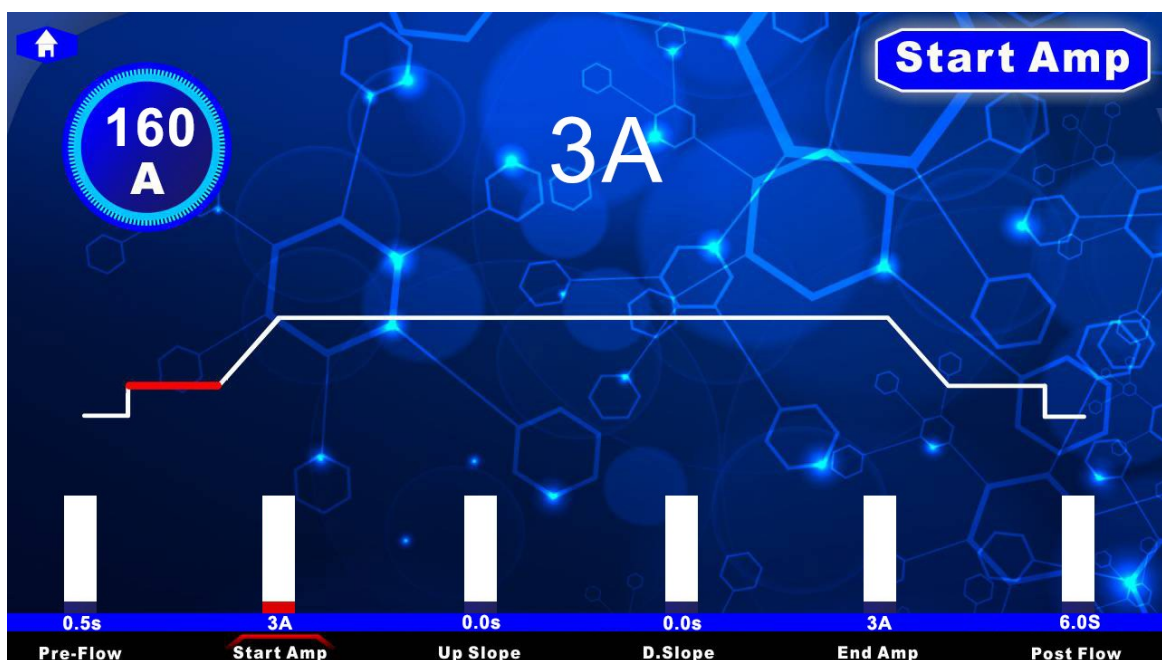
Pre-flow Gas

Turn knob to select Pre-flow gas time (will highlight in red), then press knob in to select, turn to adjust and press again to update..



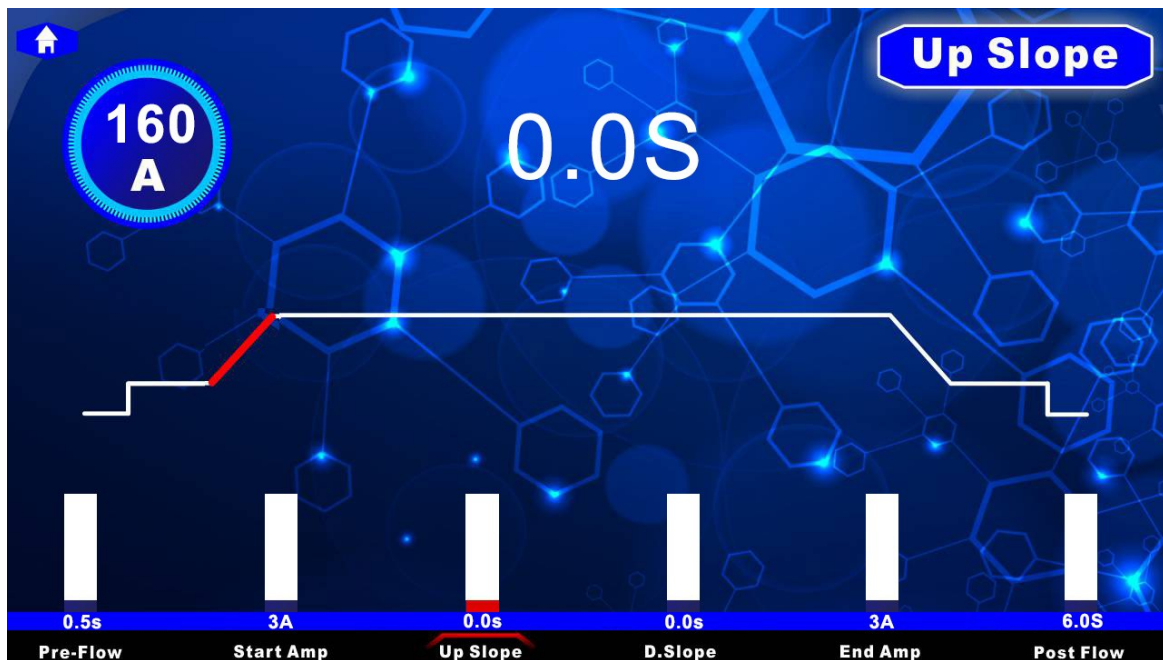
Start amps

Use control knob to adjust required start amps,, press knob in to highlight, turn knob to adjust, press to enter setting , then turn to move to next setting



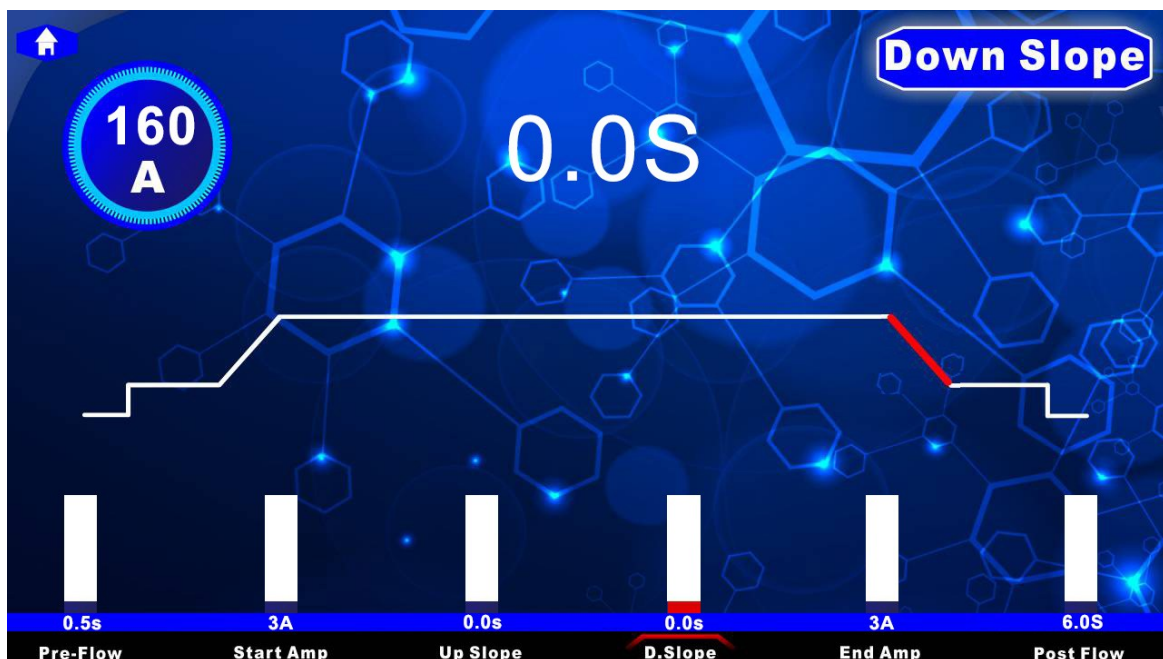
Up slope

Use control knob to adjust Up-slope time, , press knob in to highlight, turn knob to adjust, press to enter setting , then turn to move to next setting



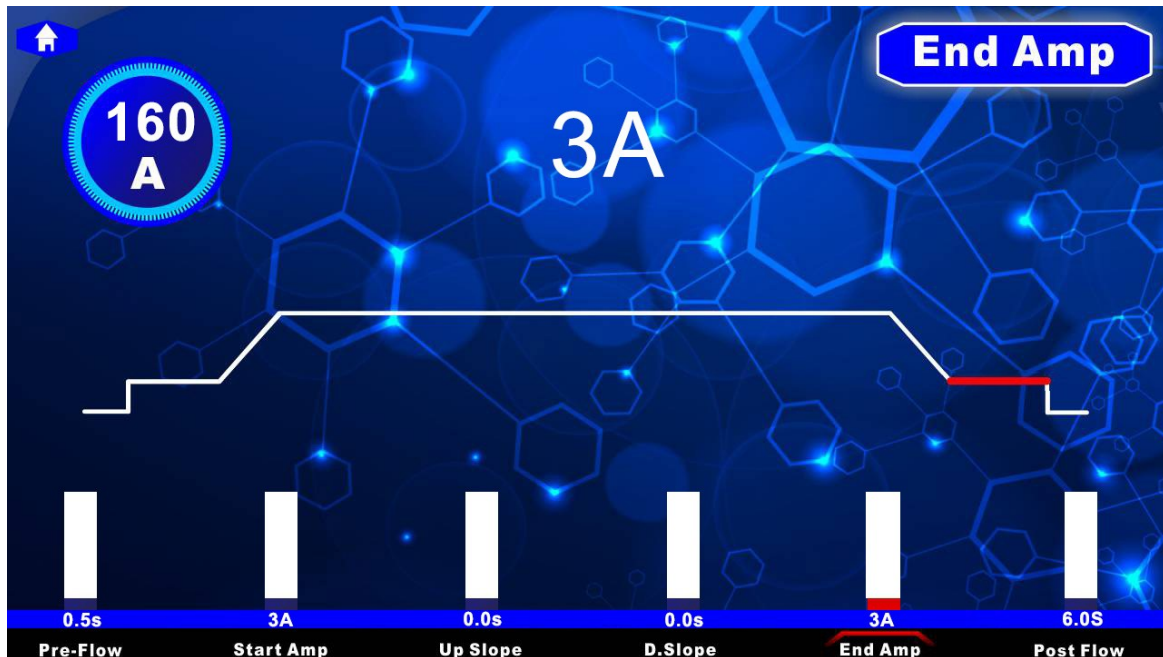
Down slope

Use control knob to adjust Downslope, press knob in to highlight, turn knob to adjust, press to enter setting , then turn to move to next setting



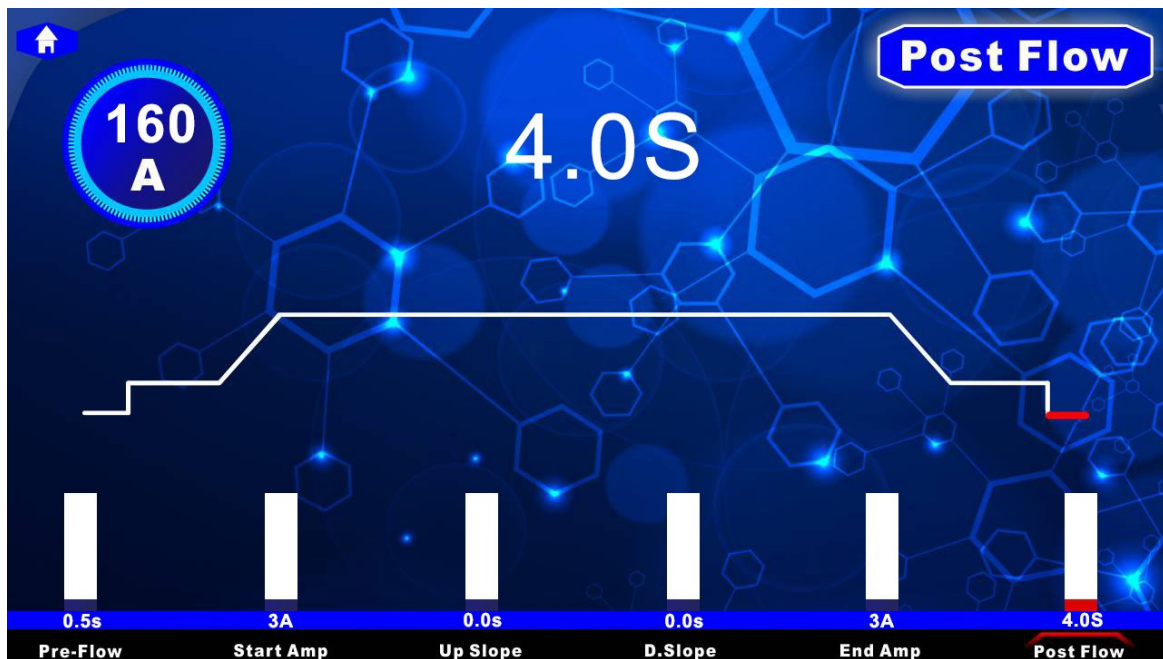
End amps

Use control knob to adjust end amps, press knob in to highlight, turn knob to adjust, press to enter setting , then turn to move to next setting



Post flow gas time

Use control knob to adjust post flow gas , press knob in to highlight, turn knob to adjust, press to enter setting , then turn to move to next setting



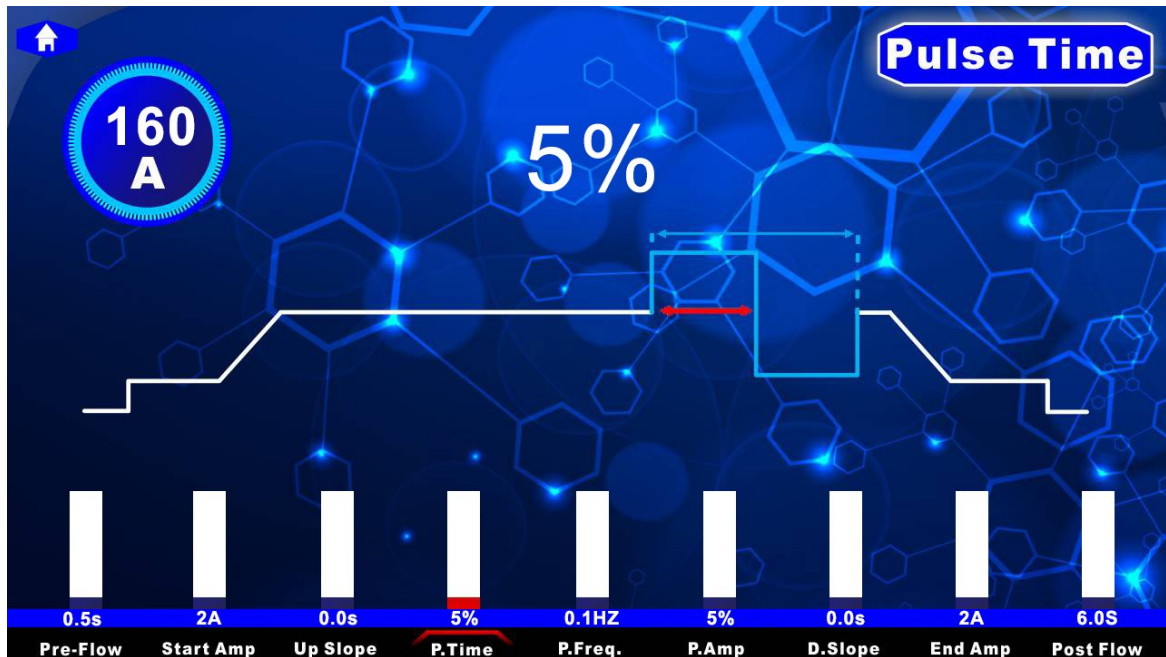
Once all settings have been set, you can start welding immediately or return to home screen by pressing right button and then you can adjust amperage or other settings if required.

DC Manual with PULSE ON

After selecting PULSE on home screen you will now see 3 further options in DC manual 2nd screen.

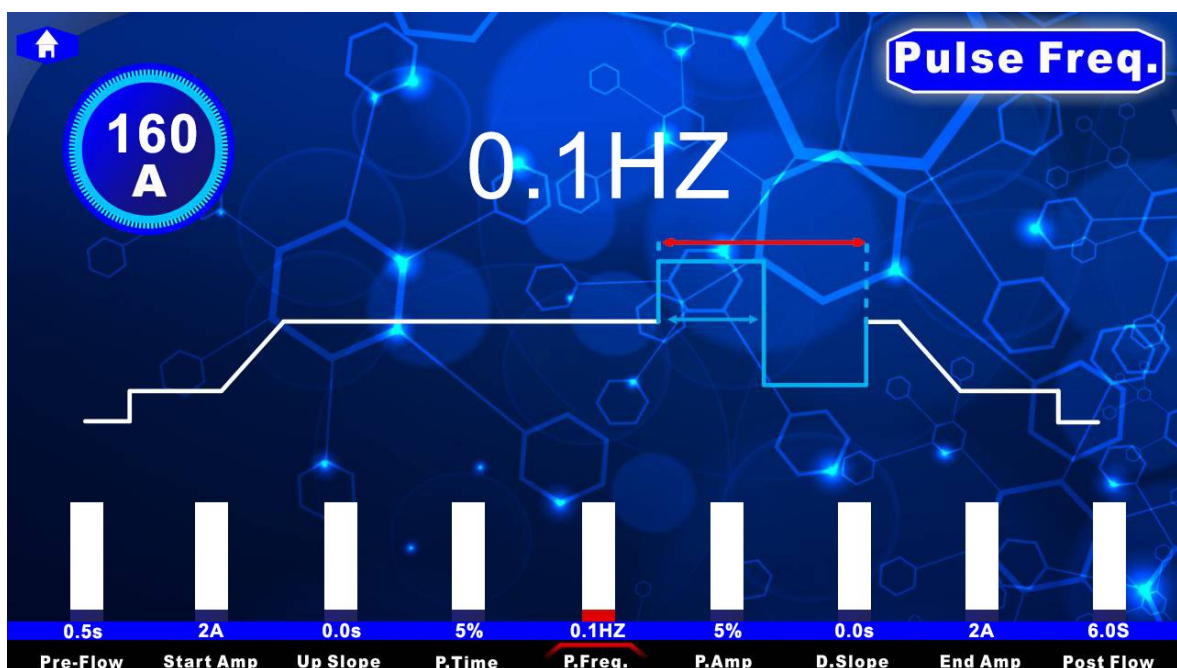
Pulse Time

Use control knob to adjust required pulse time, press knob in to highlight, turn knob to adjust, press to enter setting , then turn to move to next setting



Pulse Frequency

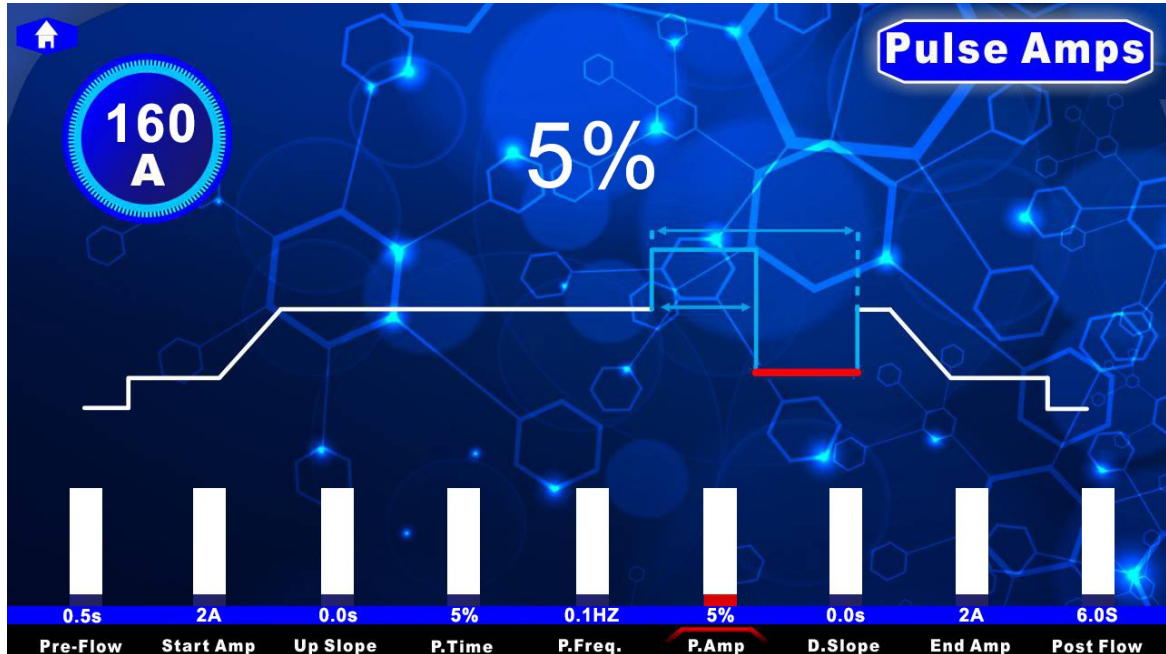
Use control knob to adjust pulse frequency, press knob in to highlight, turn knob to adjust, press to enter setting , then turn to move to next setting



DC Manual with PULSE ON cont..

Pulse Amps

Use control knob to adjust required pulse amperage, press knob in to highlight, turn knob to adjust, press to enter setting , then turn to move to next setting



Now you have set the 3 required pulse settings you can start your weld.

Brief explanation of pulse settings

Pulse time

When pulse welding you have the main (peak) and base (background) amperage. By adjusting the pulse time % you determine which one will be more prominent, the pulse or base. At a low % the base current will be on longer so you will reduce heat input. At a high % the peak current will be on longer so you increase heat input.

Pulse Frequency

This adjusts how often the pulse will happen per second, at 0.5Hz it will be a very slow pulse and you will be able to see the change, when welding at high frequency the sound of arc will change to a higher pitch and you hardly see the change in amperage as it is so fast.

Pulse Amps

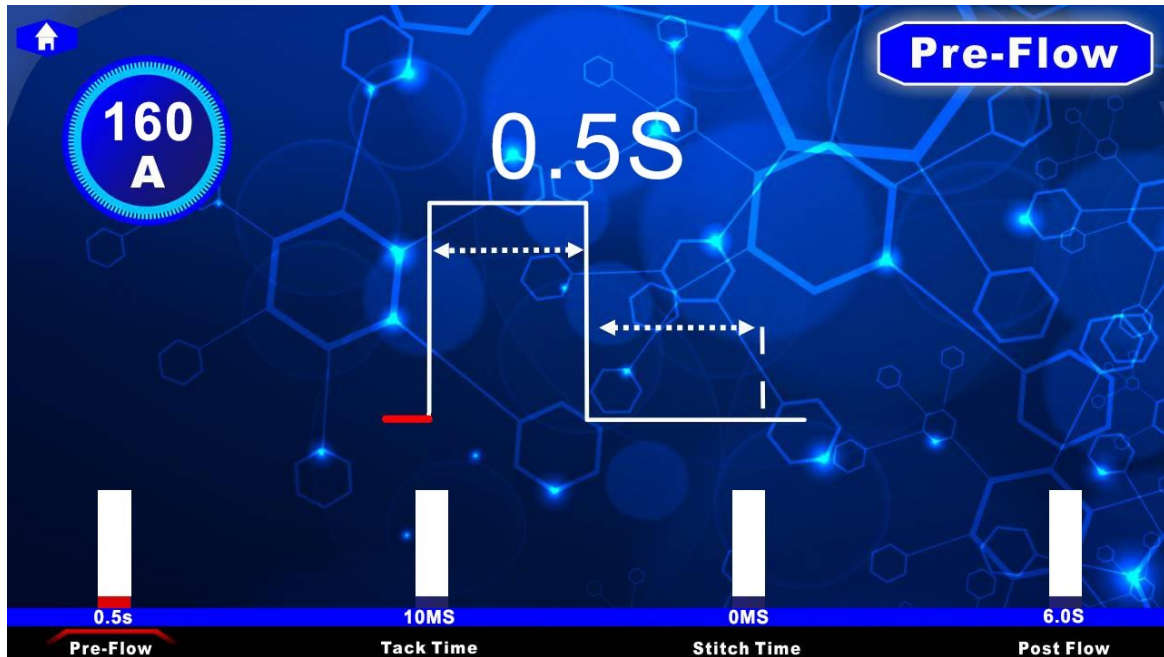
This sets the % of pulse vs base amps. I.E If main amperage (peak) is set to 120amps and you set at 50%, the base amps will be 60amps. Generally a setting of 50-75% base amps suits most jobs.

DC TACK Mode

Tack welding allows you to product one single fast tack weld for a selected time when trigger is pressed. You can also set a stitch time which will then set a delay time after first tack and then another tack weld will be started and this will be repeated for as long as trigger is pressed.

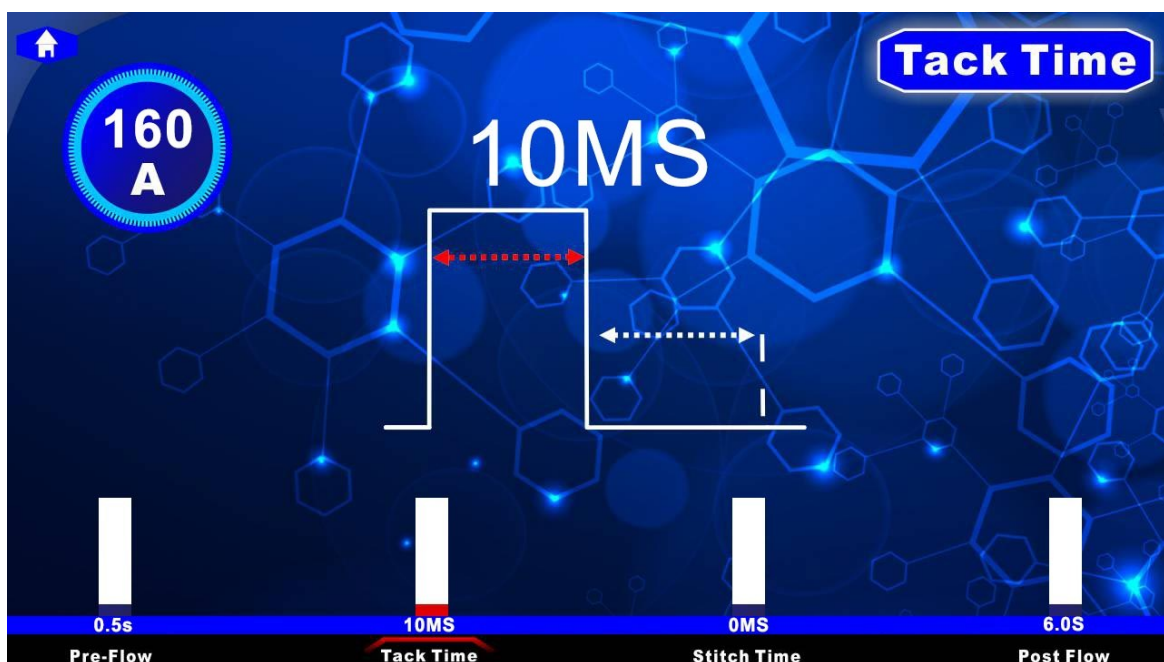
Pre-flow Gas

Use control knob to adjust required pre-flow gas time, press knob in to highlight, turn knob to adjust, press to enter setting , then turn to move to next setting.



Tack time

Use control knob to adjust required tack time 10-250ms

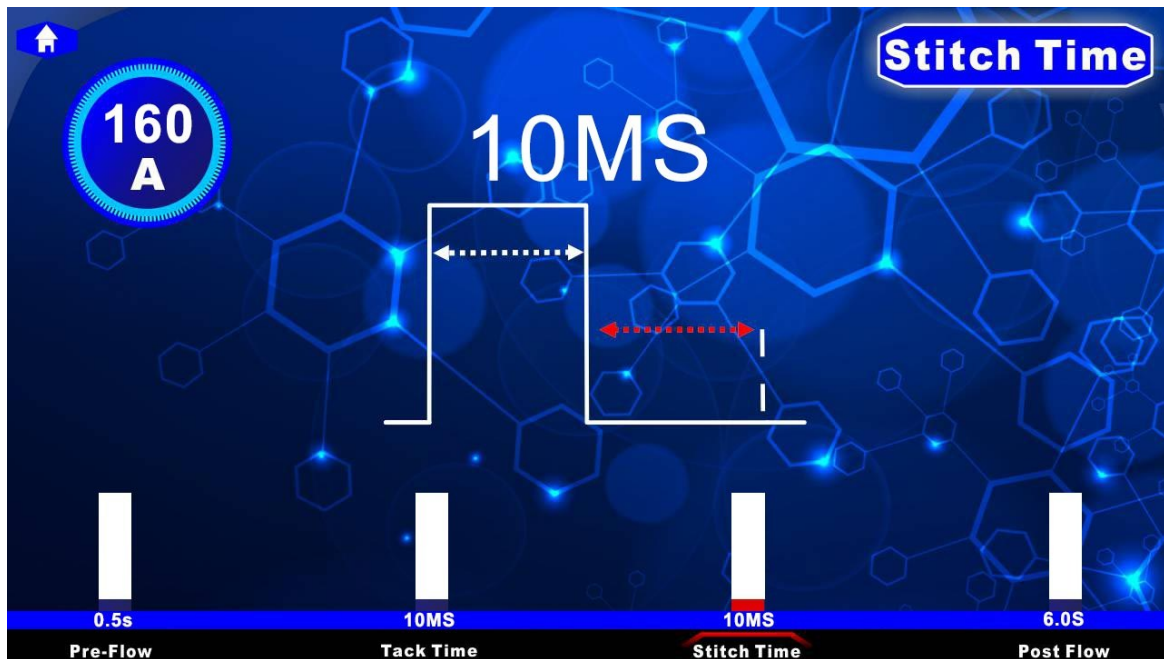


DC TACK Mode cont..

Stitch time

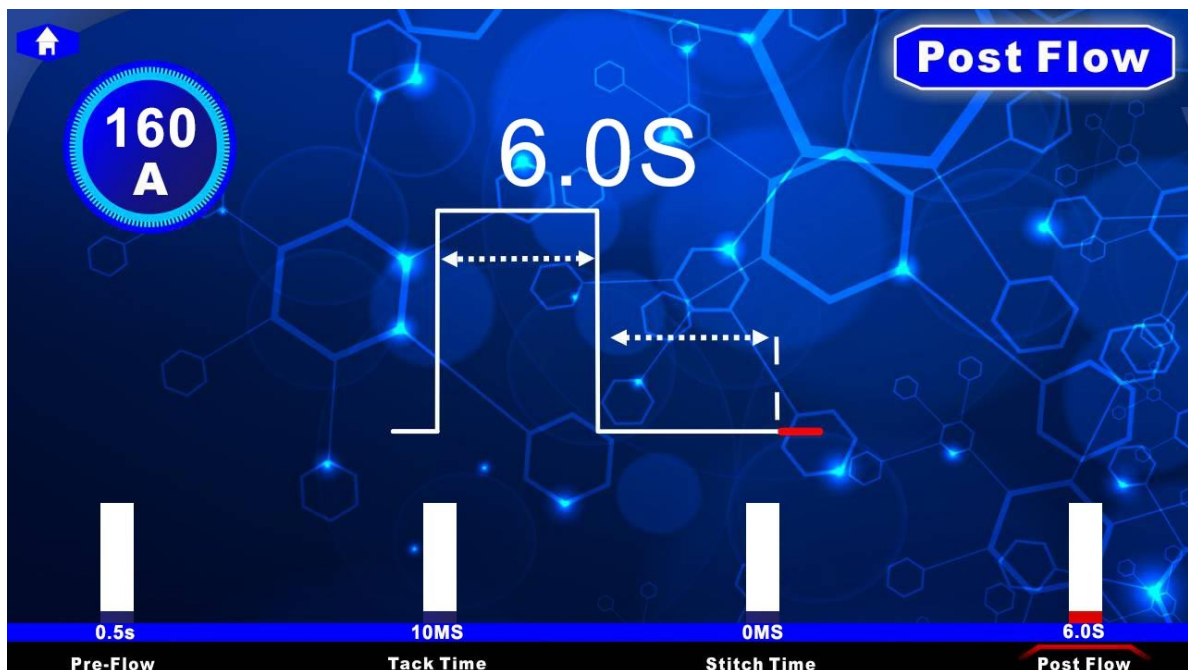
Use control knob to adjust required stitch time, press knob in to highlight, turn to adjust, then press again to save.

If a stitch time of 0.0s is selected, then only one tack will happen on trigger press, once stitch time is



Post flow gas

Use control knob to adjust required post flow gas time.



DC SPOT MODE

SPOT welding allows you to product one single spot weld for a selected time when trigger is pressed.

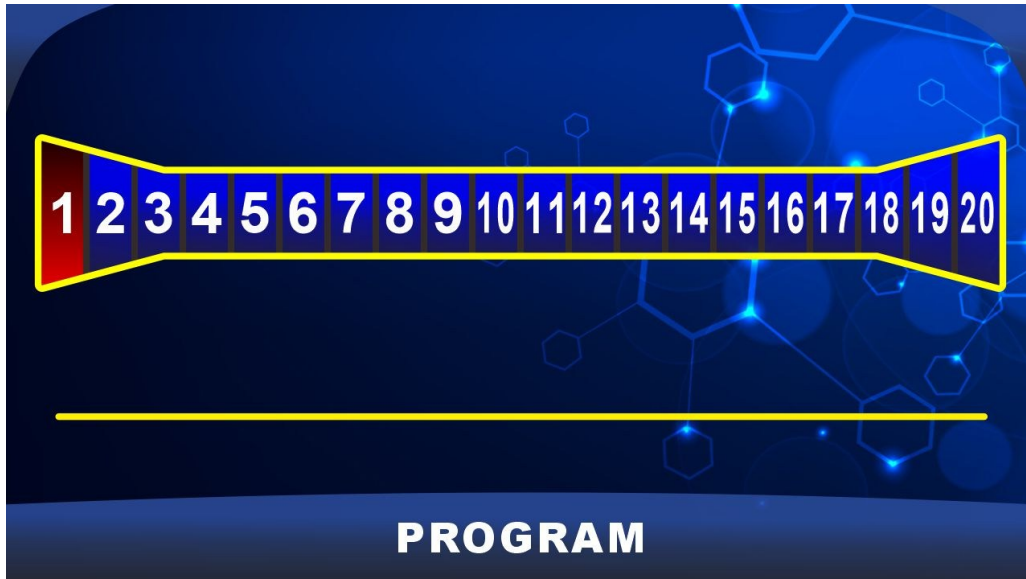
You can also set a stitch time which will then set a delay time after first spot and then another spot weld will be started and this will be repeated for as long as trigger is pressed.

This is setup in same way as tack weld screen, however spot time is between 0.1s and 10s and the stitch time is 0 - 5s.

Memory store save and load function

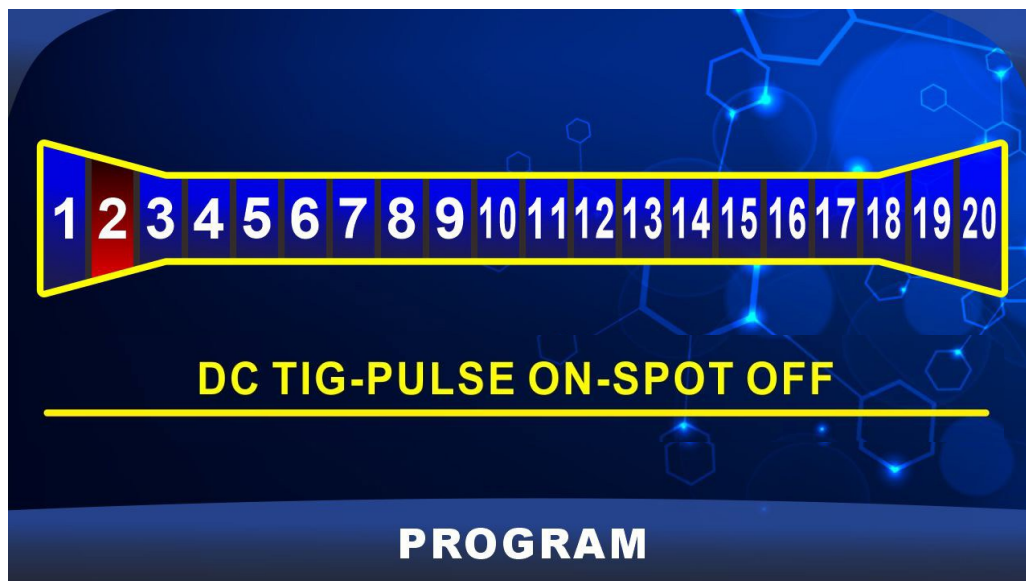
20 memory stores are available so you can save your preferred weld settings.

To access program save menu, press the left SAVE button on front panel for 3 seconds and release, the following screen will appear.



Use the knob to move to required save slot, then press the left SAVE button.

The saved program will turn YELLOW signalling the program has now been saved, then wait 3 seconds and you will return automatically to settings screen.



To load a program, press and hold right LOAD button for 3 seconds and release, then scroll to program required using knob, and press right LOAD button to select, then wait 3 seconds and you will return automatically to settings screen.

MMA - STICK WELDING

The TIG203DC features 2 main MMA STICK operating modes

DC STICK in EASY mode

DC STICK in MANUAL mode

DC EASY MODE

R-Tech EASY SET mode takes the guesswork out of MMA welding. You normally had to enter all weld settings before beginning to weld on manual welders, we have done this for you.

You simply select the following from easy to understand screen.

Electrode type

Electrode size

Material thickness

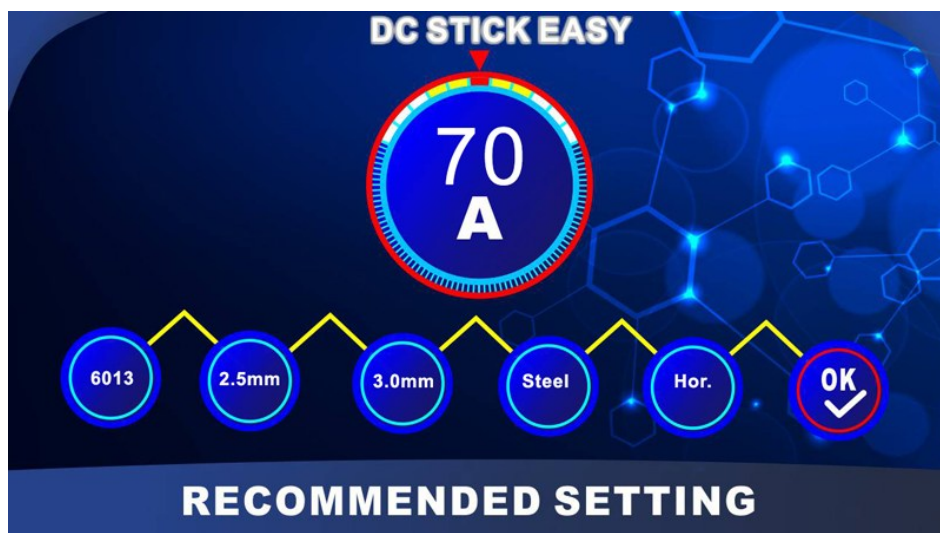
Material type

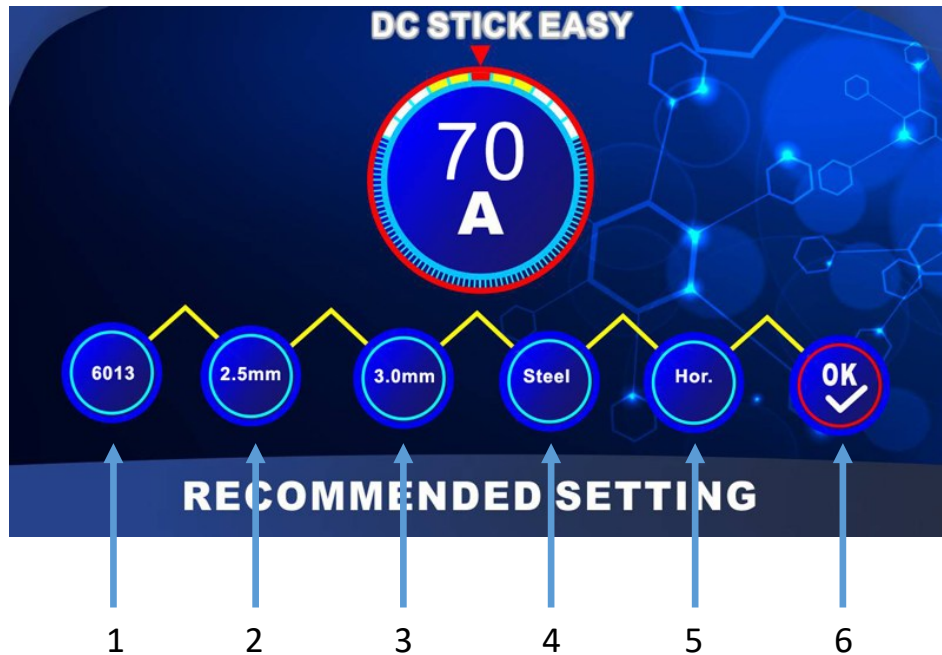
Welding position - Flat, Horizontal, Vertical, Overhead

Once above settings have been selected, the machine will set main amperage power.

Select DC STICK EASY

NOTE: In MMA EASY SET MODE, VRD is turned off, welding terminals are LIVE - ensure welding electrode holder / electrode are not in contact with earth / workpiece.





Selecting EASY SET parameters

Use the control knob to move between each setting - once setting is highlighted in RED press the control knob to select then turn to adjust, press again to enter setting. Once you have entered all 5 parameters for weld, move onto OK so it goes RED the recommended welding amperage will be shown in middle of display.

You can trim this amperage using control knob + / - 10 amps to suit you personal preference of travel speed / weld bead characteristics.

1. ELECTRODE TYPE

DC - 6011, 6013, 7014, 7018, 308, 309, 316

2. ELECTRODE SIZE

2.5mm, 3.2mm, 4.0mm - Note: Rods shown depending on machine maximum amperage.

3. MATERIAL THICKNESS

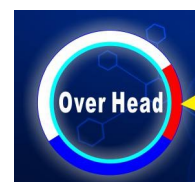
1.5mm, 2.0mm up to 6mm depending on machine maximum amperage.

4. MATERIAL TYPE

DC Mode - Steel or Stainless steel (SS)

5. Welding position

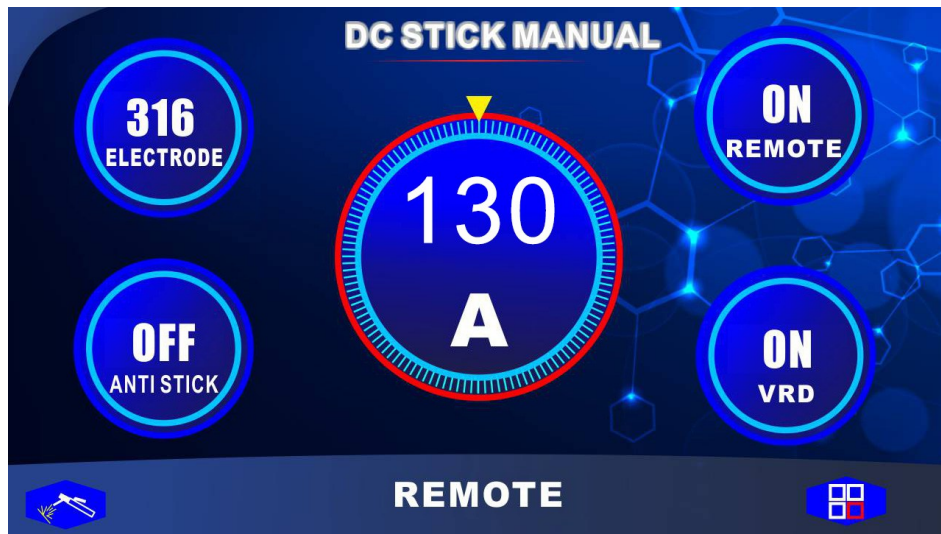
Flat, Horizontal, Vertical and Over head



MMA - STICK WELDING MANUAL MODE

DC STICK in MANUAL mode

AC STICK in MANUAL mode



DC MANUAL - HOME SCREEN

The above image above shows the home page for STICK manual mode.

In this menu press the arrow buttons to highlight in red the setting to be changed, then use control knob to select desired setting.

ELECTRODE TYPE

DC - 6011, 6013, 7014, 7018, 308, 309, 316

ANTI-STICK

OFF / ON

When switched on the machine will use inbuilt technology to stop electrode from sticking to material.

REMOTE

OFF / ON

When switched on, you can control the amperage remotely by foot pedal or other remote device.

V.R.D

OFF - Full OCV (80-90VDC) voltage at welding terminals.

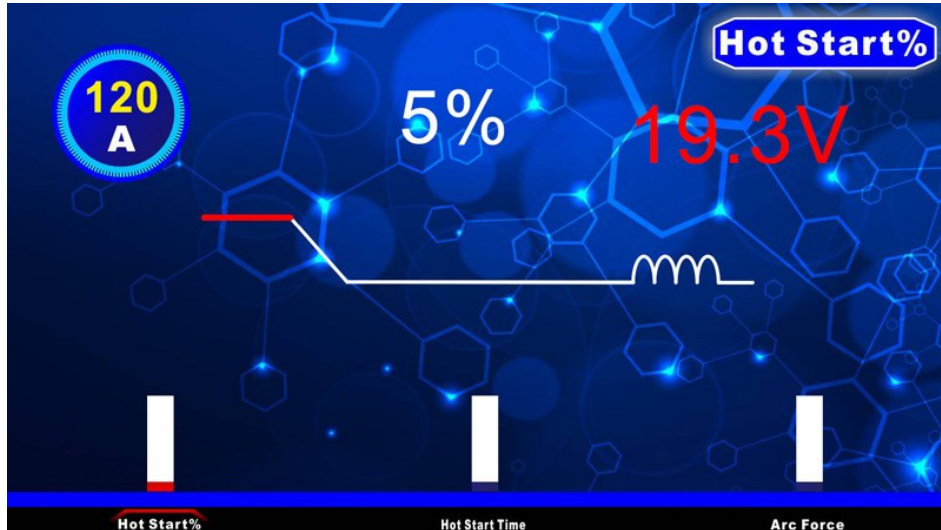
ON - Welding voltage at terminals is reduced to 20VDC (+/- 3V) for user safety. Once electrode touches workpiece the arc is established to full voltage, once arc is stopped, the machine returns to 20VDC

NOTE: In MMA MODE, welding terminals are LIVE - ensure welding electrode holder / electrode are not in contact with earth / workpiece.

MMA - STICK WELDING MANUAL MODE cont..

After setting home screen settings as required, now press the right LOAD button and the 2nd level screen will show as below.

DC MODE - STICK SETTINGS



You can now select the following 3 parameters.

Turn knob to highlight setting in red, press in knob, turn control knob to adjust, press again to save.

Hot Start %

This controls the extra amount of amperage at beginning of weld to help stop rod sticking.
Adjustable from 0- 100%

Hot Start Time

This controls how long the hot start will operate when arc is struck
Adjustable from 0 - 5 seconds.

Arc Force %

This controls the arc response for when an electrode is held closer/away from workpiece.
The arc force automatically adjusts amperage / voltage to maintain stable arc.
Adjustable from 0- 100%

Error codes

The machine will show an error code if a problem is detected.



E01 - Overheating

Allow machine to cool down and check fan vents for obstructions

E02 - Overcurrent

Reset machine and if problem persists contact R-Tech support team.

E05 - Shorted Trigger

This will show after the torch trigger or foot pedal has been pressed and the arc has not been established after 4 seconds.

This is to stop the HF start system being active if trigger / foot pedal is pressed in error or switch has gone closed circuit.

			
WARNING	- Do not touch electrically live parts or electrode with skin or wet clothing. - Insulate yourself from work and ground.	Keep flammable materials away.	Wear eye, ear and body protection.
Spanish AVISO DE PRECAUCION	- No toque las partes o los electrodos bajo carga con la piel o ropa mojada. - Aíslese del trabajo y de la tierra.	Mantenga el material combustible fuera del área de trabajo.	Protéjase los ojos, los oídos y el cuerpo.
French ATTENTION	- Ne laissez ni la peau ni des vêtements mouillés entrer en contact avec des pièces sous tension. - Isolez-vous du travail et de la terre.	Gardez à l'écart de tout matériel inflammable.	Protégez vos yeux, vos oreilles et votre corps.
German WARNUNG	- Berühren Sie keine stromführenden Teile oder Elektroden mit Ihrem Körper oder feuchter Kleidung! - Isolieren Sie sich von den Elektroden und dem Erdboden!	Entfernen Sie brennbares Material!	Tragen Sie Augen-, Ohren- und Körperschutz!
Portuguese ATENÇÃO	- Não toque partes elétricas e electrodos com a pele ou roupa molhada. - Isole-se da peça e terra.	Mantenha inflamáveis bem guardados.	Use proteção para a vista, ouvido e corpo.
Japanese 注意事項	- 通電中の電気部品、又は溶材にヒツやぬれた布で触れないこと。 - 施工物やアースから身体が絶縁されている様にして下さい。	燃えやすいものの側での溶接作業は絶対にしてはなりません。	目、耳及び身体に保護具をして下さい。
Chinese 警告	- 皮肤或湿衣物切勿接触带电部件及焊缝。 - 使你自已离地面和工作件绝缘。	把一切易燃物品移开工作场所。	佩戴眼、耳及身体劳动保护用具。
Korean 위험	- 전도체나 용접봉을 젖은 행걸 또는 피부로 절대 접촉치 마십시오. - 모재와 접지를 접촉치 마십시오.	인화성 물질을 접근시키지 마십시오.	눈, 귀와 몸에 보호장구를 착용하십시오.
Arabic تحذير	- لا تلمس الأجزاء التي يسري فيها التيار الكهربائي أو الألكترود بجلد الجسم أو بالملابس المبللة بالماء. - ضع عازل على جسمك خلال العمل.	ضع المواد القابلة للاشتعال في مكان بعيد.	ضع أدوات وملابس واقية على عينيك وأذنيك وجسمك.

READ AND UNDERSTAND THE MANUFACTURER'S INSTRUCTION FOR THIS EQUIPMENT AND THE CONSUMABLES TO BE USED AND FOLLOW YOUR EMPLOYER'S SAFETY PRACTICES.

SE RECOMIENDA LEER Y ENTENDER LAS INSTRUCCIONES DEL FABRICANTE PARA EL USO DE ESTE EQUIPO Y LOS CONSUMIBLES QUE VA A UTILIZAR, SIGA LAS MEDIDAS DE SEGURIDAD DE SU SUPERVISOR.

LISEZ ET COMPRENEZ LES INSTRUCTIONS DU FABRICANT EN CE QUI REGARDE CET EQUIPMENT ET LES PRODUITS A ETRE EMPLOYES ET SUIVEZ LES PROCEDURES DE SECURITE DE VOTRE EMPLOYEUR.

LESEN SIE UND BEFOLGEN SIE DIE BETRIEBSANLEITUNG DER ANLAGE UND DEN ELEKTRODENEINSATZ DES HERSTELLERS. DIE UNFALLVERHÜTUNGSVORSCHRIFTEN DES ARBEITGEBERS SIND EBENFALLS ZU BEACHTEN.

			
● Keep your head out of fumes. ● Use ventilation or exhaust to remove fumes from breathing zone.	● Turn power off before servicing.	● Do not operate with panel open or guards off.	WARNING
● Los humos fuera de la zona de respiración. ● Mantenga la cabeza fuera de los humos. Utilice ventilación o aspiración para gases.	● Desconectar el cable de alimentación de poder de la máquina antes de iniciar cualquier servicio.	● No operar con panel abierto o guardas quitadas.	Spanish AVISO DE PRECAUCION
● Gardez la tête à l'écart des fumées. ● Utilisez un ventilateur ou un aspirateur pour ôter les fumées des zones de travail.	● Débranchez le courant avant l'entretien.	● N'opérez pas avec les panneaux ouverts ou avec les dispositifs de protection enlevés.	French ATTENTION
● Vermeiden Sie das Einatmen von Schweißrauch! ● Sorgen Sie für gute Be- und Entlüftung des Arbeitsplatzes!	● Strom vor Wartungsarbeiten abschalten! (Netzstrom völlig öffnen; Maschine anhalten!)	● Anlage nie ohne Schutzgehäuse oder Innenschutzverkleidung in Betrieb setzen!	German WARNUNG
● Mantenha seu rosto da fumaça. ● Use ventilação e exaustão para remover fumo da zona respiratória.	● Não opere com as tampas removidas. ● Desligue a corrente antes de fazer serviço. ● Não toque as partes elétricas nuas.	● Mantenha-se afastado das partes moventes. ● Não opere com os painéis abertos ou guardas removidas.	Portuguese ATENÇÃO
● ヒュームから顔を離すようにして下さい。 ● 換気や排煙に十分留意して下さい。	● メンテナンス・サービスに取りかかる際には、まず電源スイッチを必ず切して下さい。	● パネルやカバーを取り外したまま機械操作をしないで下さい。	Japanese 注意事項
● 頭部遠離煙霧。 ● 在呼吸區使用通風或排風器除煙。	● 維修前切斷電源。	● 氣表板打開或沒有安全罩時不準作業。	Chinese 警告
● 얼굴로부터 용접가스를 멀리하십시오. ● 호흡지역으로부터 용접가스를 제거하기 위해 가스제거기나 통풍기를 사용하십시오.	● 보수전에 전원을 차단하십시오.	● 판넬이 열린 상태로 작동치 마십시오.	Korean 위험
● أبعد رأسك بعيداً عن الدخان. ● استعمل التهوية أو جهاز ضغط الدخان للخارج لكي تبعد الدخان عن المنطقة التي تتنفس فيها.	● أقطع التيار الكهربائي قبل القيام بأية صيانة.	● لا تشغيل هذا الجهاز إذا كانت الإغطية الحديدية الواقية ليست عليه.	Arabic تحذير

LEIA E COMPREENDA AS INSTRUÇÕES DO FABRICANTE PARA ESTE EQUIPAMENTO E AS PARTES DE USO, E SIGA AS PRÁTICAS DE SEGURANÇA DO EMPREGADOR.

使う機械や溶材のメーカーの指示書をよく読み、まず理解して下さい。そして貴社の安全規定に従って下さい。

請詳細閱讀並理解製造廠提供的說明以及應該使用的銀焊材料，並請遵守貴方的有關勞動保護規定。

이 제품에 동봉된 작업지침서를 숙지하시고 귀사의 작업자 안전수칙을 준수하시기 바랍니다.

اقرأ بتمعن وافهم تعليمات المصنع المنتج لهذه المعدات والمواد قبل استعمالها واتبع تعليمات الوقاية لصاحب العمل.