Hydrofluoroolefins (HFOs) with a carbon-carbon double bond in the molecular structure have low ozone depletion potential (ODP) and low global warming potential (GWP), and they are expected as the next generation refrigerants for alternative hydrofluorocarbons (HFCs). Trifluoroethene (R1123: The chemical formula is CF2=CHF. The normal boiling temperature, the critical temperature, and the critical pressure are 222.96 K, 331.73 K and 4544 kPa, respectively) is a new ethene-series refrigerant, and its mixtures are very attractive although a pure R1123 is potentially unstable. In the present study, vapor-liquid equilibrium of binary mixtures of R1123 + difluoromethane (R32) were measured at temperatures from 273 K to 313 K by a recirculation method. The sample mixture is filled in an equilibrium cell with an inner volume of 265 cm$^3$, and the vapor-liquid meniscus of the sample is observed through optical windows. The samples in the vapor and liquid phases are extracted from the equilibrium cell through hexagon valves, and each composition is analyzed by a TCD gas chromatograph. Temperature measurements were made with a 100 $\Omega$ standard platinum resistance thermometer and a precision thermometer bridge according to ITS-90. The pressure of sample was measured by a quartz pressure transducer. The uncertainties in temperature and pressure measurements are estimated to be 10 mK and 2 kPa, respectively. The VLE data of R1123 + R32 mixture obtained by this measurement were compared with some equations of state.