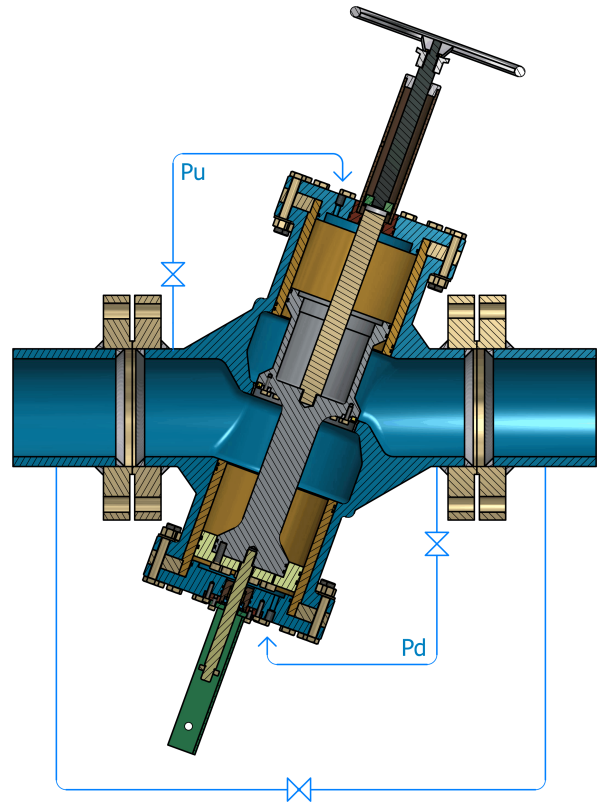


HYDROCORE™ EXCESS FLOW SHUTDOWN VALVE



APPLICATION

THE HYDROCORE™ EXCESS FLOW SHUTDOWN VALVE IS USED FOR PIPELINE SAFETY ISOLATION, WHEN EXCESS FLOW OCCURS.

PRINCIPLES OF OPERATION

THE HYDROCORE™ EXCESS FLOW SHUTDOWN VALVE CLOSING WHEN A PRESET DIFFERENTIAL PRESSURE $\Delta P = P_u - P_d$ EXISTS ACROSS THE VALVE.

THE VALVE IS POWERED BY THE LINE FLUID PRESSURE WITH NO NEED FOR EXTERNAL ACTUATORS, PILOTS, INSTRUMENTS OR AN EXTERNAL POWER SOURCE.

SHUTDOWN SETTING ADJUSTMENT

THE FLOW RATE AT WHICH THE HYDROCORE™ EXCESS FLOW SHUTDOWN VALVE CLOSING, CAN BE ADJUSTED BY VARYING THE CONTROL ORIFICE SIZE 'Do', THUS CHANGING THE VALVE'S DIFFERENTIAL PRESSURE.

MANUAL ISOLATION

THE HYDROCORE™ EXCESS FLOW SHUTDOWN VALVE CAN BE MANUALLY ISOLATED BY A HANDWHEEL OR ACTUATOR.

WATER HAMMER PREVENTION

THE HYDROCORE™ EXCESS FLOW SHUTDOWN VALVE CLOSING AT A CONTROLLED SPEED, WHICH IS ADJUSTABLE BY A MEASURING ORIFICE, WHILE THE VALVE'S FLOW RATE REDUCES GRADUALLY AS THE VALVE CLOSING BY THE CONTROL ORIFICE CONTOUR.

RESETTING - EXCESSIVE DEMAND

THE HYDROCORE™ EXCESS FLOW SHUTDOWN VALVE CLOSING WHEN THE FLOW THROUGH THE VALVE REACHES A PRESET FLOW RATE. THE VALVE WILL REOPEN WHEN THE:

- OVER DEMAND CONDITIONS ARE OVER.
- COLUMN'S DOWNSTREAM IS CHARGED THROUGH THE VALVE'S BYPASS.
- THE VALVE OPENS AUTOMATICALLY WHEN THE DOWNSTREAM PRESSURE IS RESTORED.
- THE BYPASS NEEDS TO BE SIZED RELATIVE TO THE DOWNSTREAM PIPE DIAMETER AND ALSO TO THE DURATION TO CHARGE TO PIPE AGAIN.

RESETTING - PIPE BURST

THE HYDROCORE™ EXCESS FLOW SHUTDOWN VALVE CLOSING WHEN THE FLOW THROUGH THE VALVE REACHES A PRESET FLOW RATE. THE VALVE WILL REOPEN WHEN THE FOLLOWING PROCEDURE TAKES PLACE:

- PIPE BURST, CAUSING THE EXCESS FLOW CONDITIONS IS RECTIFIED.
- COLUMN'S DOWNSTREAM IS CHARGED BY THE VALVE'S BYPASS.
- THE VALVE OPENS AUTOMATICALLY WHEN THE DOWNSTREAM PRESSURE IS RESTORED.

HYDROCORE™ LIMITED NGD™ VALVES

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