



**MUELLER**  
ENVIRONMENTAL DESIGNS, INC.

*"Proven Under Pressure"™*

# PRODUCTS & SYSTEMS

THE INDUSTRY LEADER IN NATURAL GAS  
SEPARATION, AIR FILTRATION, MIST ELIMINATION,  
NOISE AND EMISSION CONTROL

# WHAT PROBLEMS CAN WE SOLVE FOR YOU?

Mueller Environmental Designs creates the most forward-thinking equipment available to the natural gas industry today. At our core however, we are problem solvers. Every product we offer began life as our successful solution to a client's particular needs. And that dedication to individualized solutions continues in each unit we fabricate. With the challenges introduced by today's new production methods, there's no such thing as a cookie cutter solution. That's why Mueller equipment is designed and built to your installation's unique specifications and field demands, ensuring maximum performance.

## THERE IS A DIFFERENCE

It may be possible to buy cheaper equipment. Our goal is to provide you the best value – the highest quality at the most reasonable price possible. We engineer our products to deliver optimum efficiency and build them to last. To ensure quality control, our products are manufactured in our own ASME facility outside Houston using heavy duty materials and components to keep your operations up and running with minimum maintenance and maximum lifespan. We don't cut corners.

## PROVEN UNDER PRESSURE

As a result Mueller equipment has been reliably performing for years in hundreds of installations throughout North America under a full range of conditions and applications, making us a preferred provider of separation, air filtration, mist elimination, noise and emission control among field engineers.

# SEPARATION PRODUCTS



### MUELLER KLS-1B SEPARATOR

The KLS-1B is a high performance vertical separator designed for small to medium gas volumes with heavy liquid loading or slugs. The two stage design utilizes an initial knockout section for bulk contaminate removal. Entrained aerosols and particulate contaminates then follow the gas path upwards into the helical coils for high efficiency separation. The KLS-1B uses two separate sumps and dump systems to collect and dispose of contaminants.



### MUELLER KLS-1C SEPARATOR

The KLS-1C vertical separator for pipeline quality gas is our most compact design making it ideal for metering skids and removal of carryover from amine and glycol contactor towers. The absence of a bulk removal section eliminates the need for a second dump valve and controls. The KLS Helical Coil Separator utilizes impingement, coalescence, and inertia to provide maximum contaminant removal efficiencies, outperforming all current traditionally accepted separation methods.

### MUELLER KLS-2 SEPARATOR

The Mueller KLS-2 horizontal separator is commonly used when the application has large gas and/or contaminate volume flows. The KLS-2 utilizes a first stage buffer where large contaminate volume separates from the gas stream due to gravity. The gas, free of bulk contaminate, flows into the helical coils for high efficiency contaminate removal. Two internally isolated collection sumps are emptied using separate dump lines.



### SLUG CATCHER / INLET SEPARATOR MUELLER MODEL KLS-1BSC

Mueller Environmental has developed various ways to remove large liquid volumes from pipelines without the need for additional downstream separation while also accommodating footprint restrictions. Our KLS-1BSC "submarine" configuration is a highly versatile design available in a wide range of sizes enabling storage volumes up to 20,000 gallons per unit (96" ID x 50' L). It can be configured with appropriate ladders and platforms, and like all Mueller equipment is designed to meet the unique specifications of each installation.



### FINGER SKID SLUG CATCHER MUELLER MODEL KLS-2FS

Mueller Environmental has developed various ways to remove large liquid volumes from pipelines without the need for additional downstream separation while also accommodating footprint restrictions. Our KLS-2FS Finger Skid configuration is a highly versatile design, especially useful where access and topography preclude large tank-style vessels. Like all Mueller equipment it is designed to meet the unique specifications of each installation, and we've configured the finger storage in an astounding range of sizes.



### MUELLER KLS INJECTION SYSTEM: DRY BLACK POWDER REMOVAL

Dry black powder particulates ranging in size from 0.2 to 0.4 microns are the most challenging of pipeline contaminants to collect. Mueller's patented high-pressure liquid injection system is proven to solve that problem, injecting liquid directly into the gas stream at the inlet nozzle creating a black powder slurry that is then effectively removed using the KLS Helical Coil Separator. The liquid slurry is then deposited in the contaminate collection sump allowing normal liquid dump valves to be utilized.



### WASTE TANK VENT MIST EXTRACTOR MUELLER MODEL VTS

The Mueller Model VTS Waste Tank Vent Mist Extractor for pipeline suction scrubber sump vent applications removes entrained lubrication, condensation, water and other fluids from venting natural gas over a wide range of discharge exhaust flows. With no moving parts, the VTS is highly reliable and its operating principle has been widely field proven. As natural gas and entrained fluids enter the VTS via the inlet nozzle, flow impinges on two distinct stages of separation, removing the entrained fluids, with only clean gas ultimately venting to the atmosphere.



# INTAKE SYSTEMS

## ELECTRIC MOTOR VENTILATION SYSTEM MUELLER MODEL EMVS



Field proven for both induction and synchronous electric motors, Mueller's ventilation systems provide filtered ambient cooling air to the electric motor intake at a positive pressure, ensuring adequate clean air flow through the cooling air passages of the electric motor, while also venting heated exhaust air to the atmosphere. They incorporate superior noise control technology.

## GAS TURBINE INLET AIR FILTER MUELLER MODEL GTAF



The Mueller Model GTAF Gas Turbine Inlet Air Filter is a highly effective and versatile inlet air filtration system that efficiently removes solid particulates, moisture, and salts. Extensively field proven in a wide range of conditions in both offshore and land based applications, the GTAF is a durable, compact, low pressure drop, cost effective product. The GTAF has been a workhorse on rotating machinery from 1,000 to 12,000 hp.

## REVERSE PULSE SELF-CLEAN VERTICAL AIR FILTER MUELLER MODEL HPSC



The Mueller HPSC provides exceptional inlet air filtration for gas turbines, fans, compressors, reciprocating engines and other rotating machines, achieving a 99.6% efficiency on AC fine test dust. Dust laden air enters the filter housing and is repeatedly cleaned as it passes through a series of high efficiency extended-surface filter elements before exiting through the clean air plenum to the rotating device's inlet. A reverse pulse self-clean process then removes filtered contaminants.

## MACHINERY AIR FILTER MUELLER MODEL MAF



The Mueller Model MAF Intake Air Filter for rotating machinery effectively filters intake air for centrifugal and axial compressors, rotary positive, vane axial and centrifugal blowers, reciprocating engines and compressors. Because it holds a variety of 24" x 24" filter and prefilter combinations, the MAF enables ideal filter selection to accommodate a wide range of efficiency requirements and air flow conditions (smooth or pulsating).

## REVERSE PULSE SELF CLEAN FILTRATION SYSTEM MUELLER MODEL RPSC



The Mueller RPSC Reverse Pulse Self Clean System provides superior inlet air filtration for gas turbines, fans, compressors, and reciprocating engines requiring a high degree of intake air filtration. The RPSC combines inertial separation with reverse pulse barrier filter technology to more efficiently remove dust and other contaminants, achieving a 99.6% score on AC fine dust when tested in accordance with ASHRAE 52-76 method.

## MACHINERY INTAKE AIR FILTER/SILENCER MUELLER MODEL RSIF



The Mueller Model RSIF effectively filters intake air while also controlling noise for centrifugal and axial compressors, rotary positive, vane axial and centrifugal blowers, reciprocating engines and compressors. The unit accepts various 24" x 24" filter and prefilter combinations enabling ideal filter selection. The unique RSIF internal design incorporates both reactive and absorptive noise control, providing broad band attenuation and has been extensively field proven on rotating machinery from 1,000 through 12,000 horsepower.

# EXHAUST SYSTEMS

## HIGH PERFORMANCE MUFFLER MUELLER MODEL HPM



The Mueller HPM Series High Performance Muffler meets today's noise control and low pressure drop requirements for turbocharged reciprocating engine exhaust. The HPM series is unique in its internal design, incorporating both reactive and absorptive noise control, providing broad band attenuation. The design is extensively field proven on 1000 horsepower to 6700 horsepower reciprocating engines.

## PARALLEL Baffle SILENCER MUELLER MODEL PBS



Mueller PBS Parallel Baffle Silencers effectively reduce the broad band noise generated by centrifugal and axial rotating machinery intake and discharge. The PBS utilizes an acoustic model long accepted in the industry, incorporating absorptive and dissipative acoustic functions. The parallel baffle arrangement enables low pressure drop while achieving high attenuation properties.

## REACTIVE SILENCER MUELLER MODEL RS



The Mueller RS Series Reactive Silencer effectively controls noise in slow speed non-turbocharged reciprocating engines. It offers flexibility in replacement applications allowing for dimensional, acoustical and aerodynamic duplicates. The RS series incorporate multi-chamber and baffle-tube design, providing superior broad band reactive noise control. Because all Mueller equipment is individually engineered for each order, the RS will meet your specific silencing criteria.



## RECIPROCATING ENGINE EXHAUST CATALYST/SILENCER MUELLER MODEL TDSCOR

For stationary combustion engines used in gas compression, power generation, and other industrial applications, the Mueller TDSCOR is the cost efficient solution for removing hazardous pollutants and volatile organic compounds from engine exhaust while providing broad band noise attenuation. You'll achieve industry leading emissions and sound control in one compact, durable unit that has been a staple in compression stations across North America for years.

## GAS TURBINE ENGINE EXHAUST CATALYST/SILENCER MUELLER MODEL TDSCOT

For gas turbine engines used in gas compression and power generation, the Mueller TDSCOT is the cost efficient solution for removing hazardous pollutants and volatile organic compounds from engine exhaust while providing broad band noise attenuation. You'll achieve industry leading emissions and sound control in single, durable unit that has been a staple in compression stations across North America for years.

# NOISE ABATEMENT

## BLOW DOWN SILENCER MUELLER MODEL BDS

The Mueller Model BDS Blow Down Silencer effectively reduces the noise associated with venting high pressure steam or gas to atmospheric pressure. The BDS utilizes an acoustic model long accepted in the industry, incorporating absorptive and dissipative acoustic functions. The cylindrical arrangement enables low pressure drop while achieving high attenuation properties.

## BLOW DOWN SEPARATOR/SILENCER MUELLER MODEL BDSS

The Mueller Model BDSS Blow Down Separator/Silencer removes entrained liquids from high pressure gas or steam discharging to atmosphere, while reducing the noise associated with this venting. The BDSS utilizes an acoustic model incorporating absorptive and dissipative acoustic functions. The cylindrical arrangement enables low pressure drop while achieving high attenuation properties. Mueller's superior double-walled design incorporating liquid traps, efficiently removes fluids from the gas stream, allowing them to drain by gravity. A slug catcher option is available.

## HIGH VOLUME VENT SILENCER MUELLER MODEL HVVS

The Mueller HVVS High Volume Vent Silencer has been proven to significantly reduce the noise associated with venting high pressure steam or gas to the atmosphere. The HVVS incorporates a double diffuser design with non line-of-sight acoustical baffle panels, providing the highest possible degree of broad band noise control. The rectangular configuration allows for bolted modular fabrication, resulting in easily removable replaceable parts, ensuring longer system operating life. It can even be trailer mounted for mobile pigging and blowdown applications.

## BLOW DOWN SEPARATOR/SILENCER MUELLER MODEL OVSS

The Mueller Model OVSS Blow Down Separator Silencer removes 99% of the entrained lubricating fluids and condensation 8 microns and larger from high pressure gas discharging to the atmosphere while also reducing the resulting vent noise to the specified level. Field proven for decades, the rugged, versatile OVSS can even be configured as a trailer mounted mobile unit.

## PARALLEL BAFFLE SILENCER MUELLER MODEL PBS

Mueller PBS Parallel Baffle Silencers effectively reduce the broad band noise generated by centrifugal and axial rotating machinery intake and discharge. The PBS utilizes an acoustic model long accepted in the industry, incorporating absorptive and dissipative acoustic functions. The parallel baffle arrangement enables low pressure drop while achieving high attenuation properties.

## REACTIVE SILENCER MUELLER MODEL RS

The Mueller RS Series Reactive Silencer effectively controls noise in slow speed non-turbocharged reciprocating engines. It offers flexibility in replacement applications allowing for dimensional, acoustical and aerodynamic duplicates. The RS series incorporates multi-chamber and baffle-tube design, providing superior broad band reactive noise control. Because all Mueller equipment is individually engineered for each order, the RS will meet your specific silencing criteria.

## MACHINERY INTAKE AIR FILTER/SILENCER MUELLER MODEL RSIF

The Mueller Model RSIF effectively filters intake air while also controlling noise for centrifugal and axial compressors, rotary positive, vane axial and centrifugal blowers, reciprocating engines and compressors. The RSIF accepts various 24" x 24" filter and prefilter combinations enabling ideal filter selection and incorporates both reactive and absorptive noise control, providing broad band attenuation for rotating machinery from 1,000 through 12,000 horsepower.





## STARTING GAS SEPARATOR/SILENCER MUELLER MODEL SGSS

In a highly efficient single unit, the Mueller Model SGSS Starting Gas Separator/Silencer effectively removes entrained lubricating liquids from air or gas starters, and reduces the noise associated with discharging starting air or gas to acceptable levels. With no moving parts, the SGSS has been a reliable component in installations across North America for two decades. Like all Mueller products it is designed for low maintenance and built to last.



## RECIPROCATING ENGINE EXHAUST CATALYST/SILENCER MUELLER MODEL TDSCOR

For stationary combustion engines used in gas compression, power generation, and other industrial applications, the Mueller TDSCOR is the cost efficient solution for removing hazardous pollutants and volatile organic compounds from engine exhaust while providing broad band noise attenuation. You'll achieve industry leading emissions and sound control in one compact, durable unit that has been a staple in compression stations across North America for years.



## GAS TURBINE ENGINE EXHAUST CATALYST/SILENCER MUELLER MODEL TDSCOT

For gas turbine engines used in gas compression and power generation, the Mueller TDSCOT is the cost efficient solution for removing hazardous pollutants and volatile organic compounds from engine exhaust while providing broad band noise attenuation. You'll achieve industry leading emissions and sound control in single, durable unit that has been a staple in compression stations across North America for years.



## GAS TURBINE EXHAUST SILENCER MUELLER MODEL TDSGT

The Mueller TDSGT Gas Turbine Exhaust Silencer provides low pressure drop, high broadband acoustic attenuation up to 50 dB @ 50' in a compact cylindrical design incorporating annular acoustic absorption panels. Built to last of heavy gauge steel and durable components, the TDSGT has been a proven workhorse with an extended life span even at stations operating in the harshest of conditions.



## CENTRIFUGAL COMPRESSOR INLINE HIGH PRESSURE SILENCER MUELLER MODEL TDSHP

The Mueller TDSHP high pressure discharge silencer mitigates swirl flow from compressor discharge and associated vortices while providing high frequency noise attenuation. The TDSHP utilizes an acoustic model long accepted in the industry, incorporating absorptive and dissipative acoustic functions, achieving high attenuation while maintaining low pressure drop.

## MIST ELIMINATION

### BLOW DOWN SEPARATOR/SILENCER MUELLER MODEL BDSS

The Mueller Model BDSS Blow Down Separator/Silencer removes entrained liquids from high pressure gas or steam discharging to atmosphere, while reducing the noise associated with this venting. The BDSS utilizes an acoustic model incorporating absorptive and dissipative acoustic functions. The cylindrical arrangement enables low pressure drop while achieving high attenuation properties. Mueller's superior double-walled design incorporating liquid traps, efficiently removes fluids from the gas stream, allowing them to drain by gravity. A slug catcher option is available.



### VALVE OPERATOR VENT SEPARATOR MUELLER MODEL OVS

The Mueller Model OVS Valve Operator Vent Separator is as a "source control" for entrained hydraulic and lubricating fluids venting to the atmosphere from the exhaust gas port of Shafer, EIM, and similar valve operators. The OVS will remove 99% of all entrained liquid particles 10 microns and larger from the venting gas.



### BLOWDOWN SEPARATOR/SILENCER MUELLER MODEL OVSS

The Mueller Model OVSS Blowdown Separator Silencer removes 99% of the entrained lubricating fluids and condensation 8 microns and larger from high pressure gas discharging to the atmosphere while also reducing the resulting vent noise to the specified level. Field proven for decades, the rugged, versatile OVSS can even be configured as a trailer mounted mobile unit.



### STARTING GAS SEPARATOR MUELLER MODEL SGS

The Mueller Model SGS Starting Gas Separator effectively removes entrained lubricating liquids from air or gas starters. With no moving parts, the SGS has been a reliable workhorse in installations across North America for two decades. Like all Mueller products it is designed for low maintenance and built to last.





## STARTING GAS SEPARATOR/SILENCER MUELLER MODEL SGSS

In a highly efficient single unit, the Mueller Model SGSS Starting Gas Separator/Silencer effectively removes entrained lubricating liquids from air or gas starters, and reduces the noise associated with discharging starting air or gas to acceptable levels. With no moving parts, the SGSS has been a reliable component in installations across North America for two decades. Like all Mueller products it is designed for low maintenance and built to last.



## LUBE OIL SUMP VENT COALESCER MUELLER MODEL SVC

The Mueller Model SVC is a static mechanical separation and collection system that removes 99.5% of the particles 3 microns and larger from the oil reservoir vent, allowing for collection and return of oil to waste oil storage, eliminating the oil film discharge and atmospheric pollution that is typically a byproduct of both gas turbine and reciprocating engine prime movers.



## PACKING CASE VENT MIST EXTRACTOR MUELLER MODEL VTSPC

The Mueller Model VTSPC Packing Case Vent Mist Extractor is the only product on the market specifically designed to solve one of the most common problems inherent in the natural gas compression process. Even when rod packing is new, gas vents at a rate of about 6 to 10 SCFH carrying with it a small amount of oil, and as the packing wears, additional gas and lubricating fluid vent to the atmosphere. The unsightly oil film on many compressor buildings and grounds is evidence of this environmental pollutant. The VTSPC reliably eliminates that problem.



## WASTE TANK VENT MIST EXTRACTOR MUELLER MODEL VTS

The Mueller Model VTS Waste Tank Vent Mist Extractor for pipeline suction scrubber sump vent applications removes entrained lubrication, condensation, water and other fluids from venting natural gas over a wide range of discharge exhaust flows. With no moving parts, the VTS is highly reliable and its operating principle has been widely field proven. As natural gas and entrained fluids enter the VTS via the inlet nozzle, flow impinges on two distinct stages of separation, removing the entrained fluids, with only clean gas ultimately venting to the atmosphere.

## DEODORIZATION

### BLOW DOWN VENT DEODORIZER MUELLER MODEL CB

The Mueller Model CB Blow Down Vent Deodorizer efficiently removes mercaptan from high pressure vent gas. Over the years it has become an essential piece of equipment for many pipeline companies to remove mercaptan from venting gas sources such as ESD, compressor station, storage well cleaning and pipeline pigging operation blowdowns. In many cases this venting often happens in populated areas where the sudden release of odorized natural gas can cause public alarm. The CB reliably eliminates that problem, and is available as a mobile unit.



### LOW PRESSURE VENT DEODORIZER MUELLER MODEL DOS

The Mueller DOS Low Pressure Vent Deodorizer is an essential piece of equipment for pipeline companies in the removal of mercaptan from venting gas sources such as valve operators, starting gas, and packing case vents. In many cases this venting often happens in populated areas where the release of odorized natural gas can cause public alarm. The DOS reliably eliminates that problem, and can also be efficiently packaged with our separation and silencing equipment.



## GAS VENT MONITORING

### PACKING CASE VENT MONITOR MUELLER MODEL DPVM

The Mueller DPVM packing case vent monitor provides a valuable visual indication of rod packing wear (reflected by pressure differential) in order to avert packing breakdown and subsequent catastrophic compressor failure. This unique device easily attaches to the packing case vent connection and registers gas leakage rates of 6 to 50 SCFH (+/-10%). To avert sudden failures, the DPVM integrates an external relief valve in the event rod packing leakage creates a pressure differential greater than 10 PSIG.



## MORE DETAILED INFORMATION

This brochure provides a concise overview of our product array. Much more detailed information on all Mueller equipment may be found on our website, including specific applications, features, and downloadable product data sheets.

## REPLACEMENT FILTER MEDIA

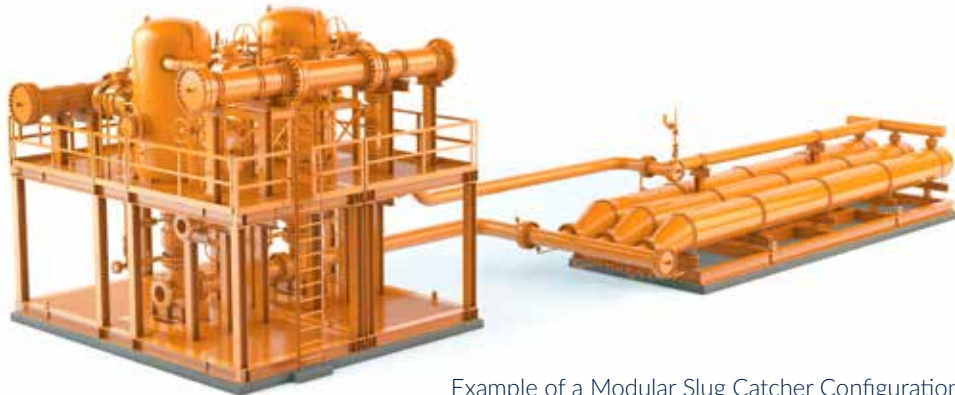
We offer an array of replacement filter media for our RSIF, GTAF, MAF, RPSC, and other Mueller intake systems. Refer to our website for various filter models, their sizes and properties plus information on using the magnehelic gauge to determine when filters require replacement. Click on 'View All Products', then scroll to 'Replacement Filter Media'.

## COMPLETE SYSTEM PACKAGES

For most of our products we can provide complete system packages including compatible Mueller equipment as well as controls, weather hoods, screens, platforms, ladders, structural support, vibration isolation boots, expansion joints, duct work, and other ancillary equipment.

## CUSTOM MODULAR SYSTEMS

With today's new production methods there's no such thing as a cookie cutter solution to midstream demands. Because we engineer every order to the unique needs of that installation, we are skilled at designing custom modular slug catcher, and other systems to accommodate your location's unique footprint and topography. Utilizing our versatile KLS configurations, we package highly compact and efficient self-contained units--complete with skids, platforms, and companion equipment-- that will meet your space, contaminant, and liquid load requirements.



Example of a Modular Slug Catcher Configuration



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