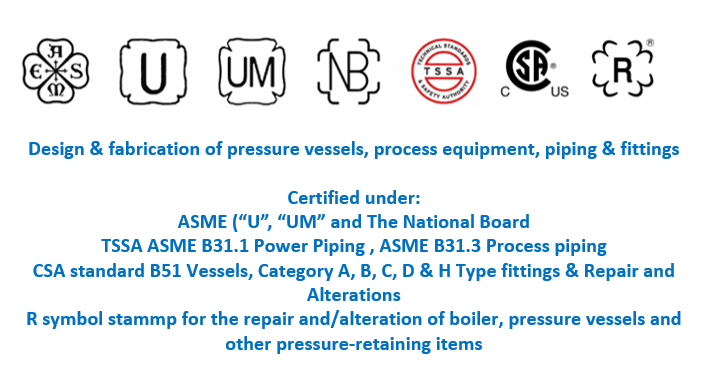
|  |  |  |  |
| --- | --- | --- | --- |
|  | |  |  | | --- | --- | |  | *6115 Shawson Dr. Mississauga, Ontario, L5T 1E4*  *Tel: 905.696.9292*  *Toll Free: 1.877.896.9292 • Fax: 905.696.8046 • www.esscorp.ca • info@esscorp.ca* | |
|  | **Subject:** ESS is pleased to offer a proposal to design, fabricate and deliver below vessels based upon documentation and specifications provided, details to be discussed during RFQ evaluation phase. ESS is confident that you will find our offer both technically and commercially attractive. We welcome the opportunity to review it with you in detail. |



**About ESS**

**WE DESIGN**

**1. Stainless Steel Sanitary**

ESS is a design build company manufacturing process equipment for multiple industries including Biotech/Food Industry. We are in the business for last 20 years and are capable of working with clients and engineering firms from various stages of design and provide the quality build equipment. Our team has constituted of Project Managers, Engineers, Designers, Quality Assurance Specialists and fabricators (that includes welders, fitter, machinist, testers and general helpers).

ESS is capable of designing custom equipment as per client need and follow industry best practices for design, fabrication and commissioning. We can execute projects with RFQ starting points from specification to P&ID’s to quality turnover packages.

**2. Pressure Vessels - Stainless Steel & Other Metals**

ESS Corp manufactures filter vessels such as bags and cartridge filters as well as strainers and self-cleaning filters with permanent media. We produce filters as standalone units, but also automated, packaged filtration systems on the skid with controls. Our standard filters are produced from commonly used materials like Carbon and Stainless Steel. Vessels are also made of exotic materials like Hastelloy in various grades, Titanium, Carpenter 20, and are all available upon request.

ESS is capable of designing custom vessels as per client need and follow industry best practices for design, fabrication and commissioning. We can execute projects with RFQ starting points from specification to fabrication drawings to ITP.

**WE BUILD**

ESS Corp offers products and services through a world-wide network of distributors and industrial sales organizations, as well as through direct sales to end users.

Our long-time experience in pressure vessels and piping systems shell, allows us to provide our customers with high quality products, at cost saving prices and exceptional service. We are in the business for last 20 years and are capable of working with clients and engineering firms from various stages of design and provide the quality build equipment. Our team has constituted of Project Managers, Engineers, Designers, Quality Assurance Specialists and fabricators (that includes welders, fitter, machinist, testers and general helpers).

ESS Corp offers a variety of engineered systems to provide complete "turn-key" customer solutions. We have partners in process, electrical, structural and control system design as well as significant in house mechanical design capabilities.

ESS fully automated, skid based vessel solutions have been used worldwide and include multi vessel self cleaning systems for cooling water that do not use wedge wire or incorporate any mechanical rotating components. Our screen technology allows for continuous washing and is ideal for the removal or Zebra Mussel larvae and other "fines" in the 20-100 micron range.

For the convenience of our clients, we stock some finished units and spare parts, as well as consumables, required for everyday use of our products.

Apart from pressure vessels fabrication, we fabricate in- house structural fabrication of frames and platforms, pipe welding, rolling and machined parts. ESS conforms to all the relevant codes that includes ASME pressure vessel code, ASME piping code, NBA accreditation, CRN, CSA and R stamps for repairs and alterations and CRNs

Give us a call today for a solution to your unique engineering problem!

**Quality System @ ESS MAINTITLE IN NAV**

Our QA team includes inspectors for material receiving inspection, fabrication inspection, hydrotesting, Non-Destructive Testing and borescope weld inspection.

ESS is committed to maintaining the highest standards of quality and safety in its project design, build, and commissioning practices. ESS strictly adheres to written operating procedures defining activities, responsibilities and required approvals to ensure adequate process controls and safe practices to meet the specific needs of each client’s project. On-going design review, As Built walk downs, routine in-process quality inspections, safety at job, accuracy of documentation and simplified testing approach is part of work culture at ESS.

Involvement of client is paramount for any project to be successful and ESS ensure to manage the expectations of client and involve them throughout the process. Any deviations uncovered during these reviews will be addressed to the satisfaction of the Client prior to release for shipment.

Our team is also capabable of providing validation documents as per client’s requirement and template and personel training (subject to client’s request at extra cost).

Create 2 Tables,

DOCUMENTATION MATRIX – TABLE NAME

Sanitary Process Skid – Pressure Vessels

SANITARY PART

Our Quality Program includes, such as:

* Specification Review (URS, FS, DDS)
* Detailed Design Review (As built, P&ID)
* Project-specific SOPs
* Welders Certificates and Weld Procedures
* Weld and Material Inspection
* NDE testing and Boroscope Inspections
* CIP (Riboflavin) Procedure/Report
* Surface Finish Test/ Map/Certification
* Registration for Code Vessels
* Mill Test Reports (MTR), Certificates of Compliance, Material Log
* System Slope Verification
* Passivation
* Factory Acceptance Testing
* Site Acceptance Testing
* Turnover Package
* Validation Package

|  |  |
| --- | --- |
| * Complete Documentation for Validation (Standard or Custom per Clients Requirements) * Weld Procedures (WPS) * Weld Maps & Logs * Dye Penetrant and X-Ray Log * Passivation Procedure/Certification * Electropolishing Procedure/Certification * Saline Procedure/Report * Hydrostatic Testing Procedure/Report | * CIP (Riboflavin) Procedure/Report * Required Calculations (pressure, temperature, seismic, wind load) * Component catalog cut sheets, spare parts list, operation and maintenance manuals * Positive Material Identification * Ultrasonic Welding Integrity Tests |

PRESSURE VESSELS PART

Our Quality Program includes, such as:

* Specification Review
* Detailed Design Review (As built Fabrication Drawings)
* Welders Certificates and Weld Procedures
* Weld and Material Inspection
* Mill Test Reports (MTR), Certificates of Compliance, Material Log
* NDE testing
* System Slope Verification
* Passivation and Boroscope Inspections (if requested)
* Documentations (ITP)
* Registration for Code Vessels
* Surface Treatment – Passivation, Sand blasting, painting, etc

**CLEAN IN PLACE SYSTEMS (CIP)**

* SS316L wetted tank; <20 Ra Surface finish with smooth welds with tank bottom valve with piping post discharge pump
* Level Transmitter on Tank
* Mounted Temperature Transmitter with digital display on the tank shell to measure temperature. Optional in-line temperature element
* Sanitary pump for supply and return
* Flowmeter with local display or on HMI.
* Sanitary pressure transmitter on discharge of pump
* Conductivity meter with local display or on HMI. Optional in-line return conductivity
* Recirculation loop for mixing chemical with option of Electric Heater or Sanitary Heat Exchanger for temperature control in SS enclosure (washdown duty or NEMA rated)
* Capability for CIP recirculation back to tank
* Sanitary diaphragm valve or butterfly valves
* 304 SS frame with large casters with small footprint for mobility
* Space for putting chemical dosing pump on skid (dosing pump optional)
* Adjustable feet for leveling
* NDE testing, Passivation, FAT, SAT and turnover package
* Diaphragm, Gasket and O-rings – EPDM, Teflon, Viton, etc
* Automation with PLC control
* Option for Data Recording

**CIP Models – CIP ABC**

|  |  |  |  |
| --- | --- | --- | --- |
|  |  |  |  |
|  |  |  |  |
| A | 1 | 2 | 3 |
|  | 1 Tank | 2 Tank | Multiple Tank |
|  |  |  |  |
| B | 0 | 1 | 2 |
|  | Manual | Semi Automatic | PLC Programming |
|  |  |  |  |
| C | 0 | 1 | 1 |
|  | No Data Recording | Local Data Recording | Database & Data Storage |

PRODUCTS AND SOLUTIONS

Industries \_\_\_\_

Pharma & Biotech

food and beverages

oil and natural gas

water, water waste treatment

Industrial & Automotives

ALL SINGLE PAGES

applications\_\_

pressure vessels - contents are to be found in esscorp > products Mininav {Stainless Steel Vessels, Filter Vessels}

Filtration Solutions. add move mininav {Tangential Flow Filtration, Nano Filtration, Filter Housings}

Clean in Place (CIP) systems - {Manual, semi automated, automated}

Heat Exchanger - https://www.shutterstock.com/image-photo/shell-tube-heat-exchanger-isolated-on-1761540845 {shell and tube heat exchanger, electric heat exchanger}

Automated Custom Skids & Specialty Applications - {Standalone Custom Skids, Fully Automated Custom SKids, Specialty Applications }

COMPETENCIES - contents from esscorp > services

We design -

We Build - Put all tabs on the applications. on the footer

We Test -

Repair ALteration & Other Services