Function Package for Aluminium
Aluminium v.s. steel

- Advantages aluminium
  - High strength in relation to its weight
  - Not corrosive
  - Require low energy to recycle

- Disadvantages aluminium
  - More demanding to weld
  - Generates toxic fumes at welding
Products made of Aluminium

Examples

- furniture
- scaffolding
- bicycle frames
- motorcycle frames
- automotive parts
  - wheel suspensions
  - manifolds
  - frame work etc
Aluminium welding

Requirements for successful aluminium welding

- Process knowledge
- Precision wire feeding
- Correct weld parameters
- Correct weld positions
- Consumables and joint preparation
Special developed package

- Aluminium package for the automotive and general industry

- Excellent performance in feeding thin aluminium wires

- Allow heavy movements of the robot axis
Wire Feed System

- Wire feed system which consists of two wire feeders designed for aluminium electrodes

  The first feeder is paying off the wire from the bobbin

  The second feeder is setting the wire feed speed

  Very low tension in the welding wire ensures constant wire feed of thin and soft wires
Power source

- Power source
  - 400A at 60% Duty Cycle
  - 315A at 100% Duty Cycle
  - CAN-bus communication
  - All welding control from Teach Pendant
  - Synergic and Non-Synergic easily programmed
  - Latest power source Technology
Function Package for Aluminium welding

- Available in a version
  - with 7 kg bobbin mounted on the robot

- Available in a version
  - with a feed unit for 40kg bobbin in a humidity controlled cabinet behind the robot
Welding of a frame

- Ground material: UNI 3058 and 7003
- Thickness: 4mm
- Electrode: AlMg5 D=1,2mm
- Gas: Ar70He30
- Wire feed speed
- 6,0, 6,5 and 7,0 m/min
- In line weaving
Long pulsning MIG

- Wire feed speed: 2.8 m/min and 3.5 m/min
- Frequence: 2Hz
- Welding speed: 8mm/s
- Electrode: AlSi5 D=1.0mm
- Gas: Ar
- Thickness: 1.5 resp 3mm