

KOCKEN

SISTEMAS DE ENERGIA INC.

GAS-LIQUID CYCLONIC SEPARATORS



All KOCKEN Sistemas de Energia Inc. Separation equipment is constructed in accordance with API 12J Specification for Oil and Gas Separators, GPSA Section 7, ASME Section VIII and applicable Industry Codes and Standards. In addition to published design standards, Kocken has a vast array of in-house programs and standards that have been developed from real world operating data, laboratory testing and customer feedback.

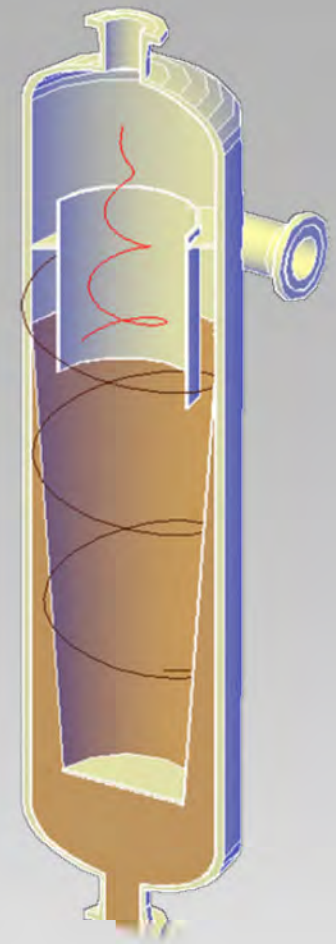
The 'Gas-Liquid Cyclonic Separator' (GLCS) is applied in conjunction with Gas-Liquid Cyclonic Cylinder technology and functions as a compact multi-phase meter. The compact gas-liquid cyclonic separator (GLCS) relies on centripetal flow to induce rapid separation of the gas-liquid mixture. The mixture is introduced into the separator in a downward flowing tangential manner. The spinning stream is then forced downward against the cylindrical shell and into the vortex chamber by a vortex plate. In this motion the free and entrained liquids are spun out of the gas by centrifugal force having sufficient G forces to ensure that the separation occurs fast enough to reduce retention time to less than 1 minute thereby drastically reducing equipment sizes. The swirling gas then converges towards the centre of the vortex chamber where the velocity increases prior to exiting through the top of the GLCS. The liquid exiting the lower section of the GLCS flows through a stilling baffle to break the energy created in the vortex.

The GLCS is ideally designed for multiphase metering where space is limited. Liquid carry-over is guaranteed less than 2.0 gallons per MMSCF of gas while gas carry-under is guaranteed less than 5.0% in liquid. The GLCS relies on centripetal flow for cyclonic separation and functions best with liquid loading in ranges of 500 – 2,000 BBLs of liquid per MMSCF of gas.



Features:

- Coriolis Metering
- Net Crude Metering w/ Water Cut Measurement
- Metering Correlations to AGA-8,
- Metering Correlations to ASME MFC-6M
- Metering Correlations to API 11 & API 12
- Minimum Separation Efficiency of 95%
- Primary Vortex Separation Section for Liberation of Gas
- Secondary Separation Section to Maintain Level Control
- Control System for Pressure, Temperature & Level
- Alarm & Shutdown System
- Adequate G-Force to Ensure Rapid Gas-Liquid Separation
- Passive Control - Physically Controlled Level
- Active Control - Back-Pressure / Level / Differential Pressure
- Active Control - Inlet Suppression / Back-Pressure / Level
- Empirical Data Compiled from EnSys-Yocum & GOSPSIM
- Inlet Flow Conditioner
- System of Controlling Gas Volumn Fraction in Liquid



Applications:

- Multi-Phase Metering
- Inlet Separators
- Wellhead Separators
- Test Separators
- 2-Phase Production Separators
- Flash Separators
- Debottle-necking

DESIGN PARAMETERS

Operating Pressure	
Operating Temperature	
Flow of Gas	
Gas Molecular Weight	
Flow of Liquid	
Specific Gravity Liquid	
Control Method	

APPLYING WORLD CLASS TECHNOLOGIES IN PURSUIT OF SUPERIOR EFFICIENCY

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