



## **NEW SPECIAL TECHNOLOGY**

- VAPORIZER
- SNG BLENDER(LPG & AIR MIXER) SYSTEM
- NH<sub>3</sub> STORAGE & SUPPLY SYSTEM FOR DE-NOX FACILITY

**JINU DEV CO.,LTD.**

# New Special Technology

We promise that "JINU" will do best to supply best quality products and plant.

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# Vaporizer **Jinu**

1. Electric Type LPG Vaporizer
2. Hot Water Circulating Type LPG Vaporizer
3. Steam Type LPG Vaporizer
4. Burner Type LPG Vaporizer
5. Special Gas Vaporizer  
(Fluid : NH<sub>3</sub>, CO<sub>2</sub>, Cl<sub>2</sub>, SO<sub>2</sub>, Etc.)



# Vaporizer

1

## Electric Type LPG Vaporizer

MODEL JEVS & C(010~100kg/hr)

### Feature

- Complete function and control system with digital program.
- Self Diagnosis function  
Display provides easier detection and solution of errors.
- Complete liquid leak overflow prevention device  
Using a differential pressure type liquid leak outflow prevention device.
- Easy and convenient maintenance  
When changing heater, no need to empty water in tank.
- Equipped with Safety and Economic device.(C-Type)  
Minimization of discharge gas to the outside when reactivating vaporizer.
- The Water Overflow Valve is installed  
Water management is convenient as it minimizes the water evaporation.

### Part Description



Digital Display  
(Displays operation status and error code)



Differential Pressure Type  
(Liquid Gas Overflow Prevention Device)



Water Overflow Valve  
(Prevent the Water Evaporation)

### JEVS & C Specifications

Type	Water Bath, Vertical
Heat Mass	Water
LPG Part	Water Bath Outside(Carbon Steel) & Heat Exchanger(SUS304)
Water Bath	SS275
Design Pressure	1.8 MPa
Test Pressure	2.3 MPa
Working Temperature	Water 60°C~75°C
Set Pressure of Safety Valve	1.76MPa
Explosion Proof Classification	Ex d IIA T6
Power	220V, 380V, 440V

Specification can be changed in order to upgrade function without notice in advance.



Safety Valve  
(Discharge Device of Abnormal Pressure)



Gas Pressure Gauge



Water Drain Valve

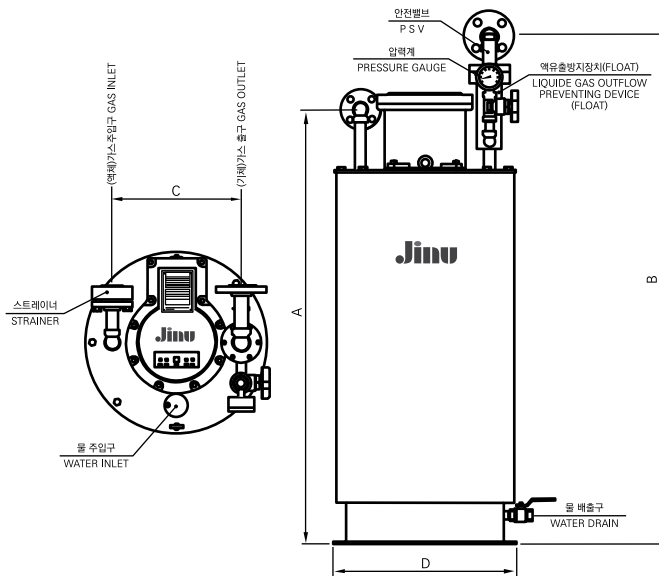


# Vaporizer

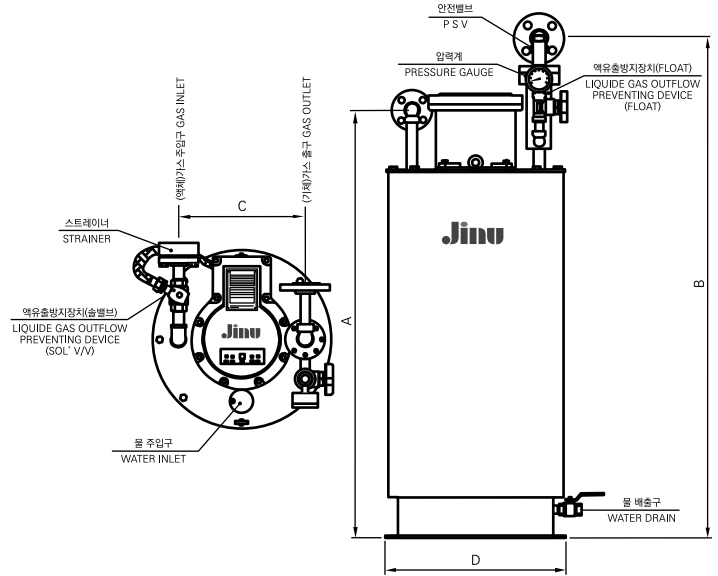
## 1

## Electric Type LPG Vaporizer

MODEL **JEVS & C**(010~100kg/hr)



JEVS



JEVS-C

### Dimensions of electric vaporizers (Included Option "C" Solenoid Valve)

Model	Capacity (kg/hr)	Gas Inlet	Gas Outlet	Dimensions (mm) (JEVS & C)							
				A	B	C	D	Safety v/v	Empty Weight	Water Volume	Antifreeze (-20°C)
JEVS-010 & C	10	15A	15A	507	702	320	455	15A	60kg	30 L	9 L
JEVS-030 & C	30	15A	15A	758	953	320	455	15A	76kg	50 L	15 L
JEVS-050 & C	50	15A	15A	758	953	320	455	15A	76kg	50 L	15 L
JEVS-100 & C	100	20A	25A	1078	1258	320	455	15A	104kg	80 L	24 L

Specification can be changed in order to upgrade function without notice in advance.

### Electrical Specifications of electric vaporizers (Included Option "C" Solenoid Valve/Wire : CV or CVV 600V)

Model	Heater(KW/hr)		Conduit Size	220V/1P		220V/3P		380V/3P ~ 440V/3P	
	Capacity	Quantity		Wire	Elcb	Wire	Elcb	Wire	Elcb
JEVS-010 & C	1.5kw	1EA	22C	2.5SQ	10A	2.5SQ	5A	2.5SQ	3A
JEVS-030 & C	4.5kw	1EA	22C	6.0SQ	30A	4.0SQ	20A	4.0SQ	10A
JEVS-050 & C	7.5kw	1EA	22C	6.0SQ	50A	4.0SQ	30A	4.0SQ	15A
JEVS-100 & C	15kw	1EA	22C	-	-	10SQ	50A	6.0SQ	30A

Specification can be changed in order to upgrade function without notice in advance.

# Vaporizer

## 1 Electric Type LPG Vaporizer

MODEL **JEVM & C**(150~300kg/hr)

### Feature

- Complete function and control system with digital program.
- Self Diagnosis function  
Display provides easier detection and solution of errors.
- Complete liquid leak overflow prevention device  
Using a differential pressure type liquid leak outflow prevention device.
- Easy and convenient maintenance  
When changing heater, no need to empty water in tank.
- Equipped with Safety and Economic device.(C-Type)  
Minimization of discharge gas to the outside when reactivating vaporizer.
- The Water Overflow Valve is installed  
Water management is convenient as it minimizes the water evaporation.

### Part Description



Digital Display  
(Displays operation status and error code)



Differential Pressure Type  
(Liquid Gas Overflow Prevention Device)



Water Overflow Valve  
(Prevent the Water Evaporation)



### JEVM & C Specifications

Type	Water Bath, Vertical
Heat Mass	Water
LPG Part	Water Bath Outside(Carbon Steel) & Heat Exchanger(SUS304)
Water Bath	SS275
Design Pressure	1.8 MPa
Test Pressure	2.3 MPa
Working Temperature	Water 60°C~75°C
Set Pressure of Safety Valve	1.76MPa
Explosion Proof Classification	Ex db IIA T6 Gb
Power	220V, 380V, 440V

Specification can be changed in order to upgrade function without notice in advance.



Safety Valve  
(Discharge Device of Abnormal Pressure)



Gas Pressure Gauge

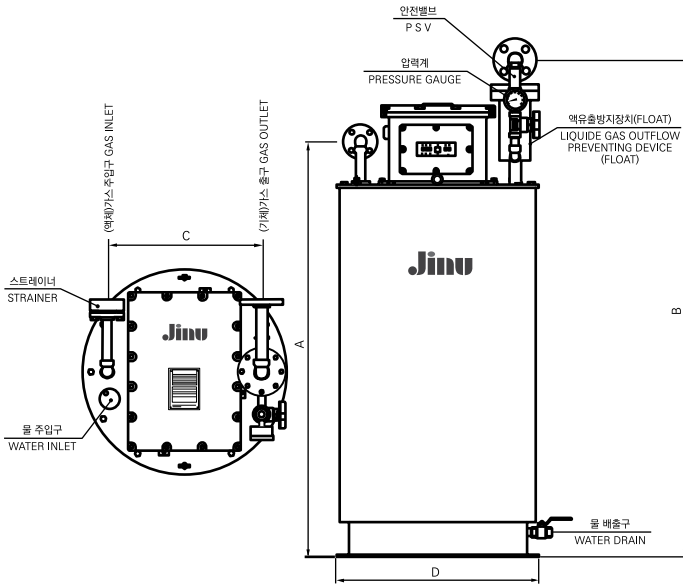


Water Drain Valve

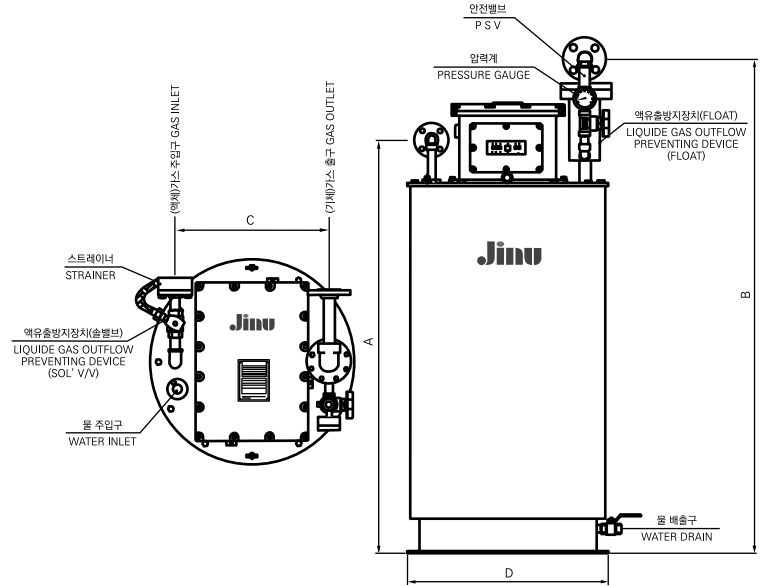
# Vaporizer

## 1 Electric Type LPG Vaporizer

MODEL **JEVM & C**(150~300kg/hr)



JEVM



JEVM-C

### Dimensions of electric vaporizers (Included Option "C" Solenoid Valve)

Model	(kg/hr)	Gas Inlet	Gas Outlet	Dimensions (mm) (JEVM & C)							
				A	B	C	D	Safety v/v	Empty Weight	Water Volume	Antifreeze (-20℃기준)
JEVM-150 & C	150	20A	25A	1054	1290	450	590	15A	175kg	190 L	60 L
JEVM-200 & C	200	20A	25A	1204	1440	450	590	15A	199kg	200 L	60 L
JEVM-300 & C	300	20A	25A	1204	1440	510	650	15A	225kg	250 L	80 L

Specification can be changed in order to upgrade function without notice in advance.

### Electrical Specifications of electric vaporizers (Included Option "C" Solenoid Valve/Wire : CV or CVW 600V)

Model	Heater(KW/hr)		Conduit Size	220V/3P		380V/3P ~ 440V/3P	
	Capacity	Quantity		Wire	Elcb	Wire	Elcb
JEVM-150 & C	22.5kw	7.5kw-1EA 15kw-1EA	36C	16SQ	75A	10SQ	50A
JEVM-200 & C	30kw	15kw-2EA	36C	25SQ	100A	16SQ	60A
JEVM-300 & C	45kw	15kw-3EA	36C	35SQ	150A	25SQ	100A

Specification can be changed in order to upgrade function without notice in advance.

# Vaporizer

## 1 Electric Type LPG Vaporizer

MODEL **JEVS-C**(010~100kg/hr)

### Plus safety and safety

#### Option (C-Type)

A differential pressure type liquid gas overflow prevention device is additionally installed on the gas outlet.

Liquid Gas Overflow Prevention Device (Solenoid Valve Type)

Liquid Gas Overflow Prevention Device (Float Type)



## 1 Electric Type LPG Vaporizer

MODEL **JEVM-C**(150~300kg/hr)

Liquid Gas Overflow Prevention Device (Solenoid Valve Type)

Liquid Gas Overflow Prevention Device (Float Type)





# Vaporizer

## 1 Electric Type LPG Vaporizer

MODEL **JEVL**(400~1000kg/hr)



### JEVL Specifications

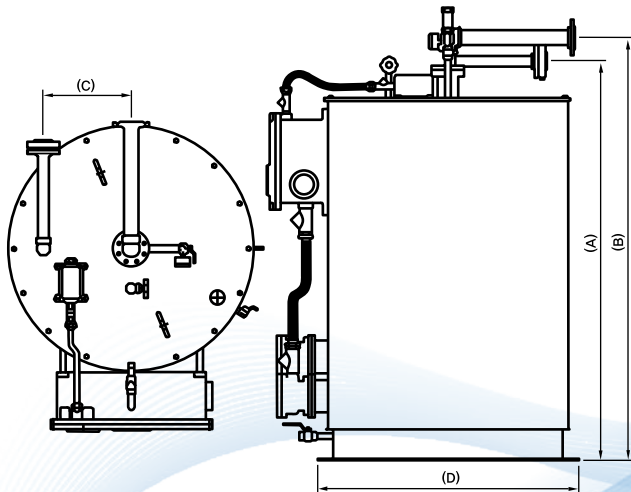
Type	Water Bath, Vertical
Heat Mass	Water
Heating Source	Electrical Heater
LPG Part	Water Bath Outside(Carbon Steel) & Heat Exchanger(SUS304)
Water Bath	SS275
Design Pressure	1.8MPa
Test Pressure	2.3MPa
Working Temperature	Water 60°C~75°C
Set Pressure of Safety Valve	1.76MPa
Explosion Proof Classification	Ex d IIA T6
Power	220V, 380V, 440V

Specification can be changed in order to upgrade function without notice in advance.

### Electrical Specifications of Electric Vaporizers (Wire : CV or CVV 600V)

Model	Heater(KW/hr)		Conduit Size	220V/3P		380V3P~440V/3P	
	Capacity	Quantity		Wire	Elcb	Wire	Elcb
JEVL-400	60KW	30KW x 2	54C	50SQ	200A	35SQ	100A
JEVL-500	75KW	25KW x 3	54C	70SQ	225A	50SQ	150A
JEVL-600	90KW	30KW x 3	54C	70SQ	250A	50SQ	175A
JEVL-700	105KW	30KW x 2 45KW x 1	82C			70SQ	200A
JEVL-800	120KW	30KW x 1 45KW x 2	82C			70SQ	250A
JEVL-900	135KW	45KW x 3	82C			95SQ	250A
JEVL-1000	150KW	50KW x 3	82C			120SQ	250A

Specification can be changed in order to upgrade function without notice in advance.



### Dimensions and Specifications of electric vaporizers

Model	Capacity (kg/hr)	Gas Inlet	Gas Outlet	Dimensions(mm) ( JEVL )				Empty Weight (kg)	Water Volume ( ℓ )	Antifreeze (-20°C)
				A	B	C	D			
JEVL-400	400	25A	40A	1395	1460	315	915	400	480	144 ℓ
JEVL-500	500	25A	40A	1605	1675	315	915	450	570	171 ℓ
JEVL-600	600	25A	40A	1695	1765	315	915	470	600	180 ℓ
JEVL-700	700	40A	50A	1580	1680	375	1115	620	860	258 ℓ
JEVL-800	800	40A	50A	1580	1680	375	1115	640	850	255 ℓ
JEVL-900	900	40A	50A	1700	1800	375	1115	650	910	273 ℓ
JEVL-1000	1000	40A	50A	1700	1800	375	1115	670	900	270 ℓ

Specification can be changed in order to upgrade function without notice in advance.

# Vaporizer

## 2 Hot Water Circulating Type LPG Vaporizer

MODEL **JWV**(100~30000kg/hr)



JWV

### JWV Specifications

Type	Water Bath, Vertical
Heat Mass	Water
Heating Source	Hot Water
LPG Part	Water Bath Outside(Carbon Steel) & Heat Exchanger(SUS304)
Water Bath	SS275
Design Pressure	LPG 1.8MPa / Water 0.1MPa
Test Pressure	LPG 2.3MPa / Water 0.13MPa
Working Temperature	Water 60°C~75°C
Set Pressure of Safety Valve	1.76MPa(LPG)

Specification can be changed in order to upgrade function without notice in advance.



JWV-C

### Feature

- Excellent vapor efficiency  
Supplying the hot water, discharged from exclusive boiler, by using circulation pump.
- Saving the vaporizer maintenance cost
- Option(C-Type)  
Available on equipping solenoid valve or On/Off valve additionally in gas inlet.

# 3 Steam Type LPG Vaporizer

MODEL **JSV**(100~30000kg/hr)

## Feature

■ Available on selection between a direct steam injection type and a steam circulation type

■ Option(C-Type)

Available on equipping solenoid valve or On/Off valve additionally in gas inlet.

## JSV Specifications

Type	Water Bath, Vertical, 스팀 직접분사식 / 스팀 Coil식
Heat Mass	Water
Heating Source	포화증기 / 과열증기
LPG Part	Water Bath Outside(Carbon Steel) & Heat Exchanger(SUS304)
Water Bath	SS275
Design Pressure	LPG 1.8MPa
Test Pressure	LPG 2.3MPa
Working Temperature	Water 60°C~75°C
Set Pressure of Safety Valve	1.76MPa(LPG)

Specification can be changed in order to upgrade function without notice in advance.



JSV-C



JSV

# Vaporizer

## 4

## Burner Type LPG Vaporizer

MODEL **JBV**(300~30000kg/hr)

### Feature

- Safety with indirect heating system
- Excellent efficiency of heat exchange
- Using LPG Burner
- Suitable for high capacity

### JSV Specifications

Type	Water Bath, Vertical / Gas Fired Indirect Type
Heat Mass	Water
Heating Source	LPG Burner
LPG Part	Water Bath Outside(Carbon Steel) & Heat Exchanger(SUS304)
Water Bath	SS275
Design Pressure	LPG 1.8MPa
Test Pressure	LPG 2.3MPa
Working Temperature	Water 60°C~75°C
Set Pressure of Safety Valve	1.76MPa
Power	220V/1P



Specification can be changed in order to upgrade function without notice in advance.



5

## Special Gas Vaporizer

MODEL (Fluid : NH<sub>3</sub>, CO<sub>2</sub>, Cl<sub>2</sub>, SO<sub>2</sub>, Etc.)

# Optimal solution for various gases! Special Gas Vaporizer

### Feature

- Gas type: Ammonia(NH<sub>3</sub>), Carbon dioxide(CO<sub>2</sub>) & Etc.
- Heating system: Electric type, Hot water circulation, Steam type, Burner type
- Customizable to your design requirements



# Vaporizer

## 6

## Auto Changeover Device

MODEL **JCD**(200kg/hr)

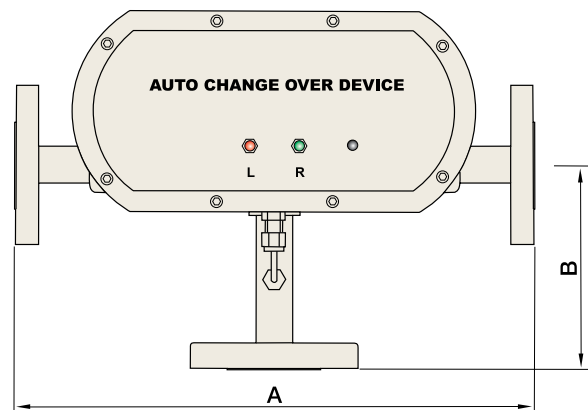
### Feature

- Electronic control system
- Changed over by using pressure switch
- Timely change over is available
- No conversion lever, easy to control
- Blinking LED lamp indicates cylinder replacement timing
- Magnet reset switch

### Specifications

Model	JCD
Capacity	200 kg/hr
Set Pressure	0.15 Mpa
Dimensions	310mm(A) x 122mm(B)
Inlet	KS 20K 20A
Outlet	KS 20K 20A
Wight	10 kg

Specification can be changed in order to upgrade function without notice in advance.



### Dimensions and Specification

Model	Capacity (kg/hr)	Change Over Pressure(mpa)	Dimensions (mm)		Gas Inlet	Gas Outlet	Empty Weight
			A	B			
JCD-200	200	0.15	310	122	20A KS20K	20A KS20K	10 kg

Specification can be changed in order to upgrade function without notice in advance.



# 7

## Auto change over Electric LPG Vaporizer

MODEL **JEVS(M)-CD**

JEVS-010CD, 030CD, 050CD, 100CD  
JEVM-150CD, 200CD

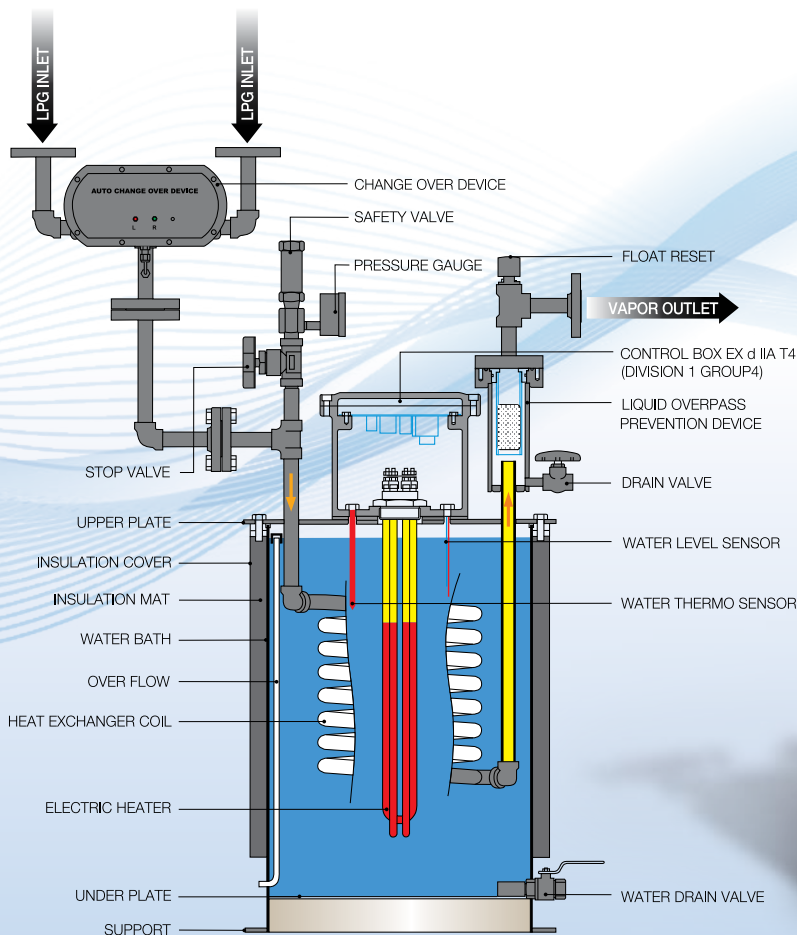
Power of auto changeover device is supplied from vaporizer power.

### Feature

- Electronic control system
- Solenoid valve is closed When the power is off or vaporizer is not work
- Changed over by using pressure switch
- Timely change over is available
- No conversion lever, easy to control
- Blinking LED lamp indicates cylinder replacement timing
- Magnet reset switch



### Configuration Drawing of JEVS(M)-CD





## **SNG Blender(LPG & Air Mixer) System**

1. High pressure Mixer (Ratio Control Type )
2. Low pressure Mixer(Venturi type)
3. SNG Blender Package System
4. SNG Supply System Plant
5. Gas Package System





# SNG Blender(LPG & Air Mixer)System

## 1 High Pressure Mixer MODEL JHM( Ratio Control Type )

### Feature

- Available on selection between automatic control type and manual control type.
- Easy to control according to using calorie change
- Available on the trend checking with PLC control type.

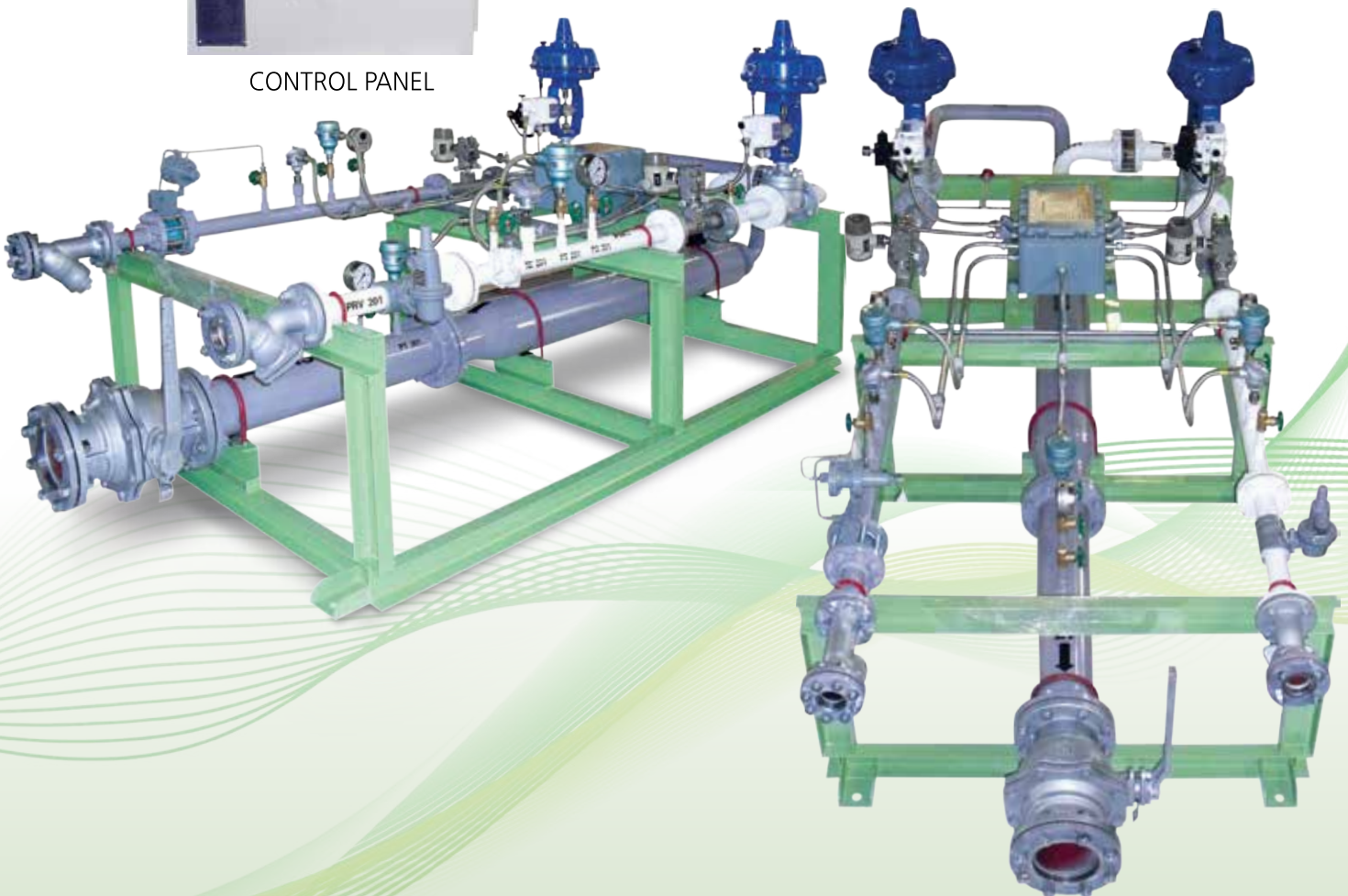


CONTROL PANEL

### JHM Specifications

Type	High Pressure / Horizontal
Fluid	LPG & Air
Design Pressure	0.99MPa
LPG Inlet Pressure	0.1~0.6MPa
Air Inlet Pressure	0.1~0.6MPa
Mixed Gas Outlet Pressure	0.1~0.5MPa
Calorie Range	5,000~23,000kcal/Nm <sup>3</sup>

Specification can be changed in order to upgrade function without notice in advance.



# 1

# High Pressure Mixer

MODEL **JHM-100**(Full Auto Proportional Control Type) / **JHMC-20**(Manual Type)

## JHM-100(12000 Nm<sup>3</sup>/hr)

### Specifications of JHM-100 (SNG Blender)

Type	High Pressure
Fluid	LPG(Propane 90% & Butane 10%) & Air
Capacity	12,000Nm <sup>3</sup> /hr
Design Pressure	0.99MPa
LPG Inlet Pressure	Min. 0.173MPa
Air Inlet Pressure	Min. 0.8MPa
Mixed Gas Outlet Pressure	Max. 0.392MPa
Control Panel	Vertical Type
LPG Inlet/Air Inlet/SMG Outlet	100A/100A/200A
SNG Blender Skid Size	340cm <sup>2</sup> x 200cm <sup>2</sup> x 200cm <sup>2</sup> (H)
Net Weight	1,500kg



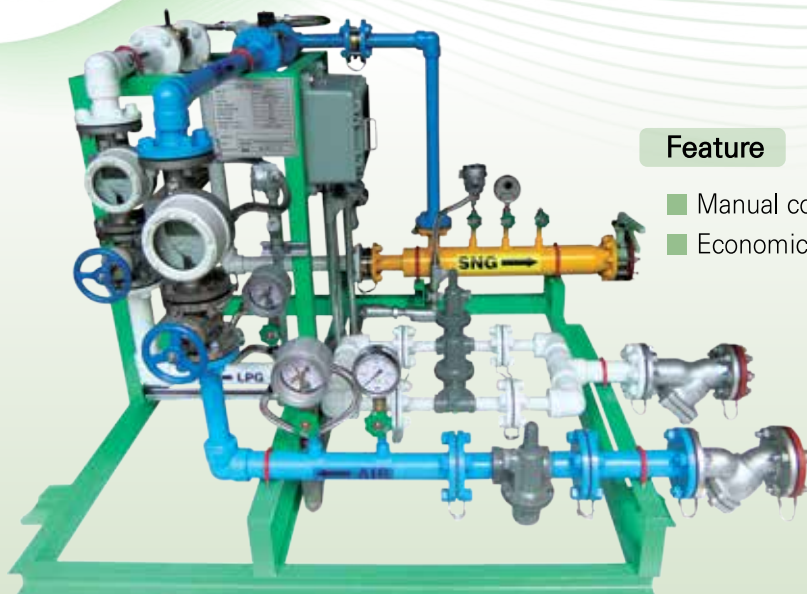
Specification can be changed in order to upgrade function without notice in advance.



CONTROL PANEL



CONTROL PANEL



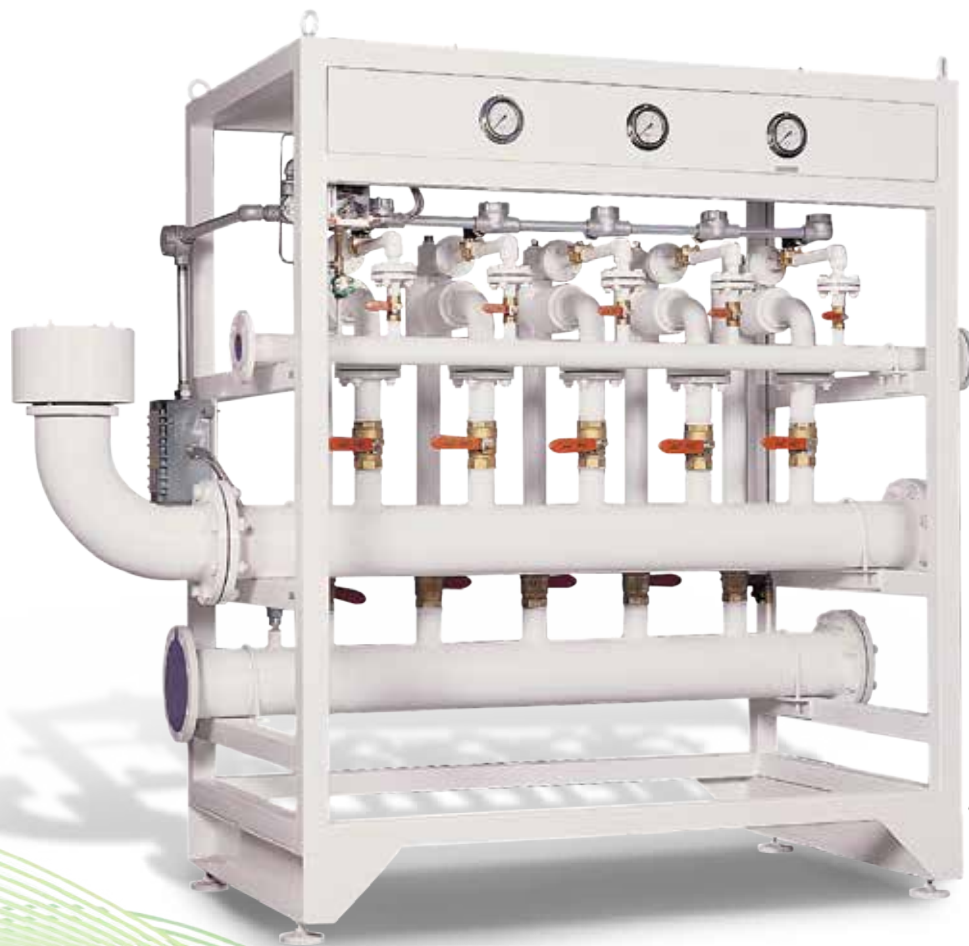
### Feature

- Manual control type
- Economic cost

# SNG Blender(LPG & Air Mixer)System

## 2 Low Pressure Mixer

MODEL **JLM**(Venturi Type)



CONTROL PANEL

### Feature

- Easy to use in low pressure
- No need air compressor
- Easy to use in small calorie change
- Convenience of maintenance

### JLM Specifications

Type	Venturi
Fluid	LPG & Air
Design Pressure	0.99MPa
LPG Inlet Pressure	0.2~0.3MPa
Air Inlet Pressure	ATM
Mixed Gas Outlet Pressure	Max. 35KPa
Calorie Range	12,500~15,000kcal/Nm <sup>3</sup>

Specification can be changed in order to upgrade function without notice in advance.

# 3

## SNG Blender(LPG&Air Mixer) Package System

### A PACKAGE SYSTEM (VAPORIZER + MIXER+ SURGE TANK) & CONTROL PANEL

#### Feature

- Shorten installation period on site and Upgrade quality



CONTROL PANEL



### B PACKAGE SYSTEM (AIR COMPRESSOR +MIXER+ SURGE TANK + CONTROL PANEL)



# SNG Blender(LPG & Air Mixer)System

## 4 SNG (LPG & Air) Supply System Plant



### JEJU ENERGY LPG & AIR MIXED GAS SUPPLY SYSTEM

Facilities to supply city gas before NG is supplied. Back up system for NG supply facilities.



LPG storage facilities



Mixed gas supply equipment



LPG vaporization and mixed equipment



Odorant injection equipment



Main control room



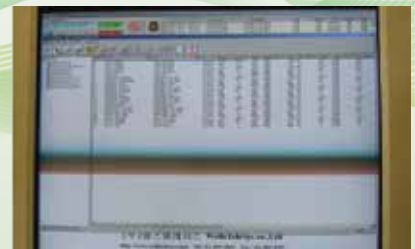
SNG blender



High and low pressure mixer & vaporizer



Air supply system



Computer monitoring

# 5

## GAS Package System



**A** TRUCK TRANSFER UNLOADING FACILITY

**B** PUMP PACKAGE



**C** METERING STATION



**D** EMERGENCY SHUTDOWN STATION



## **NH<sub>3</sub> Storage & Supply System for DE-NO<sub>x</sub> Facility**

1. Ammonia(NH<sub>3</sub>) Plant
2. Ammonia(25% NH<sub>3</sub>) / UREA Plant
3. Ammonia(NH<sub>3</sub>) System Package

### **Feature**

- A system that reduces NO<sub>x</sub> emissions to the atmosphere with using Ammonia
- Fluid : Anhydrous NH<sub>3</sub>, Aqueous Ammonia ( NH<sub>3</sub> 25% ), Urea

# NH<sub>3</sub> Storage & Supply System for DE-NO<sub>x</sub> Facility

## 1 Ammonia(NH<sub>3</sub>) Plant



Ammonia System



Ammonia Vaporizer



Accumulator



Ammonia Unloading Compressor



Dilution Tank



N<sub>2</sub> Purge System



N<sub>2</sub> Purge System



# 2

## Aqueous Ammonia(NH<sub>3</sub> 25%) / UREA Plant



Aqueous Ammonia Storage Tank



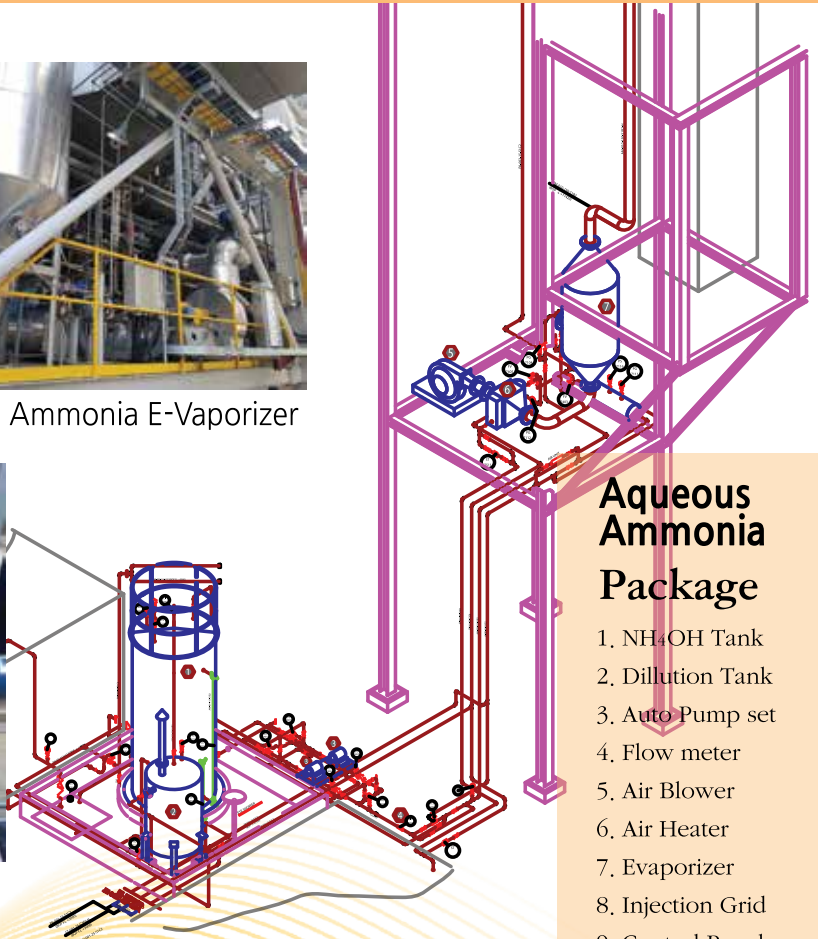
Aqueous Ammonia E-Vaporizer



Aqueous Ammonia Supply System



Aqueous Ammonia Supply Pump



### Aqueous Ammonia Package

1. NH<sub>4</sub>OH Tank
2. Dillution Tank
3. Auto Pump set
4. Flow meter
5. Air Blower
6. Air Heater
7. Evaporizer
8. Injection Grid
9. Control Panel

# 3

## Ammonia(NH<sub>3</sub>) System Package

# 4

## Ammonia(NH<sub>3</sub>) Injection System





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