

Functional Test

TECHNICAL INSTRUCTION: FUNCTIONAL, RESISTANCE AND TIGHTNESS TESTS FOR VALVES.

OBJECT. The object of these tests is verify the functionality of the valve when operated with lever, gearbox and actuator.

FUNCTIONAL TEST: CONTROL OF OPERATING TORQUES

1. Dynamometric wrenches suitable to the expected torque values must be used.
2. First test: Shall be performed for minimum two times in case of design evaluation / any specific homologation. It is made without pressure before doing resistance test and the operating torque value found must be no more than 15% above APV's published torques unless higher torque seats like PEEK or metal are used.
3. Second test: It is made opening the valve with the dynamometric wrench and full rating pressure inside. - Shall be performed for minimum five times on each side in case of design evaluation / any specific homologation.
4. Third Test: Shall be performed for minimum two times applying pressure on both sides in case of design evaluation / any specific homologation.
5. The torques found with and without pressure will be written in the TEST REPORT.
6. If an actuator is mounted, it will be able to actuate the valve. It will be tested without pressure. Under customer requirement the valve can be tested to the maximum working pressure. The actual torque of the valve must be less than the required safety factor calculated maximum for the actuator.
7. The maximum opening force over the lever or the hand wheel will be 300 N. If bigger, a gear operator will be mounted.
The above points has been elaborated as below
 - (a) BTO and BTC without pressure - 2 times.
 - (b) BTO - 5 times each side
 - (c) BTO and BTC by applying line pressure at both sides simultaneously** BTO - Break To Open & BTC - Break To Close.