calcgen	Calcgen Solutions Project Specifications	Document No.: Page:	
	VesselExpress		

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Revision Log

Rev. No	Description of Change
01	Initial Release

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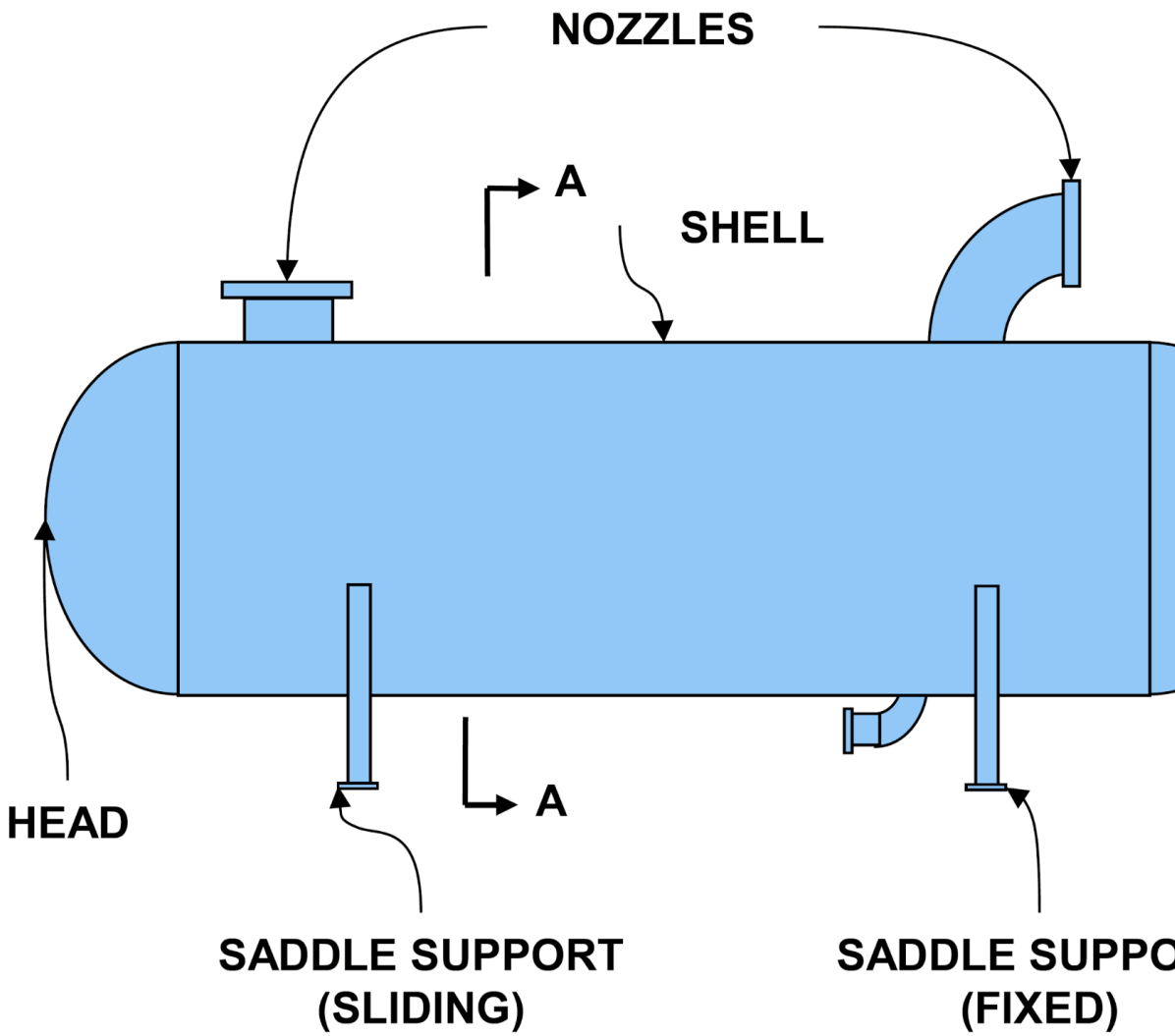
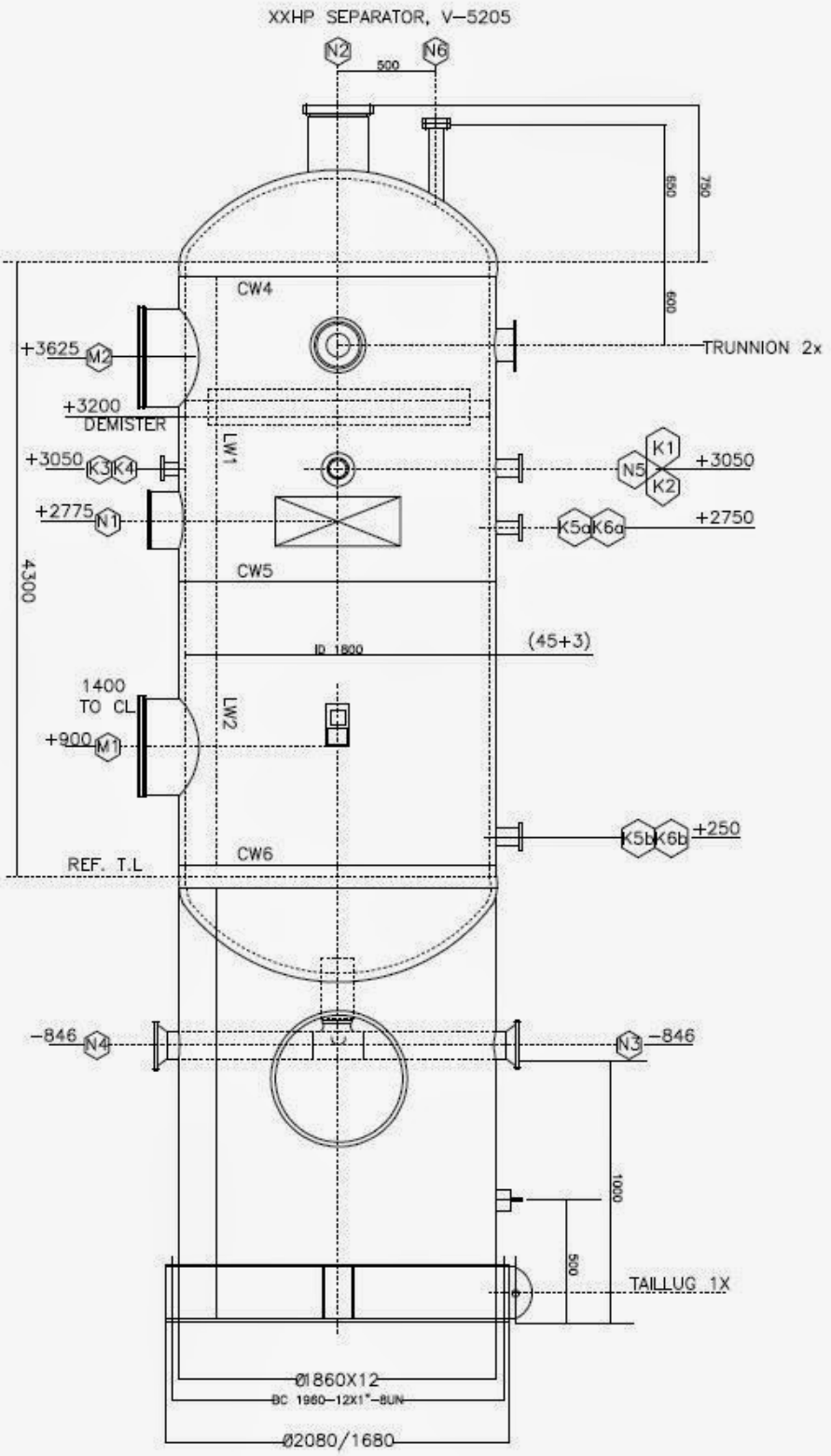
1.0 SCOPE

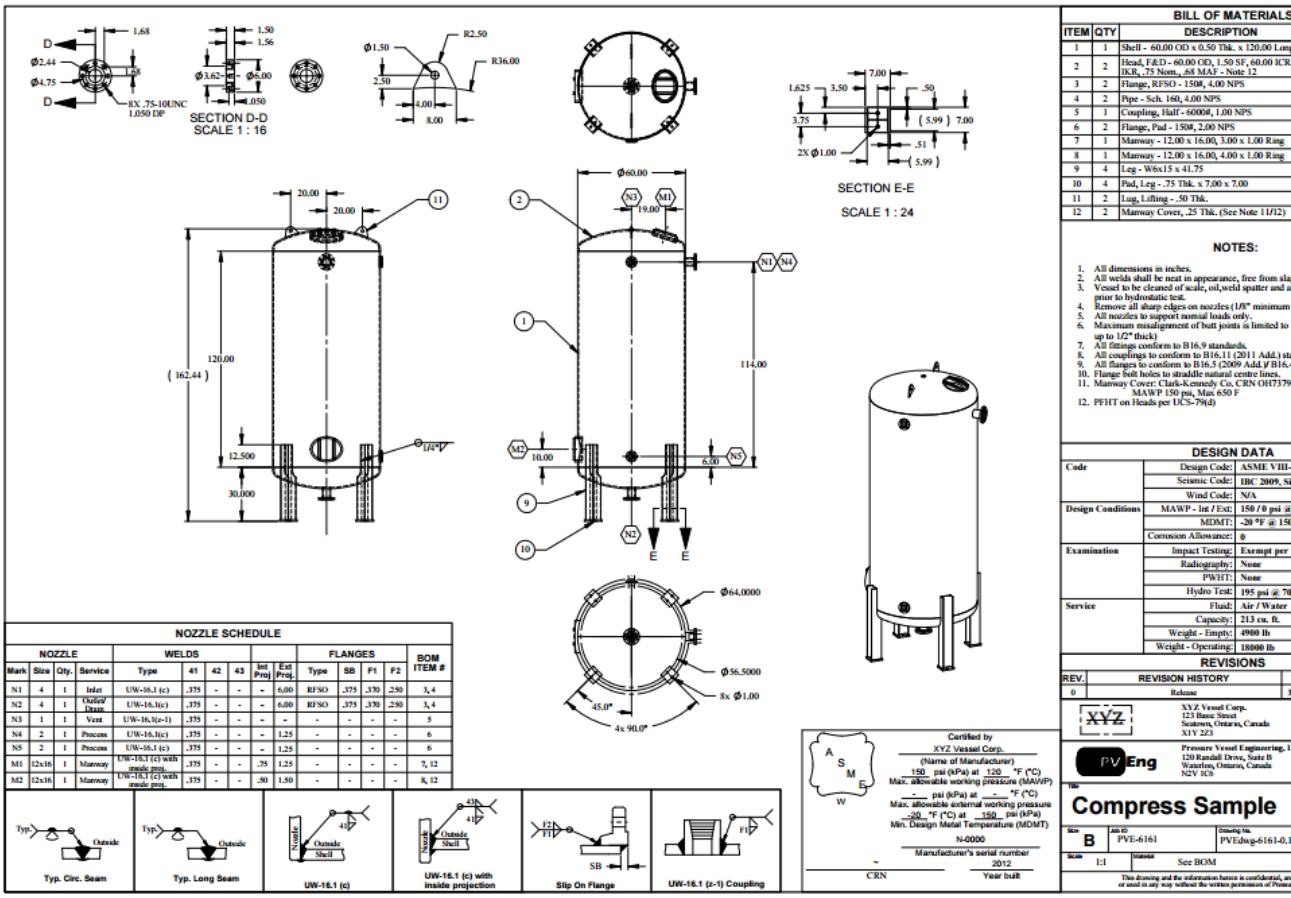
This document outlines the requirements for VesselExpress applications. VesselExpress is intended to perform a quick calculations based on user's inputs. As a result of calculations, user should be able to generate a calculations report (similar to Compress report) and an outline drawing. Version control is important. Each version of user's input and derived calculated data needs to be stored on the database. In addition, the chosen instances of outline drawing and report should also be stored to see the history. User should have option to chose US Customary ro SI units to build the pressure vessel.

2.0 **DEFINITION**





NOTE – ALL DIMENSION IN MILLIMETERS



3.0 **PIPE AND FLANGE DATA NEEDED**

Pipe data should come from a pipe chart. A pipe chart like this(link) needs to be available to pull the property based on the pipe and selected pipe schedule. For VesselExpress, we will only use ASME B16.5 welding neck flanges. The flange data is also available on this link. All classes (150, 300, 400, 600, 900, 1500 and 2500) classes of flange data shall be available. The flange dimensions should also be stored on database. The pipe and flange data do not change frequently so it should be on read only database for the users. Admins should be able to modify the information if required. Many other application need to pull these information as well.

4.0 **COMPONENTS REQUIRED**

ASME 2:1 Ellip. Head

Cylinder(s)

Nozzles (Built with Pipe and Flange)
Skirt (Applicable to Vertical Vessel Only)
Saddle (Applicable to Horizontal Vessel Only)

5.0 **OUTPUT REQUIRED**

Vessel Calculations (HTML and PDF) showing the vessel wall thickness

MAWP

Weight of Pressure Vessel (entire Weight)

Center of Gravity with Fluid or without fluid

Nozzle Schedule Table

An outline drawing

Version Control ability