Compact and Economical Production Test Manifold

Fisher™ Multiport Flow Selector Valve Diverte and select fluids from individual wells for testing without disrupting the production from all other wells.



Design and Construction

Emerson provides a broad product offering of automation and control solutions for the oil and gas industry. Hydrocarbon producers have relied upon Fisher[™] and Bettis[™] products as an added assurance of safety, reliability, and performance. Emerson innovations have provided customers with savings in both time and money.

The Fisher multiport flow selector (MPFS) provides a cost effective and compact means to improve production management and well optimization. The MPFS allows the selecting and diverting of well fluids from an individual well to a single test outlet, flow loop or sampling device. Connecting up to seven flow lines, the MPFS allows the combined fluids to flow through a separate group outlet, while simultaneously isolating any single well for testing. The unique flow selector is ideal for a variety of oil, gas, and process applications and can be used either as a standalone device or with a multiphase meter. The MPFS can also be used for water injection for enhanced oil recovery (EOR) projects. It provides control simplicity in an environment where size, weight and reliability are all key factors. The MPFS reduces the costs of installation, operation, and maintenance of the well test system throughout its lifecycle.



Integrated Well Testing Skid

Total Cost of Ownership

For initial purchase and commissioning, save on reduced:

- Number of valves
- Piping costs
- Automation costs
- Wiring costs
- Maintenance costs
- Skid weight and size

Realize continued savings through ownership with lower:

- Operating costs
- Parts cost
- Downtime
- Labor

Fisher Multiport Flow Selector



Multiport Flow Selector Application and Features

- More compact than either conventional two-way or three-way valve manifolds
- Reduces number of isolation valves in production/test manifolds
- Available with a multitude of trims and surface treatments for all operating environments
- Available with two-wire communication for remote control and status indication
- Reduced installation, operating and maintenance costs
- Fitted with a Bettis multiport control actuator (MPA)
- Field adjustable seal/seat with various materials for adverse service conditions
- Operating temperature range: -29°C to 200°C (-20°F to 392°F)

Bettis Multiport Actuator (MPA)

The Bettis multiport actuator (MPA) is an electronic system specifically designed to control and monitor the operation of the multiport flow selector. It combines an exclusive solid state motor starter with control software to provide precise positioning of the multiport flow selector within +/- one degree of the selected port, retaining that position even in the event of a power loss.

Actuator Features

- Certified explosion proof - Class I, Div I, Groups C & D – EEx d IIB T4
- Operating temperature range: – -50°C to 65°C (58°F to 149°F)
- Heavy duty gearbox with capacity of 3000 ft lbs
- Wide range of four-pole motors available for any voltage or torque
- Configurable for MPFS from three to eight ports
- 12-bit encoder coupled directly to valve stem for position feedback
- Precise motor control with microcontroller updates every 1 mS
- Supports network protocols including Modbus, Modbus TCP/ IP. Profibus DP. FOUNDATION[™] fieldbus. DeviceNet and Ethernet
- I/O and alarm monitoring
- Dual configuration - Factory or user setup



Modular Versatility

Historically, connecting individual production wells or flowlines to a test separator required a multitude of valves that had to be opened by hand. In addition to the valves and shutoff devices, the system required considerable piping. The conventional two-way or three-way systems cost more initially, required higher operating costs, needed more maintenance and downtime, and added to the personnel risks. The multiport flow selector, with automated actuated control, is safer, less expensive, lighter weight and more compact than conventional systems.

Conventional 7-Well, Two-Way Valve Manifold

Requires 21 separate manual or actuated valves with associated piping.



Fisher Multiport Flow Selector Manifold

Only requires seven valves, which results in:

- Less piping
- More compact
- Less expensive
- Less weight (especially critical
- Fewer control points
- for offshore applications)











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