

# 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<br>mm | PN       | PFA<br>in bar | PS |    |    |    | Cat | Ref.              | Weight*<br>Kg |
|----------|----------|---------------|----|----|----|----|-----|-------------------|---------------|
|          |          |               | L1 | L2 | G1 | G2 |     |                   |               |
| 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

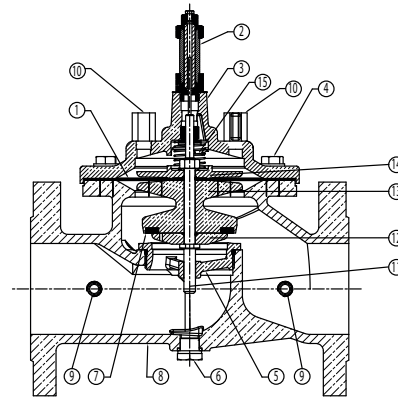
### Important notice :

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 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)<br>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<br>150µ ± 50µ |
| 9-10 | Valve                         | Chromed brass                              |
| 11   | Stem                          | Stainless steel                            |
| 12   | Flange                        | Stainless steel                            |
| 13   | Seal carrier                  | Bronze (DN40-50)<br>Cast iron / Epoxy      |
| 14   | Plate                         | Bronze (DN40-50)<br>Cast iron / Epoxy      |
| 15   | Spring                        | Stainless steel                            |



standard flow valve

## Approvals

### ACS

#### International construction Standards :

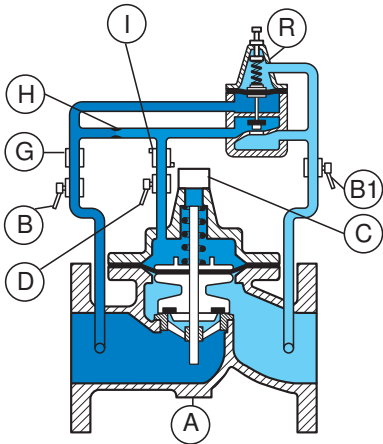
Directive 2014/68/UE

Connection with flange PN according to EN 1092-2

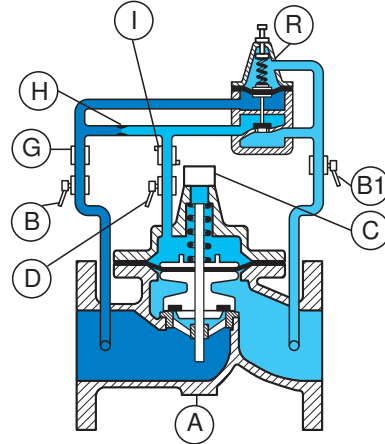
## Application

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

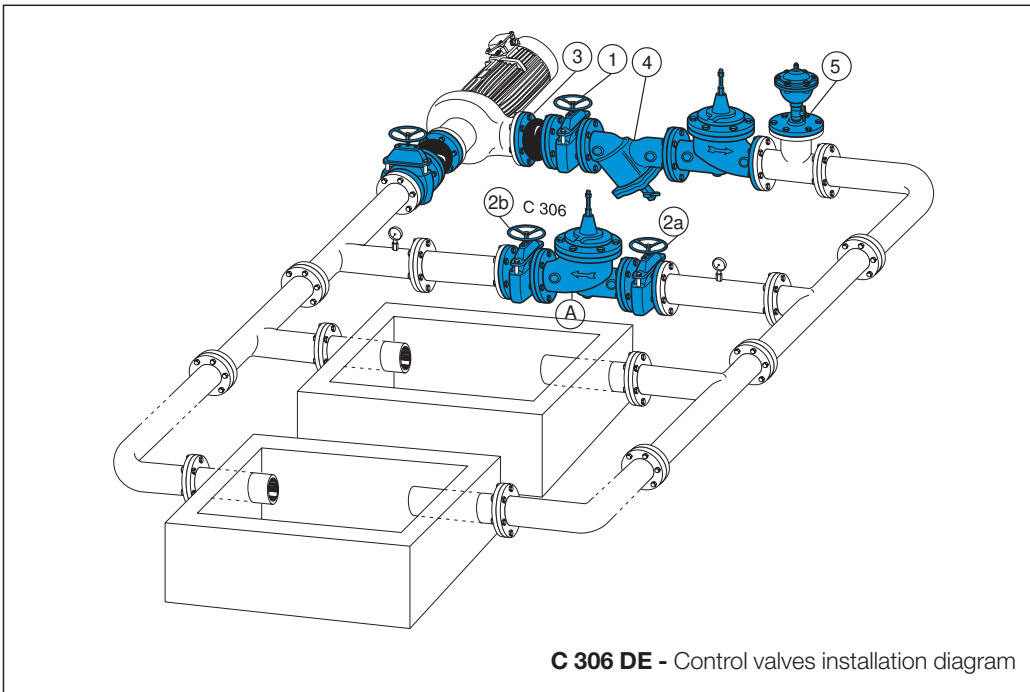


The differential pressure increases. Pilot valve (R) will open, as well as main valve (A). The head loss (and the differential pressure as well) decreases.



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



| 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 :

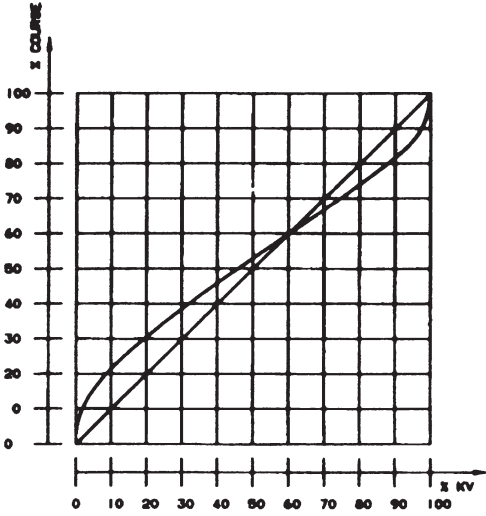
- Purging the upper chamber
- Flushing the valves not frequently used
- Checking and cleaning filters of the pilot circuit and main piping system.
- Checking the working (pressures)

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

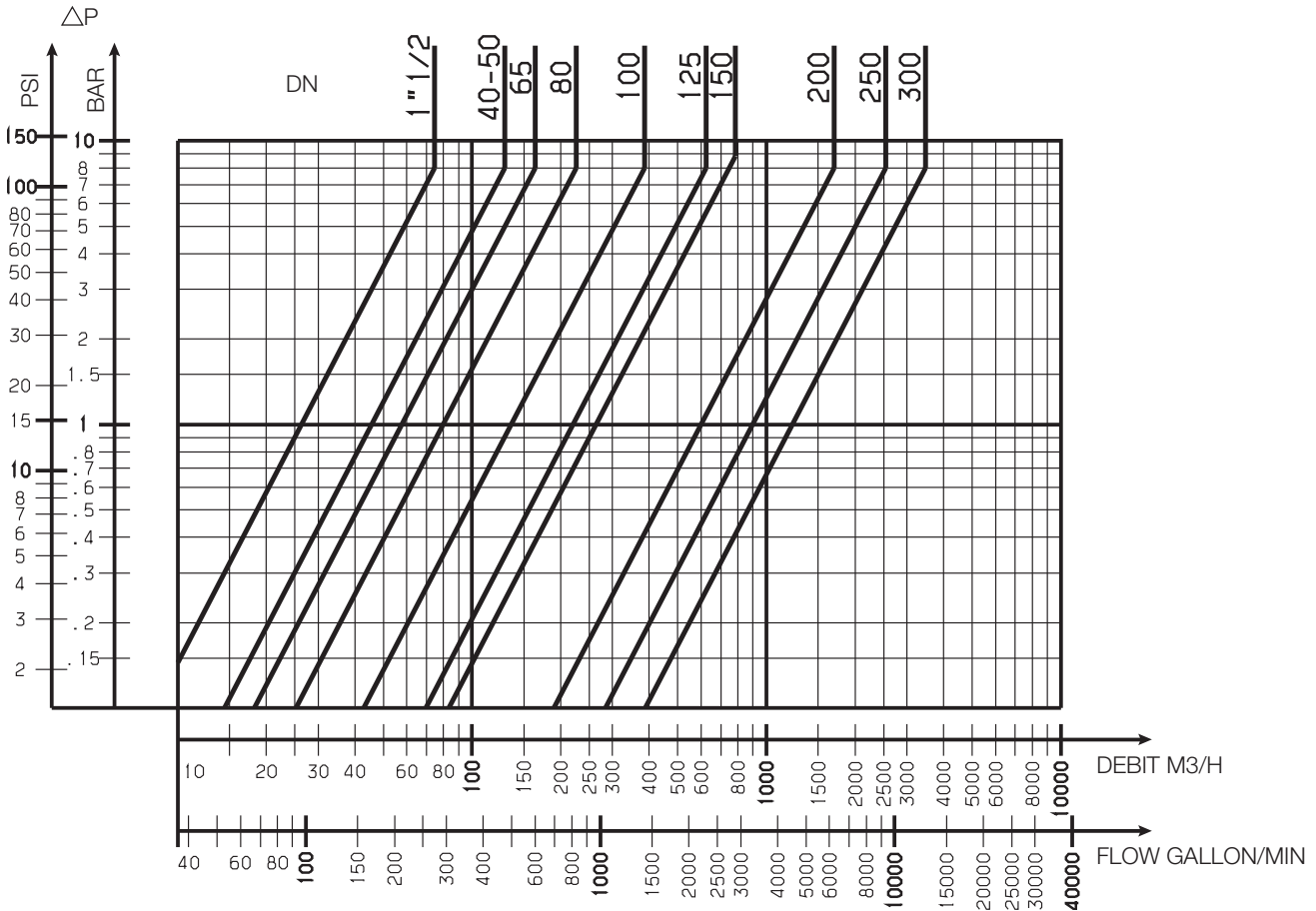
## Choice of base valve



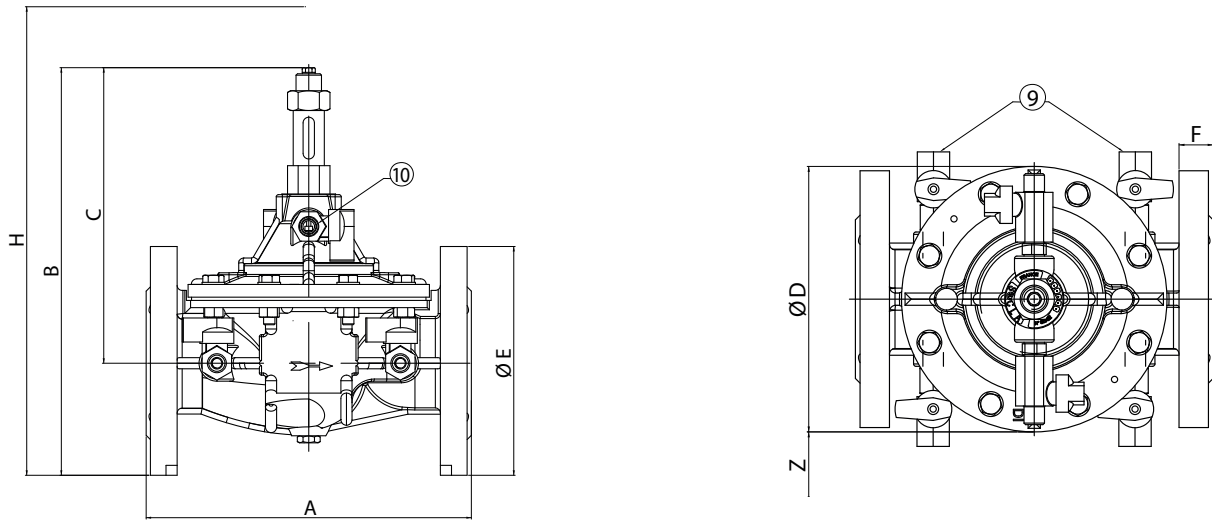
| DN<br>mm | Mini<br>m³/h | Maxi<br>m³/h | KV      |       | ζ     | PN<br>bar | PFA<br>bar | PN<br>bar | PFA<br>bar | PN<br>bar | PFA<br>bar |
|----------|--------------|--------------|---------|-------|-------|-----------|------------|-----------|------------|-----------|------------|
|          |              |              | 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  | mm | 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

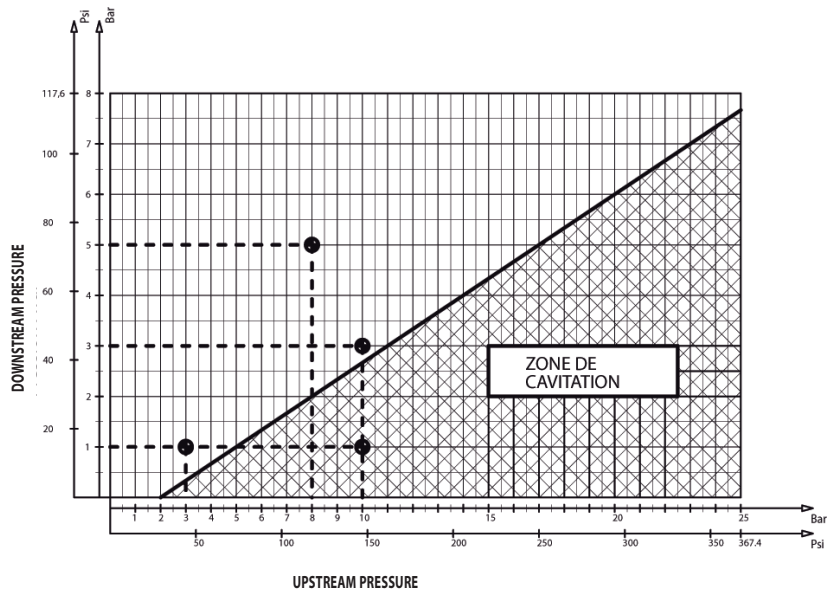
## Other operating characteristics

### 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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