

Case Study

Unity's Compact Technology Solves Well Access and Time Constraint Challenges for a Leading International Operator Offshore Malaysia.



The Project

Unity's compact technology has solved well access and time constraint challenges for a leading international operator in a recent wellhead upgrade campaign. This was Unity's first project in Malaysia and was completed smoothly and successfully, delivering significant value to the client.

Three wells required instrument flanges to be fitted but the offshore platform had very small well bays with congested workspaces and restricted access. The platform was busy with ongoing operations and strained POB levels, so a rapid turnaround with minimal personnel was necessary.

These combined challenges can be difficult to address simultaneously using standard solutions. In particular, a conventional VR lubricator would have been too large for the access restrictions in place.

The Solution

As the industry's leading well gateway specialist, with an understanding of current industry challenges, Unity has invested in developing a compact suite of technology designed specifically for such circumstances. Our solutions will repair, upgrade and protect mature assets helping to rapidly restore production.

In this project, Unity's compact technology and a single multi-skilled technician were mobilised to set VR plugs to isolate each wellhead's annulus outlet, install instrument flanges and annulus valves, then retrieve the plugs to quickly reinstate the well. We were selected to deliver this service due to our reputation for high quality, innovative solutions and our multi-skilled offshore technicians who reliably enable an outstanding efficiency of turnaround.



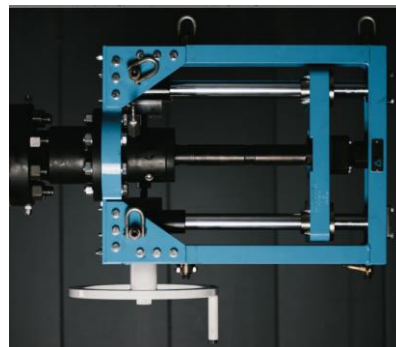
Operational Value

- One multi-skilled technician + compact technology = Ease of access and rapid turnaround.
- Less downtime = Less deferred production.
- Small, lightweight footprint = Ease of logistics, less lifting.
- Reduced power and transport = Lower carbon footprint.
- Less personnel = Less bed space = Uninterrupted platform operations.

A spokesperson for the operator said: "Unity's independent compact technology solution has allowed us to quickly upgrade our wellhead equipment within the challenging confines of space access and restrictions on POB. Unity's approach provided significant efficiencies, risk reduction and zero impact on other operations. The technician completed the work quickly and to an excellent standard and we would be happy to work with them again."

The Technology

Valve removal (VR) plugs are threaded plugs designed to API 6A standards that can be installed in the wellhead to isolate the annulus valves from annulus pressure. They enable critical work to be carried out on the annulus outlets safely, with the correct barriers in place. Standard VR plug installation and removal requires specialist pressure balanced hydraulic equipment, which is usually large, heavy and cumbersome to manoeuvre. Small wellbays with adjacent operations are increasingly common and can therefore present significant access challenges.



Part of our compact suite of tools, Unity's CVR has been designed to overcome these issues. It is certified to API standards and boasts the advantage of a modular design to be assembled on site for improved manoeuvrability and handling. Variable flange and socket sizes suit all types of wellhead equipment and a rod-based plug setting and retrieval system reduces the overall working footprint to just 31" long. It is hand operated giving an increased level of control, with a pneumatic supply providing rod retainment. VR plugs and annulus valves can then be tested to pressures up to 5,000 psi.

Unity's CVR tool has the highest torque rating of all comparable tools, delivering an impressive 1,200 lb/ft. It has been used to mechanically remove 20-year-old stuck VR plugs, without having to resort to expensive alternatives. An accessories kit extends the CVRs functionality, for internal cleaning, tapping or camera inspection.

Features & Benefits

- Only 32" long
- Modular for on-site assembly
- Lightweight and compact
- Highest torque rating in its class.
- Added functionality for cleaning, tapping and inspection.
- Suitable for gas and sour service operations.
- Adaptable to suit all wellhead equipment.
- Offline operation with no impact on simultaneous rig operations.