Complete systems for precision pipe joining in the shop, field and lay-barge.
MAGNATECH OVERVIEW

▷ First pipe welder designed in 1967 for a nuclear pressure vessel
▷ Over 48 years of experience in designing and manufacturing mechanized/automatic pipe welding systems
▷ First pipeline project in 1988

▷ Serving fabrication & pipeline construction
▷ Equipment is versatile thus suitable for various applications
VERSATILE
FABRICATION
10” GAS PIPELINE IN ESTONIA
PROJECT SAUDI ARABIA

- 72” water pipeline project
- Contractor: FMQ
WHY MAGNATECH?

▸ High Quality & Productivity
▸ Share expertise & technology with clients
▸ Worldwide project support
▸ Focusing on local content development
▸ Innovative
SAUDI ARAMCO HARADH GAS GATHERING MANIFOLD

- 24" ODx0.67" wall, X-65 – 32" ODx1" wall
- 20 Pipeliner systems
- Repair rate: 0%
- Contractor: Raymond International
LETTER OF APPRECIATION

TO WHOM IT MAY CONCERN

We are pleased to state that we are using Magnatech Pipeliner II Systems on our new Saudi Aramco Project, C/Nos. 66000014780 (Bill No.10-00100-0001), Hawiyah NGL Recovery Plant Upstream & Downstream Gas Pipelines for construction of 48” and 56” pipelines, and using the Magnatech Pipeliner II Systems we were able to achieve a very high quality of welding.

Pipeline descriptions and number of joints involved are as follows:

48” X 0.688” & 0.871” wall thickness = 53 km length
No. of joints welded = 1145 joints

56” X 0.640” & 0.893” wall thickness = 10.4 km length
No. of joints welded = 188 joints

The cumulative weld repair rate on linear basis was 0,011%.

We take this opportunity to place on record our appreciation of the efficacy and efficiency of the Magnatech Pipeliner II Systems and, going by our experience, would not hesitate to recommend them to other construction contractors with pipeline projects in hand.

Yours faithfully,
Suedrohrbau Saudi Arabia Ltd.

Riaa, Bazzi
Project Director

• 48”, 56”, O.D. x 15mm/22,6mm
• 1333 joints repair rate 0,011%
• Contractor: Suedrohrbau
WHY MAGNATECH?

- High Quality & Productivity
- Share expertise & technology with clients
- Worldwide project support
- Focusing on local content development
- Innovative
PDO (TEKFEN-PETROFAC), OMAN

CRA (INCONEL) CLAD PIPELINE FOR SOUR GAS

▸ 1 repair in 1000 joints!
SHARE EXPERTISE & TECHNOLOGY WITH CLIENTS

PUNJ LLOYD CRA CLAD PIPELINE
SHAH GAS DEVELOPMENT PROJECT

▷ 52km 16” & 24” pipeline with laser-optical root-profile inspection
SHARE EXPERTISE & TECHNOLOGY WITH CLIENTS

PQR FOR BOS SHELF (BP) OF CRA CLAD PIPE SPOOLS (45MM WALL) SHAH DENIZ II AZERBAIJAN

▶ 12” 45mm wall with 3mm Inconel Cladding
WHY MAGNATECH?

▷ High Quality & Productivity
▷ Share expertise & technology with clients
▷ Worldwide project support
▷ Focusing on local content development
▷ Innovative
WORLDWIDE PROJECT SUPPORT

MONTER STROYARSKE MONTAZA, CROATIA

▸ 32” gas pipeline project
WORLDWIDE PROJECT SUPPORT

28” & 32” X70 & X80 GAS PIPELINE PROJECT
POLAND

▷ By Magnatech Rental Services
▷ Contractor: Pol-Aqua
WORLDWIDE PROJECT SUPPORT

SNP-PROJECT THAILAND 30” GAS PIPELINE

Contractor: NACAP Asia Pacific
TEXNO ATINAK AZERBAIJAN 56” PIPELINE

> 100% by local employees
GAS PIPELINE PROJECTS, KUWAIT

- 40”, 48” and 52” gas pipeline projects
- Contractor: HEISCO (Kharafi National)
FOCUSING ON LOCAL CONTENT DEVELOPMENT

WHY MAGNATECH?

- High Quality & Productivity
- Share expertise & technology with clients
- Worldwide project support
- Focusing on local content development
- Innovative
FOCUSING ON LOCAL CONTENT DEVELOPMENT

GAS PIPELINE PROJECT TUNESIA

- 120km 20” gas pipeline
- Contractor: Bouchamaoui Industries
GASCO PROJECT, EGYPT

- 36” pipeline project
- Contractor: Petrojet Egypt
- Project locations: Egypt, UAE, Saudi Arabia, Libya, Algeria
FOCUSING ON LOCAL CONTENT DEVELOPMENT

NIGERIA PROJECT

▶ 400km+ 18”, 24” & 48” gas pipelines
▶ Contractor: Oilserv Ltd (100% local content)
FOCUSING ON LOCAL CONTENT DEVELOPMENT

EXXON MOBIL CHAD PROJECT

- Contractor: KBR
- Local farmers as operators
FOCUSING ON LOCAL CONTENT DEVELOPMENT

EXXON MOBIL CHAD PROJECT

- 24” pipeline, with double jointing station
- Local operators at work
FOCUSING ON LOCAL CONTENT DEVELOPMENT

KENYA PIPELINE 460KM - ZAKHEM

- 20” pipeline Nairobi – Mombasa
- 4 complete automatic welding spreads incl. welding tractors/tents
- Local operators at work
WHY MAGNATECH?

- High Quality & Productivity
- Share expertise & technology with clients
- Worldwide project support
- Focusing on local content development
- Innovative
Root-pass welding is critical in pipeline construction

Several processes/techniques available today:
- Open root with A-GMAW processes
- Closed with copper backing
- Internal welding system
- Inspection methodologies developed over the years
- Quality requirements increase
- What about root-pass welding developments?
Internal welding system developed; 3 main objectives

- Welding technology – to minimize weld repair
- Clamping methodology – round-up pipe ends and closing joint
- Traveling technology – high travel speed with pipe-end detection system (PEDS)
NEWLY DEVELOPED INTERNAL WELDING SYSTEM

- Dual welding technology to avoid LOF at start (Patented)
NEWLY DEVELOPED INTERNAL WELDING SYSTEM

Same energy used: below with patented dual welding technology
INNOVATIVE

NEWLY DEVELOPED INTERNAL WELDING SYSTEM

- ID weld appearance
- 2 starts at overhead position. Full fusion.
- 3,5-4mm cross section
NEWLY DEVELOPED INTERNAL WELDING SYSTEM

Welding technology

- Patented dual welding technology preventing LOF and insufficient penetration
- Three independent operation “robotic” weld heads with automatic lead/lag angle adjustment, cross movement & height control
- Special pulsed welding process – 60-80cm/min travel speed
NEWLY DEVELOPED INTERNAL WELDING SYSTEM

- Laser aided final weld path detection
NEWLY DEVELOPED INTERNAL WELDING SYSTEM

- Joint fit-up in process
NEWLY DEVELOPED INTERNAL WELDING SYSTEM

> Angled clamping system to support circumferential closed butt
NEWLY DEVELOPED INTERNAL WELDING SYSTEM

- Excellent joint fit-up
INNOVATIVE

NEWLY DEVELOPED INTERNAL WELDING SYSTEM

Clamping methodology

▷ Three stage electro-mechanical clamping system – 600T clamping force
▷ Clamping force stages programmable
▷ Clamping system is capable to round up pipe ends
▷ The clamping system presses the two pipe ends towards each other and closing the joint
Traveling technology

- Electric proportional drive system. Maximum speed 1.3 m/s
- Uphill or downhill driving up to 14% (8 degrees angle)
- Automatic steering system. Driving through 40D bend
- Automatic slowdown at pipe end by pipe-end detection system (PEDS)
- Automatic drive stop at clamping position by PEDS
- Automatic leveling system
INNOVATIVE

NEWLY DEVELOPED INTERNAL WELDING SYSTEM

- No pneumatics, no hydraulics
- Electric power on board for all functions
INNOVATIVE

NEWLY DEVELOPED INTERNAL WELDING SYSTEM
NEWLY DEVELOPED INTERNAL WELDING SYSTEM

Additional features

- Easy to operate and understand “self-explaining” control display (pictograms)
- Wireless Remote control for driving, clamping etc.
- All controls are located in sealed cabinets
- Cabinets with critical parts are conditioned. Depending on circumstances they are cooled or heated
MAGNATECH, ALWAYS MOVING FORWARD

INCREASE PIPE WELDING PRODUCTIVITY & QUALITY

Thank you