

Product Data Sheet:
GP-99-002

Revision Date:
June 1999

Gas Processing Rate Controller

GPRC

Barry D. Payne & Associates Inc. offer Advanced Process Control strategies designed for multiple platforms, that deliver plant improvements with your current controls today!

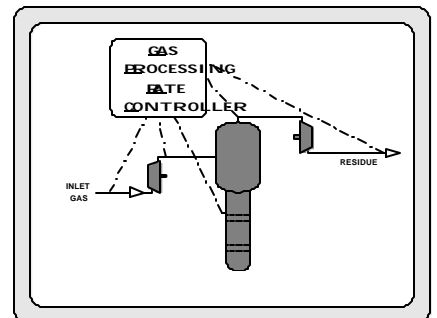
Special points of interest:

- Re-tunes automatically for changes in feed rate, day-to-night operation, and ambient weather conditions.
- Proven to deliver comparable performance to high cost, model predictive software packages.
- Makes continuous adjustments to return inlet system to desired pressure.
- Automatically drives process toward maximum production.

Product Description

General Industry Usage: Controls and enhances the processing rate of natural gas cryogenic processes. Drives Cryogenic NGL processes toward optimum processing limit. Adjusts processing rates based on inlet gas supply, equipment flow limits, and residue system capacity.

Benefits Overview: Continuously "re-tunes" Cryogenic NGL processes for changes in gas supply, nominated flow rate versus equipment flow limits, and residue demand versus residue capacity. Automatically maintains gathering system at optimum pressure while delivering products at nominated rates or residue demand without frequent operator adjustments. As easy to maintain as your current control strategies, with a proven track record for remaining in service.



Inside this Product Data Sheet:

Product Description:
Advanced Regulatory Control Strategies

Applications:
Cryogenic Gas Processing

Performance:
Comparable to Model Predictive Software

Features and Benefits:
Low Investment, Ease of Use, High Return

System Requirements:
Existing Plant Control System (PLC or DCS)

Product Support:
Install, Startup, Training, Follow Up Audits

Contact BDP by:
Mail, Phone, Fax, Email, Website

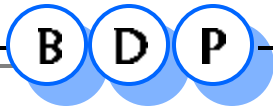
Applications

- ❖ Turbo-expander and Joule-Thompson (JT) Cryogenic gas plants, with and without Gas-subcooled or "Reflux" enhancements or mechanical refrigeration.
- ❖ Adjusts Demethanizer pressure and recompressor controls in an "adaptive" mode, allowing control limits on Demethanizer pressure to combine "hard" process constraints with "floating" throughput limits.

Performance:

- **Inlet or Residue Pressure** – continuously maintains high gas pressure systems within a few psi of steady state operation over extended periods. Returns inlet system to desired pressure after a change in field production rates, or a partial loss of compression, without operator intervention.
- **Inlet or Residue Flow** – continuously maintains stable plant flow rate, and automatically recovers from pressure disturbances. Demonstrated to achieve control precision of +/- 1.0 mmscfd at 300 mmscfd throughput.
- **Upset Response** – immediate and automatic response to flow and pressure upsets, with control system loops operating from one to ten times per second.

WE'RE ON THE WEB!
www.bdpayne.com



On Target Solutions!

GPRC

Features and Benefits

- ✓ **Investment:** Target application installed in your existing plant control system.
- ✓ **Operations:** Use of existing control system results in shorter learning curve and quicker acceptance by operating personnel.
- ✓ **Maintenance:** Additional control equipment is not normally required. Easily maintained by current support staff.
- ✓ **Economic:**
 - ◆ Performs close to "your best Operator on a good day" while plant is at steady state.
 - ◆ Speeds recovery of plant to efficient conditions after an upset.
 - ◆ Maintains inlet at most efficient pressure 24 hours a day. Adjusts regulatory controls to take advantage of day to night or short-term weather variations in processing capacity.
 - ◆ Continuously maximize available production automatically, subject to equipment constraints and demand delivery limits, without operator intervention.

System Requirements

- **Instrumentation:**
 - ❑ Required process measurements and regulatory controls: Inlet pressure, Cryogenic inlet flow, Demethanizer tower pressure, cold separator or expander discharge temperature, recompressor suction or booster discharge pressure, and residue delivery system pressure.
 - ❑ Optional process measurements: computed surge margin or rod loading limits on recompressors.
- **Control System Hardware:**
 - ❑ Programmable process control system such as Distributed Control System (DCS), Programmable Logic Controller (PLC), or selected panel-mounted Multi-loop Controllers (MLC).
- **Control System Software:**
 - ❑ Real-time function blocks and command language programs standard in DCS systems.
 - ❑ Enhanced relay ladder logic (RLL) with function blocks for PID, math, and advanced math functions.
 - ❑ IEEE 1131 programming languages with function block, RLL, structured text, and sequence flow chart editors.
 - ❑ Enhanced Multi-loop controller software with function blocks and command language programming.
- **Manpower:**
 - ❑ Easily operated/maintained by existing plant personnel.
 - ❑ Advanced math or programming capability not required.
 - ❑ Implementation on existing control system, supported by BDP training, results in successful operation and maintenance by typical gas plant personnel.

Product Support

- ⇒ Software installation, commissioning, and loop tuning services included in engineering services package.
- ⇒ Training programs for operations and maintenance personnel during product commissioning.
- ⇒ One-year product support included with product license. Includes two "check up" visits, telephone support, and product revision services for one year from commissioning.

Optimize Your Control System Performance –
Install ON TARGET Solutions Today!

Barry D. Payne & Associates Inc.
P.O. Box 1159 (77497-1159)
10707 Corporate Drive, Suite 161
Stafford, Texas 77477

Phone: 281-240-4488
Fax: 281-240-3913
Email: info@bdpayne.com
Website: www.bdpayne.com