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|  |  | HBS efficient technology logo**Inverter**Maximum welding qualityMaximum welding ratesMinimum energy consumptionMinimum weightMaximum efficiency |
| **IT 90****Stud Welding Unit** for ARC stud welding according to current standards |
| **Technical Data** |
| **Gas/Automation/Process control** | Series/Series/Series |
| **Welding range** | Dia. 14 ga to 7/8'', #4 to 1'' (dia. 2 to 22 mm, M3 to M24) |
| **Welding material** | Mild steel, stainless steel, aluminum |
| **Welding rate** | Dia. 7/8'' = 7 studs/min (dia. 22 mm = 7 studs/min) |
| **Welding current** | 2 000 A (max.) |
| **Current adjustment range** | 300 to 2 000 A (stepless) |
| **Welding time** | 5 to 1 500 ms (stepless) |
| **Primary power** | 480/460 V, 3 phases, 50/60 Hz, 63 AT (alternative input voltages available) |
| **Connected load** | 100 kVA (400 V mains) 80 kW |
| **Cooling type** | F (temperature controlled cooling fan) |
| **IP Code** | IP 21 |
| **Dimension L x W x H** | 25.6'' x 22'' x 50.8'' (650 x 560 x 1 290 mm) without handle |
| **Weight** | 93-66-12096: 319.67 lbs (145 kg)93-66-42096: 363.76 lbs (165 kg) |
| **Order No.** | **93-66-12096 (Gas/Automation/Process control/1 Gun connection)93-66-42096 (Gas/Automatic/Process control/4 Gun connections)** |
| **General Information** |
| **Application*** Especially suitable for thicker sheets of about 2 mm or higher
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| **Process variants*** **Short cycle drawn arc welding**
* **Drawn arc welding**
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| **Equipment*** **Welding with ceramic ferrule** (series)
* **Welding with shielding gas** (series)
* **Automation** (series)
* **Process sequence control** (series)
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| **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
* **Process monitoring** – recording and analysis of factors affecting the welding process; after each weld, the reference and actual values are compared; display of the welding energy input; switchable automatic welding stop if limits are exceeded
* **RS232 interface** – for data output; data and time of day are stored; welding parameters of each weld are logged)
* **4 gun connections** (optional)
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| **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
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| **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 ventilator** - 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 21**
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| **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, automation and process monitoring possible; digital display of current, welding and gas-preflow time (optional: pneumatic feed time for automation); 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
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| **Suitable stud welding guns/ -heads*** **A 12, A 16, A 22, A 25, AI 06**
* **PAH-1**
* **KAH 412, KAH 412 LA**
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| Issue 11/15(Technical data may change) |