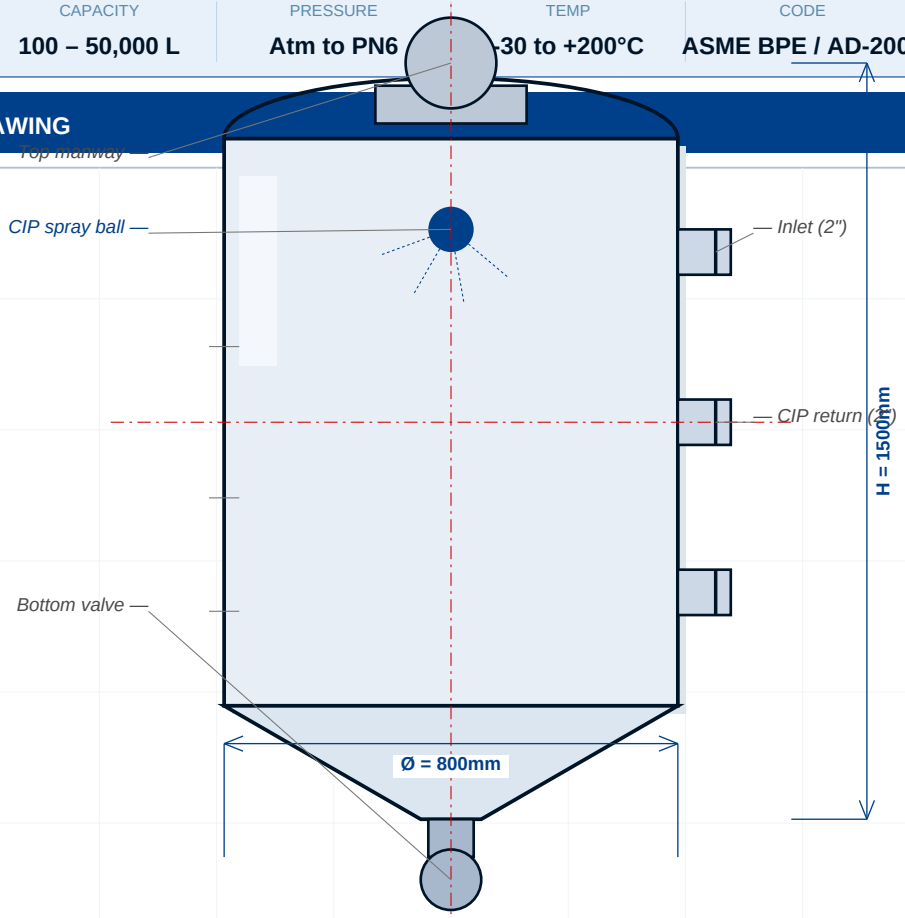
SANITARY PROCESS TANKS — CUSTOM ENGINEERED — STORAGE / MIXING / REACTOR

Custom-engineered sanitary process tanks for storage, mixing, fermentation and reaction applications. Vertical cylindrical design with dished top and conical bottom for complete drainage. 316L stainless steel construction with electropolished interior. Available with insulation, heating/cooling jackets, agitation, level sensors, CIP spray balls and manway access. Designed per ASME BPE or AD-2000 for European applications.

MATERIAL	CAPACITY	PRESSURE	TEMP	CODE	DRAINAGE
316L SS	100 – 50,000 L	Atm to PN6	-30 to +200°C	ASME BPE / AD-2000	Conical bottom

TECHNICAL DRAWING

DWG: CE-PT-001



PROCESS TANK — VERTICAL CYLINDRICAL

Dished top · Conical bottom · Custom by RFQ

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

IN THIS DATASHEET

SANITARY PROCESS TANKS — CUSTOM ENGINEERED — STORAGE / MIXING / REACTOR

DESIGN SPECIFICATIONS — SECTION 1

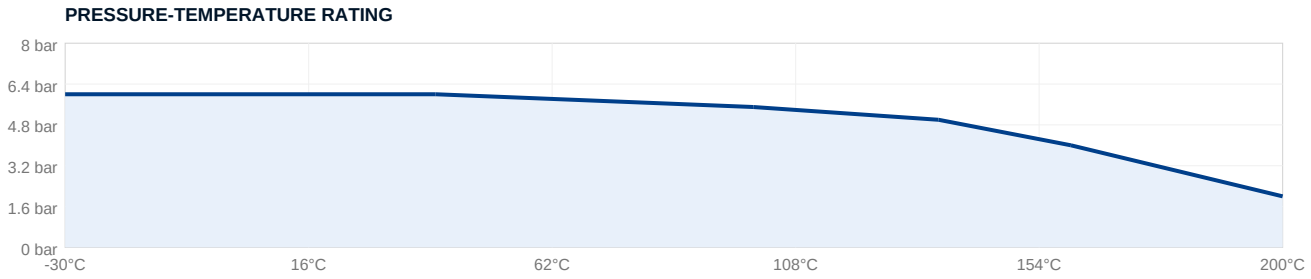
Tank Type	Vertical cylindrical
Top	Dished (Klöpper / ellipsoidal)
Bottom	Conical (10° – 45°)
Material	316L SS
Surface ID	EP, Ra ≤ 0.38 µm (BPE)
Insulation	Optional PUR + SS cladding
Jacket	Half-pipe / Dimple / Limpet
CIP	Spray ball + drain valve

OPERATING CONDITIONS — SECTION 2

PRESSURE RATING		
Atmospheric	0	**barg**
Low Pressure	PN3	**bar**
Medium Pressure	PN6	**bar**
Vacuum	-0.5	**bar option**

TEMPERATURE RANGE		
Process	-30 to +200	**°C**
Steam SIP	+135	**°C**
Jacket Heating	+150	**°C max**
Cryogenic	-196	**°C option**

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

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SANITARY PROCESS TANKS CUSTOM ENGINEERED — STORAGE / MIXING / REACTOR

MATERIALS OF CONSTRUCTION SECTION 5

COMPONENT	MATERIAL	FUNCTION	SPEC
Tank Shell	316L SS	Containment	ASTM A240
Heads	316L SS dished	Top/bottom	DIN 28011
Internal Surface	EP polished	Cleanability	ASME BPE SF4
External Surface	Bead-blasted	Aesthetic	—
Manway	316L SS	Access	3-A 53-06
Jacket (option)	316L / Carbon	Heating/cooling	ASME VIII
Insulation	PUR or Mineral wool	Thermal	—
Cladding	316 SS sheet	Insulation cover	—

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

VOLUME	DIAMETER (MM)	HEIGHT (MM)	WALL (MM)	WEIGHT (KG)	CODE
100 L	500	800	3	75	—
500 L	800	1500	4	220	—
1000 L	1000	1800	4	350	ASME VIII
2000 L	1200	2200	5	550	ASME VIII
5000 L	1600	3200	6	1100	ASME VIII / BPE
10000 L	2000	4000	8	2000	ASME VIII / BPE
20000 L	2500	5000	10	3500	ASME VIII / BPE
50000 L	3500	6500	12	7000	ASME VIII / BPE

STANDARDS & CERTIFICATIONS SECTION 8

STANDARD	DESCRIPTION	STATUS
ASME BPE-2022	Bioprocessing tanks	Compliant
ASME Section VIII	Pressure vessel code	Compliant
AD-2000	European pressure vessel code	Available
PED 2014/68/EU	EU pressure directive	Available
3-A 53-06	Sanitary tanks	Compliant
EHEDG Type EL	Hygienic equipment	Compliant

SANITARY PROCESS TANKS CUSTOM ENGINEERED — STORAGE / MIXING / REACTOR

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

Site Preparation: Concrete pad capable of supporting tank weight + content + dynamic loads. Anchor pattern per drawing. Drainage and overflow connections to site drain. **Lifting:** Use certified lifting lugs (welded to tank). Spreader bars required for tanks >2m diameter. Verify crane capacity. **Setting:** Level tank to ±3mm on all axes using shims as needed. Secure to anchor bolts. Verify vertical plumb. **Piping Connections:** Connect inlet, outlet, CIP, vent and instrument nozzles using tri-clamp or welded connections per P&ID.; Use proper flexible connectors if seismic isolation required. **Insulation:** If insulated, fit insulation panels with chloride-free material (e.g., PUR foam). Cladding to be sealed against weather (outdoor) or hygienic (indoor). **Commissioning:** 1) Hydrotest at 1.5× design pressure for 1 hour. 2) Riboflavin test for CIP coverage. 3) Internal inspection (visual + Ra spot-check). 4) Documentation hand-over: drawings, MTR, weld map, NDE reports, pressure test certificate.

MAINTENANCE SCHEDULE SECTION 11

INTERVAL	ACTION	NOTES
Daily	Visual inspection	Leaks, unusual sounds
Weekly	Manway gasket check	Inspect compression
Monthly	Internal CIP audit	TOC, conductivity
Quarterly	Internal Ra spot-check	EP surface integrity
Annually	Full internal inspection	Climb-in or borescope
5 years	Pressure vessel re-cert	Per code requirements
As needed	Repassivation	Restore corrosion resist

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 →
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