



*Top Reliability, Smart Design,
Valuable Product and Better Life*

SURGE RELIEF VALVE



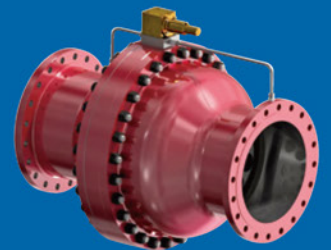
PILOT OPERATING TYPE



SOLENOID VALVE OPERATING TYPE



N2 LOADED OPERATING TYPE



AXIAL PILOT OPERATING TYPE

SRV Series

PROSAVE

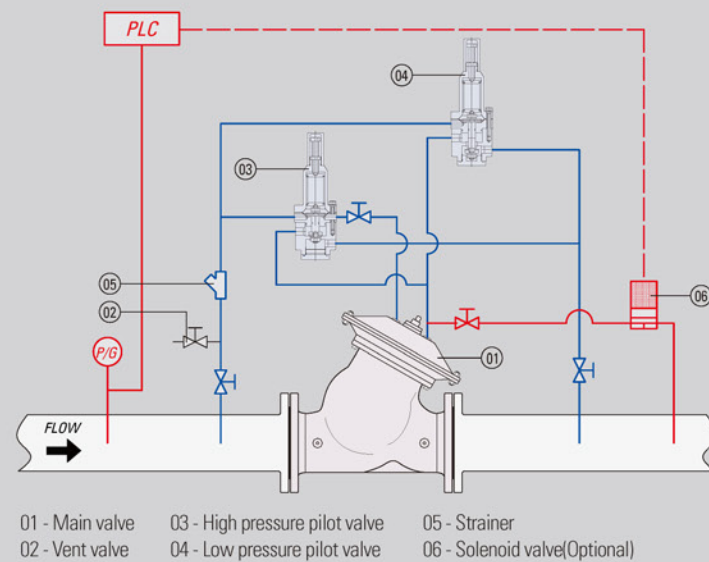
PILOT OPERATING TYPE



Introduction

Model SRVP consists of a main valve, low and high pilot valve, and accessory, completely assembled and tested as a unit and ready for field installation. SRV is install in the bypass line pipe to protect the piping system from the surge(Water hammer) by sudden flow change and pump sudden stop. Main Valve is open when low pilot valve anticipates the negative pressure in piping system to prevent the pipe pressure rise, and when high pilot valve detects the exceed pressure in piping system to discharge pressure. Main Valve is closed tightly when normal operation is in state.

Typical Installation



Benefits

Surge Anticipating & Pressure Relief

SRV consists of low and high pilot valve, the low pilot valve anticipate surge(water hammer), the high pilot valve relieve the high pressure in piping system.

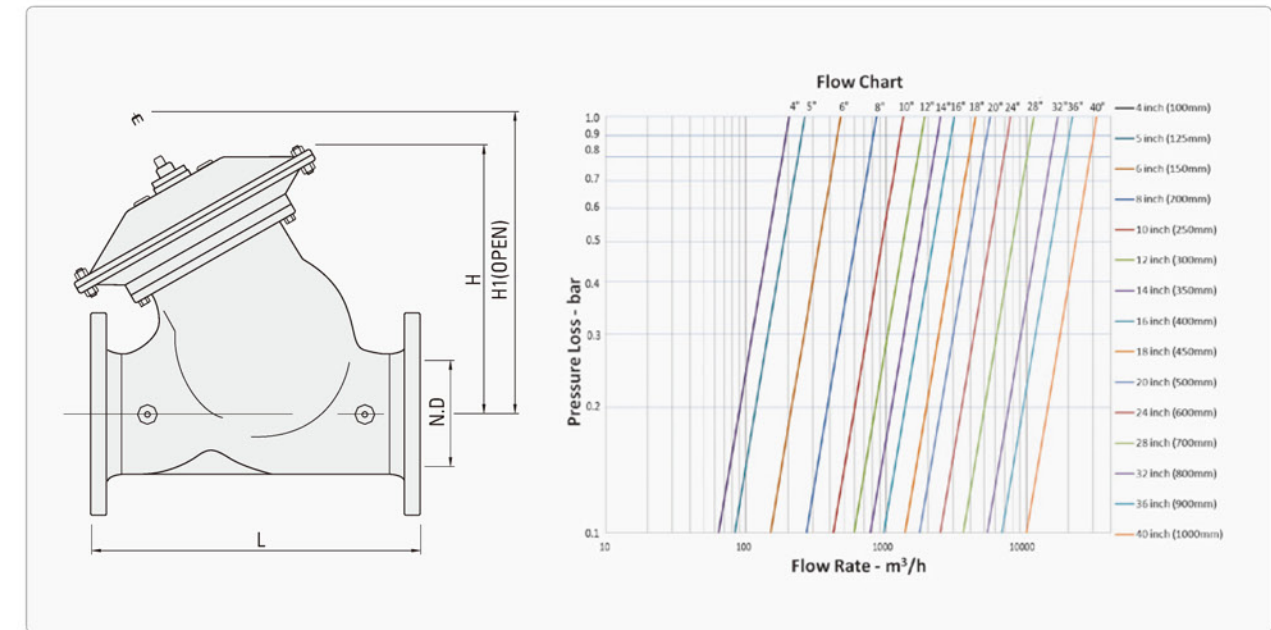
Accurate and Precise Pressure Control

Main valve of pressure control is provided by accurate and precise pressure of low & high pilot valve.

Adjustable Opening and Closing Times

Open and close time of SRV depends on field site. Quick open time and slight close time are adjustable.

Typical Installation



Dimension Table (Y Pattern)

Unit = mm

SIZE	4"	6"	8"	10"	12"	16"	18"	20"	24"
N.D	100	150	200	250	300	400	450	500	600
L	310	430	520	610	850	910	960	1010	1200
H	250	343	441	519	615	753	850	893	934

Note : Other Size are available on request. Standard flange connection is JIS 5K and others are available on request.

	Main Valve	Pilot Valve
Valve Patterns	"Y"(globe) & angle	Low, High pilot type
Size Range	2"~40" (50~1000 mm)	1/4"~1" (8~25 mm)
Standard Materials	Body & Actuator: Ductile Iron, Bronze Internals: Stainless Steel, Bronze & coated Steel Diaphragm: Chloroprene, NBR	Body: Brass, Bronze or Stainless Steel Internals: Stainless Steel Springs: Galvanized Steel or Stainless Steel

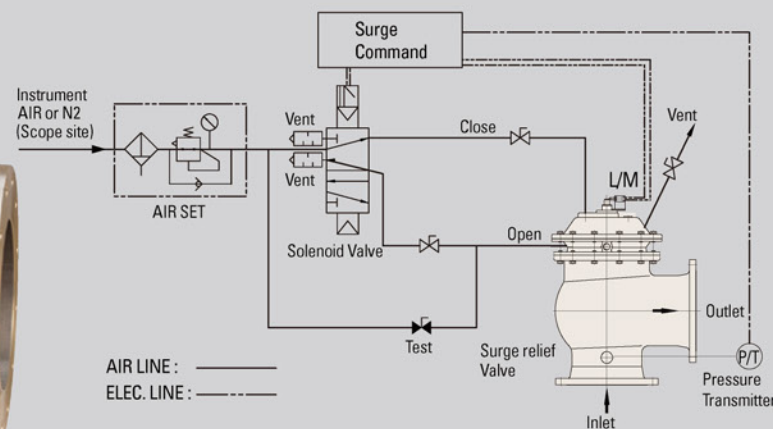
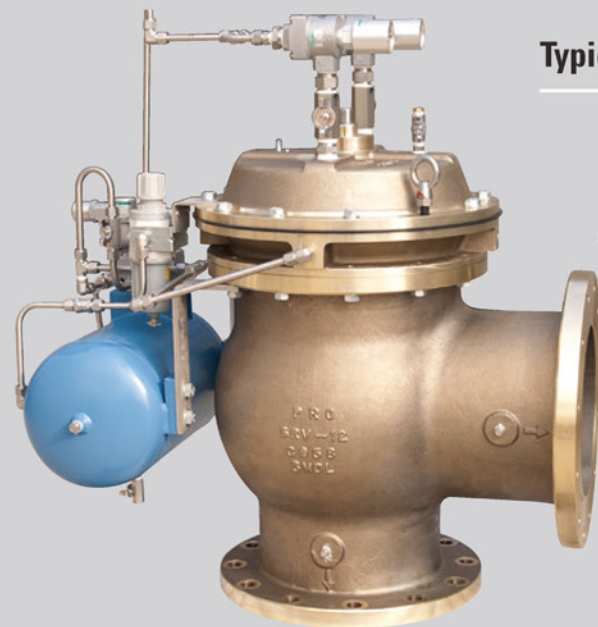
SURGE RELIEF VALVE

SOLENOID VALVE OPERATING TYPE

Introduction

SRV is installed in the bypass line pipe to protect the piping system from the surge (Water hammer) by sudden flow change and pump sudden stop. Model SRV-PDA consists of a main valve, solenoid valve, air set, completely assembled and tested as a unit and ready for field installation. Main Valve is closed tightly when normal operation is in state. When a exceed pressure in piping system is occurred, surge command from pressure transmitter operates the solenoid valve, and main valve is open for protect the surge (Water hammer). It's fully opening time is less than 200 millisecond.

Typical Installation



Benefits

Adjustable Opening and Closing Times

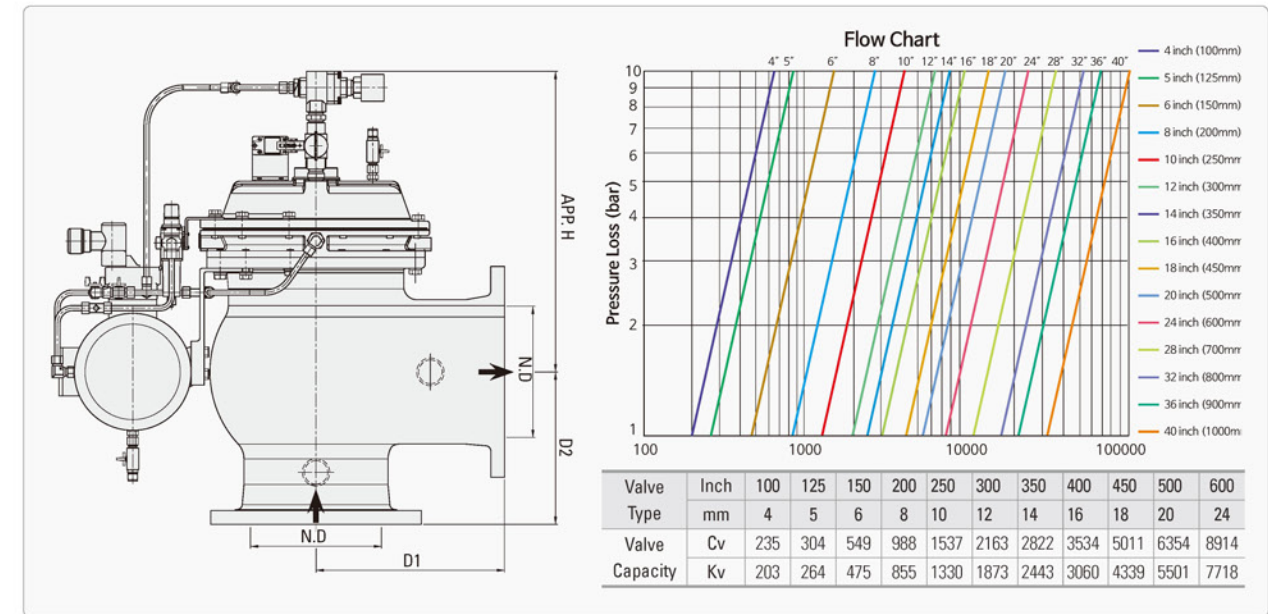
In particular, fully opening time is less than 200 millisecond. Open and close time of SRV depends on field site. Quick open time and slight close time are adjustable.

Accurate and Precise Pressure Control

Main valve of pressure control is provided by accurate and precise pressure of pneumatic solenoid valve.

Normal Open / Normal Close Selectable

SRV consists of solenoid valve and air receiver tank (optional) and air set, it enables Normal Open or Normal Close of main valve.



Dimension Table (Angle Type)

Unit = mm

Size	4"	6"	8"	10"	12"	16"	20"	24"	Other Size
N.D	100	150	200	250	300	400	500	600	Available on request
D1	191	254	322	378	432	582	705	802	
D2	127	152	203	219	349	472	550	630	
APP.H	237	327	415	484	536	768	972	1052	

Note : Other Size are available on request. Standard flange connection is JIS 5K and others are available on request.

Main Valve

Valve Patterns	Angle Type
Size Range	4"~24"(100~600 mm)-Other Size are available on request.
Standard Materials	Body & Actuator: Ductile Iron, Bronze / Internals: Stainless Steel, Bronze & coated Steel Diaphragm: Chloroprene, NBR / Spring: Inconel, Stainless Steel Solenoid Valve Size: 3/8", 1/2", 3/4", 1"



SURGE RELIEF VALVE

STAND-ALONE N2 LOADED OPERATING TYPE

Introduction

SRVX-N2 is installed in place that require fast response performance to protect the piping system from the surge (Water hammer) by sudden flow change and pump stop.

Model SRVX-N2 consists of a main valve, N2 bottles, plenum and accessories, is completely assembled and tested as a unit and ready for field installation.

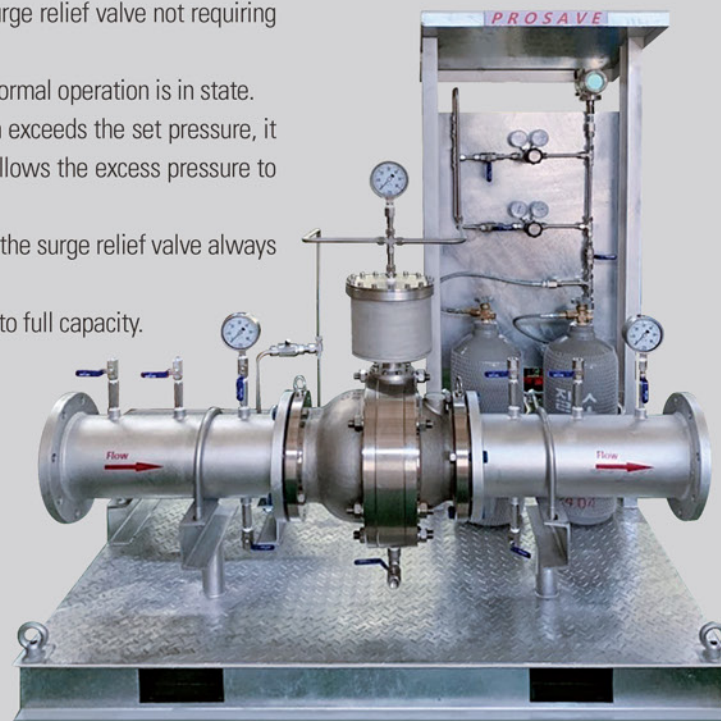
SRVX-N2 is a stand-alone self-acting surge relief valve not requiring the external power.

Main valve is closed completely when normal operation is in state.

When the pressure in the piping system exceeds the set pressure, it forces the surge relief valve open and allows the excess pressure to discharge.

Reponse times vary in each application, the surge relief valve always responds rapidly and very smoothly.

Typical response times are milliseconds to full capacity.



Benefits

Adjustable Opening and Closing Times

Open and close time of SRV depends on field site.

Quick open time and slight close time are adjustable.

Typical response times are milliseconds to full capacity.

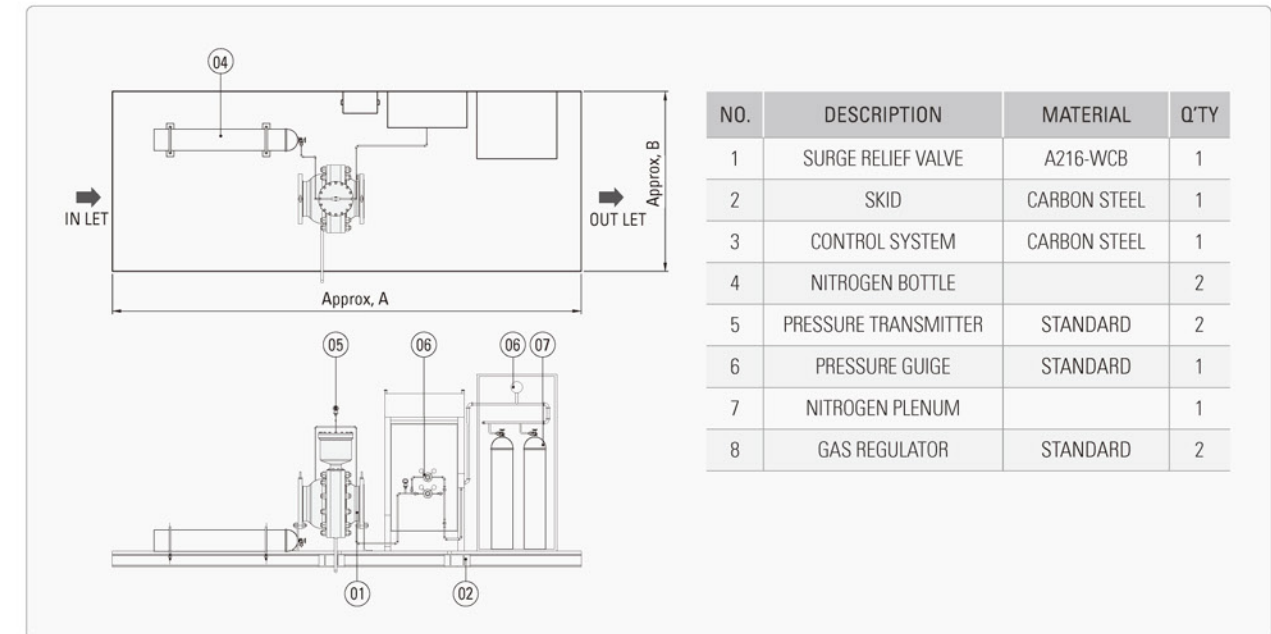
Accurate and Precise Pressure Control

Main valve of pressure control is provided by accurate and precise pressure of N2 supply.

Nitrogen System – Skid system(optional)

To reduce the effect of Nitrogen external temperature, SRVX-N2 can also be supplied in form of Skid system(optional).

Standard Nitrogen System – Skid System(optional)

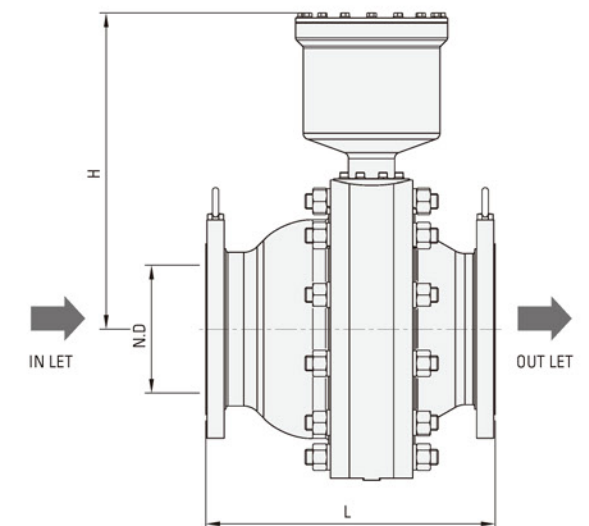


The scope of skid system may vary depending on the requirement.

Standard Material of construction

DESCRIPTION	MATERIAL	Q'TY
BODY	A216-WCB	1
DISC	A351-CF8	1
O-RING	NBR	1

Note : Other materials are available on request.



Dimension Table

Unit = mm

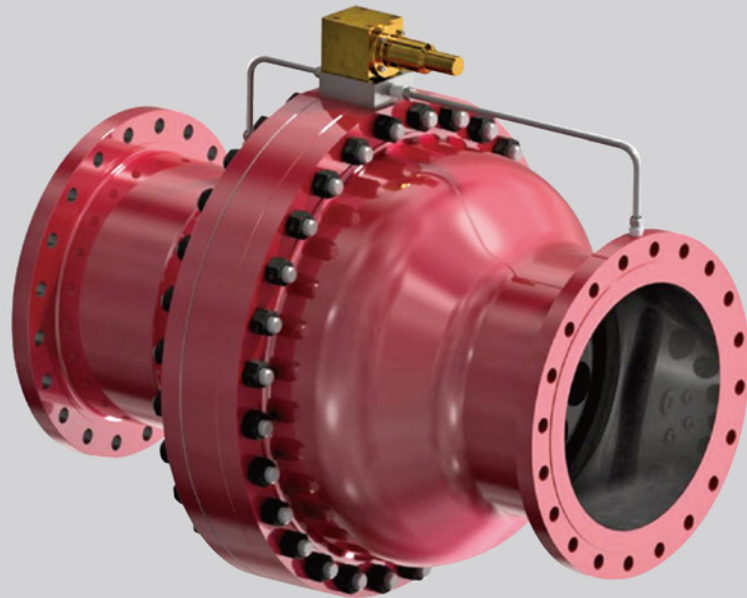
Size	4"	6"	8"	10"	12"	14"	16"	18"	20"	24"
N.D	100	150	200	250	300	350	400	450	500	600
H	430	456	500	550	580	640	670	700	760	860
L	300	394	457	533	810	900	1060	1200	1310	1490

Note : Other Size are available on request. Standard flange connection is JIS 5K and others are available on request.

AXIAL PILOT OPERATING TYPE

Introduction

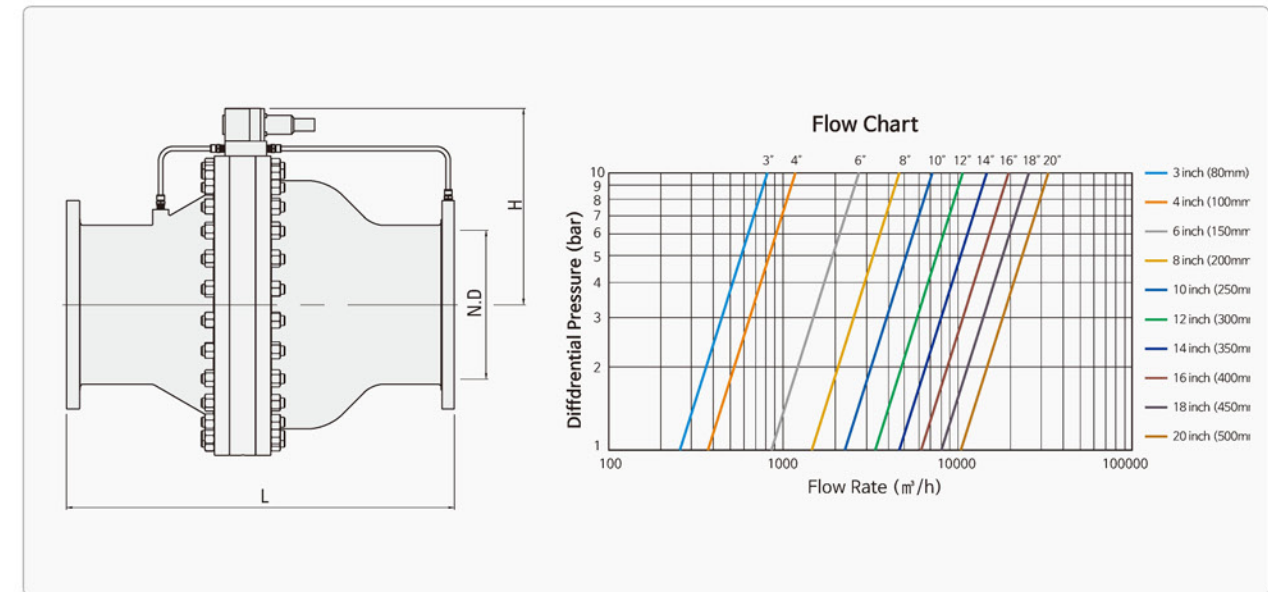
Model SRVX-P consists of a main valve, a pilot valve and accessories, is completely assembled and tested as a unit and ready for field installation. SRV is installed in the by-pass line pipe to protect the piping system from the surge (Water hammer) by sudden flow change and sudden pump stop. SRVX-P is a self-acting surge relief valve, the operation of valve is controlled by mechanical pilot valve. Main valve is open to discharge the pressure when pilot valve detects pressure higher than set pressure. Main valve is closed completely when normal operation is in state.



Benefits

- **Self-acting type** No need external power.
- **Quick response** Allows fast response on surge pressure. This results in prompt return to stable pressure conditions.
- **High flow capacity** By streamlined flow passage.
- **Automatic close** When the pipeline pressure to set pressure, the valve is back automatically and slowly to seat.
- **No Cavitation**

Typical Installation



Dimension Table

SIZE	4"	6"	8"	10"	12"	14"	16"	18"	20"	24"
N.D	100	150	200	250	300	350	400	450	500	600
L	300	394	457	533	810	900	1060	1200	1310	1490
H	350	370	430	460	480	520	550	580	600	740

Note : Other Size are available on request. Standard flange connection is JIS 5K and others are available on request.

Standard Materials of Construction

DESCRIPTION	SPEC.1	SPEC.2	SPEC.3	SPEC.4
Body	Carbon steel	Stainless steel 304	Stainless steel 316/316L	Duplex
Internals	Stainless steel 304	Stainless steel 304	Stainless steel 316/316L	Duplex
Pilot valve	Stainless steel 316L	Stainless steel 316L	Stainless steel 316L	Stainless steel 316L

Note : Other material is available on special request by customers.

> Major Customer

Domestic Market



- HYUNDAI HEAVY INDUSTRIES CO., LTD.
- DAEWOO SHIPBUILDING & MARINE ENGINEERING CO., LTD.
- DOOSAN HEAVY INDUSTRIES CO., LTD.
- STX Heavy Industries Co., Ltd.
- STX Offshore & Shipbuilding Co., Ltd.
- GS ENGINEERING & CONSTRUCTION CO.,LTD.
- SAMSUNG HEAVY INDUSTRIES CO., LTD.
- HANWHA E&C CO.,LTD.
- DAWOO E&C CO., LTD.
- HYUNDAI E&C CO., LTD.
- SK ENGINEERING & CONSTRUCTION CO., LTD.
- DAELIM INDUSTRIAL CO., LTD.
- SAMSUNG C&T CORPORATION

Oversea Market



- TOTAL
- CHEVRON
- SHELL
- ExxonMobil
- SAIPEM S.p.A
- BP
- Torishima Pump Mfg. Co., Ltd
- RELIANCE
- CHINA NATIONAL OFFSHORE OIL CO
- KEPPEL
- BW OFFSHORE
- PTTEP
- MMHE
- BETCHTEL
- FUJI SANGYO
- TOYO ENGINEERING INDUSTRIES
- MITSUBUSHI HEAVY INDUSTRIES & SHIPBUILDING
- CHIYODA
- HITACHI ZOSEN
- MODEC OFFSHORE PRODUCTION SYSTEMS
- ORASCOM E & C USA
- UTE TSGI
- PETRONAS
- MAIRE TECNIMONT
- RONG' AN MARINE DIESEL
- DIESEL UNITED
- SHAANXI DIESEL & MARINE
- DALIAN MARINE DIESEL
- YICHANG MARINE DIESEL

> Quality Control Activities

Company Overview

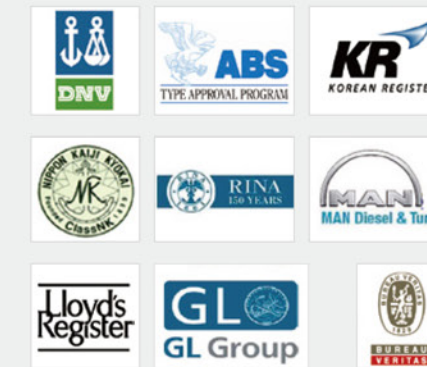
The company is a manufacturer of safety valve for tank, we strive to comply and maintain the quality manual to increase development of new technology, enhance product quality and productively while reducing costs.

Scope of Application

This manual was established based on the regulations of ISO 9001 : 2000 / ISO 14001:2004 and applies to design, development, sales, procurement, manufacturing, inspection, service department and overall organizations.

Definition of Terminology

The terminology relating to quality management system in the quality manual are as defined in KS A 9000:2001/ISO 9001 : 2000 / ISO 14001:2004



Approved Classification

- QUALITY MANAGEMENT SYSTEM ISO 9001:2000 / ISO 14001:2004
- MAN Diesel & Turbo
- AMERICAN BUREAU OF SHIPPING (ABS)
- Bureau Veritas (BV)
- LLOYD'S REGISTER OF SHIPPING (LR)
- DET NORSKE VERITAS (DNV)
- GERMANISCHER LLOYD (GL)
- NIPPON KAIJI KYOKAI (NK)
- KOREA REGISTER (KR)
- CHINA CLASSIFICATION SOCIETY (CCS)
- REGISTRO ITALIANO NAVALE (RINA)

> Worldwide Sales Network



TOP RELIABILITY OF SAFETY & ENVIRONMENT IS THE FIRST & MOST IMPORTANT



Products

- Air release valve
- Combination air release and vacuum breaker valve
- Vacuum breaker valve
- Surge relief valve
- Breather valve
- Flame arrester
- Emergency vent cover
- Gauge hatch cover
- High velocity Pressure / Vacuum relief valve
- Vapor Emission Control System
- Crankcase Explosion Relief valve
- Flameless explosion venting devices
- Solar Water Distiller
- Vapor Emission Control System

Application Fields

- Offshore & Ocean Gas Plants
- Desalination Plants
- Ballast System for Ships & Offshore Plants
- Sea & Fresh Water Plants
- Marine Tank Ships
- Cryogenic gas Facilities
- Petrochemical Plants
- Tank Terminals
- Marine Engines
- Generators
- Duct

Service station (Agent / Distributor)



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