

# WFU12A-RV



## Description

Wire Feed Unit

## Processes



### Important Information

All persons authorised to use, repair or service the WFU12A-RV wire feed unit, should read the section on safety, before any work is undertaken. Further information is available in publication HSG118 'Electric safety in arc welding', which may be obtained from the Health & Safety Executive. Please contact your distributor should you not understand any of the information within this document.

**INSTRUCTION MANUAL** 18/02/15

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## 1.1 Servicing Hazards

### Fire and Explosions

**Pay attention to fire and safety regulations in force at the welding site.**

- Remove all flammable or combustible materials from the welding area and the immediate vicinity.
- Suitable fire fighting equipment must always be present where welding is undertaken.
- Be aware that a fire risk is present for a considerable time after welding operations have ceased because of sparks and hot slag etc. Take suitable precautions when you have finished welding.
- Take care when welding containers that have held flammable or combustible material, these should have been specially cleaned before being made available to the welder. If in doubt do not proceed.

### Burns

**Be aware that burns may be the result of the heat involved in the welding process, welding spatter or the Ultra Violet Radiation given off by the arc itself.**

- Wear suitable flame retardant clothing over all your body.
- Wear protective gauntlets designed for welding use.
- Wear a welding facemask fitted with the correct filter shade suitable for the current at which you will be welding.
- Avoid wearing oily or greasy clothing as a spark may ignite them. Where possible ensure that a suitable first aid kit and a first aid person qualified in the treatment of burns are available nearby.

### Fumes

**Welding operations give off harmful fumes that are hazardous to your health.**

- Make sure the welding area is well ventilated. Use suitable fume extractors or exhaust fans if necessary.
- If the ventilation is not suitable then breathing apparatus may have to be used.
- Do not weld plated metals or metals which contain Lead, cadmium, Zinc, Mercury or Beryllium unless you are wearing breathing apparatus approved for the purpose.

### Electric Shock

- Do not touch live electrical parts.
- Do not work in wet or excessively humid areas.
- Avoid touching the work piece whilst welding.
- Keep your clothing and body dry.

### The safe handling of gas cylinders

**The WFU-12 wire feed units use argon mix or CO<sub>2</sub> gas during MIG welding. These are inert gases and can displace oxygen in the atmosphere leading to asphyxiation.**

- **Note!** Gas cylinders are under pressure and can explode if punctured. Please ensure the cylinder is secured in a stable location away from any heat source or potential mechanical damage.
- Always place the gas cylinder on the rear shelf of the power source and securely fasten it using the securing chain supplied. If it is not desired or possible to place the cylinder on the cylinder carrier of the power source then the cylinder must be securely fastened to a wall or placed in a specially designed cylinder carrier.
- Do not use gas cylinders whose contents you are unsure of.
- Check the gas cylinder, pressure regulator and gas hoses regularly for leaks and discard any suspect item.
- Do not connect directly to a gas cylinder without using a pressure-reducing regulator designed for use with argon mix or CO<sub>2</sub>.
- Always install and use pressure regulators in accordance with the manufacturers instructions
- It is advisable when attaching the regulator to the gas cylinder to briefly turn on the cylinder valve to expel any foreign objects that may be present. These may later block the solenoid valve of the machine if not dealt with. Turn your face away from the cylinder valve when undertaking this action.
- Always turn off the valve on the gas cylinder when you have finished welding.

**Further information is available in publication HSG118 'The safe use of compressed gases in welding, flame cutting and allied processes' which may be obtained from the Health & Safety Executive.**

### Welding and earth return cables

- Earth return cables must have a cross sectional area of at least 35mm<sup>2</sup>.
- Only use copper cables, the use of Aluminium cables may have a detrimental effect on the performance of the machine.
- Regularly inspect welding cables and connectors for wear abrasion and corrosion. Corroded cables and connectors may overheat and become a fire hazard.
- Ensure that all welding connectors are fully mated, the connectors should be pushed fully home and then turned clockwise to lock. If the connectors are not mated fully then they may overheat and become a fire hazard.
- If possible, fasten the earth return clamp directly to the job to be welded and ensure that the surface is free from rust and paint.

## 2.1 - Description

The Newarc WFU12A-RV wire feeders have been designed with increased environmental protection. They are built into a strong, durable plastic case using Zinc coated chassis components to give both great strength and protection when used in damp conditions.

The wire feed unit is designed to work in conjunction with the Newarc range of inverter based power sources and provides the following functions: -

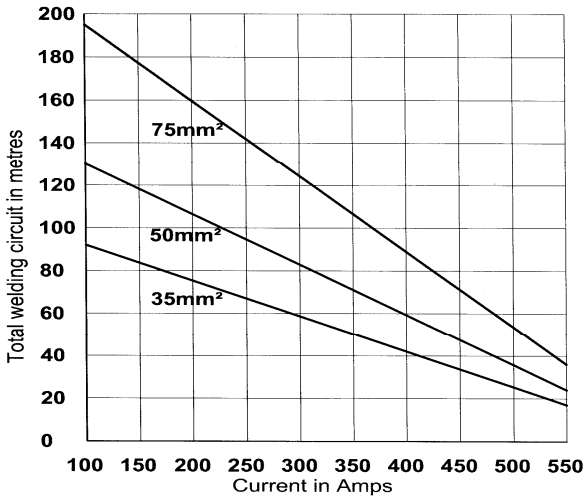
- Powerful 4 roll wire drive system with electronic feed-back to provide accurate and stable wire feed
- Digital display of wire feed speed and voltage, wire speed may be set in either inches or meters per minute.
- Adjustable burn back time.
- Adjustable slow start time.
- Adjustable initial start voltage.
- Adjustable pre-gas and post-gas time.
- 2T or 4T gun switch latching.
- Wire inch and gas purge buttons.
- Display activity (displays how many hours the wire feeder has been in use).

**Above specification with MF-34 panel fitted**

## 2.2 Technical Data

Technical Data	
Current Rating	450 amps @ 60% 350 amps @ 100%
Wire Diameter	0.8mm - 2.0mm
Max Wire Spool Size	30cm / 12"
Wire Speed Range	0 - 23 m/min
Input Voltage	24V AC
Voltage Control	Yes
Digital Display (With MF34 or MF37 Option)	Yes
Weight (kg)	12Kg
Degree of protection	IP53

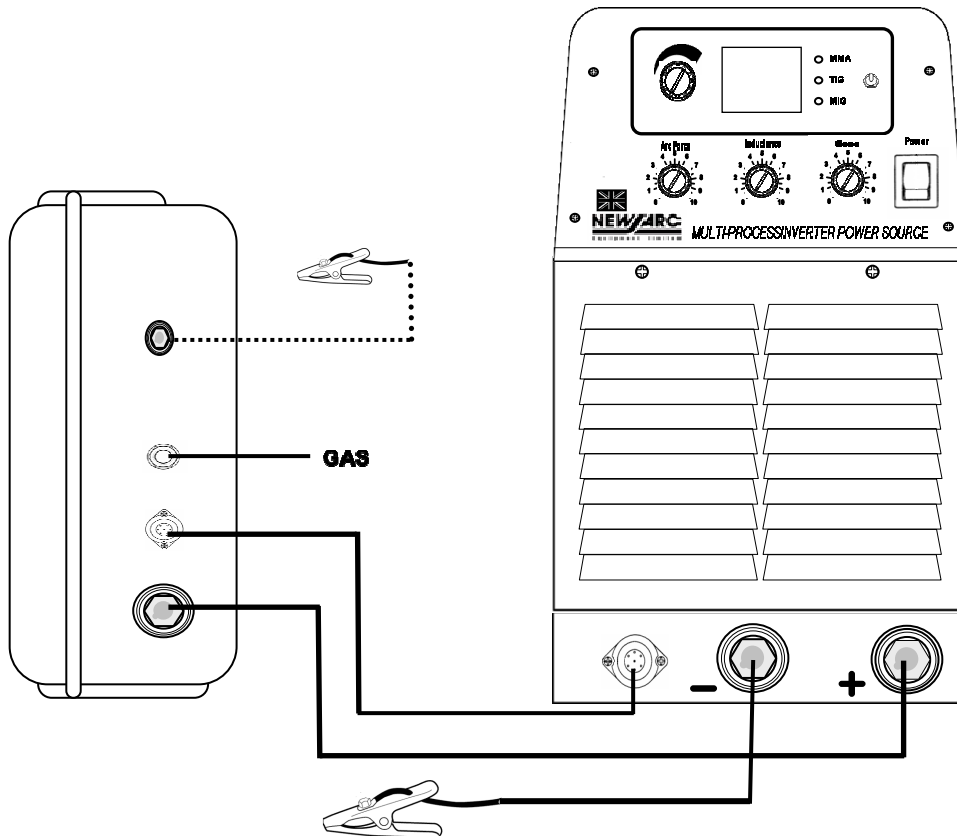
## 3.1 - Connection to Power Source



Only use copper welding cables with a cross sectional area of 35mm<sup>2</sup> or more. Use the graph below to calculate the cable size suitable for the required welding distance.

**Note!** The figures on the graph are for a duty cycle rating of 60%. The total welding circuit includes the power and the earth leads.

- For straight polarity welding, connect the power in connector on the rear of the wire-feeder to the +ve connector on the power source.
- Connect the welding earth lead to the -ve connector on the power source and attach the earth clamp to the work-piece.



## 3.2 Fitting wire spool

The feed rollers must always be selected to match the size of the electrode wire being used. The feed rollers fitted to the wire-feeders normally have two different sized grooves.

- Make sure that the outlet wire guide located inside the torch adapter is of the correct size for the wire being used.
- Open the pressure lever on the wire drive assembly.
- Remove the retaining nut on the spool holder and fit wire spool so that the locating pin on the spool holder fits into corresponding hole in the wire reel.
- Replace the retaining nut on the spool holder.
- Release the end of the wire from the spool and cut off the bent length, take care that the wire does not spill off the spool
- Insert the wire through the rear wire guide, over the drive rollers and through the outlet wire guide so that approximately 5cm of wire is protruding from the torch adapter.
- Close the pressure roller ensuring that the wire lays in the drive roll groove.

## 3.3 Adjusting Brake Tension

- Remove the spool-retaining nut.
- The head of the brake adjusting screw is now visible in the centre of the spool holder.
- Turn the screw clockwise to tighten the brake and anti-clockwise to slacken it.
- It is advisable to check the tension every time a new spool of wire is fitted as it is the extra weight of a full spool that generally causes problems with the spool over-running and wire spilling off the spool.

## 3.4 Connecting the Welding Torch

- Make sure that the liner and contact tip fitted to the torch are of the correct size for the wire being used.
- Attach the welding torch to the torch adapter on the wire feed, making sure that the torch liner retaining nut goes over the wire protruding from the torch adapter.
- Line all the connections on the torch up with their relevant sockets in the torch adapter and screw the torch onto the wire feeder. **Note the torch should screw easily onto the wire feeder, if any resistance is felt - do not force the torch onto the wire feeder.**

## 3.5 Feeding the Wire through the torch

- Set the wire feed speed control to about half way.
- Keeping the welding torch as straight as possible press the wire inch button until the wire is fed through the torch and out through the contact tip.
- The wire pressure lever adjuster should be set so that when the wire is restricted at the welding torch the drive rollers will slip. Setting the tension too high may cause the wire to build up inside the wire drive assembly as well as cause excessive loading of the motor which will result in a reduced duty cycle.

## 3.6 Connecting the Gas Hose

**Refer to safety precautions in section 1**

A Gas hose suitable for use with Argon or CO<sub>2</sub> up to a pressure of 10 bar (150 psi) should be connected between the pressure regulator on the gas cylinder and the gas connection on the rear of the wire feed unit. Do not over-tighten this connection.

**Note! The pressure regulator should be set between approximately 3 and 5 bar for normal use.**

## 4.1 Operational Controls for MF34 Front Panel



1. **Adjustment Control knob**
2. **Wire inch button**
3. **Gas Test button**
4. **Torch latch button**

### 1. Adjustment knob

On initial power up the display will display if the optional Voltage reference PCB is fitted (**Activ UI**)

- a. Press the control knob once to alternate between Voltage (**U**) and Wire speed (**WS**). Turn the knob to adjust the parameter.

Double press the control knob to access the additional parameters. Then a single press to select the options below. Turn the knob to adjust the parameter.

- 1:1 Program Mode (**Prg**) \*
- 1:2 Burn Back (**Bur**)
- 1:3 Start Voltage (**SV**)
- 1:4 Slow Start (**Slo**)
- 1:5 Pre Gas (**Pre**)
- 1:6 Post Gas (**Pos**)
- 1:7 Crater Fill (**CrF**)\*

- c. Once these settings have been adjusted, wait for 3 seconds and a beep will indicate that they have been saved.

\*(Only available on programmable version)

\*\* (Only available on Vref version)

- d. Any settings which have been adjusted during the welding process will automatically be saved after welding has finished and the 3 seconds has elapsed.

- e. Press and hold the control knob to access the advanced menu.

- 2:1 Wire feed scale (**WS scale**)
- 2:2 Auto arc voltage correction (**AutoDem**) \*\*
- 2:3 Version (**Version**)
- 2:4 Overload Level (**Ovrlvl**)
- 2:5 Overload delay (**OvrlDel**)
- 2:6 Activity Counter (**ActivCnt**)
- 2:7 Programs locked (**PrgLock**) \*

To exit the menu select exit or press and hold adjustment knob(1)

2. **Wire Inch button** - Initiates wire-feed without having to press the MIG torch switch, Used when feeding the wire through the torch when changing wire spools.

3. **Gas Test button**- Press to test gas flow.

4. **Torch latch button** - Changes the mode of operation of the MIG torch switch between 2T, 4T & 4D. In 2T, the MIG torch switch is pressed to start welding and released to stop. In 4T, the torch switch is pressed and released to start welding and pressed and released again to stop welding. 4D is similar to 4T but with a delay time of 1 seconds before it latches on, this allows for a quick tack weld feature in latch mode.



## 4.1 Operational Controls for MF34 Front Panel

### Additional parameters menu.

#### 1:1 Program mode (Prg)

##### Program save

- Set the wire feed unit up ensuring all required settings have been adjusted.
- Double press the control knob(1) to enter program mode (**Prg**).
- Turn the adjustment knob(1) to select a program number to save too.
- Press and hold the control knob until SAVED is displayed.

**Note:** A total of 9 programs can be saved.

##### Program Load & Program Exit

The program that is currently loaded is displayed on the far right of the display. 0 indicated no program is currently loaded.

- Double press the control knob(1) to select the additional parameters menu, select program mode (**Prg**).
- Turn the knob(1) to select the desired program.
- Press the control knob(1) once to load a program.
- To exit a program, enter program mode, select program dash(-) and press and hold the adjustment knob(1) for 3 seconds, **END** will be displayed.

#### 1:2 Burn-back (Bur)

This determines how much of the wire is left sticking out of the contact tip when welding is stopped. Too much wire and there is a chance of it 'freezing' in the weld pool as it cools, too little and there is a chance that the wire will burn back into the contact tip, necessitating changing of the tip.

#### 1:3 Start Voltage (SV)

Allows an increase in the start voltage for 1 second at the start of welding. It is adjustable between 0 to 10 volts.

#### 1:4 Slow-Start (Slo)

The length of time up to 1 second for the wire speed to be at 50% of the set wire speed value at the start of welding.

#### 1:5 Pre Gas (Pre)

The time in seconds after the torch switch is pressed that the gas flows before welding starts.

#### 1:6 Post Gas (Pos)

The time in seconds that the gas remains on after welding has stopped.

**Note:** During welding the MF34 displays the voltage (**U**) (if the optional voltage ref PCB is fitted) and the current (**A**) of the welding arc (if the optional Current transducer LEM circuit is fitted).

#### 1:7 Crater Fill (CrF)

This option allows you to setup one of the programs as a selectable program to be recalled at the end of a 4T latch operation for crater filling.

- Program one of the programs 1-9 with the parameters to be used for the crater fill operation. (See program mode on how to save a program (1:1))
- Select crater fill (**CrF**) option then select the correct program (1-9) the number selected is the program parameters to be used as crater fill.
- Select 4T mode. Press-release the torch switch to start welding. To crater fill at the end of a weld press and hold the torch switch button. Release the button to stop the crater fill process.

An addition crater fill option is available with the 4D latch mode of operation. Repeat the first two steps above but select 4D mode.

- Press (hold for 1 second) then release latches on the standard welding settings.
- Press (hold for 1 second) then release latches on the crater fill program.
- Press (Hold for 1 second) then release latches on the standard program again. This cycle can be repeated as much as required.
- Press (Quick press) then release ends the cycle.

### Advanced menu.

#### 2:1 Wire feed scale (WS scale)

Selectable between Meters/Inches.

#### 2:2 Auto arc voltage correction (AutoDem)

Auto corrects the arc voltage to be the same as the set voltage (See Sec 4.5 voltage reference). Options of (**AV ON**) Auto correction turned on or (**AV OFF**) Auto correction disabled.

#### 2:3 Version (Version)

Indicates the computer program version.

#### 2:4 Overload Level (OvrdLvl)

Dictates the sensitivity of the overload function.

#### 2:5 Overload delay (OvrdDel)

Dictates the length of time it takes before displaying a fault condition when the motor is being overloaded.

#### 2:6 Activity Counter (ActivCnt)

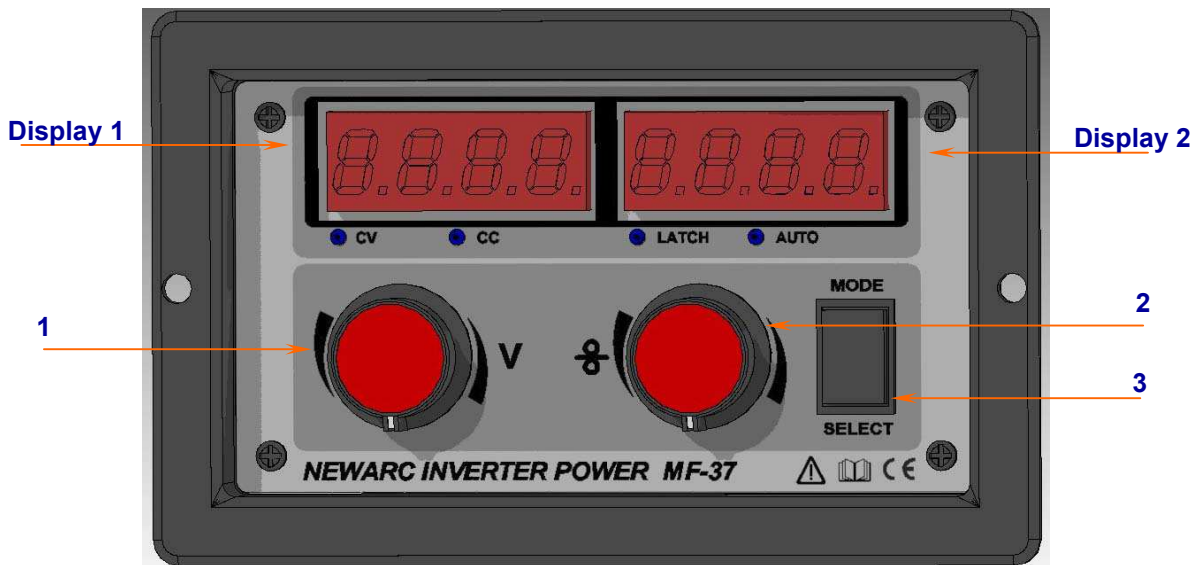
This is a log, in hours, of how long the unit has been in operation. Turn the knob to view the total hours..

#### 2:7 Programs locked (PrgLock)

Allows programs set in program mode to be locked (**PLck ON**) therefore wire speed is a locked value and it only allowing the voltage (U) to be adjusted by +-1V.

Or (**PLck OFF**) allows programs to be fully adjustable once loaded.

## 4.2 Operational Controls for MF37 Front Panel



1. **Adjustment Control for left display**
2. **Adjustment Control for right display**
3. **Mode select push button**

On initial power up the display will give the option to select Welding arc voltage correction (**Auto**) (if the optional Voltage reference PCB is fitted). Turn the left hand knob(1) to select **YES** or **NO**. The Auto led on the front panel will light when auto mode is selected.

After initial power up the following options are shown and can be adjusted with the corresponding knob:

<b>Display1/knob1</b>	<b>Display2/knob2</b>
Voltage ( <b>U</b> )	Wire-speed ( <b>o</b> )

Pressing the mode button (3) allows other options to be displayed on the two displays. These options are adjusted using the knob below the corresponding display.

<b>Display1/knob1</b>	<b>Display2/knob2</b>
1. Program Mode ( <b>Pr</b> )	
2. Burn-back ( <b>B</b> )	Latch ( <b>L</b> )
3. Slow-Start ( <b>S</b> )	Post Gas ( <b>P</b> )
4. Crater Fill ( <b>C</b> ) <b>NO/1-9</b>	Demand offset ( <b>D</b> )

Last welding results display: voltage (**U**) current (**A**)

The last digit of the display indicates a letter to show the option mode selected.

**Note:** Any settings that are changed are saved after a 3 second period.

### 1:1 Program Mode (Pr)

#### Program Save

- Set the wire feed unit up ensuring all required settings have been adjusted.
- Press the mode select button once to enter program mode (**PR**).
- Turn Knob 1 to select a program number.
- Press and hold the mode select button until SAVE is displayed.

**Note:** A total of 9 programs can be saved.

#### Program Load & Program Exit

The program that is currently loaded is displayed on display2's right most digit. 0 indicated no program is currently loaded.

- Press the mode select button once to enter program mode.
- Turn knob 1 to select the desired program.
- Press the mode select button once to load.
- To exit a program select **PR**, select program dash (-) and press and hold the mode button (3) for 3 seconds, **END** will be displayed.

**Note:** In a loaded program: Wire speed(**o**), Demand offset (**D**) are non adjustable, voltage (**U**) only has a +- 1V adjustment available.

## 4.2 Operational Controls for MF37 Front Panel

### 2:1 Burn-back (B)

This determines how much of the wire is left sticking out of the contact tip when welding is stopped. Too much wire and there is a chance of it 'freezing' in the weld pool as it cools, too little and there is a chance that the wire will burn back into the contact tip, necessitating changing of the tip.

### 2:2 Latch (L)

2T, 4T & 4D. In 2T, the MIG torch switch is pressed to start welding and released to stop. In 4T, the torch switch is pressed and released to start welding and pressed and released again to stop welding. 4d is similar to 4T but with a delay time of 1 seconds before it latches on allowing a quick tack weld feature in latch mode.

### 3:1 Slow-Start (S)

The length of time up to 1 second for the wire speed to be at 50% of the set wire speed value at the start of welding.

### 3:2 Post Gas (P)

The time in seconds that the gas remains on after welding has stopped.

### 4:1 Crater Fill (C)

This option allows you to setup one of the programs as a selectable program to be recalled at the end of a 4T or 4D latch operation for crater filling.

- Program one of the programs 1-9 with the parameters to be used for the crater fill operation. (See program mode on how to save a program (1:1))
- Select crater fill (C) option then select the correct program (1-9) the number selected is the program parameters to be used as crater fill.
- Select 4T or 4D mode. Press-release the torch switch to start welding. To crater fill at the end of a weld press and hold the torch switch button. Release the button to stop the crater fill and welding process.

### 4:2 Demand offset (D)

This option can be used when the Auto function is not available. This allows a small voltage compensation to help compensate for voltage drop of long welding cables.

### Note:

**1:** If the MF37 is left idling for more than 4 minutes the panel goes into standby mode. This is indicated by a small red LED in display2 pulsing on and off. To reactivate the panel press or turn anything on the MF37 panel or press the MIG torch switch.

**2:** During welding the MF37 displays the voltage (**U**) (If the optional voltage ref PCB is fitted) and the current (**A**) of the welding arc (if the optional Current transducer LEM circuit is fitted).

## 4.3 Operational Controls for MF33 Front Panel



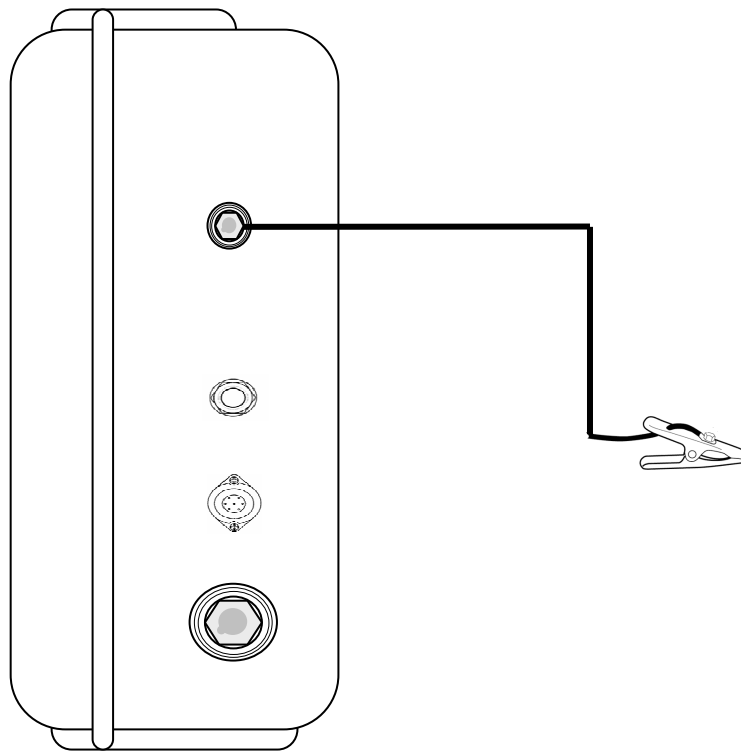
1. **Burn back adjustment** - This determines how much of the wire is left sticking out of the contact tip when welding is stopped. Too much wire and there is a chance of it 'freezing' in the weld pool as it cools, too little and there is a chance that the wire will burn back on to the contact tip, necessitating changing of the tip. Adjusting the control anti-clockwise increases the amount of wire sticking out of the tip and adjusting it clockwise reduces it.
2. **Wire speed control** - Adjusts the speed of the wire feed system up to a maximum of 23m/min.
3. **Voltage control** - Controls the welding voltage when used in conjunction with a Newarc R4/5000 multi-process or constant voltage power source.
4. **Latch** - Changes the mode of operation of the MIG torch switch between 2T and 4T. In 2T, the MIG torch switch is pressed to start welding and released to stop. In 4T, the torch switch is pressed and released to start welding and pressed and released again to stop welding.

### 4.4 - MIG Welding

- It is assumed that the wire and welding torch have been fitted as per the installation part of this manual.
- Set the Voltage control and wire speed controls proportional to the thickness of metal to be welded.
- Select the welding torch mode required.
- Ensure the gas cylinder is turned on and the flow-meter or regulator is set to give approximately 15 to 20 Litres per minute. (30 to 40 cubic feet per hour).
- Until you are familiar with the machine it is preferable to start welding on a piece of waste material the same type and thickness as the work-piece, adjust the voltage control (if fitted), wire feed and gas flow until the required welding condition is achieved.

When used with Newarc power sources all the controls can be adjusted whilst welding without damaging the machine.

### 4.5 Voltage Reference (option)



When welding in MIG mode there is always a voltage drop associated with the losses in the welding cables and the operator must always set the power source output higher than the required arc voltage to overcome this loss.

The WFU12 wire feeders has an optional automatic voltage control system that automatically adjusts the power source output to compensate for voltage drop caused by the welding cable losses.

The operator may set the voltage and wire feed speed on the front panel of the wire feeder before welding with the knowledge that any losses in the interconnection cables and earth lead will be automatically compensated for. It is possible to increase or decrease the welding interconnection length without any change to the wire feeder settings and still maintain the set arc voltage.

The automatic voltage control system is ideal for welding applications where the point of welding is some way from where the power source is sited.

For the automatic voltage control to work correctly the voltage reference lead must be connected directly to the welding work and must remain connected in order to ensure an accurate reading of arc voltage.

## 5.1 MIG Welding Problems

**Porosity (holes) in weld** - Has two common causes:-

1. Lack of shielding gas caused by the flow-meter not being set correctly, damage to any of the gas hoses or MIG torch, a build up of spatter inside the MIG torch nozzle or dispersal of the gas shield by the wind or fume extraction system ,
2. Poor surface condition of the weld metal caused by inadequate surface preparation or contamination by oil, grease or paint.

**Wire burns back to contact tip** - Caused by voltage being too high for wire feed speed, wire feed restricted by blocked tip or liner, insufficient tension on pressure roller or excessive brake tension on spool holder.

**Cold arc with excessive spatter and weld bead too high (convex).** - Caused by the voltage being too low for the wire feed speed or metal thickness, inductance control on power source incorrectly set, the power cables between the power source and wire-feed are either too long or of inadequate cross section and are causing a voltage drop or the MIG torch or earth lead are damaged.

**Hot arc with large irregular spatter and weld bead too flat, or even concave** - Wire feed too slow or voltage set too high.

**Wire glows red hot and reluctant to arc** - Power source set to MMA (constant current), either switch power source to MIG (constant voltage) or set wire feeder to constant current setting (ILS version only).

## 5.2 Maintenance

**Note! All Electric shocks are potentially fatal, switch the machine off and unplug from the mains supply before undertaking any maintenance work.**

It is very important that the wire feed unit is regularly maintained. The amount of use and the working environment must be taken into account when scheduling the maintenance periods.

Careful use and regular preventative maintenance will prolong the life of the machine and ensure trouble free operation.

### 5.2.1 Weekly

- Clean the exterior of the machine and remove any dirt and pieces of MIG wire that may have collected inside the wire spool compartment.
- Remove any build up of dirt from the wire feed rollers.
- The wire tension adjuster should be set so that when the wire is restricted at the welding torch the drive rollers slip. Remember if the pressure is set too high the wire may pile up behind the front wire guide and undue strain will be put on the wire feed system leading to a reduced duty cycle and lifespan.
- If necessary, adjust the brake tension on the spool holder so that the wire spool stops at the same time as the feed rollers.
- Inspect the machines exterior for obvious signs of damage.
- Check the condition of the welding cable, earth clamp and welding connectors for damage and any sign of over-heating.
- Check the gas hose and regulator for leaks, remember that air leaks can result in weld porosity.
- Check the condition of the MIG welding gun, check for cuts in the cable sheath, condition of the liner and condition of the contact tip. Remove any build up of spatter from inside the gas nozzle.

### 5.2.2 Three monthly

**As per the weekly schedule, plus:-**

- Remove the cover from the machine and remove the build up of dust and debris from inside the machine. Either use compressed air at low pressure or an industrial vacuum cleaner.
- Make a thorough visual inspection of the interior of the machine, look particularly for pieces of welding wire and other foreign matter.
- Check the condition of the weld current input connector and Euro socket, look for any signs of discolouration due to overheating, this is generally caused by poor connection of the welding power leads due to poor quality welding connectors and can be a common cause of welding set failure.
- Check that the gas solenoid retaining nut is secure and that the gas hose inside the machine is in good condition and shows no sign of kinking or of rubbing on any internal component.

### 5.2.3 Annually

**As per the three monthly schedule, plus :-**

Have the wire feeder calibration checked, if necessary have the machine re-calibrated by a Newarc trained technician.

## 5.3.1 Fault codes.

### MF34 / MF34P Fault codes.

<b>TEXT ON DISPLAY PANEL</b>	<b>Description</b>	<b>Corrective Action</b>
<b>No display</b>	Beeps every second.	LCD fault. Call service.
<b>TORCH!!</b>	Torch is pressed during startup	Release button, Reset machine. Short on torch switch socket.
<b>OverTemp</b>	Motor Driver over temperature.	Check wire tension.
<b>Error 1</b>	Motor driver fault.	Call service.
<b>Overload</b>	Motor overloaded.	Check wire tension and gearbox. Check Overload setting value.
<b>MotorJAM</b>	Motor jammed.	Check wire tension and gearbox.
<b>Error 4</b>	Temperature sensor fault.	Call service.
<b>Error 5</b>	Motor drive main supply error.	Call service.
<b>Error 6</b>	Motor drive aux supply error.	Call service.
<b>Error 7</b>	Motor unit not detected.	Check wiring to motor.
<b>Error 8</b>	Motor unit not working.	Call service.
<b>Error 9</b>	Temperature sensor supply.	Call service.



## 5.3.2 Fault codes.

### MF37 / MF37P Fault codes.

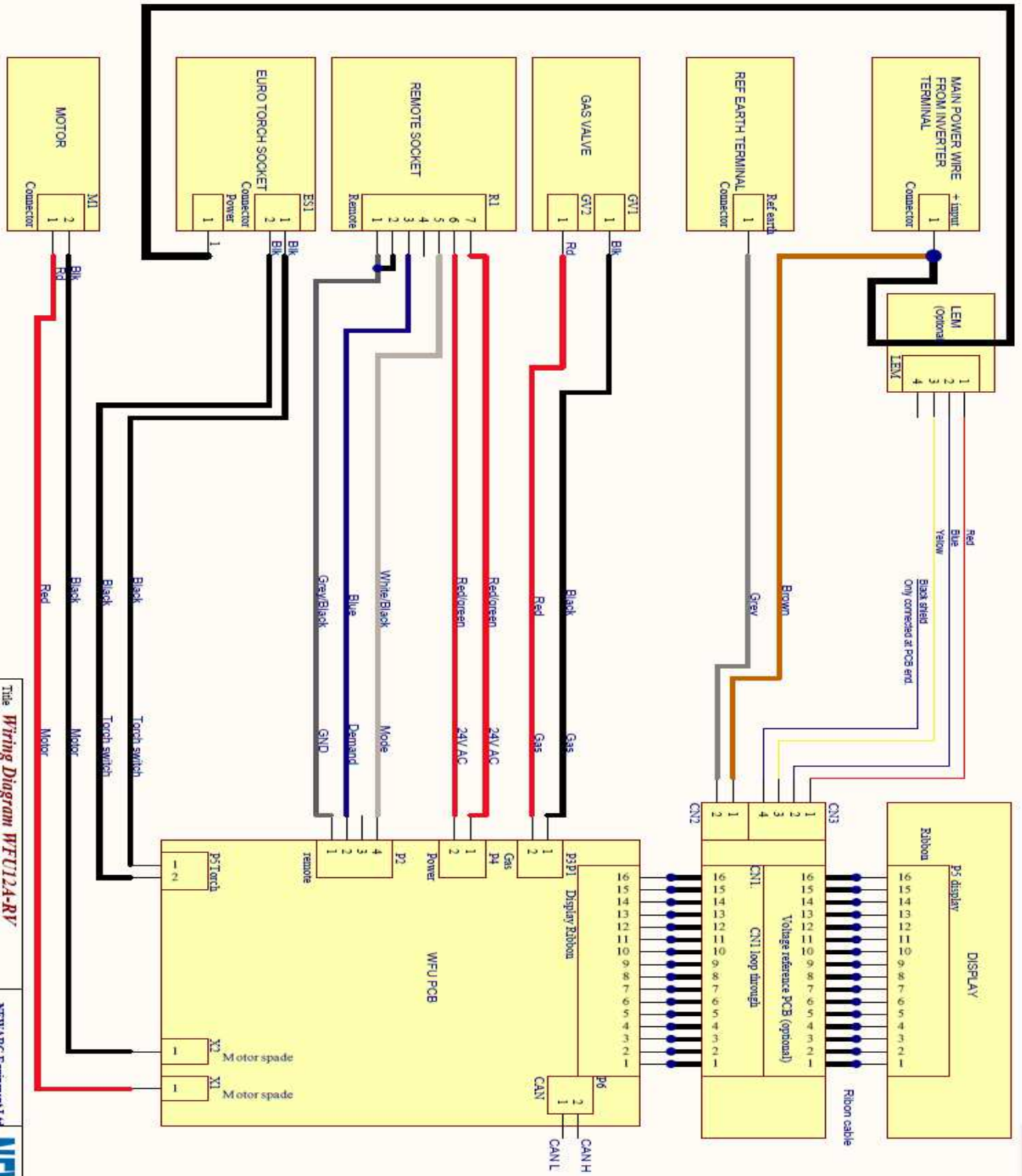
<b>TEXT ON DISPLAY PANEL</b>	<b>Description</b>	<b>Corrective Action</b>
<b>No display</b>	Beeps every second.	Display fault. Call service.
<b>Torch</b>	Torch is pressed during startup	Release button, Reset machine. Short on torch switch socket.
<b>HOT</b>	Motor Driver heat-sink over temperature.	Check wire tension.
<b>DRUerr</b>	Motor driver fault.	Call service.
<b>Err 3</b>	Motor overloaded.	Check wire tension and gearbox. Check Overload setting value.
<b>Err 4</b>	Motor jammed.	Check wire tension and gearbox.
<b>Err 5</b>	Temperature sensor fault.	Call service.
<b>Err 6</b>	Motor drive main supply error.	Call service.
<b>Err 7</b>	Motor drive aux supply error.	Call service.
<b>Err 8</b>	Motor unit not detected.	Check wiring to motor.
<b>Err 9</b>	Motor unit not working.	Check wiring to motor.
<b>Err 10</b>	Temperature sensor supply.	Call service.

## 5.3.3 Fault codes.

### MF33 Fault codes.

LED FLASHES	Description	Corrective action
<b>Continuous Flashing</b>	TORCH pressed during Start-Up	Release button, Reset machine. Short on torch switch socket.
<b>2</b>	Motor driver over temperature.	Check wire tension.
<b>3</b>	Motor jammed.	Check wire tension. Check motor gear box.
<b>4</b>	Motor Overload.	Check wire tension. Check Motor Gearbox.
<b>5</b>	Motor drive fault.	Call service.
<b>6</b>	Temperature sensor fault	Call service.
<b>7</b>	Motor drive main supply error.	Call service.
<b>8</b>	Motor drive aux supply error.	Call service.
<b>9</b>	Motor unit not detected.	Check wiring to motor.
<b>10</b>	Motor unit not working.	Call service.

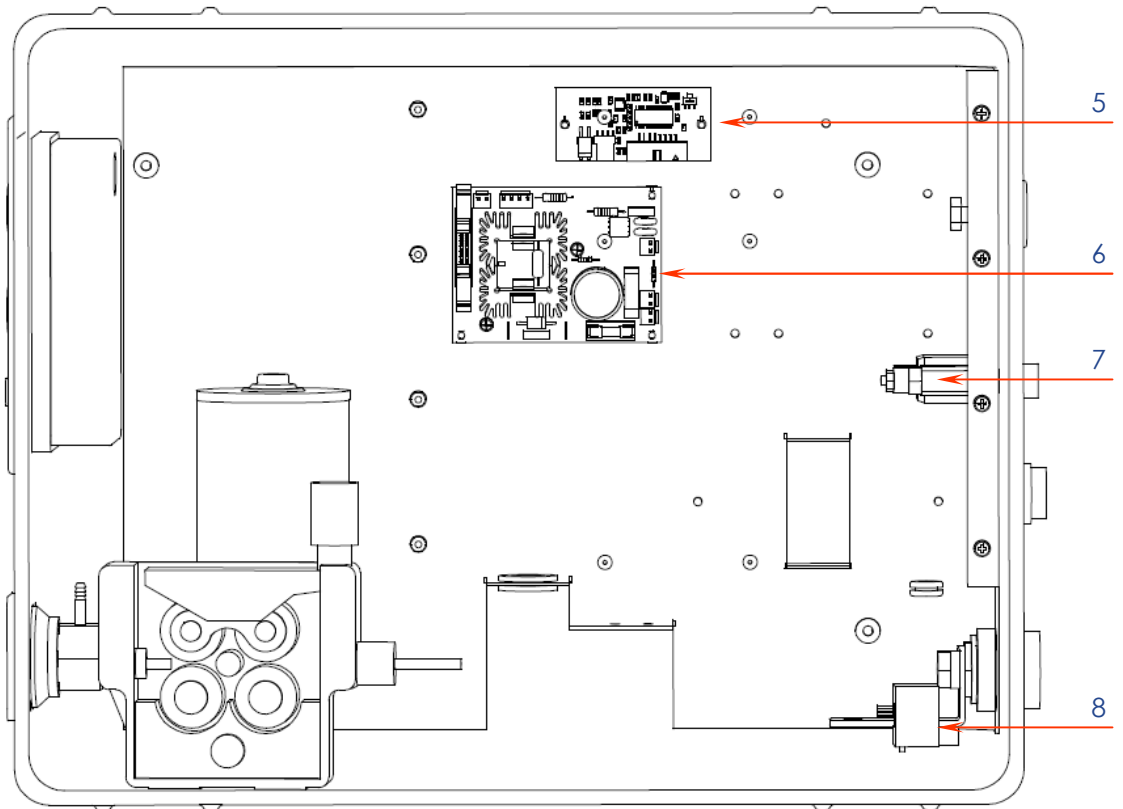
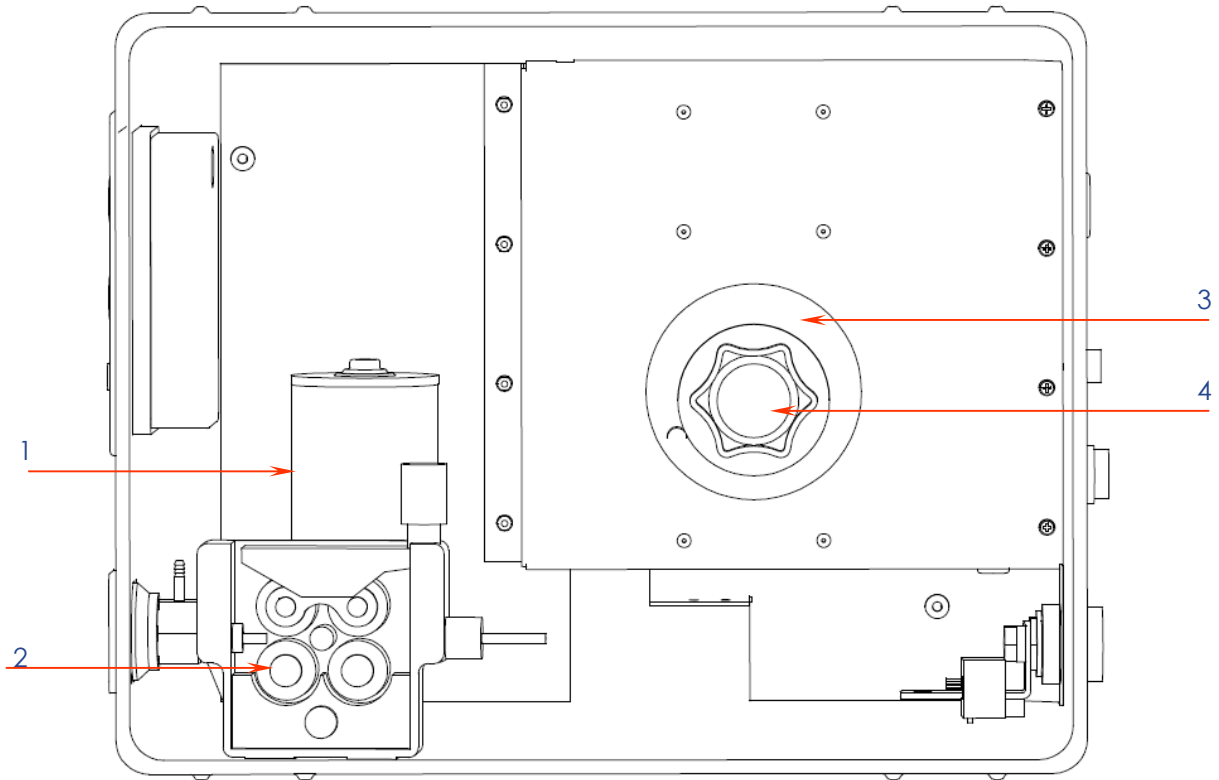
## 6.1 - System Diagram



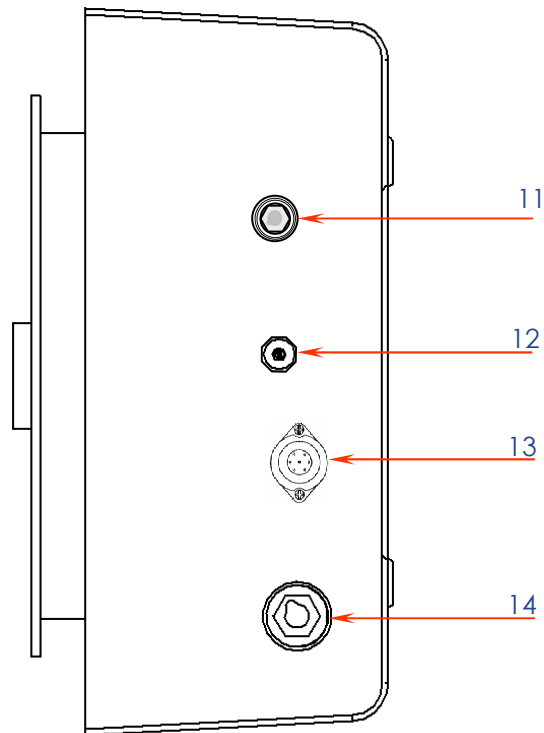
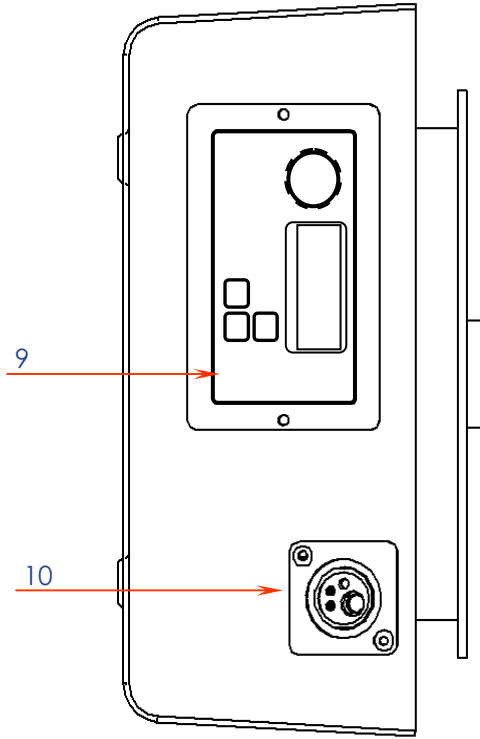
Title <b>Wiring Diagram WFU12A-RV</b>		NEWARC Equipment Ltd	
Size: A4	Number:	Revision:	www.newarc.co.uk
Date: 22/06/2012	Time: 14:16:43	Sheet of:	
File: Z:\Projects\Wire Feeders\WFU RV\MC3 Pelican\Electrical\WFU12A-RV wiring diagram - Voltage measure PCB + IE			

# SECTION 7—PARTS BREAKDOWN

## 7.1 - Component Locations



## 7.1 - Component Locations



# SECTION 7—PARTS BREAKDOWN

## 7.2 - Parts List

Item no	Description	Part no.
1	Wire feed motor	M83001
2	Feed rollers 0.6 - 0.8 'V' 0.8 - 1.0 'V' 1.0 - 1.2 'V' 1.2 - 1.6 'V' 0.6 - 0.8 knurled 1.0 - 1.2 knurled 1.2 - 1.6 knurled 1.6 - 2.0 knurled 0.8 - 1.0 Aluminium 1.0 - 1.2 Aluminium	M00381N M00380N M00382N M00391N M00924 M00382NK M00392 M00877 M00427N M00393N
3	Spool Holder	M00369
4	Spool holder cap	M01724
5	Voltage measurement interface PCB	M90873
6	Motor Drive PCB	M90864
7	Gas solenoid	M00024
8	LEM 5V LEM Current transducer	M60249
9	MF33 Front Panel Assembly MF37 Front Panel Assembly MF34 Front Panel Assembly	M90872 M91142 M90866
10	Torch Adaptor	M01404
11	Panel mounted dix socket 10-25mm	5110004
12	Gas inlet stem	M00022A
13	Control harness assembly	M90867
14	Panel mounted dix plug	M00036
	Ribbon Cable Assembly RV	M90226
	Ribbon Cable Assembly RV with Voltage ref. PCB	M91152
	Voltage Reference lead	M90741











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