

## Company History

2000 May	HANCHANG ENG. Established	2006 May	Acquirement of ASME Certificates
2001 Jun	Acquirement of ISO 9002 : 1994 Quality Certification(ABS, QE)	Oct	Deliver HEATING COIL UNIT to SPP SHIPBUILDING CO.,LTD.
Jul	HANCHANG ENGINEERING CO.,LTD. Established	2007 Jan	Research Institute Established
Jul	Acquirement of Classification Certificates (ABS/DNV/BV/LR)	Mar	HANCHANG PLANT CO.,LTD. Established
2002 Jul	Deliver MANIFOLD UNIT to SAMSUNG HEAVY IND. CO.,LTD.	Nov	HANCHANG HEAVY IND. CO.,LTD. Established
2003 Jun	Acquirement of ISO 9001 : 2000 Quality Management Certification	2009 Oct	Deliver COMPRESSOR TANK PIPING to SAMSUNG TECHWIN CO.,LTD.
2004 Feb	Deliver MODULE UNIT to HANJIN HEAVY IND. CO.,LTD.	2010 Dec	Acquirement of GL APC Certificate
May	Acquirement of GL Welding Shop Approval	2011 Jun	Deliver LNG UPPER DECK UNIT to STX SHIPBUILDING CO.,LTD.
2005 Sep	Acquirement of ISO 14001 : 2004 Environmental Management Certification	2012 Jan	Acquirement of ASME Certificates (U S PP)
		Aug	Registered Specific Facility Production (Cryogenic Storage Tanks Container)
		Sep	Busan branch Established



*cryogenic tank*  
**ECO FILLING**  
 A new concept of micro-bulk cryogenic container

## Product



Pipe Spool

LNG Upper Deck Unit

Package Module Unit

## Certification



Certificate of R&D Center

ISO 9001 : 2008  
ISO 14001 : 2004

GL Factory Approval

ASME U

ASME S

ASME PP

## Head Office & Factory



I Head Office I  
 992-1, Byungdong-Ri  
 Hanlim-Myun Gimhae-City,  
 GyungNam, Korea  
 Tel : +82-55-346-0805/5041  
 Fax : +82-55-346-0828

I #2FACTORY I  
 66-2, Gadong-Ri  
 Hanlim-Myun Gimhae-City,  
 GyungNam, Korea  
 Tel : +82-55-346-5035  
 Fax : +82-55-346-0832

I #3FACTORY I  
 624-9, Hanlim-Myun  
 Gimhae-City, GyungNam, Korea  
 Tel : +82-55-346-7920  
 Fax : +82-55-346-7068

I Busan Office I  
 Rm. 316 Byucksan e-centum class 1,  
 Jaesong-dong, Haeundae-gu, Busan  
 Metropolitan City, Korea  
 Tel : +82-70-8759-9605  
 Fax : +82-51-905-0057



## A new concept of micro-bulk cryogenic container

Eco-filling helps full advantage of cryogenic liquefied gas storage tanks, cryogenic-related advantages of the latest technology products. This product optimizes space utilization and transportation and installation charge, is designed to facilitate optimal, Especially utilizing the merits of existing cylinder containers and storage vessels, micro-bulk storage containers. By integrating the existing independent valves achieve an economical price and simple appearance, and easy-to-use micro-bulk cryogenic tanks was developed.

### An economical price

Integrated multi-valve system by applying simple appearance and economic price realization

### Optimal space utilization

Dimensions can be modeled according to adopted shape

### Easy to move / install

Forklifts, cranes, etc. is used / structure for easy installation

### Reliable structural design

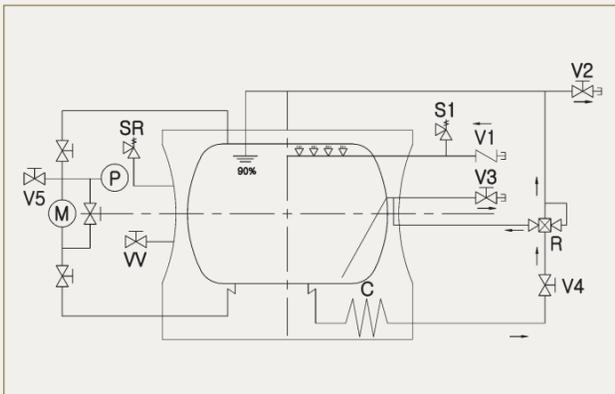
Robust design in harsh field and applied stainless steel.



### Integrated valve features described

- ▶ 7 integrated valve manufacturing costs
- ▶ shorten the length of the pressure pipe
- ▶ drop in reduction and injection time

## Flow diagram



NO	DESCRIPTION
C	Pressure build-up coil
M	Level indicator
P	Pressure indicator
R	Regulator
S1	Safety v/v, inner vessel
SR	Safety v/v, outer jacket
V1	Check v/v
V2	Vapor out v/v
V3	Liquid out v/v
V4	Pressure build-up v/v
V5	Vent v/v
VV	Vacuum v/v

## Specification of EcoFilling Tank

Model	Volume(l)	Fluid	Capacity(kg)	Material Inside/Outside	Design Temp(°C)	Design Pressure (MPa)
HC-EF-0.2	200	L-N <sub>2</sub>	145	A240-304	-196°C~40°C	1.0~3.0MPa
		L-O <sub>2</sub>	205			
		L-Ar	252			
		LNG	82			
HC-EF-0.5	500	L-N <sub>2</sub>	364	A240-304	-196°C~40°C	1.0~3.0MPa
		L-O <sub>2</sub>	513			
		L-Ar	630			
		LNG	205			
HC-EF-1.0	1000	L-N <sub>2</sub>	727	A240-304	-196°C~40°C	1.0~3.0MPa
		L-O <sub>2</sub>	1026			
		L-Ar	1260			
		LNG	410			
HC-EF-1.5	1500	L-N <sub>2</sub>	1091	A240-304	-196°C~40°C	1.0~3.0MPa
		L-O <sub>2</sub>	1540			
		L-Ar	1890			
		LNG	614			



Specification of EcoFilling Tank

## Specification of CRYOGENIC STORAGE TANK

Model	Volume(l)	Fluid	Capacity(kg)	Material	Design Temp(°C)	Design Pressure(MPa)
HC-CE-0.5	500	L-N <sub>2</sub>	145	A240-304	-196°C~40°C	1.0~3.0MPa
		L-O <sub>2</sub>	205			
		L-Ar	252			
HC-CE-1.0	1000	L-N <sub>2</sub>	364	A240-304	-196°C~40°C	1.0~3.0MPa
		L-O <sub>2</sub>	513			
		L-Ar	630			
HC-CE-1.5	1500	L-N <sub>2</sub>	1091	A240-304	-196°C~40°C	1.0~3.0MPa
		L-O <sub>2</sub>	1540			
		L-Ar	1890			
HC-CE-3.8	3800	L-N <sub>2</sub>	2765	A240-304	-196°C~40°C	1.0~3.0MPa
		L-O <sub>2</sub>	3900			
		L-Ar	4790			
HC-CE-4.8	4800	L-N <sub>2</sub>	3490	A240-304	-196°C~40°C	1.0~3.0MPa
		L-O <sub>2</sub>	4925			
		L-Ar	6050			
HC-CE-6.8	6800	L-N <sub>2</sub>	4950	A240-304	-196°C~40°C	1.0~3.0MPa
		L-O <sub>2</sub>	6980			
		L-Ar	8570			
HC-CE-7.8	7800	L-N <sub>2</sub>	5670	A240-304	-196°C~40°C	1.0~3.0MPa
		L-O <sub>2</sub>	8000			
		L-Ar	9830			
HC-CE-9.7	9700	L-N <sub>2</sub>	7050	A240-304	-196°C~40°C	1.0~3.0MPa
		L-O <sub>2</sub>	9950			
		L-Ar	12200			
HC-CE-13	13000	L-N <sub>2</sub>	9750	A240-304	-196°C~40°C	1.0~3.0MPa
		L-O <sub>2</sub>	13300			
		L-Ar	16400			



Specification of CRYOGENIC STORAGE TANK



Specification of CO<sub>2</sub> STORAGE TANK

## Specification of CO<sub>2</sub> STORAGE TANK

Model	Volume(l)	Fluid	Capacity(kg)	Design Temp(°C)	Design Pressure(MPa)
HC-CO-4.9	5295	L-CO <sub>2</sub>	4900	-20~40°C	2.3MPa
HC-CO-9.9	10680	L-CO <sub>2</sub>	9900	-20~40°C	2.3MPa
HC-CO-15	16180	L-CO <sub>2</sub>	15000	-20~40°C	2.3MPa
HC-CO-20	21570	L-CO <sub>2</sub>	20000	-20~40°C	2.3MPa
HC-CO-30	32360	L-CO <sub>2</sub>	30000	-20~40°C	2.3MPa
HC-CO-50	53930	L-CO <sub>2</sub>	50000	-20~40°C	2.3MPa

## Specification of LNG STORAGE TANK

Model	Volume(l)	Fluid	Material Inside/Outside	Design Temp(°C)	Design Pressure(MPa)
HC-LNG-50	50000	LNG	A240-304/SS400	-196°C~40°C	1.0MPa
HC-LNG-100	100000	LNG	A240-304/SS400	-196°C~40°C	1.0MPa
HC-LNG-150	150000	LNG	A240-304/SS400	-196°C~40°C	1.0MPa
HC-LNG-200	200000	LNG	A240-304/SS400	-196°C~40°C	1.0MPa
HC-LNG-300	300000	LNG	A240-304/SS400	-196°C~40°C	1.0MPa
HC-LNG-500	500000	LNG	A240-304/SS400	-196°C~40°C	1.0MPa



Specification of LNG STORAGE TANK

## BULK LORRY

- CRYOGENIC BULK LORRY SYSTEM
- CO<sub>2</sub> BULK LORRY SYSTEM
- LNG BULK LORRY SYSTEM



BULK LORRY