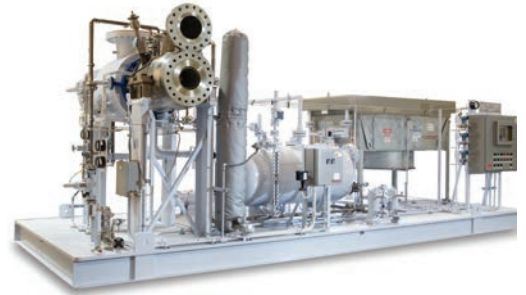


SEIZE THE OPPORTUNITY, CREATE THE DEMAND

Producers require midstream gas processors to be flexible given the unpredictable swings in production. Honeywell UOP works with you to achieve high volumes with capacity greater than 200mmscfd and low flow capacity less than 50% of 200mmscfd. Our expert know-how and industry-leading UOP Russell gas processing solutions give you the advantage to build a ramp up flow plan to help you monetize early production and capture additional gas processing contracts while doing it.



STRATEGIC ADVANTAGES OF LOW FLOW OPERATIONS

- Differentiate yourself by providing a unique best in class service to your customer. Producers don't always know the future production, but they do know that you can provide processing takeaway at any scenario
- Accelerate cash flow generation by capitalizing on early production
- Capture additional gas processing deals with a plant up and running with proven guaranteed recoveries and best in class up-time exceeding contractual minimum recovery requirements

LOW FLOW PLANT CAPACITY: 200MMSCFD

Turndown Rejection & Recovery Operational Mode

- Rejection Mode of Operation
 - 100MMSCFD: 50% Turndown, 20% C₂, 99% C₃
 - 60 MMSCFD: 70% Turndown, 20% C₂, 99% C₃
- Recovery Mode of Operation
 - 100 MMSCFD: 50% Turndown, 95% C₂, 100% C₃
 - 60 MMSCFD: 70% Turndown, 65% C₂, 100% C₃

NOTE: Recovery levels during turndown are achieved by maintaining RSV recycle flow at the same level of plant nameplate capacity (200mmscfd)

Operations @ 10% or Lower Flow Rate

- Changes to the plant so you can operate in full recycle at zero inlet flow

Equipment Checks

Honeywell UOP Russell aids in the low flow by working closely with each equipment manufacturer to tailor the equipment for your specific low flow operational needs

- Turbo Expander: Analysis of low flow wheel center section & additional parts for re-cut and replaced for low flow capacity
- Compressors: Ensure avoidances of surge and amount of spill back required
- Reboilers: Analysis of hydraulics
- Exchangers: Analysis of turndown flow
- Control Valves: Ensure controllability at low low flow rates
- Flow Meters: Analyze accuracy at lower flow rates

How Long to Do a Detailed Analysis?

- Guarantees for flow operations take ~4 weeks

CASE STUDIES

CASE STUDY: RESIDUE RECYCLE TO EXTEND TURNDOWN RANGE

A midstream gas processor customer wanted to run below 30% turndown on a 60mmscfd plant. UOP Russell implemented the following operational mode to accomplish this desired mode of operation: High pressure residue gas is recycled from downstream of the residue compressors back to the plant inlet.

There are a couple of benefits of this approach.

- By adding flow through the plant via the recycle stream, the client can potentially avoid many of the constraints that require additional design reviews and modifications to achieve turndown ratios below ~ 30% of design for JT-mode (Joule-Thomson) operations.
- The additional flow from recycle also allows the plant to run with very little fresh feed from upstream gathering systems. This helps if the expected feed gas volumes don't materialize during any phase of operations, but especially during the initial startup of the plant when operations tends to experience erratic on flows/pressures
- Recycle can help smooth out these fluctuations in the feed conditions to enable the plant to run as best as possible during the low-flow conditions

CASE STUDY: LOW FLOW CUSTOMER SUPPORT

A midstream gas processor customer was experiencing large CO₂ spikes in their residue gas as a result of regenerating their drier adsorbent beds under low feed flow conditions. Honeywell UOP deployed an adsorbent SME to site where he successfully advised on changes to the regeneration operation and provided a dehydrator design summary sheet for maximum adsorption times at various inlet gas feed rates and water contents.

For more information

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