

# Merlin Cyclone Separator

## Low Flow Cyclone Separator

In partnership with Practical Analyzer Solutions Pte Ltd. (PAS), Envent introduces the Merlin Cyclone Separator. An innovative and patented separation technology that protects on-line gas analyzers against a wide range of liquid loading and fouling particulates. The Merlin is specially engineered to offer optimal separation at very low gas flow rates.

Without the use of a filter, the Merlin separates liquid droplets and particles (up to 10 micron) effectively from gas phase by centrifugal forces and the separated components flow axially downwards out of the separator with the bypass flow. The dry, clean gas sample exits from the top side of the separator to the analyzer. It can also be applied on liquid service applications.

### Features

- 5 years of intense research and design by PAS.
- Ultra-smooth cyclone geometry prevents splashing of liquid droplets which creates mists that can be carried over into the exiting gas flow to analyzers.
- Reduce analyzer maintenance and sample system cost.
- Easy installation in hazardous areas.
- Innovative low flow rate design – designed to work optimally at low flow rate (60 – 350 NL/h) commonly found in analyzer systems.
- Can be used in single-stage, dual-stage, or multi-stages.
- Easily cleaned (if required depending on degree of fouling) by flushing water, steam or nitrogen gas to remove particulates without damaging the unit.
- CRN Pending (Canada)

### Applications

- Free Liquids Removal from a Natural Gas Processing (water, glycol, amine, condensate)
- H<sub>2</sub>S Amine Treater
- Moisture Glycol Dehydration
- Biogas after Digester
- Amine & Methanol Removal
- H<sub>2</sub>S for 3-Phase Pipeline
- Refining and Petrochemical
- Other (applications reviewed on case-by-case basis)

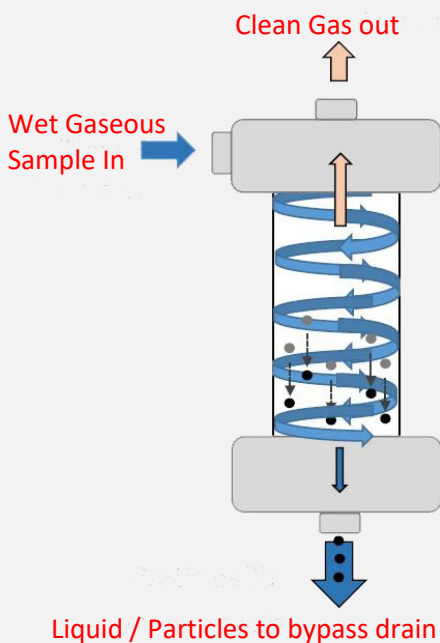


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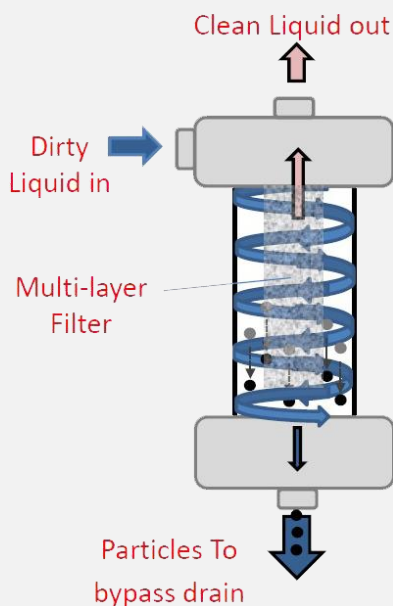
## Gas / Liquid Applications

(Free Liquid Model: MGCS)



## Integral Filter

(Liquid Application Model: MLCS)



## Specifications

**\* Application Datasheet must be provided by the customer for review to determine correct Cyclone Separator model and configuration \***

<b>Models</b>	Merlin Cyclone Separator for Gas Application (MGCS) Merlin Cyclone Separator for Liquid Application (MLCS)
<b>Construction Material (Body)</b>	Stainless Steel SS316; PVDF; PVC; Inconel Alloy 625; Hastelloy Alloy C276; CPVC
<b>Construction Material (Seal)</b>	Viton O-Ring; Teflon Gasket; Kalrez O-Ring
<b>SS316 Filter Element Pore Size</b>	Filter element (if required) to be determined upon review of application data and stream composition
<b>Sample Inlet Connection</b>	1/4" NPT F
<b>Sample Outlet Connection</b>	1/2" Tube (For Standard & Medium Size Cyclone)
<b>Fast Loop Bypass Connection</b>	1/2" OD (For Standard & Medium Size Cyclone) 1/2" NPTF (For Standard, Medium Cyclone) 300# flange connection with 1/2" NPTF (For Medium Size Cyclone)
<b>Flow Rates</b>	No min. flow for gas or liquids. Typical analyzer flow 6 to 60 L/h, bypass or sweep stream 30 – 300 L/h.
<b>Maximum Pressure / Temp.</b>	200 Barg (2900 psig) / 200°C (392°F)
<b>Drain Connection</b>	1/2" NPTF
<b>Option / Special Design</b>	Material Compliance to NACE Envent Condenser (Vortex Chiller) Integrated pH Sensor Holder Integrated Pressure Gauge

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