

# C 301

Control valves

Upstream stabilisers

## Technical Data Sheet



## Description

The control valves C 301 controls and maintains a preset upstream pressure regardless of variations in flow rate. Equipped with non return valves, it closes automatically in case of backflow (C 301C - consult us). Always mounted in line, it prevents the pump from reducing its suction pressure below the security point. It prevents also from exceeding the pumping capacity when the demand is higher.



### C 301

Control valves - Upstream stabilisers

DN	PN	PFA in bar	PS				Cat	Ref.	Weight* Kg
			L1	L2	G1	G2			
40	10/16/25	25	25	25	x	x	4.3	<b>149B007872</b>	12
50	10/16/25	25	25	25	x	x	4.3	<b>149B007875</b>	13
65	10/16/25	25	25	25	x	x	4.3	<b>149B30106N</b>	21
80	10/16/25	25	20	25	x	x	4.3	<b>149B30108N</b>	26
100	10/16	16	16	16	x	x	4.3	<b>149B30110N</b>	39
125	10/16	16	16	16	x	x	4.3	<b>149B30111N</b>	59
150	10/16	16	16	16	x	x	4.3	<b>149B30112N</b>	73
200	10	10	10	10	x	x	4.3	<b>149B30114N</b>	122
250	10	10	10	10	x	x	I	<b>149B30115N</b>	208
300	10	10	10	10	x	x	I	<b>149B30116N</b>	328

\* Weight of valve alone

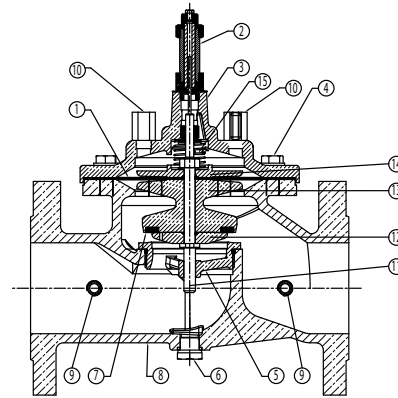
#### Important notice :

The indicated pressure for the different categories of fluids (L1/L2/G1/G2) is under no condition a guarantee of use. Therefore, it is essential to validate the use of products under given operating conditions.

Technical features	
Operating temperature	-10 to 80°C, for temperatures over 80°C consult us
Upstream pressure	Mini. : 1 bar / Maxi. : 25 bar (see table above)
Connection	DN 40 to 300 mm : with flange PN (see table above) DN 1"1/2 : threaded F/F
Mediums	Clear water 2 mm
Vertical mounting	In optional

## Nomenclature and materials

N°	Description	Materials
1	Membrane	EPDM / Polyamide
2	Position indicator with purge	Brass and stainless steel
3	Valve head high pressure	Ductile iron / Epoxy Int/Ext
4	Nuts and bolts	Stainless steel
5	Removable streamlined	Stainless steel
6	Body drain plug	Brass
7	Reversible seal	EPDM
8	Body high pressure	Ductile iron / Epoxy Int/Ext 150µ ± 50µ
9-10	Valve	Chromed brass
11	Stem	Stainless steel
12	Flange	Stainless steel
13	Seal carrier	Bronze (DN40-50) Cast iron / Epoxy
14	Plate	Bronze (DN40-50) Cast iron / Epoxy
15	Spring	Stainless steel



standard flow valve

## Approvals

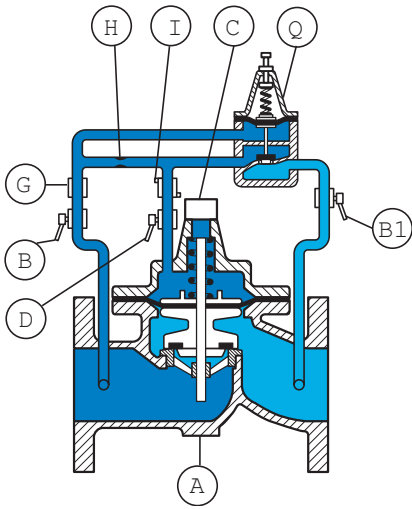
ACS CE PED 2014/68/UE

### International construction Standards :

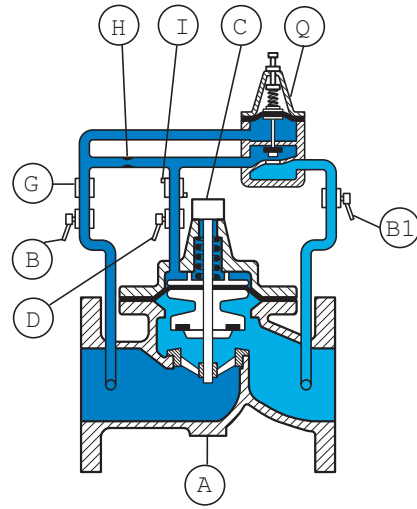
Directive 2014/68/UE

Connection with flange PN according to EN 1092-2

# Operation

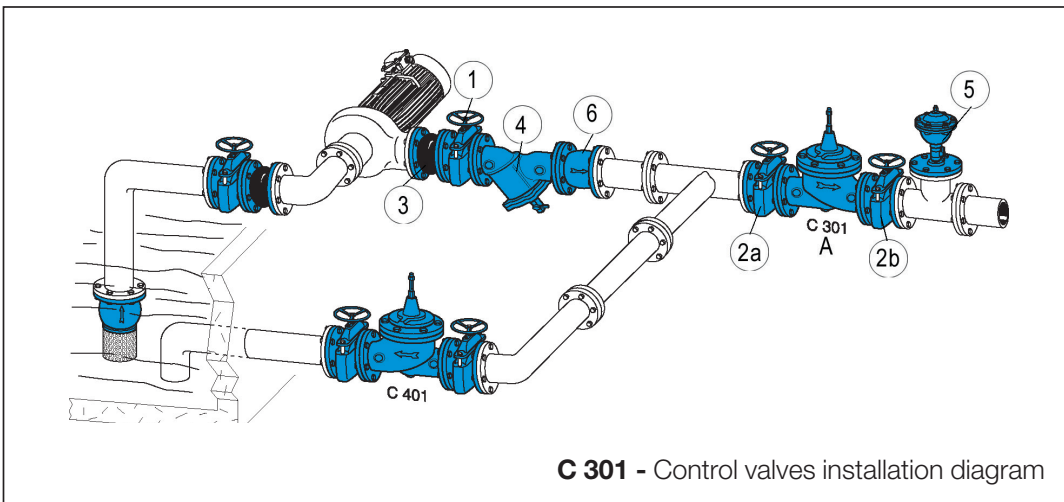


When upstream pressure is getting lower than the pressure required by the pilot (Q), the pilot will close and limit the flow circulation. The upstream pressure pushes on the membrane of the main valve (A) which closes.



When upstream pressure increases, pilot (Q) will open and release the pressure from the membrane of the main valve (A) which opens.

# Installation



**C 301 - Control valves installation diagram**

N°	Description
A	Main valve
B	Upstream isolation valve
B1	Downstream isolation valve
C	Position indicator with drain
D	Chamber isolation valve
G	Filter
H	Orifice-needle valve
I	Flow control
Q	Pilot C301
1	Isolation valve of the pump
2a	Upstream isolation valve of the main water pipe
2b	Downstream isolation valve of the main water pipe
3	Rubber expansion joint
4	Filter
5	Single function air valve
6	Check valve of the pump

**Pilot setting ranges :**

- 1 to 4,1 bar
- 1,7 to 7,5 bar
- 2 to 25 bar (standard)

**Installation :**

- Install a strainer upstream
- Install an air relief valve down-stream or at the high point near the control valve
- Horizontal setting up : the cap of the valve should be oriented to the top and inclined at 45° maximum
- Vertical setting up : change the spring of the main valve (option 7)

**Other types :**

- C301DS, C301S, C301M
- FKM seals in the main valve and in the pilot
- Stainless steel pilot 304 and stainless steel connection 316TI

## Maintenance

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We recommend a maintenance programme of between 6 to 12 months according to the quality of the water and to the pressure :

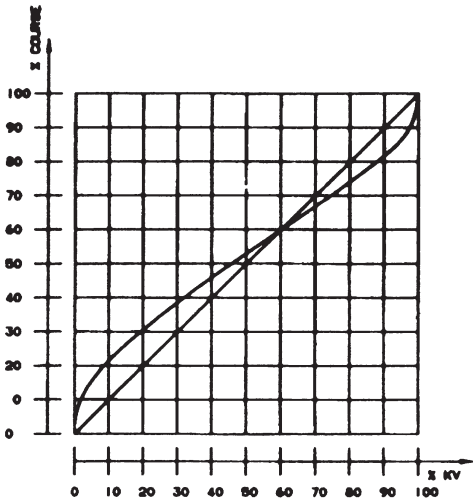
- Purging the upper chamber
- Flushing the valves not frequently used
- Checking and cleaning filters of the pilot circuit and main piping system.
- Checking the working (pressures)

Every 5 years, general maintenance is advisable :

- Dismantling
- Cleaning of main valve and pilot valve
- Preventive removing of the seals (set available - please consult us)
- Reassembling and tests.

# Operating characteristics

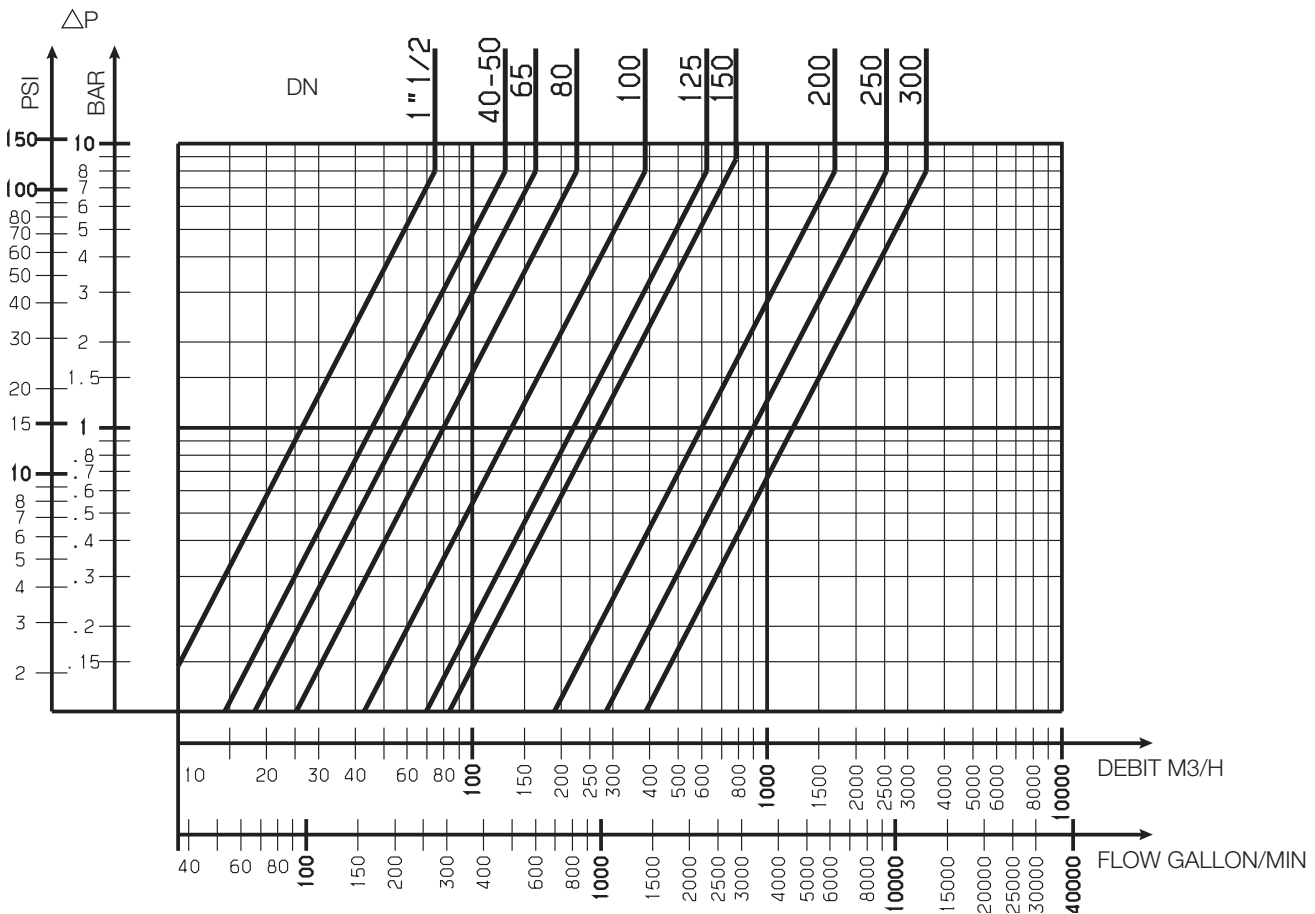
## Choice of base valve



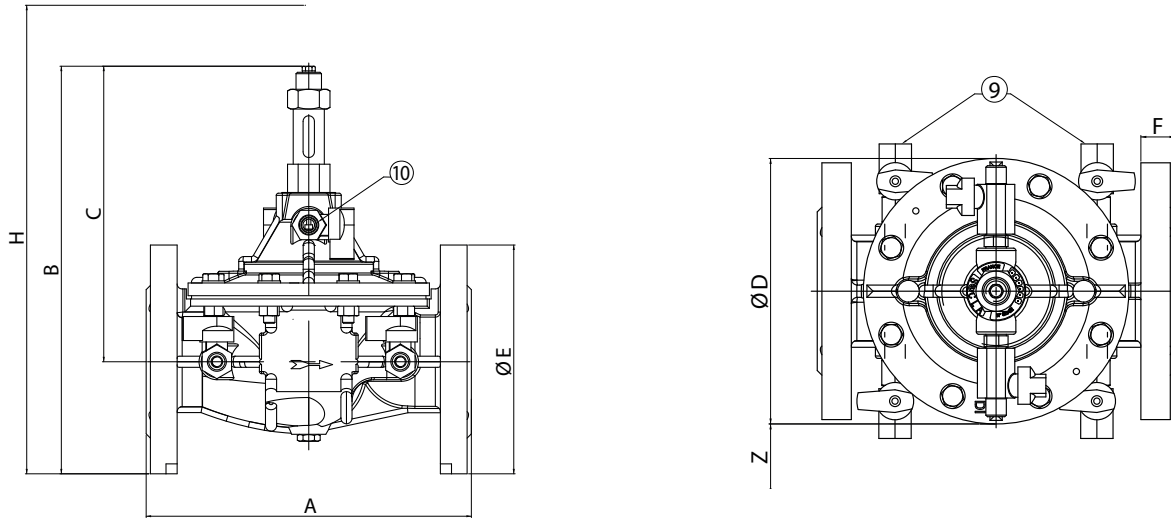
DN	Mini	Maxi	KV		ζ	PN	PFA	PN	PFA	PN	PFA
			m³/h	L/s							
40	0,675	32,00	45,66	12,68	1,93	10/16	16	25	25	-	-
50	0,675	32,00	45,66	12,68	4,70	10/16	16	25	25	-	-
65	0,855	54,00	57,75	16,08	8,39	10/16	16	25	25	-	-
80	1,600	82,00	80,00	22,22	10,00	10/16	16	25	25	-	-
100	2,720	127,00	136,00	37,78	8,47	10/16	16	25	25	-	-
125	4,400	199,00	220,00	61,11	7,90	10/16	16	25	25	-	-
150	5,280	286,00	264,00	73,33	11,38	10/16	16	25	25	-	-
200	13,500	509,00	600,00	66,67	6,96	10	10	25	25	16	16
250	25,000	795,00	900,00	50,00	7,56	10	10	25	25	16	16
300	40,900	1145,00	1224,00	40,00	8,47	10	10	25	25	16	16

## Headloss chart

Solid line: Base valve completely open



## Sizing



### standard flow valve

DN	A	B	C	Ø D	Ø E	F	H	Z	9	10
”	mm	mm	mm	mm	mm	mm	Exc. C501 mm	mm	”	”
40	230	285	210	170	152	23	400	254	1/4	3/8
50	230	285	210	170	161	23	400	254	1/4	3/8
65	290	352	257	200	185	24	470	254	3/8	1/4
80	310	372	272	217	200	26	500	254	3/8	3/8
100	350	423	302	241	235	28	510	254	3/8	3/8
125	400	506	371	296	270	30	570	254	3/8	3/8
150	480	551	401	363	300	20	650	254	3/8	3/8
200	600	709	529	467	360	22	750	254	3/8	3/8
250	730	844	631	587	425	24	900	254	1/2	1/2
300	850	975	730	680	486	27	1100	254	1/2	1/2

(1) 78/plats

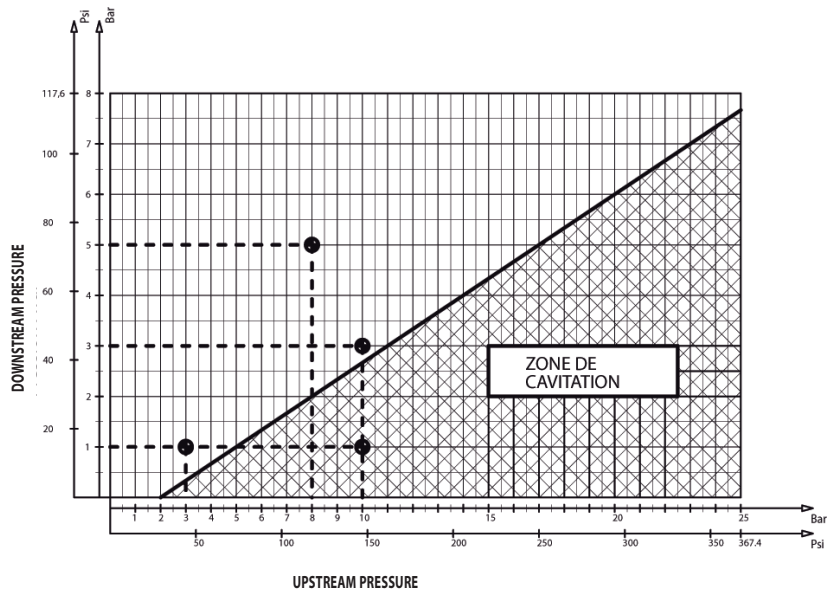
## Other operating characteristics

### Cavitation

A too large differential pressure and a low downstream pressure may result in damage to the valve by cavitation.

To avoid it, refer to the cavitation curve and if needed, reduce the differential pressure by installing and connecting two or more control valves in same line (consult us).

Stainless steel seat and counter seat are standard.



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Socla sas

365 rue du Lieutenant Putier • 71530 Virey-Le-Grand • France

Tel. +33 03 85 97 42 00 • Fax +33 03 85 97 42 42

[contact@wattswater.com](mailto:contact@wattswater.com) • [www.socla.com](http://www.socla.com)

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