












THE UNITBIRWELCO GROUP

UnitBirwelco is a UK based Design, Engineering, Manufacturing, Fabrication, Procurement, Maintenance and Construction group providing quality products and services into Oil and Gas, Petro Chemical, Power Generation & Distribution, Energy from Waste, Water, Food and Nuclear industries. We Design, Engineer and Manufacture in the UK.

GROUP OFFICES

BIRWELCO LTD	UNIT SUPERHEATER ENGINEERING	UNIT ENGINEERS & CONSTRUCTORS
HALESOWEN	SWANSEA	HUMBERSIDE
<p>Conceptual studies to turnkey projects</p> <hr/> <p>Process and detailed design of energy and process plants</p> <hr/> <p>Design and construct fired heaters, waste heat recovery units and flares</p> <hr/>	<p>Design and manufacture of steam drums</p> <hr/> <p>Superheaters/economisers</p> <hr/> <p>Boiler tube/element manipulation</p> <hr/> <p>HP boiler pipework</p> <hr/> <p>Pipework Fabrication</p> <hr/> <p>Shell and Tube Heat Exchangers</p> <hr/> <p>Air cooled heat exchangers</p> <hr/> <p>Heat exchanger refurbishment</p> <hr/> <p>Pressure vessels</p> <hr/> <p>NDT/heat treatment</p> <hr/>	<p>Maintenance, turnarounds and shutdowns</p> <hr/> <p>Mechanical erection, process plant and equipment</p> <hr/> <p>Storage tank design, new builds and refurbishment</p> <hr/> <p>Fabrication and erection of pipework in all classifications</p> <hr/> <p>Steelwork fabrication and erection</p> <hr/> <p>Bundle pulling services including 'spade-to-spade' contracts</p> <hr/>
<p>BIRWELCO LTD</p> <p>Trinity Point New Road Halesowen West Midlands, B63 3HY. Tel: +44 (0)121 585 5566 info@unitbirwelco.com</p>	<p>UNIT SUPERHEATER ENGINEERING LTD</p> <p>Unit House Elba Business Park, Elba Crescent, Swansea, SA1 8QE. Tel: +44 (0)1792 654 091 eng@unitbirwelco.com</p>	<p>UNIT ENGINEERS & CONSTRUCTORS LTD</p> <p>Lancaster Approach North Killingholme Immingham N.E. Lincolnshire, DN40 3JZ. Tel: +44 (0)1469 540 478 north@unitbirwelco.com</p>

MEMBERSHIPS & ACCREDITATIONS

-  National Board R Certified
-  National Board NB Certified
-  ASME U Stamp Certified
-  ASME S Code Stamp
-  EN1090 EXC 4
-  Lloyd's Register Quality Assurance ISO 9001 Management Systems
-  United Registrar of Systems (URS) ISO 9001 Management Systems
-  SGS ISO 9001 Management Systems
-  EC Certificate of Conformity to the Pressure Equipment Directive 2014/68/EC



WORK SAFE. STAY SAFE



Safety is at the heart of everything that we do. As an organisation and as individuals we are committed to creating a safe working environment and preventing risk, accidents and ill health.

AIR COOLED HEAT EXCHANGERS



For over 50 years the Unit Superheater Engineering Ltd has designed and supplied Air Cooled Heat Exchangers to customers worldwide, for service in refinery, chemical, petrochemical, power and energy related industries.

Supply scope includes both forced draft and induced draft fan type units individually designed and manufactured for specific process services.

Mechanical design standards are to TEMA, API 661, British and ANSI Standards and AMSE Codes, and our quality control systems to ISO 9001:2015.

At UnitBirwelco we are committed to the highest standards of quality control and strive to be at the very top of our industry. This commitment extends across all of our operations, from manufacturing and fabrication through to design and management systems.

By consistently achieving the very highest standards, we aim to exceed our customers' expectations and regulatory requirements and, within a safe working environment, deliver world class customer service.

WE ARE CERTIFIED TO THE FOLLOWING STANDARDS –

- ① ASME (American Society of Mechanical Engineers) certified manufacturer of pressure vessels, U Code Stamp
- ① ASME certified manufacturer and assembler of power boilers, S Code Stamp
- ① Lloyd' s Register Quality Assurance ISO 9001 Management Systems
- ① United Registrar of Systems (URS) ISO 9001 Management Systems
- ① SGS ISO 9001 Management Systems
- ① EC Certificate of Conformity to the Pressure Equipment Directive 97/23/EC



CONTACT

For Air Cooled Heat Exchanger Services contact:

Steve Foligno on:

Tel: +44 (0)1792 654 091

Email: s.foligno@unitbirwelco.com

BUNDLE PULLING



UnitBirwelco is a leading provider of bundle pulling services, be it for major shutdowns of 100 plus exchangers, spade-to-spade, or simple one-off pull and pushes.

Our bundle pulling teams consist of highly trained operators with a vast knowledge of bundle pulling techniques. This knowledge enables us to specialise in problematic and difficult to remove bundles.

In addition to our core bundle pulling services we are also able undertake comprehensive turnaround involving repairs refurbishment and/or re-tubing together with the supply and control of other specialist providers.

Established for over 50 years and running two hydraulic Mause and two cable bundle pullers, the division operates throughout the UK and holds numerous term contracts with blue chip companies such as Total, ExxonMobil, BP, Ineos, Sabic and ConocoPhillips.

We have the ability to remove/replace bundles up to 7.5 metres long, with diameters up to 2 metres and weights in excess of 27 tonnes. This allows us to offer a comprehensive service across most industrial complexes including hazardous area working to top tier registered COMAH registered sites.



CONTACT

For Bundle Pulling Services contact:
Dave McIntyre on:
Tel: +44 (0)1469 540 478
Email: d.mcintyre@unitbirwelco.com

POWER



Unit Superheater Engineering Ltd provides a comprehensive multi-disciplined engineering design and fabrication service for power plants using coal, gas, oil, nuclear and renewables.

OUR PRODUCTS AND SERVICES INCLUDE:

- ① Steam drums
- ① Boiler tube/elements
- ① Pipework fabrication
- ① Superheaters
- ① Economisers
- ① Boiler piping
- ① Non-destructive testing

MECHANICAL DESIGN STANDARDS ARE TO

- ① BS 1113:1999 - Design & Manufacture Of Water Tube Steam Boilers
- ① BS EN 12952: 2011 - Water Tube Boilers
- ① BS EN 13445:2002 - Unfired Pressure Vessels
- ① ASME VIII Div.1 2013 - Unfired Pressure Vessels
- ① ASME I 2013 - Pressure Vessels - Power Boilers
- ① ASME B.31.3:2013 - Process Piping
- ① ASME B.31.1:2013 - Power Piping

To provide our customers with unsurpassable quality assurance, UnitBirwelco is an ASME certified fabricator and assembler of high pressure boilers, heating boilers, pressure vessels and power piping, holding both ASME "S" and "U" Code Stamps.

We also provide mechanical erection services for power plant construction across the UK including installation of equipment, pipework fabrication, erection and testing together with full project management services.



CONTACT

For Power Services contact:

Steve Foligno on:

Tel: +44 (0)1792 654 091

Email: s.foligno@unitbirwelco.com

POWER CASE STUDY



Unit Superheater Engineering (USE) undertook an extremely challenging repair and upgrade of two high pressure steam drums for the HRSG's at a CCGT plant in Runcorn, Cheshire.

The adopted approach was to remove both drums from site utilising a Liebherr 1750 ton crane with superlift, and transport each 120 ton drum back to USE's engineering facility. From initial access to reinstallation, all mechanical work was completed safely and on time despite an extremely challenging schedule.

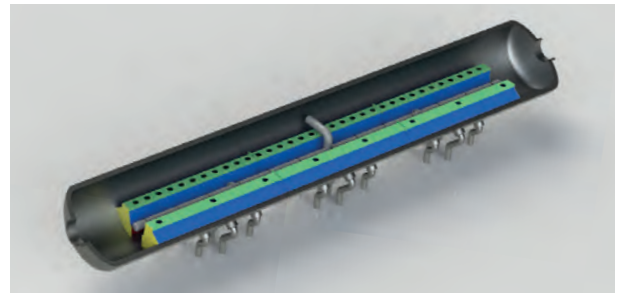
The Client opted for an off-site approach, as previous comparable repair works undertaken by others in situ had taken almost twice as long, and at a substantially higher cost and greater risk to personnel carrying out the works.

Benefits of USE off-site solution

- ① Substantial reduction in plant downtime
- ① Significant savings in direct cost
- ① Drum-rotation assisting oxy-fuel excavation
- ① Flux-cored Arc Welding (FCAW)
- ① Replacement internal furniture fabricated concurrently alongside drum repairs in workshop avoiding schedule delays
- ① Post Weld Heat Treatment (PWHT) reduced from 230 to 90 hours per drum by utilising LPG fired burners rather than electrical resistance elements previously used in situ
- ① Safer and more controlled working environment

Whilst USE's site construction team carried out all Risk Assessments and Method Statements, including detailed crane studies, prior to removal of the drums, USE's off-site project team in South Wales carried out preparation work required to receive them. This included the design and manufacture of bespoke support saddles, necessary to ensure a safe and controlled working environment.

Non-destructive testing of the existing welds confirmed the need for repair work to both drums; each 15m long, 2m diameter with 121mm wall thickness. Having completed an extremely challenging lift to remove the drums from the 22m level of the HRSG, they were transported to Swansea and offloaded using a hydraulic four-point lift system.



[MORE INFORMATION OVERLEAF](#)

POWER CASE STUDY

After internal inspection it became apparent that the steam separators fitted to the lower half of the drums required replacing. Two new sets of internal baffles were manufactured and installed with zero impact on the schedule. Furniture design improvements were identified and implemented, which will allow for easy access to the nozzles during future inspections and facilitate easier handling at the 22m level of the HRSG.

A major advantage of performing this type of repair and upgrade work at ground level is the ability to rotate the drums. This allows the nozzle positions to be manipulated, enabling the use of optimum excavation and welding techniques, as well as providing a more efficient and far safer working environment.

The existing internal welds to forty eight 6" , six 8" , two 10" and six 14" nozzles were excavated to a depth of between 50mm and 70mm by oxy-fuel gouging - preferred over air arc gouging or machining and made possible by drum rotation - and then ground to a smooth profile before being subjected to Magnetic Particle Inspection.

Re-welding of the nozzles under electric braid pre-heat was undertaken using the FCAW process. The weld profile was also re-designed by USE to avoid the same failures occurring again. The design of the new weld was in accordance with ASME Div. VIII Section 1, with the final profile reducing the compressive and tensile stress at the toe of the weld that had resulted in previous fatigue cracking. The completed welds were then dressed and subjected to Ultrasonic and Magnetic Particle Inspection.

PWHT of the drums was performed using LPG fired burners, with electric braids placed around the nozzles to further control the heat distribution. The heat treatment cycle on each drum took \approx 90 hours; far quicker than the estimated 240 hours taken by electric elements, which have been used in similar repairs.

After final NDT and fitting of the numerous steam separators, filtration units and internal pipework, the drums were loaded onto transport and returned to USE' s site installation team. The drums were then re-positioned to a tolerance of +/- 3mm before being re-welded to the existing 62 large bore piping connections. Whilst this critical work was being undertaken the rest of the USE site team carried out the installation and connection of new small bore pipework, steel platforms and equipment. All this activity was carried out in a high risk area with no lost time injuries or harm to the environment.

The sequencing of these activities was critical to achieving the aggressive schedule required by the Client whilst still maintaining a safe work environment.

Full work scope

- ① Engineering design, risk assessment and lift planning
- ① Initial on-site NDT
- ① Drum removal, lifting and transport to workshop
- ① Complete NDT of original welds (including Phased Array)
- ① Internal furniture removal
- ① Oxy-fuel gouging, grinding and FCAW welding of 62 nozzles
- ① NDT of all welds
- ① Re-engineering, manufacture and installation of new steam separator baffles
- ① Post Weld Heat Treatment
- ① Transport, lifting and re-installation
- ① Manufacture and installation of connecting pipework.
- ① Final NDT

Despite a number of additional in-progress requirements, the project was completed in 76 days, as originally scheduled, with zero weld repair failures and with an outstanding safety record.



CONTACT

For Power Services contact:

Steve Foligno on:

Tel: +44 (0)1792 654091

Email: s.foligno@unitbirwelco.com

CONSTRUCTION



UnitBirwelco provides extensive in-house mechanical construction expertise for new construction, revamps and retrofits. Our record in construction is spread across many sectors including:

- ④ Process engineering
- ④ Instrumentation and system
- ④ integration Electrical engineering
- ④ Equipment
- ④ Civil and structural engineering
- ④ Piping and mechanical engineering



Regardless of project size, or whether single or multi-discipline work scope, our focus on innovative design solutions, quality and performance tracking and HSE and zero incident strategies delivers tangible efficiencies, cost savings and mitigates both known and unforeseen risks.

Our project managers, engineers and construction professionals provide clients with an integrated team with a broad skills base but common purpose. Working across oil and gas, process, power and pharmaceutical industries, UnitBirwelco delivers often complex and challenging construction projects with precision and within demanding deadlines.



CONTACT

For construction services contact:
Dave McIntyre on:
Tel: +44 (0)1469 540 478
Email: d.mcintyre@unitbirwelco.com

ENGINEERING



UnitBirwelco's front-end engineering design packages recognise the level of detail required to fully define engineering scope and ensure smooth transition through to the detail engineering phase.

By building a complete understanding of clients requirements, and by utilising in-house construction, safety and operational expertise we are able to develop the optimal technical and commercial engineering solutions.

Initial process design, HSE engineering and process control studies enable UnitBirwelco to move efficiently into detailed design with a full understanding of the overall engineering solution.

UnitBirwelco has multi discipline expertise including:

- ④ Process engineering
- ④ Instrumentation and system
- ④ integration Electrical engineering
- ④ Equipment
- ④ Civil and structural engineering
- ④ Piping and mechanical engineering

We also recognise the added difficulties associated with revamp and retrofit projects and have extensive experience of managing the required interface work with existing operational plant and the subsequent engineering activities.



CONTACT

For Engineering Services contact:
Dave Ashby on:
Tel: +44 (0)121 585 5566
Email: d.ashby@unitbirwelco.com

FLARE SYSTEMS



UnitBirwelco has been involved with Flare Systems for over 40 years and from our division in Halesowen we can offer a complete service including design, engineering, manufacture, refurbishment, upgrade and spare parts.

THE SONAJET® PRINCIPLE

Now recognised as a world leader, the Sonajet® design was first developed and patented by UnitBirwelco in the 1970' s to meet the requirements for low radiation flaring on North Sea installations.

The Sonajet® combines the advantages of high pressure sonic flaring with long life to provide guaranteed ignition under all conditions.

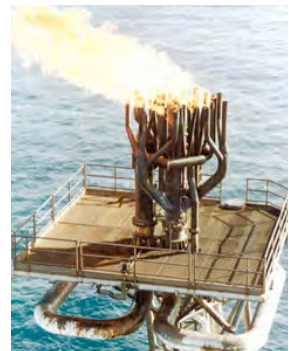
The Sonajet® design solution eradicates the need for annual tip change-outs and associated downtime costs - all of which makes it the most cost-effective solution on the market. In addition, its design is extremely flexible and can be tailored to meet virtually any requirement.

A proportion of the high pressure gas is throttled and expanded to produce a low velocity gas stream, which produces a stable flame. The low pressure flame ensures a continuous ignition source

for the remaining high pressure gas exiting the tip, even under maximum flow and blow-down conditions. As a result, flame lift and blow out are avoided.

SYSTEM BENEFITS

- ① Total reliability with flare Ignition systems
- ① Proven, safe pilot monitoring in all atmospheres
- ① Reliable, sturdy support structures, stacks or derricks
- ① Seals, vessels and anti-diffusion barriers for peace of mind
- ① Back-up skids and control systems to ensure operation
- ① Total spares support - a simple call away



MORE INFORMATION OVERLEAF

CONTACT

For Flare System Services contact:
Dave Ashby on:

Tel: +44 (0)121 585 5566

Email: d.ashby@unitbirwelco.com

FLARE SYSTEMS



LOW PRESSURE FLARES

GRW PIPEFLARE

Provides safe, efficient, reliable flaring in any application where smokeless combustion is not required. Sizes from 6 to 72 inch diameter, exit velocities up to 275m/s. Tip life of over 15 years in the North Sea environment.

GRSS STEAM ASSISTED

Smokeless flaring by utilization of an external ring of high velocity steam nozzles. Entrainment of large quantities of air into the hydrocarbon gas stream along with the Hydroxylation reaction gives excellent combustion conditions and prevents smoke.

GRCW AND GRCS FUEL/AIR ASSISTED

Flexible design is refined to allow the injection of high pressure gas for applications where steam is not available in sufficient quantity.

All the benefits of the GRSS apply to these designs.

GFX GROUND FLARE

When environmental conditions prevent flaring with an elevated system, the GFX ground flare provides the ideal solution with lower noise levels and zero radiation.

Individually designed for either continuous or intermittent duty, burning waste hydrocarbon gases with smokeless operation.

Burner design and stage control arranged for optimum turndown with the capacity of the flares normally ranging from 5 – 125 tonnes/hr.

THE SYSTEMS FOR SUCCESS

FLARE IGNITION SYSTEMS

Flame Front Generator (FFG) and High Tension (HT) spark ignition systems. FFG design developed during extensive trials - one of the very few totally reliable systems on offer. Proven again and again on installations worldwide.

PILOT BURNERS AND PILOT MONITORING

Proven in offshore and onshore applications worldwide, ensuring reliable ignition in all atmospheric conditions. Birwelco offers thermocouple or flame ionization based pilot monitoring as safe modes of flame detection.

FLARE STRUCTURES

Support structures for elevated flare systems. Guyed stacks, self-supporting stacks and derrick structures for erection onshore and offshore.

VESSELS

Anti-diffusion and molecular gas seals meet the specific requirements of prevention of air ingress; flashback and reductions of purge rates. Seal drums provide a positive liquid seal against flashback into the flare header and can also be used to maintain a backpressure.

Knockout drums are utilized to remove entrained liquids in the flare gas stream. Droplet sizes down to 300 microns can be accommodated.

SKIDS

Propane skids provide back up for ignition and pilot operations and are sized per application. Snuffing skids are available with CO₂, Nitrogen and Halon agents. Control systems are provided to suit.

CONTACT

For Flare System Services
contact: Dave Ashby on:

Tel: +44 (0)121 585 5566

Email: d.ashby@unitbirwelco.com

FLARE GAS RECOVERY



UnitBirwelco offers a full suite of in-house services including process and engineering design, manufacturing, installation and commissioning for Flare Gas Recovery Package supply to the energy industry.

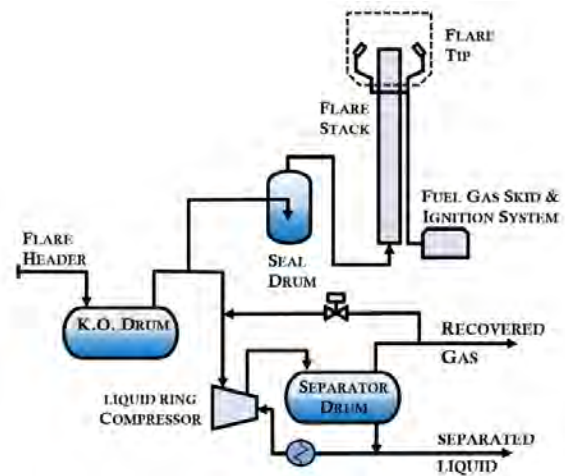
50 years experience as a leading global supplier of process equipment ensures our Flare Gas Recovery packages meet the highest industry and internationally recognised standards.

Our capability and experience allows us to provide Flare Gas Recovery packages as part of a new flare system or as an addition to an existing flare installations to meet client requirements.

System implementation adds value through hydrocarbon product recovery and reduces environment impact through waste gas emission reduction.

SERVICES OFFERED –

- ① Feasibility and economic / environmental impact studies. Our engineers can determine facility benefits with recommendations on equipment selection and sizing.
- ① Bespoke engineering design to customer requirements, in full compliance with current industry and code standards, including PED and ATEX.
- ① Complete skid mounted packages or pre-assembled and tested modular units with control systems.
- ① Spares and service support
- ① Recovered gas dew point and gas sweetening treatment packages.



UnitBirwelco – provider of complete flare solutions

FLARE GAS RECOVERY BENEFITS

- ① Reduction in greenhouse gas emissions.
- ① Recovery of previously flared or vented product.
- ① Lower asset noise levels and visible pollution.
- ① Can be added on to an existing flare system
- ① Dedicated spares and service support

CONTACT

For Flare System Services contact:
Dave Ashby on:
Tel: +44 (0)121 585 5566
Email: d.ashby@unitbirwelco.com

AFTERMARKET SPARES



With over 50 years experience of supplying thermal and process plant to many hundreds of installations worldwide, UnitBirwelco has established a dedicated spares service to provide operators with security of supply.

Our comprehensive replacement and spare parts service is available to clients all over the world for fired heaters, air cooled heat exchangers, vacuum steam condensers, flare systems and process and water treatment plants.

We hold a comprehensive database of drawings, part numbers and job history files, which enables our service engineers to quickly identify the correct spare part. Stock parts can usually be dispatched within 24 hours of order confirmation and special fabricated components will be supplied in the shortest possible turnaround.

Service Benefits-

- ① Dedicated spares service offering comprehensive replacement and spare parts service
- ① Our QA system ensures all parts are supplied to match the original specification
- ① Fast turnaround on all spares
- ① A highly skilled team who will be on hand to assist with any queries



CONTACT

For Spares Services contact:
Bryan Senior on:
Tel: +44 (0) 121 585 5566
Email: b.senior@unitbirwelco.com

AFTERMARKET SERVICES - FLARE SYSTEMS



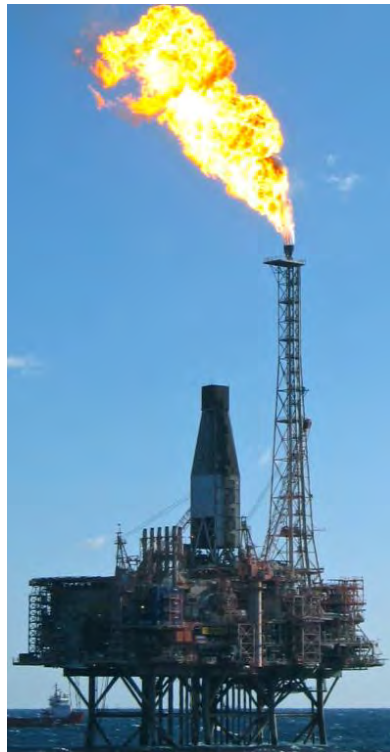
UnitBirwelco has a dedicated team of Flare system specialists who provide technical assistance and support to operators worldwide. Their experience and in-depth knowledge enables accurate and efficient responses to all our client requirements.

FLARE SERVICES

- 🔧 Onshore and Offshore Commissioning
- 🔧 Equipment Inspection and Survey
- 🔧 Design and Equipment Upgrade
- 🔧 Studies and Calculations
- 🔧 Maintenance
- 🔧 Training

FLARE SPARES

- 🔧 Complete Flare Tip Replacement
- 🔧 Pilot Assemblies
Flame Front (FF), High Energy (HE),
High Tension (HT) Ignition Systems
- 🔧 Ignition Control Panels
- 🔧 Windshields
- 🔧 Inspirators
- 🔧 Manifolds
- 🔧 Interface Bolts and Gaskets c/w
recommended torques
- 🔧 Pressure Regulators, Pressure
Indicators and Pressure Gauges
Electrodes, Ignition Lances,
- 🔧 Thermocouples and extension cables
- 🔧 Valves, Flanges, Fittings etc...



From Flare tips and pilot burners to control panels, we have the skills and expertise to meet your needs. We are committed to offer comprehensive replacements, spare parts and upgrades. Our specialist engineers work closely with the end user to provide the best possible solution.

CONTACT:

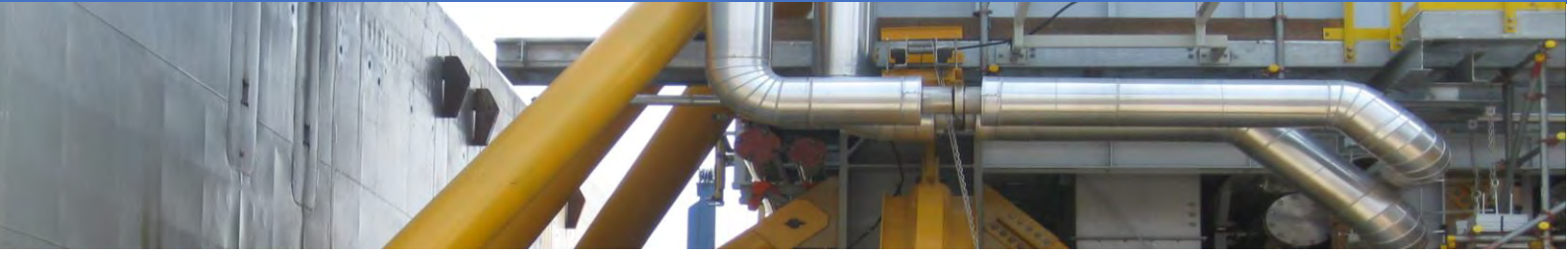
Flare Services and Spares Enquiries contact:

Bryan Senior on :

Tel: +44 (0) 121 585 5566

Email: b.senior@unitbirwelco.com

AFTERMARKET SERVICES - FIRED HEATERS & FURNACES



UnitBirwelco has a dedicated team of Fired Heater Specialists who can provide technical assistance and support to operators worldwide. Our experience and in-depth knowledge enables accurate and efficient response to all Client requirements.

Heaters & Furnaces – Bespoke parts for repair & refurbishment

- Heaters and Furnaces supplied to the Refining, Chemical and Petrochemical industries are provided to a bespoke UnitBirwelco design to meet specific Client requirements.

Spare Parts Solution Provider

- With more than 60 years of experience in the design and supply of fired heaters and furnaces, UnitBirwelco provides custom support to meet the ongoing needs of our Clients installed fired equipment.

Process & Utility Coils

- Flanges, bends & pipe (bare/finned), loose or in fabricated bundles
- 100% ASME coded and PED compliant shop fabrication to all recognised international specifications & codes

Tube Supports

- Radiant supports – vertical & horizontal tube, single or double fired
- Convection supports – tube sheet design, intermediate or end
- Cast alloy or fabricated – to applicable specifications & codes
- Expedited delivery – re-engineered cast to fabricated manufacture

Heater Casing Stiffening/Replacement

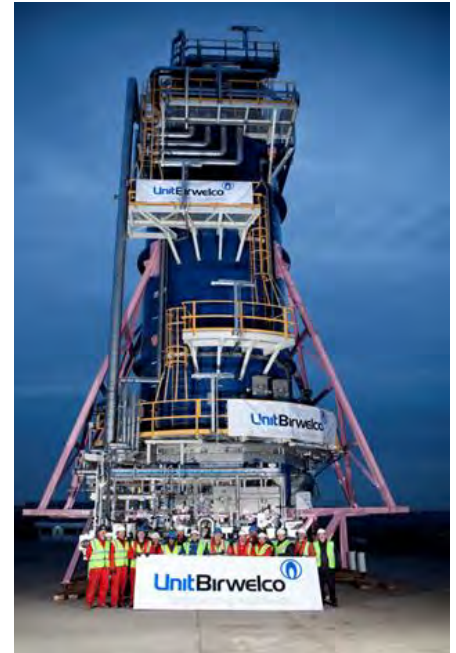
- Engineered solutions to replace & repair casing, structures and ducting damaged by corrosion, while maintaining structural integrity
- Casing replacement shop optimised, minimising site installation

Control Dampers & Guillotines

- Robust design for improved Reliability and easier Maintenance

Instrumentation

- New and replacement instrumentation to monitor performance and improve equipment safety and control



Single point source for all your Fired Heater & Furnace Spare Part & support requirements

CONTACT:

Fired Heater Spares Enquiries :

Bryan Senior:

Tel: +44 (0) 121 585 5566

Email: b.senior@unitbirwelco.com



HEAT EXCHANGERS



Unit Superheater Engineering Ltd has designed and supplied more than 5,000 Heat Exchangers for over 50 years, including Coolers, Evaporators, Exchangers, Reboilers, Steam Generators, Superheaters and Vaporiser Units. From our base in Swansea we specialise in the design and manufacture of bespoke units, tailor made for specific processes across a wide range of industries.

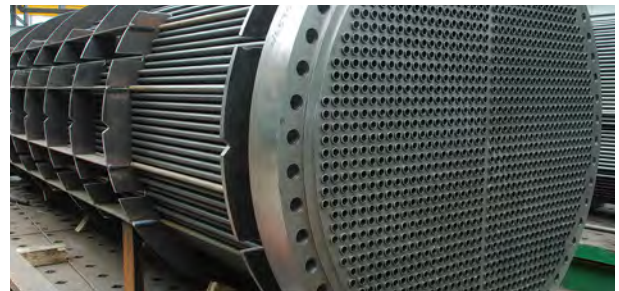
EXCHANGERTYPES INCLUDE:

- ① Shell & Tube Exchangers
- ① Simple Fixed Tube Sheet Units
- ① U-tube Units
- ① Fixed Tube Sheet Units with an Expansion Joint or Packed Joint
- ① Floating Tube Sheet Units (Floating Head)
- ① Double-pipe Exchangers

Mechanical design standards are to Tubular Exchanger Manufacturing Association's (TEMA), API 660, OCMA, ANSI ASTM, ASME and British Standard requirements. We are also certified to the following standards for the manufacture of Heat Exchangers:

- ① ASME (American Society of Mechanical Engineers) certified manufacturer of pressure vessels, U Code Stamp
- ① ASME certified manufacturer and assembler of power boilers, S Code Stamp
- ① EC Certificate of Conformity to the Pressure Equipment Directive 97/23/EC

Our quality control systems are accredited to ISO 9001:2015. Robust inspection, testing, reporting and certification throughout the manufacturing cycle ensure we achieve our standards on a consistent basis.



CONTACT

For Heat Exchanger Services contact:

Mathew Joseph on:

Tel: +44 (0)1792 654091

Email: m.joseph@unitbirwelco.com

MAINTENANCE AND OVERHAULS



UnitBirwelco provides a highly experienced in-house maintenance resource for both routine maintenance and turnaround events.

THIS COMPREHENSIVE SERVICE INCLUDES:

- ① Full pre-planning and work-scoping definition
- ① Complete project execution and area management, including sub-contractor control
- ① In-house shell and tube heat exchanger bundle pulling and rebuilding
- ① Instant availability and access to engineering and design services for heater revamps and unanticipated work-scope during turnaround periods
- ① Access to a comprehensive database of experienced personnel including craft labour supervision and project control resources
- ① Support services for spares

OUR MAINTENANCE AND RE-BUILD SERVICES EXTEND TO A WIDE RANGE OF PLANT AND EQUIPMENT:

- ① PSV/PV2s, CVs, exchangers, drums, towers, vessels, fin fans, fired heaters, valves and pipework
- ① Removal and installation of all types of valves
- ① Spade-to-spade overhaul of exchangers including testing
- ① Opening up of towers and drums for internal inspection
- ① Re-tubing of heaters
- ① Fabrication and installation of pipework
- ① Inspection and re-tubing of fin fans

Company	Refinery/Location	Units Serviced	Total Man Hours	Peak Labour	Duration
Murco	South Wales	434	86,000	210	6 weeks
Conoco Phillips	Humberside	409	47,000	160	4 weeks
Total UK Ltd	Lindsey Oil Refinery	104	28,000	80	4 weeks
Conoco Phillips	Humber Refinery	165	32,000	150	3 weeks
Artenius UK	Wilton International	150	35,000	175	3 weeks

CONTACT

For Maintenance Services contact:
 Dave McIntyre on:
 Tel: +44 (0)1469 540 478
 Email: d.mcintyre@unitbirwelco.com

POWER SERVICES



UnitBirwelco Power Services provides a comprehensive 24/7, 365 day-a-year repair, maintenance and specialist engineering support service to UK Power Plants.

POWER PLANTS SERVED-

- ① Gas
- ① Waste to Energy
- ① Biomass
- ① Coal
- ① Combined Heat and Power Facilities

With over 40 years of experience UnitBirwelco Power Services' highly responsive specialised teams, which include experienced project leaders, mirror welders, pipefitters and platers, deliver practical solutions that minimise downtime and repair and maintenance costs.

SERVICES-

- ① On-going Repair and Maintenance
- ① Statutory Inspection Repair and Maintenance
- ① Support Pre and post NDE preparation and repair
- ① Pressure system diagnostics

UnitBirwelco Power Services is supported by a specialist boiler and pressure system engineering design team and manufacturing and fabrication bases in North East Lincolnshire and South Wales.

Our teams have worked on projects for a wide range of the UK' s major power providers including SSE, ScottishPower, E.ON, FCC, EPRL, Viridor and Babcock & Wilcox Vølund.



CONTACT

For Power Services contact:

Steve Foligno on:

Tel: +44 (0)1792 654 091

Email: s.foligno@unitbirwelco.com

PROCUREMENT



UnitBirwelco's experienced procurement team employs robust systems and procedures to carry out all aspects of the procurement process including purchasing, contract management, expediting and materials management.

We provide strategic sourcing on a global basis and offer significant leverage with key long term suppliers to ensure precise specification and scheduling, high quality manufacturing and fabrication and consistent value for money.

In addition, and where appropriate, our in-house fabrication and manufacturing capability offers both reduced risk and supply chain management and greater control and flexibility.

PROCUREMENT CHECKLIST

PROCUREMENT PLAN

- ④ Consider worldwide basis
- ④ Tax and duties applicable
- ④ Extent of Client approval
- ④ Reporting requirements
- ④ Import certification and permit
- ④ Applicable terms and conditions
- ④ Confidential information
- ④ Transportation and shipping
- ④ Document distribution

ESTABLISH SUPPLIERS LIST

- ④ Ability to comply to specification
- ④ Past performance
- ④ Competitiveness
- ④ Location
- ④ Known workload
- ④ Operational & financial stability

ISSUE QUOTATIONS ENQUIRIES

OBTAIN, EVALUATE BIDS QUOTATIONS

NEGOTIATE AND COMMIT PURCHASE ORDERS

INSPECTION & EXPEDITE EXPEDITING

- ④ Supplier assessment
- ④ Inspection & test programme
- ④ Review weld/NDT procedures
- ④ Inspect purchase items for compliance
- ④ Issue status reports
- ④ Chase progress

COORDINATE TRANSPORT & SHIPPING

EXPEDITE

- ④ Drawings
- ④ Material certification
- ④ Supply

COORDINATE & ADMINSTRATE ACTIVITIES

CONTACT

For Procurement Services
contact: Dave Ashby on:

Tel: +44 (0)121 585 5566

Email: d.ashby@unitbirwelco.com

STORAGE TANK SERVICES



UnitBirwelco's dedicated storage tank division provides a comprehensive range of services for fixed and floating roof storage tanks, from one-off repair and modification through to major refurbishments and full-term maintenance.

- ④ Annular plate replacement
- ④ Refurbishment of tank foundations
- ④ Removal and replacement of tank floor, roof and shell plates
- ④ Hydraulic tank jacking
- ④ Pontoon and centre deck replacement
- ④ Tank cleaning

We also offer comprehensive design, engineering services and fabrication for pipework and associated engineering with 1,600 sqm of workshop facilities and 8,500 sqm of storage and laydown areas.

Regardless of project size, or whether single or multi-discipline work scope, our focus on innovative design solutions, health and safety and zero-incident strategies, delivers tangible efficiencies, cost savings and mitigates both known and unforeseen risks.

Our experienced and qualified API/EEMUA staff can also offer advice and unique repair solutions in line with British, European and American code requirements.

Our qualified project managers, engineers and construction professionals provide clients with an integrated team with a broad skills base but common purpose.

We work across a range of sectors, including:

- | | |
|----------------------------|------------------|
| ④ Oil and Gas | ④ Pharmaceutical |
| ④ Power | ④ Food |
| ④ Chemical & Petrochemical | ④ Energy |



CONTACT

For Storage Tank Services contact:

Dave McIntyre on:

Tel: +44 (0)1469 540 478

Email: d.mcintyre@unitbirwelco.com

FIRED HEATERS



For over 50 years UnitBirwelco has been a market leader in the supply of fired heaters, with our design expertise delivering benefits to the petrochemical industry across the UK, Europe, North America, the Middle and Far East.

Worldwide we have built over 750 refinery fired heaters, from ethylene crackers to catalytic reformers and waste heat trains.

Carefully developed in recent years, our high intensity heater technology for crude and vacuum heaters, is still the premier design choice today. It features a mixture of design innovations which deliver economies over traditional designs.

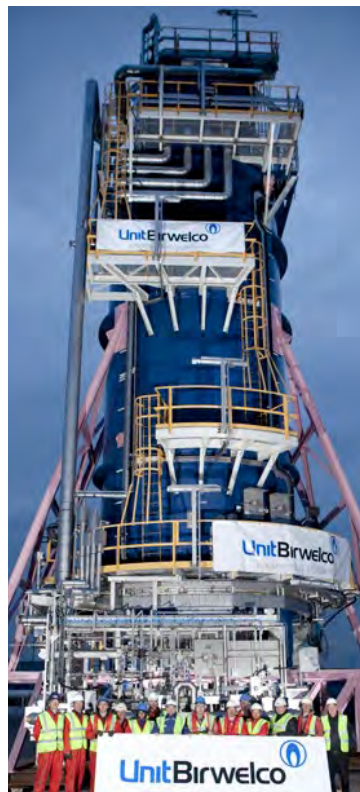
CONTINUOUS IMPROVEMENT

Revamps and retrofits can provide significant benefits in extending the operational life of furnace units. Our expertise reduces maintenance headaches, with reduced downtime equalling better productivity and profit.

Similarly, UnitBirwelco are experts at investigating process issues and upset events and determining the best way forward for a quick turnaround.

UNITBIRWELCO CONFIDENCE

- ① 50+ years of global pedigree supplying and installing fired heaters
- ① Expertise in fitting the design solution to the task
- ① Support, improvement and optimisation of existing installations
- ① Repair expertise that gets our customers back into production swiftly
- ① Modularisation expertise on hand
- ① Total spares support - a simple call away



CONTACT

For Fired Heater services
contact: Dave Ashby on:

Tel: +44 (0)121 585 5566

Email: d.ashby@unitbirwelco.com