

FILTRATION & SEPARATION EQUIPMENT

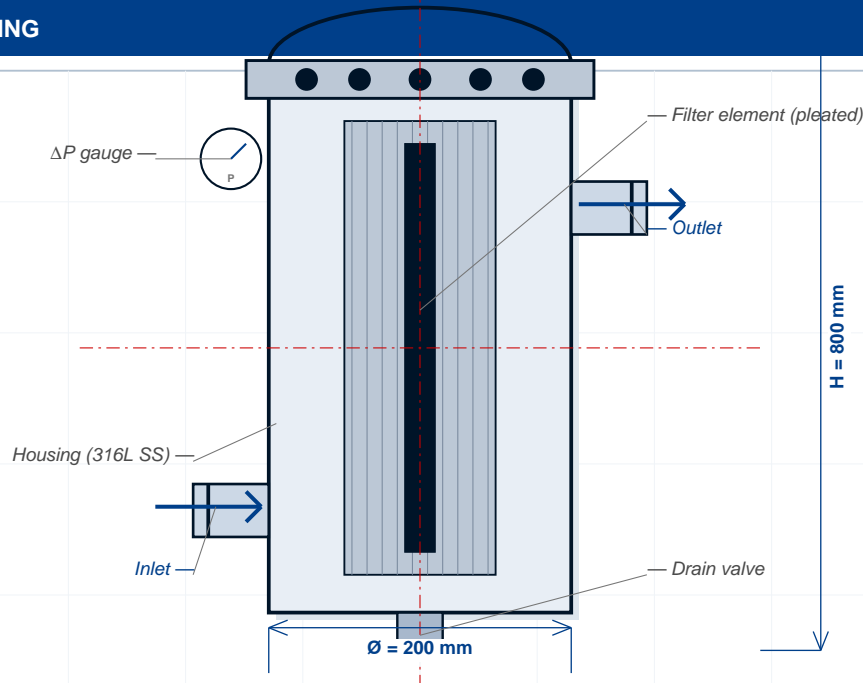
CARTRIDGE / BAG / STRAINER / Y-TYPE

Sanitary filtration housings and separation equipment for hygienic process applications. Cartridge filter housings (single and multi-element), bag filter vessels, Y-type strainers and basket strainers. 316L stainless steel construction with electropolished interior. Tri-clamp inlet/outlet, differential pressure gauge ports, drain and vent connections. Sized for typical micron ratings from 0.1 µm (sterile) to 100 µm (coarse).

MATERIAL	TYPE	PRESSURE	TEMPERATURE	MICRON	STANDARD
316L SS	Cartridge/Bag/Strainer	PN10 (10 bar)	+135°C SIP	0.1 – 100 µm	3-A / ASME BPE

TECHNICAL DRAWING

DWG: CE-FIL-001



CROSS-SECTION — SANITARY CARTRIDGE FILTER HOUSING

Single cartridge · Side inlet / outlet · Bolted top cover

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

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

FILTRATION & SEPARATION EQUIPMENT

CARTRIDGE / BAG / STRAINER / Y-TYPE

DESIGN SPECIFICATIONS

SECTION 1

Housing Types	Cartridge / Bag / Strainer (Y/Basket)
Body Material	316L SS
Internal Surface	Ra ≤ 0.8 μm (EP option)
Closure	Bolted top / Quick-clamp
Elements	Standard 10"/20"/30"/40"
Micron Ratings	0.1 / 0.45 / 1 / 5 / 10 / 25 / 50 / 100
Connections	Tri-Clamp inlet/outlet/drain/vent
Documentation	MTR / 3.1 cert by RFQ

OPERATING CONDITIONS

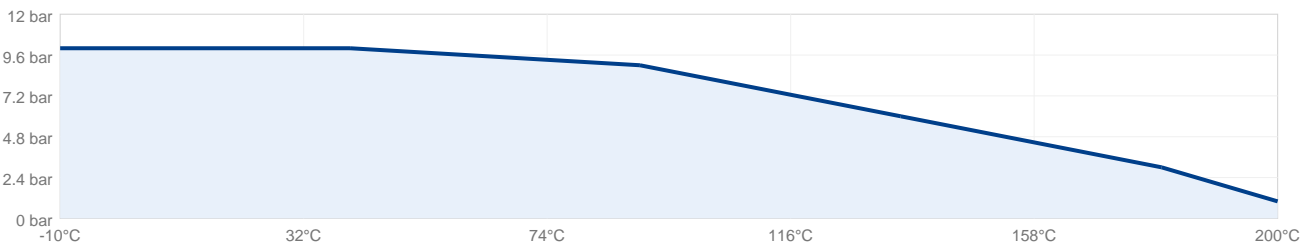
SECTION 2

PRESSURE RATING		TEMPERATURE RANGE	
Max Working	10 bar	Standard EPDM	-10 to +130 °C
Burst (Housing)	>40 bar	Steam SIP	+135 °C
Differential ΔP	2.5 bar max	PTFE seals	-29 to +180 °C
Test	15 bar	Continuous	-10 to +120 °C typ

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

PART	STANDARD	OPTIONAL	SPEC
Housing	316L SS	Hastelloy C-22	ASTM A479
Cover	316L SS	—	ASTM A479
Internal Tube	316L SS	—	ASTM A479
Gasket	EPDM	PTFE / Silicone	FDA 21 CFR 177
Filter (cartridge)	PP / PES / PTFE	By application	FDA / USP
Filter (bag)	PP felt / Nylon	By application	FDA
Strainer Mesh	316L SS	—	ASTM A276

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

HOUSING	ELEMENT LENGTH	ELEMENT QTY	FLOW (L/MIN)	INLET/OUTLET	CONNECTION
Single 10"	10"	1	40 – 80	¾"	Tri-Clamp
Single 20"	20"	1	80 – 160	1"	Tri-Clamp
Single 30"	30"	1	120 – 240	1½"	Tri-Clamp
Multi 3x10"	10"	3	120 – 240	1½"	Tri-Clamp
Multi 5x20"	20"	5	400 – 800	2"	Tri-Clamp
Multi 7x30"	30"	7	840 – 1680	3"	Tri-Clamp
Bag P1	17"	1	120 – 240	1½"	Tri-Clamp
Bag P2	32"	1	240 – 480	2"	Tri-Clamp

STANDARDS & CERTIFICATIONS

SECTION 8

STANDARD	DESCRIPTION	STATUS
3-A Sanitary	Process equipment	Compliant
ASME BPE-2022	Bioprocessing	Compliant (EP)
EHEDG Type EL	Hygienic equipment	Compliant
ASME Section VIII	Pressure vessel	Compliant
FDA 21 CFR 177	Food contact	Compliant
USP Class VI	Biocompatibility	Available (seals)

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TYPICAL APPLICATIONS

SECTION 9

PHARMA & BIOTECH

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

FOOD & BEVERAGE

- Filling line shut-off
- Product transfer lines
- CIP/SIP circuits
- Storage tank outlets
- Sampling stations
- Mixing & blending

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	ΔP monitoring	Replace element if $\Delta P > 2.5$ bar
Weekly	Visual inspection	Check for leaks, housing integrity
At ΔP limit	Replace filter element	Per pressure or schedule
Monthly	Gasket inspection	Replace if compression set
Quarterly	CIP cycle verification	Cleanability check
Annually	Full overhaul	Internal inspection, all gaskets

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