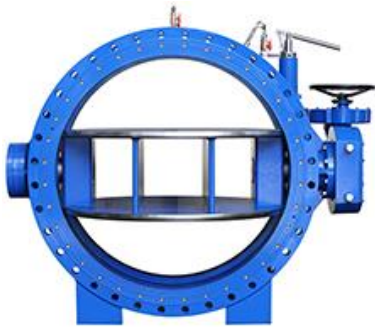




**Single Seal T-Butterfly Valves**  
**DN 300...3000mm / PN 6...40bar**



**Double Seal T-Butterfly Valves**  
**DN 300...3000mm / PN 6...40bar**



### T-Butterfly Valves

Double flanged butterfly valves are vastly used in pipe lines, pump stations, dams, power plants, etc. offering many excellent characteristics such as light weight, small dimensions, and reasonable price. Never the less they have some weak points regarding their design specially when the sizes are large and pressures are high. These points are:

1. Any damage even in very small dimension to the profiled sealing elastomer element which is located on the rim of the disk will cause leakage
2. Any repair job needed requires removing butterfly valve from the pipeline and to do this you need to drain the pipeline upstream and downstream of the valve, in order to take the valve out.
3. Butterfly valves have preferred sealing direction which means they seal on direction better than the other direction, and this can cause the valve to leak in the non-preferred directions. Especially when the pressure is high.
4. Because of double eccentric design of butterfly valves and interference seating mechanism these two causes very large operating torques to overcome dynamic and seating-unseating torque.

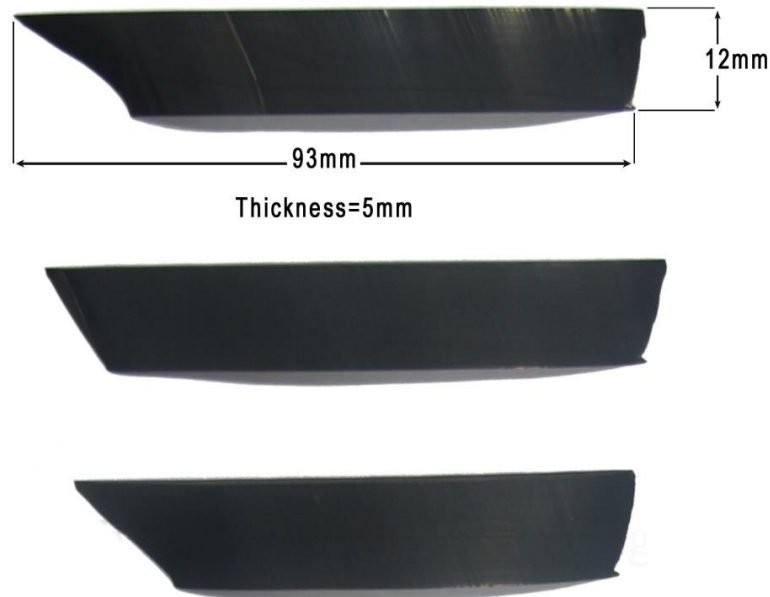
To overcome all these problems MECHANIC AB Company has designed, fabricated, and tested a special kind of butterfly valve with energizable and contractible sealing element located in the body of valve instead of disk rim. This valve is named **T-BUTTERFLY** valve.

- A.** In **T-Butterfly** valves the sealing element has no contact with the valve disk in its whole course of rotation and keeps a 2-3 mm clearance with the disk and only when the disk moves into its full close position the seal is energized by a small hand or electrical pump which uses water to press the sealing element to contract and seal the valve. Upon unseating the valve, the sealing element is depressurized letting the seal to expand and move away from disk rim leaving the 2-3 mm clearance and then the valve start to open causes long life of the sealing element and lower required torque. This characteristic also eliminates the need for by-pass valve in order to balance the pressure upstream and downstream of the valve and so it saves money by making valve room smaller and unnecessary valves and fitting for by-pass line. This
- B.** On the other hand, because the sealing element is energized from outside so almost any kind of damage to sealing element has no effect on the valve complete sealing in both directions, on the other words the **T-Butterfly** valve has no preferred sealing direction.

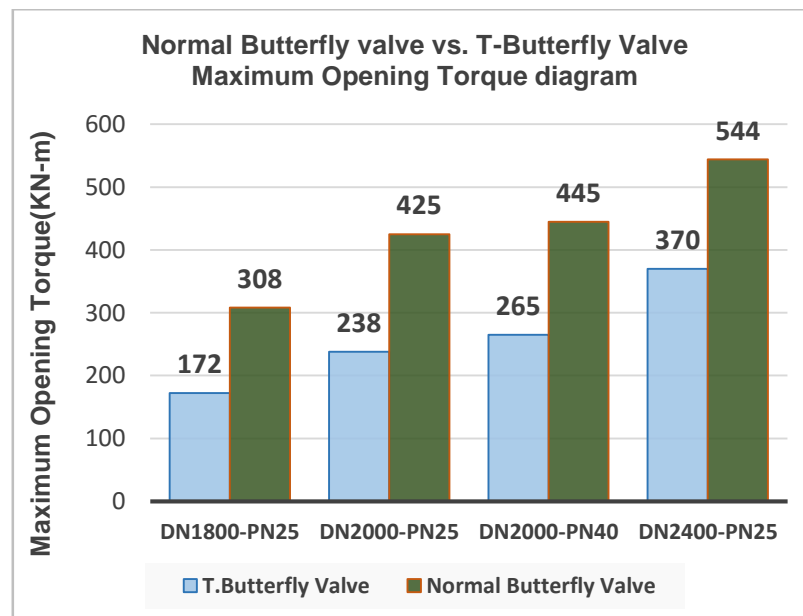
Also a single damage with these sizes to the sealing ring of a normal Butterfly valve causes severe leakage.



Three damages with these sizes to the sealing ring of a single T-Butterfly valve dose not effect complete sealing of the valve.



**C. T-Butterfly** valve is a centric valve and this causes much lower dynamic torque. These valves need 30-40 % less torque than normal butterfly valves.



**D. T-Butterfly** valve is produced in two versions: single sealing and double sealing type. In double sealing version the disk is by plane type caring two sealing trims each, and two sealing elements one each side of the valve, the sealing mechanism in the valve inlet is used as stand by sealing element and the sealing element in the valve outlet side is normally operated and if for any reason the sealing mechanism requires replacement the sealing mechanism in the inlet side comes to operation so without any need to drain or depressurize the pipeline at the upstream side of the valve you can conduct sealing replacement on the downstream side of the valve.

**T-Butterfly** valves are produced in sizes of 300-3000 mm and pressures in 10,16,25,40 bar they can be either hand operated or electrically operated.

**T-Butterfly** valves are produced in single seal and double seal versions.

Summarizing the above mentioned the **T-Butterfly** valve offers you:

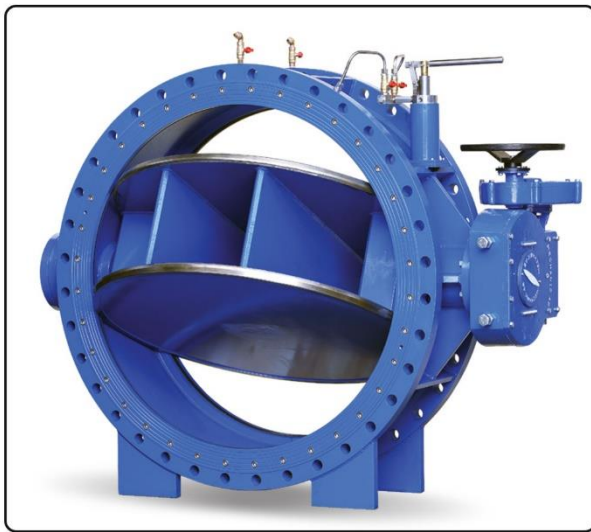
1. Complete sealing in both directions even with damaged sealing element
2. 10-15% lower weight because of shorter face to face dimension
3. 30-40% lower operating torque
4. No need to by-pass line to balance the pressure before opening the valve.
5. No need to remove valve from pipeline to replace sealing element
6. Much longer service life of sealing element because of no rubbing action on it.
7. Much more dependability than normal butterfly valve.



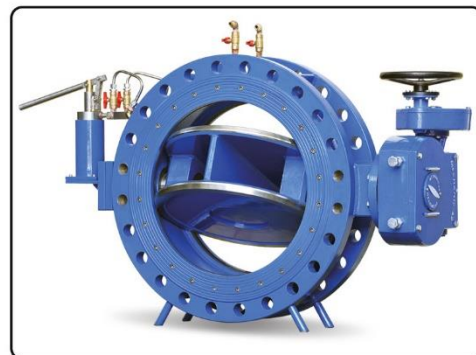
T-Butterfly Valve Hydro static test



T-Butterfly Valve DN 2400 PN 25



T-Butterfly Valve DN 1400 PN10



T-Butterfly Valve DN 700 PN 40