



COMPANY PROFILE

한국유수압

부산광역시 강서구 녹산산단 289로 37(송정동) TEL.(051) 832-1100 FAX.(051) 832-1110 E-mail : enpos@enpos.co.kr Website : www.enpos21.com

1-1 Overview

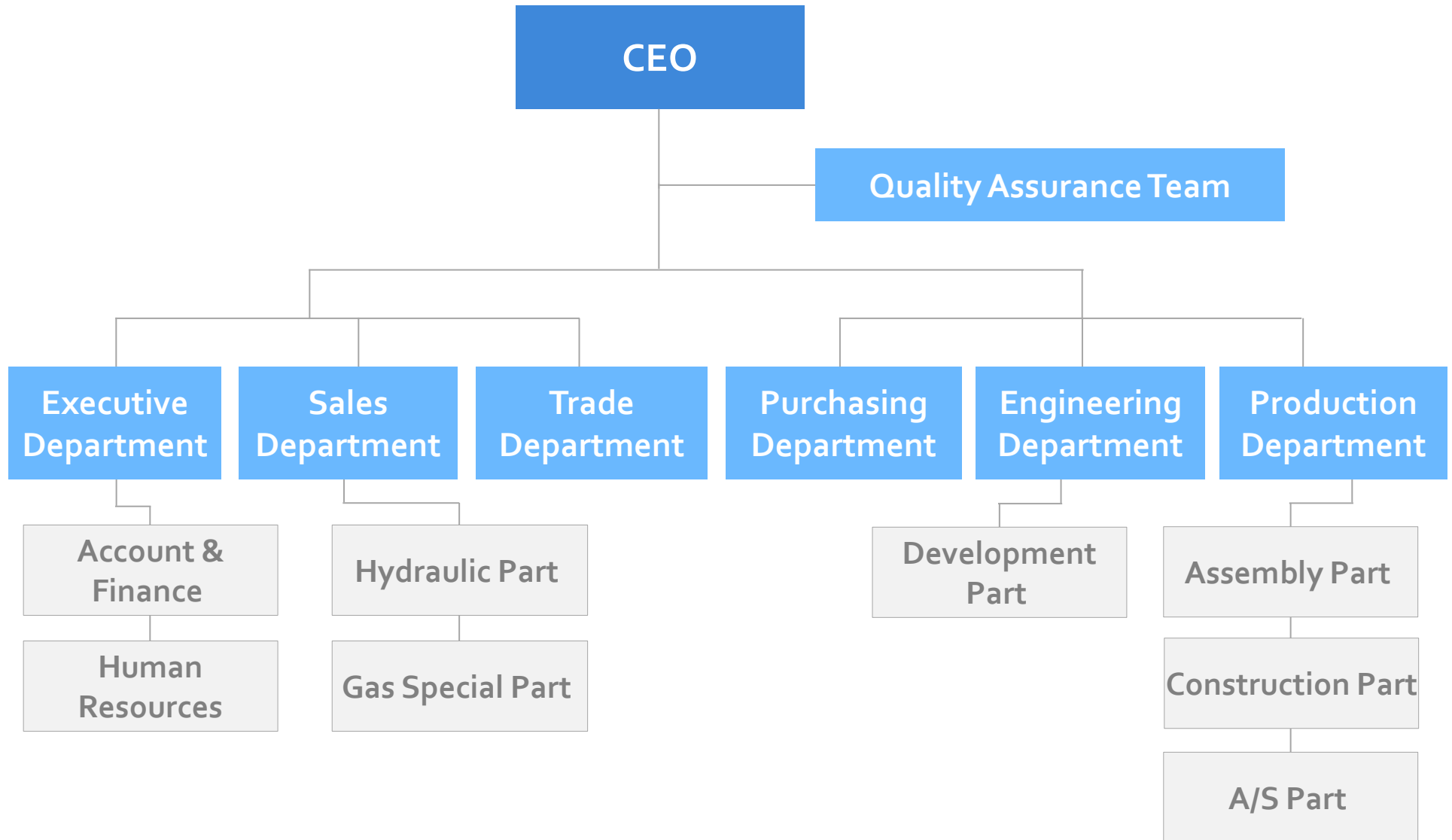
- Overview

Company	KOREA HYDRAULIC CO.
Brand Name	ENPOS (ENergy+Power+System)
Date of Establishment	JAN, 1989
CEO	Chul-soo Sul
Location	[Headquarter] Noksan Industrial Complex #1591-2, Songjeong-Dong, Gangseo-Gu, Busan, Korea [Incheon branch] D-356, Euncheong-Ro 4-19, Namdong-gu, Incheon, Korea

- History

- 1989.01** Established KOREA HYDRAULIC CO.
- 1991.07** Registered the industrial design on Clamp Cylinder
- 1996.12** Designated as Blue-chip Technology Company
- 1999.11** Acquired the certificate of ISO9001, KSA9001, DNV
- 2001.02** Established R&D Center
- 2003.03** Relocated head office and a factory(Noksan)
- 2005.02** Registered the Venture Business
- 2006.12** Awarded from Industry Minister
- 2008.11** Acquired the certificate of INNOBIZ
- 2009.04** Acquired the certificate of CE by TUV NORD
- 2013.01** Acquired the certificate of supplier by KHNP
- 2015.04** Registered cooperative firm by KEPCO KPS

1-2 Organization Chart



1-3 Certificate

DNV-GL

MANAGEMENT SYSTEM CERTIFICATE

Certificate No.: 42844-2008-AQ-KOR-RvA	Initial date: 30 November, 1999	Valid: 30 November, 2014 – 30 November, 2017
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This is to certify that the management system of

KOREA HYDRAULIC CO.

45-13, Noksansandan 261-ro 14beon-gil, Gangseo-gu, Busan, Korea

has been found to conform to Quality Management System standard(s):
ISO 9001:2008, KS Q ISO 9001:2009

This certificate is valid for the following Scope:
Design, Development, Manufacture and Marketing of Hydraulic, Hydrostatic, Gas Booster System and Parts

Place and date:
Seoul 19 November, 2014



For the issuing office:
DNV GL - Business Assurance
18th Floor, Kyobo Building, 1, Jongno-gu, Seoul, Republic of Korea. Tel.: +82 2 723 7593

Ahnuk
In Kyoan Ahn
Management Representative

Lack of fulfillment of conditions as set out in the Certification Agreement may render this Certificate invalid.

[문서번호: hGFQ-wDgm-mtpc-GLWU]
[발급일자: 2013년 02월 26일]

제 20011394 호

기업부설연구소 인정서

1. 연구소명: 한국유수압 부설연구소
[소속기업명: 한국유수압]
2. 소재지: 부산 강서구 송정동 1591-2 2층
3. 신고연월일: 2013년 2월 26일
(최초인정일: 2001년 3월 16일)

「기초연구진흥 및 기술개발지원에 관한 법률」 제14조,
같은 법 시행령 제16조제1항 및 제27조제1항에 따라 위와
같이 기업부설연구소로 인정합니다.



2013년 2월 26일

한국산업기술진흥협회장



* 한국산업기술진흥협회에서 발급되었으며 "http://www.mdt.or.kr"에서 "문서번호"를 입력하면 원본과 일치 여부를 확인할 수 있습니다.

1-3 Certificate



유자력공급자 등록증

Certificate of Registration

등록번호 (Certificate No.) : 201201205
 상 호 (Company Name) : KOREA HYDRAULIC CO.
 공장주소 (Factory Location) : #1591-2, Songjeong-Dong, Gangseo-Gu, Busan, Korea
 대 표 자 (Chief Executive officer) : Chul Soo, Sul

상기 업체는 우리 회사의 기기수리업체 등록 절차에 따라 심사한 결과 아래 품명에 대하여 유자력 공급업체로 등록되었음을 증명합니다.

This is to certify that according to KHNP's qualification procedure, this company has been registered on KHNP's Qualified Supplier List for the below items.

NO	품목 코드 Item Code	품 명 Item Description	품질 등급 Quality Class	운용 분야 Field	유효기간 Authorized Period
1	ME-AX1	설비보조 및 장비제작(장비제작)	A	원자력	2013.01.18~2016.01.17
2	ME-VV4	밸브(전규격)	A	원자력	2013.01.18~2016.01.17
3	ME-PP2	펌프(전규격)	A	원자력	2013.01.18~2016.01.17

2013.01.18

한국수력원자력(주)

KOREA HYDRO & NUCLEAR POWER CO., LTD



※ 본 인증서는 인터넷으로 발급되었으며 한국수력원자력(주)(<http://ebiz.khnp.co.kr>)의 발급문서확인메뉴를 통해 문서확인번호 또는 문서하단의 바코드 내용의 위변조 여부를 확인해 주십시오.
 다만 문서확인번호를 통한 확인은 발급일로부터 90일까지 가능합니다.



협력업체 등록증

등록번호: 110043 대 표 자: 설철수
 상 호: 한국유수압 사업자등록번호: 606-44-75017
 주 소: 부산광역시 강서구 녹산산단289로 37
 등록업종 및 구분: 적격(외부반출수리및제작[원자력]) 전국협력업체
 품질등급:
 유효기간: 2015.04.02 ~ 2017.06.30

상기업체는 우리회사의 협력업체로 등록되었음을 증명합니다.

2015.04.02



한전KPS주식회사

KEPCO PLANT SERVICE & ENGINEERING CO., LTD



1-4 Main Customers



SAMSUNG HEAVY INDUSTRIES



HANJIN HEAVY INDUSTRIES
& CONSTRUCTION GROUP



두산건설



Hanwha Corporation



SAMSUNG TECHWIN



두산DST



KOGAS
KOREA GAS CORPORATION



SAMSUNG C&T
Engineering & Construction Group



1-5 Business Area

Production and Manufacturing

- Hydraulic Jack
- Hydraulic Power Pack
- Water Test System
- Gas Test System
- Valve Test Unit
- Ground Load Test Device
- Various Hydraulic Tools



Lease Business

- Hydraulic Jack-up System
- Weighing System (Super-Heavy Load)
- Strand Jack System
- Gantry System
- Leasing Various Hydraulic Devices



Transportation and Installation of Super-Heavy Load

- Structure Design Method
- Bridge Construction Work
- Moving Offshore Structure, Large Block and Module
- Installing Turbine, Generator and Steam Drum
- Pipe Installing and Removal



Engineering

- Heavyweight Load-Out System
- Weighing System
- Job Site Operation Supervision



ENPOS
KOREA HYDRAULIC CO.

2-1 Hydraulic Products



Hydraulic Tool(Jack, Pump)



Lock-Nut Jack; 600ton



Hydraulic Jack; 1,000ton



Aluminum Jack & Hydraulic Power Pack

2-1 Bolt Tensioner

- Size : M20~M180



Releasing



Testing



Field application



Field application

2-1 Water & Gas Products

- Pressure : 1~60,000psi
- Available fluid : Hydraulic, Gas, Water



High Pressure Valve



Water Test Pump



Hyd Test Pump



Gas Booster

2-1 Hydraulic Products

- Capacity : 100~1,000ton



200ton Block Lifter



500ton Block Lifter



800ton Block Lifter



500ton field application

2-1 Hydraulic Products



Water Test Unit



Hydraulic Power Pack (350bar)



Oil Flushing Unit (10~300HP)



Oil Filtering System

2-2 Hydraulic Cylinder

- Jack Capacity - Push : 2,000ton x 3,000st , Pull : 1,500ton x 3,000st
- Pressure : 700bar



Testing before releasing



Testing



Manufacturing



Inspection

2-3 N2/He(gas) Leak Test Facility

- Working Pressure : 10,000psi (690bar)
- Max flow : 110,000scf/hr (2,970Nm³/hr)



N2/He Equipment



LN2 Pump



Testing



Inside of the equipment

2-4 Hydraulic Pulling System

- Capacity : 10~1,500ton



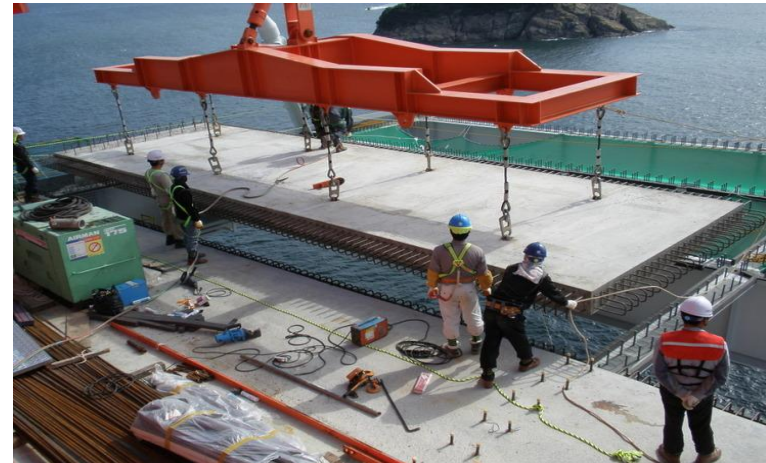
Testing before releasing



Icebreaker propeller operation



Propeller shaft operation



Construction site

2-5 Hydraulic Lifting System

- SAMSUNG C&T - USEM Preloading at Seoul City Main Hall (USEM; Underground Space Extension Method)
- Capacity : 11,000ton 70point Synchronous system [2009~2011]



Seoul City main hall



Launching ceremony



Testing before releasing



Job site installing



Completion of installation



Working

2-5 12,000ton Lifting System

- Capacity : 1,500ton x 2,000st x 8EA [2014.09~2014.10]
- HPU : 4set
- Control Room : 1set



1500ton jack(2000mm)



Hyd. Power Pack



Lifting Operation



HHI DSO Project(abt 8000ton)

2-6 66,600ton Hydraulic Synchronous Jacking System

- Samsung Heavy Industry - INPEX Ichthys CPF Project [2014.05~now]
- Capacity : 66,600ton
- $\pm 1\text{mm}$ 60point Synchronous



Testing before releasing



Jack Installing



Control Room



The whole view of installation

2-7 Field Application

- I.L.M Process (Bridge Launching System)



- Offshore Jacket Load-out (6,000ton)



2-8 Strand Jack System



**Bridge Lifting 2,500ton(Netherland)
Strand Jacks 8x450ton**



Stator installing



Strand Jacks 8x850ton



Crane Lifting 5,800ton(Ulsan)

2-8 Strand Jack System



Roof Lifting 10,500ton & 9,500ton (Qatar Doha)
Strand Jacks 20x450ton + 8x650ton + 4x200ton



Drilling Rig 10,700ton & 9,500ton (Norway)
Strand Jacks 32x450ton



Strand Jacks 4x450ton

2-9 Hydraulic Gantry System



SBL-1100

- Capacity : 1,172ton (293ton x 4EA)
- Size(Transport) : 4,308(L) x 1,361(W) x 2,244(H)
- Min height : 4,370mm, Max height : 12,000mm



2-9 Hydraulic Gantry System

- 500tons Turning Gantry Crane

1



2



3



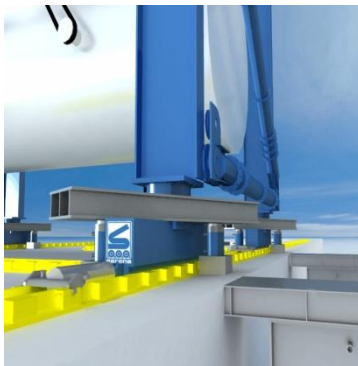
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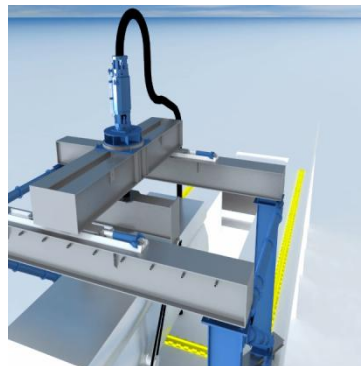
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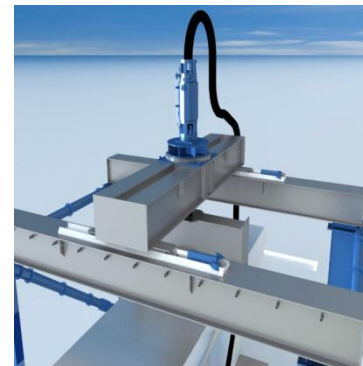
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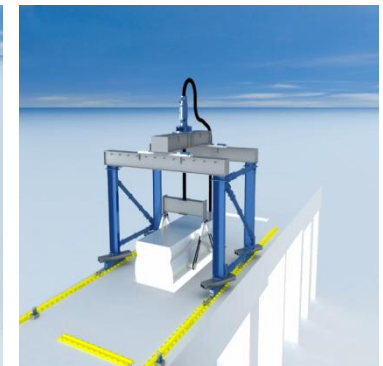
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9



10



2-10 Tower Erection



1,400ton tower lifting



Project in Bulgaria



Project in Mexico



**Vertical lift(France)
Strand Jacks 8x200ton**

2-11 SPMT

- SELF-PROPELLED MODULAR TRAILERS



3,500ton Module



3,000ton Module



Project in ALGERIA



15,000ton SPMT

2-12 CS5000 Jacking System

- Capacity : 20,000ton Jacking Topside



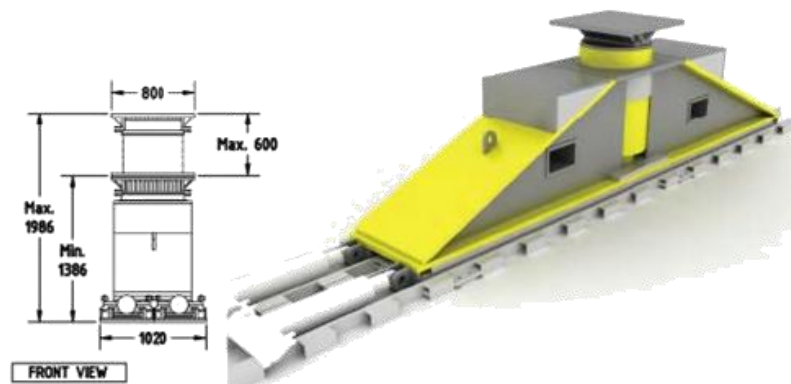
2-13 Skid Shoes System



Operation



Operation



600ton skid shoe Dimension

2-14 Weighing System

- POSCO Plantec – CSU Unit6 (Gwangyang pier)
- WEIGHT : 3,200ton



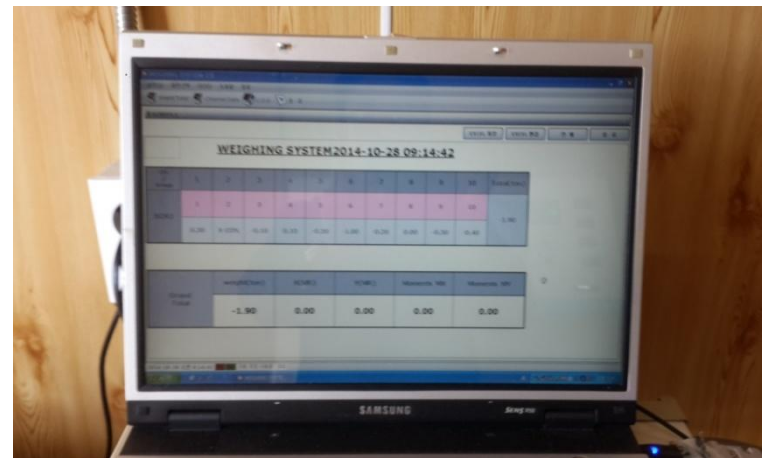
Operation view



Operation view



Operation view



Computer program

2-14 Weighing System

- DS Heavy Industry – RMQC (Container Crane)
- WEIGHT : 1,700ton



2-15 Construction Testing Equipment

- Well Foundation Method (Changwon Daesan-filtration)
- Capacity : 1,200ton
- Center Hole Jack : 400ton x 400st x 4EA



Installing



Compression load test at the top



Well inserting operation



Load test in both directions

2-16 Transportation of Super-Heavy Load

- Youngjong Bridge : 11,000ton (Hanjin SC)



- Baekwoon Bridge : 600ton (Samsung C&T)



2-17 Maintenance Part



Before repairing winch



Winch repairing



Cylinder repairing



Hydraulic equipment repairing

3 Equipment List

Name of Equipment	Specification	Quantity	Remark
Hydraulic Jack	300ton x 300st	12	700bar
	600ton x 250-300st	40	
	800ton x 250-300st	44	
	1,000ton x 250-300st	8	
	1,500ton x 2,000st	8	350bar
Hydraulic Power Pack	700bar	52	
	700bar-Multi Type	1	
	For 1,500ton (350bar)	4	
Control System (20ft Container)	Separative & Synchronous System	2	
Skid Bogie System	250ton x 8EA(2,000ton)	1	

※ Gantry System(Cap : 1,100ton) & Strand Jack System Super-heavy Load can be provided if necessary.

3 Equipment List

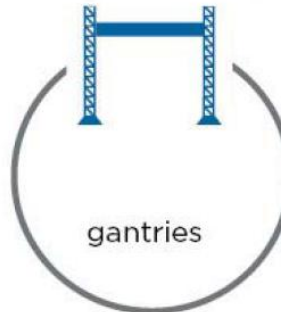
CRANES



TRANSPORT (AXLE LINES)



SPECIAL EQUIPMENT



3 Equipment List

No	Description	Serial No	Q'ty	Unit Dimension (mm)			Unit Weight (kg)
				L	W	H	
	STRAND JACK						
1	DL 588t Strand Jacks c/w bracket	5SJ0001 - 0008	8	2,200	1,000	1,250	4,600.00
2	DL 185t Strand Jack c/w bracket	1SJ0001 - 0004	4	1,900	650	800	1,600.00
3	DL S46 Strand Jack c/w bracket	46SJ0001 - 0004	4	1,750	500	750	600.00
4	DL588t Fixed Anchor	5FA0001 - 0004	4	2,050	470	610	1,784.50
5	DL185t Fixed Anchor	1FA0001 - 0004	4	1,350	425	450	465.50
6	DL S46 Fixed Anchor	46FA 0001 - 0004	4				
7	Fixed Anchor (Single strand)		9	70	70	150	2.50
7	588t Demon Anchor		2	5,000	2,300	2,900	11,630.00
8	588t Fixed Anchor Frame	5FAF0001 - 0004	4	5,100	720	1,280	4,050.00
9	185t Fixed Anchor Frame	1FAF0001 - 0004	4				
10	588t Power Pack (Diesel)	5PPSJ0001 - 0002	2	2,500	1,700	2,100	5,000.00
11	185t Power Pack M (Diesel)	1PPSJ0001	1	1,700	2,500	2,000	3,480.00
12	185t Power Pack (Diesel)	PPSJ0001 - 0002	2				4,800.00
13	S46 Power Pack (Electrical)	46PPSJ 0001	1	2,000	1,600	1,680	2,850.00
14	Wire Dispenser c/w strand	SJWF 0001	1	1,700	1,500	1,800	
	Wire Dispenser (Red)		2	1,500	860	1,760	511.00
	Wire Dispenser (Grey)	SJWF	1				
	Wire Dispenser (Grey)	SJWF	1				
15	Strand Wires	Coil	5				

3 Equipment List

No	Description	Serial No	Q'ty	Unit Dimension (mm)			Unit Weight (kg)
				L	W	H	
	SKIDDING						
1	600t Skid Shoe c/w jack & saddle	SS 6001 - 6022	24	5,300	800	1,400	7,935.00
2	300t Skid Shoe c/w jack & saddle		4	4,150	750	1,100	
3	Saddle		6				355.00
4	Skid Shoe Base	SSB 0001 - 0004	4	2,080	760	200	2,331.00
5	600t Hydraulic jack		6	580	580	950	1,888.50
6	5.7m Skid Track		6	5,700	450	230	1,157.00
7	5.4m Skid Track	ST 0001 - 0157	170	5,400	510	130	888.50
8	2.7m Skid Tracks	ST0001-0026	26	2,700	450	230	587.00
9	1.35m Skid Track		14	1,350	500	100	240.00
10	2.6m Steel Mat	2SM 0001 - 0034	34	2,600	1,000	250	875.00
12	5m Steel Mat	5SM0001-0045	45	5,000	1,000	250	1,750.00
13	7m Steel Mat	7SM0001-0038	38				
14	12m Steel Mat		2	12,000	1,000	300	
15	50t Push & Pull Cylinder	5PP0001-0038	38	1,280	650	1,450	266.50
16	20t Push & Pull Cylinder	2PP0001-0016	8	1,400	500	150	122.00
17	300bar Skidding Power Pack	PPSK 0001	1	2,650	1,650	1,750	3,375.00
	300bar Skidding Power Pack	PPSK 0002	1	2,300	1,220	1,850	2,340.00
	300bar Skidding Power Pack	HPS0001	1	1,500	650	1,250	
18	200mm Steel Support Mat	SSM	9	1,000	1,000	200	465.00
19	250mm Steel Support Mat	SSM	7	1,000	1,000	250	
20	250mm Steel Support Stool (s)	SSS 0001 - 0016	17	600	500	250	184.50
22	300mm Steel Support Stool		7			300	
23	MS Plate		2	1,360	610	25	158.50
24	MS Plate		6	600	600	25	97.00
25	Teflon			250	260	30	5.50
26	5m Beams		6	5,000	450	260	550.00
27	5.6m Skid Beams		2	5,650	260	280	1,765.80
28	5.2m Skid Beams		2	5,200	260	230	1,089.00
29	2.8m Skid Beams		2	2,850	260	230	528.00

3 Equipment List

No	Description	Serial No	Q'ty	Unit Dimension (mm)			Unit Weight (kg)
				L	W	H	
	SUPPORT EQUIPMENT						
1	90Kw Gen Set	90GS 0001	1	2,850	1,050	1,450	1,900.00
2	5m RORO Ramp	RR5001 - 5004	4	5,000	1,800	250	
3	5.5m RORO Ramp	RR5.5 005 - 006	4	5,550	1,850	300	
4	6m RORO Ramp	RRR 6001 - 6002	2	6,000	1,850	300	7,500.00
5	10m RORO Ramp	RRR1001-1002	2	10,000	2,200	550	18,500.00
6	Ramp Hinges	RRH 5001 - 5004	4	1,850	500	200	299.50
7	Ramp Hinges	RRH 6001 - 6002	2	1,900	500	300	299.50
8	Ramp Hinges	RRH1001-1002	2	2,200	500	300	350.00
9	4" Jacking Timber (1x100)	JT0001-0022	22	1,100	1,060	1,330	1,130.00
10	2" Jacking Timber		3	1,070	1,060	720	530.00
11	1" Jacking Timber	JT0008	1/2				
12	1/2" Jacking timber	JT0008	1/2				
13	Welding Set		1	400	210	400	12.50
	Welding Set 400		1	350	640	690	42.00
14	30m Hydraulic Hoses		20				24.00
	30m x 3/4" Hydraulic Hoses		12				
15	10m Hydraulic Hoses		10				8.00
	10m x 1/2" Hydraulic Hoses		30				
16	5m x 1/2" Hydraulic Hoses		10				
17	T-Joint		68				2.50
18	20mm H Beam Welded		2	12,000	930	300	
19	Suquare Support		8	1,000	1,000	1,000	838.00
20	Walkie Talkie		3				
	Walkie Talkie (N)		2				
	Walkie Talkie (N)		2				

3 Equipment List

No	Description	Serial No	Q'ty	Unit Dimension (mm)			Unit Weight (kg)
				L	W	H	
	BALLAST AND WINCH						
1	Winch Power pack	PPWN 0001	1	2,500	1,500	1,720	2,295.00
	Winch Power pack		1	2,500	1,700	2,100	3,000.00
2	12t Winch c/w wire, frame & wedges	1YT45 0001 - 0004	4	1,900	1,900	1,700	7,500.00
3	Mooring Wire		16	10,000	78	78	
4	80t Grommet		8	4,000	57	57	480.00
5	20t Grommet		8	2,000	30	30	12.50
6	80t Pulley Block (4sheeves)		8	1,150	480	480	410.00
7	20t Pulley Block		4	1,050	450	100	105.00
8	85t Shackle		26				63.00
9	25t Shackle		7				14.00
10	17t Shackle		4				8.50
11	8t Snatch Block		2				
12	6" Diesel Deck Pump	DWP01 - 08	8	2,400	1,615	1,320	1,000.00
13	Water Pump Power pack	PPW 0001 - 0003	3	2,800	1,700	2,150	4,750.00
14	6" x 6m Suction hoses		17	6,000	190	190	60.00
15	6" x 10m discharge hoses		6	10,000	190	190	75.00
16	6" x 6m discharge hoses		3	6,000	190	190	45.00
17	12" Submersible Pump		25	380	380	1,450	185.00
18	8" Submersible Pump		8	350	350	825	91.00
19	6" Submersible Pump		16	600	400	900	127.50
20	12" x 2.5m Pipe		144	2,500			76.50
21	12" x 1.1m Pipe		13	1,100			44.00
22	12" x 500mm pipe		4	500			22.00
23	12" Elbow		42		300	300	49.00
24	8" x 5m Pipe		32	5,000	200	200	150.00
25	8" x 1m Pipe		32	1,000	200	200	50.00
26	8" Elbow		18		200	200	50.00
27	6" x 5m Pipe		52	5,000	150	150	80.00
28	6" x 1.5m Pipe			1,500	150	150	40.00
29	6" x 1m Pipe		40	1,000	150	150	30.00
30	6" Elbow		50		150	150	30.00

3 Equipment List

No	Description	Serial No	Q'ty	Unit Dimension (mm)			Unit Weight (kg)
				L	W	H	
	JACKING & WEIGHING						
1	Power Pack 700bar	PPWJ 0001	1				
2	Power Pack (4motor)	PPWJ 4001	1	2,020	865	1,000	1,117.00
3	Power pack (2motor)	PPWJ 2001 - 2002	2	810	530	800	258.00
4	Power Pack (single motor)	PPWJ 1001	1				
5	200t Climbing jack Housing (S)		19	560	560	400	277.00
6	200t Climbing jackHousing (L)		26	850	850	400	545.50
7	100t Climbing Jack Housing		6				
8	50t Climbing Jack Housing		10				
9	22t load cell		4	154	154	40	4.00
10	100t load cell		4				
11	200t load cell		20	300	300	110	43.50
12	450t load cell		8	210	210	260	54.50
13	600t load cell		23	210	210	260	54.50
14	22t display monitor		4				5.00
15	200t display monitor		22				5.00
16	450t display monitor		3				
	450t display monitor		5				
17	600t display monitor		4				
18	50t hydraulic jack		10	130	130	280	24.50
19	100t locknut jack	0845506, 0845508-09	3	190	190	380	78.00
20	100t Hydraulic jack		10	170	170	300	52.50
21	200t hydraulic jack		47	250	250	320	114.50
20	600t hydraulic jacks		12	460	460	540	575.50
21	800t hydraulic jack		9	540	540	550	843.50
21	3m Jacking Beam		10	3,000	700	250	1,330.00

4 Directions



THANK YOU
FOR YOUR ATTENTION