DISCLOSURE OF THE INVENTION

PROBLEMS TO BE SOLVED BY THE INVENTION

[0005]

An object of the invention of the present application is to provide an inner circumference sealing structure, a seat structure, and a valve, which are capable of reducing operating torque for closing a valve body.

SUMMARY

[0006]

In an aspect of the present disclosure, there is provided an inner circumference sealing structure that is provided on a seat ring of a valve, swells from an inner circumferential surface of the seat ring, and allows an outer circumferential surface of a valve body to abut thereagainst, the valve body being to be applied with fluid pressure, the inner circumference sealing structure comprising:

a first sealing surface that has a concave shape and allows the outer circumferential surface of the valve body to abut thereagainst and stop there;

an engaging convex portion that allows the valve body to be engaged therewith and restricts rotation of the valve body; and

an engaging sealing surface that allows the outer circumferential surface of the valve body to abut thereagainst and stop there when the valve body is engaged

with the engaging convex portion,

wherein the inner circumference sealing structure is configured so that the engaging sealing surface has a larger sealing amount than the first sealing surface, the sealing amount being a depth by which the outer circumferential surface of the valve body enters.

[0007]

Moreover, in the above inner circumference sealing structure, an inner circumference sealing structure of the invention of the present application is characterized in that the first sealing surface, the engaging sealing surface, and the engaging convex portion are arranged in this order in a direction in which the outer circumferential surface of the valve body moves by the rotation of the valve body.

[0008]

Further, in the above inner circumference sealing structure, an inner circumference sealing structure of the invention of the present application is characterized in that a second sealing surface is provided, the second sealing surface having a concave shape, allowing the outer circumferential surface of the valve body to abut thereagainst and stop there, and being continuous with the first sealing surface,

the first sealing surface, the second sealing surface,