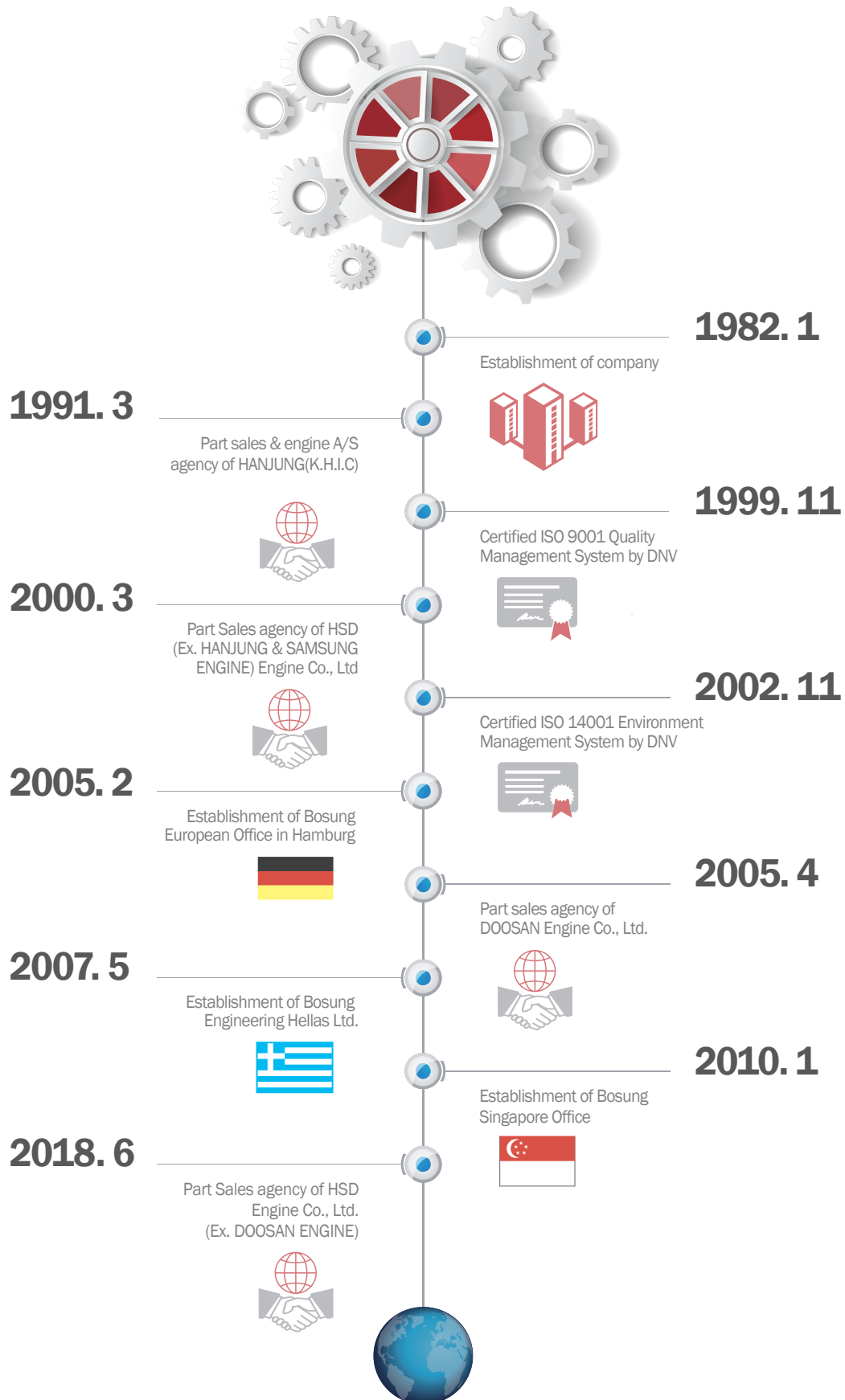




KOREA HEAD OFFICE	6, JUNGANG-DAERO 260 BEON-GIL, DONG-GU, BUSAN, KOREA Tel : 82-51-466-0881~4 / Fax : 82-51-466-0886/0889 / E-mail : master@bosung.com
Germany	Heidenkampsweg 100, 8.0G, 20097 Hamburg, Germany / TEL : +49-40-2385-7710 / 7756
Greece	14, Skouze Street185 36 Piraeus, Greece / TEL : +30-210-4187010
Brazil	Rua Maria Rodrigues, 43-Olaria, CEP 21031-49, Rio de Janeiro, RJ, Brazil / TEL : +55-21-99973-8515
India	B-702 Sarvoday Enclave, Opp, New Golden Nest Phase-10 Bhayander-East Thane- 401107, India / TEL : +91-93-2118-552
Taiwan	10F-2, No.211, Jhongjheng 4th Rd., Qianjin District, Kaohsiung City 801 / TEL : +886-7-2167617~18
Indonesia	JL. Ruko Vila Gading Indah No. BL A2/2 RT/RW 006/05, Kelapa Gading Barat Jakarta Utara 14241, Indonesia / TEL : +62-21-4509265
Turkey	Kavacik Mh. Sehiti Tegmen Ali Yilmaz Sk. No.16/4, 34810 BEYKOZ / TEL : +90-216-701-19-03
Germany	Notkestrasse 11, D-22607, Hamburg, Germany / TEL : +49-(0)40-319-747-720

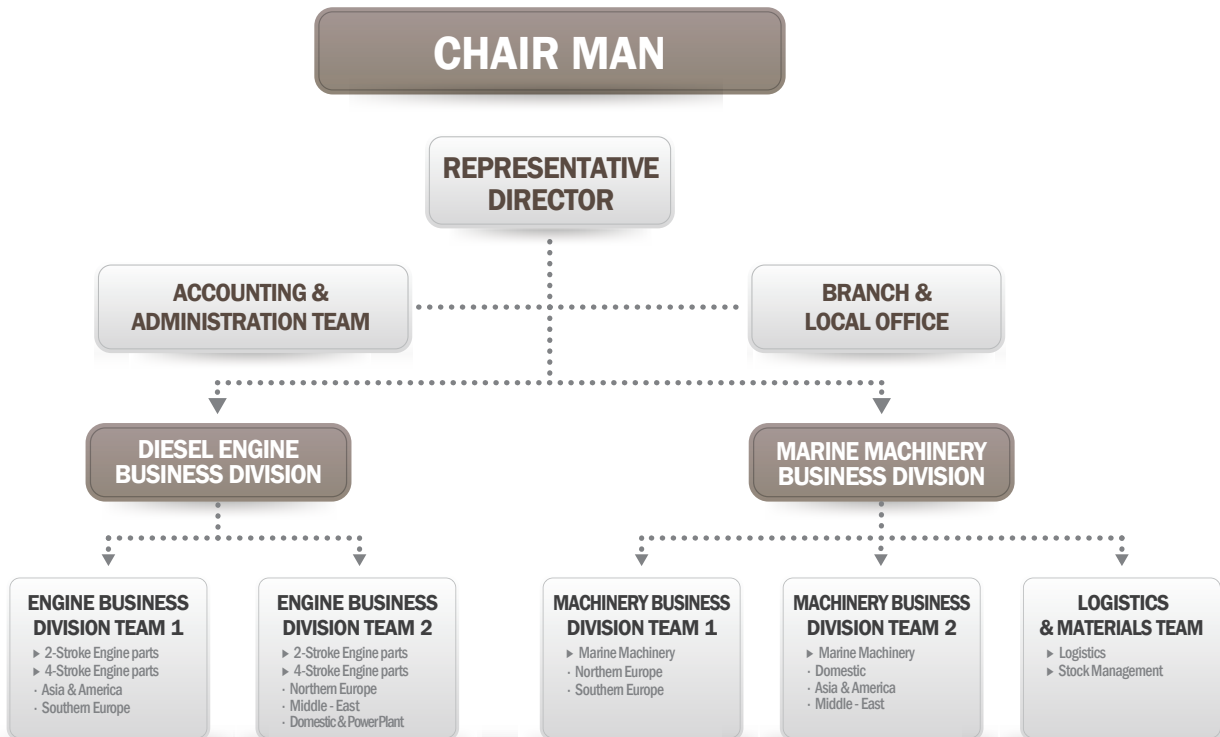


# BRIEF OF THE HISTORY





# ORGANIZATION



# FACILITIES



# QUALITY POLICY

## CORE VALUES (THE 3B)

**BEST  
SPEED**

**BEST  
QUALITY**

**BEST  
PRICE**

## CUSTOMER SATISFACTION

As a leading company in the marine field, we have pursued the satisfaction of customers by providing our clients with unique service, called "Best Speed, Best Quality, Best Price" through its well-organized worldwide network system & stock control system.



# OVERSEA'S NETWORKS



- Direct Operation
- Sales Promotion Network

## KOREA

### Bosung Engineering Co.,Ltd.

6, Jungang-daero 260 Beon-gil, Dong-gu, Busan, Korea  
Tel : +82-51-466-0881~4  
Fax : +82-51-466-0886/0889  
e-mail : master@bosung.com

## Greece

### Bosung Engineering (Hellas) Ltd.

14, SKOUZE STREET 185 36 PIRAEUS, GREECE  
Tel : +30-210-4187010  
Fax : +30-210-4187011  
e-mail : bosung@bosunghellas.gr

## Germany

### Bosung Engineering Co.,Ltd.(European Branch)

Heidenkampsweg 100, 8 OG 20097 Hamburg, Germany  
Tel : +49-40-2385-7710/7756 (2 Lines)  
Fax : +49-40-2714-3668 (1 Lines)  
e-mail : hamburg@bosung.com

## Brazil

### Comercial Bieres Ltda

Rua Maria Rodrigues, 43 - Olaria,  
CEP 21031-49, Rio de Janeiro, RJ, Brazil  
Tel : +55-21-99973-8515  
e-mail : bieres@bieres.com.br

## Taiwan

### Ming Tzong Harg Trading Co.,Ltd.

10F-2, No.211, Zhongzheng 4th Rd.,  
Qianjin District, Kaohsiung City 801  
Tel : +886-7-2167617-18  
e-mail : mth@ms211.hinet.net

## Indonesia

### PT. GLOBAL TRADING(Agent in INDONESIA)

JL. Ruko Vila Gading Indah No. BL A2 / 2 RT / RW 006/05,  
Kelapa Gading Barat JAKARTA UTARA 14241, INDONESIA  
Tel : +62-21-4509265  
e-mail : gti@indo.net.id

## India

### Antaeus Marine Services

B-702 Sarvoday Enclave, Opp, New Golden Nest  
Phase-10 Bhayander-East Thane-401107, India  
Tel : +91-93-2118-552  
e-mail : sarry.antaeus@gmail.com

## Turkey

### Oceanist Engineering Ltd.

Kavacik Mh. Sehitt Tegmen Ali Yilmaz Sk.  
No.16/4, 34810 BEYKOZ  
Tel : +90-216-701-19-03  
e-mail : info@oceanist.com.tr

## Germany

### TMS (Technical Marine Solutions GmbH)

Notkestrasse 11 D-22607, Hamburg, Germany  
Tel : +49-(0)40-319-747-720  
Fax : +49-(0)40-319-747-711  
e-mail : info@tms.hamburg

# CERTIFICATES



We acquired ISO9001 & ISO14001 certificate from DNV to Strengthen our organization and to give more advanced service to our best customers.



ISO 9001:2015



ISO 14001:2015



# DIESEL ENGINE BUSINESS DIVISION

## Authorized and Genuine Part Sales Agency of HSD Engine



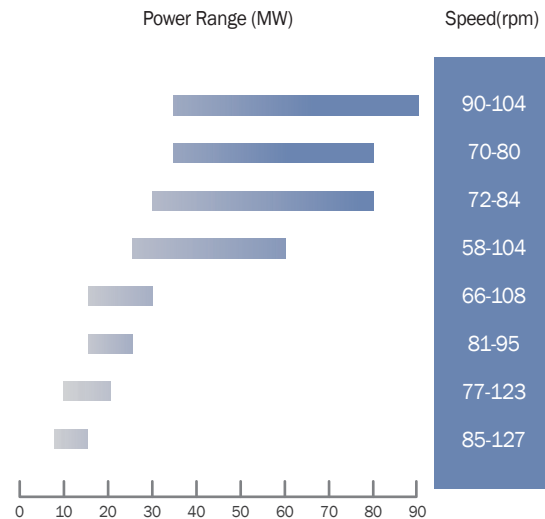
Diesel engine manufacturer  
Licensed by MAN Energy Solutions, WinGD (ex: WÄRTSILÄ)

## Production Range

### ◆ HSD-MAN B&W (2-Stroke)



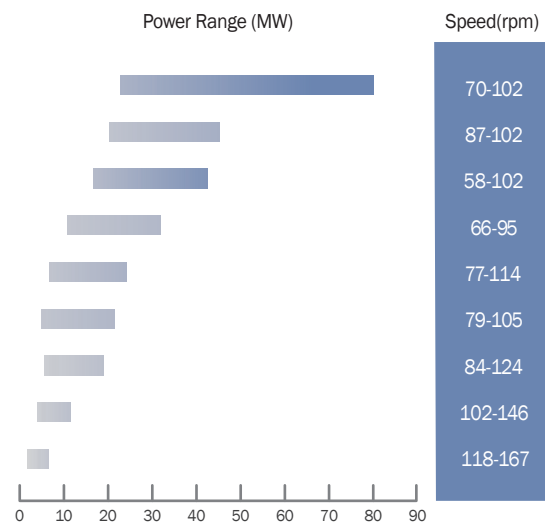
98MC / ME  
95MC / ME / GI  
90MC / ME / GI  
80MC / ME / GI  
70MC / ME / GI  
65MC / ME / GI  
60MC / ME / GI  
50MC / ME / GI



### ◆ HSD-WinGD (ex:WÄRTSILÄ) (2-Stroke)



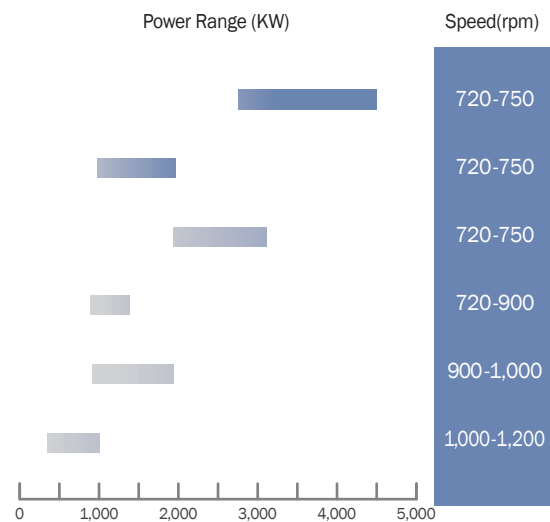
RTF96/RTA/X92/DF  
RTA84/RTA  
RTF82/RTF/X82/DF  
RTA68/RTF/X72/DF  
RTF60/RTF/X62/DF  
RTA58/RTF/X52/DF  
RTA50/RTF/X50/DF  
RTA48/RTF/X40  
X35



### ◆ HSD-MAN (4-Stroke)



32 / 40  
28 / 32  
27 / 38  
23 / 30  
21 / 31  
16 / 24



## 2-STROKE ENGINE MAJOR SPARE PARTS

### PISTON CROWN & CYLINDER LINER



Piston Crown



Cylinder Liner

### FUEL PUMP & PUMP BARREL



Fuel Pump Complete



Pump Barrel, Complete



Suction Valve

Puncture Valve

### PISTON RING & BEARING



Piston Ring

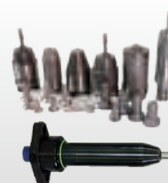


Bearing

### EXH. VALVE SPINDLE & FUEL VALVE



Exh.Valve Spindle & Seat



Fuel Valve Spares

### ME ENGINE MAJOR COMPONENTS



MPC & MPC10



FIVA Valve

Hydraulic Cylinder Unit





## 4-STROKE ENGINE MAJOR SPARE PARTS

### CYLINDER HEAD & CYLINDER LINER



Cylinder Head



Cylinder Liner

### PISTON & CONNECTING ROD



Piston



Connecting Rod

### FUEL VALVE & FUEL PUMP



Plunger & Barrel

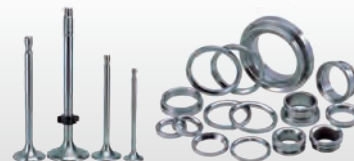


Injection Nozzle

### CONROD, MAIN BEARING VALVE SPINDLE, SEAT RING

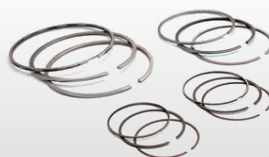


Conrod, Main Bearing

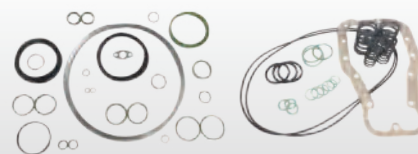


Valve Spindle, Seat Ring

### PISTON RING & SPARE PARTS KIT



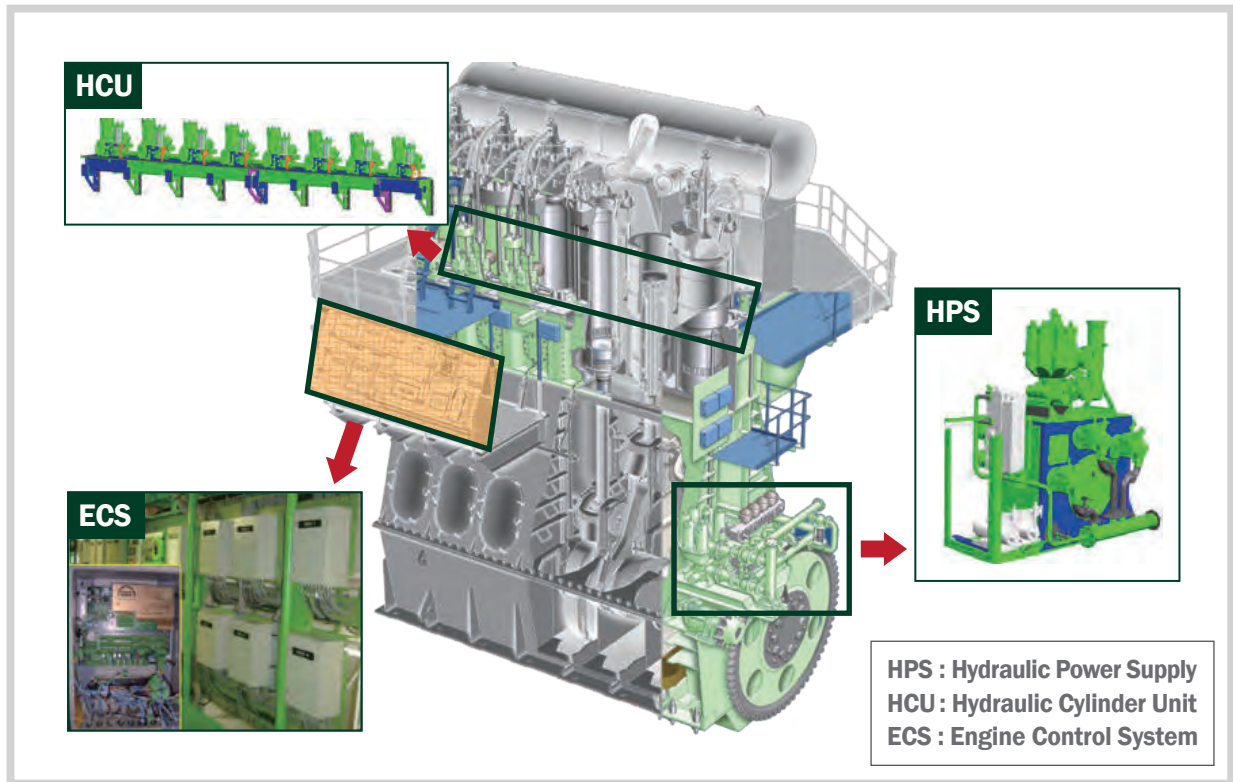
Piston Ring



Spare Parts KIT (SPK.002)

# TECHNICAL SERVICE

## ELECTRONICALLY CONTROLLED ENGINE



### Main Components

#### ◆ Hydraulic Power Supply



- Supply the necessary high-pressure hydraulic oil through driven pumps
- Consists of;
  - Engine driven pumps
  - Electrically driven pumps
  - Safety and accumulator block
  - Filter Unit and high pressure pipe

#### ◆ Hydraulic Cylinder Unit



- Deliver the hydraulic oil to each cylinder so as to actuate the fuel and exh. valve
- Consists of;
  - Hyd. Oil distribution block with FIVA valve
  - Fuel oil pressure booster
  - Exhaust valve actuator

#### ◆ Engine Control System



- **H**uman **M**achine **I**nterface
- **E**ngine **I**nterface **C**ontrol **U**nit
- **C**ylinder **C**ontrol **U**nit
  - Alpha Cylinder Lubricator
  - Starting Air Valve
- Communication Network
- **A**uxiliary **C**ontrol **U**nit
  - Auxiliary Blower
- **H**ydraulic **C**ylinder **U**nit
- **E**ngine **C**ontrol **U**nit
- **H**ydraulic **P**ower **S**upply
- Tacho System



## MAINTENANCE AND COMMISSIONING

### 1. HYDRAULIC CYLINDER UNIT

- Fuel booster unit
- Exhaust actuator
- Accumulator
- Distributor block
- FIVA valve
- Cylinder lubricator



### 2. HYDRAULIC POWER SUPPLY

- Accumulator block
- Hose & Compensator
- Accumulator
- Cartridge valve



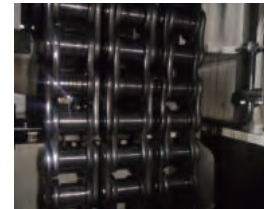
### 3. ELECTRIC COMPONENT

- Electric control panel
- MPC & MPC-10
- Level switch
- Cable and others



### 4. PNEUMATIC & CHAIN PART

- Pneumatic system
- Chain re-tighten
- Guide bar
- Main starting valve



### 5. CALIBRATION & FUNCTION TEST

- Inductive sensors
- IRM module
- Exhaust bypass system
- HPS pump(Elec & Engine driven)
- Telegraph handle
- Tacho system
- Safety device



### 6. CONFIRM TRIAL

- Engine starting test & Performance check
- Adjust Cyl.Pressure & Fuel oil offset
- Check Cyl.oil feed rate
- Tacho System fine tuning



## HPS PUMP EXCHANGE SERVICE

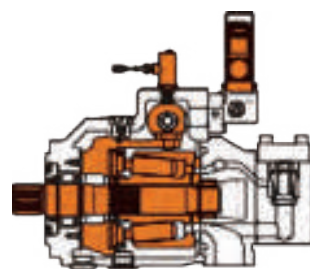
This program is the full recondition of HPS pumps on exchange basis by maker supplied seed pump.

This solution was launched to relieve the concern of the customer for HPS pump maintenance, such as the long delivery time and the reliable service for the critical device.

The most of the parts except for pump casing will be renewed in order to providing more qualified, more efficient and more reliable service.

The parts of the renewal are most of parts except for the pump casing for more quality, more efficiency and for more reliability.

Fully reconditioned pumps will be supplied to the vessel at first. After replacement, the old pumps will be returned to the maker.



Replaced parts by new component in overhaul

**Scope of supply**

## HPS PUMP UPGRADE BY EXCHANGE BASIS(HS3->HS4)

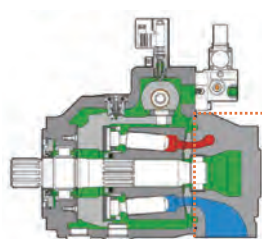
This program is total solution for the full recondition of HPS pumps and upgrade of HS3 pump to HS4 pump with safety block, proportional valve and inductive sensor.

Since the production of HS3 Pump was terminated in 2014, the customer should replace HS3 pump to HS4 pump.

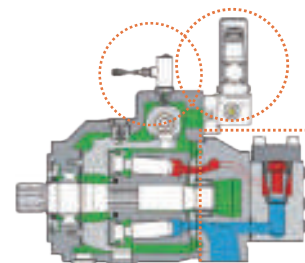
Recondition work is same as HPS pump exchange service.

Fully reconditioned HS4 pumps will be supplied to the vessel at first.

After replacement & upgrade HPS, system, old HS3 pumps will be returned to the maker.



A4VS0 HS3



A4VS0 HS4



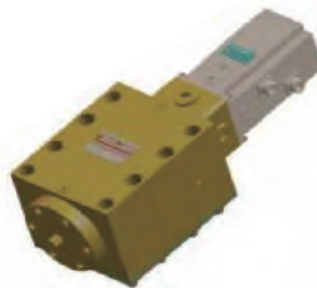
## CURTISS FIVA VALVE RETROFIT

Since the production of Curtiss FIVA valve was terminated, the customer should replace FIVA valve to other maker.

We will provide the service to retrofit FIVA valve by the qualified HSD engineer.

The service scope

- FIVA replacement to other maker
- Install the terminal boxes and the cable.
- Update the parameter on ECS
- Commissioning



CURTISS



OTHER MAKER

## ENGINE POWER LIMITATION SOLUTION

As Rightship announced port incentive program according to Green House Gas rating, the bulk carriers should improve GHG rating. This solution will improve GHG rating of the vessel by small modification of the engine and make available to participate in port incentive program as Rightship's guidance.

### Ship Owner

- Required or wished Rightship GHG rating to be decided.
- New SMCR or targeted engine power for EPL to be decided and informed to HSD Engine, which should be matched with wished GHG rating.
- \* Please contact "Rightship" for further discussion.  
[environment@rightship.com](mailto:environment@rightship.com).
- To ensure the vessel has enough engine power after implementation of EPL, the vessel's minimum propulsion power can be calculated in accordance with MEPC. 1/Cir. 850. Hence, it is recommended that EPL report is submitted to the Classification society for approval by ship owner.

### Bosung Engineering

- EPL report based on New SMCR provided by Ship owner including new set of main engine governor limitations parameters.
- **On-Board Installation and Verification**
  - On board attendance by HSD superintendent for performance verification.
  - Adjustment and locking of the mechanical stop screw on the connection from local control.  
(Slightly above Governor set point to avoid interference with full rpm ordered from Governor)
  - Recommend to perform below load
    - 1) 25, 50, 75% of original SMCR
    - 2) Max engine load & engine speed
- Performance verification report by HSD

### Governor Maker

- Installing the new set of main engine governor limitation parameters into the Governor.
- Service report by a governor maker.

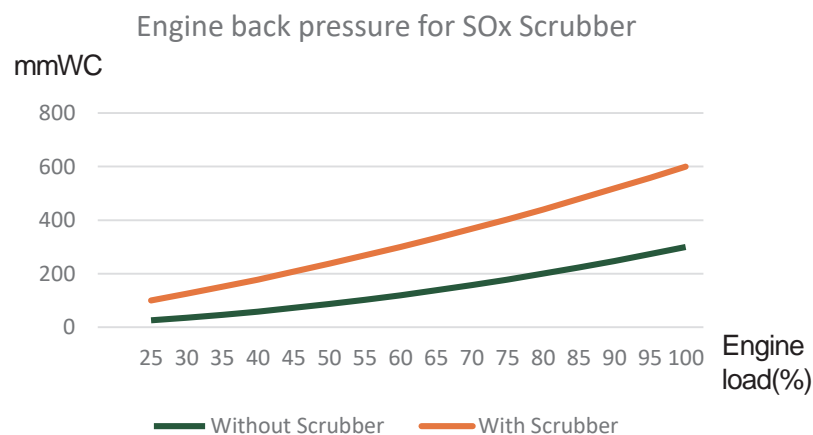
### Rightship

- Rightship will grant GHG rating for the vessel in question upon receiving current GHG rating, EPL report, performance verification report and governor service report.
- All documentation shall be submitted to RightShip by the Client.
- It is noted that the rating is against a peer group that may also be actively taking steps to improve their own rating. Therefore, the GHG Emissions Rating is dynamic and at the discretion of RightShip.

## TURBOCHARGER REMATCHING

As per the scrubber installed on exhaust gas system, the back pressure will increase SFOC and thermal load.

This solution will reduce the back pressure by rematching of T/C and have improve SFOC and thermal load.



## ALPHA LUBRICATOR/PNEUMATIC SYSTEM 5 YEARS MAINTENANCE PACKAGE

Based on the service experience and guideline, Alpha lubricator and Pneumatic system should be maintained every 5years or 32,000 R/H to ensure the optimal and trouble-free operation.

### Recommended items

ITEM LIST OF ALPHA LUBRICATOR MAINTENANCE		ITEM LIST OF PNEUMATIC SYSTEM MAINTENANCE	
Category of kits	Description	Category of kits	Description
Service kit for alpha lubricator	<ul style="list-style-type: none"> <li>• Membrane Accumulator(Big)</li> <li>• Membrane Accumulator(Small)</li> <li>• Solenoid valve on lubricator</li> <li>• Inductive sensor on lubricator</li> <li>• Lubricator check valve(5bar)</li> </ul>	Service kit for pneumatic system	<ul style="list-style-type: none"> <li>• All of pneumatic valves</li> <li>• All of reversing cylinders</li> <li>• All of VIT actuators</li> </ul>
Maintenance kit for alpha lubricator	<ul style="list-style-type: none"> <li>• O-ring set for lubricator overhaul.</li> </ul>	Recommended spare parts list as per engine type	
Lubricator pump station service kit	<ul style="list-style-type: none"> <li>• Spider for booster pump</li> <li>• Seal for booster pump</li> <li>• Suction filter element</li> <li>• Pressure filter element</li> </ul>		
Pick-up for BCU (Back-up Control Unit)	<ul style="list-style-type: none"> <li>• Pick-up sensor for flywheel side</li> </ul>		





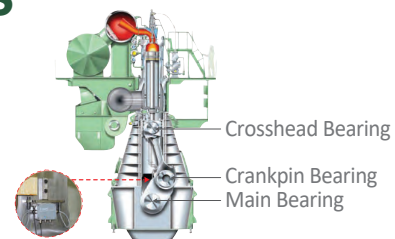
## MEASUTAL

- Measutal is the digital type deflection gauge for crank shaft.
- Make your Deflection Measurement Wirelessly.
- Be free from work Danger.
- Be quick in measurement.



## O-WACS/B-WACS

- O-Wacs will monitor the water content of in L.O.
- B-Wacs will monitor the condition of three major bearings.
- O-Wacs & B-Wacs are the monitoring and alarm system for bearing and L.O developed by HSD engine.



## PRE-DOCKING INSPECTION

- Pre-docking inspection will help the ship's owner to optimize the maintenance plan for main engine prior to dry dock.
- The service scope - Mechanical Part (including LDM inspection)
  - Hydraulic Part
  - Electronical Part



**Liner Diameter Measurement**

## RECONDITION OF ENGINE COMPONENT

- The following engine components can be reconditioned at maker authorized facility.
- Main engine : Piston Crown, Cylinder Cover, Exhaust Valve Spindle /Bottom Piece, FIVA Valve, ETC.
- Auxiliary engine : Cylinder Head, Cyl. Liner Honing, ETC.



## ALPHA LUBRICATOR RETROFIT/UPGRADE SERVICE

- Alpha Lubricator Retrofit : Alpha Lubricator will optimize the consumption of cylinder oil.
- Alpha Lubricator Upgrade : Upgrade Alpha Lubricator with optimized consumption of cylinder oil at low load.



**Lubricator**



**MCU**

## DEL NOX SCR ANNUAL NOX MEASUREMENT

- PURPOSE ▶ Measurement & assessment of NOX reduction efficiency.
- METHOD ▶ By qualified experts and reliable measuring device.
- OUTCOME ▶ Documents for verification.

### MEPC.291(71)

guidance on how to assess catalyst NOX reduction efficiency based on **periodical spot checks** or monitoring as specified by the applicant, if applicable; **records are to be kept for inspection** during annual, intermediate and renewal surveys. The frequency of periodical spot checks is to be defined by the applicant considering the expected deterioration of the catalyst. The frequency for **spot-checks should be at least after installation and once every 12 months**;

## DEL NOX SCR CATALYST REPLACEMENT

### - When catalyst to be replaced?

- **Low NOx reduction efficiency**  
Catalyst is to be replaced when period spot check result shows low NOx reduction efficiency.
- **Serious damage on catalyst**  
Serious damage reduces catalyst efficiency. This can be checked through visual inspection by experts.

### - How to replace catalyst?

- Order new catalyst
- Transfer to replacement place
- Replace catalyst
- Dispose old catalyst



## RT-FLEX ENGINE MAINTENANCE & RECONDITION OF COMPONENT

### Parts Supply



- Mechanical parts
- Electronic parts
- Instrument
- Repair kits



### Exchange Program

- Injection control unit
- Fuel oil pump
- Pressure control valve
- Servo oil pump
- Pulse lubrication pump



### Recondition

- Piston crown
- Exhaust valve
- Cylinder cover



### On-board Service

- Pre-inspection
- Overhaul & inspection
- Feedback instruction

## DRY DOCK SUPERVISION SERVICE

### HSD Supervision Service

### 1 Supervisor

All types for Engine



### Supervision Service details

#### 01 Close inspection incl. measuring

- Piston Component
- Bearing Condition
- Cylinder Liner
- Fuel Pump Incl. Timing
- Exh. Valve
- HP Pipe
- Alpha Lubricator System

#### 02 Visual Inspection

- Crank Case & Chain wheel
- Gas & Scav. Air Receiver
- Cam & Cam shaft
- Top Bracing

#### 03 Instruction & Education for crew

- Job Procedure
- Emergency Operation
- Finding Root Reason
- Trouble Shooting

### Benefit & Output

#### Safety

- Engine Operation
- Work
- Precaution



#### Improvement of crew's skill



#### Efficiency on OVHL. work



#### Detail Service Report



# MARINE MACHINERY BUSINESS DIVISION

## AUTHORIZED PART SALES AGENCY OF

- SAMGONG CO.,LTD.
- DONGHWA PNEUTEC CO.,LTD.
- CENTURY CORPORATION
- TAE-IL BLOWER MFG.CO.,LTD.
- SARACOM CO.,LTD.
- YOOWON INDUSTRIES LTD.
- GEORIM ENGINEERING CO.,LTD.
- SHIN MYUNG TECH CO.,LTD.
- Aquametro Oil & Marine Korea LTD.
- KORVAL CO., LTD.
- FLUTEK LTD.
- Danfoss Korea LTD.
- C.M.R Group Korea LLC
- SAMKUN CENTURY CO., LTD.
- sangsangin INDUSTRY CO., LTD.
- KOSCO CO.,LTD. [BSKY™ BWMS]  
Ballast Water Management System



## AUTHORIZED PART SALES DISTRIBUTOR OF

- DAEYANG ELECTRIC CO.,LTD.
- HI AIR KOREA CO., LTD.
- GREEN & CLEAN TECHNOLOGY CO., LTD.
- K.C. LTD
- SAMJOO ENG. CO.,LTD.
- DHP ENGINEERING CO., LTD.
- QLIGHT CO., LTD.
- DONGHWA ENTEC CO., LTD.
- MARINECOM CO., LTD.
- PANASIA CO., LTD.
- HANMI HYDRAULIC MACHINERY CO., LTD.
- HANLA IMS CO., LTD.



# MARINE MACHINERY BUSINESS DIVISION



**SAMGONG**

**SAMGONG CO.,LTD.**

- H.F.O PURIFIER
- L.O PURIFIER
- F.O PURIFIER

**DongHwa  
Pneutec**

**DONGHWA PNEUTEC CO.,LTD.**

- MAIN AIR COMPRESSOR
- STARTING AIR COMPRESSOR
- DECK COMPRESSOR



**CENTURY CORPORATION**

- REFRIGERATION MACHINE
- AIR CONDITIONING MACHINE



**TAE-IL BLOWER MFG.CO.,LTD.**

- AUX.BLOWER
- AXIAL FAN

**Saracom®**

**SARACOM CO.,LTD.**

- ELEC. WHISTLE
- AIR WHISTLE
- NAVIGATION EQUIPMENT



Purifier

## F-SERIES

SJ-10, 15, 30, 40, 50,  
80, 100F

## G-SERIES

SJ-10, 20, 30, 50, 60,  
70, 100, 120, 150G

## H-SERIES

SJ-15, 25, 35, 60, 85,  
110, 160, 220H



H-373 type



NEX type

H-SERIES

TASK-SERIES

I

HC-SERIES

AHV-SERIES

I

CMS-SERIES

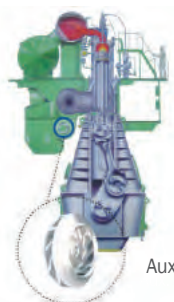
NEX-SERIES



Packaged Air Conditioner



Air Conditioning System



Aux. Blower

Sulzer Type



MAN Type



Air Whistle Class I : WA-15/143  
Air Whistle Class II : WA-21/138  
Air Whistle Class III : WA-31/130H



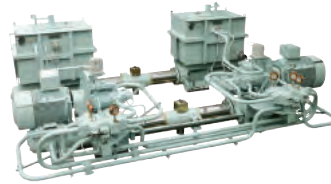
Magnetic Compass  
MC-60 / MC-18

# MARINE MACHINERY BUSINESS DIVISION



## YOOWON INDUSTRIES LTD.

- F.O & L.O NOTCH WIRE FILTER
- STEERING GEAR
- DECK MACHINERY



Steering Gear



F.O.Filter



## GEORIM ENGINEERING CO., LTD.

- 15PPM BILGE SEPARATOR
- 15PPM BILGE ALARM
- BILGE / SLUDGE PUMP



15PPM Bilge Separator  
(GRS-10, 20, 25, 50, 100EB)

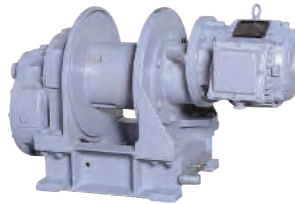


Bilge Pump(P-102, 103)



## SHIN MYUNG TECH CO., LTD.

- AIR MOTOR/AIR & ELECTRIC WINCH
- SUEZ MOORING BOAT HANDLING DAVIT
- PROVISION CRANE
- HAND PUMP & AIR DRIVEN PUMP



Elec. Winch



Air / Elec. Type Davit



## Aquametro Oil & Marine Korea LTD.

- FLOW METER (REMOTE / LOCAL)
- VISCOSITY SENSOR
- VISCOSITY CONTROLLER



Remote type Flow meter



Local type Flow meter

Green Energy First



## KORVAL CO., LTD

- PNEUMATIC CONTROL VALVE
- HYDRAULIC ACTUATOR
- TEMPERATURE REGULATING VALVE



Pneumatic Control Valve



Regulating Valve



# MARINE MACHINERY BUSINESS DIVISION



## FLUTEK LTD.

- STEERING GEAR
- MOORING WINCH
- WINDLASS



## Danfoss Korea LTD. (ex: SONDEX KOREA LLC)

- FRESH WATER DISTILLER
- GASKET TYPE PLATE HEAT EXCHANGER
- PLATE & SHELL HEAT EXCHANGER



## C.M.R. Group Korea LLC

- SENSOR
- TELEPHONE SYSTEM
- CCTV SYSTEM



## SAMKUN CENTURY CO., LTD.

- WATER TREATMENT SYSTEM
- OFFSHORE PLANT
- COATING & PAINTING

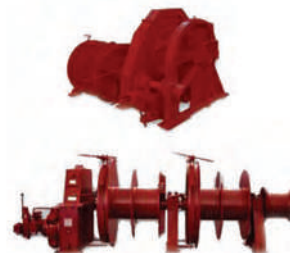


## sangsangin INDUSTRY CO., LTD. (ex: DONGNAM MARINE CRANE CO., LTD.)

- PROVISION CRANE
- ENGINE ROOM CRANE
- MONORAIL CRANE



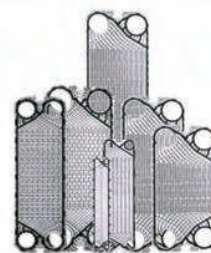
Steering Gear



Mooring Winch



Plate Heat Exchanger



Free Flow Plate



Sensors



Telephone



Sterilizer



Mineralizer



Provision Crane



Engine Room Crane



# MARINE MACHINERY BUSINESS DIVISION



## DAEYANG ELECTRIC CO.,LTD.

- LIGHTING FIXTURES
- PRECISION INSTRUMENT
- SENSOR
- WATERTIGHT SWITCH
- RECEPTACLE, PLUG



## HI AIR KOREA Co.,Ltd.

- AIR CONDITIONING SYSTEM
- REFRIGERATION PLANT
- PACKAGED AIR CONDITIONER
- VENTILATION FANS
- FIRE DAMPER



## Green & Clean Technology Co., Ltd.

- TOP BRACING
- INCINERATOR



## K.C. LTD

- ANTI - FOULING SYSTEM (MGPS)
- ICCP SYSTEM
- SHAFT EARTHING DEVICE

## HACCP MASTER SAMJOO ENG

## SAMJOO ENG. CO.,LTD.

- MARINE GALLEY & LAUNDRY EQUIPMENT
- COMMERCIAL KITCHEN EQUIPMENT



## DHP ENGINEERING CO., LTD.

- PLATE HEAT EXCHANGER
- DISK & SHELL TYPE HEAT EXCHANGER
- FRESH WATER GENERATOR



Search Light  
(1kw, 3kw)



Anemometer  
(AT-3N)



Resistance Bulb



Refrigeration Plant



Ventilation Fan



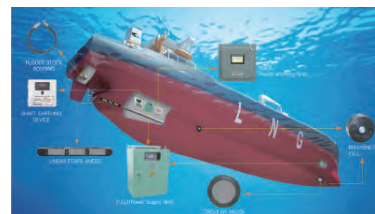
Top Bracing



Incinerator



M.G.P.S Anode



I.C.C.P



Cooking Range



Baking Oven



Plate Heat Exchanger



Fresh Water Generator



Disk Heat Exchanger



# MARINE MACHINERY BUSINESS DIVISION



**QLIGHT CO., LTD.**

- SIGNAL LIGHTS
- WARNING LIGHTS & ELECTRIC HORNS
- LIMIT SWITCHES



Signal Lights



Warning Lights



Electric Horns

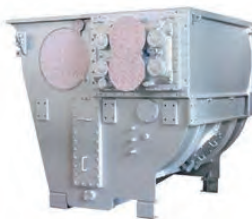


Limit Switches



**DONGHWA ENTEC CO., LTD.**

- AIR COOLER
- HEAT EXCHANGER
- FRESH WATER GENERATOR



Air Cooler



Fresh Water Generator



Plate Heat Exchanger



**MARINCOM CO., LTD.**

- PUBLIC ADDRESS SYSTEM
- GENERAL ALARM SYSTEM
- AUTO TELEPHONE SYSTEM



Telephone System

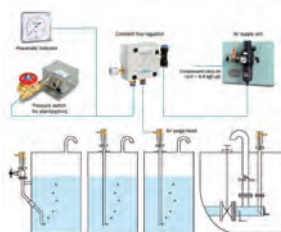


Public Address System



**PANASIA CO., LTD.**

- LEVEL CONTROL AND MEASUREMENT SYSTEM
- BALLAST WATER TREATMENT SYSTEM
- TANK LEVEL GAUGING SYSTEM



Tank Level Gauging System



Ballast Water Treatment System



**HANMI HYDRAULIC MACHINERY CO., LTD.**

**HANMI HYDRAULIC MACHINERY CO., LTD.**

- HIGH PRESSURE PUMP UNIT
- FUEL VALVE TEST DEVICE
- HYDRAULIC TOP BRACING



High Pressure Pump Unit



Fuel Valve Test Device

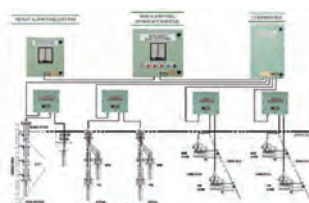


Hydraulic Top Bracing



**HANLA IMS CO., LTD.**

- CARGO MONITORING SYSTEM
- HIGH AND OVERFILL ALARM SYSTEM
- REMOTE SOUNDING SYSTEM



Cargo Monitoring System



High And Overfill Alarm System





## OTHERS

### DECK MACHINERY

ARIM MACHINERY & ENGINEERING. CO.  
BADA HEAVY INDUSTRIES CO., LTD.  
DONG WOO MARINE MACHINERY  
HAEAN MACHINERY IND. CO., LTD.  
HYUNDAI ELEVATOR CO., LTD.  
JUNG GONG IND. CO., LTD.  
JUNG-A MARINE CO., LTD.  
KOREA U.V. TECH.  
ORIENTAL INSPECTION & SERVICE CO., LTD.  
SMS CO., LTD.  
A-TECH CO.  
YOUNG NAM MARINE MACHINERY CO., LTD.  
KWANG SAN CO., LTD.  
SEWON IND CO., LTD.

### SAFETY MACHINERY

B.I. INDUSTRIAL CO., LTD.  
CONSILIUM MARINE KOREA LTD.  
FAIN CO., LTD.  
HLB CO., LTD. (HYUNDAI LIFE BOAT)  
NK CO., LTD.  
SANCHEONG CO., LTD.  
SEAPLUS CO., LTD.  
SPECS CORPORATION

### GALLEY

BIP INDUSTRIES CO., LTD.  
COSMO CO., LTD.  
EVAC KOREA CO., LTD.  
HAEIN INDUSTRIAL CO., LTD.  
JETS KOREA LTD.  
SUNGMI CO., LTD.

### ENVIRONMENT

CORRSTECH KOREA LTD.  
HANYOUNG ENGINEERING CO., LTD.  
SEHONG CO., LTD. (WILSON WALTON)  
ILSEUNG. CO., LTD.  
MARINE TECHNICAL ENGINEERING CO., LTD  
JONG HAP MACHINERY CO., LTD.  
JOWA KOREA CO., LTD.

### ELECTRIC EQUIPMENT

AUTONICS  
DESCO  
H.M.E CO., LTD. (HYO MYUNG)  
HYOSUNG MOTOR(HICO)  
HYUN JIN CO., LTD.  
HYUNDAI ELECTRIC CO., LTD.  
KOC ELECTRIC CO., LTD.  
KTE. CO., LTD.  
KUMHO MACH. & ELEC. CO., LTD.  
LS INDUSTRIAL  
LUXCO CO., LTD. (WESTRONICS)  
SEUN ELECTRIC CO., LTD.  
YONGSUNG ELECTRIC CO., LTD.  
WOOSUNG ENGINEERING CO., LTD.  
SAMSUNG SHIP AUTOMATION

### VALVE

ACE VALVE CO., LTD.  
BY CONTROLS INC.  
CEPHAS PIPELINES CORP.  
DK T.M.I. CO., LTD.  
EMERSON PROCESS MANAGEMENT  
HANYANG VALVE IND. CO., LTD.  
JOKWANG I.L.I. CO., LTD.  
KEYSTONE VALVE KOREA  
KSB Seil CO., LTD.  
KUMKANG PRECISION CO., LTD.  
MT.H CONTROL VALVE CO., LTD.  
PLEIGER FAR EAST LLC.  
POONG JIN METAL CO., LTD.  
SCANA KOREA HYDRAULIC, LTD.  
SEO HEUNG MATAL CO., LTD.  
TANKTECH CO., LTD.  
NOAH ACTUATION CO., LTD.

### LIGHTING

AQUA SIGNAL  
GLAMOX KOREA  
KUK DONG ELECOM CO., LTD.

### SENSOR & CONTROLLER

DAEHWA ENGINEERING SENSOR CO., LTD.  
HANJOO LEVEL CO., LTD.  
KOREA MARINE TECHNOLOGY CO., LTD.  
KUM YANG IND. CO., LTD.  
WIKA KOREA  
SIKA-KOREA LTD

### AUX. MACHINERY

BUMHAN INDUSTRIES CO., LTD.  
DAEHUENG TECH CO., LTD.  
DSB ENGINEERING CO., LTD.  
HYOSUNG EBARA  
HYUNDAI MARINE MACHINERY CO., LTD.  
KANG RIM HEAVY INDUSTRIES CO., LTD.  
KEUMSUNG PRECISION  
KIWON INDUSTRIAL CO., LTD.  
KPHE CORPORATION  
KUK DONG. IND.  
KYUNG NAM DRYER CO., LTD.  
L.H.E.  
MIBOO NAMIREI  
MSL COMPRESSOR CO., LTD.  
MYTEC CO., LTD.  
NARA CORPORATION  
SHINSHIN MACHINERY CO., LTD.  
SPP MACHINE TECH  
SUNBO INDUSTRIES CO., LTD.  
YOUNGKWANG MACHINERY CO.  
KOREA FILTER CO., LTD.  
TOP SAFE., LTD.  
HAE DONG METAL CO., LTD.