

## **HYSG Products**

The world's best company leading hydraulic industry

HYDRAULIC SEGYE

# **HYSG**

Be always happy with our customers

Production of competitive products, Best quality, Supreme service





## CEO Greetings

Thank you so much for visiting HYSG.  
Our company has been established in 1997 and has produced  
hydraulic components of ships, heavy machines and goods for defence industry.

We have developed our ability for hydraulic engineering, and our customers are satisfied with our faithful and excellent service by effort and experiments.

We pride ourselves on the fact that our company has contributed to making heavy equipment, ship machines and localizing of hydraulic equipment. We not only try to protect our natural environment but also try to be the leading company of hydraulic industry in the world. We are convinced that our company will continue to develop and make progress.

Thank you, best regards

CEO & President. **Dong-Bum Kim**





## Company a summary



**Company** HYSG

**The Location** 308-14, Gongdan-ro, Seongsan-gu, Changwon-si, Gyeongsangnam-do, Republic of Korea

**Employees** 35

**Capital** 4,000,000 USD

**Products**

**Hydraulic Machinery**  
Manifold, Cartridge valve(Check, Relief, Pilot Check, Flow Control), Counter Balance Valve, Rotary Joint, Pump, Motor, Cylinder, Exhaust Valve Control Unit etc.

**Hydraulic System**  
Hydraulic System, Test Bench, Hydraulic JIG for Machining, Gas Turbine DOCS, Rotary Head Machine

**Customers**

WARTSILA, WINGD(Winter Gas & Diesel)  
YUASA in Japan, NIKKO Co.,Ltd in Japan,  
CMS(cssc marine service) in China  
JUN JIN, FLUTEK Kawasaki Ltd. Hanwha Aerospace,  
HYUNDAI ROTEM Co.,Ltd, SNT Dynamics



## Business Policies

### The World's Best Company

Leading Hydraulic Industry



## History

### 1995~1999

- 1997.07.10** Founded Segae Hydraulic
- 1997.08.30** Developed localization of concrete pump car hydraulic system of Jun Jin Heavy Industry
- 1997.09.10** Developed localization of hydraulic steering gear and winch for Doosan Corporation Mottrol ships
- 1999.12.28** Obtained ISO 9001 quality certificate

### 2000~2004

- 2001.11.07** Registered as qualified company for safety inspection of supply of military goods
- 2002.07.25** Recognized as clean workplace (Korea Industrial Complex Corp.)
- 2003.09.18** Obtained ISO 14001 environmental certificate
- 2004.11.17** Certified as materials & components specialized company (Minister of trade, Industry and energy)

### 2005~2009

- 2005.06.20** Succeeded in final evaluation of new product development business with option to purchase (DTAQ, Small and medium business administration)
- 2005.12.10** Selected as Industrial Bank of Korea blue-chip company
- 2006.01.10** Signed up for the academy-industry technical agreement with Changwon National University
- 2006.07.27** Established company-affiliated R&D institute (Korea Industrial Technology Association)
- 2006.09.12** Obtained certificate for innovative SME (INNO-BIZ)
- 2009.03.10** Obtained Q-MARK quality certificate
- 2009.09.25** Selected as Korea Technology Finance Corporation A+ MEMBERS company



# HYSG is

## always happy with our customers just as we are for the first time.

### 2010~2015

- 2011.04.15** Registered as eligible company for MAN Energy Solutions
- 2013.12.09** Obtained certificate for Family-friendly Company
- 2014.04.20** Supplied test products to NIKKO in Japan
- 2014.09.19** Obtained certificate for Best Human Resources Develop
- 2014.12.30** Designated "Excellent desired company to work at in Gyeongnam"
- 2015.06.01** Designated "Promising Export Firm" (by Small and Medium Business Administration in Gyeongnam)
- 2015.11.10** Registered as eligible company for WARTSILA
- 2019.08.20** Registered as CSSC Marine Service (CMS, China) company
- 2020.10.05** Company name changed to HYSG

### 2016~Present

- 2016.03.10** Registered as eligible company for YUASA
- 2016.03.10** Registered as eligible company for KOBELCO, HITACHI
- 2016.12.29** Acquired OHSAS 18001 certificate (Lloyd's certification)
- 2017.06.01** Acquired Export Promising small business
- 2018.09.01** Registered as eligible company for WIN GD (Winterthur Gas & Diesel)
- 2019.01.01** Acquisition of youth-friendly small business certificate
- 2019.08.20** Registered as CSSC Marine Service (CMS, China) company
- 2020.10.05** Company name changed to HYSG
- 2022.10.24** Selected as a family company of Kyungnam University

# HYSG is

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just as we are for the first time.

## Heavy Machinery



Control Valve Ass'y  
Relief Valve and Check Valve  
Manifold Ass'y



## Hydraulic System

Manufacture of Various  
Hydraulic Testing Machines  
Aviation Parts Machining Jig  
Gas Turbine DOCS



## Ship

Developed various valves  
for ship engine  
  
Developed localization of  
various peripheral equipment for  
winch and steering gear  
  
Established OEM export foundation  
(technical cooperation  
with foreign countries)



## Defence Industry

Constructed production technology related to  
defense industry materials  
  
Localization of K-1, K-9 control block  
  
Developed Pump, Motor and Cylinder  
  
Promotion of domestic substitution of ultra-precision imported products

**Business  
Area**



# The Heavy Machinery Sector

We have embarked on the domestic development of hydraulic equipment for heavy machinery, and have produced and supplied concrete pump car, excavators, fire engine and cranes on the basis of our rich work experience and know-how in the areas of engineering design, manufacturing, assembly, and inspection. We do our best to provide products with perfect quality and excellent durability, trying to open not only domestic but also global markets.

## HYSG Products

### CONCRETE PUMP CAR CONTROL VALVE BLOCK



#### MAIN 4-WAY BLOCK



Working pressure	35MPa
Rated flow	500ℓ/min
Use	The operation control of main drive cylinder (large capacity)

#### MAIN MANIFOLD BLOCK



Working pressure	35MPa
Rated flow	350ℓ/min
Use	The operation control of main drive cylinder

#### VALVE 4-WAY BLOCK



Working pressure	35MPa
Rated flow	120ℓ/min
Use	The operation control of main drive cylinder (small capacity)

#### MAIN 4-WAY VALVE



Working pressure	35MPa
Rated flow	350ℓ/min
Use	The operation control of main drive cylinder

#### 4-WAY VALVE



Working pressure	31.5MPa
Rated flow	150ℓ/min
Use	The direction conversion of hydraulic working oil with high pressure and large capacity

#### 2-WAY VALVE



Apply kinds of machines	STA, MOLI, M28, M33, M37, M43, M47, M52, M57, M63
Working pressure	10MPa
Rated flow	40ℓ/min
Use	Oil cooler off, Pipe arrangement protection

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## HYSG Products

### CONCRETE PUMP CAR CONTROL VALVE BLOCK

#### OUTRIGGER CHECK VALVE



<b>Apply kinds of machines</b>	STA, MOLI, M28, M33, M37, M43, M47, M52, M57, M63
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<b>Working pressure</b>	33MPa
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<b>Rated flow</b>	120ℓ/min
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<b>Use</b>	Cylinder hunting prevention
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#### LOGIC VALVE



<b>Working pressure</b>	32MPa
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<b>Rated flow</b>	120~560ℓ/min (# 16.25.32)
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<b>Use</b>	Composed of poppet, bush and retainern
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## BLOCK FOR REDUCING VALVE



<b>Apply kinds of machines</b>	MOL1, M33, M37, M43, M47, M52, M57, M63
<b>Working pressure</b>	21MPa
<b>Rated flow</b>	60ℓ/min
<b>Use</b>	Main pump, control pressure, Rated flow control

## CHECK VALVE



<b>Apply kinds of machines</b>	STA, MOL1, M28, M33, M37, M43, M47, M52, M57, M63
<b>Working pressure</b>	21MPa
<b>Rated flow</b>	60ℓ/min
<b>Use</b>	Backflow prevention

## SENSING VALVE



<b>Apply kinds of machines</b>	STA, MOL1, M28, M33, M37, M43, M47, M52, M57, M63
<b>Working pressure</b>	35MPa
<b>Rated flow</b>	15ℓ/min
<b>Use</b>	Main cylinder change

## DOUBLE RELIEF VALVE



<b>Apply kinds of machines</b>	M28, M43, M47, M52, M57, M63
<b>Working pressure</b>	15MPa
<b>Rated flow</b>	60ℓ/min
<b>Use</b>	Swing extension outrigger cylinder protection

## RELIEF VALVE



<b>Working pressure</b>	35MPa
<b>Rated flow</b>	15~200ℓ/min
<b>Use</b>	Setting working pressure in system

## SHUTTLE VALVE



<b>Working pressure</b>	35MPa
<b>Rated flow</b>	30ℓ/min
<b>Use</b>	Main cylinder logic control

# The Heavy Machinery Sector

We have embarked on the domestic development of hydraulic equipment for heavy machinery, and have produced and supplied concrete pump car, excavators, fire engine and cranes on the basis of our rich work experience and know-how in the areas of engineering design, manufacturing, assembly, and inspection. We do our best to provide products with perfect quality and excellent durability, trying to open not only domestic but also global markets.

## HYSG Products

### VALVE & OTHER

#### BACK PRESSURE RELIEF VALVE Use of Specially equipped vehicles



Working pressure	21MPa
Rated flow	30ℓ/min
Use	Control of boom cylinder pressure

#### PILOT CHECK VALVE Use of Crane



Working pressure	31.5MPa
Rated flow	60ℓ/min
Use	Cylinder hunting prevention



## HIGH PRESSURE RELIEF VALVE

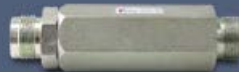
Use of Fire engine



<b>Working pressure</b>	21MPa
<b>Rated flow</b>	200l/min
<b>Use</b>	Control the pressure of water tank

## CONSTANT FLOW VALVE

Use of Specially equipped vehicles



<b>Working pressure</b>	31MPa
<b>Rated flow</b>	50l/min
<b>Use</b>	Constantly adjusts the flow rate of the boom cylinder

## STOPPER

Use of Excavator



<b>Working pressure</b>	35MPa
<b>Use</b>	Excavator travel motor main spool change cushion equipment

## LINE CHECK VALVE

Use of Excavator



<b>Working pressure</b>	31.5MPa
<b>Rated flow</b>	50l/min
<b>Use</b>	Backflow prevention

## PILOT CHECK VALVE

Use of Crane



<b>Working pressure</b>	31.5MPa
<b>Rated flow</b>	60l/min
<b>Use</b>	Cylinder hunting prevention

## PILOT CHECK VALVE

Use of Specially Equipped Vehicles



<b>Working pressure</b>	14MPa
<b>Rated flow</b>	10l/min
<b>Use</b>	Pole jack cylinder hunting prevention



# The Ship Machinery Sector

**HYSG** Products

## STEERING GEAR FOR A SHIP & WINCH

### MANIFOLD ASS'Y Steering Gear for a ship



<b>Working pressure</b>	35MPa
<b>Rated flow</b>	300ℓ/min
<b>Use</b>	Relief Valve, Solenoid Valve, Oil Block Valve, Logic Valve

### REGULATOR Steering Gear for a ship



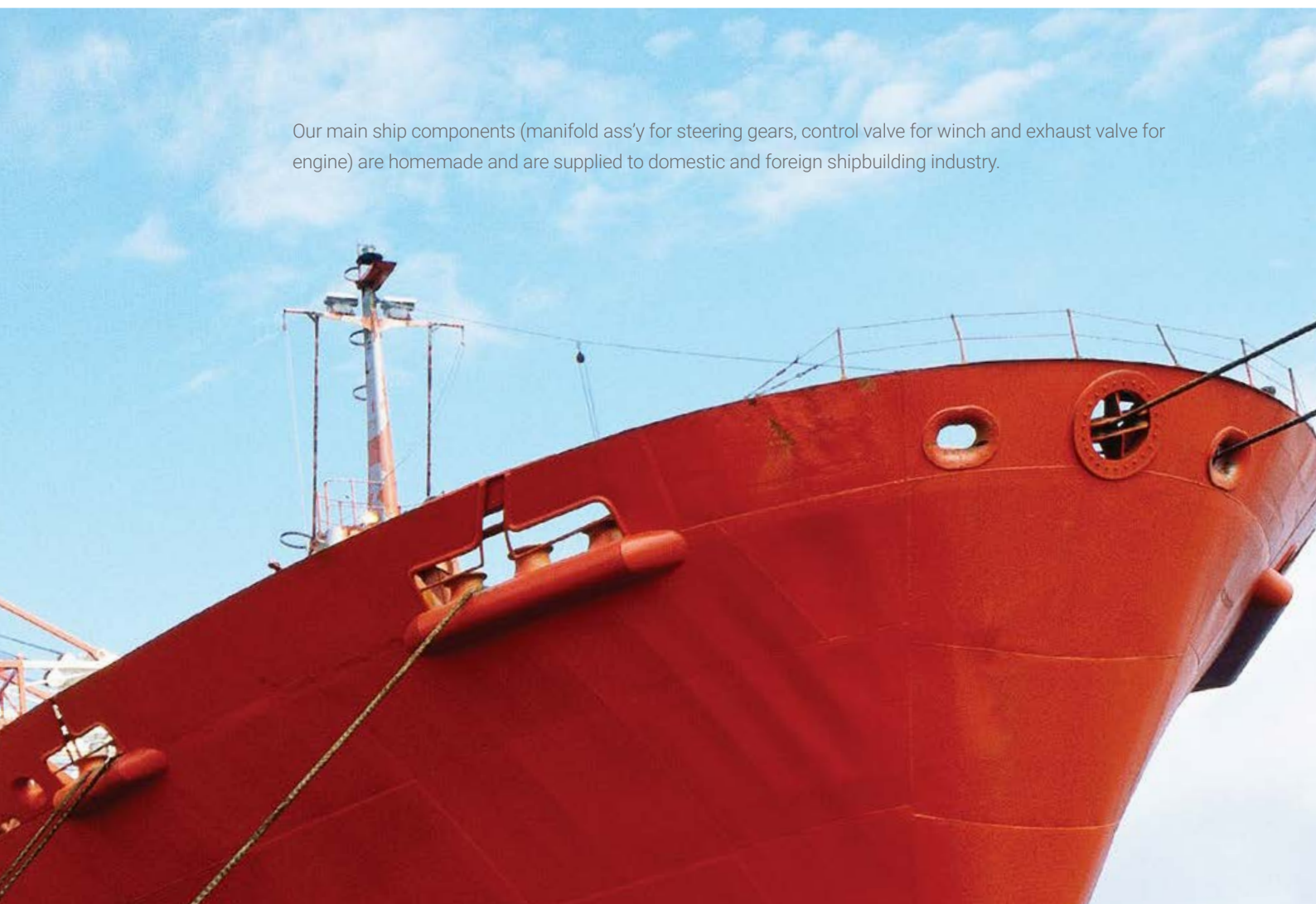
<b>Working pressure</b>	2MPa
<b>Rated flow</b>	12ℓ/min
<b>Use</b>	Flow control of pump with variable swash plate for steering gear

### CHECK VALVE BLOCK Steering Gear for a ship



<b>Working pressure</b>	31.5MPa
<b>Rated flow</b>	30ℓ/min
<b>Component</b>	Check Valve, Block, Filter

Our main ship components (manifold ass'y for steering gears, control valve for winch and exhaust valve for engine) are homemade and are supplied to domestic and foreign shipbuilding industry.



## ISOLATING VALVE BLOCK

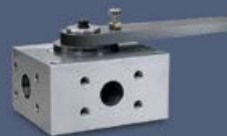
Steering Gear for a ship



<b>Working pressure</b>	31.5MPa
<b>Rated flow</b>	180ℓ/min
<b>Component</b>	Logic Valve, Solenoid Valve, Filter, Relief Valve

## 3-WAY VALVE BLOCK

Winch for a ship



<b>Working pressure</b>	25MPa
<b>Rated flow</b>	500ℓ/min
<b>Use</b>	Directional control for a winch actuator

## CHECK VALVE

Winch for a ship



<b>Working pressure</b>	0.05~0.45MPa
<b>Rated flow</b>	400~700ℓ/min
<b>Use</b>	Normal direction and reverse direction flow control

## CHECK VALVE ASS'Y

Winch for a ship



<b>Working pressure</b>	35MPa
<b>Rated flow</b>	20ℓ/min
<b>Use</b>	Backflow prevention



# The Ship Machinery Sector

Our main ship components (manifold ass'y for steering gears, control valve for winch and exhaust valve for engine) are homemade and are supplied to domestic and foreign shipbuilding industry

**HYSG** Products

## FOR SHIPS ENGINE

### PRESSURE CONTROL VALVE

Engine for a ship



<b>Working pressure</b>	95~105MPa
<b>Rated flow</b>	9ℓ/min
<b>Use</b>	Excessive pressure control or RT-flex engine fue pump
<b>Apply kinds of engine</b>	RT-flex 58, RT-flex 60

### PRESSURE CONTROL VALVE

Engine for a ship



<b>Working pressure</b>	95~105MPa
<b>Rated flow</b>	11ℓ/min
<b>Use</b>	Excessive pressure control or RT-flex engine fue pump
<b>Apply kinds of engine</b>	RT-flex 50, RT-flex 58, RT-flex 60, RT-flex 68, RT-flex X82, RT-flex 96





## AXIAL PISTON PUMP

Engine for a ship



<b>Displacement</b>	40cc, 71cc/rev
<b>Working pressure</b>	35MPa
<b>Max. speed</b>	2,700rpm
<b>Use</b>	Ship engine driven hydraulic pump

## PRECHAMBER

Engine for a ship



<b>Valve Applied</b>	PILOT FUEL INJECTOR VALVE
<b>Use</b>	Injects and combusts the fuel and elivers it to the main combustion chamber

## EXHAUST VALVE CONTROL UNIT

Engine for a ship



<b>Working pressure</b>	55MPa
<b>Rated flow</b>	150ℓ/min
<b>Use</b>	Exhaust valve operation control of ship engine
<b>Apply kinds of engine</b>	X35, X52, X62 X72, X82, X92

## EXHAUST VALVE CONTROL UNIT

Engine for a ship



<b>Working pressure</b>	45MPa
<b>Rated flow</b>	150ℓ/min
<b>Use</b>	Exhaust valve operation control of ship engine
<b>Apply kinds of engine</b>	RT-flex50, RT-flex58, RT-flex60, RT-flex68, RT-flex X82

## EXHAUST VALVE CONTROL UNIT

Engine for a ship

<b>Working pressure</b>	45MPa
<b>Rated flow</b>	180ℓ/min
<b>Use</b>	Exhaust vlave operation control of ship engine
<b>Apply kinds of engin</b>	RT-flex96



# The Defence Industry Sector

We do our best to manufacture and develop various hydraulic goods of mobile equipment for defence industry such as manifold, pump, motor, cylinder and valve.

## CONTROL BLOCK OF A CAR BODY/ EMERGENCY PUMP K1 ARV



<b>Working pressure</b>	32.5MPa
<b>Rated flow</b>	22ℓ/min
<b>Use</b>	Linear control and backside cylinder control of a K-1 ARRV(Armored Repair Recovery Vehicle)

## CONTROL VALVE K712



<b>Working pressure</b>	7MPa
<b>Rated flow</b>	228ℓ/min
<b>Use</b>	Hydraulic motor and cylinder control of a 5ton ARRV

## DEPRESSURIZING VALVE K1 AVLB



<b>Working pressure</b>	27.6MPa
<b>Rate flow</b>	12ℓ/min
<b>Use</b>	Cylinder-load and speed control of K-1 AVLB

## SEQUENCE VALVE K1 AVLB



<b>Working pressure</b>	27.6MPa
<b>Rate flow</b>	12ℓ/min
<b>Use</b>	Control of cylinder-load and operational sequence for K-1 AVLB



## HYSG Products

# MANIFOLD, PUMP, MOTOR CYLINDER, VALVE

## COUNTER BALANCE VALVE BLOCK K1 AVLB



<b>Working pressure</b>	35MPa
<b>Rate flow</b>	240ℓ/min
<b>Use</b>	Cylinder-load control of a K-1 AVLB (Armored Vehicle Launched Bridge)

## HYDRAULIC PISTON MOTOR K55



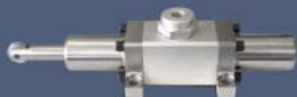
<b>Displacement</b>	13.16cc/rev
<b>Max. Speed</b>	4,800rpm
<b>Max. Pressure</b>	15MPa
<b>Use</b>	Angle adjuster of turret through spinning constant speed for turning gear assembly of a self-propelled gun

## EMULSIFIER GEAR PUMP UNIT Advanced detoxification mechanism



<b>Working pressure</b>	0.37MPa
<b>Rated flow</b>	3.5ℓ/min
<b>Use</b>	Constant flow supply for emulsifier of advanced detoxification mechanism

## SHUTOFF CAM VALVE NHK-2 Launcher



<b>Working pressure</b>	21MPa
<b>Rate flow</b>	57ℓ/min
<b>Use</b>	Speed control in accordance with launching pad location

## HYDRAULIC GEAR PUMP/MOTOR K712



<b>Working pressure</b>	7MPa
<b>Rate flow</b>	216ℓ/min
<b>Uses</b>	Speed control in accordance with launching pad location



# The Defence Industry Sector

We do our best to manufacture and develop various hydraulic goods of mobile equipment for defence industry such as manifold, pump, motor, cylinder and valve.

## HYSG Products

### HYDRAULIC BUFFER & DAMPER



#### HYDRAULIC BUFFER 120mm Mortar

<b>Recoil force</b>	5,100kgf
<b>Stroke</b>	250mm
<b>Use</b>	Shock buffering of mortars



#### HYDRAULIC DAMPER 120mm Mortar

<b>Recoil force</b>	82kgf
<b>Stroke</b>	20mm
<b>Use</b>	Shock buffering of mortar loading devices



# Hydraulic System Engineering Parts

We do our best for engineering service to design, manufacture, install and do test runs on valve, pump, cylinder, test bench, hydraulic element and iron hydraulic system.

## HYSG Products

### HYDRAULIC DEVICE SATELLITE PROJECTILE, TESTING DEVICE

#### KSLV1 MULTI-STAGE CYLINDER Satellite projectile



<b>Working pressure</b>	38MPa
<b>Stroke</b>	5,500mm
<b>Use</b>	Launcher cylinder for satellite projectile

#### Large GAS TURVINE DOCS Assembly



<b>Working Force</b>	100 Ton
<b>Gap adjustment range</b>	1.0~3.0 mm
<b>Use</b>	Adjusting and maintaining a constant clearance during Rotor rotation of a large GT

#### VALVE TEST STAND Testing device for servo valve



<b>Working pressure</b>	31.5MPa
<b>Rated flow</b>	120ℓ/min
<b>Use</b>	MOOG, NIRECO, HITACHI, Servo valve performance and durability test

#### ROTARY HEAD MACHINE Steel tubing production line facilities



<b>Speed revolution</b>	2,500rpm
<b>Use standard</b>	RTM65/90/100/140/250 etc.
<b>Components</b>	Non destructive super-sonic waves current test



# Hydraulic System Engineering Parts

We do our best for engineering service to design, manufacture, install and do test runs on valve, pump, cylinder, test bench, hydraulic element and iron hydraulic system.

**HYSG** Products

## PRODUCTION LINE EQUIPMENT

STEEL PIPE LINE,  
AIRCRAFT FOR MORTAR

**HYDRAULIC JIG for MACHINING**  
Aircraft stringer







## FORMING MACHINE

Aircraft stringer

Capacity	0.5~15ton
Ram stroke	350mm
Size	940mm×1,270mm×2,380mm
Use	Aircraft stringer forming machine



## TWISTING MACHINE

Aircraft stringer

Twisting capacity	6ton
Ram stroke	±30°
Size	1,000mm×800mm×1,040mm
Use	Aircraft stringer twisting machine



## 700TON FORMING MACHINE

Aircraft stringer

Capacity	10~700ton
Ram stroke	400mm
Size	2,000mm×2,500mm×3,500mm
Use	Aircraft stringer forming machine



## HYDRAULIC BUFFER PERFORMANCE TEST EQUIPMENT

120mm Mortar

Max. weight	600kg
Max. Drop height	3m
Use	Hydraulic buffer performance test



# TEST EQUIPMENTS



Piston Pump Performance Testing Device



Complex Operating Machine



## Performance Tester



Pump Test Equipment



Comprehensive Hydraulic Test Equipment



Regulator Test Equipment



Piston Motor Test Equipment



Hydraulic Test Equipment





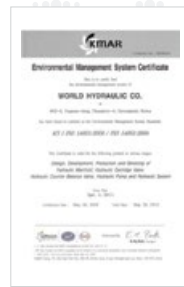
# ACQUISITION & PATENTS OF CERTIFICATION



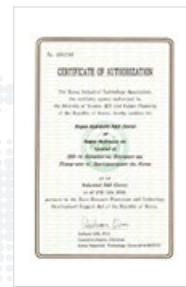
Certificate of OHSAS 18001



Quality Management System Certificate



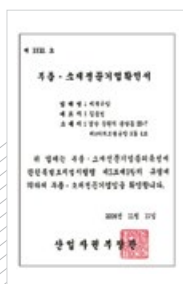
Environment Management System Certificate



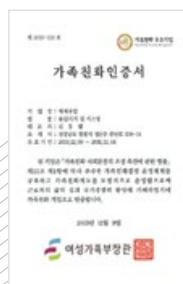
Certification of Laboratory Attached to Business



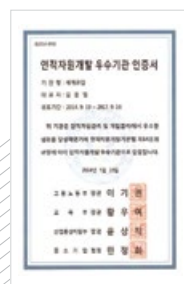
Certificate of Innovative SME (INNO-BIZ)



Appointment Letter or Materials & Components Specialized Company



Certificate of Family-friendly Company



Appointment Letter for Best Human Resources Developer



Certification of Patent



Certification of Patent



Certification of Patent



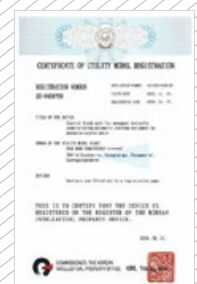
Certification of Patent



Certification of Patent



Certification of Patent



Certificate of Utility Model Registration





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