



*improving your process*

# PCM PRECI-POMPE

17 rue Ernest Laval - BP 35 - 92173 Vanves Cedex France  
Tel (33) 01 41 08 15 15 - Telex 634 129 F - Fax (33) 01 41 08 15 00  
<http://www.pcmpompes.com> Email: [pcm@pcmpompes.com](mailto:pcm@pcmpompes.com)

## Why use accessories with LAGOA-LG dosing pumps?

This sheet summarizes the accessories and assemblies available with the LAGOA-LG dosing pump range. If these accessories are carefully chosen and installed, their implementation will guarantee that the dosing pump and your installation operate with optimum performance.

For any instructions regarding their use, please refer to the data sheets referenced below and for any problem, please consult us.

### I. ACCESSORIES

Accessories in response to your questions:

How to avoid **overpressure, overflow, siphoning** and **underflow** ?

⇒ **PRESSURE RELIEF AND LOADING VALVE** Ref : **FP/PP/SSR/A** **00/07-99**

How to avoid **depriming** of the pompe ?

⇒ **FOOT VALVE** Ref : **FP/PP/CDP/A** **00/07-99**

How to **drain** the piping and avoid **overflow, overpressure** and **siphoning** ?

⇒ **4-FUNCTION VALVE** Ref : **FP/PP/S4F/A** **00/07-99**

How to **smooth** your **flow** and attenuate **pulsation** ?

⇒ **PULSATION DAMPER** Ref : **FP/PP/ADP/A** **00/07-99**

How to **inject** a product into a pressurized chamber ?

⇒ **INJECTION QUILL** Ref : **FP/PP/CDI/A** **00/07-99**

## II. ASSEMBLIES

The assemblies group together several accessories that are preassembled in the works to facilitate your installation and commissioning.

How to **pump** with **flooded suction** ?

⇒ **FLOODED SUCTION PUMP SYSTEM**

Ref : **FP/PP/PECHA/A**

**00/07-99**

How to pump into a tank under load and **inject** into a pressurized chamber ?

⇒ **FLOODED SUCTION READY-TO-DOSE SYSTEM**

Ref : **FP/PP/PADCHA/A**

**00/07-99**

How to avoid the **depriming** of the pump and **inject** into a pressurized chamber ?

⇒ **SUCTION LIFT READY-TO-DOSE SYSTEM**

Ref : **FP/PP/PADASP/A**

**00/07-99**

How to **damp** pulsations and avoid **overflow** and **siphoning** ?

⇒ **PULSATION DAMPER ASSEMBLY**

Ref : **FP/PP/EADP/A**

**00/07-99**

How to protect pump and installation and **smooth** the flow ?

⇒ **PULSATION DAMPER WITH PRESSURE RELIEF VALVE SYSTEM**

Ref : **FP/PP/EADPSE/A**

**00/07-99**

How to **store** and **dose** a product ?

⇒ **DOSUNIT**

Ref : **FP/PP/DOSUNIT/A**

**00/07-99**

## Pressure relief and loading valve

### I. DEFINITION

The functions of the pressure relief and loading valve are all provided by the same accessory. Its installation, branched or in-line, determines the function.

#### > Pressure relief valve (safety valve)

##### ⇒ Functions

The relief valve returns the pumped fluid to the tank or drains it, in the event of accidental overpressure at the pump discharge. The relief valve is a device designed to protect the pump and the installation. It is indispensable whenever there is a risk of overpressure (e.g.: presence of a valve on the discharge pipe).

##### ⇒ Position in installation:

The relief valve is placed on a branch of the discharge circuit, as close as possible to the pump.

⇒ **Calibration:** The relief valve must be calibrated to 1.2 times the operating pressure or to not less than 1 bar.

#### > Loading valve

##### ⇒ Functions

The loading valve is designed to prevent the following:

1° **Excess flow:** One of the common pitfalls when a dosing pump is installed is due to the inertia of the fluid head. This appears when the suction pressure of the pump exceeds the discharge pressure. The loading valve is placed on the pump discharge and creates a back pressure to eliminate this phenomenon.

2° **Siphoning:** When the supply tank is placed higher than the receiving tank, there is a risk of siphoning. If correctly calculated, the loading valve can create the back pressure needed to prevent siphoning.

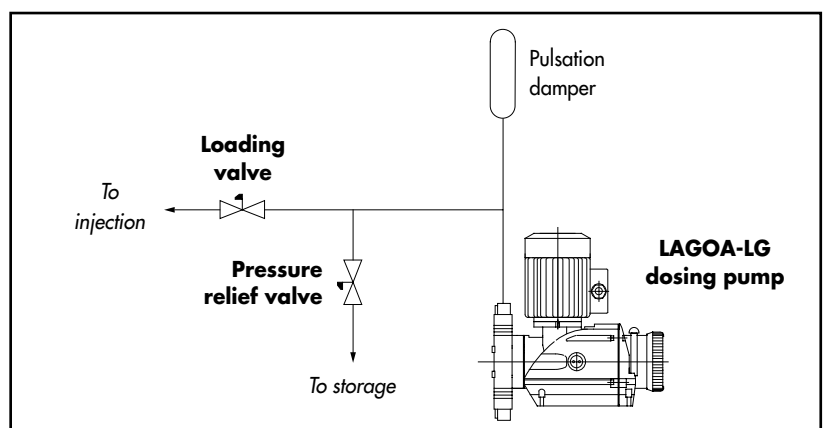
3° **Underload:** When it is necessary to reduce pulsing, the practice is to install a pulsation damper. A lack of discharge pressure in this device decreases and sometimes cancels out the desired effect. The loading valve will create the load loss needed for the pulsation damper to operate properly.

##### ⇒ Position in installation:

The loading valve is placed on the discharge of the dosing pump, as far as possible from the discharge piping to prevent it from neutralizing self-priming. When a pulse damper is being used, the valve can be placed just downstream of it.

##### ⇒ Calibration

The loading valve is calibrated to 2 bar minimum.



**Caution:** This valve is not a non-return valve.

**Note:** This accessory can be used in combination in an assembly - see the corresponding data sheet.

## II. CHARACTERISTICS

The following table will enable users to choose a relief and loading valve according to the type of dosing pump version and the pump flow-rate of the pump. It shows the couplings supplied with each accessory.

Dosing-pump version	Flow-rate: 2-4-10 l/h			Flow-rate: 9-12 to 35-50l/h			Flow-rate: 45-70 to 350 l/h		
	Code	Couplings supplied	Coupling 1/2" Gas female	Code	Couplings supplied	Coupling 1/2" Gas female	Code	Couplings supplied	Coupling 1/2" Gas female
<b>P</b> <b>PF</b> <b>PS</b>	CST4-8P	Flexible hose Ø 4x8 PVC tube for bonding Ø 10x16	CSG1/2FP	CST6-12P	Flexible hose Ø 6x12 PVC tube for bonding Ø 10x16	CSG1/2FP	CSG1MP	Gas 1" male*	CSG1/2FP
<b>PC</b>	CST6-12PC	Flexible hose Ø 6x12 PVC tube for bonding Ø 10x16	CSG1/2FS	CST6-12PC	Flexible hose Ø 6x12 PVC tube for bonding Ø 10x16	CSG1/2FS	CSG3/4FS	Gas 3/4" female	CSG1/2FS
<b>H</b> <b>HD</b>	CSG1MP	Gas 1" male*	CSG1/2FP	CSG1MP	Gas 1" male*	CSG1/2FP	CSG1MP	Gas 1" male*	CSG1/2FP
<b>D</b>	CSG1/4FD	Gas 1/4" female		CSG1/4FD	Gas 1/4" female		CSG1MD	Gas 1" male*	CSG1/2FD
<b>S</b> <b>SC</b>	CSG1/2FS	Gas 1/2" female		CSG1/2FS	Gas 1/2" female		CSG3/4FS	Gas 3/4" female	CSG1/2FS

\* Connection with seal for assembly with nut and idle part (collar) to be bonded or screwed onto pipe.

## III. OPERATION

The relief and loading valve is a diaphragm valve.

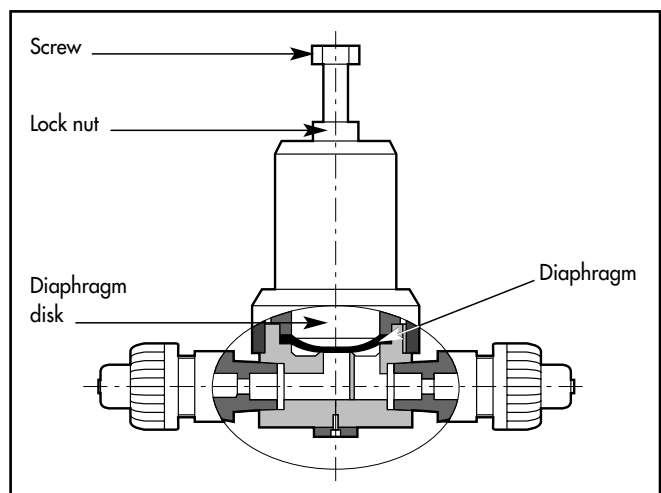
Phase 1: Pressed down by the **spring**, the **diaphragm** blocks the passage of the pumped liquid.

Phase 2: The **diaphragm** releases the passage when the inlet pressure applied to the surface of the diaphragm exceeds the calibration pressure of the **spring**.

Phase 3: This **spring**, held between a **shouldered plate** and the **diaphragm disk** is compressed by a setting **screw** to calibrate its, and therefore the valve's pressure (from 0 to 10 bar). A **lock nut** locks the valve calibration screw at the required pressure setting.

**Note:** The calibration of this valve, whatever its function, is carried out in the factory in compliance with the service conditions supplied by the client at the time of order. By default, loading valve calibration is at 2 bar. **Any change to this calibration is the responsibility of the client.**

**Caution:** the connection direction is indicated on the valve by an arrow specifying the product direction of flow.



### I. DEFINITION

#### ⇒ Recommendations for use:

The foot valve with its strainer is indispensable when the pump is placed above the tank.

#### ⇒ Function

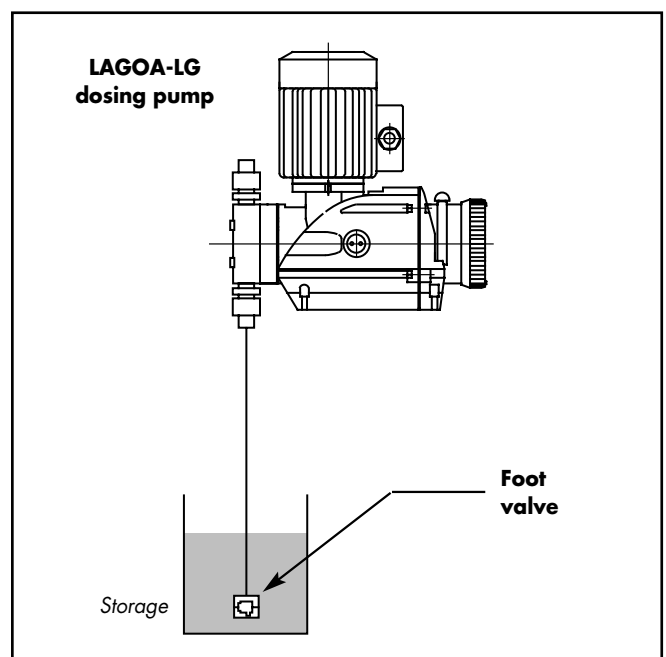
The foot valve maintains the head of fluid in the pipe during pump discharge or stoppage. This quantity of fluid is necessary for the instant repriming of the pump.

The strainer retains any impurities or particles contained in the product and prevents the pump valve box from losing its tightness. The cut-off threshold is 1.4 mm.

#### ⇒ Position in installation

The foot valve is placed on the pump suction side in the tank of product to be pumped.

**Note :** The pump must always be placed at the highest point of the suction pipe. Otherwise, a number of operating difficulties can arise. Consult us.



**Note:** This accessory can be used in combination in an assembly - see the corresponding data sheet.

## II. CHARACTERISTICS

The following table enables users to choose a foot valve according to the type of dosing pump version and the pump flow-rate. It shows the couplings supplied with each accessory.

Dosing-pump version	Flow-rate: 2-4-10 l/h		Flow-rate: 9-12 to 35-50 l/h		Flow-rate: 45-70 to 350 l/h	
	Code	Couplings supplied	Code	Couplings supplied	Code	Couplings supplied
<b>P</b> <b>PF</b> <b>PS</b>	CAT4-8P CAT4-8PF CAT4-8PS	Flexible hose Ø 4x8 PVC pipe for bonding Ø 10x16	CAT6-12P CAT6-12PF CAT6-12PS	Flexible hose Ø 6x12 PVC pipe for bonding Ø 10x16	CAG1MP CAG1MPF CAG1MPS	Gas 1" male*
<b>PC</b>	CAT6-12PC	Flexible hose Ø 6x12 PVC pipe for bonding Ø 10x16	CAT6-12PC	Flexible hose Ø 6x12 PVC pipe for bonding Ø 10x16	CAG3/4PC	Gas 3/4" female
<b>H</b> <b>HD</b>	CAG1M1HD	Gas 1" male*	CAG1M1HD	Gas 1" male	CAG1M2HD	Gas 1" male*
<b>D</b>	CAG1/4FD	Gas 1/4" female	CAG1/4FD	Gas 1/4" female	CAG1MD	Gas 1" male*
<b>S-SC</b>	CAG1/2MS	Gas 1/2" male	CAG1/2MS	Gas 1/2" male	CAG3/4FS	Gas 3/4" female

\* Connection with seal for nut and idle part assembly (collar) for bonding or screwing onto pipe.

## III. OPERATION

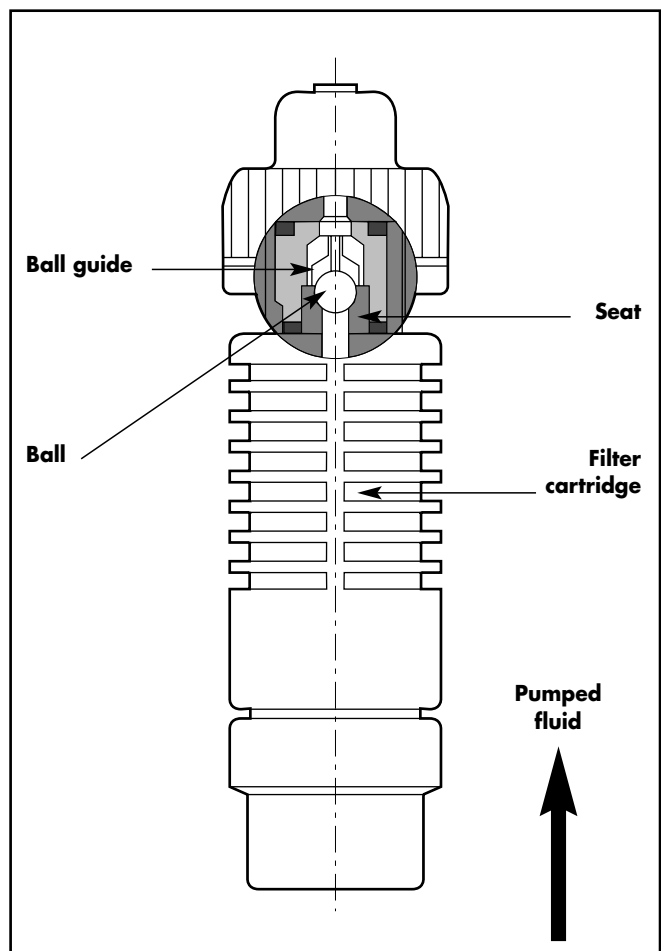
### ⇒ Suction

The pumped fluid passes through a **filter cartridge**, lifting the **ball** off the **seat** (guided by a **ball guide**) so that the fluid is allowed to flow towards the pumping head.

### ⇒ Discharge

The head of fluid included between the foot valve and the pump suction valve box is maintained in the pipe because tightness is ensured by the **ball** pressing on the **seat**.

**Caution :** The foot valve with its strainer must always be installed vertically because the ball descends onto the seat by gravity.



## 4-function valve

### I. DEFINITION

#### ⇒ Functions

The 4 functions fulfilled by this valve are as follows :

- 1°: **The purging** function to evacuate the air at the pump discharge and prevent the compression of gas which could interfere with priming. It is also a way of emptying the discharge pipe if the need arises.
- 2°: The **relief valve** function allows the product to escape in the event of overpressure in the discharge line, thus eliminating any risks that could be caused by accidental valve closing for instance.
- 3°: The **loading valve** function generates artificial back pressure at the pump discharge to control problems of pressure generated by the inertia of the liquid head (overflow) and pressure differences between suction and discharge (siphon effect).
- 4°: The **draining** function used to empty the pump discharge piping and prevent return in the liquid head to guarantee complete safety when servicing the installation.

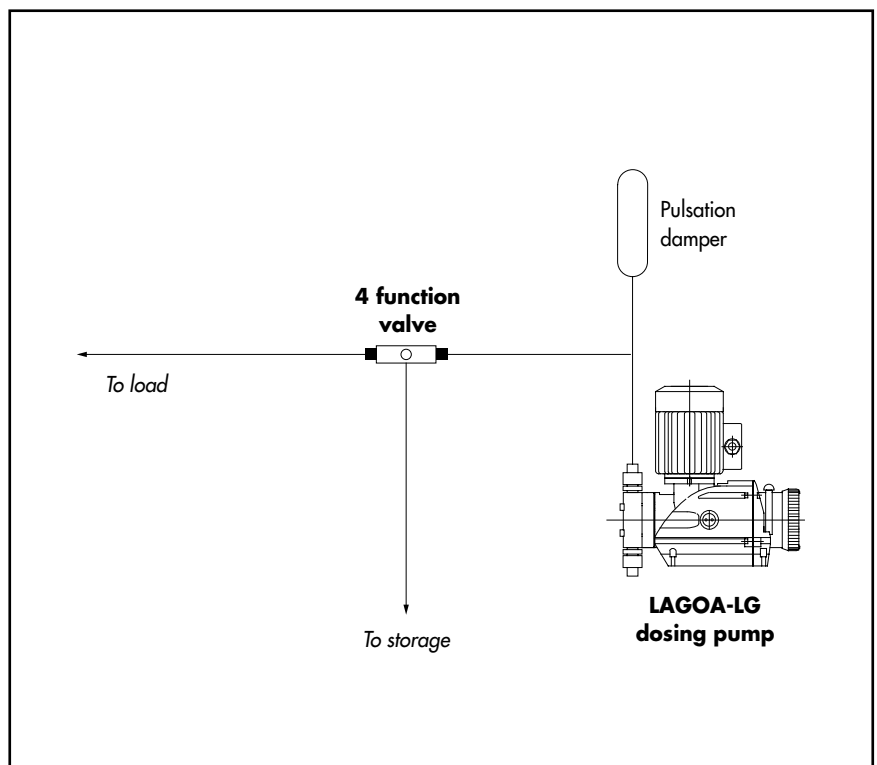
**Caution :** This valve is not a non-return valve.

#### ⇒ Position in installation

The 4-function valve is placed on the dosing pump discharge end.

#### ⇒ Utilization limits

The 4-function valve is used for **flow-rates of 0 to 50 l/h** and **pressures of 0 to 12 bar**. For higher flow-rates, it is necessary to use safety and loading valves (pressure relief and loading valve sheet)



**Note:** This accessory can be used in combination in an assembly - see the corresponding data sheet.

## II. CHARACTERISTICS

The following table enables users to choose a 4-function valve according to the type of dosing pump version and the pump flow-rate. It shows the couplings supplied with each accessory.

Dosing-pump version	Flow-rate: 2-4-10 l/h		Flow-rate: 9-12 to 35-50 l/h	
	Code	Couplings supplied	Code	Couplings supplied
<b>P</b>	CFT4-8P	Flexible hose Ø 4x8 PVC pipe for bonding Ø 10x16	CFT6-12P	Flexible hose Ø 6x12 PVC pipe for bonding Ø 10x16
<b>PF</b>	CFT4-8PF	Flexible hose Ø 4x8 PVC pipe for bonding Ø 10x16	CFT6-12PF	Flexible hose Ø 6x12 PVC pipe for bonding Ø 10x16
<b>PS</b>	CFT4-8PS	Flexible hose Ø 4x8 PVC pipe for bonding Ø 10x16	CFT6-12PS	Flexible hose Ø 6x12 PVC pipe for bonding Ø 10x16

## III. OPERATION

### ⇒ Priming purge

Phase 1: Unscrew **thumbwheel 1**.

Phase 2: The removal of the **diaphragm** opens the passage from the **conduit** to the **outlet** (tank or drain), so that the gas or compressed liquid on the pump discharge can be evacuated.

Phase 3: Screw down **thumbwheel 1**.

### ⇒ Safety valve

Phase 1: Screw **thumbwheel 1** to the stop.

Phase 2: The compression of the **spring** will press the **diaphragm** against the **conduit**.

Phase 3: The safety valve calibration pressure is factory adjusted to the pressure needed to open the **conduit**.

Phase 4: In the event of overpressure, the pumped liquid will escape towards storage via the **outlet**.

### ⇒ Loading valve

Phase 1: Screw **thumbwheel 2** to the stop.

Phase 2: The **spring** is compressed on the **diaphragm** with calibration of 1.5 bar ± 0.5 bar.

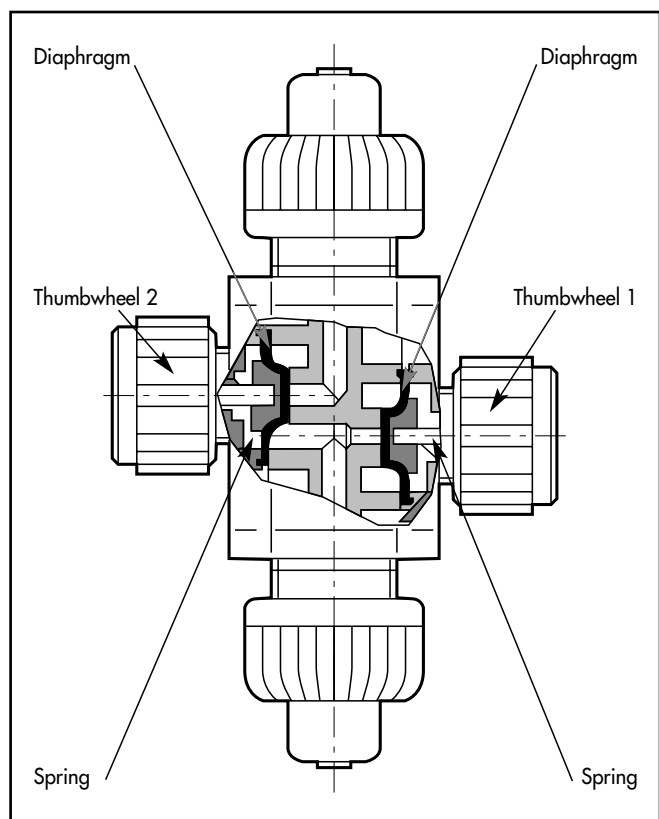
Phase 3: The pump liquid will be exposed at the least to the calibration pressure. This back pressure will eliminate any risks of overflow and siphoning.

### ⇒ Draining

Phase 1: Unscrew **thumbwheels 1 and 2**.

Phase 2: The discharge column will be evacuated via the **outlet** towards the storage.

Phase 3: Screw down **thumbwheels 1 and 2**.



**Note :** This valve is calibrated in the plant in compliance with the service conditions communicated by the customer at the time of order. By default, calibration is 2 bar for the loading valve function.

**Any change in calibration will be on the customer's responsibility.**



## Pulsation damper

### I. DEFINITION

There are 2 major families of pulsation dampers :

- 1°: **Bladder type dampers** with a bladder filled with air or neutral gas at a pressure between 0.6 and 0.7 times the operating pressure.
- 2°: **Chamber type dampers** do not have a bladder but the volume of air captive in the chamber dampens the pulsations.

#### ⇒ Recommendations for use

- 1°: The pulsation damper is an essential accessory for **long and complex installations** or for high pumping rates, since the spurious pressures related to the pulsations are directly proportional to the length of the pipe and inversely proportional to the square of its diameter.
- 2°: To linearize the flow-rate through a low loss pipe, a valve can be installed downstream of the pulsation damper. On the suction side, pulsation dampers can improve the pump suction capacity when there are considerable head losses involved.

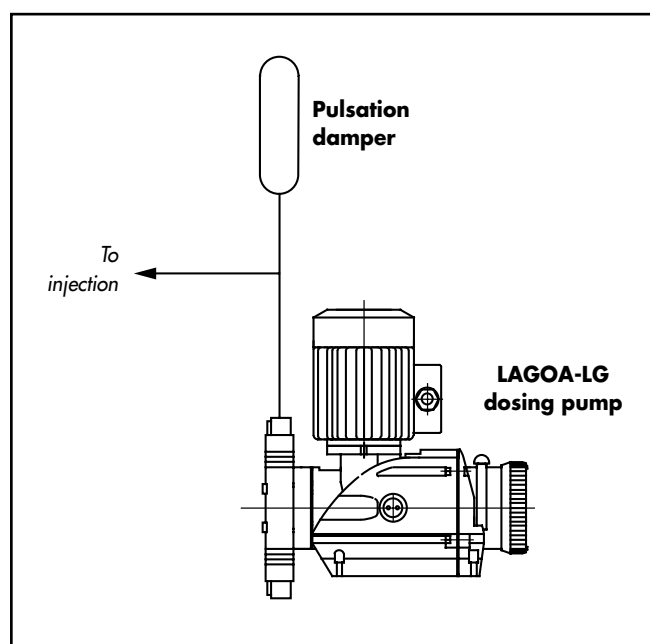
#### ⇒ Functions

The pulsation damper will avoid the following phenomena:

- 1°: **Hammering** : The inlet of a product at a high flow-rate can generate considerable vibration in the piping. The pulsation damper eliminates this vibration and attenuates the noise.
- 2°: **Smoothing of flow-rate** : The dosing pump supplies a pulsed flow which can generate problems on the discharge side, particularly when measurement equipment has to be placed on the pipe or when the injected flow has to be linear. The pulsation damper smoothes the flow while leaving only slight residual pulsing.

#### ⇒ Location in installation

The pulsation damper is placed on the discharge side of the dosing pump upstream of any other accessory and on the suction side where appropriate. It is always installed vertically.



## II. CHARACTERISTICS

The following tables enables users to choose a pulsation damper according to the type of dosing pump version and the pump flow-rate. They present the couplings supplied with each accessory.

### a) Bladder pulsation damper option

The choice of damper is made by checking the compatibility of the pumped fluid with the type of bladder (EDPM or Viton).

Dosing-pump version	Flow-rate: 2-4-10 l/h			Flow-rate: 9-12 to 35-50l/h			Flow-rate: 45-70 to 350 l/h		
	Code with couplings	Couplings 1/2" Gas female	Code without couplings	Code with couplings	Couplings supplied	Couplings 1/2" Gas female	Code with couplings	Couplings supplied	Couplings 3/4" Gas female
<b>P** PF PS</b>	BT4-8P15E BT4-8P15V	Flexible hose Ø 4x8 PVC tube for bonding Ø 10x16	BG1/2FP15E BG1/2FP15V	BT6-12P15E BT6-12P15V	Flexible hose Ø 6x12 PVC tube for bonding Ø 10x16	BG1/2FP15E BG1/2FP15V	BG1MP65E BG1MP65V	Gas 1" male*	BG3/4FP65E BG3/4FP65V
<b>PC**</b>	BT6-12PC15V	Flexible hose Ø 6x12 PVC tube for bonding Ø 10x16	BG1/2FS15V	BT6-12PC15V	Flexible hose Ø 6x12 PVC tube for bonding Ø 10x16	BG1/2FS15V	BG3/4FS65V	Gas 3/4" female	BG3/4FS65V
<b>S SC</b>	BG1/2FS15E BG1/2FS15V	Gas 1/2" female		BG1/2FS15E BG1/2FS15V	Gas 1/2" female		BG3/4FS65E BG3/4FS65V	Gas 3/4" female	

\* Connection with seal for assembly with nut and idle part (collar) for bonding or screwing onto pipe.

\*\* The dampers are available with standard 1/2" or 3/4" Gas female coupling or with couplings identical to those of pump.

### b) Pulsation damper chamber option for PVC dosing unit (H and HD versions)

Flow-rate l/h	2	4-10	9-25	12-35	20-50	45-110	70-170	100-260	140	350
Chamber code	PA15	PA50	PA50	PA100	PA50 P<5 b PA100 P>5 b	PA200	PA200 P<6 b PA300 P>6 b	PA300	PA400	PA300
Coupling	Gas 3/8" male = Code <b>G3/8MH</b>					Gas 1" male = Code <b>G1MH</b>				

The damper reference is given by placing the connection code after the chamber code (e.g.: for a 2 l/h pump, the full reference of the chamber is PA15G3/8MH).

## III. OPERATION

### ⇒ Bladder type damper :

During the discharge phase, the pumped fluid compresses the bladder when the discharge pressure reaches the prefilling pressure causing the bladder to move and compress the gas which stores part of the pump capacity. During the suction phase, the damper restores this capacity.

### ⇒ Chamber type damper :

The air volume in the chamber is in contact with the pumped product. It stores and restores the capacity of the pump in the same way as the bladder, but the volume needed is greater because the chamber cannot be prefilled.

### I. DEFINITION

#### ⇒ Recommendations for use

The injection quill is indispensable for injecting into a pressurized enclosure.

#### ⇒ Functions

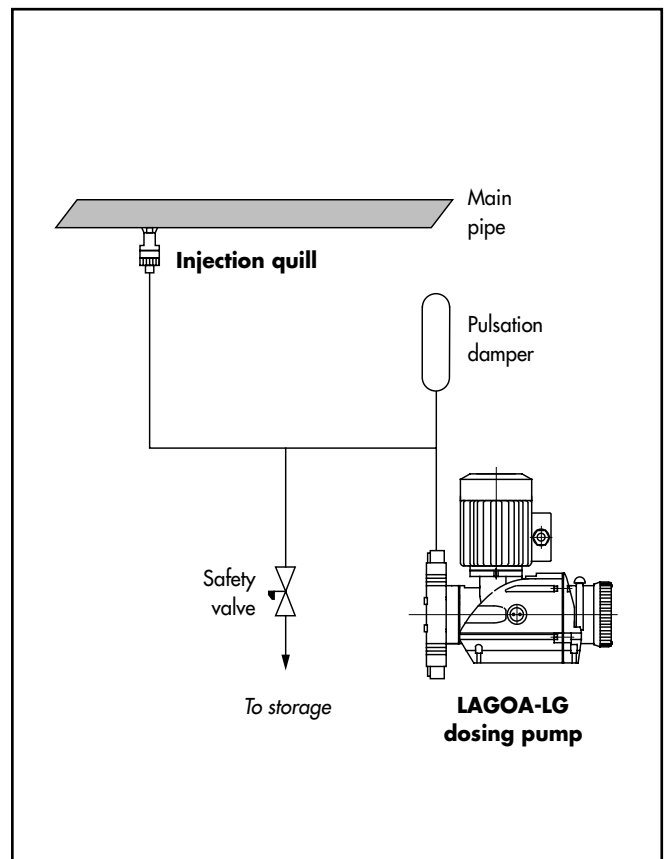
The injection quill performs 2 different functions.

1°: **Injection** to distribute the product at the line outlet, for instance, through a pipe.

2°: The **non-return** function to prevent the pollution of the injection pipe by any other product.

#### ⇒ Position in installation

The injection tube is placed on the discharge of the pump at the end of the pipe.



**Note:** This accessory can be used in combination in an assembly - see the corresponding data sheet.

## II. CHARACTERISTICS

The following table enables users to choose a injection quill according to the type of dosing pump version and the pump flow-rate. It shows the couplings supplied with each accessory.

Dosing-pump version	Flow-rate: 2-4-10 l/h		Flow-rate: 9-12 to 35-50 l/h		Flow-rate: 45-70 to 350 l/h	
	Code	Couplings supplied	Code	Couplings supplied	Code	Couplings supplied
<b>P</b> <b>PF</b> <b>PS</b>	CIT4-8P CIT4-8PF CIT4-8PS	Flexible hose Ø 4x8 PVC pipe for bonding Ø 10x16	CIT6-12P CIT6-12PF CIT6-12PS	Flexible hose Ø 6x12 PVC pipe for bonding Ø 10x16	CIG1MP CIG1MPF CIG1MPS	Gas 1" male*
<b>PC</b>	CIT6-12PC	Flexible hose Ø 4x8 PVC pipe for bonding Ø 10x16	CIT6-12PC	Flexible hose Ø 4x8 PVC pipe for bonding Ø 10x16	CIG3/4FS	Gas 3/4" female
<b>H</b> <b>HD</b>	CIG1M1H	Gas 1" male*	CIG1M1H	Gas 1" male	CIG1M2H	Gas 1" male*
<b>S-SC</b>	CIG1/2MS	Gas 1/2" male	CIG1/2MS	Gas 1/2" male	CIG3/4FS	Gas 3/4" female

Connection with seal for nut and idle part assembly (collar) for bonding or screwing onto the pipe.

## III. OPERATION

### Note :

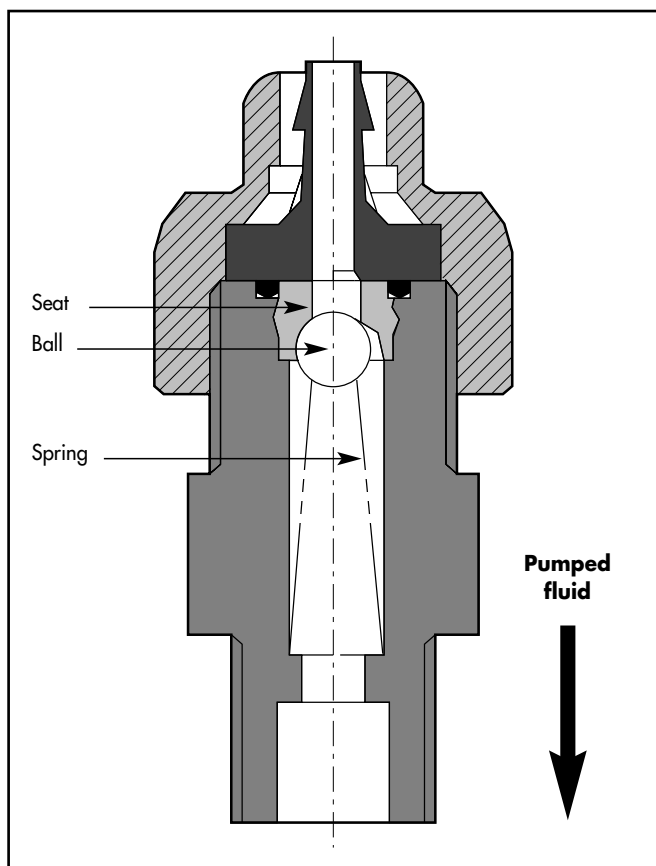
- a) All the injection valves are calibrated to 0.8 bar ± 0.2 bar.
- b) For all the versions, the coupling at the injection point is 1/2" tapered male gas pitch for flow-rates of 2 to 35 and 50 l/h and 1" tapered male gas pitch for flow-rates of 45 and 70 to 350 l/h.

### ⇒ Injection

**Phase 1 :** The pumped fluid pushes the **ball** to compress the **spring**, lifting it off its **seat** and allowing the fluid to flow towards the injection point.

### ⇒ Non-return

**Phase 2 :** Because of its loading, the **spring** brings the ball back onto the **seat** to ensure tightness. The return of the **ball** onto the **seat** is favored by the pressure in the enclosure into which the product is injected.



## Flooded suction pump system

### I. DEFINITION

#### ⇒ Recommendations for use

The flooded suction pump system is used for all applications using a dosing pump with flooded suction.

#### ⇒ Composition

The flooded suction pump system consists of the following accessories:

- 1° : The **strainer** retaining impurities or particles contained in the product and liable to move to the valve box and cause the depriming of the pump. The filter cut-off threshold is 1.4 mm.
- 2° : The **valve** (or isolating valve) isolating the tank for possible work on the strainer (such as cleaning of the strainer cartridge), or on the pump suction line.



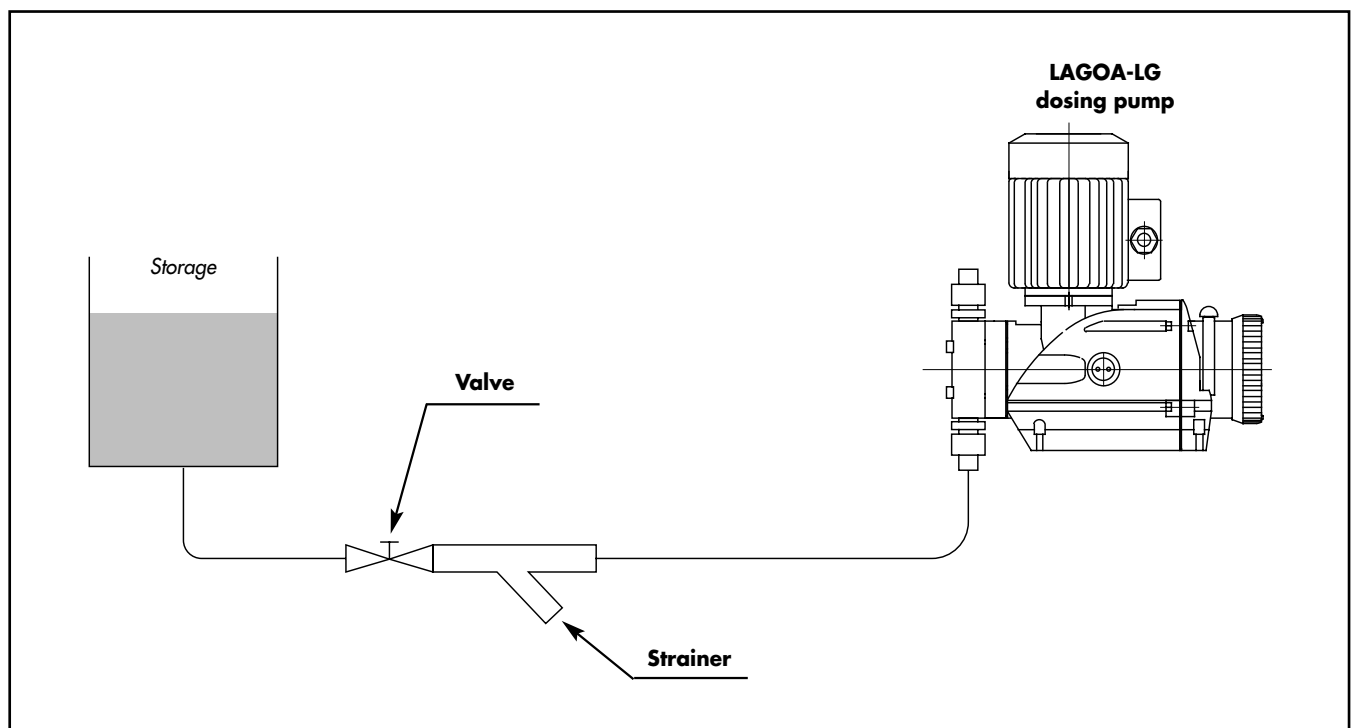
## II. CHARACTERISTICS

The following table enables users to choose a flooded suction pump system according to the type of dosing pump version and the pump flow-rate. It shows the couplings supplied with each system.

Dosing-pump version	Flow-rate: 2-4-10 l/h		Flow-rate: 9-12 to 35-50 l/h		Flow-rate: 45-70 to 350 l/h	
	Code	Couplings supplied	Code	Couplings supplied	Code	Couplings supplied
<b>P</b>	VAT4-8PV	Flexible hose Ø 4x8 PVC pipe for bonding Ø 10x16	VAT6-12PV	Flexible hose Ø 6x12 PVC pipe for bonding Ø 10x16	VAG1MPV	Gas 1" male*
<b>PC</b>	VAT6-12PV	Flexible hose Ø 6x12 PVC pipe for bonding Ø 10x16	VAT6-12PV	Flexible hose Ø 6x12 PVC pipe for bonding Ø 10x16	VAG3/4FS	Gas 3/4" female
<b>PF</b>	VAT4-8PV	Flexible hose Ø 4x8 PVC pipe for bonding Ø 10x16	VAT6-12PV	Flexible hose Ø 6x12 PVC pipe for bonding Ø 10x16	VAG1MPV	Gas 1" male*
	VAT4-8PE	Flexible hose Ø 4x8 PVC pipe for bonding Ø 10x16	VAT6-12PE	Flexible hose Ø 6x12 PVC pipe for bonding Ø 10x16	VAG1MPE	Gas 1" male*
<b>PS</b>	VAT4-8PE	Flexible hose Ø 4x8 PVC pipe for bonding Ø 10x16	VAT6-12PE	Flexible hose Ø 6x12 PVC pipe for bonding Ø 10x16	VAG1MPE	Gas 1" male*
<b>H HD</b>	VAG1MPV	Gas 1" male*	VAG1MPV	Gas 1" male*	VAG1MPV	Gas 1" male*
<b>S SC</b>	VAG1/2FS	Gas 1/2" female	VAG1/2FS	Gas 1/2" female	VAG3/4FS	Gas 3/4" female

\* Connection with seal for assembly with nut and idle part (collar) for bonding or screwing onto pipe.

## III. INSTALLATION



## Flooded suction ready-to-dose system

### I. DEFINITION

#### ⇒ **Case of use**

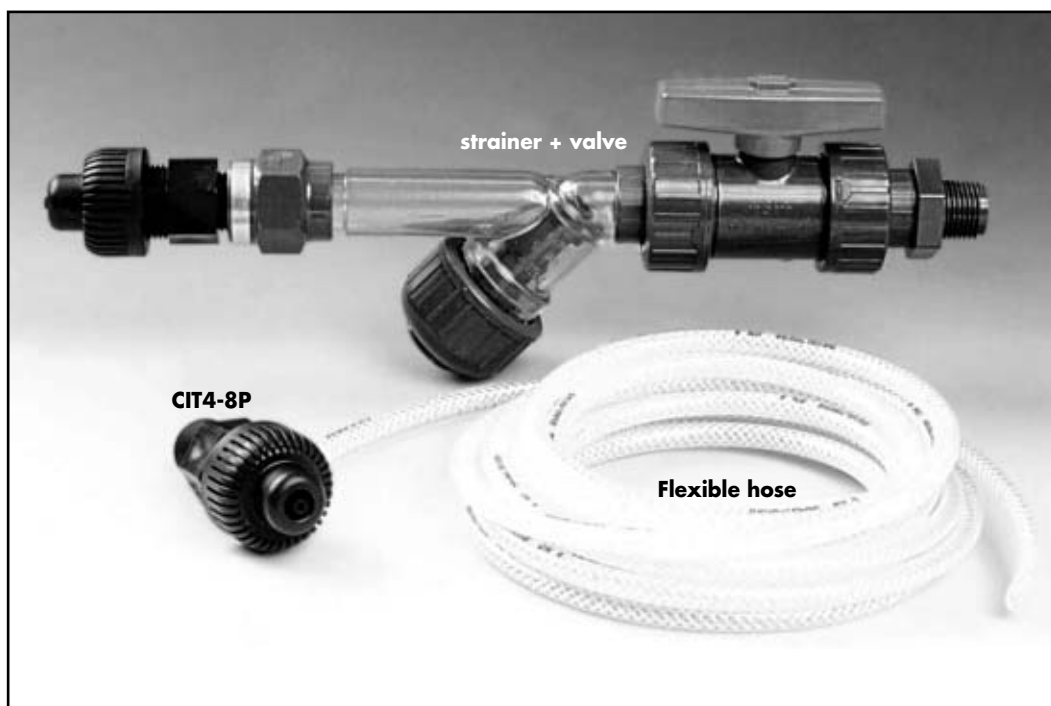
The flooded suction ready-to-dose system can be used for any application using a dosing pump with flooded suction to inject product into a pipe.

#### ⇒ **Composition**

The flooded suction ready-to-dose system consists of the following accessories :

- 1°: The **strainer** retaining impurities or particles contained in the product that are liable to move to the valve box and cause the depriming of the pump. The filter cut-off threshold is 1.4 mm.
- 2°: The **valve** (or isolating valve) isolating the tank for possible work on the strainer (such as the cleaning of the filter cartridge) or on the pump suction line.
- 3°: The **injection quill** injecting the pumped fluid into a pressurized enclosure.
- 4°: The **flexible hose** (5 m) providing connection with the suction and discharge sides of the pump.

**Note :** See the specific data sheet for each accessory.

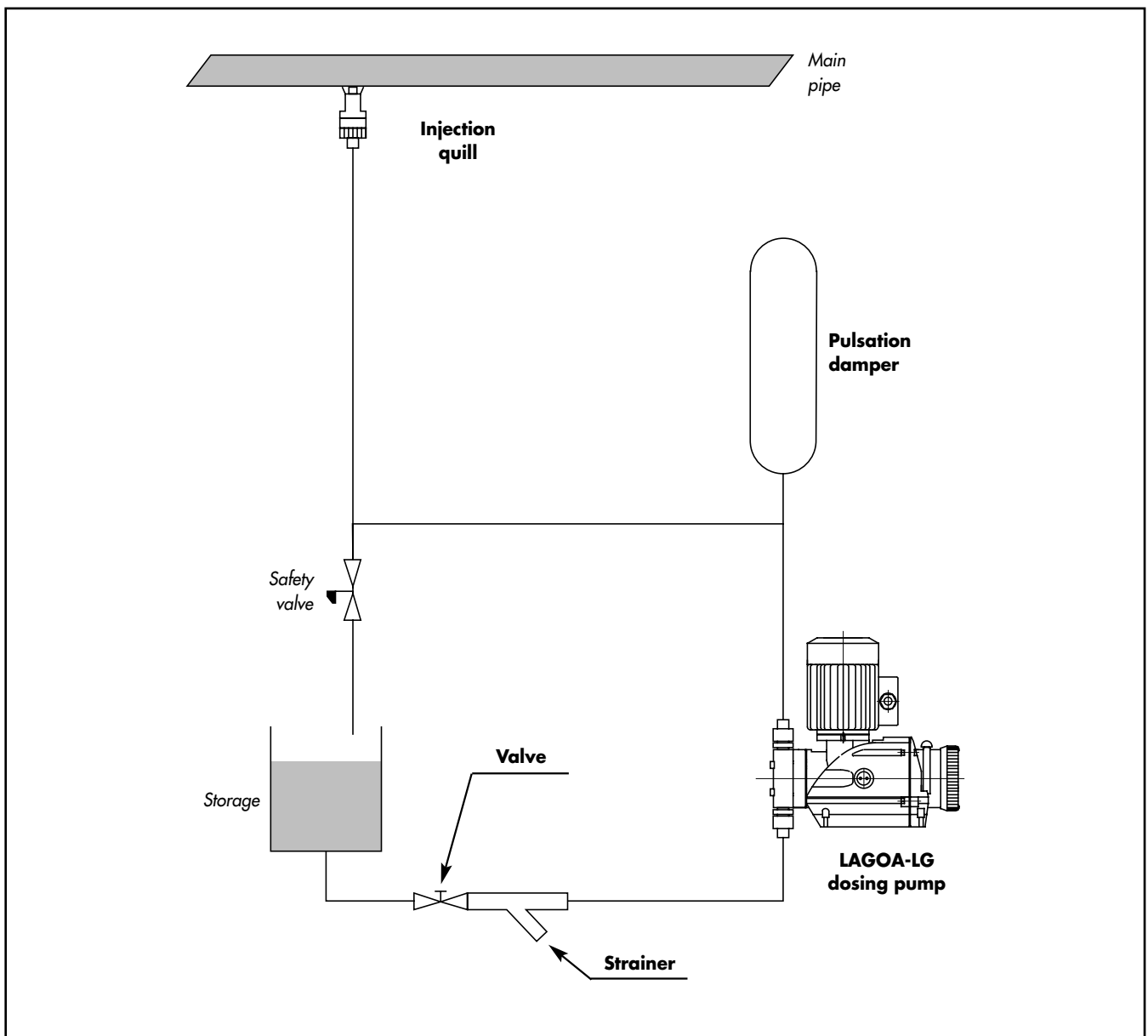


## II. CHARACTERISTICS

The following table enables users to choose a flooded suction ready-to-dose system according to each type of dosing pump version and pump flow-rate. It shows the couplings used with each assembly.

Dosing-pump version	Flow-rate: 2-4-10 l/h		Flow-rate: 9-12 to 35-50 l/h	
	Code	Couplings supplied	Code	Couplings supplied
P PF PS	EDVAT4-8PE EDVAT4-8PV	Flexible hose Ø 4x8 PVC tube for bonding Ø 10x16	EDVAT6-12PE EDVAT6-12PV	Flexible hose Ø 6x12 PVC tube for bonding Ø 10x16
PC	EDVAT6-12PCV	Flexible hose Ø 6x12 PVC tube for bonding Ø 10x16	EDVAT6-12PCV	Flexible hose Ø 6x12 PVC tube for bonding Ø 10x16

## III. INSTALLATION





## Suction lift ready-to-dose system

### I. DEFINITION

#### ⇒ Recommendations for use

The suction lift ready-to-dose system is used for every type of application involving a dosing pump installed above a storage tank or a mobile container, and injecting into a pipe.

#### ⇒ Composition

The suction lift ready-to-dose system consists of the following accessories :

- 1°: The **foot valve and strainer** to prevent the pump from losing prime.
- 2°: The **injection quill** to inject the pumped fluid into a pressurized enclosure.
- 3°: The **flexible hose** (5m) to connect to suction and discharge of the pump.

**Note :** See the specific data sheet for each accessory.



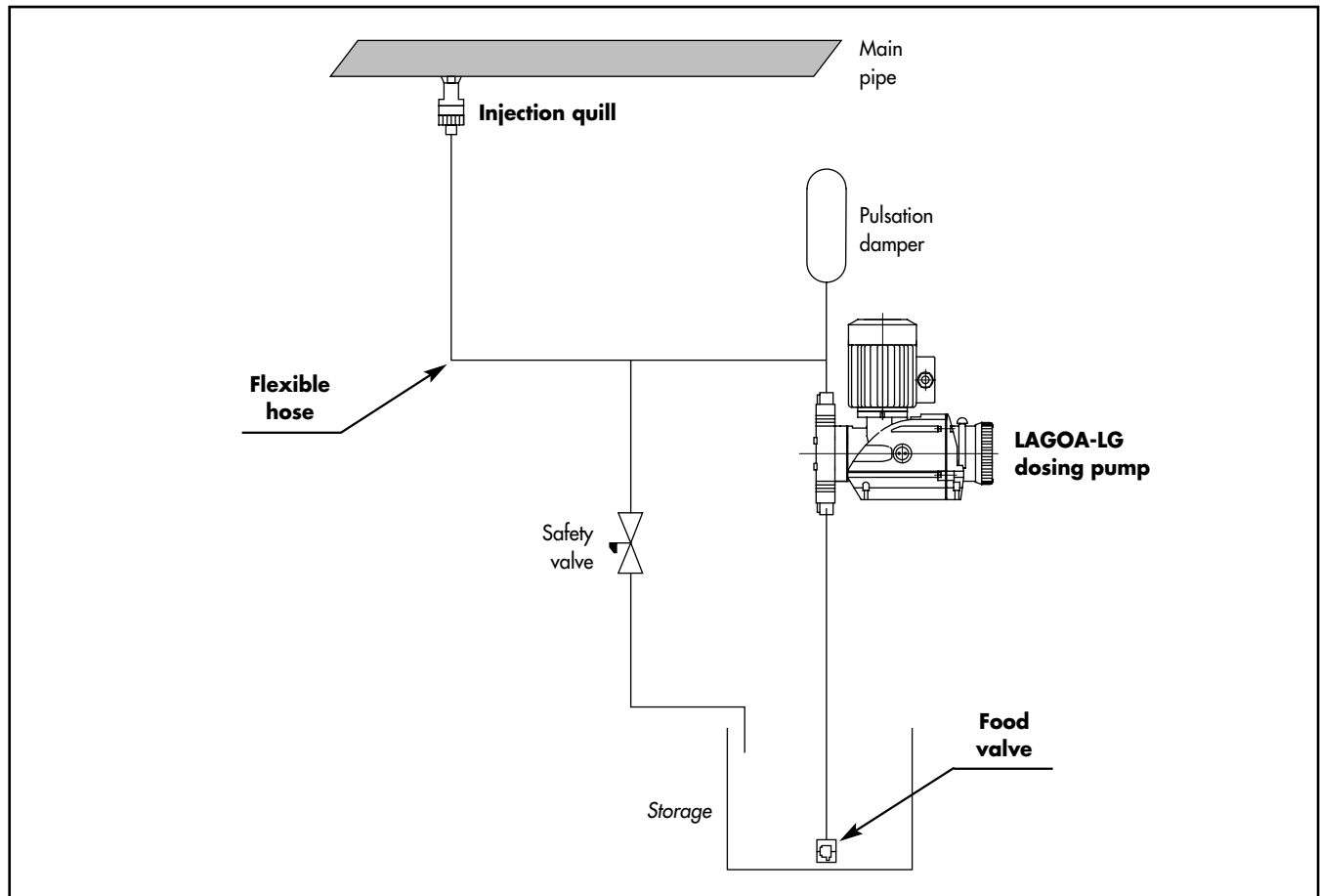
## II. CHARACTERISTICS

The following table enables users to choose a suction lift ready-to-dose system according to the type of dosing pump version and the pump flow-rate. It includes the couplings supplied with each accessory.

Dosing-pump version	Flow-rate: 2-4-10 l/h		Flow-rate: 9-12 to 35-50 l/h		Flow-rate: 45-70 to 350 l/h	
	Code	Couplings supplied	Code	Couplings supplied	Code	Couplings supplied
<b>P</b>	EDCAT4-8P	Flexible hose Ø 4x8 PVC pipe for bonding Ø 10x16	EDCAT6-12P	Flexible hose Ø 6x12 PVC pipe for bonding Ø 10x16	EDCAG1MP	Gas 1" male *
<b>PF</b>	EDCAT4-8PF	Flexible hose Ø 4x8 PVC pipe for bonding Ø 10x16	EDCAT6-12PF	Flexible hose Ø 6x12 PVC pipe for bonding Ø 10x16	EDCAG1MPF	Gas 1" male *
<b>PC</b>	EDCAT6-12PC	Flexible hose Ø 6x12 PVC pipe for bonding Ø 10x16	EDCAT6-12PC	Flexible hose Ø 6x12 PVC pipe for bonding Ø 10x16		
<b>PS</b>	EDCAT4-8PS	Flexible hose Ø 4x8 PVC pipe for bonding Ø 10x16	EDCAT6-12PS	Flexible hose Ø 6x12 PVC pipe for bonding Ø 10x16	EDCAG1MPS	Gas 1" male *
<b>H HD</b>	EDCAG1M1H	Gas 1" male *	EDCAG1M1H	Gas 1" male *	EDCAG1M2H	Gas 1" male *

\* Connection with seal for assembly of nut and idle part (collar) to be bonded or screwed onto the pipe.

## III. INSTALLATION





*improving your process*

17 rue Ernest Laval - BP 35 - 92173 Vanves Cedex France  
Tel (33) 01 41 08 15 15 - Telex 634 129 F - Fax (33) 01 41 08 15 00  
<http://www.pcmpompes.com> Email: [pcm@pcmpompes.com](mailto:pcm@pcmpompes.com)

# PCM PRECI-POMPE

## Pulsation damper assembly

### I. DEFINITION

#### ⇒ Recommendations for use

The pulsation damper assembly is necessary to damp pulsations in installations where discharge load losses are low, or when there is a considerable length of piping with a risk of siphoning or overflow.

#### ⇒ Composition

The pulsation damper consists of the following accessories :

1° : The **pulsation damper** to linearize the flow of the dosing pump.

2° : The **loading valve** to create minimum back pressure and so obtain trouble-free operation of the pulsation damper.

#### ⇒ Position in installation

The pulsation damper assembly is placed on the dosing pump discharge pipe as close as possible to the pump discharge valve. The damper is always placed in the vertical position.

**Note :** See the data sheet specific to each accessory.



## II. CHARACTERISTICS

The following table enables users to choose a pulsation damper assembly according to the type of dosing pump version and the pump flow-rate. It shows the couplings used for each accessory.

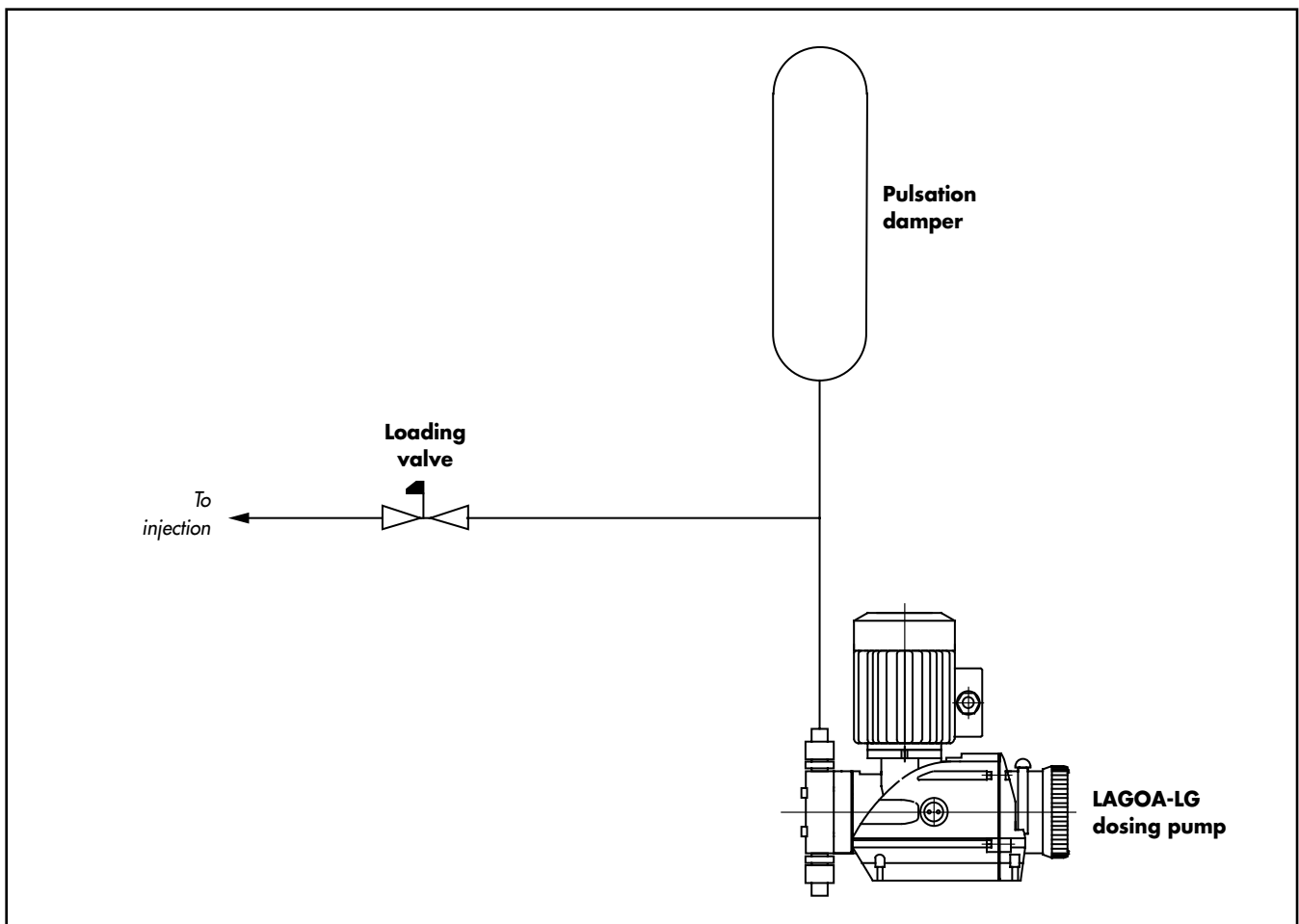
Dosing-pump version	Flow-rate: 2-4-10 l/h		Flow-rate: 9-12 to 35-50 l/h		Flow-rate: 45-70 to 350 l/h	
	Code	Couplings supplied	Code	Couplings supplied	Code	Couplings supplied
<b>P</b> <b>PF</b> <b>PS</b>	**	**	**	**	EBG1MP65E EBG1MP65V	Gas 1" male *
<b>PC</b>	EBT6-12PC15E EBT6-12PC15V	Flexible hose Ø 6x12 PVC pipe for bonding Ø 10x16	EBT6-12PC15E EBT6-12PC15V	Flexible hose Ø 6x12 PVC pipe for bonding Ø 10x16	EBG3/4FS65E EBG3/4FS65V	Gas 3/4" female
<b>S</b> <b>SC</b>	EBG1/2FS15E EBG1/2FS15V	Gas 1/2" female	EBG1/2FS15E EBG1/2FS15V	Gas 1/2" female	EBG3/4FS65E EBG1/2FS65V	Gas 3/4" female

\* Connection with seal for assembly of nut and idle part (collar) for bonding or screwing onto the pipe.

\*\* These assemblies are made with the 4-function valve and therefore systematically integrate the retention valve function.

**Note :** The choice is made by checking the compatibility of the pumped fluid with the type of bladder (EPDM or Viton).

## III. INSTALLATION



## Pulsation damper with pressure relief valve system

### I. DEFINITION

#### ⇒ Recommendations for use

The pulsation damper with relief valve system is necessary whenever it is wished to protect the pump and the installation while keeping the flow linear.

#### ⇒ Composition

The pulsation damper with relief valve system consists of the following accessories:

- 1°: The **pulsation damper** for linearizing the dosing pump flow.
- 2°: The **loading valve** for creating minimum back pressure and so obtaining smooth operation of the pulsation damper.
- 3°: The **relief (safety) valve** for evacuating the flow in the event of accidental overpressure on the discharge line.

#### ⇒ Position in installation

The pulsation damper with relief valve system is placed on the dosing pump discharge pipe as close as possible to the pump discharge valve. The damper is always mounted vertically.

**Note :** See the data sheet specific to each accessory.



## II. CHARACTERISTICS

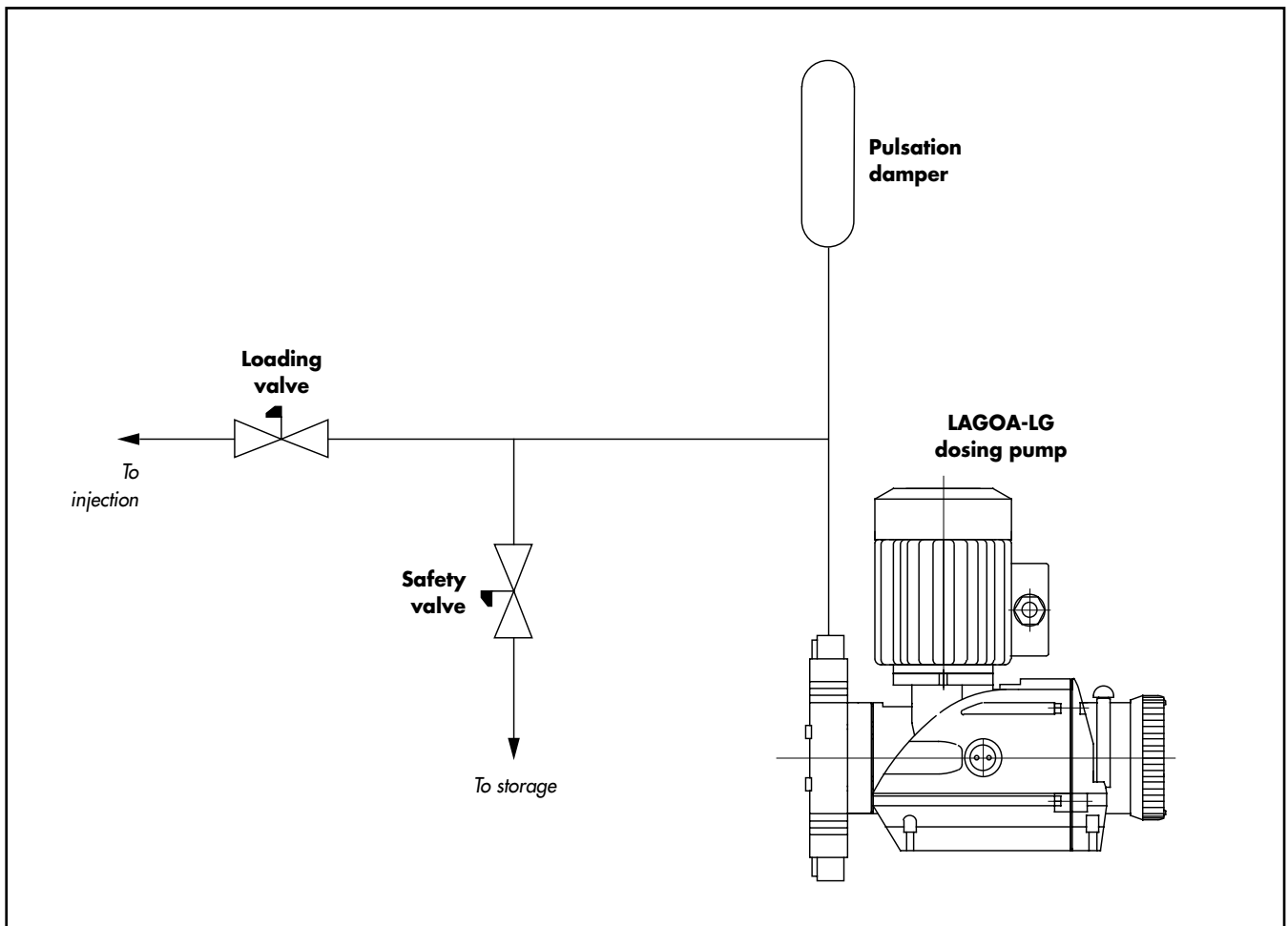
The following table enables users to choose a pulsation damper with pressure relief valve system according to the type of dosing pump version and the pump flow-rate. It shows the couplings supplied with each assembly.

Dosing-pump version	Flow-rate: 2-4-10 l/h		Flow-rate: 9-12 to 35-50 l/h		Flow-rate: 45-70 to 350 l/h	
	Code	Couplings supplied	Code	Couplings supplied	Code	Couplings supplied
<b>P</b> <b>PF</b> <b>PS</b>	EBFT4-8P15E EBFT4-8P15V	Flexible hose Ø 4x8 PVC pipe for bonding Ø 10x16	EBFT6-12PC15E EBFT6-12PC15V	Flexible hose Ø 6x12 PVC pipe for bonding Ø 10x16	EBSG1MP65E EBSG1MP65V	Gas 1" male *
<b>PC</b>	EBFT6-12PC15E EBFT6-12PC15V	Flexible hose Ø 4x8 PVC pipe for bonding Ø 10x16	EBFT6-12PC15E EBFT6-12PC15V	Flexible hose Ø 6x12 PVC pipe for bonding Ø 10x16	EBSG3/4FS65E EBSG3/4FS65V	Gas 3/4" male
<b>S</b> <b>SC</b>	EBSG1/2FS15E EBSG1/2FS15V	Gas 1/2" female	EBSG1/2FS15E EBSG1/2FS15V	Gas 1/2" female	EBSG3/4FS65E EBSG3/4FS65V	Gas 3/4" female

\* Coupling with seal for assembly of nut and idle part (collar) for bonding or screwing onto pipe.

**Note :** The choice of system is made by checking the compatibility of the pumped fluid with the type of bladder (EPDM or Viton).

## III. INSTALLATION



### I. DEFINITION

#### ⇒ Applications

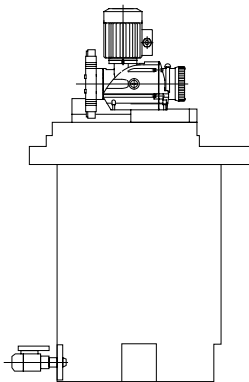
The DOSUNITs are designed to dose most of the reagents used for water treatment or in every other activity sector. However, the product must be compatible with polyethylene (see corrosion table) and the density should not exceed 1.3 at 30°C.

#### ⇒ Composition

The DOSUNIT is a dosing unit for the preparation of a reagent with or without a mixer.

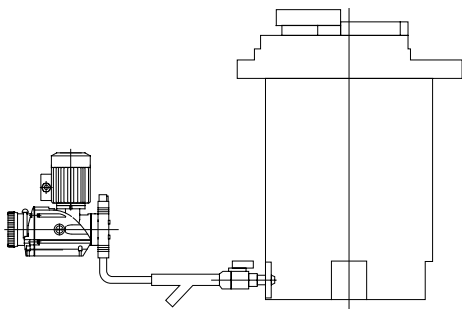
Tanks for DOSUNIT, of food grade, are made of polyethylene.

They are supplied as standard with a screw-on lid and can be configured in two forms:



#### a) Dosunit with tank for suction lift pump (BA) comprising :

- A tank with a pump support plate and a drain valve
- A LAGOA-LG dosing pump
- A suction lift ready-to-dose system consisting of: a foot valve, 5 m of flexible hose and an injection quill.



#### b) Dosunit with tank for flooded suction pump (BV) comprising :

- A tank with a single vent
- A LAGOA-LG dosing pump
- A flooded suction ready-to-dose system consisting of : a flooded suction pump system, 5 m of flexible hose and an injection quill.

**Note :** See data sheet specific to each accessory or assembly.

A number of the options and accessories may be combined with each of these assemblies :



**> Options**

- Floor mounting kit (/ FS)                      Four brackets to anchor the tank
- Single vent (/ ES)                                Eliminates negative pressure inside the tank
- Neutralization vent (/EN)                      Eliminates negative pressure and routes the stored product vapors towards a neutralization device.
  
- Production identification plate (/ I)
- Accessory support bracket (/ S)
- Lid lock (/ L)

**> Accessories**

- High level detector (/NH)                      Indicates full tank
- Low level detector (/NB)                      Indicates empty tank
- Manual or electric mixers                      Of polypropylene or stainless steel depending on type of product, brings the product into solution from crystallized or flake form
- Flexible hose protection kit                      Prevents suction tube from winding around stirrer (necessary for suction pumping).

**Note :** The codes of each accessory or option are given in parentheses.

**⇒ Installation conditions**

The DOSUNITs are anti-UV treated and can be left outdoors without any risk of deterioration. Installing a single vent or neutralizer is advisable on tanks for flooded suction pumps because they avoid negative pressure forming inside the tank. The maximum permissible negative pressure is -0.05 bar.

**II. CHARACTERISTICS**

For each tank volume, this table gives the CODE according to whether the pump is installed in suction or on-load mode. It is also a way of defining the stirrer according to requirements.

Tank volume (l) Thickness Max. load	CODE		MIXER				Flexible hose protection kit	
	Suction	Load	Electric			Manual		
			Code	Power (kW)	Speed (rpm)			Version
<b>120 l</b> 4 mm 25 kg	BA12	BV12	E150S12	0,25	1500	Stainless	M/00/12	KTP12
			E75S12	0,18	750	Stainless		
			E50S12	0,25	101	Stainless		
			E150P12	0,25	1500	Polypro		
			E755P12	0,18	750	Polypro		
<b>250 l</b> 4 mm 25 kg	BA25	BV25	E42S25	0,25	420	Stainless	M/00/25	KTP25
			E150S25	0,25	1500	Stainless		
			E75S25	0,18	750	Stainless		
			E150P25	0,25	1500	Polypro		
			E75P25	0,18	750	Polypro		
<b>500 l</b> 5 mm 40 kg	BA50	BV50	E34S50	0,25	340	Stainless		
<b>1000 l</b>	BA100	BV100	E150S100	0,25	1500	Stainless		KTP100
			E75S100	0,18	750	Stainless		
			E28S100	0,25	280	Stainless		
			E150P100	0,25	1500	Polypro		
			E75P100	0,18	750	Polypro		

**Note :** For a **250 l tank**, the corresponding electric stirrer is **E42S25** and for a **500 l tank**, **E34S50**. The other stirrers are common to the 250 and 500 l tanks.

**III. DIMENSIONS**

The dimensional drawings of the DOSUNITs are available for all configurations (flooded suction or suction lift) promptly on request.