CIP SPRAY BALLS

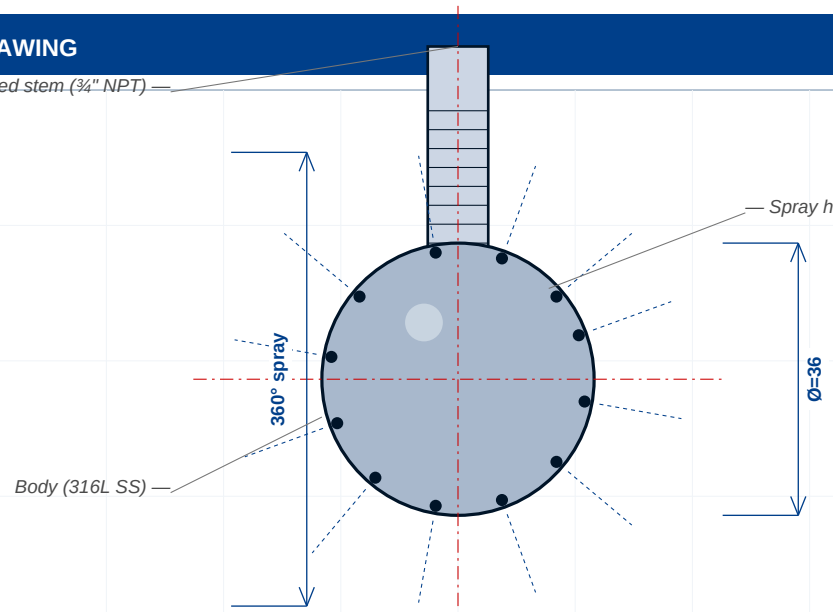
STATIC & ROTATING — 360° COVERAGE

CIP/SIP spray balls for vessel and tank cleaning. Static spray balls provide 360° coverage with optimized hole pattern for distributed wash flow. Rotating designs available for high-impact cleaning. Manufactured from 316L stainless steel with electropolished surfaces. Available with threaded NPT, BSP or tri-clamp connections. Custom spray patterns (180°, 270°, full sphere) by RFQ.

MATERIAL	COVERAGE	FLOW	PRESSURE	CONNECTION	STANDARD
316L SS	360° (std)	5 – 50 m³/h	1.5 – 3 bar	NPT/BSP/Clamp	3-A / EHEDG

TECHNICAL DRAWING

DWG: CE-SB-001



STATIC SPRAY BALL — 360° COVERAGE

Ø 36mm head · ¾" threaded stem · CIP service

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

IN THIS DATASHEET

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CIP SPRAY BALLS STATIC & ROTATING — 360° COVERAGE

DESIGN SPECIFICATIONS SECTION 1

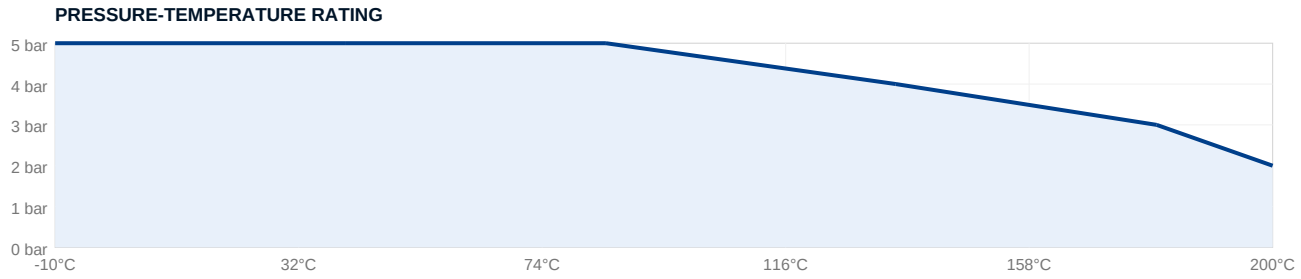
Type	Static spray ball
Coverage	360° / 270° / 180° / full
Body Form	Spherical / Bullet
Hole Pattern	Optimized distribution
Connection	NPT / BSP / Tri-Clamp
Mounting	Threaded stem / Clamp
Material	316L SS body, EP surface
Custom Patterns	By RFQ

OPERATING CONDITIONS SECTION 2

PRESSURE RATING		
Operating Pressure	1.5 – 3	**bar**
Max Pressure	5	**bar**
Pressure Drop	0.5 – 1	**bar**
Flow Rate	5 – 50	**m³/h**

TEMPERATURE RANGE		
CIP Cycle	+85	**°C typ**
SIP Steam	+135	**°C**
Continuous	-29 to +200	**°C**
Solution	Caustic/Acid	**OK**

PRESSURE-TEMPERATURE RATING CHART SECTION 3



SURFACE FINISH OPTIONS SECTION 4

DESIGNATION	RA (MM)	RA (MIN)	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

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CIP SPRAY BALLS — STATIC & ROTATING — 360° COVERAGE

MATERIALS OF CONSTRUCTION — SECTION 5

PART	MATERIAL	FUNCTION	SPEC
Ball Body	316L SS	Sprayer	ASTM A479
Stem	316L SS	Mounting/inlet	ASTM A479
Thread	NPT/BSP	Connection	ASME B1.20.1
Tri-Clamp	316L SS	Connection (option)	DIN 32676
Surface	Electropolished	Cleanability	ASME BPE SF4

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

BALL Ø (MM)	COVERAGE	INLET	FLOW (M³/H)	TANK VOLUME (M³)	HOLES
25	360°	½" NPT	3 – 5	0.5 – 1	30
36	360°	¾" NPT	5 – 10	1 – 3	60
50	360°	1" NPT	10 – 20	3 – 6	90
65	360°	1½" NPT	15 – 30	6 – 12	120
80	360°	2" NPT	25 – 50	12 – 25	150
100	360°	2" Tri-Clamp	40 – 80	25 – 50	180
125	360°	2½" Tri-Clamp	60 – 120	50 – 100	220

STANDARDS & CERTIFICATIONS — SECTION 8

STANDARD	DESCRIPTION	STATUS
3-A 78-03	Spray cleaning devices	Compliant
EHEDG Type EL	Hygienic equipment	Compliant
ASME BPE-2022	Bioprocessing	Compliant (EP)
ASME B1.20.1	NPT threads	Compliant
DIN 32676	Tri-Clamp option	Compliant

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TYPICAL APPLICATIONS
SECTION 9

DAIRY	BREWING & WINE	PHARMA & BIOTECH
• Pasteurization circuits	• Wort transfer	• WFI distribution
• Cheese processing	• Fermentation tanks	• Purified water systems
• Yogurt production	• Bottling lines	• API manufacturing
• Milk separators	• Brewhouse CIP	• Bioreactor connections
• Cream lines	• Filtration	• Sterile filling
• 3-A compliant systems	• Carbonation systems	• Process skids

INSTALLATION GUIDELINES
SECTION 10

Selection: Size spray ball based on tank volume and CIP flow rate. Typically 3–5 m^3/h per m^2 of tank internal surface area. **Mounting:** Mount spray ball at top of tank, centered on vertical axis. Stem length must allow ball to extend below any tank top obstructions for unobstructed spray. **Multiple Balls:** Large tanks (>50 m^3) may require multiple spray balls. Coordinate spray patterns to ensure complete coverage with no shadow zones. **Flow Setting:** CIP pump must deliver specified flow rate at correct pressure. Insufficient pressure (<1 bar) reduces spray distance and coverage. **Coverage Verification:** Perform riboflavin coverage test before commissioning. Apply riboflavin solution, run CIP cycle, then UV inspect for residues. **Cleaning:** Spray balls are self-cleaning during CIP. Inspect periodically for hole blockage by particulates or scale.

MAINTENANCE SCHEDULE
SECTION 11

INTERVAL	ACTION	NOTES
Daily	CIP flow/pressure log	Verify operating parameters
Weekly	Visual inspection	Check holes for blockage
Monthly	Disassemble & inspect	Internal cleanliness
Quarterly	Riboflavin test	Coverage verification
Annually	Replace if worn	Surface degradation/scale
As needed	Hole cleaning	Remove particulates

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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