




Instrument Grade Gas

CLEAN. DRY. REGULATE.



What is instrument grade gas conditioning?


Clean, dry, and pressure-regulated natural gas or air is essential to instrumentation that relies on pneumatics to operate. As natural gas flows through pipelines, it picks up contaminants such as dirt, condensed water, and other unwanted particles that can contribute to clogging, freezing, and severe damage to sensitive equipment. Filters and dehydration assemblies use specific media to effectively screen contaminants or moisture as pneumatic supply flows to pipeline instruments. Once the gas or air is clean and dry, a pressure regulator makes it completely instrument-ready. High pipeline pressure must be reduced to an acceptable rating with a regulator for instruments to function properly. When instrumentation relies on pneumatics to function, Welker provides effective and reliable products for supplying instrument grade gas.



Clean

Pneumatic supply with particulates cause clogging and damage to the intricate construction of pipeline instrumentation. Our filters clean particulates to boost longevity of seals and ensure proper flow to instruments for continuous operation.

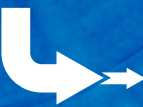
Welker Solution: F-7, F-8, F-9, F-10



Dry

Excess water content in pneumatic supply will lead to flooding in equipment and freezing during pressure reduction. Welker filter dryers and dehydration assemblies keep everything functional by preventing water from reaching instrumentation.

Welker Solution: F-4, F-5, DA-1



Regulate

Full pipeline pressure is dangerously high considering the low amount required to operate instrumentation. Excessive pressure can severely damage equipment and be hazardous to those on-site. Our regulators provide peace of mind by reducing pressure to the proper level to safely operate instrumentation.

Welker Solution: IR-4, DA-1



CLEAN

Welker® filters have been relied on for years to screen contaminants and supply clean instrument grade gas. Typically, our filters are equipped with stainless steel or polyethylene cartridges to stop particles from clogging instrumentation. Welker Sulfur-Gon™ cartridges absorb sulfur to help prevent the buildup of H₂S. Our filters incorporate spin-on and off threading that makes servicing the cartridge quick and easy. Welker offers filters in a variety of sizes to meet flow capacity and space requirements of each application.

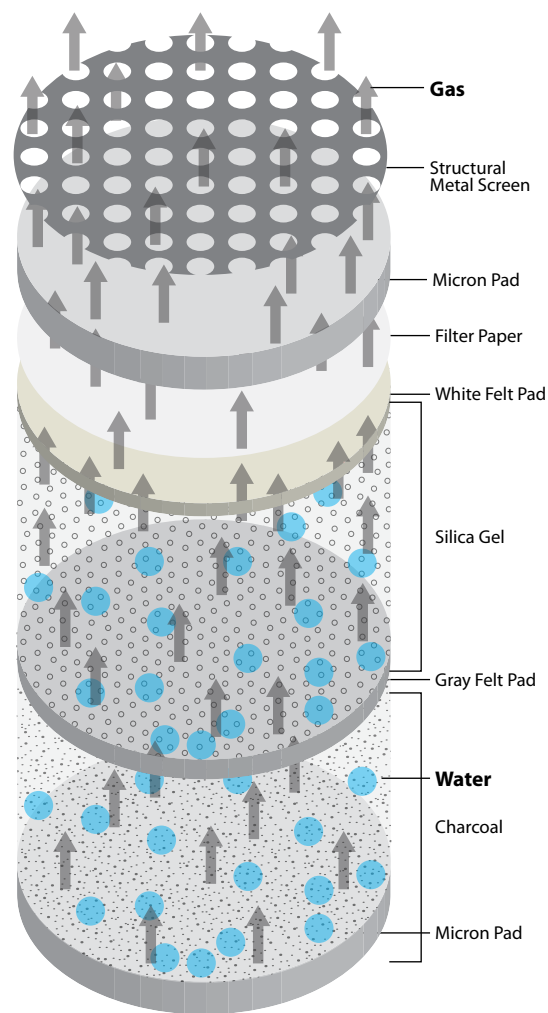
Media	Filters Liquid Hydrocarbons	Filters Mercaptan	Filters Sulfur (H ₂ S Application)	Absorbs Water
Charcoal	✓	✓		
Sulfur-Gon™		✓	✓	
Silica Gel				✓

DRY

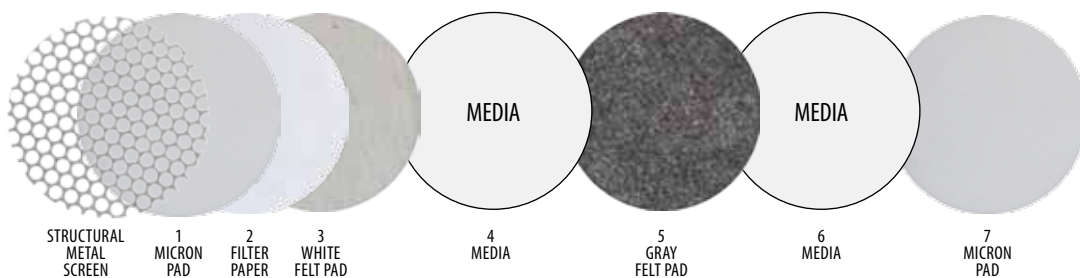
Welker® filter dryers are used throughout the natural gas industry to remove water. Each filter dryer uses silica gel to absorb liquids while pneumatic supply passes through the cartridge. Welker® dehydration assemblies are a robust

solution that integrates two filter dryers with tandem regulators on a bypass manifold to increase operational time between maintenance trips. Once the first filter cartridge becomes saturated with water, differential pressure automatically redirects incoming gas or air to the fresh secondary cartridge. With the secondary filter waiting as a backup in the dehydration assembly, operation time lasts longer and equipment maintenance cycles are less frequent. The multi-filter design offers longer operation time versus a single-filter solution, and

maintenance can be completed without shutting off the pneumatic supply to the instrument on-site.



FILTERING PROCESS



7 LAYERS OF FILTRATION

REGULATE

Pneumatically operated instruments require gas or air to be supplied within a specific pressure range to work. The Welker® IR series of pressure regulators effectively reduces pipeline pressure to a functional range for equipment. Our regulators have a durable stainless steel construction option to resist corrosion and provide longevity in servicing your application. Since the required operational pressure varies between instruments, Welker offers multiple regulator spring options to readily supply a compatible output range.



WELKER IR®-4

For more Welker product information,
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For installation, operation, and maintenance inquiries,
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