



Inverter
 Maximum welding quality
 Maximum welding rates
 Minimum energy consumption
 Minimum weight
 Maximum efficiency

IT 2002
Stud Welding Unit
 for ARC stud welding
 according to current standards

Technical Data

Gas

Welding range

Welding material

Welding rate

Welding current

Current adjustment range

Welding time

Primary power

Primary plug

Connected load

Cooling type

IP-Code

Dimension L x W x H

Weight

Order No.

Option

Dia. 2 to 22 mm, M3 to M24

Mild steel, stainless steel, aluminium

Dia. 22 = 6 studs/min

2 000 A (max.)

300 to 2 000 A (stepless)

5 to 1 500 ms (stepless)

400 V, 3 phases, 50/60 Hz, 63 AT (alternative input voltages available)

63 A (with 400 V mains)

100 kVa (with 400 V mains)

F (temperature controlled cooling fan)

IP 23

600 x 500 x 830 (without handle)

95 kg

93-60-2201

93-60-2202 (Gas)

General Information

Application

- Especially suitable for thicker sheets of about 2 mm or higher
- Especially suitable for welding of concrete anchors/shear connectors for job site applications
- Suitable for through deck welding

Process variants

- Short-cycle drawn-arc welding**
- Drawn-arc welding**

Equipment

- Welding with ceramic ferrule** (series)
- Welding with shielding gas** (optional)

Advantages

Features

- **Microcontroller** - for precise process times, optimal functional reliability and maximum operating convenience
- **Function monitoring** - automatic function test following power-up; monitoring of all internal system functions
- **Lift test** - for gap welding guns and stud welding heads
- **Library function** - automatic specification of welding current and welding time through selection of stud diameter according to welding range (with and without shielded gas); fine adjustment via arrow keys

Structure

- **Extremely easy to operate**
- **Compact**
- **Mobile** - highly mobile thanks to compact dimensions and low weight (50 % weight savings vis-à-vis conventional stud welding units)
- **Robust** - Metal housing withstands rough treatment in shop and on site

Safety

- With integrated **mains filter** (protection against voltage peaks)
- **Optimal for construction sites with large mains voltage fluctuations** - use even with critical voltage supply (- 10% + 10%)
- **EMC test**
- **High-voltage test with log**
- **Retriggering lock-out** - prevents welding on a welding element that has already been set
- **Thermal monitoring of transformer** - automatic shutdown in case of overheating
- **Temperature-regulated ventilador** - reduces noise and dust in the stud welding unit (greater system reliability)
- **Control unit galvanically separated from welding lines** - high degree of functional safety
- **Optimal protection against external interferences**
- **IP-Code: IP 23**
- Also permits operation outdoors

Welding

- **Display** - infinitely adjustable power setting; easy monitoring of all functions via LED displays; easy operation via membrane keyboard and digital display; setting of welding parameters, programs, shielding gas (optional); digital display of current, welding and gas-preflow time; separate settings for welding current and welding time
- **Powerful** - built-in power reserves
- **Trouble-free changing** of welding voltage polarity possible by reconnecting welding current and ground cables
- **Outstanding welding quality** - very high arc stability even at weak welding currents
- **High process flexibility** - high clock frequency (30 kHz) of stud welding unit allows highly dynamic regulation of welding process

Suitable stud welding guns

- A 12
- A 16
- A 22
- A 25
- AI 06



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IT 3002

Stud Welding Unit
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Technical Data

Welding range	Dia. 2 to 25 mm, M3 to M24
Welding material	Mild steel, stainless steel, aluminium
Welding rate	Dia. 25 = 6 studs/min
Welding current	2 600 A (max.)
Current adjustment range	300 to 2 600 A (stepless)
Welding time	5 to 1 500 ms (stepless)
Primary power	400 V, 3 phases, 50/60 Hz, 63 AT at 2 studs/min dia.25 mm (more than 2 studs/min 125 AT) (alternative input voltages available)
Primary plug	63 A (with 400 V mains)
Connected load	100 kVa (with 400 V mains)
Cooling type	F (temperature controlled cooling fan)
IP-Code	IP 23
Dimension L x W x H	650 x 560 x 1 290 (without handle)
Weight	93-60-3211: 170 kg 93-60-3221: 183 kg
Order No.	93-60-3211 (1 Gun connection) 93-60-3221 (2 Gun connection)

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Structure

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- **Compact**
- **Mobile** - highly mobile thanks to compact dimensions and low weight (50 % weight savings vis-à-vis conventional stud welding units)
- **Robust** - Metal housing withstands rough treatment in shop and on site

Safety

- With integrated **mains filter** (protection against voltage peaks)
- **Optimal for construction sites with large mains voltage fluctuations** - use even with critical voltage supply (- 10% + 10%)
- **EMC test**
- **High-voltage test with log**
- **Retriggering lock-out** - prevents welding on a welding element that has already been set
- **Thermal monitoring of transformer** - automatic shutdown in case of overheating
- **Temperature-regulated ventilador** - reduces noise and dust in the stud welding unit (greater system reliability)
- **Control unit galvanically separated from welding lines** - high degree of functional safety
- **Optimal protection against external interferences**
- **IP-Code: IP 23**
- Also permits operation outdoors

Welding

- **Display** - infinitely adjustable power setting; easy monitoring of all functions via LED displays; easy operation via membrane keyboard and digital display; setting of welding parameters, programs, shielding gas (optional); digital display of current, welding and gas-preflow time; separate settings for welding current and welding time
- **Powerful** - built-in power reserves
- **Trouble-free changing** of welding voltage polarity possible by reconnecting welding current and ground cables
- **Outstanding welding quality** - very high arc stability even at weak welding currents
- **High process flexibility** - high clock frequency (30 kHz) of stud welding unit allows highly dynamic regulation of welding process

Suitable stud welding guns

- A 12
- A 16
- A 22
- A 25
- AI 06

**A 22**

Stud Welding GUN (damped)
for ARC stud welding
according to current standards

Technical Data

Welding range	Dia. 14 to 22 mm (dia. 25 mm)
Stud length	10 to 390 mm (depending on tripod)
Stud material	Mild steel, stainless steel
Stud type	Any type or shape (special chucks if required)
Length compensation	9 mm automatic
Stroke	Adjustment range 6 mm (0,25 mm steps, arresting)
Damping	Adjustable oildamper
Welding cable	4.85,95 mm ²
IP-Code	IP 20
Workplace noise level	Up to 90 dB (A) may occur during welding
Dimension L x W x H	260 x 74 x 220 (without cable, with foot piece)
Weight	2 kg (without cable)
Order No.	93-20-290

General Information**Application**

- Especially suitable for thicker metal sheets from approx. 2 mm
- Especially suitable for through deck welding
- Automatic compensation of length tolerance of welding elements through integrated length adjustment

Process variants

- Drawn-arc welding** with ceramic ring

Advantages**Structure**

- Rigid casing made of impact-resistant plastic
- Slide bearing for guiding the welding piston
- Sealed welding piston guidance
- Ergonomic design
- Compact dimensions
- Lift adjustment
- Stud length freely adjustable
- Mechanical structure tested in production
- Reduced heating of the stud welding gun body thanks to externally positioned welding current cable

Safety

- Lock-in lift adjustment
- High level of security to prevent the selected settings being changed inadvertently
- Guidance system protected against spatters

Welding

- Individual adjustment options for optimum welding results
- Reproducible piston movement with minimized rebound effect for optimum welding quality via lift damper
- Optimum handling and fatigue-free operation
- Welding on painted sheets possible (clean, smooth and flat surfaces and grounding required)
- Ideal for high clock sequences with big diameters
- Automatic length compensation
- Damped plunging in the weld pool with installed oil damper

**A 25**

Stud Welding GUN (damped)
for ARC stud welding
according to current standards

Technical Data

Welding range	Dia. 14 to 25 mm
Stud length	10 to 390 mm (depending on tripod)
Stud material	Mild steel, stainless steel
Stud type	Any type or shape (special chucks if required)
Length compensation	9 mm automatic
Stroke	Adjustment range 6 mm (0,25 mm steps, arresting)
Damping	Adjustable oildamper
Welding cable	1,5 m ,120 mm ²
IP-Code	IP 20
Workplace noise level	Up to 90 dB (A) may occur during welding
Dimension L x W x H	260 x 74 x 220 (without cable, with foot piece)
Weight	2 kg (without cable)
Order No.	93-20-295

General Information**Application**

- Especially suitable for thicker metal sheets from approx. 2 mm
- Especially suitable for through deck welding
- Automatic compensation of length tolerance of welding elements through integrated length adjustment

Process variants

- Drawn-arc welding** with ceramic ring

Advantages**Structure**

- Rigid casing made of impact-resistant plastic
- Slide bearing for guiding the welding piston
- Sealed welding piston guidance
- Ergonomic design
- Compact dimensions
- Lift adjustment
- Stud length freely adjustable
- Mechanical structure tested in production
- Reduced heating of the stud welding gun body thanks to externally positioned welding current cable

Safety

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Welding

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- Reproducible piston movement with minimized rebound effect for optimum welding quality via lift damper
- Optimum handling and fatigue-free operation
- Welding on painted sheets possible (clean, smooth and flat surfaces and grounding required)
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- Automatic length compensation
- Damped plunging in the weld pool with installed oil damper



DATOS MÁQUINAS

DATOS GENERALES

-Para soldar sobre viga

1º Display de tiempo, mantener pulsadas las dos flechas del display, aparece el diámetro de conector, seleccionar el que corresponda, esperar a que aparezca el tiempo nuevamente y ajustar el parámetro correcto con las dos flechas arriba y abajo.

2º Display de corriente. Ajustar con las flechas arriba y abajo el parámetro correcto.

-Para soldar sobre chapa

1º Display de tiempo, mantener pulsadas las dos flechas del display, aparece el diámetro de conector, seleccionar el que corresponda, esperar a que aparezca el tiempo nuevamente y ajustar parámetro correcto con las dos flechas arriba y abajo.

2º Display de corriente, mantener pulsadas las dos flechas del display, aparece Through Deck/ no Through Deck, seleccionar el primero, esperar a que aparezca la corriente nuevamente y ajustar el parámetro correcto con las dos flechas arriba y abajo.

NOTA: Cuando la soldadura se va a realizar sobre chapa con el ajuste Through Deck debe ponerse un 30% más de tiempo y un 20% menos de corriente de los parámetros estándar para cada diámetro de conector.

DATOS PARTICULARES

IT2002

Consumo a máxima potencia 100 kva

Generador necesario 200 kva (150 kva si el generador es rápido)

Cable salida 4* 6 mmq

cable hasta 50 mts 4*10 mmq
cable hasta 75 mts 4*16 mmq

IT3002

Consumo a máxima potencia 150 kva

Generador necesario 250/300 kva (200 kva si el generador es rápido)

Cable salida 4*10 mmq

cable hasta 50 mts 4*16 mmq