The problem

Mirage Machines, an Actuant company, designs and manufactures portable machine tools from its headquarters in Derby, UK. The Actuant group of businesses are leaders in a broad array of niche markets including branded hydraulic tools and solutions. Mirage supplies and services on-site machining technology; enabling global customers across many sectors for the energy market to perform on-site operations efficiently, effectively and safely.

Mirage approached Probe to manufacture a number of components for their innovative large 48” hot tapping tool for the Chinese market. High pressure hot tapping machines are specifically designed for energy pipeline intervention and wellhead maintenance activity. The significant internal pressure balancing of these machines allow for higher pressure applications, as they have a working pressure capacity of 5,000psi.

The components requested from Mirage for this project, ranged from large drive couplings, sleeves, shafts, boring bars and gearboxes. The hot tapping tool and all manufactured components also required full performance and factory testing that had to adhere to industry standard requirements.
The solution

This was the largest hot tapping tool ever designed and manufactured by Mirage with a cutting tool diameter of 48” (1219.2mm). All specifications of the components Probe produced, had to adhere to Mirage’s design parameters and engineering drawings as well as cutting parameters, and under pressure conditions as would be observed during operations.

Marc Saiche, Sales Engineer, Probe, explained, “We manufactured most of the major components for the Mirage large hot tapping tool and aided in the assembly and test at our state of the art in-house facility utilising our 20 tonne gantry crane. This included an impressive 48” 900lb Blind flange - 70” diameter and test adaptor - 70” diameter x 2m long.

“All the manufactured components had to be delivered to a tight lead-time to meet the factory acceptance test (FAT) date which was witnessed by Bureau Veritas (BV) - a third party testing, inspection and certification company, and our client.

Even though this required a quick turnaround, Probe were committed to safety excellence; so as with all projects this activity was carried out with stringent HSE procedures and policies, and risk assessment and method statements (RAMS), to ensure a safe and rewarding outcome.”

The result

The client received a full turnkey solution from Probe with supported design and guidance, and manufactured and testing services to all the specifications required.

“One of the key drivers for using Probe is that we are always guaranteed that the solution they provide meets our requirements and specifications. Having a full in-house capability, along with Probe’s considerable experience, provides us with the reassurance that we are receiving a quality product. This is whilst achieving the savings we are looking for, as it minimises inefficiencies and lead times that other service companies may have. The hot tapping machine was supplied in the agreed lead-time and in-line with our expectations.”

RICHARD BARLOW GENERAL MANAGER, MIRAGE MACHINES

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