

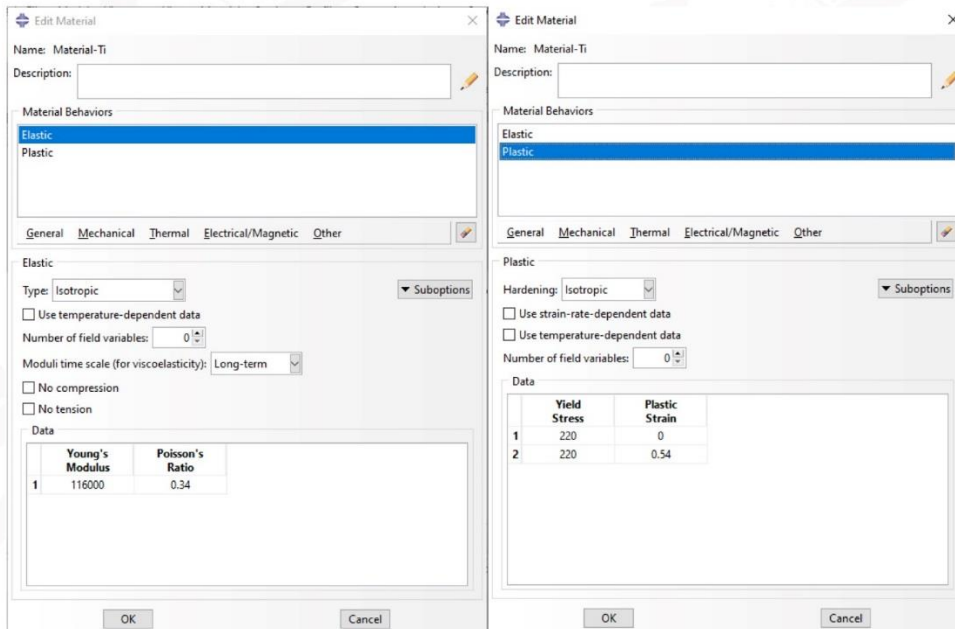
The analyzation of body valve

Azarsam Instrument Co. (commercial name as Eyvaz Technic) has different approach for testing the products. One of them is the analyzation of working pressure valve body such as DN80&PN16. In this report, we have studied the ABAQUS software and mechanical characteristics. You are able to see this model with a bit of revision in the ABAQUS software. Concerning the situation of the valve and asymmetry. The valve analyzation is totally 3D.

The mechanical properties of the material are shown in table 1. These data are measured via a tensile test or are derived from ASTM standard. It is measure that the properties are homogeneous.

Poisson's ration	Elastic modulus GPa	Fracture Strain %	Ultimate tensile strength MPa	Yield strength MPa	Material
0/25	176	6	710	477	GGG.70

Measurement standard



The description of mechanical specifications in ABAQUS software are shown in table 2.

The analyzation perform in one-step general static method in Abaqus standard.

In this analyzation, the valve has standard pressure. The maximum working pressure is 16 bar. As you know, upper side of the valve is not model. You should calculate the upper side.

Please calculate the formula: $f_1 = f_2$ $p_1.A_1 = P_2.A_2$

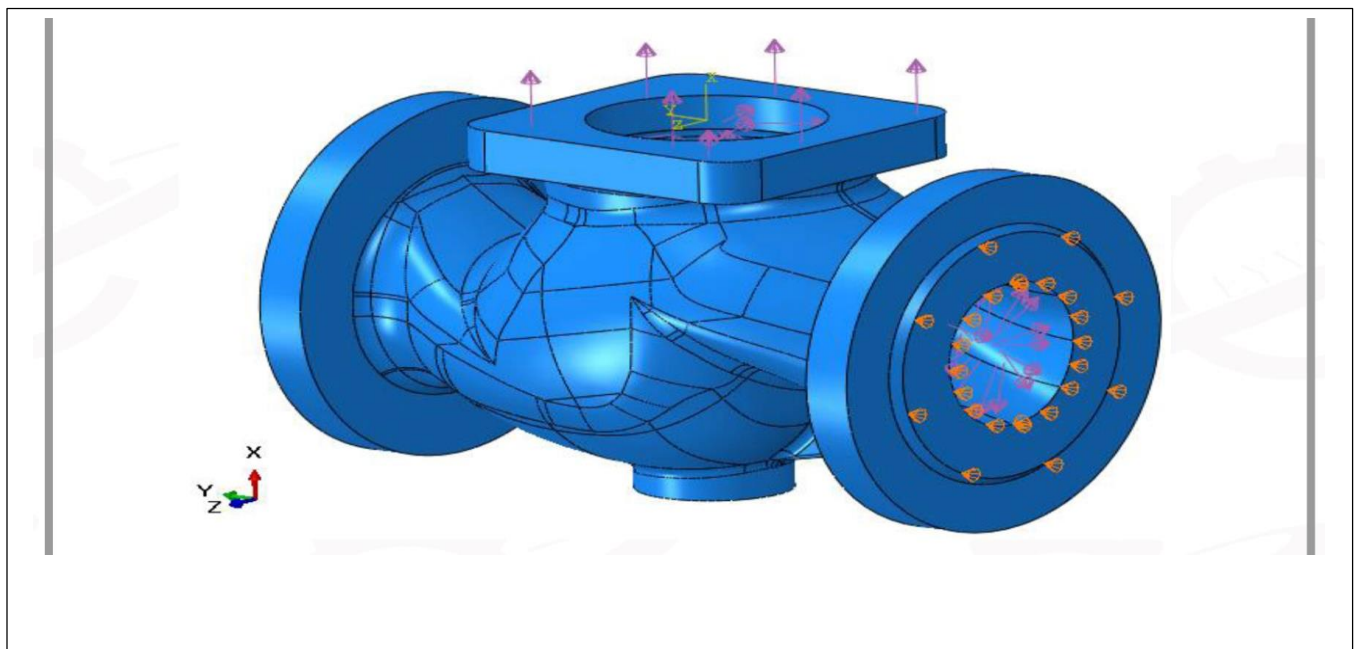
The maximum working pressure= P_1

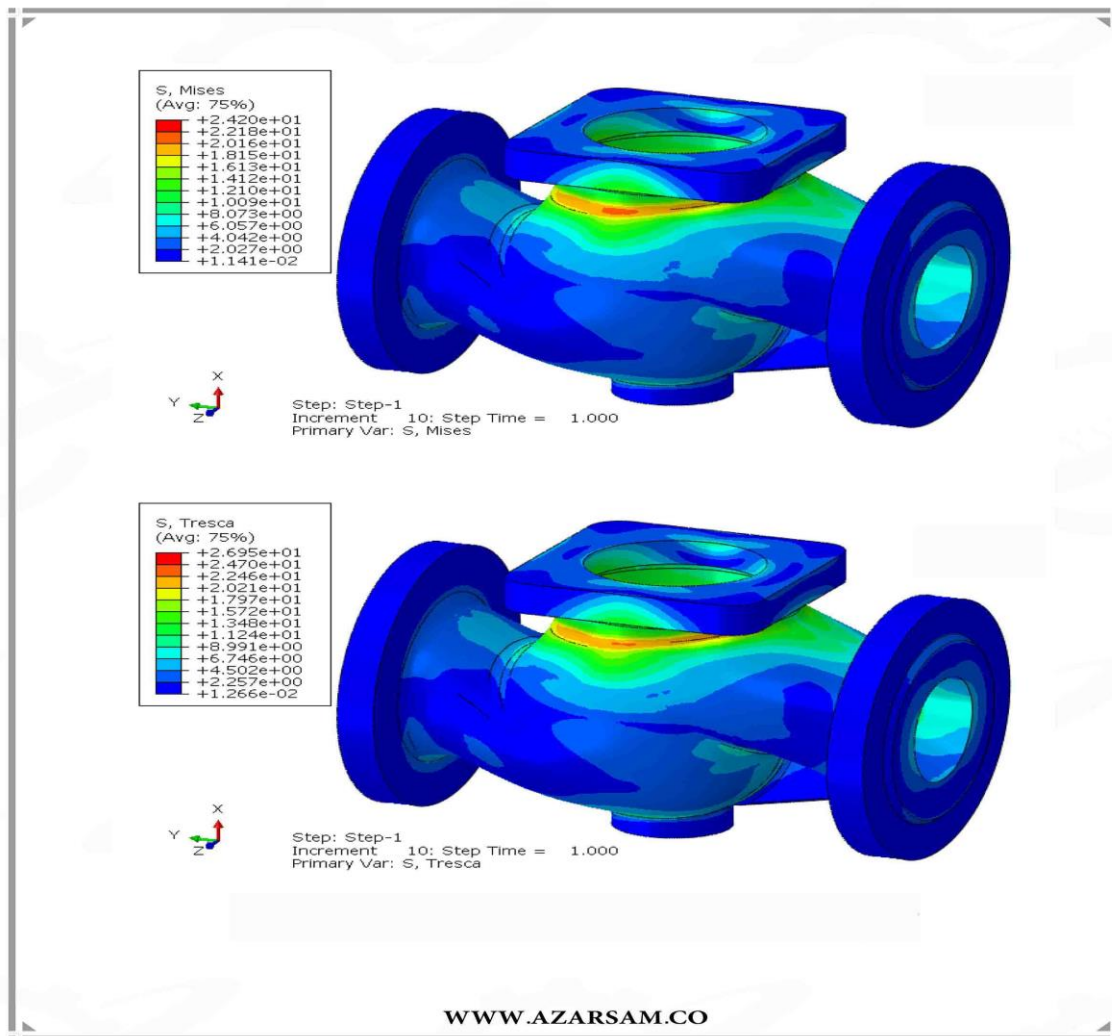
The surface area of above valve hole = A_1

P_2 = the pressure that remove above valve.

A_2 = the surface area of above valve.

The measurement of P_1 and P_2 can put in the load majole like pressure. In this majole, you should determination of exchange border. In this analyzation, you should check left and right surface. (U2)





After analyzation the conclusion have been checked. In figure 5. You can see different parts of valve. You can compare 2 criteria's, 1- phone mixer and 2- Teresa application. When you look at the figure 5 you can understand we don't have any hurt on valves.