Oil & Gas | Downstream Applications
Filtration products for Amine Sweetening and Glycol Dehydration
When refining presents complex challenges, Parker domnick hunter filtration systems present solutions which respond to today’s demanding worldwide market. We offer innovative and application-specific filtration to help ensure integrity and purity throughout the downstream process.

**Downstream demands**

After upstream drilling and transport, crude oil must be processed in a refinery. Efficient processing of several hundred thousand barrels of crude oil a day – essentially a non-stop operation – demands filtration solutions that perform reliably, even under extreme conditions. Parker domnick hunter meets these needs with filtration systems that get the job done with minimal maintenance and downtime.

**Amine & Glycol process**

Amine Sweetening is the process of removing toxic and corrosive components, primarily hydrogen sulfide (H\textsubscript{2}S) and carbon dioxide (CO\textsubscript{2}), from a hydrocarbon gas stream. Similarly, Glycol Dehydration removes water to prevent corrosion and freezing of processing equipment. Both processes share a common purpose which is to strip contaminants in the absorber/contactor then regenerate the process liquids in the regenerator/stripper.

In both cases, filtration of the Amine or Glycol liquid plays an important role because particulate contaminants reduce the operational efficiency of the processes. These filtration systems are commonly sized for partial flow on a slip-stream, but full-flow filtration is the best method of ensuring that the sweetening and dehydration processes run as efficiently as possible.

**Filtration in refineries**

Parker domnick hunter Process Filtration provides optimized engineered solutions to:

- Minimize foaming
- Decrease chemical usage
- Protect carbon beds
- Eliminate carbon carryover
- Protect processing equipment
- Improve production and operation efficiency
- Reduce process upsets and downtime
- Lower maintenance costs

**APPLICATIONS**

**Amine Sweetening**
- Sour water
- Rich Amine
- Lean Amine
- Make-up Amine

**Glycol Dehydration**
- Sour water
- Rich Glycol
- Lean Glycol
- Make-up Glycol

**Committed to process optimization**

Parker domnick hunter recognizes that due to the hazards associated with maintenance in petroleum production facilities along with high disposal costs, minimizing both change out frequency and process downtime are of utmost importance. That’s why we optimize filtration systems to ensure that the total cost of ownership for contaminant control is balanced, without compromising process efficiency.

**Global support with local perspective**

Wherever you are in the world and whatever the process requirements, Parker domnick hunter’s dedicated support team is there to help you get the most out of your filtration systems. We have a presence in all of the major petroleum processing regions offering local and technical support for refinery applications.
Amine Sweetening & Glycol Dehydration
Process Overview

- **Amine Sweetening**
- **Glycol Dehydration**

### Rich Amine / Rich Glycol Loop
- Given the extremely corrosive nature of Hydrogen Sulfide (H2S), Carbon Dioxide (CO2), and water to process components, filtration on the rich process stream is very effective at minimizing process upsets and downtime at the source of contamination.

### Sour Water
- Due to corrosion caused by the hydrogen sulfide (H2S) and ammonia (NH3) constituents in sour water, filtration is important for capturing the resulting particulates that foul downstream piping and waste water treatment equipment.

### Lean Amine / Lean Glycol Loop
- Lean amine filtration upstream of the carbon bed extends the life and operational efficiency of the adsorbent resin. Post-filtration is intended to capture these carbon fines that migrate downstream and plug process piping, valves, and the absorber/contactor.
- Fouling prevention of the absorber/contactor also helps to reduce anti-foaming agent consumption.

### Make-up Amine / Make-Up Glycol
- Make-up amine and glycol filtration is intended to protect the process loop from any particulate contaminants that may be carried over from the liquids' holding tank.
# Filter Products for Amine/Glycol

## FILTER VESSELS

Fulflo® cartridge filter vessels

- 304 or 316 SS filter vessels designed for filtration in downstream applications
- Single and multi-cartridge housings
- GMP Industrial design with coded options (ASME, CRN, PED-CE)
- Vessels available as standard or custom design

## DEPTH MEDIA

- **Fulflo 336**
  - Cellulose & Polypropylene pleated cartridge construction improves filtration efficiency, dirt holding capacity and flow rates.

- **Flo-Pac & Flo-Pac +**
  - Pleated cartridge containing premium grade, phenolic impregnated cellulose filter media. For critical filtration applications to provide long service life, high flow rate and low pressure drop.

- **Poly-Mate & Poly-Mate Plus**
  - A cartridge offering a unique combination of polypropylene melt blown and spun-bonded media with high surface area and efficiency.

- **ParMax & ParMax Select**
  - Large diameter, high capacity cartridges with polypropylene pleated depth and microfiber glass media. The unique layered construction provides excellent retention across a range of flux rates.

- **Glass-Mate**
  - Microfiber glass cartridge offering better temperature resistance than standard polypropylene cartridges and absolute rated efficiency for 0.45 - 40 μm.

- **MaxGuard**
  - Cellulose / Polypropylene / Nomex high capacity cartridge product line provides a cost effective alternative to bag media or standard 2-½ inch cartridges for high flow applications.

- **MegaBond Nominal**
  - High purity melt blown filter cartridges featuring a graded density matrix of uniform polypropylene fibers for consistent filtration. No fiber finish or surfactants are present to generate extractables leading to foaming or other undesirable effects.

- **Honeycomb**
  - Offer superior quality for effective particulate removal from 0.5 to 150 μm in a wide variety of materials for process compatibility.

- **Fulflo 1401**
  - Absolute rated cartridge available in cellulose or polypropylene media designed to offer maximized surface area which retrofits compatible housings using 1401 style cartridges.

## PLEATED

- **Poly-Mate  & Poly-Mate Plus**
  - A cartridge offering a unique combination of polypropylene melt blown and spun-bonded media with high surface area and efficiency.

- **Fulflo 1401**
  - Absolute rated cartridge available in cellulose or polypropylene media designed to offer maximized surface area which retrofits compatible housings using 1401 style cartridges.

- **Flo-Pac & Flo-Pac +**
  - Pleated cartridge containing premium grade, phenolic impregnated cellulose filter media. For critical filtration applications to provide long service life, high flow rate and low pressure drop.

- **Glass-Mate**
  - Microfiber glass cartridge offering better temperature resistance than standard polypropylene cartridges and absolute rated efficiency for 0.45 - 40 μm.

- **ParMax & ParMax Select**
  - Large diameter, high capacity cartridges with polypropylene pleated depth and microfiber glass media. The unique layered construction provides excellent retention across a range of flux rates.

- **MaxGuard**
  - Cellulose / Polypropylene / Nomex high capacity cartridge product line provides a cost effective alternative to bag media or standard 2-½ inch cartridges for high flow applications.

- **MegaBond Nominal**
  - High purity melt blown filter cartridges featuring a graded density matrix of uniform polypropylene fibers for consistent filtration. No fiber finish or surfactants are present to generate extractables leading to foaming or other undesirable effects.

- **Honeycomb**
  - Offer superior quality for effective particulate removal from 0.5 to 150 μm in a wide variety of materials for process compatibility.
Worldwide Filtration Manufacturing Locations

North America
**Compressed Air Treatment Filtration & Separation/Balston**
Haverhill, MA
978 685 0505
www.parker.com/balston

**Finite Airtek Filtration**
Airtek/donmick hunter/Zander
Lancaster, NY
716 686 6400
www.parker.com/taf

**Finite Airtek Filtration/Finite**
Oxford, MI
248 628 6400
www.parker.com/finitefilter

**Engine Filtration & Water Purification**
Racor
Modesto, CA
209 521 7860
www.parker.com/racor

Holly Springs, MS
662 252 2856
www.parker.com/racor

Beaufort, SC
843 846 3200
www.parker.com/racor

**Village Marine, Sea Recovery, Horizon Reverse Osmosis**
Carson, CA
310 637 3400
www.parker.com/watermakers

**Hydraulic Filtration**
Hydraulic Filter
Metamora, OH
419 644 4311
www.parker.com/hydraulicfilter

Laval, QC Canada
450 629 9594
www.parkerfarr.com

**Process Filtration**
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Oxnard, CA
805 604 3400
www.parker.com/processfiltration

Madison, WI
608 824 0500
www.scielog.com

Phoenixville, PA
610 933 1600
www.parker.com/processfiltration

**Aerospace Filtration**
Velcon Filtration
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