



MOLSIV™ Molecular Sieves

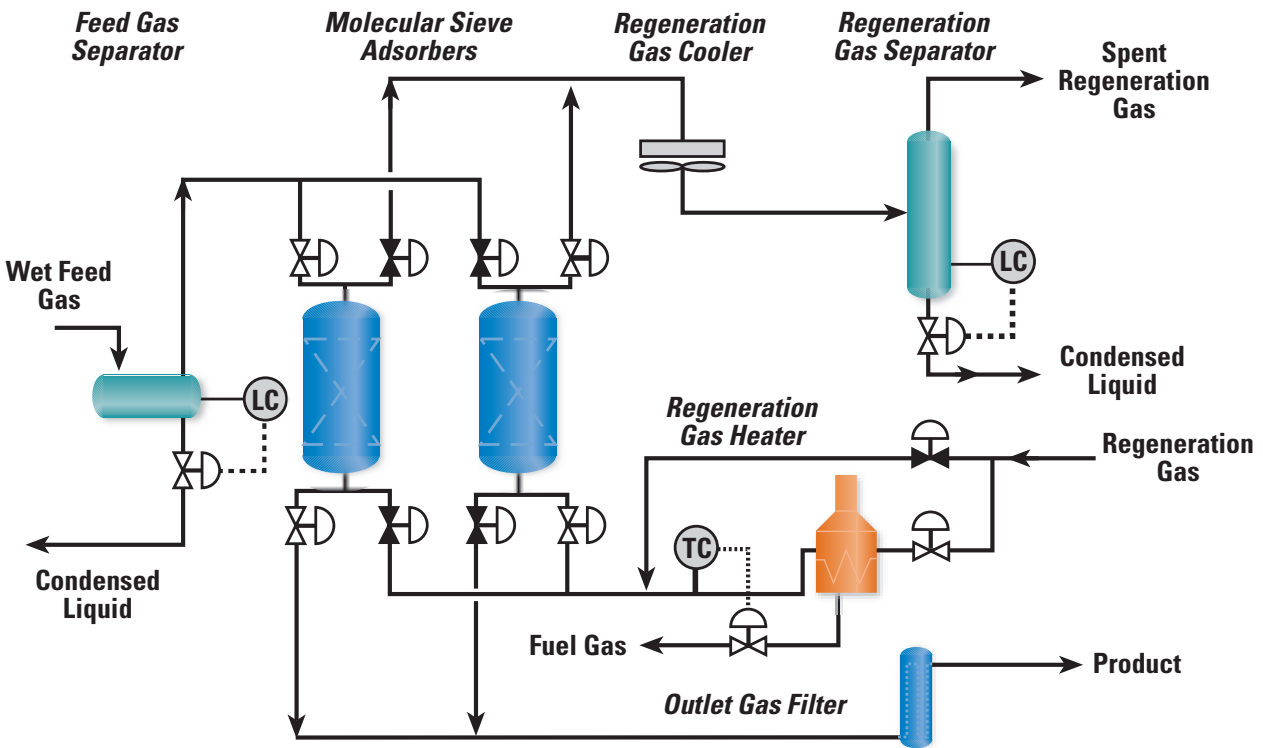
Gas Processing

Molecular sieves are adsorbents composed of aluminosilicate crystalline polymers (zeolites). They efficiently remove low concentrations of polar or polarizable contaminants such as H₂O, methanol, H₂S, CO₂, COS, mercaptans, sulfides, ammonia, aromatics and mercury down to trace concentrations.

UOP manufactures molecular sieve products in various forms: beads, granules and extrudates, including standard pellets and TRISIV™ pellets. The molecular sieve type, size and particle shape selected for a particular customer are determined by the application. UOP's extensive database allows us to select the optimum products on a case-by-case basis.



An Open Cycle Molecular Sieve Dehydration System



Application and operating ranges

The natural gas processing industry uses molecular sieves for:

■ Natural gas dehydration

Normal parameters: water saturated, 30-200°F, 100-1500 psig. Regeneration is via dry or wet gas, yielding LNG or pipeline specifications, respectively.

■ Natural gas mercury removal

(Combines with dehydration, one system, no additional sieve). Feeds with < 100 µg/Nm³ in, yield < 0.01 µg/Nm³ out.

■ Natural gas/LPG desulfurization

H₂S, mercaptans, COS and sulfides can be removed. Effluent with H₂O <0.1 ppmv and each sulfur type <1 ppmv.

■ Natural gas CO₂ removal for "peak shaving"

LNG plants inlet CO₂ @ 1,000-20,000 ppmv, 40-100°F, 200-800 psia. Effluent with H₂O <0.1 ppmv and CO₂ <50 ppmv.

■ Ammonia synthesis gas purification

Inlet CO₂ <20 ppmv, NH₃ <20 ppmv, 40-100°F, 100-1000 psig. Out ppmv, <0.1 NH₃, <1.0 CO₂.

Experience

Number of operating units, worldwide:

Natural gas dehydration	1,000+
Dehydration with regenerative mercury removal	50+
Natural gas treating (sulfur, CO ₂)	200+
CO ₂ removal for "peak shaving" LNG facilities	100+
LPG combined dehydration/desulfurization	100+
Synthesis gas purification	100+

UOP has a strong market presence worldwide. Our global staff has over 200 man-years of experience in the design, troubleshooting, startup, and optimization of molecular sieve systems. Our field service specialists are equipped with state-of-the-art analytical equipment.

UOP has molecular sieve manufacturing plants in Mobile, Alabama; Reggio Calabria, Italy; Shanghai, China; and Yokkaichi City, Japan.

For more information

For more information, contact your local UOP representative or our Des Plaines sales office:

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 UOP 4524-6 0406GP0F

