



BLACKFIVE VALVES



***FIXED AND PORTABLE
SAFETY RODDING DEVICES
FOR PROCESS PLANTS***



BLACKFIVE ENGINEERING

SAFETY RODDING DEVICES

INTRODUCTION

Operational SAFETY is now of significant importance for all of the process manufacturing industries and improving the safety on a plant is an objective of both design engineers and plant management. When a blockage occurs on a plant, which can be for a variety of reasons, it is exceedingly DANGEROUS to attempt to clear the blockage by removing items of plant or opening a valve to atmosphere to clear the blockage. The usual safe action is to shut down the plant and clear the blocked section of plant and bulk material before attempting to clear the blockage.

BLACKFIVE ENGINEERING can offer an alternative to this to clear the blockage without necessarily shutting down the plant.

The Company is the leading UK manufacturer of Sample valves and sampling systems with great emphasis on operational safety. Several years ago the Company commenced manufacture of Safety Rodding Devices of the fixed variety, principally for the base of vessels, where the bottom valve was a vital element of the plant and it was necessary to reliably discharge the contents of the vessel.

It is well known that flush type valves are very expensive and not as mechanically reliable as ball valves whereas ball valves are prone to blockages due to the dead space between the vessel wall and the actual ball. However a combination of a ball valve and a Blackfive Rodding Device is an ideal combination for some processes at a much lower cost.

As a result of requests from many customers in the process industries Blackfive Engineering commenced the manufacture of PORTABLE Rodding Devices.

The enclosed sections attempt to explain the operation and use of these devices particularly from the point of view of SAFETY.

BASIC OPERATION

A. FIXED RODDING DEVICES

This device is normally installed on the base of a reactor, mixer, tank or other vessel with an outlet valve of the straight type such as a ball valve or gate valve. These valves are often preferred due to the lower capital cost and lower maintenance costs compared to piston type or mushroom type flush valves.

The Blackfive Fixed Rodding Device is bolted directly to a Y" piece which in turn is bolted to a main valve fixed directly to the base of a vessel. When it is desired to discharge the contents of the vessel the main valve is opened and the rodding device is used to penetrate up through the ball valve and vessel spigot and well up into the vessel to clear any blockages which may have accumulated above the valve.

These devices are generally used for valves and lines above 2" NB in size with the 3" NB being a very popular size. The photograph below shows a typical assembly.

Operation of the Rodding Device is by slowly turning the handle and lifting to bore out any blockage, similar to the operation of a countersink in engineering. The bored out material drops down as the device penetrates upward. The shaft is highly polished and the gland is of the conventional mechanical type with facilities to adjust to avoid any possibility of leaks. The photograph on the next page shows the detailed shape of the boring head.

B. PORTABLE RODDING DEVICES

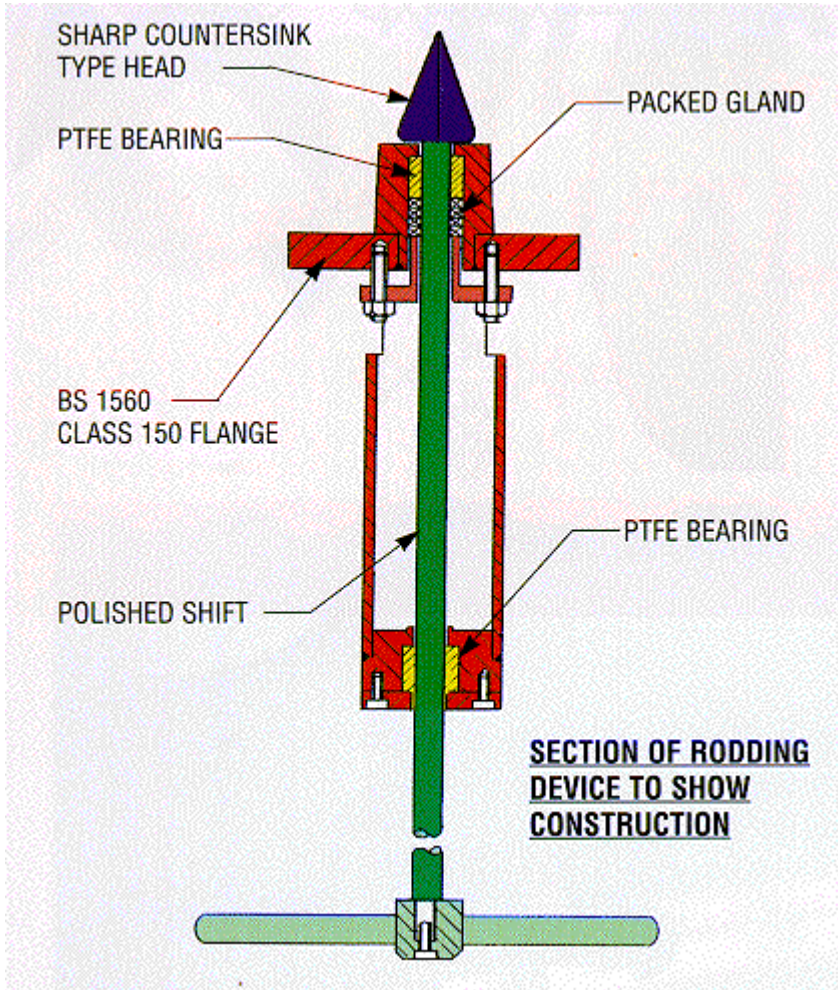
These are generally smaller than the fixed devices and can be transported from position to position to clear blockages all over a plant, mainly but not exclusively on lines of 2" NB or smaller. The principle is the same as for the fixed devices.

Designed into the plant in suitable positions adjacent to where blockages may be encountered are valves fitted with male connector nipples and blank caps. To clear a blockage the blank cap is removed, the device is connected via the quick release cam type connectors, the valve is then opened and the Rodding Device is used safely to clear the blockage. When clear and flow has been re-established the rod is withdrawn and the valve carefully closed before disconnecting the portable Rodding Device and replacing the blank cap.

Two Portable types are offered:-

1. Without side drain connection.
2. With side drain connection onto which would be fitted a secondary valve for the purposes of ensuring there was no residual pressure prior to disconnection or establishing a flow to drain to assist in the clearance of the blockage.





VARIATIONS

Devices can be offered in other materials of construction and suitable for operation up to temperatures of 290°C. Also pressures above 10 bar (150psig)

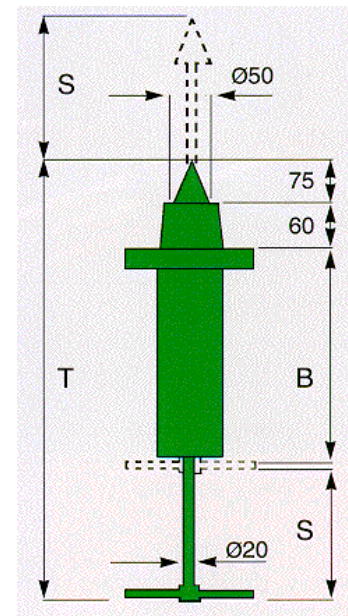
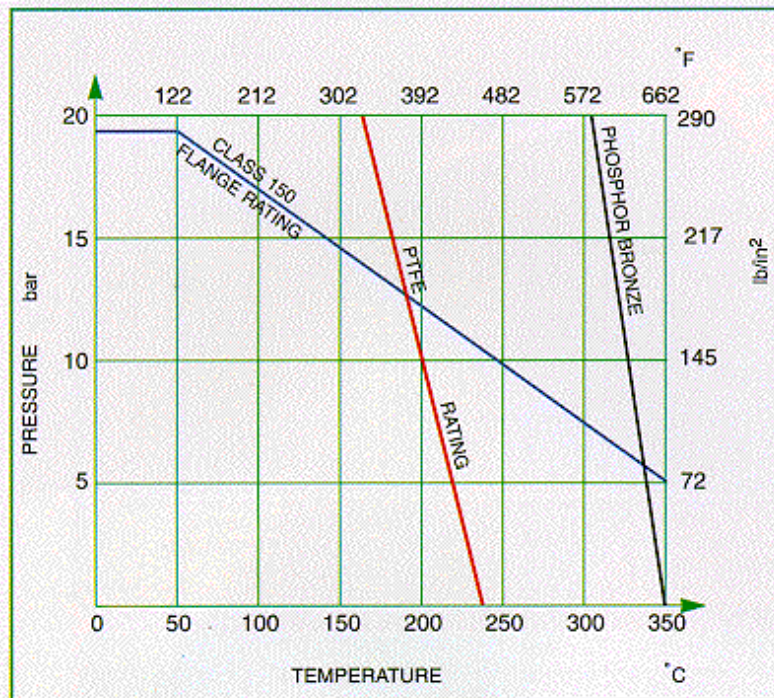
All enquiries will be considered.

ORDERING INFORMATION

S = STROKE OF DEVICE

B = 325 mm OR 210 mm OPTION

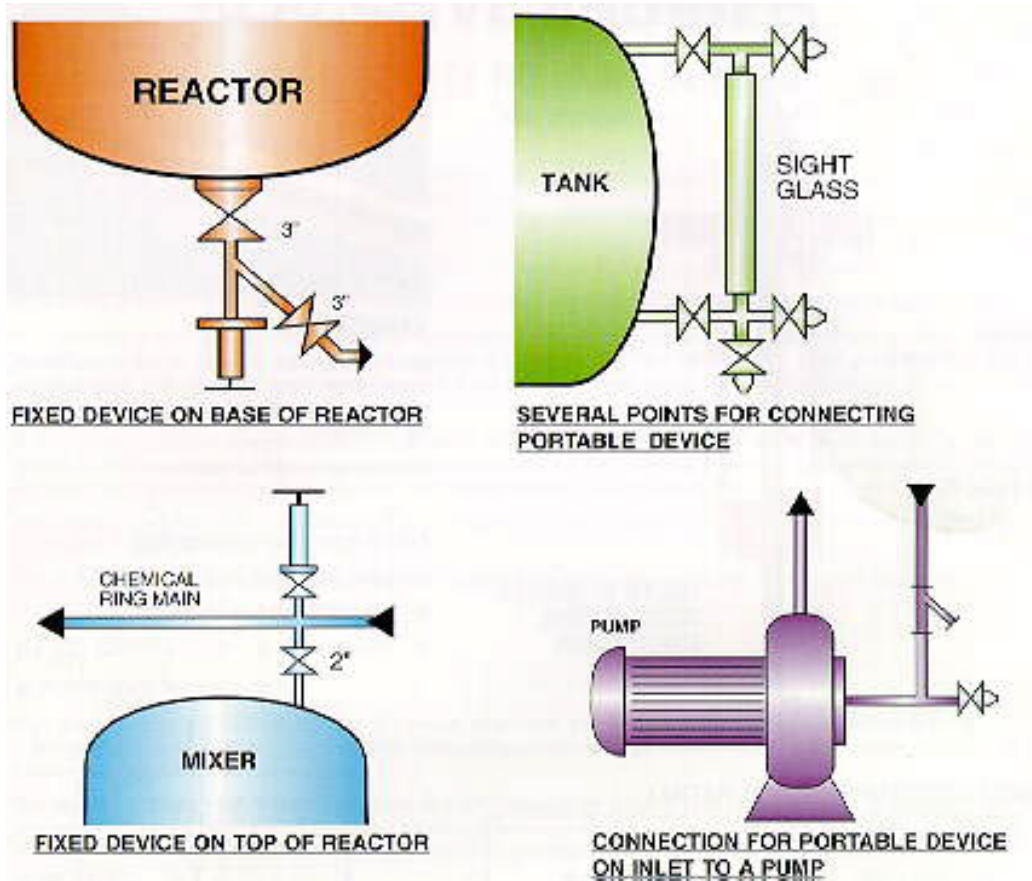
T = 175 mm + B + S



QUALITY ASSURANCE

All Blackfive Safety Rodding Devices are fully assembled and hydrostatically tested in our works to 30 Bar (435 lbf/in²) at room temperature before despatch. Blackfive Safety Rodding Devices 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.

TYPICAL APPLICATIONS



VALVE MODELS AVAILABLE

	FIXED DEVICES	PORTABLE DEVICES
CONNECTIONS	STANDING FLANGES TO BS 1560 CLASS 150 2", 3" or 4" NB	"SNAPLOCK" TYPE QUICK RELEASE 1", 1 1/2" or 2" NB
MATERIALS OF CONSTRUCTION	316 SS	316 SS
GLAND PACKAGING	PILOTPACK 3435	PILOTPACK 3435
BORING HEAD SIZES	TO SUIT 2", 3" and 4" SCHEDULE 40 PIPEWORK AND FULL BORE VALVES	TO SUIT 1", 1 1/2" and 2" SCHEDULE 40 PIPEWORK AND FITTINGS
BEARINGS	UP TO 200°C PTFE UP TO 280°C Ph Br	VIRGIN PTFE ONLY
SHAFT DIAMETERS	STANDARD Ø 20 mm POLISHED ROD	STANDARD Ø 12 mm POLISHED ROD

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



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