

LAMPIRAN I

NO	PROVINSI	LINTAS	JARAK (mil)
1	2	3	4
27	Maluku Utara	107 Doro (Kao) - Subaim 108 Bastiong - Batang Dua 109 Bastiong - Moti 110 Moti - Makian 111 Makian - Kayoa 112 Kayoa - Babang 113 Babang - Saketa 114 Kupal - Kasiruta 115 Kasiruta - Bosoa 116 Kupal - Mandioli 117 Doworo - Sofifi 118 Babang - Madapolo 119 Madapolo - Obi 120 Obi - Sanana 121 Mangole - Bobong	18 80 26 10 27 42 26 52 9 9 8 59 37 115 90
28	Maluku - Maluku Utara	122 Teluk Bara - Sanana	75
29	Maluku	123 Namlea - Teluk Bara 124 Namlea - Kayeli 125 Namlea-Manipa 126 Manipa-Waisala 127 Umeputih - Wailey 128 Umeputih - Nalahia 129 Nalahia - Amahai 130 Wasi - Kailolo 131 Galala - Ambalau 132 Ambalau - Wamsisi 133 Wamsisi - Namrole 134 Namrole - Leksula 135 Leksula-Tifu 136 Tifu-Nanali 137 Ambon - Airnanang 138 Airnanang - Geser 139 Geser - Gorom 140 Gorom - Kesui 141 Kesui - Teor 142 Tual - Airnanang 143 Tual - Tayando 144 Tayando - Kur 145 Tayando - Tam 146 Tual - Kur 147 Kur - Kesui 148 Tual - Bandacli 149 Bandacli - Hollat 150 Tam - Fadol 151 Kur - Kaimear 152 Tual - Tam 153 Tam - Mangur 154 Tual - Weduar 155 Tual - Dobo 156 Dobo - Benjina 157 Dobo - Tabarfane 158 Dobo - Lamerang 159 Tual - Larat	84 10 36 55 5 19 23 6 70 15 16 15 12 62 170 5 38 43 19 187 38 43 18 59 57 55 6 21 15 50 16 30 109 40 42 0,8 136

TUGAS AKHIR

MUHAMMAD ILHAM MUHENSAR (2013310013)

NO	PROVINSI	LINTAS	JARAK (mil)
1	2	3	4
		160 Tual - Elat	23
		161 Saumlaki - Dobo	225
		162 Saumlaki - Adaut	16
		163 Adaut - Letuwurung	92
		164 Saumlaki - Seira	47
		165 Seira - Wunlah	41
		166 Wunlah - Larat	50
		167 Larat - Yaru	16
		168 Yaru - Momar	41
		169 Ambon - Demar	220
		170 Demar - Kisar	110
		171 Kisar - Leti	40
		172 Leti - Moa	12
		173 Moa - Lakor	27
		174 Lakor - Sermatang	49
		175 Sermatang - Tepa	45
		176 Tepa - Letuwurung	26
		177 Letuwurung - Dawelor	13
		178 Dawelor - Marsela	21
		179 Pulau Wetar (Ilwaki) - Pulau Kisar (Wonreli)	92
		180 Pulau Kisar (Wonreli) - Moa	50
30	Maluku - Papua	181 Dobo - Pomako (Timika)	136
31	Maluku - Papua Barat	182 Tual - Kaimana	164
		183 Waigama - Wahai	81
32	Maluku Utara - Papua Barat	184 Gebe - Patani	63
33	Papua Barat	185 Sorong - Arefi	58
		186 Arefi - Paam	42
		187 Sorong - Linmalas	80
		188 Linmalas - Waigama	30
		189 Sorong - Folley	75
		190 Sorong - Wejim	80
		191 Sorong-Dulbatan	75
		192 Sorong-Kalobo	20
		193 Sorong-Sarpele	85
		194 Sorong - Gag	90
		195 Gag - Gebe	74
		196 Patani - Weda	65
		197 Sorong - Waigeo	43
		198 Sorong - Waigama	143
		199 Wahai - Fak Fak	176
		200 Fak Fak - Sorong	197
		201 Fak Fak - Kaimana	165
		202 Sorong - Babo	243
		203 Babo - Bentuni	85
34	Papua - Papua Barat	204 Manokwari - Biak	146
		205 Manokwari - Numfor	50
35	Papua	206 Biak - Numfor	96
		207 Biak - Serui	120
		208 Serui - Waren	30
		209 Waren - Nabire	110

NO	PROVINSI	LINTAS	JARAK (mil)
1	2	3	4
		210 Manokwari - Wasior	130
		211 Wasior - Windesi	40
		212 Wasior - Nabire	117
		213 Nabire - Serui	110
		214 Biak - Teba	120
		215 Teba - Bagusa	45
		216 Bagusa - Trimuris	25
		217 Trimuris - Kasonaweja	21
		218 Merauke - Kimam	194
		219 Kimam - Moor	180
		220 Moor - Bade	40
		221 Bade - Gatentiri	105
		222 Pomako - Agats	126
		223 Agats - Eci	187
		224 Agats - Akats	33
		225 Agats - Sawaerma	66
		226 Sawaerma - Mumugu	63
		227 Agats - Atsy	86
		228 Atsy - Merauke	360

DIREKTUR JENDERAL
PERHUBUNGAN DARAT,

ttd.

Drs. BUDI SETIYADI, S.H., M.Si.
NRP. 62050784

Salinan sesuai dengan aslinya
Kepala Bagian Hukum
dan Hubungan Masyarakat
DIREKTORAT JENDERAL
PERHUBUNGAN DARAT
ENDY IRRAWAN, S. H., M. H.
Penata Tingkat I (III/d)
NIP. 19820414 200502 1 001

LAMPIRAN II

Golongan Listrik	Biaya Listrik per kWh
30 MVA	Rp 997 /kWh
200 kVA	Rp 1.115 /kWh
900 VA	Rp 1.352 /kWh
1.300 VA	Rp 1.467,28 /kWh
2.200 VA	Rp 1.467,28 /kWh
3.300 VA	Rp 1.467,28 /kWh
4.400 VA	Rp 1.467,28 /kWh
5.500 VA	Rp 1.467,28 /kWh
6.600 VA	Rp 1.467,28 /kWh

LAMPIRAN III

Estimasi Pendapatan/Kapal		
No	Jenis Pekerjaan	Harga Satuan (Rp)
1	Biaya Naik/Turun Docking	21.440.000/1 Kali
2	Kapal naik di atas block dock/hari	2.231.600/Hari
3	Kapal sandar di dermaga	.916.700/Hari
4	Generator 355 kW	55.735.000/Unit
5	Plat Lambung	28.750/Kg
6	Pengecatan Lambung Di Bawah Garis Air	7.500 M ² /Layer
7	Pengecatan Top Side Area	7.800 M ² /Layer
8	Water jetting (air tawar) Di Bawah Garis Air	24.200/M ²
9	Sandblasting di Bawah Garis Air	54.800/M ²
10	Water jetting (air tawar) Top Side Area	26.200/M ²
11	Sandblasting Top Side Area	60.300/M ²
12	Bak Rantai Jangkar Kiri/Kanan	1.818.300/Unit
13	Pemakaian Listrik Galangan	5.537.700/Hari

LAMPIRAN IV

CALCULATED PLATE WEIGHT (FROM THICKNESS & SIZE)																				
Width x Length (in mm)	1219 x 2438	1219 x 3048	1524 x 3048	1524 x 3658	1524 x 4268	1829 x 3048	1829 x 3658	1829 x 4268	2133 x 3048	2133 x 3658	2133 x 4268	2438 x 3048	2438 x 3658	2438 x 4268	2743 x 3048	2743 x 3658	2743 x 4268	3048 x 3048	3048 x 3658	3048 x 4268
Width x Length (in ft)	4' x 8'	4' x 10'	5' x 10'	5' x 12'	5' x 14'	6' x 10'	6' x 12'	6' x 14'	7' x 10'	7' x 12'	7' x 14'	8' x 10'	8' x 12'	8' x 14'	9' x 10'	9' x 12'	9' x 14'	10' x 10'	10' x 12'	11' x 10'
Width x Length (in inch)	48 x 96	48 x 120	60 x 120	60 x 144	60 x 168	72 x 120	72 x 144	72 x 168	84 x 120	84 x 144	84 x 168	96 x 120	96 x 144	96 x 168	108 x 120	108 x 144	108 x 168	120 x 120	120 x 144	132 x 120
Thickness (mm)	8	10	12	15	18	20	24	25	30	36	40	45	50	55	60	65	70	75	80	85
8	187	467	292	583	875	1167	700	1400	817	1633	1633	933	933	1867	2100	1167	2334	1284	2567	3353
9	210	525	328	656	985	1313	788	1575	919	1837	1837	1060	1060	2120	2363	1313	2625	1444	2888	3696
10	233	583	365	729	1094	1459	875	1750	1021	2041	2041	1167	1167	2334	2625	1459	2917	1605	3209	4017
12	260	660	424	848	1273	1760	1050	2100	1235	2469	2469	1400	1400	2800	3150	1750	3501	1925	3851	4814
12.7	296	741	496	992	1488	1984	1112	2223	1296	2593	2593	1584	1584	3168	3567	1984	3968	2148	4296	5368
14	327	817	551	1102	1653	2204	1225	2451	1423	2845	2845	1733	1733	3466	3933	2204	4408	2382	4764	5955
15	350	875	547	1094	1641	2188	1313	2626	1531	3062	3062	1750	1750	3500	3969	2188	4376	2407	4814	6017
16	373	938	583	1167	1750	2384	1400	2800	1633	3266	3266	1867	1867	3733	4200	2384	4768	2567	5134	6417
18	420	1050	656	1313	1969	2625	1575	3151	1837	3675	3675	2100	2100	4200	4725	2625	5250	2888	5776	7196
19	443	1108	693	1386	2073	2771	1663	3325	1933	3875	3875	2217	2217	4433	5000	2771	5541	3049	6097	7517
20	467	1167	729	1459	2188	2917	1750	3501	2041	4083	4083	2334	2334	4667	5250	2917	5834	3209	6418	7957
22	513	1288	802	1604	2407	3209	1926	3851	2246	4491	4491	2567	2567	5133	5776	3209	6418	3590	7180	8860
24	560	1400	875	1750	2625	3501	2101	4201	2450	4899	4899	2800	2800	5600	6301	3501	7001	3851	7702	9502
25	583	1459	912	1823	2735	3646	2168	4376	2552	5104	5104	2917	2917	5833	6563	3596	7295	4011	8023	10023
25.4	593	1482	926	1852	2779	3705	2223	4446	2593	5185	5185	2963	2963	5927	6668	3705	7410	4076	8151	10204
26	607	1517	948	1896	2844	3792	2276	4551	2654	5303	5303	3033	3033	6067	6826	3792	7585	4172	8344	10404
28	653	1633	1021	2042	3053	4084	2451	4901	2858	5716	5716	3267	3267	6533	7351	4084	8169	4493	8985	11169
30	700	1750	1094	2184	3282	4376	2656	5251	3062	6132	6132	3500	3500	7000	7876	4376	8751	4814	9627	12027
32	747	1867	1167	2334	3501	4667	2801	5602	3266	6533	6533	3733	3733	7467	8401	4667	9335	5134	10269	12836
36	840	2100	1313	2625	3913	5251	3151	6302	3875	7349	7349	4200	4200	8400	9475	5251	10502	5776	11593	14593
38	887	2217	1396	2771	4157	5543	3266	6552	3879	7757	7757	4433	4433	8867	9958	5543	11085	6097	12194	15404
40	933	2333	1459	2917	4376	5834	3501	7002	4083	8166	8166	4667	4667	9333	5250	5834	11669	6418	12836	16204
45	1050	2625	1641	3282	4923	6564	3939	7877	4593	9186	9186	5250	5250	10500	5907	6564	13127	7220	14441	18364
50	1166	2917	1823	3646	5470	7293	4376	8752	5104	10207	10207	5833	5833	11667	6563	7293	14598	8023	16045	20404
55	1283	3208	2006	4011	6017	8022	4814	9528	5614	11228	11228	6417	6417	12833	7219	8022	16044	8825	17650	22404
60	1400	3500	2188	4376	6554	8751	5251	10503	6134	12249	12249	7000	7000	14000	7876	8751	17503	9627	19254	24404
65	1516	3792	2370	4740	7111	9481	5689	11378	6535	13269	13269	7583	7583	15157	8532	9481	18962	10429	20859	26404
70	1633	4084	2553	5105	7658	10421	6127	12252	7135	14290	14290	8167	8167	16333	9188	10421	20430	11232	22463	28463
75	1750	4375	2735	5470	8204	10939	6564	13129	7655	15311	15311	8750	8750	17500	9845	10939	21875	12034	24068	30068
80	1866	4667	2917	5834	8751	11669	7002	14004	8166	16331	16331	9333	9333	18667	10501	11669	23337	12836	25672	32068
85	1983	4958	3082	6199	9298	12398	7440	14879	8676	17352	17352	9917	9917	19833	11157	12398	24795	13698	27277	33677
90	2100	5250	3268	6564	9845	13127	7877	15794	9188	18373	18373	10500	10500	21500	11816	13127	26294	14604	28882	35482
95	2216	5542	3464	6928	10595	13956	8315	16630	9697	19394	19394	11083	11083	22157	12470	13956	27713	15243	30486	37291
100	2333	5833	3646	7293	10939	14596	8752	17505	10207	20414	20414	11667	11667	23333	13126	14596	29172	16045	32061	39091

LAMPIRAN V

ASTMA 53 (A)

Nominal Size		Outside Diameter (mm)	Thickness (mm)	Sch	Test Pressure	
DN	NPS				Psi	Kg/cm ²
20	3/4"	26.7	2.87	40	700	49
25	1"	33.4	3.33	40	700	49
32	1 1/4"	42.2	3.56	40	1200	85
40	1 1/2"	48.3	3.68	40	1200	85
50	2"	60.3	3.91	40	2300	161
65	2 1/2"	73	5.16	40	2500	175
			3.18	-	1290	91
80	3"	88.9	5.96	-	1500	112
			4.78	-	1930	136
			5.49	40	2220	156
			3.18	-	1000	70
			3.96	-	1250	88
			4.78	-	1500	105
			5.56	-	1750	123
100	4"	114.3	6.02	40	1900	134

Chemical Composition	
Carbon (C)	: 0.25 % max
Phosphor (P)	: 0.05 % max
Sulphur (S)	: 0.045 % max

Mechanical	
Tensile Strength	: 330 N/mm ² min
Yield Strength	: 205 N/mm ² min
Elongation	: 22 % min

Tolerance	
Thickness	: ± 12.5 %
Length	: ± 2 %
Outside Diameter	: ± 0.4 mm
OD ≤ 48.3 mm	: ± 1 %
OD ≥ 60.3 mm	: 6000 mm
Standard length of Pipe	

NOTE : Non standard sizes are available upon request and subject to minimum quantity.

LAMPIRAN VI



Ready to Ship In Stock Fast Dispatch

20 ton single girder overhead crane price

\$15,000.00 / Set | 1 Set (Min. Order)

Application: widely

Rated Loading C... 20t

Model Number: LD 20 ton single \$15,000.00

Payment: VISA MasterCard T T Online Bank Paym

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Product Details Company Profile Report Suspicious Activi

Product Description Related Main Product Packaging & Shipping Customer Visiting Certifications Company Information

Overview

Quick Details

Feature:	Bridge Crane	Applicable Industri...	Building Material Shops, Machinery Repair Shops, Manufactur...
Condition:	New	Rated Lifting Mom...	/
Max. Lifting Load:	20t	Max. Lifting Height:	30m
Span:	7.5-31.5m	Place of Origin:	Henan, China (Mainland)
Brand Name:	Hengshan	Certification:	CE GOST ISO SGS
Warranty:	2 Years	After-sales Service	Free spare parts
Product Name:	20 ton single girder overhead crane price	working system:	A3-A5
Lifting speed:	5-15M/MIN	Trolleyrunning spee...	20-40M/MIN
Crane running spee...	50-100M/MIN	Control method:	cabin control/wire rope remote control
Power:	3 phase 380V 50hz or request	Protection grade:	IP54
Insulation grade:	F	Color:	Customer Request

LAMPIRAN VII

Volcano

CNC Steel Plate Cutting Machine



Hot Sale Mesin Pemotong CNC Plasma Cutting untuk Memotong Plat Baja

FOB Referensi Harga: [Dapatkan Harga Terbaru](#)

US\$20.000,00 - US\$25.000,00 / Set | 1 Set/set (Min. Order)

Nomor model: **FM**

Kustomisasi: Logo kustom (Min. Order: 1 set)
Pengemasan kustom (Min. Order: 1 set) Lainnya ▾

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Parameter teknis utama

Model	CNC-CG-3000	CNC-CG-4000	CNC-CG-5000	CNC-CG-6000
Rail Span(mm)	3000	4000	5000	6000
Rail Length(mm)	15000			
Effective cutting length(mm)	12500			
Effective cutting width(mm)	2200	3200	4200	5200
Cutting speed(mm/min.)	20-4000			
Strip torch	9			
CNC flame torch	2			
Cutting thickness(mm)	6-150			

LAMPIRAN VIII

engwang



Listrik putaran/persegi pipa/tabung mesin bending

FOB Referensi Harga: [Dapatkan Harga Terbaru](#)

US\$650,00 - US\$750,00 / Set | 1 Set/set (Min. Order)

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Dukungan penjaminan perdagangan Jaminan

Bending diameter rentang	≤76mm
bahan tebal	0.5-2mm
Max Bending Angle	360
Min Bending Angle	0
daya Motor	1.5Kw
Power supply	1500 W
beralih Travel	220 V
secara keseluruhan dimensi	800x500x900mm
Total berat	160Kg

LAMPIRAN IX



Lembar Logam Piring WC67Y NC Press Hidrolik Rem

FOB Referensi Harga: [Dapatkan Harga Terbaru](#)

US\$5.000,00 - US\$10.000,00 / Set | 1 Set/set (Min. Order)

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Pembayaran: [VISA](#) [Master](#) [TT](#) [Online Bank Payment](#) [Pay Later](#) [More](#) ✓Pengiriman: Layanan Pengiriman Laut Alibaba.com dari Tiongkok ke AS
[Dapatkan kuota pengiriman](#)

Rincian cepat

Kondisi: Baru
 Nama merek: KINGWELL
 Otomatisasi: Otomatis
 Sertifikasi: ISO 9001:2000
 Warna: Disesuaikan
 Tipe: Logam hidrolik Mesin Bending
 Tekanan Nominal: 1250KN
 Dimensi: 3210x1400x2300mm
 Sistem kontrol: Opsional
 Nomor model: WC67Y-125TX3200
 Jenis mesin: rem tekan

Tempat asal: Jiangsu, China (Mainland)
 Bahan/logam diproses: Baja karbon, baja Tahan Karat, Aluminium
 Layanan tambahan: Pembentukan Akhir
 Nama produk: Rem hidrolik Press
 Tegangan: 220 V/380 V/415 V/440 V/disesuaikan
 Garansi: 12 bulan
 Max Membungkuk: 3200 mm
 Elemen listrik: Jerman Siemens
 Purna jual layanan: Insinyur tersedia untuk layanan mesin di luar negeri
 Daya: Hidrolik
 Bahan baku: Lembaran logam

LAMPIRAN X



ZX7550CW pengeboran penggilingan mesin vertikal

FOB Referensi Harga: [Dapatkan Harga Terbaru](#)

US\$900,00 - US\$1.000,00 / Set | 1 Set/set (Min. Order)

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Dukungan penj... perdagangan Jaminan
-untuk melindungi pesanan anda dari pembayaran untuk pengiriPembayaran: [VISA](#) [Master](#) [TT](#) [Online Bank Payment](#) [Pay Later](#) [More](#)

Rincian cepat

Kondisi: Baru
 Nama merek: Steel horse
 Jenis: Vertikal
 Tegangan: 380 V
 Sertifikasi: CE
 Ukuran meja: 900 240mm, 900x240
 Spindle: R8/NT40
 Purna jual layanan: Insinyur tersedia untuk layanan mesin di luar negeri
 Daya (w): 1.5 2.2

Tempat asal: Shandong, China (Mainland)
 Nomor model: ZX7550CW
 Cnc atau tidak: Normal
 Dimensi (l * w * h): 1280x1285x2080
 Tipe: Penggilingan mesin bor
 Warna: Putih, biru, kuning, hijau
 Berat: 1000 kg
 Garansi: 1 tahun

LAMPIRAN XI



Marine Pneumatic Rubber Salvage Airbag Used Floating Docks Sale

FOB Reference Price: [Get Latest Price](#)

\$100.00 - \$2,000.00 / Pieces | 1 Piece/Pieces (Min. Order)

Trade Assurance protect your orders from payment to delivery

Payments: **VISA** **Online Bank Payment** **T/T** **Pay Later** **WesternUnion** **WU**

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LAMPIRAN XII



50 ton truck crane XCMG QY50K-II mobile crane lifting machine jib arm pickup truck

FOB Reference Price: [Get Latest Price](#)

\$200,000.00 - \$235,000.00 / Sets | 1 Set/Sets (Min. Order)

Max. Lifting Load: 50ton

Model Number: QY50K-II

Lead Time:

Quantity(Sets)	1 - 1	>1
Est. Time(days)	15	Negotiable

Trade Assurance protects your Alibaba.com orders

Payments: **VISA** **Online Bank Payment** **T/T** **Pay Later** **WesternUnion** **WU**

Alibaba.com Logistics Inspection Solutions

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Product Details **Company Profile**

Dimension	Unit	QY50K-II
Overall length	mm	13750
Overall width	mm	2800
Overall height	mm	3520
Weight		
Total weight in travel	kg	41000
Front axle load	kg	15000
Rear axle load	kg	26000
Power		
Engine model		WD615.334(domestic III)
Engine rated power	kW/(r/min)	247/2200
Engine rated torque	N.m/(r/min)	1350/1400

LAMPIRAN XIII



LAMPIRAN XIV



LAMPIRAN XV



LAMPIRAN XVI

HK-12 Beetle Portable Gas Cutter/flame cutting machine

FOB Reference Price: [Get Latest Price](#)

\$230.00 - \$250.00 / Sets 1 Set/Sets (Min. Order)

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[Alibaba.com Logistics](#) [Inspection Solutions](#) [Production View](#)

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Product Details Company Profile Buyer Reviews Report Suspicious

Overview

Quick Details

Condition:	New	Place of Origin:	Shanghai, China
Brand Name:	HUAWEI	Model Number:	HK-12
Voltage:	110V/220V/380V	Rated Power:	2.2kw
Dimension(L*W*H):	190*195*140	Weight:	10KG
Certification:	CE	Name:	gas cutter
Brand:	Huawei	Usage:	Cutting metal
Warranty:	1year, 1 year	After-sales Service:	Engineers available to service machinery overseas