

Multi-Valve Ensemble (MVE)

Scope

Offshore drilling platforms are constantly subjected to vertical movement, or heave as a result of wave and tide action. The connection between the platform drill-string and the drilling riser attached to the sea floor requires a special system to compensate for this vertical displacement. Large containers of air are used to act as a "spring load" to stabilize operations in combination with other complex hydraulics. A number of different valve designs have been tried in the past to regulate this air volume system. Based on this existing layout, National-Oilwell-Varco (NOV) asked Habonim to come up with a new, more effective multi-valve solution.

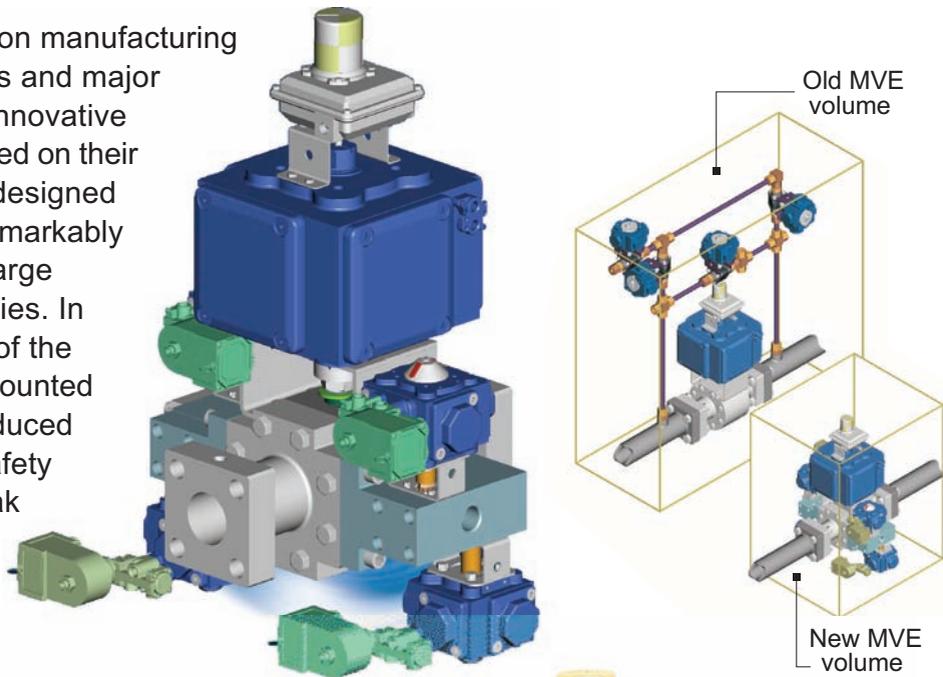


Problem Description

Conventional skid mounted valve assemblies used in the operation of the various compensation system components take up an enormous area of the limited space available on rig platforms and aboard ships, and are often prohibitively expensive to manufacture and install. These valve assemblies are extremely heavy, and require a complex layout of spaghetti-like piping connections to link the valve arrays. This configuration increases the threat of potential leakage and hampers easy access for maintenance and refit.

Solution offered

NOV, a leading multinational corporation manufacturing land-based and offshore oil drilling rigs and major mechanical components, needed an innovative alternative to the cumbersome skids used on their oil rigs. Habonim's engineering team designed the 'Multi-Valve Ensemble' (MVE); a remarkably compact solution aimed at replacing large unwieldy skid-mounted valve assemblies. In fact, the MVE eliminates almost 90% of the piping required on conventional skid mounted systems, and weighs 30% less. Its reduced size and weight allows for improved safety features and bigger savings; fewer leak points, easy access for maintenance and refits, plus cost efficient factory production with shorter lead times



MVE Advantages

- Delivered fully tested and ready to 'plug in'
- Easy access for time and labor efficient installation and maintenance
- Less welding for less potential leakage and weld contamination
- Lighter assembly weighs 30% less than conventional skid-mounted valve systems
- Compact design eliminates up to 90% of piping and takes up 2/3 less floor space



Outcome

The compact construction of Habonim's Multi-Valve Ensemble, as used in offshore oil and gas exploration and drilling applications sets a new standard for efficiency in skid-mounted valve assemblies. This innovative design provides enormous savings and benefits without compromising on performance, quality and reliability in these demanding environments.