

Excellence Every Time Every Where

DIAPHRAGM VALVE



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1. Company Overview

Anante Controls India Pvt. Ltd. was founded in 2024 with a singular vision: to become a customer-first, problem-solving force in the valve industry. The company is the brainchild of Mr. Anant Randhave, a seasoned expert with over two decades of hands-on experience in quality assurance and control across multiple valve manufacturing companies.

Throughout his 20+ year career, Mr. Randhave built a reputation as a reliable problem-solver—someone who could not only identify root causes in the most complex flow control systems but also drive long-term solutions that enhanced performance, safety, and reliability. He has worked with a wide range of valves—gate, globe, check, ball, butterfly, and control valves—serving industries such as oil & gas, petrochemicals, water treatment, power, and general manufacturing.

His deep involvement in New Product Development (NPD) projects sharpened his ability to tackle tough design and functionality challenges, often bridging the gap between customer expectations and shop-floor realities. Customers and internal stakeholders alike trusted his insights, not just because of his technical acumen, but because of his genuine desire to help them succeed.

With a burning passion to go beyond the boundaries of traditional QA roles, Mr. Randhave envisioned a company that would not just manufacture valves—but solve problems. That vision became reality with the establishment of Anante Controls India Pvt. Ltd. The company was built on a foundation of strong technical knowledge, relentless customer focus, and a commitment to quality without compromise.

2. Introduction & USPs

Anante Control Diaphragm Valves are designed to deliver leak-tight shutoff and precise throttling in corrosive, abrasive, and high-purity process environments. Engineered with a flexible diaphragm and corrosion-resistant lining, these valves isolate the operating mechanism from the process fluid, ensuring zero contamination and long service life. Available in manual, pneumatic, and electric actuated versions, the valves are ideal for applications in chemical, petrochemical, power, water treatment, and pharmaceutical industries.

Complete Isolation: The diaphragm ensures absolute separation between the fluid and the actuator components, preventing contamination.

Versatile Construction: Available in Cast construction with multiple end connections – Flanged, Butt-Weld, Socket-Weld, and Screwed types.

Comprehensive Range: Sizes from ½” to 12” in PN10/16 pressure class, covering diverse process requirements.

Material Compatibility: Wide choice of lining materials (PTFE, Rubber, MEP) and diaphragm compositions suited for aggressive and sanitary media.

Multi-Standard Compliance: Designed and tested per ASME B16.34, BS 5156, ISO 9001, and EN 1333 for global standard compatibility.

Global Certifications: Certified under PED, UKCA, TSG, TSSA, TR, ATEX, SIL, TA-Luft, API 6D – ensuring international acceptability.

Reliability & Safety: Successfully tested for fire safety, endurance, Cv performance, torque, and NACE MR0175 compliance.

3. Product Offering

Anante Control offers Diaphragm Valves in a comprehensive range of sizes and pressure classes to suit various industrial process requirements. These valves are available in weir type and straight-through type constructions, ensuring reliable shut-off and flow control across a broad spectrum of applications.

Available in multiple body types and end connection variants to suit different pipeline configurations. Covers standard pressure ratings PN10 and PN16, ensuring compatibility with most industrial piping systems. Designed for applications in chemical, petrochemical, food & pharma, water, and power sectors. Custom sizes and special service ratings available upon request for specific operating conditions. This catalog details our Standard Product Range. For requirements involving larger sizes, higher pressure classes, or customized specifications, please contact the manufacturer directly.

Product Type	Valve Construction	Size Range (DN)	Pressure Class (PN)
Weir Type (A-Type)	Cast / Lined Construction	DN15 to DN300	PN10 / PN16
Straight Through (KB-Type)	Cast / Lined Construction	DN15 to DN250	PN10 / PN16
Sanitary Type	Hygienic Weir Construction	DN15 to DN150	PN10
Corrosion Resistant Type	Lined Weir / Straight Through	DN15 to DN250	PN10 / PN16
High Temperature Type	Weir Construction	DN15 to DN200	PN16

Industry Proven: Trusted in critical applications across Oil & Gas, Petrochemical, Power, Food & Pharma, and Water Treatment sectors.

Custom Options: Available with SS316, Monel, Inconel, Alloy 625 overlay and HVOF coatings for enhanced corrosion and wear resistance.



4. Material of Construction

Anante Control Diaphragm Valves are available in a wide range of body and diaphragm material combinations, making them suitable for diverse process media – from highly corrosive acids to hygienic pharmaceutical fluids. The selection of MOC ensures long service life, reliable sealing, and full isolation of the operating mechanism from the process fluid.

Body MOC	Diaphragm MOC	Typical Application
Cast Iron (IS 210 Gr. FG 260)	EPDM / Butyl / Nitrile	General water service, cooling water, utility lines.
SG Iron (IS 1865 Gr. 400/15)	EPDM / Butyl / Natural Rubber	Moderate chemical applications, fertilizer, and effluent handling.
WCB (A216)	PTFE / PTFE-backed EPDM	Industrial chemical service, hydrocarbons, and solvents.
CF8 (SS304)	EPDM / PTFE	Food and beverage processing, clean water, and neutral media.
CF8M (SS316)	PTFE / PTFE-backed Viton	Corrosive chemical and pharmaceutical applications.
Glass Lined Cast Iron	PTFE / MEP	Strong acid, alkali, and highly corrosive fluids.
PFA / PVDF Lined WCB	PTFE / PTFE-backed EPDM	Highly corrosive chemical processes, acid dosing, and chlorine service.
Alloy 625 / Inconel	PTFE / High-Temperature Elastomer	High-temperature and aggressive chemical services.
CF3M (Hygienic Grade SS316L)	EPDM (FDA Grade) / Silicone	Pharmaceutical, biotech, and food-grade hygienic applications.

- Full isolation between fluid and actuator ensures zero contamination.
- Wide chemical compatibility with elastomeric and fluoropolymer diaphragms.

- FDA-approved materials available for sanitary applications.
- High-alloy options offered for extreme temperature or corrosive environments.
- Flexible actuation options suitable for both manual and fully automated systems.
- Modular design allows easy interchangeability between actuator types.

5. Actuator Options

Anante Control Diaphragm Valves are offered with a range of manual and automated actuation systems to suit diverse operational requirements. Each actuator type is designed for precise control, reliability, and long maintenance-free service, ensuring smooth operation under varying process conditions.

Accessories & Automation Integration

- Positioners: Electro-pneumatic or digital smart positioners for modulating control.
- Solenoid Valves: 3/5-way NAMUR-mounted solenoids for pneumatic operation.
- Limit Switch Boxes: Mechanical or proximity-type feedback for open/close indication.
- Air Filter Regulators: To ensure clean, dry air supply for consistent actuator performance.

Actuation Type	Description	Key Features / Applications
Manual (Handwheel Operated)	Traditional rising or non-rising handwheel design for direct operator control.	Simple and reliable operation; suitable for low-frequency actuation and smaller sizes.
Pneumatic Actuator (Single Acting / Double Acting)	Utilizes compressed air to operate the valve through linear motion.	Fast, consistent actuation; suitable for remote operation, automated process control, and hazardous environments.
Electric Actuator	Motorized actuator providing open-close or modulating control.	Ideal for automation systems requiring precise positioning and low air availability.
Manual Override Option	Allows manual operation in case of power or air failure.	Ensures safety and operational continuity during emergencies.

6. Design & Construction Features

Anante Control's Diaphragm Valves are engineered with precision to deliver leak-tight shutoff, corrosion resistance, and long service life even under severe process conditions. The design integrates a flexible diaphragm, robust body construction, and modular actuation compatibility, ensuring consistent performance across a wide range of industries.

Weir or Straight-Through Design: Available in both weir type for clean service and straight-through (KB type) for slurry or viscous media. It provides optimized flow path for different process conditions.

Non-Rising Stem Design: Compact, enclosed stem operation prevents exposure to contaminants. Ideal for confined spaces and corrosive environments.

Fully Isolated Bonnet Assembly: The diaphragm isolates the process medium from the bonnet and operating mechanism. Prevents contamination and corrosion of actuator components.

Replaceable Diaphragm: Simple bolted bonnet allows quick diaphragm replacement without removing valve from line. Reduces downtime and maintenance costs.

Positive Shutoff by Diaphragm Compression: Valve closes as the diaphragm seals against the weir or body seat. Achieves bubble-tight shutoff even with aggressive media.

Self-Cleaning Flow Path: Streamlined body profile minimizes residue accumulation. Reduces clogging in slurry or sticky applications.

Actuator Interchangeability: Common bonnet interface allows mounting of manual, pneumatic, or electric actuators. Simplifies automation upgrades and spares management.

Corrosion-Resistant Construction: Offered with rubber, PTFE, or glass lining options based on media compatibility. Extends service life in highly corrosive applications.

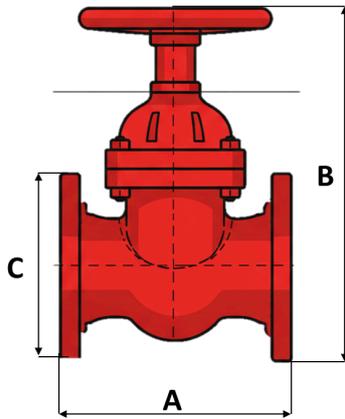
Bonnet Vent / Leak Indicator: Optional vent port in bonnet to detect diaphragm failure. Enhances operational safety and preventive maintenance.

Position Indication: Visual or mechanical indicator for open/close position. Enables quick status identification during operation.

7. Product Offering

Anante Control Diaphragm Valves are manufactured in compliance with EN 558 Series 1 & 7 and BS 5156 dimensional standards, ensuring uniformity, interchangeability, and ease of pipeline integration. The valve dimensions vary depending on type (Weir or Straight-Through) and nominal pressure rating (PN10 / PN16).

Straight Through Type Flange End PN10/16			
Size (DN)	A	B	C
15	130	170	95
20	150	180	105
25	160	190	115
32	180	210	140
40	200	230	150
50	230	255	165
65	290	280	185
80	310	310	200
100	350	345	220
125	400	380	250
150	480	420	285
200	600	490	340

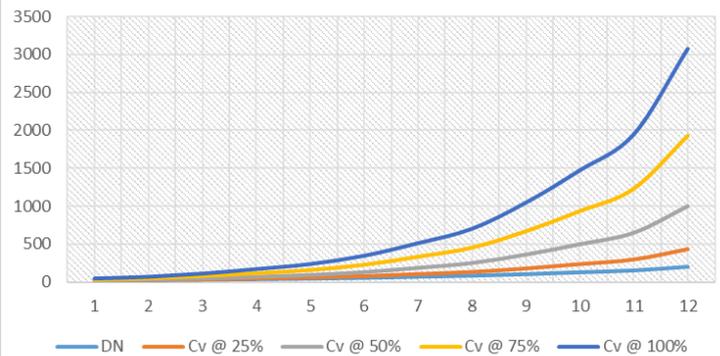


8. Flow Performance

Below are typical Cv values for Anante Control diaphragm valves (water @ 20 °C, PN10/16). Since this is a multi-turn valve, Cv is shown at 25%, 50%, 75%, and 100% opening. Values reflect a weir-type characteristic (approx. equal-percentage); straight-through types are typically ~25–30% higher Cv at the same opening.

DN	Cv @ 25%	Cv @ 50%	Cv @ 75%	Cv @ 100%
15	2.8	7	11.2	14
20	4.2	10.5	16.8	21
25	7.2	18	28.8	36
32	11.4	28.5	45.6	57
40	16	40	64	80
50	24	60	96	120
65	36	90	144	180
80	50	125	200	250
100	76	190	304	380
125	108	270	432	540
150	144	360	576	720
200	230	575	920	1150

Flow Performance Cv



Notes

- Use these as reference/selection values; actual Cv can vary with lining, diaphragm, and body style.
- For straight-through diaphragm valves, multiply the above by 1.25–1.30 for a quick estimate.
- Control is most stable between 20–80% opening; reserve the extremes for on/off duty.

9. Pressure vs Temperature

Anante Control Diaphragm Valves are designed to operate efficiently under a wide range of pressure and temperature conditions. The pressure-temperature relationship depends primarily on the body material, lining, and diaphragm composition. Each combination is carefully engineered to ensure safe, leak-free performance within rated limits.

Operating Limits

- Maximum working pressure: up to 16 bar (depending on body and diaphragm).
- Temperature limits are governed by the lowest-rated component (lining or diaphragm).
- For vacuum service, PTFE-backed diaphragms are recommended for durability.

Body Material / Lining	Diaphragm Material	Max. Pressure (Bar)	Temperature (°C)	Typical Application
Cast Iron / Rubber Lined (EPDM, Nitrile)	EPDM	10	-10 to +100	Water, mild chemicals, utility services
Cast Iron / Butyl Lined	Butyl	10	-10 to +120	Fertilizer, caustic, and alkali solutions
WCB / PTFE Lined	PTFE	16	-10 to +180	Corrosive chemicals, acids, solvents
CF8 / CF8M (Unlined Stainless Steel)	PTFE	16	-10 to +200	Steam condensate, clean chemical media
PFA / PVDF Lined Carbon Steel	PTFE / PTFE-backed Viton	16	-10 to +150	Strong acids, chlorine, and oxidizing agents
Glass Lined Cast Iron	PTFE	10	-10 to +120	High-purity and corrosive chemical process
Alloy 625 / Inconel Body	High-temp PTFE or Viton	16	-10 to +250	High-temperature, corrosive, or hydrocarbon service

10. Torque

Anante Control Diaphragm Valves are designed for smooth, low-torque operation owing to their non-sliding, compression-type sealing mechanism. The required operating torque depends on valve size, pressure class, lining type, and diaphragm material. Correct torque estimation is essential for actuator sizing and manual operation design.

Size DN	Operating Torque		
	@ 4 bar	@ 6 bar	@ 10 bar
15	4	6	8
20	6	8	10
25	8	11	14
32	10	14	18
40	12	16	22
50	18	24	30
65	28	36	45
80	40	50	60
100	55	70	85
125	70	90	110
150	95	120	145
200	140	180	220
250	210	270	330
300	280	350	420

Note -

- For PTFE-lined valves, torque may increase by 20–25% due to higher friction.
- For Rubber-lined or unlined bodies, torque may reduce by 10–15%.

11. Standards & Certifications

Anante Control Diaphragm Valves are engineered and tested in accordance with global design, manufacturing, and quality standards, ensuring superior reliability, safety, and performance across diverse process industries. Each valve undergoes rigorous inspection, pressure testing, and material traceability verification before dispatch.

Design & Manufacturing Standard

Standard	Description
BS 5156 / EN 1333	Design and performance standard for diaphragm valves.
ASME B16.34	Pressure-temperature ratings, materials, and dimensions.
EN 558 Series 1 & 7	Standard for face-to-face and end-to-end dimensions.
ASME B16.5 / ISO 7005	Flange dimensions and pressure class ratings.
ISO 5211	Actuator mounting flange interface standard.
API 598 / ISO 5208 / EN 12266-1	Pressure testing and leakage classification.
DIN / JIS / ANSI	Compatible drilling and dimensional references for global interchangeability.

Testing & Inspection

All Anante Control Diaphragm Valves undergo the following mandatory tests:

- Hydrostatic shell test at 1.5× rated pressure.
- Seat leakage test as per API 598 / EN 12266-1 standards.
- Operational cycling and endurance test for actuator-mounted valves.
- Fire-safe and fugitive emission testing on specific request.
- Visual, dimensional, and coating thickness verification before dispatch.

Traceability & Documentation

- 100% material traceability through heat number records and MTC (EN 10204 Type 3.1).
- Valve test certificates, calibration reports, and inspection documents provided with each supply.
- Optional third-party inspection (TPI) by agencies such as Lloyd's, BV, TUV, SGS, or DNV upon request.

Sum



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