



Welding & Automation Solutions with Precision and Power

SigmaWeld Highlights

Legacy of Excellence

EDWPL has been a pioneer in inverter-based machines since 1974, delivering innovative and reliable industrial solutions for over five decades.

Welding Innovation

SigmaWeld – introduced in 2007, today stands as one of India's leading indigenous welding inverter manufacturers, offering complete welding solutions.

Built for the Industry

The SigmaWeld series:

- Fully indigenous, micro-controller based welding inverters
- Multi-purpose, reliable, and superior performance
- Tailor-made to meet the needs of the Indian metalworking industry

R&D & Achievements

Expertise & Innovation

- A team of R&D professionals with over 150,000 hours of experience
- 4 patents to our credit
- Recognized by the Department of Scientific and Industrial Research (DSIR), Government of India

Client Success

- Helped 1000+ clients boost profits by 30% to 50%
- Delivered 7500+ equipment across diverse industries
- Successfully executed 100+ automation projects

Comprehensive Product Range

- Inverter-based power sources from 170 Amps to 2000 Amps across ARC,
- TIG, MIG & SAW processes
- Induction Heaters up to 100kW for:
 - Pre-weld heating
 - Post-weld heat treatment
 - Shrink fitting applications

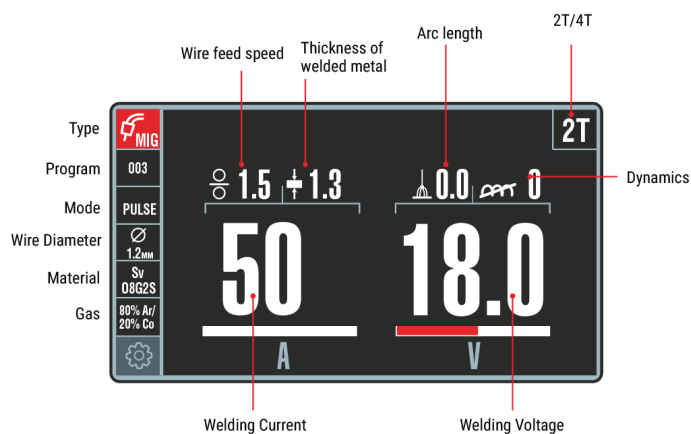


SigmaWeld MIG & TIG Solutions



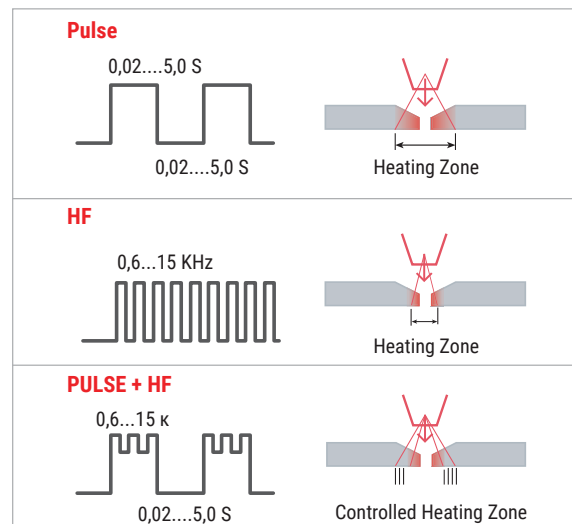
SigmaWeld Pro MIG

- **Welding Modes:**
MIG/MAG, MMA, TIG DC, Gouging
- **Synergic, Pulse & Aluminium Programs**
- Root welding & deep penetration modes
- Wire feeding up to 50m from power source
- Memory for 100+ welding parameters



SigmaWeld Pro TIG

- Stable output even under $\pm 20\%$ power fluctuation
- Welds all types of electrodes (Basic, Rutile, Alloy, Cellulosic)
- HF or Lift Arc Start | Spot welding & liner tacking modes
- Smart cooling unit with auto mode
- Remote & foot control adaptability
- Optional WeldWEB – Wireless Data Logging



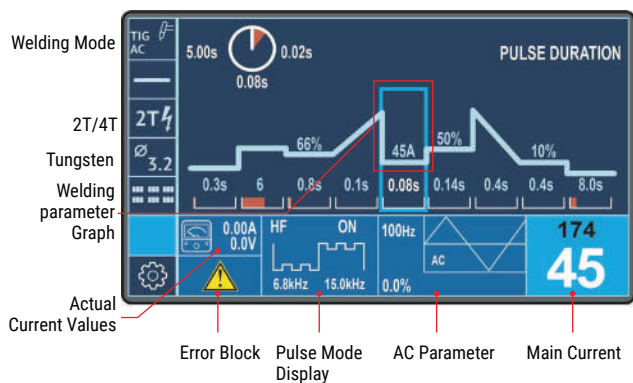
SigmaWeld Advanced TIG & SWAT



SigmaWeld Pro TIG AC/DC



- Multiple AC Waveforms: Sinusoidal, Triangular, Rectangular
- Automatic Current Frequency Regulation (30–300Hz)
- TIG AC+DC (Mix Mode) –
- Ideal for Aluminium alloys
- Easy-to-use interactive display

INTERACTIVE GRAPHICAL DISPLAY



S.W.A.T (SigmaWeld Accelerated TIG)

- **Keyhole TIG Mode** – Up to 1000A
- 30X Faster Welding (100% speed increase)
- No edge prep required up to 10mm
- Square butt welds with low heat input & distortion
- Perfect for SS, Duplex SS, Alloy Steel, Titanium
- **Applications:**
Tanks, Vessels, Tube Mills, Aerospace, Nuclear

NORMAL MODE	S.W.A.T MODE
A wider arc and less deeper penetration when welding without pulsation or with low frequency.	Deeper penetration and concentrated arc pulsation welding
	

Pre/Post Weld Heat Treatment (PWHT)



Features & Benefits of PWHT

- Pre-heat up to 250°C | Post-heat up to 400°C
- Stress relieving up to 760°C
- **Induction blankets & coils** – Quick connect & flexible
- Digital PLC + HMI control for precise cycles
- Temperature recording & logging (up to 6 thermocouples)

Quick Setup: Wrap-around induction blankets and flexible coils reduce cycle time.

Mobility: Designed for onsite pipeline projects – can be mounted on trucks with DG sets & welding machines.

Digital PLC + HMI Control: Precise temperature programming with adjustable:

- Heating rate (°C/hr)
- Soaking temperature & duration
- Cooling ramp rate

Data Logging & Quality Assurance:

- Temperature measured via thermocouples (up to 6)
- Recording, graphing & printing of heating cycles

Applications

- Power piping | Cross-country pipelines
- Petrochemical & shipbuilding
- Heavy fabrication & mining equipment
- Shrink fitting & repair welding

SigmaWeld Welding Automation

Why Automation?

Welding automation increases consistency, reduces human error, and lowers production costs – essential for industries demanding high productivity and repeatability.

Fully Automatic Welding Systems

- Programmable automation with PLC and CNC control
- Capable of multi-axis welding with robotic integration
- Delivers consistent welds in high-volume production



Key Features of SigmaWeld Automation

- **Adaptive Control Systems** – adjusts parameters in real time
- **Seam Tracking Technology** – ensures precise weld bead placement
- **Programmable Logic (PLC & HMI)** – user-friendly interface
- **Multi-Process Capability** – MIG, TIG, SAW, SWAT, Plasma welding
- **Data Logging & Weld Monitoring** – quality assurance through real-time monitoring
- **Integration Ready** – works with existing production lines

SigmaWeld IoT

Real-Time Monitoring

Live tracking of welding parameters (current, voltage, arc time, operator ID).

Wireless Data Transfer

Secure, interference-free RF communication without USB devices.

Access Control

Smart cards for authorized use, ensuring accountability.

Productivity Insights

Data analytics for efficiency, downtime reduction, and cost optimization.



WeldWeb

Standard Welding Machines



SW 400 MMA



400 INDY MMA

MMA

- Compact, lightweight inverter-based design
- Excellent arc stability, even with power fluctuations
- Suitable for Basic, Rutile, Cellulosic electrodes



SW ALEX



SW ALEX DX

TIG

- Precise control for stainless steel, aluminium, and exotic alloys
- Compatible with water-cooling units and foot pedals
- Widely used in pharma, food, dairy & aerospace industries



SW 400 MMA



400 INDY MMA

MIG/MAG

- Ideal for high-speed fabrication & sheet metal industries
- Stable arc with minimal spatter
- Synergic & manual modes available
- Widely used in automotive, fabrication, and structural steel work



SW 1000 SAW

SAW

- High deposition rate for heavy-duty applications
- Suitable for thick plates, beams, tanks & pressure vessels
- Flux recovery system for efficiency

INCREASE PRODUCTIVITY.
IMPROVE QUALITY.
REDUCE COST.



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Sigma Weld
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