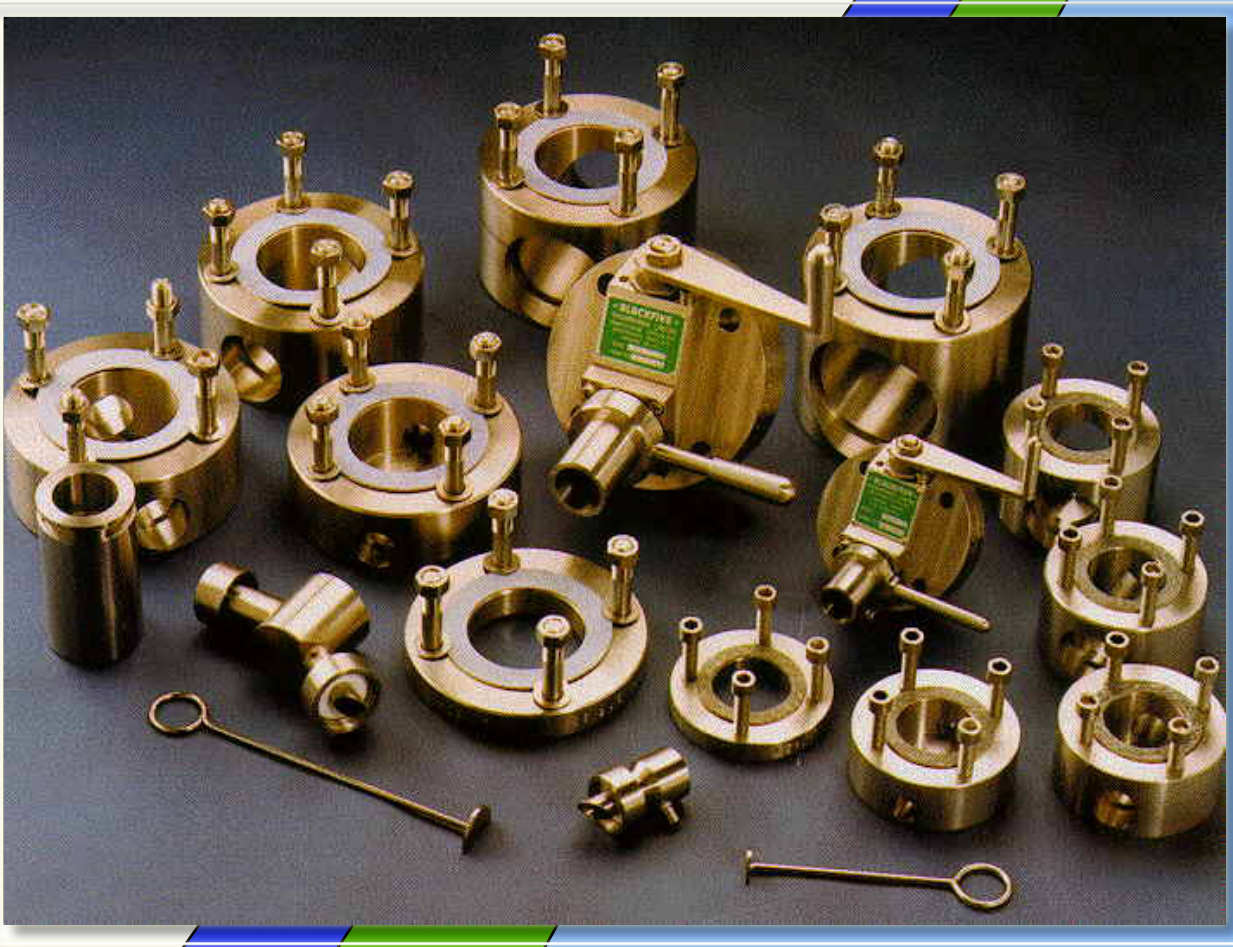
BLACKFIVE VALVES



LOW CONTAMINATION

SAFETY SAMPLING VALVES

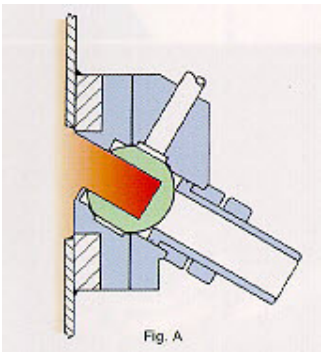
AND ACCESSORIES

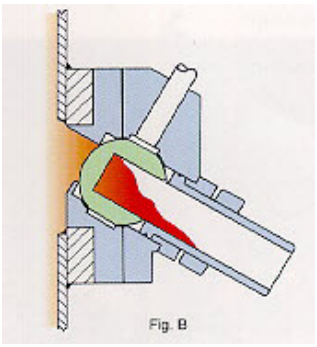
BLACKFIVE ENGINEERING

LOW CONTAMINATION SAFETY SAMPLE VALVE

INTRODUCTION

Operational SAFETY is now of significant importance for all of the process manufacturing industries and improved safety is an object of managements.
With the increasing emphasis of BS5750 and ISO 9000 a further objective of managements is OUALITY. In the process manufacturing industries, the facility to take clean reliable samples is an important aspect of controlling quality.
The Blackfive SAFETY SAMPLE VALVE achieves both of these objectives by the use of a blind ball positioned as close as practical to the product in the vessel.
This valve can be bolted onto a vessel pad in any position, on the side or base of the vessel, or onto a pipeline.





OPERATION

On the valve there are two handles.

1. The upper handle operates the ball through 180^0 and can be rotated as many time as necessary to achieve the total sample size required.
2. The lower handle reduces the pressure on the seals to enable the upper handle to be rotated freely. A variable preset stop is provided to avoid leaks when the pressure on the seals is reduced.

The sequence for sampling is

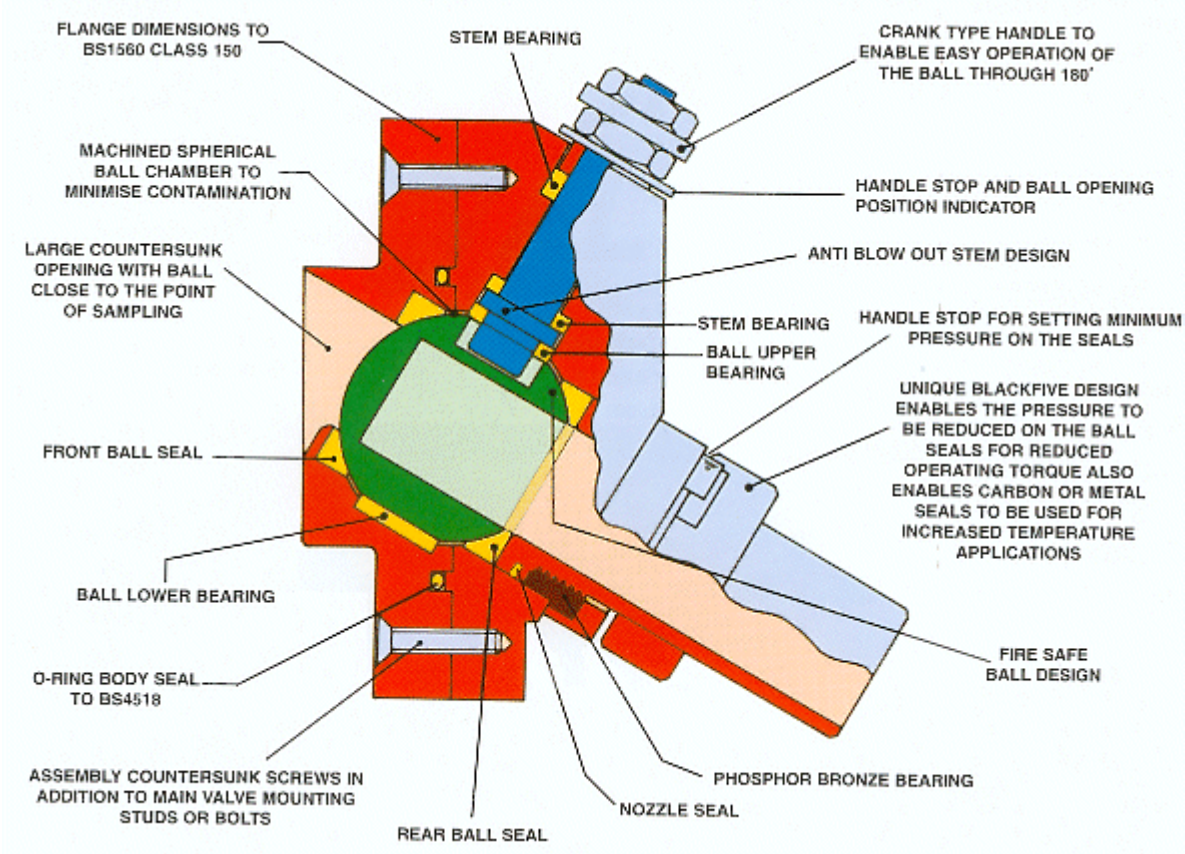
Position 1 - Valve in normal rest position as shown in Fig. B with full pressure on the seals allowing ball cup and outlet pipe to drain or to be cleaned.

Position 2 - Seal pressure handle lifted to reduce pressure on seals and upper handle rotated through 180^0 to sampling position as shown in Fig. A. In this position air rises from the cup, which then fills with a clean sample. This can be done with the vessel under full vacuum or pressure.

Position 3 - Valve rotated through 180^0 to empty sample via the nozzle into a suitable sample collection container (Fig. B). Each cycle from Position 2 to Position 1 takes from 40ml to 60ml of sample depending on viscosity. The cycle can be repeated any number of times to take the required total sample volume. Upon completion of sampling the lower handle is moved to re-apply full pressure onto the seals which then returns the valve to Position 1 above.

MAIN FEATURES

- **SAFETY** - At no time is there a straight path for product to run out of vessel. This avoids the need for multi valve systems.
- **LOW CONTAMINATION** - Ball is close to product in vessel and chamber around ball is machined to avoid pockets of contamination. In the valve rest position outlet nozzle and interior of the ball can easily be cleaned with cold water, hot water, detergents, steam, compressed air or a brush with suitable solvents.
- **SEALS TO SUIT PROCESS** - The standard seals are virgin PTFE, but other seals suitable for tempatures up to 300^0C can be fitted upon request, including metal seals.
- **VACUUM/PRESSURE USE** - Samples can be taken from vessels under full or partial, vacuum or pressure providing product is not above its atmospheric boiling point at temperature sample is taken.
- **MAINTENANCE** - Valve can be easily dismantled and assembled with new seals if required. All seals are carried in stock for immediate despatch.
- **NO JACKETING** - Due to the intimate contact of ball and body with process vessel, there is usually no need to heat trace or jacket this valve, providing vessel lagging is suitably contoured.



SEALS

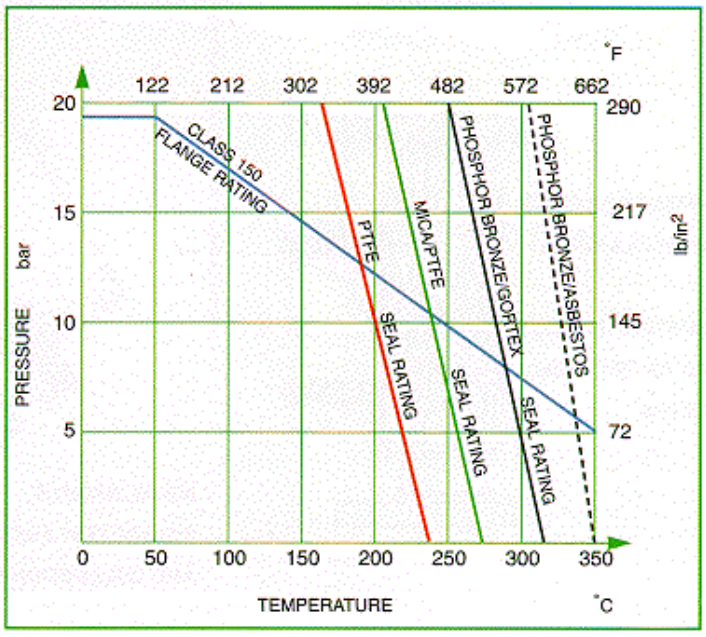
STANDARD SEALS IN PTFE

STANDARD SEALS IN MICA FILLED PTFE

STANDARD SEALS IN PHOSPHOR BRONZE

SPECIAL SEALS IN

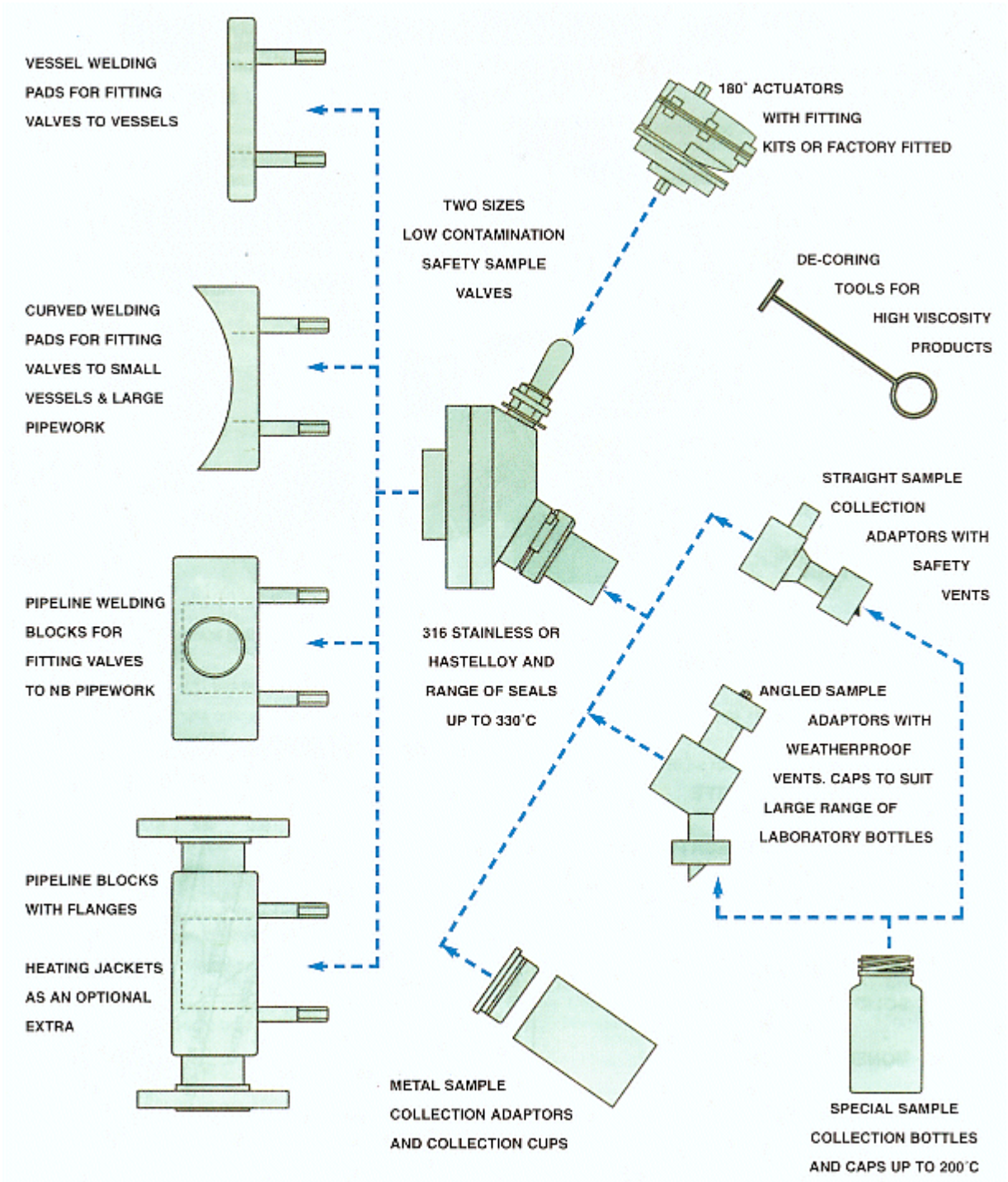
- **SOLID GRAPHITE**
- **MONEL**
- **PEEK**
- **OTHER MATERIALS TO ORDER**



QUALITY ASSURANCE

All Blackfive Safety Sample Valves are fully assembled and hydrostatically tested in our works to 30 Bar (435 lbf/in^2) at room temperature before despatch.
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



FOR FURTHER INFORMATION ON SIZES AND MODEL NUMBERS, PLEASE REQUEST SPECIFIC DATA SHEETS ON ANY OF THE VALVES & ACCESSORIES

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