90° Actuators with L-Port Valves

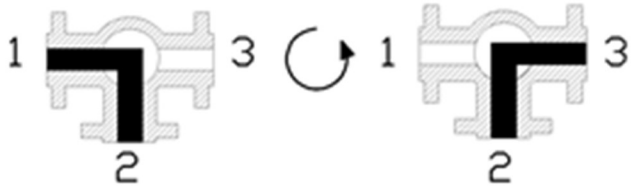
Standard Assembly (Flow Plans A, R, V)
If applicable, the actuator will fail Close CW
Valve to be left in Closed CW position

Reverse Assembly (Flow Plans A', R', V')
If applicable, the actuator will fail Open CCW
Valve to be left in Open CCW position

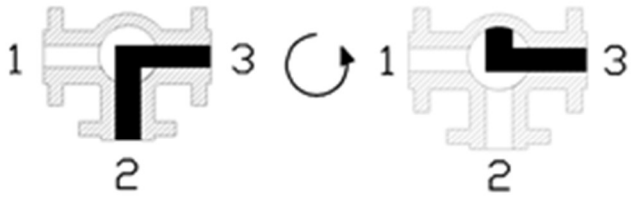
Standard Assembly

START 0° (CW)
CLOSED

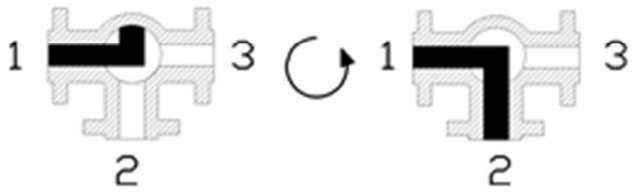
END 90° (CCW)
OPEN



Flow Plan A



Flow Plan R

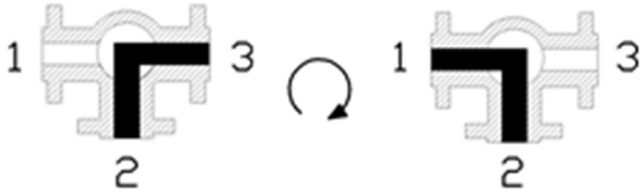


Flow Plan V

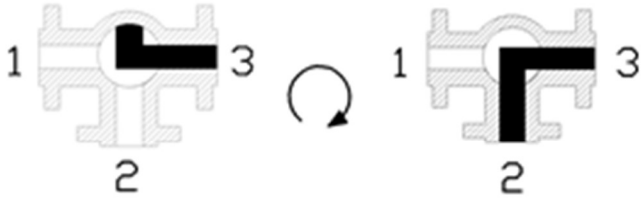
Reverse Assembly

START 0° (CCW)
OPEN

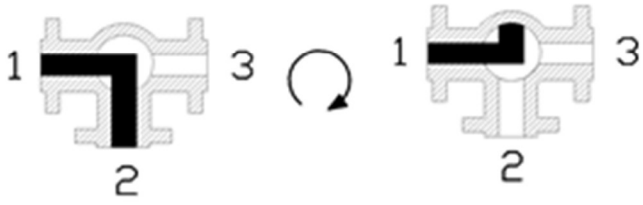
END 90° (CW)
CLOSED



Flow Plan A'



Flow Plan R'



Flow Plan V'

90° Actuators with T-Port Ball Valves

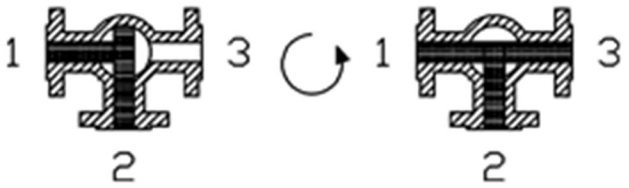
Standard Assembly (Flow Plans B, C, D, E)
If applicable, the actuator will fail Close CW
Valve to be left in Closed CW position

Reverse Assembly (Flow Plans B', C', D', E')
If applicable, the actuator will fail Open CCW
Valve to be left in Open CCW position

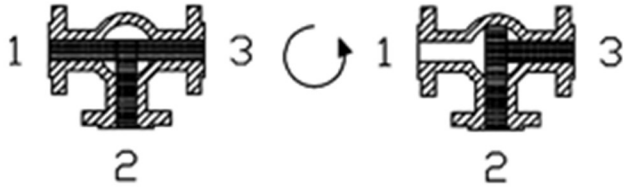
Standard Assembly

START 0° (CW)
CLOSED

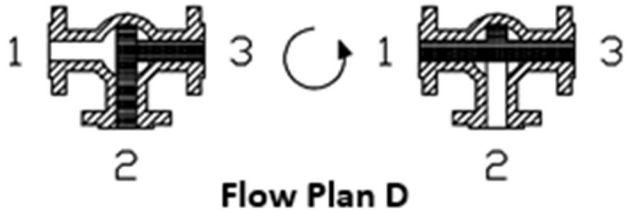
END 90° (CCW)
OPEN



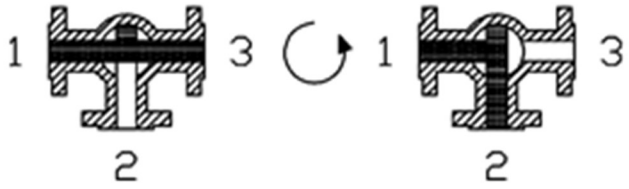
Flow Plan B



Flow Plan C



Flow Plan D

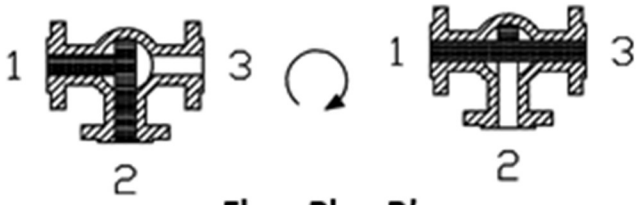


Flow Plan E

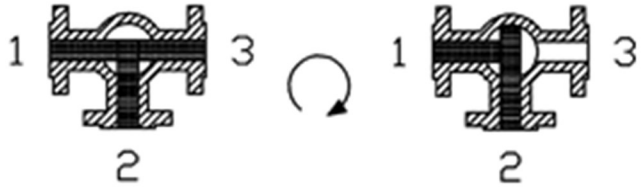
Reverse Assembly

START 0° (CCW)
OPEN

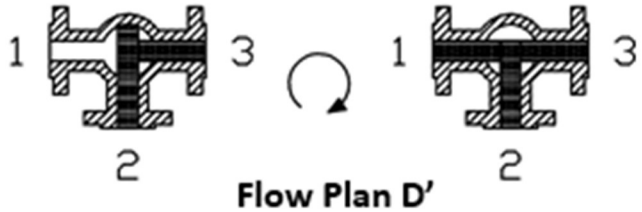
END 90° (CW)
CLOSED



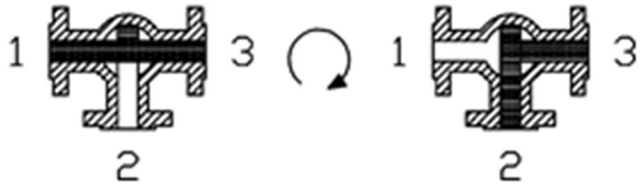
Flow Plan B'



Flow Plan C'



Flow Plan D'



Flow Plan E'

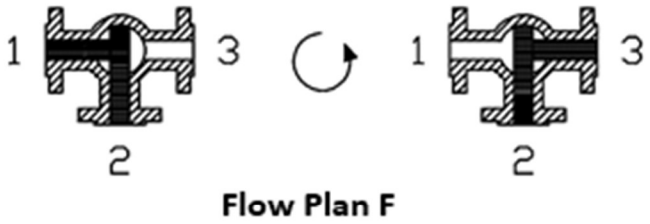
180° Double Acting Actuators (Spring Return with Accumulating Tank)

Standard Assembly (Flow Plans F, G, H, I)
If applicable, the actuator will fail Close CW
Valve to be left in Closed CW position

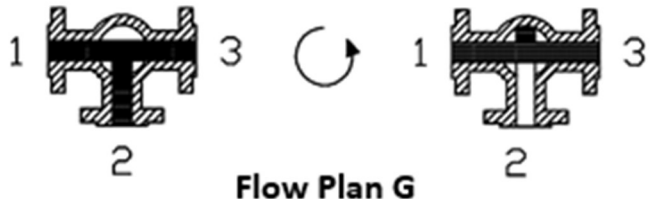
Reverse Assembly (Flow Plans F', G', H', I')
If applicable, the actuator will fail Open CCW
Valve to be left in Open CCW position

Standard Assembly

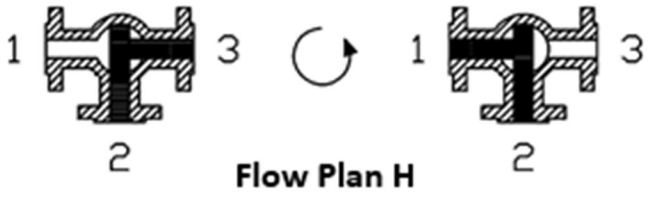
START 0° (CW) **CLOSED** — **END 180° (CCW)** **OPEN**



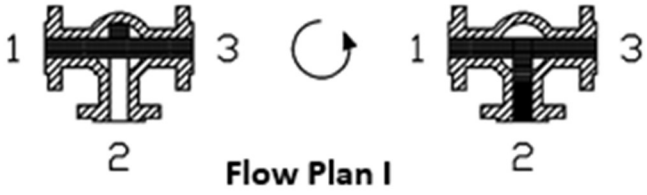
Flow Plan F



Flow Plan G



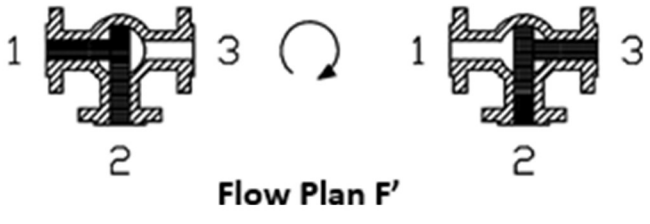
Flow Plan H



Flow Plan I

Reverse Assembly

START 0° (CCW) **OPEN** — **END 180° (CW)** **CLOSED**



Flow Plan F'

Flow Plan G'

Flow Plan H'

Flow Plan I'

180° Double Acting Actuators with Intermediate Stop (Dribble Control)

Standard Assembly (Flow Plans J, K, L, M)

If applicable, the actuator will fail Close CW
Valve to be left in Closed CW position

Standard Assembly

START 0° CLOSED	STOP +90° INTERMEDIATE	END 180° OPEN	STOP -90° INTERMEDIATE	END 0° CLOSED

Flow Plan J

Flow Plan K

Flow Plan L

Flow Plan M

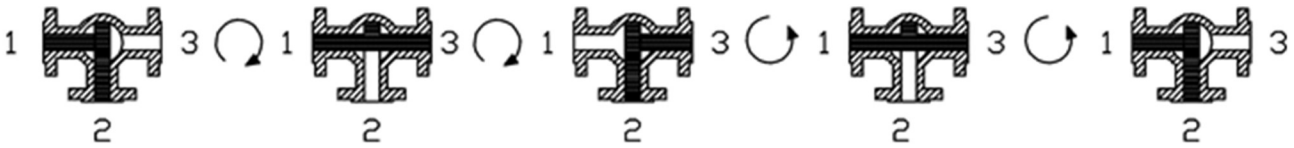
180° Double Acting Actuators with Intermediate Stop (Dribble Control)

Reverse Assembly (Flow Plans J', K', L', M')

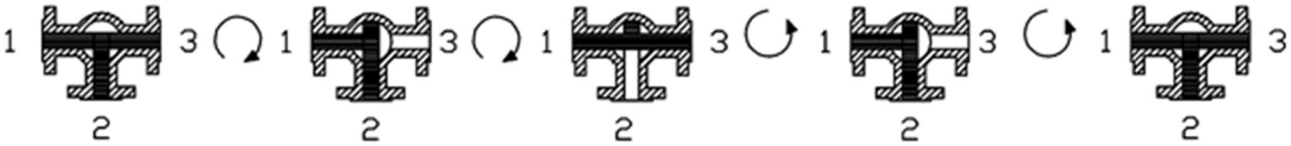
If applicable, the actuator will fail Open CCW
Valve to be left in Open CCW position

Reverse Assembly

START 0°	STOP +90°	END 180°	STOP -90°	END 0°
OPEN	INTERMEDIATE	CLOSED	INTERMEDIATE	OPEN

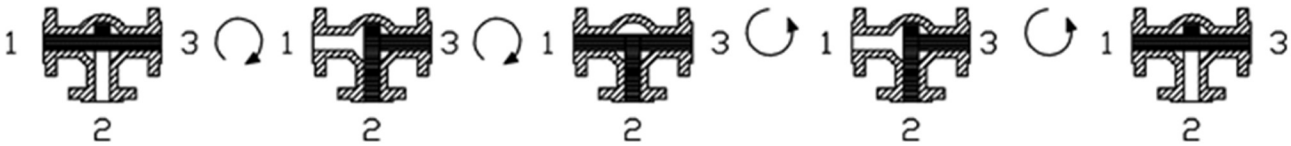


Flow Plan J'



Flow Plan K'

Flow Plan L



Flow Plan M

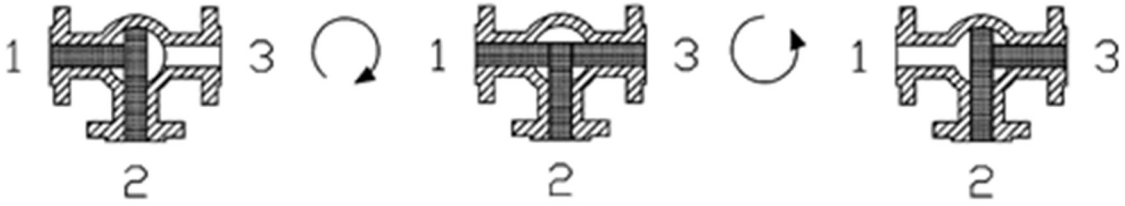
180° - 90° / 0° / + 90° 3 Position Actuator with Center Return

Standard Assembly (Flow Plans N, O, P, Q)

The actuator will fail to the Center Position
Valve will be left in the Center Position

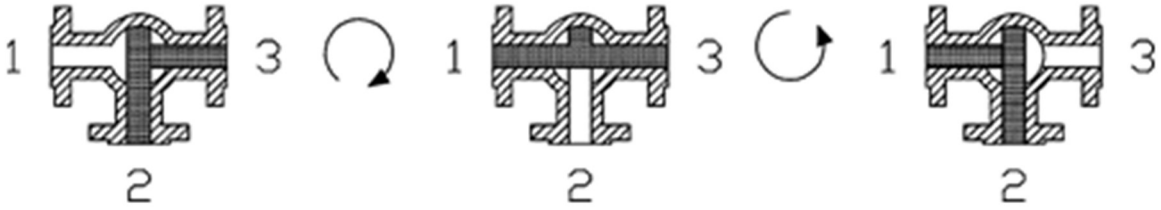
END -90° **CW**	**START 0°** **CENTER**	**END +90°** **CCW**

Flow Plan N



Flow Plan O

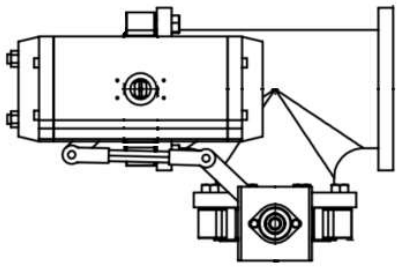
Flow Plan P

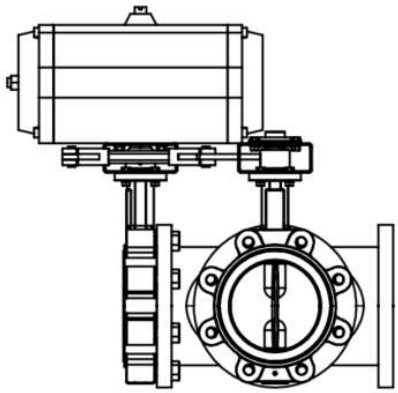


Flow Plan Q

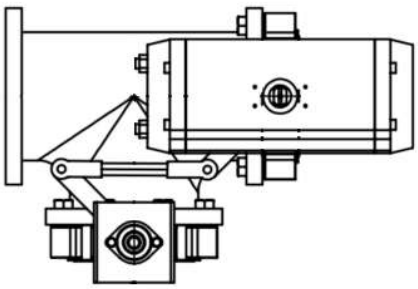
Tee Assemblies

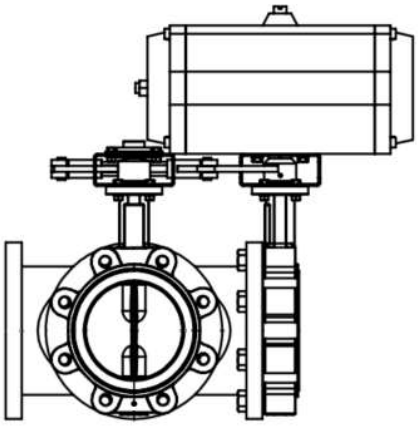
Configuration 1



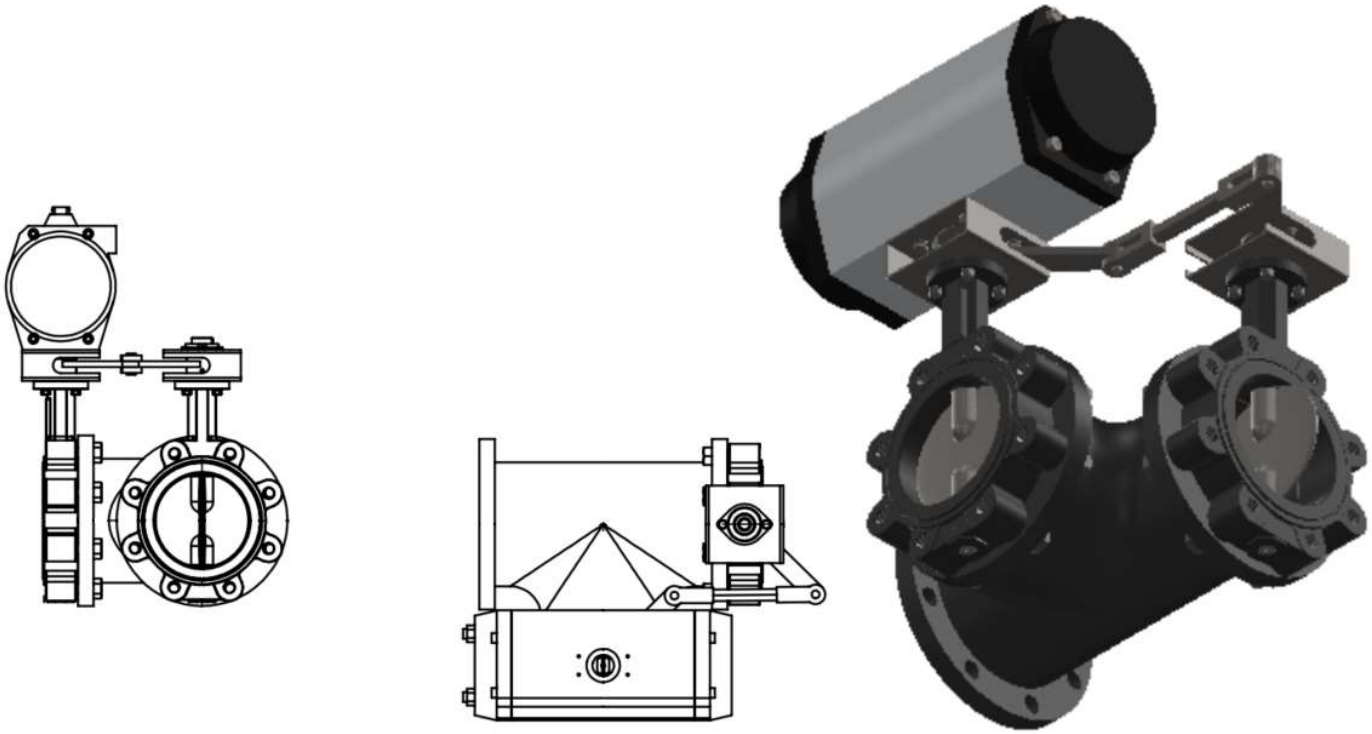


Configuration 2

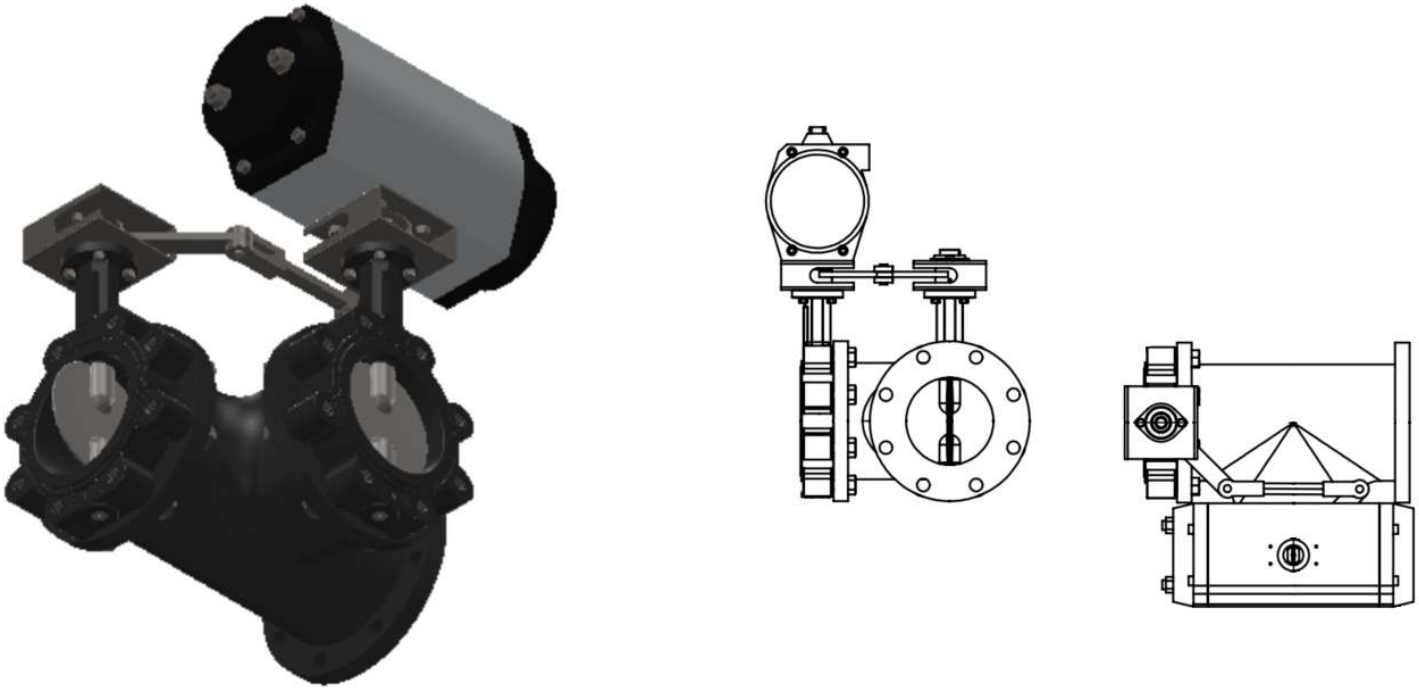




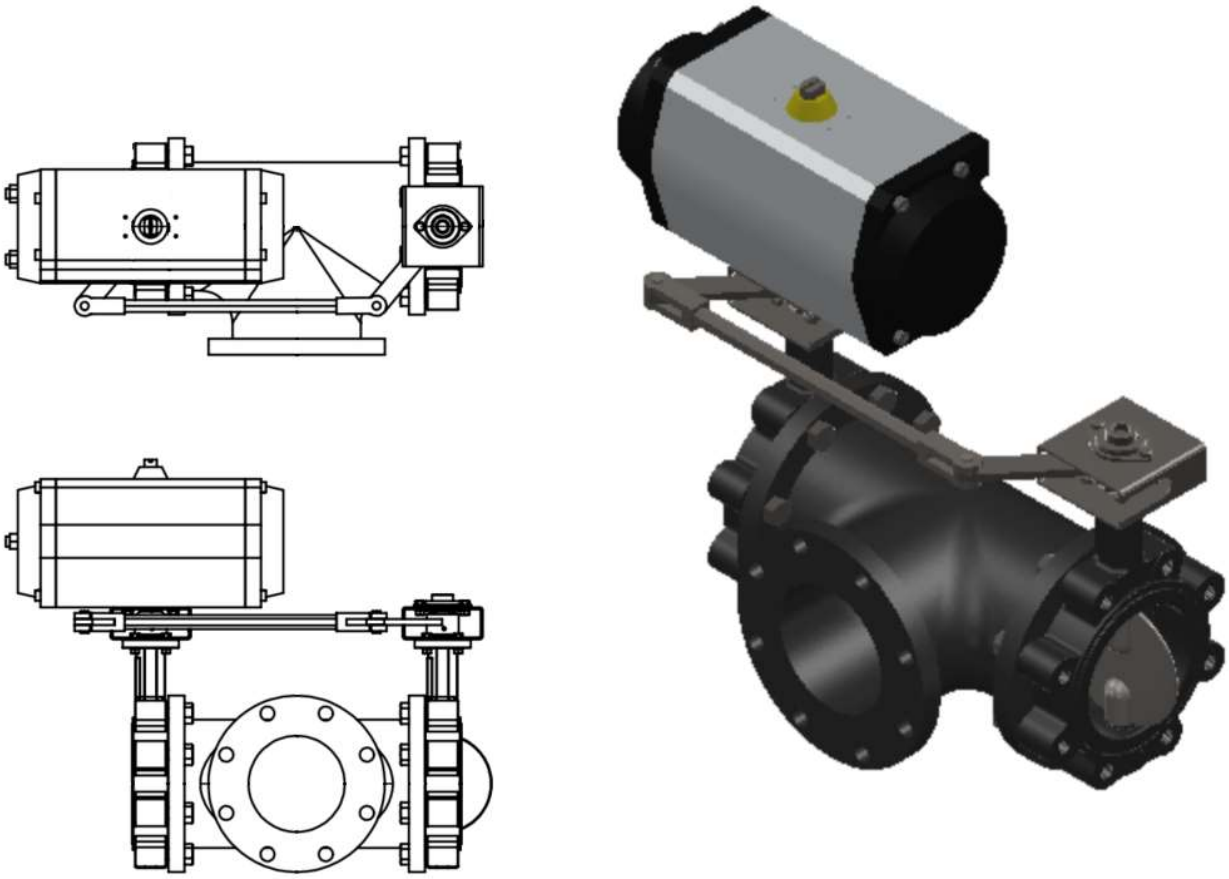
Configuration 3



Configuration 4



Configuration 5



Configuration 6