FBD and solution methodology: It should be noted that Figure 10 also acts as the free body diagram of our system and Equation 1 defines the isolator system.In order to use Equation we must first assume a suitable Compressor stiffness value Kc and isolator mass m0 and then move on to using Eq. 1 to calculate ?.As mentioned in the problem statement the overall system has a specific stiffness constant K, hence the combined isolator and compressor stiffness in series shall have an an equivalent stiffness equals to K Eq. 2.can now be used to calculate C and Cc. The ranges of these values shall be used to confirm our assumptions i.e. whether these values come under desired ranges or not and then the isolator stiffness shall be calculated.The Values of k and c in Figure 10 are the isolator parameters, ?.which are Ki and C in our case are to be calculated and are done so as follows