

P.I. 271
BACKFILL DIVERTER VALVE - ELECTRIC ACTUATED



PURPOSE

The HPE Electrically Actuated Backfill Diverter Valve is used to divert the flow of backfill material from one point of placement to another. The valve may also be used to divert flushing water away from the point of placement when pipes are flushed at the end of a backfill placement cycle and will ensure that the placed backfill material is not diluted or washed away by the flush water.

BACKGROUND

The HPE backfill diverter valve was developed to automate the process of backfill diversion and thus improve operation efficiency. The specific requirement existed for high pressure operations where a reliable and durable diversion valve was needed.

DESCRIPTION

The Electric Actuated Backfill Diverter Valve consists of a 'Y' shaped valve body and an electric actuator as can be seen in Figure 1. The electric actuator is connected through a worm drive gearbox to the diversion ball. The valve swings through 180° between ports and inspection holes provide a means to ensure the ports are in alignment. The 'Y' angle of 51.5° allows the valve to be completely disassembled and maintained in the event of backfill setting in the pipelines. A flushing port is included for internal flushing and maintenance.

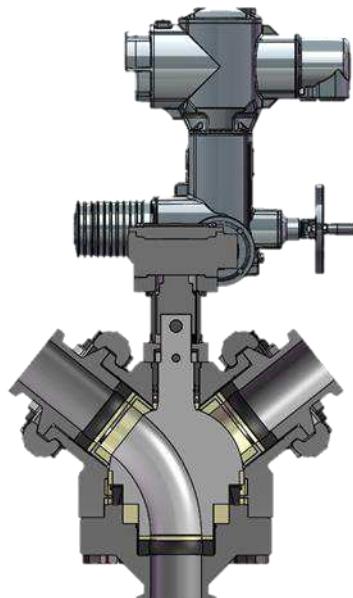


Figure 1

FEATURES

- Simplified cleaning and repair maintenance
- Complete disassembly of the valve is possible if backfill sets internally
- Stainless and bronze internals
- Cast steel body to ANSI class 1500 or 25 MPa working pressure (galvanized body option)
- No pressure drop across valve
- Full bore passage for effective and thorough internal cleaning
- High sealing integrity and dirt tolerance
- Designed to conform to ANSI B16.34
- Flanges or taper hub and clamp connections
- Actuator specifications to customers' requirements
- Numerous electrical options dependant on actuator specified

TECHNICAL SPECIFICATIONS

The valve is designed to ANSI B16.34 specifications.

The valve body is rated to 25 MPa (ANSI Class 1500), but the valve pressure rating is limited by the flanges fitted.

For fatigue life up to 10 million cycles, the valve body pressure rating is reduced to 14 MPa.

Minimum Pressure (MPa)	1
Maximum Pressure (MPa)	15
Working flow (ℓ/s) ¹	40
Cv (USgpm per $\text{psi}^{0,5}$)	N/A
Weight (kg)	410 (100NB Valve)
Dimensions (l x b x h mm)	600 x 620 x 1075 (100 NB Valve)
Electrical power supply	Typically 525VAC, Customer to specify
Flange & operating pressure	Customer to specify Custom face dimensions are available upon request
Body	Y body
Actuator Selection	A range of actuators is available for HPE's PCV's namely Auma, Drehmo, Demca, Rotork etc HPE will assist in the selection based on required features.

¹ This flow is the recommended design flow rate for general hydropower reticulation. Flow rates higher than those above are possible, but pressure drops will be higher. HPE valves can be throttled up to the full differential pressure. Consult HPE if it is intended to throttle the valve for extended periods.