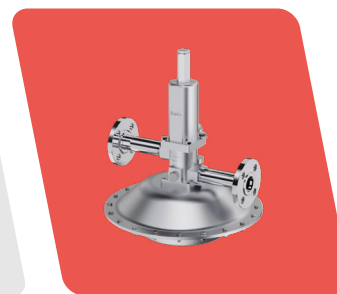
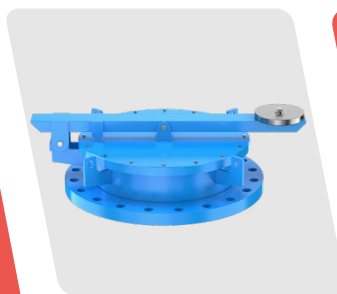


# BasCo<sup>®</sup>

One Source  
For All Your  
Pressure Relief Solutions

BasCo Catalogue  
Vapour Control

*BASCO Rev.24-12*



江苏八方安全设备有限公司  
JIANGSU BAFANG SAFETY DEVICE CO., LTD.



# BasCo<sup>®</sup>

## Enterprise Culture

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**Vision:** Continuous innovation to provide a full range of safety pressure relief solutions!



**Mission:** Escort for industrial development!



**Core values:** We regard quality as life. Life only once!



**Spirit:** Dedication, responsibility, pioneering and innovation

CC



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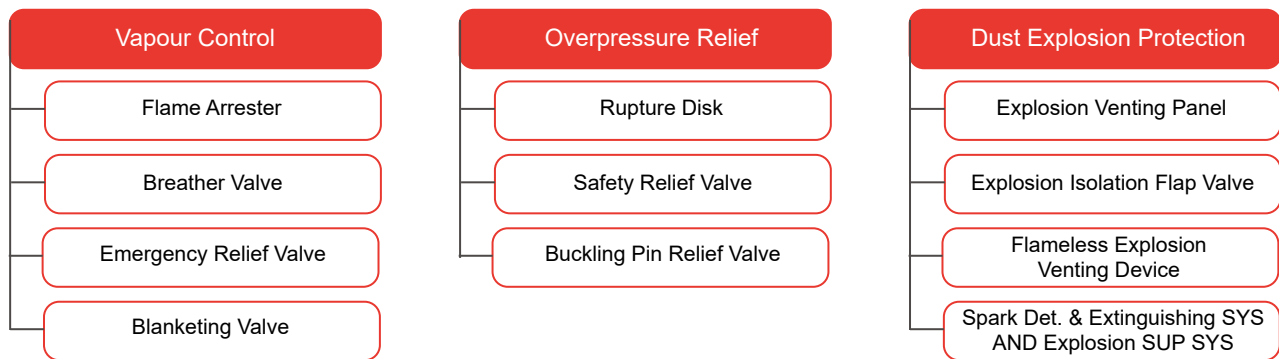
# About BasCo

Jiangsu Bafang Safety Equipment Co., LTD. (trademark **BasCo**<sup>®</sup>) is a high-tech enterprise with independent intellectual property rights, committed to providing the safety pressure relief products and solutions for the society, and serving every customer.

The company has a number of domestic and foreign qualifications, including ISO9001, the People's Republic of China special equipment manufacturing license, ASME, NB, CE, PED, ATEX, CNAS, CCS, DNV, GL, EAC certifications. The main products cover three major application scenarios: vapour control, overpressure relief and dust explosion protection.

Since founded in 2002, BasCo has always been adhering to the concept of science and technology, innovation and development, focusing on the field of safety pressure relief, constantly breaking through bottlenecks, filling gaps, accumulating a large number of patents and technologies, creating scientific and systematic equipment, facilities and mechanisms, training an experienced research, production and marketing senior personnel team, serving tens of thousands of users at home and abroad. BasCo participated in the compilation of more than ten standards, has achieved wide recognition in the industry, and looks forward to win-win cooperation with more domestic and overseas users.

## Products/



# Qualifications

**Certificates:** ISO9001, 14001, ASME, NB, CE, PED, ATEX, CNAS, CCS, DNV, GL, EAC



**Patents:** Nearly 200 invention patents and utility model patents



**Participation in Nearly 20 Standards**

Standard No.	Standard Name	Standard Title	Standard Description	Release Date	Issuing Authority
KC 25 048 ZJ761-2019	中华人民共和国国家标准	石化用石油气管线安全泄压	Specification for selection, inspection for petroleum gas	2019-09-02 发布	中华人民共和国国家标准
KC 13 240 CEB 7 18	中华人民共和国国家标准	安全泄压	Pressure relief	2022-04-08 发布	中华人民共和国国家标准
KC 13 240 J 16	中华人民共和国国家标准	过压保护安全	Safety devices for protection	2018-09-17 发布	国家市场监督管理总局 中国国家标准
KC 13 240 J 16	中华人民共和国国家标准	安全阀与爆破	Safety valves and burst	2020-09-21 发布	国家市场监督管理总局 中国国家标准
KC 13 240 J 16	中华人民共和国国家标准	低温	Pilo safety valve	2021-04-30 发布	国家市场监督管理总局 中国国家标准
KC 13 240 J 16	中华人民共和国国家标准	弹簧直	Spring	2021-04-30 发布	国家市场监督管理总局 中国国家标准
KC 13 240 J 16	中华人民共和国国家标准	安全阀	Safety valves	2021-03-09 发布	国家市场监督管理总局 中国国家标准
KC 13 240 CEB 7 18	中华人民共和国国家标准	压力释放装置 性能试验方法	Pressure relief devices—Performance test code	2021-10-01 实施	国家市场监督管理总局 国家标准化管理委员会 发布

# History

2022

Company name change to Jiangsu Bafang Safety Device Co., Ltd.

## The 2020s - Developing

2020

Production License of Special Equipment People's Republic of China for Flame Arrester and Safety Relief Valve.

Type Test Certificate of Special Equipment (Pressure Piping Components) for Flame Arrester

ATEX certificate for Dust Explosion Protection Products

Publication GB/T 38599-2020 Safety valves and bursting disc safety devices in combination

"Jiangsu Graduate Workstation" jointed with China University of Mining and Technology

2019

Publication SH/T 3143-219 Specification for selection, inspection and acceptance of pipeline flame arresters for petroleum gas in petrochemical industry

2018

ATEX Certificate by IBExU for Flame Arrester

Publication GB/T 36588-2018 Safety devices for protection against excessive pressure—Common data

2017

CE Certificate for Dust Explosion Protection Products  
CE Certificate for Rupture Disk

2016

ASME & NB Certificate Certificate  
DNV

2013

Production License of Special Equipment People's Republic of China for Rupture Disk  
Test Center for Rupture Disk and Flame Arrester Built

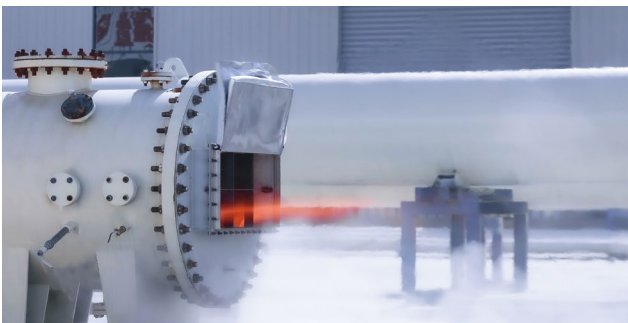
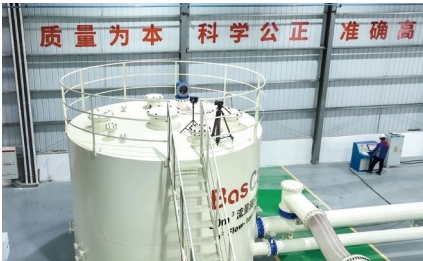
## The 2010s - Growing

2002

Xuzhou Bafang Safety Device Co., Ltd. Founded

## The 2000s - New Start

## Test Base/



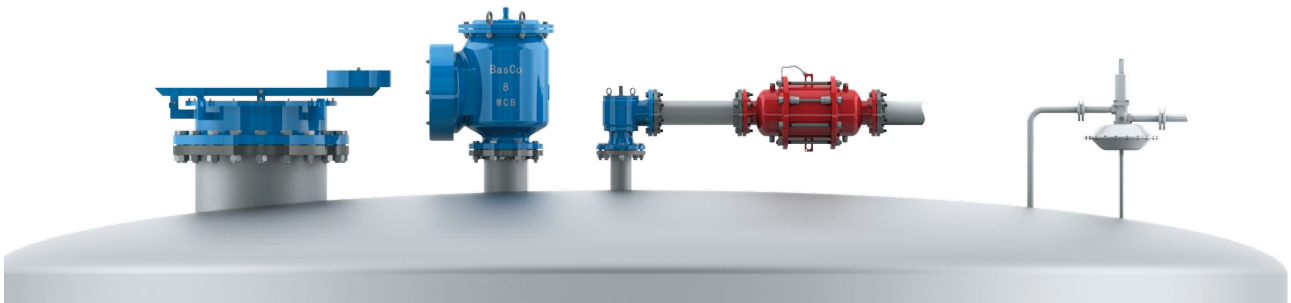
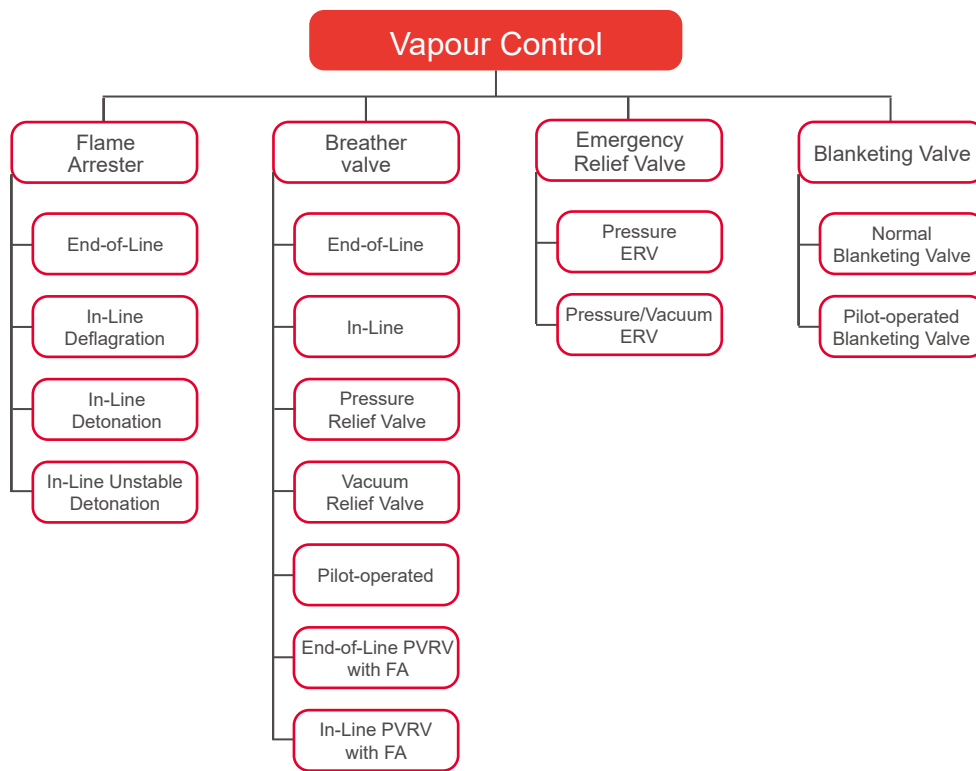
7000+m<sup>2</sup>,CNAS、CMA.

## Office and Factory Buildings



# Vapour Control

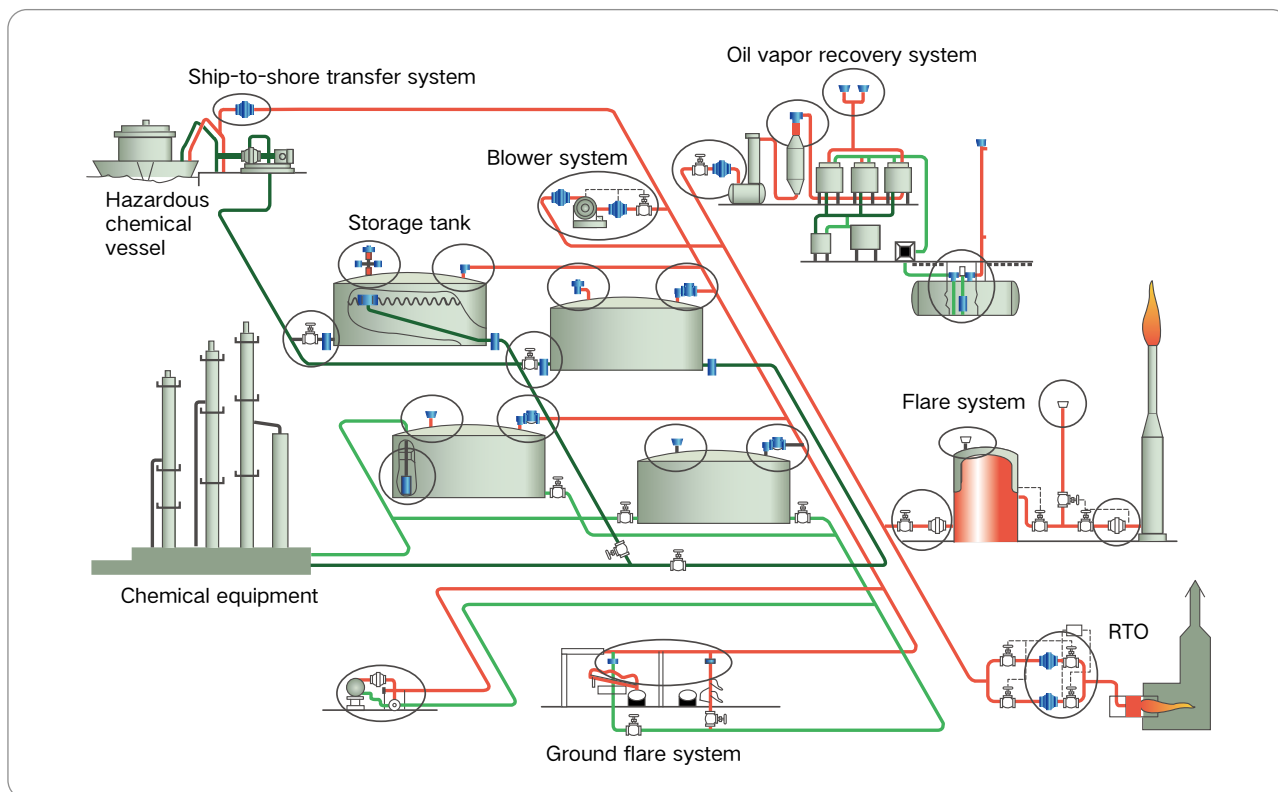
The steam control series products mainly include flame arresters, breathing valves, emergency relief valves, nitrogen sealing valves, etc. As an important guarantee for the safety of the tank area, this series of products are used together to greatly reduce the risk of explosion in the tank area due to flame or overpressure. Among them, the flame arrester is used to block the flashback, prevent the flame from entering the storage tank and spreading between the storage tanks; the breathing valve is used for pressure relief during overpressure or pressure supplement under vacuum conditions; the emergency relief valve is used for pressure adjustment when the pressure rises or drops sharply; the nitrogen sealing valve uses the principle of supplementing inert gas to maintain the tank pressure balance. In application, according to actual needs, you can choose the corresponding equipment and use it alone or in combination.





## Typical Applications

Safety relief devices of vapour control system are widely used in hazardous chemicals ships, ship-to-shore transportation system, chemical equipment, oil loading and unloading system, petrochemical storage tanks, waste gas treatment system, ground flare system, incinerators etc. to provide a solid guarantee for the continuous and stable operation of the systems.



### Petrochemical storage tanks

Oil and gas collection and treatment for vault storage tanks, underground storage tanks, horizontal storage tanks and multiple vault storage tanks



### Combustion and flare systems

Incinerator feeding lines, elevated or ground flares, emergency relief, tank venting



### Chemistry and Pharmaceutical chemicals

Combustible liquid storage tanks, incinerators, Zone 0 blowers or vacuum pumps, heavy oil/ residue/asphalt storage tanks, industrial stirring machines and process containers



### Flame arrester for integrated device components

Zone 0 blowers, Zone 0 vacuum pumps



### Biogas system, sewage treatment

And landfill gas systems, tank tops and gas phase tubes, desulfurization device, gas tank venting pipeline, emergency vents



### Cryogenic tank

Propylene storage tank, ethylene storage tank, liquid oxygen, liquid nitrogen and liquid argon storage tank, liquid ammonia storage tank, LNG storage tank



### Shipbuilding/Offshore platforms and handling systems

River hazardous chemical vessels, bunker and discharge systems for tankers, production, storage and discharge systems for drilling platforms, replacement/recovery pipelines for trains and tank cars

## ■ BasCo Vapour Control System/



Patented design



Innovative process and  
strict material selection



R&D and testing



ATEX,CCS,EAC,ASME,CE  
Certified



Comply with international standards

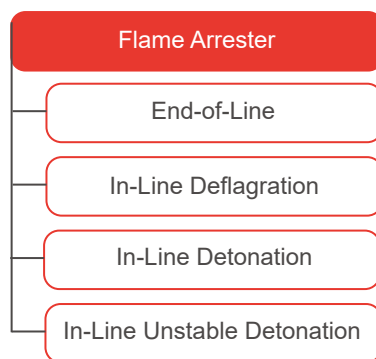
(SY/T0511,API2000,  
ISO16852,GB/T13347,SH/T3413,  
ISO/IEC 80079-49)



Successful projects

## Flame arrester series

Flame arrester is a safety device that allows gas to pass through, stops the flame of flammable gas or liquid from spreading, and prevents flashback. It is usually installed on tanks and pipelines that transport or discharge flammable and explosive gases.



### ■ Fire arrester principle/

#### Heat transfer effect

The three conditions required for combustion are oxygen (provided by air), high temperature (initially provided by the ignition source) and flammable mixture (combustible gas, mixed with air in an appropriate proportion). When the flame arrester is working, it removes one of the three necessary conditions, high temperature, to achieve the purpose of extinguishing the flame. The flame arrester element inside the flame arrester is the core component of fire extinguishing. It needs to be designed in a targeted manner from the direction of dispersing the flame, expanding the contact area between the flame and the channel wall, and enhancing heat transfer. When the flame passes through the flame arrester element in the flame arrester, it will be dispersed into several small flames, and the temperature will be reduced due to heat transfer with the flame arrester element.

#### Device wall effect

Combustion and explosion are not direct reactions between molecules, but are stimulated by external energy, the molecular bonds are destroyed, and activated molecules are generated. The activated molecules are split into short-lived but very active free radicals. The free radicals collide with other molecules to generate new products, and at the same time, new free radicals are generated to continue to react with other molecules. When the burning combustible gas passes through the narrow channel of the flame arrester, the probability of collision between the free radicals and the channel wall increases, and the number of free radicals participating in the reaction decreases. When the channel of the flame arrester is narrow to a certain extent, the collision between the free radicals and the channel wall dominates, and the reaction cannot continue due to the sharp decrease in the number of free radicals, that is, the combustion reaction cannot continue to propagate through the flame arrester.

## ■ Selection Data Sheet/

Customer Name \_\_\_\_\_ Date \_\_\_\_\_  
 Contact Person \_\_\_\_\_ Telephone \_\_\_\_\_  
 Address \_\_\_\_\_ Fax \_\_\_\_\_  
 Project Details \_\_\_\_\_ E-mail \_\_\_\_\_

### Application Data

Flow rate (normal/maximum) \_\_\_\_\_ / \_\_\_\_\_  
 Temperature (normal/maximum) \_\_\_\_\_ / \_\_\_\_\_ Pressure (normal/maximum) \_\_\_\_\_ / \_\_\_\_\_  
 Gas/vapor composition \_\_\_\_\_  
 NEC gas group \_\_\_\_\_ IEC gas group \_\_\_\_\_ Maximum experimental safe gap size \_\_\_\_\_  
 Maximum allowable pressure drop \_\_\_\_\_  
 Installed Distance \_\_\_\_\_ Presence of elbows \_\_\_\_\_ Quantity \_\_\_\_\_  
 Is it possible for the fire to continue on the flame arrester core?  Yes  No

### Product data

End-of-Line  In-Line Deflagration  In-Line Detonation  In-Line Unstable Detonation  
 Installation Method:  Horizontal  Vertical  Other \_\_\_\_\_  
 Pipeline size \_\_\_\_\_  
 Flange pressure rating:  
 ANSI150 raised face (standard)  DIN  HG/T20592-20635-2009  Other \_\_\_\_\_  
 Material: Shell and components \_\_\_\_\_ Flame barrier \_\_\_\_\_  
 Options:  
 Vent plug \_\_\_\_\_  Temperature probe accessories \_\_\_\_\_  Pressure port \_\_\_\_\_  
 Coating / special coating \_\_\_\_\_  Other options \_\_\_\_\_  
 Additional Information \_\_\_\_\_

*\*Note: BASCO non-steady-state detonation arrester is designed for unstable detonation and can be installed at any point in the system.*

## ■ Naming rules/

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	-	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	/	<input type="checkbox"/>	-	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	-	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Series Code</b>					<b>Shell Size (In)</b>					<b>Shell Material</b>						<b>Options</b>		
6100					04-60					A. Aluminum						1. Vent Plug		
6110					<b>Connection Size</b>					C. Carbon Steel						2. Temperature Probe Hole		
6120					(In)					4.304						3. Emergency Relief Valve		
6200					01-36					6.316L						4. Other Accessories		
6400					<b>Gas Group</b>					H. Hastelloy						5. Protective Coating		
6500					B. II C					<b>Fire Barrier Material</b>						6. Special Features		
					C. II B3					4.304								
					D. II A					6.316L								
										2.2205								
										H. Hastelloy								
										<b>Connection Type</b>								
										F. Flat Flange								
										R. Raised Face								
										Flange								

■ **Gas Groups / (according to NFPA321, NEC, IEC regulations)**

**Group A**

Acetylene

**Group B (IIC)**

Butadiene

Hydrogen

Artificial gases with a hydrogen content greater than 30% (by volume)

Propylene oxide

Propylene nitrate

**Group C (IIB3)**

Acetaldehyde

Acrylonitrile

Diethyl ether

Dimethylhydrazine

Ethylene

Hydrogen sulfide

Butanone

Unsymmetrical dimethylhydrazine (UDMN)

**Group D (IIA)**

Acetone

Cyclopropane

Ammonia

Benzene

Butane

Butene

\*Methanol

1-Butanol

2-Butanol

Cyclohexylamine

N-Butyl acetate

**Group D (IIA)**

Isobutyl acetate

Ethane

Ethanol

Ethyl acetate

Ethyl acrylate

Ethylene dichloride

Gas oil

Heptane

Hexane

Rubber matrix

Methane (natural gas)

Methacrylic acid ester

Methylamine

Methyl mercaptan

3-methyl-1-butanol (isoamyl alcohol)

Methyl isobutyl alcohol

2-methyl-1-propanol (isobutanol)

2-methyl-2-propanol (tert-butanol)

Naphtha (petroleum)

Propyl acetate

Octane

Pentane

1-pentanol (pentanol)

Propane

1-propanol (propanol)

2-propanol (isopropanol)

Propylene

Styrene

Toluene

Rosin

Vinyl acetate

Vinyl chloride

Xylene

\* BASCO recommended

## 6100 End-of-Line Flame Arrester

Suitable for free discharge conditions, it can provide flame protection during vertical discharge.

It can be installed on the top of the atmospheric pressure discharge pipeline or storage tank, etc.

This series of flame arresters can be used to prevent the spread of closed and non-closed low-pressure explosions; it can prevent the ignited atmospheric pressure steam cloud from entering the discharge pipeline or storage tank through the flame arrester.



### ■ Features/

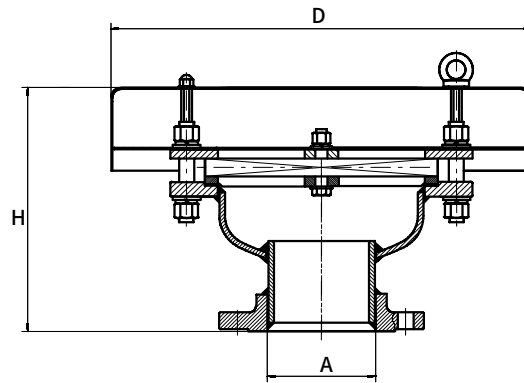
- Maximum flow, low pressure drop
- Easy to clean, not easy to clog, less maintenance
- Single component construction (rain cover, bird net)
- Excellent corrosion resistance
- Easy to install, removable fire barrier for easy inspection and maintenance
- Supports ANSI, DIN and HG/T20592~20635-2009 flanges

### ■ Specifications/

Model	Size	Gas Group (IEC/NEC)
6100 End-of-Line Flame Arrester	1"(DN25) ~ 40"(DN 1000)	II A/D II B3/C II C/B

### ■ Structural Materials/

Model	Case	Fire barrier
6100 End-of-Line Flame Arrester	carbon steel 304 316L Hastelloy alloy	304 316L Hastelloy alloy



■ Key parameter table/

Model	A Size In(mm)	H High mm	D Outer Diameter mm
6100	1(25)	165	180
	2(50)	196	219
	2(50)	214	350
	3(80)	214	350
	4(100)	254	350
	6(150)	292	550
	8(200)	323	650
	10(250)	360	700
	12(300)	396	900

*\*From 14 inches to 36 inches, with an allowable tolerance of  $\pm 1.00$ " (25mm); the parameters are for reference only, please contact us for more information.*

## 6200 In-Line Deflagration Flame Arrester

Used within 50d of the pipe end and close to the pipe end, that is, the flame development has not yet reached the detonation stage.

It meets the requirements of ISO16852, GB13347 and other standards and is more economical than detonation flame arresters.

The two-way structure can prevent low-pressure, medium-pressure and high-pressure deflagrations, and can eliminate the high speed and high pressure generated by deflagration while extinguishing the flame.



### ■ Features/

- Maximum flow, small pressure drop
- Easy to clean, not easy to clog, less maintenance
- Standard temperature detection port
- Bidirectional structure
- Easy to install, removable fire barrier for easy inspection and maintenance
- Support ANSI, DIN and HG/T20592~20635-2009 flanges

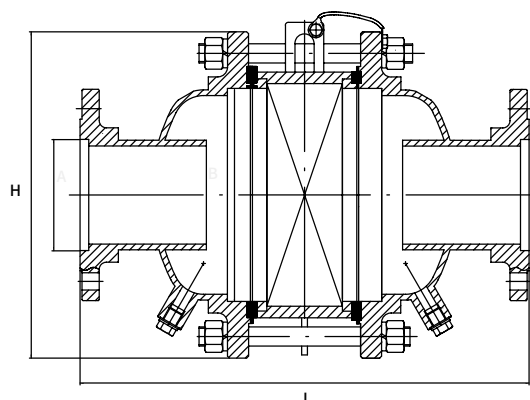
### ■ Specifications/

Model	Size	Gas Group (IEC/NEC)
6200 In-Line Deflagration Flame Arrester	1"(DN25) ~ 40"(DN 1000)	II A/D II B3/C II C/B

### ■ Structural Materials/

Model	Case	Fire barrier
6200 In-Line Deflagration Flame Arrester	carbon steel 304 316L Hastelloy alloy	304 316L Hastelloy alloy





■ **Key parameter table/**

Model	A Size In(mm)	B Case Size mm	H Outer Diameter mm	L Length mm
6200 ( II A)	1(25)	100	220	305
	2(50)	100	220	305
	2(50)	150	285	360
	3(80)	150	285	345
	4(100)	200	340	395
	6(150)	300	445	520
	8(200)	400	565	530
	10(250)	500	670	644
	12(300)	600	780	744
	16(400)	800	1015	921
	20(500)	1000	1230	983
	24(600)	1200	1455	1200
	32(800)	1600	1915	1760
40(1000)	2000	2325	2296	

\*The allowable tolerance is  $\pm 1.00''$ (25mm);he parameters are for reference only, please contact us for more information.

## 6400 In-Line Detonation Flame Arrester

Represents the highest specification of flame arrester protection, divided into 6400 steady detonation and 6500 unsteady detonation. Mainly used for long pipe sections or pipe sections with multiple elbows to prevent stable (optional 6400) and unstable detonations (optional 6500).



### ■ Features/

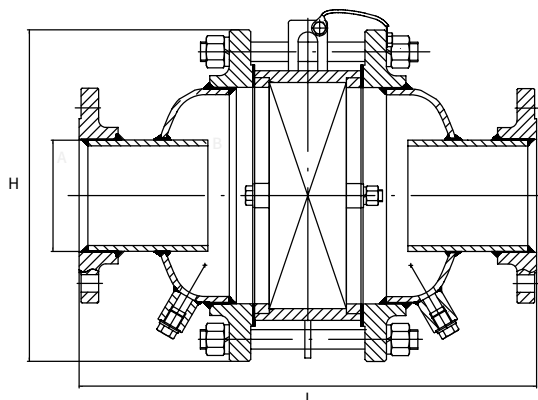
- Maximum flow, small pressure drop
- Easy to clean, not easy to clog, less maintenance
- Standard temperature detection port
- Bidirectional structure
- Easy to install, removable fire barrier for easy inspection and maintenance
- Support ANSI, DIN and HG/T20592~20635-2009 flanges

### ■ Specifications/

Model	Size	Gas Group (IEC/NEC)
6400 In-Line Detonation Flame Arrester	1"(DN25) ~ 40"(DN 1000)	II A/D II B3/C II C/B

### ■ Materials/

Model	Case	Fire barrier
6400 In-Line Detonation Flame Arrester	carbon steel 304 316L Hastelloy alloy	304 316L Hastelloy alloy



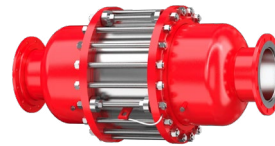
■ **Key parameter table/**

Model	A Size In(mm)	B Case Size mm	H Outer Diameter mm	L Length mm
6400	1(25)	100	220	364
	2(50)	150	285	404
	3(80)	150	285	404
	4(100)	200	340	454
	6(150)	300	445	620
	8(200)	400	565	660
	10(250)	500	670	760
	12(300)	600	780	860
	16(400)	800	1015	1060
	20(500)	1000	1255	1155
	24(600)	1200	1485	1400

\*The allowable tolerance is  $\pm 1.00''(25\text{mm})$ ; the parameters are for reference only, please contact us for more information.

## 6500 In-Line Unstable Detonation Flame Arrester

Mainly used in long pipe sections or pipe sections with many elbows to arrest stable (optional 6400) and unstable detonations (optional 6500). In addition, this series of flame arresters can also arrest confined and unconfined, low-pressure and high-pressure deflagrations.



### ■ Features/

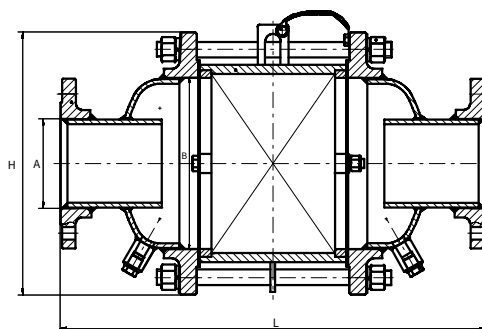
- Maximum flow, small pressure drop
- Easy to clean, not easy to clog, less maintenance
- Standard temperature detection port
- Bidirectional structure
- Easy to install, removable fire barrier for easy inspection and maintenance
- Support ANSI, DIN and HG/T20592~20635-2009 flanges

### ■ Specifications/

Model	Size	Gas Group (IEC/NEC)
6500 In-Line Unstable Detonation Flame Arrester	1"(DN25) ~ 40"(DN 1000)	II A/D II B3/C II C/B

### ■ Materials/

Model	Case	Fire barrier
6500 In-Line Unstable Detonation Flame Arrester	carbon steel 304 316L Hastelloy alloy	304 316L Hastelloy alloy



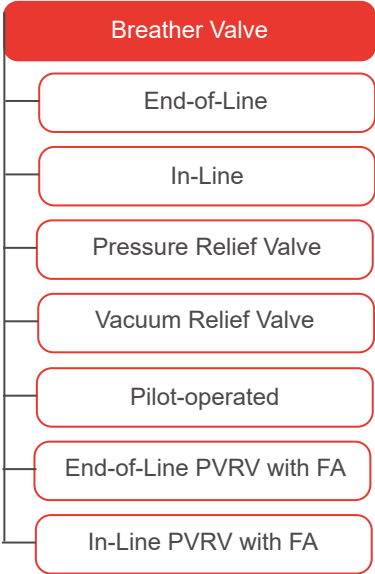
■ **Key parameter table/**

Model	A Size In(mm)	B Case Size mm	H Outer Diameter mm	L Length mm
6500	2(50)	100	220	460
	3(80)	150	285	500
	4(100)	200	340	550
	6(150)	300	460	980
	8(200)	400	580	1160
	10(250)	500	715	1350
	12(300)	600	868	1612

\*The allowable tolerance is  $\pm 1.00''$ (25mm);he parameters are for reference only, please contact us for more information.

# Breather Valve Series

The breathing valve is used for pressure relief or pressure supplement under overpressure or vacuum conditions. It is a safety device that can not only ensure the sealing of the storage tank within a certain pressure range, but also release pressure or inhale gas to protect the storage tank under overpressure or vacuum. It can be used in atmospheric pressure storage tanks, pipelines and other scenes to adjust pressure balance, prevent medium leakage, etc., to protect equipment safety, reduce medium loss and environmental pollution. The storage tank is equipped with a breathing valve for overpressure relief and vacuum suction protection. Under overpressure conditions, the steam in the tank is discharged into the atmosphere or pipeline. Under conditions exceeding the vacuum setting, air or inert gas is sucked into the tank, so that the steam pressure of the storage tank is maintained within the safe operating parameter range. At the same time, it can also minimize product losses and limit odorous steam and steam that may explode from entering the atmosphere, reducing the impact on the environment.



■ **Selection Data Sheet/**

Customer Name _____	Date _____
Contact Person _____	Telephone _____
Address _____	Fax _____
Project Details _____	E-mail _____

**Application Data**

Tank capacity \_\_\_\_\_ Tank size (diameter / length) \_\_\_\_\_ / \_\_\_\_\_

Tank design pressure / vacuum pressure (NAWP / MAWW) \_\_\_\_\_

Fluid characteristics:  above 100 °F (37.8°C)  below 100 °F (37.8°C )

Maximum filling rate / Maximum emptying rate \_\_\_\_\_ / \_\_\_\_\_

Tank cover system:  yes  no

Maximum flow of tank cover system \_\_\_\_\_ Flow rate (normal / max.) \_\_\_\_\_ / \_\_\_\_\_

Temperature(normal / max.) \_\_\_\_\_ / \_\_\_\_\_ Pressure (normal / max.) \_\_\_\_\_ / \_\_\_\_\_

Pressure setting value(KPa,mbar) \_\_\_\_\_

Vacuum pressure setting value(KPa,mbar) \_\_\_\_\_

Maximum back pressure \_\_\_\_\_

Total exhalation pressure calculation value \_\_\_\_\_

Total inhalation pressure calculation value \_\_\_\_\_

In conjunction with:  Flame arrester  Detonation arrester

**Product data**

End-of-Line  Pressure Relief Valve  Spring-loaded End-of-Line  Pilot-operated

In-Line  Vacuum Relief Valve  Spring-loaded In-Line  PVRV with FA

Installation method:  Top  Side

Pipe size: Top installation \_\_\_\_\_ inches Side installation \_\_\_\_\_ inches

Flange pressure rating:

ANSI150raised face (standard)  DIN  HG/T20592-20635-2009  Other \_\_\_\_\_

Material:

Housing Assembly \_\_\_\_\_ Seat / Disc \_\_\_\_\_ Counterweight \_\_\_\_\_ Core Seal \_\_\_\_\_

Options:

Coating / Special \_\_\_\_\_  Temperature probe accessories \_\_\_\_\_  Other \_\_\_\_\_

Other \_\_\_\_\_

## 5100 End-of-Line Breather Valve

The 5100 End-of-Line Breather Valve maintains a sealed state. When the system pressure or vacuum exceeds the valve setting value, the valve core is lifted, the sealing state between the valve seat and the valve core is broken, and the pressure or vacuum accumulation is released. Once the release is completed, the valve remains sealed again.

Installation location: Connect the tank through the flange, and the valve is directly discharged to the atmosphere after opening



### ■ Features/

- Dual guide rail system, smooth stroke and less wear
- Leakage is much less than API2000 standard and maintains high setting accuracy( $\pm 3\%$ )
- Full start at 10% overpressure
- Valve core and valve seat assembly can be replaced on site
- Support ANSI, DIN and HG/T20592~20635~2009 flanges

### ■ Setting Range/

Model	Size	Pressure	Vacuum	Temp.
5110	1.5"(DN40)~12"(DN300)	0.2~6.9KPa(2~69mbar)	0.2~4.3KPa(2~43mbar)	-45~260°C
5120	1.5"(DN40)~12"(DN300)	6.9~100KPa(69~1000mbar)	0.2~4.3KPa(2~43mbar)	
5130	1.5"(DN40)~12"(DN300)	6.9~100KPa(69~1000mbar)	4.3~4.8KPa(43~48mbar)	
5140	1.5"(DN40)~12"(DN300)	0.2~6.9KPa(2~69mbar)	4.3~4.8KPa(43~48mbar)	

### ■ Materials/

Body	Seat/Disc	Plug Seal	Fastener	Counterweight	Gasket
Aluminum Stainless steel Carbon steel	Stainless steel Aluminum	FEP Teflon Buna-N	Galvanized carbon steel Stainless steel	Galvanized carbon steel Stainless steel Aluminum Resin coated stainless steel	Buna-N Teflon Viton Buna

### ■ Model Rules/

□ □ □ □ - □ - □ □ □ - □ □ / □ - □ □ □

#### Code

5110  
5120  
5130  
5140

#### Inlet

Connection  
Size  
2"-12"

#### Housing Material

1. Aluminum  
4. Stainless Steel  
5. Carbon Steel

#### Plug & Seat Ring Material

1. Stainless Steel  
2. Other

#### Plug Seal Material

1. FEP  
2. Buna-N  
3. Viton  
4. Other

#### Set Pressure

n. InH2O  
m. mbar  
(Unit First Value Last)

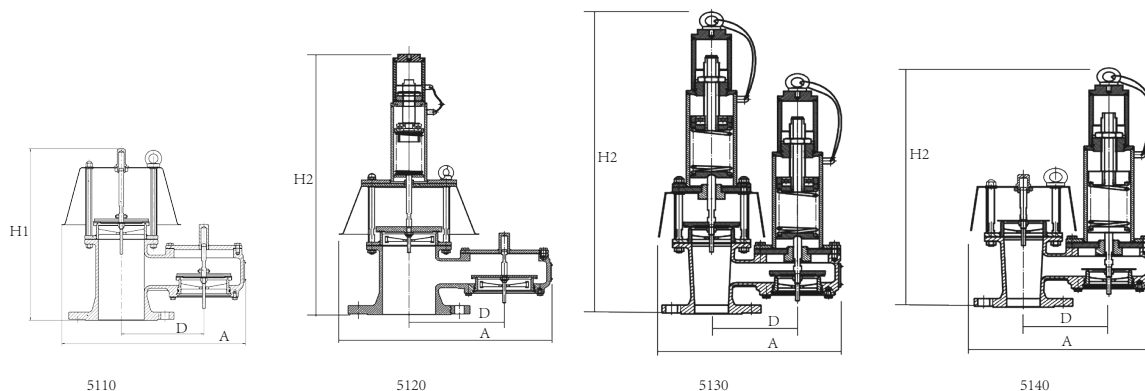
#### Set Vacuum

(Value Only  
Unit Same as above)

#### Options

O. No Option  
A. Special Coating  
B. Stainless Steel Weight  
C. Optional Weight Material  
D. Optional Hardware  
E. Optional Gasket Material  
F. Optional FRP Resin  
G. Steam Clamp Tube or Trace Pipe  
J. Other





**■ Key Parameter List/**

Model	Inlet Connection In(mm)	D Center Length mm	H1 Total Height mm	H2 Total Height mm	A Total Length mm
5100	2(50)	130	275	Variable Value	298
	3(80)	155	315		340
	4(100)	180	376		400
	6(150)	230	507		523
	8(200)	285	603		647
	10(250)	350	699		765
	12(300)	440	812		960

*\*Unit weight, indicating the net weight (in kilograms) of the valve at the standard set pressure (2mba pressure -2mbar vacuum), excluding the weight of the transport box. The total shipping weight needs to be increased by 20% (domestic only). Parameter content is for reference only, more requirements please contact us.*

## 5200 In-Line Breather Valve

The 5200 In-Line Breather Valve maintains a sealed state. When the system pressure or vacuum exceeds the valve setting value, the valve core is lifted, the sealing state between the valve seat and the valve core is broken, and the pressure or vacuum accumulation is released. Once the release is completed, the valve remains sealed again.

Installation location: Connect the storage tank and the recycling pipeline separately by flanges.



### ■ Features/

- Dual guide rail system, smooth stroke and less wear
- Leakage is much less than API2000 standard and maintains high setting accuracy(±3%)
- Full start at 10% overpressure
- Valve core and valve seat assembly can be replaced on site
- Support ANSI, DIN and HG/T20592~20635~2009 flanges

### ■ Setting Range/

Model	Size	Pressure	Vacuum	Temp.
5210	1.5" (DN40)~12"(DN300)	0.2~6.9KPa(2~69mbar)	0.2~4.3KPa(2~43mbar)	-45~260°C
5220	1.5" (DN40)~12"(DN300)	6.9~100KPa(69~1000mbar)	0.2~4.3KPa(2~43mbar)	
5230	1.5" (DN40)~12"(DN300)	6.9~100KPa(69~1000mbar)	4.3~4.8KPa(43~48mbar)	
5240	1.5" (DN40)~12"(DN300)	0.2~6.9KPa(2~69mbar)	4.3~4.8KPa(43~48mbar)	

### ■ Materials/

Body	Seat/Disc	Plug Seal	Fastener	Counterweight	Gasket
Aluminum Stainless steel Carbon steel	Stainless steel Aluminum	FEP Teflon Buna-N	Galvanized carbon steel Stainless steel	Galvanized carbon steel Stainless steel Aluminum Resin coated stainless steel	Buna-N Teflon Viton Buna

### ■ Model Rules/

□ □ □ □ - □ X □ - □ □ □ - □ □ / □ - □ □ □

#### Code

5210  
5220  
5230  
5240

#### Inlet Connection

Size  
2" -12"  
Outlet  
Connection Size  
3" -14"

#### Housing Material

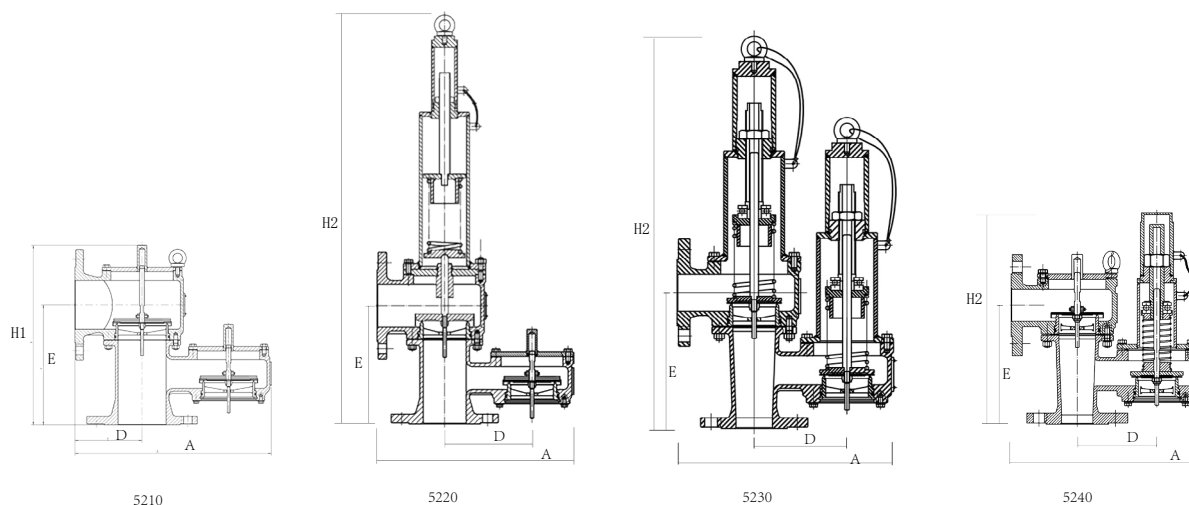
1. Aluminum  
4. Stainless Steel  
5. Carbon Steel  
Plug & Seat Ring Material  
1. Stainless Steel  
2. Other  
Plug Seal Material  
1. FEP  
2. Buna-N  
3. Viton  
4. Other

#### Set Pressure

n. InH2O  
m. mbar  
(Unit First Value Last)  
Set Vacuum  
(Value Only  
Unit Same as above)

#### Options

O. No Option  
A. Special Coating  
B. Stainless Steel Weight  
C. Optional Weight Material  
D. Optional Hardware  
E. Optional Gasket Material  
F. Optional FRP Resin  
G. Steam Clamp Tube or Trace Pipe  
J. Other



**■ Key Parameter List/**

Model	Inlet Connection In(mm)	Outlet Connection mm	A Total Length mm	E Center Height mm	H1 Total Height mm	H2 Total Height mm	D Center Length mm
5200	2(50)	50	307	195	277	Variable Value	110
	3(80)	80	357	217	321		127
	4(100)	100	417	256	380		146
	6(150)	150	524	346	506		176
	8(200)	200	649	397	605		207
	10(250)	250	747	452	699		232
	12(300)	300	948	523	812		288

*\*Unit weight, indicating the net weight (in kilograms) of the valve at the standard set pressure (2mba pressure -2mbar vacuum), excluding the weight of the transport box. The total shipping weight needs to be increased by 20% (domestic only). Parameter content is for reference only, more requirements please contact us.*

## 5300 Pressure Relief Valve

Model 5300 pressure relief valve is part of BasCo high performance breather valve series, the excellent BasCo guide system makes its performance exceeds the standard valve on the market, it is suitable for direct discharge conditions, providing overpressure protection, prevent air inhalation and reduce medium evaporation.



### ■ Features/

- Double guide rail system, smooth stroke and less wear
- The leakage is much lower than API2000 standard and guarantees high setting accuracy ( $\pm 3\%$ )
- Fully open at 10% overpressure
- The trim and seat assembly can be replaced on site
- Supports ANSI, DIN and HG/ T20592-20635-2009 flanges

### ■ Setting Range/

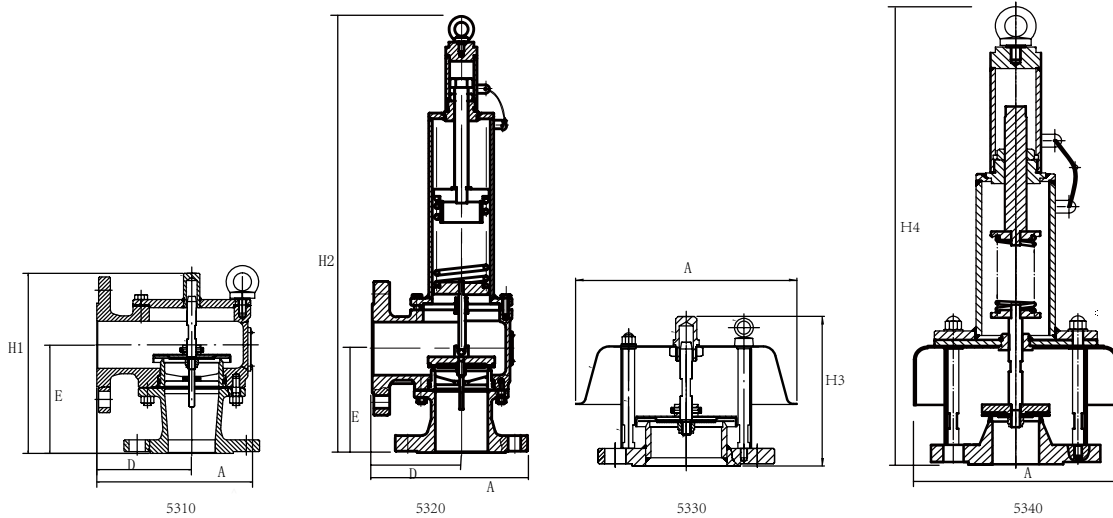
Model	Size	Pressure	Temperature
5310	2"(DN50)~12"(DN300)	0.2~6.9KPa(2~69mbar)	-45~260°C
5320	2"(DN50)~12"(DN300)	6.9~100KPa(69~1000mbar)	
5330	2"(DN50)~12"(DN300)	0.2~6.9KPa(2~69mbar)	
5340	2"(DN50)~12"(DN300)	6.9~100KPa(69~1000mbar)	

### ■ Material/

Body	Seat/Pallet	Trim Sealin	Fastener	Counterweight	Sealing Gasket
Aluminum Stainless Steel Carbon Steel	Stainless Steel Aluminum	FEP Teflon Buna-N	alvanized Carbon Steel Stainless Steel	Galvanized carbon steel Stainless steel Aluminum Resin coated stainless steel	Buna-N Teflon Viton

### ■ Model Rules/

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	-	<input type="checkbox"/>	X	<input type="checkbox"/>	-	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	-	<input type="checkbox"/>	<input type="checkbox"/>	-	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Code</b>			<b>Inlet Connection</b>				<b>Housing Material</b>			<b>Set Pressure</b>			<b>Options</b>					
5310			Size				1. Aluminum			n. InH2O			O. No Option					
5320			2"-12"				4. Stainless Steel			m. mbar			A. Special Coating					
5330			<b>Outlet</b>				5. Carbon Steel			(Unit First			B. Stainless Steel Weight					
5340			<b>Connection Size</b>				<b>Plug &amp; Seat Ring</b>			Value Last)			C. Optional Weight					
			3"-14"				<b>Material</b>						D. Optional Hardware					
							1. Stainless Steel						E. Optional Gasket					
							2. Other						Material					
							<b>Plug Seal Material</b>						F. Optional FRP Resin					
							1. FEP						G. Steam Clamp Tube or					
							2. Buna-N						Trace Pipe					
							3. Viton						J. Other					
							4. Other											



**■ Key Parameter List/**

Model	Inlet Connection In(mm)	Outlet Connection mm	A Total Length mm	H1 Total Height mm	H2 Total Height mm	D Center Length mm	E Center Height mm
5310 5320	2(50)	50	177	207	Variable Value	110	125
	3(80)	80	202	242		127	147
	4(100)	100	237	295		146	171
	6(150)	150	294	386		176	226
	8(200)	200	354	465		207	257
	10(250)	250	397	534		232	287
	12(300)	300	504	617		288	328
Model	Inlet Connection In(mm)	A Total Length mm	H3 Total Height mm	H4 Total Height mm			
5330 5340	2(50)	179	140	Variable Value			
	3(80)	198	172				
	4(100)	241	198				
	6(150)	331	274				
	8(200)	470	352				
	10(250)	500	435				
	12(300)	610	488				

\*Unit weight, indicating the net weight (in kilograms) of the valve at the standard set pressure (2mba pressure -2mbar vacuum), excluding the weight of the transport box. The total shipping weight needs to be increased by 20% (domestic only). Parameter content is for reference only, more requirements please contact us.

## 5400 vacuum relief valve

Model 5400 vacuum relief valve is part of BasCo high performance breather valve series, the excellent BasCo guide system makes its performance exceed standard valve on the market, it is suitable for inhalation conditions, providing vacuum protection and reducing medium evaporation.



### ■ Features/

- Double guide rail system, smooth stroke and less wear
- The leakage is much lower than API2000 standard and guarantees high setting accuracy ( $\pm 3\%$ )
- Fully open at 10% overpressure
- The trim and seat assembly can be replaced on site
- Supports ANSI, DIN and HG/ T20592-20635-2009 flanges

### ■ Setting Range/

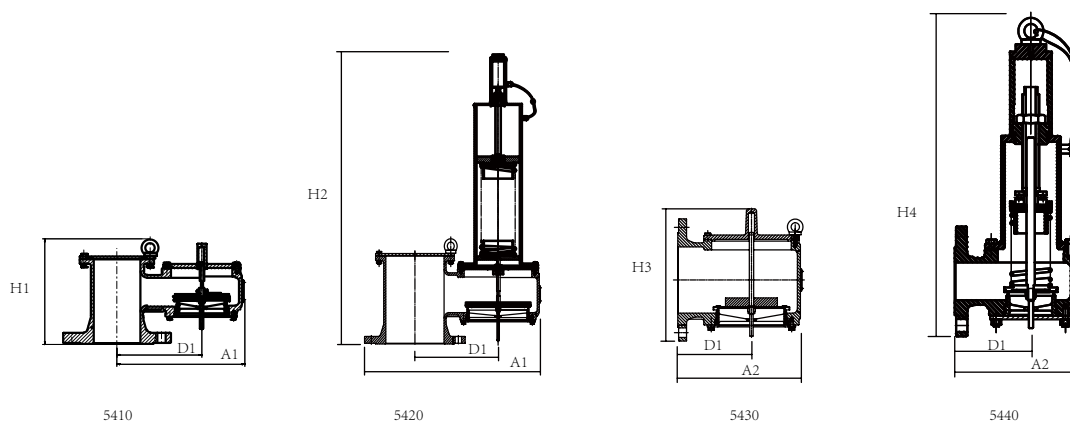
Model	Size	Pressure	Temperature
5410	1.5"(DN40)~12"(DN300)	0.2~4.3KPa(2~43mbar)	-45~260°C
5420	1.5"(DN40)~12"(DN300)	4.3~4.8KPa(43~48mbar)	
5430	1.5"(DN40)~12"(DN300)	0.2~4.3KPa(2~43mbar)	
5440	1.5"(DN40)~12"(DN300)	4.3~4.8KPa(43~48mbar)	

### ■ Material/

Body	Seat/Pallet	Trim Sealin	Fastener	Counterweight	Sealing Gasket
Aluminum Stainless Steel Carbon Steel	Stainless Steel Aluminum	FEP Teflon Buna-N	Alvanized Carbon Steel Stainless Steel	Galvanized carbon steel Stainless steel Aluminum Resin coated stainless steel	Buna-N Teflon Viton

### ■ Model Rules/

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	-	<input type="checkbox"/>	-	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	-	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Code</b>		<b>Inlet Connection Size</b>			<b>Body Material</b>		<b>Set Vacuum</b>		<b>Options</b>						
5410		2" -12"			1. Aluminum		n.InH2O		O. No Option						
5420					4. Stainless Steel		m.mbar		A. Special Coating						
5430					5. Carbon Steel		(Unit First		B. Stainless Steel Weight						
5440					<b>Plug &amp; Seat Ring Material</b>		Value Last)		C. Optional Weight Material						
					1. Stainless Steel				D. Optional Hardware						
					2. Other				E. Optional Gasket Material						
					<b>Plug Seal Material</b>				F. Optional FRP Resin						
					1. FEP				G. Steam Clamp Tube or Trace Pipe						
					2. Buna-N				J. Other						
					3. Viton										
					4. Other										



**■ Key Parameter List/**

Model	Inlet Connection In(mm)	A1 Total Length mm	A2 Total Length mm)	H1 Total Height mm	H2 Total Height mm	H3 Total Height mm	H4 Total Height mm	D1 Center Length mm
5400	1.5(40)	197	173	184	Variable Value	150	Variable Value	130
	2(50)	197	173	184		150		130
	3(80)	230	195	192		195		155
	4(100)	271	230	218		229		180
	6(150)	347	290	287		320		230
	8(200)	431	350	310		393		285
	10(250)	514	393	351		470		350
	12(300)	654	496	403		540		440

*\*Unit weight, indicating the net weight (in kilograms) of the valve at the standard set pressure (2mba pressure -2mbar vacuum), excluding the weight of the transport box. The total shipping weight needs to be increased by 20% (domestic only). Parameter content is for reference only, more requirements please contact us.*

## 5500 Pilot-operated Breather Valve

Model 5500 pilot-operated breather valve is part of BasCo high performance breather valve products, its operating pressure is close to the maximum allowable working pressure of tank, providing overpressure protection while greatly reducing evaporation and total discharge volume, reducing medium loss and emission treatment cost.



### ■ Features/

- High sealing performance
- Fully open at 10% overpressure

### ■ Setting Range/

Model	Size	Pressure	Vacuum	Temperature
5500	2"(DN40)~ 12"(DN300)	0.9~100KPa (9~1000mbar)	0.2~4.3KPa (2~43mbar)	-196~260°C

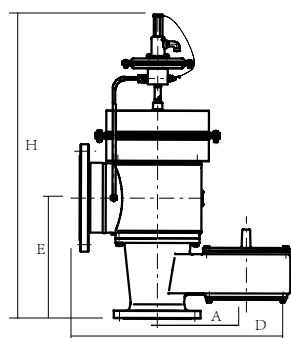
### ■ Material/

Body	Seat/Pallet	Trim Sealing	Fastener	Carrier Ring
Aluminum Stainless Steel Carbon Steel	Stainless Steel Aluminum	FEP Teflon Buna-N	Alvanized Carbon Steel Stainless Steel	Buna-N Teflon Viton

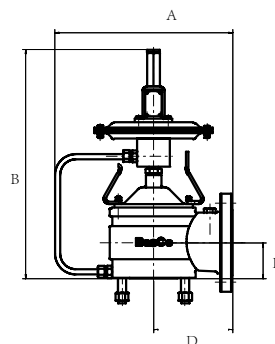
### ■ Model Rules/

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	-	<input type="checkbox"/>	X	<input type="checkbox"/>	-	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	-	<input type="checkbox"/>	<input type="checkbox"/>	-	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Code</b> 5210 5220 5230 5240	<b>Inlet Connection Size</b> 2" -12"	<b>Outlet Connection Size</b> 3" -14"	<b>Body Material</b> 1. Aluminum 4. Stainless Steel 5. Carbon Steel	<b>Plug &amp; Seat Ring Material</b> 1. Stainless Steel 2. Other	<b>Plug Seal Material</b> 1. FEP 2. Buna-N 3. Viton 4. Other	<b>Set Pressure</b> n.InH <sub>2</sub> O m.mbar (Unit First Value Last)	<b>Options</b> O. No Option A. Special Coating B. Stainless Steel Weight C. Optional Weight Material D. Optional Hardware E. Optional Gasket Material F. Optional FRP Resin G. Steam Clamp Tube or Trace Pipe J. Other											





5510



5560

**■ Key Parameter List/**

Model	Inlet Connection In(mm)	Outlet Connection mm	A Center Length mm	E Center Height mm	D Total Length mm	H Total Height mm
5510	2(50)	80	152	70	298	559
	3(80)	100	203	64	375	595
	4(100)	150	254	102	457	644
	6(150)	200	305	110	540	751
	8(200)	250	356	135	648	840
	10(250)	300	457	169	806	924
	12(300)	350	510	203	927	979
Model	Inlet Connection In(mm)	Outlet Connection mm	A Total Length mm	B Total Height mm	E Center Height mm	D Center Length mm
5560	2(50)	80	298	502	70	152
	3(80)	100	375	546	64	203
	4(100)	150	457	552	102	254
	6(150)	200	540	660	110	305
	8(200)	250	648	711	135	356
	10(250)	300	806	800	169	457
	12(300)	400	927	889	203	511

*\*Unit weight, indicating the net weight (in kilograms) of the valve at the standard set pressure (2mba pressure -2mbar vacuum), excluding the weight of the transport box. The total shipping weight needs to be increased by 20% (domestic only). Parameter content is for reference only, more requirements please contact us.*

## 5600 End-of-line Breather Valve with Integrated Flame Arrester

5600 End-of-line Breather Valve with Integrated Flame Arrester is one of BasCo high performance breather valve series, its excellent performance exceeds standard valves on the market:

- Compact design, reduce space occupation and self-weight, higher sealing performance, large ventilation, small leakage.
- Optional fire resistance function. The combination of fire resistance and breath function provides overpressure and vacuum protection while preventing flame propagation.



### ■ Features/

- Good corrosion resistance, chemical resistance, resistance to adhesion of liquid and vapor, resistance to extreme temperature
- Fully open at 10% overpressure
- The leakage is much smaller than API2000 standard and ensures a higher setting accuracy ( $\pm 3\%$ )
- The valve trim assembly can be replaced on site
- Support ANSI, HG/T flanges

### ■ Setting Range/

Model	Size	Pressure	Vacuum	Gas Group (IEC/NEC)	Temperature
5600	2"(DN40)~12"(DN300)	0.2~5KPa (2~50mbar)	0.2~100KPa (2~1000mbar)	II A II B3 II C	-45~260°C

### ■ Material/

Body	Seat/Pallet	Trim Sealing	Fastener	Counterweight	Sealing Gasket
Aluminum Stainless Steel Carbon Steel	Stainless Steel Aluminum	FEP Teflon Buna-N	Alvanized Carbon Steel Stainless Steel	Galvanized carbon steel Stainless steel Aluminum Resin coated stainless steel	Buna-N Teflon Viton

### ■ Model Rules/

□ □ □ □ - □ - □ □ □ - □ □ / □ - □ □ □

**Code**  
5610

**Inlet Connection  
Size**  
2" -12"

**Body Material**  
1. Aluminum  
4. Stainless Steel  
5. Carbon Steel

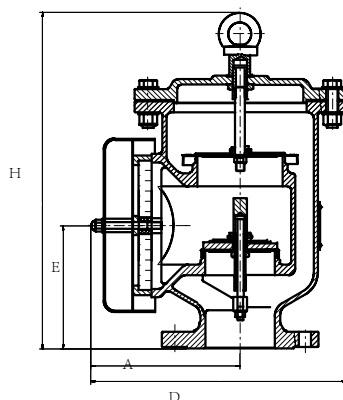
**Plug & Seat Ring  
Material**  
1. Stainless Steel  
2. Other

**Plug Seal Material**  
1. FEP  
2. Buna-N  
3. Viton  
4. Other

**Set Pressure**  
n. InH2O  
m. mbar  
(Unit First Value  
Last)

**Set Vacuum**  
(Value Only  
Unit Same as  
bove)

**Options**  
O.No Options  
A.Special Coating  
B.Stainless Steel  
Weight  
C.Optional Weight  
Material  
D.Optional Hardware  
E.Optional Gasket  
material  
F.Optional FRP Resin  
G.Steam Clamp Tube  
or Trace Pipe  
J.Others



■ **Key Parameter List/**

Model	Inlet Connection In(mm)	H Height mm	D Length mm	A Eccentricity mm	E Inlet Height mm
5620	2(50)	356	265	155	126
5620	3(80)	381	317	182	150
5620	4(100)	491	373	218	180
5620	6(150)	522	465	270	224
5620	8(200)	622	595	372	264
5620A	10(250)	732	705	420	300
5620B	10(250)	666	680	434	265
5620A	12(300)	808	803	503	358

*\*Unit weight, indicating the net weight (in kilograms) of the valve at the standard set pressure (2mba pressure -2mbar vacuum), excluding the weight of the transport box. The total shipping weight needs to be increased by 20% (domestic only). Parameter content is for reference only, more requirements please contact us.*

## 5800 In-line Breather Valve with Integrated Flame Arrester

5800 In-line Breather Valve with Integrated Flame Arrester is one of BasCo high performance breather valve series, its excellent performance exceeds standard valves on the market:

- Compact design, reduce space occupation and self-weight, higher sealing performance, large ventilation, small leakage.
- Optional fire resistance function. The combination of fire resistance and breath function provides overpressure and vacuum protection while preventing flame propagation.



### Features/

- Good corrosion resistance, chemical resistance, resistance to adhesion of liquid and vapor, resistance to extreme temperature
- Fully open at 10% overpressure
- The leakage is much smaller than API2000 standard and ensures a higher setting accuracy ( $\pm 3\%$ )
- The valve trim assembly can be replaced on site
- Support ANSI, HG/T flanges

### Setting Range/

Model	Size	Pressure	Vacuum	Gas Group (IEC/NEC)	Temperature
5800	2"(DN50)~12"(DN300)	0.9~100KPa (9~1000mbar)	0.2~4.3KPa (2~43mbar)	II A II B3 II C	-45~260°C

### Material/

Body	Seat/Pallet	Trim Sealing	Fastener	Counterweight	Sealing Gasket
Aluminum Stainless Steel Carbon Steel	Stainless Steel Aluminum	FEP Teflon Buna-N	Alvanized Carbon Steel Stainless Steel	Galvanized carbon steel Stainless steel Aluminum Resin coated stainless steel	Buna-N Teflon Viton

### Model Rules/

□ □ □ □ - □ X □ - □ □ □ - □ □ / □ - □ □ □

#### Code

5210  
5220  
5230  
5240

#### Inlet Connection

Size  
2"-12"  
Onlet  
Connection Size  
3"-14"

#### Body Material

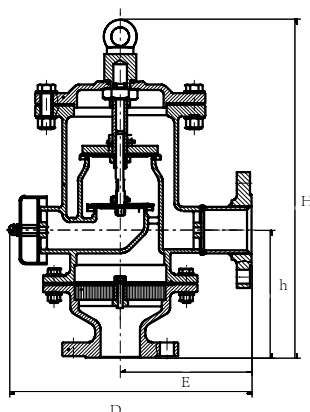
1. Aluminum  
4. Stainless Steel  
5. Carbon Steel  
Plug & Seat Ring  
Material  
1. Stainless Steel  
2. Other  
Plug Seal Material  
1. FEP  
2. Buna-N  
3. Viton  
4. Other

#### Set Pressure

n. InH2O  
m. mbar  
(Unit First Value Last)  
Set Vacuum  
(Value Only Unit Same as bove)

#### Options

O.No Options  
A.Special Coating  
B.Stainless Steel Weight  
C.Optional Weight Material  
D.Optional Hardware  
E.Optional Gasket material  
F.Optional FRP Resin  
G.Steam Clamp Tube or Trace Pipe  
J.Others



■ **Key Parameter List/**

Model	Inlet Connection In(mm)	H Height mm	D Length mm	E Eccentricity mm	h Outlet Height mm
5800	2(50)	434	313	169	164
	3(80)	515	359	196	210
	4(100)	533	431	223	215
	6(150)	632	547	275	255
	8(200)	824	622	320	324
	10(250)	1046	728	353	470

*\*Unit weight, indicating the net weight (in kilograms) of the valve at the standard set pressure (2mba pressure -2mbar vacuum), excluding the weight of the transport box. The total shipping weight needs to be increased by 20% (domestic only). Parameter content is for reference only, more requirements please contact us.*

## Plastic Breather Valve

The plastic valve has the characteristics of rust prevention, corrosion resistance, drug resistance, fatigue resistance, insulation, light specific gravity and high processing efficiency.

Light weight, long service life, easy installation and maintenance.

It can be integrated with plastic pipes.

It is widely used for acid, alkali and corrosive medium storage tanks in petroleum, chemical and pharmaceutical industries.



### ■ Features/

- The leakage is much lower than API2000 standard and guarantees high setting accuracy ( $\pm 3\%$ )
- The valve trim assembly can be replaced on site
- Supports ANSI、HG/T flanges

### ■ Setting Range/

Model	Size	Pressure	Vacuum	Temperature
5100	DN25~DN150	0.2~10KPa	0.2~4.3KPa	-20~60°C
5200	DN25~DN150	0.2~15KPa	0.2~4.3KPa	
5300	DN25~DN150	0.2~6.9KPa	N/A	
5400	DN25~DN150	N/A	0.2~4.3KPa	

### ■ Material/

Body	Seat/Pallet	Trim Sealing	Fastener	Counterweight	Sealing Membrane
PP、PE、PVC	PP、PE、PVC	PP、PE、PVC	PP、PE、PVC	Carbon Steel Spray	FEP

### ■ Model Rules/

□ □ □ □ - □ X □ - □ □ □ - □ □ / □ - □ □ □				
<b>Code</b>	<b>Inlet Connection</b>	<b>Body Material</b>	<b>Set Pressure</b>	<b>Options</b>
5210	<b>Size</b>	1. Aluminum	n. InH <sub>2</sub> O	O.No Options
5220	2"-12"	4. Stainless Steel	m. mbar	A.Special Coating
5230	<b>Onlet</b>	5. Carbon Steel	(Unit First Value	B.Stainless Steel
5240	<b>Connection Size</b>	<b>Plug &amp; Seat Ring</b>	Last)	Weight
	3"-14"	<b>Material</b>	<b>Set Vacuum</b>	C.Optional Weight
		1. Stainless Steel	(Value Only	Material
		2. Other	Unit Same as	D.Optional Hardware
		<b>Plug Seal Material</b>	bove)	E.Optional Gasket
		1. FEP		material
		2. Buna-N		F.Optional FRP Resin
		3. Viton		G.Steam Clamp Tube
		4. Other		or Trace Pipe
				J.Others

# Emergency Pressure Relief Valve Series

When the pressure in the tank is sharply unbalanced due to operational errors, external fire or rain, etc., the pressure/vacuum emergency pressure relief valve will act, and the valve pallet will be subjected to upward force during overpressure, and the valve cover will open for pressure relief. When the pressure reaches 90% of the set pressure, the valve pallet will return to the seat and seal; When the vacuum accumulates in the storage tank, the valve pallet is opened downward to release the vacuum, and when the negative pressure reaches 90% of the set pressure, the valve disc is sealed back.

Divided according to pressure form: emergency pressure relief valve、 pressure/vacuum emergency relief valve

Divided according to loading form: weight-loaded、 spring-loaded、 pilot valve-loaded

Divided according to opening form: hinge opening, vertical opening

## ■ Selection Data Sheet/

Customer Name _____	Date _____
Contact Person _____	Telephone _____
Address _____	Fax _____
Project Details _____	E-mail _____

### Application Data

Design Data:  API2000  Customer provided flow capacity

Tank Volume \_\_\_\_\_ Tank Type:  Vertical  Horizontal  Spherical

Tank Covering System:  Yes  No Thickness \_\_\_\_\_

Temperature(Normal/Max.) \_\_\_\_\_ / \_\_\_\_\_ Pressure(Normal/Max.) \_\_\_\_\_ / \_\_\_\_\_

Pressure Setting( Inch Water Column/Ounce/Square Inch) \_\_\_\_\_

Vacuum Setting( Inch Water Column/Ounce/Square Inch) \_\_\_\_\_

Maximum Back Pressure \_\_\_\_\_

Total Exhaled Pressure Calculated Value \_\_\_\_\_

Total Inhaled Pressure Calculated Value \_\_\_\_\_

### Product data

7100  7200

Size: Inlet \_\_\_\_\_ inch

Pipe Size: Top Installation \_\_\_\_\_ inch Side Installation \_\_\_\_\_ inch

Flange Pressure Rating:  
 ANSI 150 Convex Face(Standard)  DIN  API  HG/T20592-20635-2009  Other

Material:  
 Base and Hinge Arm \_\_\_\_\_ Seat/Pallet \_\_\_\_\_ Weight \_\_\_\_\_ Sealing \_\_\_\_\_

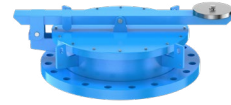
Option:  
 Coating/Special Coating \_\_\_\_\_  Special Gasket \_\_\_\_\_  Other \_\_\_\_\_

Other Information \_\_\_\_\_

## 7100 Pressure Emergency Relief Valve

7100 Emergency Pressure Relief Valve is used to overpressure conditions that can not be handled by standard venting hole, the discharge capacity meets API2000 standard and is sufficient to cope with emergency evacuation needs caused by fire, it can also be used as an inlet and outlet for inspection and maintenance.

7100 emergency pressure relief valve is used for release overpressure, no inhalation function. When the pressure in the tank rises to the set pressure, the hinged cover opens to release the pressure, and when the overpressure phenomenon dissipates, the hinged cover returns. The hinge mechanism ensures accurate resetting of the hinge cover.



### ■ Features/

- The leakage is much lower than API 2002 standard and ensures a high setting accuracy ( $\pm 3\%$ )
- All components can be replaced on site
- Full open structure
- Every 7100 emergency pressure relief valve must pass rigorous review and leakage test before leaving the factory
- Suitable for corrosion resistance condition
- Certified displacement curve
- Support ANSI, DIN and HG/T20592~20635-2009 flanges

### ■ Setting Range/

Model	Size	Pressure
7110	16"(DN400)、20" (DN 500) 、24"(DN 600)	0.7 ~ 6.9KPa (7 ~ 69mbar)
7120	16"(DN400)、20" (DN 500) 、24"(DN 600)	6.9 ~ 100KPa (69 ~ 1000mbar)

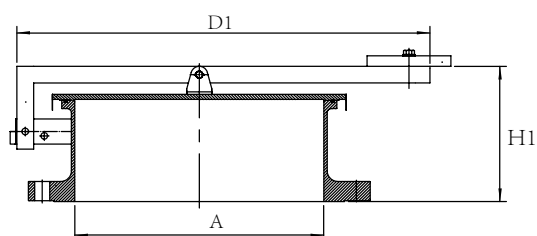
### ■ Material/

Body	Hinge Arm	Pallet	Sealing	Sealing Support
Carbon Steel 304 316	Carbon Steel 304 316	Aluminium 304 316	Buna-N FEP Teflon Viton	Aluminium Stainless Steel

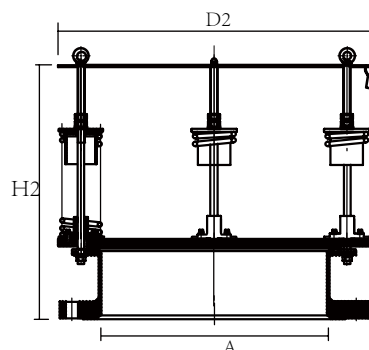
### ■ Model Rules/

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<b>Code</b>					<b>Inlet connection size</b>					<b>Mount&amp;Hinge Arm</b>				<b>Set Pressure</b>	<b>Option</b>
7110					4"-24"					1. Carbon Steel				n. InH <sub>2</sub> O	1. Special Coating
7120										2. 304				m. mbar	2. Optional Hardware
										3. 316				(Unit First	3. Other
										4. Special materials				Value Last)	
										<b>Hinged Lid</b>					
										1. Aluminium					
										2. Stainless Steel					
										3. Special materials					
										<b>Carrier Ring</b>					
										T. Teflon					
										N. Buna-N					
										V. Viton					
										X. Special					





7110



7120

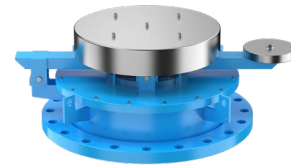
**■ Key Parameter List/**

Model	A Size In(mm)	D1 Length mm	D2 Length mm	H1 Height mm	H2 Height mm
7100	16(400)	768	760	290	695
	20(500)	874	860	290	695
	24(600)	985	964	290	695

*\*Unit weight, indicating the net weight (in kilograms) of the valve at the standard set pressure (2mba pressure -2mbar vacuum), excluding the weight of the transport box. The total shipping weight needs to be increased by 20% (domestic only). Parameter content is for reference only, more requirements please contact us.*

## 7200 Pressure/Vacuum Emergency Relief Valve

7200 Pressure/Vacuum Emergency Relief Valve is used to handle overpressure and vacuum condition that cannot be handled by standard tank venting hole. The discharge capacity meets API2000 standard which is sufficient to meet the emergency discharge needs caused by fires; High airflow can be provided when the medium is urgently evacuated. This type of relief valve can be used as an inlet and outlet for tank inspection and maintenance. When the tank pressure rises to the set pressure, the hinged cover opens to release the overpressure, and the hinged cover resets after the overpressure dissipates. The hinge mechanism ensures accurate resetting of the hinge cover. When the vacuum accumulation in the tank is excessive, the spring-type trim is lifted, the seal between the seat and the trim is broken, the accumulated vacuum is released, and the vacuum valve re-maintains the seal after the release.



### ■ Features/

- The leakage is much lower than API 2002 standard and ensures a high setting accuracy(±3%)
- Suitable for corrosion resistance condition
- Full open structure
- Certified displacement curve
- Every valve must pass rigorous review and leakage test before leaving the factory
- Support ANSI, DIN and HG/T20592~20635-2009 flanges

### ■ Setting Range/

Model	Size	Pressure	Vacuum
7210	16"(DN400)、20" (DN 500) 、24"(DN 600)	0.6 ~ 3.4KPa (6 ~ 34mbar)	0.2 ~ 1.7KPa (2 ~ 17mbar)
7220	16"(DN400)、20" (DN 500) 、24"(DN 600)	3.4 ~ 100KPa (34 ~ 1000mbar)	0.2 ~ 1.7KPa (2 ~ 17mbar)

### ■ Material/

Mount Hinge Arm&Hinge Cover	Circle Pallet&Sealing Support	Sealing	Vacuum Spring	Vacuum Valve Trim
Carbon Steel 304 316	Aluminium Stainless Steel	Buna-N FEP Teflon Viton	Stainless Steel	PPS Stainless Steel

### ■ Model Rules/

□ □ □ □ - □ □ - □ □ □ □ - □ □ / □ - □

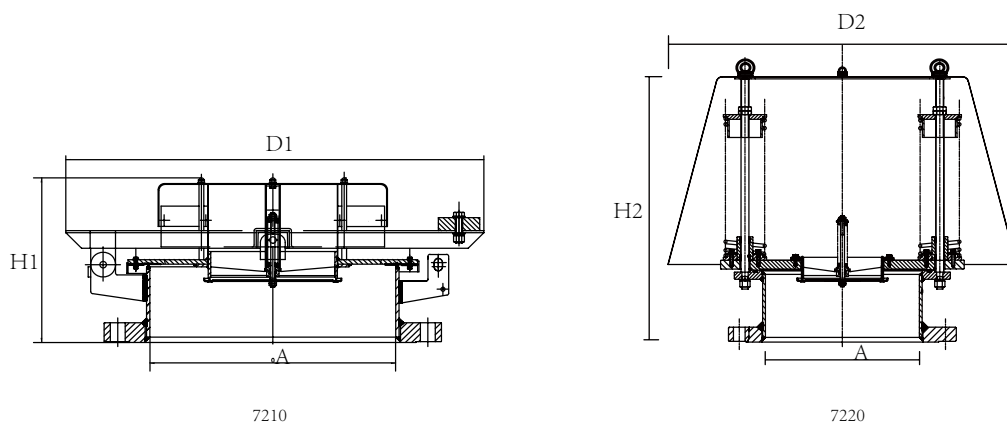
**Code**  
7210  
7220

**Connection Size**  
16"  
20"  
24"

**Mount Hinge Arm&Hinge Cover**  
1. Carbon Steel 2. 304  
3. 316L 4. Special materials  
**Circle Pallet&Sealing Support**  
1. Aluminium  
2. Stainless Steel  
3. Special materials  
**Vacuum Valve Trim**  
2. Stainless Steel  
3. Special materials  
**Sealing**  
T. Teflon N. Buna-N  
V. Viton X. Special

**Set Pressure**  
n. InH2O  
m. mbar  
(Unit First Value Last)  
**Set Vacuum**  
(Value Only Unit Same as above)

**Option**  
1. Special Coating  
2. Optional Hardware  
3. Other



■ Key Parameter List/

Model	A Size In(mm)	D1 Length mm	D2 Length mm	H1 Height mm	H2 Height mm
7200	16(400)	840	888	365	695
	20(500)	900	986	387	695
	24(600)	1010	1085	400	695

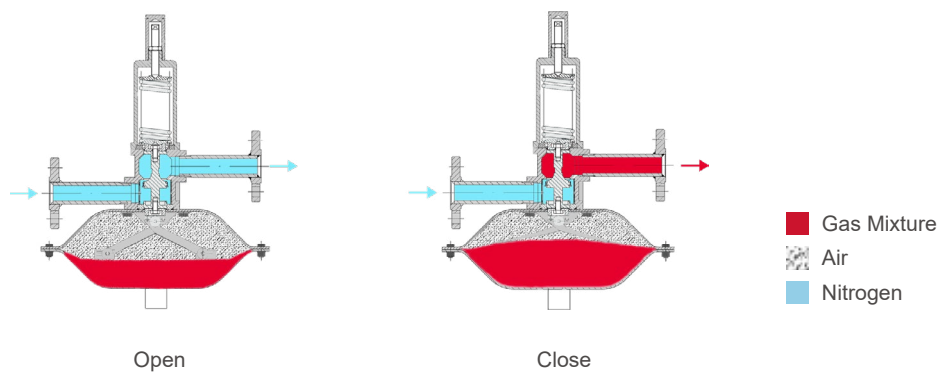
*\*Unit weight, indicating the net weight (in kilograms) of the valve at the standard set pressure (2mba pressure -2mbar vacuum), excluding the weight of the transport box. The total shipping weight needs to be increased by 20% (domestic only). Parameter content is for reference only, more requirements please contact us.*

# Nitrogen Blanketing Valve Series

Nitrogen blanketing valve is a safety device that provides inert gas (nitrogen) protection for the storage tank to maintain the micro-positive pressure non-flammable environment in the tank. It can be used in scenarios such as atmospheric storage tanks to balance the pressure in the container, reduce medium evaporation, prevent medium pollution, etc., to protect equipment safety and reduce production losses.

- It can effectively control the formation of explosive steam/gas mixture to prevent flammable liquids from burning in the tank.
- It can minimize the degree of evaporation in the storage tank and reduce volatilization.
- It can prevent the entry of external pollutants and reduce the pollution and deterioration of the storage tank.

## ■ working principle/



The nitrogen blanketing valve is used to regulate the pressure of the inert gas layer at the top of the tank. The nitrogen blanketing valve senses the pressure of the tank and opens when the pressure drops below the set pressure to allow inert gas to flow in. When the pressure rises to the set pressure, the valve closes and stops, preventing the flow of inert gas.

The nitrogen blanketing valve has three external interfaces, one connecting the valve to the tank and measuring the tank pressure. The second interface connects the inert gas to the valve, the inert gas supply port. The third interface connects the valve outlet to the tank, providing inert gas to the tank.

A layer of inert gas above the tank steam prevents the atmosphere from entering the tank. An inert gas (usually nitrogen) is injected into the upper layer of the liquid as needed to maintain a non-flammable environment. The nitrogen seal setting pressure is usually very low (less than 6.9KPa). External gases containing oxygen, moisture and other contaminants are not allowed to enter the tank.

The nitrogen blanketing valve only allows this inert gas to enter when tank pressure below the set pressure (or vacuum). The nitrogen blanketing valve opens to supply gas to the tank when the liquid is drawn from the tank or when the steam in the tank condenses due to a decrease in temperature.

The amount of inert gas required is calculated on the basis of the maximum intake due to instantaneous cooling, such as rain or hail, combined with the maximum discharge rate. Although the most commonly used inert gas is nitrogen, other gases, including air, can also be used in some cases.

## 8100 Standard Nitrogen Blanketing Valve

Setting nitrogen blanketing valve precautions:

1. The nitrogen blanketing valve device must be complete and in good working condition, and there is a sufficient supply of inert gas.
2. The inert gas should be fed into the tank in an efficient way.
3. Inert gases must be prevented from being contaminated. The inert gas system should be equipped with appropriate dehumidification equipment to maintain the humidity within the absolute minimum.



### ■ Features/

- Specially designed for tank filling
- Operates effectively at supply pressures ranging from 10 PSIG to 200 PSIG
- Equipped with standard NPT inlet and outlet
- Pressure balanced valve
- Optional ANSI 150 lb or 300 lb flange connections
- Optional supply line filter available
- Self-actuated design automatically opens to allow filling gas flow
- Set point is unaffected by supply pressure
- Automatically closes when tank pressure returns to the set pressure
- Various orifice sizes are available, allowing for flow rate adjustment tailored to the size of the storage tank.

### ■ Specification Parameter/

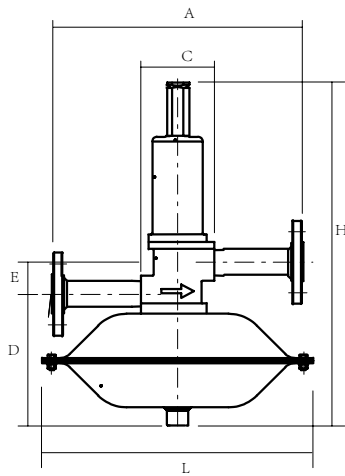
Code	Connection Form	Size	Pressure
8110	Flange/Pipe Thread	1/2"(15)、3/4"(20)、1"(25)	0.2 ~ 0.5KPa(2 ~ 5mbar)
8120	Flange/Pipe Thread	1/2"(15)、3/4"(20)、1"(25)	0.5 ~ 2KPa(5 ~ 20mbar)
8130	Flange/Pipe Thread	1/2"(15)、3/4"(20)、1"(25)	2 ~ 14KPa(20 ~ 140mbar)

### ■ Material/

Body	Internals	Spring	Sealing	Membrane
Carbon Steel 304 316	Special Alloy 304 316	Stainless Steel	Buna-N FEP Teflon Viton	FEP

### ■ Model Rules/

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	-	<input type="checkbox"/>	-	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Code</b>			<b>Interface</b>				<b>Body Material</b>		
8110			A.1/2"FNPT/FNPT				E.Steel		
8120			B.1/2"FNPT/150#Flange				B.Stainless Steel		
8130			C.1/2"150#Flange/150#Flange				K.Special Material		
			D.1"FNPT/FNPT				<b>Spring Material</b>		
			E.1"FNPT/150#Flange				B.Stainless Steel		
			F.1"150#Flange/150#Flange				<b>Option</b>		
							1.Vent Plug		
							2.Temperature Probe Port		
							3.Emergency Relief Valve		
							4.Other Accessories		
							5.Protective Coating		
							6.Special Features		



### ■ Key Parameter List/

Conventional Size In	Specific Size(mm)					
	L	D	E	C	A	H
0.5"	356	172	42	96	330	449
0.75"						
1"						

*\*Parameter contents is for reference only,more requirements please contact us.*

## 8200 Pilot-operated Nitrogen Blanketing Valve

8200 Pilot-operated Nitrogen Blanketing Valve provides nitrogen protection

1. It can effectively control the formation of explosive steam/gas mixture to prevent combustion.
2. Can reduce evaporation, reduce volatilization.
3. It can prevent external pollutants from entering and reduce pollution in the storage tank.



### ■ Features/

- Nitrogen supply pressure:0.2- 0.8MPa
- After the valve:0.5-100KPa
- Sensitive response, high precision gas control
- Connection mode: flange, thread
- Pilot type structure, stable operation
- Allowable leakage level  
standard type: IV (GB/T4213-92)  
strict type: VI (GB/T4213-92)

### ■ Material/

Body	Internals	Diaphragm Cover	Sealing	Membrane
Carbon Steel Stainless Steel	Stainless Steel	Carbon Steel	Oil-Resistant Rubber	Buna-N ( NBR)

### ■ 5200 系列呼吸阀型号规则 /

8 2 0 0 - □ - □ □ □

#### Interface

- A:1/2"FNPT/ FNPT
- B:1/2"FNPT/150#Flange
- C:1/2"150#Flange/150#Flange
- D:1" FNPT/ FNPT
- E:1"FNPT/150#Flange
- F:1"150#Flange/150#Flange

#### Body Material

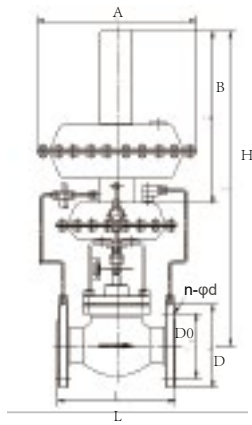
- E.Steel
- B.Stainless Steel
- K.Special Material

#### Spring Material

- B.Stainless Steel

#### Option

- 1.Vent Plug
- 2.Temperature Probe Port
- 3.Emergency Relief Valve
- 4.Other Accessories
- 5.Protective Coating
- 6.Special Features



### ■ Key Parameter List/

Nominal Diameter DN(mm)	20	25	32	40	50	65	80	100	125	150
Flange Pitch L(mm)	150	160	180	200	230	290	310	350	400	480
B(mm)	415									
H(mm)	720	720	730	730	750	790	840	890	910	950
φA(mm)	310								402	
φD(mm)	105	115	135	145	160	180	195	215	245	280
φD <sub>0</sub> (mm)	75	85	100	110	125	145	160	180	210	240
n-φd (mm)	4-14	4-14	4-18	4-18	4-18	4-18	8-18	8-18	8-18	8-23

\*Parameter contents is for reference only,more requirements please contact us.



**Special Customization Series/**

**Low Temperature Pilot-Operated Breather Valve**



Size: 2"-12"(50-300mm)

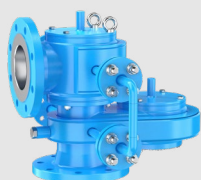
Pressure: 900Pa-0.1MPa

Standard body material: Stainless Steel(CF8M/316)

Applicable temperature: -196°C -150°C (-320° F to 300° F)

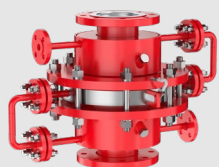
Fully opens at 10% overpressure

**Jacketed Breather Valve**



The jacketed breather valve can be used on the storage tank where the medium is easy to condense, effectively preventing the valve blockage caused by freezing and medium accumulation, and maintaining the valve performance. Maintenance is simple.

**Jacketed Flame Arrester**



The jacketed flame arrester can be used on the storage tank where the medium is easy to condense, effectively preventing the valve blockage caused by freezing and medium accumulation, and maintaining the valve performance. Maintenance is simple.

**Removable Flame Arrester**



The disassembly flame arrester is generally used in low-pressure situations, and the element is easy to replace and clean.

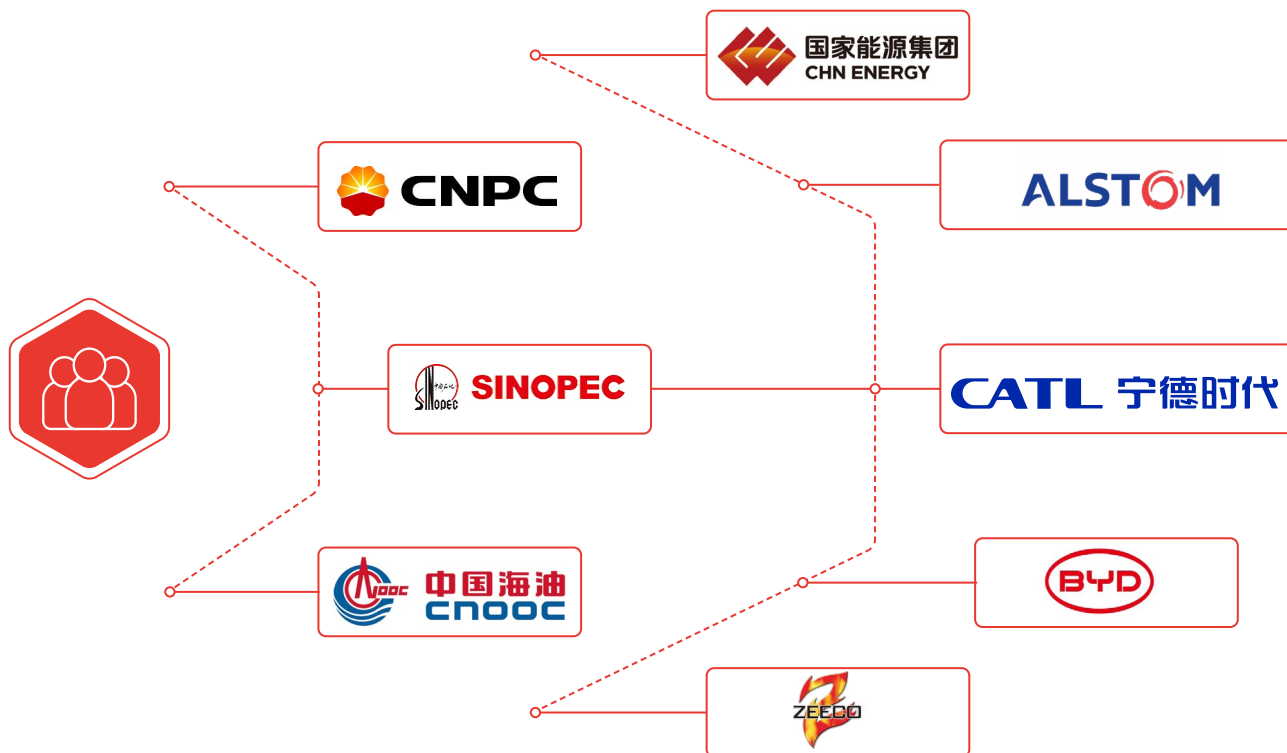
*\*Contents is for reference only, more requirements please contact us.*

# Services

Type selection design consulting / qualification consulting  
/ project solutions /scenario solutions/Production and  
processing/testing/logistics /training

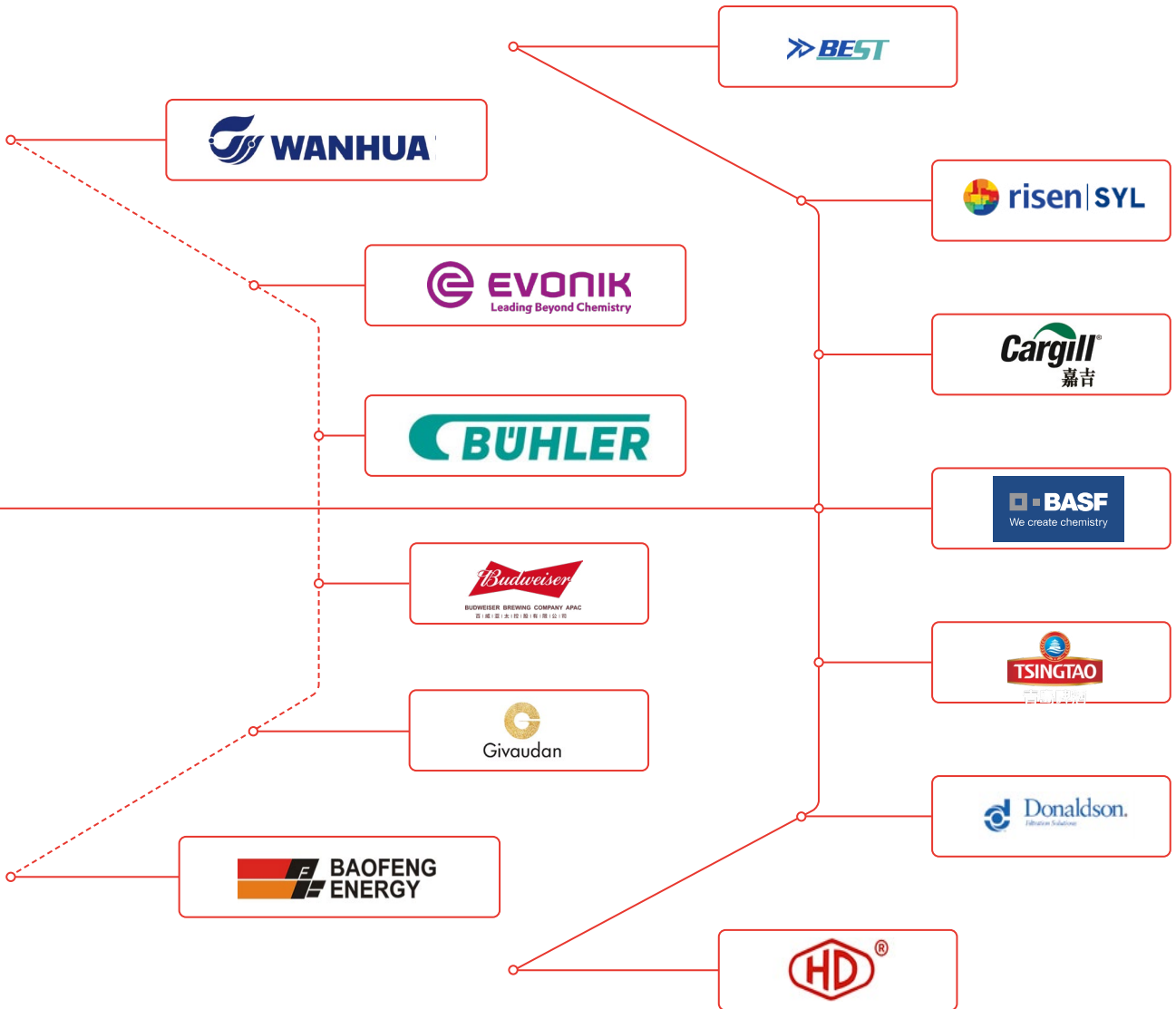
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