Considering the space of correlation vectors as a configuration space for a homogeneous isotropic flow and the metric tensor associated with the two-point velocity correlation tensor field (parametrized by the time variable ), we construct the Lagrangian system in the extended configuration space. This enables us to introduce into the consideration some elements of Lagrangian mechanics for the application in turbulence. As a result, the new conservation laws can be derived in the frame of the Lagrangian system constructed. The advantage of this approach consists in the calculation of the quantities which characterize the metric sizes of a singled out fluid volume in terms of components of the metric tensor being presented by the correlation functions. It effects for instance the way to control the deformation of shapes of eddies in time and this kind of observation is impossible in the frame of classical approach based on the use of Euclidian metric to measure the distance. Dynamics in time of this system is described in terms of the correlation functions which evolve according to the von Karman-Howarth equation. Then to specify these functions, we study in details an initial-boundary value problem for the closure model of the von Karman-Howarth equation in the limit of large Reynolds numbers.