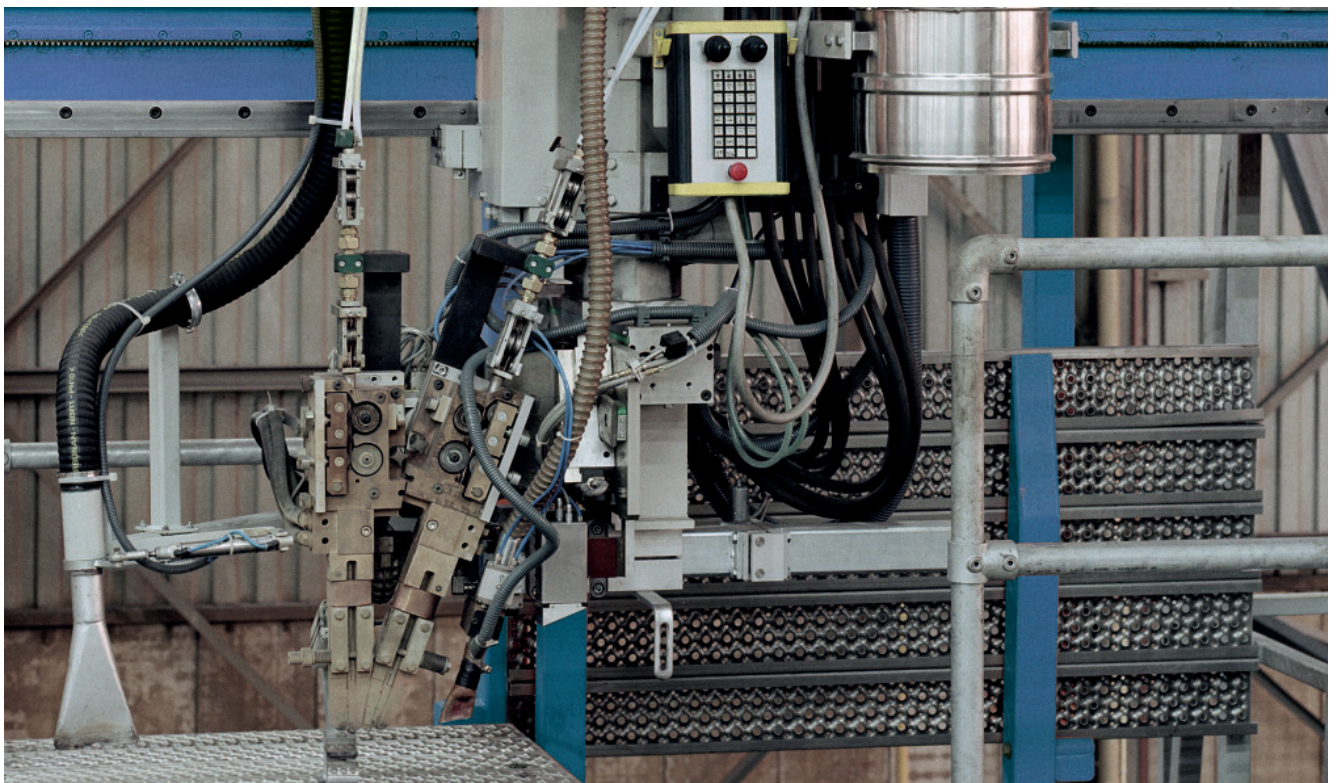


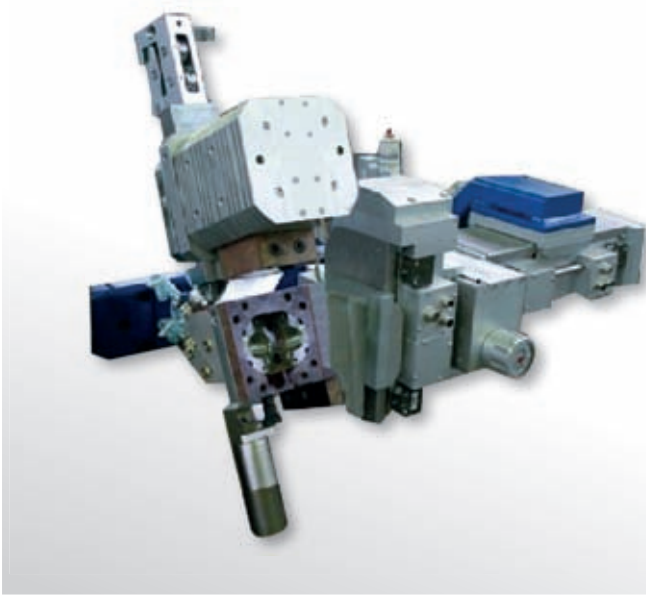
## 9. PIPEWORK EQUIPMENT



- MAG staple head SPM
- SAW - MAG strip connection seam SPM
- Inside SAW head spiral tubing online
- Outside SAW head spiral tubing online
- Inside SAW head spiral tubing FWM
- Outside SAW head spiral tubing FWM
- Inside SAW head longitudinal wire tubing FWM
- Outside SAW head longitudinal wire tubing FWM
- Powder facility for inside and outside welding heads
- Ground brush device for inside and outside welding heads
- Boom 12, 18, 24 metres FWM
- Outside welding support (see chapter 1 / BZ construction series)



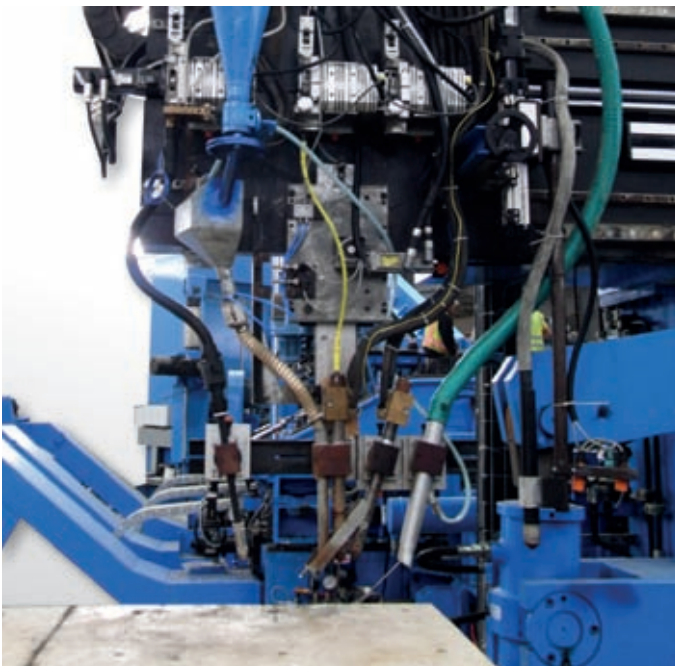
## 9.1. MAG STAPLING HEAD SPM



### TECHNICAL DATA:

- Water-cooled MAG torch including contact jaws
- 1500 A current
- Wire diameter 1.2 mm to 4.0 mm
- Max. wire feed speed : 15000 mm/min.
- Fully automatic stickout and welding head guidance via laser sensors with servo slides
- Gas valve

## 9.2. SUBMERGED ARC WELDING - MAG STRIP CONNECTION SEAM SPM

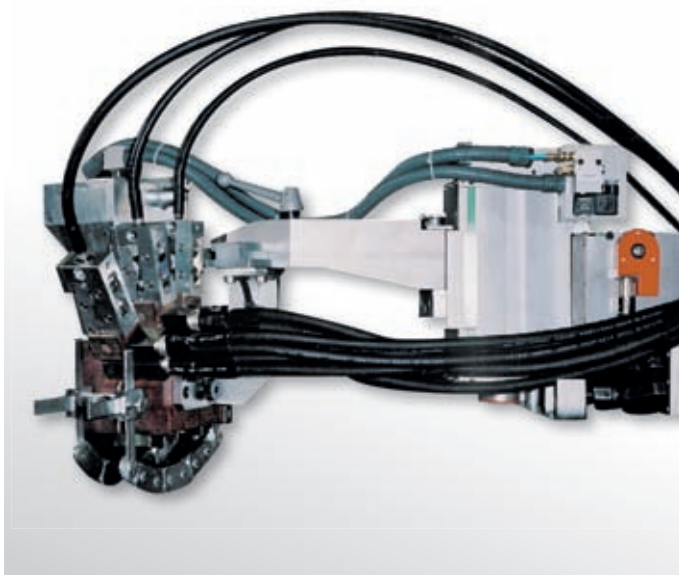


### TECHNICAL DATA:

- Water-cooled MAG torch with contact nozzles
- Current 600A
- Wire diameter from 1.2 mm to 2.4 mm
- Max. wire feed speed: 15000 mm/min.
- Gas valve
- SAW torch including contact jaws
- Current 1200 A
- Integrated powder container in connection with powder installation



### 9.3. SAW INSIDE WELDING HEAD WINDING TUBES ONLINE



#### TECHNICAL DATA:

- SAW torch including contact jaws
- Number of torches 1..3
- Power rating per torch 1500 A
- Cassette system
- Wire diameter from 1.2 mm to 4.5 mm
- Max. wire feed speed: 10000 mm/min.
- Integrated powder container in connection with powder installation
- Stickout and welding head guidance, fully automatically via laser sensors including servoslides
- Spiral angle 45° to 80°
- Min. tube diameter 400 mm (16")

### 9.4. SAW OUTSIDE WELDING HEAD WINDING TUBES ONLINE

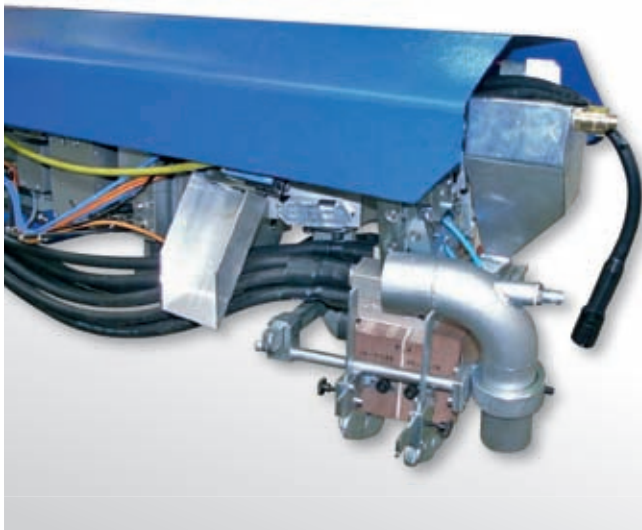


#### TECHNICAL DATA:

- SAW torch including contact jaws
- Number of torches 1..3
- Power rating per torch 1500 A
- Cassette system
- Wire diameter from 1.2 mm to 4.5 mm
- Max. wire feed speed: 10000 mm/min.
- Integrated powder container in connection with powder installation
- Stickout and welding head guidance, fully automatically via laser sensors including servoslides
- Spiral angle 45° to 80°



## 9.5. SAW INSIDE WELDING HEAD WINDING TUBES FWM



### TECHNICAL DATA:

- SAW torch including contact jaws
- Number of torches 1..3
- Power rating per torch 1500 A
- Wire diameter from 1.2 mm to 4.5 mm
- Max. wire feed speed: 10000 mm/min.
- Integrated powder container in connection with powder installation
- Stickout and welding head guidance, fully automatically via laser sensors including servoslides
- Min. tube diameter 480 mm (18")
- Spiral angle 40° to 80°

## 9.6. SAW OUTSIDE WELDING HEAD WINDING TUBES FWM

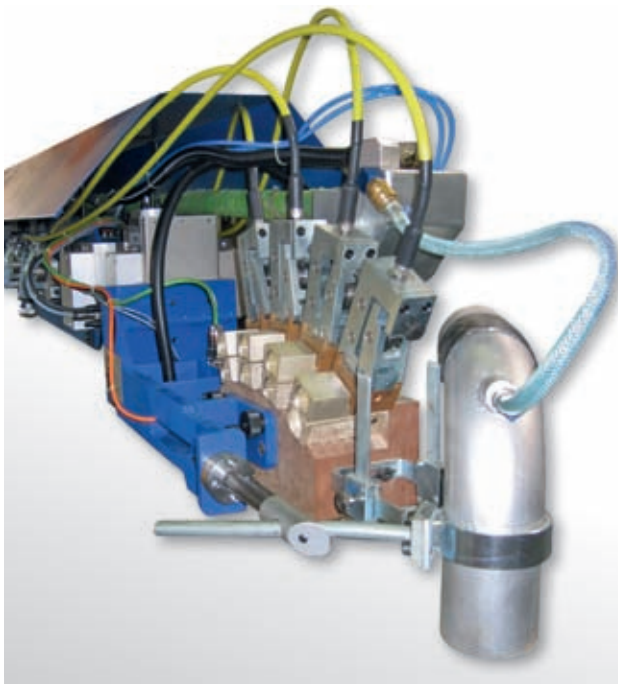


### TECHNICAL DATA:

- SAW torch including contact jaws
- Number of torches 1..3
- Power rating per torch 1500 A
- Cassette system
- Wire diameter from 1.2 mm to 4.5 mm
- Max. wire feed speed: 10000 mm/min.
- Integrated powder container in connection with powder installation
- Stickout and welding head guidance, fully automatically via laser sensors including servoslides
- Min. tube diameter 400 mm (16")
- Spiral angle 40° to 80°



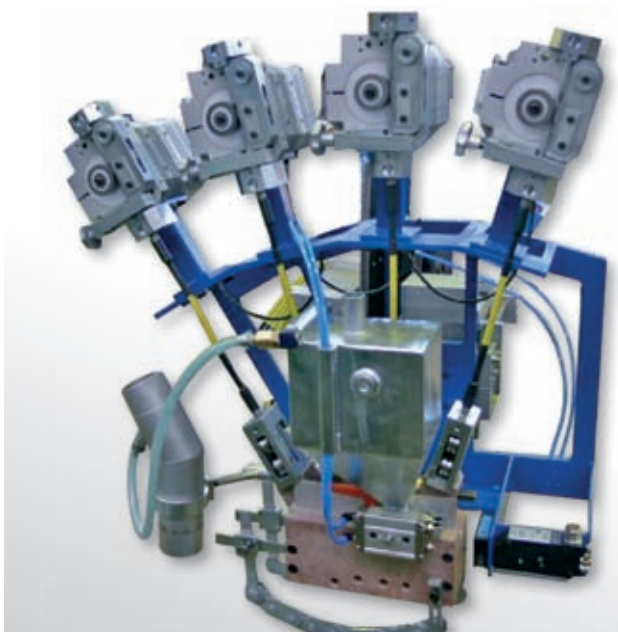
## 9.7. SAW INSIDE WELDING HEAD STRAIGHT BEAD TUBES FWM



### TECHNICAL DATA:

- SAW torch including contact jaws
- Number of torches 1..5
- Power 1500 A
- Cassette system
- Wire diameter from 1.2 mm to 4.5 mm
- Max. wire feed speed: 10000 mm/min.
- Integrated powder container in connection with powder installation
- Stickout and welding head guidance, fully automatically via laser sensors including servoslides
- Min. tube diameter 480 mm (18")

## 9.8. SAW OUTSIDE WELDING HEAD STRAIGHT BEAD TUBES FWM



### TECHNICAL DATA:

- SAW torch including contact jaws
- Number of torches 1..5
- Power 1500 A
- Cassette system
- Wire diameter from 1.2 mm to 4.5 mm
- Max. wire feed speed: 10000 mm/min.
- Integrated powder container in connection with powder installation
- Stickout and welding head guidance, fully automatically via laser sensors including servoslides



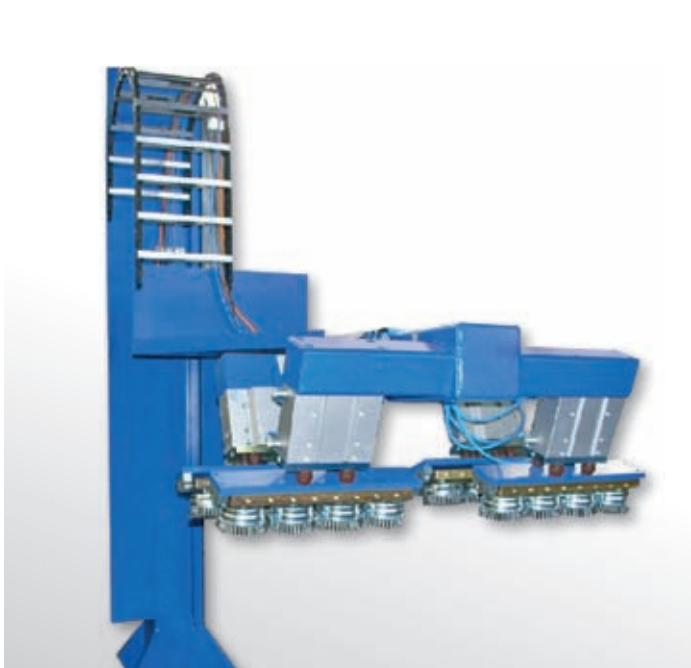
## 9.9. POWDER SYSTEM FOR INSIDE AND OUTSIDE WELDING HEADS



### TECHNICAL DATA:

- Pressure tank 2 x 500 litres / 2 x 1000 litres
- Recycling automat incl. suction cyclone
- Escaping exhaust air corresponding to the Technical Instructions on Air Quality Control (TA-Air)
- Fully automatic slag drawer
- Magnetic separator
- Inlet pressure 6 bar
- Volume 4500 l/min
- Automatic level measuring
- Integrated heating for the avoidance of humidity absorption
- Pneumatic principle of function (without additional compressor)

## 9.10. GROUND BRUSHES DEVICE FOR INSIDE AND OUTSIDE WELDING HEADS



### TECHNICAL DATA:

- Power transmission 4000 A via brushes
- Additional brushes via pneumatic cylinder available
- Height adjustment for differing tube diameters via electromotor



## 9.11. BOOM WITH 12, 18 OR 24 M FWM



### TECHNICAL DATA:

- Boom with massive base column
- Permissible weight at head following problem definition
- Lengths: 12, 18 and 24 m