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LAMPIRAN

Lampiran 1. Tabel *offset Lines plan* kapal penumpang cepat SS 44

WL	Draft	Ofset Tabel										
		0	1	2	3	4	5	6	7	8	9	10
BL	0	0.383	0.445	0.486	0.506	0.511	0.511	0.511	0.511	0.468	0.24	--
1	0.075	0.591	0.706	0.797	0.851	0.869	0.869	0.869	0.839	0.726	0.404	--
2	0.15	0.796	0.967	1.107	1.195	1.228	1.228	1.228	1.172	0.985	0.568	--
3	0.225	1.005	1.225	1.417	1.538	1.587	1.587	1.587	1.51	1.238	0.731	--
4	0.3	1.213	1.482	1.723	1.881	1.945	1.945	1.945	1.84	1.488	0.895	--
5	0.375	1.42	1.739	1.952	1.976	1.982	1.982	1.982	1.947	1.738	1.059	--
6	0.45	1.672	1.9	1.967	1.99	1.996	1.996	1.996	1.962	1.824	1.223	--
9	0.675	1.829	1.948	2.013	2.034	2.039	2.039	2.039	2.006	1.887	1.518	0.236
12	0.9	1.88	1.996	2.058	2.077	2.062	2.062	2.062	2.053	1.949	1.605	0.458
15	1.125	1.931	2.045	2.103	2.12	2.124	2.124	2.124	2.099	2.012	1.691	0.622
18	1.35	1.962	2.093	2.148	2.163	2.167	2.167	2.167	2.144	2.075	1.777	0.785
21	1.575	2.033	2.141	2.193	2.206	2.21	2.21	2.21	2.19	2.137	1.864	0.934
24	1.8	2.084	2.189	2.238	2.25	2.252	2.252	2.252	2.237	2.2	1.95	1.076
	Deck	2.084	2.189	2.238	2.25	2.252	2.252	2.252	2.251	2.244	2.059	1.359

Lampiran 2. Ukuran Utama Model Kapal

No	Ukuran Utama	Besaran	Satuan
1	Length Over All (LOA)	1.30	m
2	Length Between Perpendicular (LBP)	1.18	m
3	Length Water Line (LWL)	1.18	m
4	Breadth (B)	0.3	m
5	Height (H)	0.12	m
6	Draft (T)	0.03	m

Lampiran 3: Hasil perhitungan *wall calculator* tahanan Model Kapal

1 Stepped

Trim 1	Trim 2	Trim 3
<p>BOUNDARY ID, 11 ----- Area, 1.7294, cm² sum FX, -0.0157685, Newton sum FY, 0.0205547, Newton sum FZ, -0.00049867, Newton</p>	<p>BOUNDARY ID, 29 ----- Area, 3.84414, cm² sum FX, -0.510616, Newton sum FY, -0.0118388, Newton sum FZ, -0.00164548, Newton</p>	<p>BOUNDARY ID, 9 ----- Area, 511.984, cm² sum FX, -0.11667, Newton sum FY, 0.000806498, Newton sum FZ, 2.6285, Newton</p>
<p>BOUNDARY ID, 10 ----- Area, 7.23927, cm² sum FX, -0.0408108, Newton sum FY, 0.0531687, Newton sum FZ, -0.00120827, Newton</p>	<p>BOUNDARY ID, 27 ----- Area, 295.598, cm² sum FX, -0.231568, Newton sum FY, -0.291857, Newton sum FZ, -1.05297, Newton</p>	<p>BOUNDARY ID, 8 ----- Area, 8.7892, cm² sum FX, -1.54663, Newton sum FY, 3.35964e-05, Newton sum FZ, -0.232661, Newton</p>
<p>BOUNDARY ID, 9 ----- Area, 143.701, cm² sum FX, -0.0364676, Newton sum FY, 0.0646124, Newton sum FZ, -0.211869, Newton</p>	<p>BOUNDARY ID, 26 ----- Area, 8.54437, cm² sum FX, -0.774562, Newton sum FY, 0.000227051, Newton sum FZ, -0.103504, Newton</p>	<p>BOUNDARY ID, 7 ----- Area, 116.433, cm² sum FX, -0.155902, Newton sum FY, -0.172723, Newton sum FZ, -0.53359, Newton</p>
<p>BOUNDARY ID, 8 ----- Area, 1458.11, cm² sum FX, 0, Newton sum FY, 0, Newton sum FZ, 0, Newton</p>	<p>BOUNDARY ID, 25 ----- Area, 127.844, cm² sum FX, -0.11208, Newton sum FY, 0.292773, Newton sum FZ, -0.946822, Newton</p>	<p>BOUNDARY ID, 6 ----- Area, 6.181, cm² sum FX, -0.270259, Newton sum FY, -0.35222, Newton sum FZ, -0.019571, Newton</p>
<p>BOUNDARY ID, 7 ----- Area, 616.826, cm² sum FX, -0.256339, Newton sum FY, 0.0566218, Newton sum FZ, -0.34675, Newton</p>	<p>BOUNDARY ID, 24 ----- Area, 7.03096, cm² sum FX, -0.190281, Newton sum FY, 0.248205, Newton sum FZ, -0.00829467, Newton</p>	<p>BOUNDARY ID, 5 ----- Area, 150.848, cm² sum FX, -0.314668, Newton sum FY, 0.0202504, Newton sum FZ, 0.128553, Newton</p>

1 Stepped

Lanjutan

Trim 1	Trim 2	Trim 3
BOUNDARY ID, 6 ----- Area, 7.23927, cm ² sum FX, -0.0406584, Newton sum FY, -0.0529812, Newton sum FZ, -0.00117841, Newton	BOUNDARY ID, 23 ----- Area, 0.398672, cm ² sum FX, -0.0132192, Newton sum FY, 0.0172108, Newton sum FZ, -0.000695632, Newton	BOUNDARY ID, 4 ----- Area, 148.516, cm ² sum FX, -0.305915, Newton sum FY, 0.00255723, Newton sum FZ, 0.0443454, Newton
BOUNDARY ID, 5 ----- Area, 8.49871, cm ² sum FX, -0.177418, Newton sum FY, 6.56332e-05, Newton sum FZ, -0.0205587, Newton	BOUNDARY ID, 22 ----- Area, 295.632, cm ² sum FX, -0.424959, Newton sum FY, 0.196546, Newton sum FZ, -0.667281, Newton	BOUNDARY ID, 3 ----- Area, 6.10276, cm ² sum FX, -0.284279, Newton sum FY, 0.370966, Newton sum FZ, -0.0175333, Newton
BOUNDARY ID, 4 ----- Area, 143.697, cm ² sum FX, -0.0350285, Newton sum FY, -0.0632926, Newton sum FZ, -0.208723, Newton	BOUNDARY ID, 21 ----- Area, 0.398662, cm ² sum FX, -0.0108884, Newton sum FY, -0.0142152, Newton sum FZ, -0.000441447, Newton	BOUNDARY ID, 2 ----- Area, 114.167, cm ² sum FX, -0.132418, Newton sum FY, 0.419352, Newton sum FZ, -1.30728, Newton
BOUNDARY ID, 3 ----- Area, 8.49733, cm ² sum FX, -0.175266, Newton sum FY, -6.70869e-05, Newton sum FZ, -0.0203096, Newton	BOUNDARY ID, 20 ----- Area, 7.03494, cm ² sum FX, -0.159389, Newton sum FY, -0.207937, Newton sum FZ, -0.00716103, Newton	BOUNDARY ID, 1 ----- Area, 8.6573, cm ² sum FX, -1.56686, Newton sum FY, 0.000242647, Newton sum FZ, -0.235779, Newton

1 Stepped

Lanjutan

Trim 1	Trim 2	Trim 3
BOUNDARY ID, 2 ----- Area, 1.72937, cm ² sum FX, -0.0166544, Newton sum FY, -0.0217114, Newton sum FZ, -0.00048254, Newton BOUNDARY ID, 1 ----- Area, 616.848, cm ² sum FX, -0.254693, Newton sum FY, -0.0511617, Newton sum FZ, -0.346512, Newton Summary ----- Total area, 3014.11, cm ² TOTAL FX, -1.0491, Newton TOTAL FY, 0.00580921, Newton TOTAL FZ, -1.15809, Newton	BOUNDARY ID, 19 ----- Area, 127.844, cm ² sum FX, -0.0808648, Newton sum FY, -0.312498, Newton sum FZ, -1.00495, Newton BOUNDARY ID, 18 ----- Area, 8.54492, cm ² sum FX, -0.753847, Newton sum FY, -0.000112538, Newton sum FZ, -0.10046, Newton BOUNDARY ID, 11 ----- Area, 813.805, cm ² sum FX, 0, Newton sum FY, 0, Newton sum FZ, 0, Newton Summary ----- Total area, 1696.52, cm ² TOTAL FX, -3.26227, Newton TOTAL FY, -0.0834967, Newton TOTAL FZ, -3.89422, Newton	Summary ----- Total area, 1071.68, cm ² TOTAL FX, -4.69361, Newton TOTAL FY, 0.289265, Newton TOTAL FZ, 0.454979, Newton

2 Stepped

Trim 1	Trim 2	Trim 3
BOUNDARY ID, 17 ----- Area, 0.214145, cm ² sum FX, -0.00148028, Newton sum FY, 0.00190321, Newton sum FZ, -4.89177e-05, Newton	BOUNDARY ID, 13 ----- Area, 598.334, cm ² sum FX, -0.00159052, Newton sum FY, 0.00461396, Newton sum FZ, 2.71248, Newton	BOUNDARY ID, 14 ----- Area, 279.577, cm ² sum FX, -0.0649797, Newton sum FY, -0.0195871, Newton sum FZ, 3.62113, Newton
BOUNDARY ID, 16 ----- Area, 6.80575, cm ² sum FX, -0.0431996, Newton sum FY, 0.0557295, Newton sum FZ, -0.00133656, Newton	BOUNDARY ID, 12 ----- Area, 4.53625, cm ² sum FX, -0.433624, Newton sum FY, 3.32128e-05, Newton sum FZ, -0.0577317, Newton	BOUNDARY ID, 13 ----- Area, 4.42064, cm ² sum FX, -0.830702, Newton sum FY, -0.00016471, Newton sum FZ, -0.12602, Newton
BOUNDARY ID, 15 ----- Area, 1220.95, cm ² sum FX, -0.00119931, Newton sum FY, 0.00165215, Newton sum FZ, 0.841849, Newton	BOUNDARY ID, 11 ----- Area, 82.7033, cm ² sum FX, -0.0557219, Newton sum FY, -0.0507374, Newton sum FZ, -0.171498, Newton	BOUNDARY ID, 12 ----- Area, 69.3658, cm ² sum FX, -0.0796829, Newton sum FY, -0.1832, Newton sum FZ, -0.560568, Newton
BOUNDARY ID, 14 ----- Area, 338.435, cm ² sum FX, -0.120528, Newton sum FY, 0.0269899, Newton sum FZ, -0.222786, Newton	BOUNDARY ID, 10 ----- Area, 5.18842, cm ² sum FX, -0.140546, Newton sum FY, -0.182807, Newton sum FZ, -0.00741414, Newton	BOUNDARY ID, 11 ----- Area, 3.92573, cm ² sum FX, -0.150494, Newton sum FY, -0.196336, Newton sum FZ, -0.00924848, Newton
BOUNDARY ID, 13 ----- Area, 6.84044, cm ² sum FX, -0.0424639, Newton sum FY, -0.054833, Newton sum FZ, -0.00162815, Newton	BOUNDARY ID, 9 ----- Area, 135.971, cm ² sum FX, -0.140607, Newton sum FY, 0.0559442, Newton sum FZ, 0.219144, Newton	BOUNDARY ID, 10 ----- Area, 72.693, cm ² sum FX, -0.134072, Newton sum FY, 0.0335875, Newton sum FZ, 0.144097, Newton

2 Stepped

Lanjutan

Trim 1	Trim 2	Trim 3
BOUNDARY ID, 12 ----- Area, 202.916, cm ² sum FX, -0.0463268, Newton sum FY, 0.00367946, Newton sum FZ, -0.0140832, Newton	BOUNDARY ID, 8 ----- Area, 3.78506, cm ² sum FX, -0.0842352, Newton sum FY, -0.108458, Newton sum FZ, -0.00505587, Newton	BOUNDARY ID, 9 ----- Area, 75.311, cm ² sum FX, -0.124654, Newton sum FY, -0.0324199, Newton sum FZ, 0.141877, Newton
BOUNDARY ID, 11 ----- Area, 4.51218, cm ² sum FX, -0.0818502, Newton sum FY, 2.06816e-05, Newton sum FZ, -0.00956429, Newton	BOUNDARY ID, 7 ----- Area, 94.6874, cm ² sum FX, -0.10282, Newton sum FY, -0.0350806, Newton sum FZ, -0.125225, Newton	BOUNDARY ID, 8 ----- Area, 4.04619, cm ² sum FX, -0.166052, Newton sum FY, 0.216516, Newton sum FZ, -0.0132868, Newton
BOUNDARY ID, 10 ----- Area, 94.5685, cm ² sum FX, -0.0161867, Newton sum FY, 0.0157657, Newton sum FZ, 0.0499872, Newton	BOUNDARY ID, 6 ----- Area, 92.7267, cm ² sum FX, -0.0987827, Newton sum FY, 0.039452, Newton sum FZ, -0.14194, Newton	BOUNDARY ID, 7 ----- Area, 72.3472, cm ² sum FX, -0.0776031, Newton sum FY, 0.183974, Newton sum FZ, -0.563203, Newton
BOUNDARY ID, 9 ----- Area, 6.46801, cm ² sum FX, -0.0306959, Newton sum FY, -0.0400175, Newton sum FZ, -0.00122118, Newton	BOUNDARY ID, 5 ----- Area, 3.72606, cm ² sum FX, -0.0890533, Newton sum FY, 0.114928, Newton sum FZ, -0.00431211, Newton	BOUNDARY ID, 6 ----- Area, 4.5819, cm ² sum FX, -0.804325, Newton sum FY, -4.36484e-06, Newton sum FZ, -0.121654, Newton
BOUNDARY ID, 8 ----- Area, 0.0514587, cm ² sum FX, -0.000218986, Newton sum FY, -0.00025057, Newton sum FZ, -6.20533e-06, Newton	BOUNDARY ID, 4 ----- Area, 133.176, cm ² sum FX, -0.143167, Newton sum FY, 0.00452729, Newton sum FZ, 0.00338821, Newton	BOUNDARY ID, 5 ----- Area, 22.6481, cm ² sum FX, -0.00820752, Newton sum FY, -0.00755128, Newton sum FZ, 0.311223, Newton

2 Stepped

Lanjutan

Trim 1	Trim 2	Trim 3
BOUNDARY ID, 7 ----- Area, 204.756, cm ² sum FX, -0.0464216, Newton sum FY, -0.0039691, Newton sum FZ, -0.0148934, Newton	BOUNDARY ID, 3 ----- Area, 5.10693, cm ² sum FX, -0.121633, Newton sum FY, 0.158684, Newton sum FZ, -0.00603988, Newton	BOUNDARY ID, 4 ----- Area, 1.09016, cm ² sum FX, -0.0403902, Newton sum FY, 0.050956, Newton sum FZ, -0.00211243, Newton
BOUNDARY ID, 6 ----- Area, 0.234179, cm ² sum FX, -0.00151901, Newton sum FY, -0.00189891, Newton sum FZ, -5.65068e-05, Newton	BOUNDARY ID, 2 ----- Area, 80.7071, cm ² sum FX, -0.0600217, Newton sum FY, 0.116845, Newton sum FZ, -0.367083, Newton	BOUNDARY ID, 3 ----- Area, 0.983975, cm ² sum FX, -0.0361057, Newton sum FY, -0.0466392, Newton sum FZ, -0.00207292, Newton
BOUNDARY ID, 5 ----- Area, 341.175, cm ² sum FX, -0.126388, Newton sum FY, -0.0216524, Newton sum FZ, -0.210915, Newton	BOUNDARY ID, 1 ----- Area, 4.45711, cm ² sum FX, -0.448199, Newton sum FY, 0.00014152, Newton sum FZ, -0.0599777, Newton	BOUNDARY ID, 2 ----- Area, 10.8226, cm ² sum FX, 0.00230648, Newton sum FY, -0.0440238, Newton sum FZ, -0.161693, Newton

2 Stepped

Lanjutan

Trim 1	Trim 2	Trim 3
<p>BOUNDARY ID, 4 ----- Area, 0.0437615, cm² sum FX, -0.000156663, Newton sum FY, 0.000193721, Newton sum FZ, -4.92796e-06, Newton</p> <p>BOUNDARY ID, 3 ----- Area, 6.42617, cm² sum FX, -0.0308426, Newton sum FY, 0.04026, Newton sum FZ, -0.00123935, Newton</p> <p>BOUNDARY ID, 2 ----- Area, 93.5966, cm² sum FX, -0.0144259, Newton sum FY, 0.0182491, Newton sum FZ, -0.057238, Newton</p> <p>BOUNDARY ID, 1 ----- Area, 4.47894, cm² sum FX, -0.0792627, Newton sum FY, 7.49359e-06, Newton sum FZ, -0.00927164, Newton</p> <p>Summary ----- Total area, 2532.48, cm² TOTAL FX, -0.683166, Newton TOTAL FY, 0.0418295, Newton TOTAL FZ, 0.347543, Newton</p>	<p>Summary ----- Total area, 1245.11, cm² TOTAL FX, -1.92, Newton TOTAL FY, 0.118086, Newton TOTAL FZ, 1.98873, Newton</p>	<p>BOUNDARY ID, 1 ----- Area, 12.5801, cm² sum FX, -0.00307781, Newton sum FY, 0.0127201, Newton sum FZ, -0.0496292, Newton</p> <p>Summary ----- Total area, 634.393, cm² TOTAL FX, -2.51804, Newton TOTAL FY, -0.0321727, Newton TOTAL FZ, 2.60884, Newton</p>

3 Stepped

Trim 1	Trim 2	Trim 3
BOUNDARY ID, 17 ----- Area, 131.571, cm ² sum FX, -0.0530451, Newton sum FY, -0.00329475, Newton sum FZ, -0.119995, Newton BOUNDARY ID, 16 ----- Area, 844.312, cm ² sum FX, 0.00506861, Newton sum FY, -0.000303291, Newton sum FZ, 0.375959, Newton BOUNDARY ID, 15 ----- Area, 131.57, cm ² sum FX, -0.0505121, Newton sum FY, -0.00407435, Newton sum FZ, -0.133127, Newton BOUNDARY ID, 14 ----- Area, 5.41439, cm ² sum FX, -0.0298017, Newton sum FY, 0.0467951, Newton sum FZ, -0.000858116, Newton BOUNDARY ID, 13 ----- Area, 135.981, cm ² sum FX, -0.0349436, Newton sum FY, 0.00185065, Newton sum FZ, -0.0102305, Newton	BOUNDARY ID, 18 ----- Area, 11.5353, cm ² sum FX, -0.00456699, Newton sum FY, 0.000306086, Newton sum FZ, 0.163003, Newton BOUNDARY ID, 17 ----- Area, 0.381334, cm ² sum FX, -0.00972676, Newton sum FY, -0.0153022, Newton sum FZ, -0.000396497, Newton BOUNDARY ID, 16 ----- Area, 5.98391, cm ² sum FX, 1.5737e-05, Newton sum FY, -0.0168276, Newton sum FZ, -0.0613349, Newton BOUNDARY ID, 15 ----- Area, 5.98388, cm ² sum FX, 0.000995254, Newton sum FY, 0.0187649, Newton sum FZ, -0.0687714, Newton BOUNDARY ID, 14 ----- Area, 0.381334, cm ² sum FX, -0.0109996, Newton sum FY, 0.017346, Newton sum FZ, -0.000431255, Newton	BOUNDARY ID, 10 ----- Area, 106.207, cm ² sum FX, -0.0836784, Newton sum FY, -0.00255063, Newton sum FZ, 1.53495, Newton BOUNDARY ID, 9 ----- Area, 2.26361, cm ² sum FX, -0.010505, Newton sum FY, -7.16987e-05, Newton sum FZ, 0.295855, Newton BOUNDARY ID, 8 ----- Area, 31.7261, cm ² sum FX, -0.0461022, Newton sum FY, -0.00215684, Newton sum FZ, 0.00818299, Newton BOUNDARY ID, 7 ----- Area, 1.84582, cm ² sum FX, -0.0788626, Newton sum FY, -0.102944, Newton sum FZ, -0.0044998, Newton BOUNDARY ID, 6 ----- Area, 24.5898, cm ² sum FX, 0.00136012, Newton sum FY, -0.120787, Newton sum FZ, -0.432879, Newton

3 Stepped

Lanjutan

Trim 1	Trim 2	Trim 3
BOUNDARY ID, 12 ----- Area, 4.50816, cm ² sum FX, -0.0244558, Newton sum FY, 0.031536, Newton sum FZ, -0.00066064, Newton	BOUNDARY ID, 13 ----- Area, 254.049, cm ² sum FX, -0.0702718, Newton sum FY, -0.00613834, Newton sum FZ, 2.20578, Newton	BOUNDARY ID, 5 ----- Area, 24.5903, cm ² sum FX, -0.0010598, Newton sum FY, 0.11865, Newton sum FZ, -0.423794, Newton
BOUNDARY ID, 11 ----- Area, 127.298, cm ² sum FX, -0.0253219, Newton sum FY, -0.00263855, Newton sum FZ, 0.0102453, Newton	BOUNDARY ID, 12 ----- Area, 1.63946, cm ² sum FX, -0.121993, Newton sum FY, -0.000131706, Newton sum FZ, -0.01656, Newton	BOUNDARY ID, 4 ----- Area, 1.84582, cm ² sum FX, -0.0842427, Newton sum FY, 0.109972, Newton sum FZ, -0.00484365, Newton
BOUNDARY ID, 10 ----- Area, 3.93359, cm ² sum FX, -0.0161237, Newton sum FY, 0.0210049, Newton sum FZ, -0.00044871, Newton	BOUNDARY ID, 11 ----- Area, 39.7836, cm ² sum FX, -0.020325, Newton sum FY, -0.0690316, Newton sum FZ, -0.222675, Newton	BOUNDARY ID, 3 ----- Area, 31.7262, cm ² sum FX, -0.0439092, Newton sum FY, 0.000730209, Newton sum FZ, 0.0132346, Newton
BOUNDARY ID, 9 ----- Area, 47.8783, cm ² sum FX, -0.00637295, Newton sum FY, 0.00261529, Newton sum FZ, -0.00745359, Newton	BOUNDARY ID, 10 ----- Area, 2.82943, cm ² sum FX, -0.0669145, Newton sum FY, -0.0873003, Newton sum FZ, -0.00327998, Newton	BOUNDARY ID, 2 ----- Area, 1.56918, cm ² sum FX, -0.22342, Newton sum FY, 0.000222665, Newton sum FZ, -0.0340039, Newton
BOUNDARY ID, 8 ----- Area, 1.56913, cm ² sum FX, -0.0173246, Newton sum FY, 3.23926e-05, Newton sum FZ, -0.00211536, Newton	BOUNDARY ID, 9 ----- Area, 64.2047, cm ² sum FX, -0.0557854, Newton sum FY, 0.00617739, Newton sum FZ, 0.0314796, Newton	BOUNDARY ID, 1 ----- Area, 1.56917, cm ² sum FX, -0.21399, Newton sum FY, -0.000223358, Newton sum FZ, -0.0326664, Newton

3 Stepped

Lanjutan

Trim 1	Trim 2	Trim 3
BOUNDARY ID, 7 ----- Area, 1.56913, cm ² sum FX, -0.0188219, Newton sum FY, -2.72748e-05, Newton sum FZ, -0.00225264, Newton	BOUNDARY ID, 8 ----- Area, 1.40984, cm ² sum FX, -0.026917, Newton sum FY, -0.0347497, Newton sum FZ, -0.00139139, Newton	Summary ----- Total area, 227.933, cm ² TOTAL FX, -0.784409, Newton TOTAL FY, 0.000841603, Newton TOTAL FZ, 0.919532, Newton
BOUNDARY ID, 6 ----- Area, 47.8779, cm ² sum FX, -0.0067609, Newton sum FY, -0.00299731, Newton sum FZ, -0.00857498, Newton	BOUNDARY ID, 7 ----- Area, 25.6261, cm ² sum FX, -0.0176049, Newton sum FY, -0.0115178, Newton sum FZ, -0.0426884, Newton	
BOUNDARY ID, 5 ----- Area, 3.93389, cm ² sum FX, -0.0168099, Newton sum FY, -0.0218954, Newton sum FZ, -0.000457376, Newton	BOUNDARY ID, 6 ----- Area, 26.4527, cm ² sum FX, -0.0156332, Newton sum FY, 0.0164927, Newton sum FZ, -0.0609105, Newton	
BOUNDARY ID, 4 ----- Area, 127.298, cm ² sum FX, -0.0263522, Newton sum FY, 0.00269211, Newton sum FZ, 0.0102979, Newton	BOUNDARY ID, 5 ----- Area, 1.44521, cm ² sum FX, -0.0215763, Newton sum FY, 0.0276862, Newton sum FZ, -0.00112044, Newton	

3 Stepped

Lanjutan

Trim 1	Trim 2	Trim 3
BOUNDARY ID, 3 ----- Area, 4.50816, cm ² sum FX, -0.0236479, Newton sum FY, -0.0304944, Newton sum FZ, -0.000658913, Newton	BOUNDARY ID, 4 ----- Area, 66.2671, cm ² sum FX, -0.0635825, Newton sum FY, -0.0510796, Newton sum FZ, 0.18842, Newton	
BOUNDARY ID, 2 ----- Area, 135.981, cm ² sum FX, -0.0366482, Newton sum FY, 0.000406049, Newton sum FZ, -0.0023468, Newton	BOUNDARY ID, 3 ----- Area, 2.8925, cm ² sum FX, -0.0514551, Newton sum FY, 0.0667778, Newton sum FZ, -0.00322757, Newton	
BOUNDARY ID, 1 ----- Area, 5.41439, cm ² sum FX, -0.0284426, Newton sum FY, -0.0446444, Newton sum FZ, -0.000857276, Newton	BOUNDARY ID, 2 ----- Area, 41.1359, cm ² sum FX, -0.00829031, Newton sum FY, 0.101664, Newton sum FZ, -0.329556, Newton	
Summary ----- Total area, 1760.62, cm ² TOTAL FX, -0.410316, Newton TOTAL FY, -0.00343722, Newton TOTAL FZ, 0.106465, Newton	BOUNDARY ID, 1 ----- Area, 1.68218, cm ² sum FX, -0.125325, Newton sum FY, 0.000171216, Newton sum FZ, -0.016872, Newton	
	Summary ----- Total area, 553.683, cm ² TOTAL FX, -0.689957, Newton TOTAL FY, -0.0366928, Newton TOTAL FZ, 1.75947, Newton	

Lampiran 4. Penentuan Skala model.

Penentuan Skala dilakukan untuk menghindari terjadinya ombak pada dinding tangki atau yang di sebut *blockage effect* dimana ukuran model harus disesuaikan dengan ukuran tangki serta tinggi air dalam tangki dengan sarat model. Menurut harvald, penentuan lebar model (B_m) adalah sebagai berikut :

$$B_m < 1/10 B \text{ Tangki}$$

$$\begin{aligned} \text{Diketahu} \\ B \text{ tangki} &= 3,54 \text{ m} \\ \text{—} &= \frac{1}{10} \times 3,54 \text{ m} \\ &= 0,354 \text{ m} \end{aligned}$$

Maka lebar model yang digunakan supaya tidak menimbulkan *blockage effect* dan dapat digunakan untuk pengujian model di towing tank yaitu:

$$B_m < 0,354 \text{ m}$$

Berdasarkan perhitungan dari persamaan diatas , maka penentuan skala model kapal dapat ditentukan melalui table berikut:

Bs (m)	Skala	Bm (m)
4.5	1:10	0.45
4.5	1:15	0.30
4.5	1:20	0.23
4.5	1:25	0.18

Dari table diatas ukuran lebar model kapal maksimal yang memenuhi Kriteria yaitu 0,30 m sehingga skala yang dignakan untuk ukuran model kapal yaitu 1 : 15.