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FLUID SYSTEMS PRODUCT CATALOG

A CORNER OF THE FACTORY AREA

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企业简介

COMPANY PROFILE



Jinan Runway Automation Co., Ltd. was established in 2018. It is the foreign trade sales company of Shandong Shijing Machinery and focuses on developing the international fluid transportation market.

The high-precision helical gear metering pumps and ultra-quiet hydraulic gear pumps we research and produce are in a leading position in technology. We also produce and sell fluid accessories, helping related companies to upgrade industrial fluid transportation technology, improve production efficiency, save energy and reduce emissions, and are widely praised by various companies. .

We are rooted in the field of transmission industry that we love, focus on the business philosophy of benign and sustainable development, and build a professional sales team and technical team to serve customers. Provide customers with feasible streaming media control and mechanical transmission solutions.

Our corporate purpose is "Pursue innovation, quality first, be rigorous and realistic, and unite and advance."

企业荣誉

COMPANY HONOR



SAFETY VALVE/BACK PRESSURE VALVE



PRODUCT INTRODUCTION

Product Description

Safety valve

The diaphragm and valve core are pressed against the valve seat by the internal spring. When the pressure in the system pipeline exceeds the preset pressure, the diaphragm and valve core are lifted up, and the medium leaks to the return pipe and container. The adjustment screw can be adjusted on site. Use the pressure gauge in the pipeline to set the pressure in the range of 0~1.0Mpa. The relief pressure is generally set 0.1~0.2Mpa higher than the system pressure. The pressure regulation of the safety valve is not allowed to exceed the maximum pressure of the pump. The installation is generally as close to the outlet of the pump as possible. There should be no valve between the pump and the safety valve to protect the safety of the pump and the normal operation of the system.

Back pressure valve

Installed on the positive pressure discharge line of the metering pump or diaphragm pump to prevent the occurrence of siphoning and eliminate the maximum change in dosing caused by pressure fluctuations at the dosing point, thereby ensuring the dosing accuracy of the pump. Remove the protection on the adjustment screw on site. Cap, rotate the adjusting screw, and use the pressure gauge in the pipeline to adjust to the required pressure. The back pressure can be set in the range of 0~0.6Mpa through the adjusting screw. Used in conjunction with a pulse damper to reduce damage to the system caused by water hammer, maintain a certain constant pressure from the pump outlet to the back pressure valve, and maintain a constant flow rate in the system.

Features

- ◆ Release pipeline pressure to ensure system pressure stability;
- ◆ Protect the safety of the pump and the normal operation of the system;
- ◆ Used in conjunction with pulse dampers to reduce the harm of water hammer to the system and achieve superior low vibration adjustment effects;
- ◆ Reduce the peak value of flow velocity fluctuation and protect the pipeline system from the impact of pressure fluctuation;
- ◆ The diaphragm adopts advanced PTFE+rubber composite technology, which is suitable for almost all corrosive fluids and has reliable sealing and no leakage.

Technical Parameters

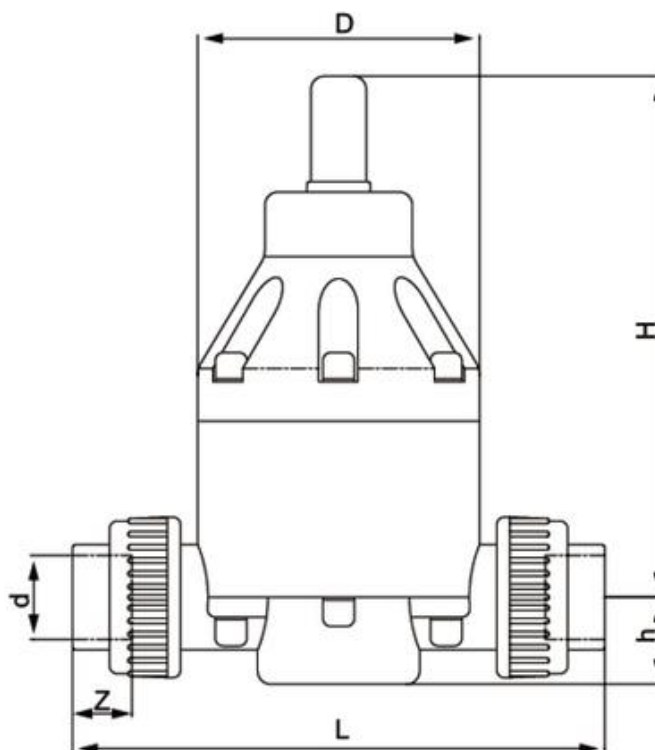
Material: UPVC, PP, CPVC, PVDF, SUS304, SUS316L;

Working pressure: 0~1.0MPa, 02~16MPa

Caliber size: DN15, DN20, DN25, DN32, DN40, DN50, DN65; Connection method: bonding, hot melt welding, thread, flange;

Diaphragm material: PTFE+rubber composite

Dimensions:



Unit:mm

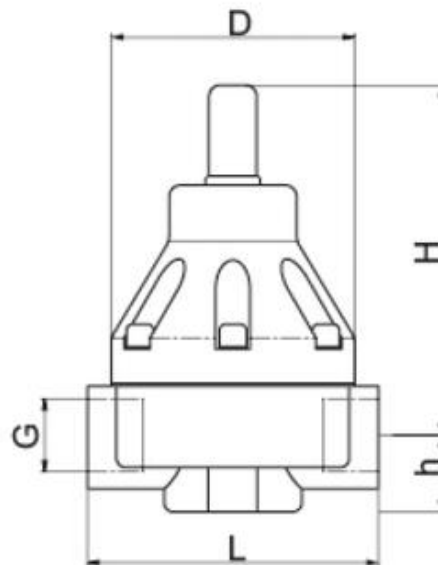
SPEC	L	H	D	d	z	h	PVC N.W/KG
DN15	170	154	82	20	21	27	0.76
DN20	170	173	82	25	21	27	0.9
DN25	212	173	107	32	26	35	1.56
DN32	226	173	107	40	28.5	35	1.62
DN40	292	225	148	50	37	58	3.84
DN50	305	225	148	63	37	58	4.1
DN65	390	225	148	75	42	58	5

SAFETY VALVE/BACK PRESSURE VALVE



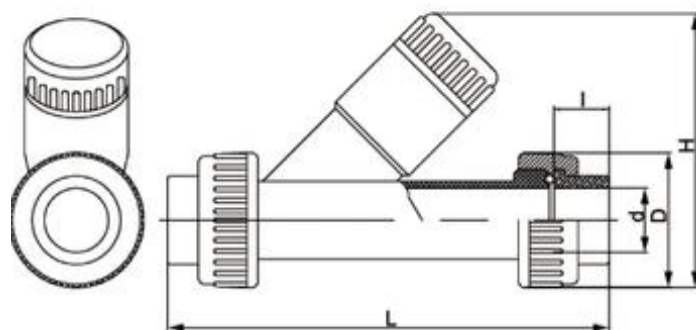
Material: SS304, SS316

Dimensions



Unit:mm

SPEC	L	H	D	h	Thread (G)	N.W/KG
DN15	95	147	82	23	G 1/2"	1.4
DN20	95	147	82	23	G 3/4"	1.52
DN25	119	160	107	26	G 1"	2.55
DN32	119	160	107	26	G 1 1/4"	2.5
DN40	181	207	155	32	G 1 1/2"	6.76
DN50	181	207	155	32	G 2"	6.13



Product description

Y-type filter is an indispensable device on the pipeline for conveying fluid. It is usually installed at the inlet end of water pumps, valves or other equipment. Used to filter impurities in fluids to protect the normal use of valves, pumps and equipment.

Material: UPVC, CPVC, PPH, PVDF, SUS304, SUS316L

Filtration precision: 12 mesh, 20 mesh, 40 mesh

Features

- ◆ High chemical stability, suitable for transporting acid and alkali chemicals;
- ◆ Easy to flush, when too much impurities accumulate in the filter, the filter can be taken out and cleaned;
- ◆ Transparent and visible, easy to observe.

Unit: mm

SPEC	L	D	H	d	l	PVC N.W/KG
DN15	175	45	103	20	18	0.26
DN20	187	53	107	25	21	0.32
DN25	205	62	124.4	32	26	0.51
DN32	245	73	165	40	26	1.06
DN40	268	84	172	50	37	1.07
DN50	290	104	204	63	37	1.66
DN65	378	127	245	75	42	3.03
DN80	427	151	260	90	50	4.18
DN100	600	170	280	110	60	

DIAPHRAGM PULSE DAMPER



Product description

Pulse damper, also known as pulsation damper and pulsation buffer, is a common component to eliminate pipeline pulsation and is a must-have accessory for metering pumps. It can smooth out pipeline pulsations and system water hammer caused by volumetric pumps such as metering pumps and diaphragm pumps. It isolates the gas from the liquid in the pipeline by a corrosion-resistant diaphragm, and smoothes the pipeline pulsation through changes in the volume of the gas chamber.

Shell material: PVC, PP, PVDF, SUS304, SUS316L.

Diaphragm material: PTFE composite, FPM, EPDM, NBR

Features

- ◆ Reduce the harm of water hammer to the system.
- ◆ Reduce the peak value of flow rate fluctuation.
- ◆ Protect pipelines, valves and joints from pressure fluctuations.
- ◆ Create a good working environment for the metering pump and improve the working performance of the pump.
- ◆ Allows the system to use smaller pipe diameters, reducing costs.
- ◆ Used in conjunction with a back pressure valve, etc., the pressure fluctuation in the pipeline can be close to zero.
- ◆ Reduce system energy consumption.

Volume selection of diaphragm pulse damper

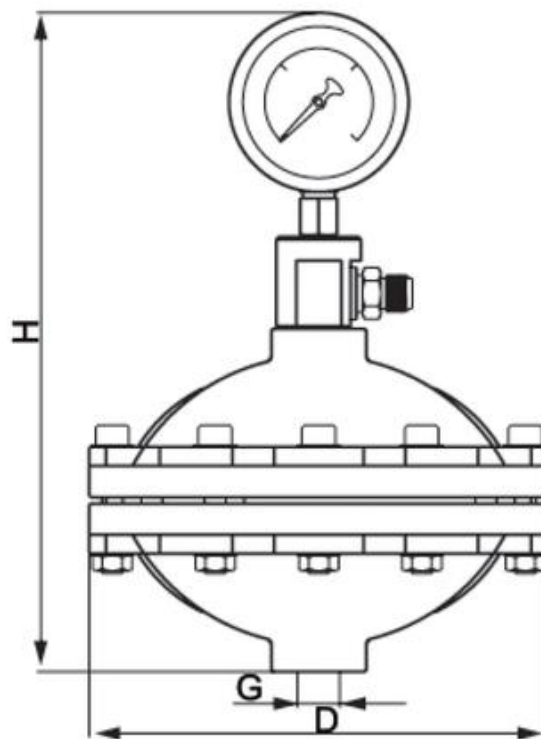
Flow rate of the pump per hour \div 60 \div Number of strokes of the pump per minute \times 15 = actual minimum required volume of the damper

That is, multiply the metering capacity (ml) of each stroke of the metering pump (or diaphragm pump) by 15 to get the minimum volume of the damper required to reduce the pulse by 90%. Note: (This calculation formula is applicable to single-head pulse type pump body.)

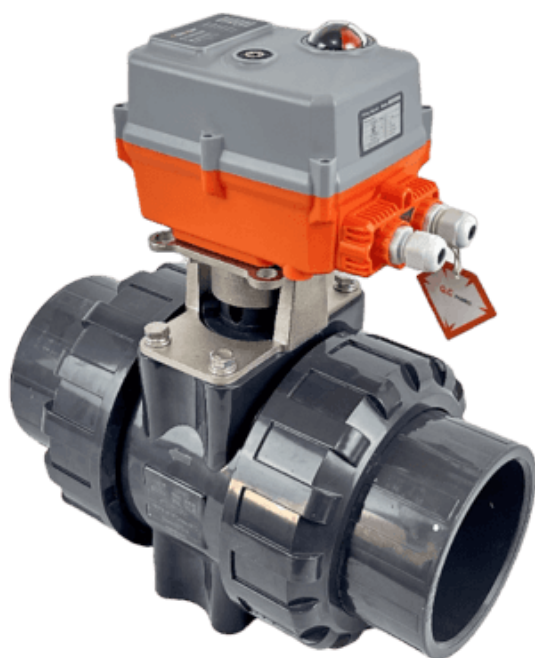
Working principle

According to Boyle's law $P_1V_1=P_2V_2$, the volume of gas is inversely proportional to the pressure of the gas, and the pipeline pulsation is smoothed by changing the volume of the gas. It has a sinusoidal system effect on the flow rate. At the wave peak: the volume of the air chamber becomes smaller, and the pulse damper absorbs the excess flow liquid; at the wave trough: the volume of the air chamber becomes larger, releasing the stored liquid, thereby achieving a smooth pulsation effect.

Dimensions



SPEC	Vol(L)	Press(Mpa)	H	D	Thread (G)	N.W/KG
LGMZ0.35	0.35	1.6	215	140	G 1/2"	1
LGMZ0.6	0.6	1.6	235	171	G 3/4"	1.38
LGMZ1.0	1.0	1.6	260	205	G 1"	2.53
LGMZ1.5	1.5	1.6	308	230	G 1"	3.4
LGMZ2.0	2.0	1.6	313	255	G 1 1/4"	3.8
LGMZ4.0	4.0	1.6	354	301	G 1 1/2",2"	6.7



Product introduction

Intelligent switch type

Ball valve model: DN15~DN100

Rated torque: 10Nm~200Nm

Rated voltage: AC/DC24V, AC/DC95~265V

Customizable functions: high-speed switching type, power-off reset type, PID type, Nb_lot type

Straight-through ball valve: UPVC, CPVC, PVDF, PPH

Control feedback method: B3J, B3S, BD3J, B33J, B44J, KT32S, YW44

Feature 1: With alarm output A (relay contact feedback)

Feature 2: Multi-position mode can be realized

Feature 3: High-performance brushless motor with built-in overheating/overload protection

Feature 4: Product life is up to 20,000 times



Product introduction

Intelligent switch type

Ball valve model: DN15~DN100

Rated torque: 10Nm~200Nm

Rated voltage: DC12V, DC24V, AC/DC24V, AC/DC95~265V

Customizable functions: high-speed switching type, power-off reset type, PID type, Nb_lot type

Straight-through ball valve: UPVC, CPVC, PVDF, PPH

Control feedback mode: 0~5V, 1~5V, 0~10V, 2~10V, 0~20mA, 4~20mA

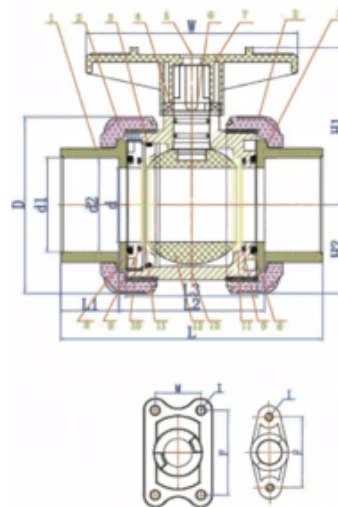
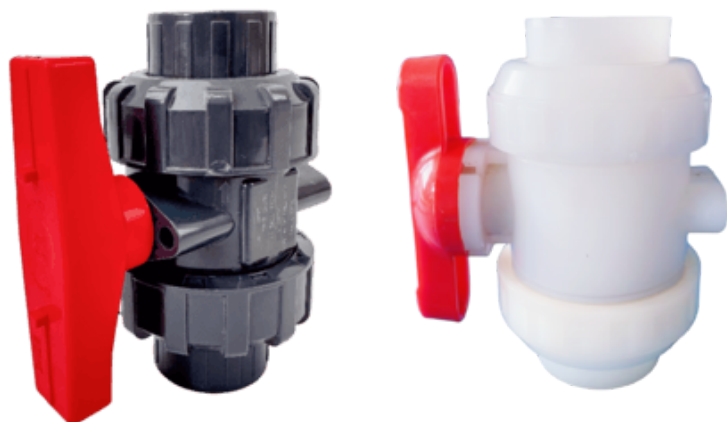
Feature 1: Control accuracy $\pm 1\%$

Feature 2: With alarm output A (relay contact feedback)

Feature 3: High-performance brushless motor with built-in overheating/overload protection

Feature 4: Product life is up to 20,000 times

PLASTIC UNION BALL VALVE



Unit: mm

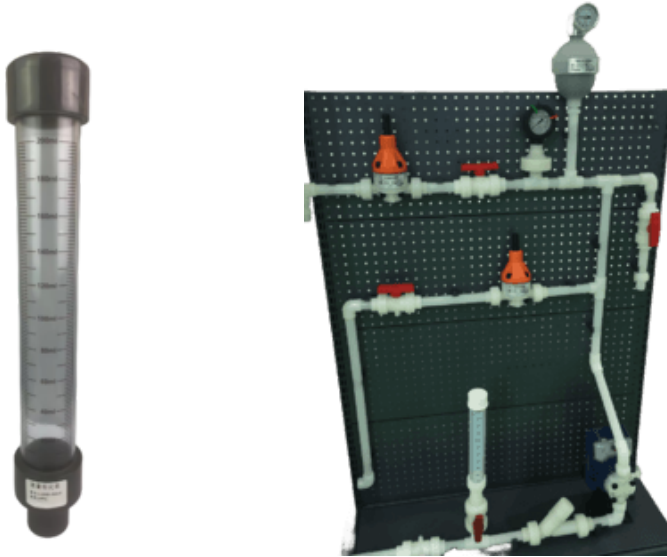
No.	Name	Material	QTY	Unit
3/4/8/9	O-Ring	EPDM/PTFE	7	PCS
1	Flat socket	PVC/PPH	2	PCS
2	Nut	PVC/PPH	2	PCS
5	Adapter	SS304	1	PCS
6	Stick	PVC/PPH	1	PCS

No.	Name	Material	QTY	Unit
10	Lining	PVC/PPH	1	PCS
11	Stop leak ring	PTFE	2	PCS
12	Ball	PVC/PPH	1	PCS
13	Body	PVC/PPH	1	PCS
7	Handle	PVC	1	PCS

SPEC	d1				d2			
	ANSI	DIN	JIS	CNS	ANSI	DIN	JIS	CNS
DN15	21.4	20.25	22.3	22.4	21.25	20.05	21.85	21.9
DN20	26.75	25.25	26.3	26.4	26.58	25.05	25.85	25.9
DN25	33.52	32.25	32.33	34.5	33.28	32.05	32.85	32.9
DN32	42.28	40.25	38.43	42.5	42.02	40.05	37.85	41.9
DN40	48.4	50.25	48.46	48.6	48.12	50.05	47.75	47.9
DN50	60.45	63.25	60.56	60.6	60.18	63.05	59.75	59.9
DN65	73.3	75.25	76.6	76.7	72.85	75.05	75.87	75.9
DN80	89.25	90.35	89.6	89.7	88.7	90.05	88.83	88.9
DN100	114.6	110.35	114.7	115	114.1	110.05	113.98	113.8

SPEC	D	L	L1	L2	L3	W	H1	H2	F	I	N.m
DN15	54	106	23	60	52	84	52.5	27.5	31	M6	2.0
DN20	63	114	26	62	54	90	59	32	33	M6	2.5
DN25	73.5	128	29	70	62	106	67.5	37.25	40	M6	4.0
DN32	84.5	144	33	78	70	116	77.5	42.75	52	M8	5.0
DN40	98	158.5	35.5	87.5	79.5	128	90	50	52	M8	7.5
DN50	118	172	38.5	95	85	140	106	60	70	M8	8.5
DN65	150	278	64.5	144.5	132.5	198	136.5	76.5	84	M10	13
DN80	169	310	70	166	150	218	149.5	86	84	M10	16
DN100	190	352	84	181	157	235	166	98	121	M12	25

FLOW CALIBRATION COLUMN



Material: UPVC, CPVC, PVDF

Product introduction

Flow calibration columns are widely used in flow calibration of metering pumps and dosing devices, and can accurately calibrate the flow rate output by the metering pump. The flow calibration column is also called the flow calibration tube. The main materials are: transparent UPVC, PVDF (translucent). The connection methods include internal thread, external thread and flange.

Selection method

The selection of the flow calibration column is determined based on the flow rate and calibration time requirements of the pump. For example, if the flow rate of the pump is 60L/h, and the customer needs to calibrate the flow rate for 0.5-1min, then the calculated flow rate per minute should be $60L \div 60 = 1L$, then you can choose to use a calibration column with a volume of 1L. Press for 30 seconds to reach a volume of 0.5L.

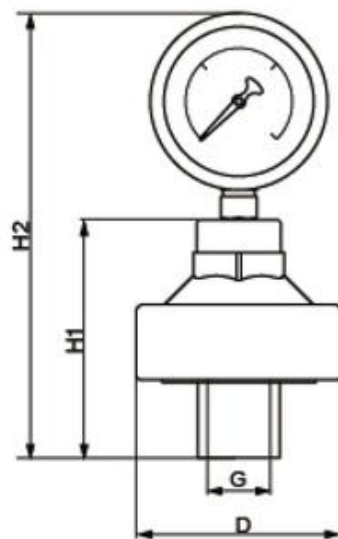
Unit: mm

SPEC	Vol (ml)	DIA	High	THD	N.W/KG
LGBD100	100	32	285	G 1/2"	0.15
LGBD200	200	40	320	G 1/2"	0.23
LGBD300	300	50	330	G 1/2"	0.36
LGBD400	400	50	396	G 1/2"	0.42
LGBD500	500	63	350	G 1/2"	0.68
LGBD1000	1000	63	548	G 1/2"	0.84
LGBD2000	2000	75	745	G 3/4"	1.2
LGBD3000	3000	110	640	G 1"	
LGBD4000	4000	110	760	G 1"	3
LGBD5000	5000	110	877	G 1 1/2"	
LGBD6000	6000	110	1000	G 1 1/2"	3.5
LGBD8000	8000	140	920	G 1 1/2"	
LGBD10000	10000	140	1020	G 2"	4.5

DIAPHRAGM PRESSURE GAUGE



Dimensions



Product introduction

The diaphragm pressure gauge is a closed system consisting of a diaphragm body and a pressure gauge, filled with sealing fluid. When pressure acts on the diaphragm, the diaphragm deforms. The sealing fluid transmits force to the elastic component in the pressure gauge head, and the pressure gauge head displays the pressure value. The force transmission of the diaphragm pressure gauge is completed by the liquid filled between the inside of the diaphragm body and the Bourdon tube of the gauge. The elastic element is still a Bourdon tube. The diaphragm isolates the corrosive fluid from the pressure gauge, thereby protecting it from corrosion.

Unit:mm

SPEC	Body	Diaphragm	DIA	H1	H2	G		N.W/KG
						A	B	
GMYP-U	UPVC	FPM / PTFE	79	84	161	Socket DN15~25	THD G1/2"~3/8"	0.4
GMYP-P	PP	FPM / PTFE	79	84	161	THD G1/2"~3/8"	M20*1.5	0.4
GMYP-V	PVDF	PTFE	79	84	161	THD G1/2"~3/8"	M20*1.5	0.5
GMYP-S	SS304/316	PTFE	74	77	155	THD G1/2"	M20*1.5	2

How to adjust safety valve and back pressure valve

Back pressure valve

1. Do not exceed the maximum working pressure of the metering pump;
2. When the metering pump has pressure at the suction end, the pressure at the discharge end is at least 1 bar higher than the pressure at the suction end.

Safety valve

The safety valve is used to prevent overpressure operation of the metering pump. The pressure can be adjusted within the rated working pressure range of the metering pump. It is not allowed to exceed the maximum pressure of the metering pump. Usually the pressure setting of the safety valve is 1 higher than the pressure of the back pressure valve. ~2bar

Precautions for using pulse damper

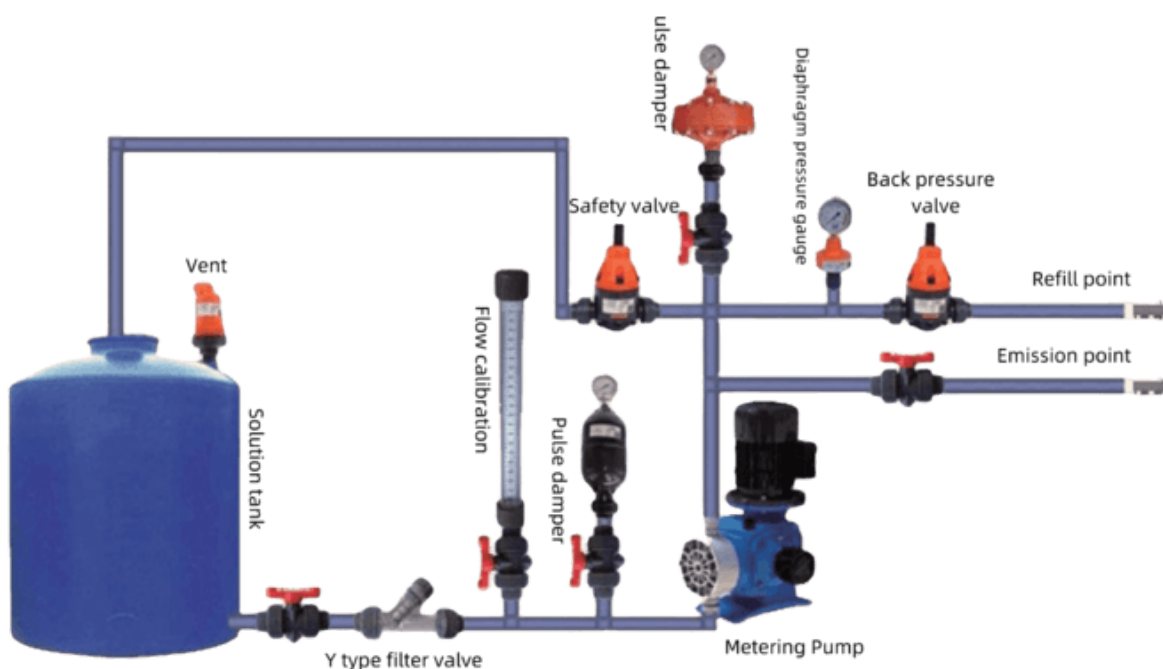
The maximum operating pressure of the diaphragm pulse damper: 1.6MPa for PVC and PP materials. It is prohibited to use it at overpressure to avoid the risk of shell rupture. The optimal operating temperature is 10~45°C. PVDF, SS304 can withstand higher temperatures and higher pressures.

During installation, collisions should be avoided. During installation, sufficient space should be reserved around the pulsation damper to facilitate pre-inflating the pulsation damper and future maintenance and adjustment. There should be shock-absorbing material between the pulsation damper and the fixed bracket to absorb the vibration energy of the pulsation damper shell and prevent resonance.

Pre-fill with inert gas (nitrogen or argon) before use, and the pressure should be 50%-80% of the average pressure of the system. If it is installed at the pump outlet, it is recommended to precharge 50% of the pressure. If it is installed at the pump inlet, it is recommended to precharge 70%. If it is not used for a long time, the precharge gas should be released to extend the life of the diaphragm. It is best not to precharge and oxidize the product. non-toxic gas (such as oxygen), otherwise it will accelerate the oxidation rate of the diaphragm and reduce the service life of the diaphragm.

The pressure gauge pointer should swing slightly during use. Excessive swing means that the pre-charged gas pressure is too low or the selection is too small. If it does not swing, it means that the pre-charged gas pressure is too high or the pipeline is blocked.

Dosing system installation diagram



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