

TECFEED 350i

Arc voltage wire feed unit

For MIG welding



Instructions for installation & use

Safety

Before using make sure all operators are familiar with the welding process and have had appropriate training relating to the risks involved.

The Health and Safety Executive publish documents regarding this such as ISBN 0 7176 0704 6 (Electrical safety in arc welding), and many others.

When welding or cutting in an environment with increased risk of electric shock extra precautions must be observed. Typical conditions with increased risk of electric shock are working in wet or damp conditions, working inside vessels, working in cramped conditions and exposed to conductive parts, etc. **DO NOT TAKE ANY RISKS**

This machine is designed for use indoors and must not be used in the rain or a wet environment.

Declaration of conformity

TECFEED arc voltage feeder for MIG welding

This equipment is manufactured to comply with 93/68/EEC, BS EN 60974-5

This equipment is manufactured to comply with 89/336/EEC, BS EN 50199

The equipment is CE marked

Date 3/01/2009

R P Rycroft

Technical; Arc York UK

Pre installation & EMC information

The installer of this equipment must make an assessment of the area before installing.

It is the users responsibility to ensure that if any electromagnetic disturbances are detected to resolve this before continuing.

As with other welding machines it is preferable to use this machine as far away as possible from sensitive electrical or electronic equipment such as computers, telecomm equipment, safety critical equipment, transmitters and receiving equipment etc.

There is a risk to sensitive equipment from radiated or conducted emissions from this machine.

This machine is designed for use in industrial premises, when used in other environments there could be potential difficulties with electromagnetic interference with other equipment.

Consideration must be also given to other premises as the emissions may not be limited to the installed premises.

The following are methods to reduce emissions.

- 1) Keep all welding cables short close together and at ground level.
- 2) Equipotential bonding of metal components in the work area and bonding of the work piece can be considered however there are electrical safety implications for the operator with increased risk of shock if the electrode is touched; therefore it is important the operator is aware and adequately protected from making contact with the work and the electrode. **Before bonding the area and work piece consult an experienced electrician.**
- 3) This equipment must be properly maintained and all screws holding the sides etc kept in place.
- 4) Sometimes it may be necessary to fit additional mains input filters or even screen the cables and / or work area. This will involve consulting an experienced engineer.

Description

This feed unit can be connected to almost any DC output power source designed for MMA or MIG welding which can be constant current or constant voltage type.

Technical Specifications

Input voltage range	21-110 V DC
Input current for control circuits and motor	10A max (input fused at 10A)
Welding current range	50-350A (depending upon power source)
Welding wire diameters	0.6mm to 2.4mm
Duty cycle	350A@60%

Connecting up the feed unit

This wire feed unit only needs the arc welding voltage to run.

Do not try to connect any other supply

On a TIG type of power source always disconnect the HF system before connecting to this feed unit, otherwise the feed unit will be damaged by the high voltage.

Max input voltage is 110v DC. Max current is 350A DC.

- 1) Connect the + welding cable lead from the power source onto the rear plug of the feed unit.
- 2) Connect the - welding outlet from the power source directly to the welding job (welding return or earth lead).
- 3) The thin wire connection marked 'work' on the rear of the feed unit must also connect to the work piece (welding return).
- 4) The hose at the rear should connect to a gas regulator suitable for the welding process and the pressure and flow set to give good coverage of the welding arc, too little gas flow will result in porosity & a dirty weld, too much and the arc can become unstable and harsh. The gas normally used for MIG welding is argon & CO2 mix, 100% CO2 can be used but it will result in a cold & harsh welding arc. **Consult your gas supplier for the correct type for MIG welding.**
For safety reasons never try to connect any gas other than that designed for MIG welding & always use the correct type of gas regulator.

Using the wire feed unit

General

The feed unit is used like a conventional MIG machine, the amperage is set on the power source and the wire speed is set on the feed unit.

When this unit is used with a constant current type of power source careful adjustment of the speed is required, this is particularly important when trying to weld at low current / voltage. It is important not to select too large a diameter welding wire when using on constant current type power sources. If too large a diameter wire is used or the welding voltage is too low the welding arc will cycle on and off with the arc stubbing out.

When using on constant voltage type power sources it is usually very easy to set the wire speed and the size of wire is not quite so critical although as with any MIG process it is still important to select the correct size of welding wire.

Burnback control

This controls how much the welding wire burns back at the end of each weld, which in turn controls the length of stick out after welding. With the control set to 0 the wire will try to stick into the welding pool, if this control is set too high then the welding wire may burn back too far & stick to the contact tip.

Normal / Latching switch

This allows the operator to use normal torch switching where welding is carried out whenever the torch switch is pressed, or on trigger latching the operator can press & release to weld with no need to keep the switch pressed, pressing the switch again stops the process.

Inch switch

Allows the welding wire to be driven down the welding torch cold (without power or gas switched on)

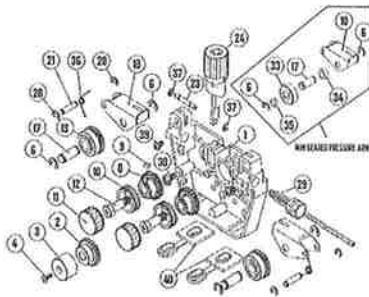
This machine is designed to be used by operators who have knowledge of welding it is strongly recommended that inexperienced operators are trained before using this machine.

It is not practical to try and explain how to weld in this manual.

DO NOT TAKE ANY RISKS

Common wire drive spares

1)	FIBED PLATE WITHOUT GEARS/ROLLERS	FEC4001
2)	MAIN DRIVE GEAR FOR MOTOR SHAFT	FEC4002
3)	FIXING CAP FOR ABOVE	FEC4003
4)	SCREW FOR ABOVE MAX12	FEC4004
6)	CIRCLIP FOR PRESS ROLL AXLE (4 REQ)	FEC4006
8)	GEARED ADAPTOR FOR FIBED ROLLS	FEC4008
9)	PARALLEL KEY FOR ITEM 8	FEC4009
10)	ROLLERS - SEE BELOW	
11)	FIXING CAP FOR ROLLERS (2 REQ)	FEC4011
12)	AXLE SHAFT FOR GEARED ADAPTORS	FEC4012
13)	PRESS ROLL + GEAR	FEC4013
17)	PRESS ROLL AXLE (2 REQ)	FEC4017
18)	PRESS ARM ONLY (2 REQ)	FEC4018
18A)	PRESS ARM COMP 4 ROLL STD (2 REQ)	FEC4018A
18B)	PRESS ARM COMP 4 ROLL GRD (2 REQ)	FEC4018B
21)	PRESS ARM FIXING SHAFT (2 REQ)	FEC4021
23)	INTERMEDIATE GUIDE (UP TO 1.6MM)	FEC4023
24)	PRESS DEVICE	FEC4024
28)	CIRCLIP FOR ITEM 21 (4 REQ)	FEC4028
29)	INLET GUIDE (1.6MM WIRE)	FEC4029
33)	PRESS ROLL 4 ROLL STD (2 REQ)	FEC4033
34)	SPACER	FEC4034
35)	SPACER	FEC4035
36)	SPRING FOR PRESS ARM (2 REQ)	FEC4036
37)	CLIP FOR ITEM 23 (2 REQ)	FEC4037
38)	SCREW	FEC4038
39)	SCREW	FEC4039



Wire feed rollers

TYPE	GROOVE	SIZE	PART No
2 ROLL + 4 ROLL	V GROOVE	0.6MM - 0.8MM	FECV0608
2 ROLL + 4 ROLL	V GROOVE	0.8MM - 1.0MM	FECV0810
2 ROLL + 4 ROLL	V GROOVE	1.0MM - 1.2MM	FECV1012
2 ROLL + 4 ROLL	V GROOVE	1.2MM - 1.6MM	FECV1216
2 ROLL + 4 ROLL	U GROOVE	1.0MM - 1.2MM	FECU1012
2 ROLL + 4 ROLL	U GROOVE	1.2MM - 1.6MM	FECU1216
2 ROLL + 4 ROLL	U GROOVE	1.0MM - 1.6MM	FECK1016
2 ROLL + 4 ROLL	KNURLED	1.6MM - 2.4MM	FECK1624

Maintenance

The operator should carry out daily checks of all cables and connections etc; any faults must be reported to a competent person and the machine taken out of service until repaired.

It is necessary for a comprehensive service inspection and test to be carried out at regular intervals by a competent person and documented. This should be no less than every six months and sooner in harsh operating conditions.

If the machine is correctly maintained this machine should give a long trouble free life.

