

# C 306 DE

Control valves

Differential stabilisers / Mounting on a by-pass

## Technical Data Sheet



## Description

The control valves C 306 DE maintains a constant preset differential pressure across the installation. Provided with a check valve feature, it closes automatically in case of backpressure (C306C DE - consult us).

**NB : The pressure connections are on the valve as the pressure indications come directly because of mounted on a by-pass.**



## C 306 DE

Control valves - Differential stabilisers / Mounting on a by-pass

DN "	mm	PN	PFA in bar	PS				Cat	Ref.	Weight* Kg
				L1	L2	G1	G2			
1 1/2		10/16/25	25	25	25	x	x	4.3	<b>149B007939</b>	8
	40	10/16/25	25	25	25	x	x	4.3	<b>149B007941</b>	12
	50	10/16/25	25	25	25	x	x	4.3	<b>149B007943</b>	13
	65	10/16/25	25	25	25	x	x	4.3	<b>149B30606N</b>	21
	80	10/16/25	25	20	25	x	x	4.3	<b>149B30608N</b>	26
	100	10/16	16	16	16	x	x	4.3	<b>149B30610N</b>	39
	125	10/16	16	16	16	x	x	4.3	<b>149B30611N</b>	59
	150	10/16	16	16	16	x	x	4.3	<b>149B30612N</b>	73
	200	10	10	10	10	x	x	4.3	<b>149B30614N</b>	122
	250	10	10	10	10	x	x	I	<b>149B30615N</b>	208
	300	10	10	10	10	x	x	I	<b>149B30616N</b>	328

\* Weight of valve alone

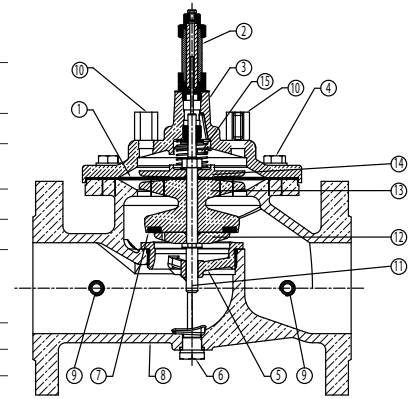
### Important notice :

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 °C to 90 °C
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	EURO	ANSI
1	Membrane	EPDM / Polyamide		
2	Position indicator with purge	Brass and stainless steel	EN 12164-CuZn39Pb3-R360min EN 10088-3-X5CrNi18-10 EPDM Cu	ASTM B36 / ASTM B121 AISI 304 / ASTM A240
3	Valve head high pressure	Ductile iron / Epoxy Int/Ext	EN 1563 EN-GJS-400-15 except DN 125 : EN 1561-EN-GJL-300	ASTM A536 60-40-18 ASTM A48 class 45B
4	Nuts and bolts	Stainless steel	EN 10088-3-X5CrNi18-10	AISI 304 / ASTM A240
5	Removable streamlined	Stainless steel	EN 10213-GX5CrNi19-10+AT	AISI 304 / ASTM A240
6	Body drain plug	Brass	EN 12164-CuZn39Pb3-R360min	ASTM B36 / ASTM B121
7	Reversible seal	EPDM		
8	Body high pressure	Ductile iron / Epoxy Int/Ext 150μ ± 50μ	EN 1563 EN-GJS-400-15 except DN 125 : EN 1561-EN-GJL-300	ASTM A536 60-40-18 ASTM A48 class 45B
9-10	Valve	Chromed brass		
11	Stem	Stainless steel	EN10213-GX5CrNi19-10-AT	AISI 304 / ASTM A240
12	Flange	Stainless steel	EN10088-3X5CrNi18-10	AISI 304 / ASTM A240
13	Seal carrier	Bronze (DN40-50) Cast iron / Epoxy	EN1982 CuSn5Zn5Pb2-C GS EN1561-EN-GJL-250	ASTM A 48 35 B
14	Plate	Bronze (DN40-50) Cast iron / Epoxy	EN1982 CuSn5Zn5Pb2-C GS EN1561-EN-GJL-250	ASTM A 48 35 B
15	Spring	Stainless steel	EN10270-3 X10CrNi18-8	AISI 302



standard flow valve

## Approvals

ACS  PED 2014/68/UE **WRAS** (except C 306C DE)

### International construction Standards :

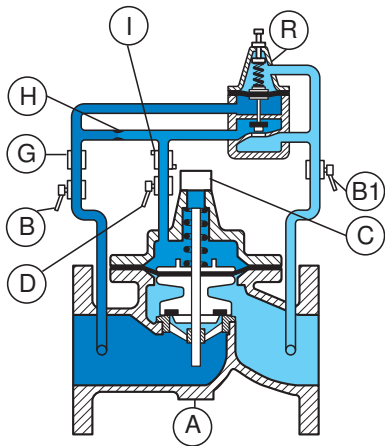
Directive 2014/68/UE

Connection with flange PN according to EN 1092-2

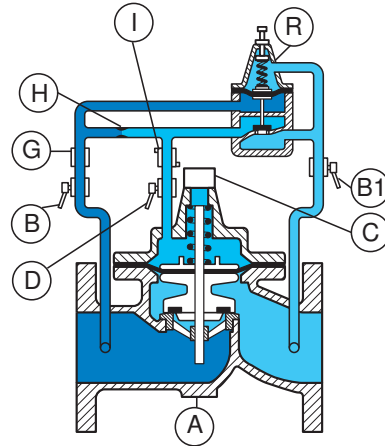
## Application

The control valves C 306 DE it allows to maintain a constant differential pressure when mounted on a by-pass regardless of the flow rate (exchanger, etc...).

# Operation

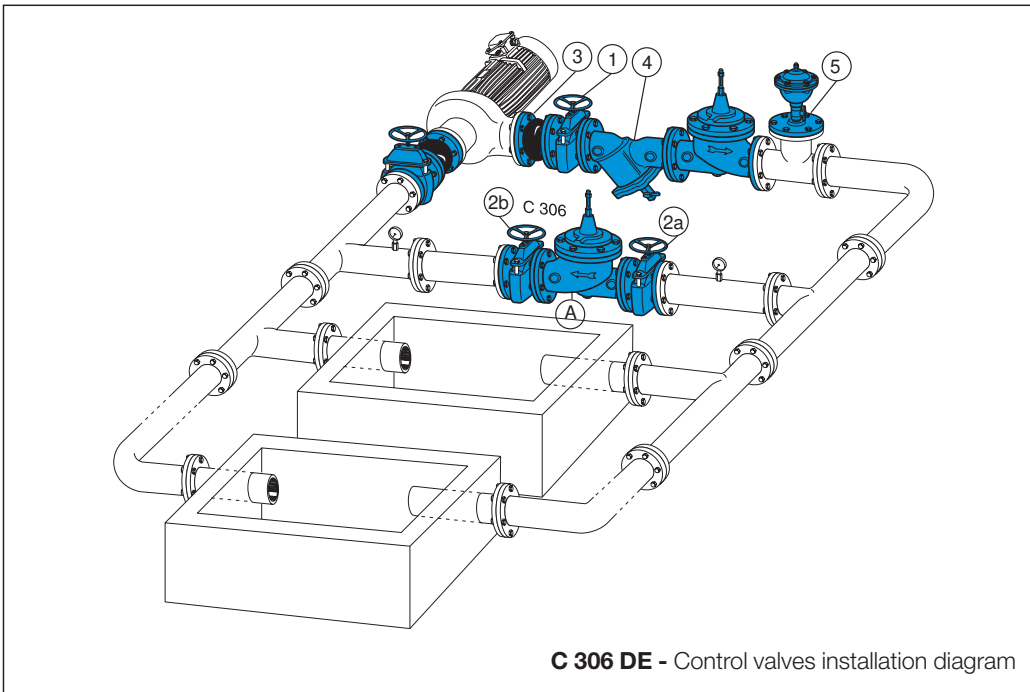


The differential pressure increases. Pilot valve (R) will open, as well as main valve (A). The head loss (and the differential pressure as well) decreases.



The differential pressure decreases. Pilot valve (R) will close, as well as main valve (A). The head loss (and the differential pressure as well) increases.

# Installation



**C 306 DE - Control valves installation diagram**

N°	Description	N°	Description
A	Main valve	R	Pilot C306
B	Upstream isolation valve	1	Isolation valve of the pump
B1	Downstream isolation valve	2a	Upstream isolation valve of the by-pass
C	Position indicator with drain	2b	Downstream isolation valve of the by-pass
D	Chamber isolation valve	3	Rubber expansion joint
G	Filter	4	Filter
H	Orifice-needle valve	5	Single function air valve
I	Flow control		

**Pilot setting ranges :**

- 0,7 to 4,7 bar
- 1,7 to 7,2 bar (standard)
- 2 to 24 bar

**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 :**

- C306S, C306M
- 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 :

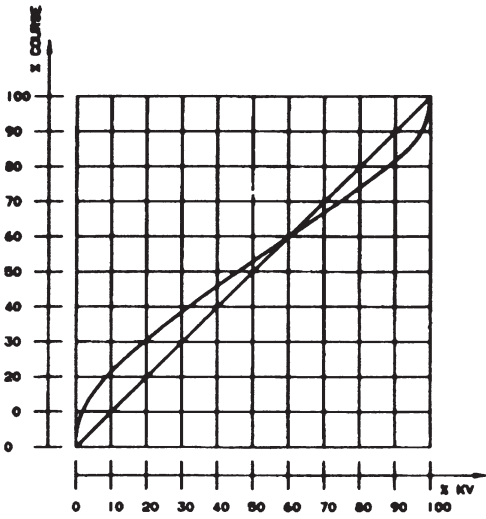
- Purging the upper chamber
- Flushing the valves not frequently used
- Checking and cleaning filters of the pilot circuit and main piping system.
- Checking the working (pressures)

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

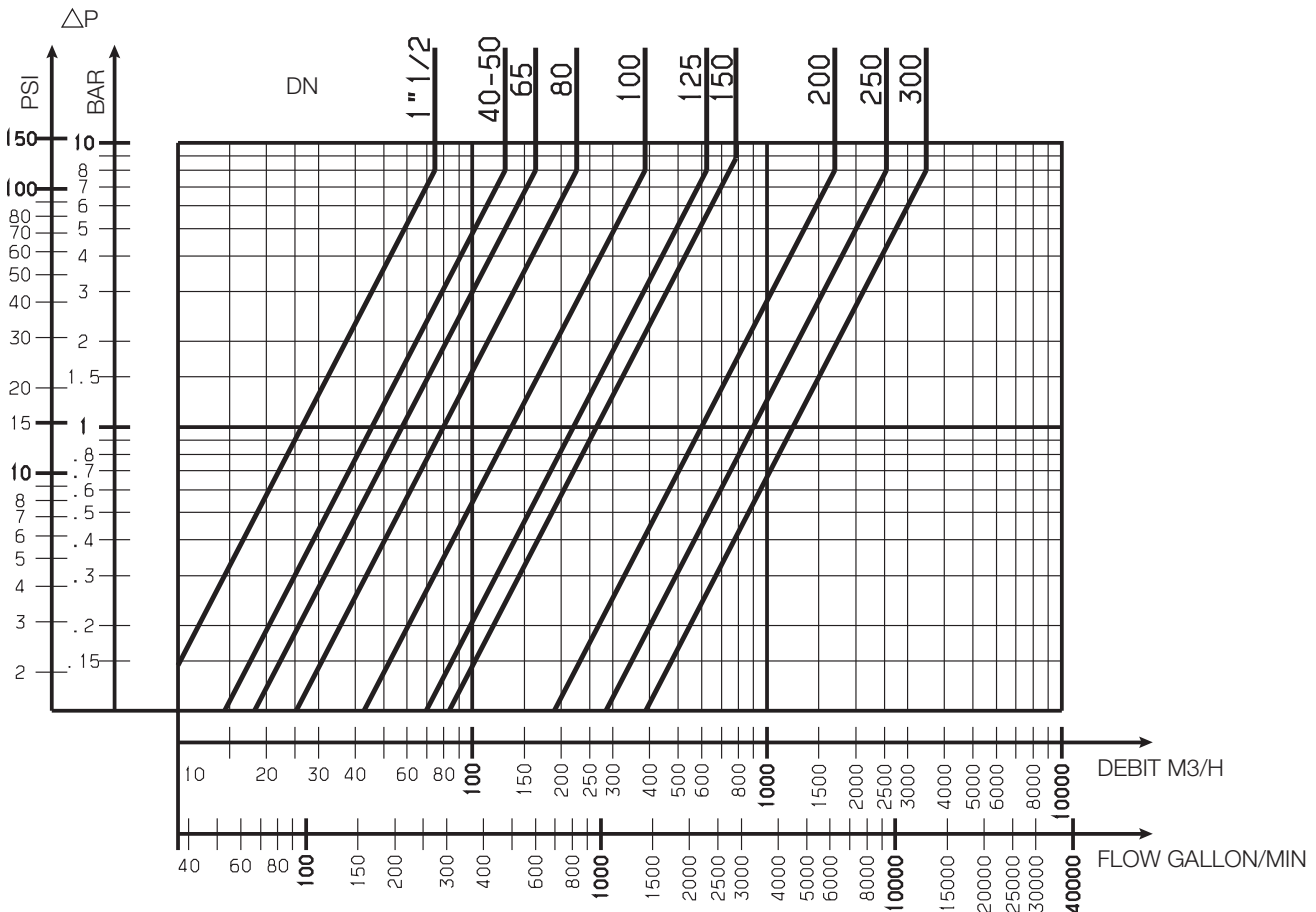
## Choice of base valve



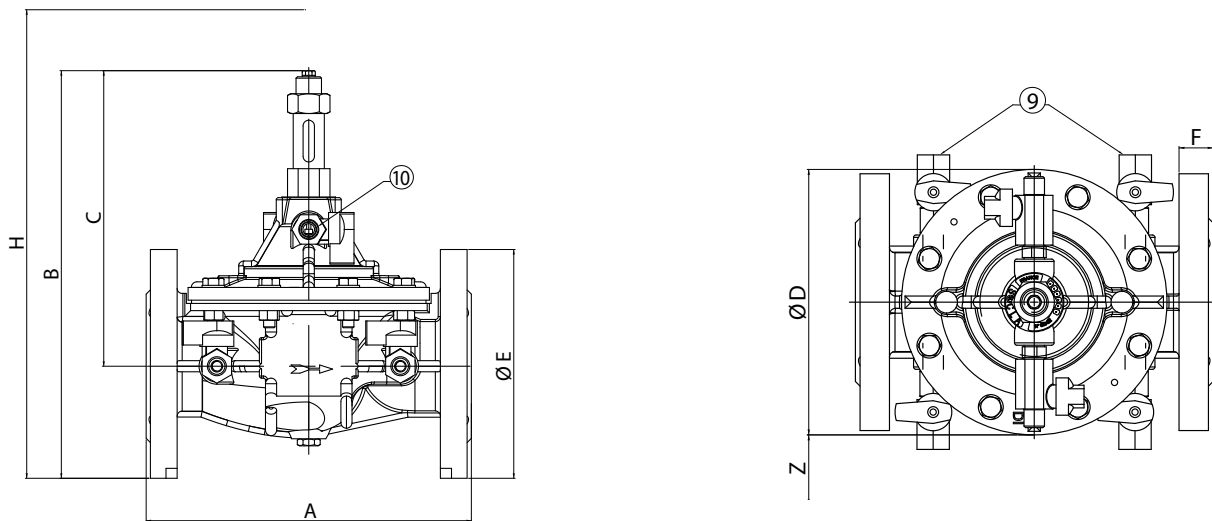
DN mm	Mini m³/h	Maxi m³/h	KV		ζ	PN bar	PFA bar	PN bar	PFA bar	PN bar	PFA bar
			m³/h	L/s							
1" 1/2	0,520	20,34	26,35	7,32	5,78	10/16	16	25	25	-	-
40	0,675	32,00	45,66	12,68	1,93	10/16	16	25	25	-	-
50	0,675	32,00	45,66	12,68	4,70	10/16	16	25	25	-	-
65	0,855	54,00	57,75	16,08	8,39	10/16	16	25	25	-	-
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	mm	mm	”	”
1 1/2(F/F)	230	267	210	170	6 pans <sup>(1)</sup>	-	400	254	1/4	3/8
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

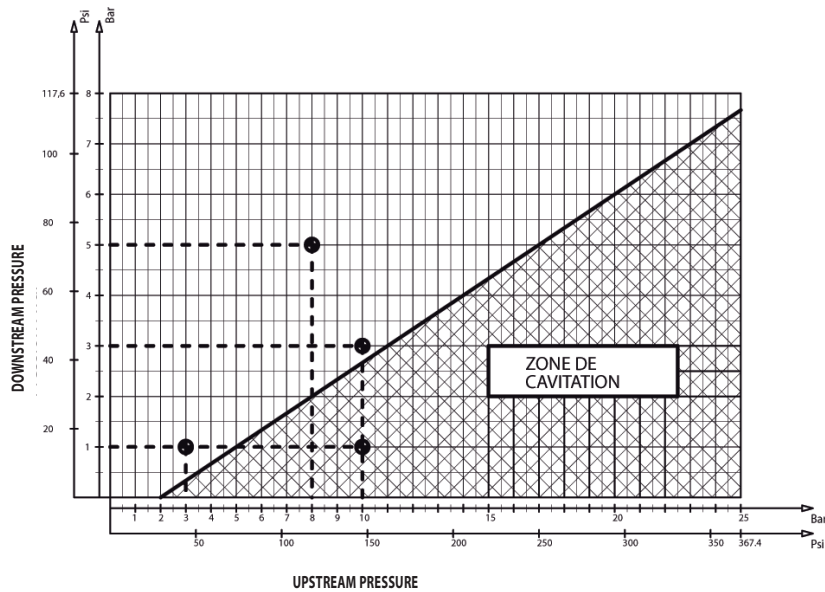
## Other operating characteristics

### 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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