

Lincoln Electric EMEAR



# ASPECT<sup>®</sup> 300

Industrial TIG AC/DC Welder  
K12058-1

[www.lincolnelectric.eu](http://www.lincolnelectric.eu)



**LINCOLN<sup>®</sup>**  
**ELECTRIC**  
THE WELDING EXPERTS<sup>®</sup>



## ASPECT® 300, industrial TIG AC/DC

- **Superb arc performance**
  - excellent HF ignition, stable & fast arc
- **Advanced TIG AC & DC Functions**
  - four wave shapes, Pulse, adjustable Balance and Offset
- **New, simple control panel**
  - bright digital display, easy set up buttons, 9 memories
- **Energy efficient**
  - 3 phase PFC circuit, high efficiency, green mode
- **Robust design**
  - Potted PCB's, True HD design
- **3 year warranty**
  - for labor and parts, no limitation





## TECHNICAL SPECIFICATION

- 230/400V/3Ph ( $\pm 15\%$ ), 50/60Hz, PFC
- TIG AC & DC (HF & Lift), STICK (Soft & Crisp)
- 2-300A (300A@35%, 200A@100%)
- AC Frequency: 40 – 400Hz
- AC Pulse: 0,1-100Hz
- DC Pulse: 0,1– 2000Hz
- Generator capability
- IP23
- 43kg





## Energy Saving features

- The latest Inverter Technology (efficiency >80%)
- 3 phase PFC circuit
- F.A.N. (fan as needed)
- Green Mode (after 10min)
- Idle Mode (after 30min, <15W)

### **PFC (Power Factor Correction) advantages:**

- More output current with the same input current
- Long input cables up to 100m
- Motor generator compatible





# Front Panel Control

- Volts and Amps display
- Parameters
- Alarms
- Input Voltage
- Overheating
- Remote Control
- VRD



- Polarity
- Process
- Trigger Mode
- AC Mode

- Memory Display
- Push Buttons to store and recall programs

- Encoder to set values

- TIG sequencer
- Pulsed TIG
- Advanced Menus



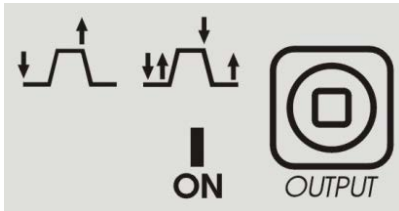
## Front Panel Control



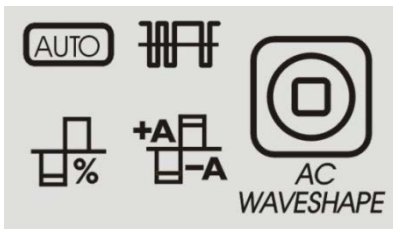
- DC+, DC- and AC in Stick
- DC- and AC in TIG operations.



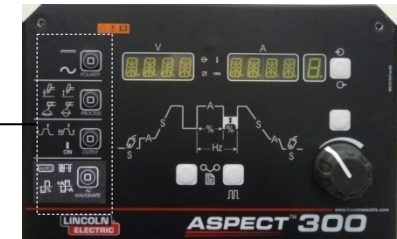
- High-Frequency TIG
- Lift-Start TIG
- Stick – Soft Mode (7018 style electrodes)
- Stick- Crisp Mode (6010 style electrodes)



- 2 STEP
- 4 STEP
- ON: no trigger requires to start



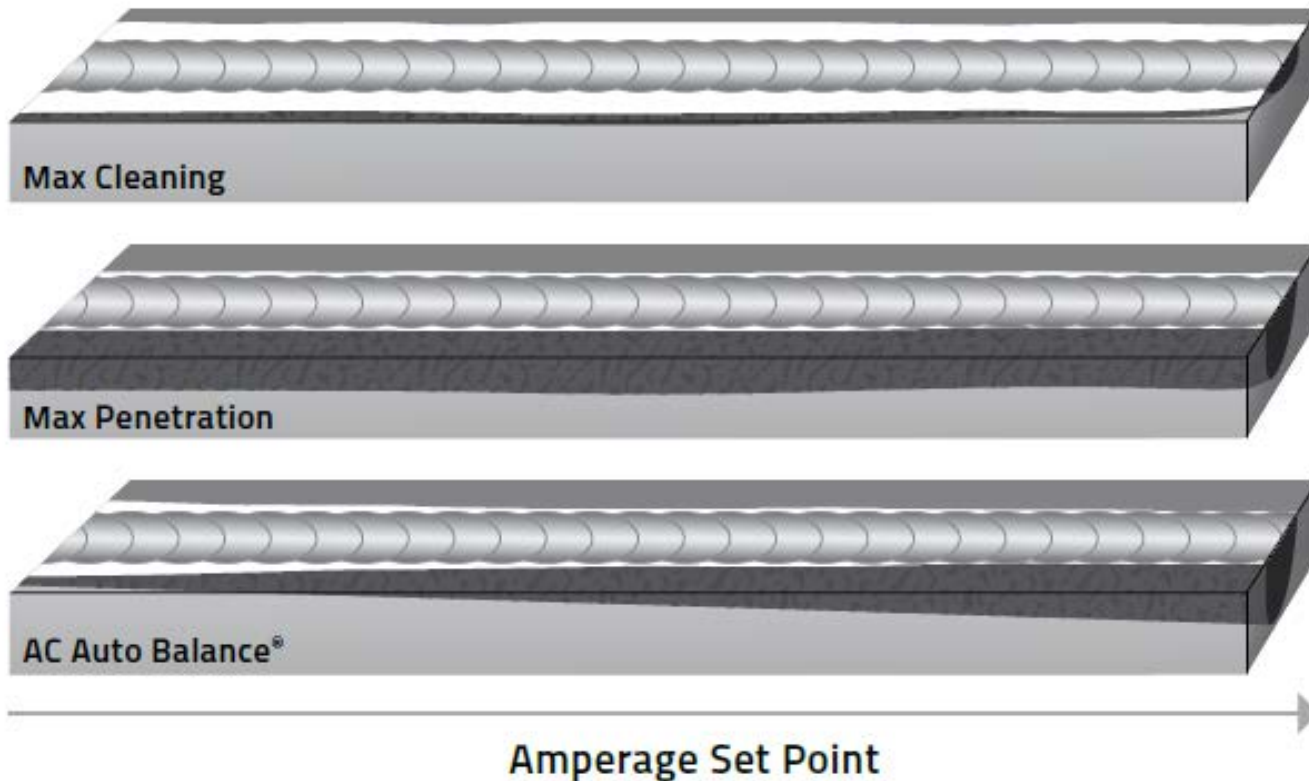
- AUTO
- AC-Frequency
- AC-Balance
- Offset







## Synergic function: Auto mode



### Low Amperes

High cleaning  
Low penetration

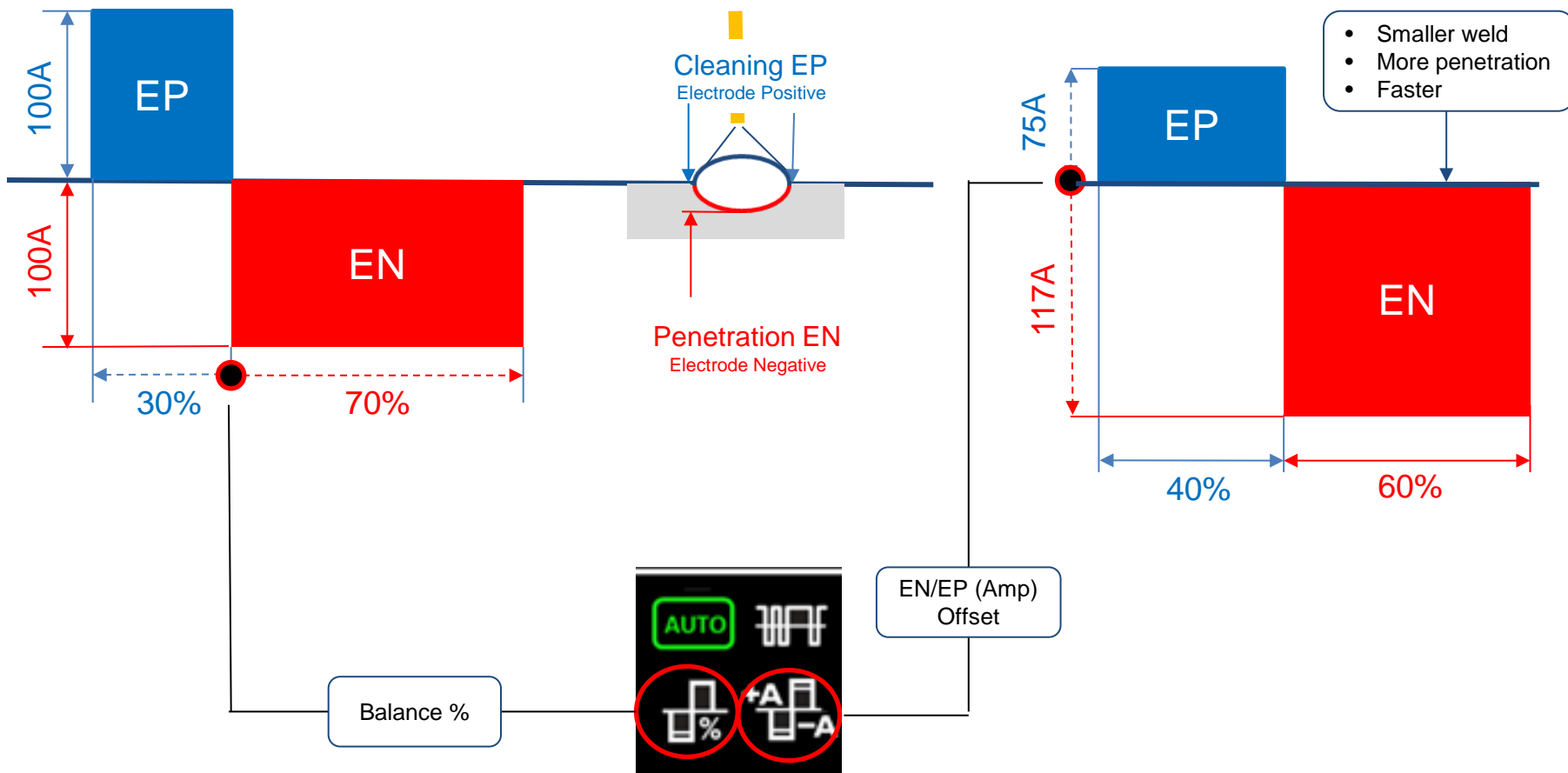
### High Amperes

Low cleaning  
High penetration



# Balance and EP/EN Offset

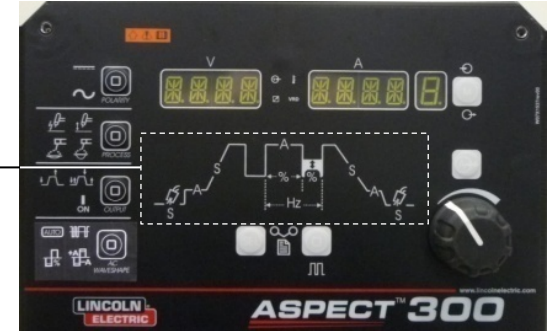
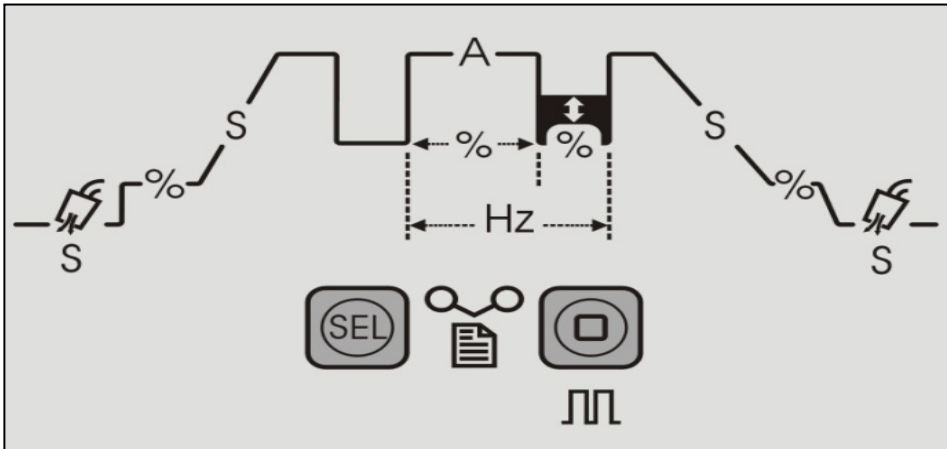
Same Arc energy







## Front Panel Control – TIG sequencer



### TIG welding operation:

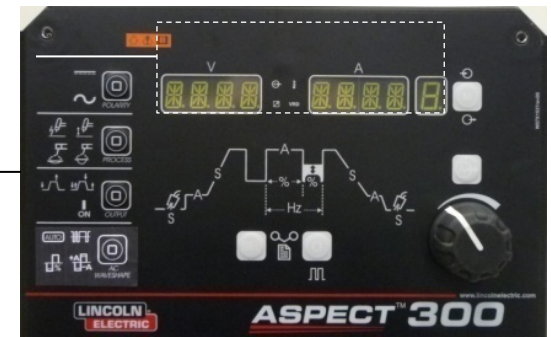
- Pre-Flow (S)
- Starting Current (%)
- Initial Slope (S)
- Operating Amperage (A)
- Final Slope (S)
- Finishing Current (%)
- Post Flow (S)

### + PULSE:

- Peak Current (%)
- Frequency (Hz):
- Background Current (%)



## Front Panel Control



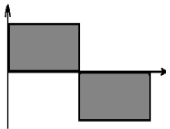
### Advanced configuration:

- **MENU A** : TIG DC and TIG AC welding
- **MENU B**: STICK welding
- **MENU C**: Machine general set up



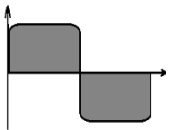
## MENU A : AC wave forms

With Wave-Form selection option is possible to select among 4 different waveforms:

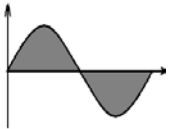


**SQRE** [square]: faster, but noisy. For thick sheets (default).

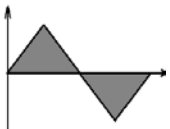
It is the default setting and it gives the most focused arc in order to increase welding speed.



**SOFT** [soft square]: fast and soft, to have a nice balance between a focused Arc and low noise. Soft arc, max puddle control and good wetting action.



**SIN** [sinusoidal]: old style, softer but slow. Comparable with older conventional type AC machines. The arc is not very concentrated but very soft and the noise is reduced to a minimum, welding speed is relatively slow.



**TRI** [triangular]: low heating. For thin sheets. It is used in very few applications when you want to reduce at minimum the amount of heat delivered to the work piece

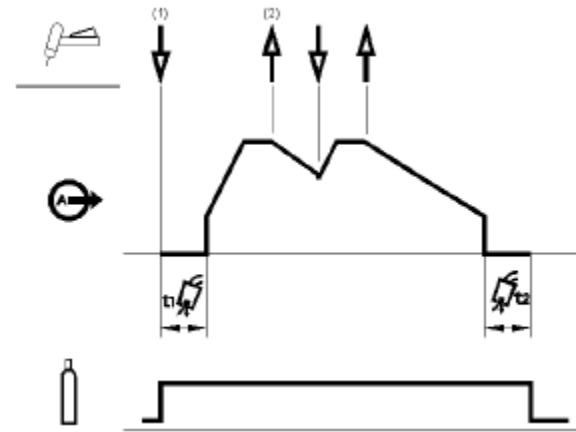
### HF start options:

- Automatic or optimized for electrode type and size
- Manual, to fine tune for any working conditions

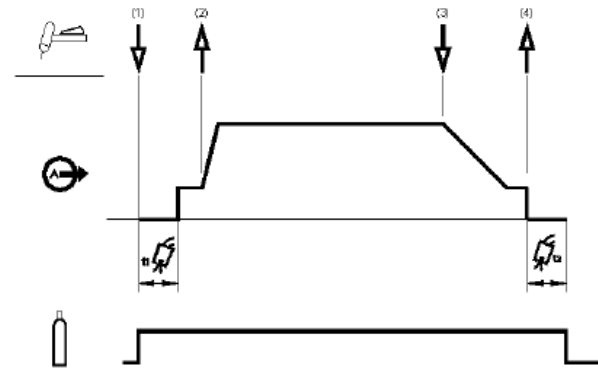


## MENU A: Trigger options

- 2 Step with restart



- 4 Step with restart



- Bi-Level



## STICK AC and DC Welding

### Front panel

- Polarity DC or AC
- Stick – Soft Mode (7018 style electrodes)

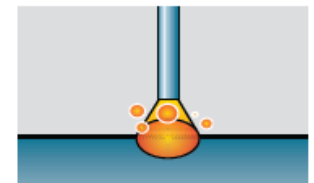
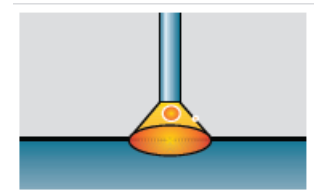
Provides a lower arc force level to deliver a smooth arc with reduced spatter.  
For stainless electrodes, rutile and low hydrogen electrodes.

- Stick- Crisp Mode (6010 style electrodes)

Provides a more dynamic arc characteristic for welding in all positions. Ideal for cellulosic electrodes. The Unit is designed to weld Cellulosic Electrodes. Use CRISP Stick mode and tune up Arc Force and Hot Start

### Menu B

- Stick DC polarity
- HOT START
- ARC FORCE





## Applications

The Aspect 300 is the perfect for mission critical welds, especially on:

- Process industry
- Aerospace
- Motorsports
- Automotive
- Shipbuilding
- Fabrication
- Maintenance

To support TIG applications for Aluminium, Steel, Stainless and Special Steel





## Industrial design - True HD

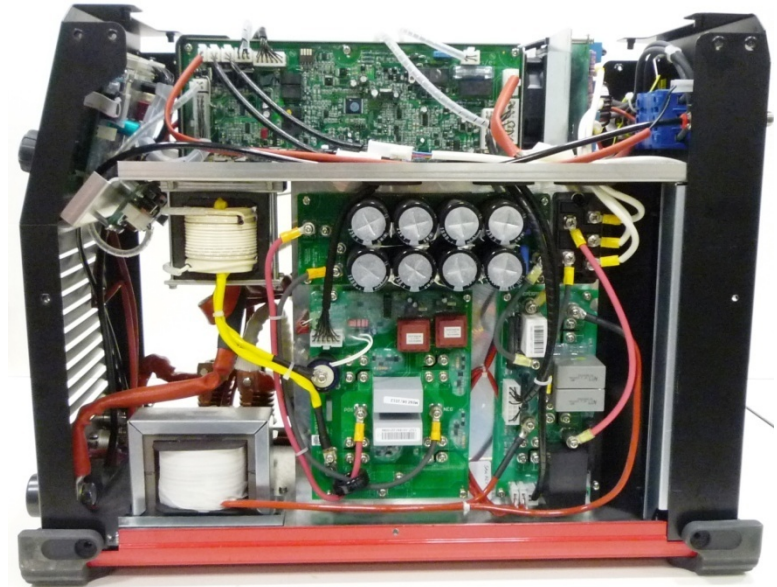
### Robust design

- Strong “shock proof” metal case
- Tunnel design
- Over designed electrical components
- PCB, heavy components and heat sinks are fixed directly to the frame
- NO structural plastic parts are used
- Intermediate and bottom steel plate
- Rubber corners

### Potted PCB

special silicone material that cover the components protecting by:

- air
- humidity
- condensation
- dust and metal powder
- mechanical shock







## Accessories



Item	Description
KIT-300A-50-5M	Cable Kit 300A - 50mm <sup>2</sup> - 5 m
GRD-300A-50-xM	Ground cable 300A -50mm <sup>2</sup> - 5/10 m
K10513-26-x	TIG torch LT 26 G - 180A - 4/8 m
K10513-18-x	TIG torch LT 18 W - 320A - 4/8 m
K10513-18SC-x	TIG torch LT 18 SC W - 400A - 4 /8 m
K14147-1	Remote control - 15 m
K14148-1	Remote control extension – 15 m
K870	Foot Amptrol - 7,6 m
K14105-1	Water cooler COOL ARC® 46
K10420-1	Coolant Acorox (2x5l)
K14129-1	Cart TPX



ASPECT™ 300 is supplied only with 3m input cable (no plug) and a Gas Connection KIT



## ASPECT® 300 vs Invertec® 320-T AC/DC



ASPECT™ 300	Invertec® 320-T AC/DC
NEW robust construction	OLD style case
Potted PCBs	Varnished PCBs
3 years warranty	2 years warranty
400Hz AC frequency	200Hz AC frequency
2A min current	5A min current
Balance range 35-95%	Balance range 35-85%
4 AC Waveforms (Square, Soft, Sine, Triangular)	3 AC Waveforms (Soft, Sine, Triangular)



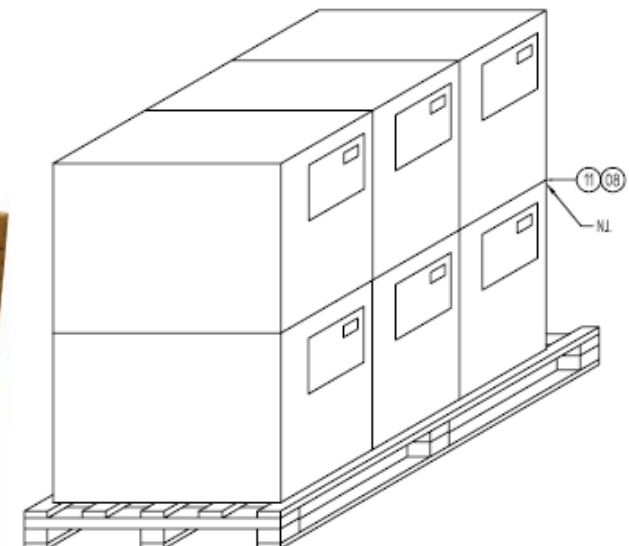
## In the box

- ASPECT™ 300
- CD with all Invertec IM's
- Quick Start Guide
- Input Cable 3m (no plug)
- Gas connection kit



## Packaging

- Carton Box
  - dim. 580x330x735mm
- Euro pallet:
  - 6 units on pallet
  - 3 units per layer
  - 2 layers
  - total weight ~ 300kg.





## SUMMARY

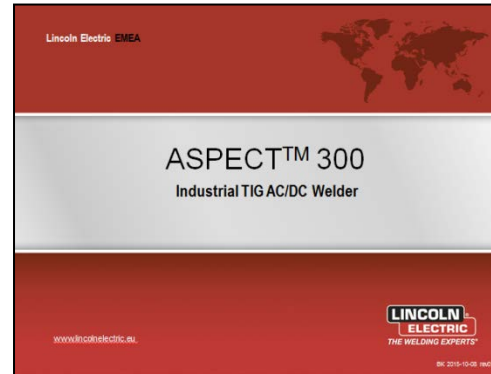
- Excellent TIG AC & DC arc performance (premium arc starting and arc stability, very fast arc)
- Higher DC pulse and AC frequency
- More TIG AC & DC Features
- Easy Set up
- 9 Memories
- Excellent performance in STICK (Cellulosic capability)
- The latest Inverter Technology (efficiency > 80%)
- 3 phase PFC circuit
- Energy Saving (Idle power < 15W)
- Robust design
- Industrial use, IP23
- Designed with True HD - Potted PC boards
- 3 year warranty



# Marketing Tools

- Power Point Presentation
- Equipment Catalogue Page
- Quick Reference Guide
- Website with product information and IM (12 languages) click on :
  - [ASPECT 300 - English](#)
  - [ASPECT 300 - Italian](#)

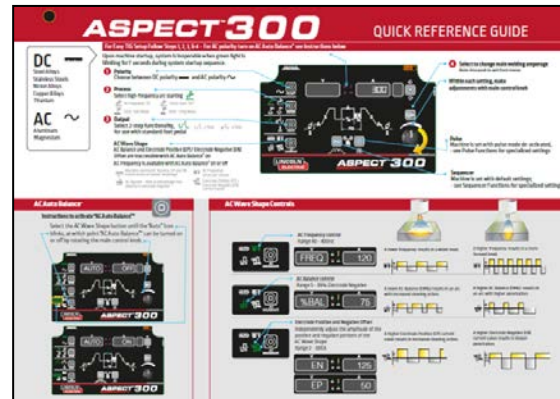
## Power Point Presentation



## New catalogue page



## Quick reference guide



## IM – Instruction Manual

