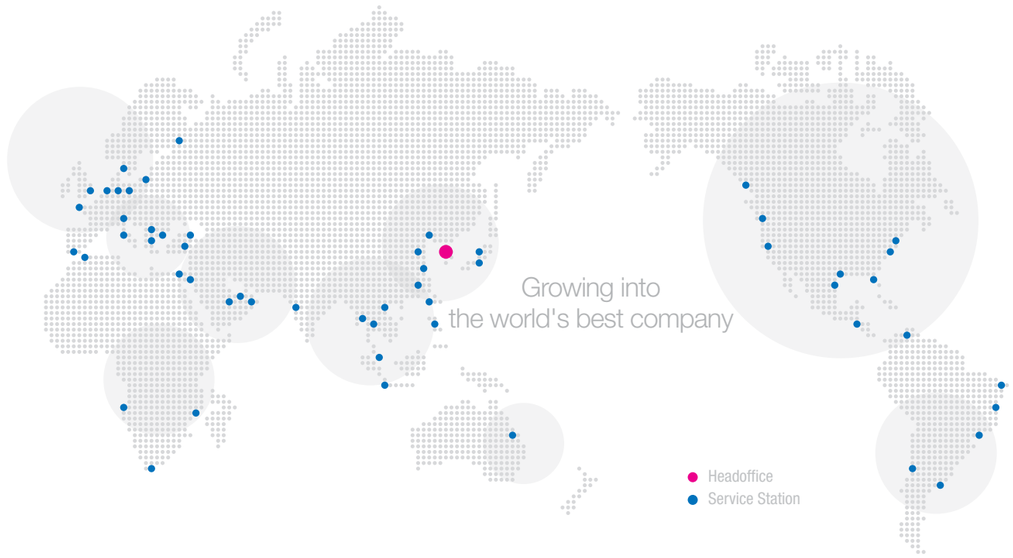
Total System for Digital Vessel



Navigation System

ASIA		
KOREA	SAMSUNG HEAVY INDUSTRIES	
KOREA	DONGBO ELECTRIC	
KOREA	KUMHO TECH	
KOREA	Hanshin Electronics	
JAPAN	TOKYO KEIKI	
JAPAN	SHIN-EI ELECTRONIC CO.,LTD	
SINGAPORE	JASON ASIA	
SINGAPORE	SK SYSTEM ENGINEERS PTE LTD	
PHILIPPINES	TECHSYS Corporation	
CHINA	JASON ASIA	
CHINA	COSCO GCNC	
CHINA	HOSTMOST Engineering	
CHINA	Seven Seas Electronic Co.,Ltd	
INDIA	NAVICOM Technology	
INDIA	ULTRA MARINE	
TAIWAN	RESON Electronics	
TAIWAN	EAGLES ELECTRONICS	
HONGKONG	HOSTMOST Engineering	
MALAYSIA	Jason, Johindah Malim Sdn Bhd.	
INDONESIA	JASON ASIA	
THAILAND	A&MARINE THAI	
THAILAND	Jason Electronics (Thailand) Co. Ltd.	
OCEANIA		
AUSTRALIA	NOVAMARINE	
MIDDLE EAST		
U.A.E.	ELCOME INT.	
U.A.E.	MARITRONICS	
BAHRAIN	ELCOME INT.	
EUROPE		
CYPRUS	RAYTECH	
FRANCE	AVON Communications S.A	
GERMANY	HOPPE	
GREECE	MARVEL L.T.D	
GREECE	D.C.S.I. International	
GREECE	Automation Marine Syetem Ltd.	
GREECE	ITS	
UKRAINER	D.C.S.I. UKRAINE	
ITALY	MASTER CONTROL	
ITALY	TELEMAR	
NETHERLAND	RADIO HOLLAND	
NETHERLAND	I&C Services B.V.	
BELGIUM	SPERRY MARINE	
U.K.	MJR Controls Ltd	
RUSSIA	MT Electronics LLC	
SPAIN	AAGE HEMPEL	
Gibraltar	Sandvik Marine Electronics	
EGYPT	PAN ARAB	
PORTUGAL	Assistemar, Lda	
AMERICA		
USA	Mackay Communications, Inc.	
USA	SPERRY MARINE	
CANADA	MARITECH NAVAL	
CANADA	OASIS MARINE	
CERTRAL AMERICA		
VENEZUELA	RADIO MARINA DE VENEZUELA	
PANAMA	PASRAS S.A.	
SOUTH AMERICA		
ARGENTINA	Everthron Marine Systems SRL	
CHILE	NAVAL RADIO	
BRAZIL	AVANTIA TECNOLOGIA	
BRAZIL	Orion Shiprepairs Ltda	
BRAZIL	METALOCK Brazil Ltda	
AFRICA		
SOUTH AFRICA	SMD TELECOMM.	

Automation System

ASIA	
KOREA	SAMSUNG HEAVY INDUSTRIES
KOREA	DONGBO ELECTRIC
KOREA	KUMHO TECH
KOREA	DEX
SINGAPORE	JASON ASIA
SINGAPORE	SK SYSTEM ENGINEERS PTE LTD
PHILIPPINES	TECHSYS Corporation
CHINA	JASON ASIA
CHINA	COSCO GCNC
CHINA	HOSTMOST Engineering
CHINA	Seven Seas Electronic Co.,Ltd
INDIA	NAVICOM Technology
INDIA	ULTRA MARINE
TAIWAN	RESON Electronics
TAIWAN	EAGLES ELECTRONICS
HONGKONG	HOSTMOST Engineering
MALAYSIA	Jason, Johindah Malim Sdn Bhd.
INDONESIA	JASON ASIA
OCEANIA	
AUSTRALIA	NOVAMARINE
MIDDLE EAST	
U.A.E.	ELCOME INT.
U.A.E.	MARITRONICS
EUROPE	
CCYPRUS	RAYTECH
FRANCE	AVON Communications S.A
GERMANY	HOPPE
GREECE	MARVEL L.T.D
GREECE	D.C.S.I. International
GREECE	Automation Marine Syetem Ltd.
GREECE	ITS
UKRAINER	D.C.S.I. UKRAINE
ITALY	MASTER CONTROL
ITALY	C.G. TELEMAR
NETHERLAND	RADIO HOLLAND
NETHERLAND	I&C Services B.V.
U.K.	MJR Controls Ltd
SPAIN	AAGE HEMPEL
AMERICA	
USA	Mackay Communications, Inc.
USA	SPERRY MARINE
CANADA	MARITECH NAVAL
CANADA	OASIS MARINE
CERTRAL AMERICA	
VENEZUELA	RADIO MARINA DE VENEZUELA
PANAMA	PASRAS S.A.
SOUTH AMERICA	
ARGENTINA	Everthron Marine Systems SRL
BRAZIL	AVANTIA TECNOLOGIA
BRAZIL	Orion Shiprepairs Ltda
BRAZIL	METALOCK Brazil Ltda
AFRICA	
SOUTH AFRICA	SMD TELECOMM.

Power System

ASIA	
KOREA	SAMSUNG HEAVY INDUSTRIES
SINGAPORE	CYCLECT
PHILIPHINE	WOOJU INC.
INDIA	PENTA ELECTOMEC PVT. LTDD
OCEANIA	
AUSTRALIA	NOVAMARINE
MIDDLE EAST	
U.A.E.	MARITRONICS
EUROPE	
GREECE	NOVA ELECTRONICS S.A.
GREECE	Automation Marine Syetem Ltd.
ITALY	A . Santamaria S.p.A
BELGIUM	Electro Partners N.V.
U.K.	MJR Controls Ltd
SPAIN	AAGE HEMPEL
AMERICA	
USA	SEABOARD CONTROLS
SOUTH AMERICA	
BRAZIL	AVANTIA TECNOLOGIA
BRAZIL	METALOCK Brazil Ltda

SAMSUNG HEAVY INDUSTRIES

Power & Control Systems Division

Suwon Office 1339, Hyohaeng-ro(Banwol-dong), Hwaseong City, Gyeonggi-do, Korea(445-330)

Busan Office (Yeonsan-dong) RM 501, KPMS BLD 1073, Jungang-daero Road, Yeoneje-gu, Busan 611-830, Korea

Shanghai Office Rm2711, Shanghai International Trade Center No.2201, YanAn Road, Shanghai, China 200336

http://www.shi.samsung.co.kr
http://www.shipcs.com

Sales Department

TEL Suwon +82-(0)31-229-1238
Busan +82-(0)51-863-0912
Shanghai +86-(0)21-2231-4370

FAX Suwon +82-(0)31-229-1109
Busan +82-(0)51-861-1552
Shanghai +86-(0)21-6278-9112

E-Mail shidbd.sales@samsung.com

Service Department

TEL +82-(0)31-229-1478 / 1218
FAX +82-(0)31-229-1029
E-Mail csas@samsung.com
Web www.digitalvessel.com/as

 Technical information in this catalogue can be changed without notice.

Marine & Offshore Solution | Regasification System

SAMSUNG HEAVY INDUSTRIES

S-REGAS
REGASIFICATION SYSTEM

Power & Control Systems Division

High Pressure Pump

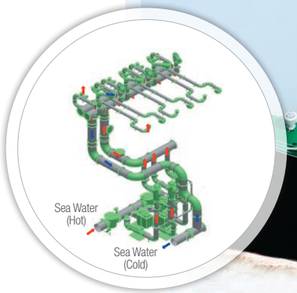
- Boosting of LNG Pressure (100 bar)
- Cryogenic(-162℃) Design
- Submerged Centrifugal type

Recondenser

- Pressure Stabilization
- Feeding of continuous LNG
- Recondensing Boil off Gas

Sea Water System

- Heating Medium
- Sea Water Lift Pump
- Automatic Flushing Filter



Vaporizer (Heat Exchanger)

- Vaporizing of LNG to Natural Gas by Sea water
- Cryogenic / High Pressure / Anti-corrosion Material
- Shell & Tube Type

REGASIFICATION SYSTEM

The regasification system, which is installed in onshore LNG terminal or upper part of the offshore LNG FSRU, is a system that directly gasify liquefied natural gas and supply so that power plants or consumers can use it.

The main equipment for the regasification system includes recondenser, high pressure LNG booster pump, vaporizer and sea water system.

LNG, which is fed up to recondensor from cargo tank by feed pump inside the cargo tank, is pressurized to about 100bar by the high pressure booster pump, and sent to onshore after being gasified to natural gas through heat exchange with sea water in the vaporizer.

The regasification system is a system the core technologies of which are the design and analytics required for extremely low temperature down to -160℃ and high pressure up to 100bar and stable control technology.

We have secured price competitiveness through localization of parts and our own technology on the basis of the reliability of the process engineering with various achievement experience, and we have secured good clients in the world and attained high customer satisfaction by supplying EPC turnkey-type packages which can be quickly counteracted if any problem occurs.

In the long term, SHI Power & Control Systems Division will carry on topside turnkey projects based on process engineering by establishing the system where the process facilities included in the offshore topside can be manufactured and supplied as a module type.

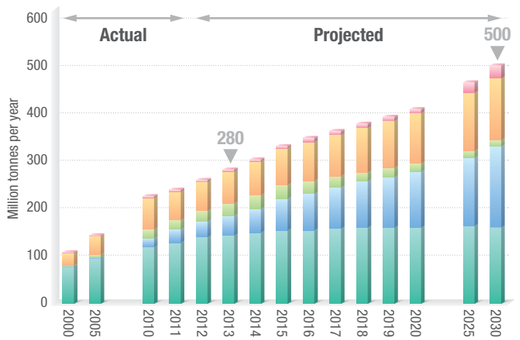
Why SHI S-REGAS Module?

INTRO

Increasing LNG Demand

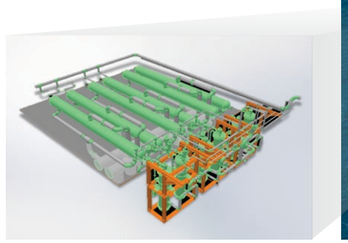
- Annual demands of LNG

  * Source : Ernst & Young assessment from multiple sources



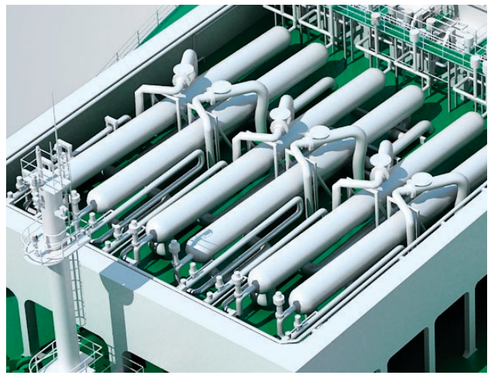
Outline

- Regasification system installed on LNG FSRU/ RV which supplies NG to consumer instead of onshore LNG terminal

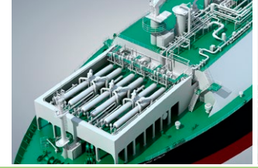


Main Features

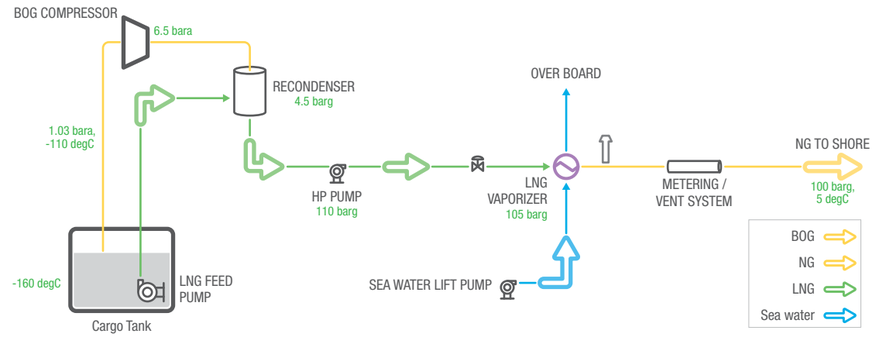
- Experiences in LNG FSRU
- Self-developed regasification process
- Localization of equipment; cryogenic high pressure pump and vaporizer
- Unification for engineering, procurement and installation
- Cost-reduction (CAPEX, OPEX)



PROCESS



Process Configuration



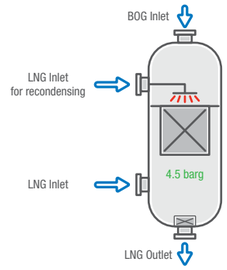
EQUIPMENT

HP Vaporizer

- Shell & Tube type Vaporizer
- Optimum design for requirement

Recondenser

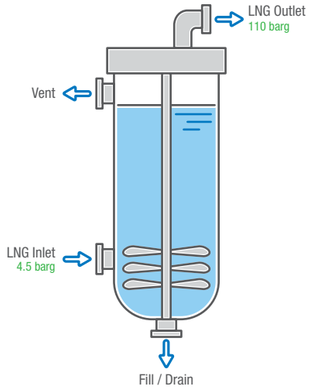
- Recondensing BOG from Cargo tank
- Buffer tank for HP pump

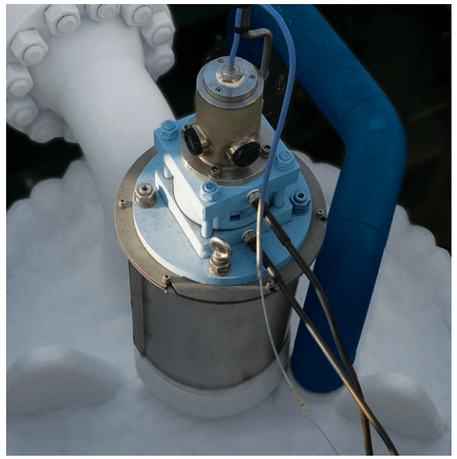


EQUIPMENT

HP Pump

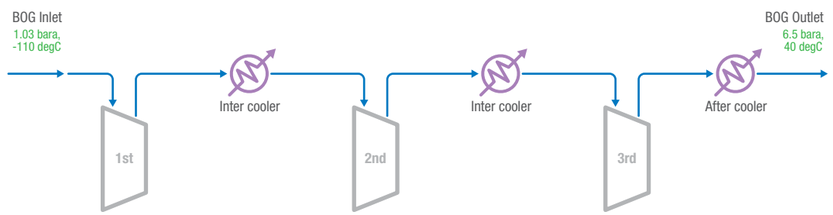
- Submergible multi-stage centrifugal pump
- Control logic materialization according to safety condition

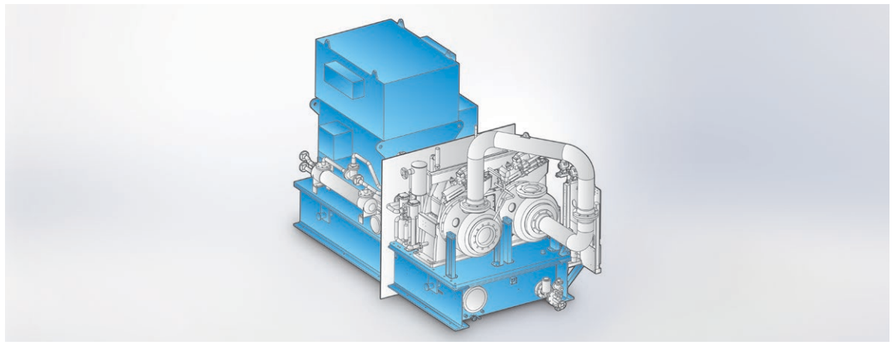




BOG Compressor

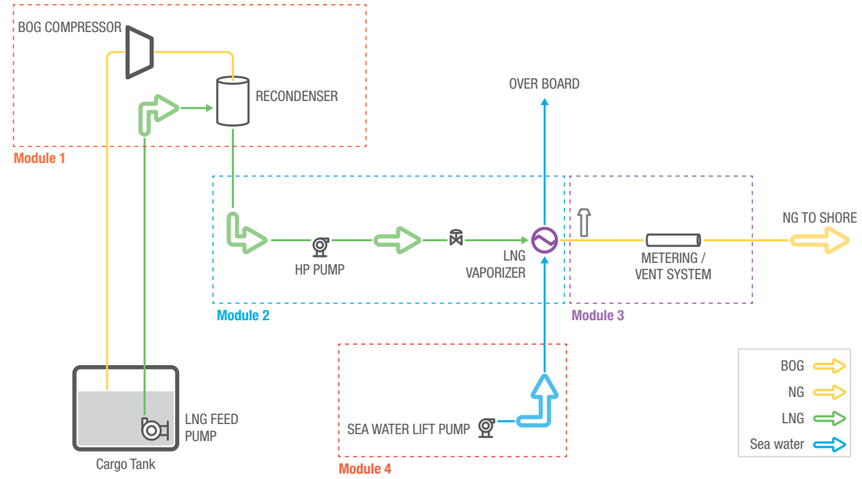
- Low pressure compressor shall be designed to transfer excessive boil-off gas to the recondenser during the regasification operation



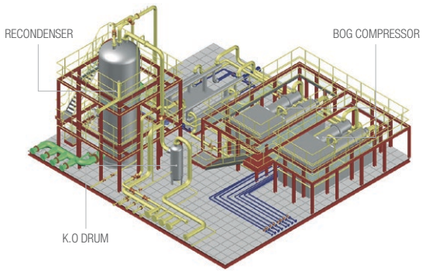


PACKAGE

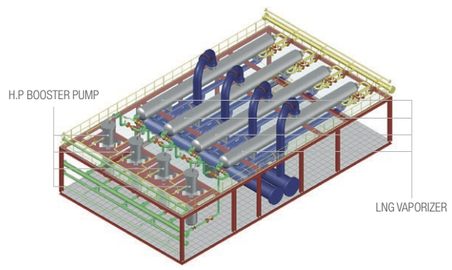
Module Package Configuration



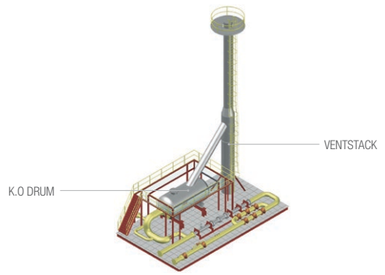
Regasification Modules



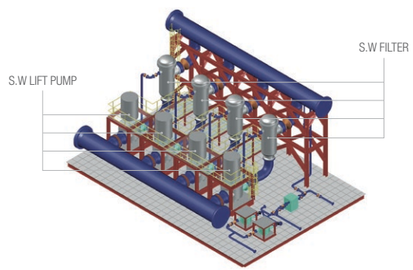
Module 1
Recondenser Module



Module 2
Regasification Module



Module 3
Metering Module



Module 4
Seawater Module