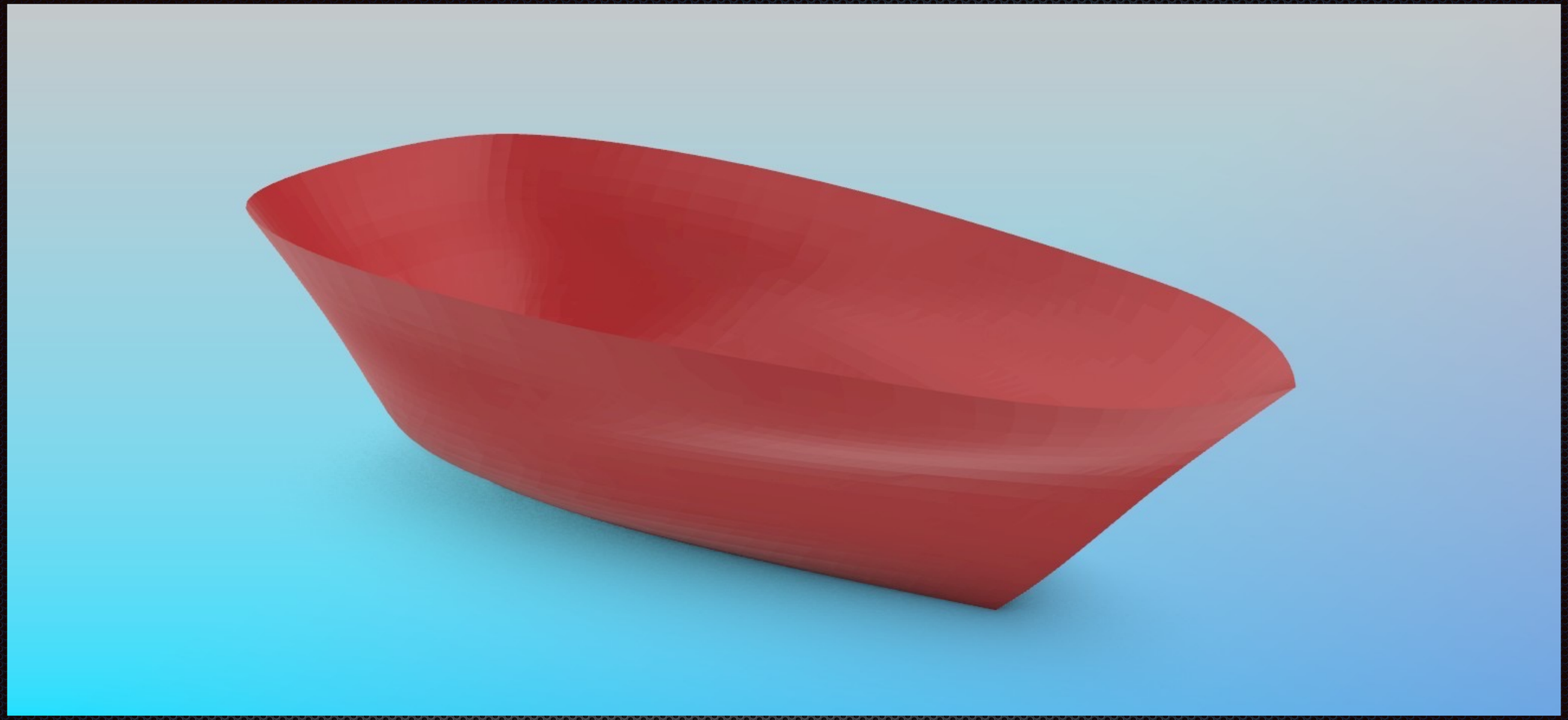
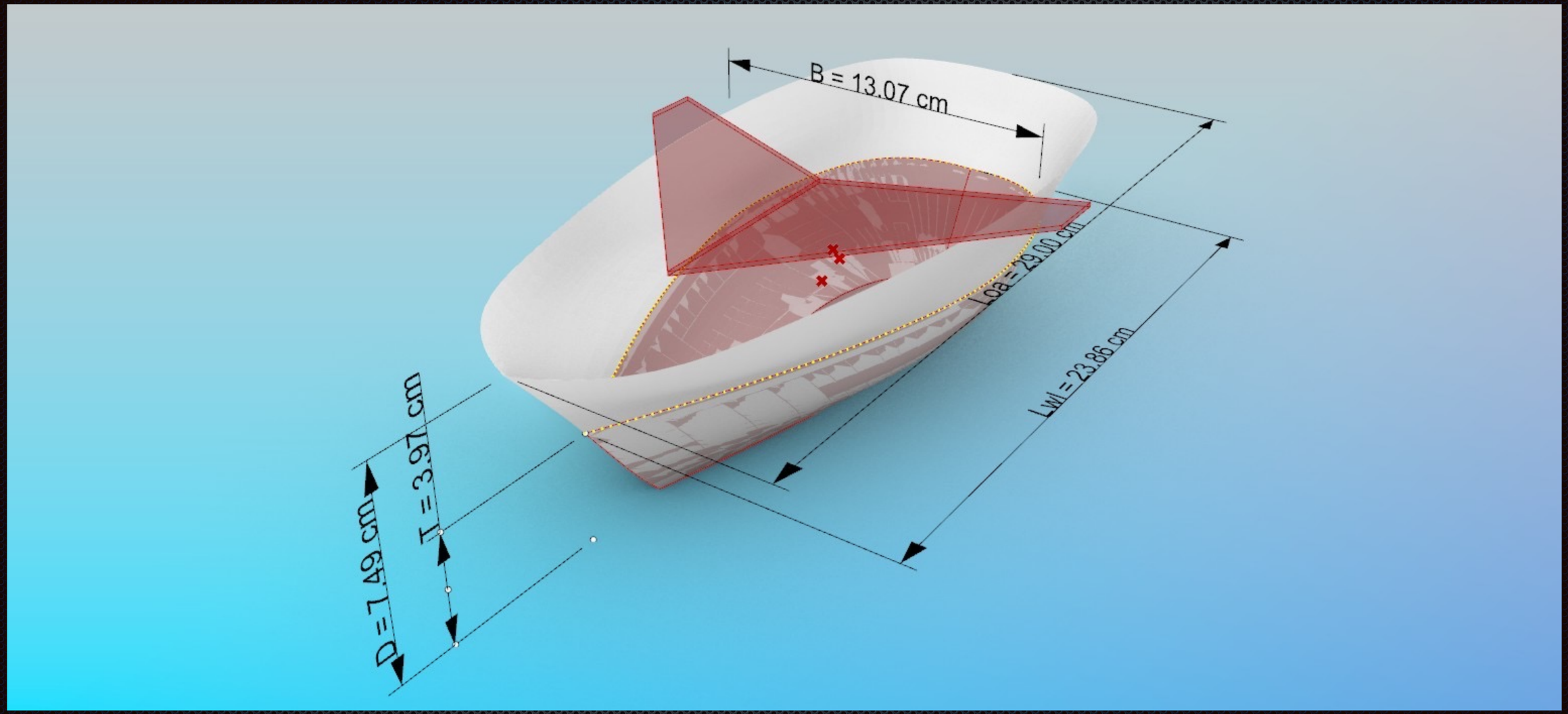


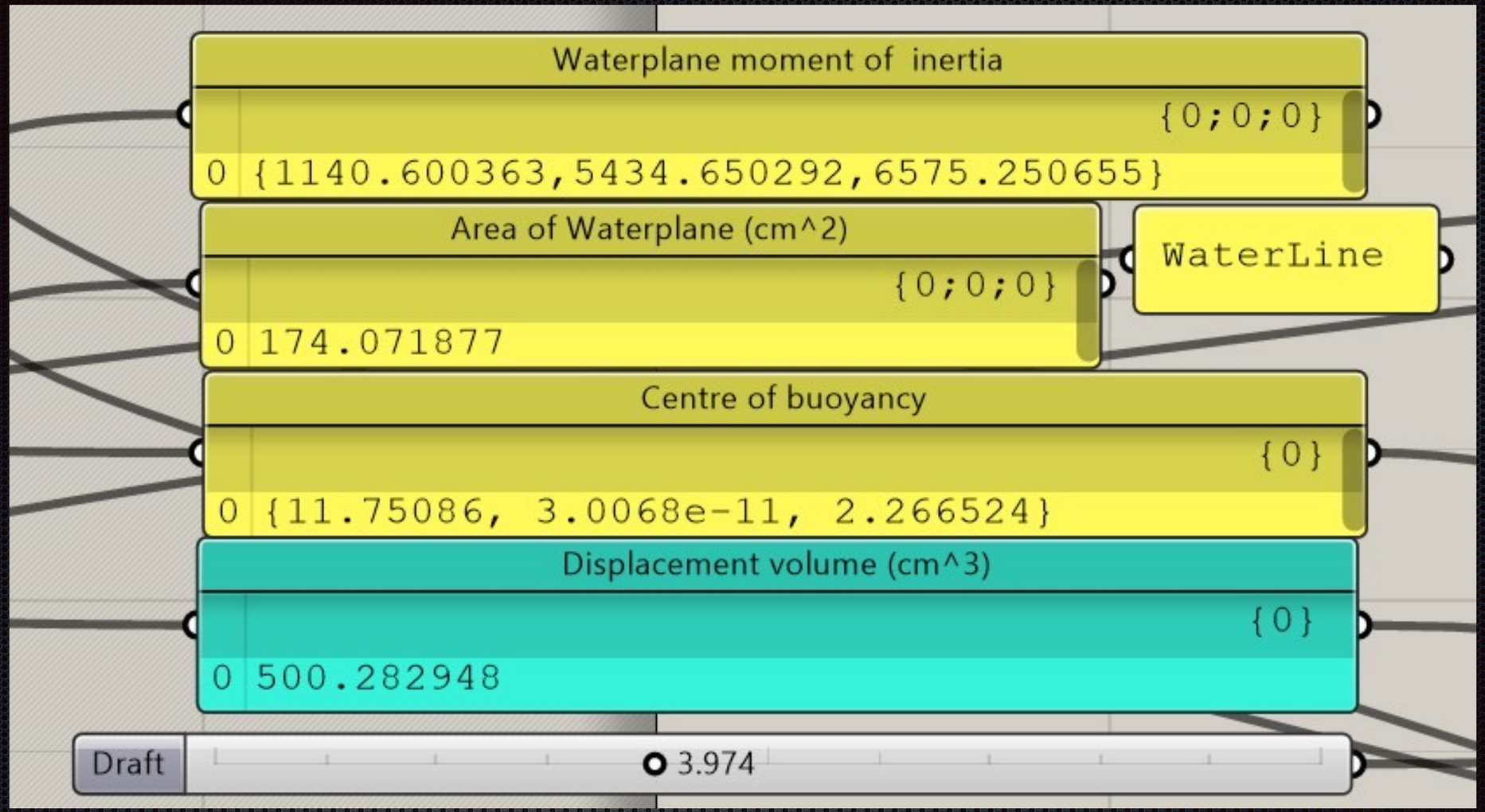
沒有破洞的船

B09505021 工海二 張景華

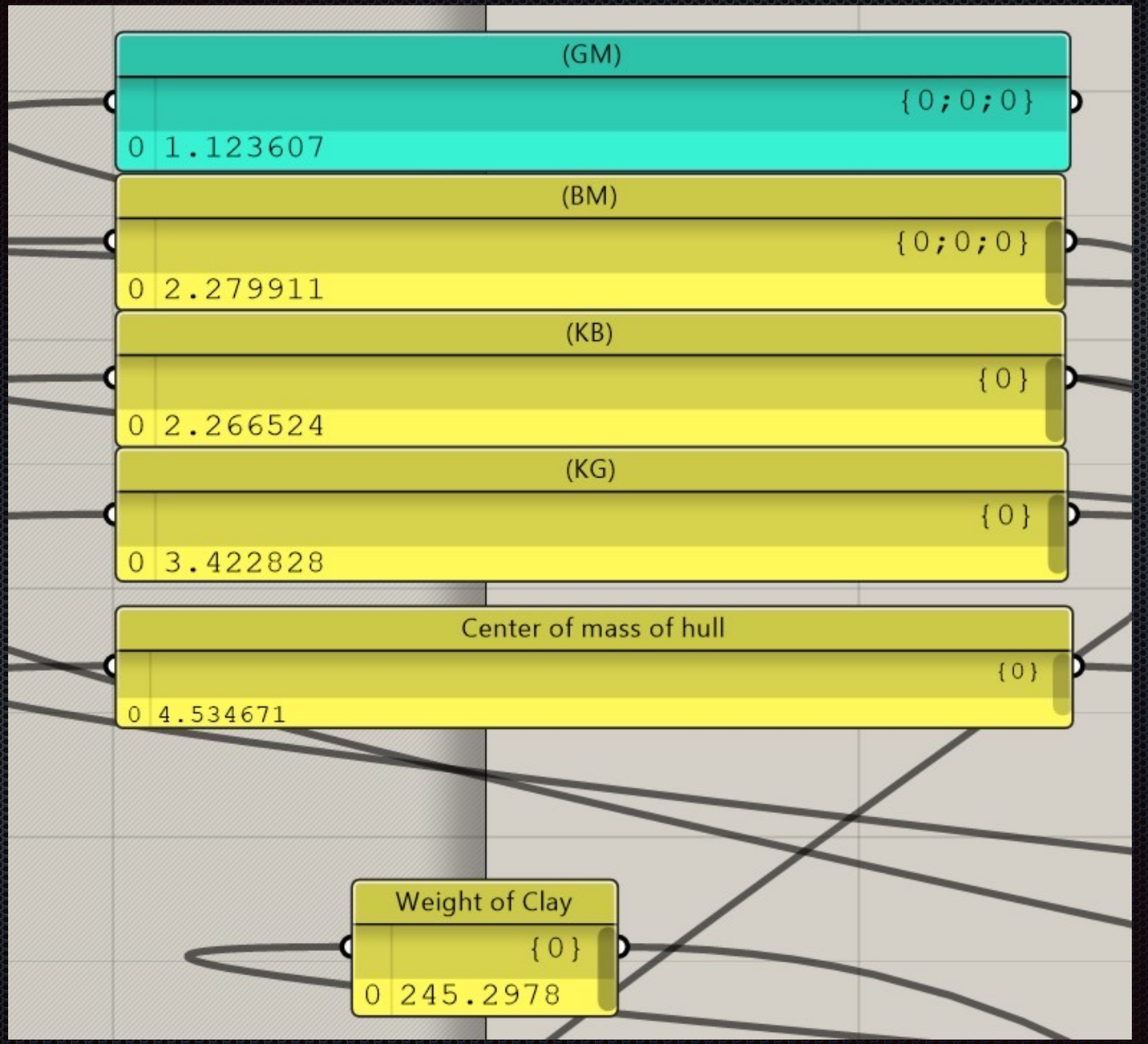
「這是一艘為了克服破洞問題而設計的船」

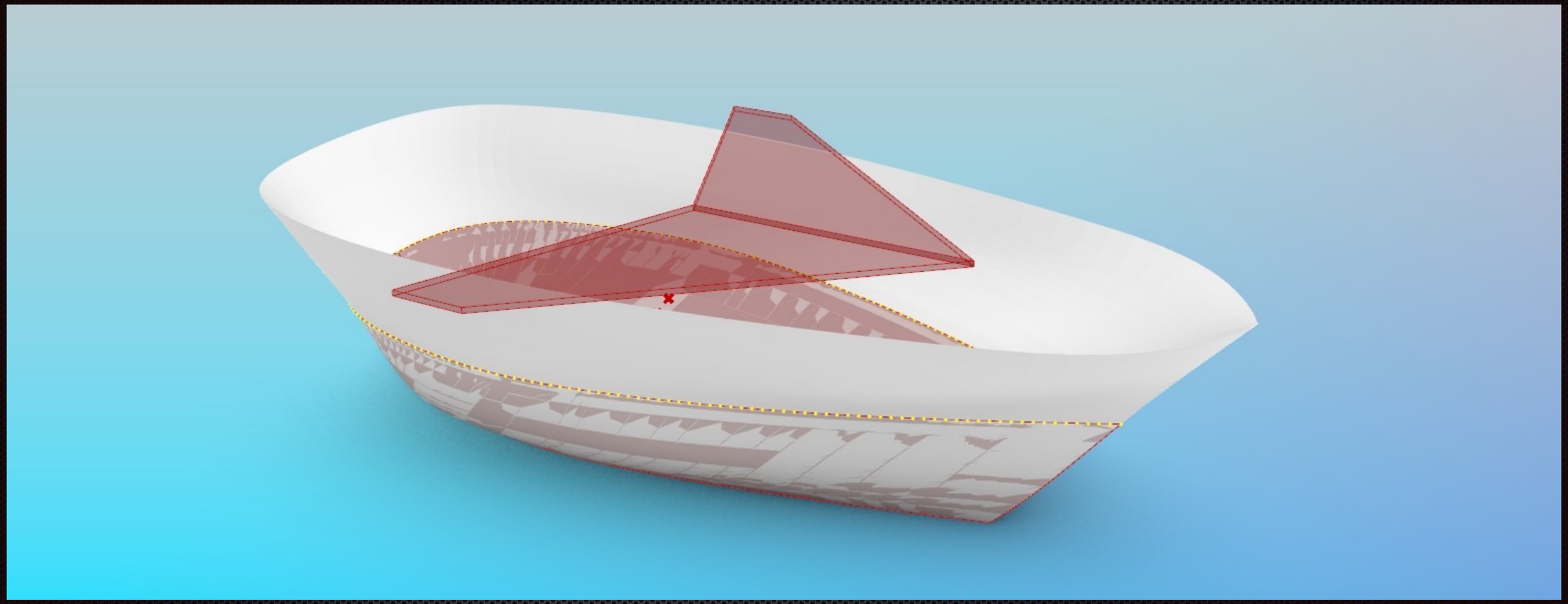
–設計理念

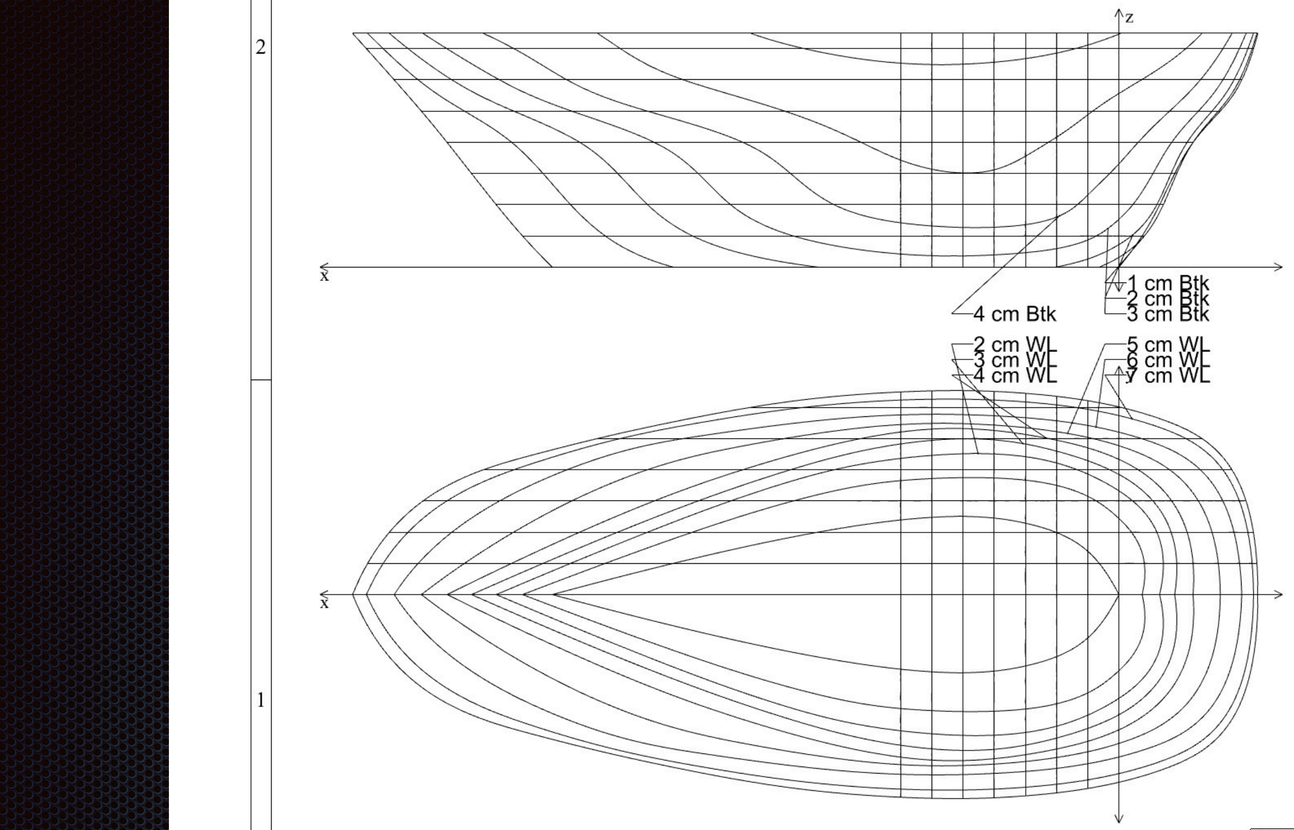

B = 13.07 cm
Loa = 29.00 cm
Lwl = 23.86 cm
T = 3.97 cm
D = 7.49 cm

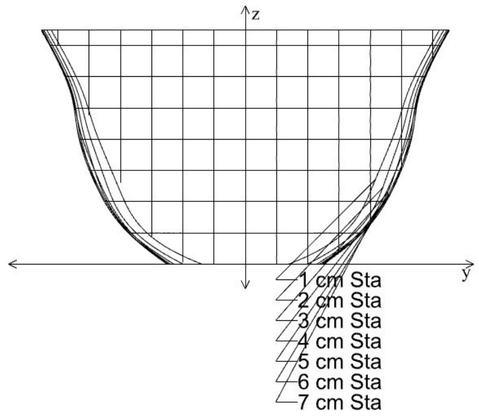

Waterplane moment of inertia
{0;0;0}
0 {1140.600363,5434.650292,6575.250655}
Area of Waterplane (cm^2)
{0;0;0}
0 174.071877
WaterLine
Centre of buoyancy
{0}
0 {11.75086, 3.0068e-11, 2.266524}
Displacement volume (cm^3)
{0}
0 500.282948
Draft
3.974

T = 3.947 cm


(GM)
{0;0;0}
0 1.123607
(BM)
{0;0;0}
0 2.279911
(KB)
{0}
0 2.266524
(KG)
{0}
0 3.422828
Center of mass of hull
{0}
0 4.534671
Weight of Clay
{0}
0 245.2978







Principal Characteristics	
LOA = 29 cm	BOA = 13.072 cm
D = 7.49 cm	T = 6.227 cm
Lwl = 13.871 cm	Bwl = 11.953 cm
Cb = 0.472	Cp = 0.759
Displacement = 0.5 kgf	S = 0.029 m^2

PROJECT: Default Project
COMPANY: Default Company
AUTHOR:
DATE: 26/05/2022 | DRAWING NUMBER: 1 | SHEET 1 OF 1
MODEL UNITS: centimeters | SCALE: 5.231 centimeters/inches

Condition Summary

Load Condition Parameters

Condition	Weight / Sinkage	LCG / Trim	TCG / Heel	VCG (cm)
Condition 1	0.500 kgf	0.000 deg	0.000 deg	0

Resulting Model Attitude and Hydrostatic Properties

Condition	Sinkage (cm)	Trim(deg)	Heel(deg)	Ax(m^2)
Condition 1	3.900	0.000	0.000	0.00

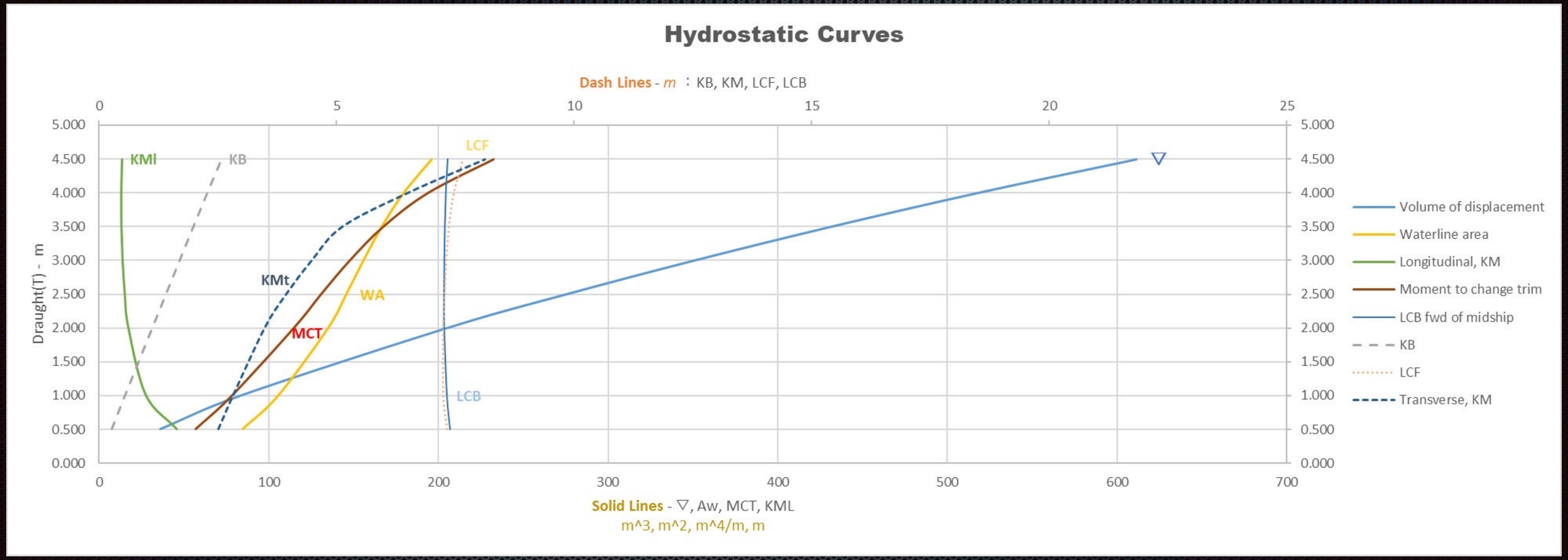
Condition	Displacement Weight (kgf)	LCB(cm)	TCB(cm)	VCB(cm)	Wet Area (m^2)
Condition 1	0.500	7.298	0.000	2.223	0.028

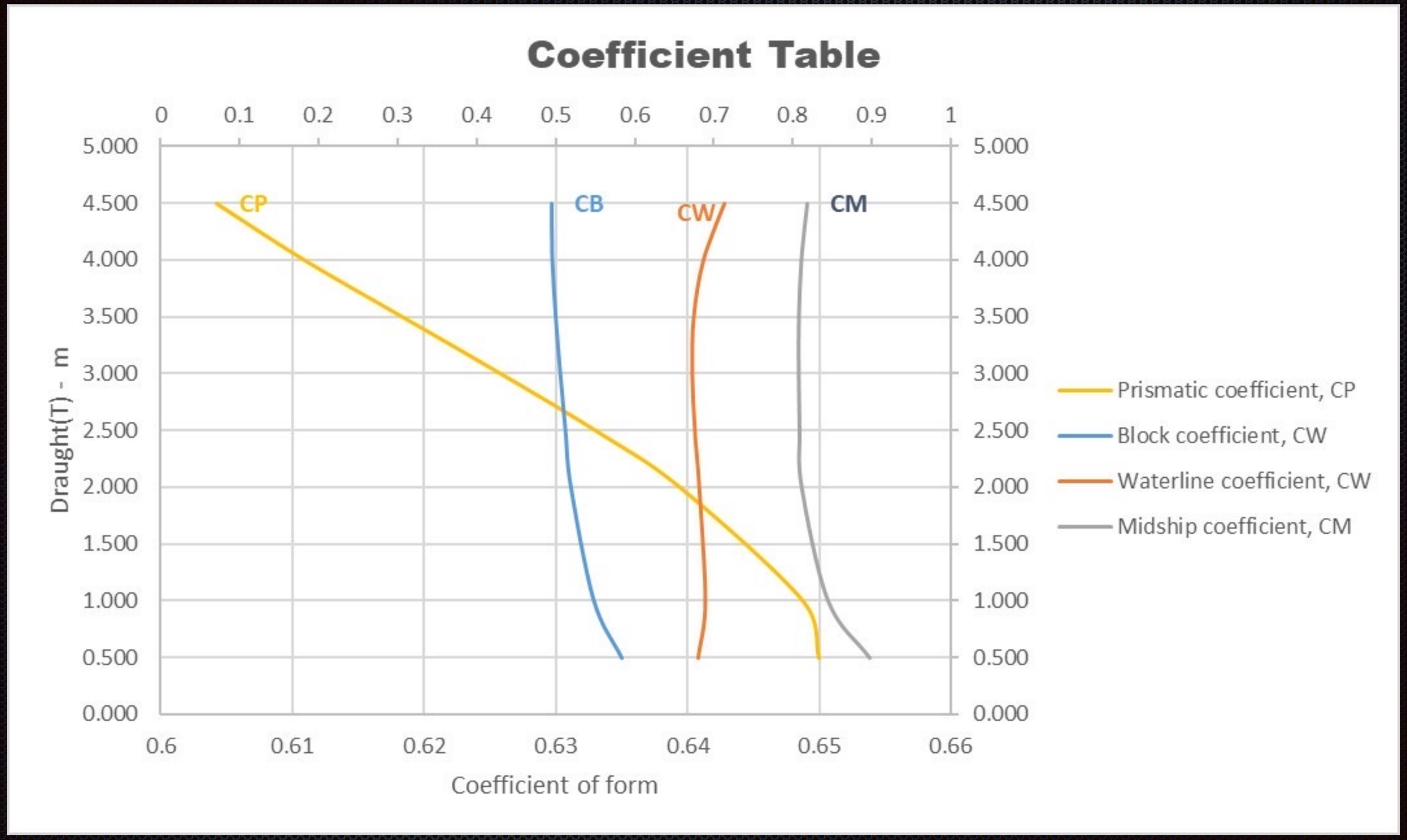
Condition	Awp(m^2)	LCF(cm)	TCF(cm)	VCF(cm)
Condition 1	0.017	7.440	0.000	3.900

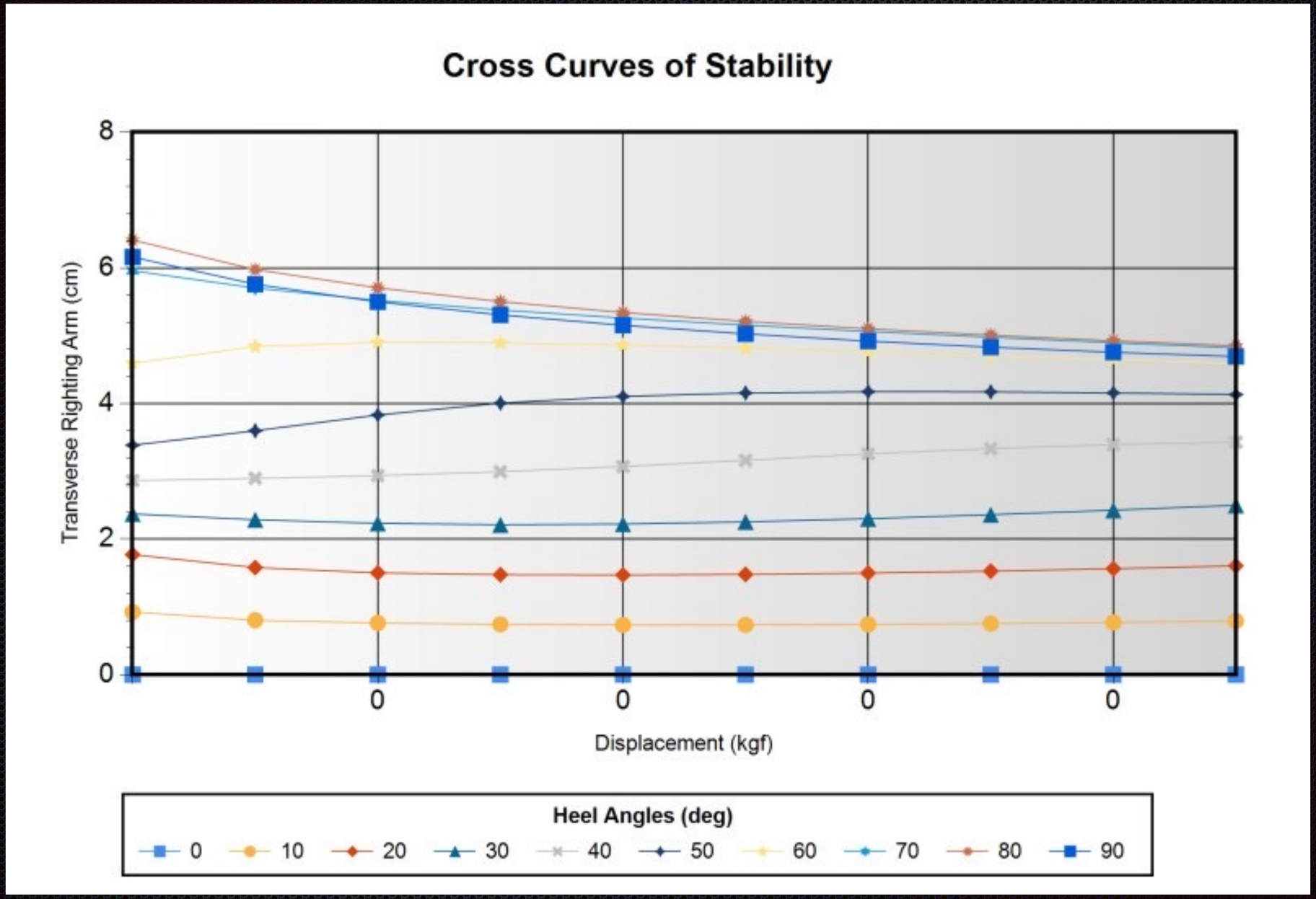
Condition	BMt(cm)	BMl(cm)	GMt(cm)	GMl(cm)
Condition 1	2.289	10.900	4.512	13.123

Condition	Cb	Cp	Cwp	Cx	Cws	Cvp
Condition 1	0.496	0.612	0.683	0.810	2.646	0.726

Data	Units	Sinkage							
	cm	*0.500*	*1.000*	*2.000*	*2.500*	*3.000*	*3.500*	*4.000*	*4.500*
Trim difference (by head > 0)	cm	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Volume of displacement	cm^3	36.2446236	83.9710893	205.460169	275.635361	350.94428	431.412543	517.723691	611.391621
LCB fwd of midship	cm	7.39341402	7.32589288	7.26943226	7.26564311	7.27018566	7.28172441	7.30302523	7.34222316
KB	cm	0.26407056	0.54547468	1.12172783	1.409781	1.69797531	1.98798078	2.28225168	2.5842845
Waterline area	cm^2	84.5400001	105.573919	134.899228	145.559112	155.663241	166.403531	179.351909	195.865441
LCF	cm	7.32554236	7.24244515	7.24152524	7.26968252	7.30662128	7.36246845	7.46782161	7.66429581
Long mom of inertia	cm^4	50811.839	100337.302	195529.101	241195.437	285575.397	328668.981	370476.190	410997.024
Moment to change trim	cm^4/m	57.0725908	78.5996081	114.96531	131.0438	147.94048	167.621004	193.938283	232.686218
Transverse mom of inertia	cm^4	25.425	195.776	1448.791	2719.436	4513.714	6880.940	9854.907	13455.123
Longitudinal, KM	cm	45.9289159	27.6903963	17.3486881	15.1970911	13.9229186	13.2556391	13.145595	13.6212371
Transverse, KM	cm	2.51296847	2.82324078	3.48726068	3.9390913	4.47640898	5.1191326	6.4940128	8.12500875
Block coefficient, CW	-	0.58305069	0.54798743	0.5188747	0.51191386	0.50543408	0.49958301	0.49542556	0.49450431
Waterline coefficient, CW	-	0.67997816	0.68896546	0.68135635	0.67583607	0.67256409	0.67444335	0.6865092	0.71288738
Midship coefficient, CM	-	0.89711426	0.84471028	0.81148867	0.80869092	0.80761216	0.8078852	0.81091254	0.818363
Prismatic coefficient, CP	-	0.64991798	0.64872825	0.6394109	0.63301547	0.62583763	0.61838367	0.6109482	0.60426035
Cvp	-	0.85745502	0.79537721	0.76153204	0.75745271	0.75150322	0.74073384	0.72165902	0.693664
BMl	-	45.6648453	27.1449216	16.2269603	13.7873101	12.2249433	11.2676583	10.8633433	11.0369526
BMt	-	2.2488979	2.2777661	2.36553285	2.5293103	2.77843367	3.13115182	4.21176112	5.54072425

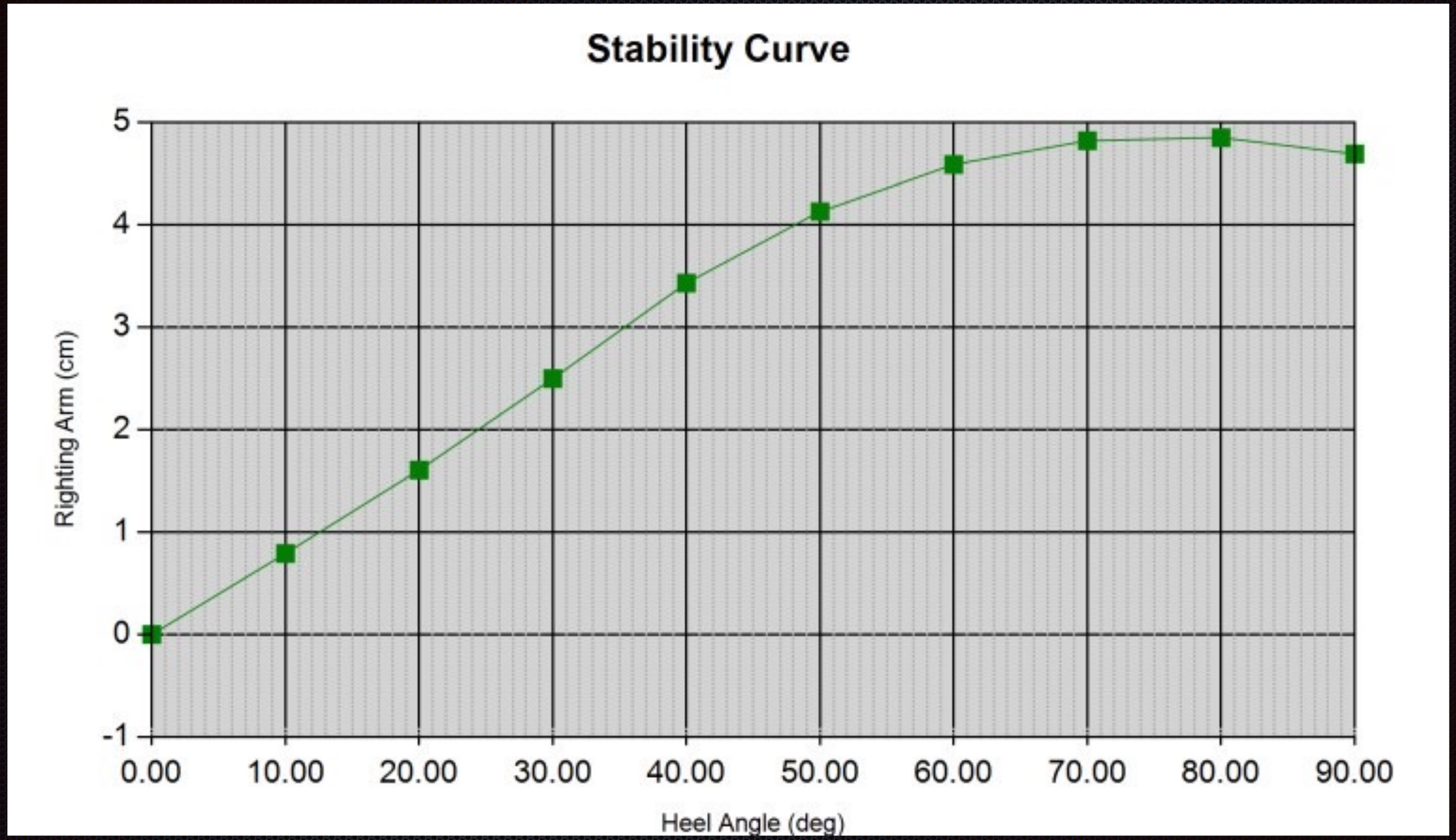

Hydrostatic Curves
Dash Lines - m : KB, KM, LCF, LCB
Draught(T) - m
KMl
KB
KMt
LCF
WA
MCT
LCB
Volume of displacement
Waterline area
Longitudinal, KM
Moment to change trim
LCB fwd of midship
KB
LCF
Transverse, KM
Solid Lines - ▽, Aw, MCT, KML
m^3, m^2, m^4/m, m


Coefficient Table
0
0.1
0.2
0.3
0.4
0.5
0.6
0.7
0.8
0.9
1
5.000
4.500
4.000
3.500
3.000
2.500
2.000
1.500
1.000
0.500
0.000
Draught(T) - m
CP
CB
CW
CM
0.6
0.61
0.62
0.63
0.64
0.65
0.66
Coefficient of form
Prismatic coefficient, CP
Block coefficient, CW
Waterline coefficient, CW
Midship coefficient, CM


Cross Curves of Stability
Transverse Righting Arm (cm)
8
6
4
2
0
0
0
0
0
Displacement (kgf)
Heel Angles (deg)
0
10
20
30
40
50
60
70
80
90

Displacement (kgf)	Sinkage (cm)	0 deg	10 deg	20 deg	30 deg	40 deg
0.050	0.656	0.000	0.924	1.770	2.372	2.863
0.100	1.148	0.000	0.803	1.579	2.285	2.896
0.150	1.573	0.000	0.762	1.502	2.233	2.936
0.200	1.959	0.000	0.742	1.475	2.212	2.994
0.250	2.322	0.000	0.733	1.470	2.222	3.071
0.300	2.665	0.000	0.734	1.479	2.254	3.162
0.350	2.994	0.000	0.741	1.499	2.301	3.258
0.400	3.309	0.000	0.753	1.527	2.360	3.336
0.450	3.611	0.000	0.770	1.563	2.427	3.393
0.500	3.900	0.000	0.791	1.605	2.499	3.432

Displacement (kgf)	50 deg	60 deg	70 deg	80 deg	90 deg
0.050	3.385	4.594	5.959	6.413	6.161
0.100	3.599	4.842	5.705	5.977	5.760
0.150	3.831	4.902	5.522	5.707	5.501
0.200	4.007	4.897	5.381	5.504	5.308
0.250	4.105	4.864	5.262	5.343	5.155
0.300	4.156	4.818	5.158	5.213	5.028
0.350	4.175	4.764	5.064	5.103	4.921
0.400	4.173	4.708	4.978	5.009	4.832
0.450	4.157	4.650	4.898	4.926	4.757
0.500	4.132	4.591	4.823	4.853	4.694


Stability Curve
Righting Arm (cm)
5
4
3
2
1
0
-1
0.00
10.00
20.00
30.00
40.00
50.00
60.00
70.00
80.00
90.00
Heel Angle (deg)

Heel(deg)	Trim(deg)	Righting Arm (cm)	Righting Moment (kgf-m)
0.000	0.000	0.000	0.00
10.000	0.001	0.791	0.00
20.000	-0.018	1.605	0.01
30.000	-0.014	2.499	0.01
40.000	0.021	3.432	0.02
50.000	-0.111	4.132	0.02
60.000	-0.264	4.591	0.02
70.000	-0.360	4.823	0.02
80.000	-0.514	4.853	0.02
90.000	-0.894	4.694	0.02

Stability Criteria - Sett1, C1, Wind

Name	Angle 1	Angle 2	Required	Actual	Pass / Fail
AbsRatio Between 0 and 3 = 1	0	3	1	1	Fail


HEINEKEN ORIGINAL
Heineken
PURE MALT LAGER

Thank you

B09505021 Joseph Chang
NTU ESOE