TRGV – Tandem Injection Regulation Valves

www.jpt-la.com

Multiple Regulators Arrangement for Water Injection Control in Tandem in Selective Strings with Mandrels

The ***TRGV – Tandem Regulator Injection Valves*** device for controlling water injection in secondary recovery fields with multiple zones, which use regulating valves and mandrels, was developed and patented by Ecopetrol and JPT Consulting and Services. This system is a direct replacement for existing variable regulators and allows for the stabilization, optimization, and increased efficiency of water injection in mature fields and secondary recovery.

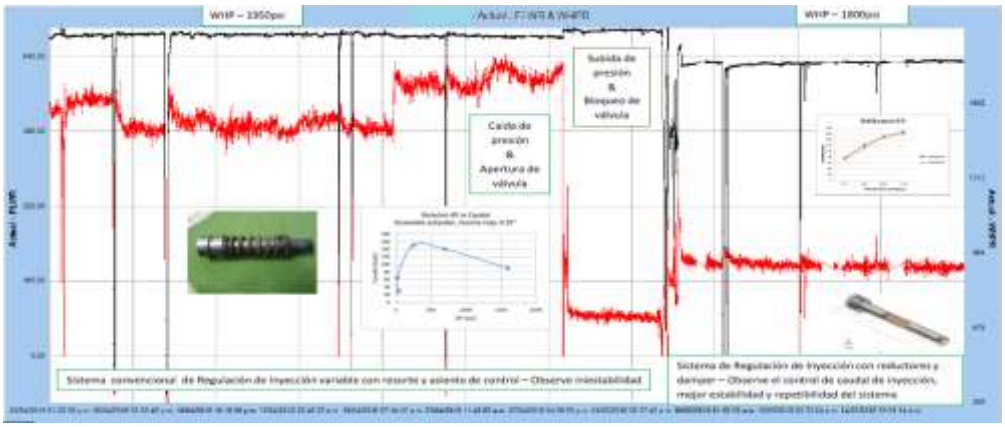
The device is based on controlling water injection using multiple regulators in tandem, including a damping system. It allows for controlling the volume of water injected per valve according to the required differential pressure based on the parameters of each zone and using selection tables resulting from advanced testing and modeling.

The encapsulated reducer arrangement is compatible with most existing valves on the market that are used in injection mandrels and can be installed/removed using steel line.

The system is modular and serves as a direct replacement for variable regulators in the field, thereby optimizing and minimizing service/operational and investment costs.

The system is a national technology used by Ecopetrol and has continuous support from JPT Consulting and Services.

==========



TRGV – Tandem Injection Regulation Valves

www.jpt-la.com

Applications

• Control and regulation of water injection in mature fields with multiple reservoirs.

• Stabilization of the injection for each zone and the well, reducing energy consumption.

• Direct replacement for the valve control system used in the conventional mandrel system for most selective injection strings.

• Reduction of pressure variations at the surface and increased reliability.

• Selection of reducers for the required injection flow concerning the pressure differential by zone using tables based on testing and modeling for a wide range of options that cover most field needs.

• Manufactured in stainless steel for harsh conditions and long durability.

Advantages and Benefits

• Optimization of efficiency and stability in injection, achieving the maximum volume per zone in a stable manner; this should reflect an increase in long-term production.

• Stabilization of the injection process in each well and reduction of energy consumption.

• Optimization of costs associated with service and operation, as the lifespan extends several times compared to conventional variable regulation systems.

• Modular design that allows for upgrades, optimization, and replacement as spare parts in existing valves in operation, which optimizes capital and operational expenses.

• Simple system, easy selection of regulators, and straightforward use and installation in the field.

• National technology and local technical support.

Technical Specifications