



# ***BLACKFIVE VALVES***



***LOW CONTAMINATION  
PIPELINE SAMPLING VALVES  
AND ACCESSORIES***



# BLACKFIVE ENGINEERING

## LOW CONTAMINATION PIPELINE SAMPLE VALVES

### INTRODUCTION

The Blackfive Series 6 valves have been developed to provide a simple safe means of sampling with very low contamination levels between samples. The valves are essentially needle valves for taking samples from pipelines under controlled conditions of flow. There are no areas where sediment or contamination can build up between samples. The valves can be used on HORIZONTAL or VERTICAL pipelines with the appropriate adaptors.

### OPERATION

On the valve there is a top handle for carefully opening the valve, and on the bottom a screwed cap for holding a suitable bottle for collecting the sample. Within the bottom assembly there are two bottle vents which can be used in a variety of modes as follows:-

1. Two independent vents to atmosphere.
2. One vent and one blanked off.
3. One nitrogen purge and one vent.
4. One vent and one vacuum connection for taking samples from pipelines under vacuum.

To take a sample the plant operator places a clean bottle onto the cap and then carefully unscrews the top handle upwards to give a gentle controlled flow into the bottle. When sufficient sample is obtained the top handle can be screwed down to close the valve securely. The bottle can then be safely removed and a cap placed on to the bottle. An optional extra which is available is a swing guard made of shatterproof plastic to further protect the operator.

### MAIN FEATURES

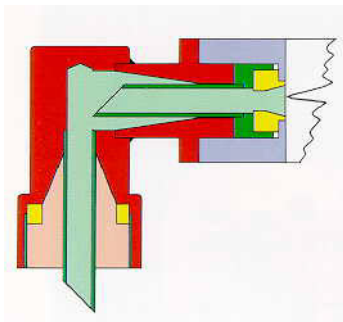
- **LOW CONTAMINATION** - Design of valve ensures that contamination between samples is very low. First opening of valve produces a representative sample without having to pre-run a quantity to waste.
- **SECURE GLAND SEAL** - Great attention has been paid to providing a multiple seal arrangement for the spindle entry to give Zero leakage at the gland. Additional gland security can be obtained by nitrogen pressurisation of the gland as an optional extra.
- **CLEAN CONSTRUCTION** - All of the contact parts are made from grade 316 stainless steel machined from solid material with no castings. This gives a high hygienic surface finish to both the interior and exterior of the valve to minimise contamination in environments where clean working is necessary.
- **SEALS** - All seals within the valve in contact with the process are virgin PTFE enabling the valve to be used for temperatures up to 200°C.
- **VACUUM / PRESSURE USE** - With the provision of suitable services the valves can be used to take samples from pipelines under partial vacuum or pressure.
- **PIPE ORIENTATION** - Unlike some competitive valves this valve can be used with suitable adaptors to take samples cleanly from both Horizontal and Vertical pipes or pipes at any angle.
- **MAINTENANCE** - Very low maintenance attention is required due to the design of the gland seal arrangement. The bottom PTFE seal can be easily replaced in a few minutes on site should this be required after regular use.
- **FLANGES** - Each size of valve is machined to accurately mate up to standard pipeline flanges conforming to BS 1560 Class 150 and ASTM A 182 ANSI B16.5 150lb. Each valve can on delivery be supplied with four suitable length stainless steel studs, nuts, washers and two gaskets.

## DESIGN FEATURES

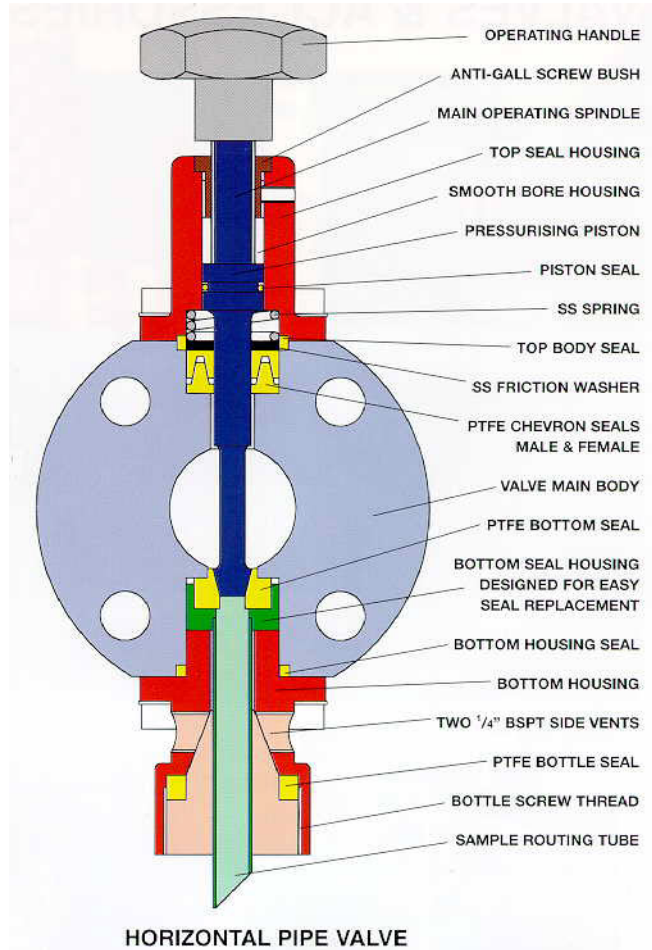
UNIQUE TRIPLE PRESSURE SEAL ARRANGEMENT WHEREBY A CHEVRON TYPE PTFE SEAL EXPANDS ONTO THE VALVE BODY AND ONTO THE SPINDLE DUE TO THE COMBINED ACTION OF A SPRING AND GAS PRESSURE CAUSED BY PISTON MOVING DONWARDS. PRESSURE FROM THE PROCESS ALSO CAUSES THE CHEVRON SEALS TO EXPAND AND SEAL. THEN FINALLY THE BACK UP SEAL ON THE PISTON GIVES THE SYSTEM OVERALL A 100% LEAKFREE SEAL.

## SPECIALS

As a primary Manufacturer of valves Blackfive Engineering will consider any requests for Special valves in Hastelloy or titanium or modifications of existing valves.



VERTICAL PIPE ADAPTOR



HORIZONTAL PIPE VALVE

## SAMPLE BOTTLES

Several styles and combinations of sample collection bottles can be provided as follows :-

1. Soda glass 200ml bottles with black plastic caps suitable for operation up to 50°C.
2. Borosilicate Glass bottles in 100ml or 250 ml sizes, uncoated suitable for operation up to 200°C or coated suitable for operation up to 135°C and fitted with GL 45 caps for operation at either 135°C or 200°C . The coated are Safety Bottles which in the event that the bottles containing the sample are accidentally knocked or dropped after sampling and prior to testing then the contents will not be lost pending the safe recovery of the damaged bottle



## QUALITY ASSURANCE

All Blackfive Pipeline Sample Valves are fully assembled and hydrostatically tested in our works to 30 Bar (435 lbf/in<sup>2</sup>) at room temperature before despatch. All Blackfive Safety Sample Valves are designed and manufactured in the UK. A system of quality assurance is in operation at works in Runcorn and materials used in manufacture of these valves are fully traceable. Complete pressure test certification is available with the valves upon request.

# VALVES & ACCESSORIES



## VALVE MODELS AVAILABLE

NOMINAL PIPE SIZE	HORIZONTAL PIPES	VERTICAL PIPES
1" (25 mm)	6S25AH	6S25AV
1 1/2" (40 mm)	6S40AH	6S40AV
2" (50 mm)	6S50AH	6S50AV
3" (80 mm)	6S75AH	6S75AV
<b>ALL VALVES ARE 316 SS WITH PTFE SEALS</b>		

## ORDERING CODES FOR BOTTLES

X-12 Soda glass 200ml bottles with black plastic caps.

X-21A Borosilicate glass 250ml bottles uncoated with 135°C caps.

X-21B Borosilicate glass 250ml bottles uncoated with 200 °C caps.

X-21C Borosilicate glass 250ml bottles coated with 135°C caps.

X-22A Borosilicate glass 100ml bottles uncoated with 135°C caps.

X-22B Borosilicate glass 100ml bottles uncoated with 200 °C caps.

X-22C Borosilicate glass 100ml bottles coated with 135°C caps.

Information given in this leaflet is made in good faith but does not constitute a guarantee. Due to future developments we reserve the right to alter the dimensions and information contained in this leaflet as required.

FOR FURTHER INFORMATION ON SIZES AND MODEL NUMBERS, PLEASE REQUEST SPECIFIC DATA SHEETS OR A QUOTATION



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