



# Dohyun Machine Works

## Introduction

# INDEX

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	Page
<b>Index</b>	<b>2</b>
<b>Key Personnel</b>	<b>3</b>
<b>History &amp; Timeline</b>	<b>4</b>
<b>ISO 9001:2015</b>	<b>7</b>
<b>Equipment List for DMW</b>	<b>8</b>
<b>DMW Employees</b>	<b>9</b>
<b>Product Size and Weight</b>	<b>10</b>
<b>Shop layout and sizes</b>	<b>11</b>
<b>Photos of facility properties</b>	<b>13</b>
<b>Photos of past projects “Supplied by DMW”</b>	<b>28</b>

## Key Personnel - Dohyun Machine Works

**Owner :** Ms. Kwang Mi Go

**Managing Director :** Mr. Frederick B. Ibey , P.E.

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# History & Timeline

## 2005 Commence business activity

Dohyun Machine Works “DMW” began operation in 2005.

At first the main product was Spur Gears and Chain Wheels for winches.

DMW purchased 3 used Gear Cutting machines that have a capacity of:

Up to 72 inch diameter gears

and

Up to #1 DP cutters

## 2008 Initial Growth

DMW purchased a larger shop (#3) and dedicated the facility to EDM Technology.

Installation of an outside slab area designed to round up Bull Gears, container rings and roller paths assure correct fit up and diameters are within tolerance.

Land area 2,310 Sq. Meters

Shop area is 460 Sq. Meters and is equipped with a 5 ton crane.

Supply of large Bull Gears using wire cutting “EDM Technology” was added to the range of products by DMW.

Gear cutting for small gears and chain wheels were subcontracted instead of in house manufacture. This allowed the shop space to become more efficient to produce and handle the large segmental bull gears.

DMW naturally branched out to the supply of the large roller paths and container rings for the offshore cranes of NOV AmClyde.

DMW also received orders to supply Main Hook Blocks and various weldments for the tackle and revolving systems for AmClyde cranes.

During this time period DMW also quoted and received orders to supply:

- Mooring system components
- Fairlead assemblies and
- Chain stoppers.

Developed DMW's facility expansion plan for the following 4 years (2009-2012) and have elected not to enter into engineering design. DMW's base is that of a major sub-vendor for existing equipment suppliers. DMW does involve themselves in manufacturing design improvements and recommendations for material conversions.

## **2009 thru 2010 Growth and Facility Expansion**

In 2009 DMW purchased additional property. Total area of the property is 9,240 Sq. Meters.

During 2009 and 2010 DMW built the following facilities on above property:

- **Assembly Shop-#1** (920 Sq. Meters) Equipped with 30/10 ton crane, 10 ton crane and a 5 ton crane. This is a high bay building with the 30/10 ton crane running above the 5 and 10 ton cranes.
- **Weld Shop- #2** (441 Sq. Meters) Equipped with quantity 1- 10 ton crane and 1 -5 Ton Crane
- **Machine shop #1A** (441 Sq. Meters) Equipped with quantity 1- 10 ton crane and 1 – 5 Ton Crane.
- **Main Office** (400 Sq. Meters) complex.

During this period DMW began manufacturing more major components for NOV AmClyde and some smaller structures for other customers.

Main Product Base

- A. Bull Gears up to 20 meter diameter with segmental design.
  - B. Large Container Rings for Deck to Tub interface on large cranes.
  - C. Hoists and winches.
  - D. Fairleads and Chain stoppers
  - E. Crane blocks from 40 ton to 4000 ton conventional and underwater designs.
  - F. Many small components such as sheaves/ axles / Ball bushings etc.
- DMW received their ISO 9001 certification with ABS in 2010.

## **2011 thru 2012 Purchase additional land and build facility**

In 2011 DMW purchased an adjoining property with a total land area is 6,500 Sq. Meters.

- This property had an existing Office and a Shop. The office ( #4A) is 300 Sq. meters and was remodeled during 2011. This building contains the Quality personnel, documentation room and cafeteria.
- The existing shop (#4) is 1000 Sq. Meters. A 5 ton crane was installed and additional upgrades were completed. This shop is used as an assembly shop, the main warehouse and receiving.

- During 2012 a second High bay building # 6 was constructed. It has a working area of 1,270 Sq. Meters and is primarily for fabrication of large structures and assembly. This shop (#6) is equipped with a 30/10 Ton High crane , Qty 1 -15 ton and a 7.5 Ton lower level Cranes.

## **2013 –**

An added shop was constructed adjacent to #4 and is shop #7. The EDM Wire Cutting was moved from #3 shop to #7 shop.

This shop is total of 160 sqm and has a 5 Ton Crane.

Number 3 Shop was then upgraded with a 15Ton/10Ton new crane and runway. The existing 5 Ton is on the high crane runway.

During this year DMW main Customer was NOV Hydralift AmClyde and we continued supply of our Main Product Base items.

## **2014 -**

During this year DMW made acquisition of additional machine tools.

Toshiba Table Mill 1 Meter X 1 Meter CNC

SNK 3N Planar Miller

Toshiba Vertical Lathe 2 Meter by 1,8 Meter vertical Travel

Number 3 Shop was designated as the second machine shop and houses the SNK 3N Planar miller and the Toshiba 2M Dia Vertical Lathe.

Adding of the machines allowed more in house machining and control for DMW Main Product Base items.

## **2015 - 2018**

With the decline in offshore product sales DMW acquired some new customers

NKT in Korea joint project for Plate Leveler for Hyundai Steel in Korea

Equatorial Inc. in Singapore for small mooring system Chain Stoppers.

Yanase Inc. Korea for Dredge Crane parts

NOV Norway for some handling assembly's

American Equipment Singapore

PH Hydraulics Singapore

NOV sales went down and so DMW main customer base was very low and we had to downsize our labor force accordingly but maintained our experienced office staff and main shop personnel.

# ABS Quality Evaluations

## Certificate Of Conformance

This is to certify that the Quality Management System of:

**DoHyun Machine Works**

**38, Jenae1gongdan-gil, Oedong-eup, Gyeongju-si  
Gyeongsangbuk-do  
Korea**

has been assessed by ABS Quality Evaluations, Inc. and found to be in conformance with the requirements set forth by:

**ISO 9001:2015**

The Quality Management System is applicable to:

**MANUFACTURING AND SERVICING OF MARINE CRANE PARTS, WINCH AND INDUSTRIAL MACHINERY**



This certificate may be found on the ABS QE Website ([www.abs-qe.com](http://www.abs-qe.com)). For certificates issued in the People's Republic of China information may also be verified on the CNCA website ([www.cnca.gov.cn](http://www.cnca.gov.cn)).

Certificate No:	45822
Certification Date:	07 February 2017
Effective Date:	04 October 2018
Expiration Date:	06 February 2020
Issue Date:	04 October 2018

Alex Weisselberg, President



Validity of this certificate is based on the successful completion of the periodic surveillance audits of the management system defined by the above scope and is contingent upon prompt, written notification to ABS Quality Evaluations, Inc. of significant changes to the management system or components thereof.

ABS Quality Evaluations, Inc. 16855 Northchase Drive, Houston, TX 77060, U.S.A.  
Validity of this certificate may be confirmed at [www.abs-qe.com/cert\\_validation](http://www.abs-qe.com/cert_validation).

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# Equipment List for DMW

## 1 Assembly Work.

- Complete equipment outfitting for large assembly's  
Hand tools / power tools / torque wrench's 5ton and 15 ton crane weigh scale.

## 2 Fabrication-

- 8 FCAW units
- 2 GMAW units
- 2 TIG units
- 1 SAW unit
- Hand tools
- Bug and circle burning equipment
- Arc Gouging Qty2
- Hand power tools

## 3 EDM Wire Cutting

- Qty 2 machines that have cutting area 1.4 Meter X 2.0 Meter X 1 meter height.
- Qty 6 machines that have cutting area 1.4 Meter X 1.4 Meter X 1 meter height.
- Qty 1 machine that has a cutting area 1.2 Meter X 1.0 Meter X 1 meter height.
- Qty 3 machines that have a cutting area 0.6 Meter X 0.45 Meter X 0.6 Meter height

4 Band saw capacity is 400 mm X 400 mm X 6 Meter length.

5 2 Shop drill presses with capacity of 50 mm Drilling

6 Machine Shop is equipped with

- Qty 3 CNC planer mills. Max size is 1.2 Meters X 3 Meters.RB2N SNK
- Qty 1 CNC planer mills. Max size is 2.4 Meters X 3.5 Meters.RB3N SNK
- Qty 1 CNC Horizontal Table Mill. Max size is 1.0 Meters X 1.0 Meters.
- Qty 1 CNC Vertical Lathe. Max size is 2. Meters X 1.6 Meters.
- Qty 1 Horizontal Milling Machine Manual. Equipped with a 3.5 inch spindle and Digital readout..
- Qty 1 conventional lathe.
- Qty 1 CNC Lathe.
- Qty 1 Knee Mill – Digital Readout
- Qty 1 Key Grinder

7 DMW has the following for material handling and transportation.

- Qty 1 - 3 ton Electric Forklift. Case
- Qty 1 – 8 Ton diesel forklift. Hyundai
- Qty 1 - 1.4 Ton truck. Kia
- Qty 1 - 5 Ton truck.Hyundai
- Qty 2 - SUV personnel vehicles. Hyundai and Kia.



## Employees of DMW

<u>Job Description</u>	<u># Personnel</u>
• President/CEO	1
• Managing Director.	1
• Welding 2 welders are qualified to ABS Lloyds/DNVGL and AWS D1.1	2
• Assembly	2
• Machining	2
• Production and planning	1
• Purchasing	1
• Quality Assurance	1
• Order entry and control	1
• Accounting	1
• Shipping and receiving	1
<b><u>Total Employees</u></b>	<b><u>14.</u></b>

Note: DMW contracts outside personnel in the following areas when production load requires added production personnel.

- 1- Fitting and Welding
- 2- Assembly
- 3- Machining

DMW has a large number of qualified Sub-Contractors for the following

- 1- Heavy machining
- 2- Light Machining
- 3- Forgings
- 4- Castings
- 5- Heat Treat
- 6- Blast and Paint
- 7- Material Testing
- 8- NDE services

## **Product Size and Weight.**

Road clearance from DMW factory to the Port Ulsan Busan or Masan.

- Weight to 225 Tonne
- Width- 6200 mm (20 feet)
- Height-4500 mm (14.5 feet)
- Length -17,000 mm (55.5 feet)

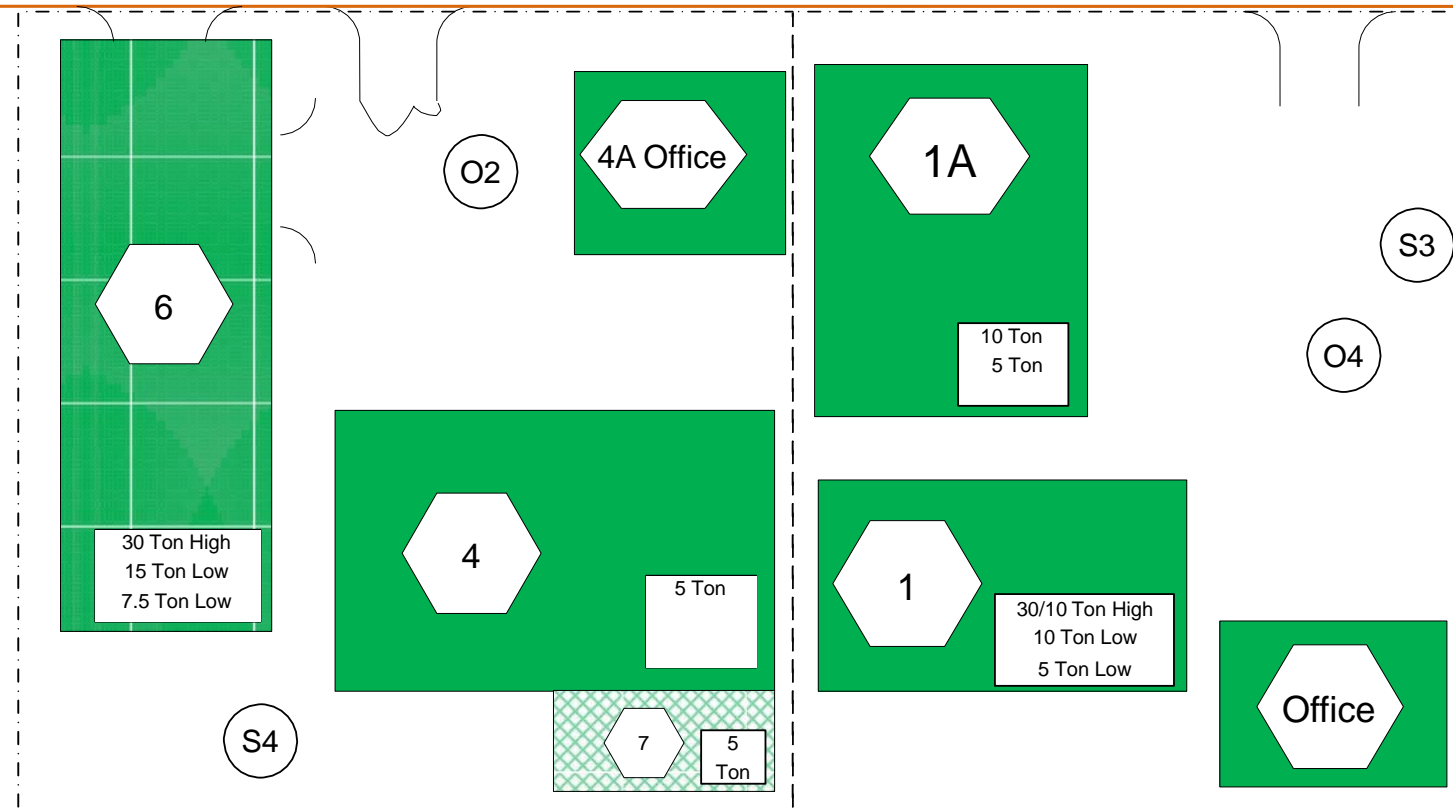
For larger load outs DMW trial assembles and then ships in smaller sections to the Port of Ulsan for final assembly and load out.

# DOHYUN MACHINE WORKS

Property Lay out

## Dohyun Machine Works Properties

<b>Office – Main</b>
<b>1- Assembly Shop</b>
<b>1A -Top Eng – Machine Shop #1</b>
<b>4- Warehouse &amp; Assembly</b>
<b>4A –Quality Office &amp; Cafeteria</b>
<b>6 – Fabrication Shop –(High Bay) / Assembly</b>
<b>7- EDM Wire Cut</b>
O1 - O4 Outside Working Areas
S1 - S4 Outside Storage
Note: Craneage capacity identified at each facility.



## Property Size

Shop Area	M <sup>2</sup>	Ft <sup>2</sup>	Type
<b>Total Shop Area</b>	<b>3,601</b>	<b>38,749</b>	
1	730	7,857	Assembly
1A	441	4,745	Machine
4	1,000	10,760	Assembly / Warehouse
6	1,270	13,665	Fabrication
7	160	1,722	EDM Wire Cutting

Office area is not included in the above areas.

## Outside Area

Shop Area	M <sup>2</sup>	Ft <sup>2</sup>
<b>Total</b>	<b>4,647</b>	<b>50,000</b>
Current	2,230	24,000
Leased when required	2,417	26,000



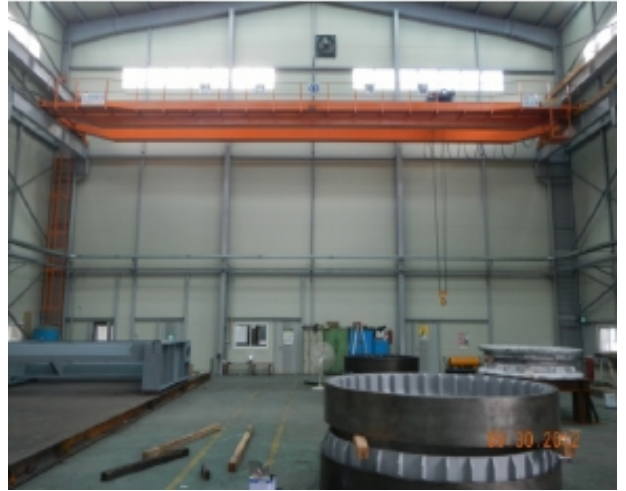
Main Office



## Number 1 Shop – Assembly

730 M<sup>2</sup> 7,857 Ft<sup>2</sup>











## Machine Shop 1A - "Top Eng"

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441 M<sup>2</sup> 4,745 Ft<sup>2</sup>











## Number #4 Shop- Warehouse/Assembly

1,000 M<sup>2</sup> 10,760 Ft<sup>2</sup>







## Number #4 A – Quality Offices

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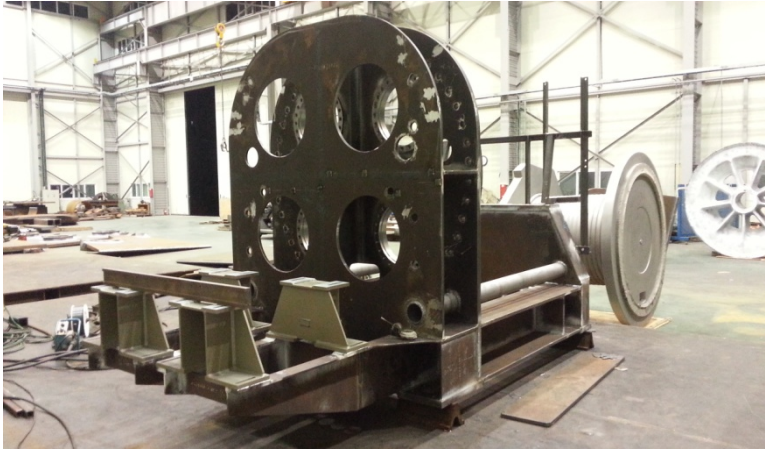
## Number #6 Shop – Fabrication & Ass’y

1,270 M<sup>2</sup> 13,665 Ft<sup>2</sup>











## Number #7 Shop- EDM

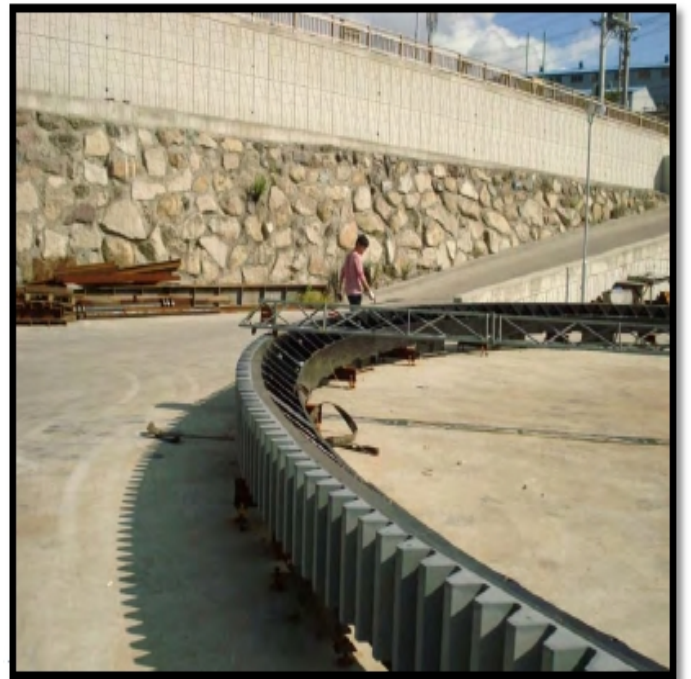
160 M<sup>2</sup> 1,722 Ft<sup>2</sup>

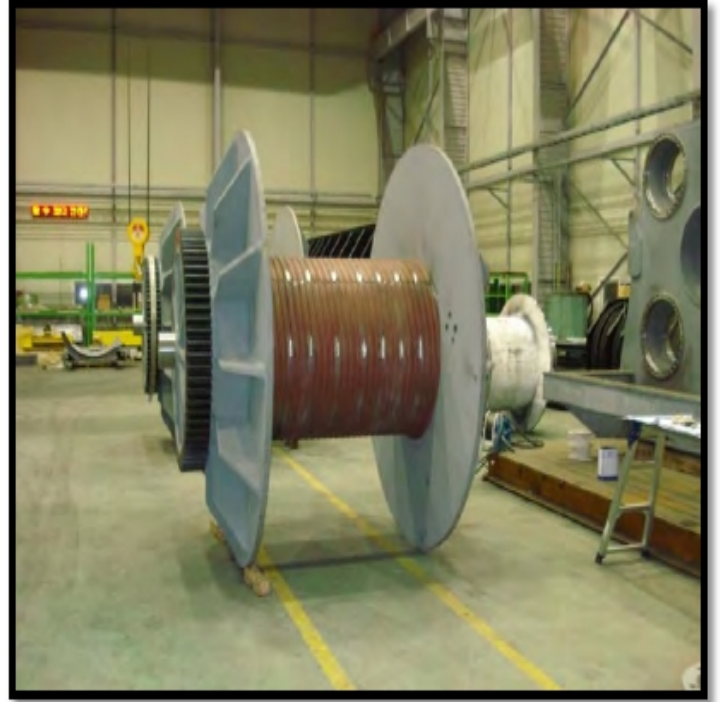




# Past Projects

by Dohyun Machine Works



























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