Isparta rose is an agricultural product that provides world-wide awareness to our country, offering social and cultural aspects and touristic and economic contributions. Turkey and Bulgaria are two major countries that produce rose for economic return. Isparta rose (rose damascena) is a therapeutic fragrant flower used in aromatherapy applications besides oil production. The aim of this study is to determine the energy and cost analysis of drying of rose (Rosa damascena). Additionally, the energy consumption and unit cost of screening and separation was determined. Experiments were carried out in the Yakaören Rose Oil Factory of Gülbirlik, which was established in the village of Yakaören in the center of Isparta province. Temperatures of 45°C and 55°C were chosen as drying temperature in the experiment. According to the results of the research, work capacity for temperatures of 45°C and 55°C were 0.32 kg?h⁻¹ and 0.63 kg?h⁻¹, respectively. Specific energy consumption (SEC) for the same temperatures were 2.48 kWh?kg⁻¹ and 8.96 kWh?kg⁻¹, respectively. Specific moisture extraction rates (SMER) were found to be 0.402 and 0.112 kg?kWh⁻¹. The unit drying cost was for the two drying temperatures of 45 oC and 55 °C are 0.51 and 1.84 Turkish liras (TL), respectively. As a result; the work capacity, SEC, MER and unit drying cost at a temperature of 55 oC was found to be higher than the work capacity at a temperature of 45oC. However, SMER at 55°C was lower than drying at 45 °C temperature. For this reason, rose drying at a temperature of 45 degrees is advantageous in SEC, SMER and Unit Drying Cost compared to drying roses at 55 degrees.