

KETIV

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Sub InsertInletIntoAssembly()  
    ' This code places the inlet nozzle into our assembly  
    ' The inlet nozzle consists of a pipe and an end connection (i.e. flange, capped flange, or valve)  
    ' The user has the option to place the inlet nozzle on the top of the tank, or the front dish head plate  
    ' If they place it on the dish head plate, it must be located near the top of the tank, and not the bottom half  
    Dim strInletTubeName, strFlangeFile As String  
  
    ' No new geometry is created for inlets - they only use existing parts from the library  
    ' This let's us find the right name of the tube (or pipe) based on the inlet size  
    strInletTubeName = LIBRARY_PATH & "Flanges\ANSI B36.10 XS - " & INLET_SIZE & ".ipt"  
  
    ' This code uses our "GetFlangeFilename" function to find the name of the end connection based on  
    '     flange type, flange end connection, and inlet size  
    strFlangeFile = GetFlangeFilename(INLET_FL_TYPE, INLET_FL_END, INLET_SIZE)  
  
    ' Define the matrices that will be needed to place the inlet nozzle, including the pipe and flange  
    Dim matrixM, matrixN As DocumentUnitsMatrix  
    Dim strInletPipeBrowserName, strInletFlangeBrowserName As String  
    ' If the user wants to place the inlet nozzle on the top, use these locating matrices  
    If INLET_LOC = "Top" Then  
        ' These strings will be used to set the occurrence names in the browser to indicate they are installed on top of the tank  
        strInletPipeBrowserName = "Top Inlet Pipe - " & INLET_SIZE & " Inch:1"  
        strInletFlangeBrowserName = "Top Inlet Flange - " & INLET_SIZE & " Inch:1"  
        ' This matrix represents the orientation required for the pipe on top of the tank  
        matrixM = ThisDoc.Geometry.Matrix(1, 0, 0, 0, 0, 0, -1, TANK_OD / 2 + 6, 0, 1, 0, TANK_L / 2 - INLET_OFF, 0, 0, 0, 1)  
        ' The locating matrix will be different for open, capped and valve end connection choices  
        If INLET_FL_END = "Open" Then  
            ' If the user chooses a welding neck flange, a different offset matrix value will be required for the Y (up) direction  
            If INLET_FL_TYPE = "Welding Neck" Then  
                matrixN = ThisDoc.Geometry.Matrix(0, 1, 0, 0, -1, 0, 0, TANK_OD / 2 + dblFlangeOffsetDistance + 9 in, 0, 0, 1, TANK_L / 2 - INLET_OFF, 0, 0, 0, 1)  
            Else  
                matrixN = ThisDoc.Geometry.Matrix(0, 1, 0, 0, -1, 0, 0, TANK_OD / 2 + dblFlangeOffsetDistance + 6 in, 0, 0, 1, TANK_L / 2 - INLET_OFF, 0, 0, 0, 1)  
            End If  
        ElseIf INLET_FL_END = "Capped" Then  
            matrixN = ThisDoc.Geometry.Matrix(1, 0, 0, 0, 0, 0, 1, TANK_OD / 2 + 6, 0, -1, 0, TANK_L / 2 - INLET_OFF, 0, 0, 0, 1)  
        Else  
            matrixN = ThisDoc.Geometry.Matrix(1, 0, 0, 0, 0, 0, 1, TANK_OD / 2 + dblFlangeOffsetDistance + 7 in, 0, -1, 0, TANK_L / 2 - INLET_OFF, 0, 0, 0, 1)  
        End If  
    ' If the user wants to place the inlet nozzle on the front, this is the code that will be used to create the location matrices  
    Else  
        ' These strings will be used to set the occurrence names in the browser to indicate they are installed on top of the tank  
        strInletPipeBrowserName = "Front Inlet Pipe - " & INLET_SIZE & " Inch:1"  
        strInletFlangeBrowserName = "Front Inlet Flange" & INLET_SIZE & " Inch:1"  
        Dim dblDishOffset As Double = TANK_L / 2 + (INLET_OFF / (TANK_OD / 2)) * DISH_DEPTH + 6  
        matrixM = ThisDoc.Geometry.Matrix(-1, 0, 0, 0, 0, 1, 0, TANK_OD / 2 - INLET_OFF, 0, 0, -1, dblDishOffset + 4, 0, 0, 0, 1)  
        ' Since we created a function (GetFrontOrRearMatrix) that figures out location matrices on the front and rear dish plates,  
        '     we can take advantage of that and don't need to figure them out separately, like we had to for the top  
        matrixN = GetFrontOrRearMatrix(INLET_FL_TYPE, INLET_FL_END, INLET_OFF, 10, INLET_SIZE, "Front", "Top")  
    End If  
    ' These are the iLogic commands to add the pipe and flange components to the assembly, and place them properly based on the matrices  
    Dim componentM = Components.Add(strInletPipeBrowserName, strInletTubeName, position := matrixM, grounded := True, visible := True, appearance := Nothing)  
    Dim componentN = Components.Add(strInletFlangeBrowserName, strFlangeFile, position := matrixN, grounded := True, visible := True, appearance := Nothing)  
End Sub
```