

## DAFTAR PUSTAKA

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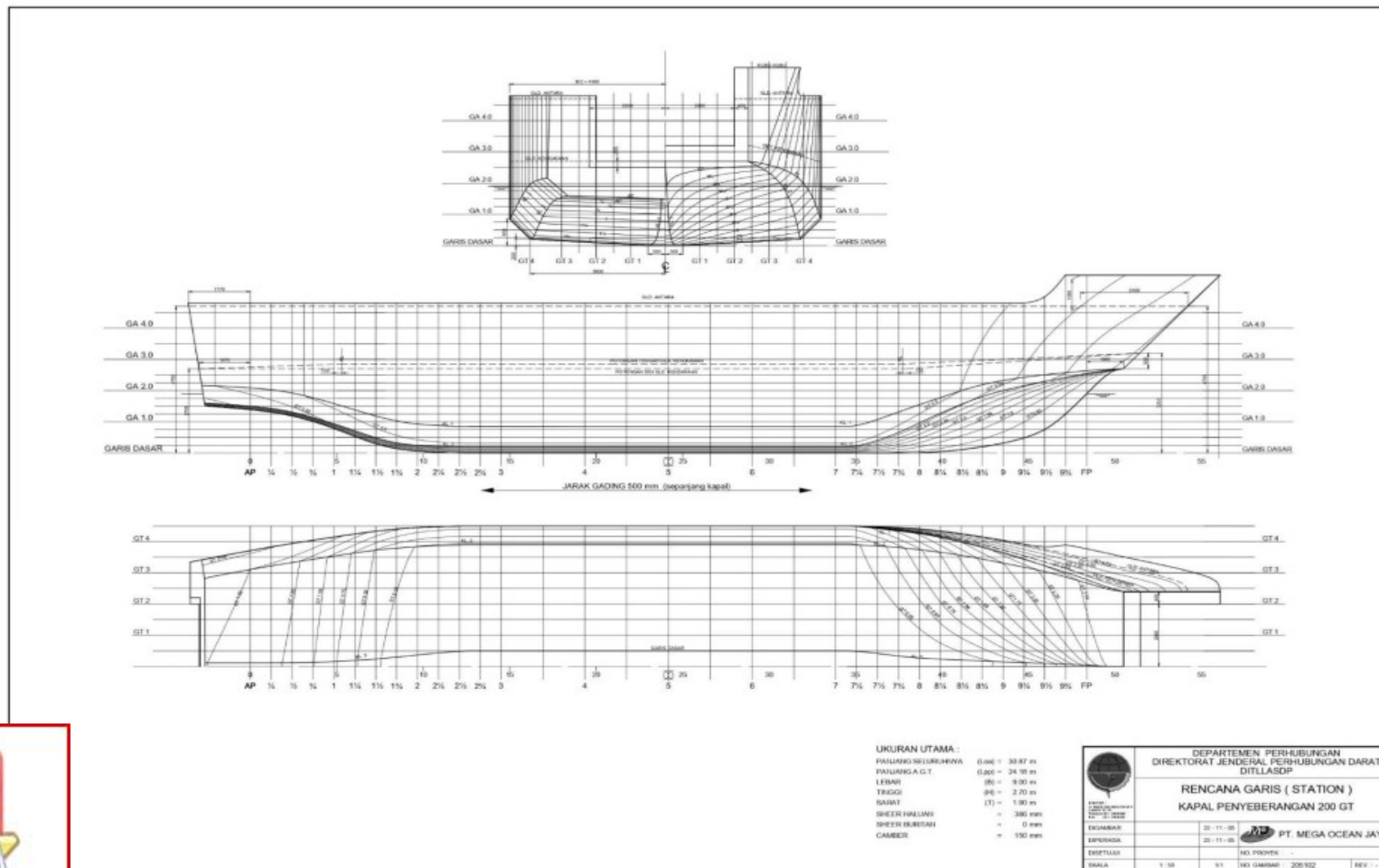
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Priambodo Bambang, Erlangga, Jakarta.



# LAMPIRAN

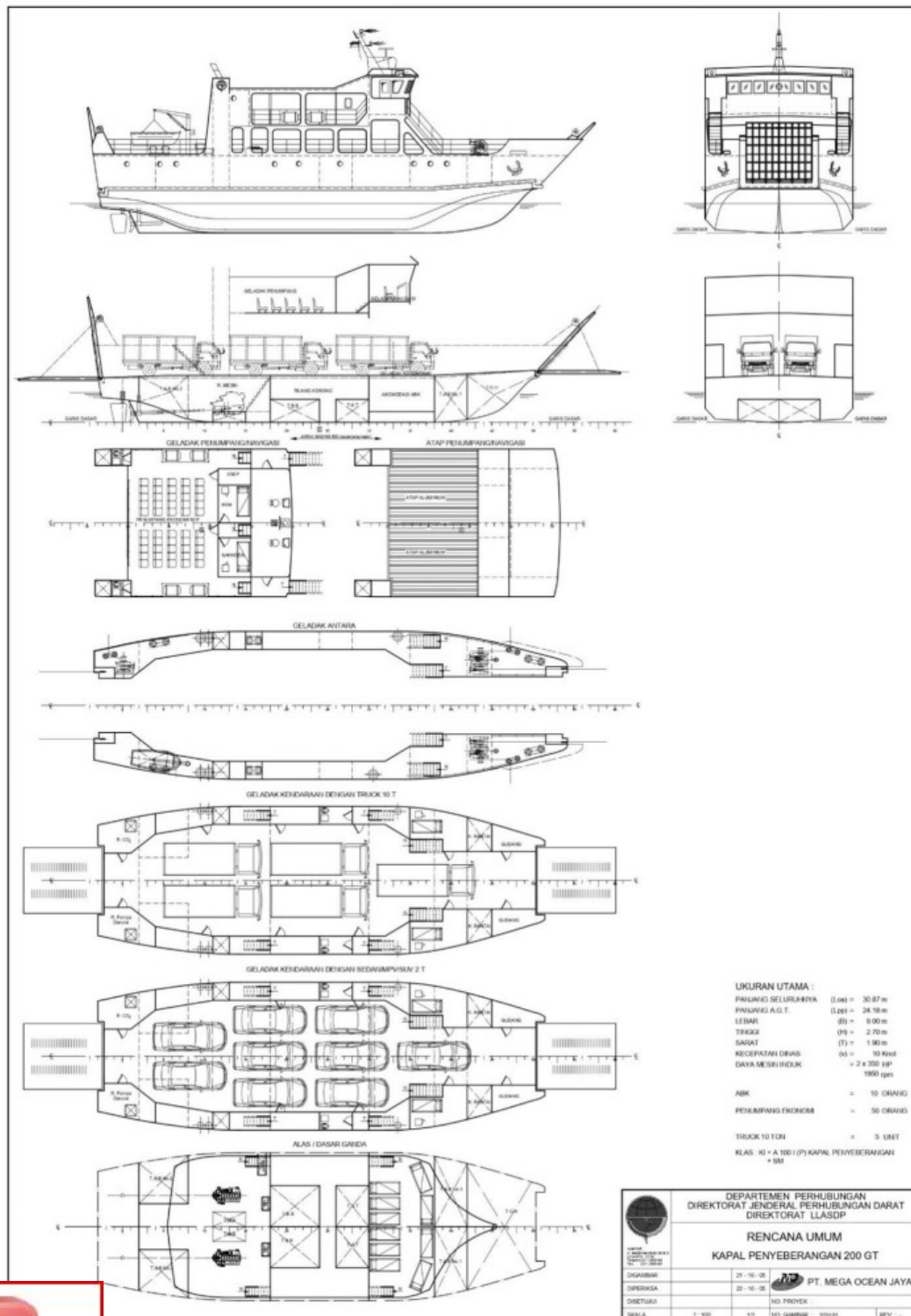


Lampiran 1 Gambar rencana garis




Optimization Software:  
[www.balesio.com](http://www.balesio.com)

Lampiran 2 Rencana umum

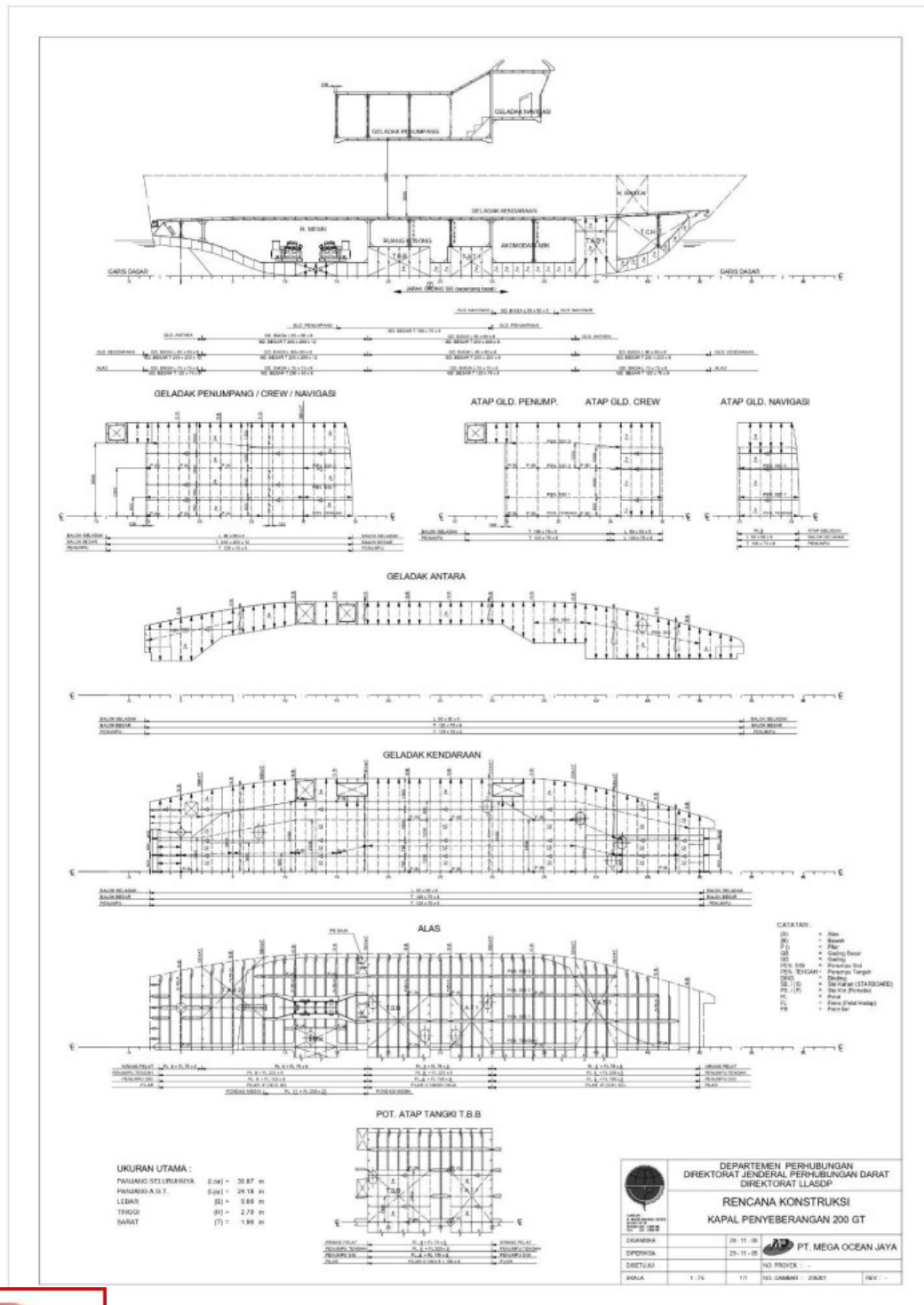


**PDF**

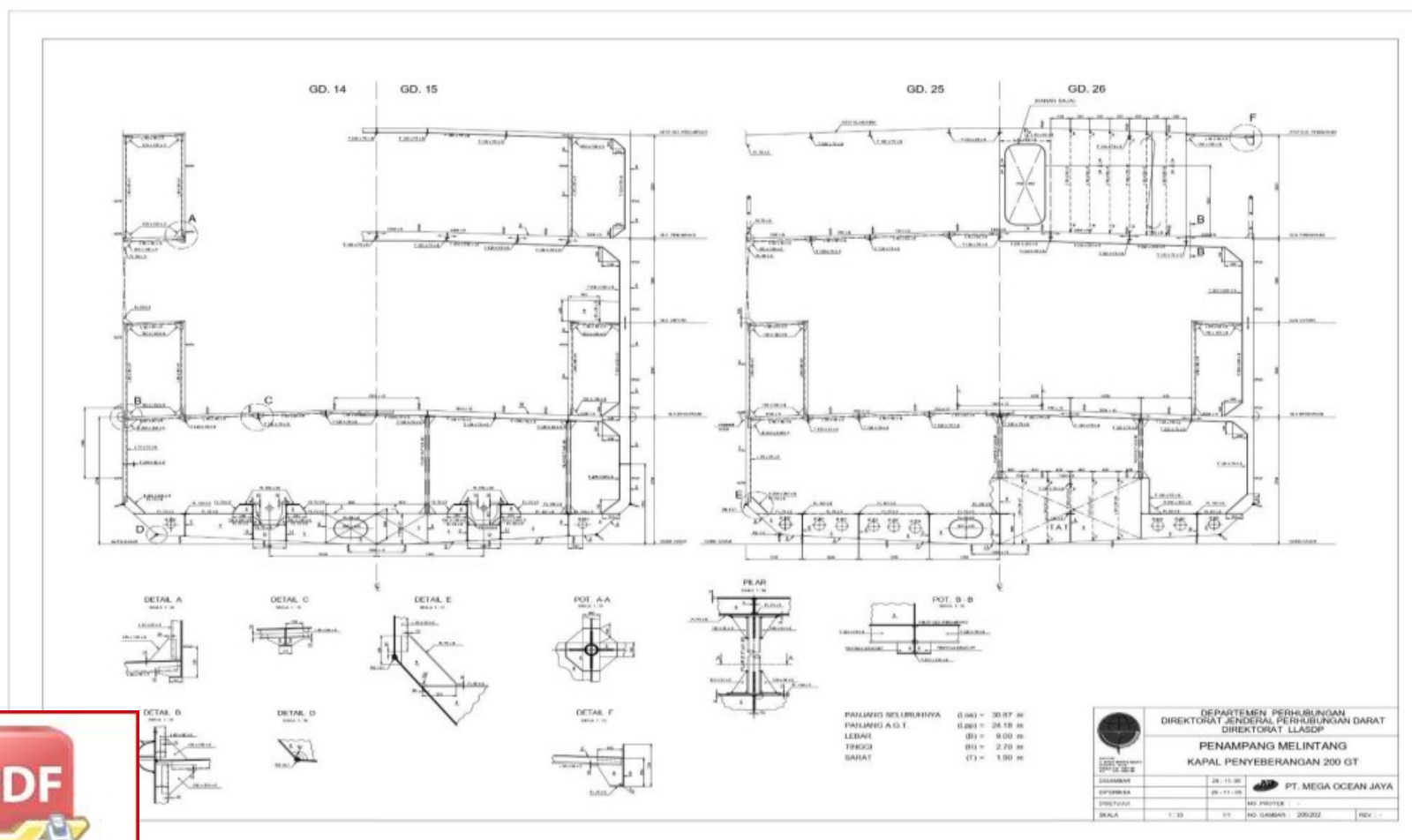
Optimization Software:  
[www.balesio.com](http://www.balesio.com)

DEPARTEMEN PERHUBUNGAN DIREKTORAT JENDERAL PERHUBUNGAN DARAT DIREKTORAT LLASDP	
RENCANA UMUM KAPAL PENYEBERANGAN 200 GT	
DIGAMBAR	21-10-08 PT. MEGA OCEAN JAYA
DIPERIKSA	22-10-08 MD. PROYEK
DISETUI	
SKALA	1:100 1/1 MD GAMBAR 200 GT REV. ...

Lampiran 3 Gambar konstruksi memanjang kapal

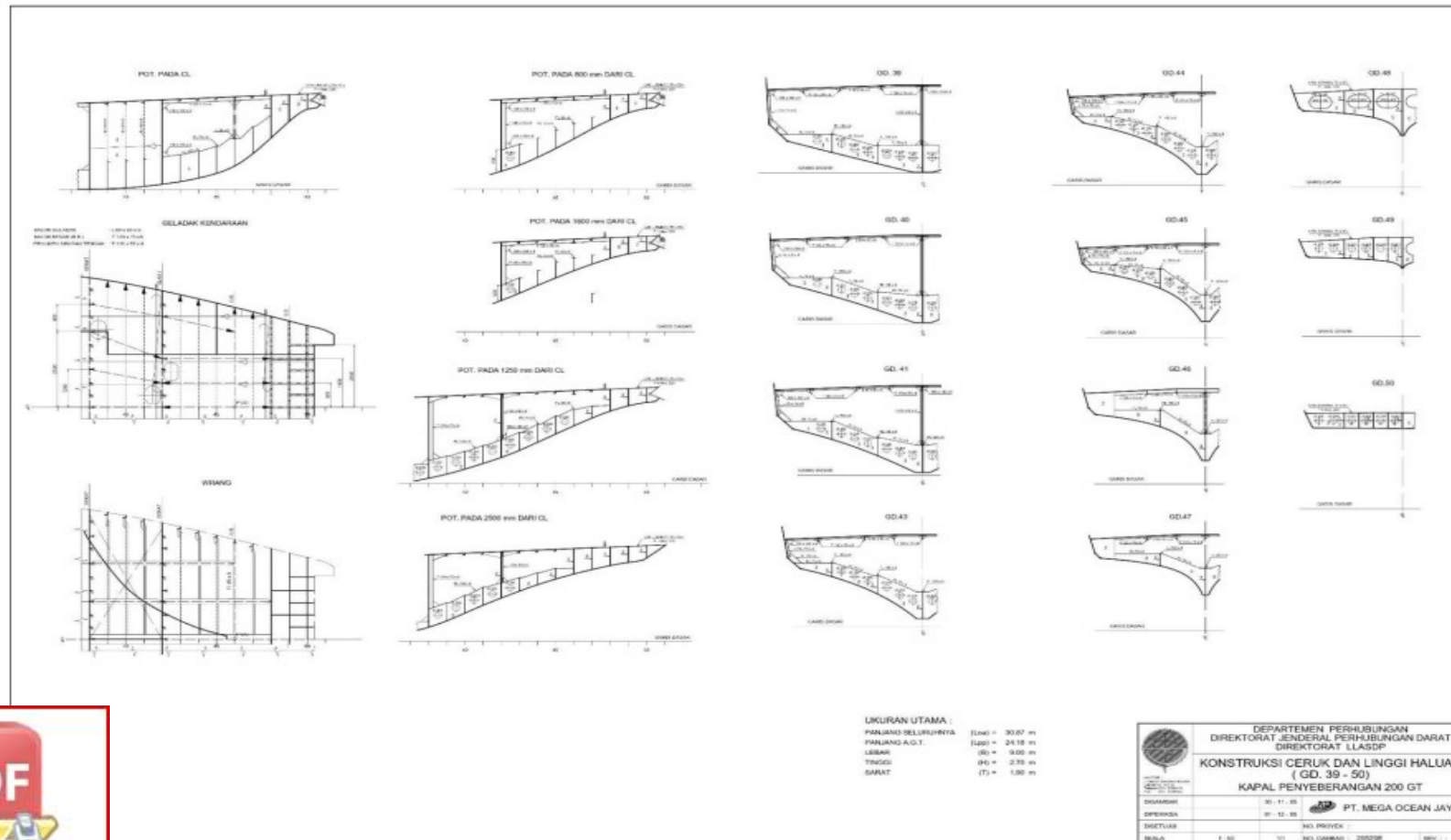


Lampiran 4 Gambar konstruksi tengah kapal



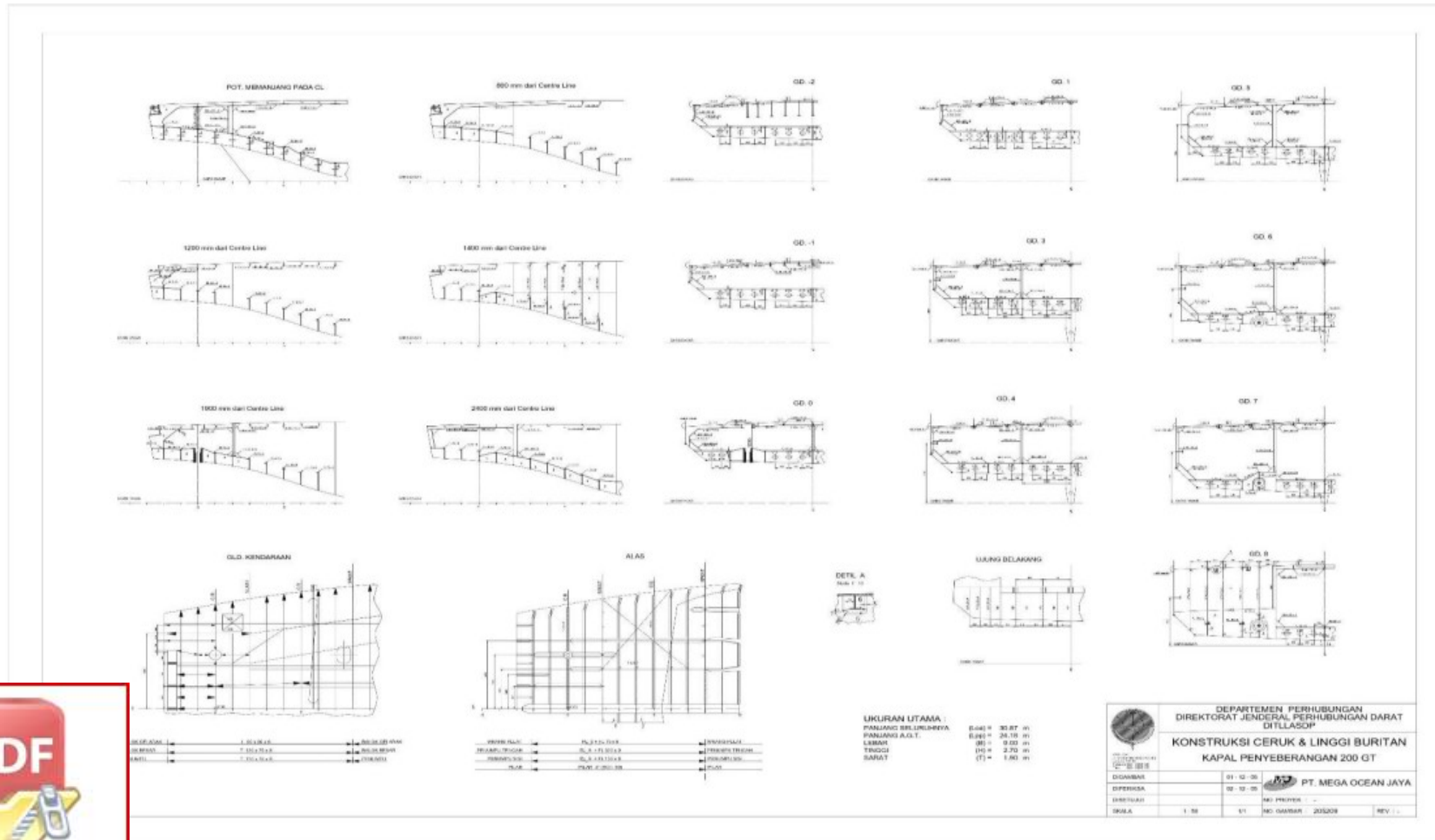


## Lampiran 5 Gambar konstruksi ceruk dan linggi Haluan

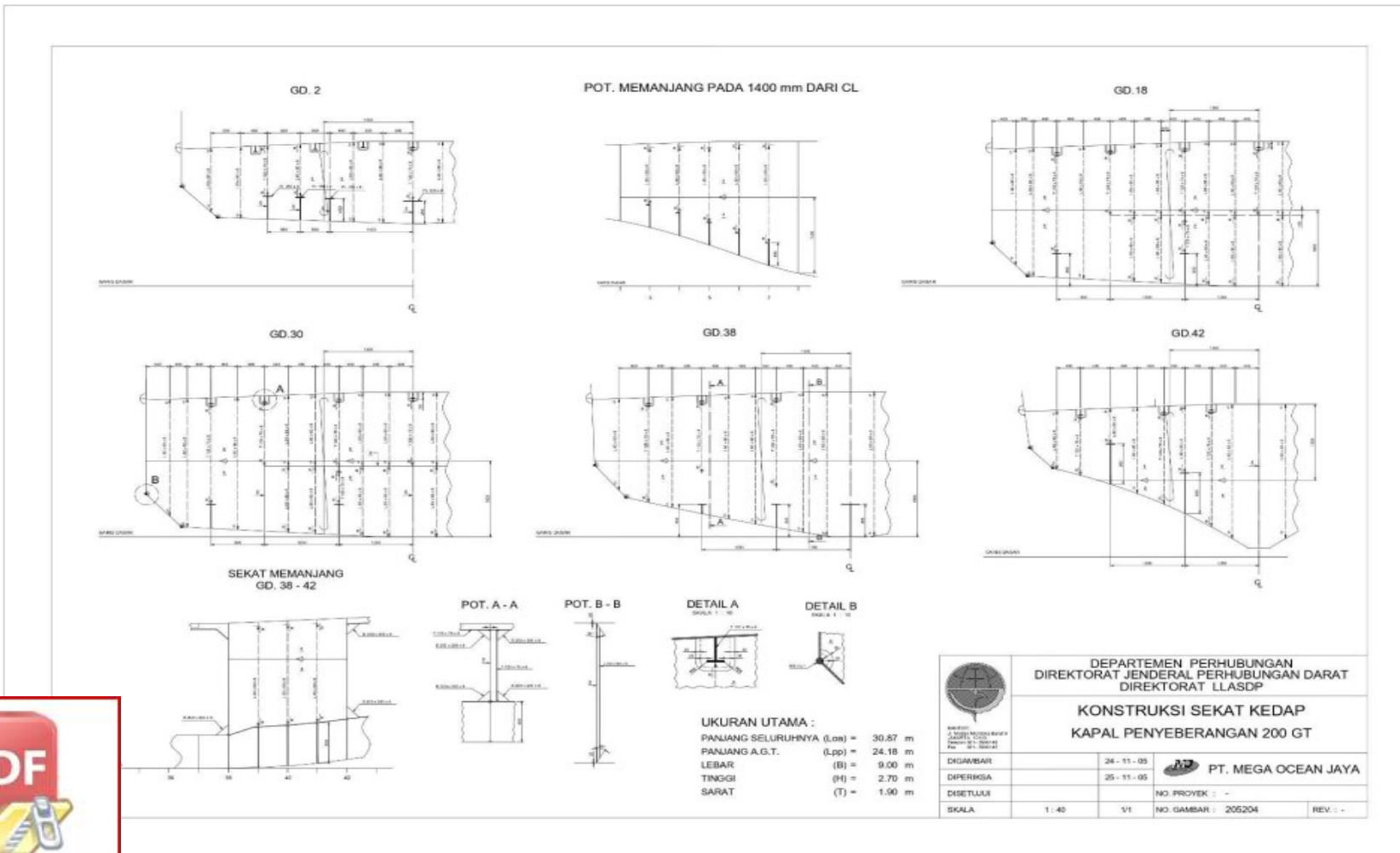




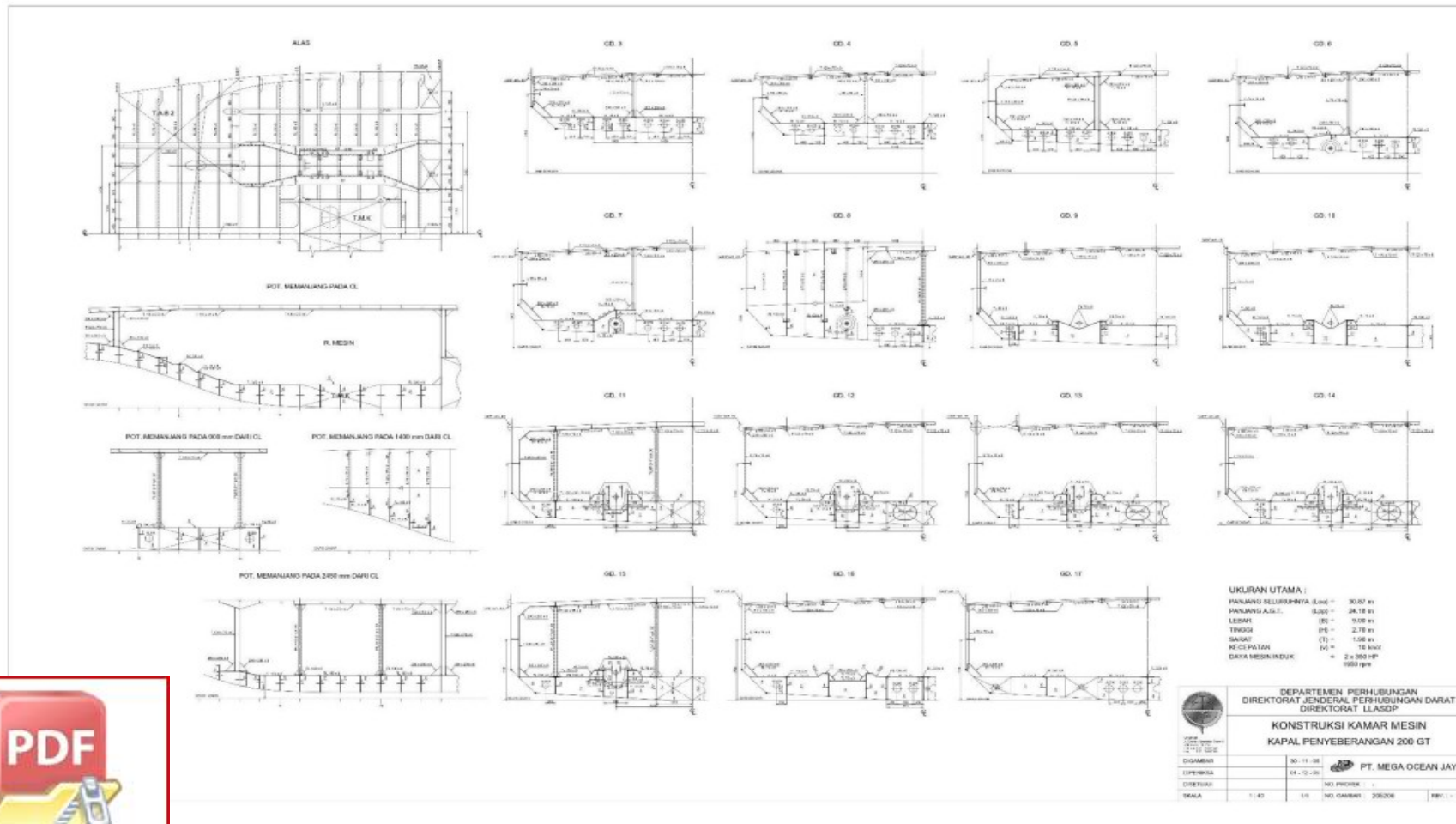
Lampiran 6 Gambar konstruksi ceruk dan linggi buritan



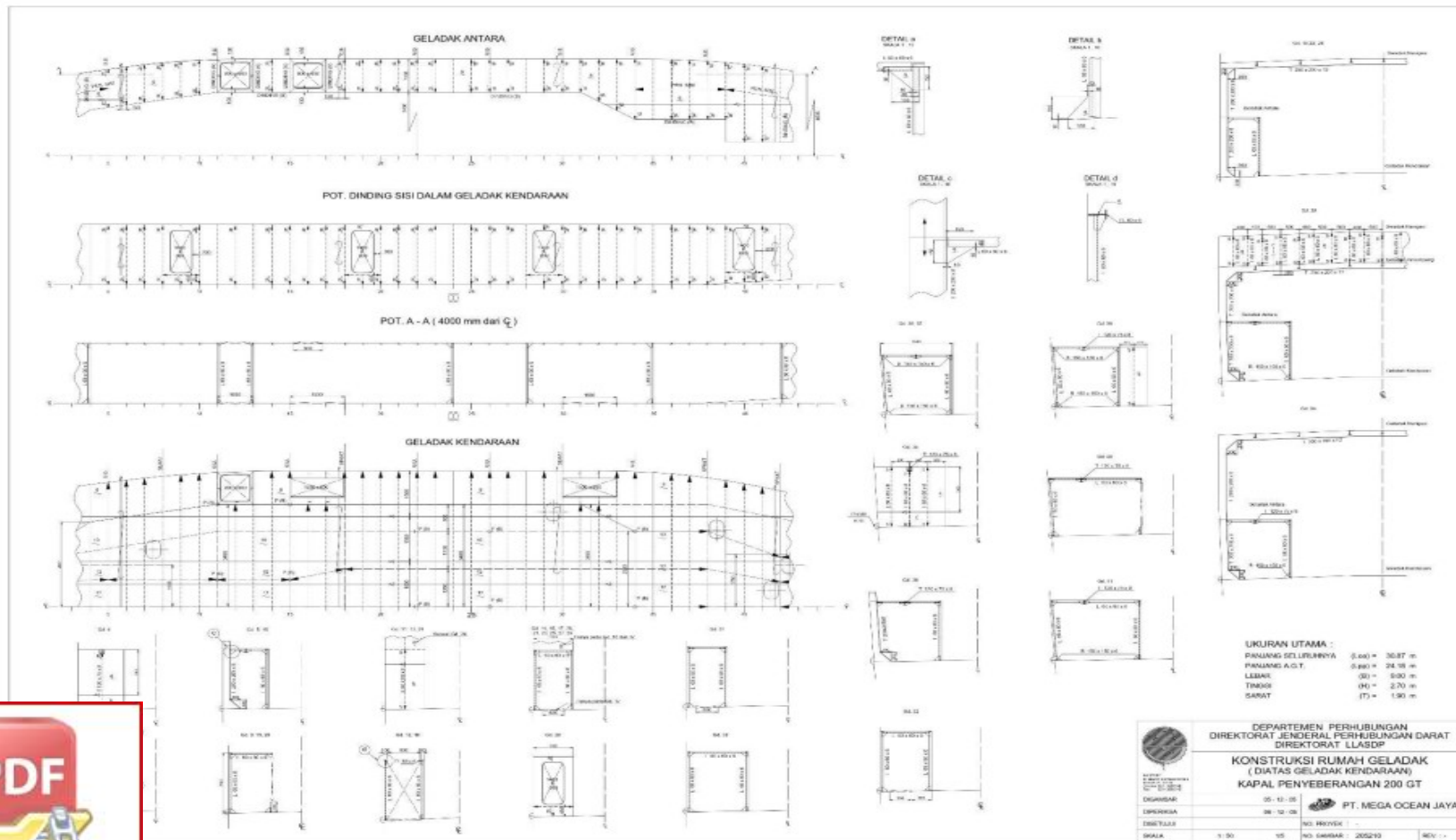
Lampiran 7 Gambar konstruksi sekat kedap



## Lampiran 8 Gambar konstruksi kamar mesin

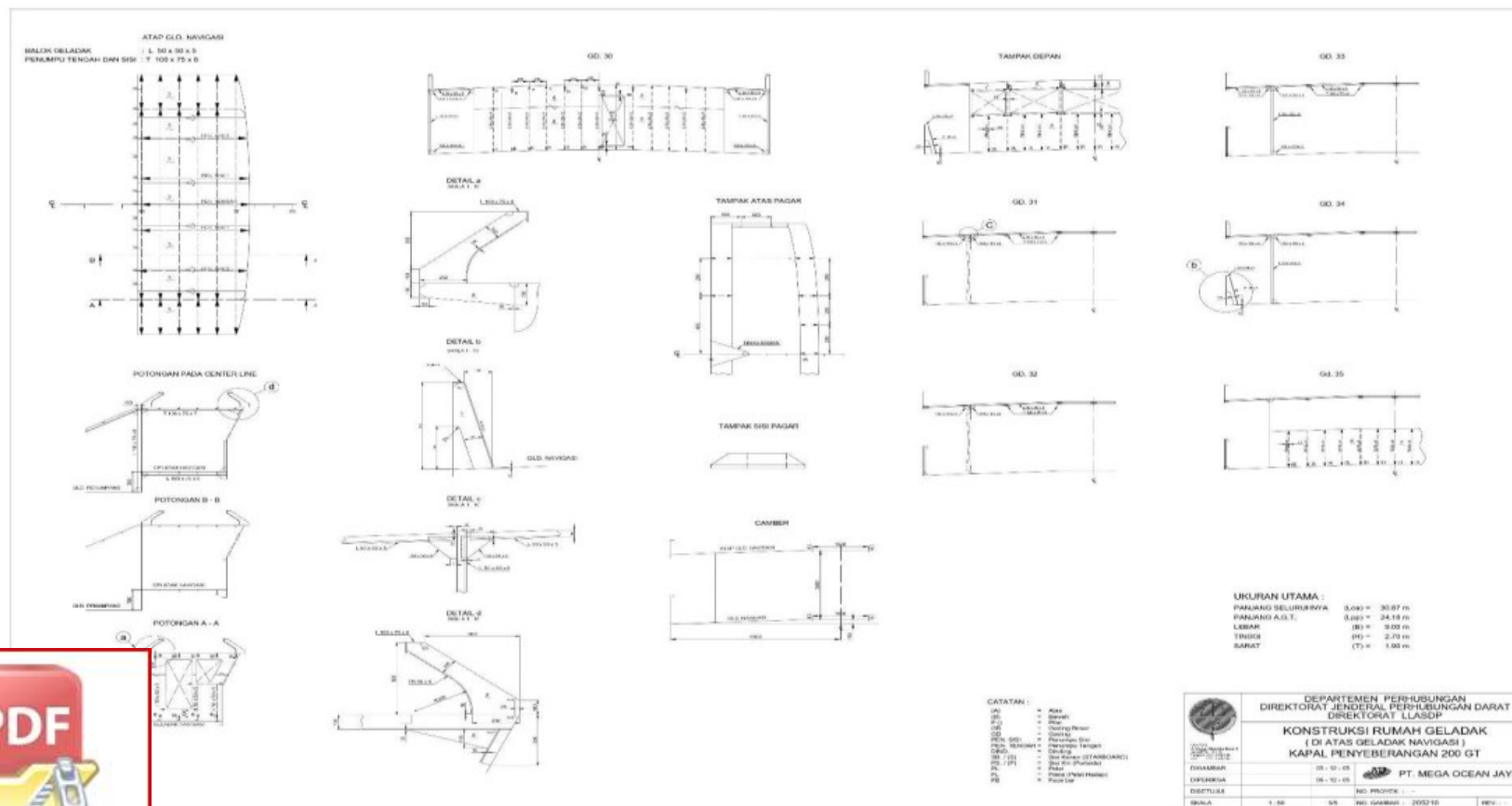


Lampiran 9 Gambar konstruksi rumah geladak kendaraan



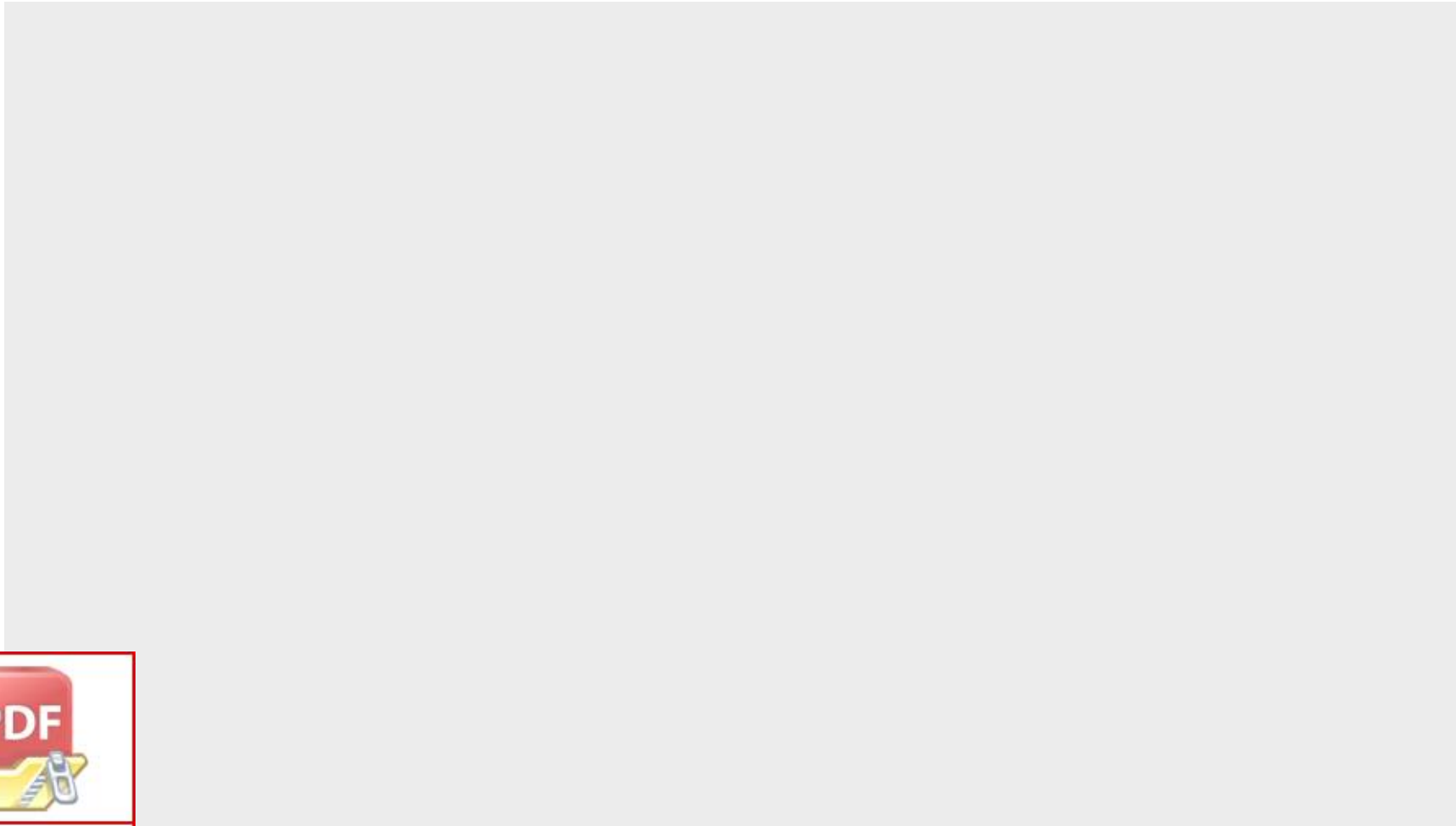


## Lampiran 11 Gambar konstruksi rumah geladak navigasi





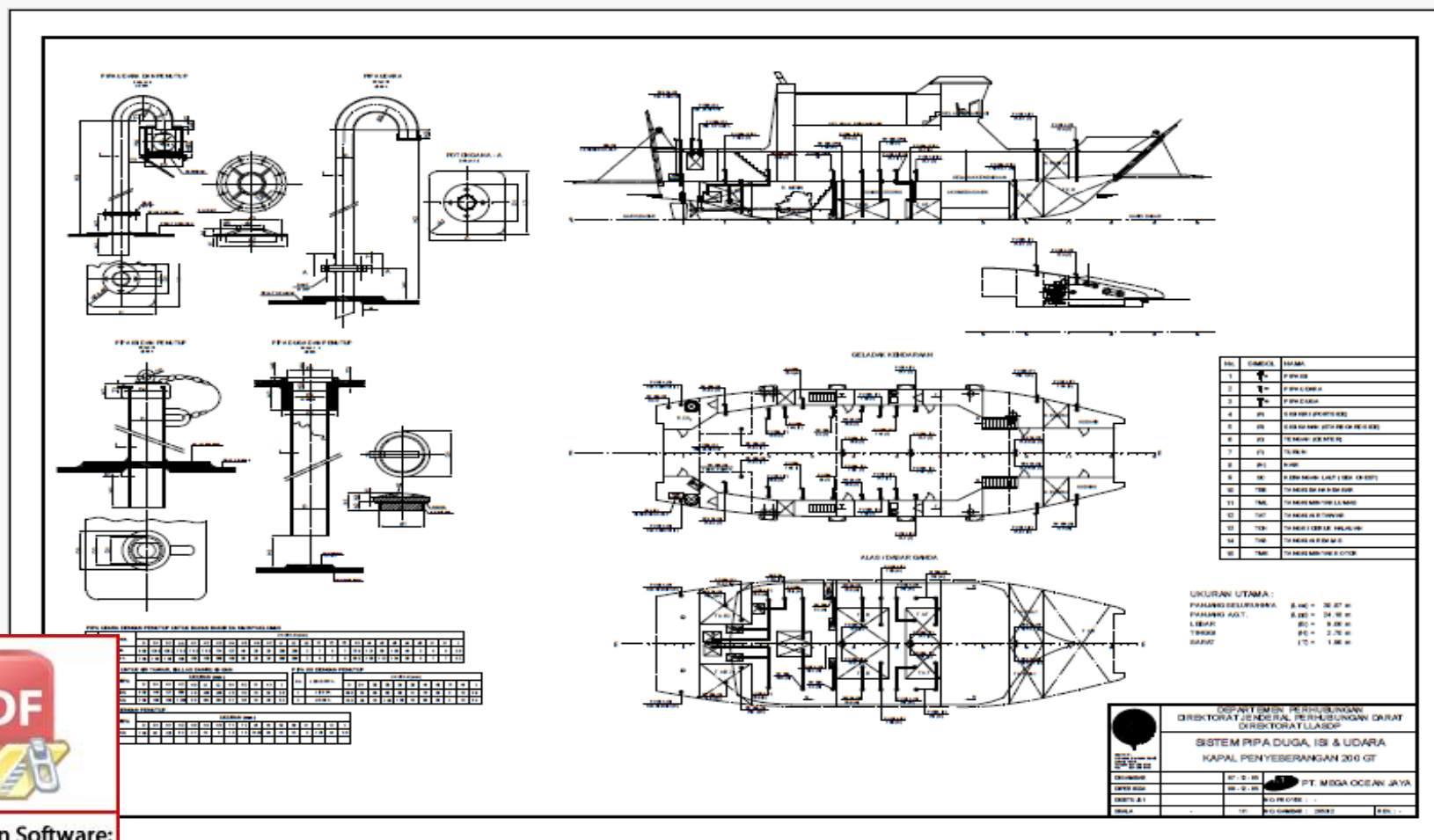
Lampiran 12 Diagram pipa sistem bilga dan ballast



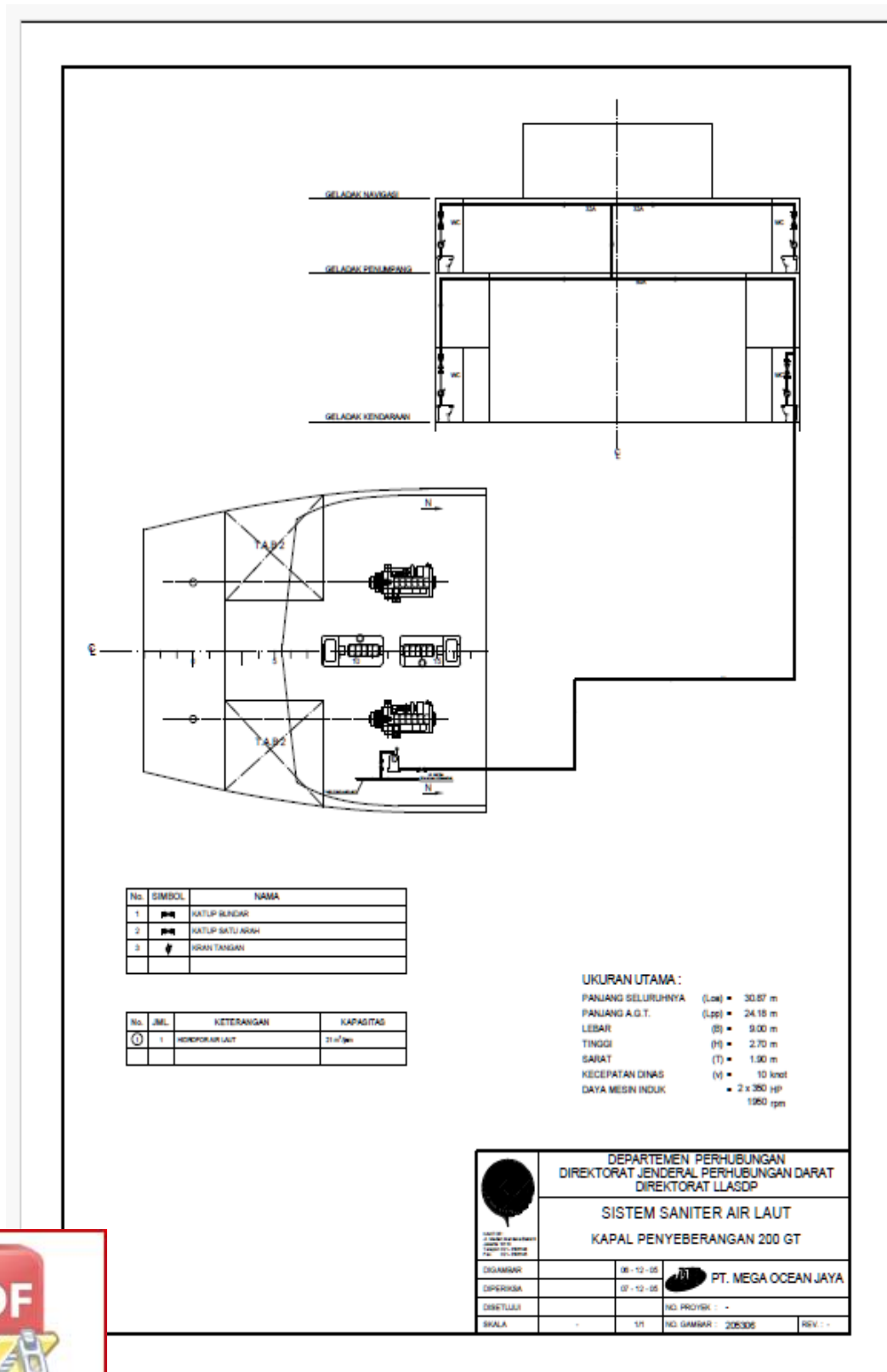
Optimization Software:  
[www.balesio.com](http://www.balesio.com)



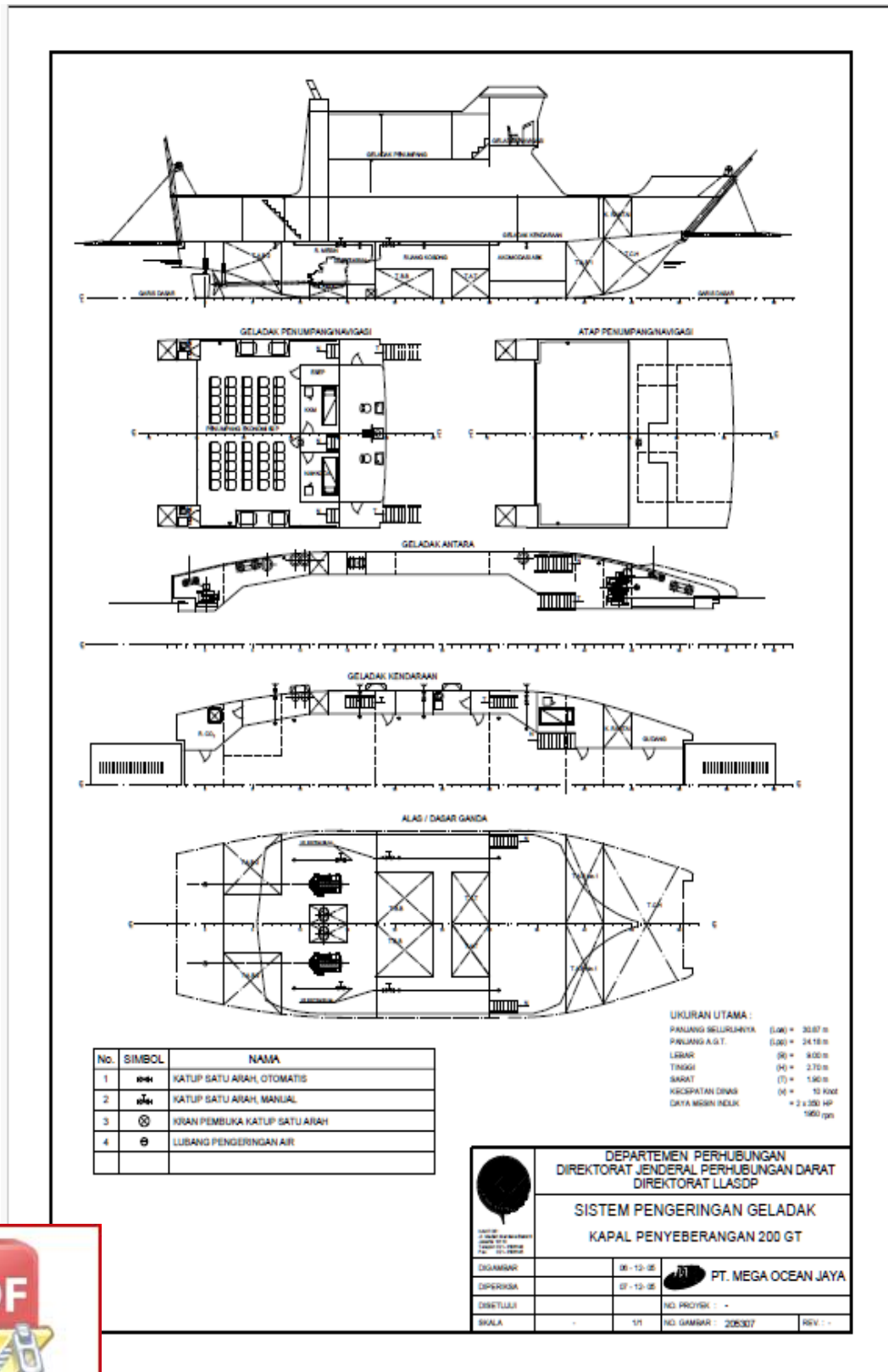
Lampiran 13 Diagram pipa sistem duga, isi dan udara



Lampiran 14 Diagram pipa sistem saniter air laut



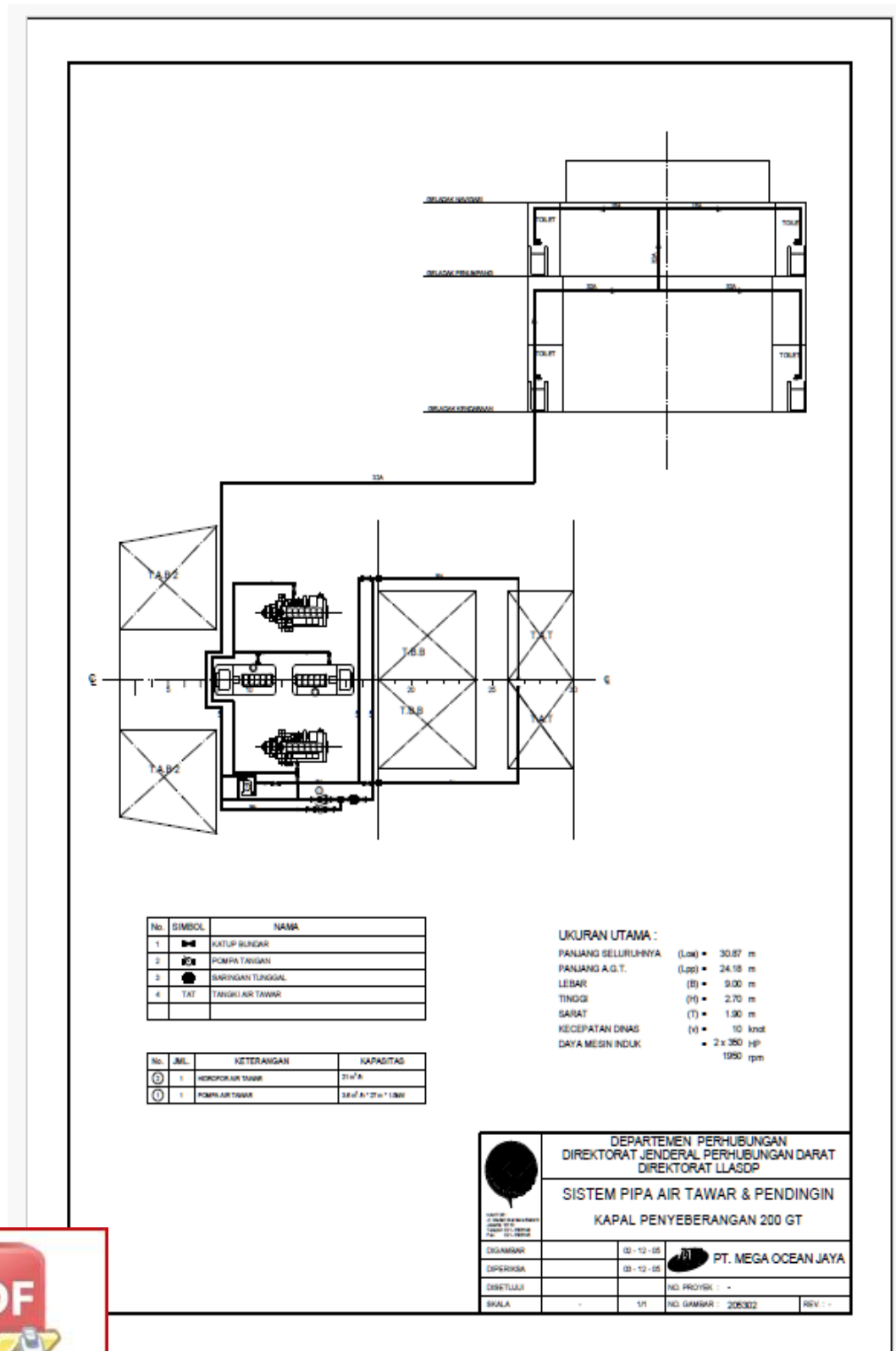
Lampiran 15 Diagram pipa sistem pengering geladak



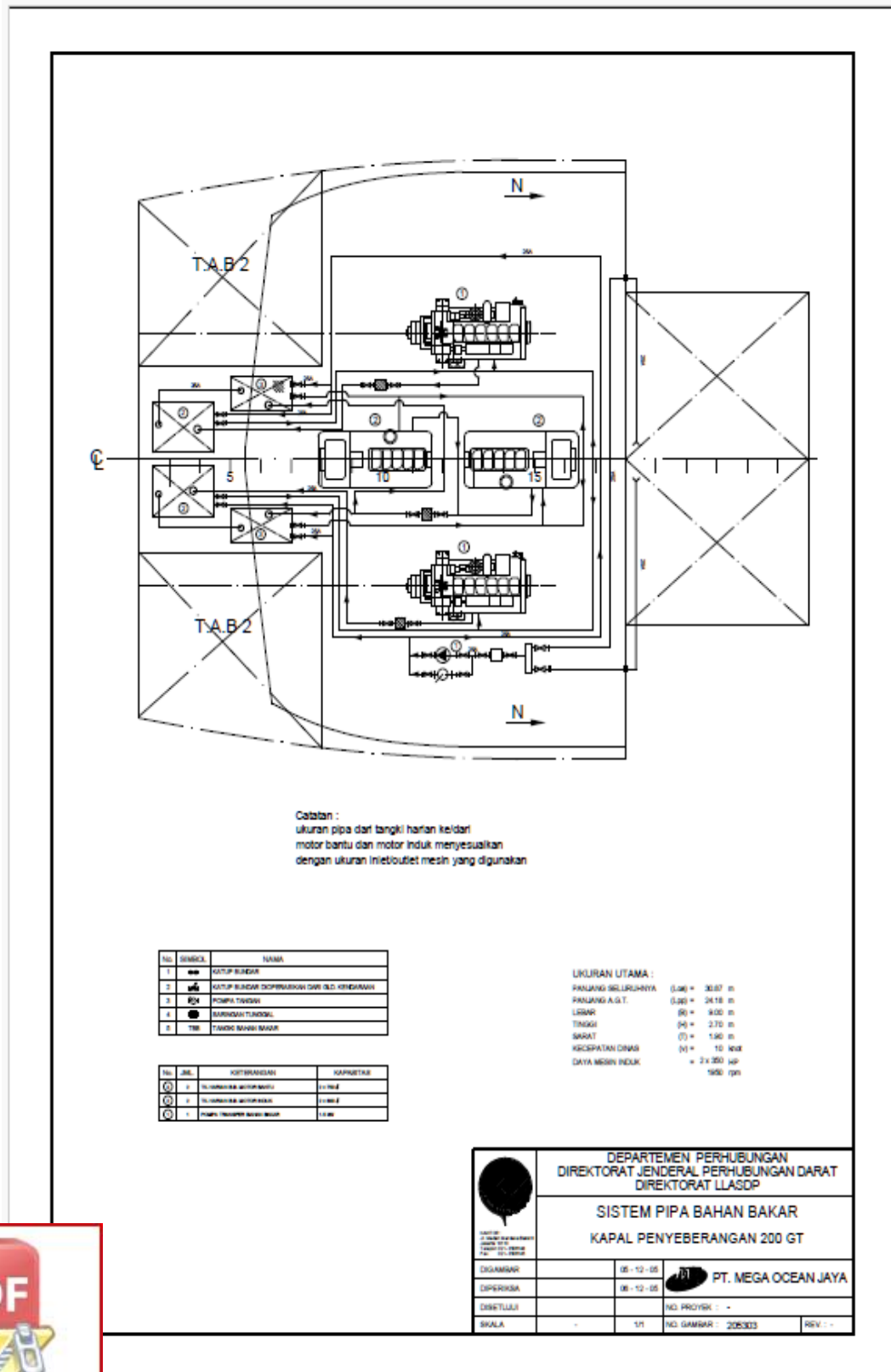
DEPARTEMEN PERHUBUNGAN DIREKTORAT JENDERAL PERHUBUNGAN DARAT DIREKTORAT LLASDP	
<b>SISTEM PENGERINGAN GELADAK</b> <b>KAPAL PENYEBERANGAN 200 GT</b>	
DISAMBAH	08 - 10 - 08
DIPERIKSA	07 - 10 - 08
DISETUIJ	NO. PROYK : -
SKALA	1/1 NO. GAMBAR : 208307 REV. : -



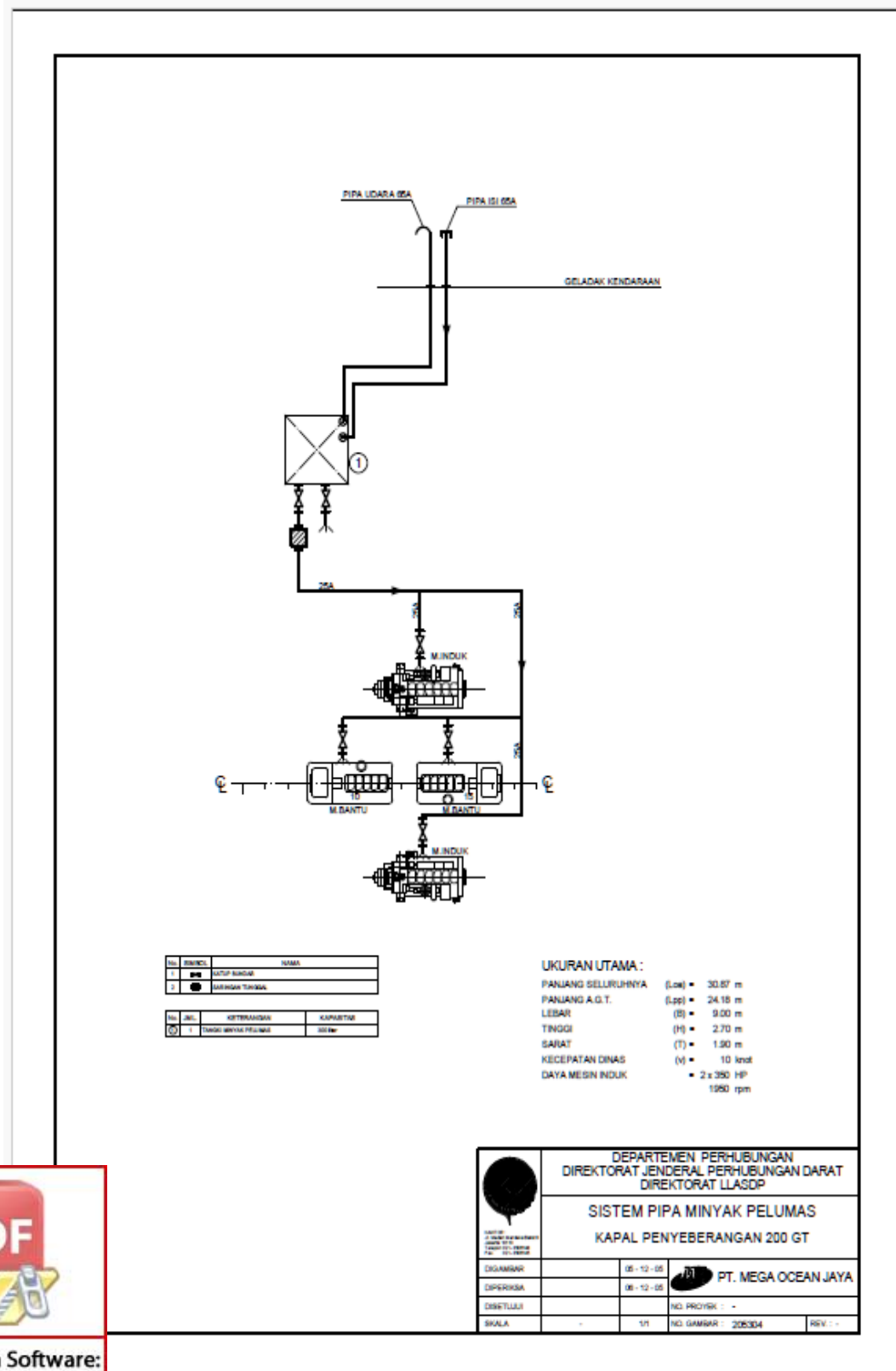
## Lampiran 17 Diagram pipa sistem air tawar dan pendingin



Lampiran 18 Diagram pipa sistem bahan bakar

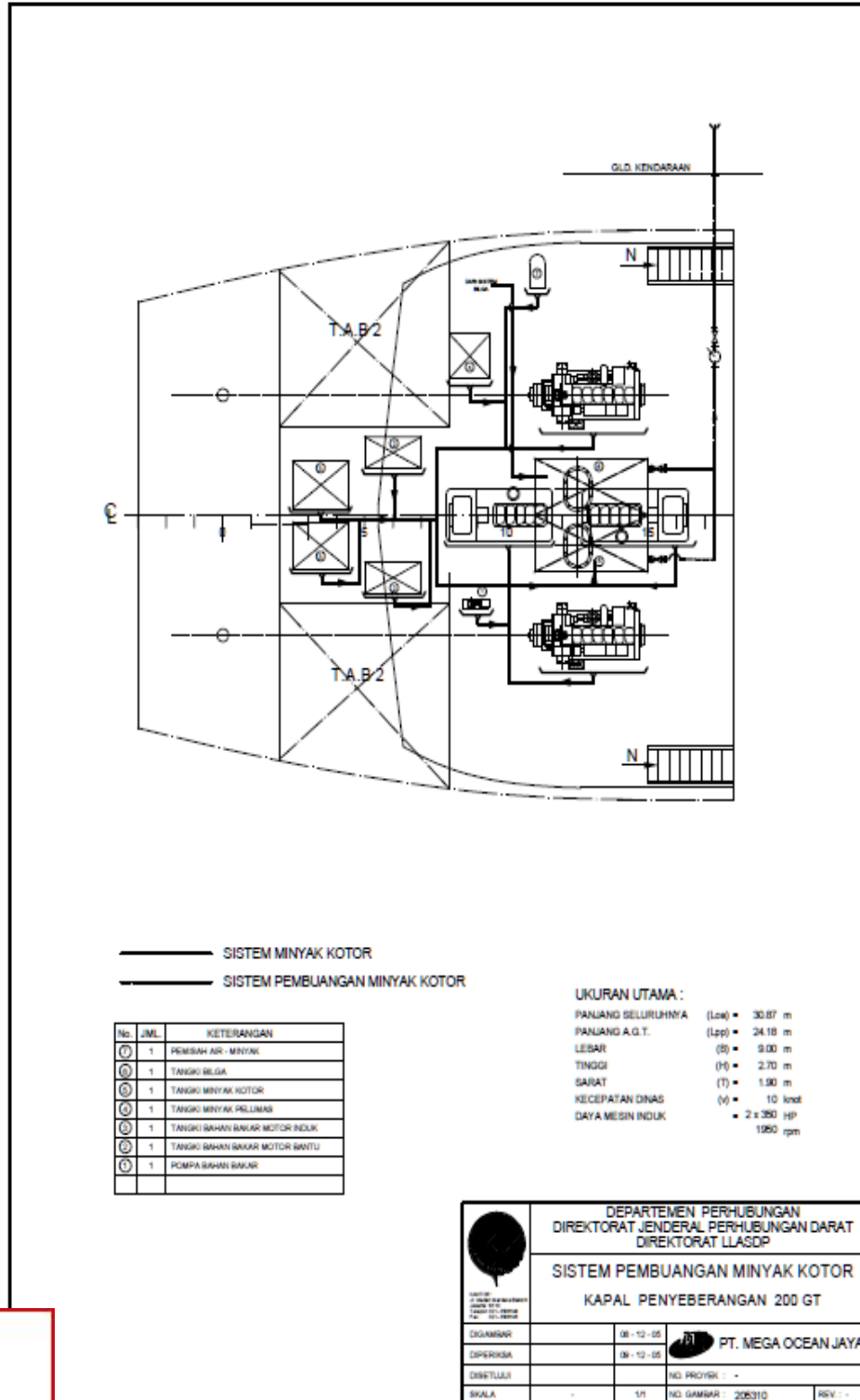


Lampiran 19 Diagram pipa sistem minyak lumas

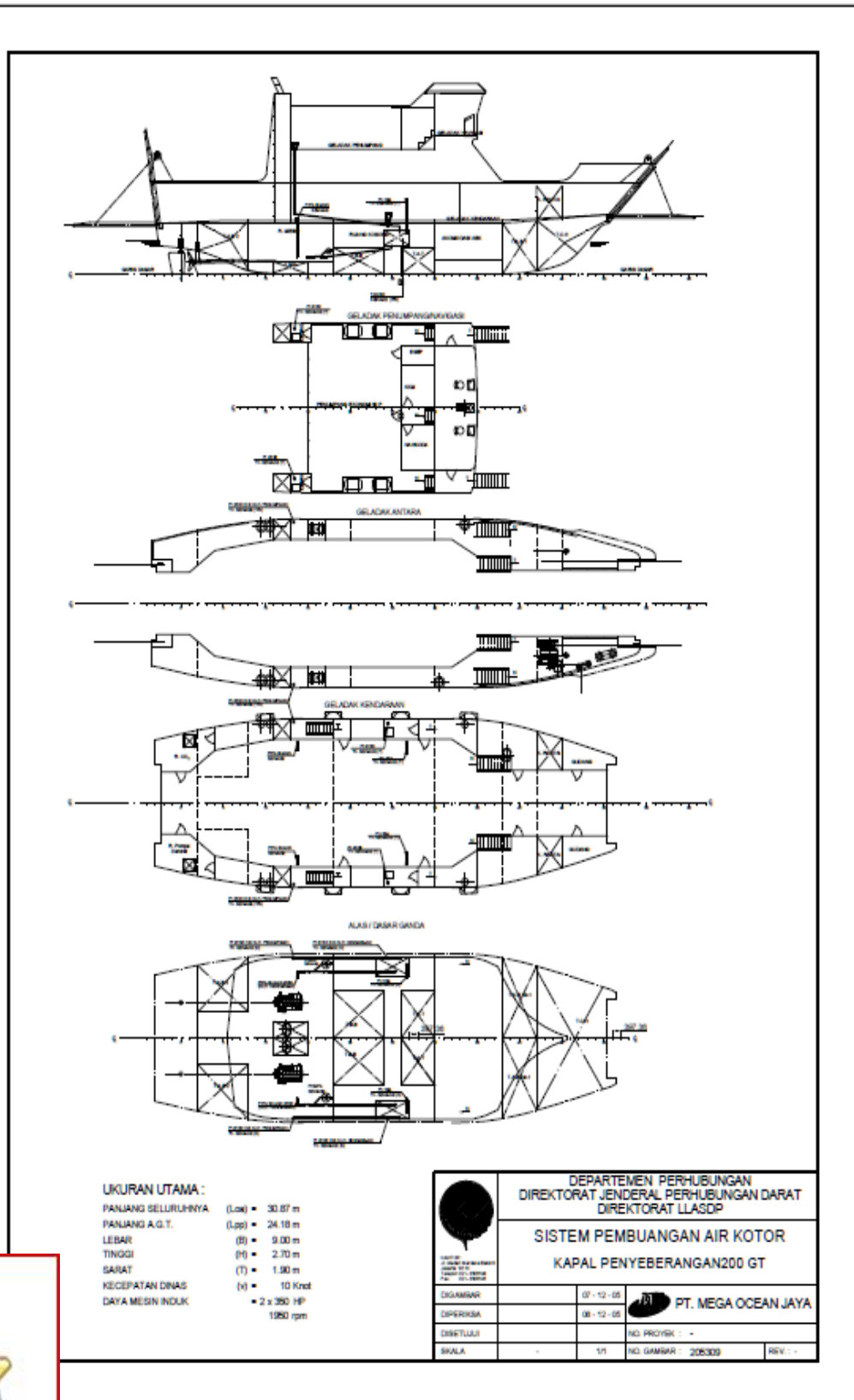




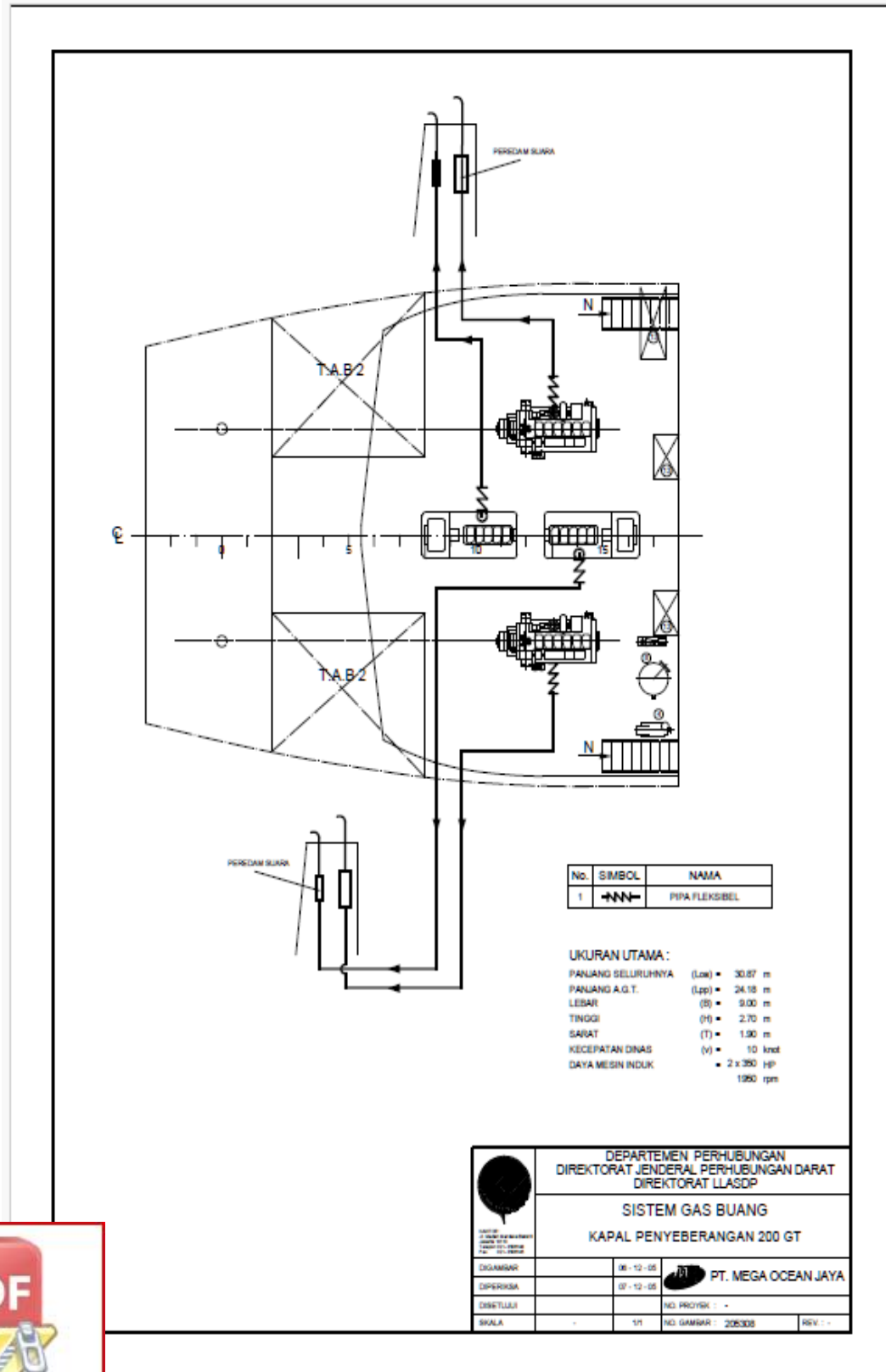
Lampiran 20 Diagram pipa sistem pembuangan minyak kotor



Lampiran 21 Diagram pipa sistem pembuangan air kotor



Lampiran 22 Diagram pipa sistem gas buang



Lampiran 23 Tabel ukuran pipa sistem saniter air laut

No	Nama Pipa	Material	Schedule	Diameter Dalam (mm)	Ketebalan (mm)	Diameter Luar (mm)	Panjang (mm)
1	S1	<i>M.S. Galvanized</i>	SCH 40	56.6	3.9	60.5	300
2	S2	<i>M.S. Galvanized</i>	SCH 40	56.6	3.9	60.5	2560.16
3	S3	<i>M.S. Galvanized</i>	SCH 40	56.6	3.9	60.5	200
4	S4	<i>M.S. Galvanized</i>	SCH 40	56.6	3.9	60.5	2900
5	S5	<i>M.S. Galvanized</i>	SCH 40	56.6	3.9	60.5	444.878
6	S6	<i>M.S. Galvanized</i>	SCH 40	56.6	3.9	60.5	1676.09
7	S7	<i>M.S. Galvanized</i>	SCH 40	56.6	3.9	60.5	200
8	S8	<i>M.S. Galvanized</i>	SCH 40	56.6	3.9	60.5	1501.14
9	S9	<i>M.S. Galvanized</i>	SCH 40	56.6	3.9	60.5	1200
10	S10	<i>M.S. Galvanized</i>	SCH 40	56.6	3.9	60.5	1360.89
11	S11	<i>M.S. Galvanized</i>	SCH 40	56.6	3.9	60.5	3423.25
12	S12	<i>M.S. Galvanized</i>	SCH 40	56.6	3.9	60.5	525.901
13	S13	<i>M.S. Galvanized</i>	SCH 40	56.6	3.9	60.5	917.597
14	S14	<i>M.S. Galvanized</i>	SCH 40	56.6	3.9	60.5	3424.21
15	S15	<i>M.S. Galvanized</i>	SCH 40	56.6	3.9	60.5	1360.89
16	S16	<i>M.S. Galvanized</i>	SCH 40	56.6	3.9	60.5	200
17	S17	<i>M.S. Galvanized</i>	SCH 40	56.6	3.9	60.5	1465.61
18	S18	<i>M.S. Galvanized</i>	SCH 40	56.6	3.9	60.5	5250
19	S19	<i>M.S. Galvanized</i>	SCH 40	56.6	3.9	60.5	163.532
20	S20	<i>M.S. Galvanized</i>	SCH 40	56.6	3.9	60.5	1800

No	Nama Pipa	Material	Schedule	Diameter Dalam (mm)	Ketebalan (mm)	Diameter Luar (mm)	Panjang (mm)
1	S21	<i>M.S. Galvanized</i>	SCH 40	39.1	3.6	42.7	777.597
2	S22	<i>M.S. Galvanized</i>	SCH 40	39.1	3.6	42.7	3464.41
3	S23	<i>M.S. Galvanized</i>	SCH 40	39.1	3.6	42.7	1564.26
4	S24	<i>M.S. Galvanized</i>	SCH 40	39.1	3.6	42.7	385.901
5	S25	<i>M.S. Galvanized</i>	SCH 40	39.1	3.6	42.7	3510.76
6	S26	<i>M.S. Galvanized</i>	SCH 40	39.1	3.6	42.7	1564.26



Lampiran 24 Tabel ukuran pipa sistem bilga dan ballast

No	Nama pipa	Material	Schedule	Diameter Dalam (mm)	Ketebalan (mm)	Diameter Luar (mm)	Panjang (mm)
1	B1	<i>M.S. Galvanized</i>	SC 40	56.6	3.9	60.5	1690.00
2	B2	<i>M.S. Galvanized</i>	SC 40	56.6	3.9	60.5	1900.00
3	B3	<i>M.S. Galvanized</i>	SC 40	56.6	3.9	60.5	200.00
4	B4	<i>M.S. Galvanized</i>	SC 40	56.6	3.9	60.5	100.00
5	B5	<i>M.S. Galvanized</i>	SC 40	56.6	3.9	60.5	594.86
6	B6	<i>M.S. Galvanized</i>	SC 40	56.6	3.9	60.5	660.08
7	B7	<i>M.S. Galvanized</i>	SC 40	56.6	3.9	60.5	250.00
8	B8	<i>M.S. Galvanized</i>	SC 40	56.6	3.9	60.5	100.00
9	B9	<i>M.S. Galvanized</i>	SC 40	56.6	3.9	60.5	466.36
10	B10	<i>M.S. Galvanized</i>	SC 40	56.6	3.9	60.5	744.58
11	B11	<i>M.S. Galvanized</i>	SC 40	56.6	3.9	60.5	2924.37
12	B12	<i>M.S. Galvanized</i>	SC 40	56.6	3.9	60.5	5717.70
13	B13	<i>M.S. Galvanized</i>	SC 40	56.6	3.9	60.5	880.88
14	B14	<i>M.S. Galvanized</i>	SC 40	56.6	3.9	60.5	1100.00
15	B15	<i>M.S. Galvanized</i>	SC 40	56.6	3.9	60.5	3300.00
16	B16	<i>M.S. Galvanized</i>	SC 40	56.6	3.9	60.5	150.00
17	B17	<i>M.S. Galvanized</i>	SC 40	56.6	3.9	60.5	46.64
18	B18	<i>M.S. Galvanized</i>	SC 40	56.6	3.9	60.5	744.58
19	B19	<i>M.S. Galvanized</i>	SC 40	56.6	3.9	60.5	2924.37
20	B20	<i>M.S. Galvanized</i>	SC 40	56.6	3.9	60.5	5717.70
21	B21	<i>M.S. Galvanized</i>	SC 40	56.6	3.9	60.5	500.00
22	B22	<i>M.S. Galvanized</i>	SC 40	56.6	3.9	60.5	447.71
23	B23	<i>M.S. Galvanized</i>	SC 40	56.6	3.9	60.5	200.00
24	B24	<i>M.S. Galvanized</i>	SC 40	56.6	3.9	60.5	5717.70
25	B25	<i>M.S. Galvanized</i>	SC 40	56.6	3.9	60.5	865.66
26	B26	<i>M.S. Galvanized</i>	SC 40	56.6	3.9	60.5	865.66
27	B27	<i>M.S. Galvanized</i>	SC 40	56.6	3.9	60.5	1690.00
28	B28	<i>M.S. Galvanized</i>	SC 40	56.6	3.9	60.5	1900.00
29	B29	<i>M.S. Galvanized</i>	SC 40	56.6	3.9	60.5	200.00
30	B30	<i>M.S. Galvanized</i>	SC 40	56.6	3.9	60.5	100.00
31	B31	<i>M.S. Galvanized</i>	SC 40	56.6	3.9	60.5	594.86
32	B32	<i>M.S. Galvanized</i>	SC 40	56.6	3.9	60.5	660.08
33	B33	<i>M.S. Galvanized</i>	SC 40	56.6	3.9	60.5	250.00
34	B34	<i>M.S. Galvanized</i>	SC 40	56.6	3.9	60.5	100.00
35	B35	<i>M.S. Galvanized</i>	SC 40	56.6	3.9	60.5	466.36
36	B36	<i>M.S. Galvanized</i>	SC 40	56.6	3.9	60.5	744.58
37	B37	<i>M.S. Galvanized</i>	SC 40	56.6	3.9	60.5	2924.37
38	B38	<i>M.S. Galvanized</i>	SC 40	56.6	3.9	60.5	5717.70
39	B39	<i>M.S. Galvanized</i>	SC 40	56.6	3.9	60.5	880.88



No	Nama pipa	Material	Schedule	Diameter Dalam (mm)	Ketebalan (mm)	Diameter Luar (mm)	Panjang (mm)
40	B40	<i>M.S. Galvanized</i>	SC 40	56.6	3.9	60.5	1100.00
41	B41	<i>M.S. Galvanized</i>	SC 40	56.6	3.9	60.5	3300.00
42	B42	<i>M.S. Galvanized</i>	SC 40	56.6	3.9	60.5	150.00
43	B43	<i>M.S. Galvanized</i>	SC 40	56.6	3.9	60.5	46.64
44	B44	<i>M.S. Galvanized</i>	SC 40	56.6	3.9	60.5	744.58
45	B45	<i>M.S. Galvanized</i>	SC 40	56.6	3.9	60.5	2924.37
46	B46	<i>M.S. Galvanized</i>	SC 40	56.6	3.9	60.5	5717.70
47	B47	<i>M.S. Galvanized</i>	SC 40	56.6	3.9	60.5	500.00
48	B48	<i>M.S. Galvanized</i>	SC 40	56.6	3.9	60.5	447.71
49	B49	<i>M.S. Galvanized</i>	SC 40	56.6	3.9	60.5	200.00
50	B50	<i>M.S. Galvanized</i>	SC 40	56.6	3.9	60.5	5717.70
51	B51	<i>M.S. Galvanized</i>	SC 40	56.6	3.9	60.5	865.66
52	B52	<i>M.S. Galvanized</i>	SC 40	56.6	3.9	60.5	865.66
53	B53	<i>M.S. Galvanized</i>	SC 40	56.6	3.9	60.5	261.00
54	B54	<i>M.S. Galvanized</i>	SC 40	56.6	3.9	60.5	224.31
55	B55	<i>M.S. Galvanized</i>	SC 40	56.6	3.9	60.5	3549.29
56	B56	<i>M.S. Galvanized</i>	SC 40	56.6	3.9	60.5	100.00
57	B57	<i>M.S. Galvanized</i>	SC 40	56.6	3.9	60.5	410.22
58	B58	<i>M.S. Galvanized</i>	SC 40	56.6	3.9	60.5	2296.00
59	B59	<i>M.S. Galvanized</i>	SC 40	56.6	3.9	60.5	2611.32
60	B60	<i>M.S. Galvanized</i>	SC 40	56.6	3.9	60.5	342.24
61	B61	<i>M.S. Galvanized</i>	SC 40	56.6	3.9	60.5	261.00
62	B62	<i>M.S. Galvanized</i>	SC 40	56.6	3.9	60.5	224.31
63	B63	<i>M.S. Galvanized</i>	SC 40	56.6	3.9	60.5	3549.29
64	B64	<i>M.S. Galvanized</i>	SC 40	56.6	3.9	60.5	100.00
65	B65	<i>M.S. Galvanized</i>	SC 40	56.6	3.9	60.5	2000.00
66	B66	<i>M.S. Galvanized</i>	SC 40	56.6	3.9	60.5	2879.13
67	B67	<i>M.S. Galvanized</i>	SC 40	56.6	3.9	60.5	100.00
68	B68	<i>M.S. Galvanized</i>	SC 40	56.6	3.9	60.5	400.00
69	B69	<i>M.S. Galvanized</i>	SC 40	56.6	3.9	60.5	2931.35
70	B70	<i>M.S. Galvanized</i>	SC 40	56.6	3.9	60.5	457.30
71	B71	<i>M.S. Galvanized</i>	SC 40	56.6	3.9	60.5	200.00
72	B72	<i>M.S. Galvanized</i>	SC 40	56.6	3.9	60.5	1265.00
73	B73	<i>M.S. Galvanized</i>	SC 40	56.6	3.9	60.5	420.00
74	B74	<i>M.S. Galvanized</i>	SC 40	56.6	3.9	60.5	570.00
75	B75	<i>M.S. Galvanized</i>	SC 40	56.6	3.9	60.5	1303.54
76	B76	<i>M.S. Galvanized</i>	SC 40	56.6	3.9	60.5	548.13
77	B77	<i>M.S. Galvanized</i>	SC 40	56.6	3.9	60.5	200.00
78	B78	<i>M.S. Galvanized</i>	SC 40	56.6	3.9	60.5	26.86
79	B79	<i>M.S. Galvanized</i>	SC 40	56.6	3.9	60.5	152.82
80	B80	<i>M.S. Galvanized</i>	SC 40	56.6	3.9	60.5	420.13



No	Nama pipa	Material	Schedule	Diameter Dalam (mm)	Ketebalan (mm)	Diameter Luar (mm)	Panjang (mm)
81	B81	<i>M.S. Galvanized</i>	SC 40	56.6	3.9	60.5	200.00
82	B82	<i>M.S. Galvanized</i>	SC 40	56.6	3.9	60.5	152.37
83	B83	<i>M.S. Galvanized</i>	SC 40	56.6	3.9	60.5	421.00
84	B84	<i>M.S. Galvanized</i>	SC 40	56.6	3.9	60.5	202.46
85	B85	<i>M.S. Galvanized</i>	SC 40	56.6	3.9	60.5	97.87
86	B86	<i>M.S. Galvanized</i>	SC 40	56.6	3.9	60.5	1471.09
87	B87	<i>M.S. Galvanized</i>	SC 40	56.6	3.9	60.5	3819.25
88	B88	<i>M.S. Galvanized</i>	SC 40	56.6	3.9	60.5	3242.98
89	B89	<i>M.S. Galvanized</i>	SC 40	56.6	3.9	60.5	28.90
90	B90	<i>M.S. Galvanized</i>	SC 40	56.6	3.9	60.5	100.00
91	B91	<i>M.S. Galvanized</i>	SC 40	56.6	3.9	60.5	507.90
92	B92	<i>M.S. Galvanized</i>	SC 40	56.6	3.9	60.5	200.00
93	B93	<i>M.S. Galvanized</i>	SC 40	56.6	3.9	60.5	400.00
94	B94	<i>M.S. Galvanized</i>	SC 40	56.6	3.9	60.5	200.00
95	B95	<i>M.S. Galvanized</i>	SC 40	56.6	3.9	60.5	464.49
96	B96	<i>M.S. Galvanized</i>	SC 40	56.6	3.9	60.5	1200.00
97	B97	<i>M.S. Galvanized</i>	SC 40	56.6	3.9	60.5	200.00
98	B98	<i>M.S. Galvanized</i>	SC 40	56.6	3.9	60.5	1390.00
99	B99	<i>M.S. Galvanized</i>	SC 40	56.6	3.9	60.5	45.43
100	B100	<i>M.S. Galvanized</i>	SC 40	56.6	3.9	60.5	57.61
101	B101	<i>M.S. Galvanized</i>	SC 40	56.6	3.9	60.5	300.00
102	B102	<i>M.S. Galvanized</i>	SC 40	56.6	3.9	60.5	449.70
103	B103	<i>M.S. Galvanized</i>	SC 40	56.6	3.9	60.5	551.04
104	B104	<i>M.S. Galvanized</i>	SC 40	56.6	3.9	60.5	248.86
105	B105	<i>M.S. Galvanized</i>	SC 40	56.6	3.9	60.5	307.84
106	B106	<i>M.S. Galvanized</i>	SC 40	56.6	3.9	60.5	230.19
107	B107	<i>M.S. Galvanized</i>	SC 40	56.6	3.9	60.5	426.49
108	B108	<i>M.S. Galvanized</i>	SC 40	56.6	3.9	60.5	1843.16
109	B109	<i>M.S. Galvanized</i>	SC 40	56.6	3.9	60.5	527.34
110	B110	<i>M.S. Galvanized</i>	SC 40	56.6	3.9	60.5	260.00
111	B111	<i>M.S. Galvanized</i>	SC 40	56.6	3.9	60.5	149.67
112	B112	<i>M.S. Galvanized</i>	SC 40	56.6	3.9	60.5	435.69
113	B113	<i>M.S. Galvanized</i>	SC 40	56.6	3.9	60.5	201.74
114	B114	<i>M.S. Galvanized</i>	SC 40	56.6	3.9	60.5	350.00
115	B115	<i>M.S. Galvanized</i>	SC 40	56.6	3.9	60.5	2300.00
116	B116	<i>M.S. Galvanized</i>	SC 40	56.6	3.9	60.5	529.24
117	B117	<i>M.S. Galvanized</i>	SC 40	56.6	3.9	60.5	250.00
118	B118	<i>M.S. Galvanized</i>	SC 40	56.6	3.9	60.5	400.00
119	B119	<i>M.S. Galvanized</i>	SC 40	56.6	3.9	60.5	1670.76
120	B120	<i>M.S. Galvanized</i>	SC 40	56.6	3.9	60.5	1200.00
121	B121	<i>M.S. Galvanized</i>	SC 40	56.6	3.9	60.5	150.00





No	Nama pipa	Material	Schedule	Diameter Dalam (mm)	Ketebalan (mm)	Diameter Luar (mm)	Panjang (mm)
122	B122	<i>M.S. Galvanized</i>	SC 40	56.6	3.9	60.5	200.00
123	B123	<i>M.S. Galvanized</i>	SC 40	56.6	3.9	60.5	700.00
124	B124	<i>M.S. Galvanized</i>	SC 40	56.6	3.9	60.5	275.06
125	B125	<i>M.S. Galvanized</i>	SC 40	56.6	3.9	60.5	1124.94
126	B126	<i>M.S. Galvanized</i>	SC 40	56.6	3.9	60.5	483.53
127	B127	<i>M.S. Galvanized</i>	SC 40	56.6	3.9	60.5	113.15
128	B128	<i>M.S. Galvanized</i>	SC 40	56.6	3.9	60.5	405.94
129	B129	<i>M.S. Galvanized</i>	SC 40	56.6	3.9	60.5	817.52
130	B130	<i>M.S. Galvanized</i>	SC 40	56.6	3.9	60.5	314.00
131	B131	<i>M.S. Galvanized</i>	SC 40	56.6	3.9	60.5	523.83
132	B132	<i>M.S. Galvanized</i>	SC 40	56.6	3.9	60.5	583.71
133	B133	<i>M.S. Galvanized</i>	SC 40	56.6	3.9	60.5	594.33
134	B134	<i>M.S. Galvanized</i>	SC 40	56.6	3.9	60.5	347.76
135	B135	<i>M.S. Galvanized</i>	SC 40	56.6	3.9	60.5	2819.70
136	B136	<i>M.S. Galvanized</i>	SC 40	56.6	3.9	60.5	200.00
137	B137	<i>M.S. Galvanized</i>	SC 40	56.6	3.9	60.5	1000.00
138	B138	<i>M.S. Galvanized</i>	SC 40	56.6	3.9	60.5	800.00
139	B139	<i>M.S. Galvanized</i>	SC 40	56.6	3.9	60.5	902.29
140	B140	<i>M.S. Galvanized</i>	SC 40	56.6	3.9	60.5	400.00
141	B141	<i>M.S. Galvanized</i>	SC 40	56.6	3.9	60.5	1000.00
142	B142	<i>M.S. Galvanized</i>	SC 40	56.6	3.9	60.5	2522.75
143	B143	<i>M.S. Galvanized</i>	SC 40	56.6	3.9	60.5	400.00
144	B144	<i>M.S. Galvanized</i>	SC 40	56.6	3.9	60.5	100.00
145	B145	<i>M.S. Galvanized</i>	SC 40	56.6	3.9	60.5	100.00
146	B146	<i>M.S. Galvanized</i>	SC 40	56.6	3.9	60.5	800.00
147	B147	<i>M.S. Galvanized</i>	SC 40	56.6	3.9	60.5	633.40
148	B148	<i>M.S. Galvanized</i>	SC 40	56.6	3.9	60.5	301.86
149	B149	<i>M.S. Galvanized</i>	SC 40	56.6	3.9	60.5	170.00
150	B150	<i>M.S. Galvanized</i>	SC 40	56.6	3.9	60.5	252.06
151	B151	<i>M.S. Galvanized</i>	SC 40	56.6	3.9	60.5	1225.78
152	B152	<i>M.S. Galvanized</i>	SC 40	56.6	3.9	60.5	940.57
153	B153	<i>M.S. Galvanized</i>	SC 40	56.6	3.9	60.5	30.86
154	B154	<i>M.S. Galvanized</i>	SC 40	56.6	3.9	60.5	261.00
155	B155	<i>M.S. Galvanized</i>	SC 40	56.6	3.9	60.5	224.31
156	B156	<i>M.S. Galvanized</i>	SC 40	56.6	3.9	60.5	3549.29
157	B157	<i>M.S. Galvanized</i>	SC 40	56.6	3.9	60.5	200.00
158	B158	<i>M.S. Galvanized</i>	SC 40	56.6	3.9	60.5	165.39
159	B159	<i>M.S. Galvanized</i>	SC 40	56.6	3.9	60.5	531.05
160	B160	<i>M.S. Galvanized</i>	SC 40	56.6	3.9	60.5	120.00
161	B161	<i>M.S. Galvanized</i>	SC 40	56.6	3.9	60.5	431.97
162	B162	<i>M.S. Galvanized</i>	SC 40	56.6	3.9	60.5	3498.56



No	Nama pipa	Material	Schedule	Diameter Dalam (mm)	Ketebalan (mm)	Diameter Luar (mm)	Panjang (mm)
163	B163	<i>M.S. Galvanized</i>	SC 40	56.6	3.9	60.5	460.35



Lampiran 25 Tabel ukuran pipa sistem duga, isi dan udara

No	Nama Pipa	Material	Schedule	Diameter Dalam (mm)	Ketebalan (mm)	Diameter Luar (mm)	Panjang (mm)
1	V1	<i>M.S. Galvanized</i>	SCH 40	70.8	5.5	76.3	200
2	V2	<i>M.S. Galvanized</i>	SCH 40	70.8	5.5	76.3	1358.65
3	V3	<i>M.S. Galvanized</i>	SCH 40	70.8	5.5	76.3	200
4	V4	<i>M.S. Galvanized</i>	SCH 40	70.8	5.5	76.3	850
5	V5	<i>M.S. Galvanized</i>	SCH 40	70.8	5.5	76.3	200
6	V6	<i>M.S. Galvanized</i>	SCH 40	70.8	5.5	76.3	1542.65
7	V7	<i>M.S. Galvanized</i>	SCH 40	70.8	5.5	76.3	200
8	V8	<i>M.S. Galvanized</i>	SCH 40	70.8	5.5	76.3	200
9	V9	<i>M.S. Galvanized</i>	SCH 40	70.8	5.5	76.3	200
10	V10	<i>M.S. Galvanized</i>	SCH 40	70.8	5.5	76.3	948.332
11	V11	<i>M.S. Galvanized</i>	SCH 40	70.8	5.5	76.3	870
12	V12	<i>M.S. Galvanized</i>	SCH 40	70.8	5.5	76.3	1322.33
13	V13	<i>M.S. Galvanized</i>	SCH 40	70.8	5.5	76.3	21.7334
14	V14	<i>M.S. Galvanized</i>	SCH 40	70.8	5.5	76.3	100
15	V15	<i>M.S. Galvanized</i>	SCH 40	70.8	5.5	76.3	200
16	V16	<i>M.S. Galvanized</i>	SCH 40	70.8	5.5	76.3	1358.65
17	V17	<i>M.S. Galvanized</i>	SCH 40	70.8	5.5	76.3	200
18	V18	<i>M.S. Galvanized</i>	SCH 40	70.8	5.5	76.3	850
19	V19	<i>M.S. Galvanized</i>	SCH 40	70.8	5.5	76.3	200
20	V20	<i>M.S. Galvanized</i>	SCH 40	70.8	5.5	76.3	1542.65
21	V21	<i>M.S. Galvanized</i>	SCH 40	70.8	5.5	76.3	200
22	V22	<i>M.S. Galvanized</i>	SCH 40	70.8	5.5	76.3	200
23	V23	<i>M.S. Galvanized</i>	SCH 40	70.8	5.5	76.3	200
24	V24	<i>M.S. Galvanized</i>	SCH 40	70.8	5.5	76.3	948.332
25	V25	<i>M.S. Galvanized</i>	SCH 40	70.8	5.5	76.3	870
26	V26	<i>M.S. Galvanized</i>	SCH 40	70.8	5.5	76.3	1322.33
27	V27	<i>M.S. Galvanized</i>	SCH 40	70.8	5.5	76.3	21.7334
28	V28	<i>M.S. Galvanized</i>	SCH 40	70.8	5.5	76.3	100
29	V29	<i>M.S. Galvanized</i>	SCH 40	70.8	5.5	76.3	100
30	V30	<i>M.S. Galvanized</i>	SCH 40	70.8	5.5	76.3	2570
31	V31	<i>M.S. Galvanized</i>	SCH 40	70.8	5.5	76.3	100
32	V32	<i>M.S. Galvanized</i>	SCH 40	70.8	5.5	76.3	100
33	V33	<i>M.S. Galvanized</i>	SCH 40	70.8	5.5	76.3	1146.66
34	V34	<i>M.S. Galvanized</i>	SCH 40	70.8	5.5	76.3	200
35	V35	<i>M.S. Galvanized</i>	SCH 40	70.8	5.5	76.3	1200
36	V36	<i>M.S. Galvanized</i>	SCH 40	70.8	5.5	76.3	100
37	V37	<i>M.S. Galvanized</i>	SCH 40	70.8	5.5	76.3	2570
38	V38	<i>M.S. Galvanized</i>	SCH 40	70.8	5.5	76.3	100
39	V39	<i>M.S. Galvanized</i>	SCH 40	70.8	5.5	76.3	100
40	V40	<i>M.S. Galvanized</i>	SCH 40	70.8	5.5	76.3	1146.66



No	Nama Pipa	Material	Schedule	Diameter Dalam (mm)	Ketebalan (mm)	Diameter Luar (mm)	Panjang (mm)
41	V41	<i>M.S. Galvanized</i>	SCH 40	70.8	5.5	76.3	200
42	V42	<i>M.S. Galvanized</i>	SCH 40	70.8	5.5	76.3	1200

No	Nama Pipa	Material	Schedule	Diameter Dalam (mm)	Ketebalan (mm)	Diameter Luar (mm)	Panjang (mm)
1	V43	<i>M.S. Galvanized</i>	SCH 40	56.6	3.9	60.5	200
2	V44	<i>M.S. Galvanized</i>	SCH 40	56.6	3.9	60.5	1700
3	V45	<i>M.S. Galvanized</i>	SCH 40	56.6	3.9	60.5	1335.85
4	V46	<i>M.S. Galvanized</i>	SCH 40	56.6	3.9	60.5	122.599
5	V47	<i>M.S. Galvanized</i>	SCH 40	56.6	3.9	60.5	200
6	V48	<i>M.S. Galvanized</i>	SCH 40	56.6	3.9	60.5	1700
7	V49	<i>M.S. Galvanized</i>	SCH 40	56.6	3.9	60.5	1466.16
8	V50	<i>M.S. Galvanized</i>	SCH 40	56.6	3.9	60.5	1635.15
9	V51	<i>M.S. Galvanized</i>	SCH 40	56.6	3.9	60.5	31.3821
10	V52	<i>M.S. Galvanized</i>	SCH 40	56.6	3.9	60.5	100
11	V53	<i>M.S. Galvanized</i>	SCH 40	56.6	3.9	60.5	162.585
12	V54	<i>M.S. Galvanized</i>	SCH 40	56.6	3.9	60.5	200
13	V55	<i>M.S. Galvanized</i>	SCH 40	56.6	3.9	60.5	938.852
14	V56	<i>M.S. Galvanized</i>	SCH 40	56.6	3.9	60.5	894
15	V57	<i>M.S. Galvanized</i>	SCH 40	56.6	3.9	60.5	1606.85
16	V58	<i>M.S. Galvanized</i>	SCH 40	56.6	3.9	60.5	125.733
17	V59	<i>M.S. Galvanized</i>	SCH 40	56.6	3.9	60.5	900
18	V60	<i>M.S. Galvanized</i>	SCH 40	56.6	3.9	60.5	200
19	V61	<i>M.S. Galvanized</i>	SCH 40	56.6	3.9	60.5	938.852
20	V62	<i>M.S. Galvanized</i>	SCH 40	56.6	3.9	60.5	894
21	V63	<i>M.S. Galvanized</i>	SCH 40	56.6	3.9	60.5	1606.85
22	V64	<i>M.S. Galvanized</i>	SCH 40	56.6	3.9	60.5	125.733
23	V65	<i>M.S. Galvanized</i>	SCH 40	56.6	3.9	60.5	900

No	Nama Pipa	Material	Schedule	Diameter Dalam (mm)	Ketebalan (mm)	Diameter Luar (mm)	Panjang (mm)
1	V66	M.S. Black	SCH 40	70.8	5.5	76.3	200
2	V67	M.S. Black	SCH 40	70.8	5.5	76.3	1684.41
3	V68	M.S. Black	SCH 40	70.8	5.5	76.3	200
69		M.S. Black	SCH 40	70.8	5.5	76.3	850
70		M.S. Black	SCH 40	70.8	5.5	76.3	200
71		M.S. Black	SCH 40	70.8	5.5	76.3	653.203
72		M.S. Black	SCH 40	70.8	5.5	76.3	200



No	Nama Pipa	Material	Schedule	Diameter Dalam (mm)	Ketebalan (mm)	Diameter Luar (mm)	Panjang (mm)
8	V73	M.S. Black	SCH 40	70.8	5.5	76.3	900
9	V74	M.S. Black	SCH 40	70.8	5.5	76.3	200
10	V75	M.S. Black	SCH 40	70.8	5.5	76.3	948.332
11	V76	M.S. Black	SCH 40	70.8	5.5	76.3	1598.33
12	V77	M.S. Black	SCH 40	70.8	5.5	76.3	21.7334
13	V78	M.S. Black	SCH 40	70.8	5.5	76.3	100
14	V79	M.S. Black	SCH 40	70.8	5.5	76.3	200
15	V80	M.S. Black	SCH 40	70.8	5.5	76.3	1684.41
16	V81	M.S. Black	SCH 40	70.8	5.5	76.3	200
17	V82	M.S. Black	SCH 40	70.8	5.5	76.3	850
18	V83	M.S. Black	SCH 40	70.8	5.5	76.3	200
19	V84	M.S. Black	SCH 40	70.8	5.5	76.3	948.332
20	V85	M.S. Black	SCH 40	70.8	5.5	76.3	1598.33
21	V86	M.S. Black	SCH 40	70.8	5.5	76.3	21.7334
22	V87	M.S. Black	SCH 40	70.8	5.5	76.3	100
23	V88	M.S. Black	SCH 40	70.8	5.5	76.3	100
24	V89	M.S. Black	SCH 40	70.8	5.5	76.3	100
25	V90	M.S. Black	SCH 40	70.8	5.5	76.3	1146.66
26	V91	M.S. Black	SCH 40	70.8	5.5	76.3	200
27	V92	M.S. Black	SCH 40	70.8	5.5	76.3	1200
28	V93	M.S. Black	SCH 40	70.8	5.5	76.3	100
29	V94	M.S. Black	SCH 40	70.8	5.5	76.3	100
30	V95	M.S. Black	SCH 40	70.8	5.5	76.3	1146.66
31	V96	M.S. Black	SCH 40	70.8	5.5	76.3	200
32	V97	M.S. Black	SCH 40	70.8	5.5	76.3	1200

No	Nama Pipa	Material	Schedule	Diameter Dalam (mm)	Ketebalan (mm)	Diameter Luar (mm)	Panjang (mm)
1	V98	M.S. Black	SCH 40	56.6	3.9	60.5	100
2	V99	M.S. Black	SCH 40	56.6	3.9	60.5	1850
3	V100	M.S. Black	SCH 40	56.6	3.9	60.5	2158.85
4	V101	M.S. Black	SCH 40	56.6	3.9	60.5	100
5	V102	M.S. Black	SCH 40	56.6	3.9	60.5	100
6	V103	M.S. Black	SCH 40	56.6	3.9	60.5	358.852
7	V104	M.S. Black	SCH 40	56.6	3.9	60.5	504
8	V105	M.S. Black	SCH 40	56.6	3.9	60.5	1572.27
9	V106	M.S. Black	SCH 40	56.6	3.9	60.5	100
10	V107	M.S. Black	SCH 40	56.6	3.9	60.5	1858.85
11	V108	M.S. Black	SCH 40	56.6	3.9	60.5	127.703
12	V109	M.S. Black	SCH 40	56.6	3.9	60.5	900



No	Nama Pipa	Material	Schedule	Diameter Dalam (mm)	Ketebalan (mm)	Diameter Luar (mm)	Panjang (mm)
13	V110	M.S. Black	SCH 40	56.6	3.9	60.5	100
14	V111	M.S. Black	SCH 40	56.6	3.9	60.5	1100
15	V112	M.S. Black	SCH 40	56.6	3.9	60.5	194.629
16	V113	M.S. Black	SCH 40	56.6	3.9	60.5	100
17	V114	M.S. Black	SCH 40	56.6	3.9	60.5	1850
18	V115	M.S. Black	SCH 40	56.6	3.9	60.5	2158.85
19	V116	M.S. Black	SCH 40	56.6	3.9	60.5	100
20	V117	M.S. Black	SCH 40	56.6	3.9	60.5	100
21	V118	M.S. Black	SCH 40	56.6	3.9	60.5	358.852
22	V119	M.S. Black	SCH 40	56.6	3.9	60.5	504
23	V120	M.S. Black	SCH 40	56.6	3.9	60.5	1572.27
24	V121	M.S. Black	SCH 40	56.6	3.9	60.5	100
25	V122	M.S. Black	SCH 40	56.6	3.9	60.5	1858.85
26	V123	M.S. Black	SCH 40	56.6	3.9	60.5	127.703
27	V124	M.S. Black	SCH 40	56.6	3.9	60.5	900
28	V125	M.S. Black	SCH 40	56.6	3.9	60.5	200
29	V126	M.S. Black	SCH 40	56.6	3.9	60.5	938.852
30	V127	M.S. Black	SCH 40	56.6	3.9	60.5	1312.85
31	V128	M.S. Black	SCH 40	56.6	3.9	60.5	125.733
32	V129	M.S. Black	SCH 40	56.6	3.9	60.5	900
33	V130	M.S. Black	SCH 40	56.6	3.9	60.5	200
34	V131	M.S. Black	SCH 40	56.6	3.9	60.5	681.012
35	V132	M.S. Black	SCH 40	56.6	3.9	60.5	200
36	V133	M.S. Black	SCH 40	56.6	3.9	60.5	900
37	V134	M.S. Black	SCH 40	56.6	3.9	60.5	200
38	V135	M.S. Black	SCH 40	56.6	3.9	60.5	938.852
39	V136	M.S. Black	SCH 40	56.6	3.9	60.5	1312.85
40	V137	M.S. Black	SCH 40	56.6	3.9	60.5	125.733
41	V138	M.S. Black	SCH 40	56.6	3.9	60.5	900



Lampiran 26 Tabel ukuran pipa sistem pengering geladak

No	Nama Pipa	Material	Schedule	Diameter Dalam (mm)	Ketebalan (mm)	Diameter Luar (mm)	Panjang (mm)
1	PG1	<i>M.S. Galvanized</i>	Sch 40	56.6	3.9	60.5	1000
2	PG2	<i>M.S. Galvanized</i>	Sch 40	56.6	3.9	60.5	128.3
3	PG3	<i>M.S. Galvanized</i>	Sch 40	56.6	3.9	60.5	1100
4	PG4	<i>M.S. Galvanized</i>	Sch 40	56.6	3.9	60.5	2850
5	PG5	<i>M.S. Galvanized</i>	Sch 40	56.6	3.9	60.5	154.032
6	PG6	<i>M.S. Galvanized</i>	Sch 40	56.6	3.9	60.5	200
7	PG7	<i>M.S. Galvanized</i>	Sch 40	56.6	3.9	60.5	300
8	PG8	<i>M.S. Galvanized</i>	Sch 40	56.6	3.9	60.5	400
9	PG9	<i>M.S. Galvanized</i>	Sch 40	56.6	3.9	60.5	45.6205
10	PG10	<i>M.S. Galvanized</i>	Sch 40	56.6	3.9	60.5	4632.98
11	PG11	<i>M.S. Galvanized</i>	Sch 40	56.6	3.9	60.5	200
12	PG12	<i>M.S. Galvanized</i>	Sch 40	56.6	3.9	60.5	200
13	PG13	<i>M.S. Galvanized</i>	Sch 40	56.6	3.9	60.5	25
14	PG14	<i>M.S. Galvanized</i>	Sch 40	56.6	3.9	60.5	1700
15	PG15	<i>M.S. Galvanized</i>	Sch 40	56.6	3.9	60.5	1700
16	PG16	<i>M.S. Galvanized</i>	Sch 40	56.6	3.9	60.5	1600
17	PG17	<i>M.S. Galvanized</i>	Sch 40	56.6	3.9	60.5	1900
18	PG18	<i>M.S. Galvanized</i>	Sch 40	56.6	3.9	60.5	600
19	PG19	<i>M.S. Galvanized</i>	Sch 40	56.6	3.9	60.5	500
20	PG20	<i>M.S. Galvanized</i>	Sch 40	56.6	3.9	60.5	50
21	PG21	<i>M.S. Galvanized</i>	Sch 40	56.6	3.9	60.5	600
22	PG22	<i>M.S. Galvanized</i>	Sch 40	56.6	3.9	60.5	500
23	PG23	<i>M.S. Galvanized</i>	Sch 40	56.6	3.9	60.5	50
24	PG24	<i>M.S. Galvanized</i>	Sch 40	56.6	3.9	60.5	600
25	PG25	<i>M.S. Galvanized</i>	Sch 40	56.6	3.9	60.5	500
26	PG26	<i>M.S. Galvanized</i>	Sch 40	56.6	3.9	60.5	50
27	PG27	<i>M.S. Galvanized</i>	Sch 40	56.6	3.9	60.5	1100
28	PG28	<i>M.S. Galvanized</i>	Sch 40	56.6	3.9	60.5	500
29	PG29	<i>M.S. Galvanized</i>	Sch 40	56.6	3.9	60.5	1000
30	PG30	<i>M.S. Galvanized</i>	Sch 40	56.6	3.9	60.5	128.3
31	PG31	<i>M.S. Galvanized</i>	Sch 40	56.6	3.9	60.5	1100
32	PG32	<i>M.S. Galvanized</i>	Sch 40	56.6	3.9	60.5	2850
33	PG33	<i>M.S. Galvanized</i>	Sch 40	56.6	3.9	60.5	154.032
34	PG34	<i>M.S. Galvanized</i>	Sch 40	56.6	3.9	60.5	200
35	PG35	<i>M.S. Galvanized</i>	Sch 40	56.6	3.9	60.5	300
	PG36	<i>M.S. Galvanized</i>	Sch 40	56.6	3.9	60.5	400
	PG37	<i>M.S. Galvanized</i>	Sch 40	56.6	3.9	60.5	45.6205
	PG38	<i>M.S. Galvanized</i>	Sch 40	56.6	3.9	60.5	4632.98
	PG39	<i>M.S. Galvanized</i>	Sch 40	56.6	3.9	60.5	200
	PG40	<i>M.S. Galvanized</i>	Sch 40	56.6	3.9	60.5	200





No	Nama Pipa	Material	Schedule	Diameter Dalam (mm)	Ketebalan (mm)	Diameter Luar (mm)	Panjang (mm)
41	PG41	<i>M.S. Galvanized</i>	Sch 40	56.6	3.9	60.5	25
42	PG42	<i>M.S. Galvanized</i>	Sch 40	56.6	3.9	60.5	1700
43	PG43	<i>M.S. Galvanized</i>	Sch 40	56.6	3.9	60.5	1700
44	PG44	<i>M.S. Galvanized</i>	Sch 40	56.6	3.9	60.5	1600
45	PG45	<i>M.S. Galvanized</i>	Sch 40	56.6	3.9	60.5	1900
46	PG46	<i>M.S. Galvanized</i>	Sch 40	56.6	3.9	60.5	600
47	PG47	<i>M.S. Galvanized</i>	Sch 40	56.6	3.9	60.5	500
48	PG48	<i>M.S. Galvanized</i>	Sch 40	56.6	3.9	60.5	50
49	PG49	<i>M.S. Galvanized</i>	Sch 40	56.6	3.9	60.5	600
50	PG50	<i>M.S. Galvanized</i>	Sch 40	56.6	3.9	60.5	500
51	PG51	<i>M.S. Galvanized</i>	Sch 40	56.6	3.9	60.5	50
52	PG52	<i>M.S. Galvanized</i>	Sch 40	56.6	3.9	60.5	600
53	PG53	<i>M.S. Galvanized</i>	Sch 40	56.6	3.9	60.5	500
54	PG54	<i>M.S. Galvanized</i>	Sch 40	56.6	3.9	60.5	50
55	PG55	<i>M.S. Galvanized</i>	Sch 40	56.6	3.9	60.5	1100
56	PG56	<i>M.S. Galvanized</i>	Sch 40	56.6	3.9	60.5	500



Lampiran 27 Tabel ukuran pipa sistem pemadam kebakaran

No	Nama Pipa	Material	Schedule	Diameter Dalam (mm)	Ketebalan (mm)	Diameter Luar (mm)	Panjang (mm)
1	PD 1	<i>M.S. Galvanized</i>	Sch 40	56.6	3.9	60.5	695.021
2	PD 2	<i>M.S. Galvanized</i>	Sch 40	56.6	3.9	60.5	394.411
3	PD 3	<i>M.S. Galvanized</i>	Sch 40	56.6	3.9	60.5	21
4	PD 4	<i>M.S. Galvanized</i>	Sch 40	56.6	3.9	60.5	622.745
5	PD 5	<i>M.S. Galvanized</i>	Sch 40	56.6	3.9	60.5	3400
6	PD 6	<i>M.S. Galvanized</i>	Sch 40	56.6	3.9	60.5	746
7	PD 7	<i>M.S. Galvanized</i>	Sch 40	56.6	3.9	60.5	100
8	PD 8	<i>M.S. Galvanized</i>	Sch 40	56.6	3.9	60.5	200
9	PD 9	<i>M.S. Galvanized</i>	Sch 40	56.6	3.9	60.5	130
10	PD 10	<i>M.S. Galvanized</i>	Sch 40	56.6	3.9	60.5	582.164
11	PD 11	<i>M.S. Galvanized</i>	Sch 40	56.6	3.9	60.5	200
12	PD 12	<i>M.S. Galvanized</i>	Sch 40	56.6	3.9	60.5	1707.43
13	PD 13	<i>M.S. Galvanized</i>	Sch 40	56.6	3.9	60.5	200
14	PD 14	<i>M.S. Galvanized</i>	Sch 40	56.6	3.9	60.5	1429.43
15	PD 15	<i>M.S. Galvanized</i>	Sch 40	56.6	3.9	60.5	250
16	PD 16	<i>M.S. Galvanized</i>	Sch 40	56.6	3.9	60.5	100
17	PD 17	<i>M.S. Galvanized</i>	Sch 40	56.6	3.9	60.5	500
18	PD 18	<i>M.S. Galvanized</i>	Sch 40	56.6	3.9	60.5	100
19	PD 19	<i>M.S. Galvanized</i>	Sch 40	56.6	3.9	60.5	1745.09
20	PD 20	<i>M.S. Galvanized</i>	Sch 40	56.6	3.9	60.5	200
21	PD 21	<i>M.S. Galvanized</i>	Sch 40	56.6	3.9	60.5	1717.7
22	PD 22	<i>M.S. Galvanized</i>	Sch 40	56.6	3.9	60.5	200
23	PD 23	<i>M.S. Galvanized</i>	Sch 40	56.6	3.9	60.5	1502.85
24	PD 24	<i>M.S. Galvanized</i>	Sch 40	56.6	3.9	60.5	76.8754
25	PD 25	<i>M.S. Galvanized</i>	Sch 40	56.6	3.9	60.5	3110.82
26	PD 26	<i>M.S. Galvanized</i>	Sch 40	56.6	3.9	60.5	525.901
27	PD 27	<i>M.S. Galvanized</i>	Sch 40	56.6	3.9	60.5	1000.41
28	PD 28	<i>M.S. Galvanized</i>	Sch 40	56.6	3.9	60.5	200
29	PD 29	<i>M.S. Galvanized</i>	Sch 40	56.6	3.9	60.5	1951.69
30	PD 30	<i>M.S. Galvanized</i>	Sch 40	56.6	3.9	60.5	200
31	PD 31	<i>M.S. Galvanized</i>	Sch 40	56.6	3.9	60.5	917.597
32	PD 32	<i>M.S. Galvanized</i>	Sch 40	56.6	3.9	60.5	3110.82
33	PD 33	<i>M.S. Galvanized</i>	Sch 40	56.6	3.9	60.5	54.1604
34	PD 34	<i>M.S. Galvanized</i>	Sch 40	56.6	3.9	60.5	100
35	PD 35	<i>M.S. Galvanized</i>	Sch 40	56.6	3.9	60.5	200
	PD 36	<i>M.S. Galvanized</i>	Sch 40	56.6	3.9	60.5	135.64
	PD 37	<i>M.S. Galvanized</i>	Sch 40	56.6	3.9	60.5	500
	PD 38	<i>M.S. Galvanized</i>	Sch 40	56.6	3.9	60.5	100
	PD 39	<i>M.S. Galvanized</i>	Sch 40	56.6	3.9	60.5	1700
	PD 40	<i>M.S. Galvanized</i>	Sch 40	56.6	3.9	60.5	1323.57



No	Nama Pipa	Material	Schedule	Diameter Dalam (mm)	Ketebalan (mm)	Diameter Luar (mm)	Panjang (mm)
41	PD 41	<i>M.S. Galvanized</i>	Sch 40	56.6	3.9	60.5	200
42	PD 42	<i>M.S. Galvanized</i>	Sch 40	56.6	3.9	60.5	1068.09
43	PD 43	<i>M.S. Galvanized</i>	Sch 40	56.6	3.9	60.5	445.456
44	PD 44	<i>M.S. Galvanized</i>	Sch 40	56.6	3.9	60.5	200
45	PD 45	<i>M.S. Galvanized</i>	Sch 40	56.6	3.9	60.5	1200
46	PD 46	<i>M.S. Galvanized</i>	Sch 40	56.6	3.9	60.5	2000
47	PD 47	<i>M.S. Galvanized</i>	Sch 40	56.6	3.9	60.5	600
48	PD 48	<i>M.S. Galvanized</i>	Sch 40	56.6	3.9	60.5	1098.85
49	PD 49	<i>M.S. Galvanized</i>	Sch 40	56.6	3.9	60.5	200
50	PD 50	<i>M.S. Galvanized</i>	Sch 40	56.6	3.9	60.5	1717.7
51	PD 51	<i>M.S. Galvanized</i>	Sch 40	56.6	3.9	60.5	200
52	PD 52	<i>M.S. Galvanized</i>	Sch 40	56.6	3.9	60.5	1745.09
53	PD 53	<i>M.S. Galvanized</i>	Sch 40	56.6	3.9	60.5	2100
54	PD 54	<i>M.S. Galvanized</i>	Sch 40	56.6	3.9	60.5	1429
55	PD 55	<i>M.S. Galvanized</i>	Sch 40	56.6	3.9	60.5	200
56	PD 56	<i>M.S. Galvanized</i>	Sch 40	56.6	3.9	60.5	1000
57	PD 57	<i>M.S. Galvanized</i>	Sch 40	56.6	3.9	60.5	1500
58	PD 58	<i>M.S. Galvanized</i>	Sch 40	56.6	3.9	60.5	200
59	PD 59	<i>M.S. Galvanized</i>	Sch 40	56.6	3.9	60.5	1707.43
60	PD 60	<i>M.S. Galvanized</i>	Sch 40	56.6	3.9	60.5	200
61	PD 61	<i>M.S. Galvanized</i>	Sch 40	56.6	3.9	60.5	5582.164
62	PD 62	<i>M.S. Galvanized</i>	Sch 40	56.6	3.9	60.5	130
63	PD 63	<i>M.S. Galvanized</i>	Sch 40	56.6	3.9	60.5	200
64	PD 64	<i>M.S. Galvanized</i>	Sch 40	56.6	3.9	60.5	100
65	PD 65	<i>M.S. Galvanized</i>	Sch 40	56.6	3.9	60.5	500
66	PD 66	<i>M.S. Galvanized</i>	Sch 40	56.6	3.9	60.5	3574.28
67	PD 67	<i>M.S. Galvanized</i>	Sch 40	56.6	3.9	60.5	838.07
68	PD 68	<i>M.S. Galvanized</i>	Sch 40	56.6	3.9	60.5	500
69	PD 69	<i>M.S. Galvanized</i>	Sch 40	56.6	3.9	60.5	200
70	PD 70	<i>M.S. Galvanized</i>	Sch 40	56.6	3.9	60.5	550
71	PD 71	<i>M.S. Galvanized</i>	Sch 40	56.6	3.9	60.5	1000
72	PD 72	<i>M.S. Galvanized</i>	Sch 40	56.6	3.9	60.5	200
73	PD 73	<i>M.S. Galvanized</i>	Sch 40	56.6	3.9	60.5	450
74	PD 74	<i>M.S. Galvanized</i>	Sch 40	56.6	3.9	60.5	1164.25
75	PD 75	<i>M.S. Galvanized</i>	Sch 40	56.6	3.9	60.5	1482.85
76	PD 76	<i>M.S. Galvanized</i>	Sch 40	56.6	3.9	60.5	200
77	PD 77	<i>M.S. Galvanized</i>	Sch 40	56.6	3.9	60.5	3223.7
	PD 78	<i>M.S. Galvanized</i>	Sch 40	56.6	3.9	60.5	384.398
	PD 79	<i>M.S. Galvanized</i>	Sch 40	56.6	3.9	60.5	606.852
	PD 80	<i>M.S. Galvanized</i>	Sch 40	56.6	3.9	60.5	200
	PD 81	<i>M.S. Galvanized</i>	Sch 40	56.6	3.9	60.5	2133.46



No	Nama Pipa	Material	Schedule	Diameter Dalam (mm)	Ketebalan (mm)	Diameter Luar (mm)	Panjang (mm)
1	PDCO 1	<i>M.S. Galvanized</i>	SCH 40	30.6	3.4	34	59.9452
2	PDCO 2	<i>M.S. Galvanized</i>	SCH 40	30.6	3.4	34	553.602
3	PDCO 3	<i>M.S. Galvanized</i>	SCH 40	30.6	3.4	34	177.403
4	PDCO 4	<i>M.S. Galvanized</i>	SCH 40	30.6	3.4	34	100
5	PDCO 5	<i>M.S. Galvanized</i>	SCH 40	30.6	3.4	34	258.806
6	PDCO 6	<i>M.S. Galvanized</i>	SCH 40	30.6	3.4	34	200
7	PDCO 7	<i>M.S. Galvanized</i>	SCH 40	30.6	3.4	34	1450
8	PDCO 8	<i>M.S. Galvanized</i>	SCH 40	30.6	3.4	34	70
9	PDCO 9	<i>M.S. Galvanized</i>	SCH 40	30.6	3.4	34	1900
10	PDCO 10	<i>M.S. Galvanized</i>	SCH 40	30.6	3.4	34	1600
11	PDCO 11	<i>M.S. Galvanized</i>	SCH 40	30.6	3.4	34	1000
12	PDCO 12	<i>M.S. Galvanized</i>	SCH 40	30.6	3.4	34	1183.4
13	PDCO 13	<i>M.S. Galvanized</i>	SCH 40	30.6	3.4	34	300
14	PDCO 14	<i>M.S. Galvanized</i>	SCH 40	30.6	3.4	34	1200
15	PDCO 15	<i>M.S. Galvanized</i>	SCH 40	30.6	3.4	34	1500
16	PDCO 16	<i>M.S. Galvanized</i>	SCH 40	30.6	3.4	34	350
17	PDCO 17	<i>M.S. Galvanized</i>	SCH 40	30.6	3.4	34	1400
18	PDCO 18	<i>M.S. Galvanized</i>	SCH 40	30.6	3.4	34	424.079
19	PDCO 19	<i>M.S. Galvanized</i>	SCH 40	30.6	3.4	34	1200
20	PDCO 20	<i>M.S. Galvanized</i>	SCH 40	30.6	3.4	34	1600
21	PDCO 21	<i>M.S. Galvanized</i>	SCH 40	30.6	3.4	34	1000



Lampiran 28 Tabel ukuran pipa sistem air tawar dan pendingin

No	Nama Pipa	Material	Schedule	Diameter Dalam (mm)	Ketebalan (mm)	Diameter Luar (mm)	Panjang (mm)
1	FW 1	<i>M.S. Galvanized</i>	SCH 40	56.6	3.9	60.5	550
2	FW 2	<i>M.S. Galvanized</i>	SCH 40	56.6	3.9	60.5	2100
3	FW 3	<i>M.S. Galvanized</i>	SCH 40	56.6	3.9	60.5	100
4	FW 4	<i>M.S. Galvanized</i>	SCH 40	56.6	3.9	60.5	3994.79
5	FW 5	<i>M.S. Galvanized</i>	SCH 40	56.6	3.9	60.5	200
6	FW 6	<i>M.S. Galvanized</i>	SCH 40	56.6	3.9	60.5	550
7	FW 7	<i>M.S. Galvanized</i>	SCH 40	56.6	3.9	60.5	2100
8	FW 8	<i>M.S. Galvanized</i>	SCH 40	56.6	3.9	60.5	200
9	FW 9	<i>M.S. Galvanized</i>	SCH 40	56.6	3.9	60.5	340.025
10	FW 10	<i>M.S. Galvanized</i>	SCH 40	56.6	3.9	60.5	4035.85
11	FW 11	<i>M.S. Galvanized</i>	SCH 40	56.6	3.9	60.5	200
12	FW 12	<i>M.S. Galvanized</i>	SCH 40	56.6	3.9	60.5	300
13	FW 13	<i>M.S. Galvanized</i>	SCH 40	56.6	3.9	60.5	5529.2
14	FW 14	<i>M.S. Galvanized</i>	SCH 40	56.6	3.9	60.5	240.835
15	FW 15	<i>M.S. Galvanized</i>	SCH 40	56.6	3.9	60.5	900
16	FW 16	<i>M.S. Galvanized</i>	SCH 40	56.6	3.9	60.5	350
17	FW 17	<i>M.S. Galvanized</i>	SCH 40	56.6	3.9	60.5	500
18	FW 18	<i>M.S. Galvanized</i>	SCH 40	56.6	3.9	60.5	2399.64
19	FW 19	<i>M.S. Galvanized</i>	SCH 40	56.6	3.9	60.5	377
20	FW 20	<i>M.S. Galvanized</i>	SCH 40	56.6	3.9	60.5	1478.38
21	FW 21	<i>M.S. Galvanized</i>	SCH 40	56.6	3.9	60.5	312.201
22	FW 22	<i>M.S. Galvanized</i>	SCH 40	56.6	3.9	60.5	702.999
23	FW 23	<i>M.S. Galvanized</i>	SCH 40	56.6	3.9	60.5	733.456
24	FW 24	<i>M.S. Galvanized</i>	SCH 40	56.6	3.9	60.5	75
25	FW 25	<i>M.S. Galvanized</i>	SCH 40	56.6	3.9	60.5	261
26	FW 26	<i>M.S. Galvanized</i>	SCH 40	56.6	3.9	60.5	150
27	FW 27	<i>M.S. Galvanized</i>	SCH 40	56.6	3.9	60.5	89.163
28	FW 28	<i>M.S. Galvanized</i>	SCH 40	56.6	3.9	60.5	1341.63
29	FW 29	<i>M.S. Galvanized</i>	SCH 40	56.6	3.9	60.5	420
30	FW 30	<i>M.S. Galvanized</i>	SCH 40	56.6	3.9	60.5	475.702
31	FW 31	<i>M.S. Galvanized</i>	SCH 40	56.6	3.9	60.5	307.214
32	FW 32	<i>M.S. Galvanized</i>	SCH 40	56.6	3.9	60.5	290.654
33	FW 33	<i>M.S. Galvanized</i>	SCH 40	56.6	3.9	60.5	21.2141
34	FW 34	<i>M.S. Galvanized</i>	SCH 40	56.6	3.9	60.5	238.236
35	FW 35	<i>M.S. Galvanized</i>	SCH 40	56.6	3.9	60.5	716.349
	FW 36	<i>M.S. Galvanized</i>	SCH 40	56.6	3.9	60.5	275
	FW 37	<i>M.S. Galvanized</i>	SCH 40	56.6	3.9	60.5	1170
	FW 38	<i>M.S. Galvanized</i>	SCH 40	56.6	3.9	60.5	1800
	FW 39	<i>M.S. Galvanized</i>	SCH 40	56.6	3.9	60.5	700
	FW 40	<i>M.S. Galvanized</i>	SCH 40	56.6	3.9	60.5	930



No	Nama Pipa	Material	Schedule	Diameter Dalam (mm)	Ketebalan (mm)	Diameter Luar (mm)	Panjang (mm)
41	FW 41	<i>M.S. Galvanized</i>	SCH 40	56.6	3.9	60.5	1200
42	FW 42	<i>M.S. Galvanized</i>	SCH 40	56.6	3.9	60.5	294
43	FW 43	<i>M.S. Galvanized</i>	SCH 40	56.6	3.9	60.5	220
44	FW 44	<i>M.S. Galvanized</i>	SCH 40	56.6	3.9	60.5	350
45	FW 45	<i>M.S. Galvanized</i>	SCH 40	56.6	3.9	60.5	1140
46	FW 46	<i>M.S. Galvanized</i>	SCH 40	56.6	3.9	60.5	350
47	FW 47	<i>M.S. Galvanized</i>	SCH 40	56.6	3.9	60.5	2000
48	FW 48	<i>M.S. Galvanized</i>	SCH 40	56.6	3.9	60.5	870
49	FW 49	<i>M.S. Galvanized</i>	SCH 40	56.6	3.9	60.5	70
50	FW 50	<i>M.S. Galvanized</i>	SCH 40	56.6	3.9	60.5	470
51	FW 51	<i>M.S. Galvanized</i>	SCH 40	56.6	3.9	60.5	1801.17
52	FW 52	<i>M.S. Galvanized</i>	SCH 40	56.6	3.9	60.5	400
53	FW 53	<i>M.S. Galvanized</i>	SCH 40	56.6	3.9	60.5	1550.03
54	FW 54	<i>M.S. Galvanized</i>	SCH 40	56.6	3.9	60.5	400
55	FW 55	<i>M.S. Galvanized</i>	SCH 40	56.6	3.9	60.5	2480
56	FW 56	<i>M.S. Galvanized</i>	SCH 40	56.6	3.9	60.5	4514.75
57	FW 57	<i>M.S. Galvanized</i>	SCH 40	56.6	3.9	60.5	200
58	FW 58	<i>M.S. Galvanized</i>	SCH 40	56.6	3.9	60.5	3132

No	Nama Pipa	Material	Schedule	Diameter Dalam (mm)	Ketebalan (mm)	Diameter Luar (mm)	Panjang (mm)
1	FW 59	<i>M.S. Galvanized</i>	SCH 40	39.1	3.6	42.7	550
2	FW 60	<i>M.S. Galvanized</i>	SCH 40	39.1	3.6	42.7	1606.11
3	FW 61	<i>M.S. Galvanized</i>	SCH 40	39.1	3.6	42.7	200
4	FW 62	<i>M.S. Galvanized</i>	SCH 40	39.1	3.6	42.7	500
5	FW 63	<i>M.S. Galvanized</i>	SCH 40	39.1	3.6	42.7	1099.45
6	FW 64	<i>M.S. Galvanized</i>	SCH 40	39.1	3.6	42.7	200
7	FW 65	<i>M.S. Galvanized</i>	SCH 40	39.1	3.6	42.7	1349.4
8	FW 66	<i>M.S. Galvanized</i>	SCH 40	39.1	3.6	42.7	3486.32
9	FW 67	<i>M.S. Galvanized</i>	SCH 40	39.1	3.6	42.7	543.597
10	FW 68	<i>M.S. Galvanized</i>	SCH 40	39.1	3.6	42.7	955.901
11	FW 69	<i>M.S. Galvanized</i>	SCH 40	39.1	3.6	42.7	3468.29
12	FW 70	<i>M.S. Galvanized</i>	SCH 40	39.1	3.6	42.7	1350.34
13	FW 71	<i>M.S. Galvanized</i>	SCH 40	39.1	3.6	42.7	200
14	FW 72	<i>M.S. Galvanized</i>	SCH 40	39.1	3.6	42.7	100
15	FW 73	<i>M.S. Galvanized</i>	SCH 40	39.1	3.6	42.7	5890.16
	FW 74	<i>M.S. Galvanized</i>	SCH 40	39.1	3.6	42.7	39.6105
	FW 75	<i>M.S. Galvanized</i>	SCH 40	39.1	3.6	42.7	200
	FW 76	<i>M.S. Galvanized</i>	SCH 40	39.1	3.6	42.7	1828



No	Nama Pipa	Material	Schedule	Diameter Dalam (mm)	Ketebalan (mm)	Diameter Luar (mm)	Panjang (mm)
1	FW77	<i>M.S. Galvanized</i>	SCH 40	18.9	2.8	21.7	900
2	FW78	<i>M.S. Galvanized</i>	SCH 40	18.9	2.8	21.7	855.422
3	FW79	<i>M.S. Galvanized</i>	SCH 40	18.9	2.8	21.7	3538.51
4	FW80	<i>M.S. Galvanized</i>	SCH 40	18.9	2.8	21.7	300
5	FW81	<i>M.S. Galvanized</i>	SCH 40	18.9	2.8	21.7	1200
6	FW82	<i>M.S. Galvanized</i>	SCH 40	18.9	2.8	21.7	50
7	FW83	<i>M.S. Galvanized</i>	SCH 40	18.9	2.8	21.7	444.076
8	FW84	<i>M.S. Galvanized</i>	SCH 40	18.9	2.8	21.7	3538.51
9	FW85	<i>M.S. Galvanized</i>	SCH 40	18.9	2.8	21.7	300
10	FW86	<i>M.S. Galvanized</i>	SCH 40	18.9	2.8	21.7	1200
11	FW87	<i>M.S. Galvanized</i>	SCH 40	18.9	2.8	21.7	50





Lampiran 29 Tabel ukuran pipa sistem bahan bakar

No	Nama Pipa	Material	Schedule	Diameter Dalam (mm)	Ketebalan (mm)	Diameter Luar (mm)	Panjang (mm)
1	BBM1	<i>M.S. Black</i>	SCH 40	30.6	3.4	34	550
2	BBM2	<i>M.S. Black</i>	SCH 40	30.6	3.4	34	2121.75
3	BBM3	<i>M.S. Black</i>	SCH 40	30.6	3.4	34	200
4	BBM4	<i>M.S. Black</i>	SCH 40	30.6	3.4	34	521.754
5	BBM5	<i>M.S. Black</i>	SCH 40	30.6	3.4	34	200
6	BBM6	<i>M.S. Black</i>	SCH 40	30.6	3.4	34	1171.75
7	BBM7	<i>M.S. Black</i>	SCH 40	30.6	3.4	34	550
8	BBM8	<i>M.S. Black</i>	SCH 40	30.6	3.4	34	2121.75
9	BBM9	<i>M.S. Black</i>	SCH 40	30.6	3.4	34	200
10	BBM10	<i>M.S. Black</i>	SCH 40	30.6	3.4	34	121.754
11	BBM11	<i>M.S. Black</i>	SCH 40	30.6	3.4	34	200
12	BBM12	<i>M.S. Black</i>	SCH 40	30.6	3.4	34	153.754
13	BBM13	<i>M.S. Black</i>	SCH 40	30.6	3.4	34	5700
14	BBM14	<i>M.S. Black</i>	SCH 40	30.6	3.4	34	908.282
15	BBM15	<i>M.S. Black</i>	SCH 40	30.6	3.4	34	2600
16	BBM16	<i>M.S. Black</i>	SCH 40	30.6	3.4	34	843.78
17	BBM17	<i>M.S. Black</i>	SCH 40	30.6	3.4	34	100
18	BBM18	<i>M.S. Black</i>	SCH 40	30.6	3.4	34	360.724
19	BBM19	<i>M.S. Black</i>	SCH 40	30.6	3.4	34	308.795
20	BBM20	<i>M.S. Black</i>	SCH 40	30.6	3.4	34	250
21	BBM21	<i>M.S. Black</i>	SCH 40	30.6	3.4	34	90
22	BBM22	<i>M.S. Black</i>	SCH 40	30.6	3.4	34	100.287
23	BBM23	<i>M.S. Black</i>	SCH 40	30.6	3.4	34	100
24	BBM24	<i>M.S. Black</i>	SCH 40	30.6	3.4	34	100.00
25	BBM25	<i>M.S. Black</i>	Sch 40	30.6	3.4	34	255.132
26	BBM26	<i>M.S. Black</i>	SCH 40	30.6	3.4	34	468.049
27	BBM27	<i>M.S. Black</i>	SCH 40	30.6	3.4	34	510.75
28	BBM28	<i>M.S. Black</i>	SCH 40	30.6	3.4	34	313.347
29	BBM29	<i>M.S. Black</i>	SCH 40	30.6	3.4	34	1315.3
30	BBM30	<i>M.S. Black</i>	SCH 40	30.6	3.4	34	865.365
31	BBM31	<i>M.S. Black</i>	SCH 40	30.6	3.4	34	642.58
32	BBM32	<i>M.S. Black</i>	SCH 40	30.6	3.4	34	100
33	BBM33	<i>M.S. Black</i>	SCH 40	30.6	3.4	34	1500
34	BBM34	<i>M.S. Black</i>	SCH 40	30.6	3.4	34	3800
35	BBM35	<i>M.S. Black</i>	SCH 40	30.6	3.4	34	5500
	BBM36	<i>M.S. Black</i>	SCH 40	30.6	3.4	34	3800
	BBM37	<i>M.S. Black</i>	SCH 40	30.6	3.4	34	1565.27
	BBM38	<i>M.S. Black</i>	SCH 40	30.6	3.4	34	514.784
	BBM39	<i>M.S. Black</i>	SCH 40	30.6	3.4	34	468.049
	BBM40	<i>M.S. Black</i>	SCH 40	30.6	3.4	34	251.098



No	Nama Pipa	Material	SCH 40 SCH 40	Diameter Dalam (mm)	Ketebalan (mm)	Diameter Luar (mm)	Panjang (mm)
41	BBM41	<i>M.S. Black</i>	SCH 40	30.6	3.4	34	100
42	BBM42	<i>M.S. Black</i>	SCH 40	30.6	3.4	34	313.347
43	BBM43	<i>M.S. Black</i>	SCH 40	30.6	3.4	34	1315.3
44	BBM44	<i>M.S. Black</i>	SCH 40	30.6	3.4	34	865.365
45	BBM45	<i>M.S. Black</i>	SCH 40	30.6	3.4	34	642.58
46	BBM46	<i>M.S. Black</i>	SCH 40	30.6	3.4	34	100
47	BBM47	<i>M.S. Black</i>	SCH 40	30.6	3.4	34	100.00
48	BBM48	<i>M.S. Black</i>	SCH 40	30.6	3.4	34	255.132
49	BBM49	<i>M.S. Black</i>	SCH 40	30.6	3.4	34	431.226
50	BBM50	<i>M.S. Black</i>	SCH 40	30.6	3.4	34	2970
51	BBM51	<i>M.S. Black</i>	SCH 40	30.6	3.4	34	350
52	BBM52	<i>M.S. Black</i>	SCH 40	30.6	3.4	34	150
53	BBM53	<i>M.S. Black</i>	SCH 40	30.6	3.4	34	350
54	BBM54	<i>M.S. Black</i>	SCH 40	30.6	3.4	34	1099.03
55	BBM55	<i>M.S. Black</i>	SCH 40	30.6	3.4	34	1784.78
56	BBM56	<i>M.S. Black</i>	SCH 40	30.6	3.4	34	2830
57	BBM57	<i>M.S. Black</i>	SCH 40	30.6	3.4	34	150
58	BBM58	<i>M.S. Black</i>	SCH 40	30.6	3.4	34	800
59	BBM59	<i>M.S. Black</i>	SCH 40	30.6	3.4	34	1240
60	BBM60	<i>M.S. Black</i>	SCH 40	30.6	3.4	34	431.226
61	BBM61	<i>M.S. Black</i>	SCH 40	30.6	3.4	34	299.021
62	BBM62	<i>M.S. Black</i>	SCH 40	30.6	3.4	34	800
63	BBM63	<i>M.S. Black</i>	SCH 40	30.6	3.4	34	431.226
64	BBM64	<i>M.S. Black</i>	SCH 40	30.6	3.4	34	600
65	BBM65	<i>M.S. Black</i>	SCH 40	30.6	3.4	34	200
66	BBM66	<i>M.S. Black</i>	SCH 40	30.6	3.4	34	1250
67	BBM67	<i>M.S. Black</i>	SCH 40	30.6	3.4	34	1206.98
68	BBM68	<i>M.S. Black</i>	SCH 40	30.6	3.4	34	1971
69	BBM69	<i>M.S. Black</i>	SCH 40	30.6	3.4	34	431.226
70	BBM70	<i>M.S. Black</i>	SCH 40	30.6	3.4	34	800
71	BBM71	<i>M.S. Black</i>	SCH 40	30.6	3.4	34	1050
72	BBM72	<i>M.S. Black</i>	SCH 40	30.6	3.4	34	641.491
73	BBM73	<i>M.S. Black</i>	SCH 40	30.6	3.4	34	200
74	BBM74	<i>M.S. Black</i>	SCH 40	30.6	3.4	34	150
75	BBM75	<i>M.S. Black</i>	SCH 40	30.6	3.4	34	350
76	BBM76	<i>M.S. Black</i>	SCH 40	30.6	3.4	34	1300
77	BBM77	<i>M.S. Black</i>	SCH 40	30.6	3.4	34	150
	BBM78	<i>M.S. Black</i>	SCH 40	30.6	3.4	34	650
	BBM79	<i>M.S. Black</i>	SCH 40	30.6	3.4	34	450
	BBM80	<i>M.S. Black</i>	SCH 40	30.6	3.4	34	100.00
	BBM81	<i>M.S. Black</i>	SCH 40	30.6	3.4	34	642.58



No	Nama Pipa	Material	SCH 40 SCH 40	Diameter Dalam (mm)	Ketebalan (mm)	Diameter Luar (mm)	Panjang (mm)
82	BBM82	<i>M.S. Black</i>	SCH 40	30.6	3.4	34	865.365
83	BBM83	<i>M.S. Black</i>	SCH 40	30.6	3.4	34	1405.3
84	BBM84	<i>M.S. Black</i>	SCH 40	30.6	3.4	34	2050
85	BBM85	<i>M.S. Black</i>	SCH 40	30.6	3.4	34	1900
86	BBM86	<i>M.S. Black</i>	SCH 40	30.6	3.4	34	150
87	BBM87	<i>M.S. Black</i>	SCH 40	30.6	3.4	34	75
88	BBM88	<i>M.S. Black</i>	SCH 40	30.6	3.4	34	250
89	BBM89	<i>M.S. Black</i>	SCH 40	30.6	3.4	34	1582
90	BBM90	<i>M.S. Black</i>	SCH 40	30.6	3.4	34	3800
91	BBM91	<i>M.S. Black</i>	SCH 40	30.6	3.4	34	1580
92	BBM92	<i>M.S. Black</i>	SCH 40	30.6	3.4	34	75
93	BBM93	<i>M.S. Black</i>	SCH 40	30.6	3.4	34	200
94	BBM94	<i>M.S. Black</i>	SCH 40	30.6	3.4	34	1900
95	BBM95	<i>M.S. Black</i>	SCH 40	30.6	3.4	34	535.968
96	BBM96	<i>M.S. Black</i>	SCH 40	30.6	3.4	34	1405.3
97	BBM97	<i>M.S. Black</i>	SCH 40	30.6	3.4	34	865.365
98	BBM98	<i>M.S. Black</i>	SCH 40	30.6	3.4	34	642.58
99	BBM99	<i>M.S. Black</i>	SCH 40	30.6	3.4	34	100
100	BBM100	<i>M.S. Black</i>	SCH 40	30.6	3.4	34	1000
101	BBM101	<i>M.S. Black</i>	SCH 40	30.6	3.4	34	865.365
102	BBM102	<i>M.S. Black</i>	SCH 40	30.6	3.4	34	1535.3
103	BBM103	<i>M.S. Black</i>	SCH 40	30.6	3.4	34	2000
104	BBM104	<i>M.S. Black</i>	SCH 40	30.6	3.4	34	320
105	BBM105	<i>M.S. Black</i>	SCH 40	30.6	3.4	34	930
106	BBM106	<i>M.S. Black</i>	SCH 40	30.6	3.4	34	75
107	BBM107	<i>M.S. Black</i>	SCH 40	30.6	3.4	34	350
108	BBM108	<i>M.S. Black</i>	SCH 40	30.6	3.4	34	1000
109	BBM109	<i>M.S. Black</i>	SCH 40	30.6	3.4	34	865.365
110	BBM110	<i>M.S. Black</i>	SCH 40	30.6	3.4	34	1535.3
111	BBM111	<i>M.S. Black</i>	SCH 40	30.6	3.4	34	550
112	BBM112	<i>M.S. Black</i>	SCH 40	30.6	3.4	34	200
113	BBM113	<i>M.S. Black</i>	SCH 40	30.6	3.4	34	1050
114	BBM114	<i>M.S. Black</i>	SCH 40	30.6	3.4	34	75
115	BBM115	<i>M.S. Black</i>	SCH 40	30.6	3.4	34	550
116	BBM116	<i>M.S. Black</i>	SCH 40	30.6	3.4	34	400
117	BBM117	<i>M.S. Black</i>	SCH 40	30.6	3.4	34	1300
118	BBM118	<i>M.S. Black</i>	SCH 40	30.6	3.4	34	400
	BBM119	<i>M.S. Black</i>	SCH 40	30.6	3.4	34	1300



Lampiran 30 Tabel ukuran pipa sistem minyak pelumas

No	Nama Pipa	Material	Schedule	Diameter Dalam (mm)	Ketebalan (mm)	Diameter Luar (mm)	Panjang (mm)
1	ML1	<i>M.S. Black</i>	SCH 40	30.6	3.4	34	50
2	ML2	<i>M.S. Black</i>	SCH 40	30.6	3.4	34	760
3	ML3	<i>M.S. Black</i>	SCH 40	30.6	3.4	34	2210
4	ML4	<i>M.S. Black</i>	SCH 40	30.6	3.4	34	120
5	ML5	<i>M.S. Black</i>	SCH 40	30.6	3.4	34	250
6	ML6	<i>M.S. Black</i>	SCH 40	30.6	3.4	34	1790
7	ML7	<i>M.S. Black</i>	SCH 40	30.6	3.4	34	1550
8	ML8	<i>M.S. Black</i>	SCH 40	30.6	3.4	34	1600
9	ML9	<i>M.S. Black</i>	SCH 40	30.6	3.4	34	150
10	ML10	<i>M.S. Black</i>	SCH 40	30.6	3.4	34	650
11	ML11	<i>M.S. Black</i>	SCH 40	30.6	3.4	34	1200
12	ML12	<i>M.S. Black</i>	SCH 40	30.6	3.4	34	140
13	ML13	<i>M.S. Black</i>	SCH 40	30.6	3.4	34	650
14	ML14	<i>M.S. Black</i>	SCH 40	30.6	3.4	34	2050
15	ML15	<i>M.S. Black</i>	SCH 40	30.6	3.4	34	1790
16	ML16	<i>M.S. Black</i>	SCH 40	30.6	3.4	34	110
17	ML17	<i>M.S. Black</i>	SCH 40	30.6	3.4	34	200



Lampiran 31 Tabel ukuran pipa sistem pembuangan minyak kotor

No	Nama Pipa	Material	Schedule	Diameter Dalam (mm)	Ketebalan (mm)	Diameter Luar (mm)	Panjang (mm)
1	MK 1	<i>M.S. Black</i>	SCH 40	18.9	2.8	21.7	387.232
2	MK 2	<i>M.S. Black</i>	SCH 40	18.9	2.8	21.7	1300
3	MK 3	<i>M.S. Black</i>	SCH 40	18.9	2.8	21.7	700
4	MK 4	<i>M.S. Black</i>	SCH 40	18.9	2.8	21.7	750
5	MK 5	<i>M.S. Black</i>	SCH 40	18.9	2.8	21.7	290
6	MK 6	<i>M.S. Black</i>	SCH 40	18.9	2.8	21.7	750
7	MK 7	<i>M.S. Black</i>	SCH 40	18.9	2.8	21.7	350
8	MK 8	<i>M.S. Black</i>	SCH 40	18.9	2.8	21.7	1300
9	MK 9	<i>M.S. Black</i>	SCH 40	18.9	2.8	21.7	500
10	MK 10	<i>M.S. Black</i>	SCH 40	18.9	2.8	21.7	1000
11	MK 11	<i>M.S. Black</i>	SCH 40	18.9	2.8	21.7	1000
12	MK 12	<i>M.S. Black</i>	SCH 40	18.9	2.8	21.7	443
13	MK 13	<i>M.S. Black</i>	SCH 40	18.9	2.8	21.7	1300
14	MK 14	<i>M.S. Black</i>	SCH 40	18.9	2.8	21.7	1000
15	MK 15	<i>M.S. Black</i>	SCH 40	18.9	2.8	21.7	569.929
16	MK 16	<i>M.S. Black</i>	SCH 40	18.9	2.8	21.7	527.768
17	MK 17	<i>M.S. Black</i>	SCH 40	18.9	2.8	21.7	224.83
18	MK 18	<i>M.S. Black</i>	SCH 40	18.9	2.8	21.7	700
19	MK 19	<i>M.S. Black</i>	SCH 40	18.9	2.8	21.7	250
20	MK 20	<i>M.S. Black</i>	SCH 40	18.9	2.8	21.7	746.345
21	MK 21	<i>M.S. Black</i>	SCH 40	18.9	2.8	21.7	790.232
22	MK 22	<i>M.S. Black</i>	SCH 40	18.9	2.8	21.7	285
23	MK 23	<i>M.S. Black</i>	SCH 40	18.9	2.8	21.7	604.621
24	MK 24	<i>M.S. Black</i>	SCH 40	18.9	2.8	21.7	673.767
25	MK 25	<i>M.S. Black</i>	SCH 40	18.9	2.8	21.7	450
26	MK 26	<i>M.S. Black</i>	SCH 40	18.9	2.8	21.7	936.231
27	MK 27	<i>M.S. Black</i>	SCH 40	18.9	2.8	21.7	450
28	MK 28	<i>M.S. Black</i>	SCH 40	18.9	2.8	21.7	1197.29
29	MK 29	<i>M.S. Black</i>	SCH 40	18.9	2.8	21.7	1300
30	MK 30	<i>M.S. Black</i>	SCH 40	18.9	2.8	21.7	1300
31	MK 31	<i>M.S. Black</i>	SCH 40	18.9	2.8	21.7	382.96
32	MK 32	<i>M.S. Black</i>	SCH 40	18.9	2.8	21.7	900
33	MK 33	<i>M.S. Black</i>	SCH 40	18.9	2.8	21.7	279.179
34	MK 34	<i>M.S. Black</i>	SCH 40	18.9	2.8	21.7	730.96
35	MK 35	<i>M.S. Black</i>	SCH 40	18.9	2.8	21.7	1085.06
	MK 36	<i>M.S. Black</i>	SCH 40	18.9	2.8	21.7	896
	MK 37	<i>M.S. Black</i>	SCH 40	18.9	2.8	21.7	1406.15
	MK 38	<i>M.S. Black</i>	SCH 40	18.9	2.8	21.7	150
	MK 39	<i>M.S. Black</i>	SCH 40	18.9	2.8	21.7	276.131
	MK 40	<i>M.S. Black</i>	SCH 40	18.9	2.8	21.7	100



No	Nama Pipa	Material	Schedule	Diameter Dalam (mm)	Ketebalan (mm)	Diameter Luar (mm)	Panjang (mm)
41	MK 41	<i>M.S. Black</i>	SCH 40	18.9	2.8	21.7	1135.31
42	MK 42	<i>M.S. Black</i>	SCH 40	18.9	2.8	21.7	800
43	MK 43	<i>M.S. Black</i>	SCH 40	18.9	2.8	21.7	1491
44	MK 44	<i>M.S. Black</i>	SCH 40	18.9	2.8	21.7	100
45	MK 45	<i>M.S. Black</i>	SCH 40	18.9	2.8	21.7	1135.31
46	MK 46	<i>M.S. Black</i>	SCH 40	18.9	2.8	21.7	797
47	MK 47	<i>M.S. Black</i>	SCH 40	18.9	2.8	21.7	1900
48	MK 48	<i>M.S. Black</i>	SCH 40	18.9	2.8	21.7	200
49	MK 49	<i>M.S. Black</i>	SCH 40	18.9	2.8	21.7	1335.95



Lampiran 32 Tabel ukuran pipa sistem pembuangan air kotor

No	Nama Pipa	Material	Schedule	Diameter Dalam (mm)	Ketebalan (mm)	Diameter Luar (mm)	Panjang (mm)
1	AK1	<i>M.S. Galvanized</i>	SCH 40	83.6	5.5	89.1	3833.57
2	AK2	<i>M.S. Galvanized</i>	SCH 40	83.6	5.5	89.1	5257.57
3	AK3	<i>M.S. Galvanized</i>	SCH 40	83.6	5.5	89.1	60.2832
4	AK4	<i>M.S. Galvanized</i>	SCH 40	83.6	5.5	89.1	469
5	AK5	<i>M.S. Galvanized</i>	SCH 40	83.6	5.5	89.1	140
6	AK6	<i>M.S. Galvanized</i>	SCH 40	83.6	5.5	89.1	100
7	AK7	<i>M.S. Galvanized</i>	SCH 40	83.6	5.5	89.1	3767.39
8	AK8	<i>M.S. Galvanized</i>	SCH 40	83.6	5.5	89.1	200
9	AK9	<i>M.S. Galvanized</i>	SCH 40	83.6	5.5	89.1	700
10	AK10	<i>M.S. Galvanized</i>	SCH 40	83.6	5.5	89.1	43.5181
11	AK11	<i>M.S. Galvanized</i>	SCH 40	83.6	5.5	89.1	100
12	AK12	<i>M.S. Galvanized</i>	SCH 40	83.6	5.5	89.1	1210.42
13	AK13	<i>M.S. Galvanized</i>	SCH 40	83.6	5.5	89.1	250
14	AK14	<i>M.S. Galvanized</i>	SCH 40	83.6	5.5	89.1	100
15	AK15	<i>M.S. Galvanized</i>	SCH 40	83.6	5.5	89.1	3833.57
16	AK16	<i>M.S. Galvanized</i>	SCH 40	83.6	5.5	89.1	5257.57
17	AK17	<i>M.S. Galvanized</i>	SCH 40	83.6	5.5	89.1	60.2832
18	AK18	<i>M.S. Galvanized</i>	SCH 40	83.6	5.5	89.1	469
19	AK19	<i>M.S. Galvanized</i>	SCH 40	83.6	5.5	89.1	140
20	AK20	<i>M.S. Galvanized</i>	SCH 40	83.6	5.5	89.1	100
21	AK21	<i>M.S. Galvanized</i>	SCH 40	83.6	5.5	89.1	3767.39
22	AK22	<i>M.S. Galvanized</i>	SCH 40	83.6	5.5	89.1	200
23	AK23	<i>M.S. Galvanized</i>	SCH 40	83.6	5.5	89.1	700
24	AK24	<i>M.S. Galvanized</i>	SCH 40	83.6	5.5	89.1	43.5181
25	AK25	<i>M.S. Galvanized</i>	SCH 40	83.6	5.5	89.1	100
26	AK26	<i>M.S. Galvanized</i>	SCH 40	83.6	5.5	89.1	1210.42
27	AK27	<i>M.S. Galvanized</i>	SCH 40	83.6	5.5	89.1	250
28	AK28	<i>M.S. Galvanized</i>	SCH 40	83.6	5.5	89.1	100





Lampiran 33 Tabel ukuran pipa sistem gas buang

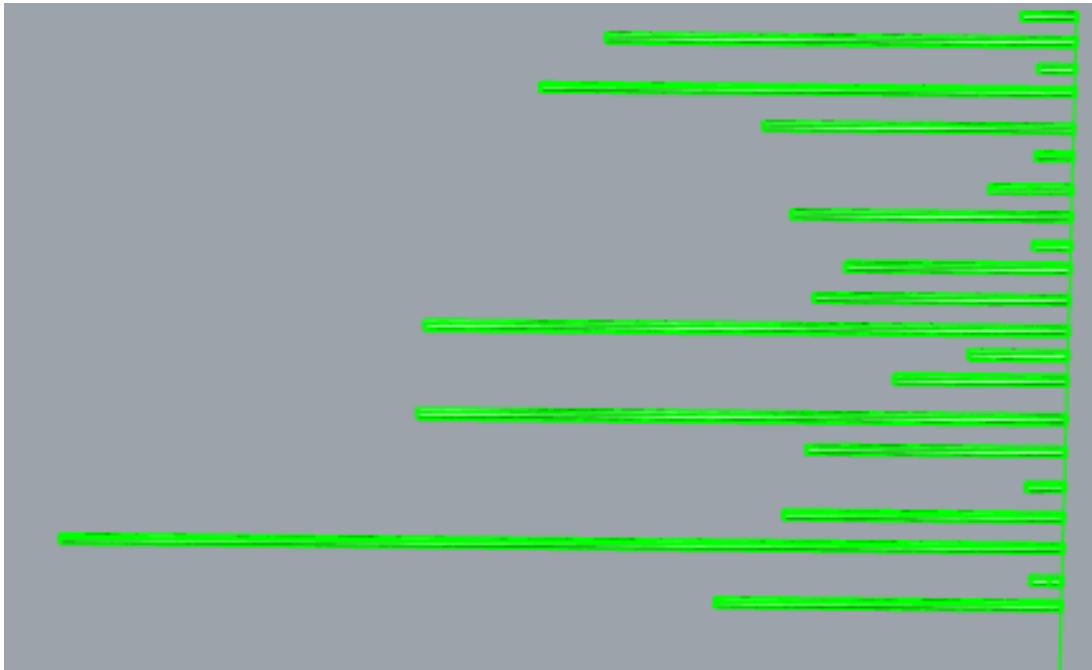
No	Nama Pipa	Material	Schedule	Diameter Dalam (mm)	Ketebalan (mm)	Diameter Luar (mm)	Panjang (mm)
1	GB 1	M.S. Black	SCH 40	133.2	6.6	139.8	1200
2	GB 2	M.S. Black	SCH 40	133.2	6.6	139.8	5000
3	GB 3	M.S. Black	SCH 40	133.2	6.6	139.8	1400
4	GB 4	M.S. Black	SCH 40	133.2	6.6	139.8	2250
5	GB 5	M.S. Black	SCH 40	133.2	6.6	139.8	5000
6	GB 6	M.S. Black	SCH 40	133.2	6.6	139.8	1400

No	Nama Pipa	Material	Schedule	Diameter Dalam (mm)	Ketebalan (mm)	Diameter Luar (mm)	Panjang (mm)
1	GB 7	M.S. Black	SCH 40	83.6	5.5	89.1	350
2	GB 8	M.S. Black	SCH 40	83.6	5.5	89.1	3700
3	GB 9	M.S. Black	SCH 40	83.6	5.5	89.1	5000
4	GB 10	M.S. Black	SCH 40	83.6	5.5	89.1	1400
5	GB 11	M.S. Black	SCH 40	83.6	5.5	89.1	450
6	GB 12	M.S. Black	SCH 40	83.6	5.5	89.1	3700
7	GB 13	M.S. Black	SCH 40	83.6	5.5	89.1	5000
8	GB 14	M.S. Black	SCH 40	83.6	5.5	89.1	1400



## Lampiran 34 breakdown sistem saniter air laut

## 1. Pipa DN 50



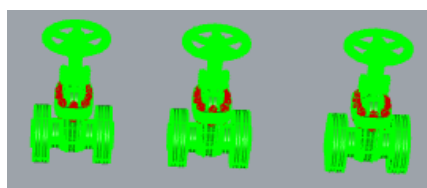
## 2. Elbow DN 50



## 3. Tee DN 50



## 4. Gate valve DN 50



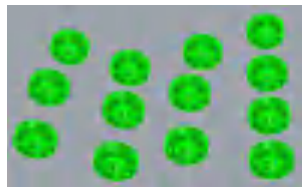
## 5. Globe valve DN 50



## 6. Reducer DN 50 to DN 32



## 7. Flanges DN 50



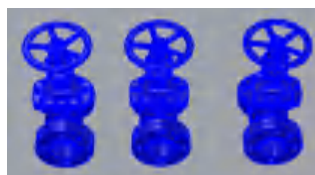
## 8. Pipa DN 32



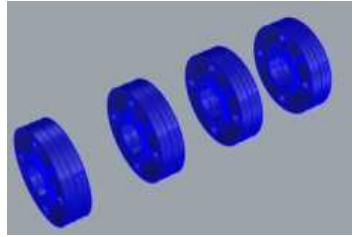
## 9. Elbow DN 32



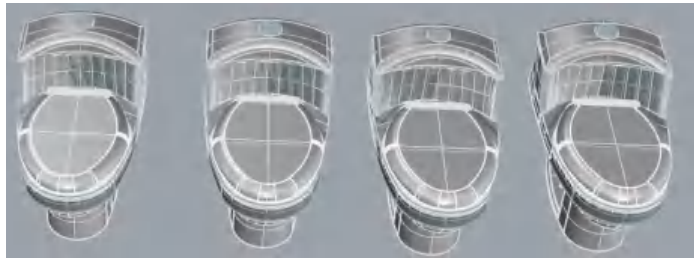
## 10. Gate valve DN 32



## 11. Flange DN 32

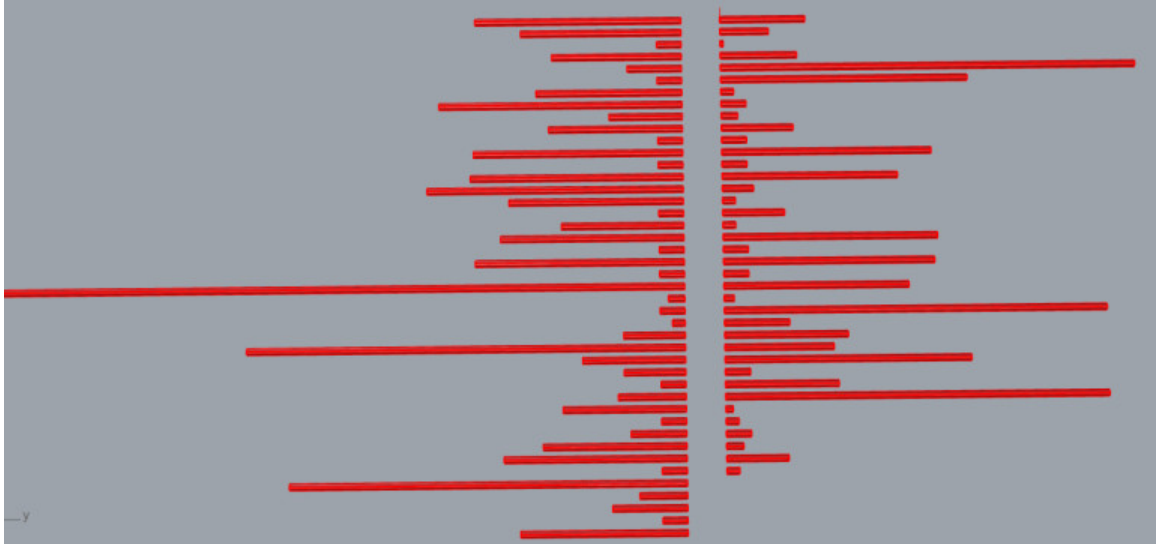


## 12. Sitting Closet

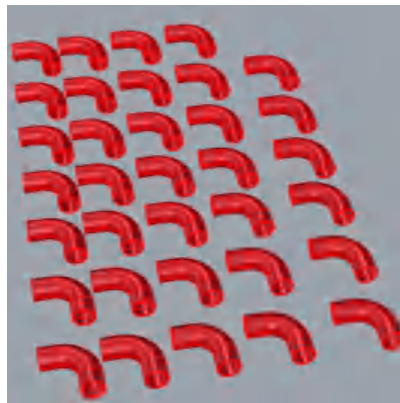


## Lampiran 35 Breakdown sistem pemadam kebakaran

### 1. Pipa DN 50



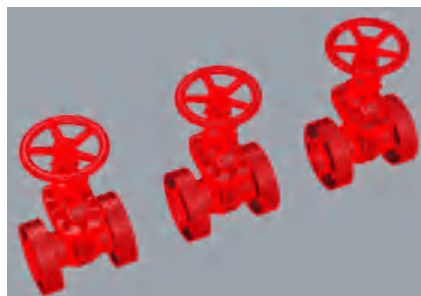
### 2. Elbow DN 50



### 3. Tee DN 50



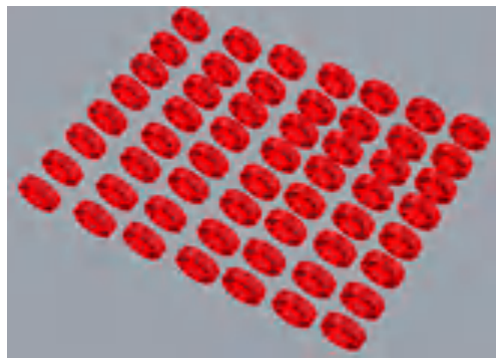
### 4. Gate Valve



## 5. Landing Valve



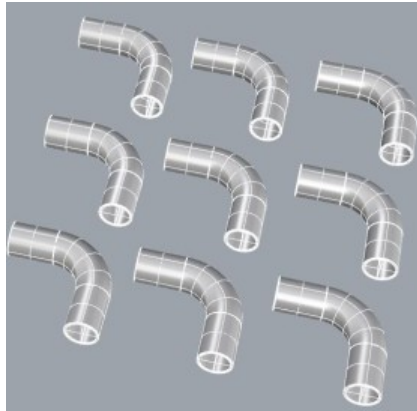
## 6. Flanges DN 50



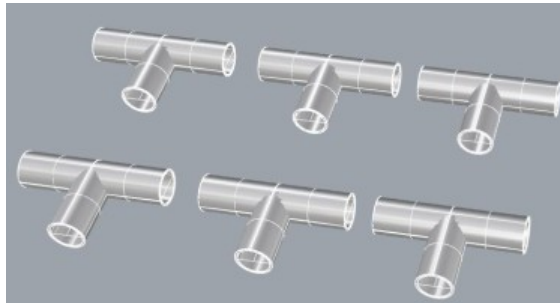
## 7. Pipa DN 25



## 8. Elbow DN 25



## 9. Tee DN 25



## 10. Gate Valve DN 25



## 11. Discharge Nozzle DN 25

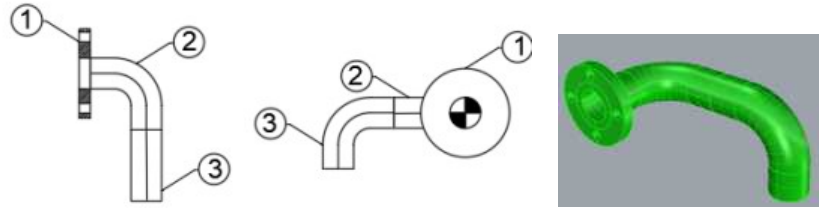




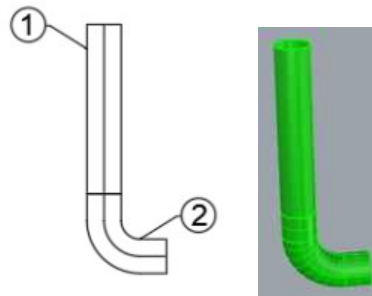
## 12. Flanges DN 50



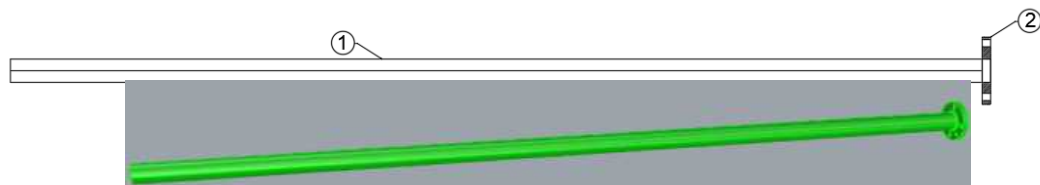
Lampiran 36 Gambar Spooling sistem saniter air laut



PART SUMMARY			
Item	Stock Description	Total Length	Quantity
1	Slip on Flange DN 50 (2"), 5K, JIS Standard		1
2	Elbow (LR) 90, M.S Galvanized DN 50 (2"), Sch. 40, JIS Standard		1
2	Elbow (LR) 90, M.S Galvanized DN 50 (2"), Sch. 40, JIS Standard		1

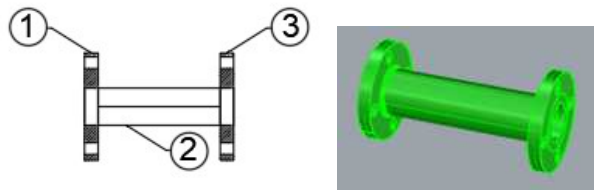


PART SUMMARY			
Item	Stock Description	Total Length	Quantity
1	Seamless Pipe, M.S. Galvanized DN 50 (2"), Sch. 40, JIS Standard	300	1
2	Elbow (LR) 90, M.S Galvanized DN 50 (2"), Sch. 40, JIS Standard		1

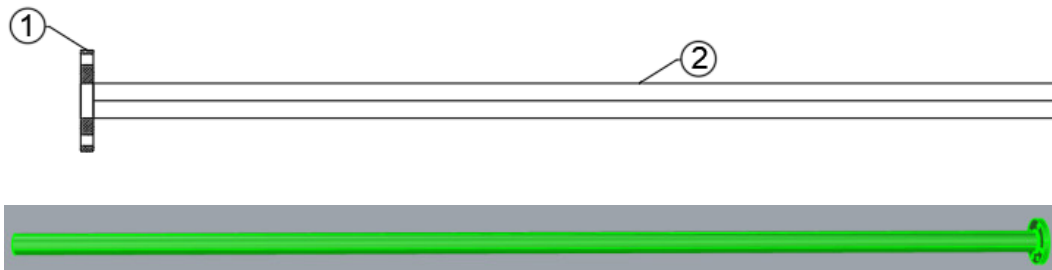


PART SUMMARY			
Item	Stock Description	Total Length	Quantity
1	Seamless Pipe, M.S. Galvanized DN 50 (2"), Sch. 40, JIS Standard	2560.2	1
2	Slip on Flange DN 50 (2"), 5K, JIS Standard		1

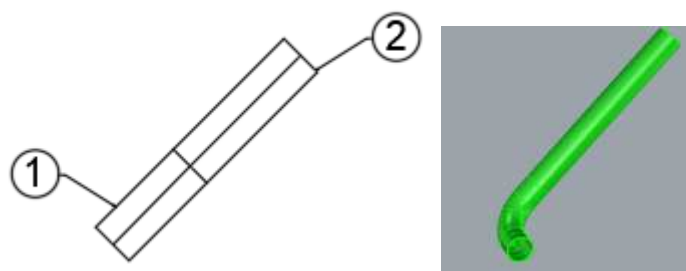




PART SUMMARY			
Item	Stock Description	Total Length	Quantity
1	Slip on Flange DN 50 (2"), 5K, JIS Standard		1
2	Seamless Pipe, M.S. Galvanized DN 50 (2") , Sch. 40, JIS Standard	200	1
3	Slip on Flange DN 50 (2"), 5K, JIS Standard		1

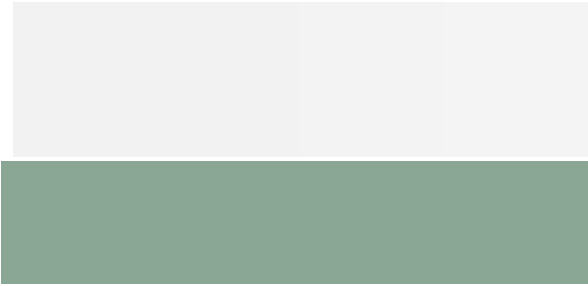


PART SUMMARY			
Item	Stock Description	Total Length	Quantity
1	Slip on Flange DN 50 (2"), 5K, JIS Standard		1
2	Seamless Pipe, M.S. Galvanized DN 50 (2") , Sch. 40, JIS Standard	2900	1

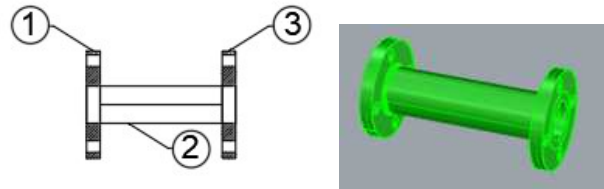


PART SUMMARY			
Item	Stock Description	Total Length	Quantity
1	Elbow (LR) 90, M.S Galvanized DN 50 (2") , Sch. 40, JIS Standard		1
2	Seamless Pipe, M.S. Galvanized DN 50 (2") , Sch. 40, JIS Standard	444.88	1

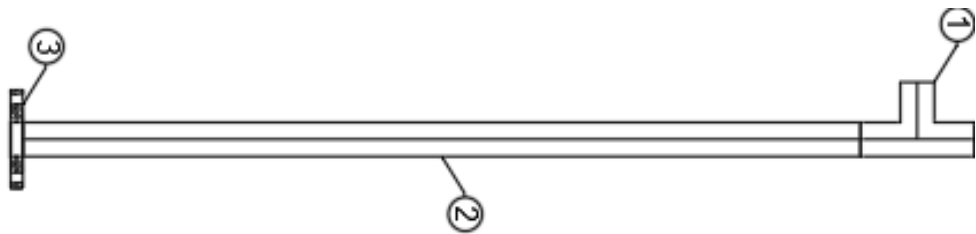




PART SUMMARY			
Item	Stock Description	Total Length	Quantity
1	Slip on Flange DN 50 (2"), 5K, JIS Standard		1
2	Seamless Pipe, M.S. Galvanized DN 50 (2") , Sch. 40, JIS Standard	1676.1	1



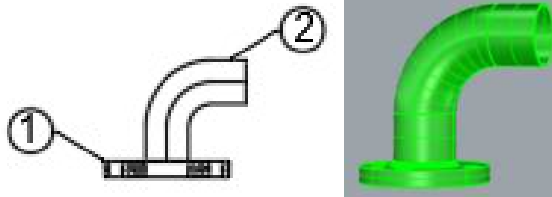
PART SUMMARY			
Item	Stock Description	Total Length	Quantity
1	Slip on Flange DN 50 (2"), 5K, JIS Standard		1
2	Seamless Pipe, M.S. Galvanized DN 50 (2") , Sch. 40, JIS Standard	200	1
3	Slip on Flange DN 50 (2"), 5K, JIS Standard		1





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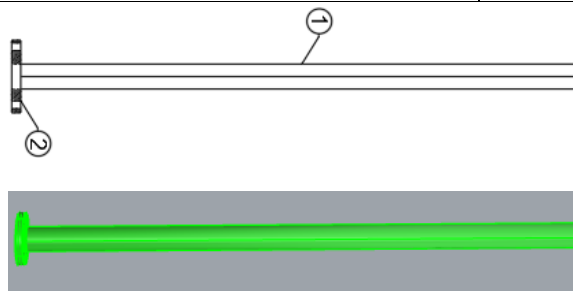
PART SUMMARY			
Item	Stock Description	Total Length	Quantity
1	Tee , M.S Galvanized DN 50 (2") , Sch. 40, JIS Standard		1
2	Seamless Pipe, M.S. Galvanized DN 50 (2") , Sch. 40, JIS Standard	1501.1	1
2	Slip on Flange DN 50 (2") , 5K, JIS Standard		1



PART SUMMARY			
Item	Stock Description	Total Length	Quantity
1	Slip on Flange DN 50 (2") , 5K, JIS Standard		1
2	Elbow (LR) 90, M.S Galvanized DN 50 (2") , Sch. 40, JIS Standard		1



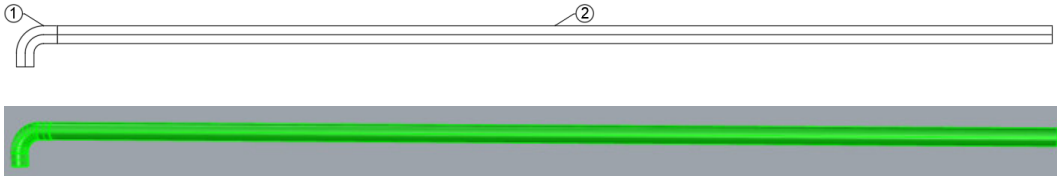
PART SUMMARY			
Item	Stock Description	Total Length	Quantity
1	Slip on Flange DN 50 (2") , 5K, JIS Standard		1
2	Seamless Pipe, M.S. Galvanized DN 50 (2") , Sch. 40, JIS Standard	1200	1
3	Elbow (LR) 90, M.S Galvanized DN 50 (2") , Sch. 40, JIS Standard		1



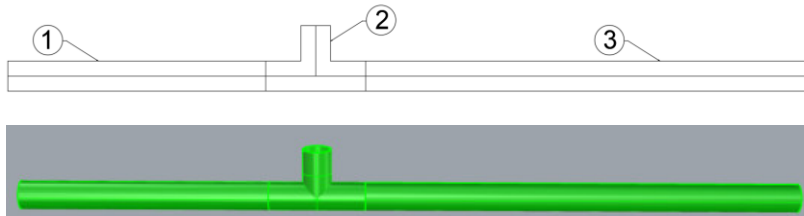


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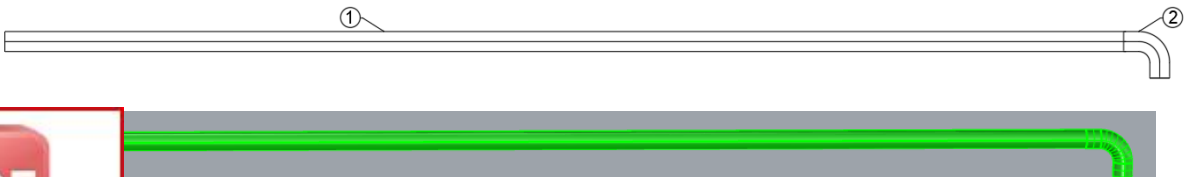
PART SUMMARY			
Item	Stock Description	Total Length	Quantity
1	Seamless Pipe, M.S. Galvanized DN 50 (2"), Sch. 40, JIS Standard	1360.9	1
2	Slip on Flange DN 50 (2"), 5K, JIS Standard		1



PART SUMMARY			
Item	Stock Description	Total Length	Quantity
1	Elbow (LR) 90, M.S Galvanized DN 50 (2"), Sch. 40, JIS Standard		1
2	Seamless Pipe, M.S. Galvanized DN 50 (2"), Sch. 40, JIS Standard	3423.3	1



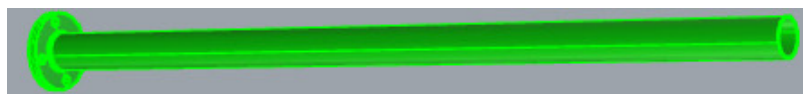
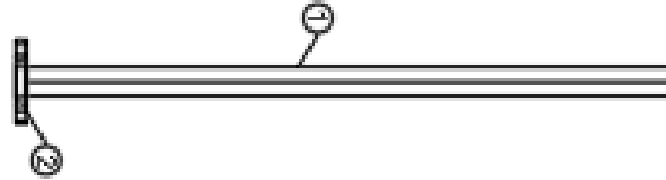
PART SUMMARY			
Item	Stock Description	Total Length	Quantity
1	Seamless Pipe, M.S. Galvanized DN 50 (2"), Sch. 40, JIS Standard	525.9	1
2	Tee, M.S Galvanized DN 50 (2"), Sch. 40, JIS Standard		1
3	Seamless Pipe, M.S. Galvanized DN 50 (2"), Sch. 40, JIS Standard	917.6	1



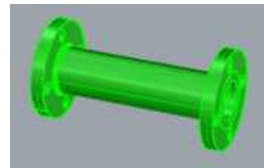
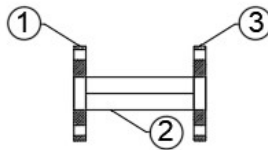


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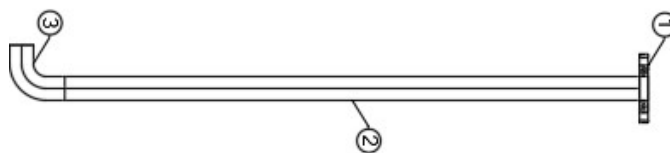
PART SUMMARY			
Item	Stock Description	Total Length	Quantity
1	Seamless Pipe, M.S. Galvanized DN 50 (2"), Sch. 40, JIS Standard	3424.2	1
2	Elbow (LR) 90, M.S Galvanized DN 50 (2"), Sch. 40, JIS Standard		1
3	Slip on Flange DN 50 (2"), 5K, JIS Standard		1



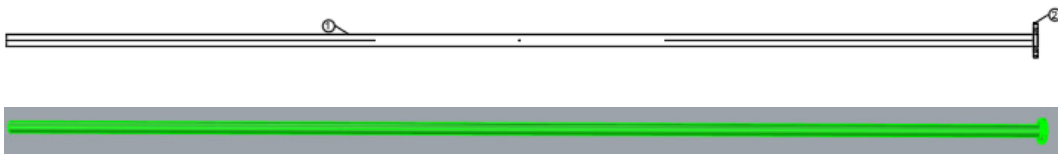
PART SUMMARY			
Item	Stock Description	Total Length	Quantity
1	Seamless Pipe, M.S. Galvanized DN 50 (2"), Sch. 40, JIS Standard	1360.9	1
2	Slip on Flange DN 50 (2"), 5K, JIS Standard		1



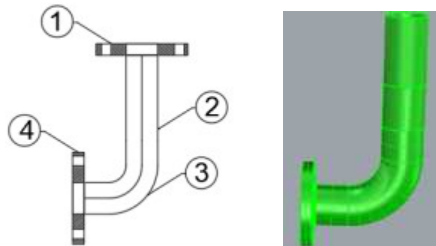
PART SUMMARY			
Item	Stock Description	Total Length	Quantity
1	Slip on Flange DN 50 (2"), 5K, JIS Standard		1
2	Seamless Pipe, M.S. Galvanized DN 50 (2"), Sch. 40, JIS Standard	200	1
3	Slip on Flange DN 50 (2"), 5K, JIS Standard		1



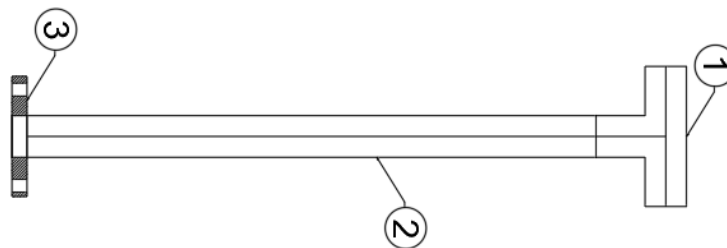
PART SUMMARY			
Item	Stock Description	Total Length	Quantity
1	Slip on Flange DN 50 (2"), 5K, JIS Standard		1
2	Seamless Pipe, M.S. Galvanized DN 50 (2") , Sch. 40, JIS Standard	1465.6	1
3	Elbow (LR) 90, M.S Galvanized DN 50 (2") , Sch. 40, JIS Standard		1



PART SUMMARY			
Item	Stock Description	Total Length	Quantity
1	Seamless Pipe, M.S. Galvanized DN 50 (2") , Sch. 40, JIS Standard	5250	1
2	Slip on Flange DN 50 (2"), 5K, JIS Standard		1



PART SUMMARY			
Item	Stock Description	Total Length	Quantity
1	Slip on Flange DN 50 (2"), 5K, JIS Standard		1
2	Seamless Pipe, M.S. Galvanized DN 50 (2") , Sch. 40, JIS Standard	163.53	1
3	Elbow (LR) 90, M.S Galvanized DN 50 (2") , Sch. 40, JIS Standard		1
4	Slip on Flange DN 50 (2"), 5K, JIS Standard		1



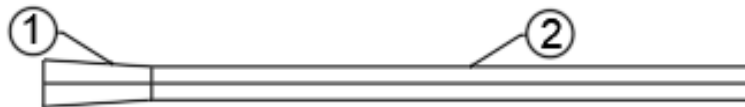


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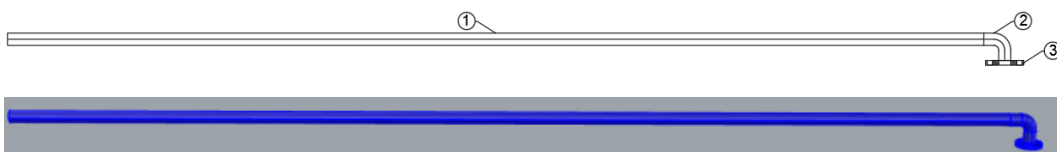




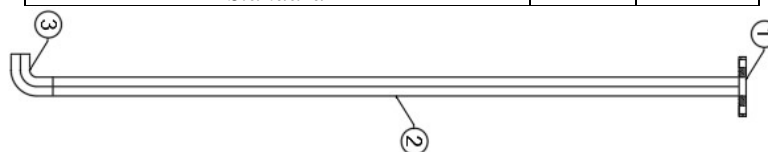
PART SUMMARY			
Item	Stock Description	Total Length	Quantity
1	Tee , M.S Galvanized DN 50 (2") , Sch. 40, JIS Standard		1
2	Seamless Pipe, M.S. Galvanized DN 50 (2") , Sch. 40, JIS Standard	1800	1
3	Slip on Flange DN 50 (2") , 5K, JIS Standard		1



PART SUMMARY			
Item	Stock Description	Total Length	Quantity
1	Concentric Reducer M.S. Galvanized DN 50 (2") x 32 (1.1/4") , Sch. 20, JIS Standard		1
2	Seamless Pipe, M.S. Galvanized DN 50 (2") , Sch. 40, JIS Standard	777.6	1



Stock Description	Total Length	Quantity
Seamless Pipe, M.S. Galvanized DN 50 (2") , Sch. 40, JIS Standard	3464.4	1
Elbow (LR) 90, M.S Galvanized DN 50 (2") , Sch. 40, JIS Standard		1
Slip on Flange DN 50 (2") , 5K, JIS Standard		1

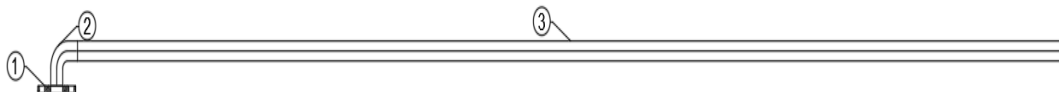




Item	Stock Description	Total Length	Quantity
1	Slip on Flange DN 50 (2"), 5K, JIS Standard		1
2	Seamless Pipe, M.S. Galvanized DN 50 (2") , Sch. 40, JIS Standard	1564.3	1
3	Elbow (LR) 90, M.S Galvanized DN 50 (2") , Sch. 40, JIS Standard		1

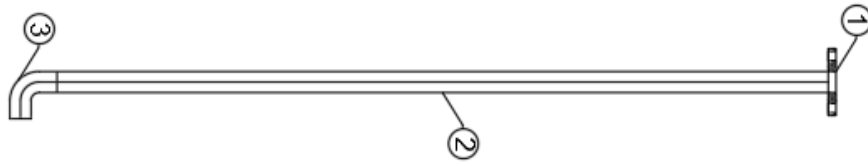


PART SUMMARY			
Item	Stock Description	Total Length	Quantity
1	Seamless Pipe, M.S. Galvanized DN 50 (2") , Sch. 40, JIS Standard	385.9	1
2	Concentric Reducer M.S. Galvanized DN 50 (2") x 32 (1.1/4"), Sch. 20, JIS Standard		1



PART SUMMARY			
Item	Stock Description	Total Length	Quantity
1	Seamless Pipe, M.S. Galvanized DN 50 (2") , Sch. 40, JIS Standard	385.9	1
2	Concentric Reducer M.S. Galvanized DN 50 (2") x 32 (1.1/4"), Sch. 20, JIS Standard		1





<i>PART SUMMARY</i>			
<i>Item</i>	<i>Stock Description</i>	<i>Total Length</i>	<i>Quantity</i>
1	<i>Slip on Flange DN 50 (2"), 5K, JIS Standard</i>		1
2	<i>Seamless Pipe, M.S. Galvanized DN 50 (2") , Sch. 40, JIS Standard</i>	1564.3	1
3	<i>Elbow (LR) 90, M.S Galvanized DN 50 (2") , Sch. 40, JIS Standard</i>		1

