The article contains the results of experimental investigations the two-phase ejector working with refrigerant R123. The investigations were carried out on the ejector supplied in sharpe edge driving nozzle with the various throat diameters (2.0; 3.03; 4.28; 5.08; 5.60 and 6.16 mm) and the various parameters of work. The characteristics of the ejector were prepared in co-ordinates entainment ratio $U$ -compression ratio $\Pi$, by constant value of the evaporation pressure and variable value of back-pressure. The static profiles were also prepared. Static profiles were appointed by the changing of evaporation pressure and maximally open valve on the ejector outlet. The summary profiles of static pressure along ejector for separate measurements were also presented.