

## SYNCRO-FEED + SYNCRO-FEED expert

Premium 4 roll wire feeders for TIG, PLASMA & LASER welding

### SYNCRO-FEED

SYNCRO-FEED is based on our popular TIGFEED 40 automatic, but with upgrades to functions & performance. Reliable 4 roll feeding of cold wire or hot wire from 0.6mm-1.6mm diameter.

### SYNCRO-FEED expert

Ultimate in precision feeding of welding wires 0.6mm-3.2mm diameter. Fitted with our best 'Mechafin' Swiss made 4 roll drive feed system with encoder motor & digital display of key parameters. Super smooth & powerful with absolute precision!



SYNCRO-FEED models are an easy add on for all TIG/PLASMA AC/DC & LASER welding machines.

Ideal for automatic systems or manual welding of ferrous & non ferrous materials.

The wire drive can synchronise with the welding current or can be controlled via an input for laser welding or PLC control. A pool delay timer can be set to allow the welding pool to form before starting the feed, sensitivity control allows the feed to start & stop automatically with the welding current & to stop during slope down time if required. Sensitivity control also allows for the wire to pulse in perfect synchronisation with the welding current during pulse welding applications. Auto retract function allows the wire to retract out of the pool at the end of a weld.

Both models are fully protected from TIG HF & have remote control connection functions on the rear panel.

#### Key benefits of using SYNCROFEED models

- Non-stop very high productivity welding cold wire or hot wire (with a hot wire power source added).
- 100% duty cycle – will run all day reliably feeding filler wire into weld pool – ideal for the most demanding automation.
- Reduced cost & wastage of filler material using MIG type 300mm dia wire spools.
- For manual welding reduces the skills needed for top results & allows the operator to keep welding for long periods.

#### Functions & features – both models

- Infinitely variable wire speed control.
- Automatic start/stop via sensitivity control - set start & finish point via welding current level.
- Or control wire start & finish via switched signal on rear remote connection.
- Pulse wire into pool in perfect synchronisation with pulsed welding current if required.
- Pool delay timer to allow weld pool to form before feeding wire.
- Auto retract to pull wire back out of pool at finish & on synchronised pulsing.
- Independent pulser function to dab wire in & out of pool at up to 10 times per second.
- Inch forward & reverse of wire feed.
- Remote socket to allow use of hand held remote or PLC interfacing, laser interfacing etc

**'Invest in the best' quality made British welding equipment**

*Designed and manufactured by Technical Arc York England*

**SYNCRO-FEED models can be added onto any model of welding power source in minutes. Very easy to set up & use, but also packed full of functions to suit all applications from basic manual welding to the most demanding automations such as aerospace & nuclear industries.**

Connection to existing welding systems is simple, use either the welding current connections at the rear or use the Remote connection, or a combination of both.

Welding current connections at the rear are used for current sensing to provide fully automatic synchronised functions for TIG & PLASMA welding, when these are used no other connections other than a 115/230V power supply are needed. Start stop automatically synchronises to the welding current, the set point is controlled by the sensitivity control. When used for Laser welding, feeder functions are started & stopped from an input signal on the rear remote, this can also be used for TIG/PLASMA & can be interfaced to a PLC or other controller or controls on a hand held remote.

For all modes of control a Pool delay timer allows the weld pool to form before driving the wire into the pool, auto retract function can be set to pull the wire out of the pool at the end of a weld & can also be used to dab welding wire in & out of the weld pool on pulsed TIG/PLASMA or via the remote signal for Laser welding or any process. Pulsed welding can give welding benefits such as reduced HAZ & improved weld appearance, with the classic herring bone TIG weld appearance easily possible.

Wire feeding range is up to 18M/min for both models but can be user adjusted down to any maximum level to suit your application, for instance if you need full speed control from minimum level to a maximum of 2M/min to suit a precision application, its an easy adjustment inside the wire feeder.

Available remote functions include, start/stop of feeder functions/inhibit function, wire jog forward & reverse, wire speed control (0-10V input). Both models have a full range of drive rollers available in V groove, U groove & knurled groove profiles to suit every application. The expert model also has top & bottom grooved rollers available if needed & even be configured for over 3.2mm wires.

## SYNCRO-FEED - further information

This model replaces our TIGFEED 40 auto. This has been a popular model for over 15 years with 100's in production around the world. The new SYNCRO-FEED has improved wire feed stability, increased speed range & more precise operation all round.

## SYNCRO-FEED expert – additional features & information

The ultimate in performance, fitted with our best Swiss made 4 roll wire drive system with dual pressure adjustment. Perfect adjustment of pressure on all rollers, reducing chances of slippage without damaging to the wire. Encoder drive motor & PCB maintains absolute precision feeding speed to within 1%. Values are shown on the digital display prior to & during welding. The digital display also shows the set values of amperage for the sensitivity control. In addition, the expert model has a N.O. free relay contact available on the rear remote to start other equipment in synchrony with wire feeding, ideal for switching on a hot wire power source. SYNCRO-FEED expert gives you super smooth virtually unstoppable feeding of filler wire, with class leading levels of precision & repeatability.



**Expert model is fitted with 'Mechafin' Swiss made 4 roll wire drive for precision feeding of filler wires at speeds from 0.2M/min-18M/min  
A huge range of roller sizes & profiles are available for this model.**



Technical Specifications	SYNCRO-FEED	SYNCRO-FEED expert
Power supply	230V / 115V, 50/60HZ, 120va maximum (others available on request)	230V / 115V, 50/60HZ, 120va maximum (others available on request)
Wire speed range	0.5-18 Metres per min (or adjusted lower)	0.2-18 Metres per min (or adjusted lower)
Filler wire size	0.6-1.6mm	0.6-3.2mm
Welding current sensing range	20A-400A DC or AC	20A-400A DC or AC
Duty cycle	100% - continuous	100% - continuous
Pool delay timer	0-10 seconds	0-10 seconds
Independent Pulser frequency	1-10HZ	1-10HZ
Wire drive system	F40 – 4 roll wire drive, all metal construction.	F4 – Mechafin Swiss 4 roll drive with double pressure adjuster device.
Output for hot wire powersource	No	✓ Yes – N.O. relay contact
Precise digital display	No	✓ Yes – WFS & Amps shown
Precision encoder speed regulation.	No – standard electronic speed regulation	✓ Yes – to +/-1%
Size & weight approx.	550l x 225w x 400h, 13kg	550l x 225w x 400h, 14kg

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### Standard supply for both models

Wire feeder with 3M input cable, all wire drive parts fitted with dual groove 1.0-1.2mm V rollers suitable for hard wire. Universal wire feed head with aluminium bracketry & all parts fitted & a 4M Teflon liner to suit 1.0-1.2mm wire.









Universal feed head is shown below. Also shown fitted on a manual & automatic TIG torch – position & angles can be adjusted to suit all applications.



(note; universal feed head is designed to work with wires up to 1.2/1.4mm maximum, for larger wires we have different options available). Universal feed head may require adaption to fit onto some Laser welding & plasma torches.

For supply with different rollers or other options please let us know at time of order.

### Accessories & options to consider

<p>Plug to suit rear remote connector.</p> 	<p>Universal feed head spare parts – tips &amp; other parts all ex stock</p>	<p>Wire drive rollers – all sizes &amp; profiles available from 0.6mm to 3.2mm.</p>  <p>V-Groove U-Groove V-Groove knurled</p>
<p>X/Y slide &amp; motorised slides with controller for accurate positioning of welding torch</p> 	<p>Space saving feed head for manual TIG welding</p> 	<p>Remote controls for wire speed &amp; other functions</p> 
<p>Hot wire power source for heating filler wire – dramatically increases productivity.</p> 	<p><b>HOTFEED 4</b> -combined wire feeder &amp; hot wire power source in one package. Expert feeder precision features &amp; functions.</p> 	<p><b>AUTOTIG expert</b> – combined AVC torch height controller &amp; expert model SYNCRO-FEED all in one package for automated TIG &amp; plasma welding.</p> 

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