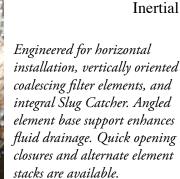
Series R100™ Coalescing Pipeline Filter Multiple Stage

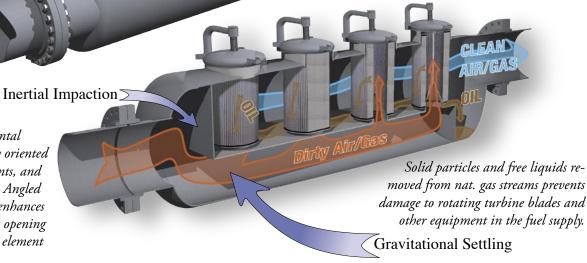
Design Pressures to 3000 psig std.



 $R100^{\mathrm{TM}}$ in foreground, competitor in background.







These coalescing filter-separators use dry type replaceable coalescer elements. They provide safe and efficient operation, convenient access, and exceptional service life. Their large rugged filter elements have pleated media to combine high efficiency with low ΔP.

Coal Bed Methane Filtration

hawndra Products™ developed a new coalescing pipeline filter product (patent pending). This new R100™ series filter is a horizontal pipelinefilter with extended surface area vertical elements. Element service life has been extended tenfold and more. Complete service can be accomplished with a single 3/4" adjustable wrench in less than 1.5 hours.

R-Series filters remove the solid particles and liquids from natural gas, vastly reducing or eliminating service to engines, turbines and other

compressors, valves and meters. Superior filtration is achieved first through inertial impaction, secondly through gravitational settling, and thirdly through a nearly vertical coalescing multi-stage filter element with efficiencies of 0.03 micron and higher. Media has been independently lab tested using various oils as contaminants.

Out of service Horizontal unit

A Field Proven Filter Design, multiple units in service.

The largest natural gas supplier in the Appalachian basin recently installed Sparks™ R100™ coalescing pipeline filters at five coal bed methane operations in Virginia and West Virginia. The first two of these filter units have now been in continuous, service-free operation for six months and more. One unit (See image above) processes seven million cubic feet per day of natural gas, filtered at the manifold head of ten gas wells, to remove water, liquid mist, coal dust, and sand to protect two downstream Caterpillar engines and two compressors. R-Series filters remove the solid particles and liquids from natural gas, utilizing multi stage filtration technology vastly reducing maintenance service and downtime to compressors, engines, turbines and other gas fired equipment.

This same pipeline filter (See image above) replaced a competitive unit (See image above) that required seven 4" x 36" elements. The new Sparks Series R100 filter with only three elements had operated continuously for six months without needing any service saving this CBM producer seventy-five hours of remote field maintenance and over \$20,000 in replacement filter elements.

