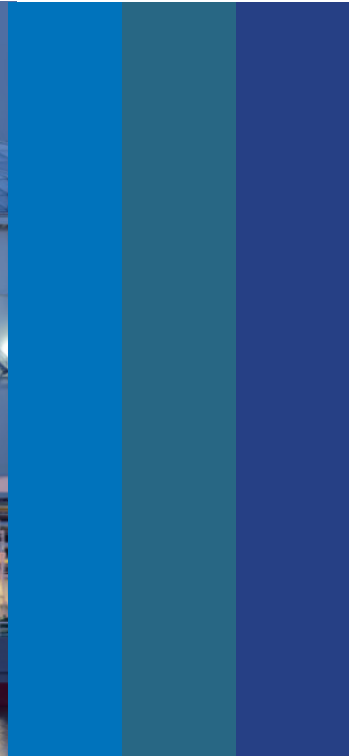




# Total Energy Solutions

## Gas & Fuel Supply System



E-CATALOG

**Mt.H**  
CONTROL VALVES CO.,LTD.

# Total Energy Solutions

## ▼ Safety Relief Valves for LNG.C & LNG Terminal

### Pilot Operated Safety Relief Valves [ Diaphragm Type ]

Model		HSF-OVT	
Fluid		LNG, LPG, O <sub>2</sub> , N <sub>2</sub> , CO <sub>2</sub> , etc	
Type		<input type="checkbox"/> WDR	<input type="checkbox"/> DR
Sealing Type		<input type="checkbox"/> Soft Sealing	
Setting Pressure	WDR	<input type="checkbox"/> 0.01 to 0.1 kg/cm <sup>2</sup>	
	DR	<input type="checkbox"/> 0.05 to 1.5 kg/cm <sup>2</sup>	
Working Temperature		-196 to 80 °C	
Material	Body	A351-CF8 / CF8M / CF3 / CF3M	
	Trim	Stainless Steel	
Service		<input type="checkbox"/> Nature Gas & Petroleum Drilling	
		<input type="checkbox"/> LNG/LPG Carrier	<input type="checkbox"/> LEG Storage
		<input type="checkbox"/> Receiving Terminals Tank	



### Pilot Operated Safety Relief Valves [ Piston Type ]

Model		HSP-MP	
Fluid		LNG, LPG, O <sub>2</sub> , N <sub>2</sub> , CO <sub>2</sub> , etc	
Type		<input type="checkbox"/> Single	<input type="checkbox"/> Dual
Sealing Type		<input type="checkbox"/> Soft Sealing	
Setting Pressure		<input type="checkbox"/> 1 to 10 kg/cm <sup>2</sup>	
Working Temperature		-196 to 80 °C	
Material	Body	A351-CF8 / CF8M / CF3 / CF3M	
	Trim	Stainless Steel	
Service		<input type="checkbox"/> Nature Gas & Petroleum Drilling	
		<input type="checkbox"/> LNG/LPG Carrier	<input type="checkbox"/> LEG Storage
		<input type="checkbox"/> Receiving Terminals Tank	



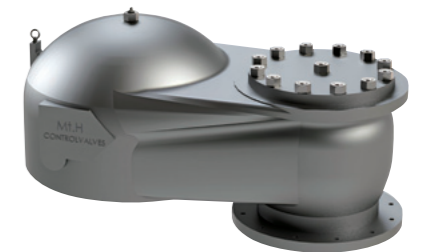
### Spring Loaded Safety Relief Valves

Model		HSF-FCA	
Fluid		LNG, LPG, O <sub>2</sub> , N <sub>2</sub> , CO <sub>2</sub> , etc	
Type		<input type="checkbox"/> Conventional	<input type="checkbox"/> Bellows
Sealing Type		<input type="checkbox"/> Metal Sealing	<input type="checkbox"/> Soft Sealing
Setting Pressure		<input type="checkbox"/> 1 to 10 kg/cm <sup>2</sup>	<input type="checkbox"/> 1 to 350 kg/cm <sup>2</sup>
Working Temperature		-196 to 80 °C	
Material	Body	A351-CF8 / CF8M / CF3 / CF3M	
	Trim	Stainless Steel	
Service		<input type="checkbox"/> Nature Gas & Petroleum Drilling	
		<input type="checkbox"/> LNG/LPG Carrier	<input type="checkbox"/> LEG Storage
		<input type="checkbox"/> Receiving Terminals Tank	



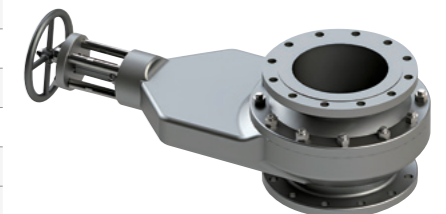
### Vacuum Breaker [ Weight Loaded Type ]

Model		HVB-DW	
Fluid		Air, Vapor, Gas	
Type		<input type="checkbox"/> Weight Loaded	
Vacuum Setting Pressure		<input type="checkbox"/> 1/2 oz/in <sup>2</sup> [ -2.2mbarg to -6.6 mbarg ]	
Working Temperature		0 to 80 °C [Ambient]	
Valve Size		4", 8", 12"	
Material	Body	A351-CF8M / CF3M / B26 356-T6	
	Trim	Stainless Steel & Soft Seat	
Service		<input type="checkbox"/> Low Pressure Storage Tank	
		<input type="checkbox"/> Receiving Terminals Tank	



### PSV Isolation Valves [ Sliding-Gate Type ]

Model		PI00C	
Fluid		LNG, LPG, O <sub>2</sub> , N <sub>2</sub> , CO <sub>2</sub> , etc	
Type		<input type="checkbox"/> Sliding Gate Type	
Sealing Type		<input type="checkbox"/> Soft Sealing	
Working Temperature		-196 to 80 °C	
Valve Size		8", 10", 12"	
Material	Body	A351-CF8 / CF8M / CF3 / CF3M	
	Trim	Stainless Steel + PCTFE	
Service		<input type="checkbox"/> Low Pressure Storage Tank	
		<input type="checkbox"/> Receiving Terminals Tank	



# Total Energy Solutions

## ▼ Safety Relief Valves for FGSS

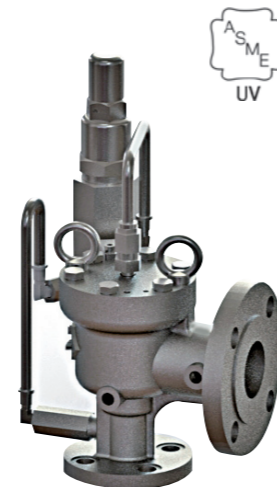
### Conventional Safety Relief Valves

Model	<b>SC32</b>	
Fluid	Air, Gas, Steam, Liquid	
Type	<input type="checkbox"/> Normal	<input type="checkbox"/> Bellows
Sealing Type	<input type="checkbox"/> Metal Sealing	
Setting Pressure	<input type="checkbox"/> 1 to 400 kg/cm <sup>2</sup>	
Working Temperature	0 to 300 °C	
Material	Body	A351-CF8 / CF8M / CF3 / CF3M
	Trim	Stainless Steel
Service	<input type="checkbox"/> Petrochemical Plant	
	<input type="checkbox"/> Boiler	



### Pilot Operated Safety Relief Valves [ Piston Type ]

Model	<b>SP32</b>	
Fluid	Air, Gas, Steam, Liquid	
Type	<input type="checkbox"/> Snap Acting	<input type="checkbox"/> Modulating
Sealing Type	<input type="checkbox"/> Soft Sealing	
Setting Pressure	Snap Acting	<input type="checkbox"/> 1 to 400 kg/cm <sup>2</sup>
	Modulating	<input type="checkbox"/> 1 to 150 kg/cm <sup>2</sup>
Working Temperature	0 to 260 °C	
Material	Body	A351-CF8 / CF8M / CF3 / CF3M
	Trim	Stainless Steel
Service	<input type="checkbox"/> Petrochemical Plant	
	<input type="checkbox"/> Boiler	



## ▼ Control Valves for FGSS

### Pressure Reducing Valves [Diaphragm Type]

Model	<b>HRD</b>	
Fluid	Air, N <sub>2</sub> , Methane, Ethane, etc	
Pressure Range	<input type="checkbox"/> ANSI Class 150 ~ 300	
Valve Size	1/2" ~ 1" Flange	
Working Temperature	<input type="checkbox"/> -50 to 80°C (Ambient)	
Material	Body	A351 CF3M
	Trim	A276 316
Service	<input type="checkbox"/> ME-GA/ MELGIM	
	<input type="checkbox"/> ME-GI/ ME-GIE/ ME-LGIP	



## ▼ Control Valves for FGSS

### Lift Check Valves

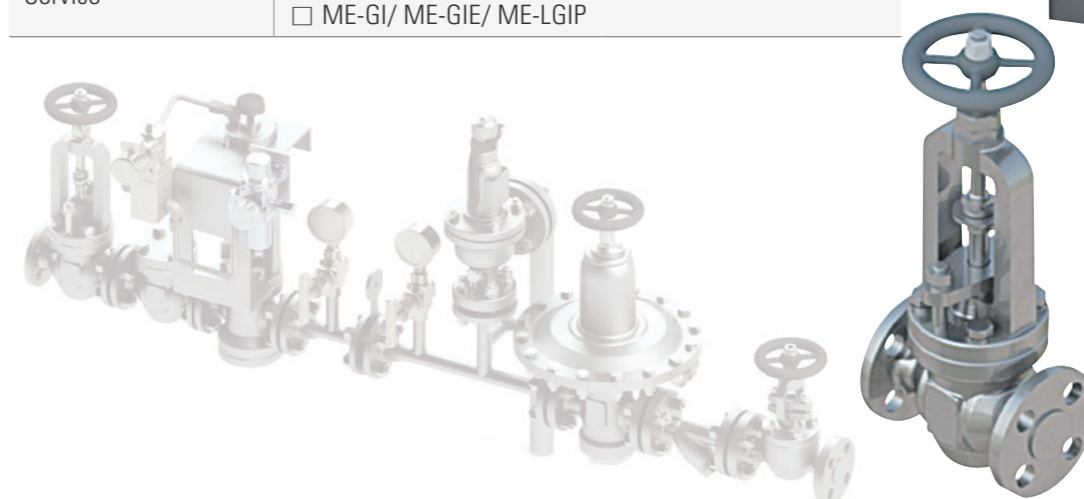
Model	<b>CV00</b>	
Fluid	Air, N <sub>2</sub> , Methane, Ethane, etc	
Pressure Range	<input type="checkbox"/> ANSI Class 150 ~ 300	<input type="checkbox"/> ANSI Class 1500 ~ 2500
Valve Size	1/2" ~ 2" Flange	1/2" ~ 1-1/2" B.W. Pipe
Working Temperature	<input type="checkbox"/> -50 to 80°C	
	<input type="checkbox"/> -196 to 80°C	
Material	Body	A351- CF8M / CF3M or A182 F316 / F316L
	Trim	Stainless Steel + O-ring (E/G Plastic)
Service	<input type="checkbox"/> ME-GA/ MELGIM	
	<input type="checkbox"/> ME-GI/ ME-GIE/ ME-LGIP	



※ Cracking Pressure : 0.1 bar ± 30%

### 2-way Manual Globe Valves

Model	<b>SH26C &amp; CG26C</b>	<b>H100F</b>
Fluid	Air, N <sub>2</sub> , Methane, Ethane, etc	
Pressure Range	<input type="checkbox"/> ANSI Class 150 ~ 300	<input type="checkbox"/> ANSI Class 2500
Valve Size	1/2" ~ 2" Flange	1/2" ~ 1-1/2" Flange
		1/2" ~ 1-1/2" B.W. Pipe
Working Temperature	<input type="checkbox"/> -50 to 80°C	<input type="checkbox"/> -50 to 280°C
Material	Body	A351-CF8/CF8M/CF3/CF3M
	Trim	A276-316 + O-ring (E/G Plastic)
Service	<input type="checkbox"/> ME-GA/ MELGIM	
	<input type="checkbox"/> ME-GI/ ME-GIE/ ME-LGIP	



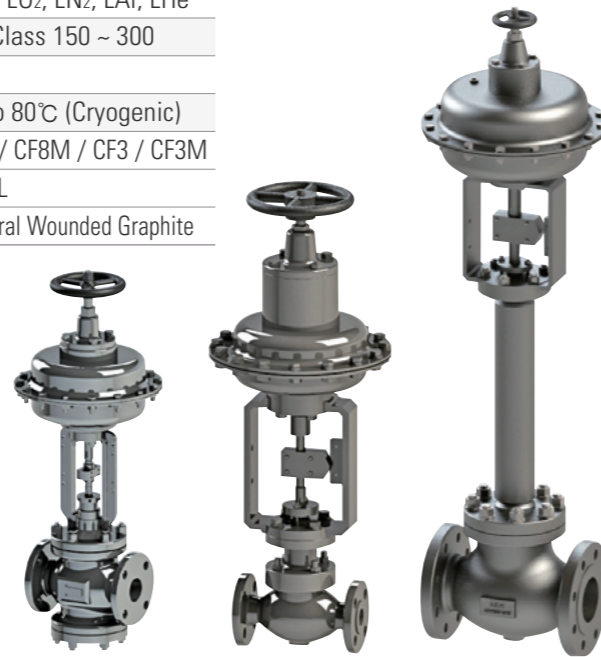
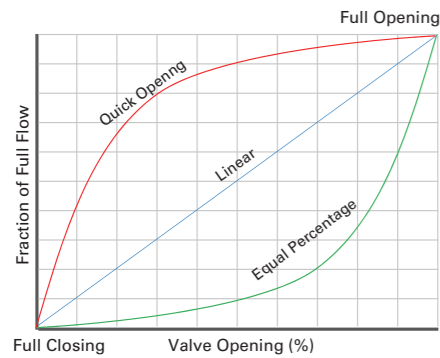
# Total Energy Solutions

## Control Valves for FGSS

### 2-Way Control Valves [ Globe & Diaphragm Type ]

Model	HND & CG11C	HND-FGC & CC11C
Fluid	Air, Gas, Steam, Liquid	LNG, LPG, LO <sub>2</sub> , LN <sub>2</sub> , LAr, LHe
Pressure Range	□ ANSI Class 150 ~ 300	□ ANSI Class 150 ~ 300
Valve Size	1/2" ~ 4" Flange	1" ~ 6"
Working Temperature	□ -50 to 80°C (Ambient)	□ -196 to 80°C (Cryogenic)
Material	Body	A351-CF8/CF8M/CF3/CF3M
	Trim	A276-304
	Gasket: Spiral Wounded Graphite	

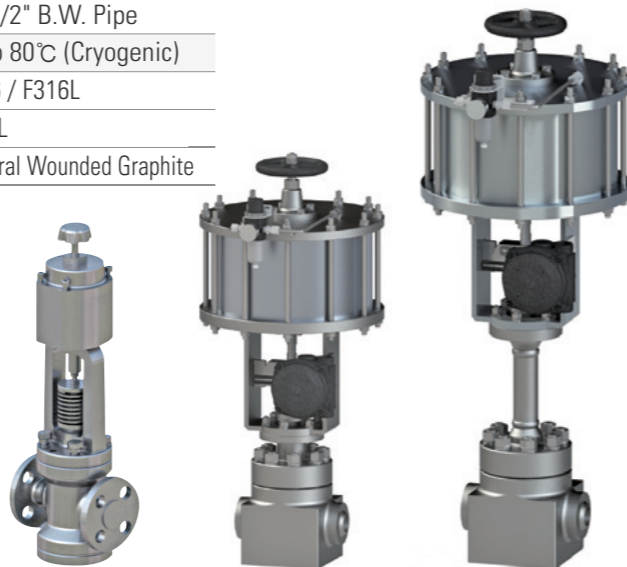
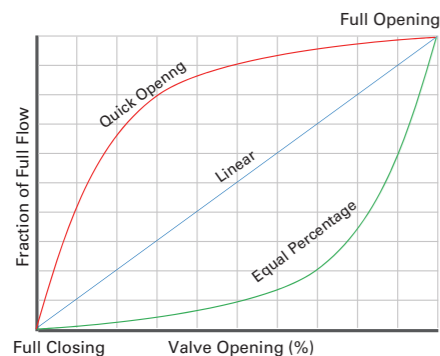
※ Flow Characterization : Q-Opening / Liner / Equal Percentage



### 2-Way Control Valves [ Globe & Cylinder Type ]

Model	HCC & CG23C	CC23F & CG23F
Fluid	Air, Gas, Steam, Liquid	LNG, LPG, LO <sub>2</sub> , LN <sub>2</sub> , LAr, LHe
Pressure Range	□ ANSI Class 150 ~ 300	□ ANSI Class 1500 ~ 2500
Valve Size	1/2" ~ 8" Flange	1/2" ~ 1-1/2" Flange
		1/2" ~ 1-1/2" B.W. Pipe
Working Temperature	□ -50 to 80°C (Ambient)	□ -196 to 80°C (Cryogenic)
Material	Body	A351-CF8/CF8M/CF3/CF3M
	Trim	A276-304
	Gasket: Spiral Wounded Graphite	

※ Flow Characterization : Q-Opening / Liner / Equal Percentage



### Joule Thomson Valves

Model	JT11	
Fluid	LNG, LPG, etc	
Pressure Range	□ ANSI Class 2500	
Valve Size	□ 1" ~ 2"	
Working Temperature	-196 to 80 °C	
Material	Body	A351-CF8 / CF8M / CF3 / CF3M
	Trim	A276-316L / etc
Service	Gasket: Spiral Wounded Graphite	
	- HP Compressor - Gas Supply Unit (HP Pump + Vaporizer)	



### 3-Way Pneumatic Control Valves [ for LDCL System ]

Model	CT11C	
Fluid	Liquid	
Working Pressure	16 kg/cm <sup>2</sup>	
Working Temperature	Max. 140°C	
Valve	Rating	PN 16
	Size	DN80 / DN100 / DN125 / DN150 / DN200
Material	Body	FCD450
	Trim	SCS13

※ Supply Air : 2 bar



### Butterfly Valves [ for Exhaust Waste Gate ]

Model	EB25C	
Fluid	Exhaust Gas	
Type	□ Wafer Type	
Working Pressure	10 kg/cm <sup>2</sup>	
Working Temperature	up to 650°C	
Valve	Rating	PN 16
	Size	DN40 / DN80
Material	Body	A351 - CF8M
	Trim	Stainless Steel

※ Supply Air : 4 ~ 7 kg/cm<sup>2</sup>



# Fuel Gas Supply System

## ▼ Fuel Valve Train

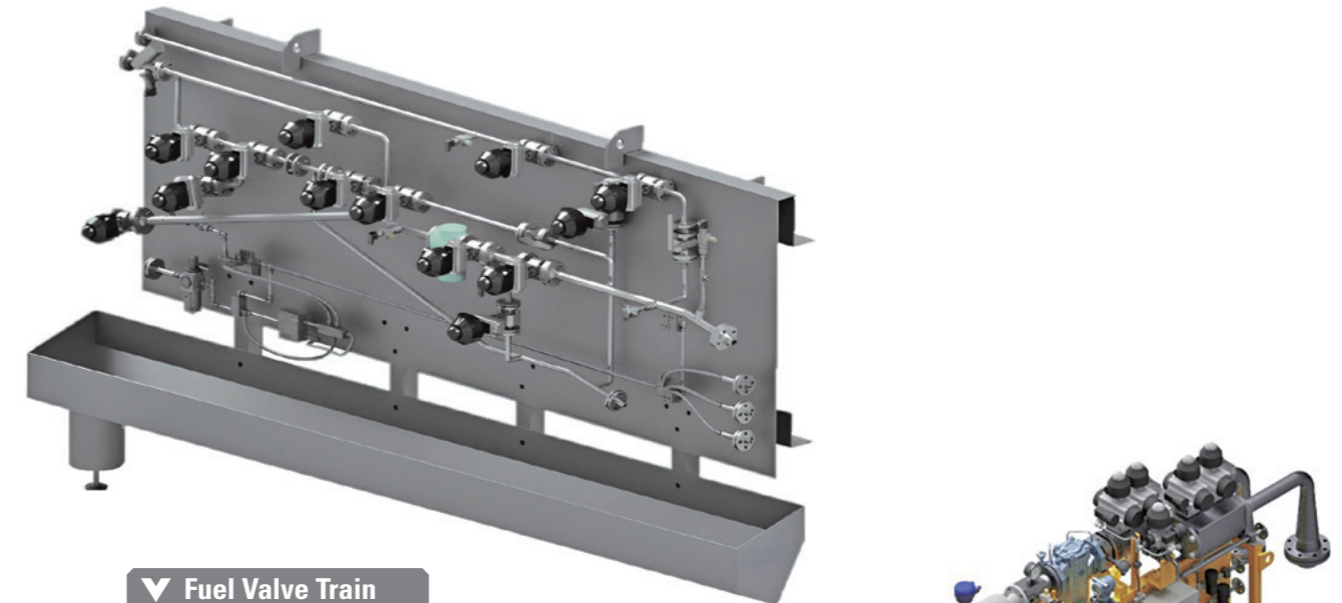
Fluid	Methanol, Ammonia	
Design Pressure	0 ~ 16 bar	
Size	Main Line : 1inch	Purge and Bleed Line : 1/2inch
Working Temperature	-25°C ~ 60°C	
Material in contact to media	Stainless steel	
Service	Low-flashpoint Fuel Supply System(LFSS)	
	Supply fuel to the 2stroke ME-LGIM(-W) engine	

## ▼ Gas Valve Unit

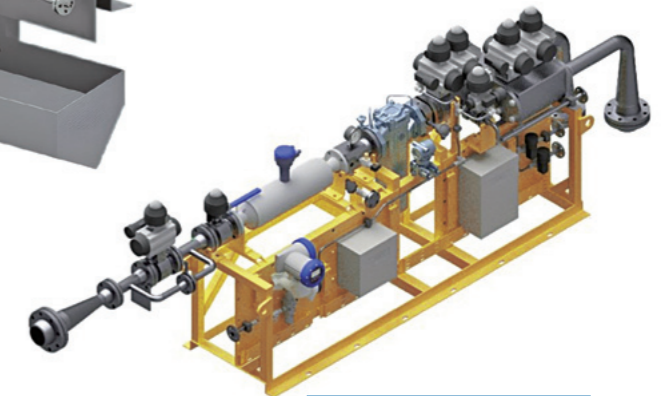
Fluid	Fuel Gas	
Design Pressure	0 ~ 16 bar	
Size	Fuel from supply system : 4inch	Vent Line : 1/2inch
Working Temperature	-25°C ~ 60°C	
Material in contact to media	Stainless steel	
Service	Low-flashpoint Fuel Supply System(LFSS)	
	ME-GA engines	

## ▼ Gas Regulating Unit

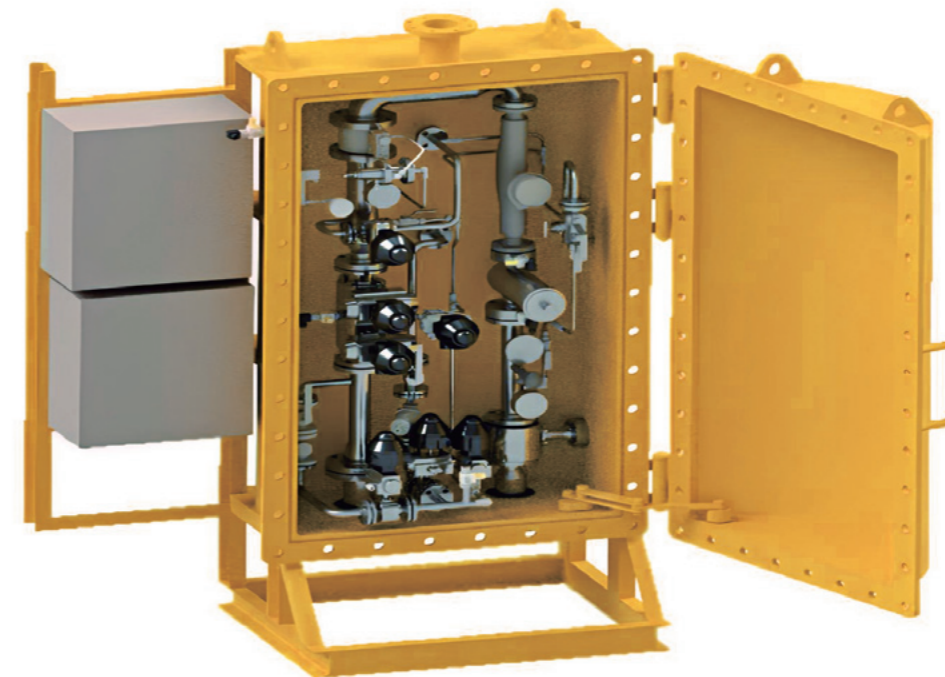
Fluid	Fuel Gas	
Design Pressure	0 ~ 10 bar	
Size	Fuel from supply system : DN50	Vent Line : DN25
Working Temperature	0°C ~ 50°C	
Material in contact to media	Stainless steel	
Service	DF-engines	



▼ Fuel Valve Train



▼ Gas Valve Unit



▼ Gas Regulating Unit

# Supply Reference



Mt.H Control Valves CO.,Ltd.  
is a Reliavle Lifetime partner.  
Our top Priority is always Customer Satisfaction.

No.	Area	SHIP OWNER	PROJECT NAME
1	DENMARK	A.P. Moller	16,200 TEU CLASS CONTAINER CARRIER
2	BELGIUM	EXMAR	45K LPGC
3	BELGIUM	MARINVEST SHIPPING	MAINVEST, 49K P/C
4	CANADA	SEASpan	7000TEU Container Vessel
5	CHINA	COSCO SHIPPING SPECIALIZED CAR	7500 CEU LNG PCTC
6	CHINA	Tianjin Southwest Maritime Limited	Ethane carrier
7	CHINA	WANHUA CHEMICAL GROUP	98K VLEC
8	CHINA	WANHUA CHEMICAL GROUP	98K VLEC
9	DENMARK	MAERSK	2,100 TEU CLASS CONTAINER CARRIER
10	FRANCE	CMA-CGM	2,000 TEU CLASS CONTAINER CARRIER
11	FRANCE	CMA-CGM	15,000 TEU CLASS CONTAINER VESSEL
12	FRANCE	CMA-CGM	15,000 TEU CLASS CONTAINER VESSEL
13	FRANCE	CMA-CGM	13,000 TEU CLASS CONTAINER VESSEL
14	FRANCE	CMA-CGM	15,000 TEU CLASS CONTAINER VESSEL
15	FRANCE	CMA-CGM	8,000 TEU CLASS CONTAINER CARRIER

No.	Area	SHIP OWNER	PROJECT NAME
16	GERMANY	HAPAG-LLOYD	23,660TEU Container Vessel / Cargo Container
17	GREECE	BYZANTINE MARITIME	40,000m3 CLASS LPG/NH3/VCM CARRIER
18	GREECE	DYNAGAS	200K LNG Carrier
19	GREECE	EVALEND SHIPPING	91K LPG CARRIER
20	GREECE	EVALEND SHIPPING	88K VLGC
21	GREECE	GEOGAS MARITIME S.A.S.	40K CLASS LPG/NH3/VCM CARRIER
22	GREECE	NAVIUS	7,700 TEU CLASS CONTAINER CARRIER
23	GREECE	TSAKOS ENERGY NAVIGATION	115K Container Vessel / Cargo Container
24	HONGKONG	CIDO	91K VLGC
25	HONGKONG	CIDO SHIPPING	15,600 TEU CLASS CONTAINER CARRIER
26	ITALY	MSC	16,000 TEU CLASS CONTAINER VESSEL
27	ITALY	MSC	15,600 TEU CLASS CONTAINER CARRIER
28	JAPAN	ENEOS OCEAN	91K LPG CARRIER
29	KOREA	HMM	9,000TEU CONTAINER
30	KOREA	HMM	9K CNTR

No.	Area	SHIP OWNER	PROJECT NAME
31	KOREA	HSHI	174K LNG Carrier
32	KOREA	HYUNDAI LNG SHIPPING	174,000 CBM LNG CARRIER
33	KOREA	HYUNDAI LNG SHIPPING	91K LPG CARRIER
34	KOREA	HYUNDAI LNG SHIPPING	91K LPG CARRIER
35	KOREA	KLCSM, PANOCEAN, GM	174K LNG Carrier
36	KOREA	KSS LINE	91K LPG CARRIER
37	KOREA	KSS LINE	86K VLGC
38	KOREA	MPC	1,300 TEU OPEN TOP CONTAINER
39	KOREA	SK SHIPPING	174K LNG Carrier
40	KOREA	SK SHIPPING	174K LNG Carrier
41	KOREA	SK SHIPPING	91K LPG CARRIER
42	KOREA	SK SHIPPING	86K VLGC
43	LUXEMBOURG	CLdN	HMD 20K RORO
44	NORWAY	HOEGH AUTOLINERS	9,100 DF PCTC
45	NORWAY	PACIFIC GAS(HONGKONG) HOLDING LIM	Ethane carrier

No.	Area	SHIP OWNER	PROJECT NAME
46	PHILIPPINES	KNUTSEN	174K LNG Carrier
47	SINGAPORE	TRAFIGURA	40K CLASS LPG/NH3/VCM CARRIER
48	SWEDEN	Stena Bulk	6SI 50K chemical tanker
49	SWISS	BGN	86K LPG CARRIER
50	THAILAND	MBK	86K LPG CARRIER
51	Türkiye	Pascogas Deniz Isletmeleri A.S	45K LPGC
52	Türkiye	Pascogas Deniz Isletmeleri A.S	40K CLASS LPG/NH3/VCM CARRIER
53	U.K	AW Shipping Limited	86,000m3 Class VLGC
54	U.K	EASTERN PACIFIC SHIPPING	1,400TEM LNG DUAL FUEL CONTAINER CARRIER
55	U.K	EASTERN PACIFIC SHIPPING	174K LNG Carrier
56	U.K	EASTERN PACIFIC SHIPPING	7,900 TEU CLASS CONTAINER CARRIER
57	U.K	EASTERN PACIFIC SHIPPING	14,800 TEU CLASS CONTAINER CARRIER
58	U.K	EASTERN PACIFIC SHIPPING	38,000m3 Class LPG Carrier
58	US	VENTURE GLOBAL SHIPPING	200,000 CBM LNG CARRIER



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