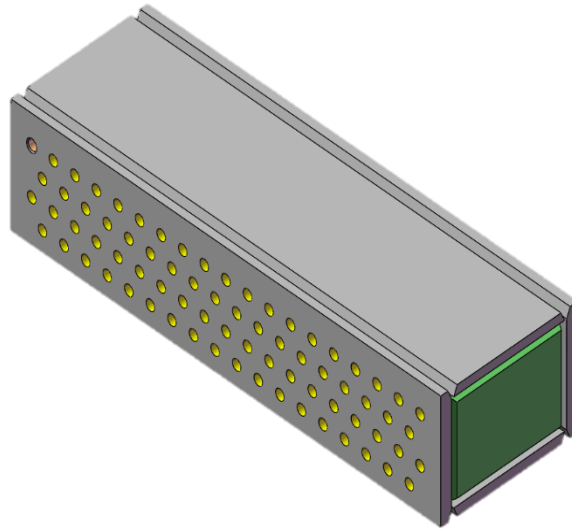# Section / Header Smart Model

Header Box

Design table Inputs:
Tube Size & QTY
Plate & tube Thicknesses and spans
Nozzle Offset
Manual inputs in Solidworks:
Pass Plate shape & location
Shaft Split Layout
Automates:
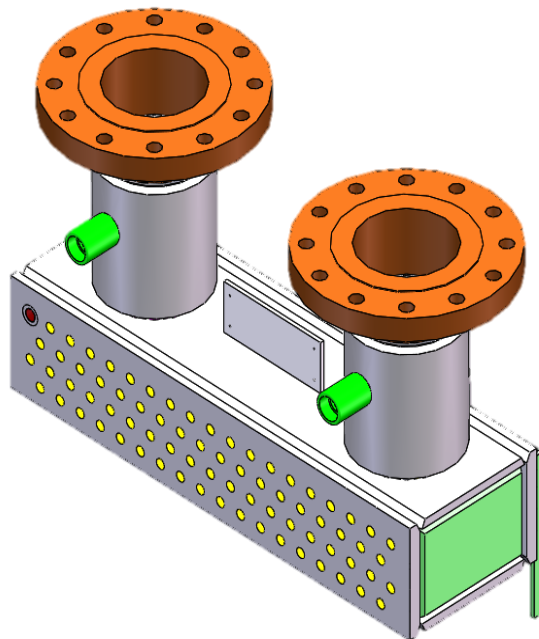Length, and Width of plates
End Plate offset per header type
Pre drill hole size
Bottom tube support location
Tube QTY indicators on drawing
Shaft Split Panel location & Size

Header Assembly:

Design Table Inputs:
Nozzle position on / off
Temp probe, vent drain, coupling on/off
Side Frame Type & Size
Plug type
Bolt on tabs for air filler on/off
Manual inputs in Solidworks:
Nozzle Projection (Pipe)
Nozzle, vent, drain, Location
Nozzle config (which position)
Name plate bracket type (config switch)
Automates:
Finished Tapped & reamed Hole sizes
Spot face on/off & size
Weld Bar Float Bar Location and Size
Name Plate Bracket Location

Nozzle pipe:

Design Table Inputs:
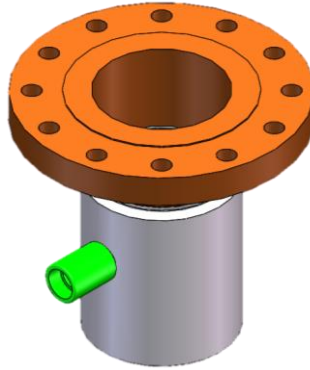Pipe size & schedule per size configuration
Nozzle angle (22.62 or 0)
Manual inputs in Solidworks:
Projection
Automates:
Length after weld gap

Nozzle Assembly:

Design Table Inputs:
Type of pipe (long weld neck, Transition, or pipe)
Type of accessory connection: (coupling, long weld neck)
Coupling material & size
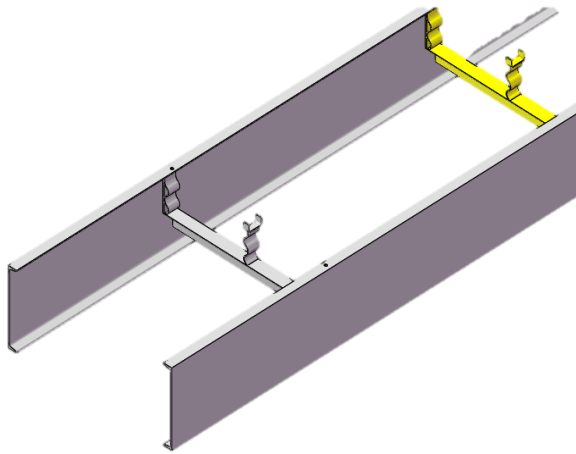Flange material & class

Manual inputs in Solidworks:
Coupling location & rotation on pipe
Nozzle projection

Automates:
Flange size & Schedule (based on pipe)

Side Frame:

Design Table Inputs:
Tube Length
Type, size, & QTY of bottom tube supports
Type of Top Tube Supports
Bottom tube support offset
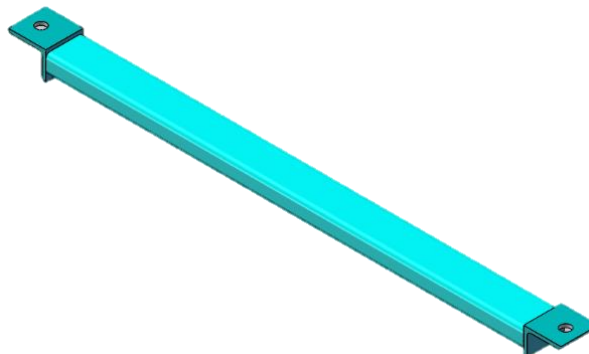Lifting Lug on/off
Manual inputs in Solidworks:
Shutter Hole locations
Structure hole locations
Automates:
Side Frame length
QTY of Tube Spacer Strips
Top Tube Support length & holes
Air filler notch for header support
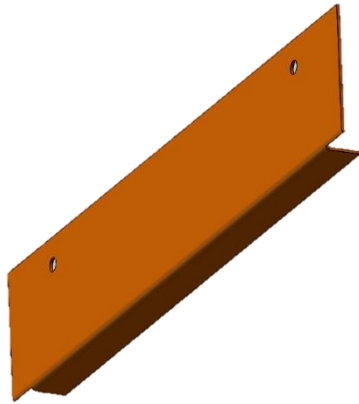
Top Tube Support:

Design Table Inputs:
Material

Manual inputs in Solidworks:
none

Automates:
length
Height of Tube Spacer Strips

Air Filler:

Design Table Inputs:
Cooler Type

Manual inputs in Solidworks:
none

Automates:
Lip Length
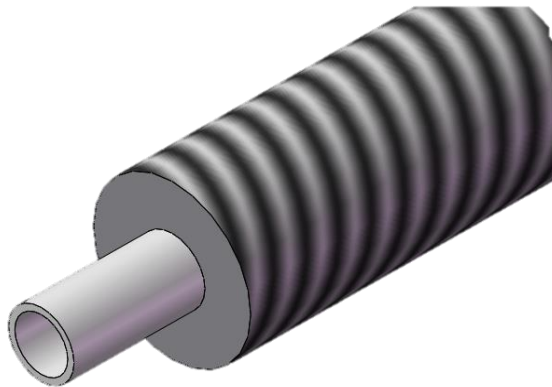overall Length (from side frame)
Bolt on holes on/off & QTY
Header support notch

Tube:

Design Table Inputs:
Fin type
Tube wall thickness
Tube type
Tube material
Manual inputs in Solidworks:
fin strip back (when custom)
Automates:
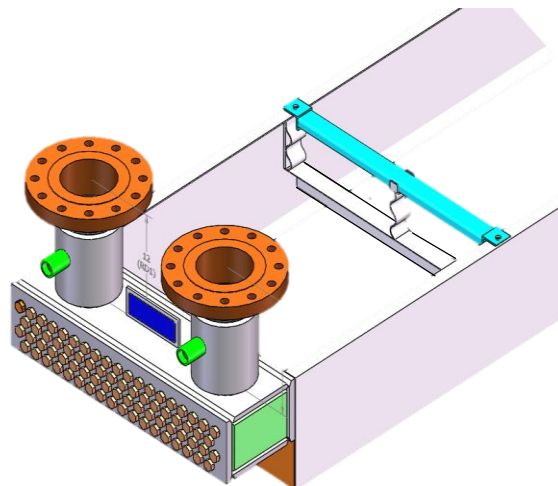Tube Dia (from header box)
BWG
Fin height & fins per inch

Section (main assembly):

Design Table Inputs:
Section name, volume
Plug length & material
Gasket material
Tube insert type
Manual inputs in Solidworks:
Deleting gaskets & inserts
Top tube support w sloped tubes
(switching configs)

Automates:
Top tube support type & QTY (from
side frame)
Gasket size & QTY
Plug size & QTY