

# Standard Polymer Injection Control Module (TRGV-EPI)

## Modular Array of Multiple Tandem Regulators for Polymer Injection Control in Selective Strings with Standard Mandrels

The TRGV-EPI modular device is designed for control and regulation of polymer injection in reservoirs with multiple zones under secondary recovery, using strings with standard side-pocket mandrels.

The valve employs a multi-element geometric module with fixed orifices and tandem expansion chambers to control differential pressure and flow rate in stages.

The device enables control of the maximum polymer volume injected per zone according to the specific pressure differential, maximum allowable polymer degradation, and required flow rate per zone, using multi-selection tables derived from testing and advanced modeling.

The reducer assembly is encapsulated in a stem, with a standard configuration of 13 reducers.

Each reducer has a special conical shape to minimize shear or polymer damage, and each section is separated by an expansion-type spacer (damper).

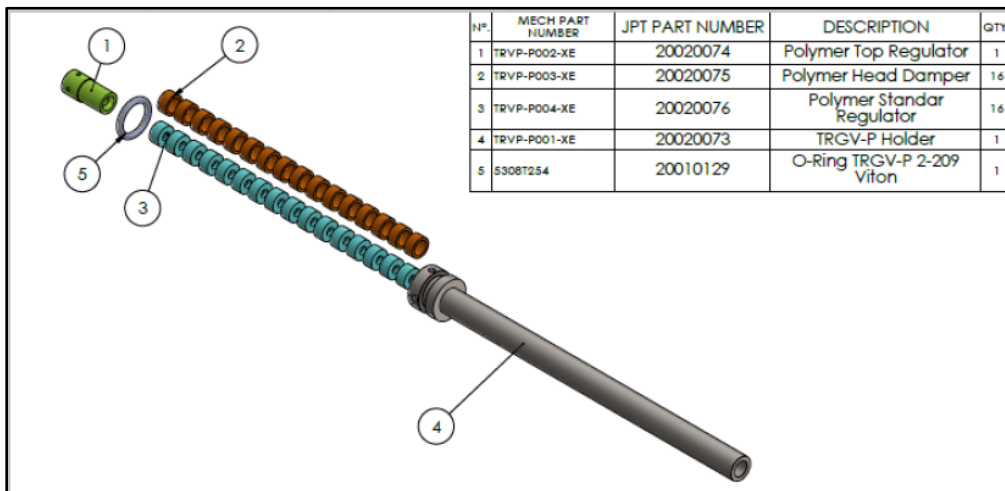
The valve can be used in conventional water injection mandrels.

The main body has multiple conical inlet holes and a reduced outer diameter to increase annular clearance.

The system includes design curves based on orifice size, allowing prediction of expected polymer damage as a function of flow rate and differential pressure.

It is recommended for operation up to a maximum differential pressure of 1000 psi and 600 BWPD flow rate.

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## Applications

- Control and regulation of polymer injection in mature fields with multiple sand layers or reservoirs completed with selective mandrels.
- Stabilization of injection in each well zone while controlling polymer degradation.
- Minimization and prediction of polymer-related damage within the injection control system.
- Economical and simple to design and operate.
- Selection of reducers for the required injection rate, pressure differential, and maximum polymer degradation per zone using tables derived from laboratory tests and modeling, covering a wide range of field conditions.

## Advantages and Benefits

- Enhanced efficiency and injection stability, achieving maximum stable volume per zone, leading to long-term production increases.
- Stabilized injection process in each well and precise control of polymer degradation.
- Stainless-steel construction ensures durability and resistance under harsh conditions, optimizing service costs.
- Modular design allows upgrading, optimization, and replacement of modules according to field requirements.
- Simple system, easy regulator selection, and straightforward field installation.
- Proprietary technology with local technical support

## Technical Specifications and Selection

