

SANITARY PROCESS SKIDS

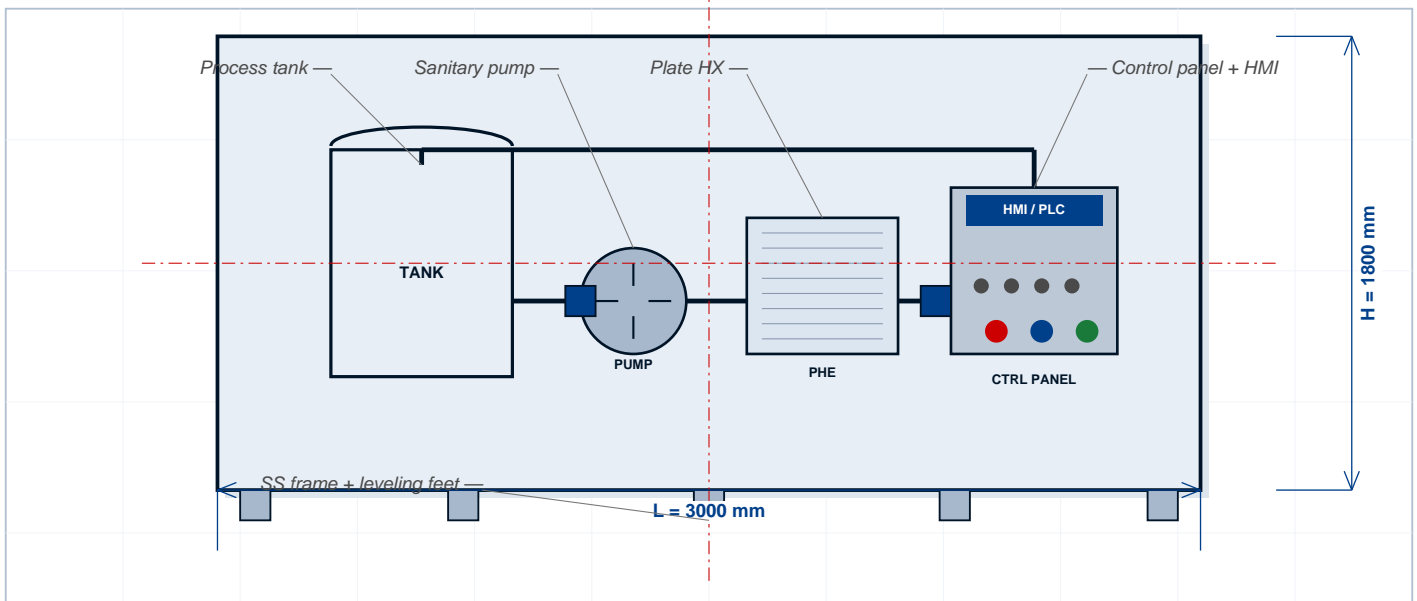
CUSTOM ENGINEERED — TANK + PUMP + CONTROLS

Custom-engineered modular process skids for hygienic applications. Pre-fabricated and tested as a complete package including tank, sanitary centrifugal pump, plate heat exchanger, control panel with PLC/HMI, instrumentation and SS structural frame. Plug-and-play installation reduces site labor and commissioning time. Designed per ASME BPE for pharma/biotech or 3-A Sanitary for food/dairy applications.

MATERIAL	CAPACITY	PRESSURE	TEMPERATURE	CONTROLS	STANDARD
316L SS	100 – 10,000 L	PN10	Up to +135°C	PLC + HMI	3-A / ASME BPE

TECHNICAL DRAWING

DWG: CE-SKD-001



SKID ASSEMBLY — TYPICAL PROCESS PACKAGE

Pre-engineered modular unit · Tank + pump + HX + controls · Plug-and-play installation

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

IN THIS DATASHEET

- PAGE 1** Technical drawing with dimensions and component callouts
- PAGE 2** Full technical specifications, materials and pressure-temperature data
- PAGE 3** Standards compliance, certifications and documentation
- PAGE 4** Applications, installation, maintenance and RFQ form

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DESIGN SPECIFICATIONS

SECTION 1

Configuration	Custom modular skid
Frame	316L SS welded
Components	Tank + Pump + HX + Valves + Controls
Mounting	Leveling feet (± 25 mm)
Piping	Internal tri-clamp + welded
Wiring	Pre-wired to control panel
Pre-Assembly	100% tested before shipment
Documentation	Full FAT package

OPERATING CONDITIONS

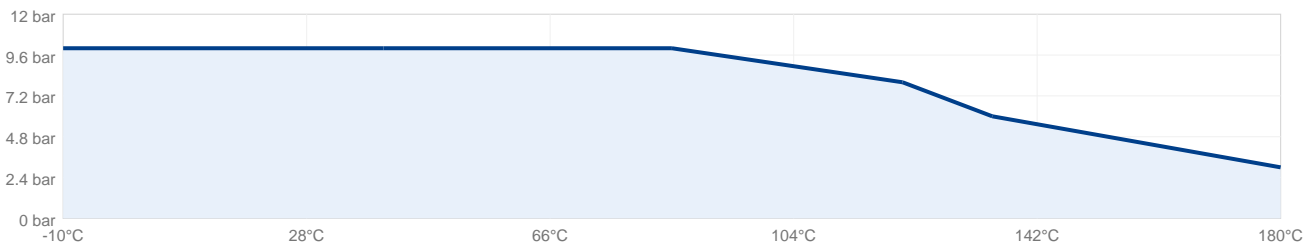
SECTION 2

PRESSURE RATING		TEMPERATURE RANGE	
Process Pressure	10 bar	Process	-10 to +135 °C
Steam SIP	3.5 bar	Steam SIP	+135 °C
Air Supply	5 – 7 bar	CIP Hot	+85 °C typ
Hydrotest	15 bar	Ambient	-20 to +50 °C

PRESSURE-TEMPERATURE RATING CHART

SECTION 3

PRESSURE-TEMPERATURE RATING



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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MATERIALS OF CONSTRUCTION

SECTION 5

COMPONENT	MATERIAL	FUNCTION	SPEC
Frame	316L SS	Structural	ASTM A276
Tank	316L SS	Process vessel	ASME BPE
Pump	316L SS	Recirculation	3-A 02-11
Heat Exchanger	316L plates	Heating/cooling	3-A 11-09
Valves	316L SS	Flow control	3-A 74-07
Instrumentation	SS sanitary	Monitoring	3-A flush
Control Panel	SS NEMA 4X	Electrical	UL listed

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

SKID SIZE	TANK VOL	FOOTPRINT	HEIGHT	POWER	LEAD TIME
Small	500 L	2 x 1.5 m	1.8 m	15 kW	8-10 wks
Medium	1000 L	3 x 2 m	2.2 m	30 kW	10-12 wks
Large	2500 L	4 x 2.5 m	2.5 m	60 kW	12-16 wks
Extra Large	5000 L	5 x 3 m	2.8 m	100 kW	16-20 wks
Custom	By RFQ	By RFQ	By RFQ	By RFQ	By RFQ

STANDARDS & CERTIFICATIONS

SECTION 8

STANDARD	DESCRIPTION	STATUS
3-A Sanitary	Multiple component standards	Compliant
ASME BPE-2022	Bioprocessing equipment	Available
EHEDG	Hygienic design	Compliant
CE / UL	Electrical & safety	Compliant
FDA 21 CFR 11	Electronic records	Available
ISA-88	Batch control	Available (PLC)
ASME Section VIII	Pressure vessel code	Compliant (tanks)

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TYPICAL APPLICATIONS

SECTION 9

PHARMA & BIOTECH

- WFI distribution
- Purified water systems
- API manufacturing
- Bioreactor connections
- Sterile filling
- Process skids

DAIRY

- Pasteurization circuits
- Cheese processing
- Yogurt production
- Milk separators
- Cream lines
- 3-A compliant systems

BREWING & WINE

- Wort transfer
- Fermentation tanks
- Bottling lines
- Brewhouse CIP
- Filtration
- Carbonation systems

INSTALLATION GUIDELINES

SECTION 10

Caspian Edge process equipment is custom-engineered to your specifications. Standard installation guidelines: **1. Site Preparation:** Concrete pad capable of supporting equipment weight + dynamic load. Verify utility connections (power, water, drain, instrument air) are routed and sized correctly. **2. Lifting & Setting:** Use certified lifting points provided on equipment. Verify crane capacity. Set equipment to specified level (± 3 mm typical) before securing. **3. Piping Connections:** Connect all process piping using tri-clamp or welded fittings per P&ID.; Support piping independently to avoid stress on equipment nozzles. **4. Utility Connections:** Connect power, control signals, instrument air, steam, cooling water and drains per drawings. Verify all connections meet local code requirements. **5. Commissioning:** 1) Mechanical check 2) Hydrotest at 1.5x design pressure 3) Wet commissioning with water 4) Process commissioning with actual media 5) Documentation hand-over (drawings, MTR, NDE reports, test certs).

MAINTENANCE SCHEDULE

SECTION 11

INTERVAL	ACTION	NOTES
Daily	Operational log	Verify within design parameters
Weekly	Visual inspection	Leaks, vibration, abnormal noise
Monthly	Connection check	Tri-clamps, gaskets, fasteners
Quarterly	Performance test	Flow, pressure, temperature
Annually	Internal inspection	Open inspection, full PM
5 years	Pressure vessel re-cert	Per code requirements
As needed	Component replacement	Gaskets, seals, wear parts

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 →](#)
caspiannedge.com/rfq