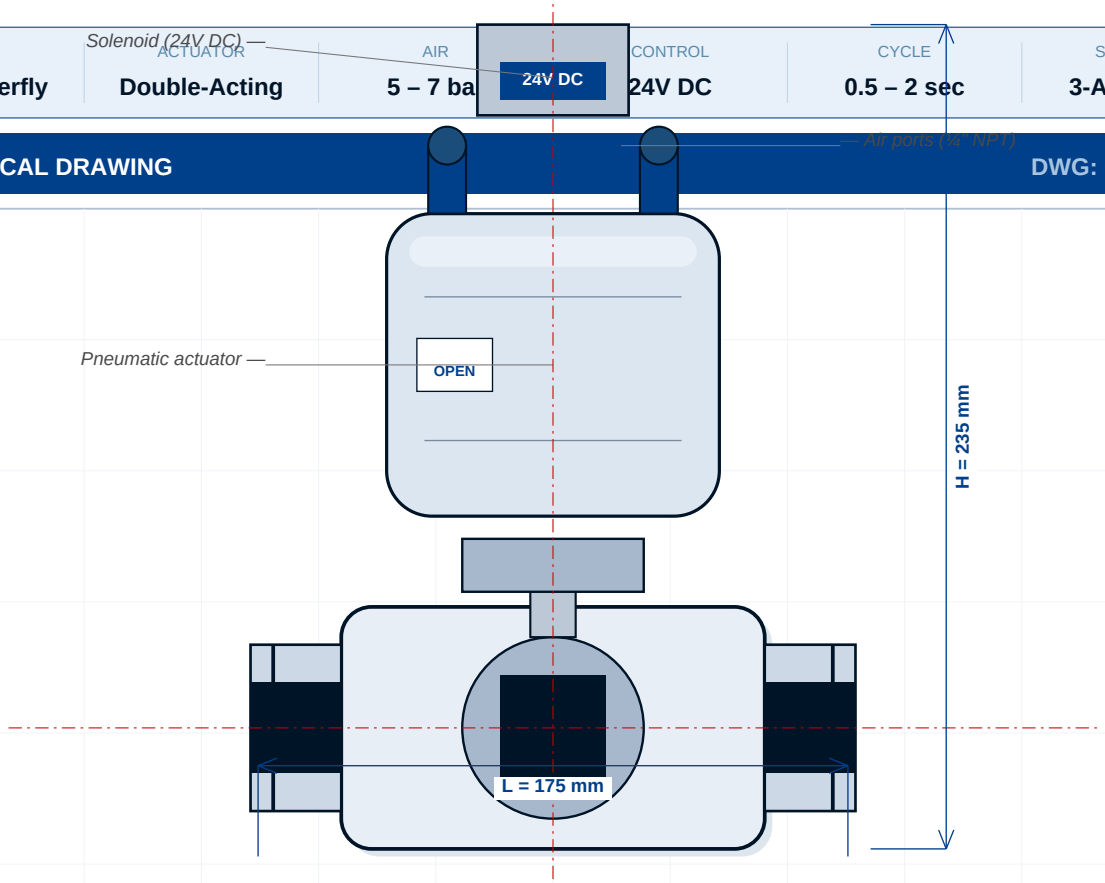
PNEUMATIC ACTUATED VALVE — BALL / BUTTERFLY WITH DOUBLE-ACTING ACTUATOR

Sanitary ball or butterfly valve with pneumatic actuator for automated process control. Double-acting or spring-return rack-and-pinion actuators available, with 24V DC solenoid pilot for remote control integration. Optional position feedback switches (mechanical or proximity) and intelligent positioners for modulating service. Suitable for CIP/SIP automation, batch process control and automated production lines.

VALVE	ACTUATOR	AIR	CONTROL	CYCLE	STANDARD
Ball / Butterfly	Double-Acting	5 – 7 ba	24V DC	0.5 – 2 sec	3-A Sanitary

TECHNICAL DRAWING

DWG: CE-PV-001



ASSEMBLY — PNEUMATIC ACTUATED BALL VALVE

Double-acting actuator · 24V solenoid pilot · Position feedback ready

CASPIAN EDGE INC. NORTH YORK, ON, CANADA	
DWG NO: CE-PV-001	SCALE: NTS
UNIT: mm	VIEW: ASSEMBLY

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PAGE 1 Technical drawing with dimensions and component callouts

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PAGE 3 Standards compliance, certifications and documentation

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PNEUMATIC ACTUATED VALVE BALL / BUTTERFLY WITH DOUBLE-ACTING ACTUATOR

DESIGN SPECIFICATIONS SECTION 1

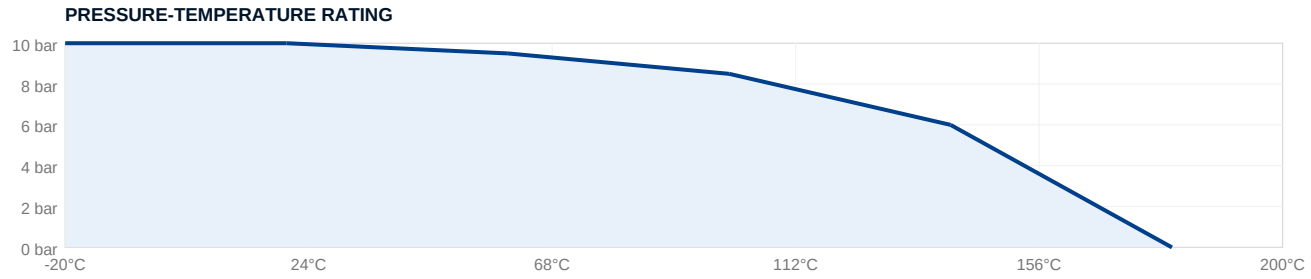
Valve Type	Ball / Butterfly base
Actuator	Rack & pinion pneumatic
Action	Double-acting / Spring-return
Mounting	ISO 5211 pattern
Solenoid	3/2 or 5/2 way
Voltage	24V DC / 110V AC / 220V AC
Position Feedback	Optional mechanical / inductive
Failsafe	Spring-return option

OPERATING CONDITIONS SECTION 2

PRESSURE RATING		
Process Pressure	10	**bar**
Air Supply	5 – 7	**bar**
Min Air	4	**bar**
Pilot Voltage	24V DC	

TEMPERATURE RANGE		
Process Temp	-10 to +150	**°C**
Ambient (actuator)	-20 to +80	**°C**
Solenoid	-10 to +60	**°C**
Cycle Time	0.5 – 2	**sec**

PRESSURE-TEMPERATURE RATING CHART SECTION 3



SURFACE FINISH OPTIONS SECTION 4

DESIGNATION	RA (µM)	RA (µIN)	METHOD	APPLICATION
Standard	≤ 0.8	≤ 32	Mechanical polish	Food, dairy, beverage
Premium	≤ 0.5	≤ 20	Mech. polish + buff	Pharmaceutical
EP (BPE SF4)	≤ 0.38	≤ 15	Electropolish	Biotech, high-purity
Mirror	≤ 0.25	≤ 10	EP + final buff	Critical bioprocess

PNEUMATIC ACTUATED VALVE BALL / BUTTERFLY WITH DOUBLE-ACTING ACTUATOR

MATERIALS OF CONSTRUCTION — SECTION 5

PART	MATERIAL	FUNCTION	SPEC
Valve Body	316L SS	Process containment	ASTM A351
Actuator Body	Anodized Aluminum	Cylinder housing	—
Pistons	Polymer	Drive	—
Pinion	Stainless steel	Torque transmission	—
Solenoid	Brass/SS	Air control	IP65
Position Sensor	SS / polymer	Feedback signal	IP67

316L CHEMICAL COMPOSITION — SECTION 6

ELEMENT	SYMBOL	MIN %	MAX %	FUNCTION
Chromium	Cr	16.0	18.0	Corrosion resistance
Nickel	Ni	10.0	14.0	Ductility, toughness
Molybdenum	Mo	2.0	3.0	Pitting resistance
Carbon	C	—	0.03	Low carbon (L grade)
Manganese	Mn	—	2.0	Deoxidizer
Silicon	Si	—	0.75	Deoxidizer
Phosphorus	P	—	0.045	Impurity (limit)
Sulfur	S	—	0.030	Impurity (limit)

SIZE CHART & DIMENSIONS — SECTION 7

NOM.	DN	CV (BALL)	TORQUE (NM)	AIR CONN.	WEIGHT (KG)
½"	15	8	15	¼" NPT	1.5
1"	25	25	25	¼" NPT	2.0
1½"	38	60	45	¼" NPT	3.0
2"	50	110	75	¼" NPT	4.5
2½"	63	170	120	¼" NPT	6.0
3"	76	280	190	¼" NPT	8.5
4"	100	480	340	½" NPT	13.0

STANDARDS & CERTIFICATIONS — SECTION 8

STANDARD	DESCRIPTION	STATUS
ISO 5211	Actuator mounting pattern	Compliant
IEC 61508	Safety integrity (SIL)	Available
ATEX 2014/34/EU	Explosive atmospheres	Optional
3-A 74-07	Sanitary valve body	Compliant
NAMUR	Solenoid pattern	Compliant

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PNEUMATIC ACTUATED VALVE BALL / BUTTERFLY WITH DOUBLE-ACTING ACTUATOR

TYPICAL APPLICATIONS SECTION 9

FOOD & BEVERAGE	DAIRY	PHARMA & BIOTECH
• Filling line shut-off	• Pasteurization circuits	• WFI distribution
• Product transfer lines	• Cheese processing	• Purified water systems
• CIP/SIP circuits	• Yogurt production	• API manufacturing
• Storage tank outlets	• Milk separators	• Bioreactor connections
• Sampling stations	• Cream lines	• Sterile filling
• Mixing & blending	• 3-A compliant systems	• Process skids

INSTALLATION GUIDELINES SECTION 10

Caspian Edge sanitary valves are designed for in-line installation in any orientation. Follow these guidelines: **1. Pipe Preparation:** Ensure pipe ends are clean, deburred and free from contamination. Pipe OD must match valve ferrule OD specification. **2. Tri-Clamp Assembly:** Insert gasket between flanges. Position tri-clamp evenly and tighten gradually using torque sequence. Recommended torque: 5–7 N·m. **3. Flow Direction:** Most valves are bi-directional. Check valves and certain butterfly valves require specific orientation — refer to flow arrow on body. **4. Actuator Mounting:** Pneumatic actuator field-installable using ISO 5211 pattern. Air supply: 5–7 bar clean, dry, filtered air. **5. Commissioning:** Cycle valve 3–5 times before initial use. Verify no leakage at static pressure test (1.5× working pressure for 5 minutes).

MAINTENANCE SCHEDULE SECTION 11

INTERVAL	ACTION	NOTES
Daily	Visual inspection	Check for leaks, unusual sounds
Weekly	Cycle test	Manual operation, verify smooth action
Monthly	Tri-clamp torque check	Re-tighten if loose, inspect gaskets
6 Months	Seal inspection	Replace seals if visible wear
Annually	Full overhaul	Disassemble, inspect, replace all seals
As needed	CIP/SIP integration check	Verify CIP coverage at valve cavity

REQUEST A TECHNICAL QUOTATION

Send your specifications and we will respond with detailed pricing, lead time and documentation.

INCLUDE IN YOUR RFQ:
Quantity · Size (DN) · Material grade · Seal material · Surface finish · Required certifications · Delivery date

SUBMIT RFQ →
caspianedge.com/rfq

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