Steam

Eaton Gas/Liquid Separators are often installed ahead of steam turbines to protect the turbine blades from the erosive action of wet steam, pipe scale, and other damage-causing entrained solids. They are also installed in steam distribution lines to assure clean, dry steam enters heat exchangers, pressure reducing valves, temperature regulators, meters, and other process equipment.

Compressed Air

Compressed air lines have Eaton Gas/Liquid Separators installed following intercoolers and aftercoolers to remove entrained moisture that would otherwise cause damage in successive stages of compression or to subsequent processes. They are used for entrainment removal in primary air lines leading to air-using equipment such as air chucks, air nozzles, and paint spray equipment. They are particularly suitable for long runs of pipe and where wide temperature differentials are found. The units are highly efficient for moisture separation of refrigerated air dryer packages.

Compressed Gas

Eaton Gas/Liquid Separators are used in conjunction with intercooler and aftercooler equipment installed on gas compressors. They are very effective in the removal of oil, tar, water, and other unwanted entrainment.

## The Exclusive Eaton Vortex Containment Plate (VCP)

In the past, separators have often operated at less than peak efficiency due to the re-entrainment of separated liquid at normal or high flow rates. The Eaton VCP solves this problem. The VCP utilizes carefully placed rings that shield the separated liquid from the vortex action inside the separator and direct it to the separator drain. The turbulence of the swirling gas or air flow is sheltered from the liquid and cannot be re-entrained after separation. The VCP features extremely heavy duty construction, unlike the delicate baffles used by other systems. And the Eaton VCP is completely maintenance free.

The charts on the right graphically depict the high efficiency of Eaton's exclusive Vortex Containment Plate. They show the percentage efficiency versus air flow when the separator is operated at 1 and 3 atm with a water input rate of 150 pounds per hour. Two typical 3" gas/liquid separators that do not contain the Eaton Vortex Containment Plate are compared to a Type 31L Eaton Separator. The performance standard was the removal of all liquid and solid entrainment where particle sizes exceeded 10 microns.
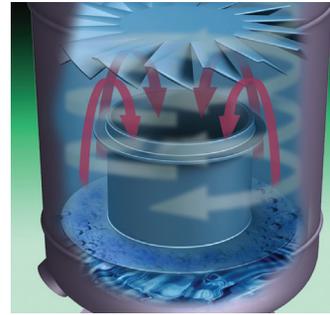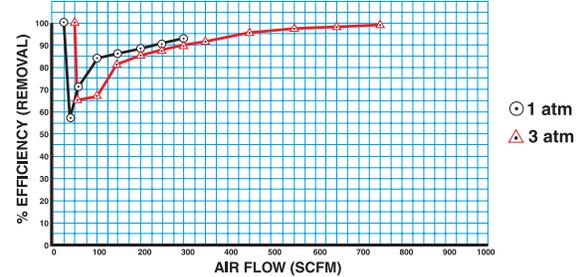

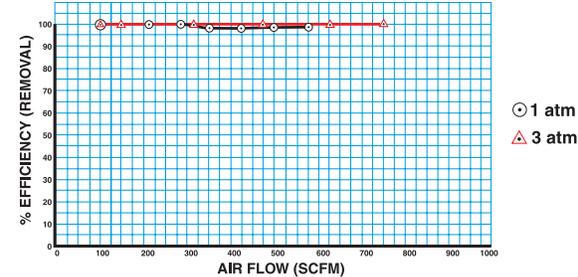Vortex Containment Plate (VCP) prevents re-entrainment of separated liquid.

Separator A without the Vortex Containment Plate

⊙ 1 atm
△ 3 atm
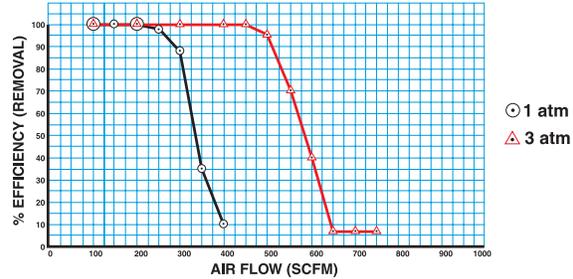
Separator B without the Vortex Containment Plate

⊙ 1 atm
△ 3 atm

Type 31-L Separator with the Vortex Containment Plate

⊙ 1 atm
△ 3 atm

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Visit us online at eaton.com/filtration for a complete list of Eaton's filtration products.

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