When?

**Welding rate**
- Manual: 8 studs/min
- Automatic gun: 12 studs/min
- CNC controlled: > 12 studs/min

**Positioning accuracy**
- ± 0.15 mm for mild steel, stainless steel and ± 0.2 mm for aluminum (depending on work piece and stud geometry)

**Stud volume / application**
- 50,000 to 1 Mio.

**Process reliability**
- Constant plunge in
- Constant lift off
- No tilting etc.
- High reproducibility etc.

**Advantages**
- Reducing of the costs per unit
- Increasing the quality
**Variants**

**Automatic welding gun**
- Low investment costs
- Simple handling
- Mobile

**PC-S**
- Stationary welding head
- High positioning accuracy
- Jigs (turn table, etc.)

**PC-C**
- Low cost CNC machine
- Simple programming
- High flexibility

**MPW**
- High tech CNC stud welding machine
- Modular set-up, various machine sizes etc.
- Special software for stud welding
Robot applications
  ► Flexible manufacturing
  ► Welding in “three-dimensional space”

Specials
  ► Based on components PC-S, PC-C, TKM

Integrated solutions
  ► Customized
Automation

Welding gun PAH-1

VBZ-3
Fully automatic
studs feeder

CDM 2401
Power unit
Power unit
- CDM 1601

Welding head
- KAH 412
- Manual stud feeding

Variants
- Manual stud feeding
- Automatic stud feeding (VBZ-3)
- Housing (noise, security, spatter)
- Drawn arc power units
- Accessories
- Indexing turn table
- Work piece fixtures etc.
Features
- Working range 500 x 300 mm
- Pneumatic work stroke 125 mm
- Automatic stud feeding
- Positioning accuracy ± 0.2 mm
- Welding rate up to 15 studs/min
- Welding program storage capacity
  10/25 or 20/17 welding programs/studs
- Drawn arc or CD welding

Optional
- Housing
- Accessories
- Work piece fixtures
  etc.
Two welding heads
- Motored z-axis
- Pneumatic z-axis with pneumatic down holder
Automation

MPW 1010 and 2010

- Milling head with vacuum device
Roboter applications

KAH 412
Automatic welding head

VBZ-3
Fully automatic stud feeder

ARC 800
Power unit
Automation

Roboter application

- Telephone box
- Stainless steel
Automation

Roboter application

Signal exchange
Special PC-S
Pipe for car air conditioning System
Automation

Special PC-S
Pipe for air conditioning
Automation

Special PC-S
Fixation Clip for cattle grid

Features
- Automatic stud- and work piece feeding
- Indexing turn table
- Welding control with automatic discharge
Special PC-S
2 heads / 2 pneumatic Z axes

Application
- Door frame for wood stove
- Easy change over to a second stud dimension
- Work piece fixture with grounding
Automation

Special PC-C

Pneumatic Lift table
- Z1 0 - 45 mm
- Z2 120 - 165 mm

Application
- Work pieces with different welding levels
Automation

Special PC-C with turn table

Application
- Cup holder for commercial coffee machine

Features
- Short cycle shielding gas
- Manual turn table with welding and loading/unloading position
- Special pin with “up-side-down” feeding system
Automation

Special PC-C
Revolving work piece carrier

Application
- Carrier for solenoids (automotive)

Features
- Short cycle shielding gas
- CNC controlled revolving work piece carrier
- Automatic welding cycle for 4 studs
- Welding head with shielding gas tube/end stop for work piece height compensation
- Special stud with
  - welding geometry at both ends for simple feeding
  - high tensile strength (quality 5.8)
- Integrated welding sequence control
Automation

Special CNC

Application
- Components for commercial coffee machines

Features
- 8 CNC controlled axles
- Welding table with adjustable level (500 mm)
- 3 welding heads, 1 swivelling welding head (60°)
- Housing with integrated light gate
- CD welding process
Automation

Special CNC

Heat exchanger

- Welding head KAH 412
- Power unit ARC 800 AT
- Feeder VBZ-3
- Conveyor bin for studs
Integrated solutions
Module automatic welding head KAH 412
Integrated solutions
Tilting device for KAH 412
Customized solutions
Bricklayer’s trowel

- Steel band feeding from coil
- 2 step welding (4 studs)
- Steel band cutting
- Adapted to the needs of handicapped persons (wheel chair)
Customized solutions

CNC Indexing table

Features
► 2 welding heads
► 6 different studs
► Loading/unloading table / Welding table
► CNC controlled table movement (y-axis)
► CNC controlled x-axis
► Table locking device
Customized solutions
Integrated CNC
Automation

Applications
Thank you for your attention