



Tripp Trip

THE WELDING REVOLUTION!

Terms and Definitions I

- TIP TIG – innovative non-consumable electrode arc welding (TIG welding) process with dynamic wire feeding movement
- TIP TIG CW (ColdWire!) - welding system consists of microprocessors controlled wire feeder with dynamic effect, interconnecting hose package, welding torch and transformer 230/28V

Terms and Definitions II

- TIP TIG HW (HotWire!) – semi-automatic arc welding machine consists of microprocessors controlled welding inverter, device for preheating of wire, wire feeder with dynamic effect, interconnecting hose package, welding torch and transformer 230/28V

The background image shows a blue industrial welding wire feeder. It has a control panel with several buttons and a digital display. A spool of wire is visible on the right side. The unit is mounted on a metal structure. The text is overlaid on the image.

Description

The steady forward motion of the welding wire feed is superimposed by a secondary linear forward/backward motion of the wire feeder unit.

The superposition of both movements provides kinematic energy into the weld puddle.

The dynamic effects produce a very stable and controllable welding process.

The wire feed speed as well as the oscillation movement are continuously adjustable and can be independently controlled.

Processes

- TIG (GTAW) AC/DC
- TIG (GTAW DC+)
- Plasma
- Laser



Weldable Materials

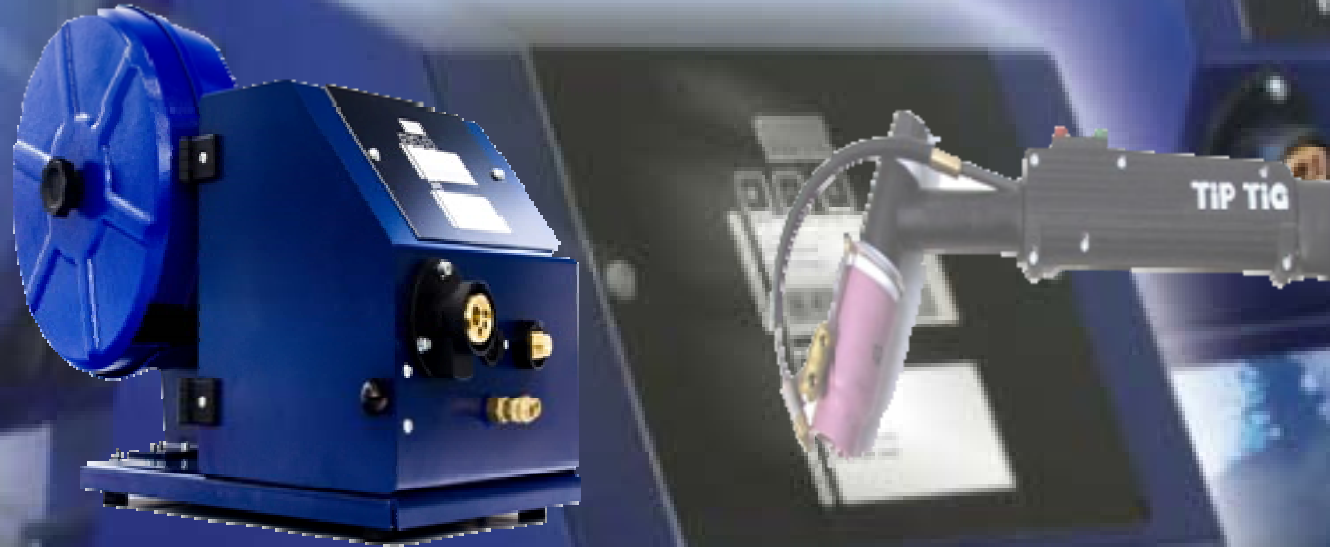
- Mild steel
- Stainless steel
- High-alloyed steels
- Aluminium and aluminium alloys
- Light and non-ferrous metals
- Titanium
- Zinc-plated materials
- Coated materials with thickness up to 85mm



Industries

- Food, Meat, Chemical
- Refinery and Offshore
- Pipes, Tubes, Tank
- Vessel and Precision Metal Fabrication
- Shipyards
- Defense
- Aerospace
- Automotive and Automation Technology

TIP TIG Dynamic ColdWire Process



microprocessors controlled wire feeder with dynamic effect, welding torch, interconnecting hose package and transformer 230/28V

TIP TIG Standard Sets I

TIP TIG Wire Feeder

- Wire diameter 0.8 – 1.2mm (1.6mm for Alu-Automation)
- Wire material All types which you need according to technology
- Microprocessor Control 25 jobs can be stored, startdelay, wirefeed back, UP/DOWN control $\pm 33\%$
- 4-roller drive-wire feed speed 0.15-8.5 m/min
- Frequency of oscilation 15 Hz
- Power supply 28V (AC)
- Duty cycle (40°C) 400A/100% d.c.
- Weight 18kg (without wire)
- Dimensions (l/w/h) 790x330x445 [mm]
- Colour RAL 5003
- Built accoring to EN 60974-1, CE

TIP TIG Standard Sets II

Interconnecting Hose Package 3m or 8m to welding inverter

- Lincoln
- Miller
- Fronius
- ESAB
- CLOOS
- EWM
- EURO-ZA
- Merkle
- KEMPPI MLS
- MASTERTIG

TIP TIG Standard Sets III

TIP TIG Torch 18 SuperCool straight/45°/90° bent

- Watercooled
- Length 4.0 or 6.0m
- Duty cycle 400A/100% d.c.

TIP TIG Torch TW 20 straight/45°/90°

- Watercooled
- Length 4.0 or 6.0m
- Duty cycle 240A/60% d.c.

Spare part box TIP TIG Torch

Transformer 230V/28-Volt 160 VA

TIP TIG Dynamic HotWire Process



Microprocessors controlled welding inverter, device for preheating of wire, wire feeder with dynamic effect, interconnecting hose package, welding torch and transformer 230/28V

Comparison of welding processes and applications

Process	MIG puls	TIG	TIP TIG CW	TIP TIG HW
Metals	Steel, stainless steel, aluminum	All weldable metals	All weldable metals	All weldable metals (ex. Al)
Thickness	> 0,60 mm	> 0,25 mm	> 0,25 mm	> 10,00 mm
Relative Speeds	Fast	Slow	Fast	Fast
Deposition Rates kg/h	1,0 - 3,6	0,4 – 0,7	1,0 – 3,6	1,4 – 5,4
Required Skill Level	Low	High	Low	Low
Relative Operating Cost (time & materials)	Low	High	Low	Low
Weld Dressing needed (spatter or slag removal)	High	Low	Low	Low

Comparison of processes used for the weld of abrasion-resistant alloys

Process	Stick	TIG	TIP TIG CW	TIP TIG HW	GMAW	FCAW	PPAW
Dilution %	20-30	2-10	2-10	2-10	20-35	20-30	<1
Application Rates kg/h	0,9-2,7	0,4-0,9	0,9-3,6	1,8-6,4	0,9-3,6	3,6-8,2	3,6
Required Skill Level	Low	High	Moderate	Moderate	Low	Low	Low
Relative Operating Cost (time & materials)	Low	High	Low	Low	Low	Low	High

Welding in all positions

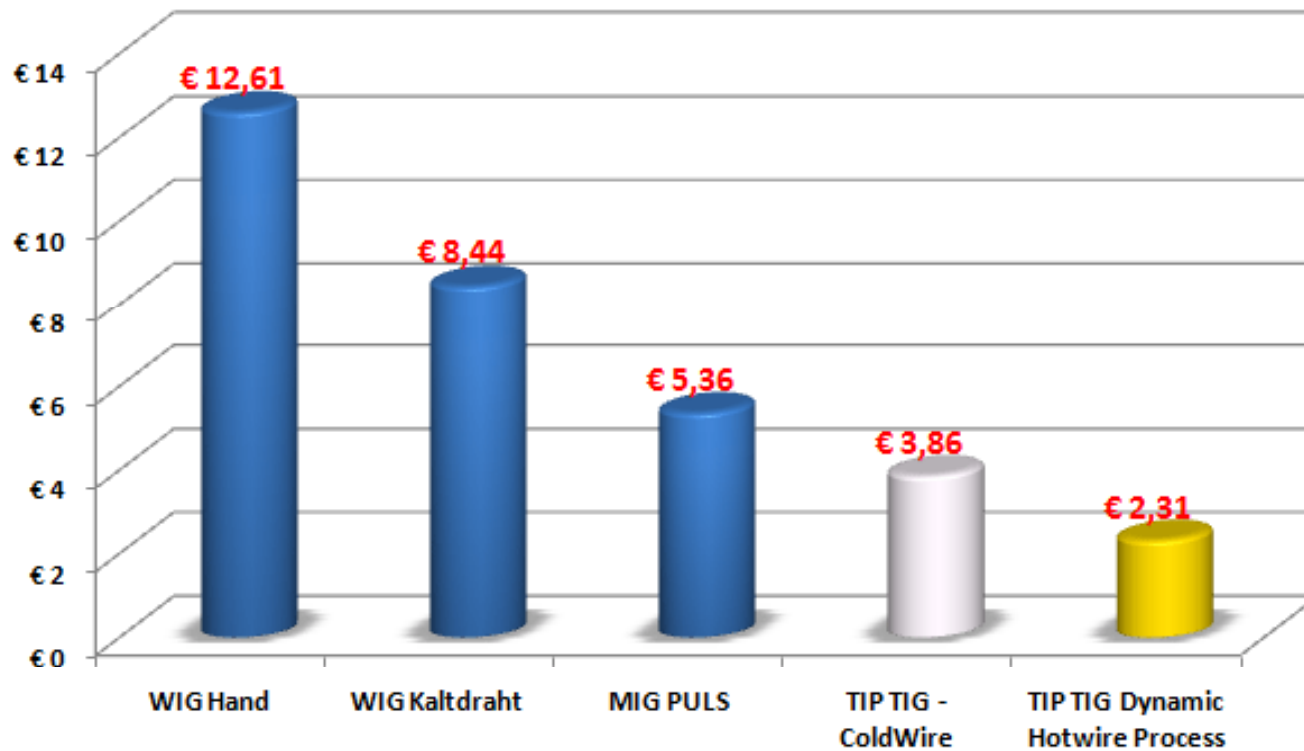


Technical Tips

- TIP TIG can be used for many manual and automatic applications with watercooled welding machines only
- TIP TIG suitable for cold-wire and hot-wire welding and can be used for many processes such as TIG AC/DC, plasma and laser welding techniques
- TIP TIG is irreplaceable where the highest quality of the welding controlled by the X-rays is needed

Economics I

Roughly total cost for 1 meters of welding
with hourly rate of 30 Euro



Economics II

**Roughly pay back of standard TIP TIG
ColdWire set (without depreciation) in
meters of welding**

Welding process	Meters
TIG (WIG) Hand	800
TIG (WIG) semi-automatic	1530
MIG/MAG Puls	4670

Stainless steel application



Nickel application

Very small heat input zone (WEZ)
Current >300A

Abdruckmedium: Helium
2std. bei 1bar abgedrückt
Kein Druckabfall messbar

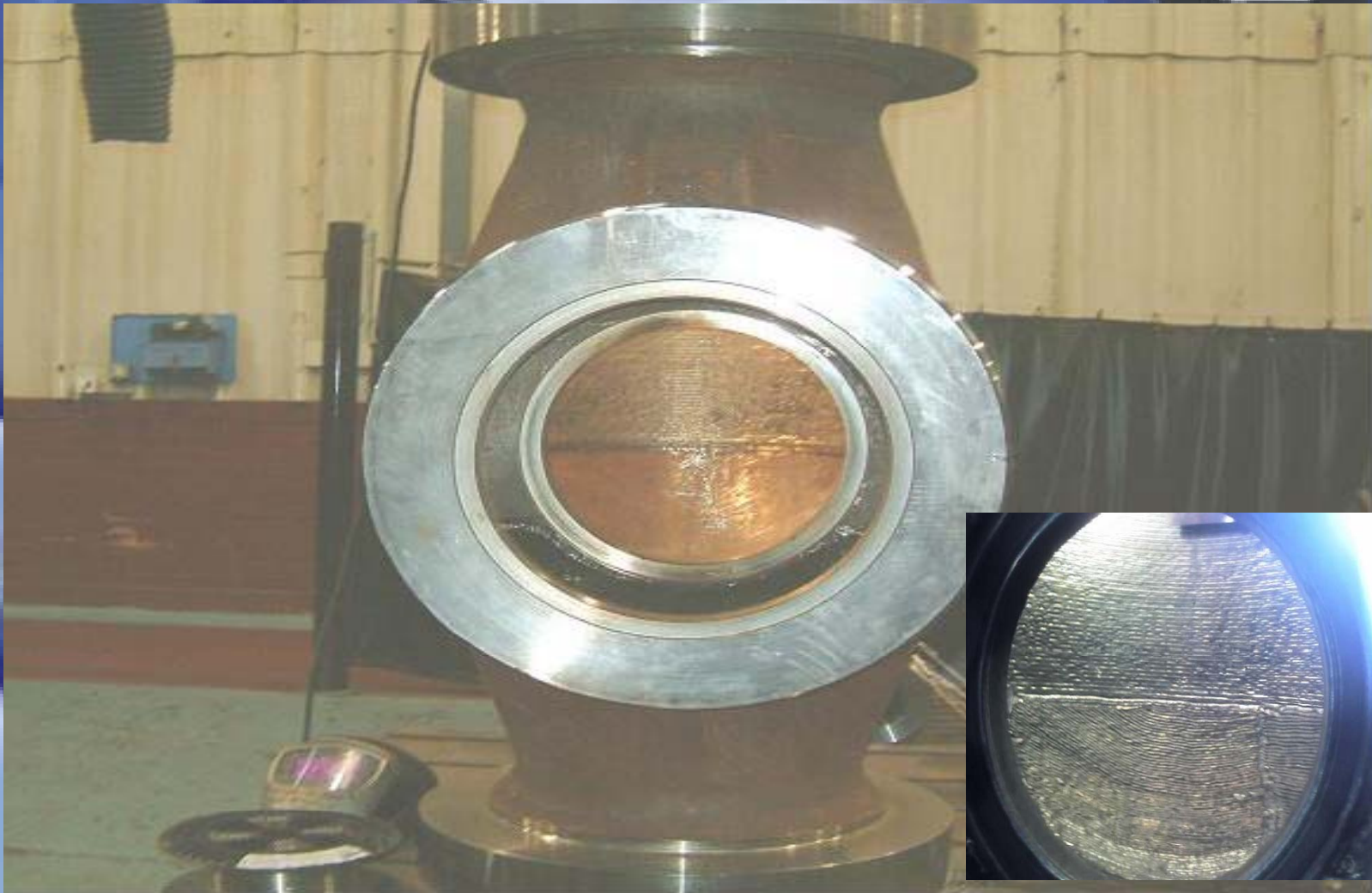
maximal

Deckplatte

Aluminum application



Cladding Application



Tandem Application



Tractor Application



Automation Application



Robotic Application



Summery I

- **PRODUCTIVITY**

Welding speed faster than MIG PULS! In predicaments up to 20% faster than MIG PULS!

- **COSTREDUCTION**

Cost saving up to 70% than TIG welding and up to 25% than MIG Puls! No spatter, no rework!

- **QUALITY**

Highest quality – excellent metallurgical and mechanical results – for all materials



Summery II

- **FLEXIBILITY**

Torches for all applications! Compatible with all TIG machines!

- **AUTOMATION + ROBOT**

Excellent results in automatic and robot applications with low capital expenditure!

- **TRIED + TESTED**

Hundreds TIP TIG units are currently in production all over the world since 2001!

A blue TIG welding power source is shown in space, with Earth visible in the background. The power source is a large, rectangular unit with various ports and controls. The text "BUY TIP TIG FOR YOUR BENEFIT!" is overlaid on the image in a large, bold, black font, enclosed in a blue rectangular box.

**BUY TIP TIG FOR
YOUR BENEFIT!**

Thanks for your attention!