

# NELSON Stud Welding Units

Technical Information

**NELSON**  
STUD WELDING

## ALPHA 850

**Light, strong,  
secure, robust**

### Universal Usage

- Drawn Arc up to a full 12 mm Dia.
- Short Cycle up to 8 (10) mm Dia.
- Inert Gas (Option)
- Base material thickness  $\geq 0.6$  mm
- Mobile and portable

### High Welding Reliability

- 25% "Power-Reserve"
- Weld Current and Weld Time infinitely adjustable
- Constant-Current stabilization up to maximum output!

### User-friendly and Service-friendly

- Control of functions and self-diagnosis through LED's
- Unique self-shut-off at overload, phase loss and short circuit in gun circuitry
- NELSON-Quick-Service Guarantee
- Electrically and mechanically robust



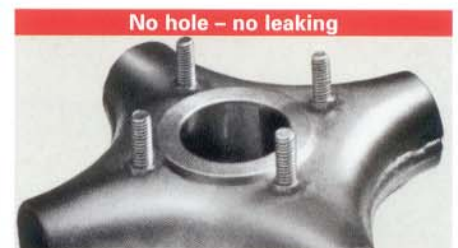
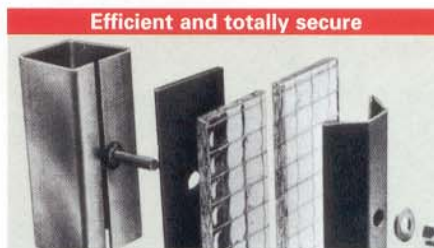
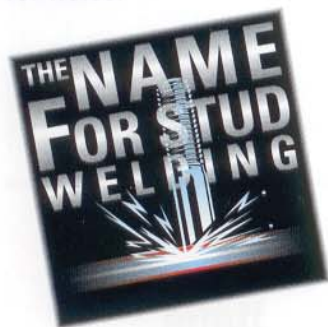
Available with wheels and Lifting Rings



**The world's strongest unit  
in this size category**

- with:
- Time and Current infinitely adjustable
  - Constant-Current Stabilizer
  - Plus 25% "Power Reserve"

*The NELSON Stud Welding Process provides secure connections – fast and economically – in a single, split-second operation without the need for holes.*



Stud Welding – invented by Ted Nelson 60 years ago – today is used to weld billions of studs annually. From small workshops to fully automated large scale production. Stud welding is technically and economically superior

over traditional fastening methods:

- Eliminates costly and time consuming drilling, threading or electrode welding
- Absolutely secure weld: stronger than stud and base metal

- No drill hole – therefore:
  - Less susceptible to rust
  - No sealing required
  - No material weakening
- Highly accurate positioning

**NELSON**  
STUD WELDING

**The Name for Stud Welding**



# Stud Welding Units

## Alpha 850

### High Welding Performance

● The high output power was intentionally set high at 850 Amps (or 500 Amps) in order to weld 12 mm diameter studs (or 8 mm) without any risk – even with long cables, high duty cycle and under adverse conditions such as an unstable mains supply.

- The combination of
  - Infinitely adjustable Weld Current
  - Constant-Current stabilization
  - Infinitely adjustable Weld Time

ensures the most secure weld under any condition.

● The **NELSON Power Reserve** automatically ensures secure welds even under continuous high duty cycle.

### Ease of Operation, Service-friendly

- The infinitely adjustable Current x Time Optimization is not only an indispensable safety feature – it also ensures ease of operation.
- The functions of the unit are constantly monitored and indicated through LED's.
- Built-in Double-Triggering Prevention avoids accidental retriggering after weld.
- The unit shuts off automatically in the event of overheating, phase loss and/or short-circuit in the gun circuitry.
- LED's allow instant „Trouble-shooting“.

### Technical Data ALPHA 850

Duty Cycle under continuous operation – Drawn Arc –	Stud	Weld Dia.	Duty Cycle
	S 12	12.00 mm	3 per min.
	MP 12	10.80 mm	5 per min.
	MR 12	9.50 mm	7 per min.
	S 8	8.00 mm	10 per min.
(Standard 5 m Gun Cable)			
Weld Current	200 – 850 Amps., stepless with constant-current stabilization		
Power incl. Reserve	1050 Amps.		
Weld Time	0,01 – 1 s, stepless		
Size (H x W x D)	325 x 370 x 550 mm (excl. handles)		
Weight Unit	64 kg (with cable)		
Weight Gun (NS 40)	2,4 kg (with cable)		
Fusing	35 Amps./per phase, HRC		
Supply	415 Volts AC		
Enclosure	IP 23		
Input Voltage	220/380, 415, 500, 200/400, 220/440 V + Options, 50/60 Hz.		

### Options:

- **Inert Gas\***
- **Automatic Stud Feeder**
- **Wheels**

\*In accordance with DVS 0902, § 2.2 welding standard, studs 10 mm dia. and larger require a ceramic ferrule. Stud welding with inert gas, without ferrule only below 10 mm dia., only in gravity positions and only under special conditions. Please contact our technical advisors!

### The Superior NS 40 Welding Gun

**makes your work even more precise, secure and easy**

A reliable welding gun is the prerequisite of a secure, reliable weld. The ALPHA-System includes the NS 40 Gun – an improvement of the legendary NS 30 Gun. It has – under toughest working conditions – acquired the reputation as the **world's most-used, most reliable, everlasting stud welding gun.**



**NS 40 B-1**  
Drawn Arc

Thanks to its ergonomically formed handle, the stable gun body lies firmly in the hand.

**NS 40 SL**  
Short Cycle



**NELSON**  
STUD WELDING

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