

OVERSEA TRADING



ACCREDITED BY MEMBER
OF THE IAF/MLA for QMS

REGISTERED
QUALITY
SYSTEM
ISO 9001:2008



**DONG YANG
ENGINEERING CO., LTD.**

DYE's Story and Message

Since its establishment as a small but strong engineering company in 2012, DYE has grown into the reputed engineering company worldwide by diversifying the business area from design and engineering to procurement engineering, package and unit outfitting fabrication & assembly, pre-com & commissioning, material distribution, etc..


We are proud to note that DYE has grown up by doing its level best to satisfy the customers and project requirements by mobilizing qualified manpower in the respective fields of industry and by collaboration with global leading engineering company.

We will continue to exert our efforts to become Total Solution Provider through utilizing more enhanced resources and facilities to increase our capability required for the works.

We aim to achieve customers' satisfaction with high quality, timely delivery and good relation with customers.

Dong Yang Engineering Co., Ltd

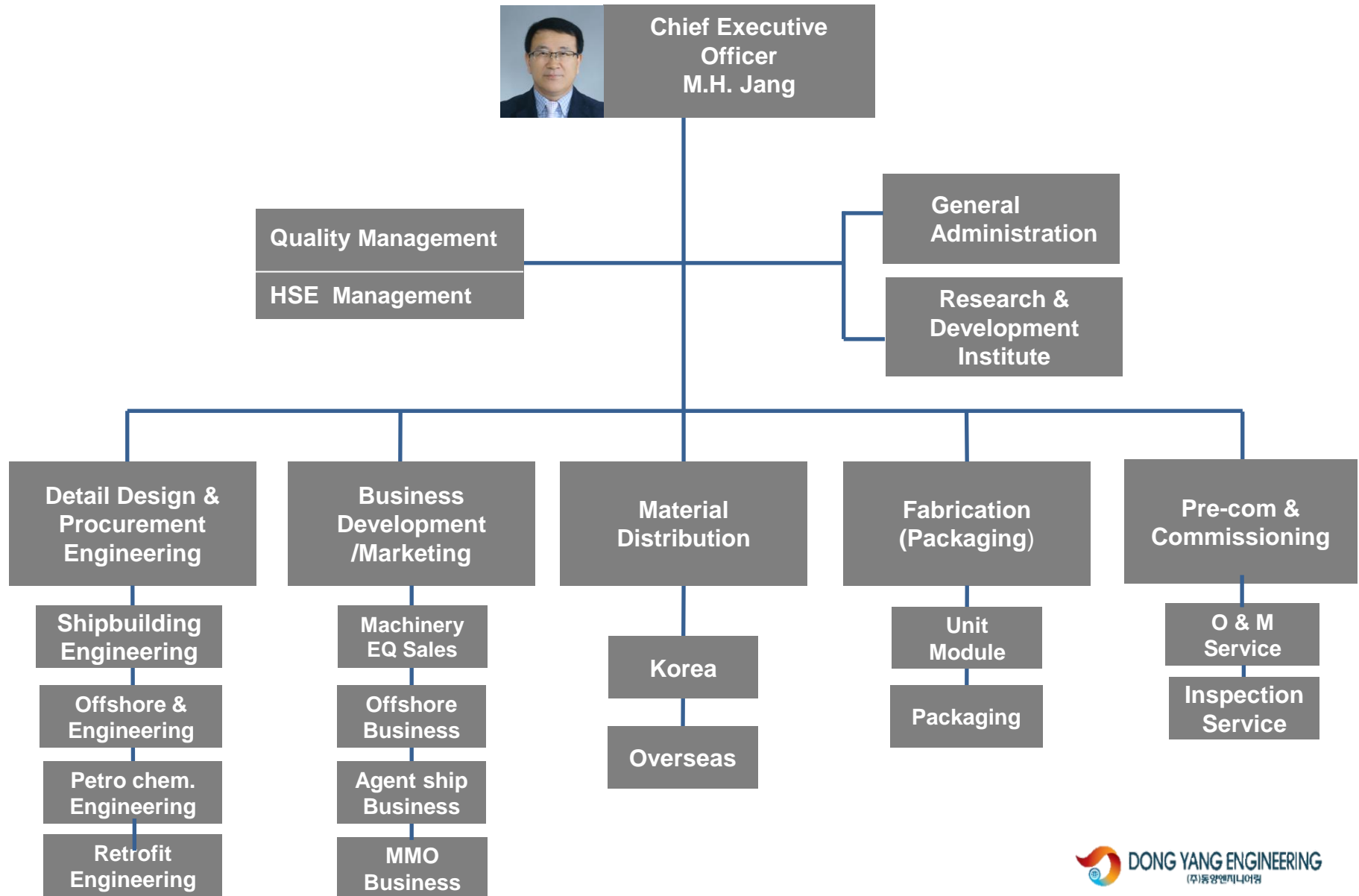
Chief Executive Officer

Min Hyeong. Jang 

HISTORY OF COMPANY

- ❖ Established in August of 2012
- ❖ Business Agreement with Schneider Electric in September of 2012
- ❖ Business Agreement with PARIFEX(Feasibility/concept designing) in January of 2013
- ❖ Business Agreement with Kongsberg Maritime(Simulator) in July of 2013
- ❖ Business Agreement with Marin-Netherlands(HMS) in November of 2013
- ❖ Business Agreement with Emerson in January of 2014
- ❖ Appointed as Venture Company by Government in June of 2015
- ❖ Certified as Research & Development(R&D) Institute by Government in August of 2015
- ❖ Business Agreement with DAEHAN Precision & Ind.(Skid Feb.) in February of 2016
- ❖ Business Agreement with Fraser(Licensed Package vendor) in March of 2016
- ❖ Business Agreement with Panduit(Electric Accessories) in April of 2016
- ❖ Business Agreement with e-Process(Licensed Package vendor) in June of 2016
- ❖ Business Agreement with HEROSE(Cryogenic Valve) in December of 2016
- ❖ Business Agreement with CONTLEC(Smart Sensor) in October of 2017
- ❖ Business Agreement With OIL-TECH/ASTRA-India(Total engineering) in October of 2017

Organization



Contents

- I. Core Business
- II. Oversea Trading Items and Material

I. CORE BUSINESS

DYE CORE BUSINESS

SHIPBUILDING, OFFSHORE PLANT ENGINEERING



MATERIAL DISTRIBUTION



OVERSEAS TRADING



DY Solution
With Partner



PROCUREMENT ENGINEERING



PACKAGING & UNIT OUTFITTING FABRICATION & ASSEMBLY



PRE-COM & COMMISSIONING



DYE's Oversea Trading Team

Name	Position & Duty	Experience	Remark
Mr. M.H Jang	CEO & President	<ul style="list-style-type: none"> Design & Engineering in Off-shore/plant division of Hyundai Heavy Industries (HHI) E& I Design & Engineering in Offshore division of HHI 	
Mr. D.H Kim	Technical Director	<ul style="list-style-type: none"> Design & Engineering In shipbuilding/Plant/Off-shore of HHI Technical Advisor 	
Mr. S.C Han	Deputy General Manager	<ul style="list-style-type: none"> Overall Project Management Business & Sales in Electrical /Instrument/Mechanical / Piping /Valves /Hull-outfitting 	Team Leader
Ms. I.K Jang	Sales Engineer	<ul style="list-style-type: none"> Procurement assistance Manager Procurement assistance and local Maker sourcing Proposal of Tender 	
Mr. S.Y Yoon	Sales Engineer	<ul style="list-style-type: none"> Procurement assistance and local Maker sourcing Proposal of Tender Commercial & Customs clearance 	

II. OVERSEA TRADING ITEMS & MATERIAL

OVERSEA TRADING ITEMS

No.	Item	No.	Item
1	Electrical Appliances – SWGR, Console, Dist. Board.	15	Rotative and Linear Transducers
2	Electrical Appliances - Transformer	16	Fuel Gas Supply System (FGSS)
3	Battery and Charger System	17	Hull Outfitting Material
4	Automatic Load Transfer Switch	18	Air Vent Head
5	Junction Box	19	Life Boat & Davit
6	Lighting System for Marine Use	20	Fire/Water Tight Door, Window
7	Cable	21	Cryogenic Valve
8	Cable tray, Tie and MCT	22	Multi Role Valve – MRV
9	ESST(Expandable Sleeves with Sealant)	23	Sight Glass
10	Cable Gland & Accessories	24	N2 Generator
11	Tube & Tubing Fitting	25	Sewage Treatment Plant
12	Flexible Metal Conduits	26	Pressure Vessel
13	Intercom & Alarm System, PA System	27	ICCP/MGPS System
14	Working LED Lighting	28	Wire, Anchor, Chain, Rope, Shackle

Electrical Appliances – SWGR, Console, DB-1

HV/MV Switchgear For Onshore Plant



Standard

1. Switchgear according to the IEC 62271-200
2. Degree of Protection followed the IEC 60529, IP42

Electric Characteristics

1. Rated Voltage: 7.2/12/17.5/24kV
2. Nomal Current: up to 4,000A
3. Short-Circuit with Stand Current: up to 40kA

* Recent Record

No.	Client	Project	Year
1	HHI	SK Nexlene	2013
2	HHI	Seoul Asan Hospital	2010
3	HHI	HYNIX M7 B/#2	2011
4	HHI	SK LIBS #3,4 / 6, 7	2009, 2011

Electrical Appliances – SWGR, Console, DB-2

LV Switchgear For Onshore Plant



Standard

1. Switchgear according to the IEC 62271-200
2. Degree of Protection followed the IEC 60529, IP42

Electric Characteristics

1. Rated Voltage: 690V
2. Nomal Current: 600A to 5,000A
3. Short-Circuit with Stand Current: up to 85kA

* Recent Record

No.	Client	Project	Year
1	HHI	OMAN SUR	2012
2	HHI	HDO #1 LBO	2012
3	HHI	HDO #2 BTX	2012
4	HHI	HDO #8/#9/#10 FBC BOILER PJT	2012 ~ 2015
5	HHI	SAMSUNG ENG SKIKDA PJT	2010

Electrical Appliances – SWGR, Console, DB-3

MCC and LCS For Onshore Plant

[MCC(motor control center)]



Standard

1. Switchgear according to the IEC 62271-200
2. Degree of Protection followed the IEC 60529, IP42

Electric Characteristics

1. Rated Voltage: 690kV
2. Nomal Current
 - Horizontal Busbar: up to 400A
 - Vertical Busbar: 650A, 850A
3. Short-Circuit with Stand Current
 - Horizontal Busbar: up to 83kA
 - Vertical Busbar: up to 65kA

[LCS(Local Control Station)]



Main Electrical Specification

Degree of Protection followed the IEC60529: up to IP66

ENCLOSURE

1. Material: Stainless steel 316
2. Component: Weather proof box, Sun shade, Stanchion

Electrical Appliances – Transformer-1

PRODUCT SCOPE

- 10~5000KVA Distribution Transformer
- 75~5000KVA Pad mounted Transformer (Dead front radial, Live front radial and Dead front loop feed type)
- 5~100MVA Power Substation Transformer
- Offshore & Onshore Wind Farm Transformer (Environmentally friendly slim)
- Max. High voltage ratings – 154 KV / 650 BIL
- De-energized tap changers, On-Load tap changers (IEC OLTC and ANSI Reactor & Serial coil type LTC) and Forced air cooling systems
- NEMA, ANSI, IEC, BS, AS, KS Standards
- Inventory sales, Modification available for standard specification

Electrical Appliances – Transformer-2

PADMOUNT TRANSFORMER



DISTRIBUTION SUBSTATION TRANSFORMER



POWER SUBSTATION TRANSFORMER



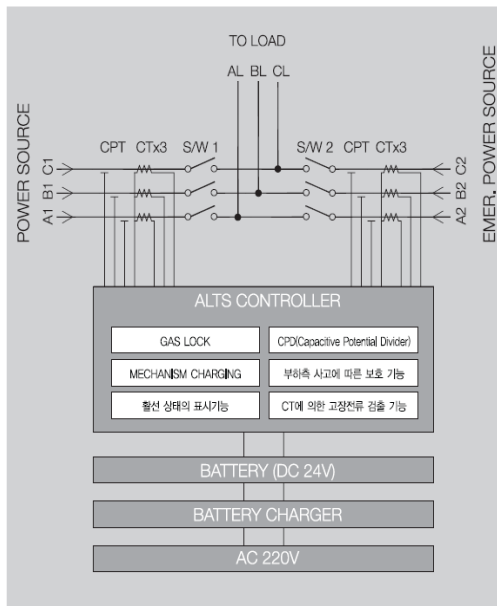
Battery and Charger System



Automatic Load Transfer Switch

Outline of the Automatic Load Transfer Switch

Installed indoors and outdoors, the product is used for the power receiving and distributing lines of the 22.9k V-Y earthing system of the distribution panel. An automatic load transfer switch is installed in such facilities as a public institution, sewage disposal plant, hospital, computer center, or a factory, where a momentary loss or significant drop in electric power can cause severe losses and damages, in order to instantly transfer to the emergency power source to ensure continuity of power. KwangMyung's product employs the SF₆ gas insulation-type, 3 way 2 switch method, and is a 3-phase single-control type product.



형식명 Category	GCA-630	33CST-A
정격전압 Rated Voltage	25.8kV	
정격전류 Rated Current	630 A	1250A
정격주파수 Rated Frequency	60Hz	
정격 단시간 내전류 Rated Short Time Withstand Current	16kA/1sec	25kA/1sec
정격 투입전류 Rated Input Current	41.8kAp	69kAp
상용주파수 내전압 Commercial Frequency Withstand Voltage	50kV / 1min	70kV / 1min
충격파 내전압 Shockwave Withstand Voltage	125kVp	150kVp
전류개폐 용량 Current Switching Capacity	부하전류 Load Current	100%
	회로 전류 Loop Current	5%
	케이블 충전전류 Cable Charged Current	100%
	선로충전전류 Line Charged Current	30%
무부하개폐성능 Non-load Switching Performance	부하전류 Load Current	100%
	회로 전류 Loop Current	5%
	케이블 충전전류 Cable Charged Current	100%
	선로충전전류 Line Charged Current	30%
작동방식 Operating Method	전동, 수동작동(Spring구동) Auto, manual operation(Spring-driven)	
정격개폐전압 Rate Operating Voltage	DC 24V	
정격가스전압 Rated Gas Pressure	0.8bar-G (at 20°C)	
최소전환시간 Transfer Time	0.2 Sec이내 Within 0.2 sec	
회로 및 스위치수 Number of Circuits / Switches	3회로 ~ 2스위치 3 circuits ~ 2 switches	
중량 Weight	480kg	880kg
적용 규격 Applied Standard	IEC 60265-1	

본 제품은 한국전기연구원(KERI)이 주관하여 국제 규격인 IEC 60265-1를 적용하여 개발 시행하여 동적인 공명진기 특성을 가진 저전압(배기)로 인위적인 전압강하를 보정합니다.
Developed in compliance with the international standard IEC 60265-1 and by taking advantage of KwangMyung's proprietary technologies, the product successfully passed the test conducted by the Korea Electrotechnology Research Institute (KERI) and proved to provide a reliable power supply.

Junction box-1

DONGYANG Developed Product

[DEX Range of Terminal Boxes]



- ✓ Flexible product range with many standard sizes. Tailor made sizes upon request
- ✓ Ingress protection to meet the harsh environment with IP66/67
- ✓ Standard hinged doors held to the enclosure by screws
- ✓ Many cable entries possibilities. Gland plates and MCT frames upon request
- ✓ Wide temperature range(-50℃ to +80℃)
- ✓ Several earthing alternatives
- ✓ ATEX approvals

Client	Project	Year	Remark
TMS TANKER	159,000 DWT CRUDE OIL TANKER(SN2161 ~ 2)	2016	
OOCL	21,200 TEU Container(SN2161 ~ 7)	2016	
SOVCOMFLOT	42K DWT Artic Shuttle Tanker(SN2132 ~ 7)	2015	
SK shipping	KOGAS SK 174,000 m3 LNG Carrier(SN2153 ~ 4)	2015	



Junction Box-2



- With elastic membranes, which can be removed for cable entry via cable glands
- Multi-level knockouts for cable glands in different sizes
- **Degree of protection: IP 66**
- Material: polypropylene or polycarbonate
- Burning behaviour:
glow wire test in accordance with
IEC 60695-2-11: 750 °C,
flame-retardant, self-extinguishing
- Colour: grey, RAL 7035
- Resistance to impact: IK 07 (2 Joule)



Lighting System for Marine Use



Cable (Power /Control/Telecommunication) for Marine & shipping Building and Off-shore

HV Power Cable

MV Power Cable

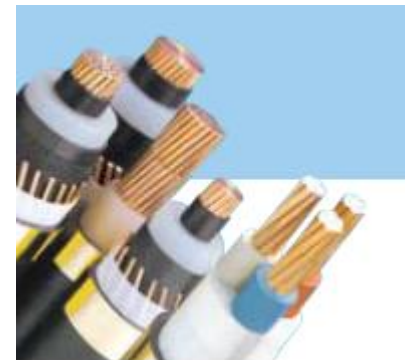
LV Power Cable

Instrument & Control Cable

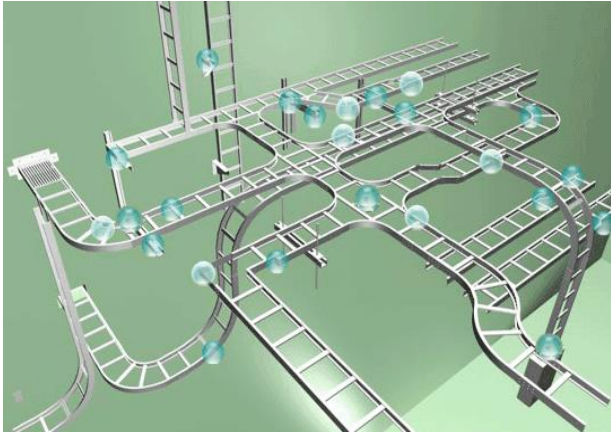
Structured /Data Cable System

Telecom. Cable including

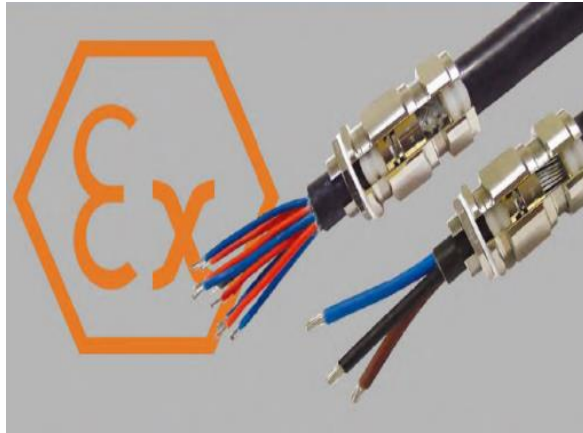
Sub-Sea Cable



Cable tray ,Tie, and MCT



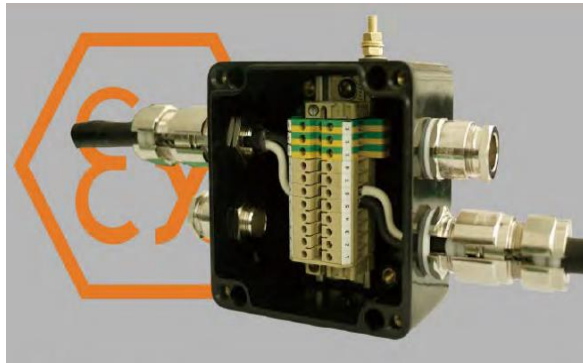
Cable Ladder Tray



Cable Gland



Cable tie & Accessories



GRP Junction Box

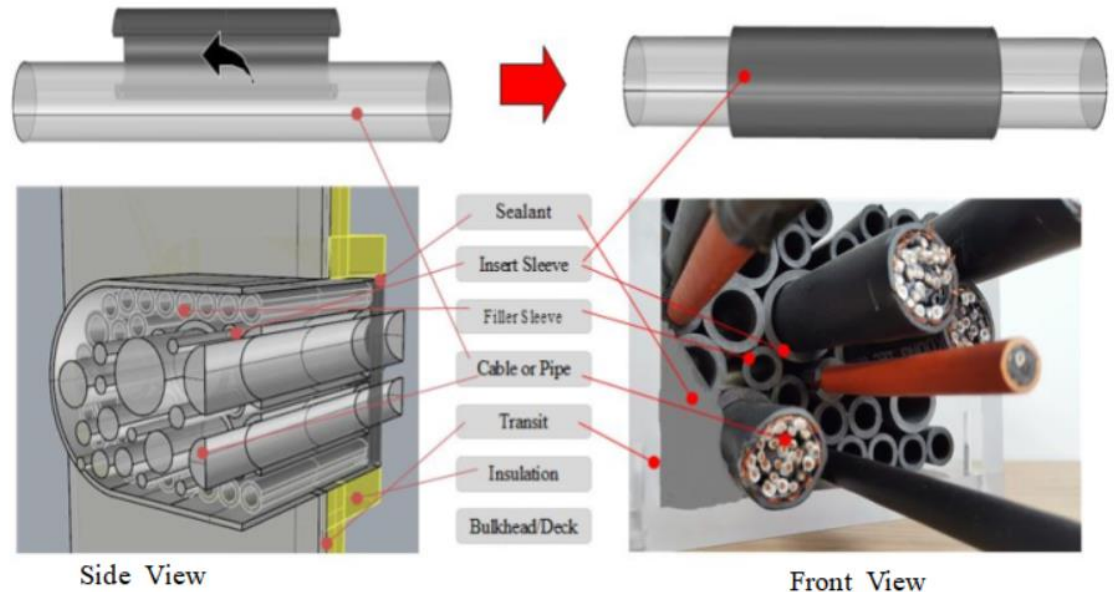


Munti Cable Transit(MCT)

ESST(Expandable Sleeves with Sealant) System

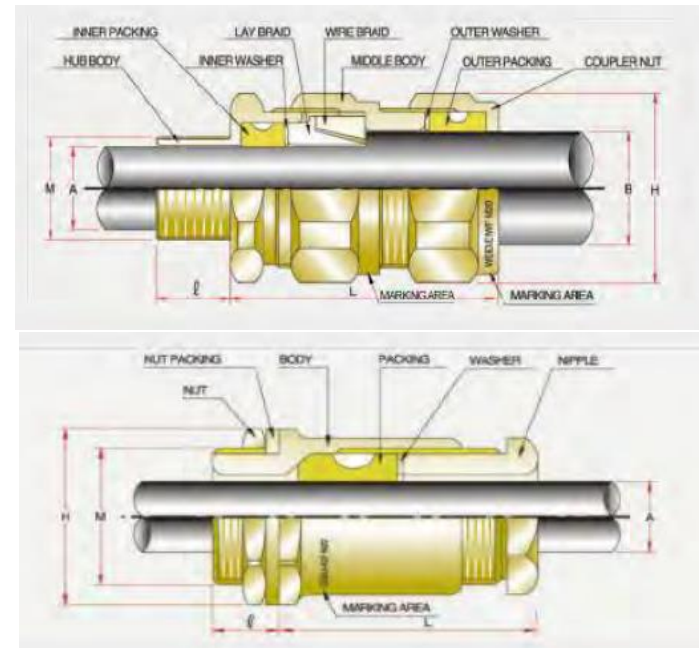
“ ESST system” Expandable sleeves with sealant type
MCT (Multi-Cable Transit) shall be used for cable penetration for
“A0” ~ “A60” class(Cable/Pipe transit Length minimum 180mm)

AV-810, 812 Sleeve / AP-910, 912 Sealant



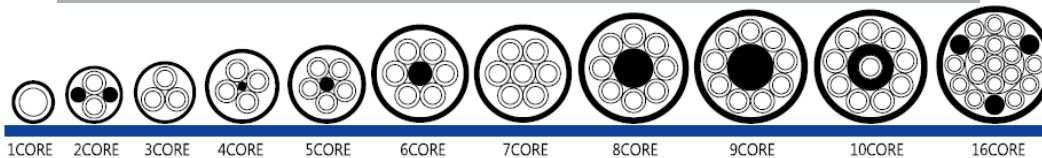
Cable Gland & Accessories

- Cable gland
- Stopping Plug
- Adapter
- Reducer
- Elbow



Tubing & Fitting-1

Multi Core Tube
Pre-Insulation Tube
Steam or Electric Traced Heating Tube



Approval Programs



Tube Material

Material

Stainless Steel

High Alloy Stainless Steel

Super Austenitic

Nickel Alloy

Duplex

Copper

Copper-Nickel 90/10

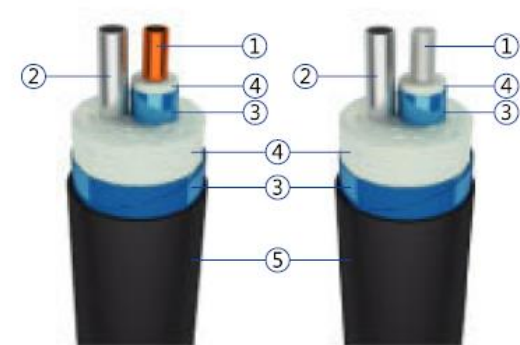
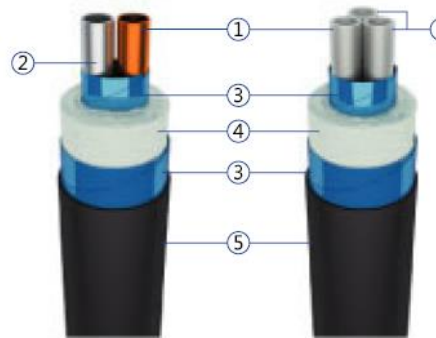
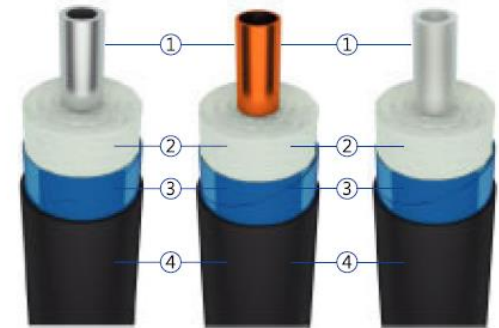
Tubing & Fitting-2

Pre-Insulation Tube (PIT)

Heavy Steam Traced Heating Tube (HST)

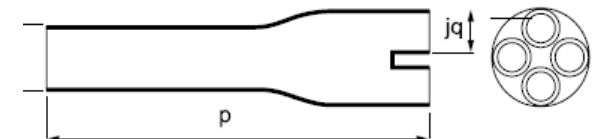
Light Steam Traced Heating Tube (LST)

Low/Mid/High Electric Traced Heating Tube (LET/MET/HET)



Heat Shrinkable Sleeve

Heat Shrinkable Boot



Flexible Metal Conduits

- KS C 8422
- UL 360



First class
Standard M type



First class
Interlock I type



Second class

■ Scope

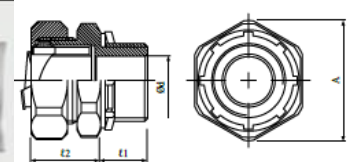
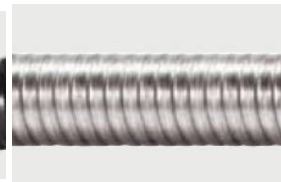
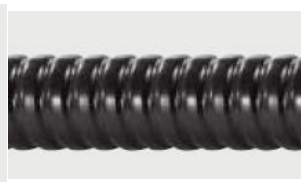
This Korea Industrial Standard specifies Flexible Metallic conduits, (here-after referred to as the "FMC") used for protecting electric wires in electrical wiring work.

- Remarks The following Standards are cited in this Standard
KS C 2329 Bulkernized fiber plate.
- KS D 0201 Testing method for melting zinc plated.
- KS D 3506 Melting zinc plated steel plate and bar.
- KS D 3512 Cold rolled steel plate and bar.
- KS D 6701 Aluminum plate and bar of aluminum and alloyed.
- KS D 9502 Testing method for the spraying of salt water.
- KS M 3156 Soft poly salted vinyl compound.

■ Type

The type of flexible conduits consist of the shall be 4 types as belows.

- First class flexible metal conduits(Here in after called as class flexible conduits.)
- First class vinyl coated flexible metal conduits.
(Here in after called as first class vinyl coated flexible conduits).
- Second class flexible metal conduits.(Here in after called as second class flexible conduits).
- Second class vinyl coated flexible metal conduits.
(Here in after called as second class vinyl coated flexible conduit).



Intercom & Alarm System, PA System



Working LED Lighting-1

- LED Flameproof Lighting Fixture
- Battery-powered LED Lighting Fixture
- LED Lighting Fixture w/power cable
- Battery-powered LED ground Lighting Fixture
- LED Ground Lighting with/power cable
- Battery-powered LED Flash Lighting
- LED Back-up Lighting w/ power cable



Street LED Lighting-2

STREET DESIGN



Type: Basic Module Type

STREET LIGHT



120w/150w

JJ-G-120 G2B 23421286

JJ-G-150 G2B 23421287



120W/150W

JJ-G

LED
STREET LIGHT

JJ-G-120 G2B 23421286

JJ-G-150 G2B 23421287

Features

- Module type. Easy to maintain
- SMPS inner/outer types
- Different companies' modules can be used
- High efficiency over 120lm/W



4 MODULE
30W



6 MODULE
25W

Street LED Lighting-3

- Spec

MODEL	LED STREET LIGHT	
	JJ-G-120	JJ-G-150
Rated Power	120W	150W
Total Flux	11,400 lm ↑	14,250 lm ↑
Luminance Efficiency	120lm/W ↑	120lm/W ↑
Color Rendering Index	75Ra ↑	75Ra ↑
Color Temperature	5,000 K	5,000 K
Life Time	50,000 hrs	50,000 hrs
Appearance	979x390x146mm	979x390x146mm
Protection	IP 66	IP 66
Power Factor	0.9	0.9

LED Safety Sidewalk block-4



LED Safety Sidewalk block-5

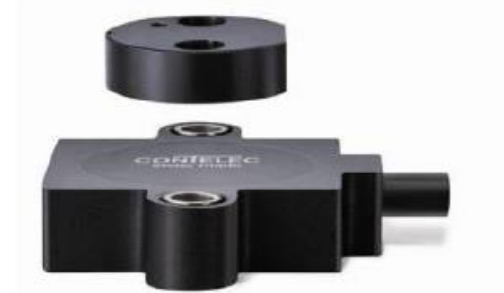
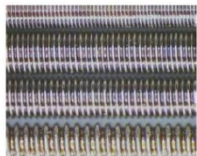
	Standard	Feature
Size	300mm 300mm 60T	Amount of dots: 36EA
Voltage	12V ~ 24V	Human Harmlessness
Power Consumption (W)	0.4W / EA	High Efficiency
Inner Voltage	Non partial breakage	AC 500V/min Pass
Case	Transparent/PC + ABS	KSF 4561
Light	Light guide plate + LED	
Embedding Base	Embedding rubber material	Poly Carbonate
Waterproof	Waterproof connector	Protection Class IP67 (Ultimate waterproof)
Colors		
Day/Night	Red / Green (1W)	Yellow (2.16W)

- ✓ The product uses DC due to safety
- ✓ Compatible with other companies LED bars
- ✓ We use High quality LED bar in advance



Rotative and Linear Transducers

- Potentiometers
- Non-contacting & Contactless rotary encoders
- Miniature sensors
- Industrial sensors
- Heavy-duty sensors



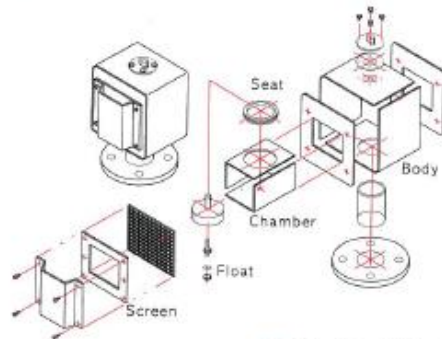
Hull Outfitting Material

- Laboratory Equipment
- Workshop Equipment
 - Supply/Quality Management/Test
- Medical Equipment
- Galley & Laundry
- Sauna
- Gymnasium & Entertainment
- TLQ
- Accommodation equipment
- Calm moon Sheet
- Vacuum Toilet

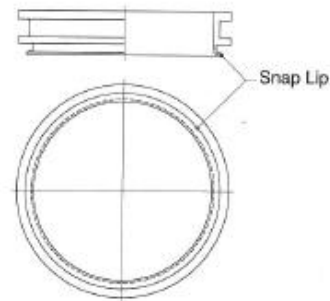


Air Vent Head

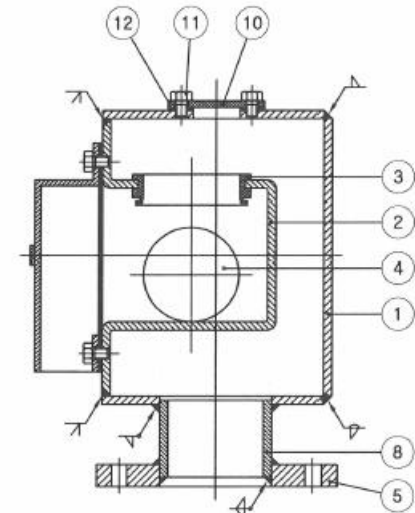
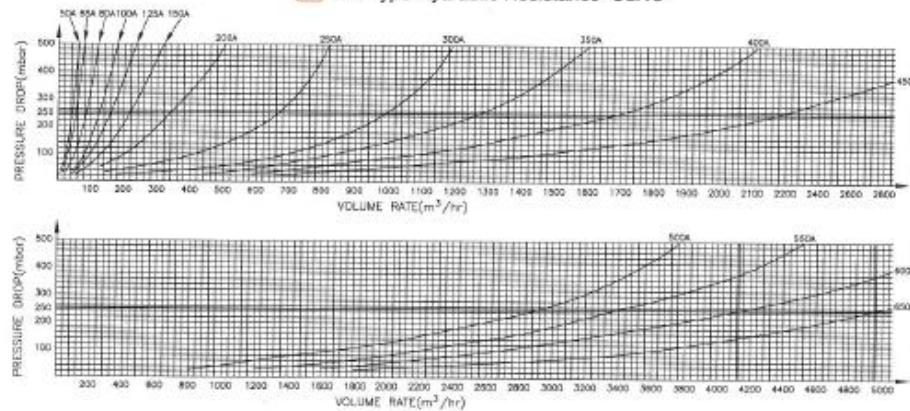
Box Type Air Vent Head



New Snap Lip Seat



Box Type Hydraulic Resistance Curve



■ Pressure drop : 2500mmaq(250mbar)

Unit : m³/hr

N.D	50A	65A	80A	100A	125A	150A	200A	250A	300A	350A	400A	450A	500A	550A	600A	650A
VOLUME RATE	38	50	77	118	157	216	325	677	992	1264	1687	2180	2750	3394	4124	4948

Life Boat & Davit , Special Ships -1



GRP GRAVITY LIFEBOAT & DAVIT



GRP FREE-FALL LIFEBOAT & DAVIT



GRP RIGID RESCUE BOAT & DAVIT



SPECIAL SHIPS

Marine & Sailing Yacht Engine

MARINE ENGINE



SAILING YACHT ENGINE



Specification

Model	HB23D1	HB29D1	HB36D1
Power (kW(HP)/rpm)	17.1(23)/3000	21.6(29)/2800	26.9(36)/2800
Type	In-line vertical, Water-cooled 4-cycle Diesel engine		
Emission Standard	Tier 4	Tier 3	
Aspiration	Natural aspirated		
Combustion system	In-direct injection		
Cooling system	Keel cooler cooling type		
Bore X stroke (mm)	75 x 76	80 x 92.4	87 x 92.4
Displacement (cc)	1,007	1,393	1,647
Length (mm)	678	804.5	
Width (mm)	477	500	
Height (mm)	554	650	
Dry weight (kg-f)	130	193	199
Alternator	12V-50A		
Lubrication oil	SAE15W-40		
Transmission	HBG 200		
Transmission Ratio (forward/backward)	2.54:1 / 2.43:1		

Specification

Model	HB23D1-S	HB29D1-S	HB36D1-S
Power (kW(HP)/rpm)	17.1(23)/3000	21.6(29)/2800	26.9(36)/2800
Type	In-line vertical, Water-cooled 4-cycle Diesel engine		
Emission Standard		Tier 4	
Aspiration	Natural aspirated		
Combustion system	In-direct injection		
Cooling system	See water cross cooling type		
Bore X stroke (mm)	75 x 76	80 x 92.4	87 x 92.4
Displacement (cc)	1,007	1,393	1,647
Length (mm)		804.5	
Width (mm)		500	
Height (mm)		650	
Dry weight (kg-f)	138	198	204
Alternator	12V-50A		
Lubrication oil	SAE15W-40		
Transmission	HBG 200		
Transmission Ratio (forward/backward)	2.54:1 / 2.43:1		
Operating conditions Temperature	min. -23℃		

Fire/Water Tight Door, Window



- B-0, B-15, A-0, A-60 Fire class
- Internal door
- External door
- Weather & Water tight door
- Fire roller shutter
- Master key system
- Hatches



- Non-Opening window - Bolting Type
- Opening window - Bolting Type
- Non- Opening window - Welding Type
- Opening window - Welding Type
- Electric Heated - Bolting & Welding Type
- A-60 Class Fire Resistant Window
- Anti Glare Sun Screen
- Window Wiper

Cryogenic Valve

Functional unit	Description
Shut-Off valves	Intended for use in switching positions, Control of fluid flow
Safety devices	Valve to protect the equipment against excessive pressure.
Change over valves	One inlet and multiple outlet possibilities
Control valves	Intended for use in all positions between closed and fully open

gate valve



globe valve



ball valve



Pressure regulator



Actuated valves with control disc



Safety valve
bursting disc



overflow protection



safety function
in the pressure regulator



Change over valve



Divertor valve



Multi Role Valve – MRV-1

Self-Actuation on-off / control valve

- Streamlined and unrestricted flow path prevents turbulence and vibration
- Axial design provides seamless shut-off in both directions
- Extended life cycle and easy maintenance



Specifications

Valve Size	Screw Type : 15A (1/2") ... 50A (2") Flange Type : 15A (1/2") ... 300A (12")		
Max. Working Pressure	100bar		
Temperature Range	NBR : -30 ... + 80degC	Viton : up to + 150degC	FPM : up to + 200degC
Pressure Rating	JIS: 10K, 20K, 30K, 40K, 60K, 63K ANSI: 150#, 300#, 600#, 900#, 1500#		
End Connection	Thread	Flange	
Pneu. Port Connection	G1/8"	G1/4"	
Pneumatic Working Pressure ¹⁾	4.0 ... 8 bar		

1) Minimum operating pressures vary for single-acting actuators, depending on spring quality

Material

Valve Body:	SS304, SS316
Seal:	NBR, VITON, FPM
Seat:	RTFE, PEEK, Metal
Valve Disc:	SS 304, SS 316, SS 304 + hard facing

Multi Role Valve – MRV-2



SILENT OPERATION

Industry : Steel
Application : Coolant Line
Challenge : Water Hammer



SAFETY

Industry : Chemical
Application : Silicon compose line
Challenge : Fail-Safe and High durability



LIGHT WEIGHT

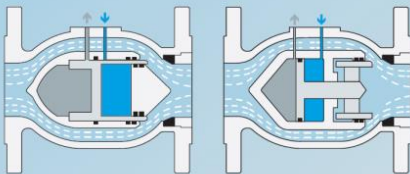
Industry : Steel
Application : Control valve
Challenge : Release Pipe stress and Valve weight lightning



FAST RESPONSE

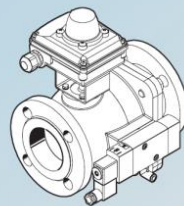
Industry : Electronics
Application : Vacuum Line
Challenge : < 0.5 sec switch cycle

Unique structure

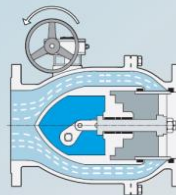


Low pressure (0~20bar)

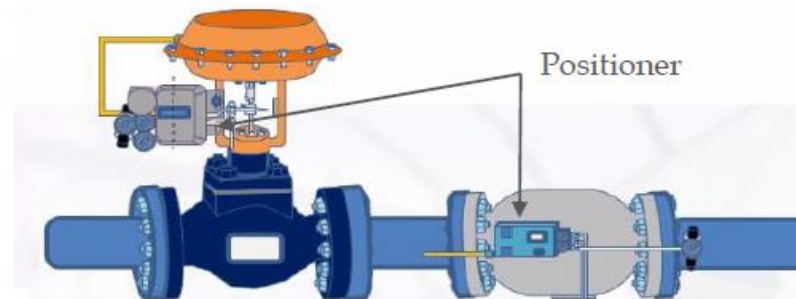
High pressure (0~100bar)



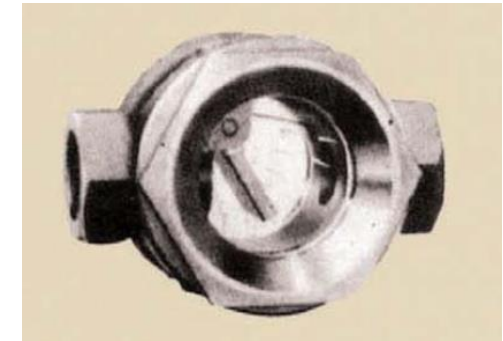
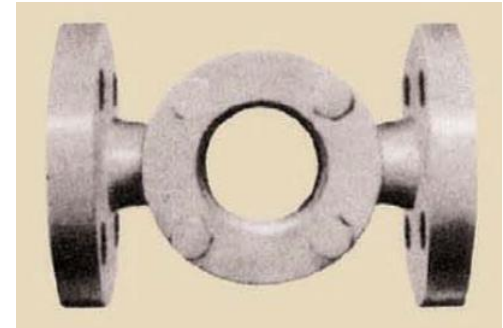
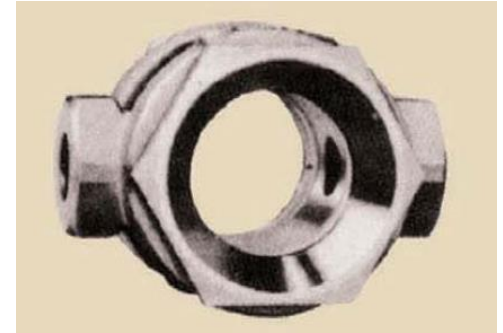
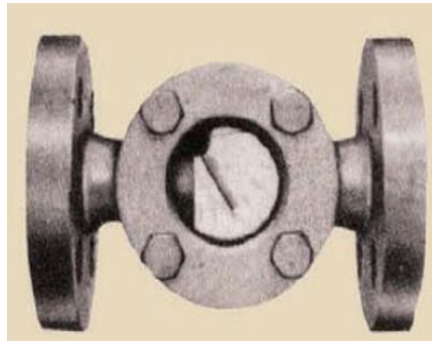
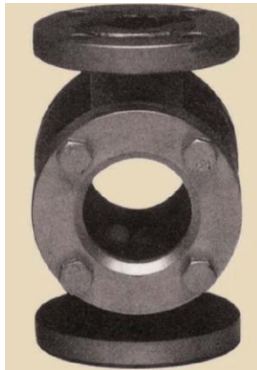
NAMUR interface



Manual valve



Sight Glass



N2 Generator

- **Type of N2 Generator :**
PSA & MEMBRANE Type available

Technical Spec. (Standards)

- **N2 Purity (Max.) :**
PSA up to 99.999%
Membrane up to 99.5%
- **N2 Flow (Max.) :**
3,000 Nm³/hr

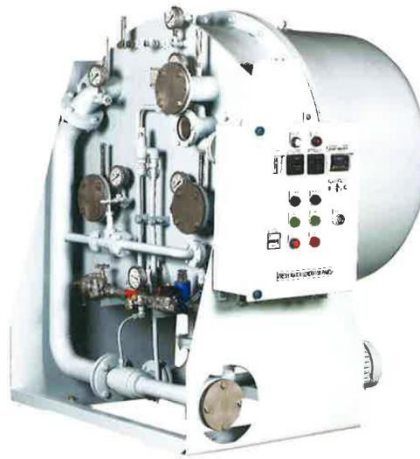
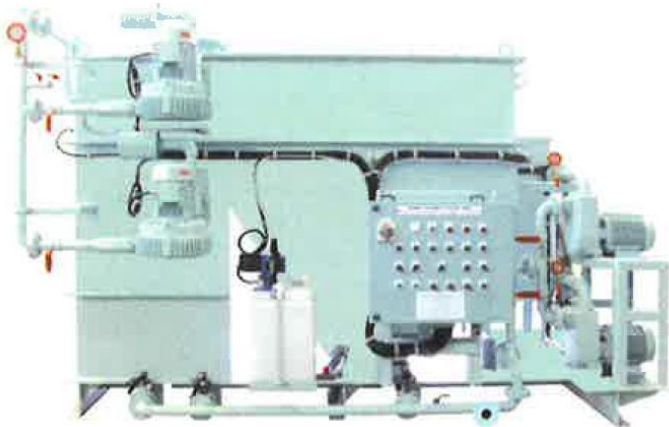
Other product

- Oxygen Generator
- H₂ Generator
- Air/Gas Dryer



Sewage Treatment Plant

- Sewage treatment package
- Fresh water Generator
- Oil Purifier for Fuel Oil



Pressure Vessel-1




Experienced in

- Skid unit & module
- Reactor & heat exchanger
- Stair & access platform fabrication, assembly and installation
- Base block internal & external acc'y for vessel & tank
- High pressure vessel, valves or necessary equipment procurements
- Construction consulting and manpower supply
- Internal grid assembly
- Condenser frame
- Dome liner jig and Shipping saddle
- Non sparking overhead and gantry crane provision

Pressure Vessel-2

CERTIFICATION – ASME S, U, U2, PP



CERTIFICATE OF AUTHORIZATION

The named company is authorized by the ASME (ASME) for the scope of activity shown below the ASME Boiler and Pressure Vessel Code, authority granted by this Certificate of Authorization agreement set forth in the application. Any work shall have been built strictly in accordance with the ASME Boiler and Pressure Vessel Code.


COMPANY: Sukwoo Industries Co., Ltd.
74, Daejeong-ro, Onsan-eup, Ulsan 680-740, Republic of Korea


SCOPE: Fabrication and assembly of pressure vessels controlled by the

AUTHORIZED: June 12, 2015
EXPIRES: June 12, 2018
CERTIFICATE NUMBER: 49,242

Byung H. Kim
Vice President, Conformity Assessment

Joseph A. Scamman
Director, Conformity Assessment





CERTIFICATE OF AUTHORIZATION

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COMPANY: Sukwoo Industries Co., Ltd.
74, Daejeong-ro, Onsan-eup, Ulsan 680-740, Republic of Korea


SCOPE: Manufacture and assembly of power boilers controlled by the

AUTHORIZED: June 12, 2015
EXPIRES: June 12, 2018
CERTIFICATE NUMBER: 49,241

Byung H. Kim
Vice President, Conformity Assessment

Joseph A. Scamman
Director, Conformity Assessment





CERTIFICATE OF AUTHORIZATION

The named company is authorized by the ASME (ASME) for the scope of activity shown below the ASME Boiler and Pressure Vessel Code, authority granted by this Certificate of Authorization agreement set forth in the application. Any work shall have been built strictly in accordance with the ASME Boiler and Pressure Vessel Code.


COMPANY: Sukwoo Industries Co., Ltd.
74, Daejeong-ro, Onsan-eup, Ulsan 680-740, Republic of Korea


SCOPE: Manufacture of pressure vessels at the above location (This authorization does not include field sites)

AUTHORIZED: June 12, 2015
EXPIRES: June 12, 2018
CERTIFICATE NUMBER: 49,243

Byung H. Kim
Vice President, Conformity Assessment

Joseph A. Scamman
Director, Conformity Assessment





CERTIFICATE OF AUTHORIZATION

The named company is authorized by the American Society of Mechanical Engineers (ASME) for the scope of activity shown below in accordance with the applicable rules of the ASME Boiler and Pressure Vessel Code. The use of the certification mark and the authority granted by this Certificate of Authorization are subject to the provisions of the agreement set forth in the application. Any construction stamped with this certification mark shall have been built strictly in accordance with the provisions of the ASME Boiler and Pressure Vessel Code.


COMPANY: Sukwoo Industries Co., Ltd.
74, Daejeong-ro, Onsan-eup, Ulsan 680-740, Republic of Korea

SCOPE: Manufacture of pressure vessels at the above location and field sites controlled by the above location

AUTHORIZED: June 12, 2015
EXPIRES: June 12, 2018
CERTIFICATE NUMBER: 49,244

Byung H. Kim
Vice President, Conformity Assessment

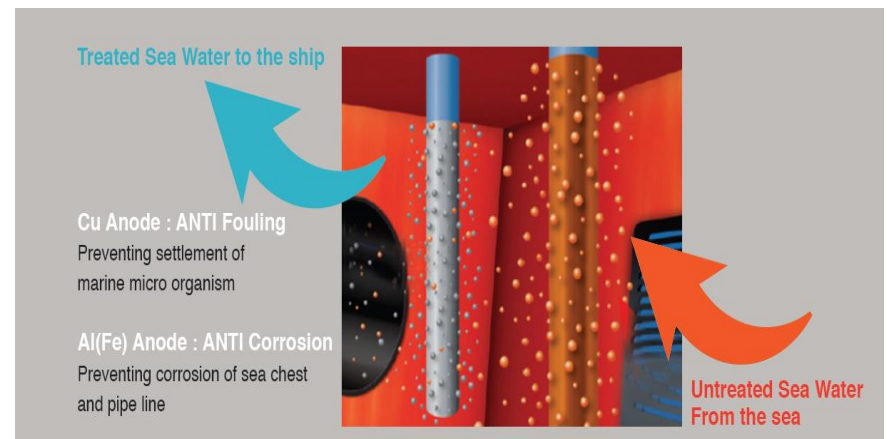
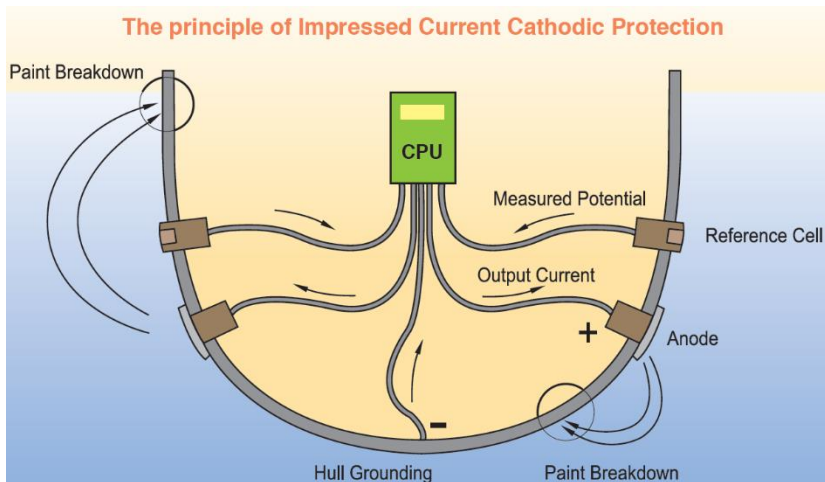
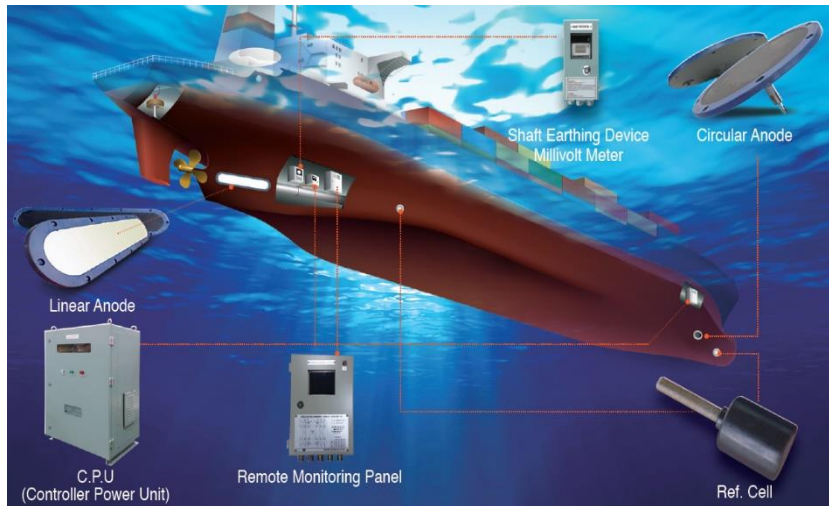
Joseph A. Scamman
Director, Conformity Assessment



Winch, Air Motor, etc.



ICCP/MGPS Impressed Current Cathodic Protection & Marine Growth Preventing System



Wire, Anchor, Chain, Rope, Shackle



CABLE LAID SLING



SPOOLER



WIRE ROPE



SLING & RING



RIGGING
HARDWARE



MARINE EQUIPMENT
AND OTHERS



FIBER ROPE



ANCHOR &
ANCHOR CHAIN



TCK



TKG



LOAD CELL



SPREADER BEAM