

# BLACKFIVE VALVES

## SERIES 12

### TOP OF VESSEL SAMPLING VALVES

#### INTRODUCTION

The Series 12 sampling systems with Blackfive standard valves have been developed to provide a low contamination and safe life system for sampling liquids from the top of glass lined, Hastelloy and Stainless steel vessels, where it has not been possible to locate the sampler on the side or base of the vessel. The systems can be used very successfully for liquids of high or low densities and for vessels working under pressure or vacuum, where to sample safely there is no need to release the pressure or vacuum to sample.

#### INSTALLATION

To fit the system onto the top of a vessel it is usual to provide a free 4" NB top flange fitted with a 3" NB dip pipe. If a spare flange is not available then we can provide alternative fitting arrangements usually connecting into material inlets. The Blackfive Series 12 assembly with connecting pipes and gas lift devices are then installed into the flange of the dip pipe. A suitable source of Nitrogen only is required.

#### OPERATION

For sampling with the vessel under vacuum the Blackfive Series 1 valves are used, with operation by starting the gas lift re-circulation and then turning the top handle 180° to take the sample and rotate back to pour an aliquot into the sample collection bottle. For sampling where no vacuum duty is required then either the Series 1, Series 6 or the Series 10 valves are installed. All systems are usually fitted with stainless steel cabinets.

#### VALVE AND SYSTEMS AVAILABLE

1. All valves and system in grade 316 Stainless steel as standard with PTFE seals
2. All valves and system in either C22 or C276 grade Hastelloy® with PTFE seals.
3. For atmospheric operation only in vessel Series 1 valves with vacuum lift.
4. Systems supplied with needle assemblies for sampling into septum capped bottles.  
See enclosed drawings for further details of system



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