MARC 3 Technical Data Sheet

MARC 3

Pad Welding Machine PC-M3
for stud welding with rotating arc

Technical Data

Welding range	Min. dia. 1/4" (dia. 6 mm), max. dia. 1.18" (dia. 30 mm) or internal thread #8 to 0.71" (M4 to M18)
Height of pad	Min. 0.16" (4 mm), max. 1.18" (30 mm)
Welding material	Weldable, high and low alloys, mild steel
Welding rate	Depending on dia. 12 pieces/min (dia. 1.10" (dia. 28 mm) approx. 2 to 4 pieces/min)
Welding current	300 to 1,000 A stepless remote controllable
Welding time	5 to 3,000 msec stepless remote controllable
Primary power	480 V, 32 A (IT 1001); 115/230 V (PC-M3)
Gas connection	Series
Air pressure connection	6 bar/inner hose dia. 1/4" (dia. 6 mm)
Power source	Inverter
Controller	IPC Pentium P III, 500 MHz
Programming modes	Welding current, welding time, any motion profile, welding piston, shielding gas
Welding head	Linearmotor driven
Field former unit	Tempered
Pneumatic work stroke	4.72" (120 mm)
Height adjustment	9.84" (250 mm)
Order No.	**According to project**

General Information

Application

- The most innovative process for welding pad type elements
- To be used for nearly any application in metal working industry: The very low heat input avoids any distorition of the work piece and you get a perfect gas-tight weld with high and dynamic loading capacity
- The most effective as well as most economical welding procedure for the welding hollow cylindrical parts
- Closed and pressure sealed weld all-over
- The welding requirements are manifold, reaching from the simplest static firmness to dynamic demanded gas tight connections at high temperature and pressure
- Austenitic stainless steel (1.4301 and similar), low alloys (RSt 37-2 / S 235J2G3)
- **High productivity** together with low manufacturing costs
- No need for additional welding consumables and re-machining
- Free programmable welding head

Subsidiary
Head Office

HBS Studwelding Inc., USA
HBS Bolzenschweiss-
Systeme GmbH & Co. KG

www.hbs-studwelding.com
Felix-Wankel-Strasse 18
Phone [49] (81 31) 5 11 - 0

D-85221 Dachau
Fax [49] (81 31) 5 11 - 1 00

Process variants

- **Pad welding with magnetic rotating arc**

Advantages

Features

- **Welding head with linear motor**
- **Integrated process control for quality assurance**
- **PC-controlled**
- **Welding time approx. 800 msec with dia. 30 mm**

Structure

- **High performance, extremely easy to operate, robust, reliably**

Welding

- CNC controlled
- Minimum plate thickness ≈ 1 mm, maximum plate thickness ≈ 4 mm
- Minimum wall thickness of pad in the welding section ≈ 1 mm
- Welding in vertical and overhead positions is possible (up to M8/M10)
- Welding of end caps on pipes
- Gas tight to over 250 bar (M10)

Description

- Low energy consumption
- Even and minimal heat input (low distortion)
- Very short welding time (≤ 1 second) and consequently short cycle time in production
- No welding additives required
- Minimum upsetting force
- Small and even welding seam
- Only one-sided accessibility to the work piece required
- Low investment costs for machine technique
- Extremely clean process (minimum development of airborne particles)
- No reworking of work piece or welding element (thread)

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LIN-MARC Welding Head

General Information

Application

- Free programmable, linear motor driven welding head for pads up to 30 mm outer diameter and integrated cooling system
- Best welding results
- Optimized quality assurance via free programmable welding head and microprocessor controlled power unit with parameter monitoring

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(Technical data may change)

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