

### NDT and Inspection services

Destec have four types of Non-Destructive, Liquid Penetrant, Magnetic Partial, Ferrite and Ultra Sonic Testing, as well as our in-house dedicated NDT area, Our service engineers can operate with portable NDT and inspection equipment for your site needs. Destec can give full inspection report of all critical joints, which enables the site to know of any potential leaking joints that would require maintenance. This is part of the Destec service which achieves a 'Leak-free startup'. Destec can address the issues associated with joint & sealing.



Ultra sonic testing



Dye penetrant



Magnetic partial



Ferrite testing



Faro arm dimensional inspection

### Online leak sealing

Destec's experienced technicians using proven leak sealing systems will keep your plant operational and reduce running costs through wastage. The range of engineering polymers available to design and maintenance engineers should not be ignored.

- SEAL LEAKS AS HIGH AS 6000 lb/in<sup>2</sup> (414 BARS)
- PRESSURE AND TEMPERATURES UP TO 600°C.
- DESTEC SEALING COMPOUNDS ARE AVAILABLE FOR WATER, STEAM, AIR AND PETROCHEMICAL PRODUCTS.
- A FULL RANGE OF CLAMP ADAPTORS ARE AVAILABLE FOR FLANGES TO LIMIT ON-SITE DRILLING.
- DESTEC'S RANGE OF GLAND PACKING MATERIALS GIVE POSITIVE SEALING WITHOUT STEM SEIZURE.
- THE ON-SITE TECHNICIANS ARE BACKED UP BY AN EXPERIENCED TEAM OF PRESSURE VESSEL AND PIPING ENGINEERS, AND AN EXTENSIVE MODERN EQUIPPED MACHINE SHOP

### Quality Assurance

Destec, with over 38 years of on-site service work to the power generation and petrochemical industries, operate a quality system to ISO 9001 approved by all major companies. Qualified engineers check all site work where modifications may occur, e.g. flange clamping and boxing, and if required, calculations can be provided for the client. Detailed records of actual work carried out on-site by the technicians are kept as a permanent record.

### Engineering & Design

All specialised hardware in leak sealing is designed to meet the requirements of the appropriate pressure vessel standard, i.e. BS 5500, ASME V111 Div 1, etc. Alloy bolting (A193-B7) is the minimum requirement on clamps and fabrication is carried out by coded welders.



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### GLOBAL 24Hr SUPPORT ON AND OFFSHORE

### The Speciality Service

DESTEC ENGINEERING operates 24 hours a day, 7 days a week, 365 days a year on a Global basis and our Technicians are able to mobilise to site within a matter of hours. For a rapid response to meet your requirements.



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ON-SITE MACHINING

DESIGN AND MANUFACTURE OF SPECIAL PURPOSE MACHINE TOOL

OVERLAY WELDING REPAIRS

BOLT TORQUE TIGHTENING & TENSIONING

VESSEL REGENERATION CUTTING

JOINT CONVERSIONS

ON-LINE LEAK SEALING



## DESTEC ON-SITE SERVICES



## DESTEC ON-SITE SERVICES

Destec Engineering Ltd has specialised in on-site machining since 1969

Our wide range of versatile in-house designed and manufactured portable machine tools are well equipped to complete machining tasks to a tight tolerance, achieving fine surface finish. Over the years we have added other associated on-site services, bolt tensioning, on-line leak sealing, repairs, and welding. Our world-wide service successfully operates throughout all industries including chemical/ petrochemical plants, offshore, power generation, renewable energy, nuclear, marine, steel, mining, ports, rail and transport, docks and harbours. By using multi-disciplined trained technicians, the client benefits by having less personnel on site.

The Destec site services are backed by a full team of engineers equipped with Finite Element Analysis and specialised in-house generated computer programmes and can assist with design.



*Destec's On-site machining services can make significant savings on heavy plant construction, modifications and maintenance.*

The Heavy Plant and associated equipment vary so much design, layout, size, age, condition and even location that any one factor can have a significant bearing on how a machining problem is tackled, especially during breakdowns. Plant maintenance departments will recognise advantage of calling in specialist services time can be saved, and costs reduced.

The advantages are significant when compared with the alternative which could otherwise involve stripping down, transporting to a machine shop, returning to site, re-assembly, as compared to taking a special purpose machine to the job.

Our engineers liaise with clients on new plant design and modifications, to give the most viable solutions for on-site machining. The service division offers a rapid response for maintenance and breakdown situations. Most of the equipment used have been designed and manufactured by Destec Engineering Ltd, Specifically for maintaining our product range. Maximum versatility and adaptability combined with accuracy and a good surface finish ensure most In-Situ operations can be handled effectively and quickly to the customers specifications. Destec Engineering has carried out hundreds of conventional and unusual machining contracts on vessel and heat exchanger closures, pipework flanges, nozzles, valve seats, offshore wind turbines etc. incorporating all types of profiles, such as spigots, recesses, tapers, grooves ranging from a fine N6 to N9 and Gramophone finishes.



## Facing, Boring and Trepanning

Destec portable facing machines are equipped with variable speeds and automatic feeds to enable the surface to have the required finish. By mounting a facing machine on a special purpose fixture Destec can machine tapers, Norsok profiles, spigots, boring and oval manways, Our highly skilled and competent workforce have the experience and capability to ensure that a high quality standard of machining is delivered safely, reliably and at a very competitive cost. We offer the onsite machining support services for projects, turnarounds, shutdowns and day-to-day repair activities of site Joints & Connections. Causes of leaking flanged joints vary, but as a general rule, flange distortion, sealing surface damager, inappropriate gasket selection, incorrect bolt loads, and uncontrolled tightening methods are typically among the primary ones. Sizes range from 0mm to 4000mm and beyond if required.

Other factors to highlight include. The importance of appropriately trained and skilled technicians. The use of appropriate tools and equipment. Detailed proceduresto work to, with effective supervision and inspection. The importance of keeping effective records of work undertaken.



Onsite or offshore Valve with Destec Hub ends ready for machining



Valve finished machined & NDT tested

## Stud Removal, Drilling, Tapping and Spot Facing.

Destec portable drilling machines can machine and remove studs of all sizes and materials without causing damage to the internal threads. All materials and sizes from 1/8" to 4" studs and beyond.



Nimonic stud removal in Power industry.



Spot facing

## Pipe Cutting & Weld Preparation

Destec patented tooling system will cut the thickest of pipe in the hardest material. Destec can also excavate the defects from the pipe material, machine weld preparations and match bore the internal of the pipe. Sizes 4" to 28" and beyond. Destec can also Match bore the Outer Diameter as well as the Internal bore at various angles.



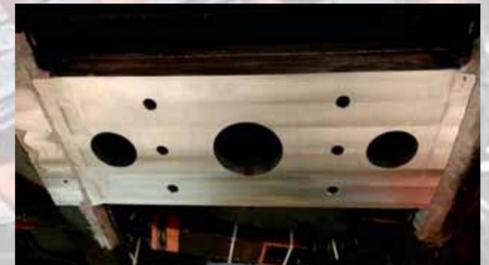
Pre weld preparation and pipe cutting



Finished weld prep with ID & OD matched machined

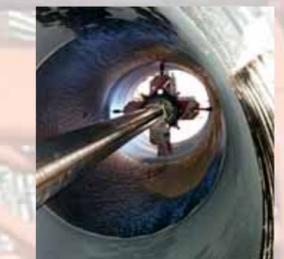
## Milling, Keyway Cutting & Hole Drilling

Destec have universal milling machines that mount in any position with a large range to limit set up times. Sizes up to 6 meters.



## Line Boring

Precision in-line boring in any plane and material. Sizes from 50mm OD to 915mm OD with a Length range of 4900mm



## Bolt Torque & Tensioning

**Destec have the equipment and experience for all your bolting needs.** Destec carry Imperial, Metric & compact Hydraulic tensioners ranging sizes from 3/4 to 2 1/4 and beyond. The method gives a very controlled bolt stress level as required when using conventional flat joints.

Ratchet Torquing uses heavy duty sockets and is one of the fastest methods of tightening heavy bolting and joints.

