SHRI SIDDHAROODA DESIGN

THE CAD EXPERTS

Engineering Services offered:

CAD/CAM/CAE & Manufacturing support

ESTEEMED CUSTOMERS TO WHOM WE HAVE SUPPORTED TILL NOW

ESTEEMED CUSTOMERS AND DOMAINS WHOM WE HAVE SUPPORTED TILL NOW

CENTRAL GOVT

- ISRO
- ICHR
- INDIAN RAILWAYS
- BSNL
- BHEL

OEM

- BOSCH
- DO ALL ENGG
- POWER TECH
- DASH HYDRAULICS
- PRECISION ENGINERING
- ROYAL NAG AVIATION
- GAS TECH

DOMAINS

- AUTOMOTIVE
- OIL & GAS
- FOOD PROCESSING
- AEROSPACE
- NPD
- REVERSE ENGINEERING
- CIVIL
- ELECTRONICS
- EDUCATION

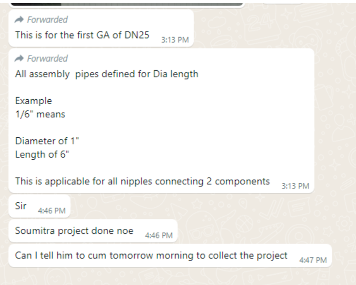
CAD Capabilities

CAD Capabilities

Input

Output

Whatsapp chat



Forwarded
This is for the first GA of DN25 3:13 PM

Forwarded
All assembly pipes defined for Dia length

Example
1/6" means

Diameter of 1"
Length of 6"

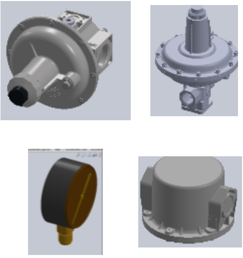
This is applicable for all nipples connecting 2 components 3:13 PM

Sir 4:46 PM

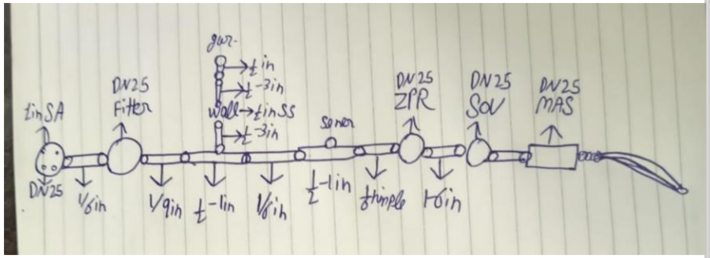
Soumitra project done noe 4:46 PM

Can I tell him to cum tomorrow morning to collect the project 4:47 PM

Standard Items Step file

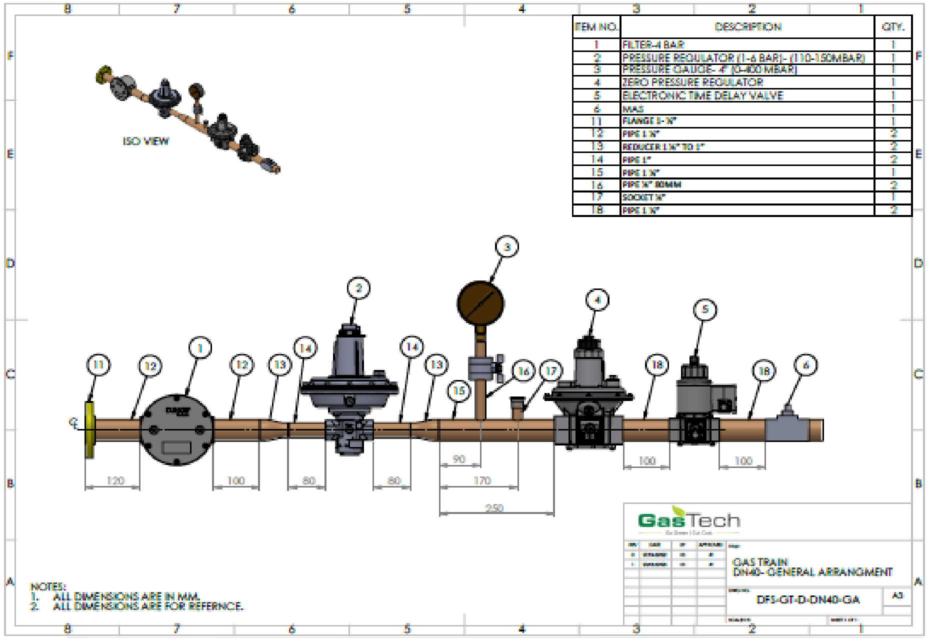


Hand Sketch



gas
⅛in
-⅜in
⅛in SA
DN25 Filter
wall→¼in SS
-⅜in
Sensor
DN25 ZPR
DN25 SOV
DN25 MAS
DN25
½in
½in
¼-1in
½in
¼-1in
thimble
½in

PDF Output



ITEM NO.	DESCRIPTION	QTY.
1	FILTER-4 BAR	1
2	PRESSURE REGULATOR (1-6 BAR)- (110-150MBAR)	1
3	PRESSURE GAUGE- 4" (0-400 MBAR)	1
4	ZERO PRESSURE REGULATOR	1
5	ELECTRONIC TIME DELAY VALVE	1
6	MAS	1
11	FLANGE 1- ¼"	1
12	PIPE 1 ¼"	2
13	REDUCER 1 ¼" TO 1"	2
14	PIPE 1"	2
15	PIPE 1 ¼"	1
16	PIPE ½" 80MM	2
17	SOCKET ½"	1
18	PIPE 1 ¼"	2

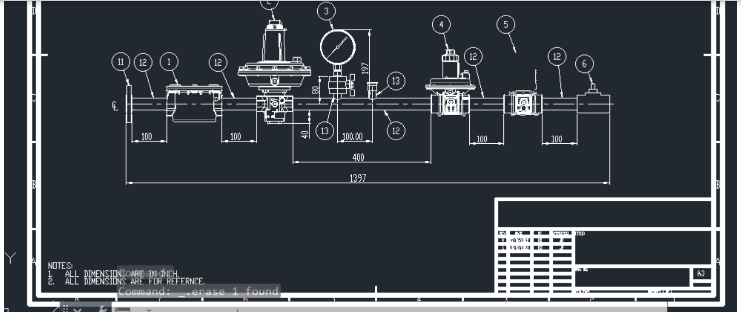
ISO VIEW
120
100
80
80
90
170
250
100
100
GasTech

GAS TRAIN
DN40- GENERAL ARRANGMENT

DFS-GT-D-DN40-GA A3

NOTES:
1. ALL DIMENSIONS ARE IN MM.
2. ALL DIMENSIONS ARE FOR REFERNCE.

AutoCad Soft Copy in DXF Format

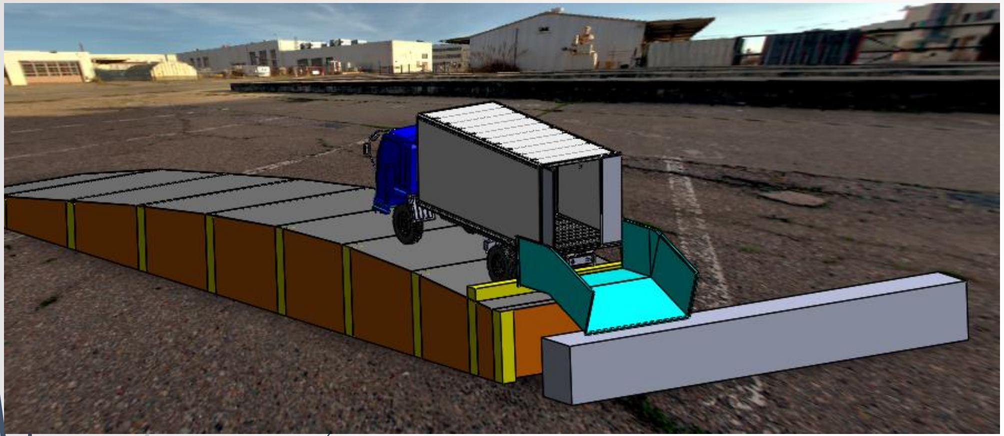


100
100
40
100.00
400
1397
100
100

NOTES:
1. ALL DIMENSIONS ARE IN INCH.
2. ALL DIMENSIONS ARE FOR REFERNCE.

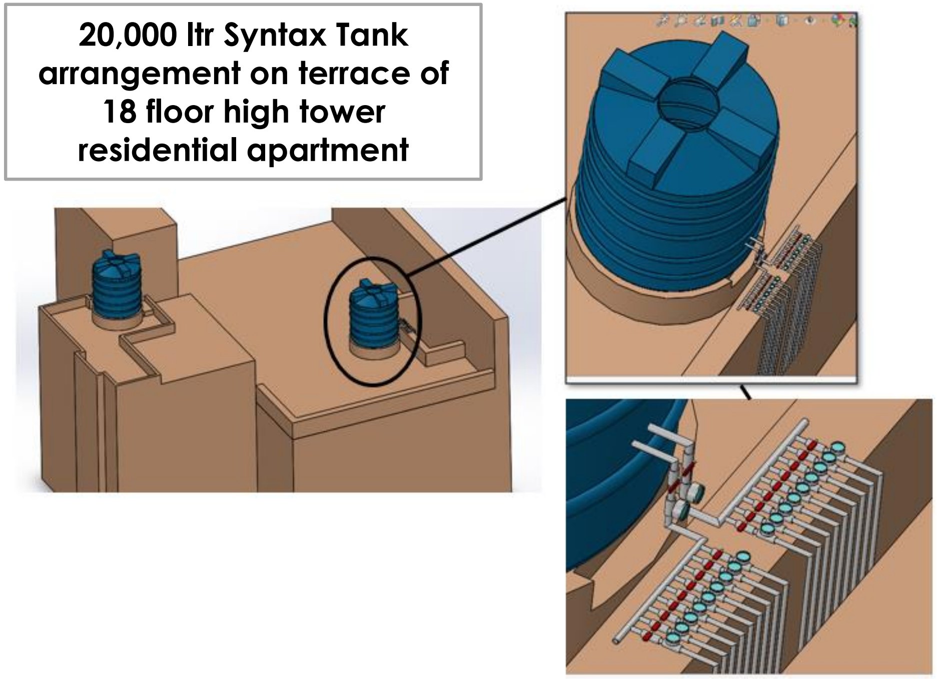
```
Command: _.erase 1 found
```

CAD Capabilities

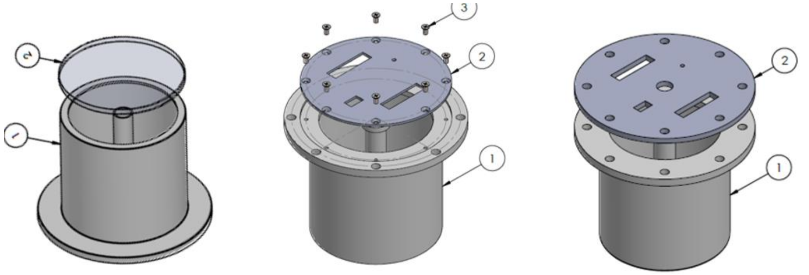


Concept design of Conveyor system for South African company

20,000 ltr Syntax Tank arrangement on terrace of 18 floor high tower residential apartment

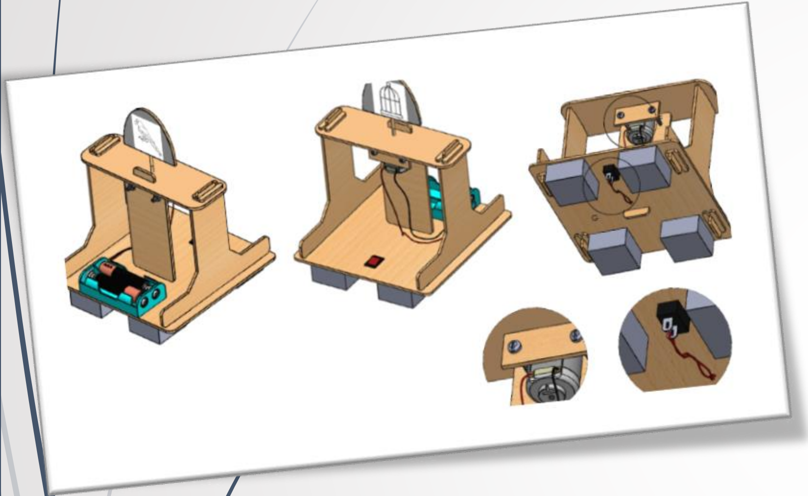
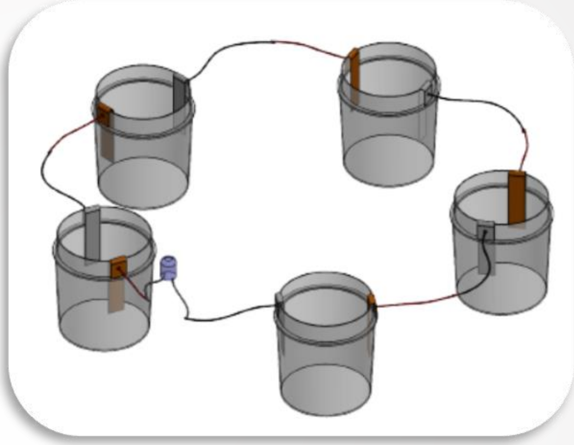
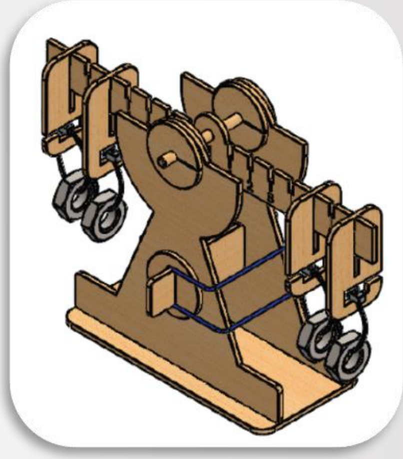
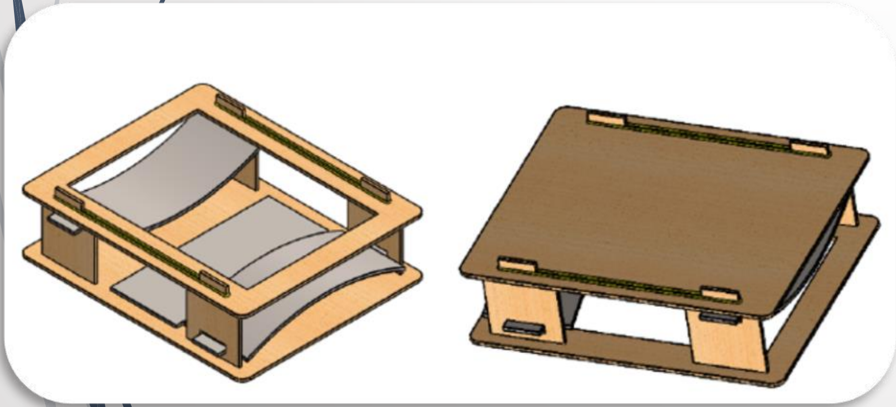
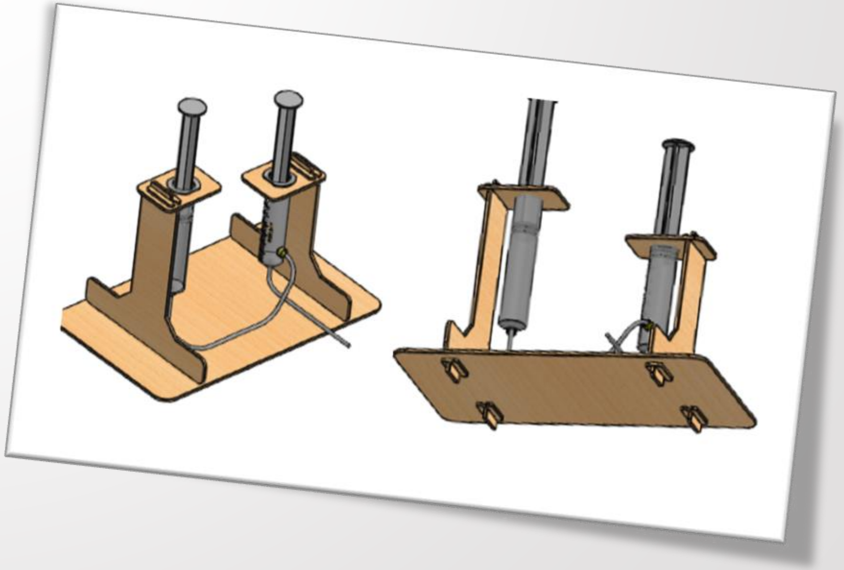


Testing fixture concept designs for a Electrical/Electronics Company

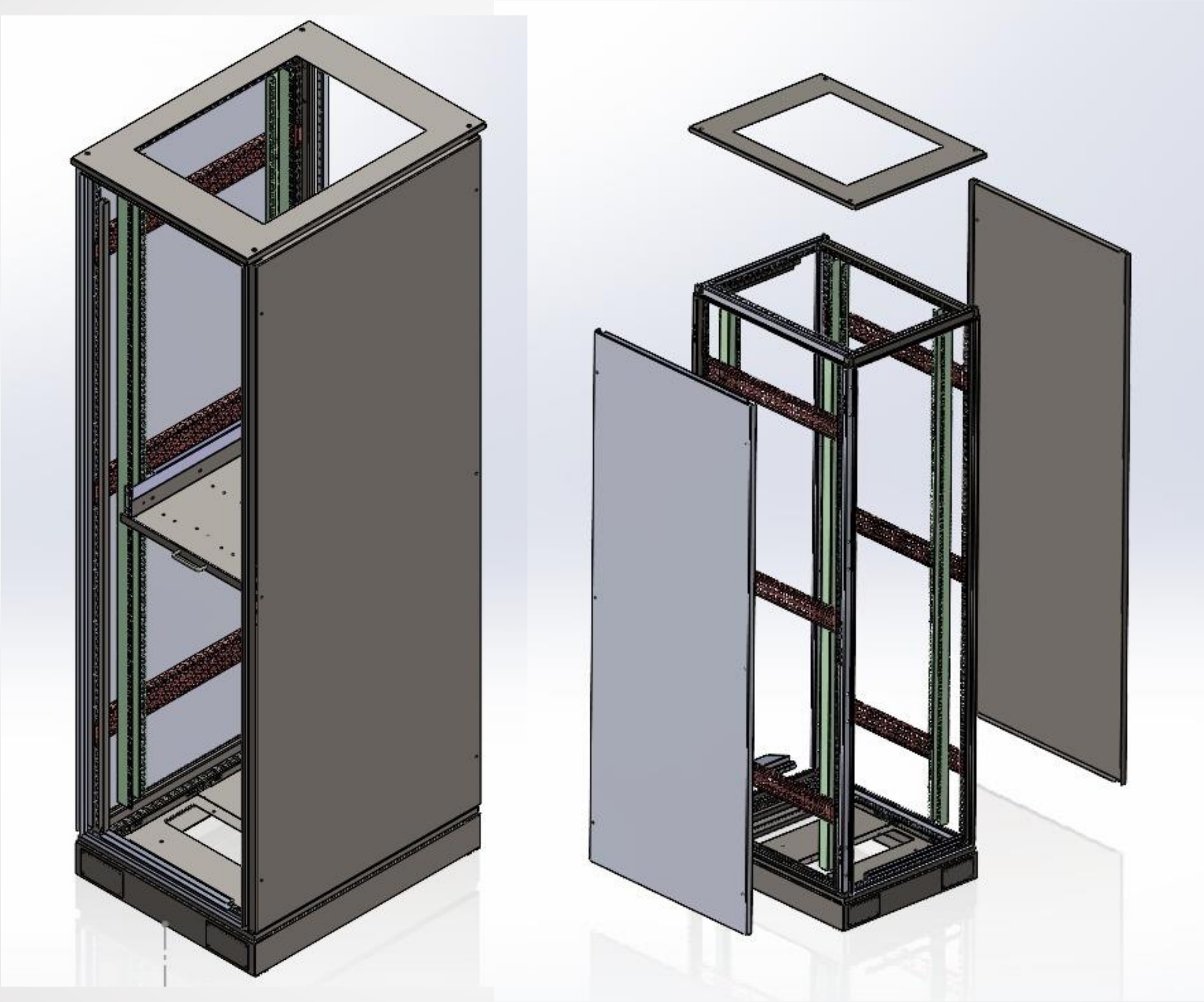


CAD Capabilities

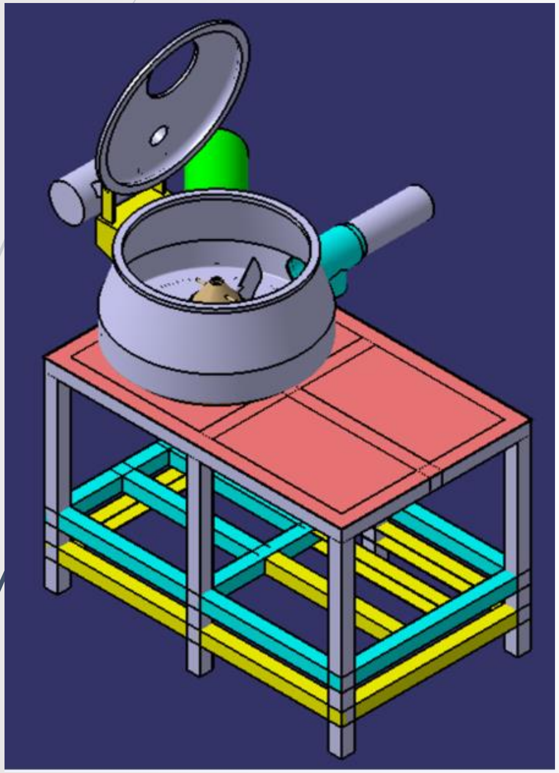
Science Project models created for sale in B2B websites

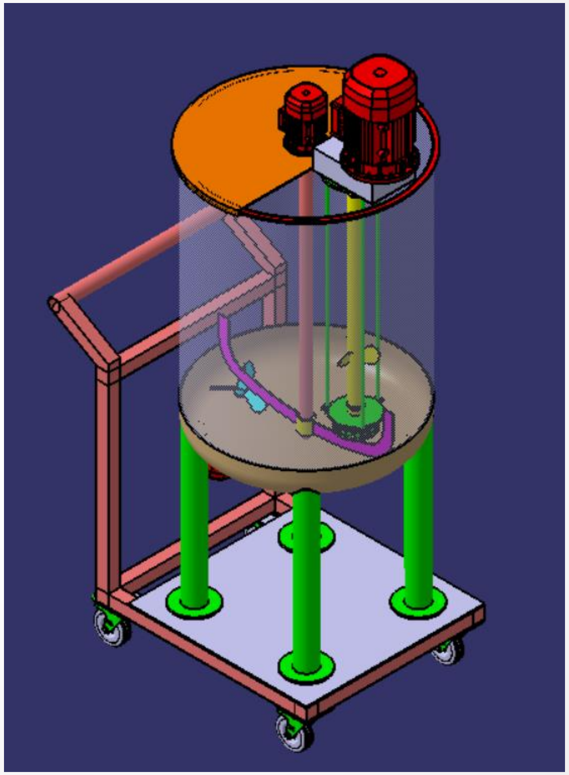






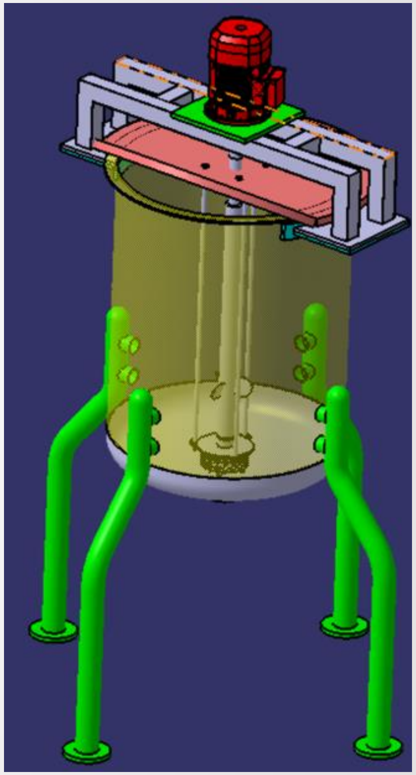
SHEETMETAL CUSTOM SIZE PANEL DESIGN



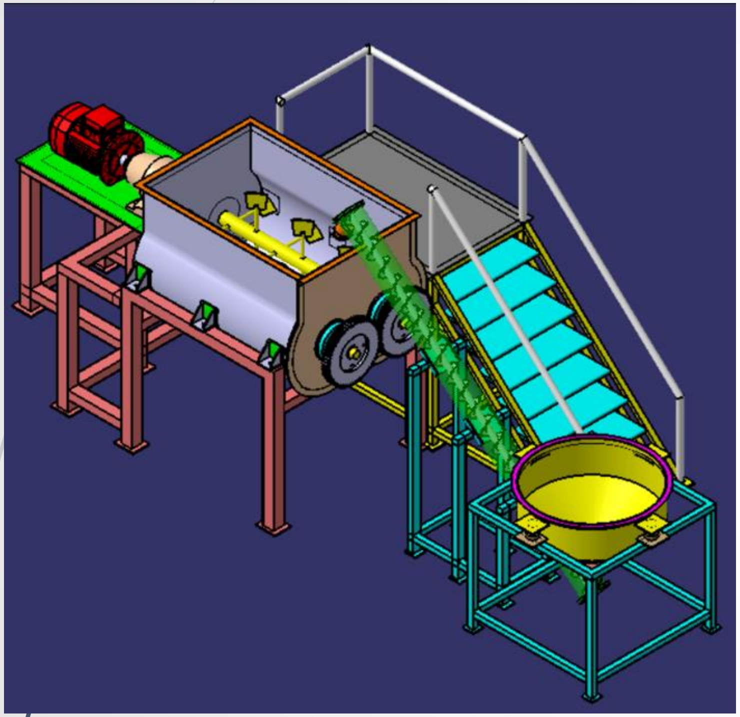
SHEETMETAL EQUIPMENT DESIGN SAMPLES



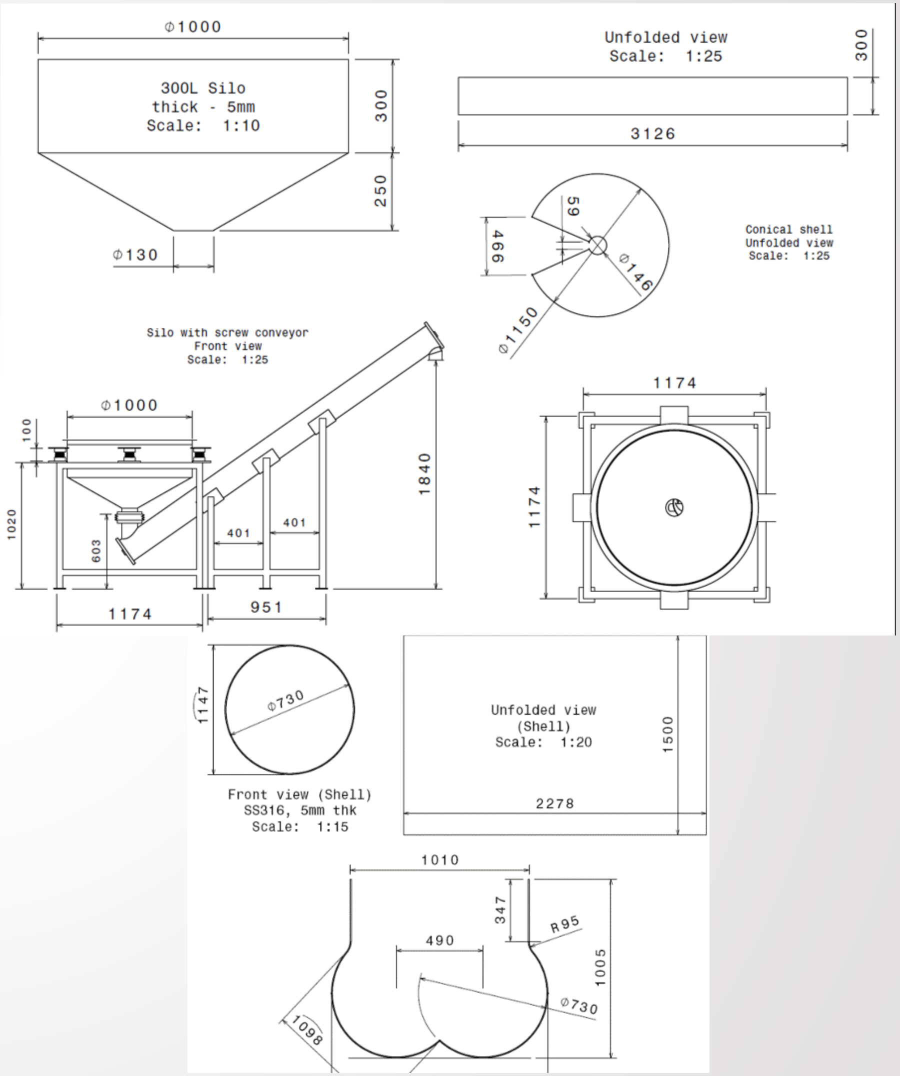




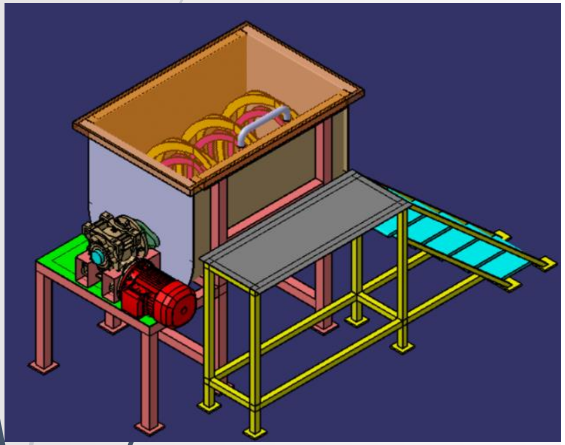
ASSEMBLY



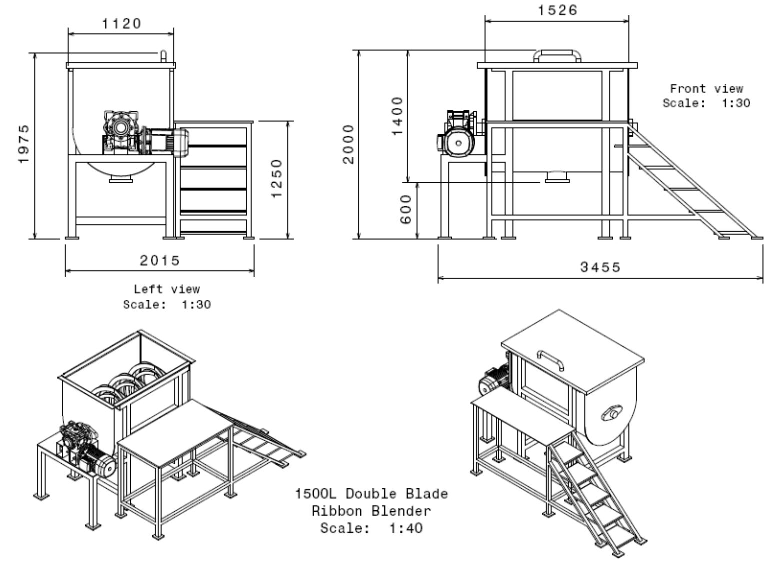
DETAILING


Φ1000
300L Silo
thick - 5mm
Scale: 1:10
300
250
Φ130
Unfolded view
Scale: 1:25
300
3126
59
466
Φ146
Φ1150
Conical shell
Unfolded view
Scale: 1:25
Silo with screw conveyor
Front view
Scale: 1:25
Φ1000
100
1020
603
401
401
1840
1174
951
1174
1174
1147
Φ730
Front view (Shell)
SS316, 5mm thk
Scale: 1:15
Unfolded view
(Shell)
Scale: 1:20
1500
2278
1010
347
R95
490
Φ730
1005
1098

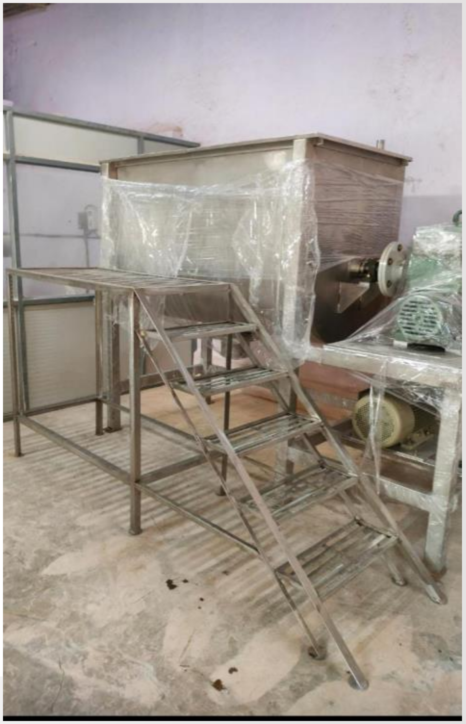
ASSEMBLY



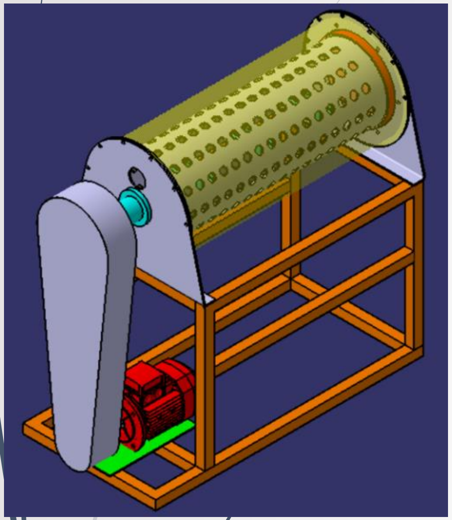
DETAILING


1120
1975
1250
2015
Left view
Scale: 1:30
1526
2000
1400
600
3455
Front view
Scale: 1:30
1500L Double Blade
Ribbon Blender
Scale: 1:40

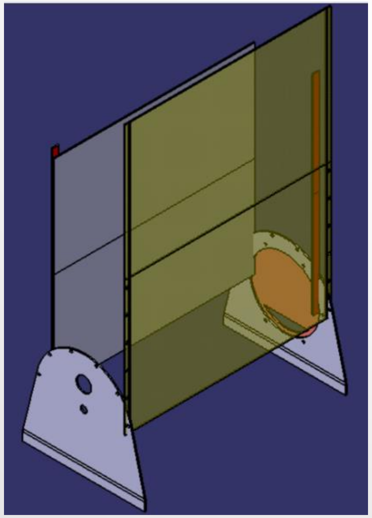
EQUIPMENT MANUFACTURED



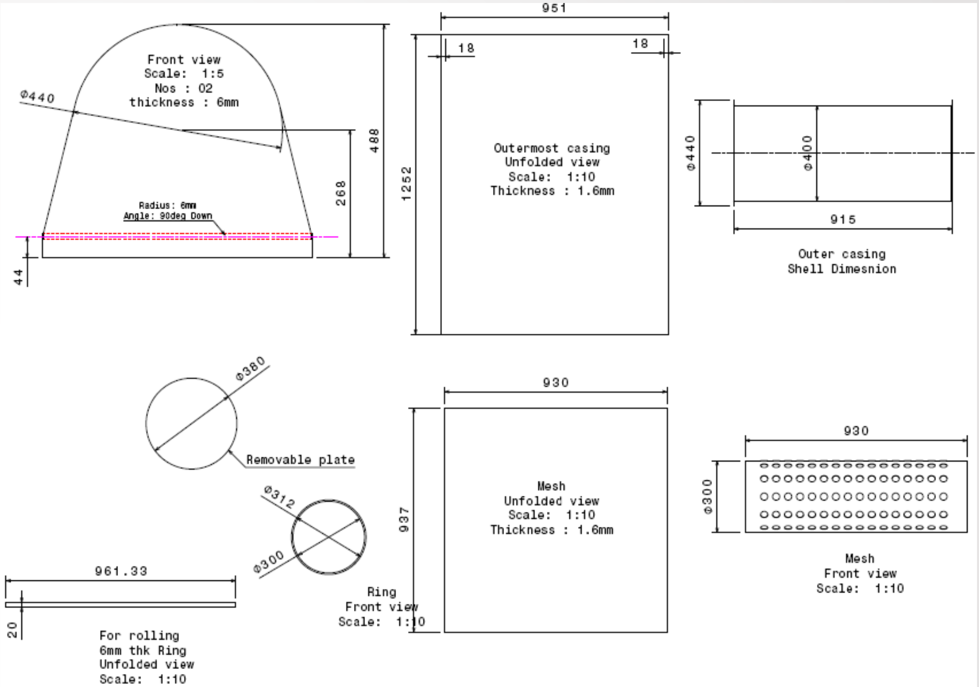
ASSEMBLY



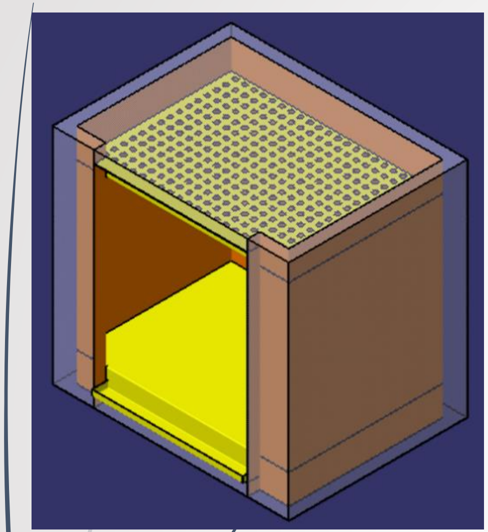
UNFOLDED/FLATTERN



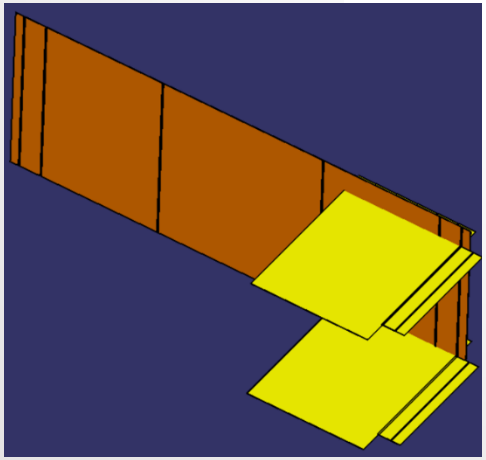
DETAILING


Front view
Scale: 1:5
Nos : 02
thickness : 6mm
Φ440
488
268
44
Radius: 6mm
Angle: 90deg Down
951
18
18
1252
Outermost casing
Unfolded view
Scale: 1:10
Thickness : 1.6mm
Φ440
Φ400
915
Outer casing
Shell Dimesnion
Φ380
Removable plate
Φ312
Φ300
Ring
Front view
Scale: 1:10
961.33
20
For rolling
6mm thk Ring
Unfolded view
Scale: 1:10
930
937
Mesh
Unfolded view
Scale: 1:10
Thickness : 1.6mm
930
Φ300
Mesh
Front view
Scale: 1:10

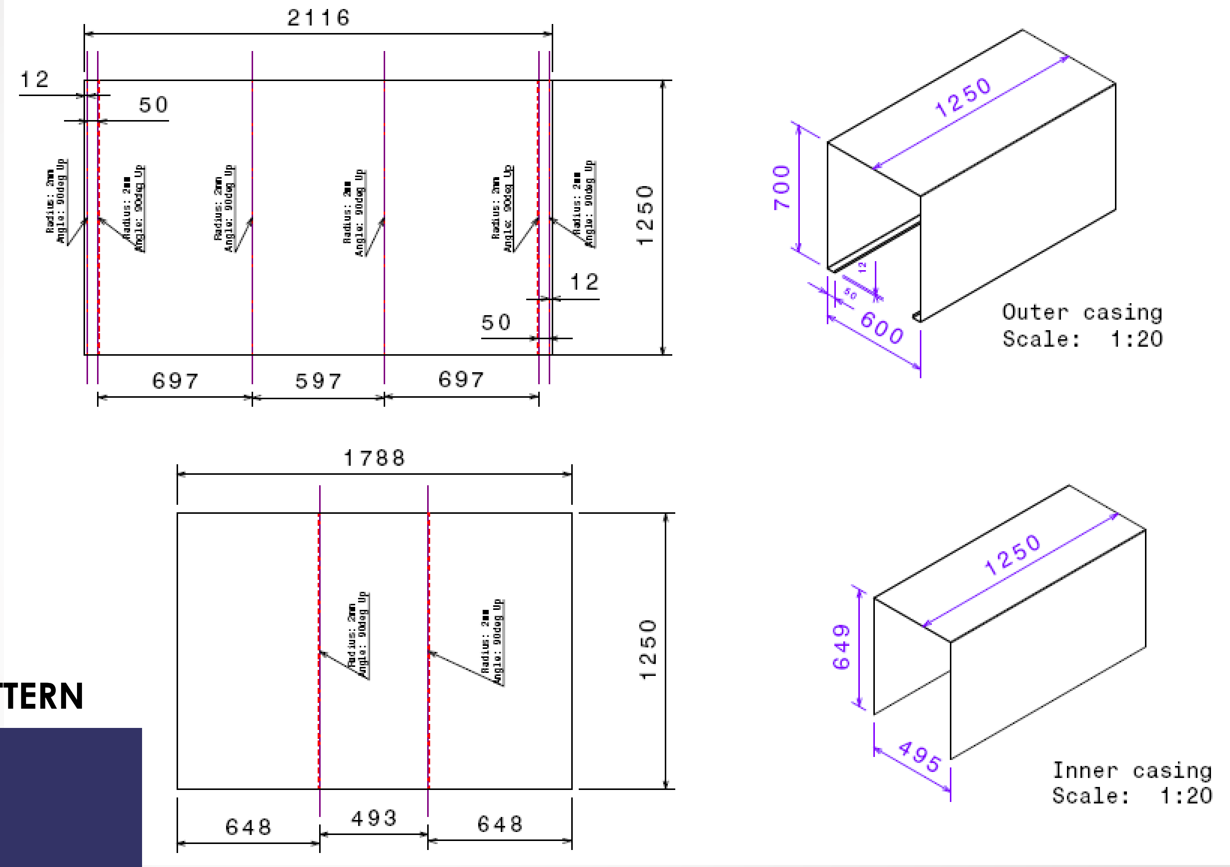
ASSEMBLY



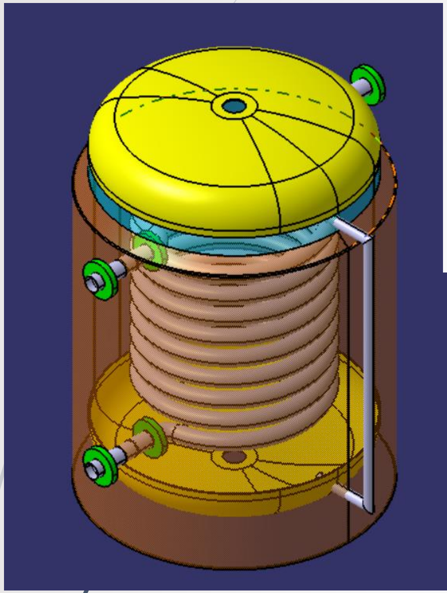
UNFOLDED/FLATTERN



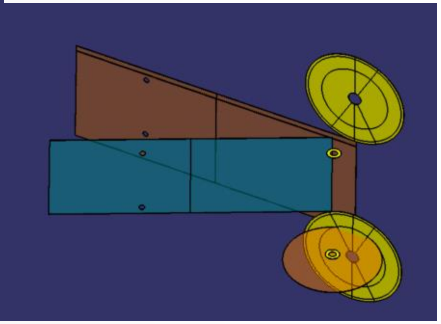
DETAILING


2116
12
50
Radius: 2mm Angle: 90deg Up
Radius: 2mm Angle: 90deg Up
Radius: 2mm Angle: 90deg Up
Radius: 2mm Angle: 90deg Up
Radius: 2mm Angle: 90deg Up
Radius: 2mm Angle: 90deg Up
1250
12
50
697
597
697
700
1250
12
50
600
Outer casing
Scale: 1:20
1788
Radius: 2mm Angle: 90deg Up
Radius: 2mm Angle: 90deg Up
1250
648
493
648
649
1250
495
Inner casing
Scale: 1:20

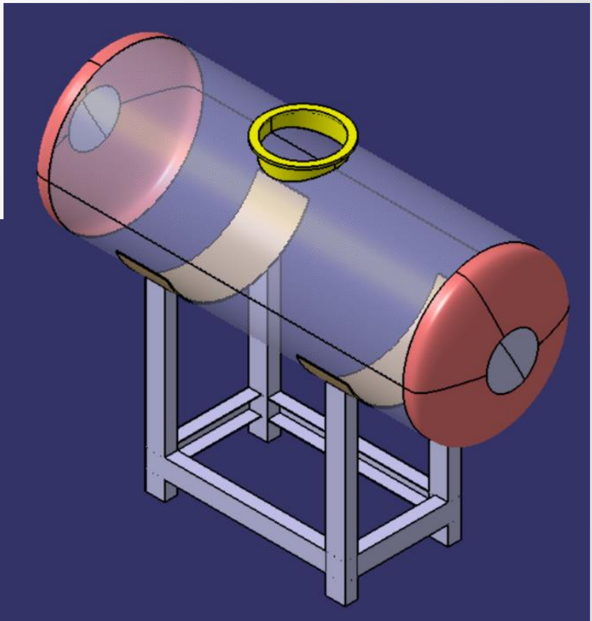
ASSEMBLY



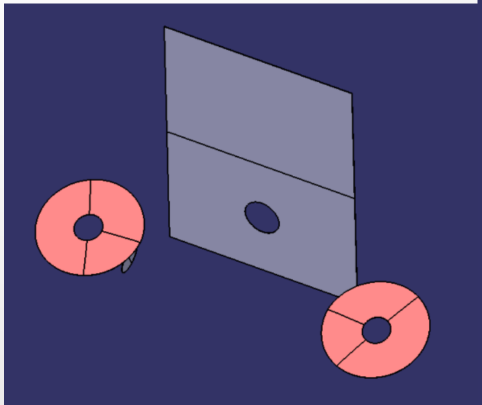
UNFOLDED/FLATTERN



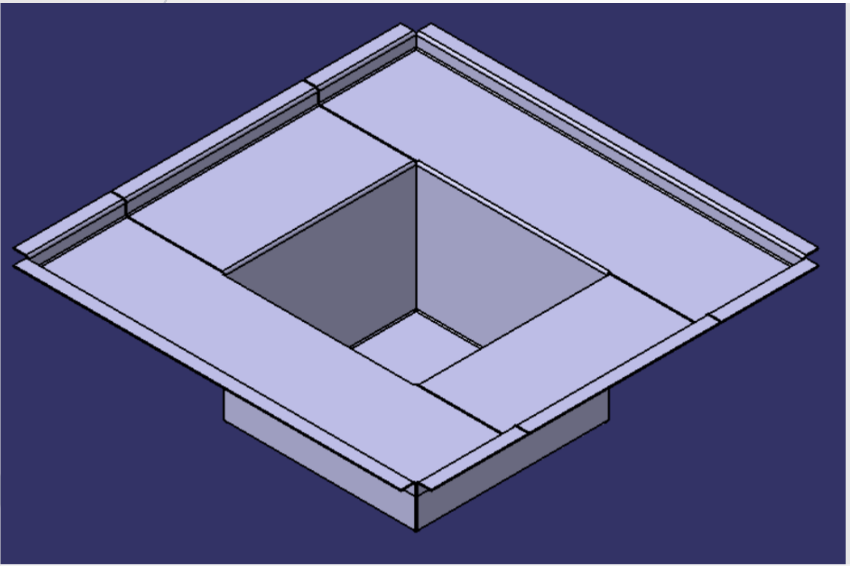
WELDMENT



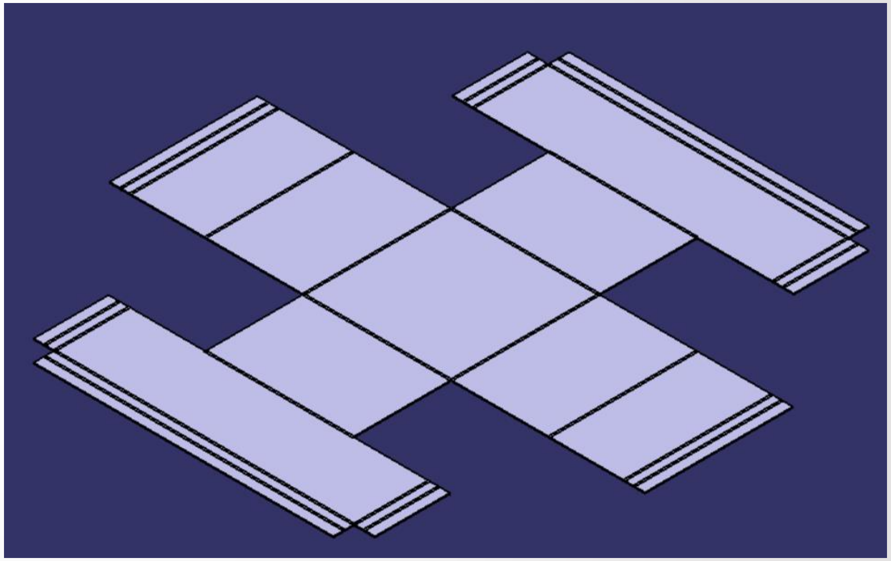
UNFOLDED/FLATTERN



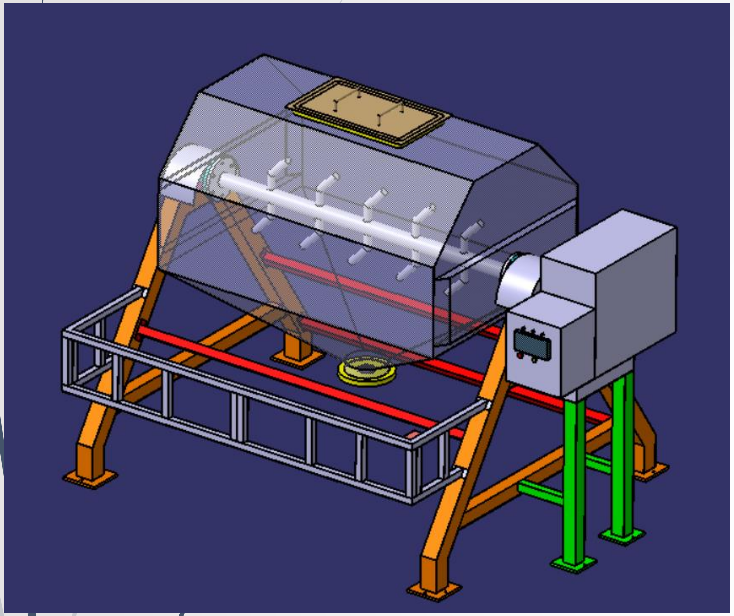
PART



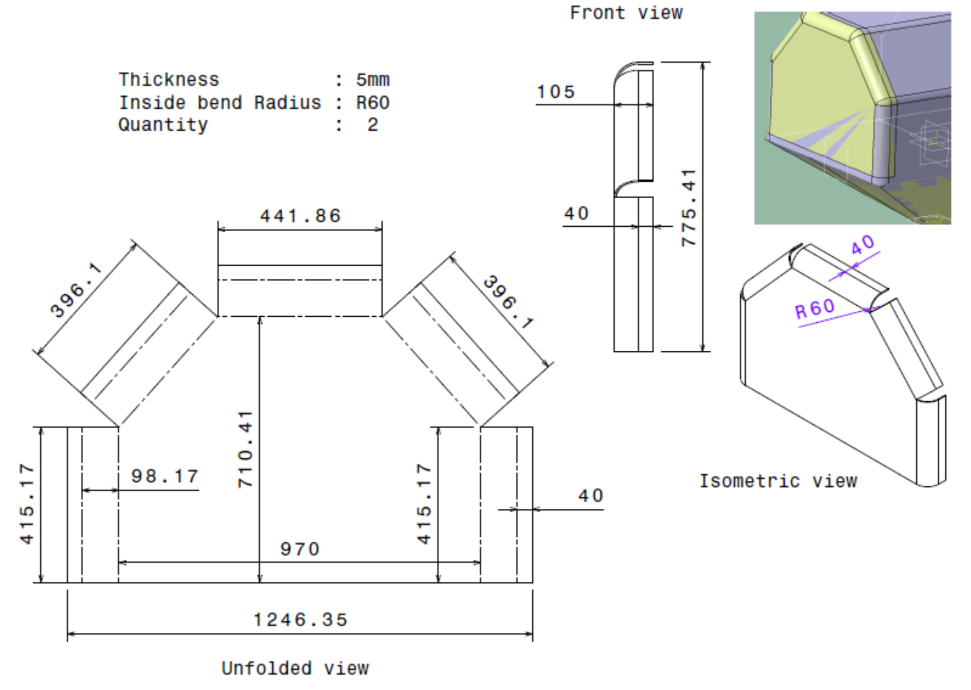
UNFOLDED/FLATTERN



ASSEMBLY



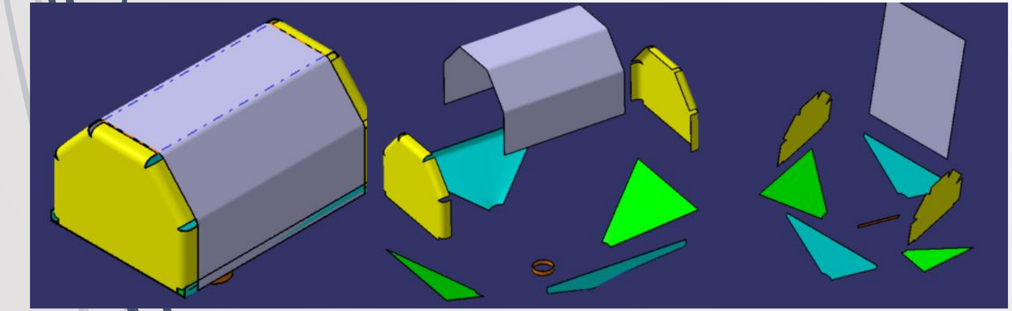
DETAILING



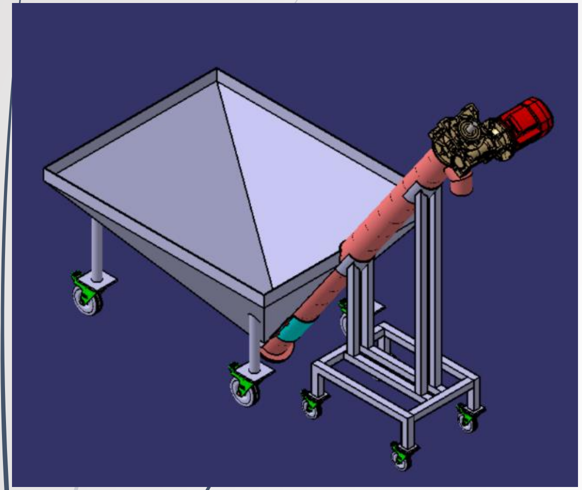
Thickness : 5mm
Inside bend Radius : R60
Quantity : 2

Front view
105
40
775.41
441.86
396.1
396.1
415.17
98.17
710.41
415.17
40
970
1246.35
Unfolded view
40
R60
Isometric view

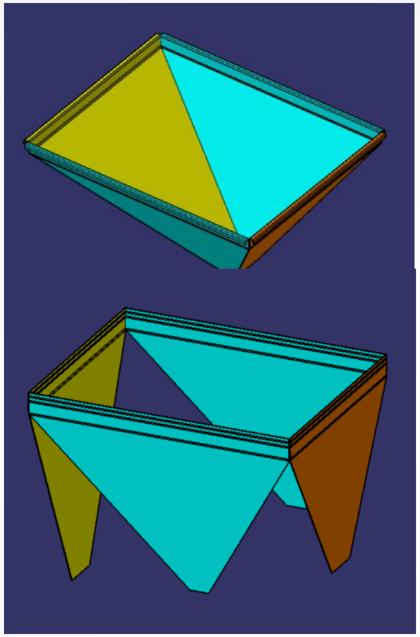
UNFOLDED/FLATTERN



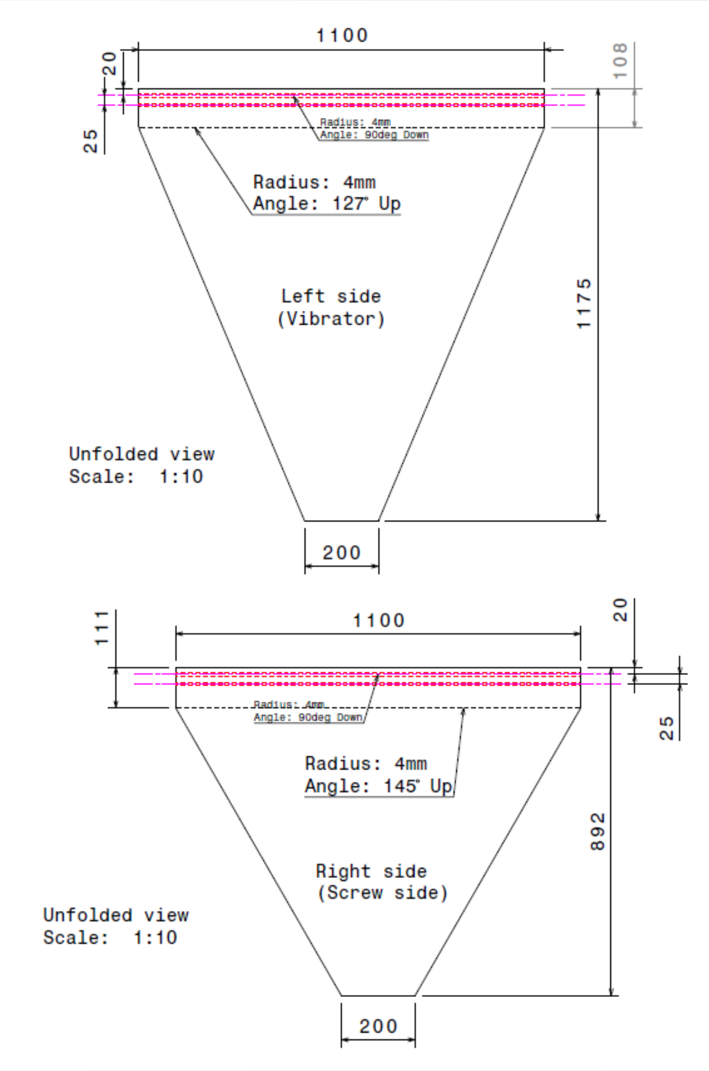
ASSEMBLY



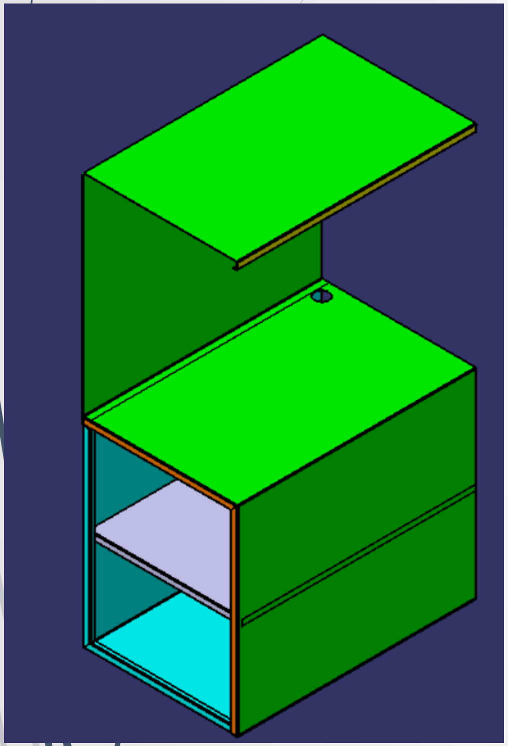
UNFOLDED/FLATTERN



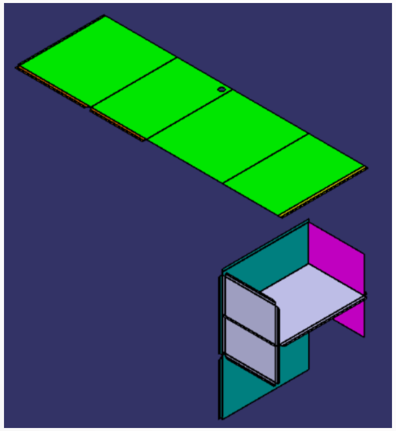
DETAILING


1100
20
108
25
Radius: 4mm
Angle: 90deg Down
Radius: 4mm
Angle: 127° Up
Left side
(Vibrator)
1175
Unfolded view
Scale: 1:10
200
1100
111
20
25
Radius: 4mm
Angle: 90deg Down
Radius: 4mm
Angle: 145° Up
Right side
(Screw side)
892
Unfolded view
Scale: 1:10
200

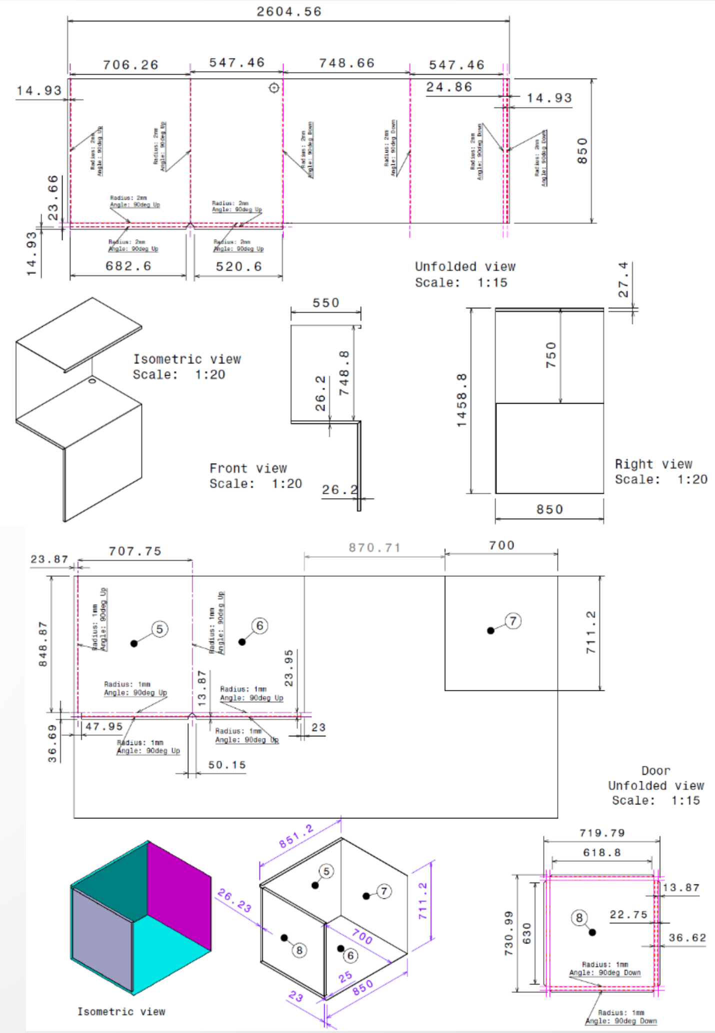
ASSEMBLY



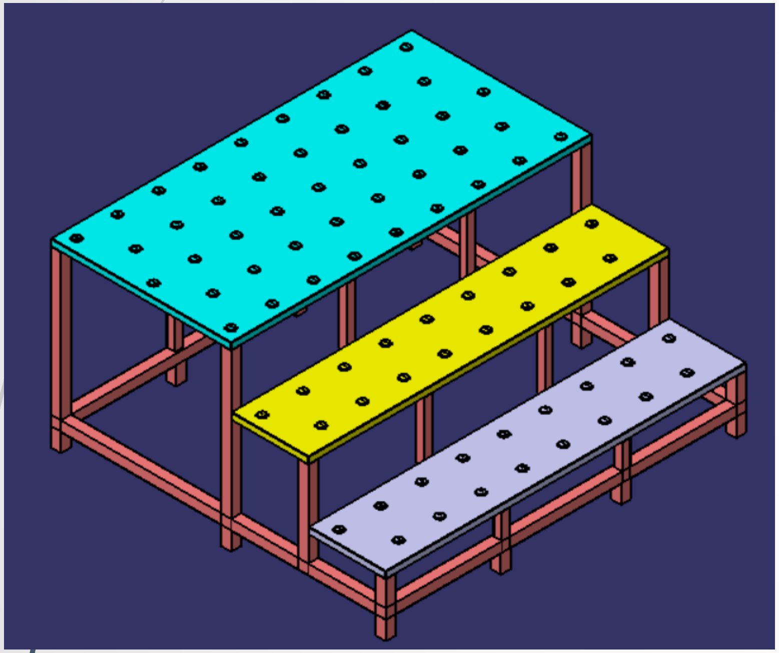
UNFOLDED/FLATTERN



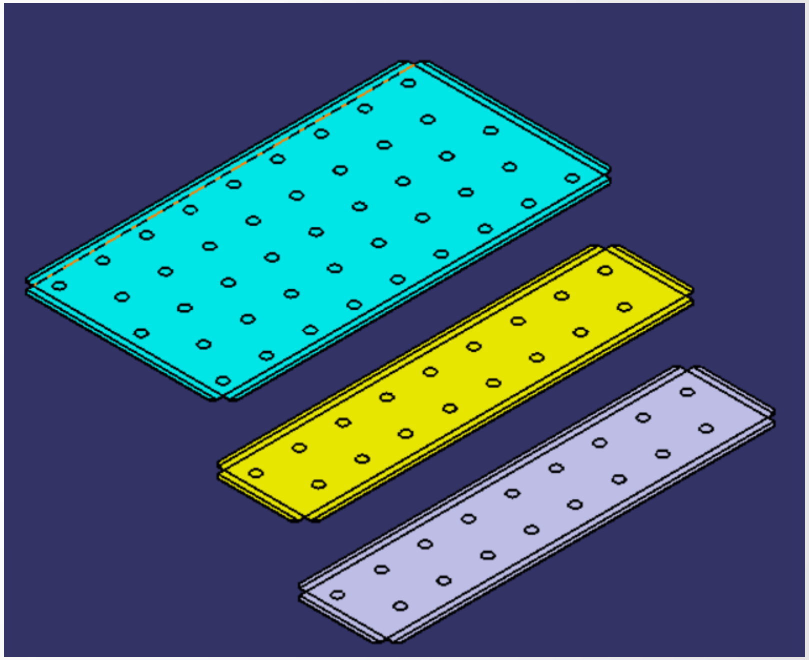
DETAILING


2604.56
706.26
547.46
748.66
547.46
24.86
14.93
14.93
850
23.66
14.93
682.6
520.6
Radius: 2mm
Angle: 90deg Up
Radius: 2mm
Angle: 90deg Down
Unfolded view
Scale: 1:15
Isometric view
Scale: 1:20
550
748.8
26.2
26.2
Front view
Scale: 1:20
27.4
750
1458.8
850
Right view
Scale: 1:20
23.87
707.75
870.71
700
848.87
711.2
13.87
23.95
36.69
47.95
50.15
23
Radius: 1mm
Angle: 90deg Up
5
6
7
Door
Unfolded view
Scale: 1:15
Isometric view
851.2
26.23
711.2
700
25
850
23
8
719.79
618.8
13.87
22.75
36.62
730.99
630
Radius: 1mm
Angle: 90deg Down

ASSEMBLY

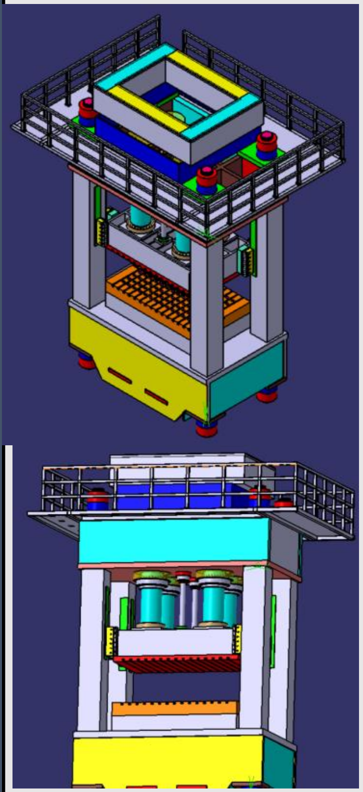


PARTS



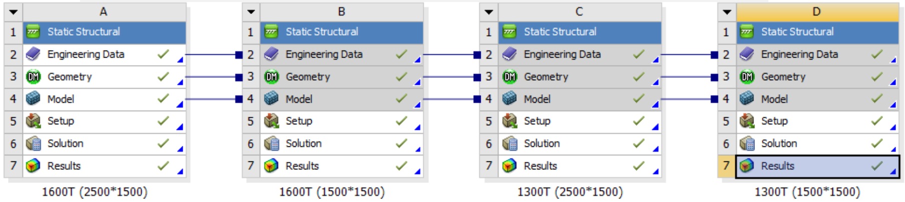
NEW PRODUCT DESIGN (NPD) SAMPLES
(WITH FEA)

Hydraulic Press Machine Designed from scratch as per customer requirement and Industry standard specifications

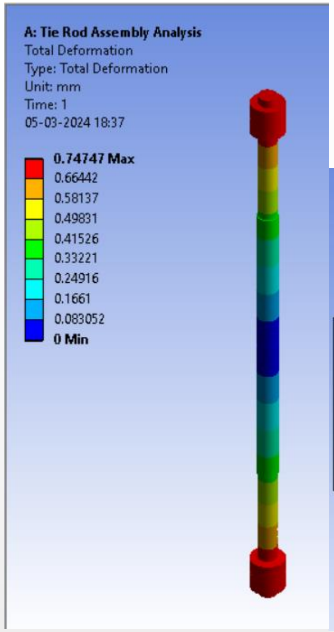


Final Machine Manufactured after Ansys Validation

Same model being used to analyze under different load conditions



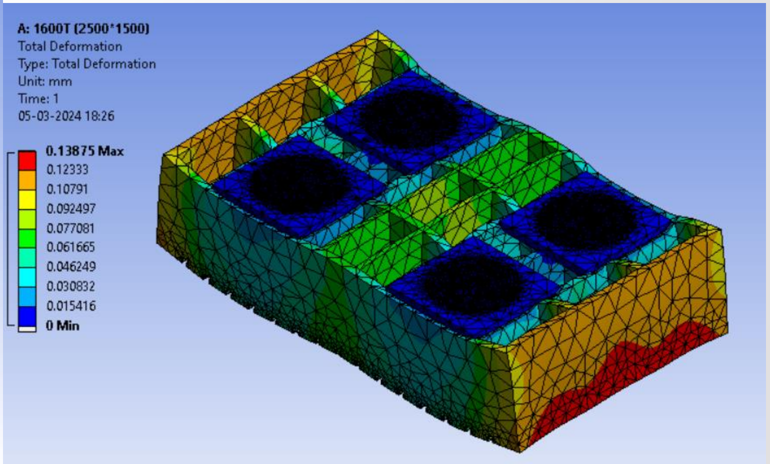
	A	B	C	D
1	Static Structural	Static Structural	Static Structural	Static Structural
2	Engineering Data ✓	Engineering Data ✓	Engineering Data ✓	Engineering Data ✓
3	Geometry ✓	Geometry ✓	Geometry ✓	Geometry ✓
4	Model ✓	Model ✓	Model ✓	Model ✓
5	Setup ✓	Setup ✓	Setup ✓	Setup ✓
6	Solution ✓	Solution ✓	Solution ✓	Solution ✓
7	Results ✓	Results ✓	Results ✓	Results ✓
	1600T (2500*1500)	1600T (1500*1500)	1300T (2500*1500)	1300T (1500*1500)



A: Tie Rod Assembly Analysis
Total Deformation
Type: Total Deformation
Unit: mm
Time: 1
05-03-2024 18:37

0.74747 Max
0.66442
0.58137
0.49831
0.41526
0.33221
0.24916
0.1661
0.083052
0 Min

Analysis to check **Deflection, Deformation and Stresses** generated on the moving bed and Tie Rod at various Loads

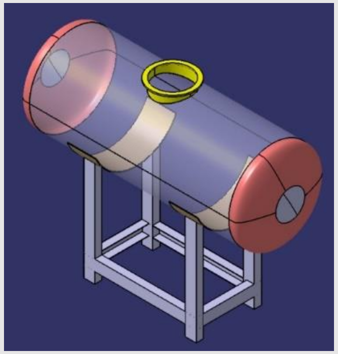


A: 1600T (2500*1500)
Total Deformation
Type: Total Deformation
Unit: mm
Time: 1
05-03-2024 18:26

0.13875 Max
0.12333
0.10791
0.092497
0.077081
0.061665
0.046249
0.030832
0.015416
0 Min

Input

Silos designed from scratch as per customer requirement for storage of edible oil

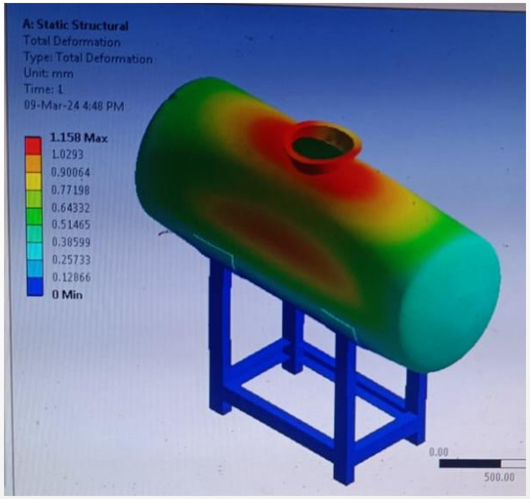


Output

Final Machine Manufactured after Ansys Validation

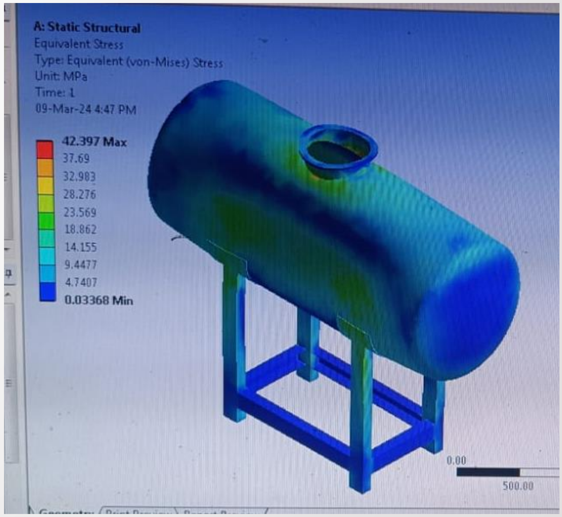
Analysis

Analysis to check **Deformation and Stresses** generated on the Container



A: Static Structural
Total Deformation
Type: Total Deformation
Unit: mm
Time: 1
09-Mar-24 4:48 PM

1.158 Max
1.0293
0.90064
0.77198
0.64332
0.51465
0.38599
0.25733
0.12866
0 Min
0.00
500.00

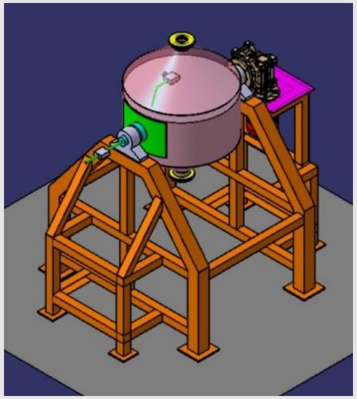


A: Static Structural
Equivalent Stress
Type: Equivalent (von-Mises) Stress
Unit: MPa
Time: 1
09-Mar-24 4:47 PM

42.397 Max
37.69
32.983
28.276
23.569
18.862
14.155
9.4477
4.7407
0.03368 Min
0.00
500.00

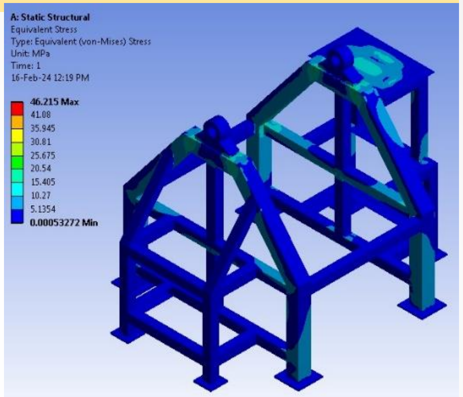
Input

Double-cone blender designed from scratch as per customer requirement



Analysis

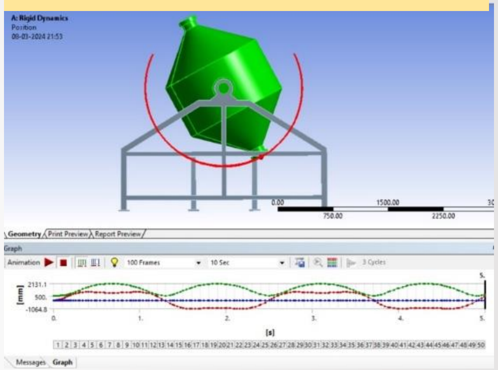
Analysis to check **Deformation and Stresses** of the structure



A: Static Structural
Equivalent Stress
Type: Equivalent (von-Mises) Stress
Unit: MPa
Time: 1
16-Feb-24 12:19 PM

🟥	**46.215 Max**
🟥	41.08
🟧	35.945
🟨	30.81
🟩	25.675
🟩	20.54
🟩	15.405
🟦	10.27
🟦	5.1354
🟦	**0.00053272 Min**

Torque Analysis to check 360 degree rotation of the blender



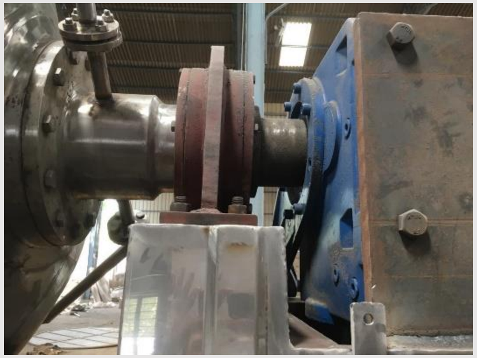
A: Rigid Dynamics
Position
08-03-2024 21:53

Animation: 100 Frames, 10 Sec, 3 Cycles

0.00
750.00
1500.00
2250.00
Geometry
Print Preview
Report Preview
Graph
[mm]
2131.1
500.
-1064.8
0.
1.
2.
3.
4.
5.
[s]
Messages
Graph

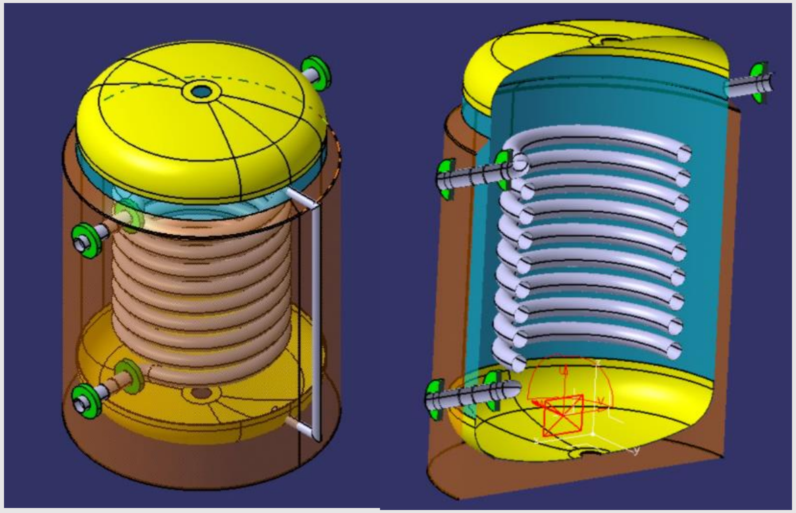
Output

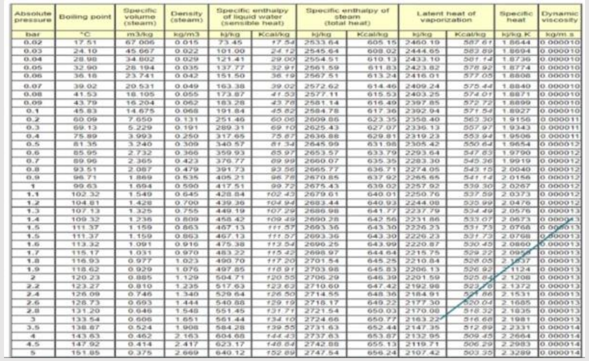
Double-cone blender Manufactured after Ansys Validation



Input

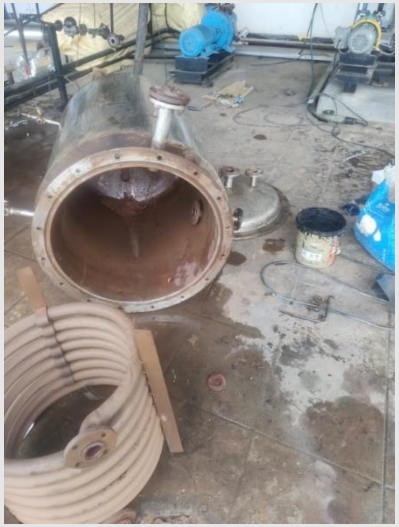
Jacketed steam heating tank Designed from scratch as per customer requirement





Absolute pressure	Boiling point	Specific volume (steam)	Density (steam)	Specific enthalpy of liquid water (sensible heat)		Specific enthalpy of steam (total heat)		Latent heat of vaporization		Specific heat	Dynamic viscosity
bar	°C	m3/kg	kg/m3	kj/kg	Kcal/kg	kj/kg	Kcal/kg	kj/kg	Kcal/kg	kj/kg.K	kg/m.s
0.02	17.51	67.006	0.015	73.45	17.54	2533.64	605.15	2460.19	587.61	1.8644	0.000010
0.03	24.10	45.667	0.022	101.00	24.12	2545.64	608.02	2444.65	583.89	1.8694	0.000010
0.04	28.98	34.802	0.029	121.41	29.00	2554.51	610.13	2433.10	581.14	1.8736	0.000010
0.05	32.90	28.194	0.035	137.77	32.91	2561.59	611.83	2423.82	578.92	1.8774	0.000010
0.06	36.16	23.741	0.042	151.50	36.19	2567.51	613.24	2416.01	577.05	1.8808	0.000010
0.07	39.02	20.531	0.049	163.38	39.02	2572.62	614.46	2409.24	575.44	1.8840	0.000010
0.08	41.53	18.105	0.055	173.87	41.53	2577.11	615.53	2403.25	574.01	1.8871	0.000010
0.09	43.79	16.204	0.062	183.28	43.78	2581.14	616.49	2397.85	572.72	1.8899	0.000010
0.1	45.83	14.675	0.068	191.84	45.82	2584.78	617.36	2392.94	571.54	1.8927	0.000010
0.2	60.09	7.650	0.131	251.46	60.06	2609.86	623.35	2358.40	563.30	1.9156	0.000011
0.3	69.13	5.229	0.191	289.31	69.10	2625.43	627.07	2336.13	557.97	1.9343	0.000011
0.4	75.89	3.993	0.250	317.65	75.87	2636.88	629.81	2319.23	553.94	1.9506	0.000011
0.5	81.35	3.240	0.309	340.57	81.34	2645.99	631.98	2305.42	550.64	1.9654	0.000012
0.6	85.95	2.732	0.366	359.93	85.97	2653.57	633.79	2293.64	547.83	1.9790	0.000012
0.7	89.96	2.365	0.423	376.77	89.99	2660.07	635.35	2283.30	545.36	1.9919	0.000012
0.8	93.51	2.087	0.479	391.73	93.56	2665.77	636.71	2274.05	543.15	2.0040	0.000012
0.9	96.71	1.869	0.535	405.21	96.78	2670.85	637.92	2265.65	541.14	2.0156	0.000012
1	99.63	1.694	0.590	417.51	99.72	2675.43	639.02	2257.92	539.30	2.0267	0.000012
1.1	102.32	1.549	0.645	428.84	102.43	2679.61	640.01	2250.76	537.59	2.0373	0.000012
1.2	104.81	1.428	0.700	439.36	104.94	2683.44	640.93	2244.08	535.99	2.0476	0.000012
1.3	107.13	1.325	0.755	449.19	107.29	2686.98	641.77	2237.79	534.49	2.0576	0.000013
1.4	109.32	1.236	0.809	458.42	109.49	2690.28	642.56	2231.86	533.07	2.0673	0.000013
1.5	111.37	1.159	0.863	467.13	111.57	2693.36	643.30	2226.23	531.73	2.0768	0.000013
1.5	111.37	1.159	0.863	467.13	111.57	2693.36	643.30	2226.23	531.73	2.0768	0.000013
1.6	113.32	1.091	0.916	475.38	113.54	2696.25	643.99	2220.87	530.45	2.0860	0.000013
1.7	115.17	1.031	0.970	483.22	115.42	2698.97	644.64	2215.75	529.22	2.0950	0.000013
1.8	116.93	0.977	1.023	490.70	117.20	2701.54	645.25	2210.84	528.05	2.1037	0.000013
1.9	118.62	0.929	1.076	497.85	118.91	2703.98	645.83	2206.13	526.92	2.1124	0.000013
2	120.23	0.885	1.129	504.71	120.55	2706.29	646.39	2201.59	525.84	2.1208	0.000013
2.2	123.27	0.810	1.235	517.63	123.63	2710.60	647.42	2192.98	523.78	2.1372	0.000013
2.4	126.09	0.746	1.340	529.64	126.50	2714.55	648.36	2184.91	521.86	2.1531	0.000013
2.6	128.73	0.693	1.444	540.88	129.19	2718.17	649.22	2177.30	520.04	2.1685	0.000013
2.8	131.20	0.646	1.548	551.45	131.71	2721.54	650.03	2170.08	518.32	2.1835	0.000013
3	133.54	0.606	1.651	561.44	134.10	2724.66	650.77	2163.22	516.68	2.1981	0.000013
3.5	138.87	0.524	1.908	584.28	139.55	2731.63	652.44	2147.35	512.89	2.2331	0.000014
4	143.63	0.462	2.163	604.68	144.43	2737.63	653.87	2132.95	509.45	2.2664	0.000014
4.5	147.92	0.414	2.417	623.17	148.84	2742.88	655.13	2119.71	506.29	2.2983	0.000014
5	151.85	0.375	2.669	640.12	152.89	2747.54	656.24	2107.42	503.35	2.3289	0.000014

Output

Final Machine Manufactured images