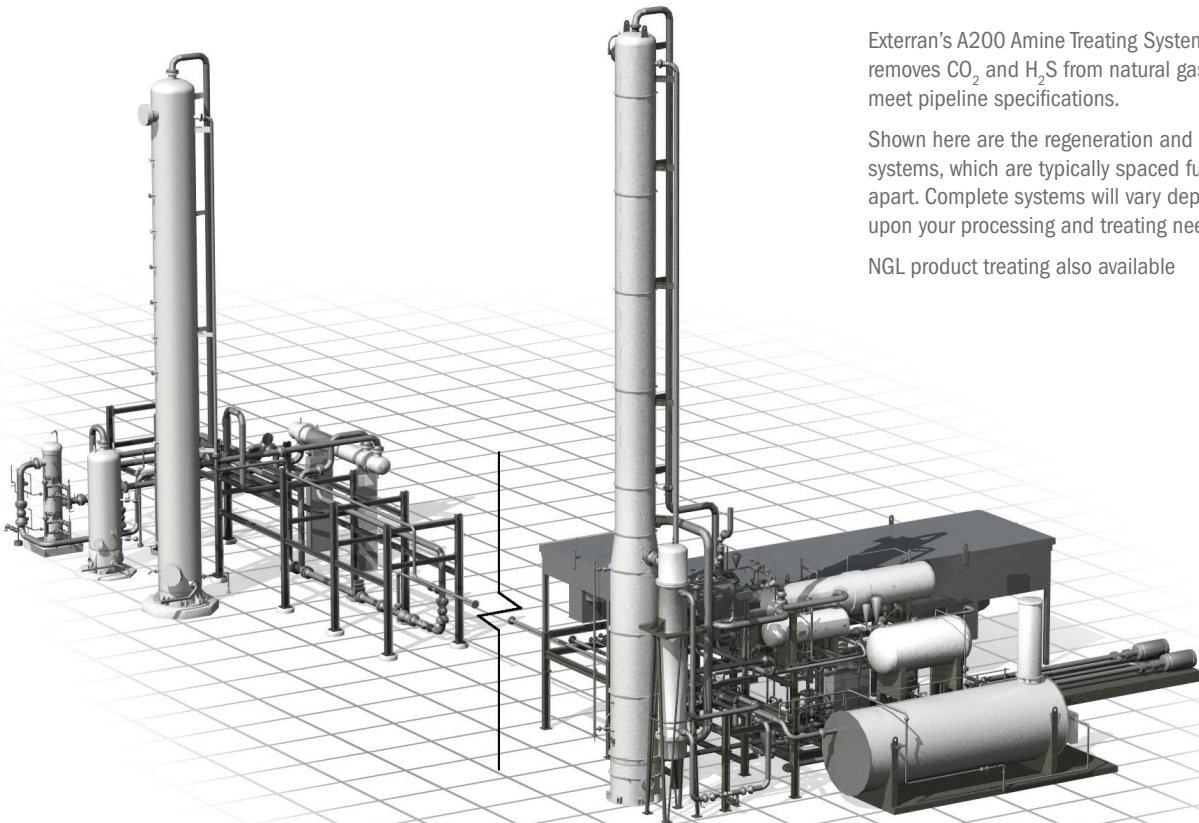




A200 AMINE TREATING SYSTEM



Exterran's A200 Amine Treating System removes CO₂ and H₂S from natural gas to meet pipeline specifications.

Shown here are the regeneration and gas inlet systems, which are typically spaced further apart. Complete systems will vary depending upon your processing and treating needs.

NGL product treating also available

Key Benefits

Speed Your Time to Plant Startup

- Start operations faster with the optional Exterran Quick-Start® program. This unique program includes onsite engineering expertise, inventory planning and materials and management of systems components shipped separately
- Reduced manufacturing times with key component inventory
- Control your project schedule with turnkey project capabilities such as design, manufacturing, installation, startup, commissioning and even plant operation
- Faster installation with a small footprint

Minimize Operating Cost and Unscheduled Downtime

- Capacity margin for fluctuations in gas volume and composition
- Reliable horizontal multistage circulation pumps
- Experience in building plants up to 5,400 GPM and inlet gas up to 900 MMscfd

High Confidence with Exterran's Deep Engineering Experience

- Proven standard designs that can be customized to meet distinct specifications
- Combined 2,000+ years of engineering experience
- 300+ completed gas processing and treating systems

OVERVIEW

The Exterran Processing Solutions™ A200 Amine System removes contaminants such as carbon dioxide and hydrogen sulfide from natural gas streams in order to meet pipeline or pretreatment specifications.

This system operates at a 200 GPM circulation capacity and handles gas inlet rates of 15 to 70 MMscfd.

Exterran has unmatched expertise in engineering state-of-the-art plant designs and brings them online quickly, so you can see production profits faster.

A200 AMINE GAS TREATING SYSTEM

Standard Modules/Components

Inlet Gas System

- Inlet Gas Coalescer
- Amine Contactor
- Treated Gas Scrubber

Regeneration System

- Regeneration Module
- Heat Medium Module
- Amine Reboiler
- Amine Cooler
- Amine Still Reflux Condenser
- Amine Still
- Hot Oil Heater Package

PROCESS DESCRIPTION

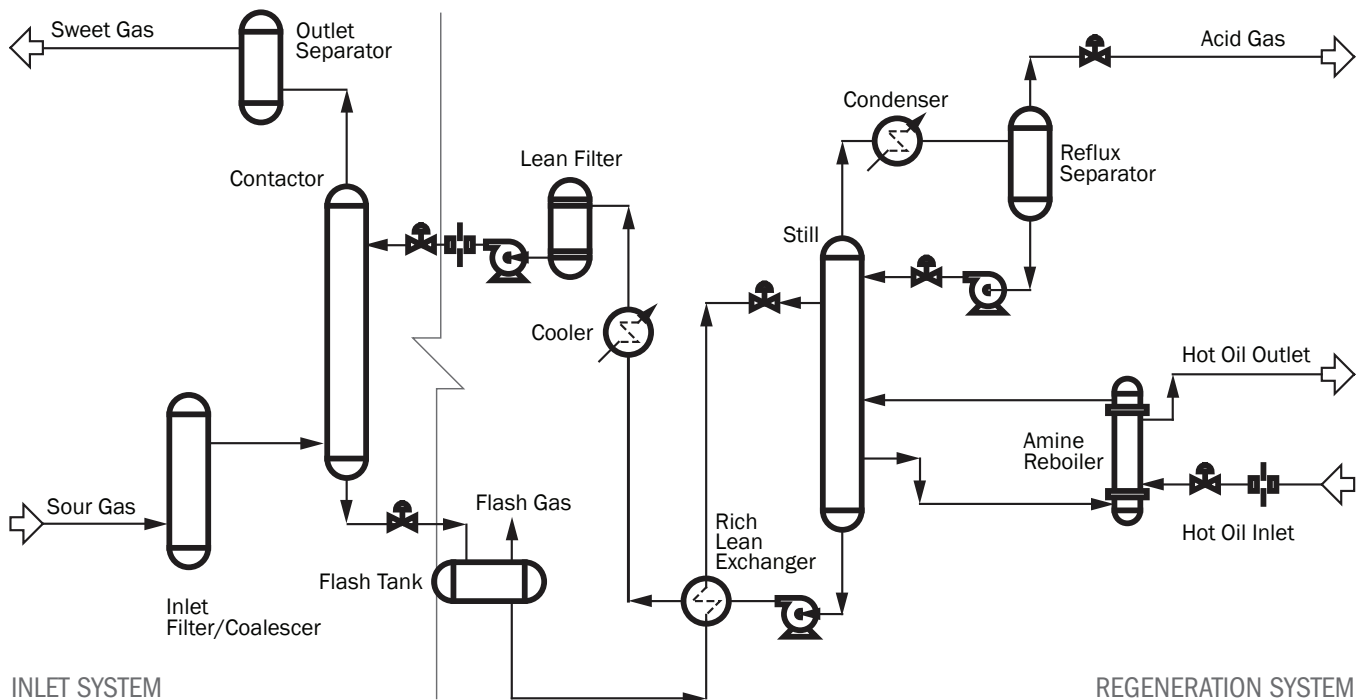
Untreated natural gas containing carbon dioxide (CO₂) and hydrogen sulfide (H₂S) flows into the amine contactor where it contacts a downward-flowing amine-water solution. The amine solution chemically absorbs CO₂ and H₂S from the gas stream.

As the amine solution is re-circulated, rich amine solution collects at the bottom of the absorber and level controlled to a flash tank. The rich amine is then cross exchanged with lean amine.

Rich amine solution is further treated in a stripper or still. The still has an external, indirect heating system that heats the rich amine solution. As it is heated, steam from heating the amine rises as rich amine flows downward through the still column, stripping out the CO₂ and H₂S. The lean amine solution accumulates at the bottom of the still.

CO₂, H₂S and water vapor separated in the amine still are cooled in air exchange coolers. Condensed water is returned to the amine still. CO₂ and H₂S exit the system at low pressure. Lean amine solution is cycled through the absorber to repeat the process.

PROCESS DIAGRAM



A200 Standard Specifications

Module / Component	Length (ft-in)	Width (ft-in)	Weight (lbs)
Amine Regeneration Module	23 - 1	12 - 0	48,500
Amine Pump Module	29 - 2	8 - 6	16,000
Amine Cooler	47 - 0	14 - 0	29,700
Amine Reflux Condenser/Pipe Rack Module	36 - 7	9 - 5	30,800
Heat Medium Module	32 - 3	9 - 6	33,800
Heat Medium Pump and Expansion Tank Module	23 - 3	4 - 6	10,500

Component	ID (in)	Overall Height	Weight (lbs)
Amine Still Column with Surge	48/60	79 - 6	60,000

Power Requirement	
Estimated Fuel Gas Consumption (Mscfd)	392
Connected/Operation Horsepower	764/364

Standard Product Features

- Stainless-steel piping and equipment in key areas to ensure long life
- Basket strainers for amine heat exchanger inlets
- Lean amine filter
- 2 x 100% circulation pumps
- Fisher® control valves, Rosemount® transmitters, Allen-Bradley® PLC
- Pneumatic pump for antifoam injection
- Heat tracing and insulation
- Skid-edge junction box compatible with any control system
- Charcoal filter
- Hot oil system

T48 Inlet System Specifications

Module / Component	Diameter	Height	Weight (lbs)
Inlet Filter Coalescer	18 in OD	10 ft - 4 in OAH	3,000
Amine Contactor	48 in ID	56 ft - 0 in S/S	72,355
Treated Gas Scrubber	42 in ID	10 ft - 0 in S/S	14,700

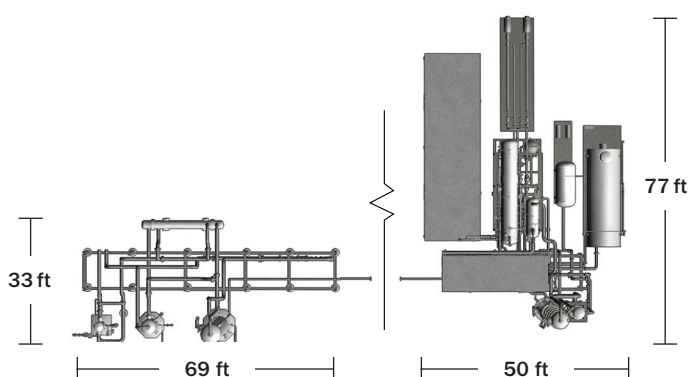
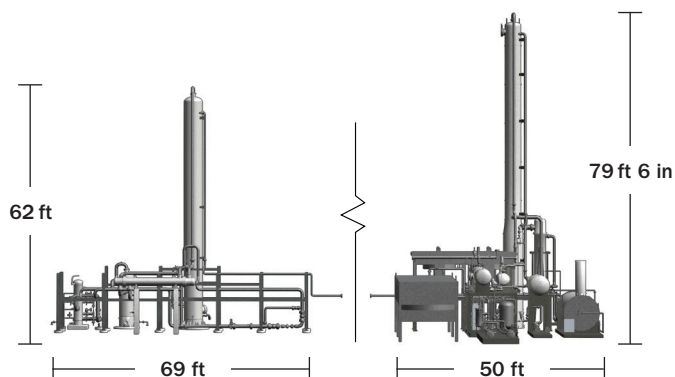
T54 Inlet System Specifications

Module / Component	Diameter	Height	Weight (lbs)
Inlet Filter Coalescer	28 in OD	11 ft - 0 in OAH	7,160
Amine Contactor	54 in ID	56 ft - 0 in S/S	89,500
Treated Gas Scrubber	48 in ID	11 ft - 6 in S/S	16,860

DIMENSIONS

Side View

Top View



Dimensions shown here are approximate and may vary. The interconnect piping between the inlet gas system and the amine regeneration system can and will vary.

A200 AMINE GAS TREATING SYSTEM

Sizing and Options Form

Contact your local Exterran representative to submit sizing and options.

Amine System Design and Sizing Requirements	
Elevation (ft)	
Ambient Temperature - Min/Max (°F)	
Barometric Pressure (psia)	
Maximum Wind Speed (mph)	
Seismic Zone	
Soil Bearing Allowable (psf)	
Inlet Gas Flow	Pressure (psig)
	Temperature (°F)
	Rate Min-Max (MMscfd)
	Specific Gravity
Inlet Gas Composition	H ₂ S Hydrogen Sulfide (ppm)
	CO ₂ Carbon Dioxide (mol%)
	N ₂ Nitrogen (mol%)
	C1 Methane (mol%)
	C2 Ethane (mol%)
	C3 Propane (mol%)
	iC4 iso-Butane (mol%)
	nC4 n-Butane (mol%)
	iC5 iso-Pentane (mol%)
	nC5 n-Pentane (mol%)
	C6+ Hexanes Plus (mol%)
	TOTAL mol%
Outlet Gas	CO ₂ Requirement (mol%)
	H ₂ S Requirement (ppm)
	Pressure (psig)

Options Checklist

- Ladder and platform access on skids
- Rich amine level control shut down valve
- Additional rich amine filter (charcoal or mechanical)
- Spare parallel lean/rich exchanger
- Additional cold-weather heat tracing
- Warm air re-circulation
- Variable frequency drive motor control
- Flash contactor on amine flash tank
- Power Distribution Center (PDC)
- Gas/Gas exchanger
- Treated gas cooler
- Makeup amine and water systems
- Custom paint color

Optional Services

- Installation engineering
- Exterran QuickStart
- Air emissions permitting
- HAZOP support
- Build, own and operate
- Build, operate and transfer

Notes
