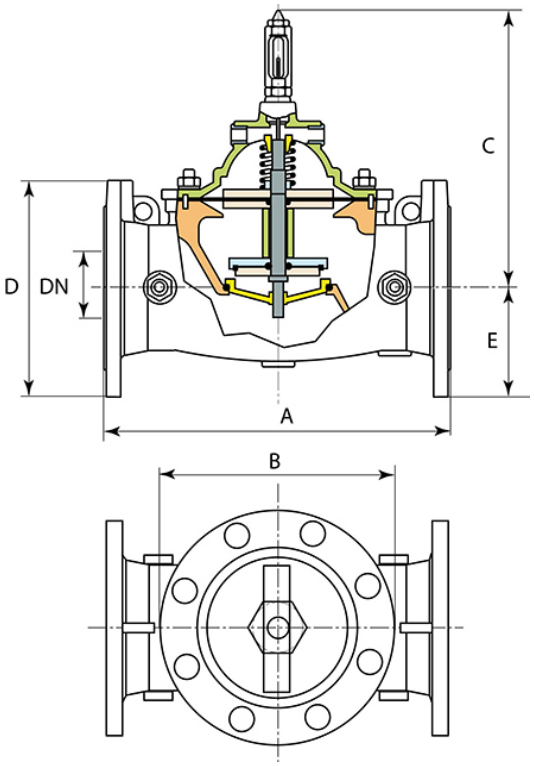
13/06/2026
VPPCV21SPD420

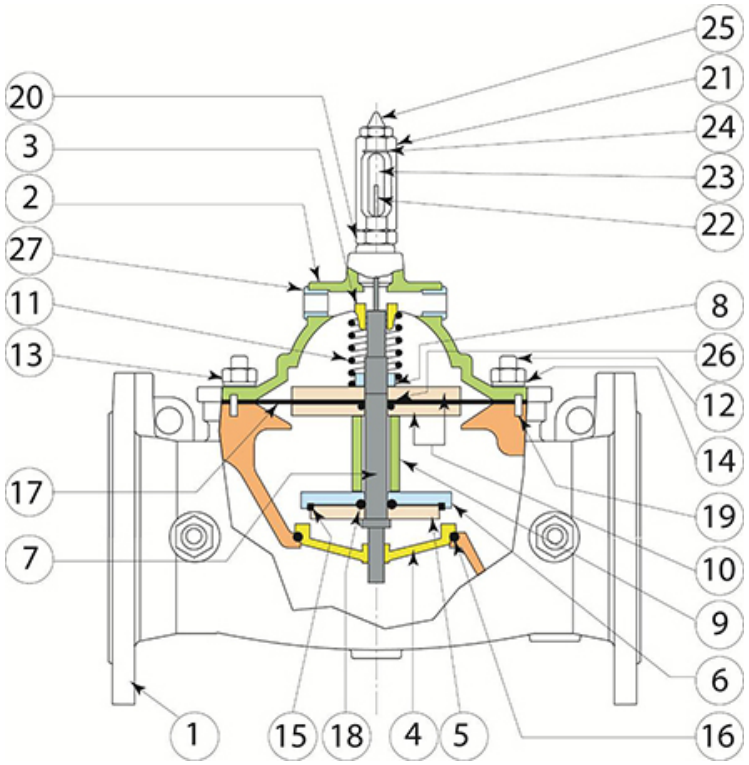
Rate of flow control valve type E2114-00

DN (mm)	PN	A (mm)	B (mm)	C (mm)	D (mm)	E (mm)	Mass (kg)	References



SAINT-GOBAIN
Saint-Gobain PAM Canalisation
21, avenue Camille Cavallier - BP 129 | 54705 PONT-A-MOUSSON CEDEX | FRANCE
Tel : (33) 03 83 80 67 89 | E-mail : Pamline@saint-gobain.com | pamline.fr

Material and coating

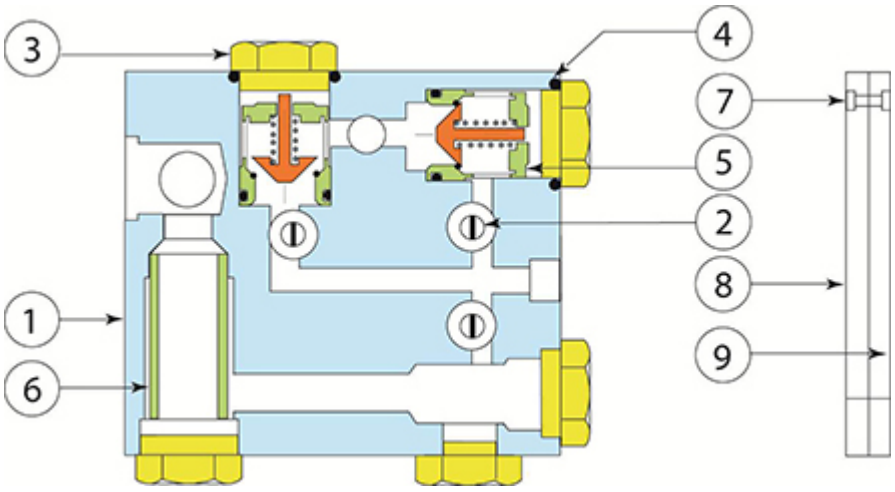


Item	Quantity	Description	Material
01	01	Body	FGS 400-15 (coating BFE epoxy 250µm mini)
02	01	Cover	FGS 400-15 (coating BFE epoxy 250µm mini)
03	01	Cover bearing	Bronze
04	01	Seat	AISI 316
05	01	Quad-ring retainer plate	AISI 316
06	01	Quad-ring retainer size 50-200	AISI 316
07	01	Stem	AISI 303
08	02	Stem nuts	AISI 303
09	01	Spacer	AISI 303
10	02	Diaphragm washers epoxy coated	Steel
11	01	Spring	AISI 302
12	*	Stud	AISI 303
13	*	Nut	AISI 303

SAINT-GOBAIN
Saint-Gobain PAM Canalisation
21, avenue Camille Cavallier - BP 129 | 54705 PONT-A-MOUSSON CEDEX | FRANCE
Tel : (33) 03 83 80 67 89 | E-mail : Pamline@saint-gobain.com | pamline.fr

Item	Quantity	Description	Material
14	*	Washer	AISI 303
15	01	Quad-ring	NBR (KTW-WRC)
16	01	Seat O-ring	Viton
17	01	Diaphragm	NBR nylon reinforced (KTW-WRC)
18	01	O-ring	NBR
19	02	Centring taper pin	AISI 303
20	01	Base position indicator	Brass Ni-plated
21	01	Position indicator housing	Brass Ni-plated
22	01	Position indicator stem	AISI 303
23	01	Position indicator	Glass
24	02	O-ring	NBR
25	01	Brass Ni-plated	Brass Ni-plated
26	01	O-ring	NBR
27	01	Reduction	AISI 304

Central Control Unit TUP 93

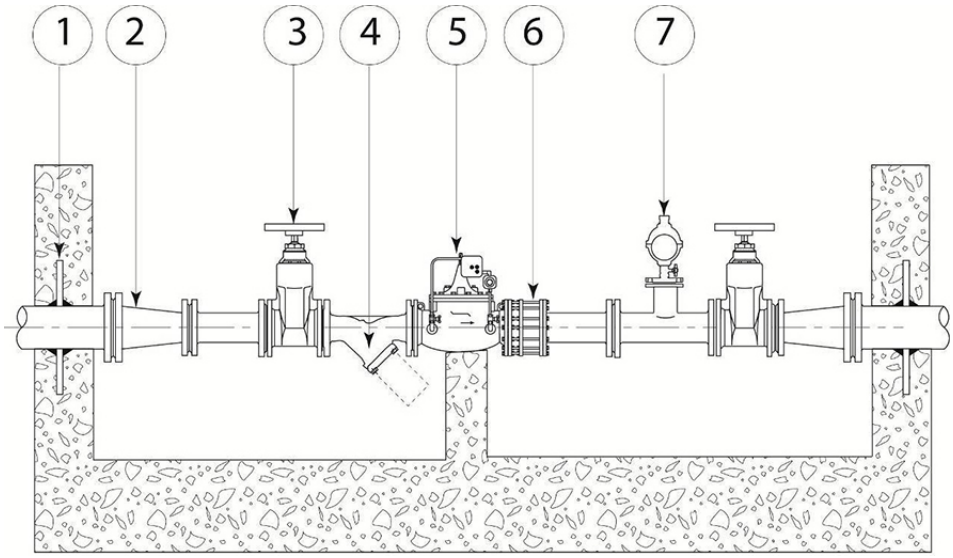


Item	Quantity	Description	Material (type)
01	01	Body	AISI 303
02	03	Cock	AISI 303
03	03	Plug	AISI 303

SAINT-GOBAIN
Saint-Gobain PAM Canalisation
21, avenue Camille Cavallier - BP 129 | 54705 PONT-A-MOUSSON CEDEX | FRANCE
Tel : (33) 03 83 80 67 89 | E-mail : Pamline@saint-gobain.com | pamline.fr

Item	Quantity	Description	Material (type)
04	03	O-ring	NBR
05	02	Non return valve (WRC)	
06	01	Screen	AISI 316
07	01	Rivet	Brass
08	01	Bottom label	Polycarbonate makrolon
09	01	Top label	Polycarbonate makrolon

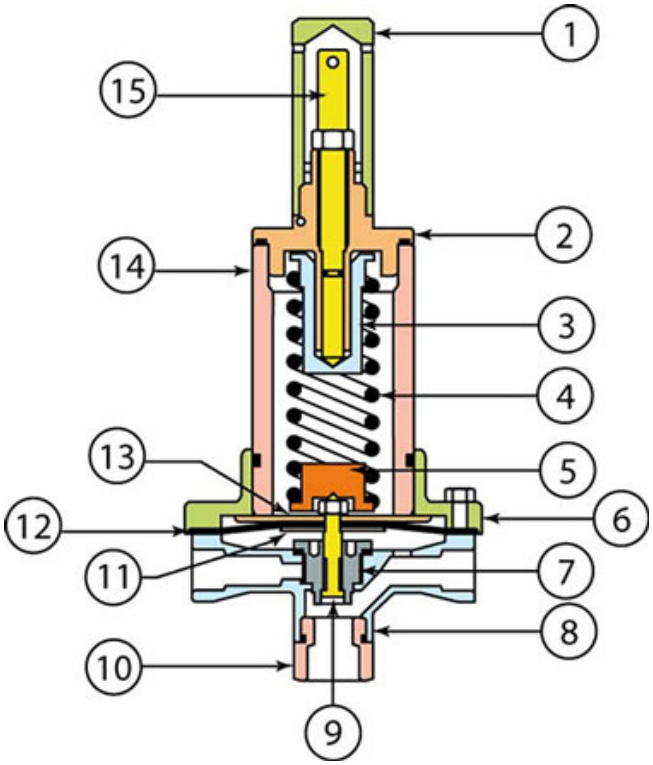
Mounting scheme (I)



Item	Quantity	Description
01	2	Attachment flange
02	2	Flanged taper
03	3	Isolating valve
04	1	Strainer with drain cock
05	1	Automatic control valve E2001
06	1	Dismantling joint
07	1	Air release / vacuum breaker valve

Saint-Gobain PAM Canalisation
21, avenue Camille Cavallier - BP 129 | 54705 PONT-A-MOUSSON CEDEX | FRANCE
Tel : (33) 03 83 80 67 89 | E-mail : Pamline@saint-gobain.com | pamline.fr

Pilot IS 14

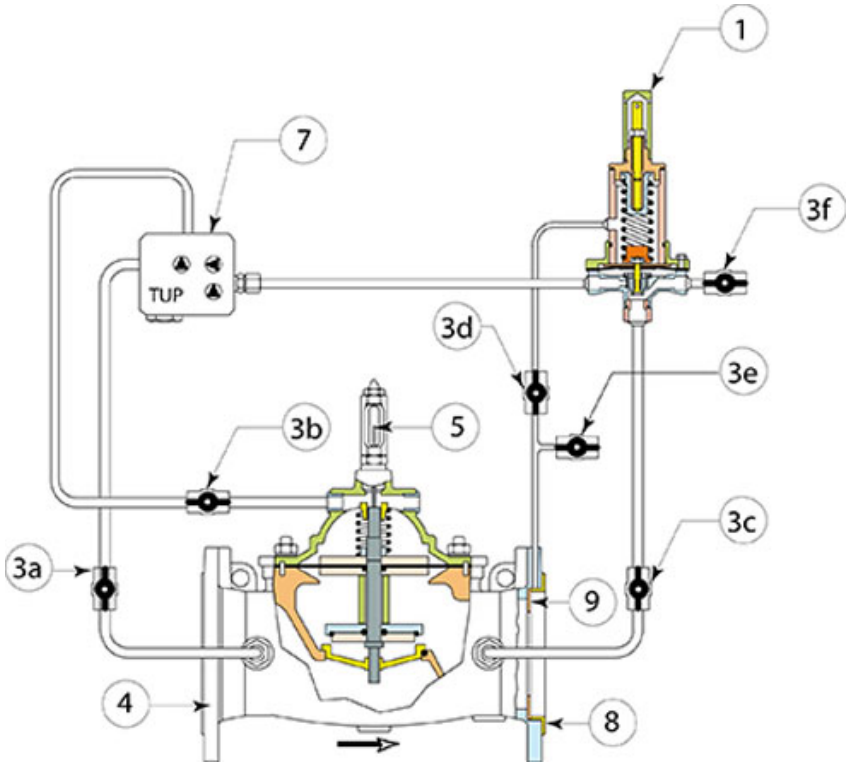


Item	Description	Material
1	Cap	PVC
2	Top cover	Brass Ni-plated
3	Top spring guide	Brass Ni-plated
4	Spring	Inox AISI 302
5	Bottom spring guide	Brass Ni-plated
6	Bottom cover	Bronze + Ni-plated
7	Obturator bushing	Delrin
8	Main body	Bronze + Ni-plated
9	Obturator	Inox AISI-303
10	Adaptor	Brass Ni-plated
11	Bottom diaphragm washer	Inox AISI-304
12	Diaphragm	NBR nylon reinforced
13	Top diaphragm washer	Inox AISI-304

Saint-Gobain PAM Canalisation
21, avenue Camille Cavallier - BP 129 | 54705 PONT-A-MOUSSON CEDEX | FRANCE
Tel : (33) 03 83 80 67 89 | E-mail : Pamline@saint-gobain.com | pamline.fr

Item	Description	Material
14	Pilot extension	Bronze + Ni-plated
15	Setting screw with counter nut	Inox AISI-304

Hydraulic Scheme



Item	Description	Material
1	Rate of flow control valve IS14	
3a 3b 3c	Ball valve	Brass Ni-plated
3d	Ball valve	Brass Ni-plated
3e 3f	Ball valve (differential manometer)	Brass Ni-plated
4	Main valve	
5	Position indicator (with manual venting cock)	E50
7	Centralized control unit TUP-93	
8	Clamping ring	Bronze
9	Calibrated orifice plate	Inox

Saint-Gobain PAM Canalisation
21, avenue Camille Cavallier - BP 129 | 54705 PONT-A-MOUSSON CEDEX | FRANCE
Tel : (33) 03 83 80 67 89 | E-mail : Pamline@saint-gobain.com | pamline.fr

Installation

Packing and storage

The valves are packed in special cardboard boxes. Outside the carton are clearly pointed out:

- The arrow indicating the position of the valve
- The name of the customer
- The code of the valve
- The number of order confirmation

The valve is protected by two hardening foam cushions, carefully coated by a thermal plate.

This kind of packing if properly stored avoids all the damages originated from transport, unloading, and handling before installation. Avoid storing it under the rain for more than 24 hours!

Open the upper side of the carton and remove the upper cushion. Do not lift the valve by utilizing the pilot, the pilot circuit, or the position indicator.
For any kind of handling we recommend to utilize proper eyebolts.

Installation

The mounting scheme of the valve is shown on the drawing.

If the valve is working as pressure sustaining device in a transport line, it may be recommended to install a by-pass around it, which will allow to put it out of service during some hours for maintenance purpose, without generating problem for the exploitation of the system.

The choice of the proper "by-pass" alternative must be taken considering the following points:

1. Can the main transport/feeding line be put out of service during some hours (corresponding to the requested time for maintaining the MAIN VALVE), without generating problem for the exploitation of the system? In particular, it must be considered that an empty system may require several hours to be vented properly.
2. Pressure relief: Has the downstream or upstream zone of the system to be protected against any risk of pressure surge (quick closing of heavy demands, closing time) ?

Should installation require the main valve stem to be horizontal (cover pointed sideways), manufacturer should be consulted concerning valves of DN200 mm and larger.

Note: All sizes on request are available with an additional venting cover device (venting cock installed at the top of the cover) to permit a simple escaping of air during the first commissioning.

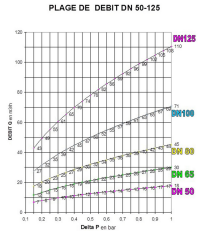
- Before control valve assembly, make sure that pipeline it is free from foreign matters or any other obstacle. (note: pipeline must be cleaned, possibly, before assembly. For an ideal pipeline cleaning we suggest a 1.5 m/sec speed during several hours!).
- In presence of foreign matters into the fluid it is indispensable to adopt a strainer on valve upstream side.
- Keep free around the valve space enough for operations as maintenance and calibration.

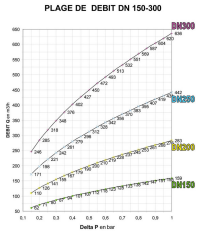
Saint-Gobain PAM Canalisation
21, avenue Camille Cavallier - BP 129 | 54705 PONT-A-MOUSSON CEDEX | FRANCE
Tel : (33) 03 83 80 67 89 | E-mail : Pamline@saint-gobain.com | pamline.fr

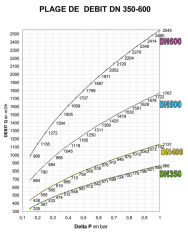
- Set up the valve according to main valve cast arrow indicating flow sense.
- Install the valve so that the FLOW ARROW marked on the valve body matches flow through the line: UPSTREAM → DOWNSTREAM

Start up of an automatic control valve requires that proper procedures be followed. Time must be allowed for the valve to react to adjustments and the system to stabilize. The objective of the following procedure is to bring the valve into service in a controlled manner.

Flow rate / Depression - Diagram (measured on the orifice ref. 9)







Commissioning

The start-up of an automatic valve requires that proper procedures be followed. Time must allowed after each setting, for the valve to react to adjustment and the system stabilize. The purpose is to bring the valve into service in a controlled manner.

Etape 1

Remove pilot valve protection unscrewing it (1), turn counter-clockwise (OUT) adjusting screw up to be completely screwed out (on feeling mechanic resistance do not force movement in a view to avoid screw lock pin damages). This operation is the simulation of minimum value setting. It must rescind from this value to reach the required one.

Etape 2

Check TUP – 93 (rep7) as above described.

Etape 3

Open slowly (one or two turns) upstream isolating valve allowing controlled filling of the main valve (4) that starts closing. Venting air inside the valve by venting valve placed above the position indicator (5).

Etape 4

Open completely the upstream isolating valve and open downstream isolating valve (one or two turns) in a view to permit valve downstream side part filling and consequent pilot valve (1) air release. At the beginning of this operation main valve (4) is closed; it will appear a small flow rate through pilot circuit. Screw clockwise pilot (1) adjusting screw up to when main valve starts opening and puts in pressure pipeline downstream part.

Etape 5

Saint-Gobain PAM Canalisation
21, avenue Camille Cavallier - BP 129 | 54705 PONT-A-MOUSSON CEDEX | FRANCE
Tel : (33) 03 83 80 67 89 | E-mail : Pamline@saint-gobain.com | pamline.fr

To reach needed flow rate keep on turning adjusting screw of pilot (1) clockwise half turn each time with pauses of 30 seconds after each adjusting up to reach the needed flow rate. After each variation check reached value by flow rate meter or by differential manometer. If the downstream pipeline results empty, we recommend to execute adjusting slowly and gradually so to avoid overpressures caused by air presence into the pipeline. Air must be ejected by drain devices positioned either on control valve downstream side or along the main pipeline.

Etape 6
After adjusting wait system stabilization and then open completely isolating valve on downstream side.

Etape 7 : Adjusting of control unit TUP - 93

Adjusting of opening speed determines a reduction of flow rate in exit from main valve control chamber (4). If flow rate restoring it is too slow (regulator pre-adjusting value = 2), when there is a raising demand on downstream side, let increase adjusting value up to 4 and so on up to reaching sufficient value. In case of restoring too speed let decrease adjusting value of 1 as maximum.

Adjusting of closing speed determines a reduction of in coming flow rate on main valve control chamber (4). If closing speed it is so high to cause overpressures on upstream side, pre-adjusting value = 4 it must be weakened so to attenuate this fact.

Maintenance

Recommended spare parts:

- 1 pilot
- Set of joints for IS14
- Set of joint for E2001

The quality of the material used in the manufacture of our valves should produce no wear of the internal components.

However we are recommending:

After 6 months of service:

- Control and clean eventually the TUP - 93 screen

Note: an obstructed screen due progressively the valve out of order.

After 12/18 months of service:

- Control and clean the TUP - 93screen.
- Take the main valve apart, by removing first the complete pilot circuit.
- Unscrew the stud nuts and remove the cover and internal diaphragm assembly.
- Check for any eventual damage of the QUAD-RING and the diaphragm.
- Clean thoroughly the internal part of the valve, grease slightly the stem at both guided locations (water grease, non-toxic!!).
- Assemble the main valve and the pilot circuit.
- Put the valve back into service.

Saint-Gobain PAM Canalisation
21, avenue Camille Cavallier - BP 129 | 54705 PONT-A-MOUSSON CEDEX | FRANCE
Tel : (33) 03 83 80 67 89 | E-mail : Pamline@saint-gobain.com | pamline.fr

This control should then allow to determine the cycle of the requested maintenance, since it is taking into consideration the true service conditions of the valve.

For any further information contact our Customer Service, indicating all data as per plastic label on main valve body. Give full detailed information's about working conditions, the type of problem, and report the adjusting values (OS-CS-RS).

Saint-Gobain PAM Canalisation
21, avenue Camille Cavallier - BP 129 | 54705 PONT-A-MOUSSON CEDEX | FRANCE
Tel : (33) 03 83 80 67 89 | E-mail : Pamline@saint-gobain.com | pamline.fr