



**CHANDLER**  
ENGINEERING

## Model 2353

### *Equilibrium Flash Separator*

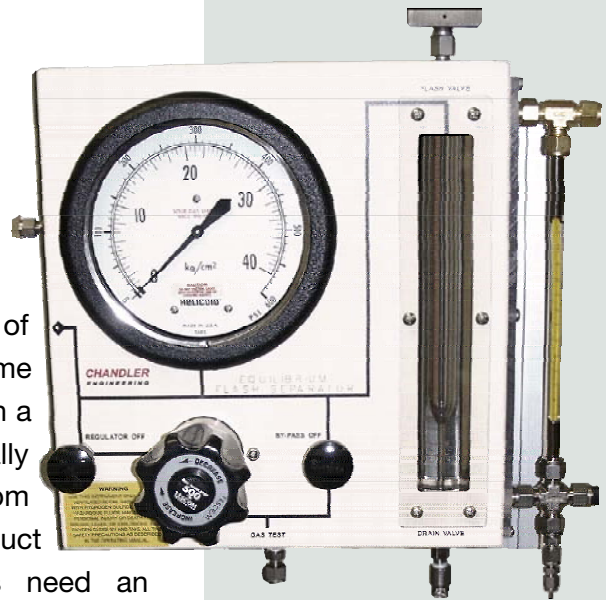
#### Two-Stage Flash Separator For Understanding The Equilibrium Of Reservoir Fluids

As crude oil is extracted from a formation and the pressure of the produced crude drops below its bubble point, some portion of the liquid will flash into the gas phase resulting in a two-phase mixture. This liquid and gas mixture is typically sent through multistage separation to divide the gases from the liquids at decreasing pressures. To improve product separation and recovery at minimum cost, operators need an understanding of the reservoir fluids' behavior under the operational temperature and pressure of each separator.

The Model 2353 Equilibrium Flash Separator tests reservoir fluids to measure gas-oil ratios, formation volume factor, stock tank vapors, and residual oil gravity as a function of separator pressure and temperature. The instrument permits gas-oil ratio and shrinkage determinations by the flash liberation or vaporization methods. This information allows for the determination of optimum separator conditions.

#### Easy to Operate

The Model 2353 consists of a 1st-stage separator chamber, equipped with a micrometer needle valve inlet, and a drain valve leading to a 2nd-stage receiver tube. The 1st-stage chamber, with a volume of 30 ml, is connected through stainless steel tubing and fittings to a pressure gauge and a back-pressure regulator (which can be isolated with a cut-off valve) to control the separator pressure. The entire pressure system is isolated from the atmosphere by an additional valve. Both the 1st-stage separator chamber and the 2nd-stage receiver tube are graduated, to allow manual measurements of the liquid volumes.



#### FEATURES

- ✓ Two-Stage Flash Capability
- ✓ Clear Jacket for Circulating Heating or Cooling Fluids
- ✓ Corrosion Resistant Sample-Wetted Materials
- ✓ Easy to Use

For controlled-temperature experiments, a polycarbonate jacket is provided around the 1st-stage separation chamber with inlet and outlet hose connections for circulating heating or cooling fluids around the chamber.

For convenience, the bench-top Equilibrium Flash Separator may be mounted on a specially designed floor stand (pictured on the left). The separator may also be mounted on the optional Laboratory Test Console along with a Model 2331D Gasometer, Model 1602 Rolling Ball Viscometer and a suitable vacuum and manifold system to form a more comprehensive analysis system.



## Specifications

### Maximum Pressures

1st-stage Separator Chamber	500 psi / 3.45 MPa
Relief valve set to approximately	660 psi / 4.5 MPa
2nd-stage Receiver Tube	25 psi / 172 kPa
Relief valve set to approximately	25 psi

### Maximum Temperatures

Ambient Temperature	140°F / 60°C
1st-stage Separator Chamber	200°F / 93°C
2nd-Stage Separator Chamber	200°F / 93°C

### Volumes

1st-Stage Separator Chamber	Marked 0-30 mL, in 0.2-mL graduations
2nd-Stage Receiver Tube	Marked 0-25 mL, in 0.2-mL graduations

*Manufacturer's specifications subject to change without notice*



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