



1916 TLV Series Two-Lever Valve / Three-Lever Valve

“Committed to ensuring the continued performance and reliability of your Damper”



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Overview

The 1916 TLV Series Two/Three-Lever Valve from Sude Engineering Pvt. Ltd. is a robust and versatile valve designed to enhance control and efficiency in various industrial applications. Engineered for precision and durability, this valve is ideal for managing fluid flow in complex systems, including those found in the coal and lignite industries.



Key Features

- The innovative Two/three-lever design allows for intuitive control and precise adjustments, ensuring optimal performance and reliability in fluid management.
- Manufactured with high-quality materials, the 1916 TLV Series valve offers exceptional durability and resistance to harsh operating conditions, extending the service life of the component.
- Suitable for a wide range of applications, including air, gas, and liquid systems, making it a versatile choice for various industrial processes.
- Provides smooth and reliable operation, contributing to the efficiency and effectiveness of your overall system.
- Designed for straightforward maintenance and servicing, minimizing downtime and ensuring consistent performance.
- Gland packing ensuring no leakage to atmosphere through the Shaft.
- Consistent torque over time and precise differential pressure control to open.
- Manual operation available in case of power failure
- We utilize SD-Tork actuators, manufactured by our sister company, which are equipped with all necessary industrial certifications, ensuring reliability and compliance with industry standards.
- A two/three-lever linkage design ensures frontal disc-to-seat contact movement
- Front face contact minimizes seat wear and prevents disc jamming, even in high-temperature applications.
- Can be Mounted with Counter weight For Emergency Shut-Off

Working Principle of a Two/Three-Lever Valve

The two/three-lever valve is a specialized design variant of the butterfly valve, aimed at providing precise control and handling higher pressures and flows by utilizing a more sophisticated mechanical operation. Here's an explanation of how it works :

Components

1. Valve Body
2. Disc
3. Seat
4. Stem/Shaft
5. Levers
6. Actuator

Operation Steps

- 1. Initial Position :** The valve is in the closed position with the disc pressed against the seat, ensuring a tight seal.
 - 2. Actuation :** The actuator initiates the valve operation. In a manual valve, this might be a handwheel or lever. In an automated valve, this could be an electric motor, pneumatic cylinder, or hydraulic system.
 - 3. Lever Mechanism Engagement :** The first lever, connected to the actuator, begins to move. This lever is linked to the second lever, which in turn is linked to the third lever. This sequence creates a cascading movement, multiplying the mechanical advantage and ensuring smooth operation.
 - 4. Disc Rotation :** As the levers move, the connected stem/shaft rotates, causing the disc to turn away from the seat. The three-lever system provides a controlled and gradual rotation, reducing the risk of sudden pressure changes and minimizing wear on the sealing surfaces.
 - 5. Opening :** The disc moves to a fully open position, parallel to the flow, allowing fluid to pass through with minimal resistance.
 - 6. Control and Regulation :** The three levers allow for fine-tuned control over the disc's position, enabling precise flow regulation. This is particularly useful in applications where exact flow control is critical.
 - 7. Closing :** To close the valve, the actuator reverses its action. The levers move in the opposite direction, rotating the disc back towards the seat.
- The three-lever mechanism ensures that the disc approaches the seat gradually, reducing impact and wear, and ensuring a tight seal when fully closed.

Advantages of the Two/Three-Lever System

- Mechanical Advantage :** The levers provide significant mechanical advantage, making it easier to operate the valve, especially in high-pressure applications.
- Controlled Movement :** The cascading movement of the levers ensures smooth and controlled operation, reducing the risk of water hammer and other flow disturbances.
- Precise Control :** The system allows for fine adjustments to the disc position, enabling accurate flow regulation.
- Durability :** Reduced wear on the sealing surfaces due to the controlled approach of the disc to the seat, extending the valve's lifespan.



Applications

- **High-Pressure Systems** : Suitable for applications involving high-pressure fluids where precise control is necessary.
- **Flow Regulation** : Ideal for systems requiring accurate flow control, such as in chemical processing, water treatment, and HVAC systems.
- **Critical Processes** : Used in scenarios where valve reliability and longevity are paramount.
 - Steel Industry
 - Cement Plant
 - Power Plants
 - Petrochemical

Summary

The two/three-lever valve leverages a sophisticated mechanical system to enhance control, durability, and performance in demanding applications. By providing mechanical advantage and precise regulation, it addresses the limitations of simpler butterfly valve designs, making it suitable for high-pressure and critical flow regulation tasks.

The two/three-lever valve, like other butterfly valves, can generally be used in various orientations, including vertical, horizontal, or any other orientation. Here's a detailed explanation of how its orientation affects its operation and installation :

Comparisons between various designs of Butterfly Valves

- **Concentric Design Butterfly Valve** : Best for low-pressure, low-cost applications with easier maintenance.
- **Double Offset Butterfly Valve** : Suitable for higher pressure and temperature applications with reduced seat wear.
- **Triple Eccentric Butterfly Valve** : Ideal for critical applications requiring high durability, tight sealing, and minimal wear.
- **Two/Three Lever Valve** : Provides precise control and can handle higher pressures and flows, but is more complex and costly.

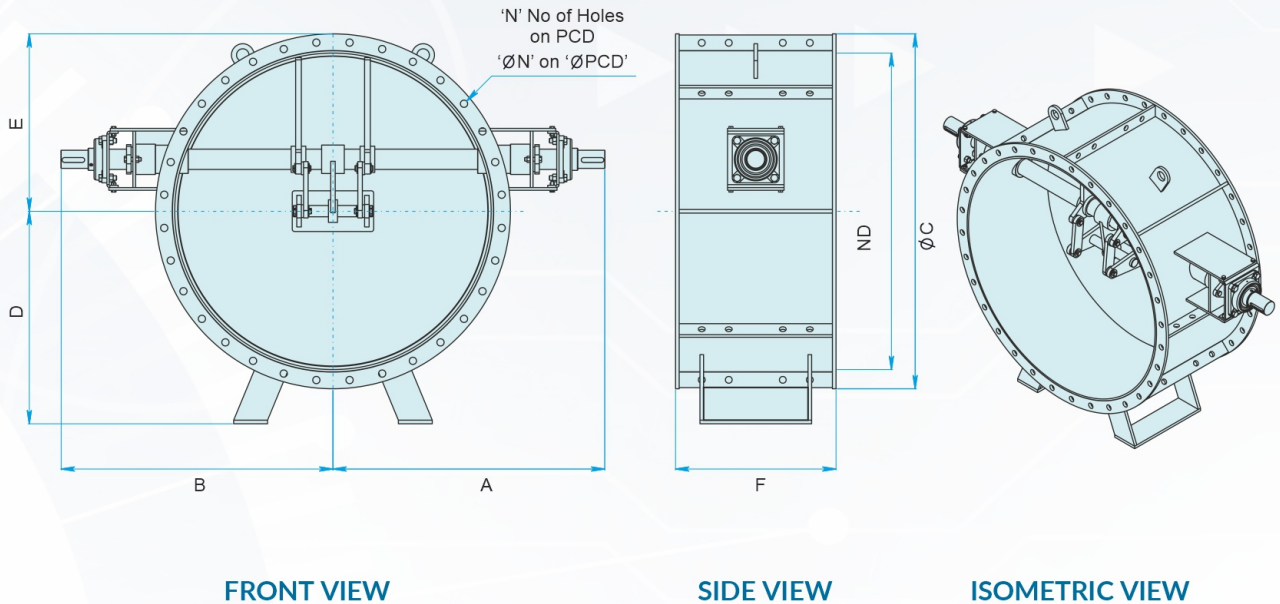
Each type of butterfly valve has its specific use and advantages depending on the application.

Technical Specifications

- | | |
|---|--|
| <ul style="list-style-type: none"> • Size Range : 400mm to 3500mm • Valve Design : Uni-directional • Maximum Operating Pressure : Up to 0.5 Mpa • Maximum Operating Temperature : Up to 500°C • Type of Sealing : Metal to Metal (Class II)
Metal to Soft (Rubber) (Class V) • End Connection : Flange Ends | <ul style="list-style-type: none"> • Internal Shaft design • Orientation :
Vertical in Horizontal Pipeline
Horizontal in Vertical Pipeline • Testing : Body test, Seat test, Operational test • Operation : Manual, Hydraulic, Pneumatic and Motorized |
|---|--|

Model Decodification

1916TLV / TYPE / SIZE / BODY / FLAP / SEAT / OPERATOR / ACCESSORIES



Dimension Table

ND	Flange OD- D	Face To Face Dim - F	Hole Dia. N/pcd	No of Holes - N	A	B	D	E	F	Approx Wt. In Kg
600	755	510	26/705	20	850	400	600	530	390	420
700	860	510	26/810	24	900	450	630	560	430	490
800	860	510	26/810	24	950	500	700	610	470	560
1000	1175	550	30/1120	28	1150	650	750	850	550	710
1200	1405	630	33/1340	32	1250	710	890	960	630	840
1300	1520	670	36/1450	36	1350	790	890	990	660	910
1400	1572	710	36/1560	36	1530	840	910	1050	710	970
1500	1690	750	36/1660	40	1800	920	950	1070	750	1050
1600	1830	790	36/1760	40	1820	1020	1210	1100	790	1130
1800	2045	870	39/1970	44	2020	1060	1250	1160	870	1280
2000	2265	1185	42/2180	48	2050	1180	1620	1175	950	1420
2600	2905	1250	48/2810	60	2480	2480	1950	1650	1140	1850

- Note :**
- 1) Other size on Demand
 - 2) All Dimensions are in mm.
 - 3) All Dimensions are Tentative (only for Reference).
 - 4) Flange Dimensions as per IS 6392 TABLE NO.05, can be customized on Demand.



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Other Products

- Electrical Actuator
- Pneumatic Actuator
- Angle Valve & Other Allied
- Damper
- High Gain and High Powered Control Valves + 2 Way / 3 Way Control Valve with Electrical Actuator
- Pressure Reducing & Desuperheating Station (PADS)
- 2 Way/ 3 Way Electric / Pneumatic Actuated Ball Valves
- V Notch Segmented Ball Valve with Intelligent Electrical Actuator/ Basis Weight Valve
- V Notch Segmented Ball Valve with Pneumatic Rotary Spring Return Actuator / Dilution Valve
- 2 Way Butterfly Valve Fitted with Electrical Reversible Stayput Type Actuator in Single Phase / Three Phase Actuator Construction
- 2 Way Butterfly Valve Fitted with Pneumatic Double Acting / Spring Return Actuator
- Plastic Butterfly and Ball Valves Fitted with Pneumatic /
- Electrical Actuator
- Knife Edge Gate Valve with Pneumatic / Electrical Actuator
- Zero Bacteria Food Grade Ball & Butterfly Valve with Pneumatic & Electrical Actuator
- Sluice/ Gate Valve with Electrical/ Pneumatic/ Hydraulic Actuator
- Electric Actuated Glass Control Valve
- 2 Way Electric Actuated Ball Valve Compact & Sleek Design
- Heavy Duty Torque Scotch & Yoke Quarter Turn Pneumatic Actuator
- Bellow Sealed & Piston Valve with Diaphragm & Electric Actuator
- 2/2 Way Motorized Globe Valves for Fuel Oil and General Application 1754+ 1254 Combustion Series
- 2 Way Electrical Actuated Lined/ Unlined Weir/ Straight Pattern Diaphragm Valve + 2 Way Pneumatic Operated Lined / Unlined, Weir / Straight Pattern Diaphragm Valve
- 2 Way Plug Valve Fitted with Electrical / Pneumatic Actuator
- Plastic Diaphragm Valves Fitted with Pneumatic / Electrical Actuator
- Power Cylinder with Electro Pneumatic Positioner
- Automated Flush Bottom Valves
- Solenoid Valves Angle Valves
- Electro - Hydraulic Actuator
- Test Jig for Testing & Calibration

Your Success is Our Commitment



SUDE

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